IMI

Precision Engineering













Industrial Automation Solutions

Engineering GREAT Solutions

World-class **Motion & Fluid Control** products to improve performance and productivity

- IMI NORGREN®
- IMI BUSCHJOST®
- IMI FAS®
- IMI HERION®
- IMI MAXSEAL®

Contents

1  ACTUATORS

14 FAST FIND GUIDE
19 TECHNICAL DATA
21 ROUNDLINE & COMPACT CYLINDERS
55 PROFILE CYLINDERS
96 RODLESS CYLINDERS
104 ROTARY ACTUATORS
116 AIR BELLOWS & SHOCK ABSORBERS

2  VACUUM

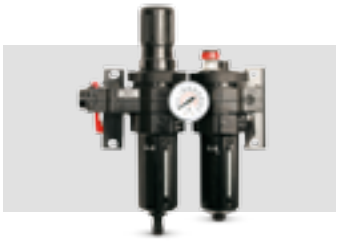
130 FAST FIND GUIDE
131 VACUUM PUMPS
134 VACUUM CUPS & BELLOWS
136 VACUUM ACCESSORIES
138 VACUUM SWITCHES

3  VALVES

142 FAST FIND GUIDE
149 VALVE ISLANDS & SUB-BASE VALVES
222 IN-LINE & MANIFOLD VALVES
268 SAFETY & MANUAL/MECHANICAL VALVES
307 PROPORTIONAL VALVES
318 PROCESS SEAT VALVES
386 FLOW CONTROL VALVES

4  PRESSURE SWITCHES

406 FAST FIND GUIDE
407 ELECTRO-MECHANICAL PRESSURE SWITCHES
414 ELECTRONIC PRESSURE SWITCHES

5  AIR PREPARATION (FRL)

420 FAST FIND GUIDE
423 OLYMPIAN PLUS PLUG-IN SYSTEM
445 EXCELON MODULAR SYSTEM
462 MINIATURE & LARGE CAPACITY SERIES
476 SPECIAL PURPOSE REGULATORS
480 STAINLESS STEEL & SPECIAL PURPOSE

6  FITTINGS, TUBING & ACCESSORIES

488 FAST FIND GUIDE
490 PUSH IN FITTINGS
522 BSP & HOSE FITTINGS
529 TUBING & HOSES
532 QUICK RELEASE COUPLINGS
536 SILENCERS, BALL VALVES & SHUT OFF VALVES

All of our products are backed with an industry leading 2-year warranty. Our dedicated team of experts is on hand with technical advice, support and recommendations to help you get the most effective products, in the shortest timescales, and with the best possible service.



Engineering GREAT solutions

*We deliver **GREAT** solutions for our customers tackling the world's most demanding engineering challenges*

IMI Precision Engineering is a world leader in motion and fluid control technologies. Wherever precision, speed and engineering reliability are essential, we deliver exceptional solutions which improve the productivity and efficiency of our customers' equipment.

Part of IMI plc, we have a sales and service network in 75 countries, as well as manufacturing capability in the USA, Germany, China, UK, Switzerland, Czech Republic, Mexico and Brazil. We support this with our global centres of technical excellence, and facilities for CFD design and R&D testing. We employ a dedicated team of field engineers, sector specialists and key account managers – all committed to providing excellent service to our customers.

As a business, we aim to **UNDERSTAND** our customers' challenges. We then **CONNECT** our products, people and expertise in order to **DELIVER** exceptional service and solutions. These **IMPROVE** the performance of our customers' machinery.

We call this Engineering GREAT, and we deliver it to customers through a world-class portfolio of high performance products, through close partnerships and problem-solving, and through a global network of support which ensures reliable local delivery, all over the world.



We get closer to our customers to understand their exact challenges

How we deliver value to our customers

Partnerships & problem solving

We have a global team of key account managers and over 400 highly experienced engineers – many with in-depth expertise of key industry sectors.

We recruit and develop the industry's top talent, offering the best training and exposure to world-class products and technologies with some of the world's leading businesses. The deep and combined experience this gives us means we have the skills, confidence and know-how to get closer to our customers, enabling us to understand their exact challenges and resolve them **precisely**.

Because of this our problem-solving is more effective, our solutions more targeted, our partnerships more productive.

High performance products

Our world-class products improve performance and productivity.

We have global manufacturing capability and technical centres of excellence, each dedicated to developing and rigorously testing new high performance products to meet **precise** industry and application needs. Helping improve performance and reduce downtime and energy consumption on production lines across the world, our world-class portfolio includes IMI Norgren, IMI Buschjost, IMI FAS, IMI Herion and IMI Maxseal. Having proven their value over years, they stand amongst the most trusted names in fluid and motion control. We are continuously adding to this portfolio through a programme of innovation and new product development.

Because of this, we're able help our customers solve the world's greatest engineering challenges – reliably, safely and efficiently.

Reliability

We deliver and support our high quality products through our global service network.

We have world-class manufacturing and sales and service operations in 75 countries, supported by investment in robust project management systems and lean localised production. Together, with our integrated supply chain, and the speed of our Express service we have the systems, processes and support to deliver quality products and aftersales service **precisely**, reliably, in full and on time, anywhere.



Our market leading product brands

The combination of our IMI Precision Engineering product brands' trusted reputation and long history underpins our position as a leading global supplier of motion and fluid control technologies.

IMI NORGREN®

With over 80 years industry experience, the IMI Norgren brand includes a wide range of high quality pneumatic and fluid control products such as actuators, air preparation products, pressure switches, fittings and valves.

IMI BUSCHJOST®

Successful in the market for over 60 years, IMI Buschjost is a market leading range of process and multimedia solenoid valve technology and system solutions.







IMI FAS®

The IMI FAS range offers a comprehensive portfolio of globally acclaimed miniature fluid control solutions which provide successful, consistent performance at the heart of demanding applications. Specialising in miniature solenoid valve technology for 10mm and 15mm valve applications.

IMI HERION®

For over 50 years the IMI Herion brand has specialised in solenoid valves, NAMUR valves and hydraulic solutions for mechanical and pneumatic press and press safety technology.

IMI MAXSEAL®

Proven in the field for over 50 years, the IMI Maxseal brand offers extremely high quality stainless steel solenoid valves, for harsh environments such as offshore oil & gas and coastal applications.

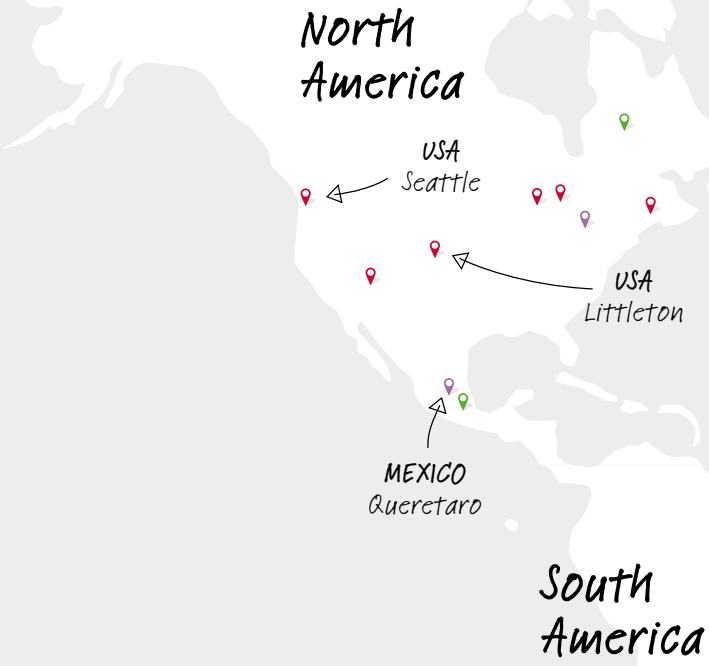






Our global reach

With established manufacturing facilities globally, we have the capability to cope with the most demanding of international projects. With a sales and service network in 75 countries, we have the reach and capability to ensure continuity of supply and local support where it is needed.



Sales & Service in 75 countries

- Sales, manufacturing and technical centres
- Sales locations
- Manufacturing locations

Sector expertise

Our high performance products have application in all sectors, and we have particular expertise of Industrial Automation, Food & Beverage, Rail, Commercial Vehicles, Life Sciences and Energy.

With over 30 years' experience in each, we use our deep understanding of the technical challenges and legislative framework to develop pioneering platform products to answer specific needs. In this way, we help more customers enjoy GREAT solutions – including cost and energy savings, a simplified supply chain and a reduction in machine complexity.

Industrial Automation



Commercial Vehicles



Food and Beverage





Life Science



Rail



Energy



Selecting the model you need couldn´t be simpler

Our high performance products improve performance and productivity in Industrial Automation. The IMI Precision Engineering catalogue includes a number of features designed to help you select and order the best parts, quickly and efficiently.

Part numbers & technical information

Each product page has a full listing of part numbers, a photo and technical information – everything you need to order the right model.

More products, more options

We have added more products and extended the number of options. We have also added more technical information to make your selection & ordering even easier.

Speed of delivery

Many of our products are available for same day despatch, and we operate a truly global sales and service network, helping keep your equipment running – wherever you are. The EXPRESS symbol will help you identify those ranges in-stock and ready for immediate despatch.

EXPRESS

Need even more information?

All the models featured in this catalogue are also available from our store. Visit store.norgren.com and experience our extended on line services, including downloadable data sheets, improved CAD configurator and part number converter.

Expertise

We're product and technical experts who understand your technical challenges. Our dedicated support team is fully trained to help you find the product, data or application support you need – fast.



More technical information



Added services

We offer in-house capability to engineer and deliver complete pneumatic systems, and can supply high quality management information to help drive down your total cost of ownership.

Fast-track actuators

We can assemble a bespoke actuator tailored to your exact requirements at short notice.

Call or email us for more information.

Responsible Business

This symbol highlights products which make a special contribution to sustainable engineering – e.g. energy efficient components or energy savings.

Easy to contact

Our expert teams are available Monday to Friday, and our webstore's open 24/7/365. You're never far away from the product or solution you need.




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ACTUATORS
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VALVES
PRESSURE SWITCHES
AIR PREPARATION
FITTINGS, TUBING & ACCESSORIES
Home > Latest News & Offers
ACTUATOR CONFIGURATORS
PRA/182000/M
ISO 15552
RA/182000/M
ISO 21287
RA/6000/M
ISO 15552
RM/6000/M
ISO 6432
MT/46000/M
Rodless Actuator
Create your unique actuator by using our online configurator. You can select non-standard stroke lengths, choose high temperature seals and more, and then add mountings and proximity switches. Once you're done, you can get price and delivery information complete your purchase online.
You can also download your configuration in your native CAD format. We support 50+ native CAD formats including AutoCAD, SolidWorks, ProEngineer, NX and Catia.
PRA/182000/M - ISO 15552 ACTUATOR RANGE

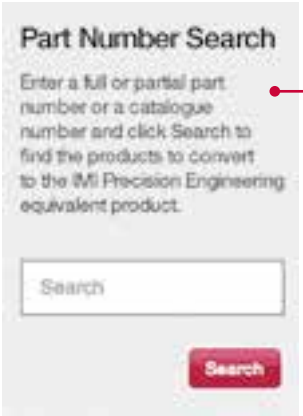
New online services

To improve your experience, we have introduced web services including a dedicated, intuitive conversion finder, an updated mobile webstore- and we have also introduced a new configurator with improved CAD capabilities. We're engineering GREAT access to our products and services to help you save time and work more efficiently.



Configuration and CAD

Quickly and easily configure pneumatic cylinders, including the addition of mountings and accessories. It provides price and availability throughout the configuration process and the option to download a CAD file or purchase the completed configuration.



Part Converter

Looking for an IMI Precision Engineering alternative to competitor parts?

Try our new Part Converter. All you need is a full or partial part number or even a catalogue number to find the IMI Precision Engineering alternative. It tells you everything you need to know, including technical details and whether it's an exact or partial match. To make things even easier, you can link straight through to the recommended alternative, review the technical detail and buy it there and then.



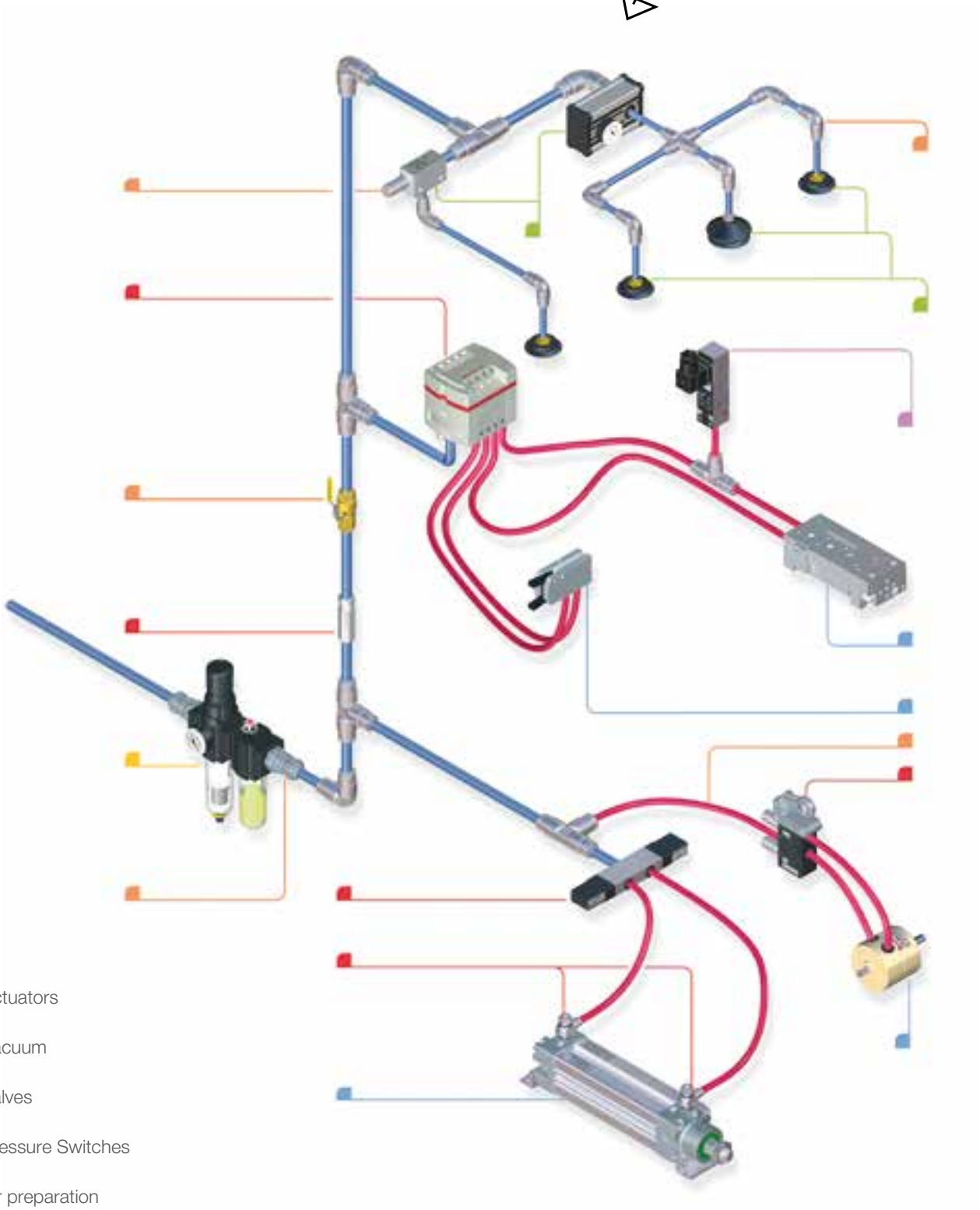
Mobile

Our new mobile store lets you purchase products straight from your mobile phone or tablet, wherever you are!

Complete with images and technical information, our new mobile store gives you all the product details you will need to purchase, even out on the factory floor.

Product sections

Engineering GREAT Solutions



- Actuators
- Vacuum
- Valves
- Pressure Switches
- Air preparation
- Fittings

Actuators

A vast array of actuators – from ISO/VDMA profile to compact short stroke, rodless and roundline cylinders to rotary actuators, a range of shock absorbers and our more traditional actuator ranges. In this catalogue we have listed the part numbers of hundreds of ex-stock configurations, available off the shelf for rapid delivery.

A whole selection of simple and complex specifications are just a phone call or email away contact the Team for rapid, expert advice on the right product for your application. Each item is clearly listed to help ensure you get everything you need to get the job done.



Fast Find Guide

Please note: These products represent only part of the IMI Precision Engineering actuator range. If you can't see the option you require please contact us.

■ Single Acting
■ Double Acting

Roundline Cylinders

RM/28000/M ■
ISO 6432
Ø 10 … 25 mm

Page 21

RM/8000/M ■
ISO 6432
Ø 10 … 25 mm

EXPRESS Page 22

RT/57100/M ■
RT/57300/M
Ø 10 … 40 mm

Page 25

RT/57200/M ■
Ø 10 … 63 mm

EXPRESS Page 26

RM/55401/M ■
Ø 32 … 100 mm

Page 30

M/6000 ■
Ø 10 … 25 mm

Page 33

VSM/55600/N2 ■
Ø 25 and 40 mm

Page 34

Compact Cylinders

RA/191000/M, …/MX
RA/193000/M, …/MX ■
ISO 21287
Ø 20 … 63 mm

Page 37

RA/192000/M ■
RA/192000/MX
ISO 21287
Ø 20 … 125 mm

EXPRESS Page 39

RM/91000/M ■
RM/9300/M
Ø 20 … 63 mm

Page 47

RM/92000/M ■
Ø 12 … 100 mm

EXPRESS Page 48

M/50100 ■
Ø 8 … 63 mm

Page 52

M/50200 ■
Ø 8 … 63 mm

Page 53

Profile Cylinders

PRA/181000/M &
PRA/183000/M ■
ISO, VDMA, NFE
Ø 32 … 100 mm

Page 55

PRA/182000/M ■
ISO, VDMA, NFE
Ø 32 … 125 mm

EXPRESS Page 56

PRA/822000/M
Smoothline ■
ISO 15552
Ø 32 … 100 mm

Page 59

PRA/842000/M
Cleanline ■
ISO 15552
Ø 32 … 100 mm

Page 62

RA/28000/M,
RA28100/M &
RA/28300/M ■
ISO, VDMA, NFE
Ø 32 … 100 mm

Page 66

RA/8000/M ■
ISO, VDMA, NFE
Ø 32 … 320 mm

EXPRESS Page 68

RA/8000/L4 &
PRA/182000/L4 ■
Ø 32 … 125 mm

Page 72

PRA/862000/M
IVAC Industrial ■
Ø 32 … 100 mm

Page 78

PRA/882000/M
IVAC Clean Line ■
Ø 32 … 100 mm

EXPRESS Page 80

RM/900 ■
Ø 1,25 … 14"

Page 84

M/3000 ■
Ø 2 … 6"

Page 86

M/1525 & M/1540 ■
Ø 2 1/2", 4" bore

Page 87

M/1000 ■
Heavy duty cylinder
Ø 2 … 12"

Page 88

Online at **store.norgren.com**

Fast Find Guide

Please note: These products represent only part of the IMI Precision Engineering actuator range. If you can't see the option you require please contact us.

■ Single Acting
■ Double Acting

Lintra® Rodless Cylinders

M/146000 ■
Internal Guide
Ø 16 … 80 mm

EXPRESS Page 96

M/146100 ■
External Guide
Ø 16 … 80 mm

EXPRESS Page 98

M/146200 ■
Precision Roller Guide
Ø 16 … 63 mm

Page 100

Cylinders with Guiding

M/60100/M ■
Ø 10 … 40 mm

Page 90

M/61000/M,
M/61000/MR ■
Ø 32 … 100 mm

Page 92

OTHER LINTRA® RODLESS CYLINDERS
Pneumatic & Electric

Page 102

Rotary Actuators

M/60280 ■
Rotation angles
30° … 270°

Page 104

M/162000/MI ■
Ø 32 … 125 mm

Page 106

Air Bellows

PM/31000 ■
Ø 2 3/4 … 12"

EXPRESS Page 116

M/31000 & M/32000 ■
Ø 6 … 26"

Page 118

Stainless Steel

KM/8000/M ■
ISO 6432
Ø 12 … 25 mm

Page 108

KA/8000/M ■
ISO/VDMA/NFE
Ø 32 … 200 mm

Page 111

KM/31000 ■
Ø 8 … 14 1/2"

Page 113

KM/55001/M ■
Ø 32 … 125 mm

Page 114

Fast Find Guide

Please note: These products represent only part of the IMI Precision Engineering actuator range. If you can't see the option you require please contact us.

■ Single Acting
■ Double Acting

Shock Absorbers

ACE Shock Absorbers
MC Series
Self-compensating



Page 120

ACE Shock Absorbers
MA Series
Adjustable



Page 121

Air/Oil Pressure Converter

M/55900
0,25 … 5 dm³



Page 123

Switches

M/50 (Reed and solid state)



EXPRESS Page 124

QM/132 (Solid state)
TQM/31 (Reed)
QM/32 (Reed)



Page 126

QM/140 (Pneumatic)
Ø 3 mm



Page 128

Mountings

Series		Page
Roundline cylinders	RM/28000/M & RM/8000/M (ISO/VDMA cylinders)	24
	RT/57100/M & RT/57200/M	29
	RM/55401/M	32
	VSM/55600/N2 (Hollow piston rod cylinder)	35
Compact cylinders	RA/191000/M, …/MX; RA/192000/M, …/MX; RA/193000/M, …/MX (ISO cylinders)	46
	RM/91000/M, RM/92000/M and RM/93000/M	51
Profile cylinders	PRA/822000/M (Smooth line cylinder)	60
	PRA/842000/M (Clean line cylinder)	64
	RA/28000/M, RA/28100/M & RA/28300/M, RA/8000/M (ISO/VDMA tie-rod cylinders)	70
	Mounting dimensions for ISO/VDMA cylinders	73
	PRA/862000/M & PRA/882000/M (IVAC cylinder)	82
	RM/900 (Imperial cylinders)	85
	M/3000 (Impact cylinders)	86
	M/1000 (Heavy duty cylender)	89

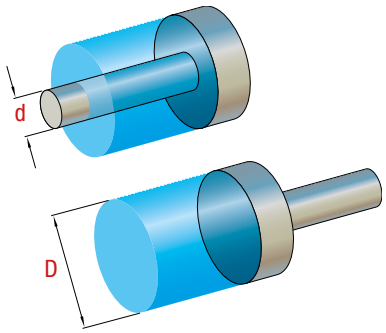
Series		Page
Rodless cylinders	M/146000, M/146100 AND M/146200 (LINTRA® PLUS cylinders)	101
Rotary actuators	M/162000/MI (Rack & pinion actuators)	107
Stainless steel cylinders	KM/8000/M (Roundline cylinders)	110
	KA/8000/M (Tie-rod cylinders)	112
	KM/55001/M (Roundline cylinders)	115
Ail/oil pressure converter	M/55900	123

CYLINDER SIZING AND SPEED CONTROL

Cylinder sizing for thrust

The theoretical thrust (outstroke) or pull (instroke) of a cylinder is calculated by multiplying the effective area of the piston by the working pressure. The effective area for thrust is the full area of the cylinder bore. The effective area for pull is reduced by the cross section area of the piston rod.

Current practice specifies bore (D) and piston rod diameter (d) in millimetres and working pressure (P) in bar gauge. In the formula, P is divided by 10 to express pressure in Newtons (N)



The theoretical force (F) is given by

Thrust $F = \frac{\pi D^2 P}{40} = N$

Pull $F = \frac{\pi(D^2-d^2)P}{40} = N$

Where

D = Cylinder bore in millimetres

d = Piston rod diameter in millimetres

P = Pressure in bar

F = Thrust or Pull in Newtons

Example: Find the theoretical thrust and pull of a 50 mm bore cylinder supplied with a pressure of 8 bar

Thrust $F = \frac{\pi 50^2.8}{40} = 1571\ N$

Pull $F = \frac{\pi(50^2-20^2).8}{40} = 1319\ N$

Table of thrust and pulls, double acting cylinders

Cylinder bore mm (inches)	Piston rod diameter mm (inches)	Thrust N at 6 bar	Pull N at 6 bar
8	3	30	25
10	4	47	39
12	6	67	50
16	6	120	103
20	8	188	158
25	10	294	246
32	12	482	414
40	16	753	633
44,45 (1,75)	16	931	810
50	20	1178	989
63	20	1870	1681
76,2 (3)	25	2736	2441
80	25	3015	2721
100	25	4712	4418
125	32	7363	6881
152,4 (6)	(1,5)	10944	10260
160	40	12063	11309
200	40	18849	18095
250	50	29452	28274
304,8 (12)	(2,25)	43779	42240
320	63	48254	46384
355,6 (14)	(2,25)	59588	58049

Correct sizing of pneumatic actuators is based upon knowledge of the required force and the applied air pressure. Theoretical thrust and pull of both single and double acting cylinders is shown on the accompanying tables and is calculated by multiplying the effective piston area by the working pressure. Units are generally shown in Newtons (kg x 9,81 = N). Note the difference in thrust and pull figures on double acting rodded cylinders due to the reduction made by the piston rod area. These figures are purely theoretical, and make no allowance for frictional losses, pressure differences, leakage, or a 'safety factor'. It is strongly recommended that a factor of safety be included in all sizing calculations – on all dynamic applications this should be 50%, and on static applications 5%.

Pneumatic actuators generally work best and can be better controlled when well within their load capacity, and this safety factor should always be considered to reduce potential issues during operation. In addition, when working at ultra slow speeds, control will be improved if the cylinder is oversized and working well within it's total capacity. All figures shown represent theoretical thrust at 6 bar (gauge). For working pressures other than this figure, simply divide the figure shown by 6 and multiply by the desired pressure to arrive at new values.

Table of consumption

Bore mm	Rod mm	Push stroke consumption dm^3/mm of stroke at 6 bar	Pull stroke consumption dm^3/mm of stroke at 6 bar	Combined consumption dm^3/mm of stroke/cycle
10	4	0,00054	0,00046	0,00100
12	6	0,00079	0,00065	0,00144
16	6	0,00141	0,00121	0,00262
20	8	0,00220	0,00185	0,00405
25	10	0,00344	0,00289	0,00633
32	12	0,00563	0,00484	0,01047
40	16	0,00880	0,00739	0,01619
50	20	0,01374	0,01155	0,02529
63	20	0,02182	0,01962	0,04144
80	25	0,03519	0,03175	0,06694
100	25	0,05498	0,05154	0,10652
125	32	0,08590	0,08027	0,16617
160	40	0,14074	0,13195	0,27269
200	40	0,21991	0,21112	0,43103
250	50	0,34361	0,32987	0,67348

Table of thrust and pulls, single acting cylinders

Cylinder bore mm (inches)	Thrust N at 6 bar	Pull N at 6 bar
10	37	3
12	59	4
16	105	7
20	165	14
25	258	23
32	438	27
40	699	39
50	1102	48
63	1760	67
80	2892	86
100	4583	99

Load and buckling

Go to page 147 for more information on Golden Rules and Load and Buckling.

OFFER OPTIMUM GUIDING

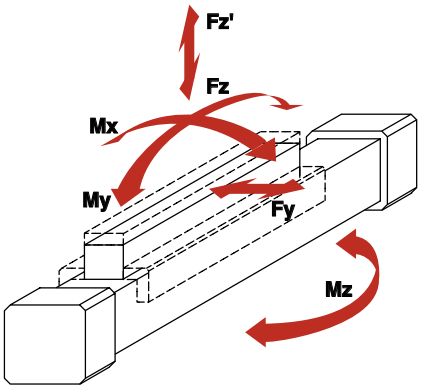
Loading values for Lintra® cylinders

The values given in the table below show the single forces in the directions Fy and Fz and the maximum moments Mx, My and Mz. All values are applicable only for speeds of max. 0,2 m/s. A requirement for using these values is a constant movement (no jerking) of the mass over the whole stroke length of the cylinder. The reference point from which the moments for all cylinders should be calculated is the centre line of the pistons.

For speeds up to 2 m/s please use our calculation programme LINTRA® PNEUCALC. It is available upon request.

When a LINTRA® cylinder has to take several loads and moments, an additional calculation is necessary using this formula:

$$\frac{Mx}{Mx\ max.} + \frac{My}{My\ max.} + \frac{Mz}{Mz\ max.} + \frac{Fy}{Fy\ max.} + \frac{Fz}{Fz\ max.} \leq 1$$



A44000, M/44000
Internal guiding system

Ø mm	Fy (N)	Fz (N)	Mx (Nm)	My (Nm)	Mz (Nm)
16	–	–	–	–	–
20	–	–	–	–	–
25	90	280	1	13	4
32	120	370	2	21	6
40	240	720	4	56	16
50	–	–	–	–	–
63	–	–	–	–	–
80	–	–	–	–	–

M/146000
Internal guiding system

Ø mm	Fy (N)	Fz (N)	Mx (Nm)	My (Nm)	Mz (Nm)
16	40	120	0,3	3,8	1,1
20	90	280	0,9	12	3,6
25	125	385	1,5	19	5,6
32	165	500	3	33	10
40	330	990	6,5	84	24
50	440	1320	11	120	35
63	690	2000	20	240	70
80	780	2300	27	360	100

M/146100
External adjustable guiding system

Ø mm	Fy (N)	Fz (N)	Mx (Nm)	My (Nm)	Mz (Nm)
16	200	200	2	5,5	5,5
20	470	470	6	18	18
25	590	590	9	28	28
32	780	780	17	43	43
40	1600	1600	39	110	110
50	2000	2000	65	160	160
63	3200	3200	120	350	350
80	3900	3900	180	520	520

M/146200
Precision roller guiding system

Ø mm	Fy (N)	Fz (N)	Mx (Nm)	My (Nm)	Mz (Nm)
16	–	–	–	–	–
20	–	–	–	–	–
25	590	1180	13	42	42
32	780	1560	25	64	64
40	1500	3000	58	160	160
50	2000	4000	97	240	240
63	3200	6400	180	520	520
80	–	–	–	–	–

M/46800/M
Internal guiding system

Ø mm	Fy (N)	Fz (N)	Fz (N)	Mx (Nm)	My (Nm)	Mz (Nm)
16	–	–	–	–	–	–
20	4500	5000	4500	350	410	370
25	4500	5000	4500	350	410	370
32	–	–	–	–	–	–
40	–	–	–	–	–	–
50	–	–	–	–	–	–
63	–	–	–	–	–	–
80	–	–	–	–	–	–

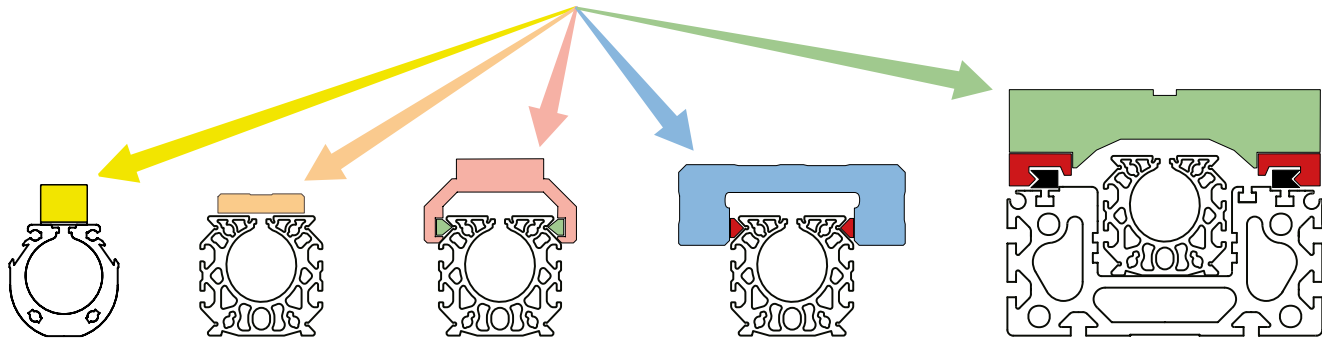
M/46800/HM
Heavy duty guiding system 2

Ø mm	Fy (N)	Fz (N)	Fz (N)	Mx (Nm)	My (Nm)	Mz (Nm)
16	–	–	–	–	–	–
20	–	–	–	–	–	–
25	4500	5000	4500	450	620	580
32	4500	5000	4500	450	620	580
40	4500	5000	4500	450	620	580
50	–	–	–	–	–	–
63	–	–	–	–	–	–
80	–	–	–	–	–	–

M/46800/PM
Heavy duty guiding system

Ø mm	Fy (N)	Fz (N)	Fz (N)	Mx (Nm)	My (Nm)	Mz (Nm)
16	3000	3000	3000	80	300	300
20	–	–	–	–	–	–
25	4200	5000	4200	250	500	500
32	–	–	–	–	–	–
40	7200	8500	7200	600	1200	1200
50	–	–	–	–	–	–
63	10000	12000	10000	1200	2400	2400
80	–	–	–	–	–	–

The Lintra® guiding systems



A44000, M/44000
Internal guiding

M/146000
Internal guiding

M/146100
External adjustable guiding

M/146200
Precision roller guiding

M/46800
Heavy duty guiding

IMI Precision Engineering

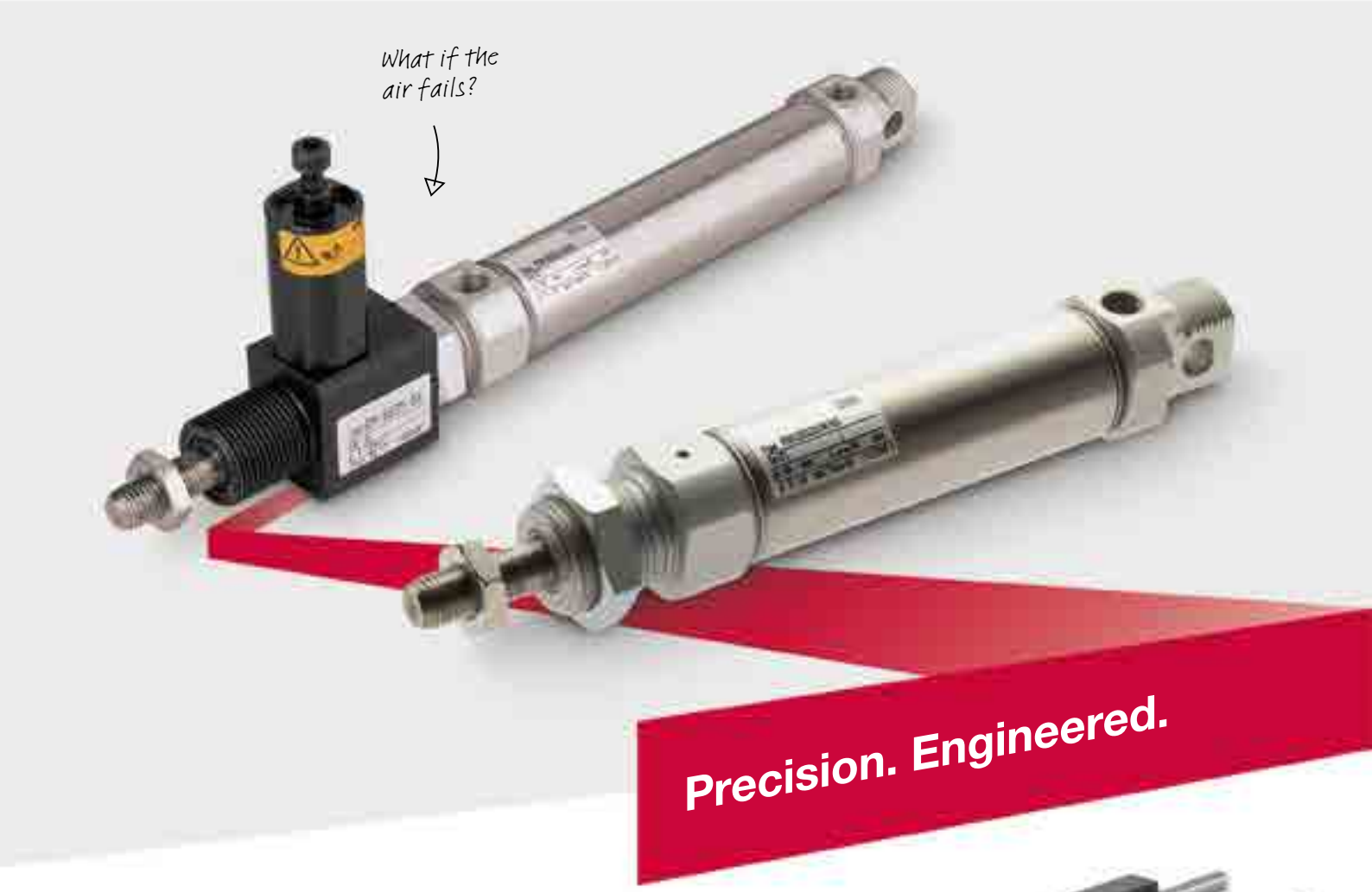
TECHNICAL DATA

Actuator sizing, control and air consumption

Technical option range selector

	Bore size	Max. stroke length	Single / Double acting	Sprung in / out (single acting)	Cushioning type	Non magnetic / magnetic	End cap with integral eye mount	End cap with axial port	Flat faced end cap	Non rotating piston rod	Double ended piston rod	Piston rod locking unit	Extended piston rod	Heavy duty wiper seal	Chrome plated piston rod	Stainless steel piston rod	Female piston rod thread	Guided piston rod	Precision guided piston rod	Low friction version	Tandem cylinder	Multi-position cylinder	High temperature seals	Hydraulic version	Piston rod bellows	Non cushioned	Dual ported end cap	Adjustable end position	External hydraulic damping	Female pinion	Impact cylinder	Air bellows	Fixed range positioner
RM/28000	10-25 mm	50 mm	S	In only	Fixed	Magnetic only	*S	Y	Y																								
RM/8000	10-25 mm	500 mm	D		fixed as standard adjustable option	Magnetic only	*S	Y	Y	Y	Y	Y	Y											Y										
RT/57100 & RT/57300	8-40 mm	50 mm	S	Both	Fixed	Magnetic only	*S	Y	Y																								
RT/57200	8-63 mm	500 mm	D		Fixed	Magnetic only	*S	Y	Y		Y																							
RM/55401	32-100 mm	3000 mm	D		Adjustable	Magnetic only					Y		Y	Y	Y	Y																	
RA/191000 & RA/193000	20-63 mm	50 mm	S	Both	Fixed	Magnetic only				Y			Y			Y	Y																
RA/192000	20-125 mm	500 mm	D		Fixed	Magnetic only				Y	Y	Y	Y	Y		Y	Y	Y		Y	Y	Y	Y										
RM/91000 & RM/93000	20-63 mm	50 mm	S	Both	Fixed	Magnetic only				Y							*S																
RM/92000	12-100 mm	300 mm	D		None	Magnetic only				Y	Y		Y				*S	Y					Y										
M/50100	8-63 mm	25 mm	S	In only	None	Magnetic only											*S																
M/50200	8-63 mm	25 mm	D		None	Magnetic only					*S						*S																
PRA/181000 & PR/183000	32-100 mm	250 mm	S	Both	Adjustable	Both				Y				Y	Y	Y																	
PRA/182000	32-125 mm	3000 mm	D		Adjustable	Both				Y	Y	Y	Y	Y	Y	Y				Y			Y	Y	Y	Y							
RA/8000	32-320 mm	3000 mm	D		Adjustable	Both				Y	Y	Y	Y	Y	Y	Y				Y			Y	Y	Y	Y							
M/146000, M/146100, M/1462000	16-80 mm	8500 mm	D		Adjustable	Both																					*S						
M/60100	10-40 mm	225 mm	D		Fixed	Magnetic only					*S								*S														
M/61000	32-100 mm	100 mm	D		Fixed	Magnetic only					*S								*S														
M/60280		270°	D		Fixed	Non																						Y	Y				
M/162000	32-125 mm	360°	D		Adjustable	Both																						Y		Y			
KM/8000	12-25 mm	500 mm	D		Fixed or Adjustable	Magnetic	*S		Y		Y	Y	Y			*S																	
KA/8000	32-200 mm	2500 mm	D		Adjustable	Both					Y	Y	Y	Y		*S							Y			Y							
PM/31000	2,75-12"	320 mm	S																												Y		
M/31000	6 - 26"	430 mm	S																												Y		
RM/900	1,25-14"	2500 mm	D		Adjustable	Both					Y					Y	Y						Y		Y								
M/3000	2-6"	Not valid	D		Not valid	Not valid																									Y		
M/15**	2,5-4"	200 mm	D																														Y
M/6000	10-25 mm	150 mm	D		Fixed	None	*S																										
M/1000	2,5-12"	2500 mm	D		None	magnetic					Y		Y		*S	Y	Y						Y		Y								

*S = Standard. Y = Variant available please contact the technical service.



ISO Roundline cylinders



When applying pneumatic actuators to lighter duty, lower force applications, many machine builders tend to select a simple 'roundline' product. The most common of these are actuators that conform to ISO6432, a dimensional standard ensuring interchangeability between manufacturers.

A number of features make the ISO roundline cylinders stand apart from the competition:

- IMI Precision Engineering uses a 'Z' type low friction seal to support both low and high speed applications with operating life up to 10 million cycles
- The standard actuator is fully non-corrodible in standard applications. For more arduous environments, you can choose a stainless version
- If you're looking for a more specialised and cost-effective solution, choose from double ended or non-rotating piston rods, add a rod lock, select different end-cap styles to save space, add a guide block to improve load capacity, or fit high temperature seals
- Uses the standard IMI Norgren M/50 series switch (reed or solid state) as fitted to virtually the entire IMI Norgren actuator range



Engineering GREAT Solutions

Find out more
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IMI Precision Engineering

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ISO ROUNDLINE CYLINDERS

RM/28000/M Single acting, ISO 6432 – Ø 10 … 25 mm

- Perfect for small to medium force applications
- Low friction 'Z' seals offer both high and low speed working and extremely long life
- Unit is fully non corrodible reducing the need for costly protection in more aggressive environments
- Choice of three end cap styles, and other technical variants, allows a wider use of standard products

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
Single acting (sprung in), magnetic piston, buffer cushioning

Operating pressure:
2 … 10 bar

Operating temperature:
-10°C … +80°C max.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Barrel:
Stainless steel (austenitic)

End covers:
Clear anodised aluminium alloy

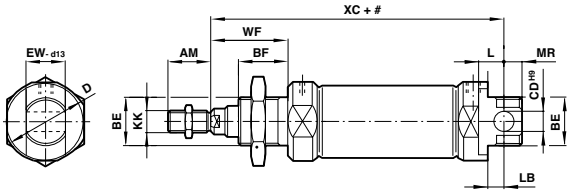
Piston rod:
Stainless steel (austenitic)

Buffer:
PUR

Seals:
NBR



Dimensions



= Stroke

Dia. Ø	AM	BE	BF	Ø CD_{H9}	ØD	EW_{d13}	KK	L	LB	MR	WF	XC
10	12	M12x1,25	12	4	16,5	7,9	M4	6	2	8	16	64
12	16	M16x1,5	17	6	21	11,9	M6	9	3	8	22	75
16	16	M16x1,5	17	6	21	11,9	M6	9	4	7	22	82
20	20	M22x1,5	20	8	30	15,9	M8	12	3	11	24	95
25	22	M22x1,5	22	8	30	15,9	M10x1,25	12	7	9	28	104

Models

Accessories

Model	Dia. Ø	Stroke length	Port size	Piston rod Ø	Reed switch with integral 5 m cable	Switch mounting <15 mm stroke	Switch mounting ≥15 mm stroke	Straight fitting	Elbow fitting
									
RM/28010/M/10	10	10	M5	4	M/50/LSU/5V	QM/33/010/23	–	C02250405	C02470405
RM/28010/M/25	10	25	M5	4	M/50/LSU/5V	–	QM/33/010/22	C02250405	C02470405
RM/28010/M/50	10	50	M5	4	M/50/LSU/5V	–	QM/33/010/22	C02250405	C02470405
RM/28012/M/10	12	10	M5	6	M/50/LSU/5V	QM/33/016/23	–	C02250405	C02470405
RM/28012/M/25	12	25	M5	6	M/50/LSU/5V	–	QM/33/012/22	C02250405	C02470405
RM/28012/M/50	12	50	M5	6	M/50/LSU/5V	–	QM/33/012/22	C02250405	C02470405
RM/28016/M/10	16	10	M5	6	M/50/LSU/5V	QM/33/016/23	–	C02250405	C02470405
RM/28016/M/25	16	25	M5	6	M/50/LSU/5V	–	QM/33/016/22	C02250405	C02470405
RM/28016/M/50	16	50	M5	6	M/50/LSU/5V	–	QM/33/016/22	C02250405	C02470405
RM/28020/M/10	20	10	G1/8	8	M/50/LSU/5V	QM/33/020/23	–	C02250618	C02470618
RM/28020/M/25	20	25	G1/8	8	M/50/LSU/5V	–	QM/33/020/22	C02250618	C02470618
RM/28020/M/50	20	50	G1/8	8	M/50/LSU/5V	–	QM/33/020/22	C02250618	C02470618
RM/28025/M/10	25	10	G1/8	10	M/50/LSU/5V	QM/33/025/23	–	C02250618	C02470618
RM/28025/M/25	25	25	G1/8	10	M/50/LSU/5V	–	QM/33/025/22	C02250618	C02470618
RM/28025/M/50	25	50	G1/8	10	M/50/LSU/5V	–	QM/33/025/22	C02250618	C02470618

Service kits are not available for this range of cylinders.
For information on alternative magnetic switches see pages 124 - 128.
Other stroke lengths available up to 50 mm maximum, please contact us.
For mountings, refer to double acting versions as shown on page 24.
For alternative fitting types, shapes or sizes, refer to our fittings section.

Options

- Cylinder with central rear port
- Cylinder with flat rear cover

ISO ROUNDLINE CYLINDERS

RM/8000/M Double acting, ISO 6432 – Ø 10 … 25 mm

- Perfect for small to medium force applications
- Low friction 'Z' seals offer both high and low speed working and extremely long life
- Unit is fully non corrodible reducing the need for costly protection in more aggressive environments
- Choice of three end cap styles, and other technical variants, allows a wider use of standard products

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
Double acting, magnetic piston with buffer or adjustable air cushioning

Operating pressure:
1 … 10 bar

Ambient temperature:
-10°C … +80°C max.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Barrel:
Stainless steel (austenitic)

End covers:
Clear anodised aluminium alloy

Piston rod:
Stainless steel (austenitic)

Buffer:
PUR

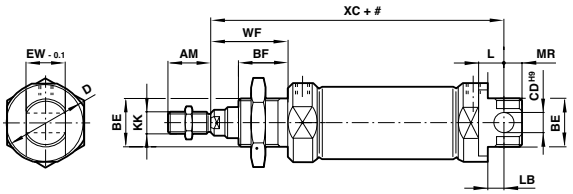
Wiper:
PUR

Seals:
NBR

EXPRESS



Dimensions



= Stroke

Dia. Ø	AM	BE	BF	Ø CD_{H9}	ØD	$EW_{-0.1}$	KK	L	LB	MR	WF	XC
10	12	M12x1,25	12	4	16,5	7,9	M4	6	2	8	16	64
12	16	M16x1,5	17	6	21	11,9	M6	9	3	8	22	75
16	16	M16x1,5	17	6	21	11,9	M6	9	4	7	22	82
20	20	M22x1,5	20	8	30	15,9	M8	12	3	11	24	95
25	22	M22x1,5	22	8	30	15,9	M10x1,25	12	7	9	28	104

Models

Accessories

Buffer Cushioning Model	Adjustable Cushining Model	Dia. Ø	Stroke length	Port size	Piston rod Ø	Reed switch with integral 5 m cable	Switch mounting <15 mm stroke	Switch mounting ≥15 mm stroke	Banjo flow control	Straight fitting	Elbow fitting
											
RM/8010/M/10	–	10	10	M5	4	M/50/LSU/5V	QM/33/010/23	–	C0K510405	C02250405	C02470405
RM/8010/M/25	–	10	25	M5	4	M/50/LSU/5V	–	QM/33/010/22	C0K510405	C02250405	C02470405
RM/8010/M/40	–	10	40	M5	4	M/50/LSU/5V	–	QM/33/010/22	C0K510405	C02250405	C02470405
RM/8010/M/50	–	10	50	M5	4	M/50/LSU/5V	–	QM/33/010/22	C0K510405	C02250405	C02470405
RM/8010/M/80	–	10	80	M5	4	M/50/LSU/5V	–	QM/33/010/22	C0K510405	C02250405	C02470405
RM/8010/M/100	–	10	100	M5	4	M/50/LSU/5V	–	QM/33/010/22	C0K510405	C02250405	C02470405
RM/8012/M/10	–	12	10	M5	6	M/50/LSU/5V	QM/33/016/23	–	C0K510405	C02250405	C02470405
RM/8012/M/25	–	12	25	M5	6	M/50/LSU/5V	–	QM/33/012/22	C0K510405	C02250405	C02470405
RM/8012/M/40	–	12	40	M5	6	M/50/LSU/5V	–	QM/33/012/22	C0K510405	C02250405	C02470405
RM/8012/M/50	–	12	50	M5	6	M/50/LSU/5V	–	QM/33/012/22	C0K510405	C02250405	C02470405
RM/8012/M/80	–	12	80	M5	6	M/50/LSU/5V	–	QM/33/012/22	C0K510405	C02250405	C02470405
RM/8012/M/100	–	12	100	M5	6	M/50/LSU/5V	–	QM/33/012/22	C0K510405	C02250405	C02470405
RM/8012/M/125	–	12	125	M5	6	M/50/LSU/5V	–	QM/33/012/22	C0K510405	C02250405	C02470405
RM/8012/M/160	–	12	160	M5	6	M/50/LSU/5V	–	QM/33/012/22	C0K510405	C02250405	C02470405
RM/8012/M/200	–	12	200	M5	6	M/50/LSU/5V	–	QM/33/012/22	C0K510405	C02250405	C02470405

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IMI NORGREN

ISO ROUNDLINE CYLINDERS

RM/8000/M Double acting, ISO 6432 – Ø 10 … 25 mm

Models

Accessories

Buffer Cushioning Model	Adjustable Cushining Model	Dia. Ø	Stroke length	Port size	Piston rod Ø	Reed switch with integral 5 m cable	Switch mounting <15 mm stroke	Switch mounting ≥15 mm stroke	Banjo flow control	Straight fitting	Elbow fitting
											
RM/8016/M/10	–	16	10	M5	6	M/50/LSU/5V	QM/33/016/23	–	C0K510405	C02250405	C02470405
RM/8016/M/25	RM/8017/M/25	16	25	M5	6	M/50/LSU/5V	–	QM/33/016/22	C0K510405	C02250405	C02470405
RM/8016/M/40	–	16	40	M5	6	M/50/LSU/5V	–	QM/33/016/22	C0K510405	C02250405	C02470405
RM/8016/M/50	RM/8017/M/50	16	50	M5	6	M/50/LSU/5V	–	QM/33/016/22	C0K510405	C02250405	C02470405
RM/8016/M/80	RM/8017/M/80	16	80	M5	6	M/50/LSU/5V	–	QM/33/016/22	C0K510405	C02250405	C02470405
RM/8016/M/100	RM/8017/M/100	16	100	M5	6	M/50/LSU/5V	–	QM/33/016/22	C0K510405	C02250405	C02470405
RM/8016/M/125	RM/8017/M/125	16	125	M5	6	M/50/LSU/5V	–	QM/33/016/22	C0K510405	C02250405	C02470405
RM/8016/M/160	RM/8017/M/160	16	160	M5	6	M/50/LSU/5V	–	QM/33/016/22	C0K510405	C02250405	C02470405
RM/8016/M/200	RM/8017/M/200	16	200	M5	6	M/50/LSU/5V	–	QM/33/016/22	C0K510405	C02250405	C02470405
RM/8020/M/10	–	20	10	G1/8	8	M/50/LSU/5V	QM/33/020/23	–	C0K510618	C02250618	C02470618
RM/8020/M/25	RM/8021/M/25	20	25	G1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0K510618	C02250618	C02470618
RM/8020/M/40	–	20	40	G1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0K510618	C02250618	C02470618
RM/8020/M/50	RM/8021/M/50	20	50	G1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0K510618	C02250618	C02470618
RM/8020/M/80	RM/8021/M/80	20	80	G1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0K510618	C02250618	C02470618
RM/8020/M/100	RM/8021/M/100	20	100	G1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0K510618	C02250618	C02470618
RM/8020/M/125	RM/8021/M/125	20	125	G1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0K510618	C02250618	C02470618
RM/8020/M/160	RM/8021/M/160	20	160	G1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0K510618	C02250618	C02470618
RM/8020/M/200	RM/8021/M/200	20	200	G1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0K510618	C02250618	C02470618
RM/8020/M/250	RM/8021/M/250	20	250	G1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0K510618	C02250618	C02470618
RM/8025/M/10	–	25	10	G1/8	10	M/50/LSU/5V	QM/33/025/23	–	C0K510618	C02250618	C02470618
RM/8025/M/25	RM/8026/M/25	25	25	G1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0K510618	C02250618	C02470618
RM/8025/M/40	–	25	40	G1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0K510618	C02250618	C02470618
RM/8025/M/50	RM/8026/M/50	25	50	G1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0K510618	C02250618	C02470618
RM/8025/M/80	RM/8026/M/80	25	80	G1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0K510618	C02250618	C02470618
RM/8025/M/100	RM/8026/M/100	25	100	G1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0K510618	C02250618	C02470618
RM/8025/M/125	RM/8026/M/125	25	125	G1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0K510618	C02250618	C02470618
RM/8025/M/160	RM/8026/M/160	25	160	G1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0K510618	C02250618	C02470618
RM/8025/M/200	RM/8026/M/200	25	200	G1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0K510618	C02250618	C02470618
RM/8025/M/250	RM/8026/M/250	25	250	G1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0K510618	C02250618	C02470618

Other stroke lengths available up to 500 mm maximum, please contact us.
Service kits are not available for this range of cylinders.
For information on alternative magnetic switches see pages 124 - 128.

For alternative fitting types, shapes or sizes, refer to our fittings section.

Options

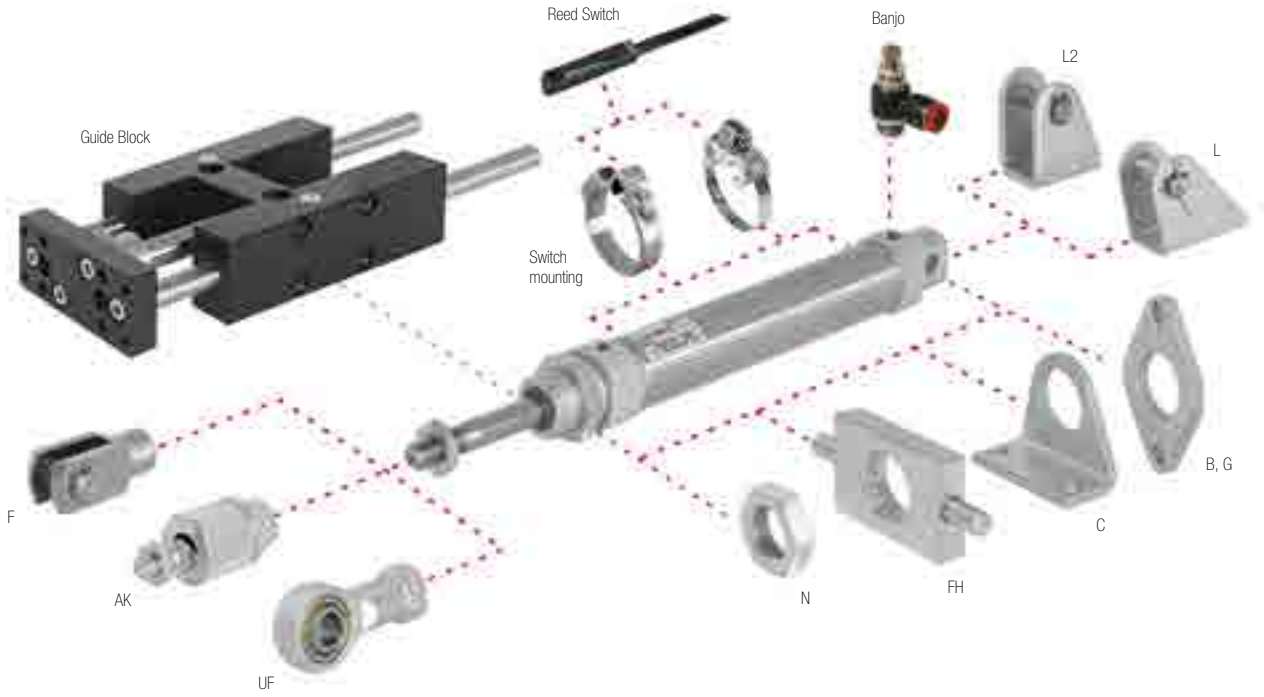
- Extended Piston Rod
- Double Ended Piston Rod
- Central Rear Port
- Flat Rear Cover
- Non-rotating piston rod
- Locking Unit
- High Temperature Seals

MOUNTINGS FOR ISO ROUNDLINE CYLINDERS

RM/28000/M & RM/8000/M Single and double acting

Single and Double Acting

Double Acting Only



Dia. Ø	AK	B, G	C	F	FH	L	L2
10	QM/8010/38	M/P19407	M/P19369	QM/8010/25	–	QM/947	QM/8010/44
12	QM/8012/38	M/P19408	M/P19389	QM/8012/25	QM/8012/34	QM/8012/24	QM/8012/44
16	QM/8012/38	M/P19408	M/P19389	QM/8012/25	QM/8012/34	QM/8012/24	QM/8012/44
20	QM/8020/38	M/P19409	M/P19406	QM/8020/25	QM/8020/34	QM/8020/24	QM/8020/44
25	QM/8025/38	M/P19409	M/P19406	QM/8025/25	QM/8020/34	QM/8020/24	QM/8020/44

Dia. Ø	N	UF	Guide block*
10	M/P1501/90	QM/8010/32	–
12	M/P13834	QM/8012/32	QM/8012/61/*
16	M/P13834	QM/8012/32	QM/8012/61/*
20	M/P13615	QM/8020/32	QM/8020/61/*
25	M/P13615	QM/8025/32	QM/8025/61/*

* Insert standard stroke length: Ø 12 mm: 50 mm; Ø 16 … 25 mm: 50, 100, 160, 200, 250 mm.
Other stroke lengths are not available, use nearest standard stroke.

Note: This actuator is supplied with one nose nut, an additional lock nut style 'N' is required when ordering mountings 'B, G' and 'C' to connect to the rear end cap.

ROUNDLINE CYLINDERS

RT/57100/M, RT/57300/M Single acting – Ø 10 … 40 mm

- Saves 20% space over the basic length of a corresponding ISO/VDMA cylinder
- Low friction, long life seals
- High strength, double crimped end cap design
- Standard magnetic piston for full control system versatility

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
RT/57100/M: Single acting, Sprung in, with buffer cushion.
RT/57300/M: Single acting, Sprung out, with buffer cushion.

Operating pressure:
2 … 10 bar

Ambient temperature:
-5°C … +80°C max.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Piston rod:
Stainless steel
(8 … 16 mm bore austenitic,
20 … 63 mm bore martensitic)

End covers:
Aluminium

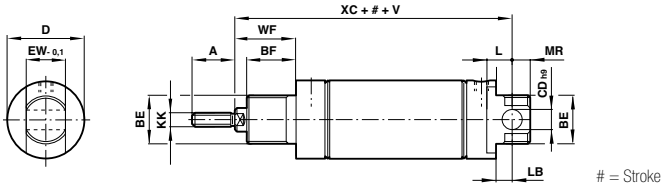
Barrel:
Stainless steel (austenitic)

Wiper:
PUR

Seals and 'O'-rings:
NBR



Dimensions



= Stroke

Dia. Ø	A	BE	BF	Ø CD_{h9}	Ø D	$EW_{-0,1}$	KK	L	LB	MR	V (#10 and #25)	V (#50)	WF	XC
10	9	M16 x 1,5	8	4	15	8	M4	–	5	4	14	28	10	54
12	9	M16 x 1,5	8	4	15	8	M4	–	5	4	14	28	10	54
16	12	M16 x 1,5	10	5	17,5	10	M6	–	7	5	15	30	13,5	74,5
20	14	M16 x 1,5	12	6	22	12	M8	–	7	6	17	34	15,5	75,5
25	16	M18 x 1,5	12	8	26,5	14	M10 x 1,25	–	9	8	18	36	16,5	78,5
32	22	M22 x 1,5	15	8	33,5	16	M10 x 1,25	12	7	8	19	38	23	93
40	23	M30 x 1,5	15	10	41,5	20	M12 x 1,25	14	5	10	20	40	24	96

Models

Accessories

Sprung in Model	Sprung out Model	Dia. Ø	Stroke length	Port size	Piston rod Ø	Reed switch with integral 5 m cable	Switch mounting <15 mm stroke	Switch mounting ≥15 mm stroke	Banjo flow control	Straight fitting	Elbow fitting
											
RT/57110/M/10	RT/57310/M/10	10	10	M5	4	M/50/LSU/5V	QM/33/010/23	–	C0L510405	C02250405	C02470405
RT/57110/M/25	RT/57310/M/25	10	25	M5	4	M/50/LSU/5V	–	QM/33/010/22	C0L510405	C02250405	C02470405
RT/57110/M/50	RT/57310/M/50	10	50	M5	4	M/50/LSU/5V	–	QM/33/010/22	C0L510405	C02250405	C02470405
RT/57112/M/10	RT/57312/M/10	12	10	M5	4	M/50/LSU/5V	QM/33/016/23	–	C0L510405	C02250405	C02470405
RT/57112/M/25	RT/57312/M/25	12	25	M5	4	M/50/LSU/5V	–	QM/33/012/22	C0L510405	C02250405	C02470405
RT/57112/M/50	RT/57312/M/50	12	50	M5	4	M/50/LSU/5V	–	QM/33/012/22	C0L510405	C02250405	C02470405
RT/57116/M/10	RT/57316/M/10	16	10	M5	6	M/50/LSU/5V	QM/33/016/23	–	C0L510405	C02250405	C02470405
RT/57116/M/25	RT/57316/M/25	16	25	M5	6	M/50/LSU/5V	–	QM/33/016/22	C0L510405	C02250405	C02470405
RT/57116/M/50	RT/57316/M/50	16	50	M5	6	M/50/LSU/5V	–	QM/33/016/22	C0L510405	C02250405	C02470405
RT/57120/M/10	RT/57320/M/10	20	10	Rc 1/8	8	M/50/LSU/5V	QM/33/020/23	–	C0SA00618	C01250618	C01470618
RT/57120/M/25	RT/57320/M/25	20	25	Rc 1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0SA00618	C01250618	C01470618
RT/57120/M/50	RT/57320/M/50	20	50	Rc 1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0SA00618	C01250618	C01470618
RT/57125/M/10	RT/57325/M/10	25	10	Rc 1/8	10	M/50/LSU/5V	QM/33/025/23	–	C0SA00618	C01250618	C01470618
RT/57125/M/25	RT/57325/M/25	25	25	Rc 1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0SA00618	C01250618	C01470618
RT/57125/M/50	RT/57325/M/50	25	50	Rc 1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0SA00618	C01250618	C01470618
RT/57132/M/25	RT/57332/M/25	32	25	Rc 1/8	12	M/50/LSU/5V	–	QM/33/032/22	C0SA00618	C01250618	C01470618
RT/57132/M/50	RT/57332/M/50	32	50	Rc 1/8	12	M/50/LSU/5V	–	QM/33/032/22	C0SA00618	C01250618	C01470618
RT/57140/M/25	RT/57340/M/25	40	25	Rc 1/8	14	M/50/LSU/5V	–	QM/33/040/22	C0SA00618	C01250618	C01470618
RT/57140/M/50	RT/57340/M/50	40	50	Rc 1/8	14	M/50/LSU/5V	–	QM/33/040/22	C0SA00618	C01250618	C01470618

Options

- Centre rear port, flat end
- 8 mm bore size

Other bore sizes and stroke lengths available up to 150 mm maximum, please contact us.
Service kits are not available for this range of cylinders.
For information on alternative magnetic switches see pages 124 - 128.
For mountings, refer to double acting versions as shown on page 29.
For alternative fitting types, shapes or sizes, refer to our fittings section.

ROUNDLINE CYLINDERS

RT/57200/M Double acting – Ø 10 … 63 mm

- Saves 20% space over the basic length of a corresponding ISO/VDMA cylinder
- Low friction, long life seals
- High strength, double crimped end cap design
- Standard magnetic piston for full control system versatility

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
Double acting, buffer cushioning

Mounting:
Side port, integral eye mounting (Ø 10 … 40 mm), fixing holes in the end cover (Ø 50 and 63 mm)

Operating pressure:
1 … 10 bar

Ambient temperature:
-10°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Piston rod:
Stainless steel
(8 … 16 mm bore austenitic,
20 … 63 mm bore martensitic)

End covers:
Aluminium

Barrel:
Stainless steel (austenitic)

Wiper:
PUR

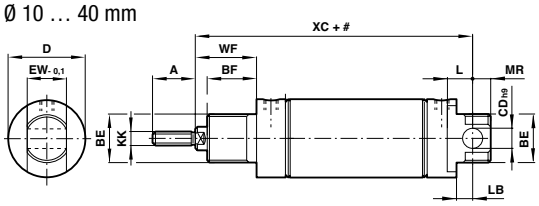
Seals and 'O'-rings:
NBR

EXPRESS



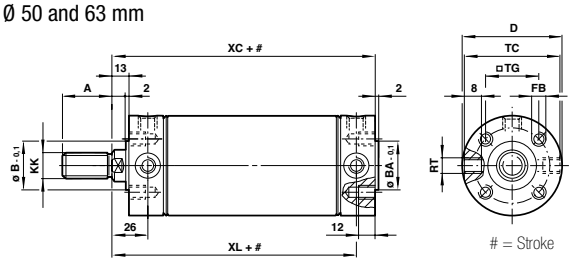
Dimensions

Ø 10 … 40 mm



= Stroke

Ø 50 and 63 mm



= Stroke

Ø 10 … 40 mm

Dia. Ø	A	BE	BF	Ø CD_{h9}	Ø D	$EW_{-0,1}$	KK	L	LB	MR	WF	XC
10	9	M10 x 1	8	4	15	8	M4	–	5	4	10	54
12	9	M10 x 1	8	4	15	8	M4	–	5	4	10	54
16	12	M12 x 1,25	10	5	17,5	10	M6	–	7	5	13,5	64,5
20	14	M16 x 1,5	12	6	22	12	M8	–	7	6	15,5	75,5
25	16	M18 x 1,5	12	8	26,5	14	M10 x 1,25	–	9	8	16,5	78,5
32	22	M22 x 1,5	15	8	33,5	16	M10 x 1,25	12	7	8	23	93
40	23	M30 x 1,5	15	10	41,5	20	M12 x 1,25	14	5	10	24	96

Ø 50 and 63 mm

Dia. Ø	A	Ø $B/BA_{-0,1}$	Ø D	FB	KK	RT	TC	TG	XC	XL
50	23	28	52,5	M 6	M 12 x 1,25	M 10 x 1	49	28,5	97	84
63	30	35	65,5	M 8	M 16 x 1,5	M 12 x 1,5	62	35,5	99	86

Models

Accessories

Model	Dia. Ø	Stroke length	Port size	Piston rod Ø	Reed switch with integral 5 m cable	Switch mounting <15 mm stroke	Switch mounting ≥15 mm stroke	Banjo flow control	Straight fitting	Elbow fitting
										
RT/57210/M/10	10	10	M5	4	M/50/LSU/5V	QM/33/010/23	–	C0K510405	C02250405	C02470405
RT/57210/M/25	10	25	M5	4	M/50/LSU/5V	–	QM/33/010/22	C0K510405	C02250405	C02470405
RT/57210/M/40	10	40	M5	4	M/50/LSU/5V	–	QM/33/010/22	C0K510405	C02250405	C02470405
RT/57210/M/50	10	50	M5	4	M/50/LSU/5V	–	QM/33/010/22	C0K510405	C02250405	C02470405
RT/57210/M/80	10	80	M5	4	M/50/LSU/5V	–	QM/33/010/22	C0K510405	C02250405	C02470405
RT/57210/M/100	10	100	M5	4	M/50/LSU/5V	–	QM/33/010/22	C0K510405	C02250405	C02470405

IMI Precision Engineering

For further information, visit store.norgren.com
and use the new improved search function. If you cannot
see the option you require please contact us.

IMI NORGREN

Models

Accessories

Model	Dia. Ø	Stroke length	Port size	Piston rod Ø	Reed switch with integral 5 m cable	Switch mounting <15 mm stroke	Switch mounting ≥15 mm stroke	Banjo flow control	Straight fitting	Elbow fitting
RT/57212/M/10	12	10	M5	4	M/50/LSU/5V	QM/33/016/23	–	C0K510405	C02250405	C02470405
RT/57212/M/25	12	25	M5	4	M/50/LSU/5V	–	QM/33/012/22	C0K510405	C02250405	C02470405
RT/57212/M/40	12	40	M5	4	M/50/LSU/5V	–	QM/33/012/22	C0K510405	C02250405	C02470405
RT/57212/M/50	12	50	M5	4	M/50/LSU/5V	–	QM/33/012/22	C0K510405	C02250405	C02470405
RT/57212/M/80	12	80	M5	4	M/50/LSU/5V	–	QM/33/012/22	C0K510405	C02250405	C02470405
RT/57212/M/100	12	100	M5	4	M/50/LSU/5V	–	QM/33/012/22	C0K510405	C02250405	C02470405
RT/57212/M/125	12	125	M5	4	M/50/LSU/5V	–	QM/33/012/22	C0K510405	C02250405	C02470405
RT/57212/M/160	12	160	M5	4	M/50/LSU/5V	–	QM/33/012/22	C0K510405	C02250405	C02470405
RT/57216/M/10	16	10	M5	6	M/50/LSU/5V	QM/33/016/23	–	C0K510405	C02250405	C02470405
RT/57216/M/25	16	25	M5	6	M/50/LSU/5V	–	QM/33/016/22	C0K510405	C02250405	C02470405
RT/57216/M/40	16	40	M5	6	M/50/LSU/5V	–	QM/33/016/22	C0K510405	C02250405	C02470405
RT/57216/M/50	16	50	M5	6	M/50/LSU/5V	–	QM/33/016/22	C0K510405	C02250405	C02470405
RT/57216/M/80	16	80	M5	6	M/50/LSU/5V	–	QM/33/016/22	C0K510405	C02250405	C02470405
RT/57216/M/100	16	100	M5	6	M/50/LSU/5V	–	QM/33/016/22	C0K510405	C02250405	C02470405
RT/57216/M/125	16	125	M5	6	M/50/LSU/5V	–	QM/33/016/22	C0K510405	C02250405	C02470405
RT/57216/M/160	16	160	M5	6	M/50/LSU/5V	–	QM/33/016/22	C0K510405	C02250405	C02470405
RT/57220/M/10	20	10	Rc 1/8	8	M/50/LSU/5V	QM/33/020/23	–	C0TA00618	C01250618	C01470618
RT/57220/M/25	20	25	Rc 1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0TA00618	C01250618	C01470618
RT/57220/M/40	20	40	Rc 1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0TA00618	C01250618	C01470618
RT/57220/M/50	20	50	Rc 1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0TA00618	C01250618	C01470618
RT/57220/M/80	20	80	Rc 1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0TA00618	C01250618	C01470618
RT/57220/M/100	20	100	Rc 1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0TA00618	C01250618	C01470618
RT/57220/M/125	20	125	Rc 1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0TA00618	C01250618	C01470618
RT/57220/M/160	20	160	Rc 1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0TA00618	C01250618	C01470618
RT/57220/M/200	20	200	Rc 1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0TA00618	C01250618	C01470618
RT/57220/M/250	20	250	Rc 1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0TA00618	C01250618	C01470618
RT/57220/M/320	20	320	Rc 1/8	8	M/50/LSU/5V	–	QM/33/020/22	C0TA00618	C01250618	C01470618
RT/57225/M/10	25	10	Rc 1/8	10	M/50/LSU/5V	QM/33/025/23	–	C0TA00618	C01250618	C01470618
RT/57225/M/25	25	25	Rc 1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0TA00618	C01250618	C01470618
RT/57225/M/40	25	40	Rc 1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0TA00618	C01250618	C01470618
RT/57225/M/50	25	50	Rc 1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0TA00618	C01250618	C01470618
RT/57225/M/80	25	80	Rc 1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0TA00618	C01250618	C01470618
RT/57225/M/100	25	100	Rc 1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0TA00618	C01250618	C01470618
RT/57225/M/125	25	125	Rc 1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0TA00618	C01250618	C01470618
RT/57225/M/160	25	160	Rc 1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0TA00618	C01250618	C01470618
RT/57225/M/200	25	200	Rc 1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0TA00618	C01250618	C01470618
RT/57225/M/250	25	250	Rc 1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0TA00618	C01250618	C01470618
RT/57225/M/320	25	320	Rc 1/8	10	M/50/LSU/5V	–	QM/33/025/22	C0TA00618	C01250618	C01470618
RT/57232/M/10	32	10	Rc 1/8	12	M/50/LSU/5V	–	QM/33/032/22	C0TA00618	C01250618	C01470618
RT/57232/M/25	32	25	Rc 1/8	12	M/50/LSU/5V	–	QM/33/032/22	C0TA00618	C01250618	C01470618
RT/57232/M/40	32	40	Rc 1/8	12	M/50/LSU/5V	–	QM/33/032/22	C0TA00618	C01250618	C01470618
RT/57232/M/50	32	50	Rc 1/8	12	M/50/LSU/5V	–	QM/33/032/22	C0TA00618	C01250618	C01470618
RT/57232/M/80	32	80	Rc 1/8	12	M/50/LSU/5V	–	QM/33/032/22	C0TA00618	C01250618	C01470618
RT/57232/M/100	32	100	Rc 1/8	12	M/50/LSU/5V	–	QM/33/032/22	C0TA00618	C01250618	C01470618
RT/57232/M/125	32	125	Rc 1/8	12	M/50/LSU/5V	–	QM/33/032/22	C0TA00618	C01250618	C01470618
RT/57232/M/160	32	160	Rc 1/8	12	M/50/LSU/5V	–	QM/33/032/22	C0TA00618	C01250618	C01470618
RT/57232/M/200	32	200	Rc 1/8	12	M/50/LSU/5V	–	QM/33/032/22	C0TA00618	C01250618	C01470618
RT/57232/M/250	32	250	Rc 1/8	12	M/50/LSU/5V	–	QM/33/032/22	C0TA00618	C01250618	C01470618
RT/57232/M/320	32	320	Rc 1/8	12	M/50/LSU/5V	–	QM/33/032/22	C0TA00618	C01250618	C01470618

Online at **store.norgren.com**

ROUNDLINE CYLINDERS

RT/57200/M Double acting – Ø 10 … 63 mm

Models

Accessories

Model	Dia. Ø	Stroke length	Port size	Piston rod Ø	Reed switch with integral 5 m cable	Switch mounting <15 mm stroke	Switch mounting ≥15 mm stroke	Banjo flow control	Straight fitting	Elbow fitting
RT/57240/M/25	40	25	Rc 1/8	14	M/50/LSU/5V	–	QM/33/040/22	C0TA00618	C01250618	C01470618
RT/57240/M/40	40	40	Rc 1/8	14	M/50/LSU/5V	–	QM/33/040/22	C0TA00618	C01250618	C01470618
RT/57240/M/50	40	50	Rc 1/8	14	M/50/LSU/5V	–	QM/33/040/22	C0TA00618	C01250618	C01470618
RT/57240/M/80	40	80	Rc 1/8	14	M/50/LSU/5V	–	QM/33/040/22	C0TA00618	C01250618	C01470618
RT/57240/M/100	40	100	Rc 1/8	14	M/50/LSU/5V	–	QM/33/040/22	C0TA00618	C01250618	C01470618
RT/57240/M/125	40	125	Rc 1/8	14	M/50/LSU/5V	–	QM/33/040/22	C0TA00618	C01250618	C01470618
RT/57240/M/160	40	160	Rc 1/8	14	M/50/LSU/5V	–	QM/33/040/22	C0TA00618	C01250618	C01470618
RT/57240/M/200	40	200	Rc 1/8	14	M/50/LSU/5V	–	QM/33/040/22	C0TA00618	C01250618	C01470618
RT/57240/M/250	40	250	Rc 1/8	14	M/50/LSU/5V	–	QM/33/040/22	C0TA00618	C01250618	C01470618
RT/57240/M/320	40	320	Rc 1/8	14	M/50/LSU/5V	–	QM/33/040/22	C0TA00618	C01250618	C01470618
RT/57250/M/25	50	25	Rc 1/4	16	M/50/LSU/5V	–	QM/33/050/22	C0TA00828	C01250828	C01470828
RT/57250/M/40	50	40	Rc 1/4	16	M/50/LSU/5V	–	QM/33/050/22	C0TA00828	C01250828	C01470828
RT/57250/M/50	50	50	Rc 1/4	16	M/50/LSU/5V	–	QM/33/050/22	C0TA00828	C01250828	C01470828
RT/57250/M/80	50	80	Rc 1/4	16	M/50/LSU/5V	–	QM/33/050/22	C0TA00828	C01250828	C01470828
RT/57250/M/100	50	100	Rc 1/4	16	M/50/LSU/5V	–	QM/33/050/22	C0TA00828	C01250828	C01470828
RT/57250/M/125	50	125	Rc 1/4	16	M/50/LSU/5V	–	QM/33/050/22	C0TA00828	C01250828	C01470828
RT/57250/M/160	50	160	Rc 1/4	16	M/50/LSU/5V	–	QM/33/050/22	C0TA00828	C01250828	C01470828
RT/57250/M/200	50	200	Rc 1/4	16	M/50/LSU/5V	–	QM/33/050/22	C0TA00828	C01250828	C01470828
RT/57250/M/250	50	250	Rc 1/4	16	M/50/LSU/5V	–	QM/33/050/22	C0TA00828	C01250828	C01470828
RT/57250/M/320	50	320	Rc 1/4	16	M/50/LSU/5V	–	QM/33/050/22	C0TA00828	C01250828	C01470828
RT/57263/M/25	63	25	Rc 1/4	20	M/50/LSU/5V	–	QM/33/063/22	C0TA00828	C01250828	C01470828
RT/57263/M/40	63	40	Rc 1/4	20	M/50/LSU/5V	–	QM/33/063/22	C0TA00828	C01250828	C01470828
RT/57263/M/50	63	50	Rc 1/4	20	M/50/LSU/5V	–	QM/33/063/22	C0TA00828	C01250828	C01470828
RT/57263/M/80	63	80	Rc 1/4	20	M/50/LSU/5V	–	QM/33/063/22	C0TA00828	C01250828	C01470828
RT/57263/M/100	63	100	Rc 1/4	20	M/50/LSU/5V	–	QM/33/063/22	C0TA00828	C01250828	C01470828
RT/57263/M/125	63	125	Rc 1/4	20	M/50/LSU/5V	–	QM/33/063/22	C0TA00828	C01250828	C01470828
RT/57263/M/160	63	160	Rc 1/4	20	M/50/LSU/5V	–	QM/33/063/22	C0TA00828	C01250828	C01470828
RT/57263/M/200	63	200	Rc 1/4	20	M/50/LSU/5V	–	QM/33/063/22	C0TA00828	C01250828	C01470828
RT/57263/M/250	63	250	Rc 1/4	20	M/50/LSU/5V	–	QM/33/063/22	C0TA00828	C01250828	C01470828
RT/57263/M/320	63	320	Rc 1/4	20	M/50/LSU/5V	–	QM/33/063/22	C0TA00828	C01250828	C01470828

Other bore sizes and stroke lengths available up to 500 mm maximum, please contact us.
Service kits are not available for this range of cylinders.
For information on alternative magnetic switches see pages 124 -128.

For alternative fitting types, shapes or sizes, refer to our fittings section.

Options

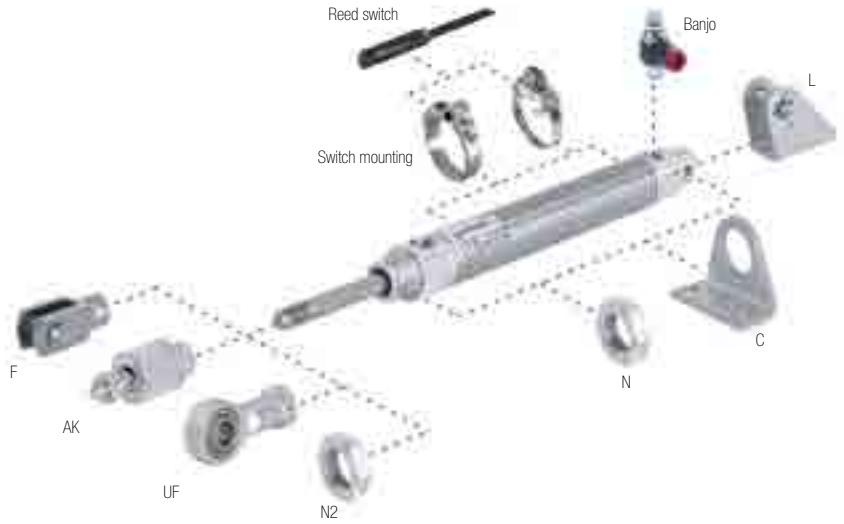
- Centre Rear Port, Flat end
- Side port, Flat end
- Double ended Piston Rod
- Port thread (parallel)
- 8 mm bore size

MOUNTINGS FOR ROUNDLINE CYLINDERS

RT/57100/M, RT/57200/M & RT/57300/M

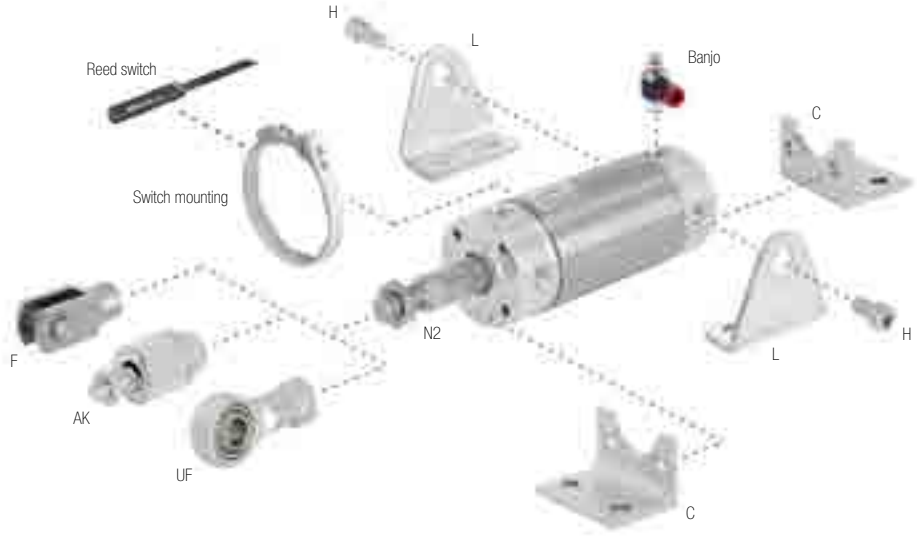
Single and Double Acting

Ø 10 … 40 mm



Double Acting Only

Ø 50 … 63 mm



Dia. Ø	AK	C	F	H	L	N	N2	UF
10	QM/8010/38	M/P71273/2	QM/8010/25	–	QM/947	M/P71364	M/P1501/80	QM/8010/32
12	QM/8010/38	M/P71273/2	QM/8010/25	–	QM/947	M/P71364	M/P1501/80	QM/8010/32
16	QM/8012/38	M/P19369	QM/57016/25	–	QM/946	M/P1501/90	M/P1501/79	QM/8012/32
20	QM/8020/38	M/P19389	QM/57020/25	–	QM/8012/24	M/P13834	M/P1501/60	QM/8020/32
25	QM/8025/38	M/P40381	QM/57025/25	–	QM/57025/25	M/P13607	M/P1501/89	QM/8025/32
32	QM/8025/38	M/P19406	QM/57032/25	–	QM/8020/24	M/P13615	M/P1501/89	QM/8025/32
40	QM/8040/38	M/P71273/3	QM/57040/25	–	QM/57040/24	M/P29254	M/P1501/90	QM/8040/32
50	QM/8040/38	QM/57050/21	QM/57040/25	QM/55240/28	QM/57050/24*	–	M/P1501/90	QM/8040/32
63	QM/8050/38	QM/57063/21	QM/57063/25	QM/55250/28	QM/57063/24*	–	M/P1501/91	QM/8050/32

* Includes pivot nuts.

ROUNDLINE CYLINDERS

RM/55401/M Double acting – Ø 32 … 100 mm

- Clean line design
- Low friction, long life seals
- Standard magnetic piston for full control system versatility
- Non-lube operation

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
Double acting, magnetic piston, adjustable cushioning

Operating pressure:
1 … 10 bar

Ambient temperature:
-20°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Barrel and end covers:
Anodized aluminium

Piston rods:
Stainless steel (martensitic)

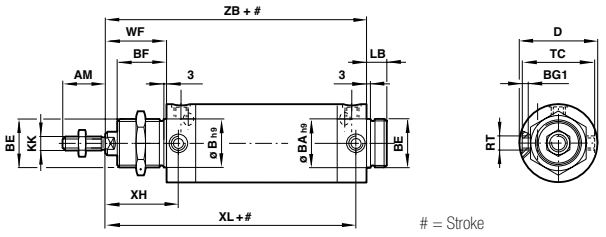
Piston and piston rod seals:
PUR

'O'-rings:
NBR

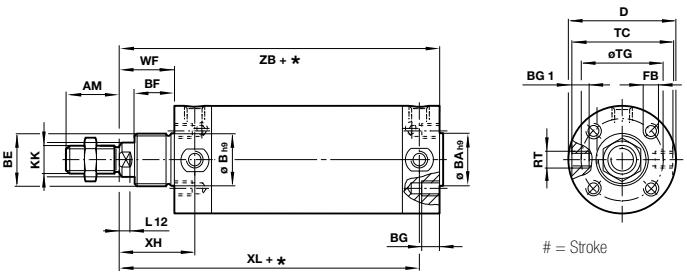


Dimensions

Ø 32 … 63 mm



Ø 80 and 100 mm



Dia. Ø	AM	Ø B/BA$_{h9}$	BE	BF	BG1	D	FB	KK	LB	RT	TC	TG	WF	XH	XL	ZB
32	22	30	M 30 x 1,5	30	6	36,5	–	M 10 x 1,25	14	M 8 x 1	35	–	38	47	123	132
40	24	38	M 38 x 1,5	35	8	45,5	–	M 12 x 1,25	16	M 10 x 1	44	–	45	57	142	154
50	32	45	M 45 x 1,5	38	9,5	55,5	–	M 16 x 1,5	18	M 12 x 1,5	54	–	50	62	152	164
63	32	45	M 45 x 1,5	38	10	69,5	–	M 16 x 1,5	18	M 14 x 1,5	67	–	51	64	159	172
80	40	55	M 55 x 1,5	45	17,5	87,5	M 8	M 20 x 1,5	–	M 16 x 1,5	85,5	70	61	76	196	211
100	40	55	M 55 x 1,5	45	21,5	107,5	M 10	M 20 x 1,5	–	M 20 x 1,5	105,5	80	61	79,5	200,5	219

Models

Accessories

Model	Dia. Ø	Stroke length	Port size	Piston rod Ø	Reed switch with integral 5 m cable	Switch mounting	Banjo flow control	Straight fitting	Elbow fitting	Service Kit
										
RM/55433/M/25	32	25	G1/8	12	M/50/LSU/5V	QM/33/432/22	C0K510618	C02250618	C02470618	QM/55433/00
RM/55433/M/50	32	50	G1/8	12	M/50/LSU/5V	QM/33/432/22	C0K510618	C02250618	C02470618	QM/55433/00
RM/55433/M/80	32	80	G1/8	12	M/50/LSU/5V	QM/33/432/22	C0K510618	C02250618	C02470618	QM/55433/00
RM/55433/M/100	32	100	G1/8	12	M/50/LSU/5V	QM/33/432/22	C0K510618	C02250618	C02470618	QM/55433/00
RM/55433/M/125	32	125	G1/8	12	M/50/LSU/5V	QM/33/432/22	C0K510618	C02250618	C02470618	QM/55433/00
RM/55433/M/160	32	160	G1/8	12	M/50/LSU/5V	QM/33/432/22	C0K510618	C02250618	C02470618	QM/55433/00
RM/55433/M/200	32	200	G1/8	12	M/50/LSU/5V	QM/33/432/22	C0K510618	C02250618	C02470618	QM/55433/00
RM/55433/M/250	32	250	G1/8	12	M/50/LSU/5V	QM/33/432/22	C0K510618	C02250618	C02470618	QM/55433/00
RM/55433/M/300	32	300	G1/8	12	M/50/LSU/5V	QM/33/432/22	C0K510618	C02250618	C02470618	QM/55433/00
RM/55441/M/25	40	25	G1/4	16	M/50/LSU/5V	QM/33/440/22	C0K510628	C02250628	C02470628	QM/55441/00
RM/55441/M/50	40	50	G1/4	16	M/50/LSU/5V	QM/33/440/22	C0K510628	C02250628	C02470628	QM/55441/00
RM/55441/M/80	40	80	G1/4	16	M/50/LSU/5V	QM/33/440/22	C0K510628	C02250628	C02470628	QM/55441/00
RM/55441/M/100	40	100	G1/4	16	M/50/LSU/5V	QM/33/440/22	C0K510628	C02250628	C02470628	QM/55441/00
RM/55441/M/125	40	125	G1/4	16	M/50/LSU/5V	QM/33/440/22	C0K510628	C02250628	C02470628	QM/55441/00
RM/55441/M/160	40	160	G1/4	16	M/50/LSU/5V	QM/33/440/22	C0K510628	C02250628	C02470628	QM/55441/00
RM/55441/M/200	40	200	G1/4	16	M/50/LSU/5V	QM/33/440/22	C0K510628	C02250628	C02470628	QM/55441/00
RM/55441/M/250	40	250	G1/4	16	M/50/LSU/5V	QM/33/440/22	C0K510628	C02250628	C02470628	QM/55441/00
RM/55441/M/300	40	300	G1/4	16	M/50/LSU/5V	QM/33/440/22	C0K510628	C02250628	C02470628	QM/55441/00

IMI Precision Engineering

For further information, visit **store.norgren.com** and use the new improved search function. If you cannot see the option you require please contact us.

IMI NORGREN

Models

Accessories

Model	Dia. Ø	Stroke length	Port size	Piston rod Ø	Reed switch with integral 5 m cable	Switch mounting	Banjo flow control	Straight fitting	Elbow fitting	Service Kit
RM/55451/M/25	50	25	G1/4	20	M/50/LSU/5V	QM/33/450/22	C0K510828	C02250828	C02470828	QM/55/451/00
RM/55451/M/50	50	50	G1/4	20	M/50/LSU/5V	QM/33/450/22	C0K510828	C02250828	C02470828	QM/55/451/00
RM/55451/M/80	50	80	G1/4	20	M/50/LSU/5V	QM/33/450/22	C0K510828	C02250828	C02470828	QM/55/451/00
RM/55451/M/100	50	100	G1/4	20	M/50/LSU/5V	QM/33/450/22	C0K510828	C02250828	C02470828	QM/55/451/00
RM/55451/M/125	50	125	G1/4	20	M/50/LSU/5V	QM/33/450/22	C0K510828	C02250828	C02470828	QM/55/451/00
RM/55451/M/160	50	160	G1/4	20	M/50/LSU/5V	QM/33/450/22	C0K510828	C02250828	C02470828	QM/55/451/00
RM/55451/M/200	50	200	G1/4	20	M/50/LSU/5V	QM/33/450/22	C0K510828	C02250828	C02470828	QM/55/451/00
RM/55451/M/250	50	250	G1/4	20	M/50/LSU/5V	QM/33/450/22	C0K510828	C02250828	C02470828	QM/55/451/00
RM/55451/M/300	50	300	G1/4	20	M/50/LSU/5V	QM/33/450/22	C0K510828	C02250828	C02470828	QM/55/451/00
RM/55464/M/25	63	25	G3/8	20	M/50/LSU/5V	QM/33/463/22	C0K510838	C02250838	C02470838	QM/55/464/00
RM/55464/M/50	63	50	G3/8	20	M/50/LSU/5V	QM/33/463/22	C0K510838	C02250838	C02470838	QM/55/464/00
RM/55464/M/80	63	80	G3/8	20	M/50/LSU/5V	QM/33/463/22	C0K510838	C02250838	C02470838	QM/55/464/00
RM/55464/M/100	63	100	G3/8	20	M/50/LSU/5V	QM/33/463/22	C0K510838	C02250838	C02470838	QM/55/464/00
RM/55464/M/125	63	125	G3/8	20	M/50/LSU/5V	QM/33/463/22	C0K510838	C02250838	C02470838	QM/55/464/00
RM/55464/M/160	63	160	G3/8	20	M/50/LSU/5V	QM/33/463/22	C0K510838	C02250838	C02470838	QM/55/464/00
RM/55464/M/200	63	200	G3/8	20	M/50/LSU/5V	QM/33/463/22	C0K510838	C02250838	C02470838	QM/55/464/00
RM/55464/M/250	63	250	G3/8	20	M/50/LSU/5V	QM/33/463/22	C0K510838	C02250838	C02470838	QM/55/464/00
RM/55464/M/300	63	300	G3/8	20	M/50/LSU/5V	QM/33/463/22	C0K510838	C02250838	C02470838	QM/55/464/00
RM/55481/M/25	80	25	G3/8	25	M/50/LSU/5V	QM/33/480/22	C0K510838	C02250838	C02470838	QM/55/481/00
RM/55481/M/50	80	50	G3/8	25	M/50/LSU/5V	QM/33/480/22	C0K510838	C02250838	C02470838	QM/55/481/00
RM/55481/M/80	80	80	G3/8	25	M/50/LSU/5V	QM/33/480/22	C0K510838	C02250838	C02470838	QM/55/481/00
RM/55481/M/100	80	100	G3/8	25	M/50/LSU/5V	QM/33/480/22	C0K510838	C02250838	C02470838	QM/55/481/00
RM/55481/M/125	80	125	G3/8	25	M/50/LSU/5V	QM/33/480/22	C0K510838	C02250838	C02470838	QM/55/481/00
RM/55481/M/160	80	160	G3/8	25	M/50/LSU/5V	QM/33/480/22	C0K510838	C02250838	C02470838	QM/55/481/00
RM/55481/M/200	80	200	G3/8	25	M/50/LSU/5V	QM/33/480/22	C0K510838	C02250838	C02470838	QM/55/481/00
RM/55481/M/250	80	250	G3/8	25	M/50/LSU/5V	QM/33/480/22	C0K510838	C02250838	C02470838	QM/55/481/00
RM/55481/M/300	80	300	G3/8	25	M/50/LSU/5V	QM/33/480/22	C0K510838	C02250838	C02470838	QM/55/481/00
RM/55411/M/25	100	25	G1/2	25	M/50/LSU/5V	QM/33/100/22	C0K511048	C02251048	C02471048	QM/55/411/00
RM/55411/M/50	100	50	G1/2	25	M/50/LSU/5V	QM/33/100/22	C0K511048	C02251048	C02471048	QM/55/411/00
RM/55411/M/80	100	80	G1/2	25	M/50/LSU/5V	QM/33/100/22	C0K511048	C02251048	C02471048	QM/55/411/00
RM/55411/M/100	100	100	G1/2	25	M/50/LSU/5V	QM/33/100/22	C0K511048	C02251048	C02471048	QM/55/411/00
RM/55411/M/125	100	125	G1/2	25	M/50/LSU/5V	QM/33/100/22	C0K511048	C02251048	C02471048	QM/55/411/00
RM/55411/M/160	100	160	G1/2	25	M/50/LSU/5V	QM/33/100/22	C0K511048	C02251048	C02471048	QM/55/411/00
RM/55411/M/200	100	200	G1/2	25	M/50/LSU/5V	QM/33/100/22	C0K511048	C02251048	C02471048	QM/55/411/00
RM/55411/M/250	100	250	G1/2	25	M/50/LSU/5V	QM/33/100/22	C0K511048	C02251048	C02471048	QM/55/411/00
RM/55411/M/300	100	300	G1/2	25	M/50/LSU/5V	QM/33/100/22	C0K511048	C02251048	C02471048	QM/55/411/00

Other bore sizes and stroke lengths available up to 300 mm maximum, please contact us.
For information on alternative magnetic switches see pages 124 - 128.

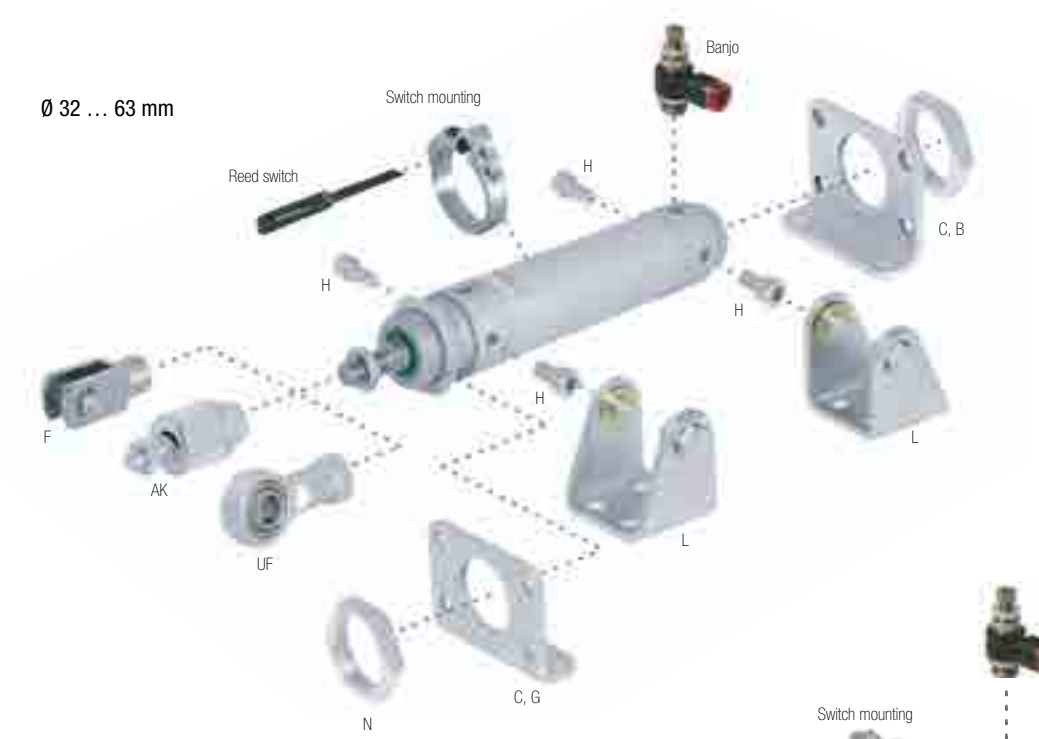
For alternative fitting types, shapes or sizes, refer to our fittings section.

Online at **store.norgren.com**

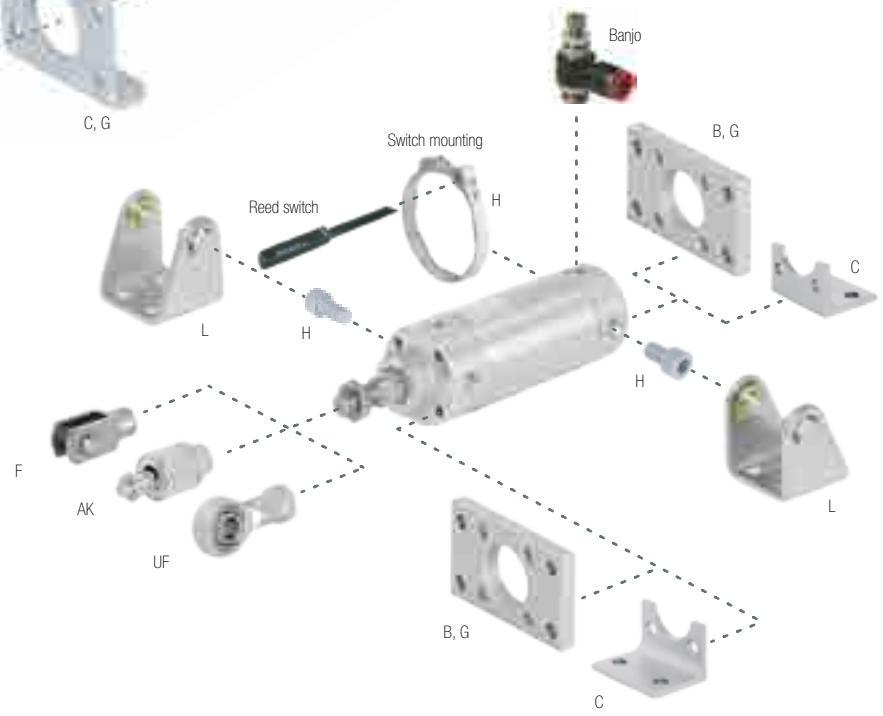
MOUNTINGS FOR ROUNDLINE CYLINDERS

RM/55401/M Double acting – Ø 32 … 100 mm

Ø 32 … 63 mm



Ø 80 … 100 mm



Dia. Ø	AK	B, G*	C*	F	H	L	N	UF
32	QM/8025/38	QM/55232/22	QM/55232/21	QM/8025/25	QM/55232/28	QM/55232/24	M/P29254	QM/8025/32
40	QM/8040/38	QM/55240/22	QM/55240/21	QM/8040/25	QM/55240/28	QM/55240/24	M/P29255	QM/8040/32
50	QM/8050/38	QM/55250/22	QM/55250/21	QM/8050/25	QM/55250/28	QM/55250/24	M/P29256	QM/8050/32
63	QM/8050/38	QM/55263/22	QM/55263/21	QM/8050/25	QM/55263/28	QM/55263/24	M/P29256	QM/8050/32
80	QM/8080/38	QM/55480/22	QM/55480/21	QM/8080/25	QM/55480/28	QM/55480/24	M/P34806	QM/8080/32
100	QM/8080/38	QM/55410/22	QM/55410/21	QM/8080/25	QM/55410/28	QM/55410/24	M/P34806	QM/8080/32

* This actuator is supplied with one nose nut, an additional lock nut style 'N' is required when ordering mountings 'B, G' and 'C' to connect to the rear end cap.

Options

- Hard Chromed Piston Rod
- Stainless Steel - Austenitic Piston Rod
- Double ended piston rod
- Extended piston rod

ROUNDLINE CYLINDERS

M/6000 Double acting – Ø 10 … 25 mm

- Rugged, compact units
- Integral rear eye mounting
- Corrosion resistant construction
- Synthetic rubber buffers at end of stroke

Technical Data

Medium:
Compressed air, filtered and lubricated

Operation:
Double acting with buffer cushion

Ambient temperature:
-20°C … +60°C (Ø 10 & 16 mm)
-20°C … +80°C (Ø 20 & 25 mm)
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Barrel:
Aluminium

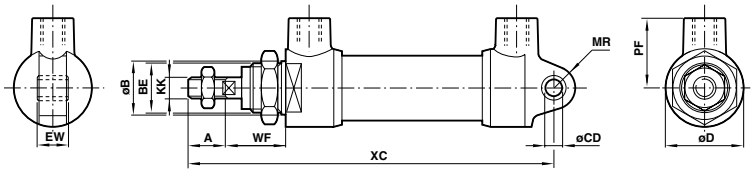
End covers:
Glass filled PA (Ø 10 & 16 mm);
die cast aluminium (Ø 20 & 25 mm)

Piston rod:
Stainless steel (austenitic)

Seals:
NBR



Dimensions



Model	Dia. Ø	A	ØB	ØD	BE	ØCD$_{h9}$	EW	KK	MR	PF	WF	XC (stroke)					
												15 mm	25 mm	50 mm	75 mm	100 mm	125 mm
M/6010	10	8	11	16,6	M10x1,25	4,10 4,02	8,3	M4x0,7	4,5	13	16	59	79	–	–	–	–
M/6016	16	12	17	25,4	M16x1,5	5,10 5,02	10	M6x1	6	14	19,5	81	91	116	–	–	–
M/6020	20	15	19$_{h11}$	28	M18x1,5	5,01 5,00	12,1 11,8	M8x1,25	8	26	22,9	93,5	93,5	118,5	143,5	168,5	–
M/6025	25	20	23$_{h11}$	33	M22x1,5	6,01 5,99	16,1 15,8	M10x1,5	9	28	25,9	–	99,5	124,5	149,5	174,5	199,5

Models

Accessories

Model	Dia. Ø	Stroke length	Port size	Piston rod Ø	Banjo flow control	Straight fitting	Elbow fitting	Service Kit
								
M/6010/15	10	15	M5	4	10K510405	102250405	102470405	–
M/6010/25	10	25	M5	4	10K510405	102250405	102470405	–
M/6016/15	16	15	M5	6	10K510405	102250405	102470405	–
M/6016/25	16	25	M5	6	10K510405	102250405	102470405	–
M/6016/50	16	50	M5	6	10K510405	102250405	102470405	–
M/6020/15	20	15	G1/8	8	10K510618	102250618	102470618	QM/6020/00
M/6020/25	20	25	G1/8	8	10K510618	102250618	102470618	QM/6020/00
M/6020/50	20	50	G1/8	8	10K510618	102250618	102470618	QM/6020/00
M/6020/75	20	75	G1/8	8	10K510618	102250618	102470618	QM/6020/00
M/6020/100	20	100	G1/8	8	10K510618	102250618	102470618	QM/6020/00
M/6025/25	25	25	G1/8	10	10K510618	102250618	102470618	QM/6025/00
M/6025/50	25	50	G1/8	10	10K510618	102250618	102470618	QM/6025/00
M/6025/75	25	75	G1/8	10	10K510618	102250618	102470618	QM/6025/00
M/6025/100	25	100	G1/8	10	10K510618	102250618	102470618	QM/6025/00
M/6025/125	25	125	G1/8	10	10K510618	102250618	102470618	QM/6025/00

For alternative fitting types, shapes or sizes, refer to our fittings section.

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IMI Precision Engineering

HOLLOW PISTON ROD CYLINDER

VSM/55600/N2 Magnetic piston, double acting – Ø 25 and 40 mm

- Ideally suited for vacuum selected liquid transfer applications through the piston rod
- Non-rotating and telescopic piston rod provides accurate, repeatable component orientation
- Non-corrosive specification
- Buffer cushioning
- Direct attachment of vacuum pumps and suction cups

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Standard:
Ø 25: ISO 6432 (except piston rod)

Operation:
Double acting with buffer cushioning, magnetic piston

Operating pressure:
1 … 10 bar

Cylinder diameter:
25, 40 mm

Strokes:
500 mm max.

Ambient temperature:
+80°C max.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Barrel:
Ø 25: stainless steel (austenitic)
Ø 40: anodised aluminium

End covers:
Anodised aluminium

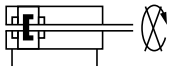
Piston rod:
Stainless steel (austenitic)

Buffer and wiper:
PUR

Piston seals:
Ø 25: NBR, Ø 40: PUR

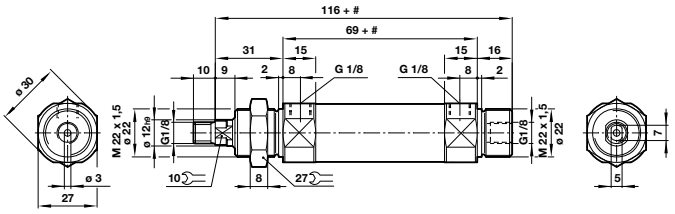
'O'-rings:
NBR



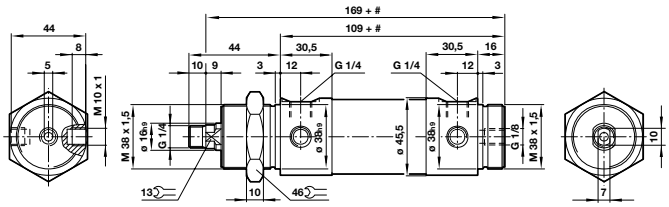


Dimensions

VSM/55625/N2
Ø 25 mm



VSM/55640/N2
Ø 40 mm



= Stroke

Cylinder Ø	per 25 mm
25	0,028

Cylinder Ø	per 25 mm
40	0,043

Models

Models	Cylinder Ø (mm)	Port size	Piston rod Ø (mm)	Piston rod thread
VSM/55625/N2/***	25	G 1/8	12	M22x1,5
VSM/55640/N2/***	40	G 1/4	16	M38x1,5

*** Insert stroke lenght in mm - stroke lenghts available up to 500 mm maximum.

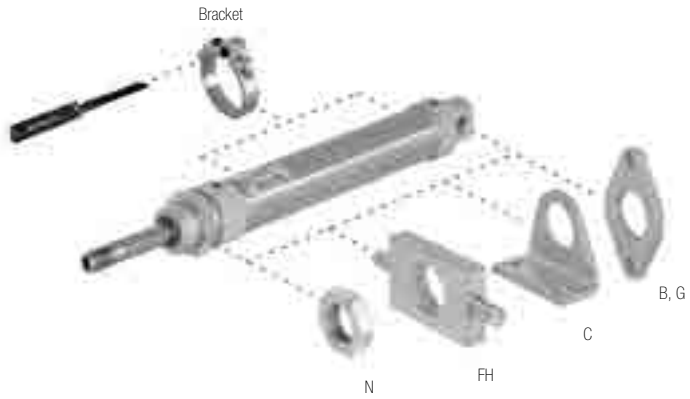
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HOLLOW PISTON ROD CYLINDER

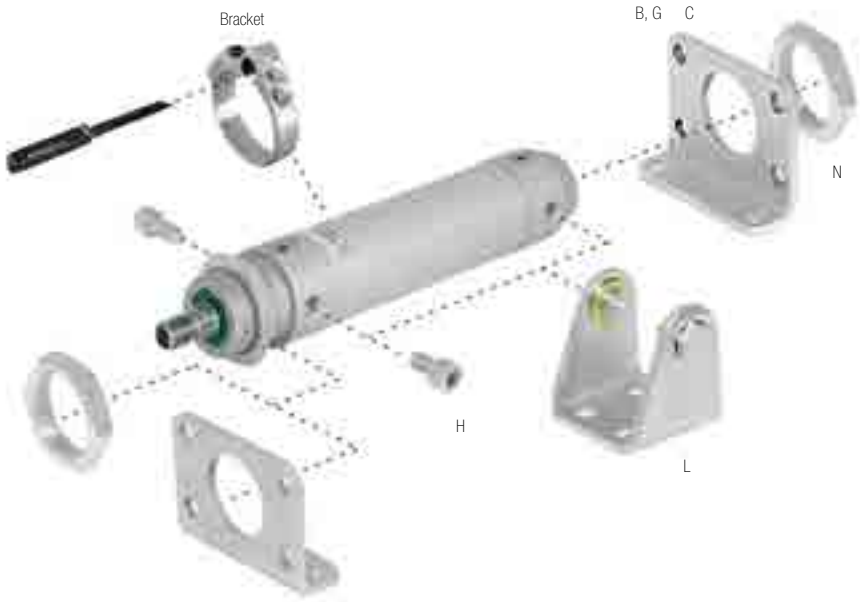
VSM/55600/N2 Magnetic piston, double acting – Ø 25 and 40 mm

Mountings

ø 25 mm



ø 40 mm



Cylinder ø	B, G	C	FH	N	Bracket for switch *1) >15 mm stroke	Bracket for switch *1) <15 mm stroke	
							
25	M/P19409	M/P19406	QM/8020/34	M/P13615	QM/33/025/22	QM/33/025/23	–
Cylinder ø	**B, G**	**C**	**H**	**L**	**N**	**Bracket for switch *1**	**Bracket for switch *2)**
							
40	QM/55240/22	QM/55240/21	QM/55240/28	QM/55240/24	M/P29255	QM/33/440/22	QM/140/010/22

*1) Magnetically switch M/50.
*2) Pneumatically operated switch QM/140.

simple to complex applications covered in one range

Integral switch Grooves



Precision. Engineered.

ISO Compact cylinders

Multi-position And tandem versions



Guided

ISO21287 is the most recently-added actuator standard.

These compact cylinders are perfect for high force/short stroke applications where space is at a premium. Not just meeting the standard for compliance, but exceeding it, this range of actuators includes many unique technical variants:

- Sleek, anodised aluminium profile barrel housing switch mounting grooves (standard IMI Norgren M/50 switch) coupled with pressure die cast end caps for pleasing appearance
- Wide range of standard bore and stroke combinations from stock with male or female piston rod thread, plus non-standard stroke length units on fast availability
- Accepts standard ISO/VDMA mounting brackets, and is also available in non-rotating versions, linear slide version, with heavy duty wiper seal, tandem and multi-position versions, and also can accept guide block assembly

Engineering GREAT Solutions

Find out more
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IMI Precision Engineering

ISO COMPACT CYLINDERS

RA/191000/M, …/MX, RA/193000/M, …/MX Single acting, ISO 21287 – Ø 20 … 63 mm

- Conforms to ISO 21287
- Up to 30% shorter than full ISO/VDMA actuators
- Uses standard ISO/VDMA mountings

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operating pressure:
2 … 10 bar

Ambient temperature:
-5°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°

Materials

Profile barrel:
Anodized aluminium

End covers:
Pressure diecast aluminium

Piston rod:
Stainless steel

Piston rod seals:
PUR

Piston seals:
NBR

O-rings:
NBR



Models

Accessories

Sprung in Female thread	Male thread	Dia. Ø	Stroke length	Port size	Piston rod Ø	Reed switch with integral 5 m cable	Banjo flow control	Straight fitting	Elbow fitting	Service Kit
										
RA/191020/MX/10	RA/191020/M/10	20	10	M5	10	M/50/LSU/5V	C0L510405	C02250405	C02470405	QM/192020/00
RA/191025/MX/10	RA/191025/M/10	25	10	M5	10	M/50/LSU/5V	C0L510405	C02250405	C02470405	QM/192025/00
RA/191032/MX/10	RA/191032/M/10	32	10	G1/8	12	M/50/LSU/5V	C0L510618	C02250618	C02470618	QM/192032/00
RA/191032/MX/25	RA/191032/M/25	32	25	G1/8	12	M/50/LSU/5V	C0L510618	C02250618	C02470618	QM/192032/00
RA/191040/MX/25	RA/191040/M/25	40	25	G1/8	16	M/50/LSU/5V	C0L510618	C02250618	C02470618	QM/192040/00
RA/191050/MX/25	RA/191050/M/25	50	25	G1/8	20	M/50/LSU/5V	C0L510618	C02250618	C02470618	QM/192050/00
RA/191063/MX/25	RA/191063/M/25	63	25	G1/8	20	M/50/LSU/5V	C0L510618	C02250618	C02470618	QM/192063/00

Sprung out Female thread	Male thread	Dia. Ø	Stroke length	Port size	Piston rod Ø	Reed switch with integral 5 m cable	Banjo flow control	Straight fitting	Elbow fitting	Service Kit
										
RA/193020/MX/10	RA/193020/M/10	20	10	M5	10	M/50/LSU/5V	C0L510405	C02250405	C02470405	QM/192020/00
RA/193025/MX/10	RA/193025/M/10	25	10	M5	10	M/50/LSU/5V	C0L510405	C02250405	C02470405	QM/192025/00
RA/193032/MX/10	RA/193032/M/10	32	10	G1/8	12	M/50/LSU/5V	C0L510618	C02250618	C02470618	QM/192032/00
RA/193032/MX/25	RA/193032/M/25	32	25	G1/8	12	M/50/LSU/5V	C0L510618	C02250618	C02470618	QM/192032/00
RA/193040/MX/25	RA/193040/M/25	40	25	G1/8	16	M/50/LSU/5V	C0L510618	C02250618	C02470618	QM/192040/00
RA/193050/MX/25	RA/193050/M/25	50	25	G1/8	20	M/50/LSU/5V	C0L510618	C02250618	C02470618	QM/192050/00
RA/193063/MX/25	RA/193063/M/25	63	25	G1/8	20	M/50/LSU/5V	C0L510618	C02250618	C02470618	QM/192063/00

Other stroke lengths available up to 50 mm, please contact us.
For mountings, refer to double acting versions as shown on page 46.
For information on alternative magnetic switches see pages 124 - 128.

For alternative fitting types, shapes or sizes, refer to our fittings section.

Options

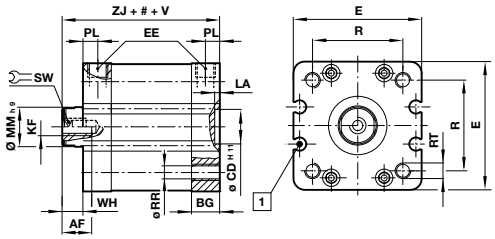
- Extended piston rod (male or female)
- Non-rotating piston rod (male or female)

ISO COMPACT CYLINDERS

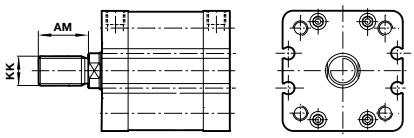
RA/191000/M, …/MX, RA/193000/M, …/MX Single acting, ISO 21287 – Ø 20 … 63 mm

Dimensions

RA/191000/MX
Sprung in with female piston rod thread

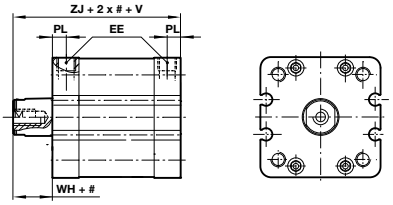


RA/191000/M
Sprung in with male piston rod threadd

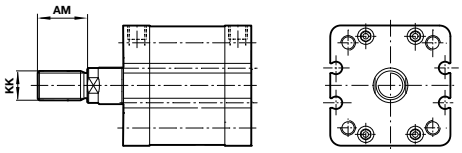


Stroke
1 M/50 – Switches can be mounted flush with the profile

RA/193000/MX
Sprung out with female piston rod thread



RA/193000/M
Sprung out with male piston rod thread



Stroke

Model	Ø	AF	AM	BG	Ø CD $_{H11}$	□ E	EE	KF	KK	LA	Ø MM $_{h9}$
RA/19*020/M*	20	10	16	12	10	37	M5	M6	M8 x 1,25	2,5	10
RA/19*025/M*	25	10	16	13	10	41	M5	M6	M8 x 1,25	2,5	10
RA/19*032/M*	32	12	19	14,5	14	48	G1/8	M8	M10 x 1,25	2,5	12
RA/19*040/M*	40	12	19	14,5	14	54,5	G1/8	M8	M10 x 1,25	2,5	16
RA/19*050/M*	50	16	22	14	18	66	G1/8	M10	M12 x 1,25	2,5	20
RA/19*063/M*	63	16	22	14	18	76	G1/8	M10	M12 x 1,25	2,5	20

Ø	PL	□ R	Ø RR	RT	SW	V mm stroke 0 … 25	26 … 50	WH	ZJ	kg at 0 mm	kg per 5 mm
20	7	22	4,3	M5	8	17	34	6	43	0,17 kg	0,01 kg
25	7	26	4,3	M5	8	18	36	6	45	0,20 kg	0,01 kg
32	7,5	32,5	5,3	M6	10	19	38	7	51	0,30 kg	0,02 kg
40	7,5	38	5,3	M6	13	20	40	7	52	0,40 kg	0,02 kg
50	7,5	46,5	6,8	M8	17	30	60	8	53	0,65 kg	0,03 kg
63	7,5	56,5	6,8	M8	17	30	60	8	57	0,90 kg	0,03 kg

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IMI NORGREN

ISO COMPACT CYLINDERS

RA/192000/M, …/MX Double acting, ISO 21287 – Ø 20 … 125 mm

- Conforms to ISO 21287
- Up to 30% shorter than full ISO/VDMA actuators
- Uses standard ISO/VDMA mountings

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
RA/192000/M
Double acting, magnetic piston, male piston rod thread, buffer cushioning
RA/192000/MX
Double acting, magnetic piston, female piston rod thread, buffer cushioning

Operating pressure:
1 … 10 bar

Ambient temperature:
-5°C … +80°C max.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C.

Materials

Profile barrel:
Anodized aluminium

End covers:
Pressure diecast aluminium

Piston rod:
Stainless steel

Piston rod seals:
PUR

Piston seals:
NBR

O-rings:
NBR

EXPRESS



Models

Accessories

Female thread	Male thread	Dia. Ø	Stroke length	Port size	Piston rod Ø	Reed switch with integral 5 m cable	Banjo flow control	Straight fitting	Elbow fitting	Service Kit
										
RA/192020/MX/10	RA/192020/M/10	20	10	M5	10	M/50/LSU/5V	C0K510405	C02250405	C02470405	QM/192020/00
RA/192020/MX/15	RA/192020/M/15	20	15	M5	10	M/50/LSU/5V	C0K510405	C02250405	C02470405	QM/192020/00
RA/192020/MX/20	RA/192020/M/20	20	20	M5	10	M/50/LSU/5V	C0K510405	C02250405	C02470405	QM/192020/00
RA/192025/MX/10	RA/192025/M/10	25	10	M5	10	M/50/LSU/5V	C0K510405	C02250405	C02470405	QM/192025/00
RA/192025/MX/15	RA/192025/M/15	25	15	M5	10	M/50/LSU/5V	C0K510405	C02250405	C02470405	QM/192025/00
RA/192025/MX/20	RA/192025/M/20	25	20	M5	10	M/50/LSU/5V	C0K510405	C02250405	C02470405	QM/192025/00
RA/192025/MX/25	RA/192025/M/25	25	25	M5	10	M/50/LSU/5V	C0K510405	C02250405	C02470405	QM/192025/00
RA/192032/MX/10	RA/192032/M/10	32	10	G1/8	12	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192032/00
RA/192032/MX/15	RA/192032/M/15	32	15	G1/8	12	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192032/00
RA/192032/MX/20	RA/192032/M/20	32	20	G1/8	12	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192032/00
RA/192032/MX/25	RA/192032/M/25	32	25	G1/8	12	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192032/00
RA/192032/MX/30	RA/192032/M/30	32	30	G1/8	12	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192032/00
RA/192032/MX/40	RA/192032/M/40	32	40	G1/8	12	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192032/00
RA/192032/MX/50	RA/192032/M/50	32	50	G1/8	12	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192032/00
RA/192032/MX/60	RA/192032/M/60	32	60	G1/8	12	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192032/00
RA/192032/MX/80	RA/192032/M/80	32	80	G1/8	12	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192032/00
RA/192032/MX/100	RA/192032/M/100	32	100	G1/8	12	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192032/00
RA/192040/MX/10	RA/192040/M/10	40	10	G1/8	16	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192040/00
RA/192040/MX/15	RA/192040/M/15	40	15	G1/8	16	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192040/00
RA/192040/MX/20	RA/192040/M/20	40	20	G1/8	16	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192040/00
RA/192040/MX/25	RA/192040/M/25	40	25	G1/8	16	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192040/00
RA/192040/MX/30	RA/192040/M/30	40	30	G1/8	16	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192040/00
RA/192040/MX/40	RA/192040/M/40	40	40	G1/8	16	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192040/00
RA/192040/MX/50	RA/192040/M/50	40	50	G1/8	16	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192040/00
RA/192040/MX/60	RA/192040/M/60	40	60	G1/8	16	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192040/00
RA/192040/MX/80	RA/192040/M/80	40	80	G1/8	16	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192040/00
RA/192040/MX/100	RA/192040/M/100	40	100	G1/8	16	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192040/00

ISO COMPACT CYLINDERS

RA/192000/M, …/MX Double acting, ISO 21287 – Ø 20 … 125 mm

Models

Accessories

Female threadl	Male thread	Dia. Ø	Stroke length	Port size	Piston rod Ø	Reed switch with integral 5 m cable	Banjo flow control	Straight fitting	Elbow fitting	Service Kit
										
RA/192050/MX/10	RA/192050/M/10	50	10	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192050/00
RA/192050/MX/15	RA/192050/M/15	50	15	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192050/00
RA/192050/MX/20	RA/192050/M/20	50	20	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192050/00
RA/192050/MX/25	RA/192050/M/25	50	25	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192050/00
RA/192050/MX/30	RA/192050/M/30	50	30	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192050/00
RA/192050/MX/40	RA/192050/M/40	50	40	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192050/00
RA/192050/MX/50	RA/192050/M/50	50	50	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192050/00
RA/192050/MX/60	RA/192050/M/60	50	60	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192050/00
RA/192050/MX/80	RA/192050/M/80	50	80	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192050/00
RA/192050/MX/100	RA/192050/M/100	50	100	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192050/00
RA/192063/MX/10	RA/192063/M/10	63	10	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192063/00
RA/192063/MX/15	RA/192063/M/15	63	15	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192063/00
RA/192063/MX/20	RA/192063/M/20	63	20	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192063/00
RA/192063/MX/25	RA/192063/M/25	63	25	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192063/00
RA/192063/MX/30	RA/192063/M/30	63	30	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192063/00
RA/192063/MX/40	RA/192063/M/40	63	40	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192063/00
RA/192063/MX/50	RA/192063/M/50	63	50	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192063/00
RA/192063/MX/60	RA/192063/M/60	63	60	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192063/00
RA/192063/MX/80	RA/192063/M/80	63	80	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192063/00
RA/192063/MX/100	RA/192063/M/100	63	100	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/192063/00
RA/192080/MX/15	RA/192080/M/15	80	15	G1/8	25	M/50/LSU/5V	C0K510818	C02250818	C02470818	QM/192080/00
RA/192080/MX/20	RA/192080/M/20	80	20	G1/8	25	M/50/LSU/5V	C0K510818	C0K510818	C02470818	QM/192080/00
RA/192080/MX/25	RA/192080/M/25	80	25	G1/8	25	M/50/LSU/5V	C0K510818	C0K510818	C02470818	QM/192080/00
RA/192080/MX/30	RA/192080/M/30	80	30	G1/8	25	M/50/LSU/5V	C0K510818	C0K510818	C02470818	QM/192080/00
RA/192080/MX/40	RA/192080/M/40	80	40	G1/8	25	M/50/LSU/5V	C0K510818	C0K510818	C02470818	QM/192080/00
RA/192080/MX/50	RA/192080/M/50	80	50	G1/8	25	M/50/LSU/5V	C0K510818	C0K510818	C02470818	QM/192080/00
RA/192080/MX/60	RA/192080/M/60	80	60	G1/8	25	M/50/LSU/5V	C0K510818	C0K510818	C02470818	QM/192080/00
RA/192080/MX/80	RA/192080/M/80	80	80	G1/8	25	M/50/LSU/5V	C0K510818	C0K510818	C02470818	QM/192080/00
RA/192080/MX/100	RA/192080/M/100	80	100	G1/8	25	M/50/LSU/5V	C0K510818	C0K510818	C02470818	QM/192080/00
RA/192100/MX/15	RA/192100/M/15	100	15	G1/8	25	M/50/LSU/5V	C0K510818	C02250818	C02470818	QM/192100/00
RA/192100/MX/20	RA/192100/M/20	100	20	G1/8	25	M/50/LSU/5V	C0K510818	C0K510818	C02470818	QM/192100/00
RA/192100/MX/25	RA/192100/M/25	100	25	G1/8	25	M/50/LSU/5V	C0K510818	C0K510818	C02470818	QM/192100/00
RA/192100/MX/30	RA/192100/M/30	100	30	G1/8	25	M/50/LSU/5V	C0K510818	C0K510818	C02470818	QM/192100/00
RA/192100/MX/40	RA/192100/M/40	100	40	G1/8	25	M/50/LSU/5V	C0K510818	C0K510818	C02470818	QM/192100/00
RA/192100/MX/50	RA/192100/M/50	100	50	G1/8	25	M/50/LSU/5V	C0K510818	C0K510818	C02470818	QM/192100/00
RA/192100/MX/60	RA/192100/M/60	100	60	G1/8	25	M/50/LSU/5V	C0K510818	C0K510818	C02470818	QM/192100/00
RA/192100/MX/80	RA/192100/M/80	100	80	G1/8	25	M/50/LSU/5V	C0K510818	C0K510818	C02470818	QM/192100/00
RA/192100/MX/100	RA/192100/M/100	100	100	G1/8	25	M/50/LSU/5V	C0K510818	C0K510818	C02470818	QM/192100/00
RA/192125/MX/15	RA/192125/M/15	125	15	G1/4	32	M/50/LSU/5V	C0K510818	C02250828	C02470828	QM/192125/00
RA/192125/MX/20	RA/192125/M/20	125	20	G1/4	32	M/50/LSU/5V	C0K510818	C0K510828	C02470828	QM/192125/00
RA/192125/MX/25	RA/192125/M/25	125	25	G1/4	32	M/50/LSU/5V	C0K510818	C0K510828	C02470828	QM/192125/00
RA/192125/MX/30	RA/192125/M/30	125	30	G1/4	32	M/50/LSU/5V	C0K510818	C0K510828	C02470828	QM/192125/00
RA/192125/MX/40	RA/192125/M/40	125	40	G1/4	32	M/50/LSU/5V	C0K510818	C0K510828	C02470828	QM/192125/00
RA/192125/MX/50	RA/192125/M/50	125	50	G1/4	32	M/50/LSU/5V	C0K510818	C0K510828	C02470828	QM/192125/00
RA/192125/MX/60	RA/192125/M/60	125	60	G1/4	32	M/50/LSU/5V	C0K510818	C0K510828	C02470828	QM/192125/00
RA/192125/MX/80	RA/192125/M/80	125	80	G1/4	32	M/50/LSU/5V	C0K510818	C0K510828	C02470828	QM/192125/00
RA/192125/MX/100	RA/192125/M/100	125	100	G1/4	32	M/50/LSU/5V	C0K510818	C0K510828	C02470828	QM/192125/00

Other stroke lengths available up to 500 mm maximum, depending upon bore size, please contact us.
For information on alternative magnetic switches see pages 124 - 128.

For alternative fitting types, shapes or sizes, refer to our fittings section.

ISO COMPACT CYLINDERS

RA/192000/M, …/MX Double acting, ISO 21287 – Ø 20 … 125 mm

Options

T	S	Model with magnetic piston	Description
•	•	RA/192000/M	Standard cylinder, male piston rod thread *1)
•	•	RA/192000/MX	Standard cylinder, female piston rod thread *1)
	•	RA/192000/W2	Special wiper/seal, male piston rod thread, Ø 20 … 125 mm
	•	RA/192000/W2X	Special wiper/seal, female piston rod thread, Ø 20 … 125 mm
	•	RA/192000/X4	Low friction cylinders, male piston rod thread, Ø 32 … 100 mm Medium: compressed air, filtered and non-lubricated recommended, 0,2 … 10 bar
	•	RA/192000/X4X	Low friction cylinders, female piston rod thread, Ø 32 … 100 mm, Medium: compressed air, filtered and non-lubricated recommended, 0,2 … 10 bar
	•	RA/192000/MU	Cylinder with extended piston rod, male piston rod thread
	•	RA/192000/MUX	Cylinder with extended piston rod, female piston rod thread
•	•	RA/192000/JM	Cylinder with double ended piston rod, male piston rod thread *1)
•	•	RA/192000/JMX	Cylinder with double ended piston rod, female piston rod thread *1)
		RA/192000/N2	Cylinder with non-rotating piston rod (internal), male piston rod thread, Ø 20 … 100 mm
		RA/192000/N2X	Cylinder with non-rotating piston rod (internal), female piston rod thread, Ø 20 … 100 mm
		RA/192000/N4	Cylinder with guiding, Ø 20 … 100 mm
			Ø 20 and 25 mm max. stroke 80 mm, Ø 32 … 100 mm max. stroke 100 mm
	•	RA/192000/N6	Cylinder with external guiding, Ø 25 and 32 mm
			Standard strokes 25, 50, 75 and 100 mm only
	•	RA/192000/TM	Tandem cylinder (double drive), male piston rod thread, Ø 20 … 100 mm
	•	RA/192000/TMX	Tandem cylinder (double drive), female piston rod thread, Ø 20 … 100 mm
	•	RA/192000/SM	Multi-Position cylinder, male piston rod thread, Ø 20 … 100 mm
	•	RA/192000/SMX	Multi-Position cylinder, female piston rod thread, Ø 20 … 100 mm
	•	RA/192000/L4	Cylinder with looking unit (passive)and male piston rod thread, Ø 32 … 125 mm Locking is achieved by spring force on removal of the signal … the unit, Operating pressure for looking unit: 4 … 10 bar
	•	RA/192000/L4X	Cylinder with looking unit (passive)and female piston rod thread, Ø 32 … 125 mm Locking is achieved by spring force on removal of the signal … the unit, Operating pressure for looking unit: 4 … 10 bar

For cylinder variants T, and S see below:
T - High temperature version.
S - Stainless Steel (Austenitic) Piston Rod material.

Alternative variants without magnetic piston (Ø 63 … 125 mm) on request.
*1) Variant T: Ø 20 … 100 mm; max. stroke length 200 mm.

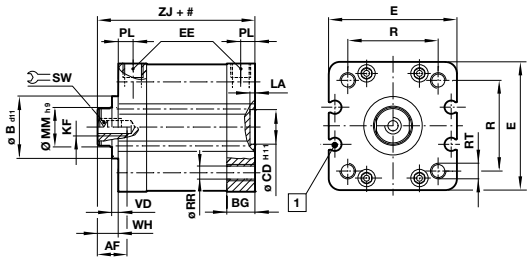
Online at **store.norgren.com**

ISO COMPACT CYLINDERS

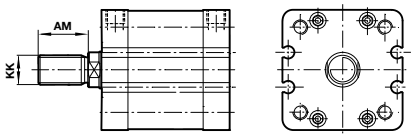
RA/192000/M, …/MX Double acting, ISO 21287 – Ø 20 … 125 mm

Dimensions

RA/192000/MX Standard cylinder
With female piston rod thread



RA/192000/M Standard cylinder
With male piston rod thread

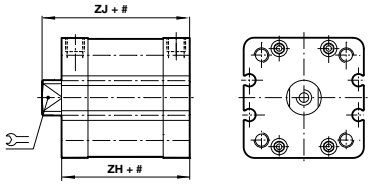


Stroke
1 M/50 switches can be mounted flush with the profile

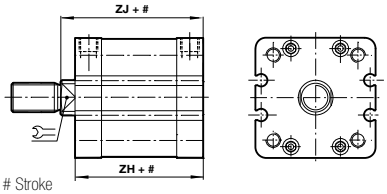
Model	Ø	AF	AM	Ø B d11	BG	Ø CD H11	□ E	EE	KF	KK	LA	Ø MM h9
RA/192020/.	20	10	16	–	12	10	37	M 5	M6	M8x1,25	2,5	10
RA/192025/.	25	10	16	–	13	10	41	M 5	M6	M8x1,25	2,5	10
RA/192032/.	32	12	19	–	14,5	14	48	G 1/8	M8	M10x1,25	2,5	12
RA/192040/.	40	12	19	–	14,5	14	54,5	G 1/8	M8	M10x1,25	2,5	16
RA/192050/.	50	16	22	–	14	18	66	G 1/8	M10	M12x1,25	2,5	20
RA/192063/.	63	16	22	–	14	18	76	G 1/8	M10	M12x1,25	2,5	20
RA/192080/.	80	20	28	–	15,5	23	96	G 1/8	M12	M16x1,5	3	25
RA/192100/.	100	20	28	–	21,5	26	116	G 1/8	M12	M16x1,5	3	25
RA/192125/.	125	30	54	60	20,5	28	142	G 1/4	M20	M27x2	3	32

Ø	PL	□ R	Ø RR	RT	SW	VD	WH	ZJ		kg at 0 mm		kg per 5 mm
20	7	22	4,3	M5	8	–	6	43	–	0,12	–	0,01
25	7	26	4,3	M5	8	–	6	45	–	0,15	–	0,01
32	7,5	32,5	5,3	M6	10	–	7	51	–	0,23	–	0,02
40	7,5	38	5,3	M6	13	–	7	52	–	0,30	–	0,02
50	7,5	46,5	6,8	M8	17	–	8	53	–	0,46	–	0,03
63	7,5	56,5	6,8	M8	17	–	8	57	–	0,70	–	0,03
80	7,5	72	8,6	M10	22	–	10	64	–	1,23	–	0,04
100	10,5	89	8,6	M10	22	–	10	77	–	2,20	–	0,05
125	10,5	110	10,6	M12	27	4	18	89	–	3,60	–	0,07

RA/192000/N2X – Cylinder with non-rotating piston rod
With female piston rod thread



RA/192000/N2 – Cylinder with non-rotating piston rod
With male piston rod thread



Stroke

Model	Ø		ZH	ZJ	kg at 0 mm	kg per 5 mm
RA/192020/N2.	20	8	47	53	0,12	0,01
RA/192025/N2.	25	8	49	55	0,15	0,01
RA/192032/N2.	32	10	54	61	0,23	0,02
RA/192040/N2.	40	13	55	62	0,30	0,02
RA/192050/N2.	50	16	55	63	0,46	0,03
RA/192063/N2.	63	16	59	67	0,70	0,03
RA/192080/N2.	80	21	64	74	1,23	0,04
RA/192100/N2.	100	21	77	87	2,20	0,05

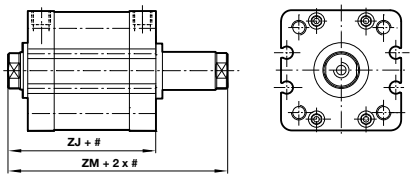
Note: The basic length of the RA/192000/N2 version is slightly longer than the standard.

IMI Precision Engineering
For further information, visit store.norgren.com
and use the new improved search function. If you cannot
see the option you require please contact us.
IMI NORGREN

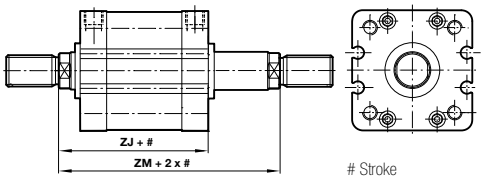
ISO COMPACT CYLINDERS

RA/192000/M, …/MX Double acting, ISO 21287 – Ø 20 … 125 mm

RA/192000/JMX
Cylinder with double ended piston rod
With female piston rod thread



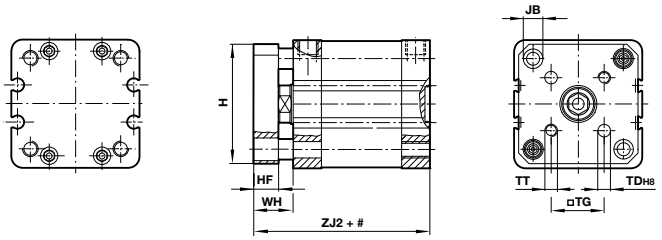
RA/192000/JM
Cylinder with double ended piston rod
With male piston rod thread



Stroke

Model	Ø	ZJ	ZM	kg at 0 mm	kg per 5 mm
RA/192020/JM.	20	43	49	0,15	0,01
RA/192025/JM.	25	45	51	0,18	0,01
RA/192032/JM.	32	51	58	0,28	0,02
RA/192040/JM.	40	52	59	0,35	0,02
RA/192050/JM.	50	53	61	0,52	0,03
RA/192063/JM.	63	57	65	0,76	0,03
RA/192080/JM.	80	64	74	1,30	0,04
RA/192100/JM.	100	77	87	2,30	0,05
RA/192125/JM.	125	89	107	3,75	0,07

RA/192000/N4 – Cylinder with guiding



Stroke

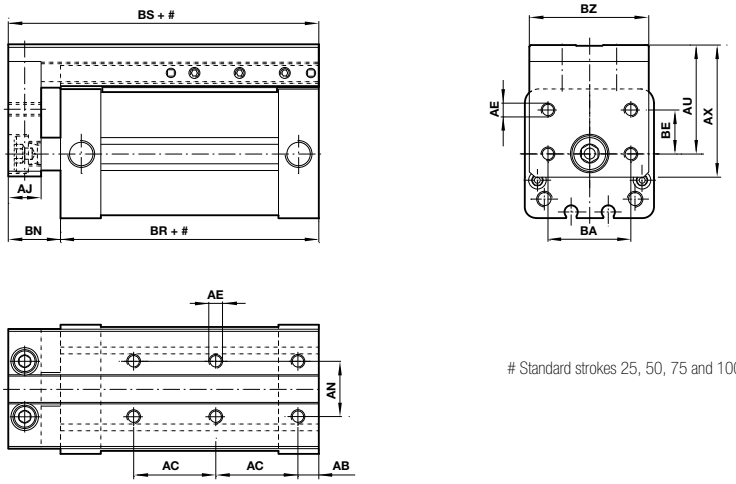
Model	Ø	H	HF	Ø JB	Ø TDH8	… TG	TT	WH	ZJ2	kg at 0 mm	kg per 5 mm
RA/192020/N4	20	34	8	7,5	4	12	M4	14	51	0,17	0,01
RA/192025/N4	25	38	8	7,5	5	15,6	M5	14	53	0,23	0,01
RA/192032/N4	32	45	10	9	5	19,8	M5	17	61	0,33	0,02
RA/192040/N4	40	51	10	9	5	23,3	M5	17	62	0,45	0,02
RA/192050/N4	50	62,5	12	11	6	29,7	M6	20	65	0,65	0,03
RA/192063/N4	63	72	12	11	6	35,4	M6	20	69	0,95	0,03
RA/192080/N4	80	92	15	15	8	46	M8	25	79	1,70	0,04
RA/192100/N4	100	112	15	15	10	56,5	M10	25	92	3,10	0,05

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ISO COMPACT CYLINDERS

RA/192000/M, …/MX Double acting, ISO 21287 – Ø 20 … 125 mm

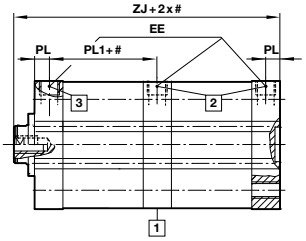
RA/192000/N6 – Cylinder with external guiding



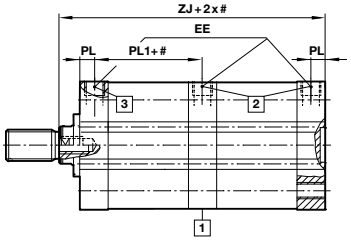
Standard strokes 25, 50, 75 and 100 mm only

Model	Ø	AB	AC	AE	AJ	AN	AU	AX	BA	BE	BN	BR	BS	BZ	at 0 mm	per 5 mm
RA/192025/N6	25	7,5	30	M5	12	20	37,5	44	30	16	18	39	57	43,5	0,31 kg	0,09 kg
RA/192032/N6	32	7,5	30	M5	12	20	40,5	48,5	30	16	19	44	63	43,5	0,44 kg	0,12 kg

RA/192000/TMX – Tandem cylinder
With female piston rod thread



RA/192000/TM – Tandem cylinder
With male piston rod thread



Model	Ø	EE	PL	PL1	ZJ	kg at 0 mm	kg per 5 mm
RA/192020/TM.	20	M5	7	25,5	68	0,21	0,01
RA/192025/TM.	25	M5	7	26,5	71	0,26	0,01
RA/192032/TM.	32	G 1/8	7,5	30	81	0,39	0,02
RA/192040/TM.	40	G 1/8	7,5	31	83	0,51	0,02
RA/192050/TM.	50	G 1/8	7,5	31	85	0,78	0,03
RA/192063/TM.	63	G 1/8	7,5	36	94	1,21	0,03
RA/192080/TM.	80	G 1/8	7,5	40	104	2,11	0,04
RA/192100/TM.	100	G 1/8	10,5	45,5	122	3,68	0,05

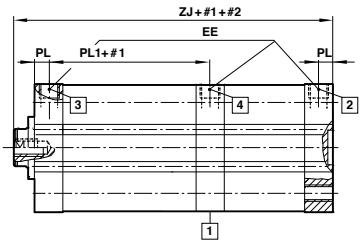
Stroke
1 Exhaust port
Note: Do not cover this area!
2 Pressure »outstroke«
3 Pressure »instroke«

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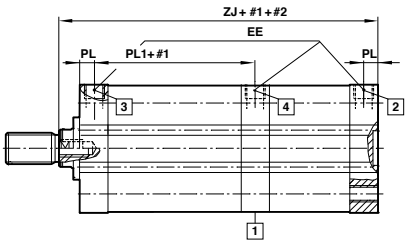
ISO COMPACT CYLINDERS

RA/192000/M, …/MX Double acting, ISO 21287 – Ø 20 … 125 mm

RA/192000/SMX – Multi position cylinder
With female piston rod thread



RA/192000/SM – Multi position cylinder
With male piston rod thread



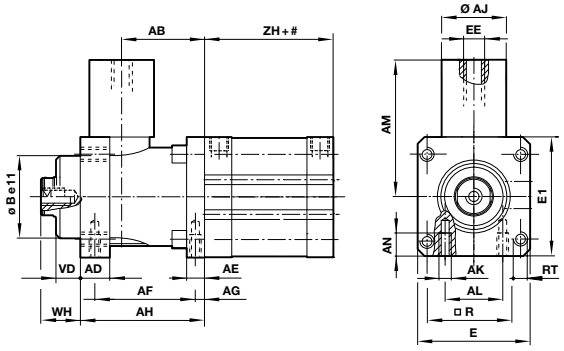
Model	Ø	EE	PL	PL1	ZJ	kg at 0 mm	kg per 5 mm
RA/192020/SM.	20	M5	7	25,5	68	0,21	0,01
RA/192025/SM.	25	M5	7	26,5	71	0,26	0,01
RA/192032/SM.	32	G 1/8	7,5	30	81	0,39	0,02
RA/192040/SM.	40	G 1/8	7,5	31	83	0,51	0,02
RA/192050/SM.	50	G 1/8	7,5	31	85	0,78	0,03
RA/192063/SM.	63	G 1/8	7,5	36	94	1,21	0,03
RA/192080/SM.	80	G 1/8	7,5	40	104	2,11	0,04
RA/192100/SM.	100	G 1/8	10,5	45,5	122	3,68	0,05

1 Exhaust port
Note: Do not cover this area!

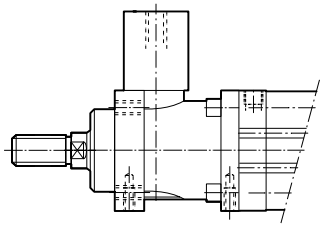
#1 Stroke front cylinder
#2 Stroke rear cylinder
Note: Stroke (#1) > stroke (#2)

2 Pressure »outstroke« rear cylinder
3 Pressure »instroke«
4 Pressure »outstroke« front cylinder

RA/192000/L4X – Cylinder with locking unit female piston rod thread



RA/192000/L4 – Cylinder with locking unit male piston rod thread



Stroke

Model	Ø	AB	AD	AE	AF	AG	AH	Ø AJ	AK	AL	AM	AN
RA/192032/L4.	32	32	12	8	40	4,2	48	25	M5	16	49	8
RA/192040/L4.	40	35,5	12	10	46	4,5	55	24	M5	21	61,5	10
RA/192050/L4.	50	49	16	15	54	11,5	70	30	M6	24	75	12
RA/192063/L4.	63	49	15	15	55	7,5	70	38	M8	32	86	12
RA/192080/L4.	80	62	16	16	70	10	90	53	M8	44	119	16
RA/192100/L4.	100	65	18	16	70	10	92	48	M8	60	119	16
RA/192125/L4.	125	85	27	25	95	11	122	65	M10	75	140	20

Ø	E	EE	R	RT	VD	WH	ZH		Locking force	kg at 0 mm	kg per 5 mm
32	48	M 5	32,5	M 6	10	16	44	–	600 N	0,53	0,02
40	56	G 1/8	38	M 6	10	18	45	–	1000 N	0,70	0,02
50	68	G 1/8	46,5	M 8	12	22	45	–	1500 N	1,26	0,03
63	82	G 1/8	56,5	M 8	12	20	49	–	2200 N	1,90	0,03
80	100	G 1/8	72	M 10	20	33	54	–	5000 N	3,80	0,04
100	120	G 1/8	89	M 10	23	38	67	–	5000 N	5,90	0,05
125	140	G 1/8	110	M 12	32	65	71	–	7000 N	10,10	0,7

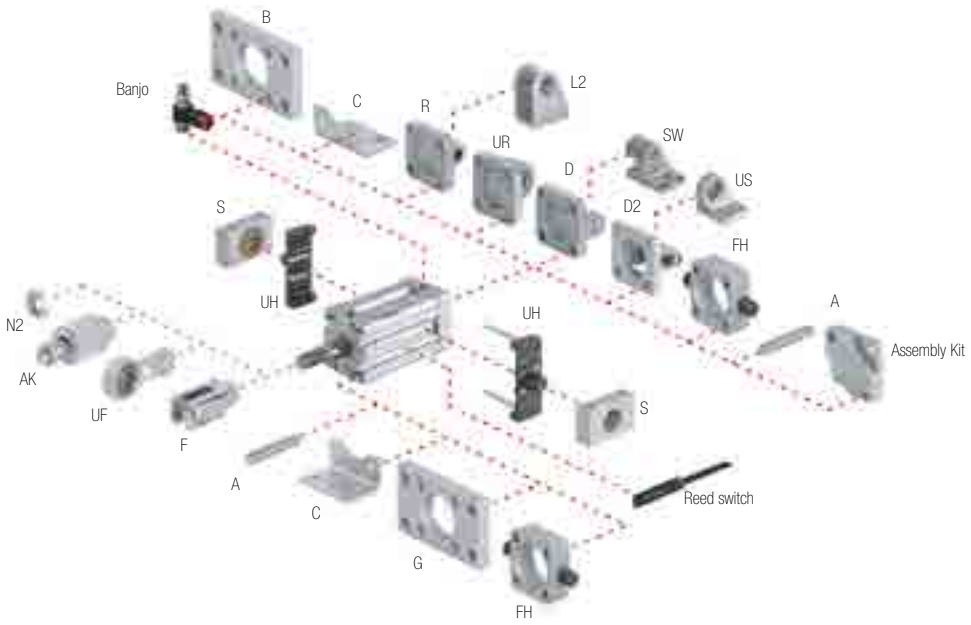
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MOUNTINGS FOR ISO COMPACT CYLINDERS

RA/191000/M, …/MX; RA/192000/M, …/MX; RA/193000/M, …/MX

Male and Female Piston Rod Thread

Male Piston Rod Thread Only



For cylinders with male and female piston rod thread

Dia. Ø	A	B, G	C	D	D2	FH	L2
20	–	QA/192020/22	QM/192020/21	–	–	–	QM/8020/44
25	–	QA/192025/22	QM/192025/21	–	–	–	QM/8020/44
32	QM/8032/35	QA/8032/22	QA/192032/21	QA/8032/23	QA/8032/42	QA/8032/34	–
40	QM/8032/35	QA/8040/22	QA/192040/21	QA/8040/23	QA/8040/42	QA/8040/34	–
50	QM/8050/35	QA/8050/22	QA/192050/21	QA/8050/23	QA/8050/42	QA/8050/34	–
63	QM/8050/35	QA/8063/22	QA/192063/21	QA/8063/23	QA/8063/42	QA/8063/34	–
80	QM/8080/35	QA/8080/22	QA/192080/21	QA/8080/23	QA/8080/42	QA/8080/34	–
100	QM/8080/35	QA/8100/22	QA/192100/21	QA/8100/23	QA/8100/42	QA/8100/34	–
125	QM/8125/35	QM/8125/22	QM/8125/21	QM/8125/23	QA/8125/42	QA/8125/34	–

Dia. Ø	R	S	SW	UH	UR	US	Assembly kit*
20	QM/192020/27	–	–	–	–	–	QA/192020/55
25	QM/192025/27	–	–	–	–	–	QA/192025/55
32	QA/8032/27	QA/8032/41	M/P19493	PQA/182032/40	QA/8032/33	M/P40310	QA/192032/55
40	QA/8040/27	QA/8040/41	M/P19494	PQA/182040/40	QA/8040/33	M/P40311	QA/192040/55
50	QA/8050/27	QA/8040/41	M/P19495	PQA/182050/40	QA/8050/33	M/P40312	QA/192050/55
63	QA/8063/27	QA/8063/41	M/P19496	PQA/182063/40	QA/8063/33	M/P40313	QA/192063/55
80	QA/8080/27	QA/8063/41	M/P19497	PQA/182080/40	QA/8080/33	M/P40314	QA/192080/55
100	QA/8100/27	QA/8100/41	M/P19498	PQA/182100/40	QA/8100/33	M/P40315	QA/192100/55
125	QM/8125/27	QA/8100/41	M/P19499	PQA/182125/40	QM/8125/33	M/P71355	QA/192125/55

* For connecting 2 similar bore actuators together via the rear end cap.

For cylinders with male piston rod thread

Dia. Ø	AK	F	N2	UF
20	QM/8020/38	QM/8020/25	M/P1501/60	QM/8020/32
25	QM/8020/38	QM/8020/25	M/P1501/60	QM/8020/32
32	QM/8025/38	QM/8025/25	M/P1501/89	QM/8025/32
40	QM/8025/38	QM/8025/25	M/P1501/89	QM/8025/32
50	QM/8040/38	QM/8040/25	M/P1501/90	QM/8040/32
63	QM/8040/38	QM/8040/25	M/P1501/90	QM/8040/32
80	QM/8050/38	QM/8050/25	M/P1501/91	QM/8050/32
100	QM/8050/38	QM/8050/25	M/P1501/91	QM/8050/32
125	QM/8125/38	QM/8125/25	M/P1501/105	QM/8125/32

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IMI NORGREN

COMPACT CYLINDERS

RM/91000/M - RM/93000/M Single acting – Ø 20 … 63 mm

- One third the basic length of a corresponding ISO/VDMA model
- Low friction, long life seal design
- Fully non-corrodible specification
- Standard magnetic piston

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
Single acting, magnetic, piston non-cushioned

Operating pressure:
2 … 10 bar

Ambient temperature:
-5°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°

Materials

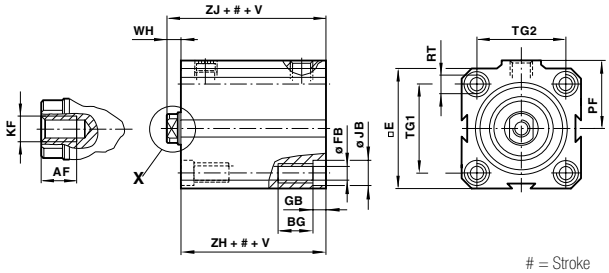
Barrel & end caps:
Anodised aluminium alloy

Piston rod:
Stainless steel
(Ø 12 … 40 mm austenitic,
Ø 50 … 63 mm martensitic)

Seals:
PUR and/or NBR



Dimensions



= Stroke

Dia. Ø	AF	BG	E	Ø FB	GB	Ø JB	KF	PF	RT	TG 1	TG 2	V (#0 … 25)	V (#26 … 50)	WH	ZH	ZJ
20	8	9	32	3,3	3,5	6	M 5	19,5	M 4	23	23	17	34	6	26	32
25	9	12	37	4,2	4,5	7,5	M 6	22	M 5	27	27	18	36	6,5	28,5	35
32	12	12	45	4,2	4,5	7,5	M 8	27,5	M 5	33	33	19	38	6,5	29	35,5
40	12	16	55	6,8	6,5	10,5	M 8	31,5	M 8	41	41	20	40	6,5	31,5	38
50	14	16	63	6,8	6,5	10,5	M 10	37	M 8	48	48	30	60	8	35	43
63	16	20	80	8,5	8,5	13,5	M 12	48	M 10	61	61	30	60	8	42,5	50,5

Models

Accessories

Female thread Sprung in Model	Female thread Sprung out Model	Dia. Ø	Stroke length	Port size	Piston rod Ø	Reed switch with integral 5 m cable	Switch mounting	Banjo flow control	Straight fitting	Elbow fitting
										
RM/91020/M/10	RM/93020/M/10	20	10	M5	10	M/50/LSU/5V	M/P72487B	C0L510405	C02250405	C02470405
RM/91025/M/10	RM/93025/M/10	25	10	M5	12	M/50/LSU/5V	M/P72487B	C0L510405	C02250405	C02470405
RM/91032/M/10	RM/93032/M/10	32	10	G1/8	16	M/50/LSU/5V	M/P72487B	C0L510618	C02250618	C02470618
RM/91032/M/25	RM/93032/M/25	32	25	G1/8	16	M/50/LSU/5V	M/P72487B	C0L510618	C02250618	C02470618
RM/91040/M/10	RM/93040/M/10	40	10	G1/8	16	M/50/LSU/5V	M/P72487B	C0L510618	C02250618	C02470618
RM/91040/M/25	RM/93040/M/25	40	25	G1/8	16	M/50/LSU/5V	M/P72487B	C0L510618	C02250618	C02470618
RM/91050/M/25	RM/93050/M/25	50	25	G1/8	20	M/50/LSU/5V	M/P72487B	C0L510618	C02250618	C02470618
RM/91063/M/25	RM/93063/M/25	63	25	G1/4	20	M/50/LSU/5V	M/P72487B	C0L510628	C02250628	C02470628

Other bore sizes and stroke lengths available up to 50 mm maximum, please contact us.
For information on additional magnetic switches see pages 124 - 128.
For mountings refer to double acting versions as shown on page 51.

For alternative fitting types, shapes or sizes, refer to our fittings section.

Options

- Non-rotating piston rod

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COMPACT CYLINDERS

RM/92000/M Double acting – Ø 12 … 100 mm

- One third the basic length of a corresponding ISO/VDMA model
- Low friction, long life seal design
- Fully non-corrodible specification
- Standard magnetic piston for full control system versatility

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
Double acting, magnetic piston non-cushioned

Operating pressure:
1 … 10 bar

Ambient temperature:
-5°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Barrel & end caps:
Anodised aluminium alloy

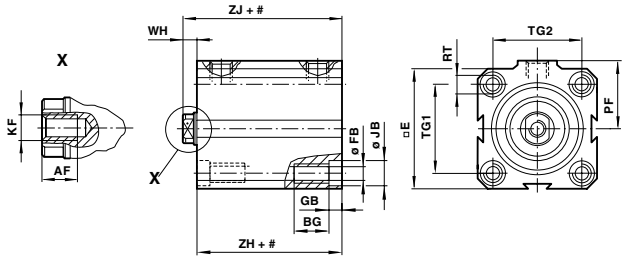
Piston rod:
Stainless steel
(Ø 12 … 40 mm austenitic,
Ø 50 … 63 mm martensitic)

Seals:
PUR and/or NBR

EXPRESS



Dimensions



Dia. Ø	AF	BG	E	Ø FB	GB	Ø JB	KF	PF	RT	TG1	TG2	WH	ZH	ZJ
12	6	9	25	3,3	3,5	6	M 3	15	M 4	17	13	4,5	24	28,5
16	7	9	28	3,3	3,5	6	M 4	17	M 4	20	20	5,5	24,5	30
20	8	9	32	3,3	3,5	6	M 5	19,5	M 4	23	23	6	26	32
25	9	12	37	4,2	4,5	7,5	M 6	22	M 5	27	27	6,5	28,5	35
32	12	12	45	4,2	4,5	7,5	M 8	27,5	M 5	33	33	6,5	29	35,5
40	12	16	55	6,8	6,5	10,5	M 8	31,5	M 8	41	41	6,5	31,5	38
50	14	16	63	6,8	6,5	10,5	M 10	37	M 8	48	48	8	35	43
63	16	20	80	8,5	8,5	13,5	M 12	48	M 10	61	61	8	42,5	50,5
80	22	20	94	8,5	8,5	13,5	M 16	57	M 10	73	73	9	47	56
100	22	25	116,5	10,2	10,5	16,5	M 16	67	M 12	90,5	90,5	10	48,5	58,5

Models

Accessories

Model	Dia. Ø	Stroke length	Port size	Piston rod Ø	Reed switch with integral 5 m cable	Switch mounting	Banjo flow control	Straight fitting	Elbow fitting	Service kit
										
RM/92012/M/5	12	5	M5	6	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92012/M/10	12	10	M5	6	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92012/M/15	12	15	M5	6	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92012/M/20	12	20	M5	6	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92012/M/25	12	25	M5	6	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92012/M/30	12	30	M5	6	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92016/M/5	16	5	M5	8	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92016/M/10	16	10	M5	8	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92016/M/15	16	15	M5	8	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92016/M/20	16	20	M5	8	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92016/M/25	16	25	M5	8	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92016/M/30	16	30	M5	8	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92020/M/5	20	5	M5	10	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92020/M/10	20	10	M5	10	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92020/M/15	20	15	M5	10	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92020/M/20	20	20	M5	10	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92020/M/25	20	25	M5	10	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–

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Models

Accessories

Model	Dia. Ø	Stroke length	Port size	Piston rod Ø	Reed switch with integral 5 m cable	Switch mounting	Banjo flow control	Straight fitting	Elbow fitting	Service kit
RM/92020/M/30	20	30	M5	10	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92020/M/40	20	40	M5	10	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92020/M/50	20	50	M5	10	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92025/M/5	25	5	M5	12	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92025/M/10	25	10	M5	12	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92025/M/15	25	15	M5	12	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92025/M/20	25	20	M5	12	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92025/M/25	25	25	M5	12	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92025/M/30	25	30	M5	12	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92025/M/40	25	40	M5	12	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92025/M/50	25	50	M5	12	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	–
RM/92032/M/5	32	5	G1/8	16	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	–
RM/92032/M/10	32	10	G1/8	16	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	–
RM/92032/M/15	32	15	G1/8	16	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	–
RM/92032/M/20	32	20	G1/8	16	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	–
RM/92032/M/25	32	25	G1/8	16	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	–
RM/92032/M/30	32	30	G1/8	16	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	–
RM/92032/M/40	32	40	G1/8	16	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	–
RM/92032/M/50	32	50	G1/8	16	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	–
RM/92032/M/60	32	60	G1/8	16	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	–
RM/92032/M/80	32	80	G1/8	16	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	–
RM/92040/M/5	40	5	G1/8	16	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	–
RM/92040/M/10	40	10	G1/8	16	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	–
RM/92040/M/15	40	15	G1/8	16	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	–
RM/92040/M/20	40	20	G1/8	16	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	–
RM/92040/M/25	40	25	G1/8	16	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	–
RM/92040/M/30	40	30	G1/8	16	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	–
RM/92040/M/40	40	40	G1/8	16	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	–
RM/92040/M/50	40	50	G1/8	16	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	–
RM/92040/M/60	40	60	G1/8	16	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	–
RM/92040/M/80	40	80	G1/8	16	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	–
RM/92050/M/5	50	5	G1/8	20	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	QM/92050/00
RM/92050/M/10	50	10	G1/8	20	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	QM/92050/00
RM/92050/M/15	50	15	G1/8	20	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	QM/92050/00
RM/92050/M/20	50	20	G1/8	20	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	QM/92050/00
RM/92050/M/25	50	25	G1/8	20	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	QM/92050/00
RM/92050/M/30	50	30	G1/8	20	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	QM/92050/00
RM/92050/M/40	50	40	G1/8	20	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	QM/92050/00
RM/92050/M/50	50	50	G1/8	20	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	QM/92050/00
RM/92050/M/60	50	60	G1/8	20	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	QM/92050/00
RM/92050/M/80	50	80	G1/8	20	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	QM/92050/00
RM/92050/M/100	50	100	G1/8	20	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	QM/92050/00
RM/92063/M/10	63	10	G1/4	20	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92063/00
RM/92063/M/15	63	15	G1/4	20	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92063/00
RM/92063/M/20	63	20	G1/4	20	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92063/00
RM/92063/M/25	63	25	G1/4	20	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92063/00
RM/92063/M/30	63	30	G1/4	20	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92063/00
RM/92063/M/40	63	40	G1/4	20	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92063/00
RM/92063/M/50	63	50	G1/4	20	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92063/00
RM/92063/M/60	63	60	G1/4	20	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92063/00
RM/92063/M/80	63	80	G1/4	20	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92063/00
RM/92063/M/100	63	100	G1/4	20	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92063/00

Online at **store.norgren.com**

COMPACT CYLINDERS

RM/92000/M Double acting – Ø 12 … 100 mm

Models

Accessories

Model	Dia. Ø	Stroke length	Port size	Piston rod Ø	Reed switch with integral 5 m cable	Switch mounting	Banjo flow control	Straight fitting	Elbow fitting	Service kit
RM/92080/M/15	80	15	G1/4	25	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92080/00
RM/92080/M/20	80	20	G1/4	25	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92080/00
RM/92080/M/25	80	25	G1/4	25	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92080/00
RM/92080/M/30	80	30	G1/4	25	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92080/00
RM/92080/M/40	80	40	G1/4	25	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92080/00
RM/92080/M/50	80	50	G1/4	25	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92080/00
RM/92080/M/80	80	80	G1/4	25	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92080/00
RM/92080/M/100	80	100	G1/4	25	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92080/00
RM/92100/M/15	100	15	G1/4	25	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92100/00
RM/92100/M/20	100	20	G1/4	25	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92100/00
RM/92100/M/25	100	25	G1/4	25	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92100/00
RM/92100/M/30	100	30	G1/4	25	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92100/00
RM/92100/M/40	100	40	G1/4	25	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92100/00
RM/92100/M/50	100	50	G1/4	25	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92100/00
RM/92100/M/80	100	80	G1/4	25	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92100/00
RM/92100/M/100	100	100	G1/4	25	M/50/LSU/5V	M/P72487B	C0K510628	C02250628	C02470628	QM/92100/00

Other stroke lengths available up to 300 mm maximum, please contact us.
For information on additional magnetic switches see pages 124 - 128.

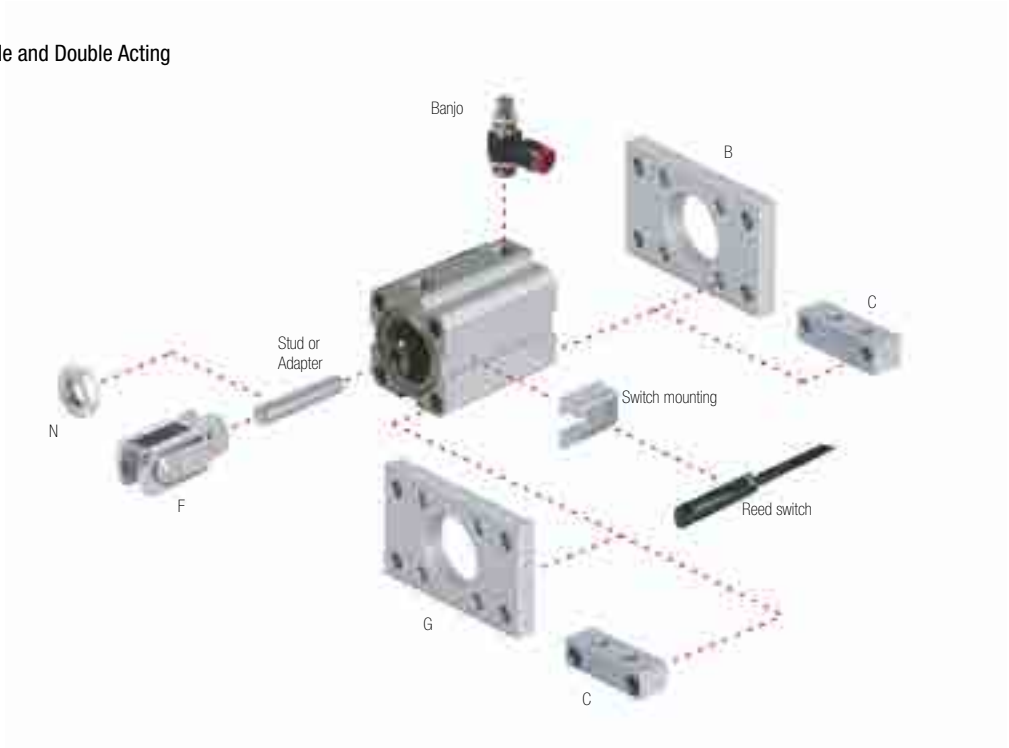
For alternative fitting types, shapes or sizes, refer to our fittings section.

Options

- Heat resistant seals
- Extended piston rod
- Double ended piston rod
- Non rotating piston rod
- Cylinder with guiding

MOUNTINGS FOR COMPACT CYLINDERS
RM/91000/M, RM/92000/M and RM/93000/M Single and double acting

Single and Double Acting



Dia. Ø	B, G	C	F	N	Stud or adaptor*
12	QM/90012/22	QM/90012/21	QM/57008/25	M/P1500/111	M/P1710/18
16	QM/90016/22	QM/90016/21	QM/8010/25	M/P1501/80	M/P1710/19
20	QM/90020/22	QM/90020/21	QM/92020/25	M/P1501/109	M/P1710/20
25	QM/90025/22	QM/90025/21	QM/57016/25	M/P1501/79	M/P1710/21
32	QM/90032/22	QM/90032/21	QM/57020/25	M/P1501/60	M/P1710/22
40	QM/90040/22	QM/90040/21	QM/57020/25	M/P1501/60	M/P1710/22
50	QM/90050/22	QM/90050/21	QM/57025/25	–	M/P71470/1
63	QM/90063/22	QM/90063/21	QM/57040/25	–	M/P71470/2
80	QM/90080/22	QM/90080/21	QM/57063/25	–	M/P71470/3
100	QM/90100/22	QM/90100/21	QM/57063/25	–	M/P71470/3

* For attaching F mounting to female piston rod thread.

Online at **store.norgren.com**

CLAMPING CYLINDERS

M/50100 Single acting – Ø 8 … 63 mm

- Enable high thrusts to be achieved in restricted space
- Neat, clean appearance
- One-piece body construction

Technical Data

Medium:
Compressed air, filtered and lubricated

Operating pressure:
2 … 10 bar (single acting)

Ambient temperature:
-10°C … +70°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Piston rod:
Stainless steel (austenitic)

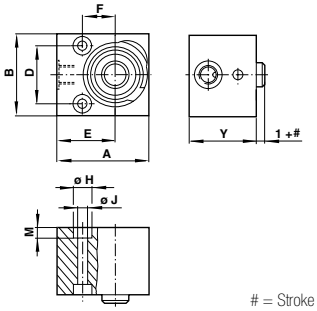
Body:
Anodized aluminium

Seals:
NBR



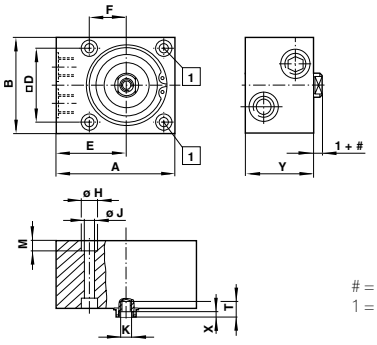
Dimensions

M/50108 and M/50112



= Stroke

M/50120 … M/50163



# = Stroke
1 = These mounting holes are omitted on 20 and 32 mm bore units

Dia. Ø	A	B	D	E	F	Ø H	Ø J	K	M	T	X
8		20	18	11	13,5	8	6	3,4	–	3,2	
12	25	20	13	16	9	6	3,4	–	3,4		
20	40	32	20	24	15	10	5,5	M 5	5,5	8	2
32	55	45	32	32	18	10	5,5	M 6	5,5	14,5	2,5
50	80	65	50	47,5	25	11	6,6	M 8	6,8	15	3
63	90	80	62	50	31	15	9	M 8	9	15	3

Dia. Ø	#	Y
8	4	15
12	4	15
12	10	23
20	4	20
20	10	26
32	5	26

Dia. Ø	#	Y
32	10	31
32	25	46
50	10	30
50	25	45
63	10	35
63	25	50

Models

Accessories

Single acting Model	Dia. Ø	Stroke	Port size	Piston rod Ø	Straight fitting	Elbow fitting
						
M/50108/4	8	4	M5	4	C02250405	C02470405
M/50112/4	12	4	M5	6	C02250405	C02470405
M/50112/10	12	10	M5	6	C02250405	C02470405
M/50120/4	20	4	M5	10	C02250405	C02470405
M/50120/10	20	10	M5	10	C02250405	C02470405
M/50132/5	32	5	G1/8	16	C02250618	C02470618
M/50132/10	32	10	G1/8	16	C02250618	C02470618
M/50132/25	32	25	G1/8	16	C02250618	C02470618
M/50150/10	50	10	G1/8	20	C02250618	C02470618
M/50150/25	50	25	G1/8	20	C02250618	C02470618
M/50163/10	63	10	G1/8	20	C02250618	C02470618
M/50163/25	63	25	G1/8	20	C02250618	C02470618

For alternative fitting types, shapes or sizes, refer to our fittings section.

IMI Precision Engineering
For further information, visit store.norgren.com and use the new improved search function. If you cannot see the option you require please contact us.
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CLAMPING CYLINDERS

M/50200 Double acting – Ø 8 … 63 mm

- Enable high thrusts to be achieved in restricted space
- Neat, clean appearance
- One-piece body construction

Technical Data

Medium:
Compressed air, filtered and lubricated

Operating pressure:
1,5 … 10 bar (double acting)

Ambient temperature:
-10°C … +70°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Piston rod:
Stainless steel (austenitic)

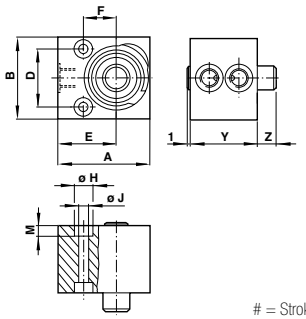
Body:
Anodized aluminium

Seals:
NBR



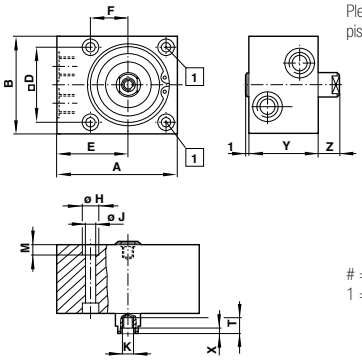
Dimensions

M/50208 and M/50212



= Stroke

M/50220 … M/50263



Please note that this range features a double ended piston rod as standard

# = Stroke
1 = These mounting holes are omitted on 20 and 32 mm bore units

Dia. Ø	A	B	Ø C	D	E	F	Ø H	Ø J	K	M	T	X
8	20	18	–	11	13,5	8	6	3,4	–	3,2	–	–
12	25	20	–	13	16	9	6	3,4	–	3,4	–	–
20	40	32	5,3	20	24	15	10	5,5	M 5	5,5	8	2
32	55	45	6,4	32	32	18	10	5,5	M 6	5,5	14,5	2,5
50	80	65	8,4	50	47,5	–	11	6,6	M 8	6,8	15	3
63	90	80	8,4	62	50	–	15	9	M 8	9	15	3

Dia. Ø	#	Y	Z
8	4	22	5
12	4	24	5
12	10	30	11
20	4	25	8
20	10	31	14
32	5	33,5	10

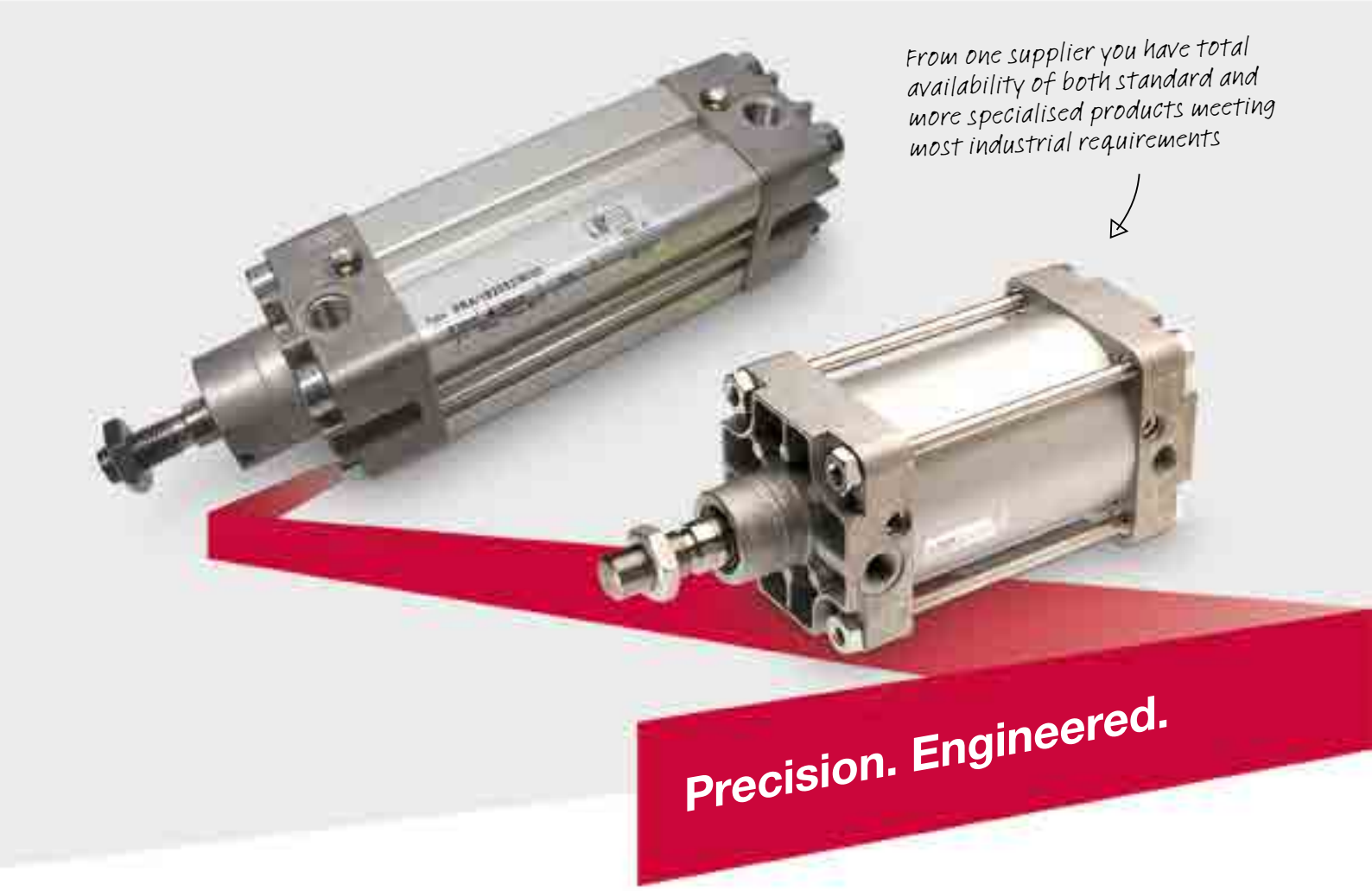
Dia. Ø	#	Y	Z
32	10	38,5	15
32	25	53,5	30
50	10	36,5	15
50	25	51,5	30
63	10	41,5	15
63	25	56,5	30

Models

Accessories

Double acting Model	Dia. Ø	Stroke	Port size	Piston rod Ø	Straight fitting	Elbow fitting
						
M/50208/4	8	4	M5	4	C02250405	C02470405
M/50208/10	8	10	M5	4	C02250405	C02470405
M/50212/4	12	4	M5	5	C02250405	C02470405
M/50212/10	12	10	M5	5	C02250405	C02470405
M/50220/4	20	4	M5	10	C02250405	C02470405
M/50220/10	20	10	M5	10	C02250405	C02470405
M/50232/5	32	5	G1/8	12	C02250618	C02470618
M/50232/10	32	10	G1/8	12	C02250618	C02470618
M/50232/25	32	25	G1/8	12	C02250618	C02470618
M/50250/10	50	10	G1/8	16	C02250618	C02470618
M/50250/25	50	25	G1/8	16	C02250618	C02470618
M/50263/10	63	10	G1/8	16	C02250618	C02470618
M/50263/25	63	25	G1/8	16	C02250618	C02470618

For alternative fitting types, shapes or sizes, refer to our fittings section.



ISO/VDMA
range



Not all 'ISO/VDMA' actuators look alike and perform to a similar standard.

The range covers standard and specific use products, up to 320mm bore and 3,000mm stroke length and is possibly the only unit on the market capable of working up to 16 bar of pressure as standard.

What's more, IMI Precision Engineering were the first to utilise a flush-mounted switch system, now standard for almost ten years, which ensures that switches are fully protected from all kinds of mechanical damage.

- Very low static and dynamic friction characteristics allow low pressure working at speeds down to 3mm/sec and for ultra-low friction applications a special version is available. Running costs can be optimised for maximum efficiency without use of special products, reducing cost of ownership and inventory holding.
- The vast IMI Norgren range includes both profile and traditional round barrel versions, a stainless steel version, heavy duty wiper and low friction options, non or extended cushion, integrated valve and actuator combined on one unit (IVAC), piston rod lock, guide block and unit complete with position sensor.

Engineering GREAT Solutions

Find out more
www.imi-precision.com

IMI NORGREN

IMI Precision Engineering

For further information, visit **store.norgren.com** and use the new improved search function. If you cannot see the option you require please contact us.

ISO/VDMA PROFILE CYLINDERS

PRA/181000/M & PRA/183000/M Single acting – Ø 32 … 100 mm

- Conforms to ISO 15552, ISO 6431, VDMA 24562 and NFE 49-003-1
- Flush mounted switch system
- Low friction levels and long life expectancy
- More stocked bore/stroke combinations than many competitors
- Large range of standard mountings

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
Single acting
PRA/181000/M: Sprung in, magnetic piston and adjustable cushioning
PRA/183000/M: Sprung out, magnetic piston and adjustable cushionin

Operating pressure:
2 … 10 bar

Ambient temperature:
-20°C … +80°C max.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Profile barrel:
Anodised aluminium

End covers:
Pressure diecast aluminium

Piston rod:
Stainless steel (martensitic)

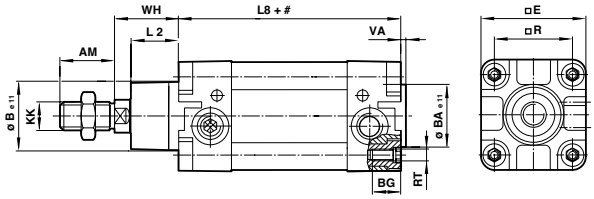
Piston rod seals:
PUR

Piston seals:
PUR

O-rings:
NBR



Dimensions



Stroke

Dia. Ø	AM	Ø B/BA e11	BG	□ E	KK	L2	L8	□ R	RT	VA	WH
32	22	30	16	47	M10x1,25	20	94	32,5	M 6	3	26
40	24	35	16	53	M12x1,25	22	105	38	M 6	3,5	30
50	32	40	16	65	M16x1,5	27	106	46,5	M 8	3,5	37
63	32	45	16	75	M16x1,5	29	121	56,5	M 8	4	37
80	40	45	17	95	M20x1,5	33	128	72	M 10	4	46
100	40	55	17	115	M20x1,5	36	138	89	M 10	4	51

Models

Accessories

Sprung in Model	Sprung out Model	Dia. Ø	Port size	Piston rod Ø	Reed switch with integral 5 m cable	Straight fitting	Elbow fitting	Service kit
								
PRA/181032/M/***	PRA/183032/M/***	32	G1/8	12	M/50/LSU/5V	C02250618	C02470618	QA/8032/00
PRA/181040/M/***	PRA/183040/M/***	40	G1/4	16	M/50/LSU/5V	C02250628	C02470628	QA/8040/00
PRA/181050/M/***	PRA/183050/M/***	50	G1/4	20	M/50/LSU/5V	C02250828	C02470828	QA/8050/00
PRA/181063/M/***	PRA/183063/M/***	63	G3/8	20	M/50/LSU/5V	C02250638	C02470638	QA/8063/00
PRA/181080/M/***	PRA/183080/M/***	80	G3/8	25	M/50/LSU/5V	C02250638	C02470638	QA/8080/00
PRA/181100/M/***	PRA/183100/M/***	100	G1/2	25	M/50/LSU/5V	C02250648	C02470648	QA/8100/00

*** Insert stroke length in mm.

For alternative fitting types, shapes or sizes, refer to our fittings section.

For information on additional magnetic switches see pages 124 - 128.
For mountings, refer to double acting version shown on page 73.

Standard strokes

Cylinder Ø (mm)	Stroke length (mm) 25	50	80	100
32	•	•	•	•
40	•	•	•	•
50	•	•	•	•
63	•	•	•	•
80	•	•	•	•
100	•	•	•	•

Options

- Non-magnetic
- Non-rotating piston rod
- Special Wiper Seals
- Hard Chrome Piston Rod
- Stainless Steel - austenitic piston rod

IMI NORGREN
For further information, visit store.norgren.com and use the new improved search function. If you cannot see the option you require please contact us.
IMI Precision Engineering

ISO/VDMA PROFILE CYLINDERS

PRA/182000/M Double acting – Ø 32 … 125 mm

- Conforms to ISO 15552, ISO 6431, VDMA 24562 and NFE 49-003-1
- Flush mounted switch system
- Low friction levels and long life expectancy
- More stocked bore/stroke combinations than many competitors
- Large range of standard mountings

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
Double acting, magnetic piston, adjustable cushioning

Operating pressure:
1 … 16 bar

Ambient temperature:
-20°C … +80°C max.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Profile barrel:
Anodised aluminium

End covers:
Pressure diecast aluminium

Piston rod:
Stainless steel (martensitic)

Piston rod seals:
PUR

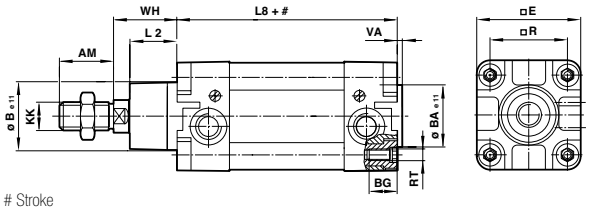
Piston seals:
PUR

O-rings:
NBR

EXPRESS



Dimensions



Stroke

Dia. Ø	AM	Ø B_{e11}/BA_{e11}	BG	□ E	KK	L2	L8	□ R	RT	VA	WH
32	22	30	16	47	M10x1,25	20	94	32,5	M 6	3	26
40	24	35	16	53	M12x1,25	22	105	38	M 6	3,5	30
50	32	40	16	65	M16x1,5	27	106	46,5	M 8	3,5	37
63	32	45	16	75	M16x1,5	29	121	56,5	M 8	4	37
80	40	45	17	95	M20x1,5	33	128	72	M 10	4	46
100	40	55	17	115	M20x1,5	36	138	89	M 10	4	51
125	54	60	20	140	M27x2	45	160	110	M 12	6	65

Models

Accessories

Model	Dia. Ø	Port size	Piston rod Ø	Reed switch with integral 5 m cable	Banjo flow control	Straight fitting	Elbow fitting	Service kit
								
PRA/182032/M/***	32	G1/8	12	M/50/LSU/5V	C0K510618	C02250618	C02470618	QA/8032/00
PRA/182040/M/***	40	G1/4	16	M/50/LSU/5V	C0K510628	C02250628	C02470628	QA/8040/00
PRA/182050/M/***	50	G1/4	20	M/50/LSU/5V	C0K510828	C02250828	C02470828	QA/8050/00
PRA/182063/M/***	63	G3/8	20	M/50/LSU/5V	C0K510838	C02250838	C02470838	QA/8063/00
PRA/182080/M/***	80	G3/8	25	M/50/LSU/5V	C0K511038	C02251038	C02471038	QA/8080/00
PRA/182100/M/***	100	G1/2	25	M/50/LSU/5V	C0K511248	C02251248	C02471248	QA/8100/00
PRA/182125/M/***	125	G1/2	32	M/50/LSU/5V	C0K511248	C02251248	C02471248	QA/8125/00

*** Insert stroke length in mm.
Other stroke lengths available up to 3,000 mm maximum, please contact us.
For information on additional magnetic switches see pages 124 - 128.

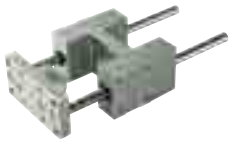
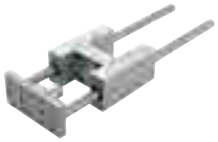
For alternative fitting types, shapes or sizes, refer to our fittings section.

Standard strokes

Cylinder	Stroke length (mm)										
Ø (mm)	25	50	80	100	125	160	200	250	320	400	500
32	•	•	•	•	•	•	•	•	•	•	•
40	•	•	•	•	•	•	•	•	•	•	•
50	•	•	•	•	•	•	•	•	•	•	•
63	•	•	•	•	•	•	•	•	•	•	•
80	•	•	•	•	•	•	•	•	•	•	•
100	•	•	•	•	•	•	•	•	•	•	•
125	•	•	•	•	•	•	•	•	•	•	•

Online at store.norgren.com

Guide blocks

Cyl. Ø	Guide blocks - plain bearings	Guide blocks - roller bearings	Guide blocks - plain bearings, long coupling	Guide blocks - plain bearings, short coupling
				
32	QA/8032/51/*	QA/8032/61/*	QA/8032/81/*	QA/8032/85/*
40	QA/8040/51/*	QA/8040/61/*	QA/8040/81/*	QA/8040/85/*
50	QA/8050/51/*	QA/8050/61/*	QA/8050/81/*	QA/8050/85/*
63	QA/8063/51/*	QA/8063/61/*	QA/8063/81/*	QA/8063/85/*
80	QA/8080/51/*	QA/8080/61/*	QA/8080/81/*	QA/8080/85/*
100	QA/8100/51/*	QA/8100/61/*	QA/8100/81/*	QA/8100/85/*

* Insert standard stroke length: 50, 100, 160, 200, 250, 320, 400 & 500 mm, use nearest standard stroke.

Options

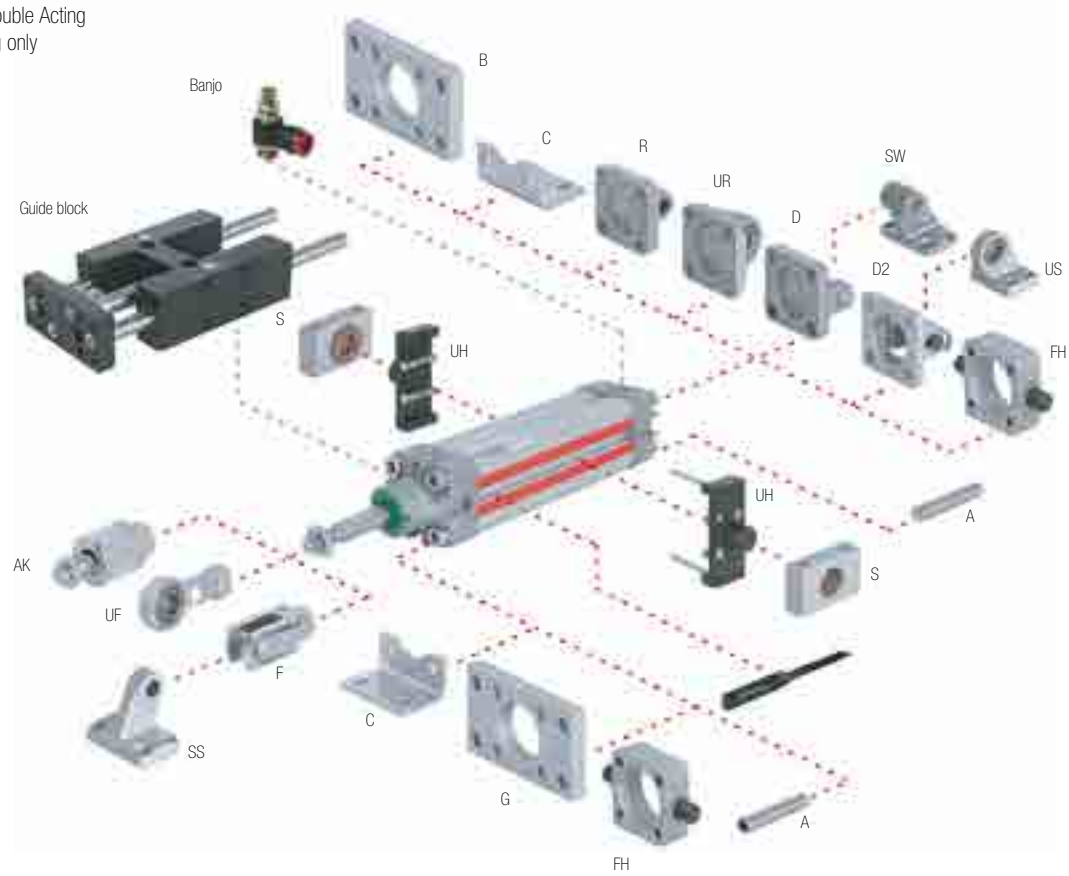
- Options
- High temperature seals
- Low temperature seals
- Hydraulic version
- Hard Chrome Piston Rod
- Stainless steel piston rod - austenitic
- Non magnetic version
- Special wiper seal
- Low friction
- Piston rod bellow
- Without cushions
- Double ended piston rod
- Four position version
- Non rotating piston rod
- Locking unit
- Extended Piston rod
- Guide Blocks
- Heavy Duty Guide Blocks
- Atex versions:
  II 2 GD C T4 120°C / II 3 GD C
  T4 120°C (Piston rod bellow)

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ISO/VDMA PROFILE CYLINDERS

PRA/181000/M, PRA/182000/M & PRA/183000/M

■ Single and Double Acting
■ Double Acting only



Dia. Ø	A	AK	B, G	C	D	D2	F	FH	R
32	QM/8032/35	QM/8025/38	QA/8032/22	QA/8032/21	QA/8032/23	QA/8032/42	QM/8025/25	QA/8032/34	QA/8032/27
40	QM/8032/35	QM/8040/38	QA/8040/22	QA/8040/21	QA/8040/23	QA/8040/42	QM/8040/25	QA/8040/34	QA/8040/27
50	QM/8050/35	QM/8050/38	QA/8050/22	QA/8050/21	QA/8050/23	QA/8050/42	QM/8050/25	QA/8050/34	QA/8050/27
63	QM/8050/35	QM/8050/38	QA/8063/22	QA/8063/21	QA/8063/23	QA/8063/42	QM/8050/25	QA/8063/34	QA/8063/27
80	QM/8080/35	QM/8080/38	QA/8080/22	QA/8080/21	QA/8080/23	QA/8080/42	QM/8080/25	QA/8080/34	QA/8080/27
100	QM/8080/35	QM/8080/38	QA/8100/22	QA/8100/21	QA/8100/23	QA/8100/42	QM/8080/25	QA/8100/34	QA/8100/27
125	QM/8125/35	QM/8125/38	QM/8125/22	QM/8125/21	QM/8125/23	QA/8125/42	QM/8125/25	QA/8125/34	QM/8125/27

Dia. Ø	S	SS	SW	UF	UH	UR	US
32	QA/8032/41	M/P19931	M/P19493	QM/8025/32	PQA/182032/40	QA/8032/33	M/P40310
40	QA/8040/41	M/P19932	M/P19494	QM/8040/32	PQA/182040/40	QA/8040/33	M/P40311
50	QA/8040/41	M/P19933	M/P19495	QM/8050/32	PQA/182050/40	QA/8050/33	M/P40312
63	QA/8063/41	M/P19934	M/P19496	QM/8050/32	PQA/182063/40	QA/8063/33	M/P40313
80	QA/8063/41	M/P19935	M/P19497	QM/8080/32	PQA/182080/40	QA/8080/33	M/P40314
100	QA/8100/41	M/P19936	M/P19498	QM/8080/32	PQA/182100/40	QA/8100/33	M/P40315
125	QA/8100/41	M/P19937	M/P19499	QM/8125/32	PQA/182125/40	QM/8125/33	M/P71355

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see the option you require please contact us.

IMI NORGREN

SMOOTH LINE CYLINDER

PRA/822000/M Magnetic piston, double acting – Ø 32 … 100 mm

- Cylinder and mounting conform to ISO 15552
- Reed or solid state switches can be mounted flush with the profile barrel
- Alternative air ports as standard
- Wide range of cylinder variants

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
Double acting, magnetic piston, adjustable cushioning

Standard:
Based on ISO 15552
(length, mounting pitch and thread dimensions according to ISO 15552. Some outside dimensions different to ISO 15552)

Ambient temperature:
-20°C … +80°C max.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Profile barrel:
Anodised aluminium

End covers:
Pressure diecast anodised aluminium

Piston rod:
Stainless steel

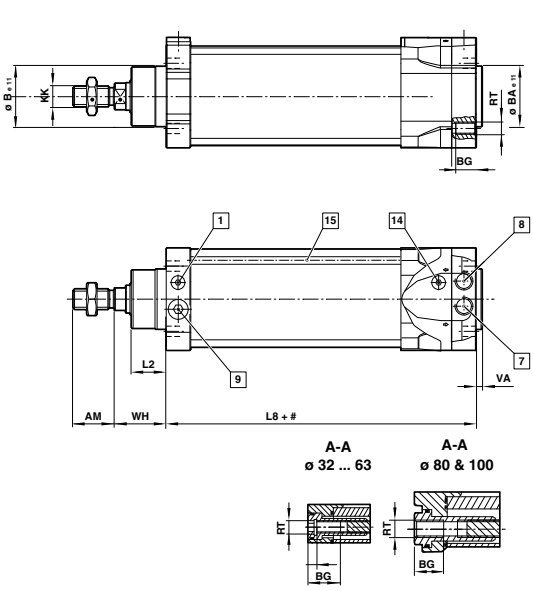
Piston rod seals:
PUR

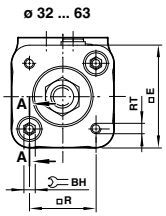
Piston seals:
PUR

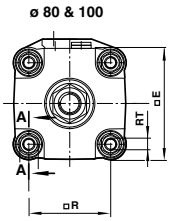
O-rings:
NBR



Dimensions







Stroke
1 Cushion adjustment front end cover
7 Air supply, cylinder instroke
8 Air supply, cylinder outstroke
9 Alternative air supply, cylinder instroke
14 Cushion adjustment rear end cover
15 M/50 switches can be mounted flush with the profile
Attention: Reed switches for Ø 40 … 100 mm useable only

Cyl Ø	AM	Ø B_{e11} / Ø BA_{e11}	BG	□ E	KK	L2	L8	□ R	RT	VA
32	22	30	16	53	M10x1,25	20	94	32,5	M 6	3
40	24	35	16	60	M12x1,25	21	105	38	M 6	3,5
50	32	40	16	71,5	M16x1,5	28	106	46,5	M 8	3,5
63	32	45	16	82	M16x1,5	28	121	56,5	M 8	4
80	40	45	17	99	M20x1,5	35	128	72	M 10	4
100	40	55	17	119	M20x1,5	38	138	89	M 10	4

Models

Accessories

Model	Dia. Ø	Port size	Piston rod Ø	Reed switch with integral 5 m cable	Banjo flow control	Straight fitting	Elbow fitting	Service kit
								
PRA/822032/M/***	32	G1/8	12	M/50/LSU/5V	C0K510618	C02250618	C02470618	PRQA/822032/00
PRA/822040/M/***	40	G1/8	16	M/50/LSU/5V	C0K510618	C02250618	C02470618	PRQA/822040/00
PRA/822050/M/***	50	G1/8	20	M/50/LSU/5V	C0K510618	C02250618	C02470618	PRQA/822050/00
PRA/822063/M/***	63	G1/4	20	M/50/LSU/5V	C0K510628	C02250628	C02470628	PRQA/822063/00
PRA/822080/M/***	80	G1/4	25	M/50/LSU/5V	C0K510628	C02250628	C02470628	PRQA/822080/00
PRA/822100/M/***	100	G3/8	25	M/50/LSU/5V	C0K510838	C02250838	C02470838	PRQA/822100/00

*** Insert stroke length in mm.
Other stroke lengths available up to 2,000mm maximum, please contact us.
For information on additional magnetic switches see pages 124 - 128.

For alternative fitting types, shapes or sizes, refer to our fittings section.

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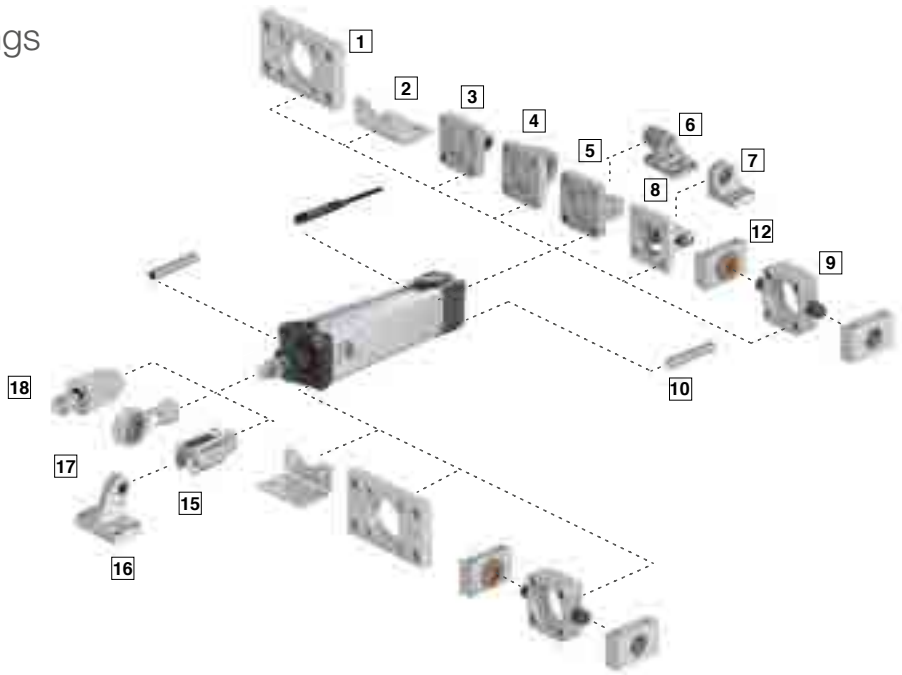
SMOOTH LINE CYLINDER

PRA/822000/M Magnetic piston, double acting – Ø 32 … 100 mm

Standard strokes

Cylinder	Stroke length (mm)										
Ø (mm)	25	50	80	100	125	160	200	250	320	400	500
32	•	•	•	•	•	•	•	•	•	•	•
40	•	•	•	•	•	•	•	•	•	•	•
50	•	•	•	•	•	•	•	•	•	•	•
63	•	•	•	•	•	•	•	•	•	•	•
80	•	•	•	•	•	•	•	•	•	•	•
100	•	•	•	•	•	•	•	•	•	•	•
125	•	•	•	•	•	•	•	•	•	•	•

Mountings



Position	Style	Standard	Corrosion protected
1	B, G	Clear anodised aluminium	Clear anodised aluminium. Screws: A2
2	C	Galvanized steel (Ø 32 … 63 mm) Painted steel (Ø 80 & 100 mm)	–
3	R	Diecast aluminium	Black corrosion protected diecast aluminium Certified for the food industry. Screws: A2
4	UR	Galvanized aluminium Inner ring: steel Outer ring: brass	Black corrosion protected diecast aluminium Certified for the food industry Inner ring: stainless Steel (austenitic) Outer ring: nickel plated hardened steel
5	D	Diecast aluminium Bolt: galvanized steel (martensitic) Circlip: galvanized steel	Black corrosion protected diecast aluminium Certified for the food industry Bolt: X 10 Cr Ni S 18 9 (1.4305, AISI 303) Circlip: Stainless steel (martensitic). Screws: A2
6	SW	Diecast aluminium	Black corrosion protected diecast aluminium Certified for the food industry
7	US	Galvanized aluminium. Inner ring: steel Outer ring: brass	–
8	D2	Painted cast iron. Bolt: stainless steel (martensitic) Circlip: galvanized steel	–
9	FH	Cast iron	–
10	A	Galvanized steel	–
11	Screw	–	–
12	S	Clear anodised aluminium Bearing: brass	–
15	F	Galvanized steel Bolt: galvanized steel Circlip: Galvanized steel	Nickel plated steel Circlip: X 10 Cr Ni S 18 9 (1.4305, AISI 303) Bolt: X 10 Cr Ni S 18 9 (1.4305, AISI 303)
16	SS	Painted cast iron	–
17	UF	Galvanized steel. Inner ring: steel Outer ring: brass	Nickel plated steel. Inner ring: stainless steel (austenitic) Outer ring: nickel plated hardened steel
18	AK	Galvanized steel	–

SMOOTH LINE CYLINDER

PRA/822000/M Magnetic piston, double acting – Ø 32 … 100 mm

Cyl. Ø	A 10	AK 18	B, G 1	C 2	D 5	D2 8	F 15	FH 9
								
32	QM/8032/35	QM/8025/38	QA/8032/22	QA/8032/21	QA/8032/23	QA/8032/42	QM/8025/25	QA/8032/34
40	QM/8032/35	QM/8040/38	QA/8040/22	QA/8040/21	QA/8040/23	QA/8040/42	QM/8040/25	QA/8040/34
50	QM/8050/35	QM/8050/38	QA/8050/22	QA/8050/21	QA/8050/23	QA/8050/42	QM/8050/25	QA/8050/34
63	QM/8050/35	QM/8050/38	QA/8063/22	QA/8063/21	QA/8063/23	QA/8063/42	QM/8050/25	QA/8063/34
80	QM/8080/35	QM/8080/38	QA/8080/22	QA/8080/21	QA/8080/23	QA/8080/42	QM/8080/25	QA/8080/34
100	QM/8080/35	QM/8080/38	QA/8100/22	QA/8100/21	QA/8100/23	QA/8100/42	QM/8080/25	QA/8100/34
Corrosion protected								
32	–	–	PVQA/8032/22	–	PVQA/8032/23	–	PVQM/8025/25	–
40	–	–	PVQA/8040/22	–	PVQA/8040/23	–	PVQM/8040/25	–
50	–	–	PVQA/8050/22	–	PVQA/8050/23	–	PVQM/8050/25	–
63	–	–	PVQA/8063/22	–	PVQA/8063/23	–	PVQM/8050/25	–
80	–	–	PVQA/8080/22	–	PVQA/8080/23	–	PVQM/8080/25	–
100	–	–	PVQA/8100/22	–	PVQA/8100/23	–	PVQM/8080/25	–

Cyl. Ø	R 3	S 12	SS 16	SW 6	UF 17	UR 4	US 7	Assembly kit for four-position cylinder
								
32	QA/8032/27	QA/8032/41	M/P19931	M/P19493	QM/8025/32	QA/8032/33	M/P40310	QM/192032/55
40	QA/8040/27	QA/8040/41	M/P19932	M/P19494	QM/8040/32	QA/8040/33	M/P40311	QM/192040/55
50	QA/8050/27	QA/8040/41	M/P19933	M/P19495	QM/8050/32	QA/8050/33	M/P40312	QM/192050/55
63	QA/8063/27	QA/8063/41	M/P19934	M/P19496	QM/8050/32	QA/8063/33	M/P40313	QM/192063/55
80	QA/8080/27	QA/8063/41	M/P19935	M/P19497	QM/8080/32	QA/8080/33	M/P40314	QM/192080/55
100	QA/8100/27	QA/8100/41	M/P19936	M/P19498	QM/8080/32	QA/8100/33	M/P40315	QM/192100/55
Corrosion protected								
32	PVQA/8032/27	–	–	M/P40459	PVQM/8025/32	PVQA/8032/33	–	–
40	PVQA/8040/27	–	–	M/P40460	PVQM/8040/32	PVQA/8040/33	–	–
50	PVQA/8050/27	–	–	M/P40461	PVQM/8050/32	PVQA/8050/33	–	–
63	PVQA/8063/27	–	–	M/P40462	PVQM/8050/32	PVQA/8063/33	–	–
80	PVQA/8080/27	–	–	M/P40463	PVQM/8080/32	PVQA/8080/33	–	–
100	PVQA/8100/27	–	–	M/P40464	PVQM/8080/32	PVQA/8100/33	–	–

Accessories

Switch mounting bracket *1)



QM/33/822/22

*1) For switches (Ø 8 mm) QM/33, QM/34 or QM/134 only!
Useable for all cylinder Ø.

Options

- High temperature seals
- Hydraulic version
- Hard Chrome Piston Rod
- Stainless steel piston rod - austenitic
- Non magnetic version
- Special wiper seal
- Low friction
- Piston rod bellow
- Without cushions
- Double ended piston rod
- Four position version
- Non rotating piston rod
- Locking unit
- Extended Piston rod
- Guide Blocks
- Heavy Duty Guide Blocks
- Atex versions:
  II 2 GD C T4 120°C / II 3 GD C T4 120°C (Piston rod bellow)

CLEAN LINE CYLINDER

PRA/842000/M Magnetic piston, double acting – Ø 32 … 100 mm

- Cylinder and mounting conform to ISO 15552
- Smooth and spherical Corrosion resitant design conforms to EN 1672-2, accepted in the food industry
- Adjustable integrated end position sensing option
- Alternative air ports as standard

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Standard:
Based on ISO 15552
(length, mounting pitch and thread dimensions according to ISO 15552. Some outside dimensions different to ISO 15552)

Operating pressure:
1 … 10 bar

Ambient temperature:
-20°C … +80°C max.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Protection class:
IP67

Materials

Profile barrel:
Anodised aluminium

End covers:
Pressure diecast anodised aluminium

Piston rod:
Stainless steel

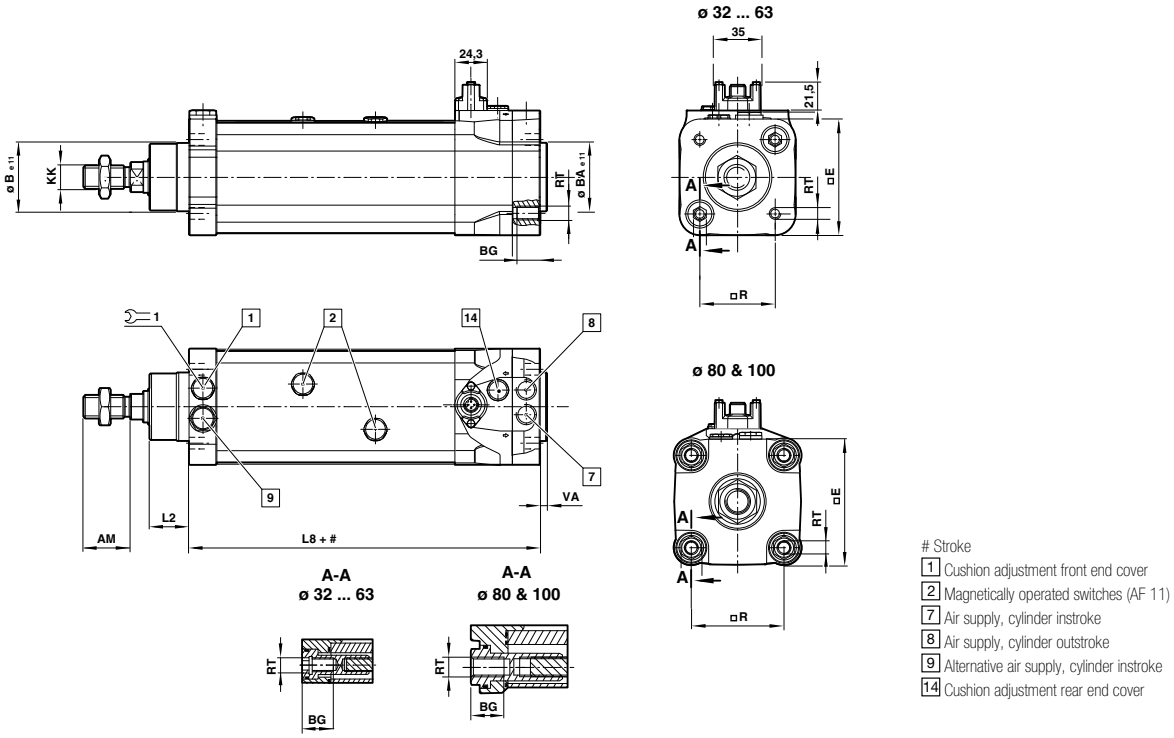
Piston rod seals:
PUR

Piston seals:
PUR

O-rings:
NBR



Dimensions



Cyl Ø	AM	Ø B_{e11} / Ø BA_{e11}	BG	□ E	KK	L2	L8	□ R	RT	VA
32	22	30	16	53	M10x1,25	20	94	32,5	M 6	3
40	24	35	16	60	M12x1,25	21	105	38	M 6	3,5
50	32	40	16	71,5	M16x1,5	28	106	46,5	M 8	3,5
63	32	45	16	82	M16x1,5	28	121	56,5	M 8	4
80	40	45	17	99	M20x1,5	35	128	72	M 10	4
100	40	55	17	119	M20x1,5	38	138	89	M 10	4

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CLEAN LINE CYLINDER

PRA/842000/M Magnetic piston, double acting – Ø 32 … 100 mm

Models

Accessories

Model	Dia. Ø	Port size	Piston rod Ø	Reed switch with integral 2 m cable	Banjo flow control	Straight fitting	Elbow fitting	Service kit
								
PRA/842032/M/***	32	G1/8	12	M/50/LSU/2V	C0K510618	C02250618	C02470618	PRQA/842032/00
PRA/842040/M/***	40	G1/8	16	M/50/LSU/2V	C0K510618	C02250618	C02470618	PRQA/842040/00
PRA/842050/M/***	50	G1/8	20	M/50/LSU/2V	C0K510618	C02250618	C02470618	PRQA/842050/00
PRA/842063/M/***	63	G1/4	20	M/50/LSU/2V	C0K510628	C02250628	C02470628	PRQA/842063/00
PRA/842080/M/***	80	G1/4	25	M/50/LSU/2V	C0K510628	C02250628	C02470628	PRQA/842080/00
PRA/842100/M/***	100	G3/8	25	M/50/LSU/2V	C0K510838	C02250838	C02470838	PRQA/842100/00

Other stroke lengths available up to 2,000 mm maximum, please contact us.
For information on additional magnetic switches see pages 124 - 128.

For alternative fitting types, shapes or sizes, refer to our fittings section.

Standard strokes

Cylinder	Stroke length (mm)										
Ø (mm)	25	50	80	100	125	160	200	250	320	400	500
32	•	•	•	•	•	•	•	•	•	•	•
40	•	•	•	•	•	•	•	•	•	•	•
50	•	•	•	•	•	•	•	•	•	•	•
63	•	•	•	•	•	•	•	•	•	•	•
80	•	•	•	•	•	•	•	•	•	•	•
100	•	•	•	•	•	•	•	•	•	•	•
125	•	•	•	•	•	•	•	•	•	•	•

Options

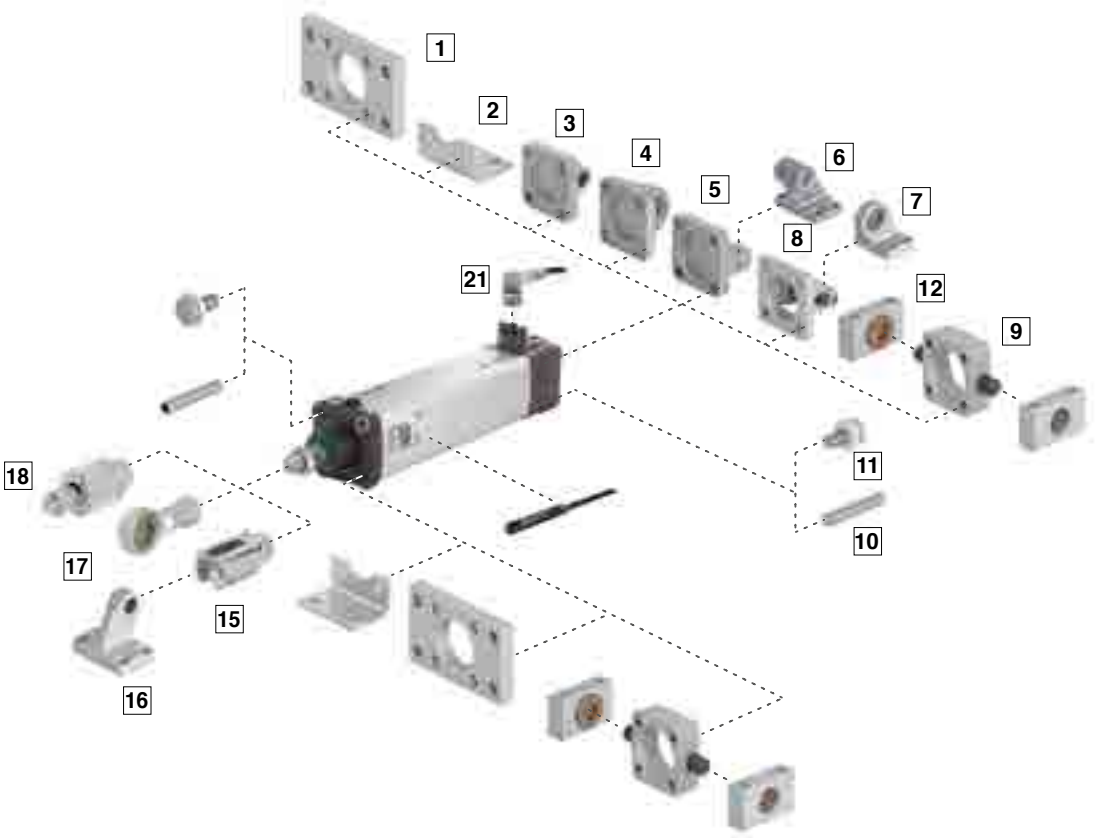
- Hard Chrome Piston Rod
- Stainless steel piston rod - austenitic
- Non magnetic version
- Special wiper seal
- Piston rod bellow
- Double ended piston rod
- Locking unit
- Extended Piston rod
- Atex version

Online at **store.norgren.com**

CLEAN LINE CYLINDER

PRA/842000/M Magnetic piston, double acting – Ø 32 … 100 mm

Mountings



Position	Style	Standard	Corrosion protected	Stainless Steel
1	B, G	Clear anodised aluminium	Clear anodised aluminium. Screws: A2	X 5 Cr Ni 18 10 (1.4301; AISI 304). Screws: A2
2	C	Galvanized steel (Ø 32 … 63 mm) Painted steel (Ø 80 & 100 mm)	–	X 5 Cr Ni 18 10 (1.4301; AISI 304). Screws: A2
3	R	Diecast aluminium	Black corrosion protected diecast aluminium Certified for the food industry. Screws: A2	–
4	UR	Galvanized aluminium Inner ring: steel Outer ring: brass	Black corrosion protected diecast aluminium Certified for the food industry Inner ring: stainless Steel (austenitic) Outer ring: nickel plated hardened steel	–
5	D	Diecast aluminium Bolt: galvanized steel (martensitic) Circlip: galvanized steel	Black corrosion protected diecast aluminium Certified for the food industry Bolt: X 10 Cr Ni S 18 9 (1.4305, AISI 303) Circlip: Stainless steel (martensitic). Screws: A2	X 5 Cr Ni 18 10 (1.4301; AISI 304). Screws: A2 Bolt: X 10 Cr Ni S 18 9 (1.4305; AISI 303)
6	SW	Diecast aluminium	Black corrosion protected diecast aluminium Certified for the food industry	X 6 Cr Ni 18 9 (1.4308; AISI 304)
7	US	Galvanized aluminium. Inner ring: steel Outer ring: brass	–	–
8	D2	Painted cast iron. Bolt: stainless steel (martensitic) Circlip: galvanized steel	–	–
9	FH	Cast iron	–	–
10	A	Galvanized steel	–	–
11	Screw	–	–	X 10 Cr Ni S 18 9 (1.4305, AISI 303)
12	S	Clear anodised aluminium Bearing: brass	–	–
15	F	Galvanized steel Bolt: galvanized steel Circlip: Galvanized steel	Nickel plated steel Circlip: X 10 Cr Ni S 18 9 (1.4305, AISI 303) Bolt: X 10 Cr Ni S 18 9 (1.4305, AISI 303)	X 10 Cr Ni S 18 9 (1.4305; AISI 303) Bolt: X 10 Cr Ni S 18 9 (1.4305; AISI 303) Eyebolt: X 10 Cr Ni S 18 9 (1.4305; AISI 303)
16	SS	Painted cast iron	–	–
17	UF	Galvanized steel. Inner ring: steel Outer ring: brass	Nickel plated steel. Inner ring: stainless steel (austenitic) Outer ring: nickel plated hardened steel	X 10 Cr Ni S 18 9 (1.4305; AISI 303) Inner ring X 105 Cr Co Mo 18-2 (1.4528) Outer ring X 5 Cr Ni 18 10 (1.4301; AISI 304)
18	AK	Galvanized steel	–	–

CLEAN LINE CYLINDER

PRA/842000/M Magnetic piston, double acting – Ø 32 … 100 mm

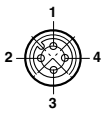
Cyl. Ø	A 10	AK 18	B, G 1	C 2	D 5	D2 8	F 15	FH 9	R 3
									
32	QM/8032/35	QM/8025/38	QA/8032/22	QA/8032/21	QA/8032/23	QA/8032/42	QM/8025/25	QA/8032/34	QA/8032/27
40	QM/8032/35	QM/8040/38	QA/8040/22	QA/8040/21	QA/8040/23	QA/8040/42	QM/8040/25	QA/8040/34	QA/8040/27
50	QM/8050/35	QM/8050/38	QA/8050/22	QA/8050/21	QA/8050/23	QA/8050/42	QM/8050/25	QA/8050/34	QA/8050/27
63	QM/8050/35	QM/8050/38	QA/8063/22	QA/8063/21	QA/8063/23	QA/8063/42	QM/8050/25	QA/8063/34	QA/8063/27
80	QM/8080/35	QM/8080/38	QA/8080/22	QA/8080/21	QA/8080/23	QA/8080/42	QM/8080/25	QA/8080/34	QA/8080/27
100	QM/8080/35	QM/8080/38	QA/8100/22	QA/8100/21	QA/8100/23	QA/8100/42	QM/8080/25	QA/8100/34	QA/8100/27
Corrosion protected									
32	–	–	PVQA/8032/22	–	PVQA/8032/23	–	PVQM/8025/25	–	PVQA/8032/27
40	–	–	PVQA/8040/22	–	PVQA/8040/23	–	PVQM/8040/25	–	PVQA/8040/27
50	–	–	PVQA/8050/22	–	PVQA/8050/23	–	PVQM/8050/25	–	PVQA/8050/27
63	–	–	PVQA/8063/22	–	PVQA/8063/23	–	PVQM/8050/25	–	PVQA/8063/27
80	–	–	PVQA/8080/22	–	PVQA/8080/23	–	PVQM/8080/25	–	PVQA/8080/27
100	–	–	PVQA/8100/22	–	PVQA/8100/23	–	PVQM/8080/25	–	PVQA/8100/27
Stainless steel									
32	–	–	KQA/8032/22	KQA/8032/21	KQA/8032/23	–	KQM/55433/25	–	–
40	–	–	KQA/8040/22	KQA/8040/21	KQA/8040/23	–	KQM/55441/25	–	–
50	–	–	KQA/8050/22	KQA/8050/21	KQA/8050/23	–	KQM/55451/25	–	–
63	–	–	KQA/8063/22	KQA/8063/21	KQA/8063/23	–	KQM/55451/25	–	–
80	–	–	KQA/8080/22	KQA/8080/21	KQA/8080/23	–	KQA/8080/25	–	–
100	–	–	KQA/8100/22	KQA/8100/21	KQA/8100/23	–	KQA/8080/25	–	–

Cyl. Ø	S 12	SS 16	SW 6	UF 17	UR 4	US 7	Cover screws 11
							
32	QA/8032/41	M/P19931	M/P19493	QM/8025/32	QA/8032/33	M/P40310	–
40	QA/8040/41	M/P19932	M/P19494	QM/8040/32	QA/8040/33	M/P40311	–
50	QA/8040/41	M/P19933	M/P19495	QM/8050/32	QA/8050/33	M/P40312	–
63	QA/8063/41	M/P19934	M/P19496	QM/8050/32	QA/8063/33	M/P40313	–
80	QA/8063/41	M/P19935	M/P19497	QM/8080/32	QA/8080/33	M/P40314	–
100	QA/8100/41	M/P19936	M/P19498	QM/8080/32	QA/8100/33	M/P40315	–
Corrosion protected							
32	–	–	M/P40459	PVQM/8025/32	PVQA/8032/33	–	–
40	–	–	M/P40460	PVQM/8040/32	PVQA/8040/33	–	–
50	–	–	M/P40461	PVQM/8050/32	PVQA/8050/33	–	–
63	–	–	M/P40462	PVQM/8050/32	PVQA/8063/33	–	–
80	–	–	M/P40463	PVQM/8080/32	PVQA/8080/33	–	–
100	–	–	M/P40464	PVQM/8080/32	PVQA/8100/33	–	–
Stainless steel							
32	–	–	M/P72288	KQM/8032/32	–	–	PVQA/882032/88
40	–	–	M/P72289	KQM/8040/32	–	–	PVQA/882032/88
50	–	–	M/P72290	KQM/8050/32	–	–	PVQA/882050/88
63	–	–	M/P72291	KQM/8050/32	–	–	PVQA/882050/88
80	–	–	M/P72292	KQM/8080/32	–	–	PVQA/882080/88
100	–	–	M/P72293	KQM/8080/32	–	–	PVQA/882080/88

M12 cables

Cable length (m)	Plug with moulded cable IP 67 21
	
2	M/P73525/2
5	M/P73525/5
10	M/P73525/10

Wiring diagram for M12 male connector



Pin	Features	Colour
1	10 … 30 V d.c.	Brown
2	Signal (outstroke)	White
3	Not used	Blue
4	Signal (instroke)	Black

Online at store.norgren.com

ISO/VDMA CYLINDERS

RA/28000/M, RA/28100/M & RA/28300/M Single acting – Ø 32 … 100 mm

- Conforms to ISO 15552, ISO 6431, VDMA 24562 and NFE 49-003-1
- Low friction levels and long life expectancy
- Large range of standard mountings

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
Single acting
RA/28000/M: Sprung in, magnetic piston and adjustable cushioning
RA/28300/M: Sprung out, magnetic piston and adjustable cushioning

Operating pressure:
2 … 10 bar

Ambient temperature:
-20°C … +80°C max.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Barrel:
Anodised aluminium

End covers:
Pressure diecast aluminium

Piston rod:
Stainless steel (martensitic)

Piston rod seals:
PUR

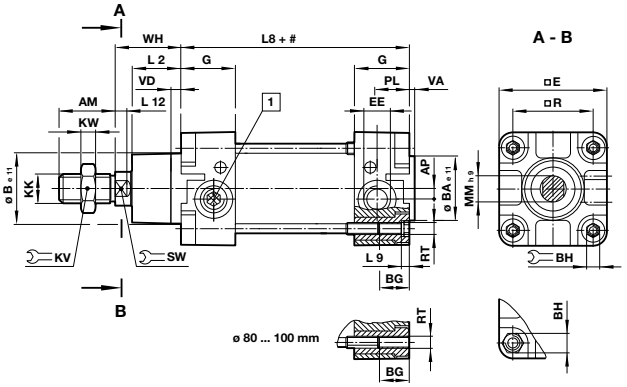
Piston seals:
PUR

O-rings:
NBR

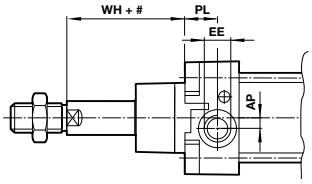


Dimensions

RA/28000/M
Standard cylinder
Sprung in



RA/28300/M
Standard cylinder
Sprung out



Stroke

Model Magnetic piston	Ø	AM	Ø B_{e11} / Ø BA_{e11}	BG	□E	EE	G	KK	L2	L8	Ø MM_{h9}	PL	□R	RT	SW	VA	WH
RA/28#32/M/*	32	22	30	16	47	G1/8	27,5	M10x1,25	20	94	12	13	32,5	M 6	10	3	26
RA/28#40/M/*	40	24	35	16	53	G1/4	32	M12x1,25	22	105	16	15	38	M 6	13	3,5	30
RA/28#50/M/*	50	32	40	16	65	G1/4	31	M16x1,5	27	106	20	18,5	46,5	M 8	17	3,5	37
RA/28#63/M/*	63	32	45	16	75	G3/8	33	M16x1,5	29	121	20	19	56,5	M 8	17	4	37
RA/28#80/M/*	80	40	45	17	95	G3/8	33	M20x1,5	33	128	25	19	72	M 10	22	4	46
RA/28100/M/* or RA/28310/M/*	100	40	55	17	115	G1/2	37	M20x1,5	36	138	25	18	89	M 10	22	4	51

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Models

Accessories

Sprung in Model	Sprung out Model	Dia. Ø	Port size	Piston rod Ø	Reed switch with integral 5 m cable	Straight fitting	Elbow fitting	Service kit
								
RA/28032/M/***	RA/28332/M/***	32	G1/8	12	M/50/LSU/5V	C02250618	C02470618	QA/8032/00
RA/28040/M/***	RA/28340/M/***	40	G1/4	16	M/50/LSU/5V	C02250628	C02470628	QA/8040/00
RA/28050/M/***	RA/28350/M/***	50	G1/4	20	M/50/LSU/5V	C02250628	C02470628	QA/8050/00
RA/28063/M/***	RA/28363/M/***	63	G3/8	20	M/50/LSU/5V	C02250638	C02470638	QA/8063/00
RA/28080/M/***	RA/28380/M/***	80	G3/8	25	M/50/LSU/5V	C02250638	C02470638	QA/8080/00
RA/28100/M/***	RA/28310/M/***	100	G1/2	25	M/50/LSU/5V	C02250648	C02470648	QA/8100/00

*** Insert stroke length in mm.
Other stroke lengths available up to 500 mm maximum, please contact us.
For information on additional magnetic switches see pages 124 - 128.
For mountings, refer to double acting version shown on page 70.

For alternative fitting types, shapes or sizes, refer to our fittings section.

Standard strokes

Cylinder Ø (mm)	Stroke length (mm) 25	50	80	100
32	•	•	•	•
40	•	•	•	•
50	•	•	•	•
63	•	•	•	•
80	•	•	•	•
100	•	•	•	•

Options

- Non-magnetic
- Non-rotating piston rod
- Special Wiper Seals
- Hard Chrome Piston Rod
- Stainless Steel - austenitic piston rod

Online at store.norgren.com

ISO/VDMA CYLINDERS

RA/8000/M Double acting – Ø 32 … 320 mm

- Conforms to ISO 15552, ISO 6431, VDMA 24562 and NFE 49-003-1
- Capable of working up to 16 bar of pressure as standard
- Wide range of standard bore and stroke combinations available
- Switches mounted via bracket

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
Double acting, magnetic piston, adjustable cushioning

Operating pressure:
Ø 32 … 200 mm: 1 … 16 bar
Ø 250 & 320 mm: 1 … 10 bar

Ambient temperature:
-20°C … +80°C max.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Barrel:
Anodised aluminium

End covers:
Pressure diecast aluminium (Ø 200 … 320 mm gravity cast aluminium)

Piston rod seals:
PUR (Ø 125 … 320 mm NBR)

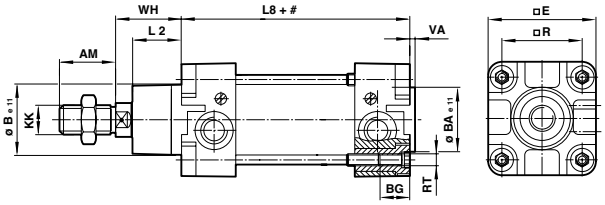
Piston seals:
PUR (Ø 125 … 320 mm NBR)

O-rings:
NBR

EXPRESS



Dimensions



Stroke

Dia. Ø	AM	Ø BA/B$_{e11}$	BG	□ E	KK	L2	L8	□ R	RT	VA	WH
32	22	30	18	47	M10x1,25	20	94	32,5	M 6	3	26
40	24	35	18	53	M12x1,25	22	105	38	M 6	3,5	30
50	32	40	18	65	M16x1,5	27	106	46,5	M 8	3,5	37
63	32	45	17,5	75	M16x1,5	29	121	56,5	M 8	4	37
80	40	45	21,5	95	M20x1,5	33	128	72	M 10	4	46
100	40	55	21,5	115	M20x1,5	36	138	89	M 10	4	51
125	54	60	30	140	M27x2	45	160	110	M12	6	65
160	72	65	28,5	183,5	M36x2	58	180	140	M16	4	80
200	72	75	28,5	224	M36x2	67	180	175	M16	5	95
250	84	90	35	280	M42x2	80	200	220	M20	7	105
320	96	110	30	350	M48x2	90	220	270	M24	7	120

Models

Accessories

Sprung in Model	Dia. Ø	Port size	Piston rod Ø	Reed switch with integral 5 m cable	Switch mounting	Banjo flow control	Straight fitting	Elbow fitting	Service kit
									
RA/8032/M/***	32	G1/8	12	M/50/LSU/5V	QM/27/2/1	C0K510618	C02250618	C02470618	QA/8032/00
RA/8040/M/***	40	G1/4	16	M/50/LSU/5V	QM/27/2/1	C0K510628	C02250628	C02470628	QA/8040/00
RA/8050/M/***	50	G1/4	20	M/50/LSU/5V	QM/27/2/1	C0K510828	C02250828	C02470828	QA/8050/00
RA/8063/M/***	63	G3/8	20	M/50/LSU/5V	QM/27/2/1	C0K510838	C02250838	C02470838	QA/8063/00
RA/8080/M/***	80	G3/8	25	M/50/LSU/5V	QM/27/2/1	C0K511038	C02251038	C02471038	QA/8080/00
RA/8100/M/***	100	G1/2	25	M/50/LSU/5V	QM/27/2/1	C0K511248	C02251248	C02471248	QA/8100/00
RA/8125/M/***	125	G1/2	32	M/50/LSU/5V	QM/27/2/1	C0K511248	C02251248	C02471248	QA/8125/00
RA/8160/M/***	160	G3/4	40	M/50/LSU/5V	QM/27/2/1	M/840 (Inline)	–	–	QA/8160/00
RA/8200/M/***	200	G3/4	40	M/50/LSU/5V	QM/27/2/1	M/840 (Inline)	–	–	QA/8200/00
RA/8250/M/***	250	G1	50	QM/32/5	QM/31/250/22	M/855 (Inline)	–	–	QA/8250/00
RA/8320/M/***	320	G1	63	QM/32/5	QM/31/320/22	M/855 (Inline)	–	–	QA/8320/00

*** Insert stroke length in mm.
Other stroke lengths available up to 3,000 mm maximum, please contact us.
For information on alternative magnetic switches see pages 124 - 128.

For alternative fitting types, shapes or sizes, refer to our fittings section.

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Standard strokes

Cylinder	Stroke length (mm)										
Ø (mm)	25	50	80	100	125	160	200	250	320	400	500
32	•	•	•	•	•	•	•	•	•	•	•
40	•	•	•	•	•	•	•	•	•	•	•
50	•	•	•	•	•	•	•	•	•	•	•
63	•	•	•	•	•	•	•	•	•	•	•
80	•	•	•	•	•	•	•	•	•	•	•
100	•	•	•	•	•	•	•	•	•	•	•
125	•	•	•	•	•	•	•	•	•	•	•
160	•	•	•	•	•	•	•	•	•	•	•
200	•	•	•	•	•	•	•	•	•	•	•
250	•	•	•	•	•	•	•	•	•	•	•
320	•	•	•	•	•	•	•	•	•	•	•

Options

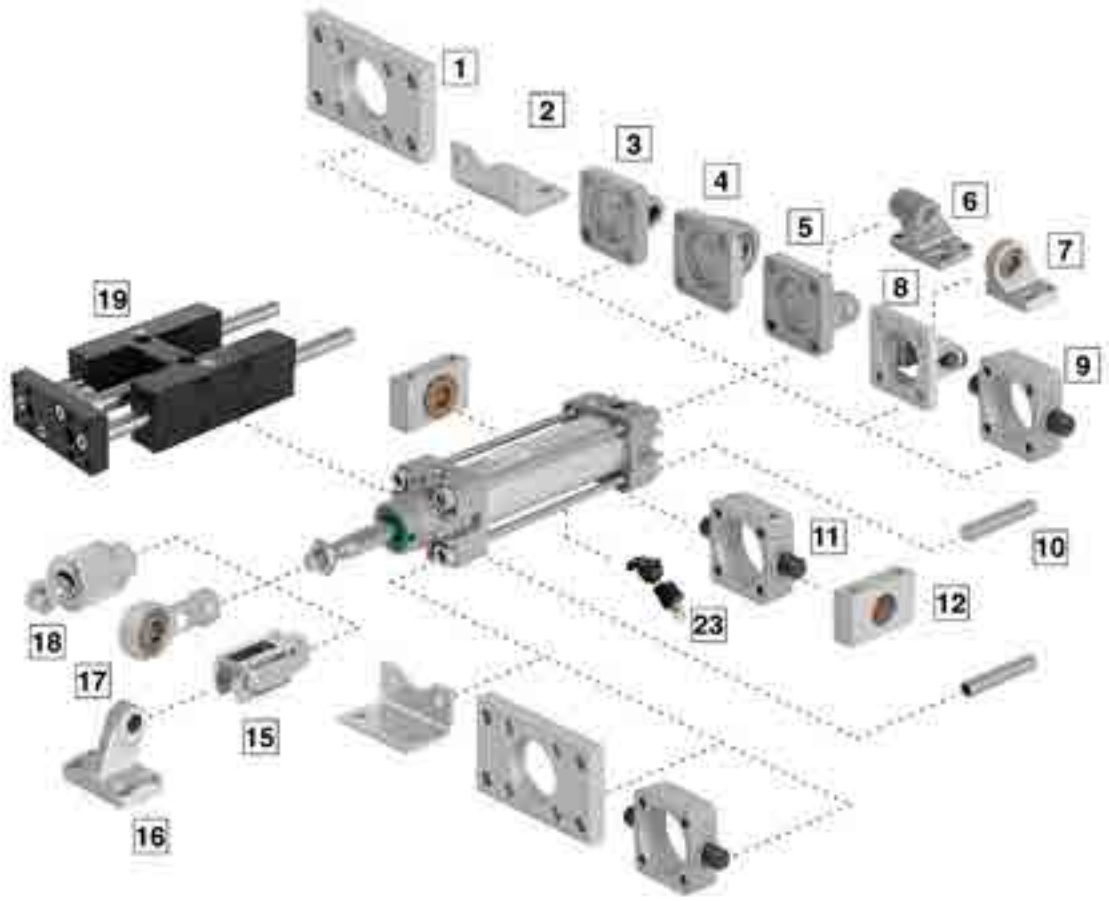
- High temperature seals
- Hydraulic version
- Hard Chrome Piston Rod
- Stainless steel piston rod - austenitic
- Non magnetic version
- Special wiper seal
- Low friction
- Piston rod bellow
- Without cushions
- Double ended piston rod
- Four position version
- Non rotating piston rod
- Locking unit
- Extended Piston rod
- Guide Blocks
- Heavy Duty Guide Blocks
- Atex versions:
  II 2 GD C T4 120°C / II 3 GD C T4 120°C (Piston rod bellow)

Online at **store.norgren.com**

MOUNTINGS FOR ISO/VDMA TIE ROD CYLINDERS

RA/28000/M, RA/28100/M & RA/28300/M, RA/8000/M Single and double acting

■ Single Acting
■ Double Acting



Cyl. Ø	A 10	AK 18	B, G 1	C 2	D 5	D2 8	F 15	FH 9	H 11
									
32	QM/8032/35	QM/8025/38	QA/8032/22	QA/8032/21	QA/8032/23	QA/8032/42	QM/8025/25	QA/8032/34	QA/8032/28
40	QM/8032/35	QM/8040/38	QA/8040/22	QA/8040/21	QA/8040/23	QA/8040/42	QM/8040/25	QA/8040/34	QA/8040/28
50	QM/8050/35	QM/8050/38	QA/8050/22	QA/8050/21	QA/8050/23	QA/8050/42	QM/8050/25	QA/8050/34	QA/8050/28
63	QM/8050/35	QM/8050/38	QA/8063/22	QA/8063/21	QA/8063/23	QA/8063/42	QM/8050/25	QA/8063/34	QA/8063/28
80	QM/8080/35	QM/8080/38	QA/8080/22	QA/8080/21	QA/8080/23	QA/8080/42	QM/8080/25	QA/8080/34	QA/8080/28
100	QM/8080/35	QM/8080/38	QA/8100/22	QA/8100/21	QA/8100/23	QA/8100/42	QM/8080/25	QA/8100/34	QA/8100/28
125	QM/8125/35	QM/8125/38	QM/8125/22	QM/8125/21	QM/8125/23	QA/8125/42	QM/8125/25	QA/8125/34	QM/8125/28
160	QM/8160/35	QM/8160/38	QM/8160/22	QM/8160/21	QM/8160/23	QA/8160/42	QM/8160/25	–	QM/8160/28
200	QM/8160/35	QM/8160/38	QM/8200/22	QM/8200/21	QM/8200/23	QA/8200/42	QM/8160/25	–	QM/8200/28
250	QM/8250/35	–	QM/8250/22	QM/8250/21	QM/8250/23	–	QM/8250/25	–	QM/8250/28
320	QM/8320/35	–	QM/8320/22	QM/8320/21	QM/8320/23	–	QM/8320/25	–	QM/8320/28

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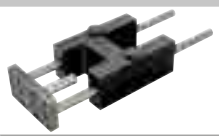
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MOUNTINGS FOR ISO/VDMA TIE ROD CYLINDERS

RA/28000/M, RA/28100/M & RA/28300/M, RA/8000/M Single and double acting

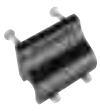
Cyl. Ø	R 3	S 12	SS 16	SW 6	UF 17	UH 11	UR 4	US 7
								
32	QA/8032/27	QA/8032/41	M/P19931	M/P19493	QM/8025/32	PQA/182032/40	QA/8032/33	M/P40310
40	QA/8040/27	QA/8040/41	M/P19932	M/P19494	QM/8040/32	PQA/182040/40	QA/8040/33	M/P40311
50	QA/8050/27	QA/8040/41	M/P19933	M/P19495	QM/8050/32	PQA/182050/40	QA/8050/33	M/P40312
63	QA/8063/27	QA/8063/41	M/P19934	M/P19496	QM/8050/32	PQA/182063/40	QA/8063/33	M/P40313
80	QA/8080/27	QA/8063/41	M/P19935	M/P19497	QM/8080/32	PQA/182080/40	QA/8080/33	M/P40314
100	QA/8100/27	QA/8100/41	M/P19936	M/P19498	QM/8080/32	PQA/182100/40	QA/8100/33	M/P40315
125	QM/8125/27	QA/8100/41	M/P19937	M/P19499	QM/8125/32	PQA/182125/40	QM/8125/33	M/P71355
160	QM/8160/27	QA/8160/41	M/P19938	M/P19679	QM/8160/32	QM/8160/40	QM/8160/33	M/P71356
200	QM/8200/27	QA/8160/41	M/P19939	M/P19683	QM/8160/32	QM/8200/40	QM/8200/33	M/P71357
250	–	–	–	M/P19446	QM/8250/32	–	QM/8250/33	–
320	–	–	–	M/P19447	QM/8320/32	–	QM/8320/33	–

Guide blocks

Cyl. Ø	Guide blocks - plain bearings 19	Guide blocks - roller bearings 19	Guide blocks - plain bearings, long coupling 19	Guide blocks - plain bearings, short coupling 19
				
32	QA/8032/51/*	QA/8032/61/*	QA/8032/81/*	QA/8032/85/*
40	QA/8040/51/*	QA/8040/61/*	QA/8040/81/*	QA/8040/85/*
50	QA/8050/51/*	QA/8050/61/*	QA/8050/81/*	QA/8050/85/*
63	QA/8063/51/*	QA/8063/61/*	QA/8063/81/*	QA/8063/85/*
80	QA/8080/51/*	QA/8080/61/*	QA/8080/81/*	QA/8080/85/*
100	QA/8100/51/*	QA/8100/61/*	QA/8100/81/*	QA/8100/85/*

* Insert standard stroke length: 50, 100, 160, 200, 250, 320, 400 and 500 mm, use nearest standard stroke.

Accessories - Magnetically operated switches

Cyl. Ø	Switch mounting brackets for M/50 23	Switch mounting brackets for TQM/31, QM/32, QM/132	Switch mounting brackets for QM/140
			
32	QM/27/2/1	QM/31/032/22	QM/140/010/22
40	QM/27/2/1	QM/31/032/22	QM/1w40/010/22
50	QM/27/2/1	QM/31/032/22	QM/140/010/22
63	QM/27/2/1	QM/31/032/22	QM/140/010/22
80	QM/27/2/1	QM/31/080/22	QM/140/010/22
100	QM/27/2/1	QM/31/080/22	QM/140/010/22
125	QM/27/2/1	QM/31/080/22	–
160	QM/27/2/1	QM/31/160/22	–
200	QM/27/2/1	QM/31/160/22	–
250	–	QM/31/250/22	–
320	–	QM/31/320/22	–

CYLINDERS WITH PISTON ROD LOCKING UNITS

RA/8000/L4 & PRA/182000/L4 Double acting – Ø 32 … 125 mm

- Conforms to ISO 15552, ISO 6431, VDMA 24562 and NFE 49-003-1
- Secure locking of piston rod in any position
- Locks when air is removed
- Compact, maintenance-free design

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
Passive model – pressure applied to release

Operating pressure:
4,5 … 10 bar

Ambient temperature:
-20°C … +80°C max.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Please note: for all new applications, actuator should be purchased complete with locking unit

Materials

For materials information see RA/8000 and PRA/182000 pages.



Unit shown is fitted to PRA/182000 series. This unit is also available to fit our RA/8000 series – see detail below

Models

Accessories

RA/8000/M	PRA/182000/M	Dia. Ø	Port size	Piston rod Ø	Reed switch with integral 5 m cable*	Banjo flow control	Straight fitting	Elbow fitting
								
RA/8032/L4/*	PRA/182032/L4/*	32	G1/8	12	M/50/LSU/5V	C0K510618	C02250618	C02470618
RA/8040/L4/*	PRA/182040/L4/*	40	G1/4	16	M/50/LSU/5V	C0K510628	C02250628	C02470628
RA/8050/L4/*	PRA/182050/L4/*	50	G1/4	20	M/50/LSU/5V	C0K510828	C02250828	C02470828
RA/8063/L4/*	PRA/182063/L4/*	63	G3/8	20	M/50/LSU/5V	C0K510838	C02250838	C02470838
RA/8080/L4/*	PRA/182080/L4/*	80	G3/8	25	M/50/LSU/5V	C0K511038	C02251038	C02471038
RA/8100/L4/*	PRA/182100/L4/*	100	G1/2	25	M/50/LSU/5V	C0K511248	C02251248	C02471248
RA/8125/L4/*	PRA/182125/L4/*	125	G1/2	32	M/50/LSU/5V	C0K511248	C02251248	C02471248

* Insert stroke length in mm.

For information on alternative magnetic switches see pages 124 - 128.
For alternative fitting types, shapes or sizes, refer to our fittings section.
* When using RA/8000 actuator, switch requires a mounting clip . See page 68 for details.

Standard strokes

Cylinder	Stroke length (mm)										
Ø (mm)	25	50	80	100	125	160	200	250	320	400	500
32	•	•	•	•	•	•	•	•	•	•	•
40	•	•	•	•	•	•	•	•	•	•	•
50	•	•	•	•	•	•	•	•	•	•	•
63	•	•	•	•	•	•	•	•	•	•	•
80	•	•	•	•	•	•	•	•	•	•	•
100	•	•	•	•	•	•	•	•	•	•	•

Replacement parts

Ø	Model	
	Locking unit	Locking cartridge
32	QA/8032/59	QA/8032/63
40	QA/8040/59	QA/8040/63
50	QA/8050/59	QA/8050/63
63	QA/8063/59	QA/8063/63
80	QA/8080/59	QA/8100/63
100	QA/8100/59	QA/8100/63
125	QA/8125/59	–

Locking unit includes cartridge.
For all applications please contact us.

Options

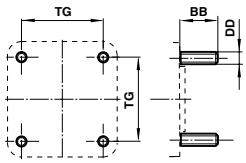
- Non-magnetic version

ISO/VDMA CYLINDER MOUNTINGS

For PRA/181000, .../M; PRA/182000, .../M; PRA/183000, .../M; RA/28000, .../M; RA/28300, .../M; RA/8000, .../M; KA/8000, .../M; RA/191000, .../M; RA/192000, .../M; RA/193000, .../M; PRA/822000/M; PRA/842000/M; PRA/862000/M

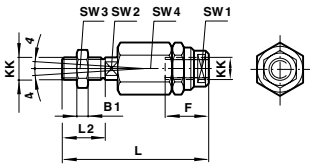
Dimensions

Front or rear stud – A
ISO 6431, ISO 15552 - MX1



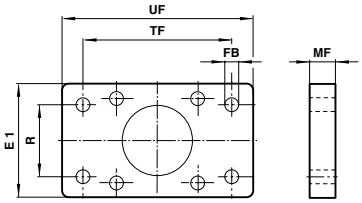
Ø	BB	DD	TG	kg
32	17	M6	32,5	0,02
40	17	M6	38	0,02
50	23	M8	46,5	0,05
63	23	M8	56,5	0,05
80	28	M10	72	0,08
100	28	M10	89	0,08
125	34	M12	110	0,14
160	42	M16	140	0,31
200	42	M16	175	0,31
250	50	M20	220	0,92
320	60	M24	270	1,46

Piston rod swivel – AK



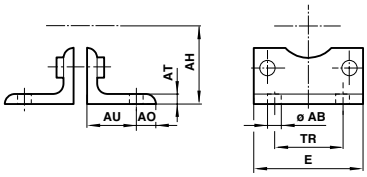
Ø	KK	B1	F	L	L2	SW1	SW2	SW3	SW4	kg
32	M10x1,25	5	26	73	20	19	12	17	30	0,02
40	M12x1,25	6	26	77	24	19	12	19	30	0,02
50/63	M16x1,5	8	34	106	32	30	19	24	42	0,65
80/100	M20x1,5	10	42	122	40	30	19	30	42	0,72
125	M27x2	13,5	40	147	54	40	24	41	55	1,70
160/200	M36x2	18	78	251	72	50	36	55	75	5,40

Rear flange – B
Front flange – G
ISO 6431 and VDMA 24562 Part 2, ISO 15552 - MF1 and MF2



Ø	E1	Ø FB	MF	R	TF	UF	kg
20	36	6,6	10	0	55	70	0,16
25	40	6,6	10	0	60	76	0,20
32	50	7	10	32	64	80	0,25
40	55	9	10	36	72	90	0,35
50	65	9	12	45	90	110	0,70
63	75	9	12	50	110	125	0,80
80	100	12	16	63	126	154	1,35
100	120	14	16	75	150	186	2,20
125	140	16	20	90	180	224	1,70
160	180	18	20	115	230	280	3,10
200	220	22	25	135	270	320	4,60
250	280	26	25	165	330	395	7,40
320	350	33	30	200	400	475	13,6

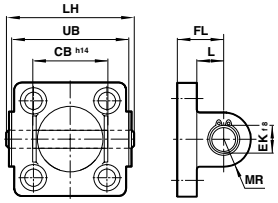
Foot – C
ISO 6431 and VDMA 24562 Part 2, ISO 15552 - MX1



Ø	Ø AB	AH	AO	AT	AU	E	TR	kg
20	6,6	27	6	4	16	36	22	0,03
25	6,6	30	7	4	16	40	26	0,04
32	7	32	8 (11)	4	24	48	32	0,15
40	9	36	9 (12)	4 (5)	28	53	36	0,18
50	9	45	10 (13)	5	32	64	45	0,30
63	9	50	12 (13)	5	32	74	50	0,39
80	12	63	19	5 (6)	41	98	63	0,80
100	14	71	19	5 (6)	41	115	75	0,95
125	16	90	20 (25)	9 (7)	45	140	90	2,40
160	18	115	20	8	60	180	115	3,50
200	22	135	30	9	70	220	135	5,25
250	26	165	35	10	75	280	165	9,50
320	33	200	45	16	85	350	200	22,0

( ) Stainless steel, weight on request.

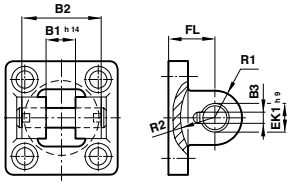
Rear clevis – D
ISO 6431 and VDMA 24562 Part 2, ISO 15552 - MP2



Ø	CB h14	Ø EK f8	FL	L	LH	MR	UB	kg
32	26	10	22	13	52	9	45	0,11
40	28	12	25	16	60	12	52	0,16
50	32	12	27	17	68	12	60	0,22
63	40	16	32	22	79	15	70	0,34
80	50	16	36	22	99	15	90	0,54
100	60	20	41	27	119	20	110	0,90
125	70	25	50	31	139 (140)	25	130	2,70
160	90	30	55	35,5	181	30	170	4,30
200	90	30	60	36	181	30	170	6,10
250	110	40	70	45	218	40	200	1,90
320	120	45	80	50	238	45	220	30,5

( ) Stainless steel, weight on request.

Rear clevis – D2
VDMA 24562 Part 2, ISO 15552 - AB6



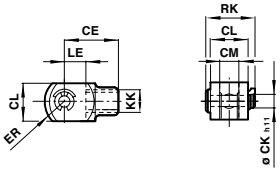
Ø	B1 h14	B2	B3	Ø EK h9	FL	R1	R2	kg
32	14	34	3,3	10	22	11	17	0,20
40	16	40	4,3	12	25	12	20	0,23
50	21	45	4,3	16	27	14,5	22	0,36
63	21	51	4,3	16	32	18	25	0,55
80	25	65	4,3	20	36	22	30	0,90
100	25	75	6,3	20	41	22	32	1,45
125	37	97	6,3	30	50	30	42	2,70
160	43	122	6,3	35	55	36	46	4,30
200	43	122	6,3	35	60	38	49	6,10

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ISO/VDMA CYLINDER MOUNTINGS

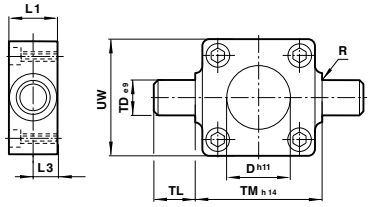
For PRA/181000, .../M; PRA/182000, .../M; PRA/183000, .../M; RA/28000, .../M; RA/28300, .../M; RA/8000, .../M; KA/8000, .../M; RA/191000, .../M; RA/192000, .../M; RA/193000, .../M; PRA/822000/M; PRA/842000/M; PRA/862000/M

Piston rod clevis – F
DIN ISO 8140



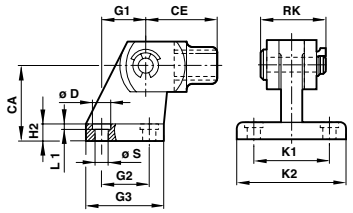
Thread KK	CE	Ø CK h11	CL	CM	ER	LE	RK	kg
M10x1,25	40	10	20	10	16	20	28	0,09
M12x1,25	48	12	24	12	19	24	32	0,13
M16x1,5	64	16	32	16	25	32	41,5	0,33
M20x1,5	80	20	40	20	32	40	50	0,67
M27x2	110	30	55	30	45	54	62	1,35
M36x2	144	35	70	35	57	72	95	3,00
M42x2	168	40	85	40	68	84	106	6,40
M48x2	192	50	96	50	85	96	121	8,70

Front or rear detachable trunnion – FH
VDMA 24562 Part 2 - MT 5/6



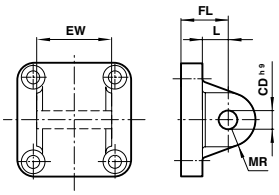
Ø	Ø D h11	L1	L3	R	ØTD e9	TL	TM h14	UW1	kg
32	30	16	8	1	12	12	50	50	0,20
40	35	20	10	1,6	16	16	63	55	0,38
50	40	24	12	1,6	16	16	75	65	0,60
63	45	24	12	1,6	20	20	90	75	1,10
80	45	28	14	1,6	20	20	110	100	1,90
100	55	38	19	2	25	25	132	120	3,50
125	60	50	25	2	25	25	160	145	6,50

Front hinge – M



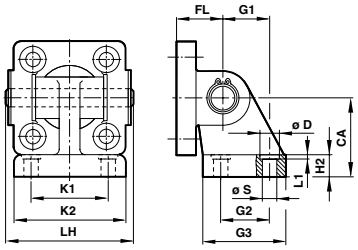
Thread KK	Ø	CA	CE	Ø D	G1	G2	G3	H2	K1	K2	L1	RK	Ø S	kg
M10x1,25	32	32	40	11	21	18	31	8	38	51	1,6	28	6,6	0,24
M12x1,25	40	36	48	11	24	22	35	10	41	54	1,6	32	6,6	0,33
M16x1,5	50	45	64	15	33	30	45	12	50	65	1,6	41,5	9	0,81
M16x1,5	63	50	64	15	37	35	50	12	52	67	1,6	41,5	9	0,83
M20x1,5	80	63	80	18	47	40	60	14	66	86	2,5	50	11	1,42
M20x1,5	100	71	80	18	55	50	70	15	76	96	2,5	50	11	1,87
M27x2	125	90	110	20	70	60	90	20	94	124	3,2	62	14	3,85
M36x2	160	115	144	20	97	88	126	25	118	156	4	95	14	9,00
M36x2	200	135	144	24	105	90	130	30	122	162	4	95	16	10,6

Rear eye – R
ISO 6431 and VDMA 24562 Part 2, ISO 15552 - MP4

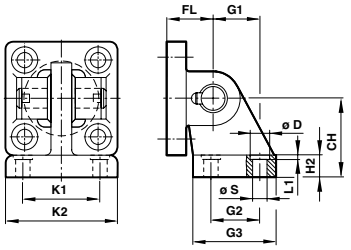


Ø	Ø CD H9	EW	FL	L	MR	kg
20	8	15,8	20	14	8	0,02
25	8	15,8	20	14	8	0,03
32	10	25,8	22	13	9	0,09
40	12	27,8	25	16	12	0,11
50	12	31,7	27	17	12	0,17
63	16	39,7	32	22	15	0,24
80	16	49,7	36	22	15	0,37
100	20	59,7	41	27	20	0,59
125	25	69,7	50	33	25	3,20
160	30	89,7	55	35,5	30	6,10
200	30	89,7	60	37	30	6,80

Rear hinge – L



Rear hinge – UL
VDMA 24562 Part 2



Ø	CA	CH	Ø D	FL	G1	G2	G3	H2	K1	K2	L1	LH	Ø S	L–kg	UL–kg
32	32	32	11	22	21	18	31	8	38	51	1,6	52	6,6	0,16	2,39
40	36	36	11	25	24	22	35	10	41	54	1,6	60	6,6	0,23	0,47
50	45	45	15	27	33	30	45	12	50	65	1,6	68	9	0,36	0,82
63	50	50	15	32	37	35	50	12	52	67	1,6	79	9	0,52	1,14
80	63	63	18	36	47	40	60	14	66	86	2,5	99	11	0,82	1,93
100	71	71	18	41	55	50	70	15	76	96	2,5	119	11	1,32	2,85
125	90	90	20	50	70	60	90	20	94	124	3,2	139	14	5,40	5,80
160	115	115	20	55	97	88	126	25	118	156	4	181	14	10,6	10,7
200	135	135	24	60	105	90	130	30	122	162	4	181	18	14,1	15,2
250*	165	–	33	70	128	110	160	35	150	200	2	218	22	32,4	–
320*	200	–	40	80	150	122	186	40	170	234	2	238	26	52,5	–

( ) Stainless steel, weight on request.

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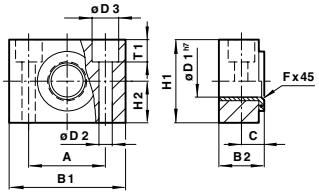
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ISO/VDMA CYLINDER MOUNTINGS

For PRA/181000, .../M; PRA/182000, .../M; PRA/183000, .../M; RA/28000, .../M; RA/28300, .../M; RA/8000, .../M; KA/8000, .../M; RA/191000, .../M; RA/192000, .../M; RA/193000, .../M; PRA/822000/M; PRA/842000/M; PRA/862000/M

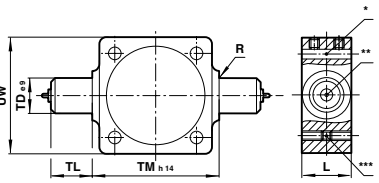
Trunnion support – S
VDMA 24562
Part 2, ISO 15552 - AT4



Ø	A	B1	B2	C	Ø D1 H7	Ø D2	Ø D3	fx45°	H1	H2	T1	kg
32	32	46	18	10,5	12	6,6	11	1	30	15	6,8	0,10
40	36	55	21	12	16	9	15	1,6	36	18	9	0,14
50	36	55	21	12	16	9	15	1,6	36	18	9	0,14
63	42	65	23	13	20	11	18	1,6	40	20	11	0,19
80	42	65	23	13	20	11	18	1,6	40	20	11	0,19
100	50	75	28,5	16	25	14	20	2	50	25	13	0,34
125	50	75	28,5	16	25	14	20	2	50	25	13	0,34
160	60	92	39	21,5	32	18	26	2,5	60	25	15,5	1,90
200	60	92	39	21,5	32	18	26	2,5	60	25	15,5	1,90

For use with mountings style H, FH and UH. Stainless steel, weight on request.

Centre trunnion – H (for tie rod types)
ISO 6431 and VDMA 24562
Part 2, ISO 15552 - MT4



* Type – UH
** Grease nipple up to Ø 125 mm
*** Type – H

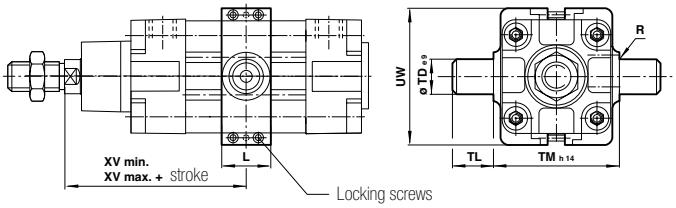
Ø	L	R	Ø TD e9	TL	TM h14	UW	XV min.	XV max.	kg	Torque max. (Nm)
32	20	1	12	12	50	50	66	80	0,16	6
40	24	1,6	16	16	63	58	76	89	0,35	6
50	28	1,6	16	16	75	70	82	98	0,65	10
63	28	1,6	20	20	90	80	88	107	0,85	10
80	28	1,6	20	20	110	100	97	123	1,20	15
100	38	2	25	25	132	126	112	128	2,30	15
125	50	2	25	25	160	152	136	154	3,30	25
160	50	2,5	32	32	200	192	155	185	5,30	40
200	50	2,5	32	32	250	240	170	200	9,40	40
250	60	3,2	40	40	320	318	193	217	18,0	–
320	70	3,2	50	50	400	400	215	245	30,0	–

Note: Style 'H': These mountings are only supplied assembled complete with the cylinder. Unless otherwise specified, units will be supplied with dimension 'XV' plus half the stroke length. 'XV' = Distance from the piston rod shoulder to the centre of the mounting.

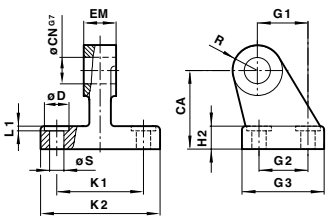
Style 'UH': It is most important that the locking screws which secure the mounting to the tie rod are tightened to the torque figures shown in the table below. For maximum energy input, consult our Technical Service.

Adjustable centre trunnion – UH (for profile types)
ISO 15552 - MT4

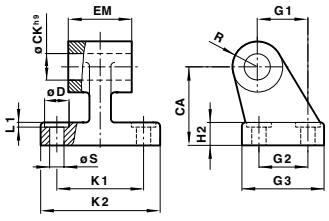
Ø	L	R	Ø TD e9	TL	TM h14	UW	kg	Torque max. (Nm)
32	25	1	12	12	50	58	0,35	2,0
40	28	1,6	16	16	63	65	0,50	3,5
50	28	1,6	16	16	75	80	0,80	3,5
63	36	1,6	20	20	90	96	1,40	5,0
80	36	1,6	20	20	110	116	1,90	6,0
100	48	2	25	25	132	140	2,30	6,0
125	50	2	25	25	160	163	3,30	6,0



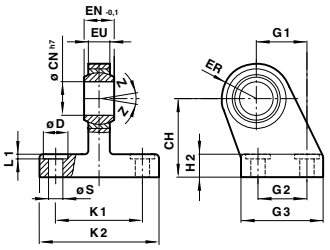
Narrow hinge – SS



Wide hinge – SW
ISO 15552 - AB7



Swivel hinge – US
VDMA 24562 Part 2



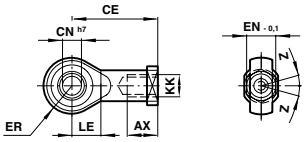
Ø	CA	CH CN h7	Ø CK h9	Ø D	H2	EM	EM1	EN-0,1	ER	EU	G1	G2	G3	H6	K1	K2	L1	R1	Ø S	Z	SW kg	SS kg	US kg
32	32	10	10	11	8	26	10	14	16	10,5	21	18	31	8	38	51	1,6	10	6,6	13°	0,05	0,15	0,19
40	36	12	12	11	10	28	12	16	18	12	24	22	35	10	41	54	1,6	11	6,6	13°	0,07	0,20	0,24
50	45	16	16	15	12	32	16	21	21	15	33	30	45	10	50	65	1,6	13	9	13°	0,14	0,48	0,46
63	50	16	16	15	12	40	16	21	23	15	37	35	50	12	52	67	1,6	15	9	15°	0,18	0,50	0,59
80	63	20	20	18	14	50	20	25	28	18	47	40	60	14	66	86	2,5	15	11	15°	0,28	0,75	1,03
100	71	20	20	18	15	60	20	25	30	18	55	50	70	15	76	96	2,5	19	11	15°	1,42	1,20	1,40
125	90	30	25	20	20	70	30	37	40	25	70	60	90	20	94	124	–	22	14	15°	2,70	2,50	3,10
160	–	–	–	–	–	90	35	43	44	28	97	88	126	25	118	156	4	31	14	15°	6,30	6,00	6,40
200	–	–	–	–	–	90	35	43	47	28	105	90	130	30	122	162	4	31	16	15°	8,00	7,60	9,10
250	–	–	–	–	–	110	–	–	–	–	128	110	160	35	150	200	2	40	22	–	13,4	–	–
320	–	–	–	–	–	120	–	–	–	–	150	122	186	40	170	234	2	45	26	–	22,0	–	–

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ISO/VDMA CYLINDER MOUNTINGS

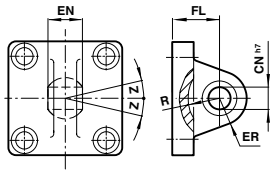
For PRA/181000, .../M; PRA/182000, .../M; PRA/183000, .../M; RA/28000, .../M; RA/28300, .../M; RA/8000, .../M; KA/8000, .../M; RA/191000, .../M; RA/192000, .../M; RA/193000, .../M; PRA/822000/M; PRA/842000/M; PRA/862000/M

Universal piston rod eye – UF
DIN ISO 8139



Thread KK	AX	CE	Ø CN h7	EN -0,1	ER	LE	Z	kg
M10x1,25	20	43	10	14	14	15	13°	0,09
M12x1,25	22	50	12	16	16	17	13°	0,13
M16x1,5	28	64	16	21	21	22	15°	0,33
M20x1,5	33	77	20	25	25	26	15°	0,67
M27x2	51	110	30	37	35	36	15°	1,35
M36x2	56	125	35	43	40	41	16°	3,00
M42x2	60	142	40	49	45	46	17°	6,40
M48x2	65	160	50	60	58	59	12°	8,70

Universal rear eye – UR
ISO 15552 - MP6

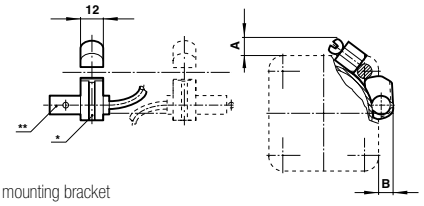


Ø	Ø CN h7	EN	ER	FL	R	Z	kg
32	10	14	16	22	12	13°	0,15
40	12	16	19	25	14	13°	0,25
50	16	21	21	27	19	13°	0,4
63	16	21	24	32	19	15°	0,55
80	20	25	28	36	24	15°	0,9
100	20	25	30	41	24	15°	1,5
125	30	37	40	50	32	15°	2,7
160	35	43	44	55	38	16°	4,6
200	35	43	48	60	40	16°	7,3

QM/27/2/1 – Switch mounting brackets

Ø	A	B	kg
32	9	7	0,01
40	8	8	0,01
50	7	5	0,01
63	7	7	0,01
80	7	4	0,01
100	2	2	0,01
125	-4	-3	0,01
160	-10	-9	0,01
200	-17	-14	0,01

Switches: M/50, QM/34 & QM/134 (Ø 8 mm)

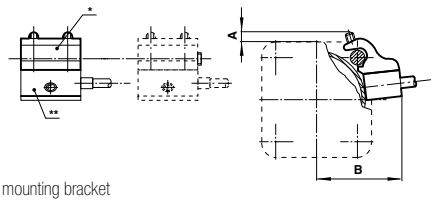


* Switch mounting bracket
** Magnetically operated switch

QM/31/000/22 – Switch mounting brackets

Ø	A	B	kg
32	4,5	38	0,03
40	5,5	43	0,03
50	4,5	48	0,03
63	4,5	53	0,03
80	1,5	61	0,03
100	0,5	68	0,03
125	-1	79	0,03
160	0	91,5	0,03
200	-4	106	0,03
250	-3	138	0,04
320	-21	154	0,08

Switches: QM/31, QM/32 & QM/132

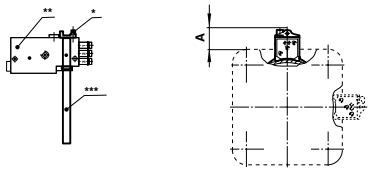


* Switch mounting bracket
** Magnetically operated switch

QM/140/010/22 – Bracket with holding strap

Ø	A	kg
32	31,5	0,02
40	30,5	0,02
50	31,5	0,02
63	29,5	0,02
80	30,5	0,02
100	30	0,02

Switch: QM/140



* Switch mounting bracket
** Pneumatic switch
*** Holding strap

IMI Precision Engineering
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IMI NORGREN



IVAC

Integrated Valve and Actuator Control

PRA/862000 Series & PRA/882000 Series

32 to 100mm bore – up to 1,000mm stroke length.

IMI Precision Engineering has worked closely with customers in key industry sectors to fully understand what improvements they wanted from their pneumatic controls. The response highlighted a widespread need for improved energy efficiency, reduced downtime and greater ease of use.

The IVAC from imi norgren now answers these needs: A family of products incorporating proven technology, IVAC is a light weight, strong, actuator with integrated solenoid valve, cushion and speed control plus position sensors. The ISO/VDMA dimensions mean that it can be used to replace existing traditional systems, or used on new installations. Using IVAC rather than traditional components, energy consumption can be reduced by up to 50%. The unit has been rigorously tested in operational conditions by customers in a wide range of industries.

The unique patented design delivers significant benefits:

- Faster response times
- Fully modular design
- Integrated sensor adjustment
- Life expectancy of over 200 million cycles
- Cleanline body offers simple washdown when used in critical applications
- Integrated pressure protection

Engineering GREAT Solutions

Find out more
www.imi-precision.com

IMI NORGREN

IVAC INDUSTRIAL CYLINDER

PRA/862000/M Double acting – Ø 32 … 100 mm

- Complete functional unit
- Integrated 5/2 or 5/3 valve
- Additional output ports (2 & 4)
- Integrated flow regulator for speed control
- Reed or solid state switches can be mounted flush with the profile barrel
- Protection class IP65
- Energy efficient

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated
Particles size: Class 7, ISO 8573 – 1 (dated 2001) Humidity and water content: Air supply must be dry. Corresponding of the application and working conditions the air must be dry enough to avoid condensate. The pressure dewpoint must be minimum 15° under the application and working conditions.
Oil: Class 4, ISO 8573 – 1 (dated 2001)

Standard:
Based on ISO 15552
(length, mounting pitch and thread dimensions according to ISO 15552. Some outside dimensions different to ISO 15552)

Operation:
Double acting, magnetic piston, adjustable cushioning

Operating pressure:
2 … 8 bar

Ambient temperature:
-5°C … +80°C max.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Supply voltage:
24 V d.c. (±10 %)
(other voltages supply on request)

Power consumption:
2 W max.

Electrical connection:
DIN EN175301-803, form C

Manual override:
Turn and look

Rating:
100 % E.D.

Materials

Profile barrel:
Anodised aluminium

End covers:
Pressure diecast anodised aluminium

Piston rod:
Stainless steel

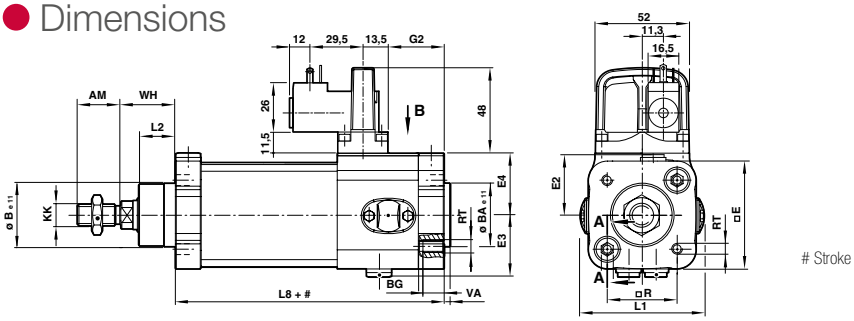
Piston rod seals:
PUR

Piston seals:
PUR

O-rings:
NBR



Dimensions



Stroke

Dia. Ø	AM	Ø B e11	Ø BA e11	BG	□ E	E2	E3	E4	G2	KK	L1	L2	L8	□ R	RT	VA	WH
32	22	30	30	16	53	31	30,5	32	30,5	M10x1,25	68,5	20	94	32,5	M 6	3	26
40	24	35	35	16	60	34,5	34	34	30,5	M12x1,25	68,5	21	105	38	M 6	3,5	30
50	32	40	40	16	71,5	40	39	39	34,5	M16x1,5	92,5	28	106	46,5	M 8	3,5	37
63	32	45	45	16	82	46	45,5	45,5	38	M16x1,5	91,5	28	121	56,5	M 8	4	37
80	40	45	45	17	99	54	54	57	46,5	M20x1,5	110	35	128	72	M 10	4	46
100	40	55	55	17	119	65	65	65	53	M20x1,5	144,5	38	138	89	M 10	4	51

Online at **store.norgren.com**

IVAC INDUSTRIAL CYLINDER

PRA/862000/M Double acting – Ø 32 … 100 mm

Models

Accessories

Model	Dia. Ø	Port size	Piston rod Ø	Valve Function	Actuation	Spool type	Cylinder Function	Switches	Elbow fitting	Silencer
										
PRA/862032/MIR/213A/*	32	G1/8	12	5/2 mono	Sol/Spring	Glandless	instroke	M/50/LSU/5V	C02470618	M/S1
PRA/862032/MIB/213A/*	32	G1/8	12	5/2 bistable	Sol/Sol	Glandless	not defind	M/50/LSU/5V	C02470618	M/S1
PRA/862032/MIA/213A/*	32	G1/8	12	5/3 APB	Sol/Sol	Glandless	not defind	M/50/LSU/5V	C02470618	M/S1
PRA/862040/MIR/213A/*	40	G1/8	16	5/2 mono	Sol/Spring	Glandless	instroke	M/50/LSU/5V	C02470618	M/S1
PRA/862040/MIB/213A/*	40	G1/8	16	5/2 bistable	Sol/Sol	Glandless	not defind	M/50/LSU/5V	C02470618	M/S1
PRA/862040/MIA/213A/*	40	G1/8	16	5/3 APB	Sol/Sol	Glandless	not defind	M/50/LSU/5V	C02470618	M/S1
PRA/862050/MIR/213A/*	50	G1/8	20	5/2 mono	Sol/Spring	Glandless	instroke	M/50/LSU/5V	C02470618	M/S1
PRA/862050/MIB/213A/*	50	G1/8	20	5/2 bistable	Sol/Sol	Glandless	not defind	M/50/LSU/5V	C02470618	M/S1
PRA/862050/MIA/213A/*	50	G1/8	20	5/3 APB	Sol/Sol	Glandless	not defind	M/50/LSU/5V	C02470618	M/S1
PRA/862063/MIR/213A/*	63	G1/4	20	5/2 mono	Sol/Spring	Glandless	instroke	M/50/LSU/5V	C02470828	M/S2
PRA/862063/MIB/213A/*	63	G1/4	20	5/2 bistable	Sol/Sol	Glandless	not defind	M/50/LSU/5V	C02470828	M/S2
PRA/862063/MIA/213A/*	63	G1/4	20	5/3 APB	Sol/Sol	Glandless	not defind	M/50/LSU/5V	C02470828	M/S2
PRA/862080/MIR/213A/*	80	G1/4	25	5/2 mono	Sol/Spring	Glandless	instroke	M/50/LSU/5V	C02471028	M/S2
PRA/862080/MIB/213A/*	80	G1/4	25	5/2 bistable	Sol/Sol	Glandless	not defind	M/50/LSU/5V	C02471028	M/S2
PRA/862080/MIA/213A/*	80	G1/4	25	5/3 APB	Sol/Sol	Glandless	not defind	M/50/LSU/5V	C02471028	M/S2
PRA/862100/MIR/213A/*	100	G3/8	25	5/2 mono	Sol/Spring	Glandless	instroke	M/50/LSU/5V	C02471038	M/S3
PRA/862100/MIB/213A/*	100	G3/8	25	5/2 bistable	Sol/Sol	Glandless	not defind	M/50/LSU/5V	C02471038	M/S3
PRA/862100/MIA/213A/*	100	G3/8	25	5/3 APB	Sol/Sol	Glandless	not defind	M/50/LSU/5V	C02471038	M/S3

* Please insert stroke Length.
Other stroke length available up to 1000 mm maximum, other variants available, please call our Technical Service.
For alternative magnetic switches see pages 124 - 128.
APB= All port are blocked.

For alternative fittings types, shapes or sizes, refer to our fitting section.

Standard strokes

Cylinder	Stroke length (mm)										
Ø (mm)	25	50	80	100	125	160	200	250	320	400	500
32	•	•	•	•	•	•	•	•	•	•	•
40	•	•	•	•	•	•	•	•	•	•	•
50	•	•	•	•	•	•	•	•	•	•	•
63	•	•	•	•	•	•	•	•	•	•	•
80	•	•	•	•	•	•	•	•	•	•	•
100	•	•	•	•	•	•	•	•	•	•	•
125	•	•	•	•	•	•	•	•	•	•	•

Options

- Stainless steel (martensitic)
- Stainless steel (austenitic)
- Hard chromium plated
- Smooth wiper seal
- Piston Rod Bellow
- Extended Piston Rod
- Sol/Spring - cylinder outstroked
- 5/3 valve COE
- ATEX version

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IVAC CLEAN LINE CYLINDER

PRA/882000/M Double acting – Ø 32 … 100 mm

- Complete functional unit with LED display
- Central electrical connector, polarity-safe
- Integrated 5/2 or 5/3 valve
- Additional output ports (2 & 4)
- Integrated flow regulator for speed control
- Integrated reed or solid state switches
- Protection class IP67, suitable for food andbeverage sector
- Energy efficient

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated
Particles size: Class 7, ISO 8573 – 1 (dated 2001)
Humidity and water content: Air supply must be dry.Corresponding of the application and working conditions the air must be dry enough to avoid condensate. The pressure dewpoint must be minimum 15° under the application and working conditions.
Oil: Class 4, ISO 8573 – 1 (dated 2001)

Standard:
Based on ISO 15552
(length, mounting pitch and thread dimensions according to ISO 15552. Some outside dimensions different to ISO 15552)

Operation:
Double acting, magnetic piston, adjustable cushioning

Operating pressure:
2 … 8 bar

Ambient temperature:
-2°C … +70°C max.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Supply voltage:
24 V d.c.

Multipole connection:
M12 x 1 male, 8 pin

Power consumption:
1 W max

Rating:
100 % E.D

Materials

Profile barrel:
Anodised aluminium

End covers:
Pressure diecast anodised aluminium

Piston rod:
Stainless steel

Piston rod seals:
PUR

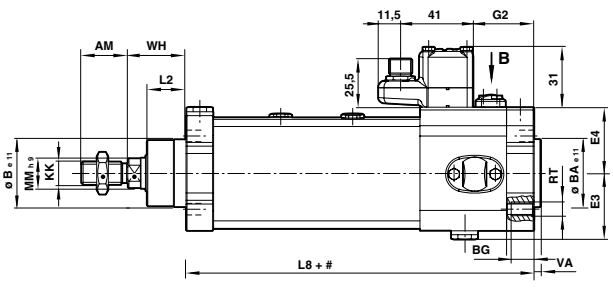
Piston seals:
PUR

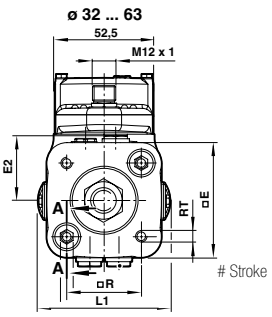
O-rings:
NBR

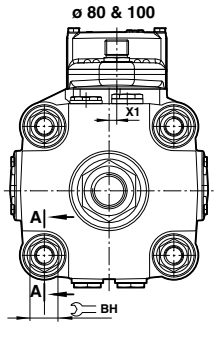
EXPRESS



Dimensions







Dia. Ø	AM	Ø B e11	Ø BA e11	BG	BH	□ E	E2	E3	E4	G2	KK	L1	L2	L8	□ R	RT	VA	WH	X1
32	22	30	30	16	6	53	31	30,5	32	30,5	M10x1,25	68,5	20	94	32,5	M 6	3	26	0
40	24	35	35	16	6	60	34,5	34	34	30,5	M12x1,25	68,5	21	105	38	M 6	3,5	30	0
50	32	40	40	16	8	71,5	40	39	39	34,5	M16x1,5	92,5	28	106	46,5	M 8	3,5	37	1,5
63	32	45	45	16	8	82	46	45,5	45,5	38	M16x1,5	91,5	28	121	56,5	M 8	4	37	0
80	40	45	45	17	16	99	54	54	57	46,5	M20x1,5	110	35	128	72	M 10	4	46	6
100	40	55	55	17	16	119	65	65	65	53	M20x1,5	144,5	38	138	89	M 10	4	51	6,5

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IMI NORGREN

IVAC CLEAN LINE CYLINDER

PRA/882000/M Double acting – Ø 32 … 100 mm

Models

Accessories

Model	Dia. Ø	Port size	Piston rod Ø	Valve Function	Actuation	Spool type	Cylinder Function	Plug with 5m moulded cable	Elbow fitting	Silencer
										
PRA/882032/MIR/M4/*	32	G1/8	12	5/2 mono	Sol/Spring	Glandless	instroke	M/P74582/5	C02470618	M/S1
PRA/882032/MIB/M4/*	32	G1/8	12	5/2 bistable	Sol/Sol	Glandless	not defind	M/P74582/5	C02470618	M/S1
PRA/882032/MIA/M4/*	32	G1/8	12	5/3 APB	Sol/Sol	Glandless	not defind	M/P74582/5	C02470618	M/S1
PRA/882040/MIR/M4/*	40	G1/8	16	5/2 mono	Sol/Spring	Glandless	instroke	M/P74582/5	C02470618	M/S1
PRA/882040/MIB/M4/*	40	G1/8	16	5/2 bistable	Sol/Sol	Glandless	not defind	M/P74582/5	C02470618	M/S1
PRA/882040/MIA/M4/*	40	G1/8	16	5/3 APB	Sol/Sol	Glandless	not defind	M/P74582/5	C02470618	M/S1
PRA/882050/MIR/M4/*	50	G1/8	20	5/2 mono	Sol/Spring	Glandless	instroke	M/P74582/5	C02470618	M/S1
PRA/882050/MIB/M4/*	50	G1/8	20	5/2 bistable	Sol/Sol	Glandless	not defind	M/P74582/5	C02470618	M/S1
PRA/882050/MIA/M4/*	50	G1/8	20	5/3 APB	Sol/Sol	Glandless	not defind	M/P74582/5	C02470618	M/S1
PRA/882063/MIR/M4/*	63	G1/4	20	5/2 mono	Sol/Spring	Glandless	instroke	M/P74582/5	C02470828	M/S2
PRA/882063/MIB/M4/*	63	G1/4	20	5/2 bistable	Sol/Sol	Glandless	not defind	M/P74582/5	C02470828	M/S2
PRA/882063/MIA/M4/*	63	G1/4	20	5/3 APB	Sol/Sol	Glandless	not defind	M/P74582/5	C02470828	M/S2
PRA/882080/MIR/M4/*	80	G1/4	25	5/2 mono	Sol/Spring	Glandless	instroke	M/P74582/5	C02471028	M/S2
PRA/882080/MIB/M4/*	80	G1/4	25	5/2 bistable	Sol/Sol	Glandless	not defind	M/P74582/5	C02471028	M/S2
PRA/882080/MIA/M4/*	80	G1/4	25	5/3 APB	Sol/Sol	Glandless	not defind	M/P74582/5	C02471028	M/S2
PRA/882100/MIR/M4/*	100	G3/8	25	5/2 mono	Sol/Spring	Glandless	instroke	M/P74582/5	C02471038	M/S3
PRA/882100/MIB/M4/*	100	G3/8	25	5/2 bistable	Sol/Sol	Glandless	not defind	M/P74582/5	C02471038	M/S3
PRA/882100/MIA/M4/*	100	G3/8	25	5/3 APB	Sol/Sol	Glandless	not defind	M/P74582/5	C02471038	M/S3

* Please insert stroke Length.
Other stroke length available up to 1000 mm maximum, other variants available, please call our Technical Service.
APB= All port are blocked.

For alternative fittings types, shapes or sizes, refer to our fitting section.

Standard strokes

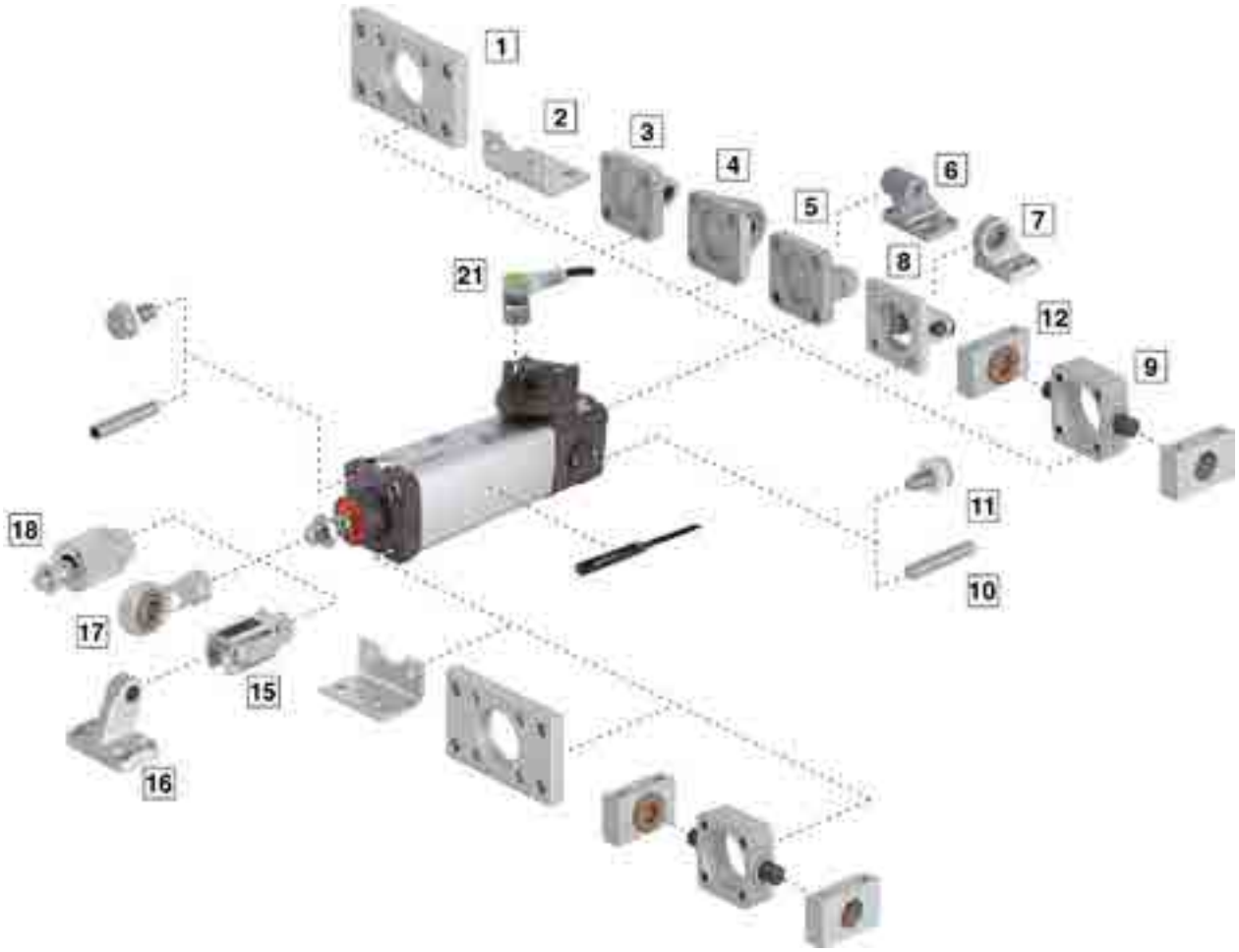
Cylinder	Stroke length (mm)										
Ø (mm)	25	50	80	100	125	160	200	250	320	400	500
32	•	•	•	•	•	•	•	•	•	•	•
40	•	•	•	•	•	•	•	•	•	•	•
50	•	•	•	•	•	•	•	•	•	•	•
63	•	•	•	•	•	•	•	•	•	•	•
80	•	•	•	•	•	•	•	•	•	•	•
100	•	•	•	•	•	•	•	•	•	•	•

Options

- Stainless steel (martensitic)
- Stainless steel (austenitic)
- Hard chromium plated
- Smooth wiper seal
- Piston Rod Bellow
- Extended Piston Rod
- Sol/Spring - cylinder outstroked
- 5/3 valve COE
- ATEX version

IVAC MOUNTINGS

IVAC INDUSTRIAL CYLINDER PRA/862000/M & IVAC CLEAN LINE CYLINDER PRA/882000/M Double acting



Position	Style	Standard	Corrosion protected	Stainless Steel
1	B, G	Clear anodised aluminium	Clear anodised aluminium. Screws: A2	X 5 Cr Ni 18 10 (1.4301; AISI 304). Screws: A2
2	C	Galvanized steel (Ø 32 … 63 mm) Painted steel (Ø 80 & 100 mm)	–	X 5 Cr Ni 18 10 (1.4301; AISI 304). Screws: A2
3	R	Diecast aluminium	Black corrosion protected diecast aluminium. Certified for the food industry. Screws: A2	–
4	UR	Galvanized aluminium Inner ring: steel Outer ring: brass	Black corrosion protected diecast Certified for the food industry Inner ring: stainless Steel (austenitic) Outer ring: nickel plated hardened steel	–
5	D	Diecast aluminium Bolt: galvanized steel Circlip: galvanized steel	Black corrosion protected diecast aluminium Certified for the food industry Bolt: X 10 Cr Ni S 18 9 (1.4305, AISI 303) Circlip: Stainless steel (martensitic). Screws: A2	X 5 Cr Ni 18 10 (1.4301; AISI 304). Screws: A2 Bolt: X 10 Cr Ni S 18 9 (1.4305; AISI 303)
6	SW	Diecast aluminium	Black corrosion protected diecast aluminium Certified for the food industry	X 6 Cr Ni 18 9 (1.4308; AISI 304)
7	US	Galvanized aluminium. Inner ring: steel Outer ring: brass	–	–
8	D2	Painted cast iron. Bolt: stainless steel (martensitic) Circlip: galvanized steel	–	–
9	FH	Cast iron	–	–
10	A	Galvanized steel	–	–
11	Screw	–	–	X 10 Cr Ni S 18 9 (1.4305, AISI 303)
12	S	Clear anodised aluminium Bearing: brass		
15	F	Galvanized steel Bolt: galvanized steel Circlip: Galvanized steel	Nickel plated steel Circlip: X 10 Cr Ni S 18 9 (1.4305, AISI 303) Bolt: X 10 Cr Ni S 18 9 (1.4305, AISI 303)	X 10 Cr Ni S 18 9 (1.4305; AISI 303) Bolt: X 10 Cr Ni S 18 9 (1.4305; AISI 303) Eyebolt: X 10 Cr Ni S 18 9 (1.4305; AISI 303)
16	SS	Painted cast iron	–	–
17	UF	Galvanized steel. Inner ring: steel Outer ring: brass	Nickel plated steel. Inner ring: stainless steel (austenitic) Outer ring: nickel plated hardened steel.	X 10 Cr Ni S 18 9 (1.4305; AISI 303), Inner ring X 105 Cr Co Mo 18-2 (1.4528), Outer ring X 5 Cr Ni 18 10 (1.4301; AISI 304)
18	AK	Galvanized steel	–	–

IVAC MOUNTINGS

IVAC INDUSTRIAL CYLINDER PRA/862000/M & IVAC CLEAN LINE CYLINDER PRA/882000/M Double acting

Cyl. Ø	A 10	AK 18	B, G 1	C 2	D 5	D2 8	F 15	FH 9	R 3
									
32	QM/8032/35	QM/8025/38	QA/8032/22	QA/8032/21	QA/8032/23	QA/8032/42	QM/8025/25	QA/8032/34	QA/8032/27
40	QM/8032/35	QM/8040/38	QA/8040/22	QA/8040/21	QA/8040/23	QA/8040/42	QM/8040/25	QA/8040/34	QA/8040/27
50	QM/8050/35	QM/8050/38	QA/8050/22	QA/8050/21	QA/8050/23	QA/8050/42	QM/8050/25	QA/8050/34	QA/8050/27
63	QM/8050/35	QM/8050/38	QA/8063/22	QA/8063/21	QA/8063/23	QA/8063/42	QM/8050/25	QA/8063/34	QA/8063/27
80	QM/8080/35	QM/8080/38	QA/8080/22	QA/8080/21	QA/8080/23	QA/8080/42	QM/8080/25	QA/8080/34	QA/8080/27
100	QM/8080/35	QM/8080/38	QA/8100/22	QA/8100/21	QA/8100/23	QA/8100/42	QM/8080/25	QA/8100/34	QA/8100/27
Corrosion protected									
32	–	–	PVQA/8032/22	–	PVQA/8032/23	–	PVQM/8025/25	–	PVQA/8032/27
40	–	–	PVQA/8040/22	–	PVQA/8040/23	–	PVQM/8040/25	–	PVQA/8040/27
50	–	–	PVQA/8050/22	–	PVQA/8050/23	–	PVQM/8050/25	–	PVQA/8050/27
63	–	–	PVQA/8063/22	–	PVQA/8063/23	–	PVQM/8050/25	–	PVQA/8063/27
80	–	–	PVQA/8080/22	–	PVQA/8080/23	–	PVQM/8080/25	–	PVQA/8080/27
100	–	–	PVQA/8100/22	–	PVQA/8100/23	–	PVQM/8080/25	–	PVQA/8100/27
Stainless steel									
32	–	–	KQA/8032/22	KQA/8032/21	KQA/8032/23	–	KQM/55433/25	–	–
40	–	–	KQA/8040/22	KQA/8040/21	KQA/8040/23	–	KQM/55441/25	–	–
50	–	–	KQA/8050/22	KQA/8050/21	KQA/8050/23	–	KQM/55451/25	–	–
63	–	–	KQA/8063/22	KQA/8063/21	KQA/8063/23	–	KQM/55451/25	–	–
80	–	–	KQA/8080/22	KQA/8080/21	KQA/8080/23	–	KQA/8080/25	–	–
100	–	–	KQA/8100/22	KQA/8100/21	KQA/8100/23	–	KQA/8080/25	–	–

Cyl. Ø	S 12	SS 16	SW 6	UF 17	UR 4	US 7	Cover screws 11
							
32	QA/8032/41	M/P19931	M/P19493	QM/8025/32	QA/8032/33	M/P40310	
40	QA/8040/41	M/P19932	M/P19494	QM/8040/32	QA/8040/33	M/P40311	
50	QA/8040/41	M/P19933	M/P19495	QM/8050/32	QA/8050/33	M/P40312	
63	QA/8063/41	M/P19934	M/P19496	QM/8050/32	QA/8063/33	M/P40313	
80	QA/8063/41	M/P19935	M/P19497	QM/8080/32	QA/8080/33	M/P40314	
100	QA/8100/41	M/P19936	M/P19498	QM/8080/32	QA/8100/33	M/P40315	
Corrosion protected							
32	–	–	M/P40459	PVQM/8025/32	PVQA/8032/33	–	–
40	–	–	M/P40460	PVQM/8040/32	PVQA/8040/33	–	–
50	–	–	M/P40461	PVQM/8050/32	PVQA/8050/33	–	–
63	–	–	M/P40462	PVQM/8050/32	PVQA/8063/33	–	–
80	–	–	M/P40463	PVQM/8080/32	PVQA/8080/33	–	–
100	–	–	M/P40464	PVQM/8080/32	PVQA/8100/33	–	–
Stainless steel							
32	–	–	M/P72288	KQM/8032/32	–	–	PVQA/882032/88
40	–	–	M/P72289	KQM/8040/32	–	–	PVQA/882032/88
50	–	–	M/P72290	KQM/8050/32	–	–	PVQA/882050/88
63	–	–	M/P72291	KQM/8050/32	–	–	PVQA/882050/88
80	–	–	M/P72292	KQM/8080/32	–	–	PVQA/882080/88
100	–	–	M/P72293	KQM/8080/32	–	–	PVQA/882080/88

TRADITIONAL 'IMPERIAL' CYLINDERS

RM/900 Magnetic & non-magnetic – Ø 1,25 … 14"

- Large range of bore sizes – ideal for a wide variety of industrial applications
- Long established design – proven ruggedness and reliability
- Extensive choice of mountings
- Adjustable cushioning

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
RM/900: double acting, adjustable cushioning and non-magnetic
RM/900/M: double acting, adjustable cushioning and magnetic piston

Operating pressure:
1 … 10 bar

Ambient temperature:
-20°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Barrel:
Anodized aluminium except Ø 14 inch which is steel

End cover:
Diecast aluminium

Bearing housing:
Brass for 1 1/4 inch to 3 inch
(Ø 4 inch to 14 inch aluminium)

Piston:
Aluminium

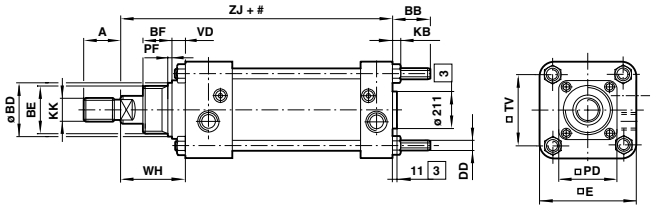
Piston rod & tie rods:
Stainless steel (Martensitic)

Seals:
NBR

O-rings:
NBR



Dimensions



Stroke

Model	Dia. Ø inch	A	BB	Ø BD	BE	BF	DD	□ E	KB	KK	□ PD	PF	TV	VD	WH	ZJ
RM/9125	1 1/4	14,5	22	22	M 22 x 2	19	M 6	45	5	M 10	–	–	30,5	8	37	125,5
RM/9175	1 3/4	19	26,5	27	M 27 x 2	19	M 8	57	6,5	M 12	–	–	43	8	37	132,5
RM/920	2	24	25	34	M 33 x 2	20	M 8	63,5	6,5	M 16	–	3	47,5	9,5	46	137
RM/925	2 1/2	33,5	25	40	M 39 x 2	25,5	M 8	74,5	6,5	M 22	–	3	55,5	8	53	152,5
RM/930	3	33,5	33	40	M 39 x 2	25,5	M 10	91	8	M 22	59	3	66,5	13	56,5	179,5
RM/940	4	38	32	–	Ø 43	–	M 10	114	8	M 24	63,5	–	89	13	64	187,5
RM/950	5	47,5	48	–	Ø 58,5	–	M 12	140	10	M 30	82,5	–	108	18	83	228,5
RM/960	6	47,5	49,5	–	Ø 58,5	–	M 16	167	13	M 30	82,5	–	128,5	18	83	235
RM/980	8	57	53,5	–	Ø 63,5	–	M 18	219	15	M 36	89	–	168,5	19	86	276
RM/9100	10	76	70,5	–	Ø 77	–	M 24	270	19	M 48	111	–	209,5	22	109	343
RM/9120	12	76	70,5	–	Ø 77	–	M 24	321	19	M 48	111	–	246	22	109	343
RM/9140	14	76	93	–	Ø 89	–	M 30	375	24	M 48	–	–	292	32	128	366,5

Models

Accessories

Magnetic Model	Non-Magnetic Model	Dia. Ø	Piston rod	Port size	Service kit
RM/9125/M/*	RM/9125/*	1 1/4	12 mm	G1/8	QM/9125/00
RM/9175/M/*	RM/9175/*	1 3/4	16 mm	G1/4	QM/9175/00
RM/920/M/*	RM/920/*	2	20 mm	G1/4	QM/920/00
RM/925/M/*	RM/925/*	2 1/5	25 mm	G3/8	QM/925/00
RM/930/M/*	RM/930/*	3	25 mm	G3/8	QM/930/00
RM/940/M/*	RM/940/*	4	32 mm	G3/8	QM/940/00
–	RM/950/*	5	Ø 1 1/2"	G1/2	QM/950/00
–	RM/960/*	6	Ø 1 1/2"	G1/2	QM/960/00
–	RM/980/*	8	Ø 1 3/4"	G3/4	QM/980/00
–	RM/9100/*	10	Ø 2 1/4"	G1	QM/9100/00
–	RM/9120/*	12	Ø 2 1/4"	G1	QM/9120/00
–	RM/9140/*	14	Ø 2 1/4"	G1	QM/9140/00

* Insert stroke length up to a maximum of 2,500 mm.
Please contact us for latest availability.
Please note that these comprehensive service kits are also suitable for older versions of the original M/900 series actuators built prior to introduction of the RM/900 range.

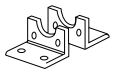
TRADITIONAL 'IMPERIAL' CYLINDERS

RM/900 Magnetic & non-magnetic – Ø 1,25 … 14"

Standard strokes

Cylinder	Stroke length (mm)							
Ø (mm)	50	75	100	150	200	225	250	300
1 1/4	•	•	•	•	•	•	•	•
1 3/4	•	•	•	•	•	•	•	•
2	•	•	•	•	•	•	•	•
2 1/2	•	•	•	•	•	•	•	•
3	•	•	•	•	•	•	•	•
4	•	•	•	•	•	•	•	•
5	•	•	•	•	•	•	•	•
6	•	•	•	•	•	•	•	•
8	•	•	•	•	•	•	•	•
10	•	•	•	•	•	•	•	•
12	•	•	•	•	•	•	•	•
14	•	•	•	•	•	•	•	•

Mountings

Model	B or G	C	D	F	L	R
						
RM/9125	M/P6938	QM/754	M/P6937	QM/402	QM/394	M/P11966
RM/9175	QM/888	QM/753	M/P7457	QM/404	QM/922	M/P11219
RM/920	QM/875	QM/752	M/P10228	QM/405	QM/909	M/P10349
RM/925	QM/876	QM/748	M/P10311	QM/407	QM/910	M/P10351
RM/930	QM/878	QM/983	M/P10229	QM/407	QM/911	M/P10353
RM/940	QM/887	QM/982	QM/758	QM/408	QM/912	QM/763
RM/950	QM/886	QM/981	QM/759	QM/409	QM/913	QM/764
RM/960	QM/884	QM/826	QM/761	QM/409	QM/914	QM/765
RM/980	QM/883	QM/825	QM/762	QM/410	QM/915	QM/766
RM/9100	QM/882	QM/824	–	QM/411	QM/917	QM/767
RM/9120	QM/889	QM/756	–	QM/411	QM/918	QM/768
RM/9140	QM/741	QM/755	–	QM/411	QM/924	QM/769

Options

- High temperature version
- Stainless steel piston rod - Austentitic
- Female piston rod
- Full piston rod thread
- Piston Rod Bellow
- Double ended piston rod
- Alternative Mountings

IMPACT CYLINDERS

M/3000 Double Acting – Ø 2 … 6”

- High energy output
- Ideally suited to a wide range of marking, piercing and light presswork applications
- Rugged, corrosion-resistant construction

Technical Data

Operating pressure:
2,7 … 10 bar

Ambient temperature:
-20°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Mounting position:
Vertical
For all applications complete guarding must be incorporated, either fixed or interlocked with the control circuit. For further information consult IMI Precision Engineering technical sales. An Impact Cylinder gives an output rated in energy i.e. thrust x distance. This energy is achieved by rapidly accelerating the piston rod and tool assembly over a free stroke of approximately 65 mm, before contacting the work. The rapid acceleration is produced by the differential area arrangement which quickly exposes the full area of the piston to high pressure air built up in the reservoir at rear end of the cylinder.

Materials

Rear end cover:
Aluminium

Front end cover:
Aluminium or steel

Piston:
Steel

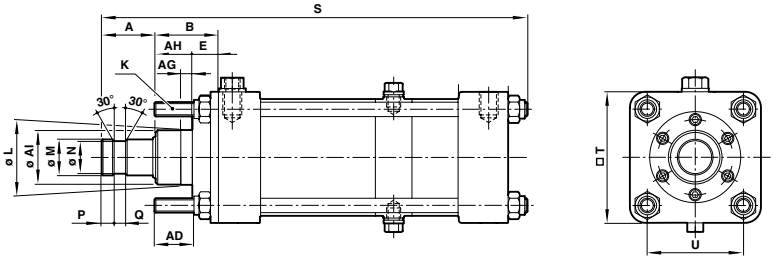
Piston rod:
Hardened steel

Centre piece:
Aluminium or steel

Seals:
NBR



Dimensions



Dia. Ø	A	AD	AG	AH	Ø AI	B	E	K	Ø L	Ø M	Ø N	P	Q	S	T	U
2”	37,5	17	8	20,5	31,5	35	14,3	M 8	31,72/31,67	20	17,5	9,5	6	461	63,5	48
3”	37,5	27,5	8	25,5	37,5	38	12,7	M 10	38,07/38,02	25	23	9	8	506	89	67
4”	44,5	34,5	8	31,5	44	44,5	12,7	M 11	44,42/44,37	32	28,5	11	9,5	516	114	89
6”	63,5	48	9,5	35	69,5	68	15,9	M 16	69,82/69,75	44,5	40,5	19	12,5	587	167	129

Models

Accessories

Model	Dia. Ø	Energy joules at 5,5 bar	Max. Cycle rate/min	Max. tool weight to be carried	Port size	Piston rod dia. Ø	Straight fitting	Elbow fitting	Service kit
									
M/3020M	2”	24,5	60	3,6kg	G1/4	20	C02250628	C02470628	QM/3020/00
M/3030M	3”	63	50	9,0kg	G3/8	25	C02250838	C02470838	QM/3030/00
M/3040M	4”	125,5	40	15,8kg	G3/8	32	C02251038	C02471038	QM/3040/00
M/3060	6”	253	35	36,2kg	G1/2	44,5	C02251248	C02471248	QM/3060/00

For alternative fitting types, shapes or sizes, refer to our fittings section.

Mountings



Dia. Ø	B, G
2”	QM/871
3”	QM/984
4”	QM/987
6”	QM/990

IMI Precision Engineering

For further information, visit store.norgren.com
and use the new improved search function. If you cannot
see the option you require please contact us.

IMI NORGREN

FIXED RANGE POSITIONER CYLINDERS

M/1525 & M/1540 Double Acting – Ø 2 1/2", 4" bore

- Robust and reliable for long, maintenance free life
- High positioning speeds
- Vibration resistant
- Square, clean line design makes them suitable for hygiene controlled environments

Technical Data

Medium:
Compressed air, filtered and non-lubricated

Installation:
Air supply must incorporate a pre-filter, and a high efficiency (5µm) filter

Operation:
Double acting, fixed range positioner cylinders

Operating pressure:
2 … 10 bar

Control pressure:
0,2 … 1 bar

Ambient temperature:
+5°C* … +80°C
* 100% dry air

Materials

Piston rod & Valve spool:
Stainless steel

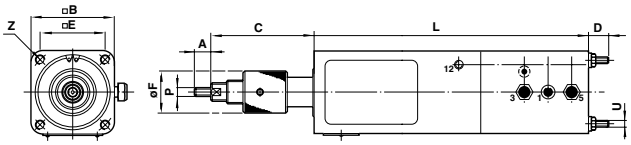
Piston rod end & Zero adjuster:
Zinc plated steel

Valve bush:
Brass

Cylinder barrel, Piston & Valve body:
Aluminium alloy



Dimensions



Ø	Stroke	A	B	C	D	E	F	L	P	U	Z
2,5"	75	15	76,8	93	17,5	55,9	38	288	M10 x 1,5	M6 x 1	M6 x 1 x 22 deep
2,5"	125	15	76,8	93	17,5	55,9	38	338	M10 x 1,5	M6 x 1	M6 x 1 x 22 deep
2,5"	200	15	76,8	93	17,5	55,9	38	413	M10 x 1,5	M6 x 1	M6 x 1 x 22 deep
4"	200	15	115	84,4	30,5	89	38	423,5	M10 x 1,5	M8 x 1,25	M8 x 1,25 x 22 deep

Models

Accessories

Model	Dia. Ø	Stroke length	Port size	Force at bar 7	Straight fitting	Elbow fitting	Service kit
							
M/1525/75	2,5"	75	G1/4	1222N	C02250828	C02470828	QM/1525/00
M/1525/125	2,5"	125	G1/4	1222N	C02250828	C02470828	QM/1525/00
M/1525/200	2,5"	200	G1/4	1222N	C02250828	C02470828	QM/1525/00
M/1540/200	4"	200	G1/4	3118N	C02251028	C02471028	QM/1540/00

For alternative fitting types, shapes or sizes, refer to our fittings section.

IMI NORGREN
For further information, visit store.norgren.com and use the new improved search function. If you cannot see the option you require please contact us.
IMI Precision Engineering

HEAVY DUTY CYLINDER

M/1000 Double acting - Ø 2" ... 12" (Ø 50 ... 305 mm)

- Extremely rugged heavy duty construction – ideal for use in the most arduous conditions
- Long, adjustable cushioning
- Large range of bore sizes – ideal for a wide variety of industrial applications
- Extensive choice of mountings

Technical Data

Medium:
Compressed air, filtered and lubricated

Operation:
Double acting with adjustable cushioning

Operating pressure:
2 … 17 bar (up to 8")
2 … 13,5 bar (10 & 12")

Ambient temperature:
-20°C … +80°C max.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Rear end cover:
Cast iron

Front end cover:
Cast iron

Piston:
Steel (upto 3" cast iron)

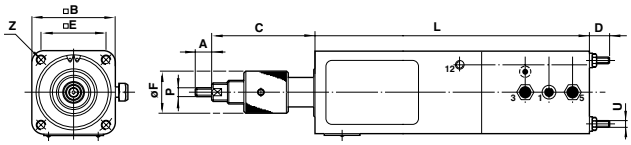
Piston rod:
Hard chrome plated steel

Barrel:
Hard chrome plated steel

Seals:
NBR



Dimensions



Model	Ø inch	A	□ B	BB	BE	BF	DD	□ E	KB	KK	TV	VD	WH	ZJ
M/1020	2	33,5	51	28	M 45 x 2	30	M8	63,5	7,5	M22	47,5	9,5	55,5	178
M/1025	2 1/2	33,5	58	31	M 52 x 2	35	M8	76	7,5	M22	55,5	12,5	63	190,5
M/1026	2 1/2	38	58	31	M 52 x 2	35	M8	76	7,5	M24	55,5	12,5	63	190,5
M/1030	3	33,5	64	37	M 52 x 2	38	M10	90	9	M22	66,5	14,5	68	201,5
M/1031	3	38	64	37	M 52 x 2	38	M10	90	9	M24	66,5	14,5	68	201,5
M/1040	4	38	89	29	M 64 x 2	46	M10	114	9	M24	89	11	76	228,5
M/1041	4	47,5	89	29	M 64 x 2	46	M10	114	9	M30	89	11	76	228,5
M/1050	5	38	108	39	–	41	M12	140	11	M24	108	13	73	241,5
M/1051	5	57	108	39	–	41	M12	140	11	M36	108	13	76	244,5
M/1060	6	57	127	48	–	52,5	M16	167	14	M36	128,5	16	100	262
M/1061	6	76	127	48	–	52,5	M16	167	14	M48	128,5	16	100	262
M/1080	8	57	168	57	–	65	M18	219	16,5	M36	168,5	19	115,5	325,5
M/1081	8	76	168	57	–	65	M18	219	16,5	M48	168,5	19	115,5	325,5
M/1101	10	95,5	210	68	–	76,5	M24	270	20,5	M64 x 4	209,5	22	130	416
M/1121	12	95,5	210	68	–	76,5	M24	321	20,5	M64 x 4	246	22	130	416

Online at **store.norgren.com**

HEAVY DUTY CYLINDER

M/1000 Double acting - Ø 2" ... 12" (Ø 50 ... 305 mm)

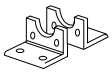
Models

Accessories

Model	Dia. Ø	Piston rod Ø	Port size	Service kit
M/1020/*	2	1	G1/4	QM/1020/00
M/1025/*	2 1/2	1	G3/8	QM/1025/00
M/1026/*	2 1/2	1 1/4	G3/8	QM/1026/00
M/1030/*	3	1	G1/2	QM/1030/00
M/1031/*	3	1 1/4	G1/2	QM/1031/00
M/1040/*	4	1 1/4	G1/2	QM/1040/00
M/1041/*	4	1 1/2	G1/2	QM/1041/00
M/1050/*	5	1 1/4	G1/2	QM/1050/00
M/1051/*	5	1 3/4	G1/2	QM/1051/00
M/1060/*	6	1 3/4	G3/4	QM/1060/00
M/1061/*	6	2 1/4	G3/4	QM/1061/00
M/1080/*	8	1 3/4	G1	QM/1080/00
M/1081/*	8	2 1/4	G1	QM/1081/00
M/1101/*	10	3	G1	QM/1101/00
M/1121/*	12	3	G1	QM/1121/00

* Insert stroke length up to a maximum of 2,500 mm.
Please contact us for latest availability.

Mountings

Model	Dia. Ø	Piston rod Ø	B or G	C	D	F	L	R
								
M/1020	2	1	QM/871	QM/751	M/P9822	QM/407	QM/909	M/P10349
M/1025	2 1/2	1	QM/877	QM/748	M/P9825	QM/407	QM/910	M/P10351
M/1026	2 1/2	1 1/4	QM/877	QM/748	M/P9825	QM/408	QM/910	M/P10351
M/1030	3	1	QM/984	QM/747	M/P9828	QM/407	QM/911	M/P10353
M/1031	3	1 1/4	QM/984	QM/747	M/P9828	QM/408	QM/911	M/P10353
M/1040	4	1 1/4	QM/987	QM/746	QM/758/2	QM/408	QM/912	QM/763
M/1041	4	1 1/2	QM/987	QM/746	QM/758/2	QM/409	QM/912	QM/763
M/1050	5	1 1/4	QM/988	QM/981	QM/759/2	QM/408	QM/913	QM/764
M/1051	5	1 3/4	QM/988	QM/981	QM/759/2	QM/410	QM/913	QM/764
M/1060	6	1 3/4	QM/884/1	QM/826	QM/761/2	QM/410	QM/914	QM/765
M/1061	6	2 1/4	QM/884/1	QM/826	QM/761/2	QM/411	QM/914	QM/765
M/1080	8	1 3/4	QM/883/1	QM/745	QM/762/2	QM/410	QM/915	QM/766
M/1081	8	2 1/4	QM/883/1	QM/745	QM/762/2	QM/411	QM/915	QM/766
M/1101	10	3	QM/882/2	QM/744	–	QM/412	QM/917	QM/767
M/1121	12	3	QM/889/1	QM/743	–	QM/412	QM/918	QM/768

SLIDE UNITS

M/60100/M Double acting – Ø 10 … 40 mm

- High quality sliding bearings ensure long durable life and high guidance performance
- Double piston rod provides high bending and torsional rigidity
- Magnetic piston as standard
- Easy to install – reduces costly design tim

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
Double acting with magnetic piston and buffer cushioning

Operating pressure:
1 … 8 bar

Ambient temperature:
0°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C.

Materials

Piston:
Hard chromed steel piston

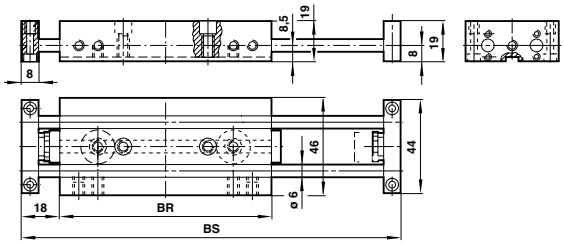
Body and end covers:
Anodised aluminium

Seals:
NBR

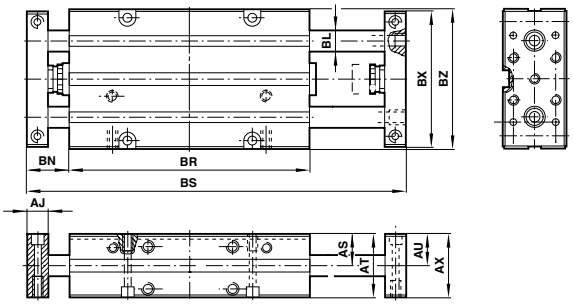


Dimensions

M/60111/M



M/60116/M … M/60140/M



Strokes (mm)	BR	BS
25	100	161
50	100	186
75	150	261
100	150	281

Model	AJ	AS	AT	AU	AX	Ø BL	BN	BX	BZ
M/60116	10	16	30	15	30	10	20	64	66
M/60125	12	21,5	40	20,5	40	16	22	90	92
M/60132	15	27,5	50	26,5	50	20	28	116	118
M/60140	20	32,5	60	31,5	60	25	31	144	146

Strokes (mm)		25	50	75	100	125	150	175	200	225
M/60116	BR	113,5	113,5	163,5	163,5	213,5	213,5	–	–	–
M/60116	BS	179	204	279	304	379	404	–	–	–
M/60125	BR	–	152	152	202	202	252	252	–	–
M/60125	BS	–	246	271	346	371	446	471	–	–
M/60132	BR	–	–	190	190	240	240	290	290	–
M/60132	BS	–	–	321	346	421	446	521	546	–
M/60140	BR	–	–	–	236,5	236,5	286,5	286,5	336,5	336,5
M/60140	BS	–	–	–	398	423	498	523	598	623

And use the new improved search function. If you cannot see the option you require contact us.

IMI Precision Engineering
For further information, visit store.norgren.com
and use the new improved search function. If you cannot
see the option you require please contact us.
IMI NORGREN

Models

Accessories

Model	Dia. Ø	Stroke length	Port size	Guide Rod Ø (x2)	Reed switch with integral 5 m cable	Switch mounting	Banjo flow control	Straight fitting	Elbow fitting	Service kit
										
M/60111/M/25	10	25	M5	6	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	QM/60111/M/00
M/60111/M/50	10	50	M5	6	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	QM/60111/M/00
M/60111/M/75	10	75	M5	6	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	QM/60111/M/00
M/60111/M/100	10	100	M5	6	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	QM/60111/M/00
M/60116/M/25	16	25	M5	10	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	QM/60116/M/00
M/60116/M/50	16	50	M5	10	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	QM/60116/M/00
M/60116/M/75	16	75	M5	10	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	QM/60116/M/00
M/60116/M/100	16	100	M5	10	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	QM/60116/M/00
M/60116/M/125	16	125	M5	10	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	QM/60116/M/00
M/60116/M/150	16	150	M5	10	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	QM/60116/M/00
M/60125/M/50	25	50	M5	16	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	QM/60125/M/00
M/60125/M/75	25	75	M5	16	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	QM/60125/M/00
M/60125/M/100	25	100	M5	16	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	QM/60125/M/00
M/60125/M/125	25	125	M5	16	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	QM/60125/M/00
M/60125/M/150	25	150	M5	16	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	QM/60125/M/00
M/60125/M/175	25	175	M5	16	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	QM/60125/M/00
M/60125/M/200	25	200	M5	16	M/50/LSU/5V	M/P72487B	C0K510405	C02250405	C02470405	QM/60125/M/00
M/60132/M/75	32	75	G1/8	20	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	QM/60132/M/00
M/60132/M/100	32	100	G1/8	20	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	QM/60132/M/00
M/60132/M/125	32	125	G1/8	20	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	QM/60132/M/00
M/60132/M/150	32	150	G1/8	20	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	QM/60132/M/00
M/60132/M/175	32	175	G1/8	20	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	QM/60132/M/00
M/60132/M/200	32	200	G1/8	20	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	QM/60132/M/00
M/60140/M/125	40	125	G1/8	25	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	QM/60140/M/00
M/60140/M/150	40	150	G1/8	25	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	QM/60140/M/00
M/60140/M/175	40	175	G1/8	25	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	QM/60140/M/00
M/60140/M/200	40	200	G1/8	25	M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	QM/60140/M/00
M/60140/M/225	40	225	G1/8		M/50/LSU/5V	M/P72487B	C0K510618	C02250618	C02470618	QM/60140/M/00

For information on additional magnetic switches see pages 124 - 128.

For alternative fitting types, shapes or sizes, refer to our fittings section.

Online at **store.norgren.com**

GUIDING AND STOPPER CYLINDER

M/61000/M and M/61000/MR Double acting – Ø 32 … 100 mm

- Guiding accuracy ± 0,02 mm
- Non-rotation accuracy ± 0,02°
- Integrated heavy duty guide rods
- Linear ball bearing option provides precision guiding for higher speeds
- Plain bearing option offers higher side load capacity
- Easy installation
- Magnetic piston as standard
- Buffer pad for noise reduction

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operating pressure:
1 … 10 bar

Ambient temperature:
-10°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C.

Materials

Profile barrel:
Anodized aluminium

Piston rod:
Stainless steel (martensitic)

Guide rod:
Stainless steel martensitic (plain bearings), hardened steel, hard-chrome plated (ball bearings)

Bearing:
Solid bronze (plain bearings), steel roller (ball bearings)

Mounting plate:
Stainless steel (austenitic)

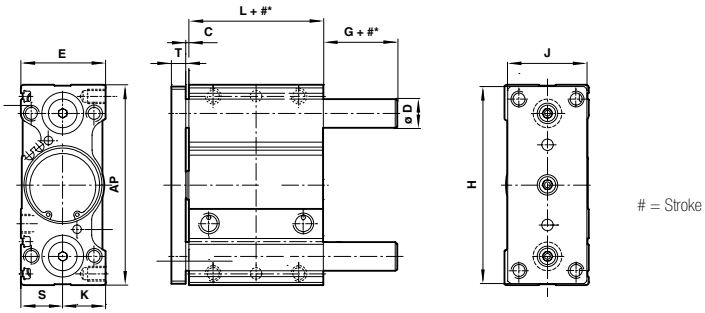
Piston rod seals:
PUR

Piston seals:
NBR

'O'-ring:
NBR



Dimensions



= Stroke

Dia. Ø	AP	C	D *1	D *2	E	G	H	J	K	L	S	T
32	114	1,5	16	20	51	8,5	112	48	26	38	25	8
40	124	2	16	20	51	2	122	48	26	44	25	8
50	140	2	20	25	59	7	138	56	30	44	29	10
63	150	2	20	25	72	2	148	69	36,5	49	35,5	10
80	188	1,5	25	30	92	2	185	88	46,5	57	45,5	16
100	224	2	30	-	112	2	221	108	56,5	66	55,5	16

*1 = MR version - ball bearings. *2 = M version - plain bearings.

Online at **store.norgren.com**

GUIDING AND STOPPER CYLINDER

M/61000/M and M/61000/MR Double acting – Ø 32 … 100 mm

Models

Accessories

Plain Bearings Model	Ball Bearings Model	Dia. Ø	Stroke length	Port size	Reed switch with integral 5 m cable	Banjo flow control	Straight fitting	Elbow Fitting	Service kit
									
M/61032/M/25	M/61032/MR/25	32	25	G1/8	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/61032/00
M/61032/M/50	M/61032/MR/50	32	50	G1/8	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/61032/00
M/61032/M/75	M/61032/MR/75	32	75	G1/8	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/61032/00
M/61032/M/100	M/61032/MR/100	32	100	G1/8	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/61032/00
M/61040/M/25	M/61040/MR/25	40	25	G1/8	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/61040/00
M/61040/M/50	M/61040/MR/50	40	50	G1/8	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/61040/00
M/61040/M/75	M/61040/MR/75	40	75	G1/8	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/61040/00
M/61040/M/100	M/61040/MR/100	40	100	G1/8	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/61040/00
M/61050/M/25	M/61050/MR/25	50	25	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628	QM/61050/00
M/61050/M/50	M/61050/MR/50	50	50	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628	QM/61050/00
M/61050/M/75	M/61050/MR/75	50	75	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628	QM/61050/00
M/61050/M/100	M/61050/MR/100	50	100	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628	QM/61050/00
M/61063/M/25	M/61063/MR/25	63	25	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628	QM/61063/00
M/61063/M/50	M/61063/MR/50	63	50	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628	QM/61063/00
M/61063/M/75	M/61063/MR/75	63	75	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628	QM/61063/00
M/61063/M/100	M/61063/MR/100	63	100	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628	QM/61063/00
M/61080/M/25	M/61080/MR/25	80	25	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628	QM/61080/00
M/61080/M/50	M/61080/MR/50	80	50	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628	QM/61080/00
M/61080/M/75	M/61080/MR/75	80	75	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628	QM/61080/00
M/61080/M/100	M/61080/MR/100	80	100	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628	QM/61080/00
	M/61100/MR/25	100	25	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628	QM/61100/00
	M/61100/MR/50	100	50	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628	QM/61100/00
	M/61100/MR/75	100	75	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628	QM/61100/00
	M/61100/MR/100	100	100	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628	QM/61100/00

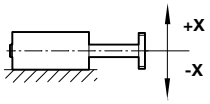
For alternative fitting types, shapes or sizes, refer to our fittings section.

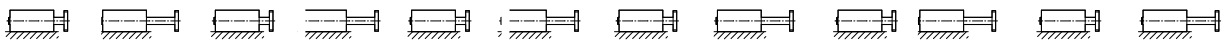
Options

- Special Wiper seals on Ball Bearings version

Guiding accuracy

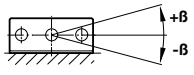
Deflection of the mounting platem at instroke and outstroke position without load.



Cylinder Ø (mm)	32 Instroke	Outstroke	40 Instroke	Outstroke	50 Instroke	Outstroke	63 Instroke	Outstroke	80 Instroke	Outstroke	100 Instroke	Outstroke
Position												
Slidebearing	± 0,06	± 0,11	± 0,06	± 0,11	± 0,06	± 0,11	± 0,06	± 0,11	± 0,07	± 0,11	–	–
Rollerbearing	± 0,02	± 0,04	± 0,02	± 0,04	± 0,03	± 0,05	± 0,03	± 0,05	± 0,03	± 0,05	± 0,03	± 0,05

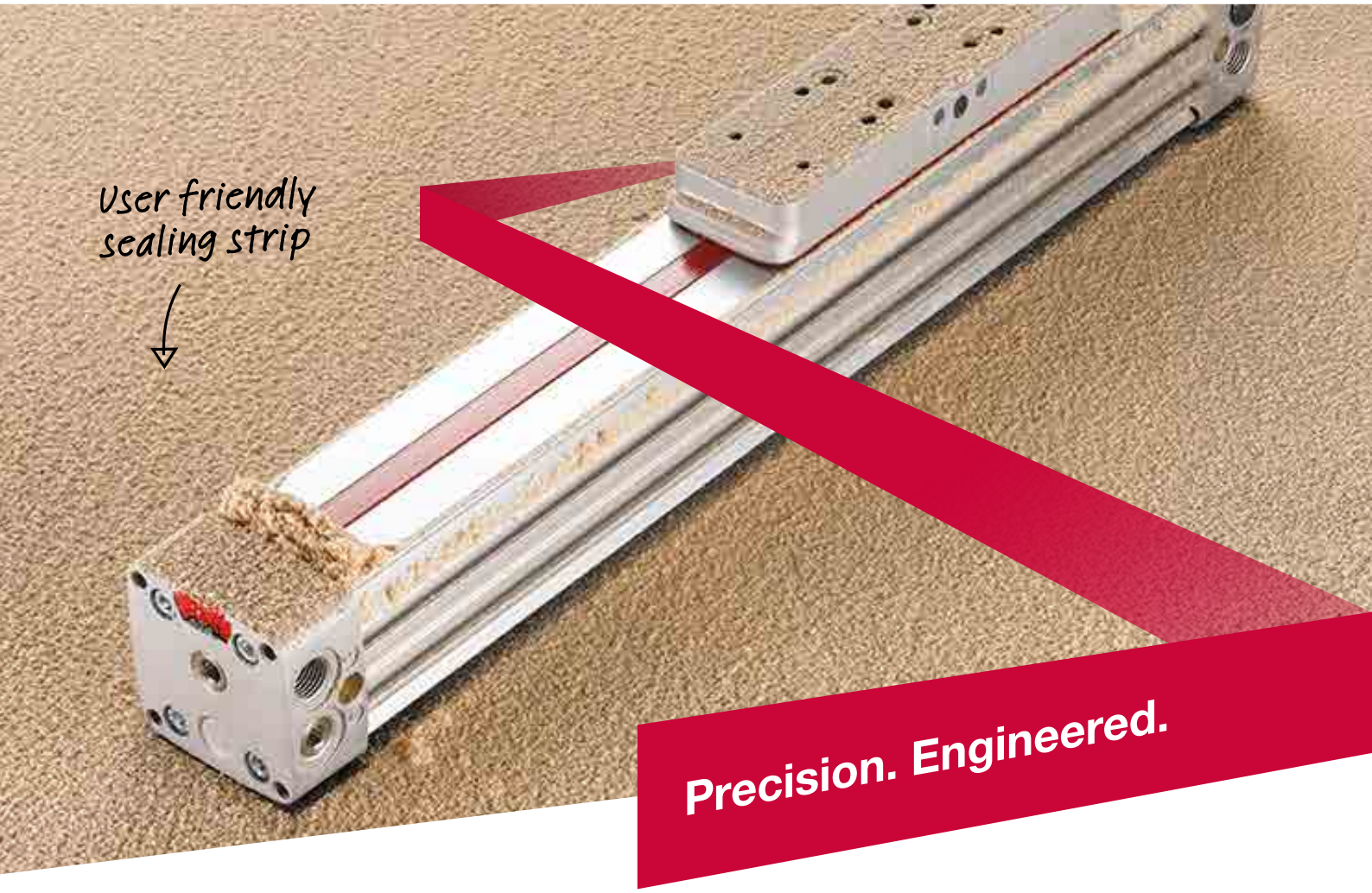
Non-rotation Accuracy

Deflection of the mounting plate ß (°) at instroke position without load



Cylinder Ø (mm)	32	40	50	63	80	100
Slide bearing	± 0,06	± 0,06	± 0,05	± 0,05	± 0,04	–
Roller bearing	± 0,03	± 0,03	± 0,03	± 0,03	± 0,02	± 0,02

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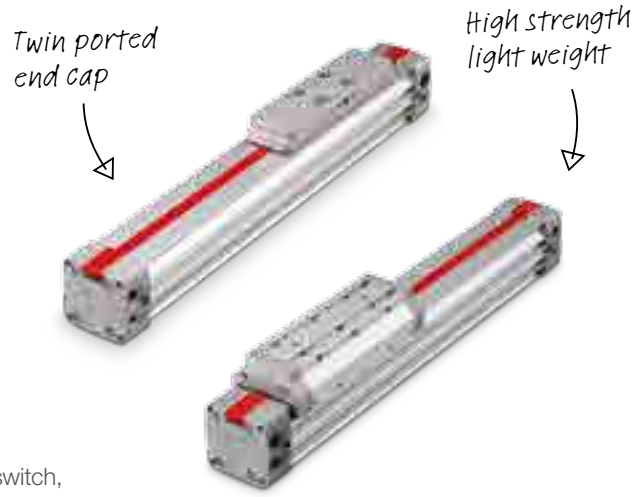


Lintra® Plus
range

The IMI Norgren rodless actuator range, known generally by the 'Lintra' (LINear TRAnsporter) brand has, over the last 25 years, developed from the original M/45000 to the current M/146000 'Lintra® Plus' series.

This range is one of the widest and most comprehensive rodless ranges available. Still unique are the integrated guides housed in the main extrusion and the user-friendly sealing strip.

The latest version also has slots to take the standard IMI Norgren M/50 series switch, along with grooves which accept industry-standard aluminium machine building systems.



- Four basic versions
- Quality, long-life sealing system
- Improved version with lower weight, greater load capacity, improved end caps and carriage design
- Complying ATEX requirements

Engineering GREAT Solutions

Find out more
www.imi-precision.com

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LINTRA® PLUS RODLESS CYLINDERS

M/146000 Internal Guide, M/146100 External Guide, M/146200 Precision Roller Guide Double acting – Ø 16 … 80 mm

- Widest rodless range covers all requirements from lighter to heavier duties
- Unique integrated guides housed in the main extrusion
- Unique zip action sealing system
- Protection system preventing dust ingress
- Reliable operation up to 6,000 Km of travel
- Interchangeable with previous M/46*00 series units

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
Double acting, magnetic piston, adjustable cushioning

Operating pressure:
1 … 8 bar

Max strokes:
Ø 16 … 40 mm - 8500 mm
Ø 50 & 63 mm - 8000 mm
Ø 80 mm - 5500 mm

Ambient temperature:
-30°C … +80°C max.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

End covers:
Aluminium diecast, moulded plastic (Ø 16) and anodised aluminium (Ø 20 & 80)

Yoke:
Anodised aluminium, moulded plastic (Ø 16 & 20)

Carriage, closer & cover:
Aluminium diecast

Guiding bridge and profile barrel:
Anodised aluminium

Seal strip, wiper and piston seal:
PUR

Cover strip:
PA

Other seals:
NBR

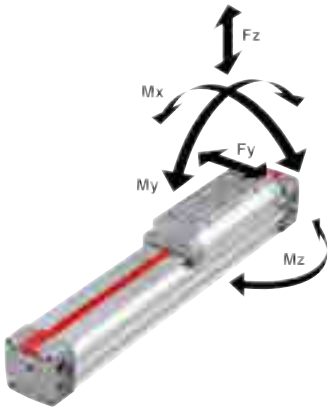
Shim ring:
Stainless steel (A2)

EXPRESS



Lintra® Plus moments

M/146000, M/146100, M/146200



	Internal guide M/146000					External adjustable guide M/146100			Precision roller guide M/146200			
	Fy	Fz	Mx	My	Mz	Fy, Fz	Mx	My, Mz	Fy	Fz	Mx	My, Mz
Ø mm	(N)	(N)	(Nm)	(Nm)	(Nm)	(N)	(Nm)	(Nm)	(N)	(N)	(Nm)	(Nm)
16	40	120	0,3	3,8	1,1	200	2	5,5	–	–	–	–
20	90	280	0,9	12	3,6	470	6	18	–	–	–	–
25	125	385	1,5	19	5,6	590	9	28	590	1180	13	42
32	165	500	3	33	10	780	17	43	780	1560	25	64
40	330	990	6,5	84	24	1600	39	110	1500	3000	58	160
50	440	1320	11	120	35	2000	65	160	2000	4000	97	240
63	690	2000	20	240	70	3200	120	350	3200	6400	180	520
80	780	2300	27	360	100	3900	180	520	–	–	–	–

Loading values for LINTRA® cylinders

The values given in the table below show the single forces in the directions Fy and Fz and the maximum moments Mx, My and Mz.
All values are applicable only for speeds of max. 0,2 m/s.
A requirement for using these values is a constant movement (no jerking) of the mass over the whole stroke length of the cylinder.
The reference point from which the moments for all cylinders should be calculated is the centre line of the pistons.

For speeds up to 2 m/s please use our calculation programme LINTRA® PNEUCALC. It is available upon request.

When a LINTRA® cylinder has to take several loads and moments, an additional calculation is necessary using this formula:

$$\frac{Mx}{Mx\ max} + \frac{My}{My\ max} + \frac{Mz}{Mz\ max} + \frac{Fy}{Fy\ max} + \frac{Fz}{Fz\ max} \leq 1$$

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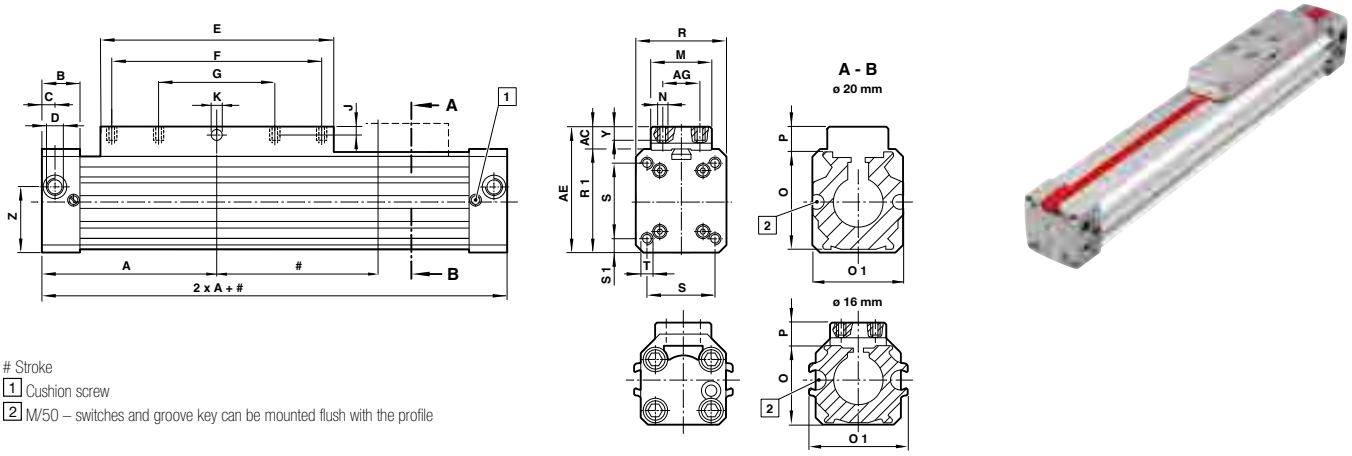
LINTRA® PLUS RODLESS CYLINDERS

M/146000 Internal guide Double acting – Ø 16 … 80 mm

Dimensions – Internal guide

EXPRESS

Ø 16 … 20 mm



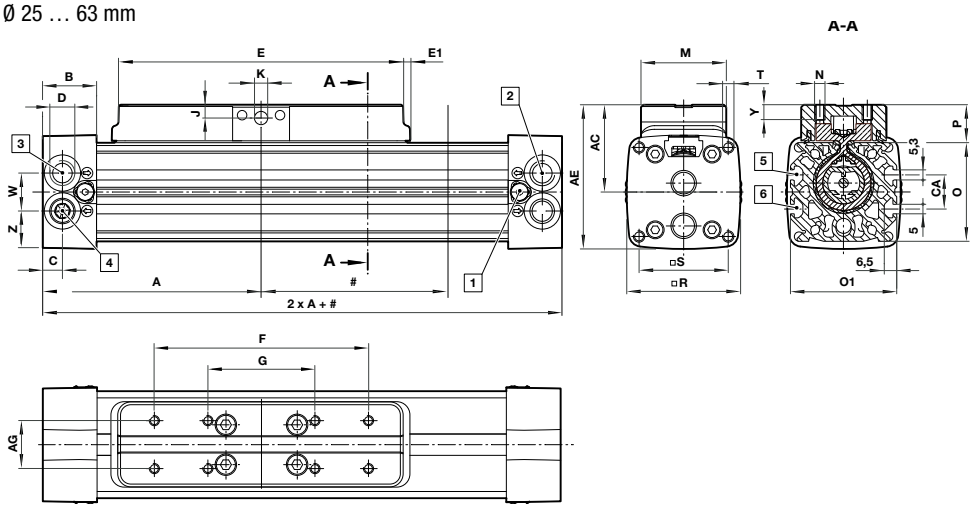
Stroke
1 Cushion screw
2 M/50 – switches and groove key can be mounted flush with the profile

Ø	A	AC	AE	AG	B	C	D	E	F	G	J	Ø K D7	M	N	O
16	62,5	24,5	38	8	17,5	8	M5	80	60	–	2,5	3	18	M3	25
20	85	34,5	54	20	23	8	G1/8	110	80	40	3,5	4,2	27	M5	32

Ø	O 1	P	R	R1	S	S1	T	Y	Z
16	32	12	27	31	16	5,5	M3 - 5 *1)	4	16,5
20	38	18,5	40	40	32	4	M5 - 12 *)	12	20,5

*1) Deep.

Ø 25 … 63 mm



Stroke
1 Cushion screw
2 Main port
3 Main port
4 One alternative port with plug inserted
5 M/50 – switches and groove key can be mounted flush with the profile
6 For groove key only

Ø	A	AC	AE	AG	B	C	CA	D	E	E1	F	G	J	Ø K D7
25	100	36	60	20	23	8,5	–	G1/8	130	–	90	45	4,7	5
32	120	46	76	25	28,5	10,5	18	G1/4	160	3,5	120	60	7	7
40	150	52,5	90	25	28,5	11,5	18	G1/4	215	–	160	80	7	7
50	180	65,5	110	25	38	15	24	G3/8	250	–	190	95	9,5	9
63	215	82,5	125	25	38	17	24	G1/2	320	–	240	120	9,5	9

Ø	M	N	O	O 1	P	R	S	T	W	Y	Z
25	32	M5	40	46	16	48	37	M5 - 13*1)	16	7	16
32	45	M5	52	56	20	60	47	M6 - 17*1)	20	8	20
40	45	M6	65	68	20	74,5	58	M8 - 20*1)	25	8	25
50	50	M8	80	84	25,5	89	70	M8 - 20*1)	30	11	29,5
63	50	M8	95	97	25	105	84	M10 - 24*1)	35	11	35

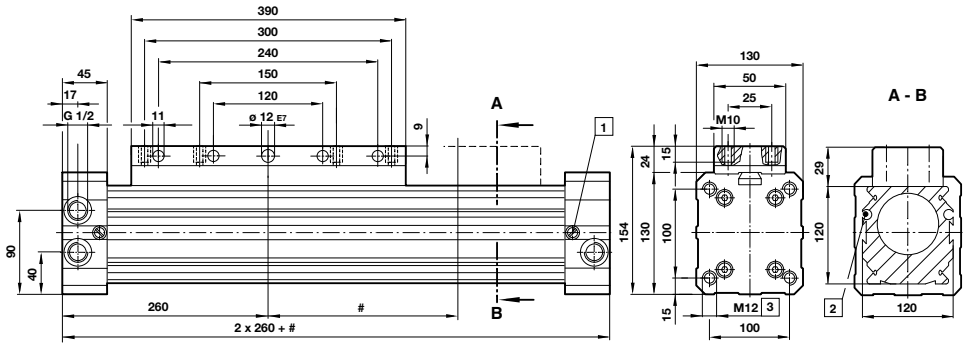
*1) Deep.

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LINTRA® PLUS RODLESS CYLINDERS

M/146000 Internal guide Double acting – Ø 16 . . . 80 mm

Ø 80 mm



Stroke
1 Cushion screw
2 M/50 – switches and groove key can be mounted flush with the profile
3 26 deep

Models – Internal guide

Accessories

Model	Piston Ø	Stroke length	Port size	Reed switch with integral 5 m cable	Banjo flow control	Straight fitting	Elbow fitting
							
M/146016/M/****	16	made to order	M5	M/50/LSU/5V	C0K510405	C02250405	C02470405
M/146020/M/****	20	made to order	G1/8	M/50/LSU/5V	C0K510618	C02250618	C02470618
M/146025/M/****	25	made to order	G1/8	M/50/LSU/5V	C0K510618	C02250618	C02470618
M/146032/M/****	32	made to order	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628
M/146040/M/****	40	made to order	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628
M/146050/M/****	50	made to order	G3/8	M/50/LSU/5V	C0K510838	C02250838	C02470838
M/146063/M/****	63	made to order	G1/2	M/50/LSU/5V	C0K510848	C02250848	C02470848
M/146080/M/****	80	made to order	G1/2	M/50/LSU/5V	C0K511048	C02251048	C02471048

**** insert stroke length in mm – very best availability in multiples of 100 mm.
For information on alternative magnetic switches see pages 124 - 128.

For alternative fitting types, shapes or sizes, refer to our fittings section.

Service kit

Model	Description
	
QA/1460**/88/1000	Up to 1000 mm stroke
QA/1460**/88/3000	From 1001 mm to 3000 mm stroke
QA/1460**/88/8500	From 3001 mm up to max. stroke

** Insert cylinder diameters for the service kit.

Options

- Alternative port configuration
- Brake
- Double Carriage

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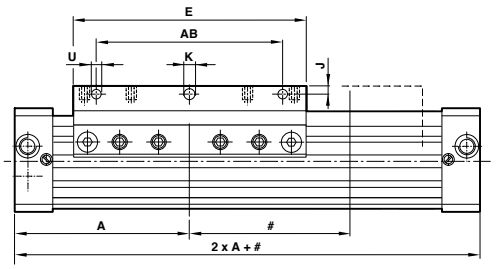
LINTRA® PLUS RODLESS CYLINDERS

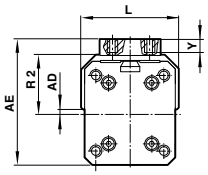
M/146100 External guide Double acting – Ø 16 … 80 mm

Dimensions – External guide

EXPRESS

Ø 16 … 20 mm

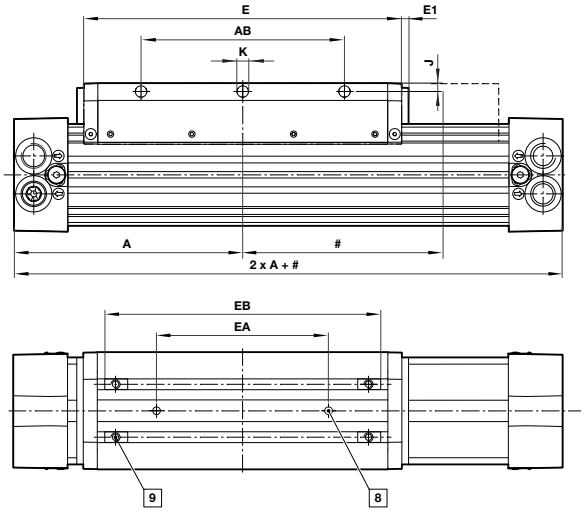


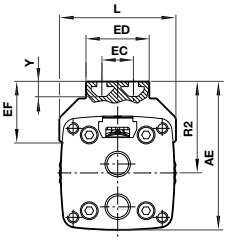




Ø	A	AB	AE	A0	E	ED	J	Ø K	L	R2	U	Y
16	62,5	–	38	7,5	80	18	–	–	31	18,5	–	5
20	85	60	59	6,5	110	27	7,5	5,5	42	24	5,5	12

Ø 25 … 63 mm





Stroke
1 Center bore Ø 6H7, 4 deep
2 Supplied complete with four groove keys

Ø	A	AB	AE	E	E1	EA ±0,05	EB	ED	EC	EF	J	ØK	L	R 2	Y
25	100	70	67,5	130	–	50	102	32	20	34	5	5,5	52	–	-9,5
32	120	90	82	160	4	70	138	45	25	36,5	5	5,5	64	52	6,5
40	150	120	97,5	215	–	105	193	45	25	43	5	6,6	79	60	9,5
50	180	160	116,5	250	–	135	228	50	25	47,5	6,5	9	92	72	11,5
63	215	190	137	320	–	150	292	50	25	59	7,5	9	110	84,5	11,5

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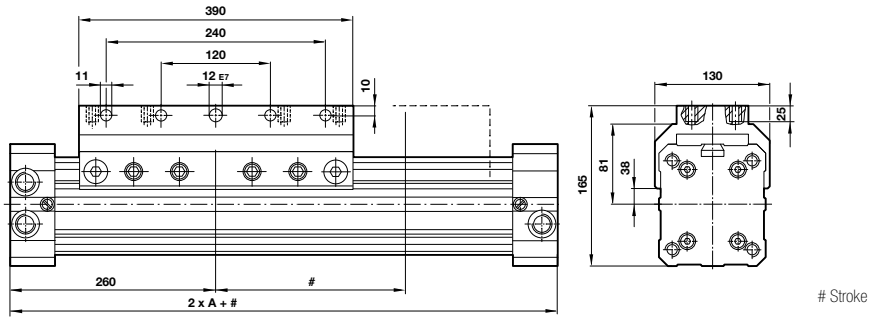
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LINTRA® PLUS RODLESS CYLINDERS

M/146100 External guide Double acting – Ø 16 . . . 80 mm

Ø 80 mm



Stroke

Models – External guide

Accessories

Model	Piston Ø	Stroke length	Port size	Reed switch with integral 5 m cable	Banjo flow control	Straight fitting	Elbow fitting
							
M/146116/M/****	16	made to order	M5	M/50/LSU/5V	C0K510405	C02250405	C02470405
M/146120/M/****	20	made to order	G1/8	M/50/LSU/5V	C0K510618	C02250618	C02470618
M/146125/M/****	25	made to order	G1/8	M/50/LSU/5V	C0K510618	C02250618	C02470618
M/146132/M/****	32	made to order	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628
M/146140/M/****	40	made to order	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628
M/146150/M/****	50	made to order	G3/8	M/50/LSU/5V	C0K510838	C02250838	C02470838
M/146163/M/****	63	made to order	G1/2	M/50/LSU/5V	C0K510848	C02250848	C02470848
M/146180/M/****	80	made to order	G1/2	M/50/LSU/5V	C0K511048	C02251048	C02471048

**** Insert stroke length in mm – very best availability in multiples of 100 mm.

For information on alternative magnetic switches see pages 124 - 128.

For alternative fitting types, shapes or sizes, refer to our fittings section.

Service kit

Model	Description
	
QA/1460**/88/1000	Up to 1000 mm stroke
QA/1460**/88/3000	From 1001 mm to 3000 mm stroke
QA/1460**/88/8500	From 3001 mm up to max. stroke

** Insert cylinder diameters for the service kit.

Options

- Alternative port configuration
- Brake
- Double Carriage

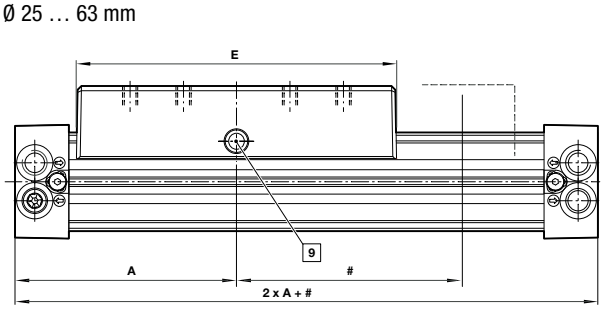
LINTRA® PLUS RODLESS CYLINDERS

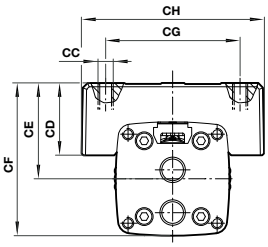
M/146200 Precision roller guide Double acting – Ø 25 … 63 mm

Dimensions – Precision roller guide

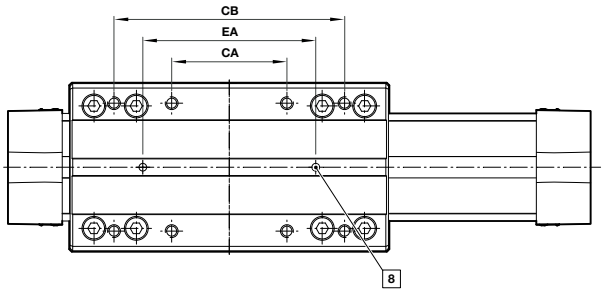
EXPRESS

Ø 25 … 63 mm









Stroke
8 Center bore Ø 6H7, 4 deep
9 For lubrication

Ø	A	CA	CB	CC	CD	CE	CF	CG	CH	E	EA ±0,05
25	100	45	90	M6-14*1)	36	42	66	60	85	150	70
32	120	60	120	M8-16*1)	38	50	80	75	98	180	90
40	150	80	150	M8-16*1)	42	57,5	95	92	118	215	115
50	180	90	180	M10-20*1)	44	67	111,5	100	132	250	135
63	215	120	240	M10-20*1)	47	74,5	127	110	140	320	200

*1) Deept.

Models – Precision roller guide

Accessories

Model	Piston Ø	Stroke length	Port size	Reed switch with integral 5 m cable	Banjo flow control	Straight fitting	Elbow fitting
							
M/146225/M/****	25	made to order	G1/8	M/50/LSU/5V	C0K510618	C02250618	C02470618
M/146232/M/****	32	made to order	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628
M/146240/M/****	40	made to order	G1/4	M/50/LSU/5V	C0K510628	C02250628	C02470628
M/146250/M/****	50	made to order	G3/8	M/50/LSU/5V	C0K510838	C02250838	C02470838
M/146263/M/****	63	made to order	G1/2	M/50/LSU/5V	C0K510848	C02250848	C02470848

**** Insert stroke length in mm – very best availability in multiples of 100 mm.
For information on alternative magnetic switches see pages 124 - 128.

For alternative fitting types, shapes or sizes, refer to our fittings section.

Options

- Alternative port configuration
- Brake
- Double Carriage

Service kit

Model	Description
	
QA/1460**/88/1000	Up to 1000 mm stroke
QA/1460**/88/3000	From 1001 mm to 3000 mm stroke
QA/1460**/88/8500	From 3001 mm up to max. stroke

** Insert cylinder diameters for the service kit.

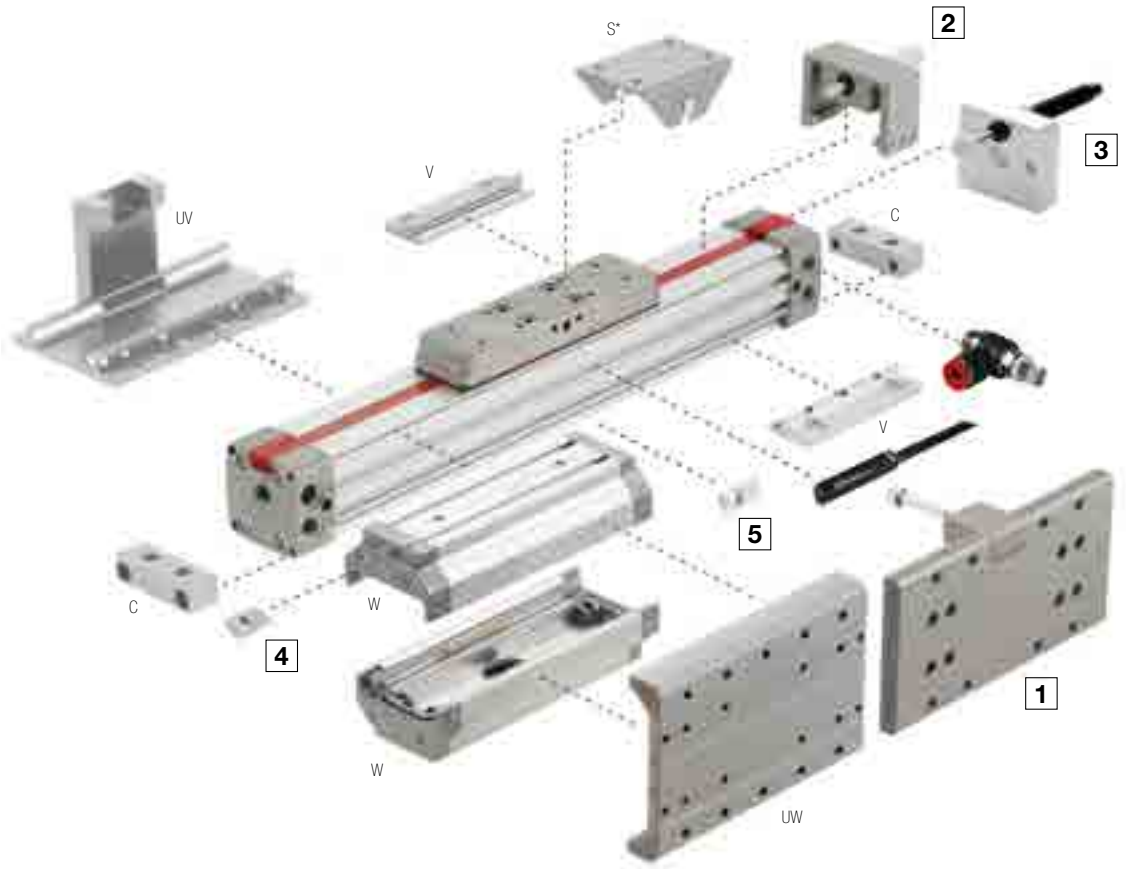
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MOUNTINGS FOR LINTRA® PLUS RODLESS CYLINDERS

M/146000, M/146100 AND M/146200



Dia. Ø	C	S*	UV*	UW**	V	W**
16	QM/146016/21	QM/146016/37	QM/146016/34	–	QM/146016/32	QM/146116/35
20	QM/146020/21	QM/146020/37	QM/146020/34	QM/146120/36	QM/146020/32	QM/146120/35
25	QM/146025/21	QM/146025/37	QM/146025/34	QM/146125/36	QM/146025/32	QM/146125/35
32	QM/146032/21	QM/146032/37	QM/146032/34	QM/146132/36	QM/146032/32	QM/146132/35
40	QM/146040/21	QM/146032/37	QM/146040/34	QM/146140/36	QM/146040/32	QM/146140/35
50	QM/146050/21	QM/146050/37	QM/146050/34	QM/146150/36	QM/146050/32	QM/146150/35
63	QM/146063/21	QM/146050/37	QM/146063/34	QM/146163/36	QM/146063/32	QM/146163/35
80	QM/146080/21	QM/146080/37	QM/146080/34	–	QM/146080/32	QM/146180/35

Dia. Ø	Assembly kit for caged ball linear motion guide 1	Adjustable stop 2	Assembly kit for shock absorbers 3	Groove key for guiding bridge 4	Groove key for profile barrel 5
16	–	–	–	–	–
20	–	QM/146120/75	–	–	–
25	QM/146225/P/70	QM/146125/75	QM/146125/67	M/P74065	M/P74065
32	QM/146232/P/70	QM/146132/75	QM/146132/67	M/P74065	M/P74065
40	QM/146240/P/70	QM/146140/75	QM/146140/67	M/P74066	M/P74065
50	QM/146250/P/70	–	QM/146150/67	M/P41858	M/P74065
63	QM/146263/P/70	–	QM/146163/67	M/P41858	M/P74065

* Suitable for internally guided models only. ** Suitable for external guided models only.

OTHER LINTRA® RODLESS CYLINDERS

PNEUMATIC CYLINDERS

A/44000 LINTRA-LITE®

- New compact, space-saving design
- Proven sealing system
- Integral switch mounting
- Buffer or adjustable cushioning
- Standard foot mountings



M/44000/M LINTRA®

- Ø 25 … 40 mm
- Compact, space-saving design
- Proven sealing system
- Adjustable cushioning
- Magentic piston as standard



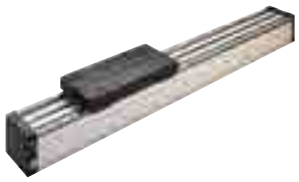
M/46800/M, M/46800/HM LINTRA® Heavy duty cylinders

- Ø 20 … 40 mm
- External guides for heavy loads over long distances
- Rigid, reinforced aluminium profile provides greater load support
- T-slots in the outer profile enable individual mounting options
- Precision guidance with ball bearings on hardened trackways
- Low rolling resistance



M/46800/PM LINTRA® Heavy duty pneumatic cylinders

- Ø 16, 25, 40 & 63 mm
- Precise linear guiding
- T-slots in the outer profile enable
- individual mounting options
- Alternative driving cylinders offer
- Versatile application possibilities
- Torsional and bending resistant profiles



VM/146000, VM/146100 LINTRA® PLUS

- Ø 20 … 80 mm
- Corrosion-resistant
- New lightweight design extrusion with universal mounting grooves
- Proved and patented sealing system
- Dust protection as standard
- Up to 10% higher loading values against internal guiding series M/46000
- Interchangeability with series VM/46000



ELECTRIC CYLINDERS

M/49000, M/49100, M/49200 LINTRA® Spindle

- Ø 25 … 63 mm
- High forces
- Precise positioning
- High repeatability
- Constant, defined high and low speed operation
- Proven LINTRA® guiding systems
- Interchangeable with LINTRA® pneumatic cylinders series M/46000



M/49800/P LINTRA® Spindle

- Ø 16 … 63 mm
- High forces
- High dynamics
- Torsional and bending resistant profiles
- High repeatability
- Alternative mounting possiblities



M/48200/H LINTRA® Toothed belt cylinders

- Cylinder size: 25, 40 & 63 mm
- Proven LINTRA® precision roller guiding
- Torsional and bending resistant profiles
- High repeatability
- Alternative fixing possibilities



M/48800/P LINTRA® Toothed belt cylinders

- Cylinder sizes: 16, 25, 40 & 63 mm
- Heavy loads, precise linear guiding
- High dynamics
- Torsional and bending resistant profiles
- High repeatability
- Alternative fixing possibilites





IMI Norgren

High quality pneumatic and fluid control products

With over 80 years industry experience, the IMI Norgren brand includes a wide range of high quality pneumatic and fluid control products such as actuators, air preparation products, pressure switches, fittings and valves.

The IMI Norgren brand also features some of our more specialist technology product ranges including:

- Precision liquid handling solutions including syringe pumps
- Products for the commercial vehicle sector
- Automation solutions including grippers, clamps and vacuum products
- Specialist high pressure equipment including dome and spring loaded regulators

Engineering GREAT Solutions

Find out more
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IMI NORGREN

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IMI Precision Engineering

ROTARY VANE ACTUATORS

M/60280 Double acting – 30° … 270° rotation angles

- Modern, compact design
- Suitable for torques from 0,15 to 247 Nm
- Fixed and adjustable rotation angles
- Single and double vane construction

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
Double acting rotary vane with buffer cushioning
M/60280 – M/60288 and IE models – single vane
M/60284/TI – M/60288/TI and TE models – double vane

Operating pressure:
2 … 10 bar
3 … 7 bar (M/60280, M/60281, M/60281/IE)
2 … 7 bar (M/60282, M/60283, M/60282/IE)

Ambient temperature:
+5°C … +60°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Rotation tolerance:
0° … +4°: M/60280 – M/60283
0° … +3°: M/60284 – M/60288, M/60284/TI – M/60288/TI
-9° … +3°: M/60281/IE – M/60284/IE, M/60284/TE

Materials

Body:
Cast aluminium

Shaft:
Steel

Shaft bearing:
Sintered bronze

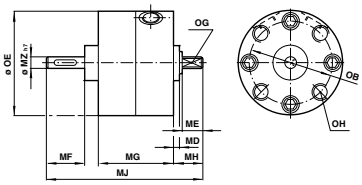
Seals:
NBR





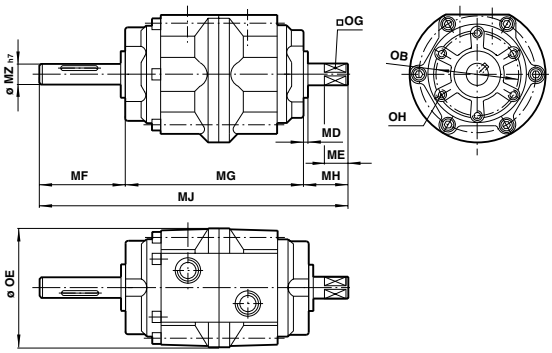
Dimensions

M/60280/1/2/3/4



= Stroke

M/60285/6/7/8



Model	MD	ME	MF	MG	MJ	MH	Ø MZ_{h7}	Ø OB	Ø OE	$OG_{-0,1}$	OH	Keyway
M/60280	2	6	13	20	46	10	4	26	29	Ø 4 h7	M3 x 6	–
M/60281	2	7	15	26	55	10	5	30	36,5	Ø 5 h7	M3 x 6	–
M/60282	2	7	18	40	73	10	6	35	42,5	Ø 6 h7	M3 x 6	–
M/60283	2	7	23	55	93,5	10	8	40	49,5	6	M5 x 8	3-0,03; 2+0,1*
M/60284	2,5	10	26	60	105	13,5	10	56	64	8	M5 x 8	4-0,03; 2,5+0,1*
M/60285	2,5	13	39,5	86	145	19,5	12	45	79	10	M6 x 9	4-0,03; 2,5+0,1*
M/60286	3	16	53,5	103	180	23,5	17	70	110	13	M8 x 12	5-0,03; 3+0,1*
M/60287	3,5	22	65	125	220	30	25	80	141,5	19	M10 x 15	7-0,038; 4+0,2*
M/60288	4,5	35	69,5	171	285	44,5	40	120	196	32	M12 x 18	12-0,043; 5+0,2*

Dimensions and drawings valid for fixed rotation units only - refer to full data sheets for detail on adjustable units.

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IMI NORGREN

ROTARY VANE ACTUATORS

M/60280 Double acting – 30° … 270° rotation angles

Models

Accessories

Models with fixed or adjustable rotation angles						Accessories			
Model	**Angle of rotation/ Adjustment**	**Output shaft Ø**	**Port size**	**Number of vanes**	**Torque at 6 bar (Nm)**	**Banjo flow control**	**Straight fitting**	**Elbow Fitting**	**Service kit**
									
M/60280/90	90°	4	M5	Single	0,15	C0K510405	C02250405	C02470405	QM/60280/00
M/60280/180	180°	4	M5	Single	0,15	C0K510405	C02250405	C02470405	QM/60280/00
M/60281/90	90°	5	M5	Single	0,38	C0K510405	C02250405	C02470405	QM/60281/00
M/60281/180	180°	5	M5	Single	0,38	C0K510405	C02250405	C02470405	QM/60281/00
M/60281/IE	30 … 180°	5	M5	Single	0,38	C0K510405	C02250405	C02470405	QM/60281/00
M/60282/90	90°	6	M5	Single	1,20	C0K510405	C02250405	C02470405	QM/60282/00
M/60282/180	180°	6	M5	Single	1,20	C0K510405	C02250405	C02470405	QM/60282/00
M/60282/IE	30 … 180°	6	M5	Single	1,20	C0K510405	C02250405	C02470405	QM/60282/00
M/60283/90	90°	8	M5	Single	2,10	C0K510405	C02250405	C02470405	QM/60283/00
M/60283/180	180°	8	M5	Single	2,10	C0K510405	C02250405	C02470405	QM/60283/00
M/60283/IE	30 … 180°	8	M5	Single	2,10	C0K510405	C02250405	C02470405	QM/60283/00
M/60284/90	90°	10	G1/8	Single	4,10	C0K510618	C02250618	C02470618	QM/60284/00
M/60284/TI/90	90°	10	G1/8	Double	9,50	C0K510618	C02250618	C02470618	QM/60284/TI/00
M/60284/180	180°	10	G1/8	Single	4,10	C0K510618	C02250618	C02470618	QM/60284/00
M/60284/270	270°	10	G1/8	Single	4,10	C0K510618	C02250618	C02470618	QM/60284/00
M/60284/IE	30 … 270°	10	G1/8	Single	4,10	C0K510618	C02250618	C02470618	QM/60284/00
M/60284/TE	30 … 90°	10	G1/8	Double	9,50	C0K510618	C02250618	C02470618	QM/60284/TI/00
									
M/60285/90	90°	12	G1/8	Single	5,80	C0K510618	C02250618	C02470618	QM/60285/00
M/60285/TI/90	90°	12	G1/8	Double	12,80	C0K510618	C02250618	C02470618	QM/60285/TI/00
M/60285/180	180°	12	G1/8	Single	5,80	C0K510618	C02250618	C02470618	QM/60285/00
M/60285/270	270°	12	G1/8	Single	5,80	C0K510618	C02250618	C02470618	QM/60285/00
M/60286/90	90°	17	G1/4	Single	18,00	C0K510628	C02250628	C02470628	QM/60286/00
M/60286/TI/90	90°	17	G1/4	Double	41,50	C0K510628	C02250628	C02470628	QM/60286/TI/00
M/60286/180	180°	17	G1/4	Single	18,00	C0K510628	C02250628	C02470628	QM/60286/00
M/60286/270	270°	17	G1/4	Single	18,00	C0K510628	C02250628	C02470628	QM/60286/00
M/60287/90	90°	25	G3/8	Single	34,50	C0K510838	C02250838	C02470838	QM/60287/00
M/60287/TI/90	90°	25	G3/8	Double	83,00	C0K510838	C02250838	C02470838	QM/60287/TI/00
M/60287/180	180°	25	G3/8	Single	34,50	C0K510838	C02250838	C02470838	QM/60287/00
M/60287/270	270°	25	G3/8	Single	34,50	C0K510838	C02250838	C02470838	QM/60287/00
M/60288/90	90°	40	G1/2	Single	123,00	C0K510848	C02250848	C02470848	QM/60288/00
M/60288/TI/90	90°	40	G1/2	Double	247,00	C0K510848	C02250848	C02470848	QM/60288/TI/00
M/60288/180	180°	40	G1/2	Single	123,00	C0K510848	C02250848	C02470848	QM/60288/00
M/60288/270	270°	40	G1/2	Single	123,00	C0K510848	C02250848	C02470848	QM/60288/00

Online at **store.norgren.com**

ROTARY ACTUATORS – RACK & PINION

M/162000/MI Double acting – Ø 32 … 125 mm

- Suitable torques from 1,2 … 51,0 Nm/bar
- Rotation angles 90°, 180°, 270°, 360°
- Switches can be mounted flush with the profile
- VDMA 24562 pitch to use standard VDMA mountings

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
Double acting, magnetic piston, adjustable cushioning

Operating pressure:
1,5 … 10 bar

Ambient temperature:
-5°C … +80°C max.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Rotation angles:
90, 180, 270, 360°
Fixed up to +8°
Adjustable ±5°
Additional angles on request

Materials

Profile barrel:
Anodized aluminium

End covers:
Pressure diecast aluminium

Central body:
Anodized aluminium

Rack:
Normalized steel

Pinion:
Surface hardened high strength steel

Pinion bearings:
Ball bearings (Ø 32 PTFE bronze bearings)

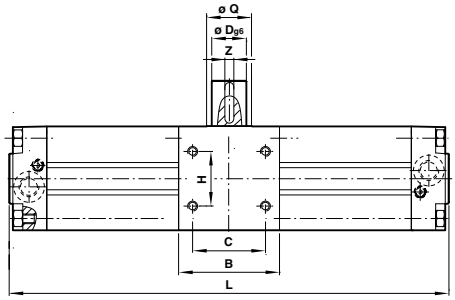
Rack guide shoe:
Acetal resin

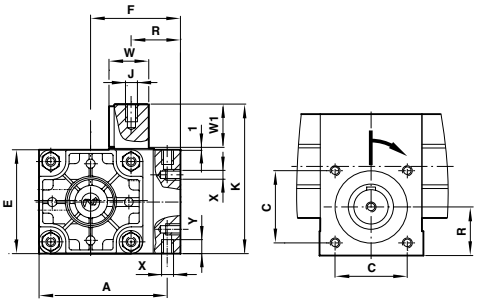
Piston seals:
PUR

O-rings:
NBR



Dimensions





Dia. Ø	A	B/E	C	Ø D_{g6}	F	H	J	K	Ø Q	R	W	W1	X	Y	Z	L (90°)	L (180°)	L (270°)	L (360°)
32	71,5	50	33	14	46,5	18	M 5	81	25	25	16	30	M 6	10	5	227	274	321	368,5
40	82	60	40	14	54,5	22	M 5	91	25	30	16	30	M 6	10	5	266	323	379,5	436
50	94	70	50	19	60,5	25	M 6	106	30	32,5	21,5	40	M 8	13	6	282	345	408	471
63	110	75	60	24	71	35	M 8	116	30	37	27	40	M 8	13	8	331	406	480,5	555
80	142	99	80	28	93,5	50	M 8	150	45	50	31	50	M 10	16	8	396	495	594	693
100	156,5	115	80	38	99	60	M 10	166	50	54	41	50	M 10	16	10	414	521	628	735
125	188	125/140	90	38	118	70	M 10	191	60	60	41	50	M 12	20	10	483,5	615,5	747,5	879,5

Online at **store.norgren.com**

Models

Accessories

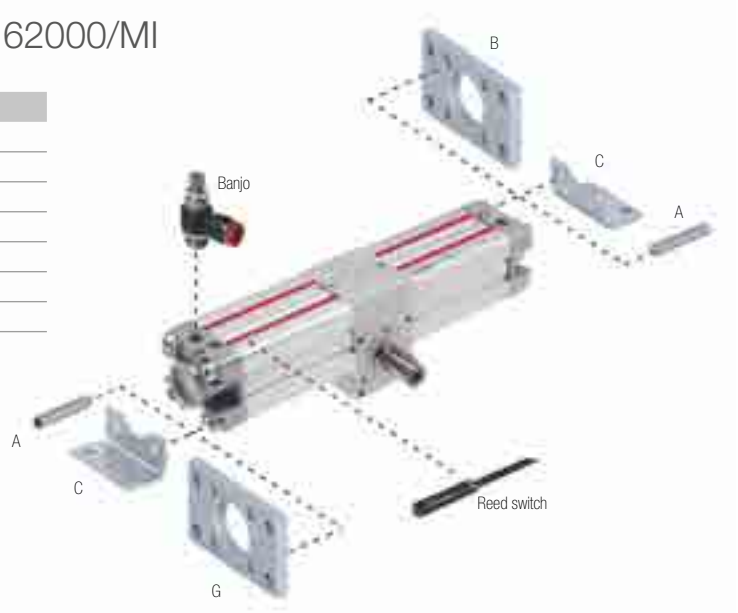
Model	Dia. Ø	Angle of rotation	Output shaft Ø	Port size	Theoretical torque at 6 bar (Nm)	Reed switch with integral 5 m cable	Banjo flow control	Straight fitting	Elbow Fitting	Service kit
										
M/162032/MI/90	32	90°	14	G1/8	7,20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/162032/00
M/162032/MI/180	32	180°	14	G1/8	7,20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/162032/00
M/162032/MI/270	32	270º	14	G1/8	7,20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/162032/00
M/162032/MI/360	32	360º	14	G1/8	7,20	M/50/LSU/5V	C0K510618	C02250618	C02470618	QM/162032/00
M/162040/MI/90	40	90°	14	G1/4	13,80	M/50/LSU/5V	C0K510628	C02250628	C02470628	QM/162040/00
M/162040/MI/180	40	180°	14	G1/4	13,80	M/50/LSU/5V	C0K510628	C02250628	C02470628	QM/162040/00
M/162040/MI/270	40	270º	14	G1/4	13,80	M/50/LSU/5V	C0K510628	C02250628	C02470628	QM/162040/00
M/162040/MI/360	40	360º	14	G1/4	13,80	M/50/LSU/5V	C0K510628	C02250628	C02470628	QM/162040/00
M/162050/MI/90	50	90°	19	G1/4	23,40	M/50/LSU/5V	C0K510828	C02250828	C02470828	QM/162050/00
M/162050/MI/180	50	180°	19	G1/4	23,40	M/50/LSU/5V	C0K510828	C02250828	C02470828	QM/162050/00
M/162050/MI/270	50	270º	19	G1/4	23,40	M/50/LSU/5V	C0K510828	C02250828	C02470828	QM/162050/00
M/162050/MI/360	50	360º	19	G1/4	23,40	M/50/LSU/5V	C0K510828	C02250828	C02470828	QM/162050/00
M/162063/MI/90	63	90°	19	G3/8	43,80	M/50/LSU/5V	C0K510838	C02250838	C02470838	QM/162063/00
M/162063/MI/180	63	180°	19	G3/8	43,80	M/50/LSU/5V	C0K510838	C02250838	C02470838	QM/162063/00
M/162063/MI/270	63	270º	19	G3/8	43,80	M/50/LSU/5V	C0K510838	C02250838	C02470838	QM/162063/00
M/162063/MI/360	63	360º	19	G3/8	43,80	M/50/LSU/5V	C0K510838	C02250838	C02470838	QM/162063/00
M/162080/MI/90	80	90°	28	G3/8	94,20	M/50/LSU/5V	C0K511038	C02251038	C02471038	QM/162080/00
M/162080/MI/180	80	180°	28	G3/8	94,20	M/50/LSU/5V	C0K511038	C02251038	C02471038	QM/162080/00
M/162080/MI/270	80	270º	28	G3/8	94,20	M/50/LSU/5V	C0K511038	C02251038	C02471038	QM/162080/00
M/162080/MI/360	80	360º	28	G3/8	94,20	M/50/LSU/5V	C0K511038	C02251038	C02471038	QM/162080/00
M/162100/MI/90	100	90°	38	G1/2	157,80	M/50/LSU/5V	C0K511248	C02251248	C02471248	QM/162100/00
M/162100/MI/180	100	180°	38	G1/2	157,80	M/50/LSU/5V	C0K511248	C02251248	C02471248	QM/162100/00
M/162100/MI/270	100	270º	38	G1/2	157,80	M/50/LSU/5V	C0K511248	C02251248	C02471248	QM/162100/00
M/162100/MI/360	100	360º	38	G1/2	157,80	M/50/LSU/5V	C0K511248	C02251248	C02471248	QM/162100/00
M/162125/MI/90	125	90°	38	G1/2	306,00	M/50/LSU/5V	C0K511248	C02251248	C02471248	QM/162125/00
M/162125/MI/180	125	180°	38	G1/2	306,00	M/50/LSU/5V	C0K511248	C02251248	C02471248	QM/162125/00
M/162125/MI/270	125	270º	38	G1/2	306,00	M/50/LSU/5V	C0K511248	C02251248	C02471248	QM/162125/00
M/162125/MI/360	125	360º	38	G1/2	306,00	M/50/LSU/5V	C0K511248	C02251248	C02471248	QM/162125/00

For information on additional magnetic switches see pages 124 - 128.

For alternative fitting types, shapes or sizes, refer to our fittings section.

Mountings for Rotary Actuators M/162000/MI

Dia. Ø	A	B, G	C
32	QM/8032/35	QA/8032/22	QA/8032/21
40	QM/8032/35	QA/8040/22	QA/8040/21
50	QM/8050/35	QA/8050/22	QA/8050/21
63	QM/8050/35	QA/8063/22	QA/8063/21
80	QM/8080/35	QA/8080/22	QA/8080/21
100	QM/8080/35	QA/8100/22	QA/8100/21
125	QM/8125/35	QM/8125/22	QM/8125/21



Options

- Female piston rod
- Non-magnetic
- Adjustable angle ± 5°

STAINLESS STEEL ROUNDLINE CYLINDERS

KM/8000/M Double Acting – ISO 6432 – Ø 12 … 25 mm

- High corrosion and acid resistance
- Magnetic piston as standard
- Conforms to ISO 6432
- Suitable for applications in the food industry
- Buffer or adjustable cushioning
- Nose mounting nut and piston rod locknut as standard

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
Double acting, magnetic piston with buffer or adjustable cushioning

Operating pressure:
1 … 10 bar

Ambient temperature:
-10°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Cylinder barrel:
X5 Cr Ni 18 10 (1.4301; AISI 304)

End covers:
X10 Cr Ni S 18 9 (1.4305; AISI 303)

Piston rod:
X10 Cr Ni S 18 9 (1.4305; AISI 303)

Piston:
POM

Buffer:
PUR

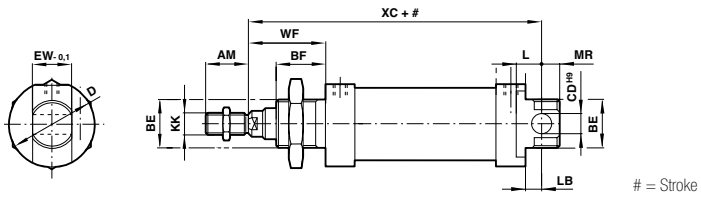
Piston rod seal:
PUR

Piston and cushion seal:
NBR

'O'-rings:
NBR



Dimensions



= Stroke

Dia. Ø	AM	BE	BF	Ø CD_{H9}	Ø D	$EW_{-0,1}$	KK	L	LB	MR	WF	XC
12	16	M16x1,5	17	6	20	11,9	M6	9	3	8	22	75
16	16	M16x1,5	17	6	20	11,9	M6	9	4	7	22	82
20	20	M22x1,5	20	8	30	15,9	M8	12	3	11	24	95
25	22	M22x1,5	22	8	30	15,9	M10x1,25	12	7	9	28	104

Options

- Flat rear cover
- Double ended piston rod
- Universal rear eye mounting
- Extended piston rod

Online at **store.norgren.com**

STAINLESS STEEL ROUNDLINE CYLINDERS

KM/8000/M Double Acting – ISO 6432 – Ø 12 … 25 mm

Models

Accessories

Buffer cushioning Model	Adjustable cushioning Model	Dia. Ø	Stroke length	Port size	Piston rod Ø	Reed switch integral with 5 m cable	Switch mounting	Banjo flow control	Straight fitting	Elbow fitting
										
KM/8012/M/10		12	10	M5	6	M/50/LSU/5V	QM/33/016/23	10K510405	102250405	102470405
KM/8012/M/25		12	25	M5	6	M/50/LSU/5V	QM/33/012/22	10K510405	102250405	102470405
KM/8012/M/40		12	40	M5	6	M/50/LSU/5V	QM/33/012/22	10K510405	102250405	102470405
KM/8012/M/50		12	50	M5	6	M/50/LSU/5V	QM/33/012/22	10K510405	102250405	102470405
KM/8012/M/80		12	80	M5	6	M/50/LSU/5V	QM/33/012/22	10K510405	102250405	102470405
KM/8012/M/100		12	100	M5	6	M/50/LSU/5V	QM/33/012/22	10K510405	102250405	102470405
KM/8012/M/125		12	125	M5	6	M/50/LSU/5V	QM/33/012/22	10K510405	102250405	102470405
KM/8012/M/160		12	160	M5	6	M/50/LSU/5V	QM/33/012/22	10K510405	102250405	102470405
KM/8012/M/200		12	200	M5	6	M/50/LSU/5V	QM/33/012/22	10K510405	102250405	102470405
KM/8016/M/10		16	10	M5	6	M/50/LSU/5V	QM/33/016/23	10K510405	102250405	102470405
KM/8016/M/25		16	25	M5	6	M/50/LSU/5V	QM/33/016/22	10K510405	102250405	102470405
KM/8016/M/40		16	40	M5	6	M/50/LSU/5V	QM/33/016/22	10K510405	102250405	102470405
KM/8016/M/50		16	50	M5	6	M/50/LSU/5V	QM/33/016/22	10K510405	102250405	102470405
KM/8016/M/80		16	80	M5	6	M/50/LSU/5V	QM/33/016/22	10K510405	102250405	102470405
KM/8016/M/100		16	100	M5	6	M/50/LSU/5V	QM/33/016/22	10K510405	102250405	102470405
KM/8016/M/125		16	125	M5	6	M/50/LSU/5V	QM/33/016/22	10K510405	102250405	102470405
KM/8016/M/160		16	160	M5	6	M/50/LSU/5V	QM/33/016/22	10K510405	102250405	102470405
KM/8016/M/200		16	200	M5	6	M/50/LSU/5V	QM/33/016/22	10K510405	102250405	102470405
KM/8020/M/10		20	10	G1/8	8	M/50/LSU/5V	QM/33/020/23	10K510618	102250618	102470618
KM/8020/M/25	KM/8021/M/25	20	25	G1/8	8	M/50/LSU/5V	QM/33/020/22	10K510618	102250618	102470618
KM/8020/M/40		20	40	G1/8	8	M/50/LSU/5V	QM/33/020/22	10K510618	102250618	102470618
KM/8020/M/50	KM/8021/M/50	20	50	G1/8	8	M/50/LSU/5V	QM/33/020/22	10K510618	102250618	102470618
KM/8020/M/80	KM/8021/M/80	20	80	G1/8	8	M/50/LSU/5V	QM/33/020/22	10K510618	102250618	102470618
KM/8020/M/100	KM/8021/M/100	20	100	G1/8	8	M/50/LSU/5V	QM/33/020/22	10K510618	102250618	102470618
KM/8020/M/125	KM/8021/M/125	20	125	G1/8	8	M/50/LSU/5V	QM/33/020/22	10K510618	102250618	102470618
KM/8020/M/160	KM/8021/M/160	20	160	G1/8	8	M/50/LSU/5V	QM/33/020/22	10K510618	102250618	102470618
KM/8020/M/200	KM/8021/M/200	20	200	G1/8	8	M/50/LSU/5V	QM/33/020/22	10K510618	102250618	102470618
KM/8020/M/250	KM/8021/M/250	20	250	G1/8	8	M/50/LSU/5V	QM/33/020/22	10K510618	102250618	102470618
KM/8025/M/10		25	10	G1/8	10	M/50/LSU/5V	QM/33/025/23	10K510618	102250618	102470618
KM/8025/M/25	KM/8026/M/25	25	25	G1/8	10	M/50/LSU/5V	QM/33/025/22	10K510618	102250618	102470618
KM/8025/M/40		25	40	G1/8	10	M/50/LSU/5V	QM/33/025/22	10K510618	102250618	102470618
KM/8025/M/50	KM/8026/M/50	25	50	G1/8	10	M/50/LSU/5V	QM/33/025/22	10K510618	102250618	102470618
KM/8025/M/80	KM/8026/M/80	25	80	G1/8	10	M/50/LSU/5V	QM/33/025/22	10K510618	102250618	102470618
KM/8025/M/100	KM/8026/M/100	25	100	G1/8	10	M/50/LSU/5V	QM/33/025/22	10K510618	102250618	102470618
KM/8025/M/125	KM/8026/M/125	25	125	G1/8	10	M/50/LSU/5V	QM/33/025/22	10K510618	102250618	102470618
KM/8025/M/160	KM/8026/M/160	25	160	G1/8	10	M/50/LSU/5V	QM/33/025/22	10K510618	102250618	102470618
KM/8025/M/200	KM/8026/M/200	25	200	G1/8	10	M/50/LSU/5V	QM/33/025/22	10K510618	102250618	102470618
KM/8025/M/250	KM/8026/M/250	25	250	G1/8	10	M/50/LSU/5V	QM/33/025/22	10K510618	102250618	102470618

Service kits are not available for this range of cylinders.
For information on alternative magnetic switches see pages 124 - 128.

Note that the fittings shown are nickel plated brass.
Alternatively our Pneufit S range offers full stainless steel versions.
Refer to our fittings section.

Online at **store.norgren.com**

STAINLESS STEEL ROUNDLINE CYLINDERS

KM/8000/M Double Acting – ISO 6432 – Ø 12 … 25 mm

Mountings



Dia. Ø	B, G	C	F	L	N
12	M/P72405	M/P72403	KQM/8012/25	KQM/8012/24	M/P72398
16	M/P72405	M/P72403	KQM/8012/25	KQM/8012/24	M/P72398
20	M/P72406	M/P72404	KQM/8020/25	KQM/8020/24	M/P72399
25	M/P72406	M/P72404	KQM/55433/25	KQM/8020/24	M/P72399

* This actuator is supplied with one nose nut, an additional lock nut style 'N' is required when ordering mountings 'B, G' and 'C' to connect to the rear end cap.

Online at **store.norgren.com**

STAINLESS STEEL TIE-ROD CYLINDERS

KA/8000/M Double Acting – Ø 32 … 200mm

- High corrosion and acid resistance
- Conforms to ISO 15552, ISO 6431, VDMA 24562 and NFE 49-003-1
- Ideal for applications in the food industry

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
KA/8000/M: double acting, adjustable cushioning and magnetic piston

Operating pressure:
1 … 16 bar

Ambient temperature:
80°C max.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Barrel:
X5 Cr Ni 18 10 (1.4301; AISI 304)

End covers:
X10 Cr Ni S 18 9 (1.4305; AISI 303)

Piston rod:
X10 Cr Ni S 18 9 (1.4305; AISI 303)

Nuts and screws:
X10 Cr Ni S 18 9 (1.4305; AISI 303)

Tie rods:
X5 Cr Ni Mo 17 12 2 (1.4401; AISI 316)

Piston rod seals:
FPM

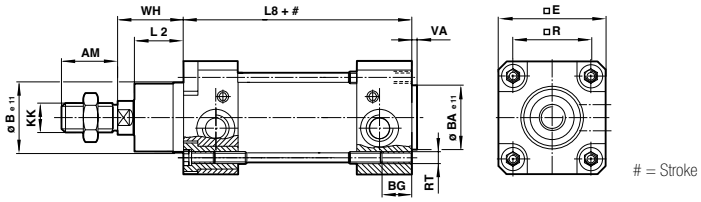
Piston seals:
PUR O 32 … 100 mm,
NBR O 125 … 200 mm

Cushion seals:
NBR

O-rings:
FPM



Dimensions



= Stroke

Dia. Ø	AM	Ø B/BA e11	BG	□E	KK	L2	L8	□R	RT	VA	WH
32	22	30	18	47	M10x1,25	20	94	32,5	M 6	3	26
40	24	35	18	53	M12x1,25	22	105	38	M 6	3,5	30
50	32	40	18	65	M16x1,5	27	106	46,5	M 8	3,5	37
63	32	45	17,5	75	M16x1,5	29	121	56,5	M 8	4	37
80	40	45	21,5	95	M20x1,5	33	128	72	M 10	4	46
100	40	55	21,5	115	M20x1,5	36	138	89	M 10	4	51
125	54	60	32	140	M27x2	45	160	110	M 12	6	65
160	72	65	28,5	180	M36x2	58	180	140	M 16	4	80
200	72	75	28,5	220	M36x2	67	180	175	M 16	5	95

Models

Accessories

Magnetic Model	Dia. Ø	Port size	Piston rod Ø	Reed switch integral with 5 m cable	Switch mounting	Banjo flow control	Straight fitting	Elbow fitting	Service kit
KA/8032/M/*	32	G1/8	12	M/50/LSU/5V	QM/27/2/1	10K510618	102250618	102470618	KQA/8032/00
KA/8040/M/*	40	G1/4	16	M/50/LSU/5V	QM/27/2/1	10K510628	102250628	102470628	KQA/8040/00
KA/8050/M/*	50	G1/4	20	M/50/LSU/5V	QM/27/2/1	10K510828	102250828	102470828	KQA/8050/00
KA/8063/M/*	63	G3/8	20	M/50/LSU/5V	QM/27/2/1	10K510838	102250838	102470838	KQA/8063/00
KA/8080/M/*	80	G3/8	25	M/50/LSU/5V	QM/27/2/1	10K511038	102251038	102471038	KQA/8080/00
KA/8100/M/*	100	G1/2	25	M/50/LSU/5V	QM/27/2/1	10K511248	102251248	102471248	KQA/8100/00
KA/8125/M/*	125	G1/2	32	M/50/LSU/5V	QM/27/2/1	10K511248	102251248	102471248	KQA/8125/00
KA/8160/M/*	160	G3/4	40	M/50/LSU/5V	QM/27/2/1	–	–	–	KQA/8160/00
KA/8200/M/*	200	G3/4	40	M/50/LSU/5V	QM/27/2/1	–	–	–	KQA/8200/00

* Insert stroke length up to a maximum of 2,500 mm.
Please call your local team for latest availability.
Note: for best availability always choose a standard stroke length from the table below.

Note that the fittings shown are nickel plated brass.
Alternatively our Pneufit S range offers full stainless steel versions.
Refer to our fittings section.

STAINLESS STEEL TIE-ROD CYLINDERS

KA/8000/M Double Acting – Ø 32 … 200mm

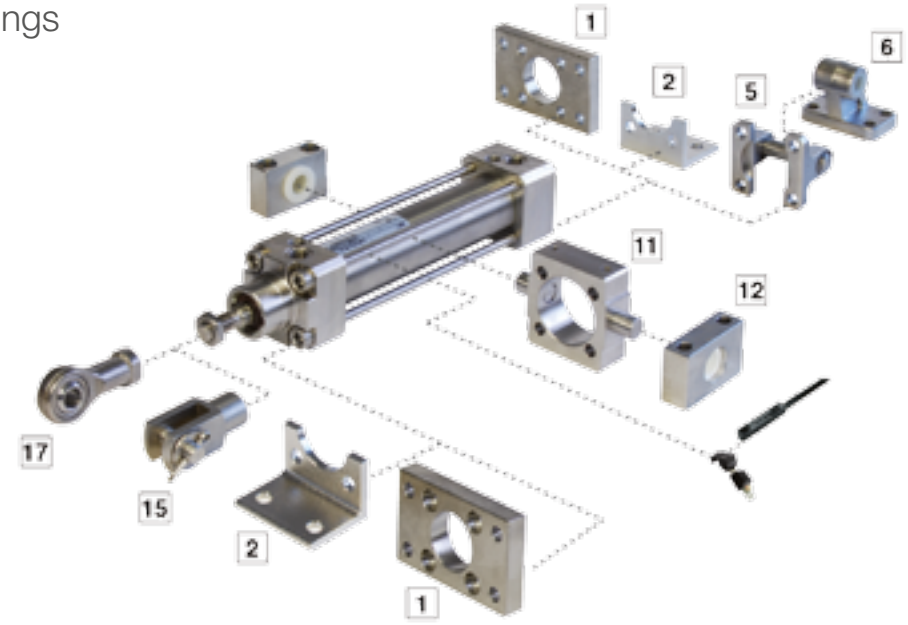
Standard strokes

Cylinder	Stroke length (mm)										
Ø (mm)	25	50	80	100	125	160	200	250	320	400	500
32	•	•	•	•	•	•	•	•	•	•	•
40	•	•	•	•	•	•	•	•	•	•	•
50	•	•	•	•	•	•	•	•	•	•	•
63	•	•	•	•	•	•	•	•	•	•	•
80	•	•	•	•	•	•	•	•	•	•	•
100	•	•	•	•	•	•	•	•	•	•	•
125	•	•	•	•	•	•	•	•	•	•	•
160	•	•	•	•	•	•	•	•	•	•	•
200	•	•	•	•	•	•	•	•	•	•	•

Options

- Heat resistant seals
- Special wiper seals
- Cushions removed
- Double ended piston rod
- Non Magnetic

Mountings



Cyl. Ø	B, G 1	C 2	D 5	F 15	S 12	SW 6	UF 17	UH 11	Switch mounting brackets for M/50
									
32	KQA/8032/22	KQA/8032/21	KQA/8032/23	KQM/55433/25	KQA/8032/41	M/P72288	KQM/8032/32	KQA/8032/40	QM/27/2/1
40	KQA/8040/22	KQA/8040/21	KQA/8040/23	KQM/55441/25	KQA/8040/41	M/P72289	KQM/8040/32	KQA/8040/40	QM/27/2/1
50	KQA/8050/22	KQA/8050/21	KQA/8050/23	KQM/55451/25	KQA/8040/41	M/P72290	KQM/8050/32	KQA/8050/40	QM/27/2/1
63	KQA/8063/22	KQA/8063/21	KQA/8063/23	KQM/55451/25	KQA/8063/41	M/P72291	KQM/8050/32	KQA/8063/40	QM/27/2/1
80	KQA/8080/22	KQA/8080/21	KQA/8080/23	KQA/8080/25	KQA/8063/41	M/P72292	KQM/8080/32	KQA/8080/40	QM/27/2/1
100	KQA/8100/22	KQA/8100/21	KQA/8100/23	KQA/8080/25	KQA/8100/41	M/P72293	KQM/8080/32	KQA/8100/40	QM/27/2/1
125	KQA/8125/22	KQA/8125/21	KQA/8125/23	KQA/8125/25	KQA/8100/41	–	KQM/8125/32	KQA/8125/40	QM/27/2/1
160	–	–	–	–	–	–	–	–	QM/27/2/1
200	–	–	–	–	–	–	–	–	QM/27/2/1

Online at **store.norgren.com**

STAINLESS COMPACT AIR BELLOWS

KM/31000 Single acting, stainless steel end plates – Ø 8 … 14 1/2"

- Almost frictionless operation
- No maintenance or lubrication
- High vibration isolation level
- Easy, compact installation

Technical Data

Medium:
Compressed air lubricated or unlubricated, Nitrogen, water (with glycol)

Operating pressure:
5,5 bar recommended dynamic pressure 8 bar max.

Ambient temperature:
KM/31000 (Standard): -30° … +50°C, -40° … +70°C*
IR for TKM/31000: -20° … +70°C, -25° … +90°C*
ECO for EKM/31000: +50° … +115°C, -20° … +130°C*
* The number represent the maximum permissible operating temperature. It is suitable to be operated with restriction at this temperature, the air bellow may have a reduced life time!

Materials

End plates, Studs & Central ring:
Stainless steel (1.4305)

Bellow:
KM/31000: NR/BR, SBR compound rubber
TKM/31000: IR
EKM/31000: ECO



Important instructions:

Thrust:

The thrust depends on the height of the bellow. When height increases - the thrust decreases.

- Before installing the air bellow, check it carefully for any damage it may have suffered from transport or improper storage.
- Do not inflate the air bellow until it has been secured properly.

Clearance:

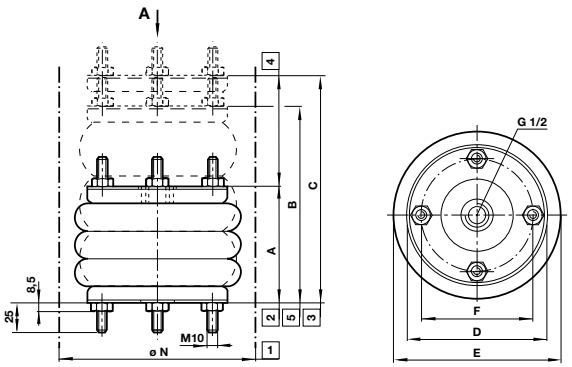
There must be enough clearance around the air bellow.

- The full surface of the metal parts is to be used to bear the forces.
- Air bellows must be equipped with lateral guides.
- Deflate the air bellows fully before removing
- Ensure that the bellows is not constantly in contact with hydraulic oil, lubricants, solvents, metal cuttings and welding sparks.
- Should the air bellow be subjected to special media in an application, ask IMI Precision Engineering for further information, specifying the medium, temperature and concentration

Stops:

To avoid damage when the bellow is compressed or extended mechanical stops at both end positions have to be used.

Dimensions



1 Installation diameter min.
2 Installation height min.
3 Installation height max.
4 Stroke
5 Recommended max. working height

Options

- High temperature
- Extreme temperature

Models	Nominal Ø (inch) x convolutions	Recommended max. working height B (mm)	Stroke (mm)	Installation height A min. (mm)	Installation height C max. (mm)	Max. torque for mounting studs (Nm)	Ø E	Ø D	Ø F	Ø N	Weight (kg)
KM/31081	8" x 1	115	75	50	130	25	230	184	155,5	245	3
KM/31082	8" x 2	220	175	75	250	25	230	184	155,5	245	3,7
KM/31101	10" x 1	135	100	50	150	25	270	210	181	300	4,1
KM/31102	10" x 2	245	225	75	300	25	270	210	181	300	4,7
KM/31103	10" x 3	350	330	100	430	25	270	210	181	300	5,2
KM/31121	12" x 1	135	100	50	150	25	330	260	232	350	5,4
KM/31122	12" x 2	245	225	75	300	25	330	260	232	350	6,2
KM/31123	12" x 3	350	330	100	430	25	330	260	232	350	6,9
KM/31141	14 1/2" x 1	135	100	50	150	25	400	310	282,5	425	7,1
KM/31142	14 1/2" x 2	290	265	75	340	25	400	310	282,5	425	8,3
KM/31143	14 1/2" x 3	420	380	100	480	25	400	310	282,5	425	9,6

STAINLESS ROUNDLINE CYLINDERS

KM/55001/M Double acting, Stainless steel – Ø 32 … 125 mm

- Clean line design
- High corrosion and acid resistance
- Magnetic piston as standard
- Suitable for applications in the food industry
- Special wiper/seal as standard

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
Double acting, magnetic piston, adjustable cushioning

Operating pressure:
1 … 10 bar

Non-standard strokes:
Non-standard strokes (1600 mm max. available)

Ambient temperature:
-20°C … +80°C
Maximum 150°C heat resistant seals
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Barrel:
X5 Cr Ni 18 10 (1.4301; AISI 304)

End covers:
X10 Cr Ni S 18 9 (1.4305; AISI 303)

Piston rod:
X10 Cr Ni S 18 9 (1.4305; AISI 303)

O-rings:
FPM

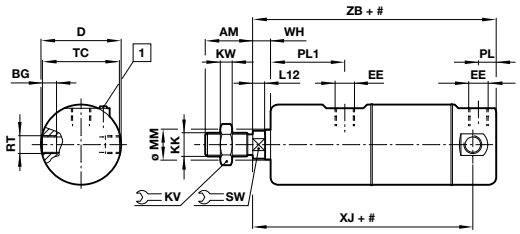
Piston seal:
PUR

Cushion seal:
NBR

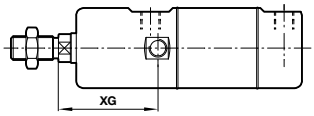


Dimensions

Standard cylinders
KM/55001/M – Standard cylinders with female threads on rear end cover for trunning mounting



Cylinder variant
KM/55001/MFT – Standard cylinders with female threads on front end cover for trunning mounting



= Stroke
1 Cushion screw

Models	Ø	AM	BG	Ø D	EE	KK	KV	KW	L12	Ø MM	PL	PL1	RT	SW	TC	WH	XL	XG	ZB	kg at 0 mm	kg per 25 mm
KM/55033/M/*	32	22	6	36	G 1/8	M10 x 1,25	17	5	6	12	9	39	M8 x 1	10	34,5	8	124,5	47	132	0,78	0,06
KM/55041/M/*	40	24	8	44	G 1/4	M12 x 1,25	19	6	6,5	16	15	50	M10 x 1	13	42	10	142	57	154	1,36	0,09
KM/55051/M/*	50	32	9,5	54	G 1/4	M16 x 1,5	24	8	8	20	12	50	M12 x 1,5	17	52	12	152	62	164	2,25	0,13
KM/55064/M/*	63	32	10	68	G 3/8	M16 x 1,5	24	8	8	20	13	51	M14 x 1,5	17	66	13	159	64	172	3,78	0,16
KM/55081/M/*	80	40	18	86	G 3/8	M20 x 1,5	30	10	10	25	16	47	M16 x 1,5	22	83,5	13	160	60	176	5,99	0,25
KM/55101/M/*	100	40	22	106	G 1/2	M20 x 1,5	30	10	10	25	19	47	M20 x 1,5	22	102,5	15	178	62	197	10,36	0,29
KM/55126/M/*	125	54	29	133	G 1/2	M27 x 2	41	13,5	13	32	17,5	62,5	M24 x 1,5	27	128,5	20	207,5	82,5	225	22,97	0,48

* Please insert stroke length.

Models

Magnetic Model	Cylinder Ø (mm)	Cushion length (mm)	Port size	Piston rod Ø (mm)	Piston rod thread (mm)
KM/55033/M/*	32	19	G1/8	12	M10 x 1,25
KM/55041/M/*	40	22	G1/4	16	M12 x 1,25
KM/55051/M/*	50	24	G1/4	20	M16 x 1,5
KM/55064/M/*	63	24	G3/8	20	M16 x 1,5
KM/55081/M/*	80	27	G3/8	25	M20 x 1,5
KM/55101/M/*	100	34	G1/2	25	M20 x 1,5
KM/55126/M/*	125	41	G1/2	32	M27 x 2

IMI Precision Engineering
For further information, visit store.norgren.com and use the new improved search function. If you cannot see the option you require please contact us.
IMI NORGREN

STAINLESS ROUNDLINE CYLINDERS

KM/55001/M Double acting, Stainless steel – Ø 32 … 125 mm

Options

- Hard Chrome piston rod
- Integral clevis mounting
- Integral eye mounting
- Integral universal rear eye
- Double ended piston rod

Mountings and accessories

Standard cylinders



Cylinder variant



Position	Style	Stainless steel
1	B/G	Flange mounting: X 5 Cr Ni 18 10 (1.4301; AISI 304)
2	C	Foot mounting: X 5 Cr Ni 18 10 (1.4301; AISI 304)
6	L	Rear hinge mounting: X 5 Cr Ni 18 10 (1.4301; AISI 304), Bolt: X 10 Cr Ni S 18 9 (1.4305; AISI 303), Eyebolt: X 10 Cr Ni S 18 9 (1.4305; AISI 303)
11	H	Central trunnion: X 10 Cr Ni S 18 9 (1.4305; AISI 303)
15	F	Piston rod clevis mounting: X 10 Cr Ni S 18 9 (1.4305; AISI
17	UF	Body: X 5 Cr Ni 18 10 (1.4301; AISI 304), Inner ring: X 105 Cr Co 18-2 (1.4528), Outer ring: X 10 Cr Ni S 18 9 (1.4305; AISI 303)
29	Nose nut	X 10 Cr Ni S 18 9 (1.4305; AISI 303)
30	Bracket for switches	Body ø 32 … 80 mm POM, ø 100 & 125 mm stainless steel Screws stainless steel

Cyl. Ø	B, G 1	C 2	F 8	H 13	L 12	N 3	UF 6	Switch mounting Stroke >= 15mm 9	Magnetically operated switches	Service kit
										
32	M/P34297	KQM/55433/21	KQM/55433/25	QM/55232/28	KQM/55032/24	M/P34276	KQM/8025/32	QM/33/432/22	M/50/LSU/5V	KQM/55032/00
40	M/P34298	KQM/55441/21	KQM/55441/25	QM/55240/28	KQM/55040/24	M/P34277	KQM/8040/32	QM/33/440/22	M/50/LSU/5V	KQM/55040/00
50	M/P34299	KQM/55451/21	KQM/55451/25	QM/55250/28	KQM/55050/24	M/P34278	KQM/8050/32	QM/33/450/22	M/50/LSU/5V	KQM/55050/00
63	M/P34300	KQM/55464/21	KQM/55451/25	QM/55263/28	KQM/55063/24	M/P34278	KQM/8050/32	QM/33/463/22	M/50/LSU/5V	KQM/55063/00
80	–	–	KQA/8080/25	QM/55480/28	KQM/55080/24	–	KQM/8080/32	QM/33/480/22	M/50/LSU/5V	KQM/55080/00
100	–	–	KQA/8080/25	QM/55410/28	KQM/55100/24	–	KQM/8080/32	QM/33/100/22	M/50/LSU/5V	KQM/55100/00
125	–	–	KQA/8125/25	QM/55125/28	KQM/55125/24	–	KQM/8125/32	QM/33/125/22	M/50/LSU/5V	KQM/55125/00

Online at **store.norgren.com**

COMPACT AIR BELLOWS

PM/31000 Single acting – Ø 2 3/4 … 12"

- Frictionless operation
- No maintenance or lubrication
- Ideal for short stroke, high-force applications
- High vibration isolation level
- Easy, compact installation

Technical Data

Medium:
Compressed air lubricated or unlubricated, Nitrogen, water (with glycol)

Operating pressure:
5,5 bar recommanded dynamic pressure 8 bar max.

Ambient temperature:
-40°C … +70°C "Static"
-30°C … +50°C "Dynamic"
When operated at this temperature (+70°C) for prolonged periods, the bellow will experience a reduce working life.
Static = constant/unchanging external load
Dynamic = vibration or a changing internal pressure as a result of changing external load

Materials

End plates:
Aluminium Ø 2 3/4 … 6 inch, steel chromated Ø 8, 9 1/4, 12 inch

Central ring:
Aluminium or steel chromated

Bellow:
Fabric reinforced NR/BR, SBR-compound rubber

EXPRESS



Important instructions:

Thrust:
The thrust depends on the height of the bellow. When height increases - the thrust decreases.

- Before installing the air bellow, check it carefully for any damage it may have suffered from transport or improper storage.
- Do not inflate the air bellow until it has been secured properly.

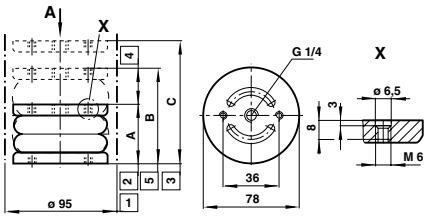
Clearance:
There must be enough clearance around the air bellow.

- The full surface of the metal parts is to be used to bear the forces.
- Air bellows must be equipped with lateral guides.
- Deflate the air bellows fully before removing
- Ensure that the bellows are not constantly in contact with hydraulic oil, lubricants, solvents, metal cuttings and welding sparks.
- Should the air bellow be subjected to special media in an application, ask IMI Precision Engineering for further information, specifying the medium, temperature and concentration

Stops:
To avoid damage when the bellow is compressed or extended mechanical stops at both end positions have to be used.

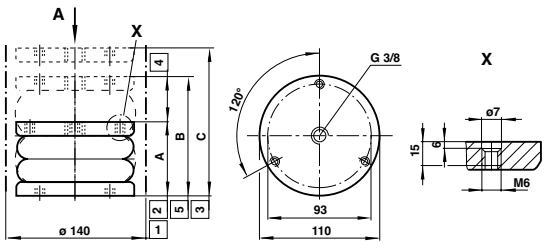
Dimensions

PM/31021, PM/31022, PM/31023



1 Installation diameter min.
2 Installation height min.
3 Installation height max.
4 Stroke
5 Recommended max. working height

PM/31041, PM/31042, PM/31043



Models	Norminal Ø (inch) x convolutions	Recommended max. working height B (mm)	Stroke (mm)	Installation height A min. (mm)	Installation height C max. (mm)	Max. torque for mounting studs (Nm)	Weight (kg)
PM/31021	2 3/4 x 1	65	20	50	70	5	0,35
PM/31022	2 3/4 x 2	105	45	65	110	5	0,4
PM/31023	2 3/4 x 3	130	60	80	140	5	0,5
PM/31041	4 1/2 x 1	80	40	50	90	5	0,75
PM/31042	4 1/2 x 2	135	85	65	150	5	0,95
PM/31043	4 1/2 x 3	180	100	100	200	5	1,2

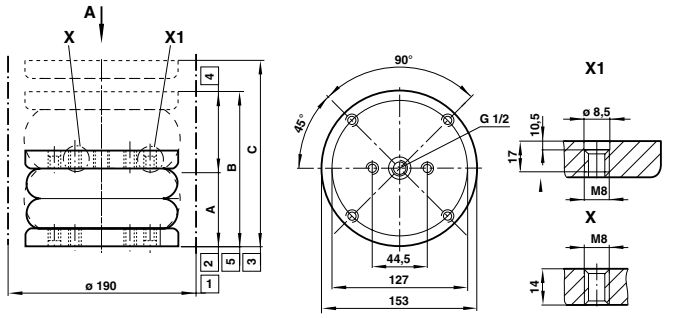
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IMI NORGREN

COMPACT AIR BELLOWS

PM/31000 Single acting – Ø 2 3/4 … 12"

Dimensions

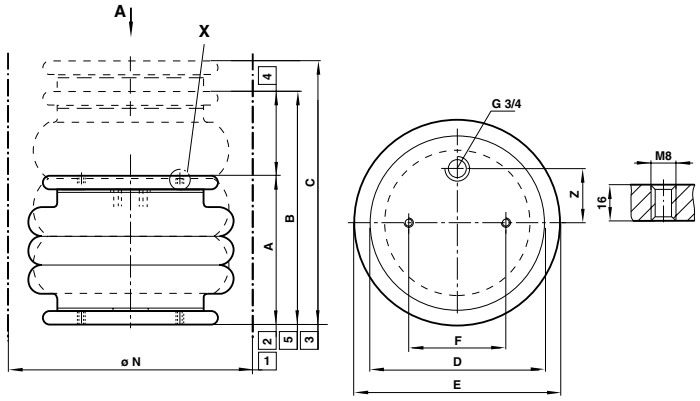
PM/31061 to PM/31063



1 Installation diameter min.
2 Installation height min.
3 Installation height max.
4 Stroke
5 Recommended max. working height

Models	Norminal Ø (inch) x convolutions	Recommended max. working height B (mm)	Stroke (mm)	Installation height A min. (mm)	Installation height C max. (mm)	Max. torque for mounting studs (Nm)	Weight (kg)
PM/31061	6 x 1	100	55	55	110	12	2
PM/31062	6 x 2	170	115	80	190	12	2,7
PM/31063	6 x 3	255	190	100	285	12	3

PM/31081 to PM/31123



1 Installation diameter min.
2 Installation height min.
3 Installation height max.
4 Stroke
5 Recommended max. working height

Models	Norminal Ø (inch) x convolutions	Recommended max. working height B (mm)	Stroke (mm)	Installation height A min. (mm)	Installation height C max. (mm)	Max. torque for mounting studs (Nm)	Ø E	Ø D	Ø F	Ø N	Z	Weight (kg)
PM/31081	8 x 1	140	95	55	140	12	225	133	70	240	–	1,8
PM/31082	8 x 2	250	185	80	250	12	220	133	70	240	–	2,3
PM/31091	9 1/4 x 1	150	105	55	150	12	255	155	89	275	38	2,3
PM/31092	9 1/4 x 2	295	230	80	310	12	255	155	89	275	38	3,1
PM/31121	12 x 1	151	129	51	180	25	343	228	157	360	73	4,3
PM/31122	12 x 2	265	230	75	305	25	325	228	157	340	73	4,8
PM/31123	12 x 3	395	320	110	430	25	325	228	157	345	73	5,9

Options

- High Temperature
- Extreme Temperature

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AIR BELLOWS

M/31000 & M/32000 Single acting – Ø 6 … 26”

- Frictionless operation
- No maintenance or lubrication
- High vibration isolation level
- Simple to install

Technical Data

Medium:
Compressed air lubricated or unlubricated, Nitrogen, water (with glycol)

Operating pressure:
5,5 bar recommanded dynamic pressure 8 bar max.

Ambient temperature:
-40°C … +70°C “Static”
-30°C … +50°C “Dynamic”
When operated at this temperature (+70°C) for pro-longed periods, the bellow will experience a reduce working life.
Static = constant/unchanging external load
Dynamic = vibration or a changing internal pressure as a result of changing external load

Materials

End plates:
Steel, chromplated

Studs:
Steel, zinc plated

Central ring:
Aluminium or steel, chromplated, partly moulded in

Bellow:
M/31000, M/32000: NR/BR, SBR compound rubber
TM/31000, TM/32000: IR
EM/31000, EM/32000: ECO



Important instructions:

Thrust:

The thrust depends on the height of the bellow. When height increases - the thrust decreases.

- Before installing the air bellow, check it carefully for any damage it may have suffered from transport or improper storage.
- Do not inflate the air bellow until it has been secured properly.

Clearance:

There must be enough clearance around the air bellow.

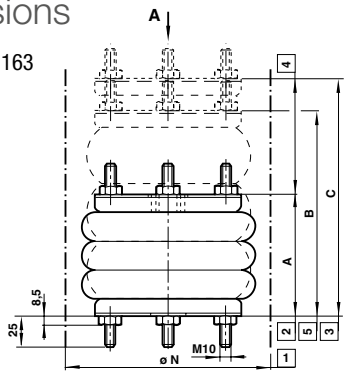
- The full surface of the metal parts is to be used to bear the forces.
- Air bellows must be equipped with lateral guides.
- Deflate the air bellows fully before removing.
- Ensure that the bellows are not constantly in contact with hydraulic oil, lubricants, solvents, metal cuttings and welding sparks.
- Should the air bellow be subjected to special media in an application, ask IMI Precision Engineering for further information, specifying the medium, temperature and concentration.

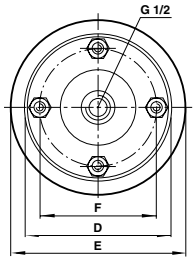
Stops:

To avoid damage when the bellow is compressed or extended mechanical stops at both end positions have to be used.

Dimensions

M/31061 … M/31163





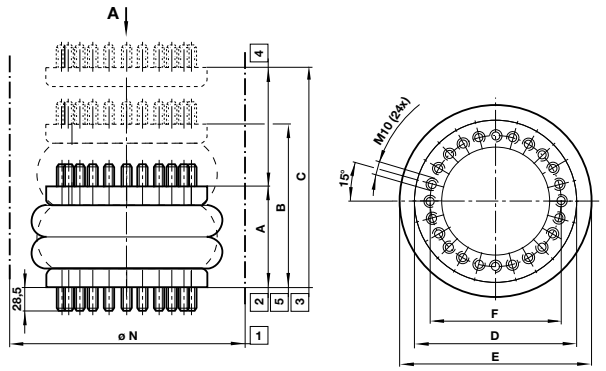
1 Installation diameter min.
2 Installation height min.
3 Installation height max.
4 Stroke
5 Recommended max. working height

Models	Norminal Ø (inch) x convolutions	Recommended max. working height B (mm)	Stroke (mm)	Installation height A min. (mm)	Installation height C max. (mm)	Max. torque for mounting studs (Nm)	Ø E	Ø D	Ø F	Ø N	Weight (kg)
M/31061	6 x 1	95	55	50	105	25	175	154	127	190	2,2
M/31062	6 x 2	170	115	75	190	25	175	154	127	190	2,7
M/31081	8 x 1	115	75	50	130	25	230	184	155	245	3
M/31082	8 x 2	220	175	75	250	25	230	184	155	245	3,7
M/31101	10 x 1	135	100	50	150	25	270	210	181	300	4,1
M/31102	10 x 2	245	225	75	300	25	270	210	181	300	4,7
M/31103	10 x 3	350	330	100	430	25	270	210	181	300	5,2
M/31121	12 x 1	135	100	50	150	25	330	260	232	350	5,4
M/31122	12 x 2	245	225	75	300	25	330	260	232	350	6,2
M/31123	12 x 3	350	330	100	430	25	330	260	232	350	6,9
M/31141	14 1/2 x 1	150	100	50	150	25	400	310	282	425	7,1
M/31142	14 1/2 x 2	290	265	75	340	25	400	310	282	425	8,3
M/31143	14 1/2 x 3	420	380	100	480	25	400	310	282	425	9,6
M/31162	16 x 2	350	350	75	390	25	435	310	282	460	7,6
M/31163	16 x 3	475	430	120	550	25	435	310	282	460	10,4

Online at **store.norgren.com**

AIR BELLOWS
M/31000 & M/32000 Single acting – Ø 6 … 26”

M/32212

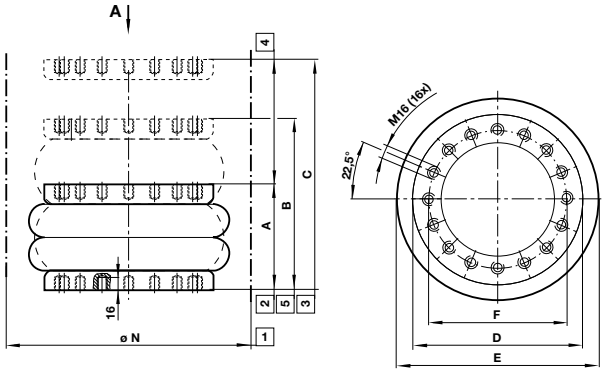


1 Installation diameter min.
2 Installation height min.
3 Installation height max.
4 Stroke
5 Recommended max. working height

Models	Norminal Ø (inch) x convolutions	Recommended max. working height B (mm)	Stroke (mm)	Installation height A min. (mm)	Installation height C max. (mm)	Max. torque for mounting studs (Nm)	Ø E	Ø D	Ø F	Ø N	Weight (kg)
M/32212	21" x 2	284	251	84	335	40	577	517	482	620	12,0

Caution: End plates aren't included as standard in scope of supply of air bellows. Consult our technical service for details of end plates.

M/32262



1 Installation diameter min.
2 Installation height min.
3 Installation height max.
4 Stroke
5 Recommended max. working height

Models	Norminal Ø (inch) x convolutions	Recommended max. working height B (mm)	Stroke (mm)	Installation height A min. (mm)	Installation height C max. (mm)	Max. torque for mounting studs (Nm)	Ø E	Ø D	Ø F	Ø N	Weight (kg)
M/32262	26" x 2	425	400	100	500	100	710	750	495	750	33,2

Caution: End plates aren't included as standard in scope of supply of air bellows. Consult our technical service for details of end plates.

Options

- High Temperature
- Extreme Temperature

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MINIATURE SHOCK ABSORBERS

MC Series Self-Compensating

- Maintenance free, self-contained hydraulic components
- Provides the highest possible cycle lifetime; up to 25 million cycles
- Extremely low rod return force
- Can be directly mounted into the end cover of pneumatic cylinders (up to 7 bar)
- Integral positive stop incorporated on all models

Technical Data

Impact velocity range:
0,08 … 6 m/s
(ensure that effective weight of application is within range of unit selected.)

W_4 capacity rating (max. energy per hour Nm/hr):
If your application exceeds tabulated W4 figures consider additional cooling i. e. cylinder exhaust air etc.

Mounting:
In any position. If precise end position datum is required consider use of the optional stop collar type AH

Ambient temperature:
0°C … +66°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Body:
Steel with black oxide finish

Piston rod:
Hardened stainless steel

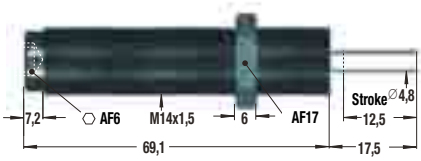
Rolling diaphragm seal:
EPDM
Note: seal not compatible with petroleum based fluids



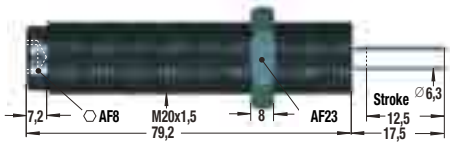
ACE

Dimensions

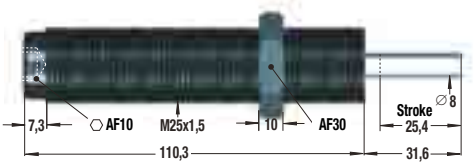
MC 150 M



MC 225 M



MC 600 M



Models

Accessories

Model	Max. energy capacity Nm per cycle per hour W_3	W_4	Effective weight me Self-compensating min	kg	max	Return force N	Rod reset time s	Max. side load angle o	Nylon button	Rectangular flange	Clamp mount	Stop collar
												
MC 150 M	20	34 000	0,9	–	10	3 - 5	0,4	4	PP 150	RF 14	MB 14	AH14
MC 150 MH	20	34 000	8,6	–	86	3 - 5	0,4	4	PP 150	RF 14	MB 14	AH14
MC 150 MH2	20	34 000	70	–	200	3 - 5	0,4	4	PP 150	RF 14	MB 14	AH14
MC 225 M	41	45 000	2,3	–	25	4 - 6	0,3	4	PP 225	RF 20	MB 20	AH20
MC 225 MH	41	45 000	23	–	230	4 - 6	0,3	4	PP 225	RF 20	MB 20	AH20
MC 225 MH2	41	45 000	180	–	910	4 - 6	0,3	4	PP 225	RF 20	MB 20	AH20
MC 600 M	136	68 000	9	–	136	5 - 9	0,6	2	PP 600	RF 25	MB 25	AH25
MC 600 MH	136	68 000	113	–	1 130	5 - 9	0,6	2	PP 600	RF 25	MB 25	AH25
MC 600 MH2	136	68 000	400	–	2 300	5 - 9	0,6	2	PP 600	RF 25	MB 25	AH25

Online at store.norgren.com

MINIATURE SHOCK ABSORBERS

MA Series Adjustable

- Maintenance free, self-contained hydraulic components
- Integrated mechanical stop (MA 225 upwards)
- Long stroke lengths to provide smooth deceleration and low reaction forces

Technical Data

Adjustment:
On model MA 150: by turning the adjustment screw at rear. On MA 225 and MA 600: by turning the adjustment knob against the scale marked 0 to 9. After installation, cycle the machine a few times and turn the adjustment knob until optimum deceleration is achieved (i.e. smooth deceleration throughout stroke). Hard impact at start of stroke > Turn adjuster towards '9' Hard setdown at end of stroke > Turn adjuster towards '0'.

Impact velocity range:
0,3 … 3,6 m/s (check effective weight calculation.): FA units max. 2 m/s.

W_4 capacity rating (max. energy per hour Nm/hr):
If your application exceeds tabulated W_4 figures consider additional cooling i. e. cylinder exhaust air etc.

Mounting:
In any position. If precise end position datum is required consider use of the optional stop collar type AH.

Ambient temperature:
0°C … +66°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Body:
Steel with black oxide finish

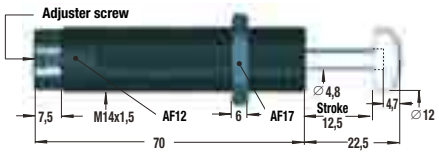
Piston rod:
Hardened stainless steel



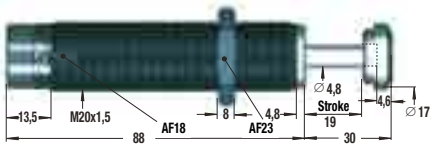
ACE

Dimensions

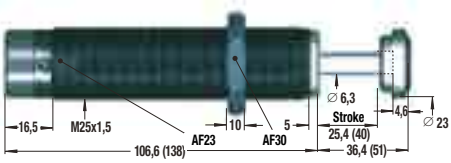
MA 150 M



MA 225 M



MA 600 M

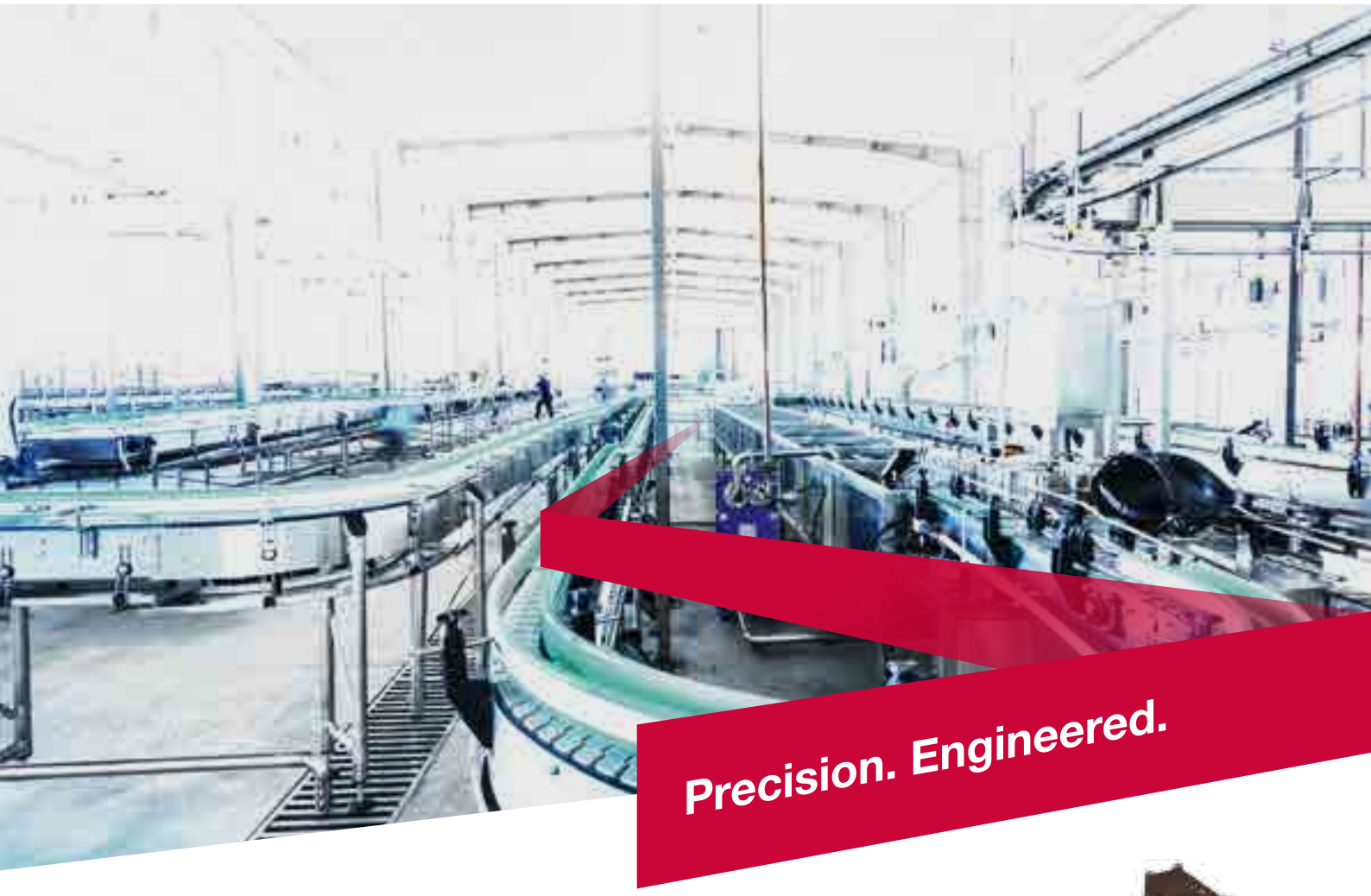


Models

Accessories

Model	Max. energy capacity Nm per cycle per hour W_3	W_4	Effective weight me Self-compensating min	kg	max	Return force N	Rod reset time s	Max. side load angle o	Rectangular flange	Clamp mount	Stop collar
											
MA 150 M	22	35 000	1	–	109	3 - 5	0,4	5	RF 14	MB14	AH14
MA 225 M	25	45 000	2,3	–	226	5 - 10	0,1	2	RF 20	MB 20	AH20
MA 600 M	68	68 000	9	–	1360	10 - 30	0,2	2	RF 25	MB 25	AH25

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AIR/ OIL PRESSURE CONVERTER

M/55900 0,25 … 5 dm³

- Basic module to convert pneumatic pressure into hydraulic pressure
- Simple to install
- Corrosion resistant construction
- Integrated oil level indicator

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Oil filling:
Mineralic hydraulic oils ISO VG 32 or ISO VG 46 according to DIN 51524

Installation:
Only vertical, oil port below

Operating pressure:
10 bar max.

Volume:
0,25 … 5 dm³
To calculate the volume of the pressure converter 50% must be added to the volume of the cylinder

Ambient temperature:
-20°C … +60°C max.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Barrel:
Anodised aluminium alloy

End covers:
Anodised aluminium alloy

Baffle plates:
Anodised aluminium alloy

Fittings:
Brass

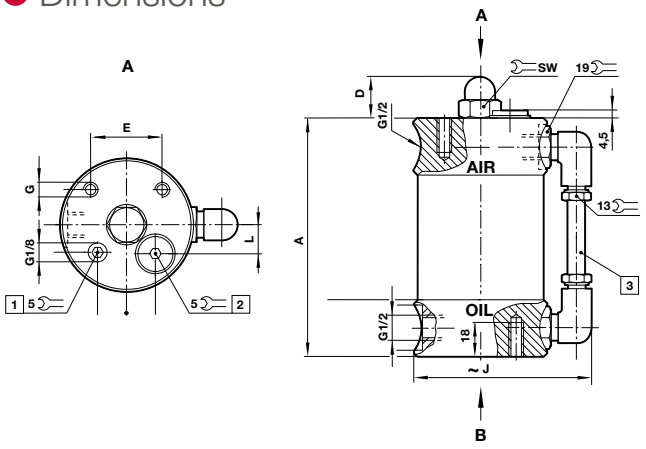
Screws and nuts:
Zinc plated steel

Oil level indicator:
PA-tube

Seals:
NBR



Dimensions



1 For using gauge:
Please order gauge, nippled connector (150201818) and straight connector (160221818) separately.
2 Oil filling plug
3 Oil level indicator

Model	Volume (dm³)	A	D	E	G	Ø H	J	SW
M/55903	0,25	150	23	38	M 6	69	95	19
M/55905	0,5	232	23	38	M 6	69	95	19
M/55908	0,75	315	23	38	M 6	69	95	19
M/55910	1	400	23	38	M 6	69	95	19
M/55915	1,5	564	23	38	M 6	69	95	19
M/55920	2	730	23	38	M 6	69	95	19
M/55930	3	472	35	56,5	M 8	108	135	30
M/55940	4	604	35	56,5	M 8	108	135	30
M/55950	5	736	35	56,5	M 8	108	135	30

Models & Mountings

Model	A	C
		
M/55903	QM/8032/35	QA/8040/21
M/55905	QM/8032/35	QA/8040/21
M/55908	QM/8032/35	QA/8040/21
M/55910	QM/8032/35	QA/8040/21
M/55915	QM/8032/35	QA/8040/21
M/55920	QM/8032/35	QA/8040/21
M/55930	QM/8050/35	QA/8063/21
M/55940	QM/8050/35	QA/8063/21
M/55950	QM/8050/35	QA/8063/21

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IMI Precision Engineering

MAGNETICALLY OPERATED SWITCHES

M/50 Reed and Solid State

- Suitable for all cylinder ranges with magnetic piston
- When used on profile bodied actuators, switch fits flush with surface and requires no mounting bracket or adaptor
- LED indicator – Solid State (standard), Reed (LSU models only)
- Solid State switches are up to 4000 times faster in operation and have greater life expectancy

Technical Data

Operation:
Reed normally open
Solid State normally open PNP/NPN

Voltage a.c.:
Reed 10 … 240V
(M/50/LSU/CP 10 … 60V)

Voltage d.c.:
Reed 10 … 170V
(M/50/LSU/CP 10 … 60V)
Solid State 10 … 30V

Current max.:
Reed 180mA
Solid State 150mA

Response time:
Reed 1,8 ms
Solid State <0,5 ms

Materials

Body:
Plastic

EXPRESS



Models - Reed and ATEX approved switches

Accessories

Model	LED (Yellow)	Cable length / plug	Temperature range	Cable material	Features	Extension cable 5 m (PVC)	Extension cable 10 m (PVC)	Extension cable 5 m (PUR)
M/50/LSU/2V	•	2 m	-25 … +80°C	PVC	Protection IP66	–	–	–
M/50/LSU/5V	•	5 m	-25 … +80°C	PVC	Protection IP66	–	–	–
M/50/LSU/10V	•	10 m	-25 … +80°C	PVC	Protection IP66	–	–	–
M/50/LSU/CP	•	0,3 m with M8 Plug	-25 … +80°C	PVC	Protection IP66	M/P73001/5	M/P73001/10	M/P73002/5
M/50/LXU/5V	•	5 m	-20 … +50°C	PVC	II 3G Ex nc IIC T5 Gc X II 3D Ex tc IIIC T120ºC DC IP67 X	–	–	–
M/50/LSU/5U	•	5 m	-25 … +80°C	PUR	Very flexible cable	–	–	–
M/50/RAC/5V	–	5 m	-25 … +80°C	PVC	Changeover contacts	–	–	–
TM/50/RAU/2S	–	2 m	-25 … +150°C	Silicon	High temperature	–	–	–

Models - Solid State and Atex approved switches

Accessories

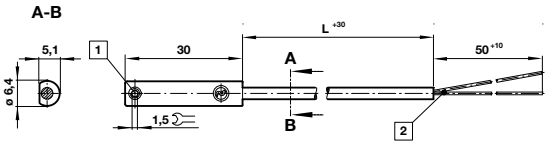
Model	LED (Yellow)	Cable length / plug	Switching function	Temp range	Cable material	Ex-Identification	Extension cable 5 m (PVC)	Extension cable 10 m (PVC)	Extension cable 5 m (PUR)
M/50/EAP/2V	•	2 m	PNP	-40 … +80°C	PVC	–	–	–	–
M/50/EAP/5V	•	5 m	PNP	-40 … +80°C	PVC	–	–	–	–
M/50/EAP/10V	•	10 m	PNP	-40 … +80°C	PVC	–	–	–	–
M/50/EAP/CP	•	0,3 m with M8 Plug	PNP	-40 … +80°C	PVC	–	M/P73001/5	M/P73001/10	M/P73002/5
M/50/EAP/CC	•	0,3 m with M12 Plug	PNP	-40 … +80°C	PVC	–	M/P34692/5	–	M/P34594/5
M/50/EAP/5U	•	5 m	PNP	-40 … +80°C	PUR	–	–	–	–
M/50/EAP/10U	•	10 m	PNP	-40 … +80°C	PUR	–	–	–	–
M/50/EXP/5V	•	5 m	PNP	-20 … +50°C	PVC	II 3G Ex nA op i5 IIC T4 Gc X II 3D Ex tc IIIC T110°C DC IP67 X	–	–	–
M/50/EAN/2V	•	2 m	NPN	-40 … +80°C	PVC	–	–	–	–
M/50/EAN/5V	•	5 m	NPN	-40 … +80°C	PVC	–	–	–	–
M/50/EAN/CP	•	0,3 m with M8 Plug	NPN	-40 … +80°C	PVC	–	M/P73001/5	M/P73001/10	M/P73002/5

Note: If a bracket/adapter is required to attach a switch to a cylinder this part number is shown on the relevant actuator product page.

Dimensions

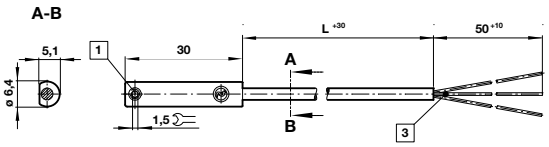
M/50/LSU/*V, M/50/LSU/5U, TM/50/RAU/2S
Cable length L = 2, 5 or 10 m





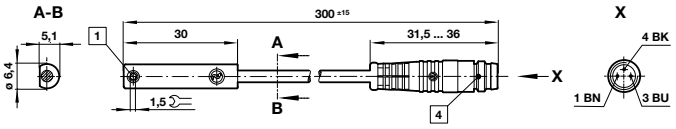
M/50/RAC/5V
Cable length L = 5 m





M/50/LSU/CP

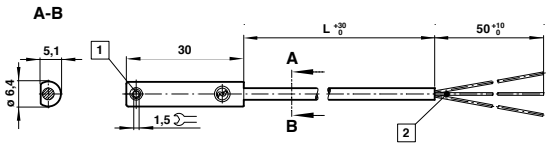




1 Fixing screw
2 + BN = brown; - BU = blue (output)
3 - BK = black; + BN = brown; - ≠BU = blue
4 Plug M8 x 1, color code: BK = black; BN = brown; BU = blue

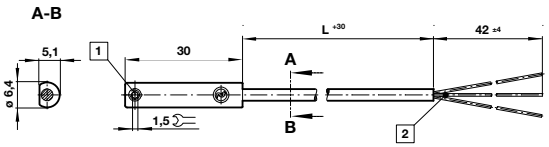
M/50/LXU/5V
Cable length L = 5 m





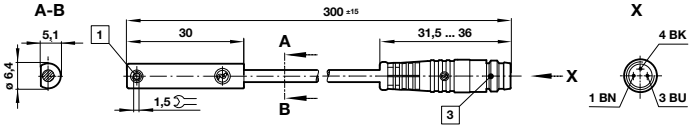
M/50/EAP/*V, M/50/EAN/*V
Cable length L = 2, 5 or 10 m





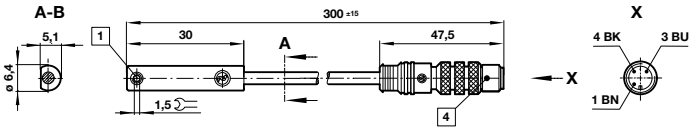
M/50/EAP/CP, M/50/EAN/CP





M/50/EAP/CC





1 Fixing screw
2 Color code: BK = black; BN = brown; BU = blue
3 Plug M8 x 1
4 Plug M12 x 1

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MAGNETICALLY OPERATED SWITCHES

QM/132, TQM/31, QM/32 Reed and Solid State

- LED indicator as standard (QM series)
- Solid State switches particularly suited for areas with high levels of vibration

Technical Data

Operation:
Reed normally open (QM/32 with LED)
Solid state - PNP open collector output with LED

Voltage a.c.:
Reed 10 … 240 V

Voltage d.c.:
Reed 10 … 240 V
Solid State 10 … 30 V

Current max.:
Reed 1 A max.
Solid State 200 mA max.

Response time:
3 ms (Reed)
0,2 ms (Solid State)

Materials

Body:
Plastic



Models - Reed switches

QM 32 Series Model	LED (Yellow)	Cable length / plug	Temperature range	Cable material	Features	Accessories: Extension cable 5 m (PVC)	Accessories: Extension cable 10 m (PVC)	Accessories: Extension cable 5 m (PUR)
QM/32/2	•	2 m	-20 … +80°C	PVC	–	–	–	–
QM/32/5	•	5 m	-20 … +80°C	PVC	–	–	–	–
QM/32/10	•	10 m	-20 … +80°C	PVC	–	–	–	–
QM/32/P	•	M12 Plug	-20 … +80°C	–	–	M/P34692/5	M/P34692/10	M/P34594/5
QM/32/2/PU	•	2 m	-20 … +80°C	PUR	–	–	–	–
TQM/31/2	–	2 m	-20 … +150°C	Silicone	High temperature	–	–	–
TQM/31/5	–	5 m	-20 … +150°C	Silicone	High temperature	–	–	–
TQM/31/10	–	10 m	-20 … +150°C	Silicone	High temperature	–	–	–

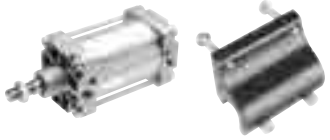
Models - Solid State

QM 132 Series Model	LED (Yellow)	Cable length / plug	Temperature range	Switching function	Cable material	Features	Accessories: Extension cable 5 m (PVC)	Accessories: Extension cable 10 m (PVC)	Accessories: Extension cable 5 m (PUR)
QM/132/5	•	5 m	-20 … +80°C	PNP	PVC	–	–	–	–
QM/132/10	•	10 m	-20 … +80°C	PNP	PVC	–	–	–	–
QM/132/P	•	M12 Plug	-20 … +80°C	PNP	–	–	M/P34692/5	M/P34692/10	M/P34594/5
QM/132/5/PU	•	5 m	-20 … +80°C	PNP	PUR	–	–	–	–

QM/32 and QM/132 Series switches with RA/8000 Actuators

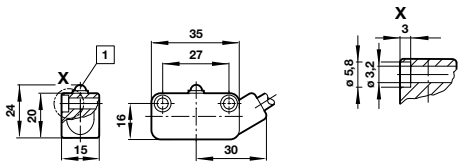
Models - Mounting brackets

Model	Actuator Diameter
QM/31/032/22	Ø 32 … 63
QM/31/080/22	Ø 80 … 125
QM/31/160/22	Ø 160 & 200
QM/31/250/22	Ø 250
QM/31/320/22	Ø 320

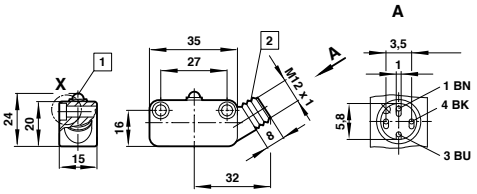


Dimensions

TQM/31, QM/32

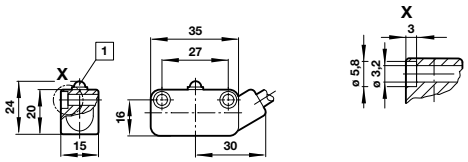


QM/32/P

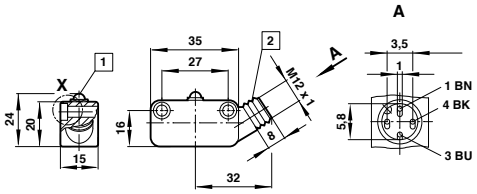


1 LED (yellow)
2 Plug M12 x 1
Color code: BK = black, BN = brown, BU = blue

QM/132



QM/132/P



1 LED (yellow)
2 Plug M12 x 1
Color code: BK = black, BN = brown, BU = blue

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PNEUMATIC PROXIMITY SWITCHES

QM/140 Ø 3 mm

- Optical pressure indicator signals position
- Non-contact sensing with pneumatic output
- Intrinsically safe – no problem in explosion areas

Technical Data

Medium:
Compressed air, filtered and non-lubricated

Operation:
Pneumatic proximity switch for non-contact sensing via a magnetic field

Operating pressure:
2 … 6 bar

Connections:
Pipes for 3 mm I/D tubing

Flow rate:
40 l/min

Orifice size:
2 mm

Repeatability:
± 0,2 mm

Ambient temperature:
-15°C … +60°C

Humidity and water content:
Air supply must be dry.
Corresponding of the application and working conditions the air must be dry enough to avoid condensate. The pressure dewpoint must be minimum 15° under the application and working conditions.

Materials

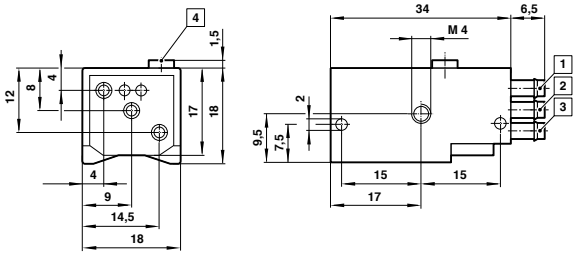
Body:
Plastic

Pipe connectors:
Brass

Holding strap:
CU ZU 37 (brass)



Dimensions



1 Compressed air port 1
2 Output port 2
3 Exhaust port
4 Optical indicator

Model	Operating pressure	Flow rate	Orifice size	Repeatability	Cilynder Ø	Switch mounting brackets *1)
						
QM/140	2 … 6 bar	40 l/min	2 mm	± 0,2 mm	10 … 100 mm	QM/140/010/22

*1) In scope of delivery.

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Vacuum

User friendly switches



Single stage and multi stage vacuum pumps, a wide range of suction cups, plus switches, gauges and silencers. Use the fast find guide to get the part you need to get the job done. For rapid advice or order support, call us today.

Cups for most applications





Energy efficient

Fast Find Guide

Please note: These products represent only part of the IMI Precision Engineering vacuum range. If you can't see the option you require please contact us.

Vacuum Pumps

M/58112
Single stage



EXPRESS Page 131

M/58102
Multi stage



EXPRESS Page 132

Vacuum Cups & Bellows

M/58300, M/58400
Ø 6 … 150 mm



EXPRESS Page 134

Flexible connectors for vacuum cups



Page 136

Level compensators for vacuum cups



Page 136

Vacuum Switches

18D Electro-mechanical
-1 … 1 bar



Page 138

51D Electronic
-1 … 1 bar



Page 139

33D Electronic
-1 … 1 bar



Page 140

Accessories

Flexible connectors for vacuum cups



Page 136

Level compensators for vacuum cups



Page 136

Vacuum Gauges



Page 136

Silencers



Page 136

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SINGLE STAGE VACUUM PUMPS

M/58112

- Very high induced air capacity
- 14% lower air consumption than comparable single stage units
- No wearing parts
- Allows direct connection of suction cups and piped exhaust facility

Technical Data

Medium:
Compressed air, filtered and non-lubricated

Operating pressure:
5 bar optimum
8 bar maximum

Ambient temperature:
-20°C … +150°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Vacuum:
-0,85 bar maximum (M/58112/09)
-0,90 bar maximum (M/58112/11)

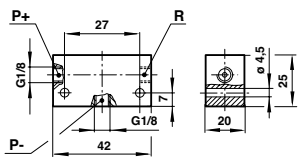
Materials

Housing: Anodised aluminium
Nozzles: Brass

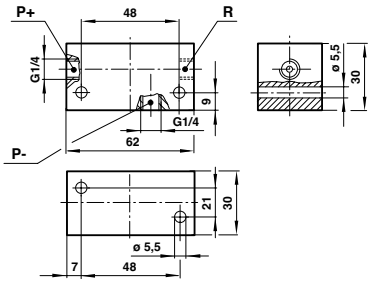
EXPRESS



M/58112/09



M/58112/11



Induced air (Nl/min), free air

Model	0 bar	-0,1 bar	-0,2 bar	-0,3 bar	-0,4 bar	-0,5 bar	-0,6 bar	-0,7 bar	-0,8 bar
M/58112/09	28	24	18	14	11	8	5,5	3	1
M/58112/11	55	47	36	28	23	17	12	6	2,5

Time (sec) for evacuation of 1 litre volume to vacuum

Model	-0,1 bar	-0,2 bar	-0,3 bar	-0,4 bar	-0,5 bar	-0,6 bar	-0,7 bar	-0,8 bar	-0,85 bar	-0,9 bar
M/58112/09	0,27	0,56	0,89	1,44	2,00	2,88	4,31	7,97	14,36	–
M/58112/11	0,15	0,31	0,49	0,72	1,00	1,41	2,08	3,71	5,60	8,11

Note: Values given in the tables are theoretical and apply to an operating pressure of 5 bar.

Recommended tube dimensions (internal diameter)

Model	Compressed air	Vacuum	Exhaust
M/58112/09	> Ø 3	> Ø 5	> Ø 6
M/58112/11	> Ø 3	> Ø 7	> Ø 9

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MULTI STAGE VACUUM PUMPS

M/58102

- Fast response
- Compact, lightweight
- Low sound level
- Compressed air driven
- Simple installation
- Standard and non-return valve types

Technical Data

Medium:
Compressed air, filtered and non-lubricated

Operating pressure:
6 bar maximum

Ambient temperature:
M/58102/10 … M/58102/30:
-20°C … +80°C
M/58102/60 … M/58102/120:
-20°C … +60°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Vacuum:
-0,87 bar maximum

Materials

M/58102/10 to M/58102/30:
Vacuum chips: ABS with 30% fibreglass,
Sub base: Aluminium
Seals: NBR

M/58102/60 to M/58102/120:
Housing: Aluminium
End caps: ABS
Mountings: Steel
Seals: NBR or PUR

EXPRESS



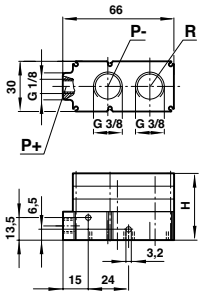
Models

Model	Type	Silencer*	Induced air (Nl/min)**	Air consumption (Nl/min)**	kg
M/58102/10	Standard	Ported	80	49	0,080
M/58102/20	Standard	Ported	160	98	0,095
M/58102/30	Standard	Ported	240	144	0,110
M/58102/60	Standard	Integral	480	285	0,855
M/58102/90	Standard	Integral	708	471	1,105
M/58102/120	Standard	Integral	910	528	1,150
M/58102/N/10	Non-return valve	Ported	80	49	0,080
M/58102/N/20	Non-return valve	Ported	160	98	0,095
M/58102/N/30	Non-return valve	Ported	240	144	0,110
M/58102/N/60	Non-return valve	Integral	480	285	0,855
M/58102/N/90	Non-return valve	Integral	708	471	1,105
M/58102/N/120	Non-return valve	Integral	910	528	1,150

* For models with ported silencer, use silencer number M/58019 as shown on page 136.
** Values given are theoretical and apply to an operating pressure of 6 bar.

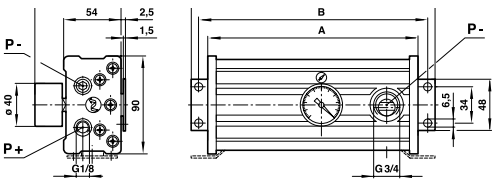
Dimensions

M/58102/10; …/20; …/30



Model	H
M/58102/10	24,5
M/58102/20	32
M/58102/30	39,5

M/58102/60; …/90; …/120



Model	A	B	C
M/58102/60	136	154	168
M/58102/90	196	214	228
M/58102/120	196	214	228

Vacuum gauge supplied with these units.

Vacuum flow performance

Induced air (nl/min), free air									
Model	0 bar	-0,1 bar	-0,2 bar	-0,3 bar	-0,4 bar	-0,5 bar	-0,6 bar	-0,7 bar	-0,8 bar
M/58102/10	80	55	32	28	25	18	13	5	1,5
M/58102/20	160	110	64	56	50	36	26	10	3
M/58102/30	240	165	96	84	75	54	39	15	4,5
M/58102/60	480	270	182	168	150	108	78	30	9
M/58102/90	708	427	273	252	225	162	117	45	13,5
M/58102/120	910	568	355	336	300	216	156	60	18

Time (sec) for evaluation of 1 litre volume to vacuum

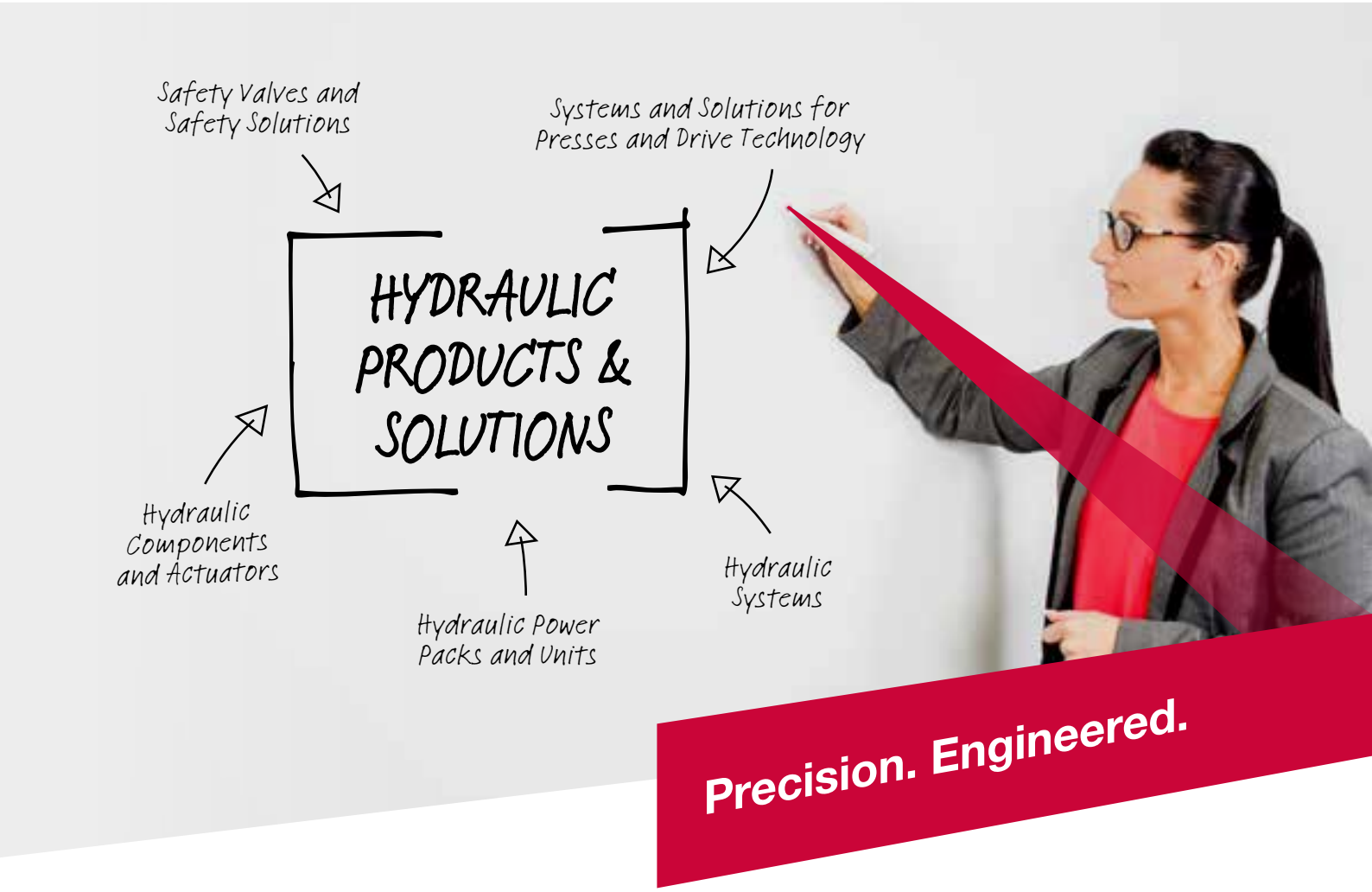
Model	-0,1 bar	-0,2 bar	-0,3 bar	-0,4 bar	-0,5 bar	-0,6 bar	-0,7 bar	-0,8 bar	-0,85 bar
M/58102/10	0,070	0,200	0,450	0,750	1,150	1,730	2,610	4,130	5,820
M/58102/20	0,035	0,100	0,230	0,370	0,570	0,860	1,320	2,070	2,920
M/58102/30	0,023	0,070	0,150	0,250	0,380	0,580	0,870	1,380	1,940
M/58102/60	0,012	0,034	0,080	0,120	0,190	0,290	0,440	0,690	0,970
M/58102/90	0,007	0,023	0,050	0,080	0,130	0,190	0,290	0,460	0,650
M/58102/120	0,006	0,017	0,040	0,060	0,100	0,150	0,220	0,350	0,490

Note: Values given in the tables are theoretical and apply to an operating pressure of 6 bar.

Recommended tube size (internal diameter)

Model	Compressed air	Vacuum	Exhaust
M/58102/10	> Ø 3	> Ø 7	> Ø 9
M/58102/20	> Ø 3	> Ø 7	> Ø 9
M/58102/30	> Ø 4	> Ø 9	> Ø 9
M/58102/60	> Ø 4	> Ø 19	–
M/58102/90	> Ø 5	> Ø 19	–
M/58102/120	> Ø 5	> Ø 22	–

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Hydraulic products and solutions

Wether it be standard or completely individual, the IMI Herion brand stands for more than 50 years of experience in hydraulic components, products and safety technology. The modular concept of our products and the flexibility of our engineering teams enable us to develop and produce "in-house" individual components cost-effectively and in a short period of time

We offer to our customers tailor-made engineering and quality in five core competence areas:

Safety valves and solutions

- 3/2 way valves DN10 and 16 Safe depressurizing EN 692, DIN EN ISO 13849-1 and 13849-2, cat. 4
- Proportional valves DN 6 and 10
- Position monitored, SIL capable, ATEX valves

Systems and components for presses and drive technology

- Hydraulic clutch-brake combinations
- "Sliptronic" electronic monitoring
- Press safety valves
- Fast exhaust devices
- hydraulic overload safety devices
- Ram weight compensation

Hydraulic valves and actuators

- Complete range of standard components from DN 6 to DN 25
- Pressure valves
- Flow control valves
- Check valves
- DN 3 valves for applications up to 350 bar
- Proportional vales DN 6 to 25

Hydraulic systems

Hydraulic power packs and units

Engineering GREAT Solutions

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IMI HERION

VACUUM CUPS & BELLOWS

M/58300, M/58400 Ø 6 … 150 mm

- Flat cups ideal where minimal movement is required for pliable materials
- Bellows cups ideal where level compensation is required

Technical Data

Medium:
Vacuum

Ambient temperature:
-10°C … +70°C for NBR
-30°C … +200°C for VMQ cups
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

M/58*/01:**
Cups: NBR
Connection fittings: aluminium

M/58*/02:**
Cups: VMQ
Connection fittings: aluminium

EXPRESS

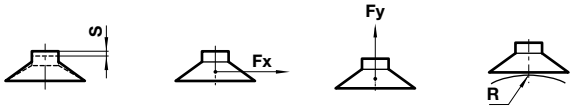


Material characteristics

	NBR	VMQ
Wear resistance	Good	Fair
Oil resistance	Excellent	Fair
Weather resistance	Good	Excellent
Ozone resistance	Fair	Excellent

Models

Fx = μ x Fy
Where μ is the frictional coefficient of the material being handled.
An approximate guide:
Plastic: μ = 0,4 … 0,5, Steel, oiled: μ = 0,1 … 0,3,
Glass: μ = 0,3 … 0,5



Flat Cups Model NBR	Model VMQ	Dia. Ø (mm)	Fy -0,2 bar (N)	Fy -0,6 bar (N)	Fy -0,9 bar (N)	Minimum radius of work surface 'R' (mm)	Maximum movement 'S' (mm)	Volume cm^3
M/58301/01	M/58301/02	6	0,5	1,5	2,3	5	1,5	0,017
M/58302/01	M/58302/02	8	1	2,5	3,5	7	1,5	0,041
M/58303/01	M/58303/02	10	1,5	4	6	9	2	0,065
M/58304/01	M/58304/02	15	2,7	8	12	12	4	0,330
M/58305/01	M/58305/02	20	5	15,5	23	13	2	0,500
M/58306/01	M/58306/02	25	9	26,5	40	17,5	2,5	0,750
M/58307/01	M/58307/02	30	11	34	51	26	2,5	1,3
M/58308/01	M/58308/02	40	19	57,5	86	37	3,5	3
M/58309/01	M/58309/02	50	30	91	135	41	4	4,2
M/58310/01	M/58310/02	80	86	260	390	100	6	21
M/58311/01	M/58311/02	120	180	540	810	365	6	82
M/58312/01	M/58312/02	150	280	842	1250	380	9	177

Bellow Cups Model NBR	Model VMQ	Dia. Ø (mm)	Fy -0,2 bar (N)	Fy -0,6 bar (N)	Fy -0,9 bar (N)	Minimum radius of work surface 'R' (mm)	Maximum movement 'S' (mm)	Volume cm^3
M/58403/01	M/58403/02	10	1,5	3,5	5	3	4	0,225
M/58404/01	M/58404/02	15	3	6	8	5	6	0,75
M/58405/01	M/58405/02	20	6	10	14	8	5	1,4
M/58407/01	M/58407/02	30	12	22	28	15	12	4,75
M/58408/01	M/58408/02	40	22	40	50	30	10	9,25
M/58409/01	M/58409/02	50	34	66	84	40	15	26,25
M/58410/01	M/58410/02	75	75	170	230	70	14	76
M/58411/01	M/58411/02	110	140	350	460	85	36	111
M/58412/01	M/58412/02	150	300	700	900	250	38	260

Note: Theoretical values are given in this table. Always allow a safety factor of > 2.

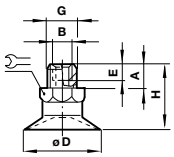
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IMI NORGREN

VACUUM CUPS & BELLOWS
M/58300, M/58400 Ø 6 … 150 mm

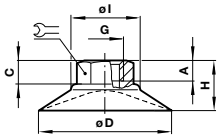
Dimensions

Flat cups

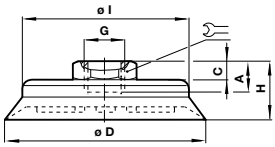
Ø 6 … 30



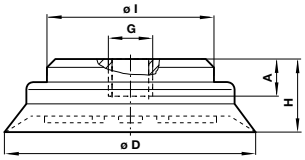
Ø 40 & 50



Ø 80



Ø 120 & 150

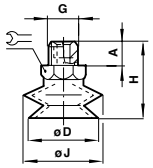


Model	Ø D	A	C	G	H	Ø I	
M/58301/*	6	4,5	–	M 5	15	–	8
M/58302/*	8	4,5	–	M 5	16	–	8
M/58303/*	10	4,5	–	M 5	20	–	8
M/58304/*	15	4,5	–	M 5	21	–	8
M/58305/*	20	8	–	G1/8 A	19,5	–	14
M/58306/*	25	8	–	G1/8 A	20	–	14
M/58307/*	30	8	–	G1/8 A	20,5	–	14
M/58308/*	40	6	9	G1/8	23	24	14
M/58309/*	50	6	11	G1/8	26	26	14
M/58310/*	80	13	3,5	G1/8	21,5	53	19
M/58311/*	120	9,5	–	G1/2	34,5	65	–
M/58312/*	150	9,5	–	G1/2	41,5	65	–

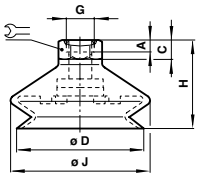
* Material of suction cups: 01 = NBR, 02 = VMQ.

Bellows cups

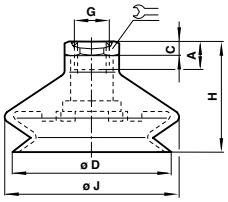
Ø 10 … 30



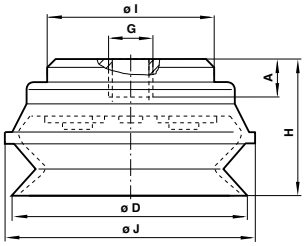
Ø 40 & 50



Ø 75



Ø 110 & 150



Model	Ø	A	C	Ø D	G	H	Ø I	Ø J	
M/58403/*	10	5	–	11	M 5	26	–	12	7
M/58404/*	15	5	–	16	M 5	29	–	17	7
M/58405/*	20	7,5	–	22	G1/8 A	30,5	–	24	14
M/58407/*	30	7,5	–	33	G1/8 A	39	–	36	17
M/58408/*	40	6	9	43	G1/8	37	–	46	17
M/58409/*	50	6	9	53	G1/8	43	–	59	17
M/58410/*	75	12	4	78	G1/8	50	–	83	21
M/58411/*	110	9,5	–	110	G1/2	66,5	65	122	–
M/58412/*	150	9,5	–	150	G1/2	85,5	65	167	–

* Material of suction cups: 01 = NBR, 02 = VMQ.

Online at store.norgren.com

ACCESSORIES

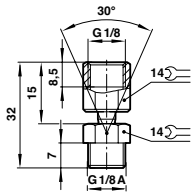
FLEXIBLE CONNECTORS FOR VACUUM CUPS

- For use where a vertical offset motion is involved on curved surfaces
- Simple to install

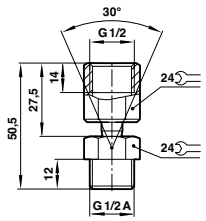


Dimensions

M/58001



M/58002



Models

Model	Type	Size
M/58001	Flexible connector	G1/8
M/58002	Flexible connector	G1/2

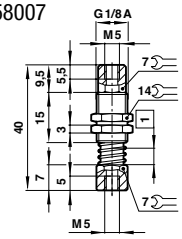
LEVEL COMPENSATORS FOR VACUUM CUPS

- Allows for variations in product positioning
- For use with uneven product forms

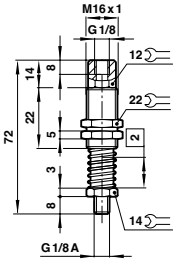


Dimensions

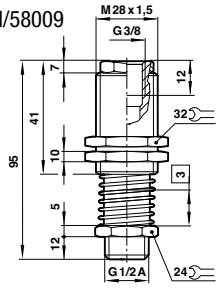
M/58007



M/58008



M/58009



Models

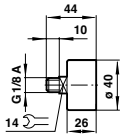
Model	Type	Size
M/58007	Level compensator	M5
M/58008	Level compensator	G1/8
M/58009	Level compensator	G1/2

VACUUM GAUGES

- 0 … -1 bar calibration
- Accurate vacuum level indication



Dimensions



Models

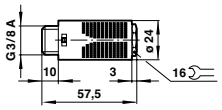
Model	Range
M/58080	0 … -1 bar

SILENCERS

- Compact
- Optimum air silencing characteristics



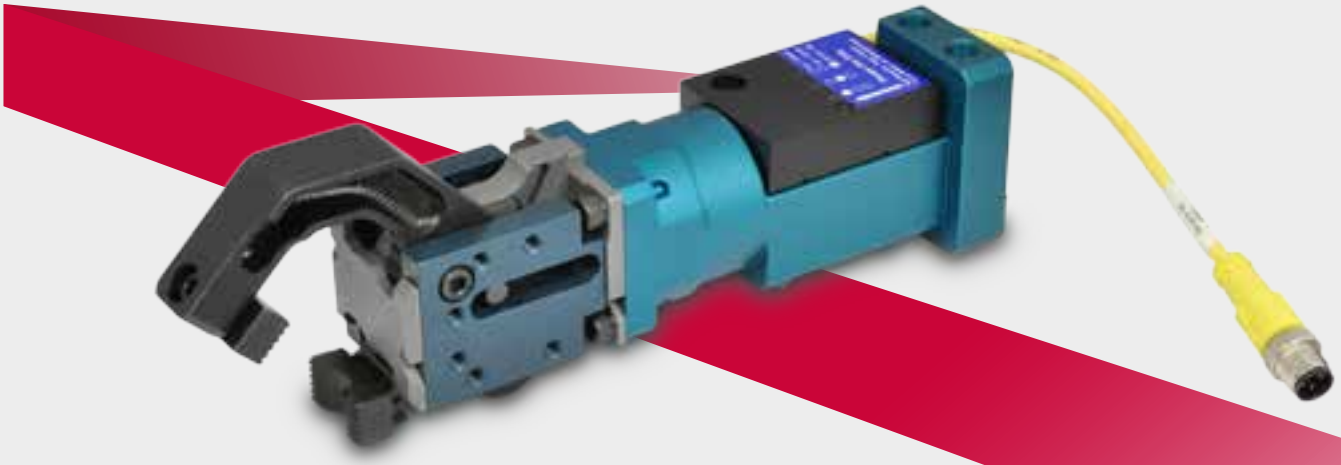
Dimensions



Models

Model	Range
M/58019	G3/8

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Precision. Engineered.

Fully integrated line
of pneumatic and automation solutions



IMI Precision Engineering has over 20 years' experience in providing automation solutions for highly automated press lines.

We have great expertise in tri-axis, crossbar and tandem press line material handling and we offer innovative solutions for hot-metal grippers, integrated tooling, radial CAMs and press-line modelling.

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IMI Precision Engineering

ELECTRO-MECHANICAL VACUUM SWITCH

18D -1 … 1 bar

- Gold-plated contacts
- High cycle life
- Vibration resistant to 15 g
- Microswitch approved by UL and CSA
- Intrinsically safe operation

Technical Data

Medium:
For filtered, lubricated or non lubricated compressed air and neutral gases

Operation:
Diaphragm

Operating pressure:
-1 … 1 bar

Over pressure:
80 bar max.

Ambient temperature:
-10°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Repeatability:
±3%, of full scale

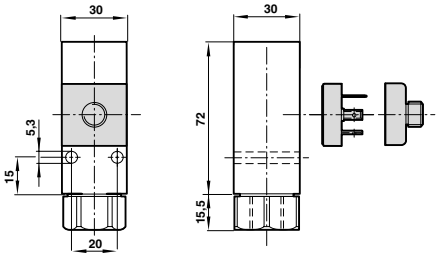
Materials

Housing: Aluminium (brass)
Sealing: NBR/FPM





Dimensions



Models

Accessories

Model	Pressure range (bar)	Fluid connection	Electrical connection	Switching pressure difference (bar)	Max. over pressure (bar)	Connector DIN EN 175301-803	Electrical connector M12 x 1		
							Straight x 2 m long	Straight x 5 m long	90° x 2 m long
									
0880100000000000	-1 … 0	G1/4	*DIN EN 175301-803 Form A	0,15 … 0,18	80	0570110000000000	–	–	–
0880110000000000	-1 … 1	G1/4	*DIN EN 175301-803 Form A	0,25 … 0,35	80	0570110000000000	–	–	–
0880160000000000	-1 … 0	G1/4	M12 x 1	0,15 … 0,18	80	–	0523057000000000	0523052000000000	0523058000000000

* DIN plug is supplied as standard.

ELECTRONIC VACUUM SWITCH

51D -1 … 1 bar

- System pressure (unit bar, psi, Mpa, KPa, kgf/cm^2, mmHg, InHg or mmH_2O) selectable
- High accuracy and resolution
- Switching status indicated by LED

Technical Data

Medium:
For filtered, lubricated or non lubricated compressed air, neutral and incombustible gases

Ambient temperature:
0°C … +50°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

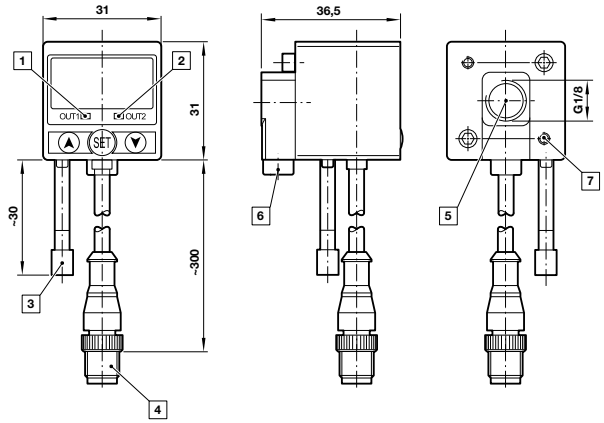
Display:
3 1/2 digit LED

Materials

Body: PC



Dimensions



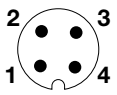
[1] Switch OUT 1, green LED
[2] Switch OUT 2, red LED
[3] Dustproof protector
[4] Connector M12 x 1
[5] Inlet port
[6] Alternative inlet port G1/8 plugged
[7] Thread for mounting screw

Electrical parameters

Electrical connection:	M12 x 1
Power supply:	12 … 24 V d.c.
	24 V d.c. (PNP) maximum
	30 V d.c. (NPN) maximum

Electrical connection M12 x 1

PIN-No.	Signal	Cable colour
1	+UB	Brown
2	Out 2	White
3	–	Blue
4	Out 1	Black



Models

Accessories

Model	Port size	Switching pressure range (bar)	Over pressure* (bar)	Output signal	Mounting bracket (wall mounting)	Mounting bracket (bottom mounting)	Panel mounting kit
							
0860820000000000	G 1/8	- 1 … 1	3	2 x PNP	0860000000000000	0860001000000000	0860005000000000
0860825000000000	G 1/8	- 1 … 1	3	2 x NPN	0860000000000000	0860001000000000	0860005000000000

* Short-term pressure peaks are not allowed to exceed this limit value during operation. Operative utilization of the limit value is not permitted. The limit value corresponds to the maximum testing pressure.

ELECTRONIC VACUUM SWITCH

33D -1 … 1 bar

- Display of system pressure and unit (pressure unit programmable)
- Compact and robust design
- Easy programming of set points and additional functions
- Transistor output signals 1 x PNP/2 x PNP/1 x PNP + 4 to 20 mA
- Electronic lock
- Switching status indicated by LED
- Standard M12x1 electrical connection (IP 65)

Technical Data

Medium:
For filtered, lubricated or non lubricated compressed air and neutral gases

Display:
LCD 4 digits illuminated, pressure unit programmable for bar, psi, mpa

Mounting position:
Optional

Operating pressure:
-1 … 1 bar

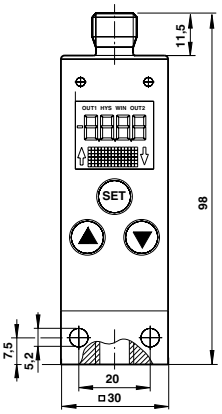
Ambient temperature:
-10°C … 60°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Housing: Aluminium/Stainless steel
Sensor (fluid-affected parts): Silizium/Aluminium



Dimensions





Electrical parameters

Electrical connection:	M12 x 1
Power supply:	10 … 32 V d.c. (polarity safe) digital models
	15 … 32 V d.c. (polarity safe) analogue models

Electrical connection M12 x 1

PIN-No.	Signal	Cable colour
1	+UB	Brown
2	Out 2 (PNP) / analog 4 … 20 mA	White
3	0 V	Blue
4	Out 1 (PNP)	Black
5	PE	Grey

Models

Accessories

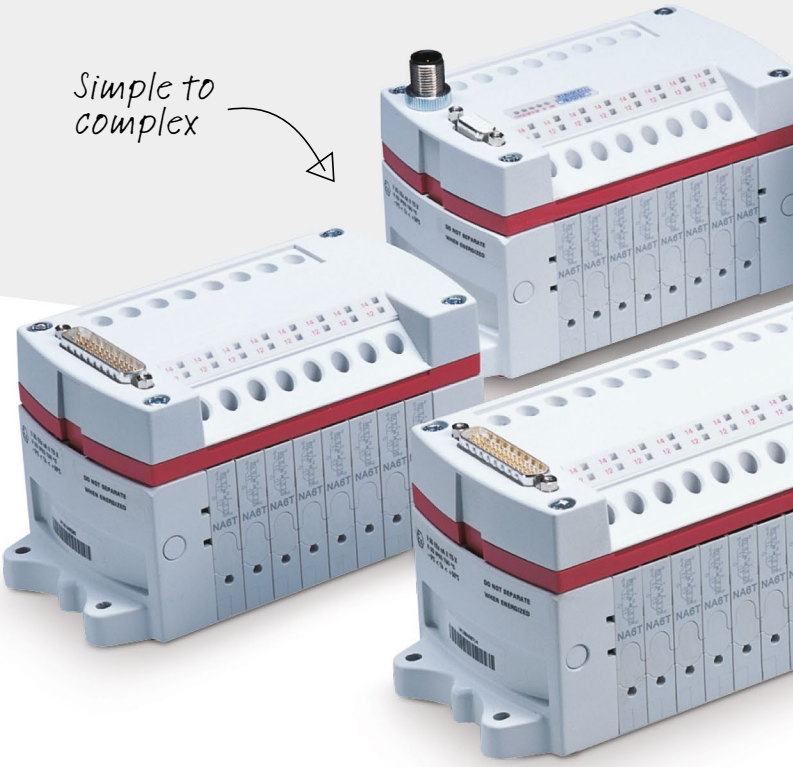
Model	Pressure range (bar)	Over Pressure (bar)	Fluid connection	Output signal	Electrical connector M12 x 1			
					Straight x 2 m long	Straight x 5 m long	90° x 2 m long	90° x 5 m long
								
0863012000000000	-1 … 1	10	G1/4	1 x PNP	0523057000000000	0523052000000000	0523058000000000	0523053000000000
0863022000000000	-1 … 1	10	G1/4	2 x PNP	0523057000000000	0523052000000000	0523058000000000	0523053000000000
0863042000000000	-1 … 1	10	G1/4	1 x PNP / analog 4 … 20 mA	0523057000000000	0523052000000000	0523058000000000	0523053000000000
0863016000000000	-1 … 1	10	Flange	1 x PNP	0523057000000000	0523052000000000	0523058000000000	0523053000000000

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Valves

IMI Precision Engineering has all manner of control valves – in line, sub base, valve islands, electrically or air operated, manual and mechanical valves, for just compressed air or complex fluid control requirements. We have ISO and NAMUR standard ranges and cover many ATEX requirements. Tried and trusted product ranges like IMI Buschjost, IMI Herion, Walter, IMI FAS, Webber, Enots and Martonair.

Many ranges in stock for immediate delivery or configured to requirements. Our valve islands feature a 24/7 online configurator for specification, technical information including CAD, pricing, lead time and ordering. For expert advice and guidance, contact the please contact us.



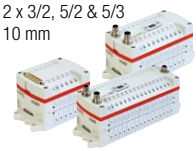




Fast Find Guide

Please note: These products represent only part of the IMI Precision Engineering valves range. If you can't see the option you require please contact us.

Valve Islands

VM10
2 x 3/2, 5/2 & 5/3
10 mm

EXPRESS Page 149

VM15
2 x 3/2, 5/2 & 5/3
15 mm

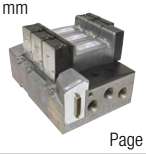
EXPRESS Page 157

VS18
2 x 2/2, 2 x 3/2, 5/2 & 5/3
ISO 15407-2
18 mm

EXPRESS Page 162

VS26
2 x 2/2, 2 x 3/2, 5/2 & 5/3
ISO 15407-2
26 mm

EXPRESS Page 174

VS45
2 x 3/2, 5/2 & 5/3 valves
45 mm

Page 186

Sub-base Valves

V40/V41
2 x 3/2, 5/2 & 5/3 Valve
ISO 15407-1/VDMA 24 563
18 mm

EXPRESS Page 196

V44/V45
2 x 3/2, 5/2 & 5/3 Valve
ISO 15407-1/VDMA 24 563
26 mm

EXPRESS Page 204

ISO★STAR
5/2 & 5/3
ISO #1 … ISO #3

EXPRESS Page 212

UM/22000
5/2 & 5/3
ISO #4

EXPRESS Page 217

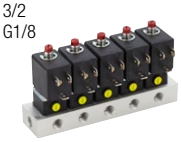
In-line and Manifold Valves

V60 … 63
3/2, 2x3/2, 5/2 & 5/3
G1/8 … G1/2

EXPRESS Page 222

V50 … 53
3/2, 5/2 & 5/3
G1/8 … G1/2

EXPRESS Page 236

EXCEL 22, M/49
3/2
G1/8

EXPRESS Page 245

EXCEL 32, V04 & V05
2/2 & 3/2
G1/8, G1/4, interface

Page 246

70300
2/2
G1/2 … G1

Page 247

80200
3/2
G1/2 … G2

Page 250

Prospector®
2/2, 3/2
G3/8 … G1

Page 252

26360, 80207
3/2, 5/2
G1/4 & G1/2

Page 255

26230, 80107
3/2, 5/2, 5/3
G1/4, G1/2

Page 260

Microsol
2/2, 3/2
15 mm

Page 264

Picosol
2/2, 3/2
10 mm

Page 266

Special Purpose Valves

Two-hand control unit XSHC04
4 mm PIF

EXPRESS Page 268

Safety valves SCVA
3/2
G1/4, G3/4, G1

Page 270

Safety valves SCVA10
3/2
G1/2

EXPRESS Page 272

Safety valves SCSQ
3/2
G1/2

Page 274

Solenoid actuated press safety valves XSz
3/2
G1/4 … G2

Page 276

Inline lockout valve CR04 & C002
G1/2 … G1
1/2 PTF … 1 PTF

Page 281

Manual/Mechanical Valves

Super X
3/2, 5/2 & 5/3
G1/8, G1/4
6 mm PIF

EXPRESS Page 283

VHLA
4/2, 4/3 APB
G1/4 … G1/2

EXPRESS Page 302

S/666
3/2
G1/8

EXPRESS Page 304

M/1700
5/2, 5/3
G1/4, G1/2

EXPRESS Page 306

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Fast Find Guide

Please note: These products represent only part of the IMI Precision Engineering valves range. If you can't see the option you require please contact us.

Proportional Valves

VP10
G1/4

Page 307

VP12
G1/8

Page 308

VP50
G1/4

Page 309

VP50S
G1/4

EXPRESS Page 310

VP51
G1/4

EXPRESS Page 311

VP23
G1/4 … G3/8

Page 312

140 Failsafe
G1/4 or 1/4 NPT

Page 313

422 Fail Freeze
1/4 NPT

Page 314

422 IS Fail Freeze
G1/4 or 1/4 NPT

Page 315

VP60
G1/4

Page 316

Process Industry/Namur Valves

82510/82610
2/2
G1/4 … G3/8

EXPRESS Page 318

82530/82560
2/2
G1/4 … G1/2

Page 320

82540/82590/82090/83040
2/2
G1/4 … G1

Page 322

86700/86740/86720
2/2
G1/4 … G2

Page 325

82400/82730/82470/83030
2/2
G1/4 … G2

EXPRESS Page 328

85360/85380/85660
2/2
G1/4 … G2

Page 330

84500/84520
2/2
G1/2 … G2

EXPRESS Page 332

84720/84740
2/2
G1/2 … G1

Page 334

82180/82280/82580
2/2
G1/2 … G2

Page 336

83240/83250
2/2
G1/2 … G2

Page 338

83350/83380
2/2
G1/2 … G2

Page 340

82210
2/2

Page 342

84660/84680
3/2
G1/4

EXPRESS Page 344

82160/82710
2/2
G1/4 ... G2

Page 346

82380/82480
2/2
G1/2 ... G2

Page 348

84180/84190
2/2

Page 350

82080
2/2

Page 353

83150/83153
2/2
G1/4 ... G3/8

Page 354

85340/85440
2/2
G1/2 ... G2

Page 356

86540/86580
2/2

Page 358

85780/85840
2/2

Page 360

86500/85620
2/2

Page 362

82880
2/2
G1/2 ... G1

Page 364

97100 Namur/Inline
3/2, 5/2, 5/3
G1/4

Page 367

97300 NAMUR
3/2 & 5/2
G1/4

Page 372

97105 Inline/Namur
3/2, 5/2, 5/3
G1/4 … G1/2

Page 374

95000
2/2
G1/4

EXPRESS Page 379

96000
3/2
G1/4

EXPRESS Page 380

24011 NAMUR
3/2
G1/4, 1/4 NPT

Page 383

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Fast Find Guide

Please note: These products represent only part of the IMI Precision Engineering valves range.
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Flow Control Valves

C00GE, C00GP
Ø 4 … 12 mm

EXPRESS Page 386

T1000 Uni-directional
M5, G1/8 … G1/2

EXPRESS Page 387

T1100 Bi-directional
G1/8 … G1/2

EXPRESS Page 387

M/800
G1/8 … G1

Page 388

T20
M5, G1/8 … G1/2

EXPRESS Page 389

COT, COK, COS, COL BANJO FLOW REGULATORS
(COMPOSITE BODY)

EXPRESS Page 506

10TA, 10K BANJO FLOW REGULATORS
(METAL BODY)

EXPRESS Page 506

16K51, BANJO FLOW REGULATORS
(METAL BODY)

EXPRESS Page 526

S/1340
G1/4

Page 390

Other Valves and Accessories

T60 Air fuses
G1/4 … G1 1/2

Page 392

T55 Non-return valves
M5, G1/8 … G1/2

EXPRESS Page 393

C00GL, C01G, C02G Non-return valves
Ø 4 … 12 mm
M5, 1/8 … 1/2

Page 394

T50P Non-return valves
Ø 4 … 12mm PIF

Page 395

S/520 Non-return valves
G1/8 … G1

Page 396

T65 Shuttle valves
G1/8 & G1/4

EXPRESS Page 397

102GA, 102GH
Blocking valves
G1/8 ... G1/2

Page 398

102GB
Pressure reducing valves
G1/8 ... G1/2

Page 400

102GD
Pressure sensor valves
G1/8 &G1/4

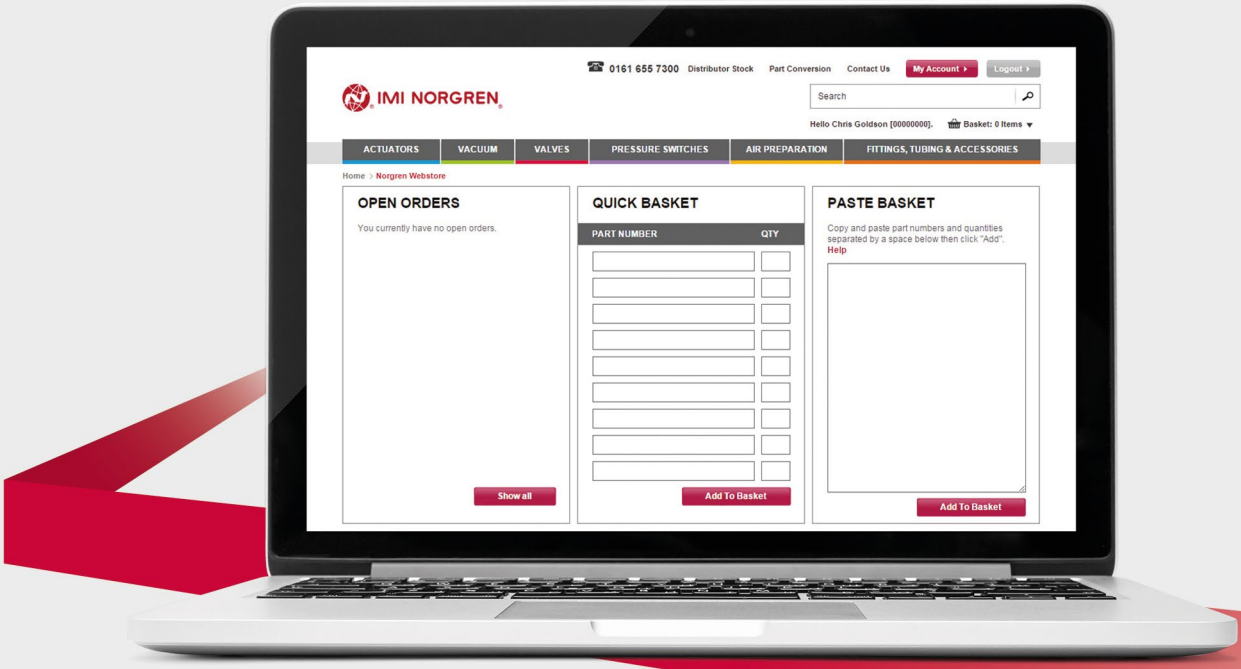
Page 401

T70, S/511, S/513, S/514 Quick exhaust valves
G1/8 … G1/2

EXPRESS Page 402

Solenoid plugs and cables
15 mm, 22 mm & 30 mm

EXPRESS Page 404

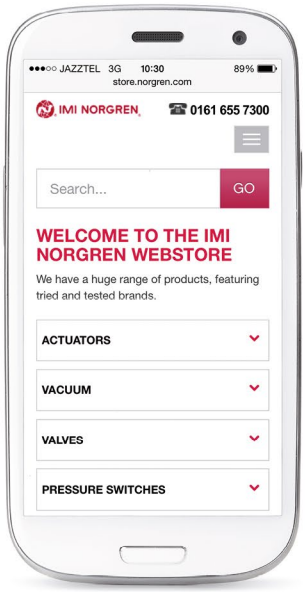


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IMI Precision Engineering

DESIGN & SIZING IN PNEUMATICS

Golden Rules

Design and sizing in pneumatics is often based upon experience coupled with an element of fear of under specifying crucial equipment. In an attempt to ensure enough power, engineers may select over sized cylinders and then select oversized valves to supply them with enough air. The same uncertainty can also lead to over sized specification of air line equipment, fittings and tubing. The outcome is components larger than necessary that use too much compressed air and waste energy and money. However when following some well proven golden rules and a few laws of pneumatics it is easy to achieve correctly sized pneumatic installations.

BASICS TO CONSIDER:

The cylinder: The force required, the pressure available, the speed of movement and air consumption. ISO and VDMA standard or compact style as well as cushioning and sensors.

The valve: Flow to achieve the time for the cylinder movement. Solenoid, air pilot, manual or mechanical operator. In line, manifold or sub-base mounting or tailor made valve island. Solenoid individually wired or with multipole or fieldbus.

Air preparation: Flow rating and micrometre size of the filter element. Automatic or manual drain, piping away the condensate. Source pressure and optimal working pressure. Pressure regulator for standard or precision regulation. Lubrication, Oil-fog or Micro-fog.

Fittings and tubing: Compression, push-on or push-in fittings. Metal, nylon or soft polyurethane tubing. Correct sizing of fittings and tubing combination according to flow requirements.

General: Temperature and environmental conditions.

GOLDEN RULES:

The cylinder:

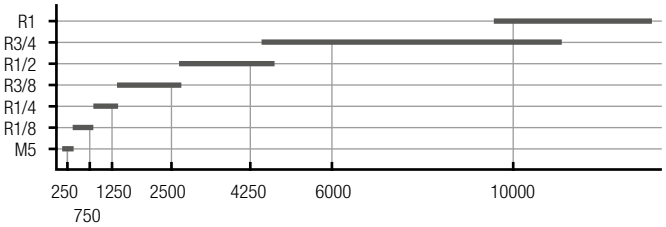
The Correct sizing is based upon the required force and applied pressure. Go to page 17 for more information on cylinder sizing and air consumption.

Golden rule: The theoretical force of the cylinder should be 25% extra for high speed, 50% extra for low speed and 100% extra for ultra low speed (positioning) applications.

The Valve:

Developments in valve technology have given higher flow in smaller valve envelope sizes - eg. the flow from a traditional 42 mm wide ISO #1 valve is about 1250l/min, a modern valve that can deliver the same flow is only 20 mm wide. The old rule of selecting a control valve with the same port size as the cylinder has a number of drawbacks. Firstly the cylinder port may not have a full through bore and secondly the cylinder may not be required for anything near it's maximum potential speed. Far better is to match valve flow to the flow requirement of the cylinder for a particular application.

The graph gives a guide to the typical flow ranges appropriate to different nominal valve sizes. The flow values indicated by the vertical lines are at 6 bar, with 1bar pressure drop.



Golden rule: Calculate the greatest instantaneous flow required by the cylinder. This is the flow rate required during the fastest stroke. Do not use l/min average values.

Filtration & Lubrication:

In general, pneumatics are designed for working in a wide temperature range from-20°C up to +80°C. Electrical parts like solenoids are limited to +50°C, but specific figures can be found in the catalogue.

For filtration and dew point the following apply: 5°C to 50°C ambient temperature,40 micron filtration and a dew point of 10°C lower than the ambient temperature is recommended.

Below 5°C and above 50°C, 25 or 5 micron filtration is recommended and below 5°C a dew point 5°C lower than the ambient temperature is recommended.

Valves and cylinders are greased on assembly and operate under normal conditions without additional lubrication. However using a lubricator will extend the life of these products.

Golden rule: Always lubricate when:

- Valve frequency is >3 Hz
- Cylinder speed is high
- Ambient temperature is below freezing point or above 50°C
- There is a combination of the conditions above.

If possible always lubricate and if you start to lubricate then continue to do so. Use micro-fog lubricators for cylinders and oil-fog lubricators for air tools.

Fittings & Tubing:

Golden rule: Rule number one is use as few fittings as possible. Tubing should be as short as practical and be related to port thread sizes - e.g. Ø 8/6 mm for G1/4. Banjo type fittings and quick connection couplings can be restrictive to flow. Minimise the use of elbows, Y's and tee connectors. For use below freezing or when exposed to sunlight use black plastic tubing.

If you do not want to calculate use the golden rule table:

Valve size	Flow l/min	Tube Ø mm	Cylinder max. Ø mm
M5	250	6/4	40
1/8"	750	8/6	63
1/4"	1250	10/7	80
3/8"	2500	12/8,5	125
1/2"	4250	16/12	160
3/4"	6000	22/17	250
1"	10000	26/18	320

Based on cylinder speed of 500 mm/sec, 50% loaded, cylinder pressure 5 bar, 1 metre tube length and two fittings per tube.

BEST PRACTISE

Compressed air is not free and must be used with consideration. Compression from 7 -10 bar has the same cost as compression from 0 - 7 bar, this means that pressure should be as low as possible. Use pressure regulators where possible. Cylinders and valves should be correctly sized. Tubing that is unnecessarily long or large in diameter will waste energy and adversely influence response times. Locally placed valve islands will use shorter tube lengths than valves in centrally placed control cabinets. If you are in doubt or just need good advice contact us. We will always be pleased to help you. We have decades of experience in pneumatic control, design and sizing.

TABLES AND CONVERSION FACTORS IN PNEUMATICS

Frequently asked questions in pneumatics typically concern: air quality, cylinder forces, loading and bending, air consumption plus valve flow and lubrication. The tables on this page can be used in combination with the guidance and golden rules stated on the previous page. For sizing cylinders and air consumption go to page 17.

AIR QUALITY

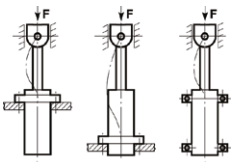
ISO 8573-1 specifies quality classes for compressed air. A class number is made up from the individual maximum allowable contents of solid particles, water and oil in air and can be used to specify air quality for use with valves and other pneumatic applications.

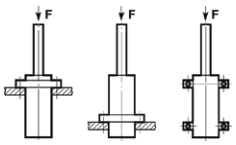
Class	Solids particle size max µm	concentration maximum mg/m³	Water Max. Pressure Dew Point °C	Oil concentration mg/m³
1	0,1	0,1	-70	0,01
2	1	1	-40	0,1
3	5	5	-20	1
4	15	8	+3	5
5	40	10	+7	25
6	–	–	+10	–

For general applications where ambient temperature is between +5 and +35°C, air quality to ISO8573-1 class 5.6.4 is normally sufficient. This is 40 µm filtration, +10°C maximum pressure dew point and 5 mg/m³ maximum oil content. Pressure dew point is the temperature to which compressed air must be cooled before water vapour in the air starts to condense into water particles.

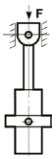
LOAD AND BUCKLING

For applications with high side loading, use pneumatic slide actuators or standard cylinders fitted with guide units. Alternatively external guide bearings should be installed. When a long stroke length is specified, care must be taken to ensure the rod length is within the limits for prevention of buckling. The table shows the maximum stroke length for a variety of installation arrangements.

1] 

2] 

3] 

4] 

Cylinder Ø mm (inch)	Piston rod Ø mm (inch)	Load case 1 Pressure (bar)				Load case 2 Pressure (bar)				Load case 3 Pressure (bar)				Load case 4 Pressure (bar)			
		4	6	10	16	4	6	10	16	4	6	10	16	6	6	10	16
8	3	270	220	170	130	130	100	80	60	170	130	100	80	190	160	120	90
10	4	380	300	230	170	170	140	100	70	230	180	130	100	260	210	160	120
12	4	310	250	180	140	140	110	80	50	180	140	100	80	220	170	120	90
	6	730	590	450	350	350	280	210	160	450	360	270	210	520	420	320	240
16	6	540	440	330	250	250	200	150	110	330	260	190	150	380	300	230	240
	8	980	790	600	470	470	370	280	210	600	480	360	280	700	560	430	330
20	8	780	620	470	370	370	290	220	160	470	380	280	210	550	440	330	250
	10	1200	1000	760	590	590	470	350	270	760	610	460	350	880	710	540	410
25	10	970	790	600	460	460	370	270	200	600	480	360	270	690	560	420	320
	12	1400	1100	880	680	680	550	410	310	870	700	530	410	1000	820	620	480
31,75 (1,25)	12	1100	890	680	520	520	420	310	230	680	540	410	310	790	630	480	360
32	12	1100	860	650	500	500	390	290	210	650	520	380	290	760	600	450	340
	16	2000	1600	1200	960	960	770	580	450	1200	990	750	580	1400	1100	870	680
40	14	1200	960	730	570	570	450	340	250	730	580	440	330	850	680	510	390
	16	1600	1200	950	730	730	580	430	320	940	750	560	430	1100	880	660	500
44,45 (1,75)	16	1400	1100	870	670	670	540	400	300	860	690	520	400	1000	810	610	470
50	20	2000	1600	1200	930	930	740	550	420	1200	960	720	550	1400	1100	840	640
50,8 (2)	20	1900	1600	1200	930	930	740	550	420	1200	960	720	550	1400	1100	840	640
63	20	1500	1200	930	720	720	570	420	310	930	740	550	420	1100	860	650	490
63,5 (2,5)	25	2400	2000	1500	1200	1200	930	700	530	1500	1200	900	690	1700	1400	1100	810
76,2 (3)	25	2000	1600	1200	950	950	760	560	420	1200	980	740	560	1400	1100	860	660
80	25	1900	1500	1100	880	880	700	510	380	1100	910	680	510	1300	1100	800	600
100	25	1500	1200	880	670	670	520	380	270	880	690	510	370	1000	820	600	450
101,6 (4')	32	2400	2000	1500	1100	1100	910	670	500	1500	1200	890	670	1700	1400	1000	790
125	32	2000	1600	1200	910	910	710	520	380	1200	940	690	520	1400	1100	820	620
127 (5')	38,1 (1,5)	2800	2200	1700	1300	1300	1000	760	570	1700	1300	1000	760	2000	1600	1200	900
152,4 (6')	38,1 (1,5)	2300	1800	1400	1100	1100	830	610	440	1400	1100	810	600	1600	1300	950	720
160	40	2400	1900	1500	1100	1100	880	640	480	1400	1200	860	640	1700	1400	1000	760
200	40	1900	1500	1100	860	860	670	480	350	1100	890	650	480	1300	1000	770	580
203,2 (8)	44,45 (1,75)	2300	1900	1400	1100	1100	840	610	440	1400	1100	810	600	1600	1300	960	720
250	50	2400	1900	1400	1100	1100	850	620	440	1400	1100	830	610	1700	1300	980	730
254 (10)	57,15 (2,25)	3100	2500	1900	1400	1400	1100	840	620	1900	1500	1100	830	2200	1700	1300	990
304,8 (12)	57,15 (2,25)	2500	2000	1500	1200	1200	920	660	480	1500	1200	890	660	1800	1400	1100	790
320	63	3000	2400	1800	1400	1400	1100	780	570	1800	1400	1000	780	2100	1700	1200	930
355,6(14)	57,15 (2,25)	2100	1700	1300	970	970	760	540	380	1300	1000	730	540	1500	1200	870	650

VALVE FLOW

There are a variety of standards and methods for the measurement and display of valve flow performance. These can give rise to confusion and difficulty when comparing the published performance of different valves. The table below provides conversion factors as a guide to expressing valve performance in different units.

HOW TO USE:

There Select the unit of measurement that is known in the left hand column and multiply by the factor given in the column of the required unit of measurement.

'Cv' is specified by ANSI/NFPA
'Kv' used in Germany and based on water flow.
'C' sonic conductance in dm³/s/bar specified by ISO 6358
'A' effective area in mm² specified by ISO 6358
'S' effective area in mm² according to the Japanese standard JIS B 8375
A further measurement is the NW value. This gives the equivalent diameter in mm² of the smallest path through a valve. This is non-comparable and not in the table.

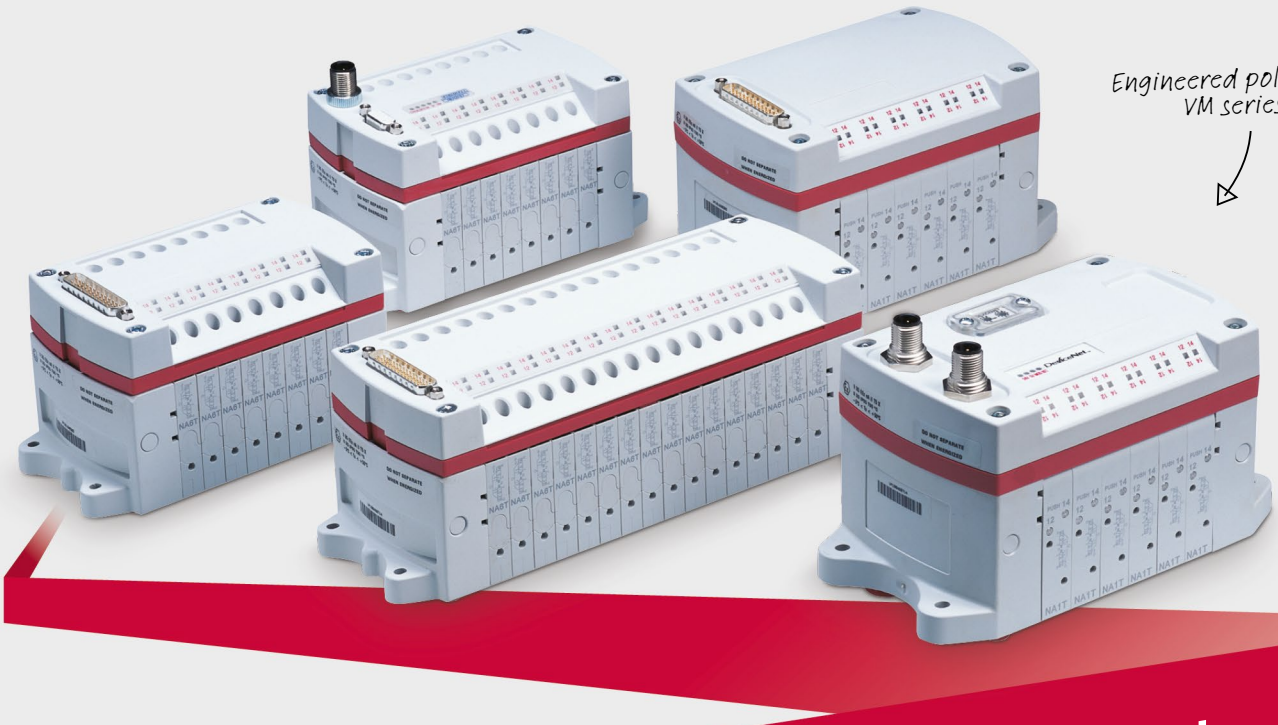
FLOW FACTOR CONVERSION TABLE

	Factors Cv	Kv	C	Flow * m³/h	l/min	Orifice Size A	S
Cv	1	0,869	4,08	59,1	985	16,3	21,5
Kv	1,15	1	4,69	67,9	1132	18,7	24,7
C	0,245	0,213	1	14,5	241	4,11	5,27
m³/h	0,017	0,015	0,069	1	16,67	0,276	0,364
l/min	0,001	0,0088	0,0041	0,06	1	0,016	0,022
A	0,061	0,053	0,243	3,62	60,4	1	1,31
S	0,046	0,04	0,189	2,75	45,8	0,761	1

* Flow parameters are 6 bar inlet and 5 bar outlet at 20°C, 1013 mbar and 65% humidity.

LUBRICANTS

When to lubricate, via an oil-fog or micro-fog lubricator, is generally explained in this catalogue. However the oil recommended is very much dependant on the local conditions and not least availability of various brands and labels. In each country Norgren can recommend equivalent products, based on the information from the suppliers.



Engineered polymer – VM series

Precision. Engineered.

Valve islands

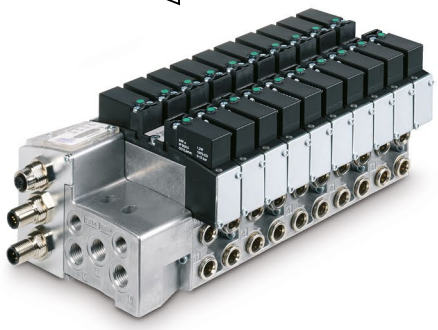
For almost 20 years, IMI Precision Engineering has been able to offer a pre-assembled valve block generally known as a 'valve island'. The current VM and VS series offer a choice of product to meet most industrial control applications.

VM is a lightweight, high-strength polymer manifold, while VS is a more traditional diecast aluminium base system which conforms to an ISO dimensional standard. Both can be configured online via our configurator software which gives immediate technical data including CAD, price and delivery information.

All common valve functions are covered, port connections can be threaded or complete with push-in fittings. Electrical connection is via individual wires, multipole connector or fieldbus in a number of industry-standard protocols.

- Light, strong assembly meeting IP65 protection standard
- All common valve functions (2/2, 3/2, 5/2 and 5/3) can be combined and up to 40 solenoids per island are possible.
- Choice of valve spool types (VS only), soft seal or glandless for higher flow or extended life in excess of 200 million cycles
- Diagnostics as standard on all electrical connections, and full traceability of island throughout its life supported by the IMI Precision Engineering production system

Conforms to ISO15407-2 – VS series



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VALVE ISLANDS

VM10 2 x 3/2, 5/2 or 5/3 – 10 mm

- Valve slices 2 x 3/2, 5/2 and 5/3 with integral push-in fittings Ø 3, 4, 6 mm
- Multipole or individually wired for installation flexibility
- Interchangeable Fieldbus modules
- Compact and lightweight
- High flow from 10 mm valve width
- Flexible design concept
- To configure and order a Valve Island visit - vi.norgren.com

Technical Data

Medium:
Compressed air, filtered, lubricated and non-lubricated

Operation:
Spool valve indirectly actuated

Port sizes:
Ø 3, 4, 6 mm Push-in fittings
Imperial versions also available

Flow:

Function	l/min
5/2 ports 1 » 2 & 4	430
5/2 ports 2 » 3 & 4 » 5	400
3/2 and 5/3	350

Insulation protection:
Individually wired: IP40
Multipole & Fieldbus: IP65

Ambient temperature:
-5°C … +50°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Body & End plates:
Engineered PPA co-polymer

Spool:
Aluminium

Seals:
NBR

EXPRESS



c UL us LISTED

c SP us

Protection classification

UL/CSA approval	Recognized to UL 429 - 5th edition & CSA 22.2 No.139 - 1982 for Electrically Operated Valves.	**ATEX**	The 24 V d.c. multipole and fieldbus valve islands fulfil the requirement of the standard EN60079-0:2012 and EN60079-15:2010 for intended use in explosive atmospheres.	For Ex applications conforming to Zone 2 category ATEX 3G (gases): II3G Ex nA IIc T5 Gc Zone 22 category ATEX 3D (dusts): II3D Ex tc IIIc T90°C Dc -5°C < Ta > +50°C	Please review all ATEX data and notes in the installation and maintenance instruction manual to ensure correct and safe installation of the valve island.

VALVE ISLANDS
VM10 2 x 3/2, 5/2 or 5/3 – 10 mm

Models - 2 x 3/2 Double solenoid actuated valves

Model	Function	Actuation	Pilot supply	Manual override	Operating pressure (bar)	Pilot pressure (bar)
VM10*A11AB213B	2 x 3/2 NC	Solenoid/Spring	Internal	Turn & lock	3 … 8	–
VM10*A11AB313B	2 x 3/2 NC	Solenoid/Spring	Internal	Push only	3 … 8	–
VM10*A22AB213B	2 x 3/2 NC	Solenoid/Spring	External	Turn & lock	-0,9 … 8	3 … 8
VM10*A22AB313B	2 x 3/2 NC	Solenoid/Spring	External	Push only	-0,9 … 8	3 … 8
VM10*B11AB213B	2 x 3/2 NO	Solenoid/Spring	Internal	Turn & lock	3 … 8	–
VM10*B11AB313B	2 x 3/2 NO	Solenoid/Spring	Internal	Push only	3 … 8	–
VM10*B22AB213B	2 x 3/2 NO	Solenoid/Spring	External	Turn & lock	-0,9 … 8	3 … 8
VM10*B22AB313B	2 x 3/2 NO	Solenoid/Spring	External	Push only	-0,9 … 8	3 … 8
VM10*C11AB213B	2 x 3/2 NO/NC	Solenoid/Spring	Internal	Turn & lock	3 … 8	–
VM10*C11AB313B	2 x 3/2 NO/NC	Solenoid/Spring	Internal	Push only	3 … 8	–
VM10*C22AB213B	2 x 3/2 NO/NC	Solenoid/Spring	External	Turn & lock	-0,9 … 8	3 … 8
VM10*C22AB313B	2 x 3/2 NO/NC	Solenoid/Spring	External	Push only	-0,9 … 8	3 … 8

Models - 5/2 Single and double solenoid actuated valves

Model	Function	Actuation	Pilot supply	Manual override	Operating pressure (bar)	Pilot pressure (bar)
VM10*517AB213B	5/2	Solenoid/Spring	Internal	Turn & lock	3 … 8	–
VM10*517AB313B	5/2	Solenoid/Spring	Internal	Push only	3 … 8	–
VM10*527AB213B	5/2	Solenoid/Spring	External	Turn & lock	-0,9 … 8	3 … 8
VM10*527AB313B	5/2	Solenoid/Spring	External	Push only	-0,9 … 8	3 … 8
VM10*511AB213B	5/2	Solenoid/Solenoid	Internal	Turn & lock	2 … 8	–
VM10*511AB313B	5/2	Solenoid/Solenoid	Internal	Push only	2 … 8	–
VM10*522AB213B	5/2	Solenoid/Solenoid	External	Turn & lock	-0,9 … 8	2 … 8
VM10*522AB313B	5/2	Solenoid/Solenoid	External	Push only	-0,9 … 8	2 … 8

Models - 5/3 Double solenoid actuated valves

Model	Function	Actuation	Pilot supply	Manual override	Operating pressure (bar)	Pilot pressure (bar)
VM10*611AB213B	5/3 APB	Solenoid/Solenoid	Internal	Turn & lock	3 … 8	–
VM10*611AB313B	5/3 APB	Solenoid/Solenoid	Internal	Push only	3 … 8	–
VM10*622AB213B	5/3 APB	Solenoid/Solenoid	External	Turn & lock	-0,9 … 8	3 … 8
VM10*622AB313B	5/3 APB	Solenoid/Solenoid	External	Push only	-0,9 … 8	3 … 8

* For selection of port sizes please refer to the following table:

Tube size	Substitute
3 mm PIF	3
4 mm PIF	4
6 mm PIF	6

Note: For 5/3 COE please use 2 x 3/2 NC. For 5/3 COP please use 2 x 3/2 NO.
APB = All Ports Blocked, COE = Centre Open Exhaust, COP = Centre Open Pressure.

Accessories

Valve blanking station	Port blanking station	DIN Rail fixing kit	DIN rail	Label cover kit	
					
VM106517AQ0300	VM106517AQ0301 (Port 1 blanked)	V11900-C01, 8D	V10009-C00 (1 m)	V12016-K36 (4 Station)	V12016-K39 (10 Station)
	VM106517AQ0302 (Ports 3 & 5 blanked)			V12016-K37 (6 Station)	V12016-K40 (12 Station)
	VM106517AQ0303 (Ports 1, 3 & 5 blanked)			V12016-K38 (8 Station)	V12016-K41 (16 Station)

Labels	Pressure switch for pilot ports 12 and 14	Silencer	Plug	Manual override kit Push only	Rotate by hand, lockable
					
V12033-L02 (write and seal label)	VM106517AQ0804 (4 mm)	T45P0006 (6 mm)	C00040600 (6 mm)	V11574-K30	V11574-K31
–	VM106517AQ0806 (6 mm)	T45P0008 (8 mm)	C00040800 (8 mm)	–	–
–	–	T45P0010 (10 mm)	C00041000 (10 mm)	–	–
–	–	T45P0012 (12 mm)	C00041200 (12 mm)	–	–

D Sub-connector 25 pin, IP65	D Sub-connector 44 pin, IP65	D Sub-connector 25 pin 90°, IP65	D Sub-connector 44 pin 90°, IP65	2 Pin connector IP40
				
V11569-E01 (1 m) — L1	V11570-E01 (1 m) — M1	V12086-E01 (1 m) — L4	V12088-E01 (1 m) — M4	V11556-E10 (1 m) — K2
V11569-E03 (3 m) — L2	V11570-E03 (3 m) — M1	V12086-E03 (3 m) — L5	V12088-E03 (3 m) — M5	V11556-E03 (0,3 m) — K1
V11569-E05 (5 m) — L3	V11570-E05 (5 m) — M1	V12086-E05 (5 m) — L6	V12088-E05 (5 m) — M6	–

Fieldbus accessories

	Model	Description	Connection	Cable length	Short code
	V11588-E01	Fielbus power connector DeviceNet (4 pin, female) CANopen (4 pin, female) Profibus-DP (4 pin, female)	M12	Wireable	R1
	V11589-E01	DeviceNet (5 pin, female) CANopen (5 pin, female)	M12	Wireable	R2
	V11590-E01	Profibus-DP, reverse keyway (5 pin, female)	M12	Wireable	R3
	V11591-E01	Profibus-DP, reverse keyway (5 pin male)	M12	Wireable	R4
	V11592-E01	Profibus - DP terminating resistor	M12	–	R6

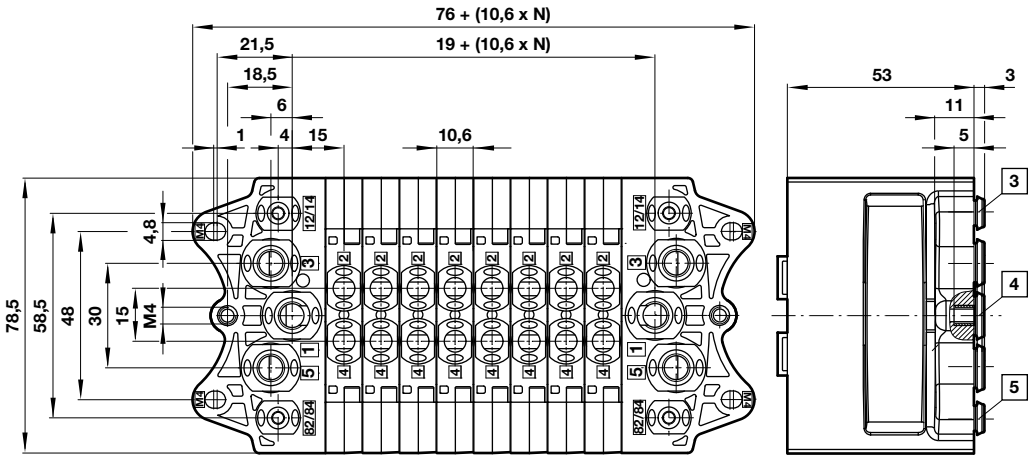
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VALVE ISLANDS

VM10 2 x 3/2, 5/2 or 5/3 – 10 mm

Dimensions

Port connections



3 Ports 12/14
4 Ports 1, 3 & 5
5 Ports 82/84

N = number of stations Detailed CAD drawings available at; cad.norgren.com

Model	Description	Ports 1 ,3 & 5 Tube outside Ø	Ports 12/14 & 82/84 Tube outside Ø	Ports 2 & 4 Tube outside Ø	Short code
VM106517AQ010Y	End plate kit - feed both ends	10	6	6	F100
VM106517AQ0108	End plate kit - feed both ends	8	4	4	F800
VM106517AQ011Y	End plate kit - feed left, right blocked	10	6	6	L100
VM106517AQ0118	End plate kit - feed left, right blocked	8	4	4	L800
VM106517AQ012Y	End plate kit - feed right, left blocked	10	6	6	R100
VM106517AQ0128	End plate kit - feed right, left blocked	8	4	4	R800

Available valve port sizes – Ø 3 mm, 4 mm and 6 mm.

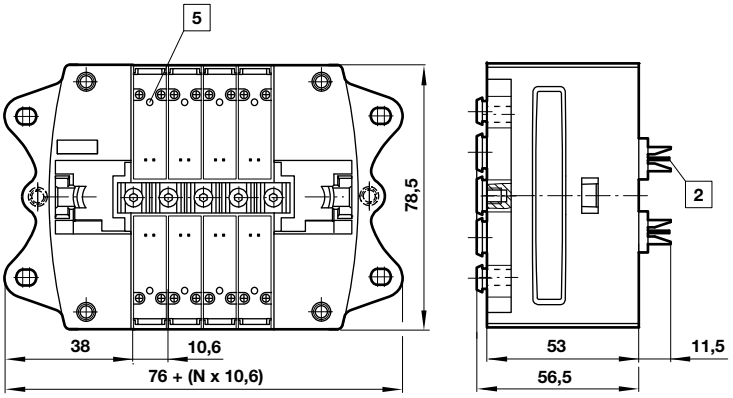
Panel cut-out detail

1 For mounting island from outside of panel using M4 threads in valve island end plates

2 For using through-mounting holes in valve island end plates

Modular assembly

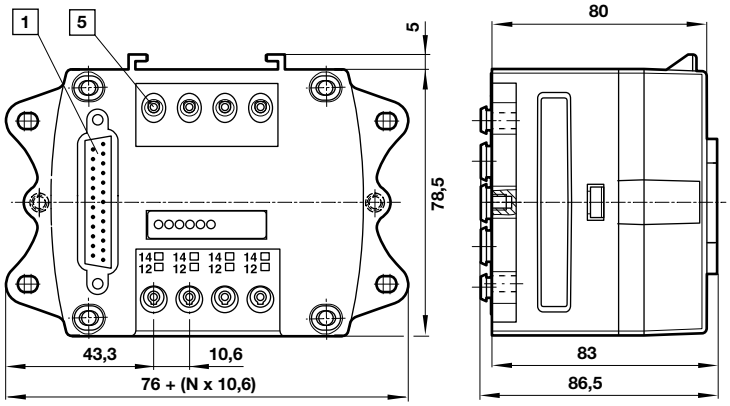
Individually wired IP40



2 2 pin connector interface
5 Manual override
N = number of stations

Individually wired	No. of stations	Max. no. of coils
2 pin connector	2 … 20	40

Multipole IP65



1 25 Pin connector for 4, 6, 8, 10 & 12 station
5 44 Pin connector for 12 & 16 station Manual override, actuate with srew driver
N = number of stations

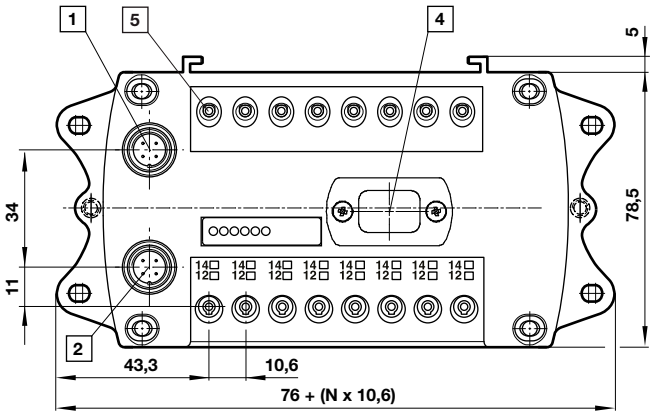
-ve common Model	Multipole	No. of stations	Max. no. of coils
VM106517AQ0404	25 Pin connector	4	8
VM106517AQ0406	25 Pin connector	6	12
VM106517AQ0408	25 Pin connector	8	16
VM106517AQ0410	25 Pin connector	10	20
VM106517AQ0412	25 Pin connector	12	24
VM106517AQ0512	44 Pin connector	12	24
VM106517AQ0516	44 Pin connector	16	32

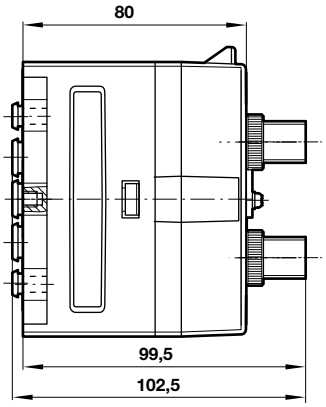
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VALVE ISLANDS
VM10 2 x 3/2, 5/2 or 5/3 – 10 mm

Fieldbus connections (M12 connector types IP65)

DeviceNet
CANopen



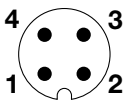


1 M12 power connector
2 M12 protocol connector
4 Rotary address switch
5 Manual override, actuate with srew driver
N = number of stations

Model	Standard fieldbus	No. of stations	Max. no. of coils	Short code
VM10DNFNB00082	DeviceNet	08	16	DR08
VM10DNFNB00102	DeviceNet	10	20	DR10
VM10DNFNB00122	DeviceNet	12	24	DR12
VM10DNFNB00162	DeviceNet	16	32	DR16
VM10CAFNB00082	CANopen	08	16	CR08
VM10CAFNB00102	CANopen	10	20	CR10
VM10CAFNB00122	CANopen	12	24	CR12
VM10CAFNB00162	CANopen	16	32	CR16

Connector details

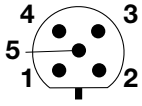
Power connection, male



Pin no.	Function	Tolerance	Max. current
1	24 VB Logic circuit supply	±30%	300 mA
2	24 VA Valves	±10%	1,5 A
3	0 V	–	1,53 A
4	Earth	–	–

Viewed from above.

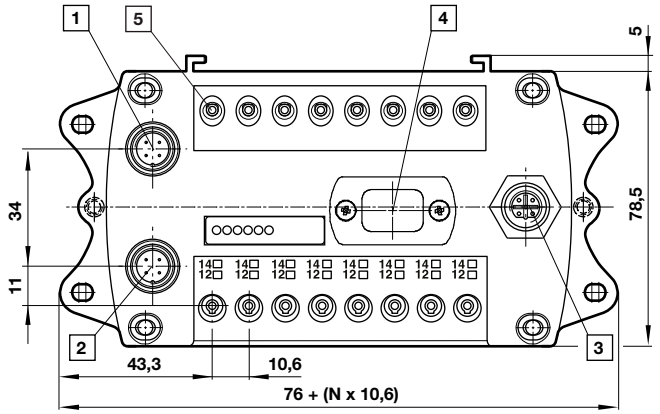
DeviceNet & CANopen

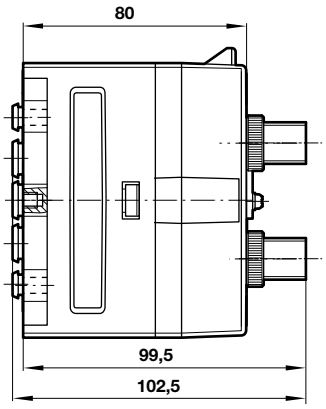


Pin no.	Function
1	Drain
2	V+
3	V-
4	CAN_H
5	CAN_L2

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and use the new improved search function. If you cannot
see the option you require please contact us.
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Fieldbus connections (M12 connector types IP65)



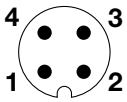


1 M12 power connector
2 M12 protocol connector (male)
3 M12 protocol connector (female)
4 Rotary address switch
5 Manual override, actuate with srew driver
N = number of stations

Model	Standard fieldbus	No. of stations	Max. no. of coils	Short code
VM10DPFNB00082	Profibus-DP	08	16	PS08
VM10DPFNB00102	Profibus-DP	10	20	PS10
VM10DPFNB00122	Profibus-DP	12	24	PS12
VM10DPFNB00162	Profibus-DP	16	32	PS16

Connector details

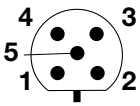
Power connection, male

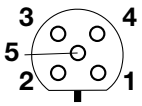


Pin no.	Function	Tolerance	Max. current
1	24 VB Logic circuit supply	±30%	300 mA
2	24 VA Valves	±10%	1,5 A
3	0 V	–	1,53 A
4	Earth	–	–

Viewed from above.

Profibus-DP





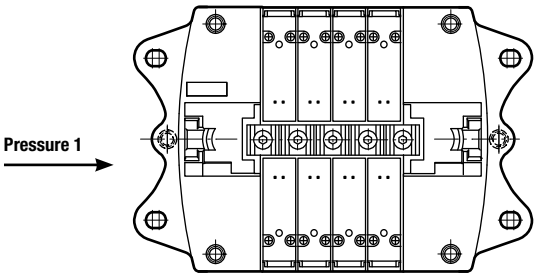
Male Communication in / Female Communication out	Pin no.	Function
	1	5 VI Opto isolator
	2	A-line (green)
	3	0 VI Opto isolated
	4	B-line (red)
	5	Shield

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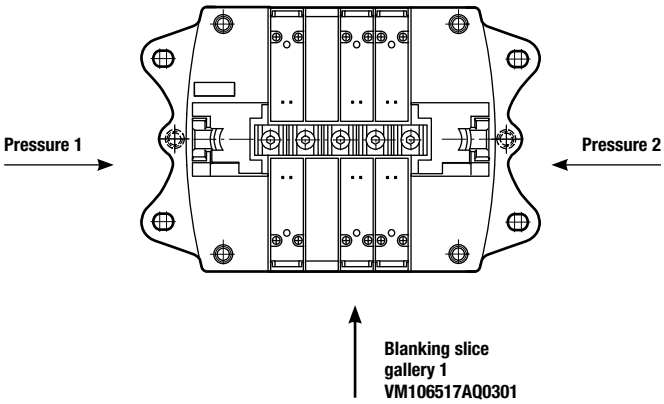
VALVE ISLANDS
VM10 2 x 3/2, 5/2 or 5/3 – 10 mm

Multi-pressure options

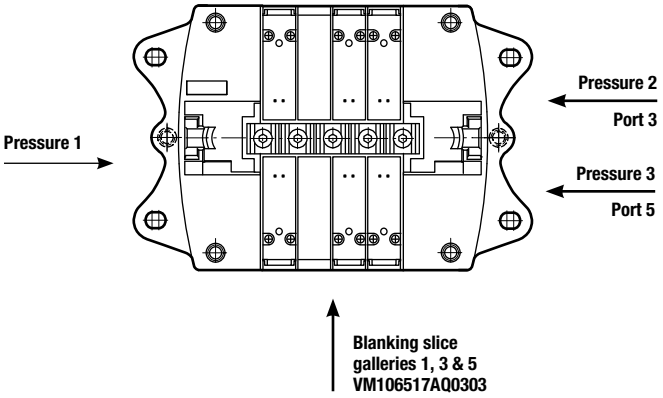
Single pressure



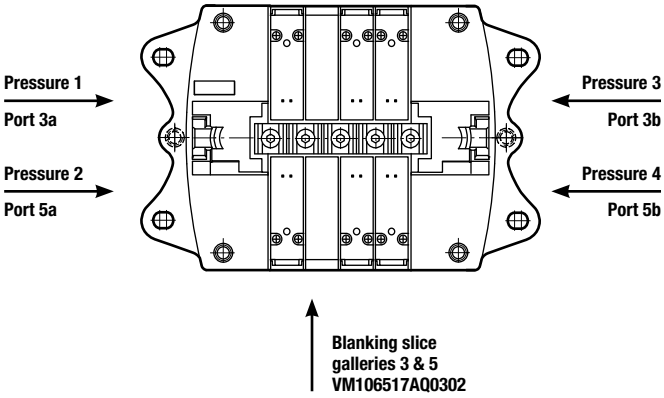
Two pressure



Three pressure



Four pressure

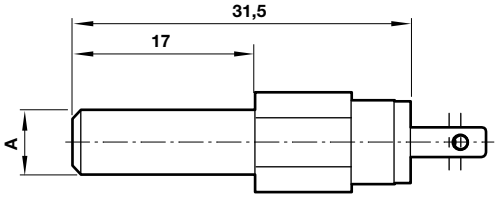


3 & 4 Pressure islands are achieved by using externally piloted 2x3/2 valves and reverse porting via ports 3 & 5.
Please note that when 2x3/2 valves are reverse ported the functions are also reversed i.e. N/C becomes N/O and N/O becomes N/C.

Pressure switch for pilot ports 12 & 14



	Voltage	24 V d.c.
	Pressure range	0 … 10 bar
	Switching point rising pressure	3 … 5 bar
	Switch point falling pressure	2,5 … 3,7 bar
	AMP E-terminals	2,8 x 0,8
	Degree of protection	IP00
	Adjustment	None



Model	A	Short code	Weight (kg)
VM106517AQ0804	4	7A	0,004
VM106517AQ0806	6	7B	0,004

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see the option you require please contact us.
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VALVE ISLANDS

VM15 2 x 3/2, 5/2 or 5/3 – 15 mm

- Valve slices 2 x 3/2, 5/2 and 5/3 with integral push-in fittings Ø 6, 8 and 10 mm
- Multipole or individually wired for installation flexibility
- Compact and lightweight, integral push in fittings
- High flow from 15mm valve width
- To configure and order a Valve Island visit: vi.norgren.com

Technical Data

Medium:
Compressed air, filtered, lubricated and non-lubricated

Operation:
Spool valve indirectly actuated

Port sizes:
Ports 1, 3 & 5: Ø 10 & 12 mm
Ports 2 & 4: Ø 6, 8 & 10 mm
Ports 12/14 & 82/84: Ø 6 mm push-in fittings
Imperial versions also available

Flow:

Function	l/min
5/2	1000
2x3/2	965
5/3	900

Degree of protection:
Individually wired: IP40
Multipole: IP65

Ambient temperature:
-5°C … +50°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Body, end plates:
engineered PPA co-polymer

Spool:
aluminium

Seals:
NBR

EXPRESS



Models - 2 x 3/2 Double solenoid actuated valves

Model	Function	Actuation	Pilot supply	Manual override	Operating pressure (bar)	Pilot pressure (bar)
VM15*A11AB213B	2 x 3/2 NC	Solenoid/spring	Internal	Push and turn to lock	3 … 8	–
VM15*A11AB313B	2 x 3/2 NC	Solenoid/spring	Internal	Push only	3 … 8	–
VM15*A22AB213B	2 x 3/2 NC	Solenoid/spring	External	Push and turn to lock	-0,9 … 8	3 … 8
VM15*A22AB313B	2 x 3/2 NC	Solenoid/spring	External	Push only	-0,9 … 8	3 … 8
VM15*B11AB213B	2 x 3/2 NO	Solenoid/spring	Internal	Push and turn to lock	3 … 8	–
VM15*B11AB313B	2 x 3/2 NO	Solenoid/spring	Internal	Push only	3 … 8	–
VM15*B22AB213B	2 x 3/2 NO	Solenoid/spring	External	Push and turn to lock	-0,9 … 8	3 … 8
VM15*B22AB313B	2 x 3/2 NO	Solenoid/spring	External	Push only	-0,9 … 8	3 … 8
VM15*C11AB213B	2 x 3/2 NO/NC	Solenoid/spring	Internal	Push and turn to lock	3 … 8	–
VM15*C11AB313B	2 x 3/2 NO/NC	Solenoid/spring	Internal	Push only	3 … 8	–
VM15*C22AB213B	2 x 3/2 NO/NC	Solenoid/spring	External	Push and turn to lock	-0,9 … 8	3 … 8
VM15*C22AB313B	2 x 3/2 NO/NC	Solenoid/spring	External	Push only	-0,9 … 8	3 … 8

* For selection of port sizes please refer to the following table:

Tube size	Substitute
3 mm PIF	3
4 mm PIF	4
6 mm PIF	6

Note: For 5/3 COE please use 2 x 3/2 NC. For 5/3 COP please use 2 x 3/2 NO.
APB = All Ports Blocked, COE = Centre Open Exhaust, COP = Centre Open Pressure.

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VALVE ISLANDS
VM15 2 x 3/2, 5/2 or 5/3 – 15 mm

Models - 5/2 Single and double solenoid actuated valves

Model	Function	Actuation	Pilot supply	Manual override	Operating pressure (bar)	Pilot pressure (bar)
VM15*517AB213B	5/2	Solenoid/spring	Internal	Push and turn to lock	3 … 8	–
VM15*517AB313B	5/2	Solenoid/spring	Internal	Push only	3 … 8	–
VM15*527AB213B	5/2	Solenoid/spring	External	Push and turn to lock	-0,9 … 8	3 … 8
VM15*527AB313B	5/2	Solenoid/spring	External	Push only	-0,9 … 8	3 … 8
VM15*511AB213B	5/2	Solenoid/solenoid	Internal	Push and turn to lock	3 … 8	–
VM15*511AB313B	5/2	Solenoid/solenoid	Internal	Push only	3 … 8	–
VM15*522AB213B	5/2	Solenoid/solenoid	External	Push and turn to lock	-0,9 … 8	2 … 8
VM15*522AB313B	5/2	Solenoid/solenoid	External	Push only	-0,9 … 8	2 … 8

Models - 5/3 Double solenoid actuated valves

Model	Function	Actuation	Pilot supply	Manual override	Operating pressure (bar)	Pilot pressure (bar)
VM15*611AB213B	5/3 APB	Solenoid/solenoid	Internal	Push and turn to lock	3 … 8	–
VM15*611AB313B	5/3 APB	Solenoid/solenoid	Internal	Push only	3 … 8	–
VM15*622AB213B	5/3 APB	Solenoid/solenoid	External	Push and turn to lock	0,9 … 8	3 … 8
VM15*622AB313B	5/3 APB	Solenoid/solenoid	External	Push only	0,9 … 8	3 … 8

* For selection of port sizes please refer to the following table:

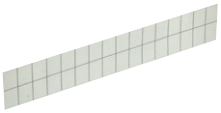
Tube size	Substitute
3 mm PIF	3
4 mm PIF	4
6 mm PIF	6

Note: For 5/3 COE please use 2 x 3/2 NC. For 5/3 COP please use 2 x 3/2 NO.
APB = All Ports Blocked, COE = Centre Open Exhaust, COP = Centre Open Pressure.

Online at **store.norgren.com**

Accessories

Valve blanking station	Port blanking station	Intermediate supply and exhaust manifold (ISEM)
		
VM156517AQ0300	VM156517AQ0301 (Port 1 blanked)	VM156517AQ0304 (Feed right)
–	VM156517AQ0302 (Ports 3 & 5 blanked)	VM156517AQ0305 (Feed left)
–	VM156517AQ0303 (Ports 1, 3 & 5 blanked)	–

DIN Rail fixing kit	DIN rail	Label cover kit		Labels
				
V12022-K30	V10009-C00 (1 m)	V12016-K30 (4 Station)	V12016-K33 (10 Station)	V12033-L01 (write and seal label)
–	–	V12016-K31 (6 Station)	V12016-K34 (12 Station)	–
–	–	V12016-K32 (8 Station)	V12016-K35 (16 Station)	–

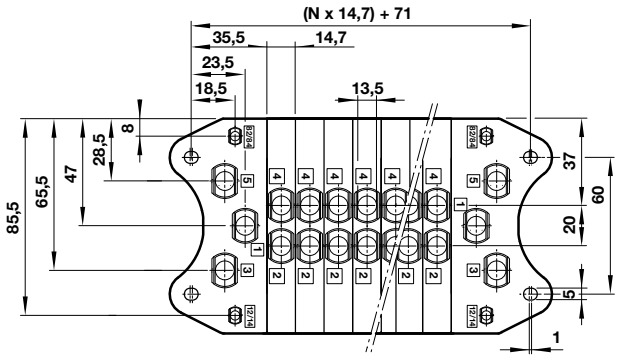
Pressure switch for pilot ports 12 and 14	Silencer	Plug
		
VM106517AQ0806 (6 mm)	T45P0006 (6 mm)	C00040600 (6 mm)
–	T45P0008 (8 mm)	C00040800 (8 mm)
–	T45P0010 (10 mm)	C00041000 (10 mm)
–	T45P0012 (12 mm)	C00041200 (12 mm)

D Sub-connector 25 pin, IP65	D Sub-connector 44 pin, IP65	D Sub-connector 25 pin 90°, IP65	D Sub-connector 44 pin 90°, IP65	2 Pin connector IP40
				
V11569-E01 (1 m)	V11570-E01 (1 m)	V12086-E01 (1 m)	V12088-E01 (1 m)	V11556-E03 (0,3 m)
V11569-E03 (3 m)	V11570-E03 (3 m)	V12086-E03 (3 m)	V12088-E03 (3 m)	–
V11569-E05 (5 m)	V11570-E05 (5 m)	V12086-E05 (5 m)	V12088-E05 (5 m)	–

VALVE ISLANDS
VM15 2 x 3/2, 5/2 or 5/3 – 15 mm

Dimensions

Port connections and mountings



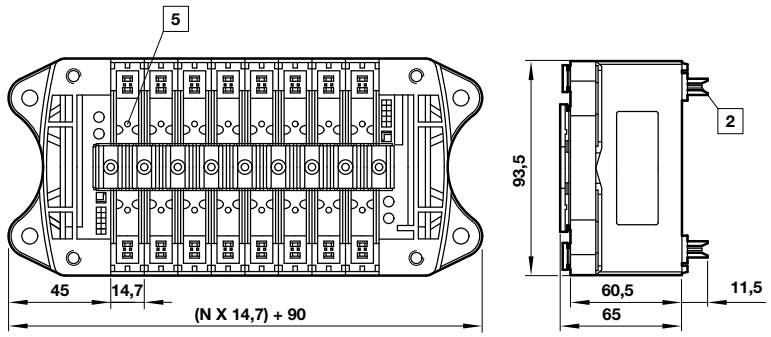
N = number of stations

Model	Description	Ports 1, 3 & 5 Tube outside Ø	Ports 12/14 & 82/84 Tube outside Ø	Ports 2 & 4 Tube outside Ø
VM156517AQ010Z	End plate kit - feed both ends	12	6	6, 8 or 10
VM156517AQ010Y	End plate kit - feed both ends	10	6	6, 8 or 10
VM156517AQ011Z	End plate kit - left blocked	12	6	6, 8 or 10
VM156517AQ011Y	End plate kit - left blocked	10	6	6, 8 or 10
VM156517AQ012Y	End plate kit - right blocked	10	6	6, 8 or 10

"Note: Ports 82/84 (solenoid pilot exhausts) should not be plugged. A filter or silencer can be fitted or the air can be piped away with tubing."

Modular assembly

Individually wired IP40

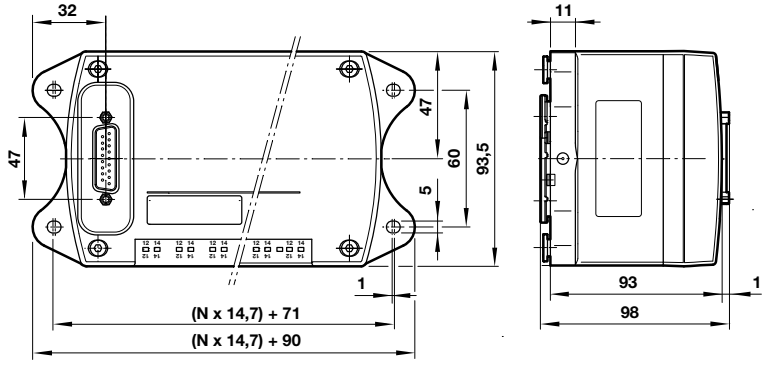


2 2 pin connector interface
5 Manual override
N = number of stations

Individually wired	No. of stations	Max. no. of coils
2 pin connector	2 … 20	40

* kg + valves weight.

Multipole IP65

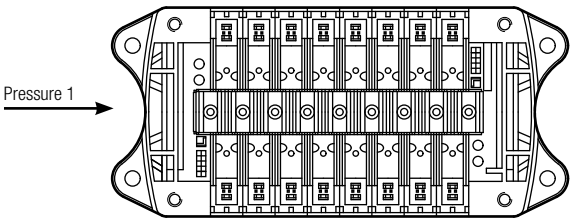


N = number of stations

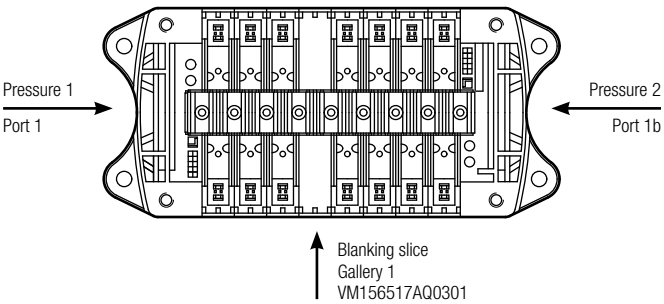
Model -ve common	Multipole	No. of stations	Max. no. coils
VM156517AQ0404	25 Pin connector	4	8
VM156517AQ0406	25 Pin connector	6	12
VM156517AQ0408	25 Pin connector	8	16
VM156517AQ0410	25 Pin connector	10	20
VM156517AQ0412	25 Pin connector	12	24
VM156517AQ0516	44 Pin connector	16	32

Multi-pressure options

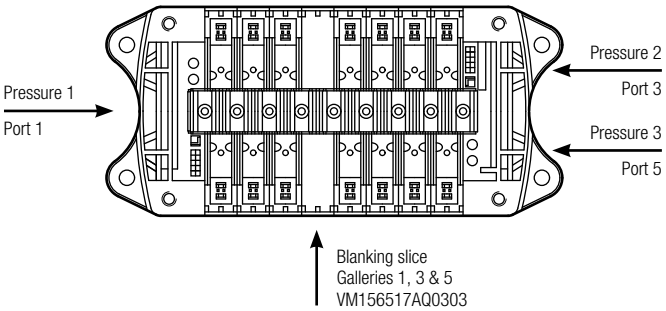
Single pressure



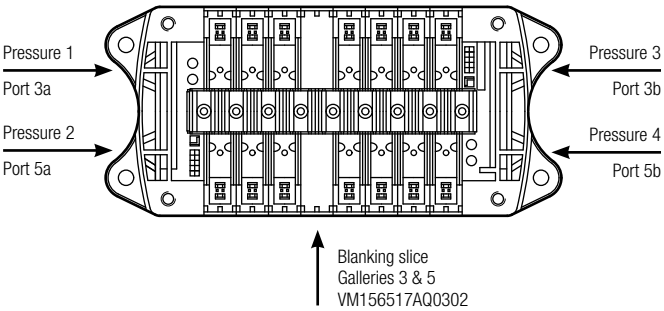
Two pressure



Three pressure



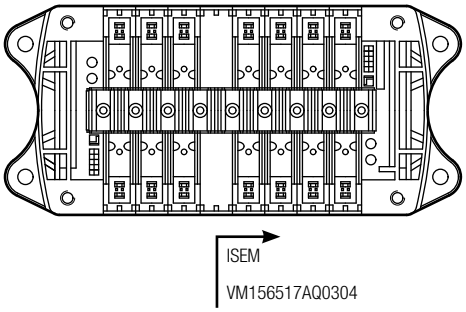
Four pressure



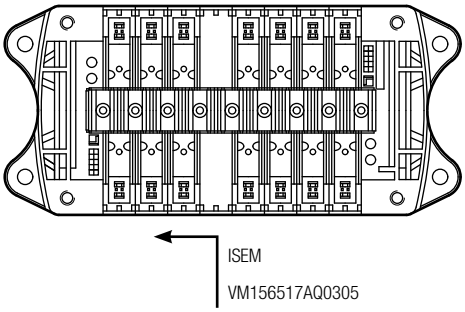
Please Note - the 3 & 4 Pressure islands shown above are achieved by using externally piloted 2x3/2 valves and reverse porting via ports 3 & 5.
Please note that when 2x3/2 valves are reverse ported the functions are also reversed i.e. N/C becomes N/O and N/O becomes N/C.

Multi-pressure options – Intermediate supply exhaust manifolds single pressure

Feed right



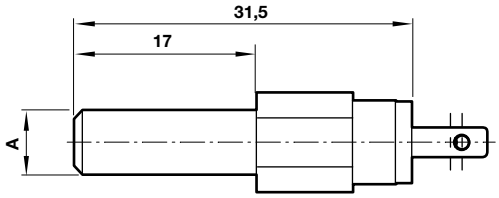
Feed left



Pressure switch for pilot ports 12 & 14



	Voltage	24 V d.c.
	Pressure range	0 … 10 bar
	Switching point rising pressure	3 … 5 bar
	Switch point falling pressure	2,5 … 3,7 bar
	AMP E-terminals	2,8 x 0,8
	Degee of protection	IP00
	Adjustment:	None



A	Short code	Model
6	7B	VM106517AQ0806

Online at **store.norgren.com**

PLUG-IN MINI ISO VALVE ISLANDS

VS18 2 x 2/2, 2 x 3/2, 5/2 or 5/3, size 18 mm

- Integrated Fieldbus
- Field expandable with single add-on stations
- Dual spool technology, solenoid pilot actuated
  - VS18G Glandless spool and sleeve for long life
  - VS18S Softseal spool for high flow
- UL and ATEX
- Universal PNP/NPN 24 V d.c. Multipole
- To configure and order a Valve Island visit - vi.norgren.com
- Conforms to ISO 15407-2 Size 18mm

Technical Data

Medium:
Compressed air, filtered to 40 µm, lubricated or non-lubricated

Flow:
Softseal

Function	l/min
2x2/2	550
2x3/2	600
5/2; 5/3	650

Glandless

5/2; 5/3	550

Mounting:
Sub-base

Ports 2+4:
G1/8, PIF 8 mm, PIF 6 mm

Operating pressure:
Maximum pressure
10 bar VS18S models and VS18G solenoid pilot actuated valves with internal pilot supply
16 bar VS18G solenoid pilot actuated valves with external pilot supply

Ambient/Media temperature:
Ambient:-15°C … +50°C
Media: -5°C … +50°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Body/sub-base:
Die-cast aluminium

Glandless spool & Sleeve (VS18G):
Aluminium, hard anodised, PTFE coated

Softseal spool (VS18S):
Aluminium with HNBR seals

Plastic parts:
POM, PA, PPA

Mounting sheets/screws:
Steel, zinc coated

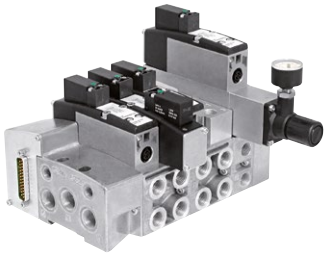
Springs:
Stainless steel

Sandwich plates:
Aluminium bar material, PA

Electrical contacts:
Brass, tin coated

PCB:
Glass epoxy

EXPRESS



DeviceNet CANopen

Models - 2 x 2/2 Double solenoid actuated softseal valves (flow 550 l/min)

Model	Function 2x2/2	Actuation/return	Pilot supply	Pilot pressure (bar)	Operating pressure (bar)	Manual override	Voltage	Short code
VS18SE11DF313A	NC	Sol/Spring	Internal	2,5 … 10*1)	-0,9 … 10	Push only	24 V d.c. 1,2 W	STU
VS18SE11DF213A	NC	Sol/Spring	Internal	2,5 … 10*1)	-0,9 … 10	Push & turn	24 V d.c. 1,2 W	STT
VS18SE22DF313A	NC	Sol/Spring	External	1,7+ (0,5 x press. port 1) *2)	-0,9 … 10	Push only	24 V d.c. 1,2 W	SWU
VS18SE22DF213A	NC	Sol/Spring	External	1,7+ (0,5 x press. port 1) *2)	-0,9 … 10	Push & turn	24 V d.c. 1,2 W	SWT
VS18SE22DF513A	NC	Sol/Spring	External	1,7+ (0,5 x press. port 1) *2)	-0,9 … 10	Extended, Push only	24 V d.c. 1,2 W	SWE
VS18SF11DF313A	NO	Sol/Spring	Internal	2,5 … 10*1)	-0,9 … 10	Push only	24 V d.c. 1,2 W	SUU
VS18SF11DF213A	NO	Sol/Spring	Internal	2,5 … 10*1)	-0,9 … 10	Push & turn	24 V d.c. 1,2 W	SUT
VS18SF11DF513A	NO	Sol/Spring	Internal	2,5 … 10*1)	-0,9 … 10	Extended, Push only	24 V d.c. 1,2 W	SUE
VS18SF22DF313A	NO	Sol/Spring	External	1,7+ (0,5 x press. port 1) *2)	-0,9 … 10	Push only	24 V d.c. 1,2 W	SXU
VS18SG11DF313A	NO/NC	Sol/Spring	Internal	2,5 … 10 *1)	-0,9 … 10	Push only	24 V d.c. 1,2 W	SVU
VS18SG22DF313A	NO/NC	Sol/Spring	External	1,7+ (0,5 x press. port 1) *2)	-0,9 … 10	Push only	24 V d.c. 1,2 W	SYU

Valve dimensions see page 169.
NO = Normally open, NC = Normally closed.
*1) Pilot air supply through port 1.
*2) Pilot air supply through port 12/14.

IMI Precision Engineering
For further information, visit store.norgren.com and use the new improved search function. If you cannot see the option you require please contact us.
IMI NORGREN

Models - 2 x 3/2 Double solenoid actuated softseal valves (flow 600 l/min)

Model	Function 2x2/2	Actuation/return	Pilot supply	Pilot pressure (bar)	Operating pressure (bar)	Manual override	Voltage	Short code
VS18SA11DF313A	NC	Sol/Spring	Internal	–	2,5 … 10	Push only	24 V d.c. 1,2 W	SAU
VS18SA11DF318A	NC	Sol/Spring	Internal	–	2,5 … 10	Push only	115 V a.c. 1,5 VA	TAU
VS18SA11DF213A	NC	Sol/Spring	Internal	–	2,5 … 10	Push & turn	24 V d.c. 1,2 W	SAT
VS18SA11DF218A	NC	Sol/Spring	Internal	–	2,5 … 10	Push & turn	115 V a.c. 1,5 VA	TAT
VS18SA11DF513A	NC	Sol/Spring	Internal	–	2,5 … 10	Extended, push only	24 V d.c. 1,2 W	SAE
VS18SA22DF313A	NC	Sol/Spring	External	1,7+(0,35 x op. press.)	0 … 10	Push only	24 V d.c. 1,2 W	SDU
VS18SA22DF318A	NC	Sol/Spring	External	1,7+(0,35 x op. press.)	0 … 10	Push only	115 V a.c. 1,5 VA	TDU
VS18SA22DF213A	NC	Sol/Spring	External	1,7+(0,35 x op. press.)	0 … 10	Push & turn	24 V d.c. 1,2 W	SDT
VS18SA22DF513A	NC	Sol/Spring	External	1,7+(0,35 x op. press.)	0 … 10	Extended, push only	24 V d.c. 1,2 W	SDE
VS18SB11DF313A	NO	Sol/Spring	Internal	–	2,5 … 10	Push only	24 V d.c. 1,2 W	SBU
VS18SB11DF318A	NO	Sol/Spring	Internal	–	2,5 … 10	Push only	115 V a.c. 1,5 VA	TBU
VS18SB11DF213A	NO	Sol/Spring	Internal	–	2,5 … 10	Push & turn	24 V d.c. 1,2 W	SBT
VS18SB22DF313A	NO	Sol/Spring	External	1,7+(0,35 x op. press.)	0 … 10	Push only	24 V d.c. 1,2 W	SEU
VS18SB22DF318A	NO	Sol/Spring	External	1,7+(0,35 x op. press.)	0 … 10	Push only	115 V a.c. 1,5 VA	TEU
VS18SB22DF213A	NO	Sol/Spring	External	1,7+(0,35 x op. press.)	0 … 10	Push & turn	24 V d.c. 1,2 W	SET
VS18SC11DF313A	NO/NC	Sol/Spring	Internal	–	2,5 … 10	Push only	24 V d.c. 1,2 W	SCU
VS18SC11DF318A	NO/NC	Sol/Spring	Internal	–	2,5 … 10	Push only	115 V a.c. 1,5 VA	TCU
VS18SC11DF213A	NO/NC	Sol/Spring	Internal	–	2,5 … 10	Push & turn	24 V d.c. 1,2 W	SCT
VS18SC11DF218A	NO/NC	Sol/Spring	Internal	–	2,5 … 10	Push & turn	115 V a.c. 1,5 VA	TCT
VS18SC22DF313A	NO/NC	Sol/Spring	External	1,7+(0,35 x op. press.)	0 … 10	Push only	24 V d.c. 1,2 W	SFU
VS18SC22DF213A	NO/NC	Sol/Spring	External	1,7+(0,35 x op. press.)	0 … 10	Push & turn	24 V d.c. 1,2 W	SFT

Valve dimensions see page 169.
NO = Normally open, NC = Normally closed.

Models - 5/2 Single and double solenoid actuated glandless valves (flow 550 l/min)

Model	Actuation/return	Pilot supply	Pilot pressure (bar)	Operating pressure (bar)	Manual override	Voltage	Short code
VS18G511DF313A	Sol/Sol	Internal	–	2 … 10	Push only	24 V d.c. 1,2 W	GJU
VS18G511DF318A	Sol/Sol	Internal	–	2 … 10	Push only	115 V a.c. 1,5 VA	HJU
VS18G511DF213A	Sol/Sol	Internal	–	2 … 10	Push & turn	24 V d.c. 1,2 W	GJT
VS18G511DF513A	Sol/Sol	Internal	–	2 … 10	Extended, push only	24 V d.c. 1,2 W	GJE
VS18G522DF313A	Sol/Sol	External	2 … 10	-0,9 … 16	Push only	24 V d.c. 1,2 W	GKU
VS18G522DF213A	Sol/Sol	External	2 … 10	-0,9 … 16	Push & turn	24 V d.c. 1,2 W	GKT
VS18G591DF213A	Sol (Priority)/Sol	Internal	–	2 … 10	Push & turn	24 V d.c. 1,2 W	GST
VS18G517DF313A	Sol/Spring	Internal	–	1,6 … 10	Push only	24 V d.c. 1,2 W	GGU
VS18G517DF318A	Sol/Spring	Internal	–	1,6 … 10	Push only	115 V a.c. 1,5 VA	HGU
VS18G517DF213A	Sol/Spring	Internal	–	1,6 … 10	Push & turn	24 V d.c. 1,2 W	GGT
VS18G517DF218A	Sol/Spring	Internal	–	1,6 … 10	Push & turn	115 V a.c. 1,5 VA	HGT
VS18G517DF513A	Sol/Spring	Internal	–	1,6 … 10	Extended, push only	24 V d.c. 1,2 W	GGE
VS18G527DF313A	Sol/Spring	External	1,6 … 10	-0,9 … 16	Push only	24 V d.c. 1,2 W	GHU
VS18G527DF213A	Sol/Spring	External	1,6 … 10	-0,9 … 16	Push & turn	24 V d.c. 1,2 W	GHT

Valve dimensions see page 169.

Online at **store.norgren.com**

PLUG-IN MINI ISO VALVE ISLANDS

VS18 2 x 2/2, 2 x 3/2, 5/2 or 5/3, size 18 mm

Models - 5/2 Single and double solenoid actuated softseal valves (flow 650 l/min)

Model	Actuation/return	Pilot supply	Pilot pressure (bar)	Operating pressure (bar)	Manual override	Voltage	Short code
VS18S511DF313A	Sol/Sol	Internal	–	2 … 10	Push only	24 V d.c. 1,2 W	SJU
VS18S511DF318A	Sol/Sol	Internal	–	2 … 10	Push only	115 V a.c. 1,5 VA	TJU
VS18S511DF213A	Sol/Sol	Internal	–	2 … 10	Push & turn	24 V d.c. 1,2 W	SJT
VS18S511DF218A	Sol/Sol	Internal	–	2 … 10	Push & turn	115 V a.c. 1,5 VA	TJT
VS18S511DF513A	Sol/Sol	Internal	–	2 … 10	Extended, push only	24 V d.c. 1,2 W	SJE
VS18S522DF313A	Sol/Sol	External	2 … 10	-0,9 … 10	Push only	24 V d.c. 1,2 W	SKU
VS18S522DF213A	Sol/Sol	External	2 … 10	-0,9 … 10	Push & turn	24 V d.c. 1,2 W	SKT
VS18S517DF313A	Sol/Spring	Internal	–	2 … 10	Push only	24 V d.c. 1,2 W	SGU
VS18S517DF318A	Sol/Spring	Internal	–	2 … 10	Push only	115 V a.c. 1,5 VA	TGU
VS18S517DF213A	Sol/Spring	Internal	–	2 … 10	Push & turn	24 V d.c. 1,2 W	SGT
VS18S517DF218A	Sol/Spring	Internal	–	2 … 10	Push & turn	115 V a.c. 1,5 VA	TGT
VS18S517DF513A	Sol/Spring	Internal	–	2 … 10	Extended, push only	24 V d.c. 1,2 W	SGE
VS18S527DF313A	Sol/Spring	External	2 … 10	-0,9 … 10	Push only	24 V d.c. 1,2 W	SHU
VS18S527DF318A	Sol/Spring	External	2 … 10	-0,9 … 10	Push only	115 V a.c. 1,5 VA	THU
VS18S527DF213A	Sol/Spring	External	2 … 10	-0,9 … 10	Push & turn	24 V d.c. 1,2 W	SHT
VS18S527DF218A	Sol/Spring	External	2 … 10	-0,9 … 10	Push & turn	115 V a.c. 1,5 VA	THT
VS18S527DF513A	Sol/Spring	External	2 … 10	-0,9 … 10	Extended, push only	24 V d.c. 1,2 W	SHE

Valve dimensions see page 169.

Online at **store.norgren.com**

Models - 5/3 Double solenoid actuated glandless valves (flow 550 l/min)

Model	Function 2x2/2	Actuation/return	Pilot supply	Pilot pressure (bar)	Operating pressure (bar)	Manual override	Voltage	Short code
VS18G611DF313A	APB	Sol/Sol	Internal	–	2 … 10	Push only	24 V d.c. 1,2 W	GLU
VS18G611DF318A	APB	Sol/Sol	Internal	–	2 … 10	Push only	111 V a.c. 1,5 VA	HLU
VS18G611DF213A	APB	Sol/Sol	Internal	–	2 … 10	Push & turn	24 V d.c. 1,2 W	GLT
VS18G622DF313A	APB	Sol/Sol	External	2 … 10	-0,9 … 16	Push only	24 V d.c. 1,2 W	GMU
VS18G622DF213A	APB	Sol/Sol	External	2 … 10	-0,9 … 16	Push & turn	24 V d.c. 1,2 W	GMT
VS18G711DF313A	COE	Sol/Sol	Internal	–	2 … 10	Push only	24 V d.c. 1,2 W	GQU
VS18G711DF318A	COE	Sol/Sol	Internal	–	2 … 10	Push only	111 V a.c. 1,5 VA	HQU
VS18G711DF213A	COE	Sol/Sol	Internal	–	2 … 10	Push & turn	24 V d.c. 1,2 W	GQT
VS18G711DF513A	COE	Sol/Sol	Internal	–	2 … 10	Extended, push only	24 V d.c. 1,2 W	GQE
VS18G722DF313A	COE	Sol/Sol	External	2 … 10	-0,9 … 16	Push only	24 V d.c. 1,2 W	GRU
VS18G722DF318A	COE	Sol/Sol	External	2 … 10	-0,9 … 16	Push only	111 V a.c. 1,5 VA	HRU
VS18G722DF213A	COE	Sol/Sol	External	2 … 10	-0,9 … 16	Push & turn	24 V d.c. 1,2 W	GRT

Valve dimensions see page 169.
APB = All Ports Blocked, COE = Centre Open Exhaust.

Models - 5/3 Double solenoid actuated softseal valves (flow 650 l/min)

Model	Function 2x2/2	Actuation/return	Pilot supply	Pilot pressure (bar)	Operating pressure (bar)	Manual override	Voltage	Short code
VS18S611DF313A	APB	Sol/Sol	Internal	–	2 … 10	Push only	24 V d.c. 1,2 W	SLU
VS18S611DF318A	APB	Sol/Sol	Internal	–	2 … 10	Push only	115 V a.c. 1,5 VA	HLU
VS18S611DF213A	APB	Sol/Sol	Internal	–	2 … 10	Push & turn	24 V d.c. 1,2 W	SLT
VS18S611DF218A	APB	Sol/Sol	Internal	–	2 … 10	Push & turn	115 V a.c. 1,5 VA	HLT
VS18S611DF513A	APB	Sol/Sol	Internal	–	2 … 10	Extended, push only	24 V d.c. 1,2 W	SLE
VS18S622DF313A	APB	Sol/Sol	External	2 … 10	-0,9 … 10	Push only	24 V d.c. 1,2 W	SMU
VS18S622DF213A	APB	Sol/Sol	External	2 … 10	-0,9 … 10	Push & turn	24 V c.c. 1,2 W	SMT
VS18S711DF313A	COE	Sol/Sol	Internal	–	2,5 … 10	Push only	24 V d.c. 1,2 W	SQU
VS18S711DF318A	COE	Sol/Sol	Internal	–	2,5 … 10	Push only	115 V a.c. 1,5 VA	HQU
VS18S711DF213A	COE	Sol/Sol	Internal	–	2,5 … 10	Push & turn	24 V d.c. 1,2 W	SQT
VS18S722DF313A	COE	Sol/Sol	External	2,5 … 10	-0,9 … 10	Push only	24 V d.c. 1,2 W	SRU
VS18S722DF513A	COE	Sol/Sol	External	2,5 … 10	-0,9 … 10	Extended, push only	24 V d.c. 1,2 W	SRE

Valve dimensions see page 169.
APB = All Ports Blocked, COE = Centre Open Exhaust.

Electrical details for solenoid operators

Voltage tolerances	(24 V d.c) +/- 10%
	(115 V a.c) -10%/+15%
Rating	100% Continuous duty
Inlet orifice	0,8 mm
Indication	LED green
Surge surpression	Transil diode
Materials	PPS (body), FKM and NBR (seal)

Note: For alternative voltage and voltage tolerances please contact us.

Protection classification (IP Code):
All VS18 valve islands fulfill IP65 and NEMA4 ratings.

Power supply and precautions:
All VS18 24 V d.c products are designed to be used with a protective extra low voltage (PELV) power supply. All VS26 115 V a.c products correspond to the protection class I. Connection of the protective earth (PE) ground is required.

UL approval:
Recognized to UL 429 for Electrically Operated Valves.

ATEX:
The 24 V d.c Multipole and Fieldbus valve islands fulfils the requirement of the standard 94/9/EC for intended use in hazardous locations.

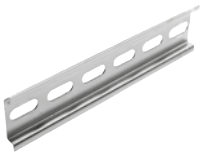
Ex nA IIC T4 Gc X
Ex tC IIIC T135°C Dc
-15°C < tamb < 50°C

Equipment group, category, type of protection:
The Declaration of Conformity of the valve islands was conducted by Norgren GmbH, D-70731 Fellbach. Please review all ATEX data and notes in the maintenance and instruction booklet to eliminate any risks, allowing for safe function of the valve islands.

Online at **store.norgren.com**

PLUG-IN MINI ISO VALVE ISLANDS
VS18 2 x 2/2, 2 x 3/2, 5/2 or 5/3, size 18 mm

Accessories

DIN EN 50 022 rail (1 m)	DIN-rail mounting kit	Blanking disc to modular sub-base	Manual override set-up kit	Spare valve identification labels *1)	Blanking plug for base connector hole *2)
					
V10009-C00 (35 x 7,5 mm)	V70531-KA0	VS1872405-KF00 (Ports 1, 3, 5)	VS2672906-KG00	VS2672905-KG00 (10 pcs.)	VS2672914-KG00
–	–	VS1872406-KF00 (Port 12/14)	–	–	–

*1) When purchasing assembled valve islands from Norgren, valve identification labels are already included.
*2) When V40/V41 valves are fitted on VS18 bases.

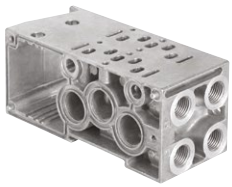
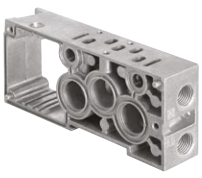
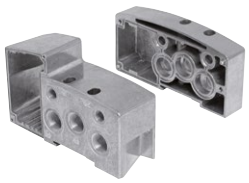
Base accessories

Intermediate supply/exhaust module	Blanking plate
	
VS1872402-AF00 (G1/8)	VS1872404-KF00
VS1872402-PF00 (NPTF 1/8)	–

Sandwich plates

Single pressure regulator plate	Double pressure regulator plate	Flow regulator plate	Sandwich plate with additional pressure port 1	Single valve shut-off plate
				
VS1872400-KF10 (Port *1)	VS1872400-KF40 (Ports 2+4)	VS1872401-KF00 (Ports 3+5)	VS1872428-KFG00 (G1/8)	VS1872403-KF00 (Port *1)
VS1872400-KF20 (Port *2)	–	–	–	–
VS1872400-KF30 (Port 4)	–	–	–	–

Sub-bases and end plates

Single station sub-base	Double station modular sub-base	Single station modular sub-base	End plate kit
			
Page 170	Page 171 for dimensions.		

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IMI Precision Engineering

For further information, visit store.norgren.com
and use the new improved search function. If you cannot
see the option you require please contact us.

IMI NORGREN

Multipole options

Connector type	Voltage	No. of stations	Max. no. solenoids
D-Sub 9-pin	24 V d.c.	02/03/04	8
D-Sub 15-pin	24 V d.c.	02/03/04/05/06/07	14
D-Sub 25-pin	24 V d.c.	02/03/04/05/06/07/08/09/10/11/12	24
D-Sub 44-pin	24 V d.c.	08/09/10/11/12/13/14/15/16/17/18/19/20	40
M23 19-pin	115 V a.c., 24 V d.c.	02/03/04/05/06/07/08	16
NPTF1 Conduit entry with terminals	115 V a.c., 24 V d.c.	02/03/04/05/06/07/08/09/10/11/12	24

For valve islands with 17 … 20 valve stations, please contact our customer service. For details of single parts see pages 171 … 173.

Multipole accessories

Cable length	D-Sub connector 9-pin IP65 *1)	D-Sub connector 15-pin IP65 *1)	D-Sub connector 25-pin IP65 *1)	D-Sub connector 44-pin IP65 *1)	M23 connector 19-pin IP65 *1)
					
1 m	VS2672910-KG00	VS2672915-KG00	V11569-E01	V11570-E01	VS2672943-KG00
3 m	VS2672911-KG00	VS2672916-KG00	V11569-E03	V11570-E03	VS2672944-KG00
5 m	VS2672912-KG00	VS2672917-KG00	V11569-E05	V11570-E05	VS2672945-KG00

*1) Required for ATEX.
For cable length longer than 5 m please contact customer service.

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PLUG-IN MINI ISO VALVE ISLANDS
VS18 2 x 2/2, 2 x 3/2, 5/2 or 5/3, size 18 mm

Fieldbus options: Overview

Fieldbus protocol	Fieldbus interface/connector	Power connector (Fieldbus and valves)	No. of stations	Max. no. solenoids
Profibus DP	1 x D-Sub; 9-pin	M12; 4-pin	04/05/06/07/08/09/10/11/12/13/14/15/16	32
	2 x M12; 5-pin	M12; 4-pin	04/05/06/07/08/09/10/11/12/13/14/15/16	32
	2 x M12; 5-pin	7/85-pin	04/05/06/07/08/09/10/11/12/13/14/15/16	32
Interbus-S	2 x D-Sub; 9-pin	M12; 4-pin	04/05/06/07/08/09/10/11/12/13/14/15/16	32
AS-Interface-Singleslave	1 x M12; 4-pin	M12; 4-pin	02/03/04	4
AS-Interface-Doubleslave	1 x M12; 4-pin	M12; 4-pin	04/05/06/07/08	8
DeviceNet	1 x M12; 5-pin	M12; 4-pin	04/05/06/07/08/09/10/11/12/13/14/15/16	32
CANopen	1 x M12; 5-pin	M12; 4-pin	04/05/06/07/08/09/10/11/12/13/14/15/16	32

For parts and assembly instructions of Fieldbus components, consult our technical service.

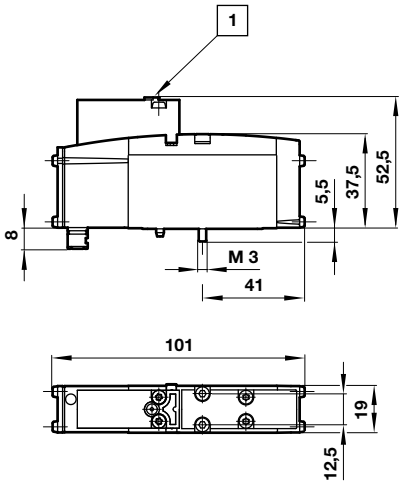
Fieldbus accessories

	Model	Description	Connection	Cable length	Protection class
Fieldbus power connector					
	V11588-E01	Profibus DP (4-pin, female) Interbus-S (4-pin, female) DeviceNet (4-pin, female) CANopen (4-pin, female)	M12	Wireable	IP65 Required for ATEX
	VS2672907-KG00	Profibus DP (5-pin, female)	7/8	Wireable	IP65 Required for ATEX
Communication cable and connector					
	V11589-E01	DeviceNet (5-pin, female) CANopen (5-pin, female)	M12	Wireable	IP65 Required for ATEX
	V11590-E01	Profibus DP, reverse keyway (5-pin, male)	M12	Wireable	IP65 Required for ATEX
	V11591-E01	Profibus DP, reverse keyway (5-pin, female)	M12	Wireable	IP65 Required for ATEX
	V11654-E01	Profibus DP connector (9-pin, male) with terminating resistor	D-Sub	Wireable	IP40
	V11592-E01	Profibus DP terminating resistor (male)	M12	–	IP65 Required for ATEX
	VE1ASCN1-M1200	AS-Interface power or communications (4-pin, female)	M12	Wireable	IP65 Required for ATEX

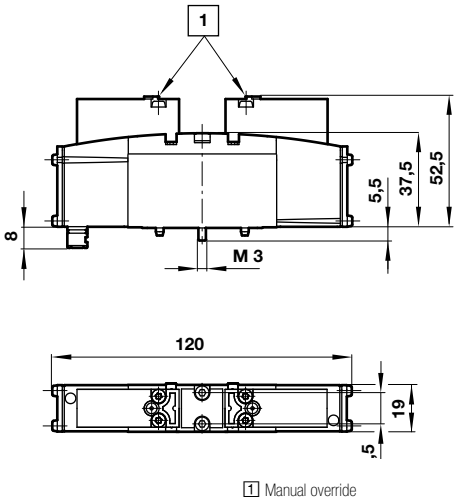
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Dimensions - Valves

VS18*5*7DF*1*A
5/2 Single solenoid pilot valve, mechanical spring return



VS18****DF*1*A
2x2/2, 2x3/2, 5/2 and 5/3 Double solenoid, pilot valve



1 Manual override

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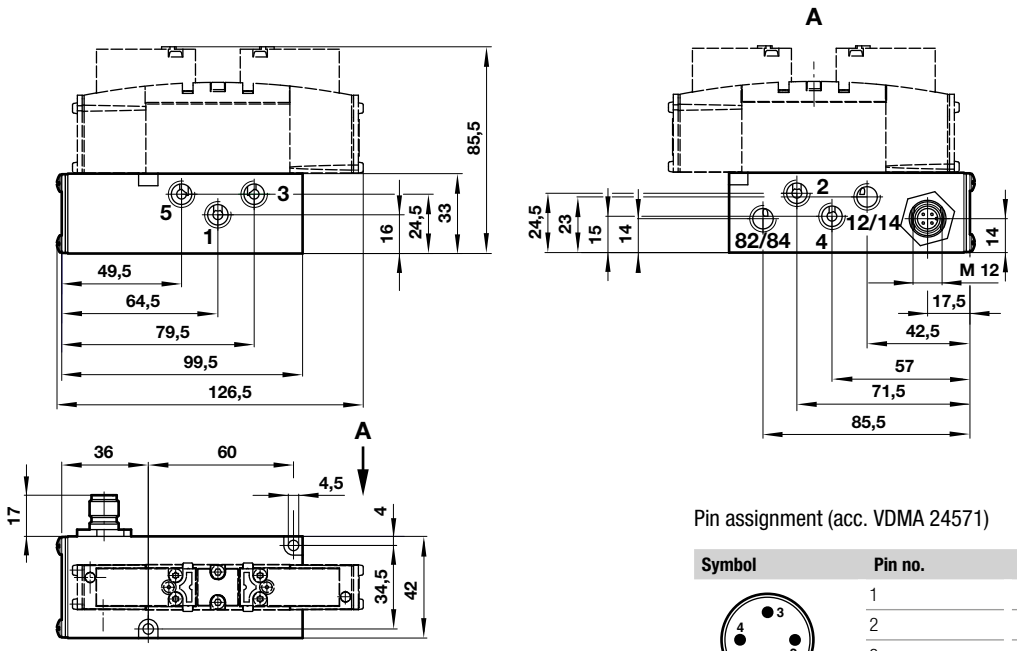
PLUG-IN MINI ISO VALVE ISLANDS

VS18 2 x 2/2, 2 x 3/2, 5/2 or 5/3, size 18 mm

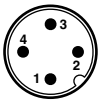
Single station sub-base

Model	Description	Ports 1, 3 & 5	Ports 12/14 & 82/84	Ports 2 & 4	Connector type
VS1872010-AF00	Single station sub-base for 24 V d.c.	G1/8	G1/8	G1/8	M12

Connector type: M12

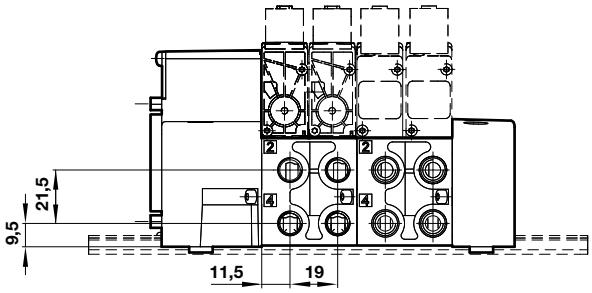


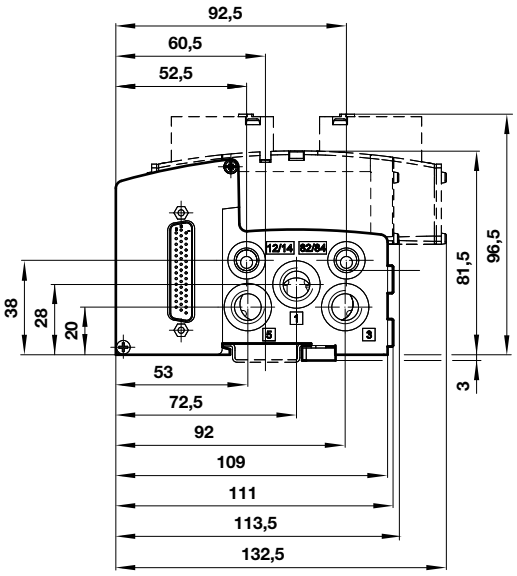
Pin assignment (acc. VDMA 24571)

Symbol	Pin no.	Function
	1	Not used
	2	Signal for solenoid 12
	3	Common for solenoid 12 and 14
	4	Signal for solenoid 14

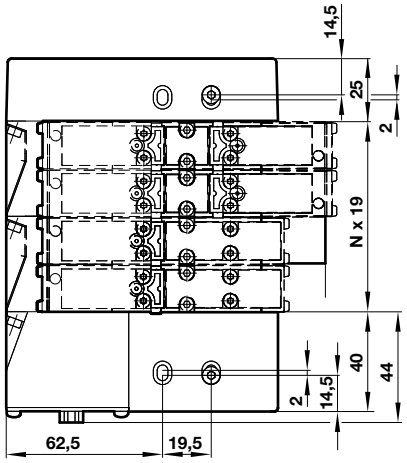
Dimensions - Valve island

Contact us for sub-base and end plate kit ordering information





Dimensions for surface mounting:
Slot length = 4,3 mm (max. M4 screws).
Clamp length = 35,7 mm.
Note: Never plug port 82/84. Plugging this port will cause valves to malfunction.



N Number of stations

Electrical connection	Min. no. of valve stations	Max. no. of valve stations
Multipole	2	20
AS-Interface	2	6
Other Fieldbus protocols	4	16

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PLUG-IN MINI ISO VALVE ISLANDS

VS18 2 x 2/2, 2 x 3/2, 5/2 or 5/3, size 18 mm

Multi pressure configurations

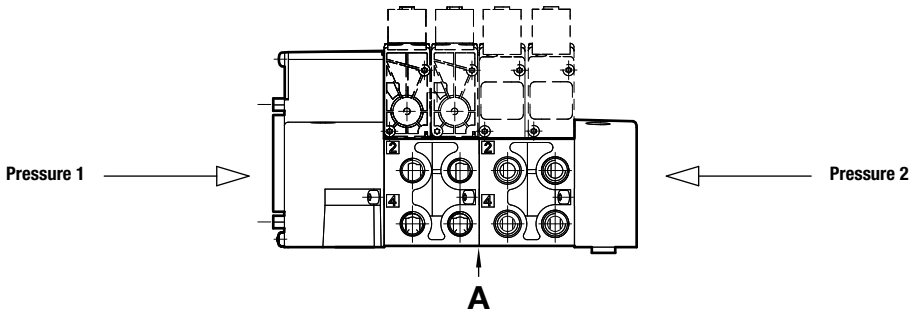
A

Blanking disc	Type
VS1872405-KF00	Suitable for ports 1, 3 and/or 5

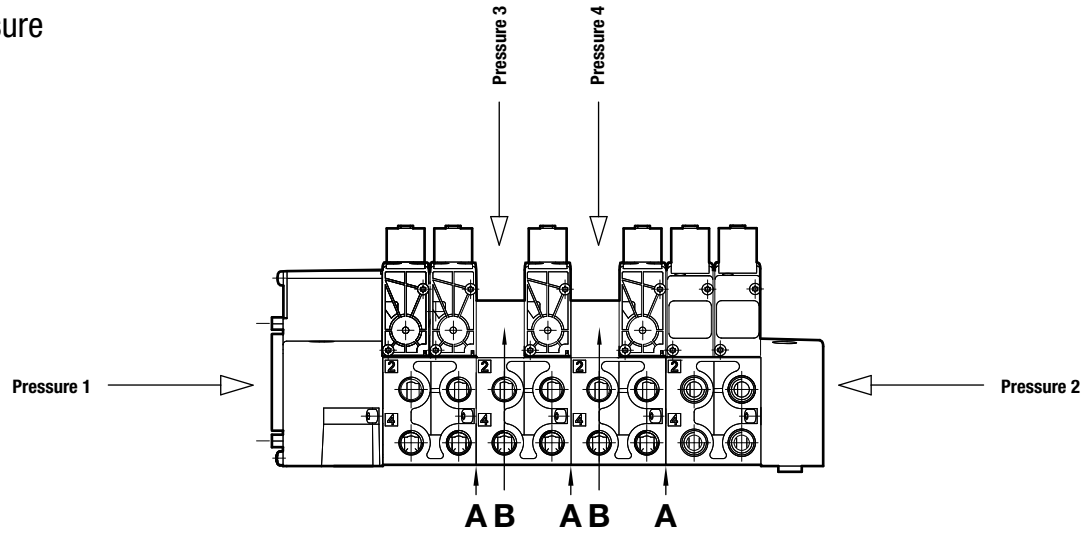
B

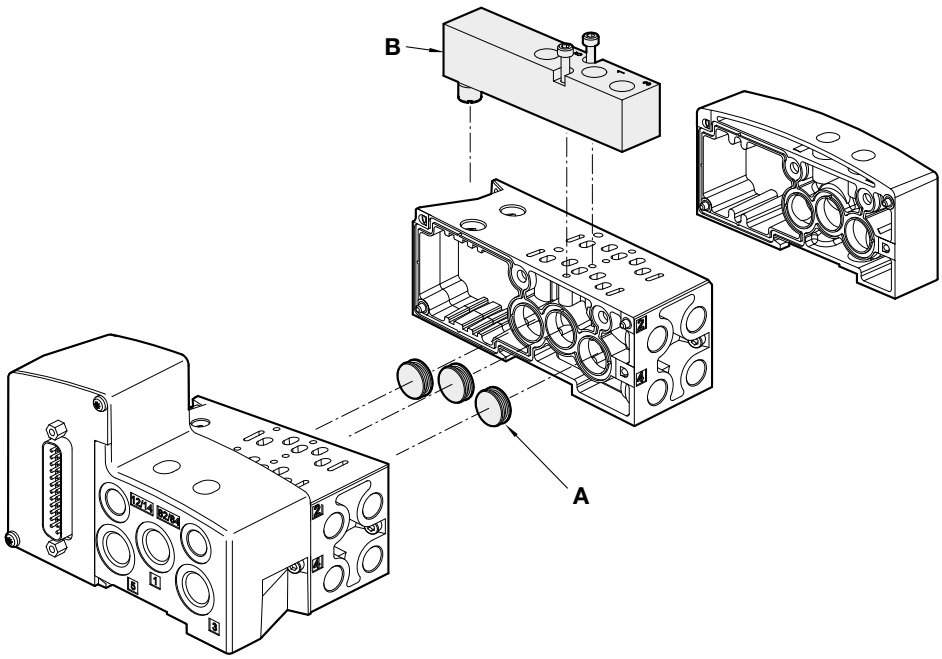
Intermediate supply/exhaust module	Type
VS1872402-AF00	G 1/8

Dual pressure



Multi pressure





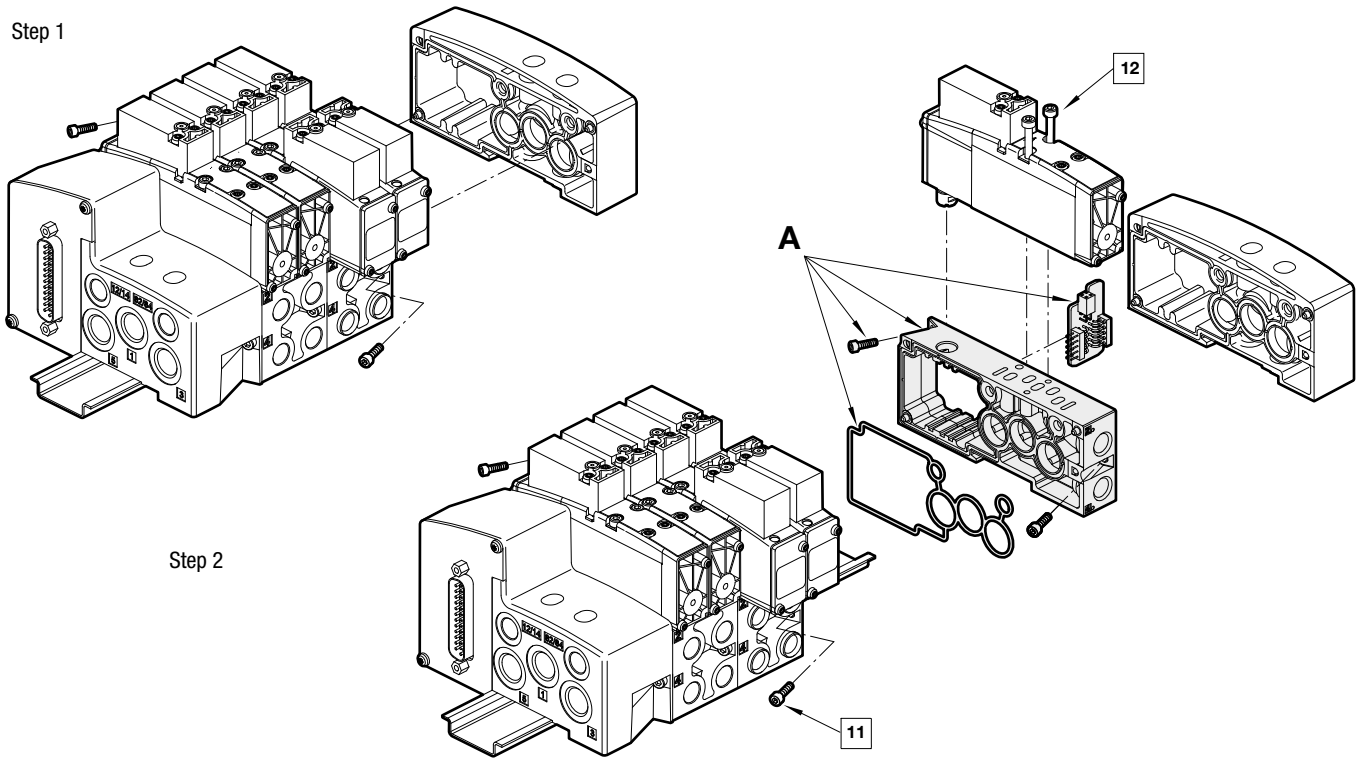
Online at **store.norgren.com**

A – Single add-on stations including PCB, sub-base, gasket and screws

Model	Ports 2 & 4	Description
VS1872004-AFF0	G1/8	Add-on station for D-Sub connectors and Fieldbus
VS1872004-6FF0	PIF6 mm	Add-on station for D-Sub connectors and Fieldbus
VS1872004-8FF0	PIF8 mm	Add-on station for D-Sub connectors and Fieldbus
VS1872005-AFF0	G1/8	Add-on station for Conduit entry and M23 connector
VS1872005-6FF0	PIF6 mm	Add-on station for Conduit entry and M23 connector
VS1872005-8FF0	PIF8 mm	Add-on station for Conduit entry and M23 connector

Valves and accessories to be ordered separately, see page 166.

Step 1



Step 2

11 Torque = 0,8 … 0,9 Nm
Screwdriver speed = max. 1100 r.p.m
12 Torque = 1,1 … 1,5 Nm
Screwdriver speed = max. 1100 r.p.m

For detailed assembly instructions, please see maintenance & instruction booklet

Online at store.norgren.com

PLUG-IN MINI ISO VALVE ISLANDS

VS26 2 x 2/2, 2 x 3/2, 5/2 or 5/3, size 26 mm

- Integrated Fieldbus
- Field expandable with single add-on stations
- Dual spool technology, solenoid pilot actuated
  - VS26G Glandless spool and sleeve for long life
  - VS26S Softseal spool for high flow
- UL and ATEX
- Universal PNP/NPN 24 V d.c. Multipole
- To configure and order a Valve Island visit - vi.norgren.com
- Conforms to ISO 15407-2 Size 26mm

Technical Data

Medium:
Compressed air, filtered to 40 µm, lubricated or non-lubricated

Flow:

Softseal	
Function	l/min
2x2/2	1150
2x3/2	1250
5/2; 5/3	1350
Glandless	
5/2; 5/3	1000

Mounting:
Sub-base

Ports 2+4:
G1/4, PIF 10 mm, PIF 8 mm

Operating pressure:
Maximum pressure
10 bar VS26S models and VS26G solenoid pilot actuated valves with internal pilot supply
16 bar VS26G solenoid pilot actuated valves with external pilot supply.
Details of minimum and maximum pilot pressure see overleaf

Ambient/Media temperature:
Ambient: -15°C … +50°C
Media: -5°C … +50°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Body/sub-base:
Die-cast aluminium

Glandless spool & Sleeve (VS26G):
Aluminium, hard anodised, PTFE coated

Softseal spool (VS26S):
Aluminium with HNBR seals

Plastic parts:
POM, PA, PPA

Mounting sheets/screws:
Steel, zinc coated

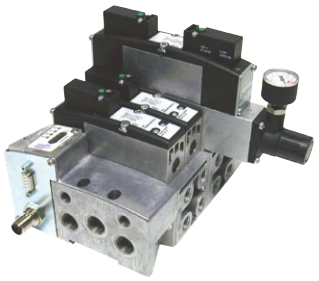
Springs:
Stainless steel

Sandwich plates:
Aluminium bar material, PA

Electrical contacts:
Brass, tin gold coated

PCB:
Glass epoxy

EXPRESS



DeviceNet CANopen

Models - 2x2/2 Double solenoid actuated softseal valves (flow 1150 l/min)

Model	Function 2 x 2/2	Actuation/return	Pilot supply	Pilot pressure (bar)	Operating pressure (bar)	Manual override	Voltage	Short code
VS26SE11DF313A	NC	Sol/Spring	Internal	3 … 10 *1)	-0,9 … 10	Push only	24 V d.c. 1,2 W	STU
VS26SE11DF318A	NC	Sol/Spring	Internal	3 … 10 *1)	-0,9 … 10	Push only	115 V d.c. 1,5 W	TTU
VS26SE11DF213A	NC	Sol/Spring	Internal	3 … 10 *1)	-0,9 … 10	Push & turn	24 V d.c. 1,2 W	STT
VS26SE11DF513A	NC	Sol/Spring	Internal	3 … 10 *1)	-0,9 … 10	Extended, push only	24 V d.c. 1,2 W	STE
VS26SE22DF313A	NC	Sol/Spring	Extern	1,7+(0,35 x press.port 1) *2)	-0,9 … 10	Push only	24 V d.c. 1,2 W	SWU
VS26SE22DF213A	NC	Sol/Spring	Extern	1,7+(0,35 x press.port 1) *2)	-0,9 … 10	Push & turn	24 V d.c. 1,2 W	SWT
VS26SF11DF313A	NO	Sol/Spring	Internal	3 … 10 *1)	-0,9 … 10	Push only	24 V d.c. 1,2 W	SUU
VS26SF22DF313A	NO	Sol/Spring	Extern	1,7+(0,35 x press.port 1) *2)	-0,9 … 10	Push only	24 V d.c. 1,2 W	SXU
VS26SF22DF213A	NO	Sol/Spring	Extern	1,7+(0,35 x press.port 1) *2)	-0,9 … 10	Push & turn	24 V d.c. 1,2 W	SXT
VS26SG11DF313A	NO/NC	Sol/Spring	Internal	3 … 10 *1)	-0,9 … 10	Push only	24 V d.c. 1,2 W	SVU
VS26SG22DF313A	NO/NC	Sol/Spring	Extern	1,7+(0,35 x press.port 1) *2)	-0,9 … 10	Push only	24 V d.c. 1,2 W	SYU

Valve dimensions see page 180.
NO = Normally open, NC = Normally closed.
*1) Pilot air supply through port 1.
*2) Pilot air supply through port 12/14.

Models - 2x3/2 Double solenoid actuated softseal valves (flow 1250 l/min)

Model	Function 2 x 3/2	Actuation	Pilot supply	Pilot pressure (bar)	Operating pressure (bar)	Manual override	Voltage	Short code
VS26SA11DF313A	NC	Sol/Spring	Internal	–	3 … 10	Push only	24 V d.c. 1,2 W	SAU
VS26SA11DF318A	NC	Sol/Spring	Internal	–	3 … 10	Push only	115 V d.c. 1,5 W	TAU
VS26SA11DF213A	NC	Sol/Spring	Internal	–	3 … 10	Push & turn	24 V d.c. 1,2 W	SAT
VS26SA11DF218A	NC	Sol/Spring	Internal	–	3 … 10	Push & turn	115 V d.c. 1,5 W	TAT
VS26SA11DF513A	NC	Sol/Spring	Internal	–	3 … 10	Extended, push only	24 V d.c. 1,2 W	SAE
VS26SA22DF313A	NC	Sol/Spring	Extern	1,7 + (0,5 x op. press.)	0 … 10	Push only	24 V d.c. 1,2 W	SDU
VS26SA22DF213A	NC	Sol/Spring	Extern	1,7 + (0,5 x op. press.)	0 … 10	Push & turn	24 V d.c. 1,2 W	SDT
VS26SA22DF513A	NC	Sol/Spring	Extern	1,7 + (0,5 x op. press.)	0 … 10	Extended, push only	24 V d.c. 1,2 W	SDE
VS26SB11DF313A	NO	Sol/Spring	Internal	–	3 … 10	Push only	24 V d.c. 1,2 W	SBU
VS26SB11DF318A	NO	Sol/Spring	Internal	–	3 … 10	Push only	115 V d.c. 1,5 W	TBU
VS26SB11DF213A	NO	Sol/Spring	Internal	–	3 … 10	Push & turn	24 V d.c. 1,2 W	SBT
VS26SB22DF313A	NO	Sol/Spring	Extern	1,7 + (0,5 x op. press.)	0 … 10	Push only	24 V d.c. 1,2 W	SEU
VS26SB22DF213A	NO	Sol/Spring	Extern	1,7 + (0,5 x op. press.)	0 … 10	Push & turn	24 V d.c. 1,2 W	SET
VS26SC11DF313A	NO/NC	Sol/Spring	Internal	–	3 … 10	Push only	24 V d.c. 1,2 W	SCU
VS26SC11DF318A	NO/NC	Sol/Spring	Internal	–	3 … 10	Push only	115 V d.c. 1,5 W	TCU
VS26SC11DF213A	NO/NC	Sol/Spring	Internal	–	3 … 10	Push & turn	24 V d.c. 1,2 W	SCT
VS26SC22DF313A	NO/NC	Sol/Spring	Extern	1,7 + (0,5 x op. press.)	0 … 10	Push only	24 V d.c. 1,2 W	SFU
VS26SC22DF213A	NO/NC	Sol/Spring	Extern	1,7 + (0,5 x op. press.)	0 … 10	Push & turn	24 V d.c. 1,2 W	SFT

Valve dimensions see page 180.
NO = Normally open, NC = Normally closed.
*1) Pilot air supply through port 1.
*2) Pilot air supply through port 12/14.

Models - 5/2 Single and double solenoid actuated glandless valves (flow 1000 l/min)

Model	Actuation	Pilot supply	Pilot pressure (bar)	Operating pressure (bar)	Manual override	Voltage	Short code
VS26G511DF313A	Sol/Sol	Internal	–	2 … 10	Push only	24 V d.c. 1,2 W	GJU
VS26G511DF318A	Sol/Sol	Internal	–	2 … 10	Push only	115 V d.c. 1,5 W	HJU
VS26G511DF213A	Sol/Sol	Internal	–	2 … 10	Push & turn	24 V d.c. 1,2 W	GJT
VS26G511DF218A	Sol/Sol	Internal	–	2 … 10	Push & turn	115 V d.c. 1,5 W	HJT
VS26G511DF513A	Sol/Sol	Internal	–	2 … 10	Extended, push only	24 V d.c. 1,2 W	GJE
VS26G511DF518A	Sol/Sol	Internal	–	2 … 10	Extended, push only	115 V d.c. 1,5 W	HJE
VS26G522DF313A	Sol/Sol	Extern	2 … 10	-0,9 … 16	Push only	24 V d.c. 1,2 W	GKU
VS26G522DF213A	Sol/Sol	Extern	2 … 10	-0,9 … 16	Push & turn	24 V d.c. 1,2 W	GKT
VS26G591DF313A	Sol (Priority)/Sol	Internal	–	2 … 10	Push only	24 V d.c. 1,2 W	GSU
VS26G591DF518A	Sol (Priority)/Sol	Internal	–	2 … 10	Extended, push only	115 V d.c. 1,5 W	HSE
VS26G592DF313A	Sol (Priority)/Sol	Extern	2 … 10	-0,9 … 16	Push only	24 V d.c. 1,2 W	GTU
VS26G517DF313A	Sol/Spring	Internal	–	1,6 … 10	Push only	24 V d.c. 1,2 W	GGU
VS26G517DF318A	Sol/Spring	Internal	–	1,6 … 10	Push only	115 V d.c. 1,5 W	HGU
VS26G517DF213A	Sol/Spring	Internal	–	1,6 … 10	Push & turn	24 V d.c. 1,2 W	GGT
VS26G517DF218A	Sol/Spring	Internal	–	1,6 … 10	Push & turn	115 V d.c. 1,5 W	HGT
VS26G517DF513A	Sol/Spring	Internal	–	1,6 … 10	Extended, push only	24 V d.c. 1,2 W	GGE
VS26G527DF313A	Sol/Spring	Extern	1,6 … 10	-0,9 … 16	Push only	24 V d.c. 1,2 W	GHU
VS26G527DF213A	Sol/Spring	Extern	1,6 … 10	-0,9 … 16	Push & turn	24 V d.c. 1,2 W	GHT

Valve dimensions see page 180.

Online at **store.norgren.com**

PLUG-IN MINI ISO VALVE ISLANDS

VS26 2 x 2/2, 2 x 3/2, 5/2 or 5/3, size 26 mm

Models - 5/2 Single and double solenoid actuated softseal valves (flow 1350 l/min)

Model	Actuation	Pilot supply	Pilot pressure (bar)	Operating pressure (bar)	Manual override	Voltage	Short code
VS26S511DF313A	Sol/Sol	Internal	–	2 … 10	Push only	24 V d.c. 1,2 W	SJU
VS26S511DF318A	Sol/Sol	Internal	–	2 … 10	Push only	115 V d.c. 1,5 W	TJU
VS26S511DF213A	Sol/Sol	Internal	–	2 … 10	Push & turn	24 V d.c. 1,2 W	SJT
VS26S511DF513A	Sol/Sol	Internal	–	2 … 10	Extended, push only	24 V d.c. 1,2 W	SJE
VS26S522DF313A	Sol/Sol	Extern	2 … 10	-0,9 … 10	Push only	24 V d.c. 1,2 W	SKU
VS26S522DF318A	Sol/Sol	Extern	2 … 10	-0,9 … 10	Push only	115 V d.c. 1,5 W	TKU
VS26S522DF213A	Sol/Sol	Extern	2 … 10	-0,9 … 10	Push & turn	24 V d.c. 1,2 W	SKT
VS26S522DF218A	Sol/Sol	Extern	2 … 10	-0,9 … 10	Push & turn	115 V d.c. 1,5 W	TKT
VS26S522DF513A	Sol/Sol	Extern	2 … 10	-0,9 … 10	Extended, push only	24 V d.c. 1,2 W	SKE
VS26S522DF518A	Sol/Sol	Extern	2 … 10	-0,9 … 10	Extended, push only	115 V d.c. 1,5 W	TKE
VS26S517DF313A	Sol/Spring	Internal	–	2 … 10	Push only	24 V d.c. 1,2 W	SGU
VS26S517DF318A	Sol/Spring	Internal	–	2 … 10	Push only	115 V d.c. 1,5 W	TGU
VS26S517DF213A	Sol/Spring	Internal	–	2 … 10	Push & turn	24 V d.c. 1,2 W	SGT
VS26S517DF218A	Sol/Spring	Internal	–	2 … 10	Push & turn	115 V d.c. 1,5 W	TGT
VS26S517DF513A	Sol/Spring	Internal	–	2 … 10	Extended, push only	24 V d.c. 1,2 W	SGE
VS26S517DF518A	Sol/Spring	Internal	–	2 … 10	Extended, push only	115 V d.c. 1,5 W	TGE
VS26S527DF313A	Sol/Spring	Extern	2 … 10	-0,9 … 10	Push only	24 V d.c. 1,2 W	SHU
VS26S527DF318A	Sol/Spring	Extern	2 … 10	-0,9 … 10	Push only	115 V d.c. 1,5 W	THU
VS26S527DF213A	Sol/Spring	Extern	2 … 10	-0,9 … 10	Push & turn	24 V d.c. 1,2 W	SHT
VS26S527DF513A	Sol/Spring	Extern	2 … 10	-0,9 … 10	Extended, push only	24 V d.c. 1,2 W	SHE

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Models - 5/3 Double solenoid actuated glandless valves (flow 1000 l/min)

Model	Function 2x2/2	Actuation	Pilot supply	Pilot pressure (bar)	Operating pressure (bar)	Manual override	Voltage	Short code
VS26G611DF313A	APB	Sol/Sol	Internal	–	2 … 10	Push only	24 V d.c. 1,2 W	GLU
VS26G611DF318A	APB	Sol/Sol	Internal	–	2 … 10	Push only	115 V d.c. 1,5 W	HLU
VS26G611DF213A	APB	Sol/Sol	Internal	–	2 … 10	Push & turn	24 V d.c. 1,2 W	GLT
VS26G622DF313A	APB	Sol/Sol	Extern	2 … 10	-0,9 … 16	Push only	24 V d.c. 1,2 W	GMU
VS26G622DF213A	APB	Sol/Sol	Extern	2 … 10	-0,9 … 16	Push & turn	24 V d.c. 1,2 W	GMT
VS26G711DF313A	COE	Sol/Sol	Internal	–	2 … 10	Push only	24 V d.c. 1,2 W	GQU
VS26G711DF318A	COE	Sol/Sol	Internal	–	2 … 10	Push only	115 V d.c. 1,5 W	HQU
VS26G711DF213A	COE	Sol/Sol	Internal	–	2 … 10	Push & turn	24 V d.c. 1,2 W	GQT
VS26G711DF218A	COE	Sol/Sol	Internal	–	2 … 10	Push & turn	115 V d.c. 1,5 W	HQT
VS26G711DF518A	COE	Sol/Sol	Internal	–	2 … 10	Extended, push only	115 V d.c. 1,5 W	HQE
VS26G722DF313A	COE	Sol/Sol	Extern	2 … 10	-0,9 … 16	Push only	24 V d.c. 1,2 W	GRU
VS26G722DF213A	COE	Sol/Sol	Extern	2 … 10	-0,9 … 16	Push & turn	24 V d.c. 1,2 W	GRT

Valve dimensions see page 180.

APB = All Ports Blocked, COE = Centre Open Exhaust.

Models - 5/3 Double solenoid actuated softseal valves (flow 1350 l/min)

Model	Function 2x2/2	Actuation/return	Pilot supply	Pilot pressure (bar)	Operating pressure (bar)	Manual override	Voltage	Short code
VS26S611DF313A	APB	Sol/Sol	Internal	–	2,5 … 10	Push only	24 V d.c. 1,2 W	SLU
VS26S611DF318A	APB	Sol/Sol	Internal	–	2,5 … 10	Push only	115 V d.c. 1,5 W	TLU
VS26S611DF213A	APB	Sol/Sol	Internal	–	2,5 … 10	Push & turn	24 V d.c. 1,2 W	SLT
VS26S611DF513A	APB	Sol/Sol	Internal	–	2,5 … 10	Extended, push only	24 V d.c. 1,2 W	SLE
VS26S622DF313A	APB	Sol/Sol	Extern	2,5 … 10	-0,9 … 10	Push only	24 V d.c. 1,2 W	SMU
VS26S622DF318A	APB	Sol/Sol	Extern	2,5 … 10	-0,9 … 10	Push only	115 V d.c. 1,5 W	TMU
VS26S622DF213A	APB	Sol/Sol	Extern	2,5 … 10	-0,9 … 10	Push & turn	24 V d.c. 1,2 W	SMT
VS26S711DF313A	COE	Sol/Sol	Internal	–	2,5 … 10	Push only	24 V d.c. 1,2 W	SQU
VS26S711DF318A	COE	Sol/Sol	Internal	–	2,5 … 10	Push only	115 V d.c. 1,5 W	TQU
VS26S711DF213A	COE	Sol/Sol	Internal	–	2,5 … 10	Push & turn	24 V d.c. 1,2 W	SQT
VS26S722DF313A	COE	Sol/Sol	Extern	2,5 … 10	-0,9 … 10	Push only	24 V d.c. 1,2 W	SRU
VS26S722DF318A	COE	Sol/Sol	Extern	2,5 … 10	-0,9 … 10	Push only	115 V d.c. 1,5 W	TRU
VS26S722DF213A	COE	Sol/Sol	Extern	2,5 … 10	-0,9 … 10	Push & turn	24 V d.c. 1,2 W	SRT

Valve dimensions see page 180.
APB = All Ports Blocked, COE = Centre Open Exhaust.

Electrical details for solenoid operators

Voltage tolerances	(24 V d.c) +/- 10%
	(115 V a.c) -10%/+15%
Rating	100% Continuous duty
Inlet orifice	0,8 mm
Indication	LED green
Surge surpression	Transil diode
Materials	PPS (body), FKM and NBR (seal)

Note: Alternative voltage and voltage tolerances see option selector contact us.

Protection classification (IP Code):
All VS18 valve islands fulfill IP65 and NEMA4 ratings.

Power supply and precautions:
All VS18 24 V d.c products are designed to be used with a protective extra low voltage (PELV) power supply. All VS26 115 V a.c products correspond to the protection class I. Connection of the protective earth (PE) ground is required.

UL approval:
Recognized to UL 429 for Electrically Operated Valves.

ATEX:
The 24 V d.c Multipole and Fieldbus valve islands fulfils the requirement of the standard 94/9/EC for intended use in hazardous locations.

Ex nA IIC T4 Gc X
Ex tC IIIC T135°C Dc
-15°C < tamb < 50°C

Equipment group, category, type of protection:
The Declaration of Conformity of the valve islands was conducted by Norgren GmbH, D-70731 Fellbach. Please review all ATEX data and notes in the maintenance and instruction booklet to eliminate any risks, allowing for safe function of the valve islands.

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PLUG-IN MINI ISO VALVE ISLANDS
VS26 2 x 2/2, 2 x 3/2, 5/2 or 5/3, size 26 mm

Accessories

DIN EN 50 022 rail (1 m)	DIN-rail mounting kit	Blanking disc to modular sub-base	Manual override set-up kit	Spare valve identification labels *1)	Blanking plug for base connector hole *2)
					
V10009-C00 (35 x 7,5 mm)	V70531-KA0	V70522-K00 (Ports 1, 3, 5)	VS2672906-KG00	VS2672905-KG00 (10 pcs.)	VS2672914-KG00
–	–	V70523-K00 (Port 12/14)	–	–	–

*1) When purchasing assembled valve islands, valve identification labels are already included.
*2) When V44/V45 valves are fitted on VS26 bases.

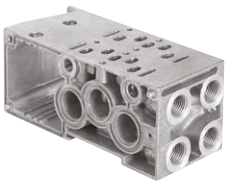
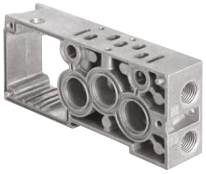
Base accessories

Intermediate supply/ exhaust module	Blanking plate	Soft start and relief valve
		
VS2672902-BG00 (G1/4)	VS2672904-KG00	VS2672530-KG00
VS2672902-RG00 (NPTF 1/4)	–	–

Sandwich plates

Single pressure regulator plate	Double pressure regulator plate	Flow regulator plate	Sandwich plate with additional pressure port 1	Single valve shut-off plate
				
VS2672900-KG10 (Port 1)	VS2672900-KG40 (Ports 2+4)	VS2672901-KG00 (Ports 3+5)	VS2672928-KG00 (G1/4)	VS2672903-KG00 (Port 1)
VS2672900-KG20 (Port 2)	–	–	VS2672929-KG00 (NPTF 1/4)	–
VS2672900-KG30 (Port 4)	–	–	–	–

Sub-bases and end plates

Single station sub-base	Double station modular sub-base	Single station modular sub-base	End plate kit
			
Page 181	Page 182 for dimensions.		

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Multipole options

Connector type	Voltage	No. of stations	Max. no. solenoids
D-Sub 9-pin	24 V d.c.	02/03/04	8
D-Sub 15-pin	24 V d.c.	02/03/04/05/06/07	14
D-Sub 25-pin	24 V d.c.	02/03/04/05/06/07/08/09/10/11/12	24
D-Sub 44-pin	24 V d.c.	08/09/10/11/12/13/14/15/16/17/18/19/20	40
M23 19-pin	115 V a.c., 24 V d.c.	02/03/04/05/06/07/08	16
NPTF1 Conduit entry with terminals	115 V a.c., 24 V d.c.	02/03/04/05/06/07/08/09/10/11/12	24

For valve islands with 17 … 20 valve stations, please contact our customer service. For details of single parts see pages 181…183.

Multipole accessories

Cable length	D-Sub connector 9-pin IP65 *1)	D-Sub connector 15-pin IP65 *1)	D-Sub connector 25-pin IP65 *1)	D-Sub connector 44-pin IP65 *1)	M23 connector 19-pin IP65 *1)
					
1 m	VS2672910-KG00	VS2672915-KG00	V11569-E01	V11570-E01	VS2672943-KG00
3 m	VS2672911-KG00	VS2672916-KG00	V11569-E03	V11570-E03	VS2672944-KG00
5 m	VS2672912-KG00	VS2672917-KG00	V11569-E05	V11570-E05	VS2672945-KG00

*1) Required for ATEX.
For cable length longer than 5 m please contact customer service.

Fieldbus options: overview

Fieldbus protocol	Fieldbus interface/connector	Power connector (Fieldbus and valves)	No. of stations	Max. no. solenoids
Profibus DP	1 x D-Sub; 9-pin	M12; 4-pin	04/05/06/07/08/09/10/11/12/13/14/15/16	32
	2 x M12; 5-pin	M12; 4-pin	04/05/06/07/08/09/10/11/12/13/14/15/16	32
	2 x M12; 5-pin	7/8; 5-pin	04/05/06/07/08/09/10/11/12/13/14/15/16	32
Interbus-S	2 x D-Sub; 9-pin	M12; 4-pin	04/05/06/07/08/09/10/11/12/13/14/15/16	32
AS-Interface-Singleslave	1 x M12; 4-pin	M12; 4-pin	02/03/04	4
AS-Interface-Doubleslave	1 x M12; 4-pin	M12; 4-pin	04/05/06/07/08	8
DeviceNet	1 x M12; 5-pin	M12; 4-pin	04/05/06/07/08/09/10/11/12/13/14/15/16	32
CANopen	1 x M12; 5-pin	M12; 4-pin	04/05/06/07/08/09/10/11/12/13/14/15/16	32

For parts and assembly instructions of Fieldbus components, consult our technical service.

Fieldbus accessories

	Model	Description	Connection	Cable length	Protection class
Fieldbus power connector					
	V11588-E01	Profibus DP (4-pin, female) Interbus-S (4-pin, female) DeviceNet (4-pin, female) CANopen (4-pin, female)	M12	Wireable	IP65 Required for ATEX
	VS2672907-KG00	Profibus DP (5-pin, female)	7/8	Wireable	IP65 Required for ATEX
Communication cable and connector					
	V11589-E01	DeviceNet (5-pin, female) CANopen (5-pin, female)	M12	Wireable	IP65 Required for ATEX
	V11590-E01	Profibus DP, reverse keyway (5-pin, male)	M12	Wireable	IP65 Required for ATEX
	V11591-E01	Profibus DP, reverse keyway (5-pin, female)	M12	Wireable	IP65 Required for ATEX
	V11654-E01	Profibus DP connector (9-pin, male) with terminating resistor	D-Sub	Wireable	IP40
	V11592-E01	Profibus DP terminating resistor (male)	M12	–	IP65 Required for ATEX
	VE1ASCN1-M1200	AS-Interface power or communications (4-pin, female)	M12	Wireable	IP65 Required for ATEX

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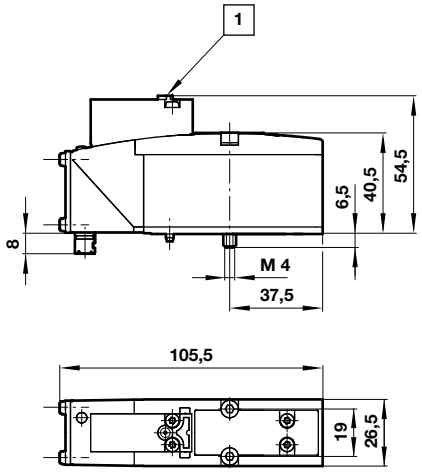
PLUG-IN MINI ISO VALVE ISLANDS

VS26 2 x 2/2, 2 x 3/2, 5/2 or 5/3, size 26 mm

Dimensions - Valve

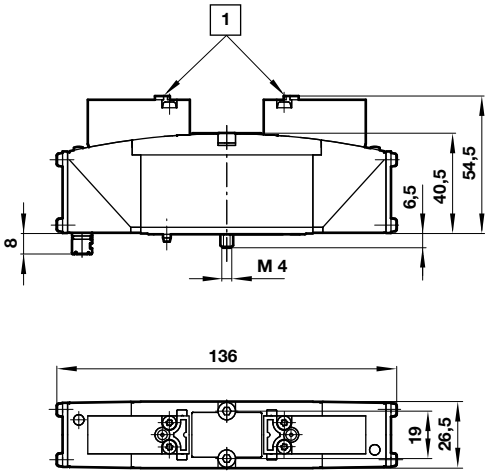
VS26*5*7DF*1*A

5/2 Single solenoid pilot valve, mechanical spring return



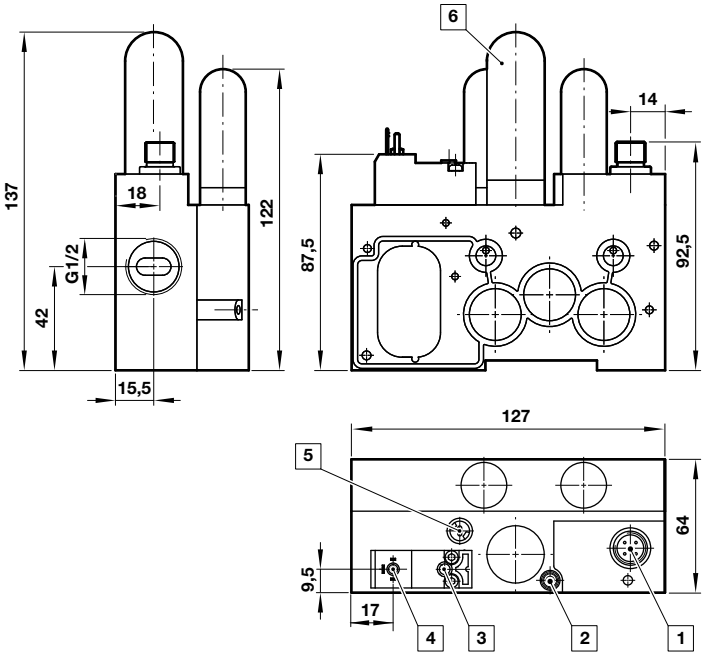
VS26*5*7DF*1*A

2 x 2/2, 2 x 3/2, 5/2 and 5/3 Double solenoid pilot valve



1 Manual override

Soft start and relief valve



1 Connector M12 x 1; 4-pin; A-coated (enable signal)
2 Regulating screw (six turns maximum)
3 Manual override for pilot valve (push only)
4 Connector interface acc. EN 175 301-803, form C
5 Manual override (push to lock)
6 Silencer with bypass

Valve control

Connector interface acc. EN 175 301-803, form C

Male	Pin no.	Function	Tolerance	Max. current
	1	24 V d.c.	±10%	1,2 W
	2	0 V	–	–
	3	Earth	–	–

Enable signal

M12 x 1; 4-pin; (A-coded)

Male	Pin no.	Function	Outlet current
	1	24 V d.c.	–
	2	free	–
	3	0 V	–
	4	Outlet (PNP), enable signal	150 mA

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Single station sub-base

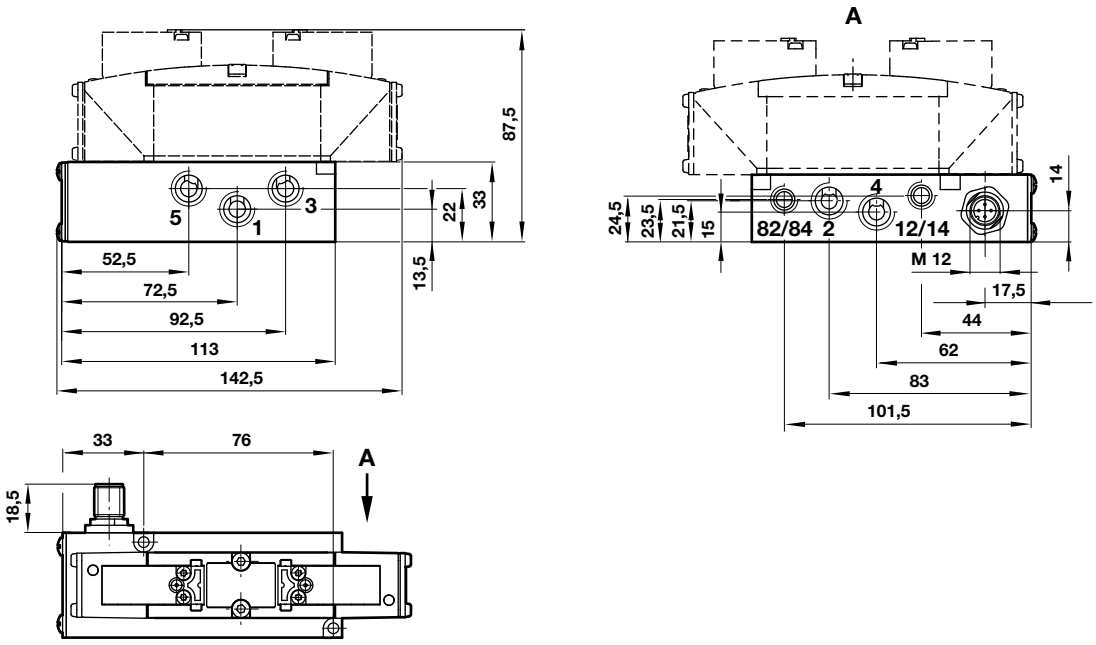
Model	Description	Ports 1, 3 & 5	Ports 12/14 & 82/84	Ports 2 & 4	Connector type
VS2672510-BG00	Single station sub-base for 24 V d.c.	G1/4	G1/8	G1/4	M12

Base accessories

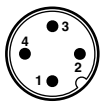
Model	Description
VS2672902-BG00	Intermediate supply/exhaust module, port size G1/4 *1)
VS2672904-KG00	Blanking plate for blocking of unused stations (supplied with gasket)

*1) For use see page 182.

Connector type: M12



Pin assignment (acc. VDMA 24571)

Symbol	Pin no.	Function
	1	Not used
	2	Signal for solenoid 12
	3	Common for solenoid 12 and 14
	4	Signal for solenoid 14

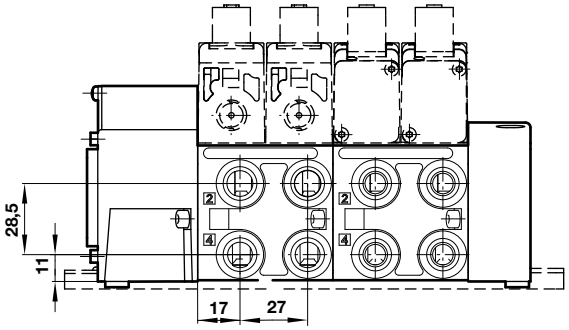
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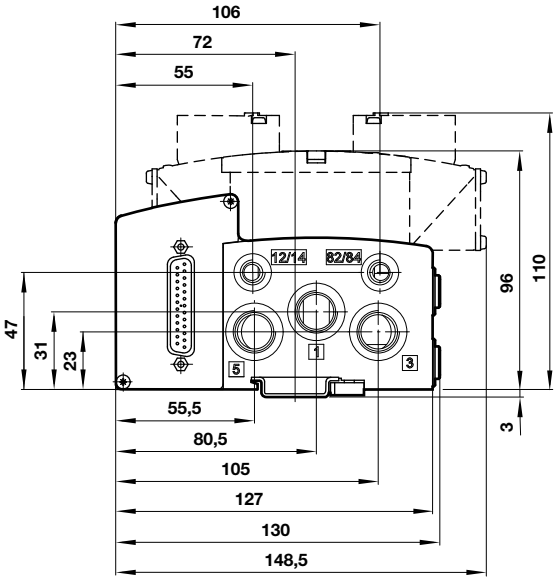
PLUG-IN MINI ISO VALVE ISLANDS

VS26 2 x 2/2, 2 x 3/2, 5/2 or 5/3, size 26 mm

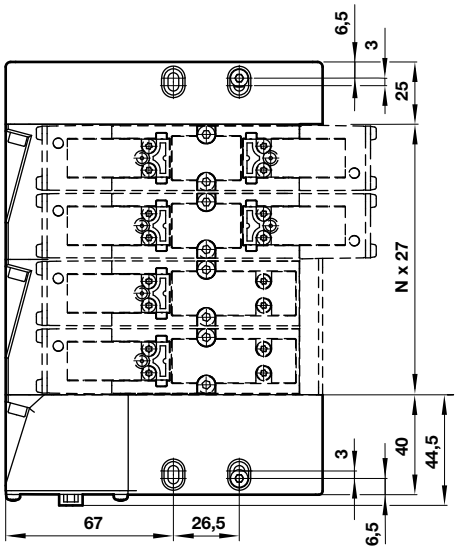
Dimensions - Valve island

Contact us for sub-base and end plate kit ordering information





Dimensions for surface mounting:
Slot length = 4,3 mm (max. M4 screws).
Clamp length = 35,7 mm.
Note: Never plug port 82/84. Plugging this port will cause valves to malfunction.



N Number of stations

Electrical connection	Min. no. of valve stations	Max. no. of valve stations
Multipole	2	20
AS-Interface	2	8
Other Fieldbus protocols	4	16

Multi pressure configurations

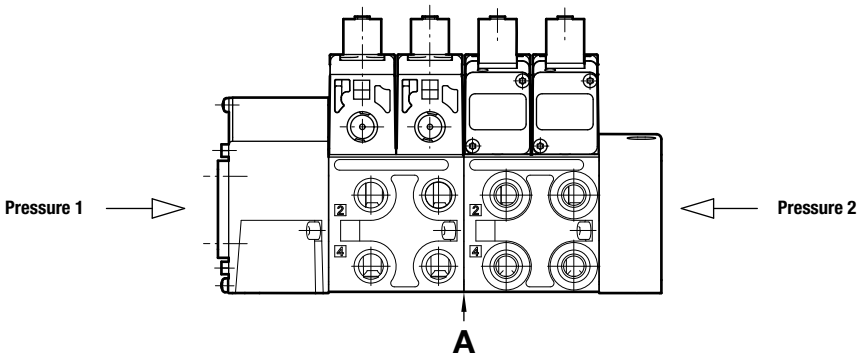
A

Blanking disc	Type
V70522-K00	Suitable for ports 1, 3 and/or 5

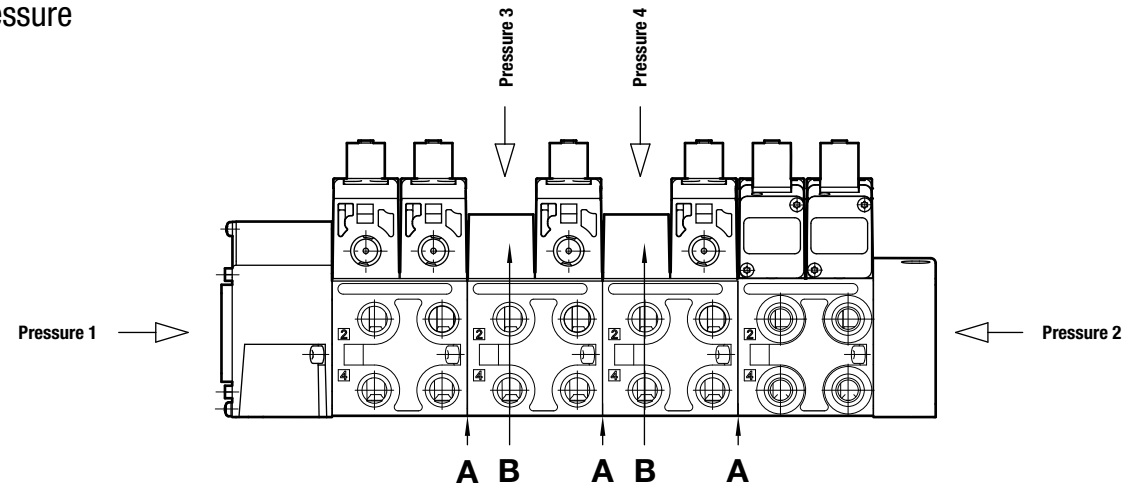
B

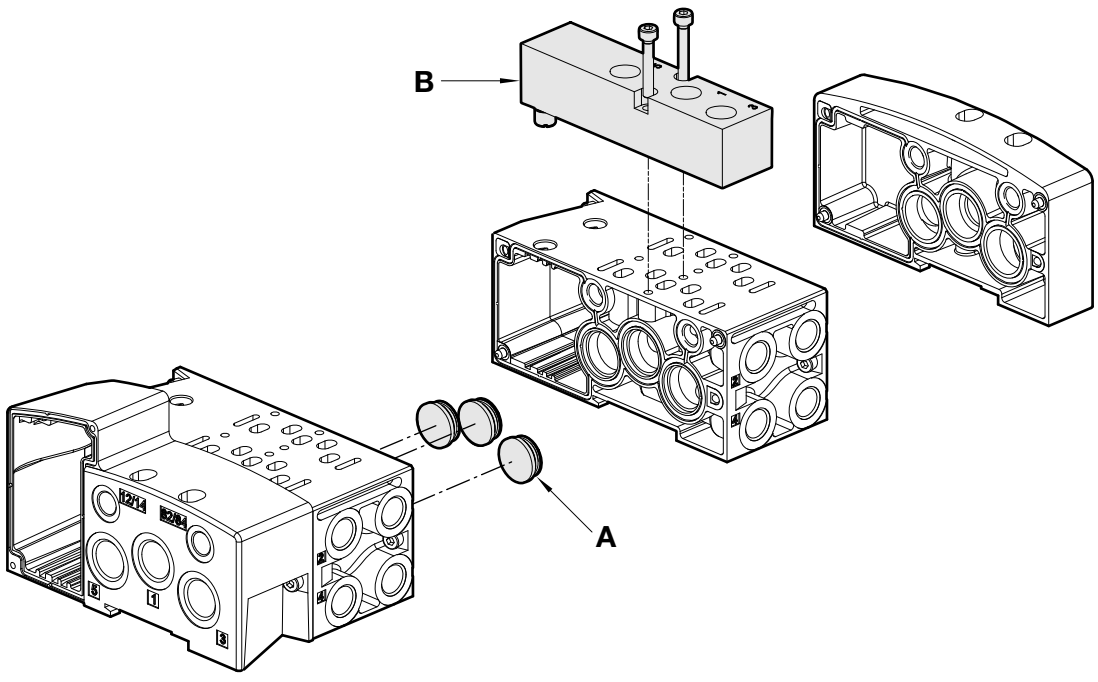
Intermediate supply/exhaust module	Type
VS2672902-BG00	G 1/4

Dual pressure



Multi pressure





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PLUG-IN MINI ISO VALVE ISLANDS

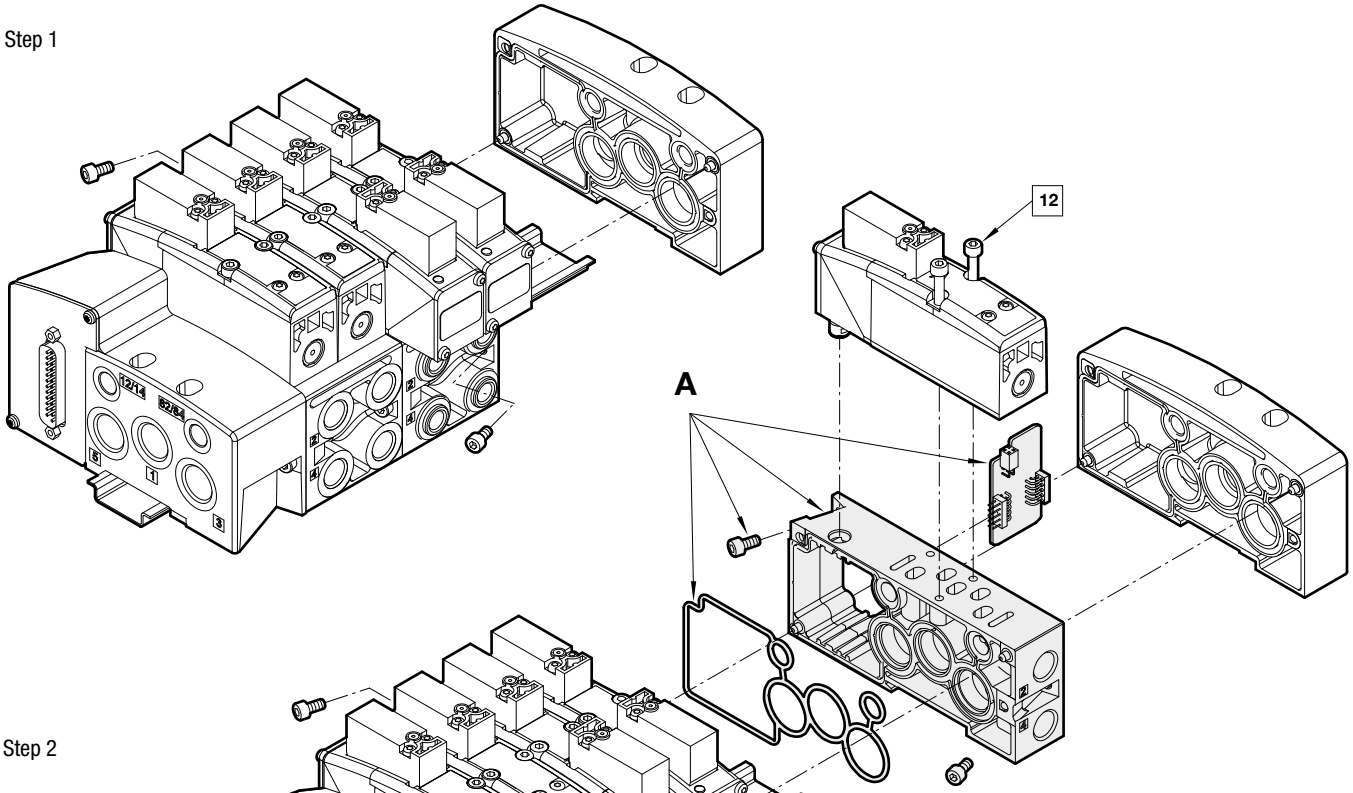
VS26 2 x 2/2, 2 x 3/2, 5/2 or 5/3, size 26 mm

A – Single add-on stations including PCB, sub-base, gasket and screws

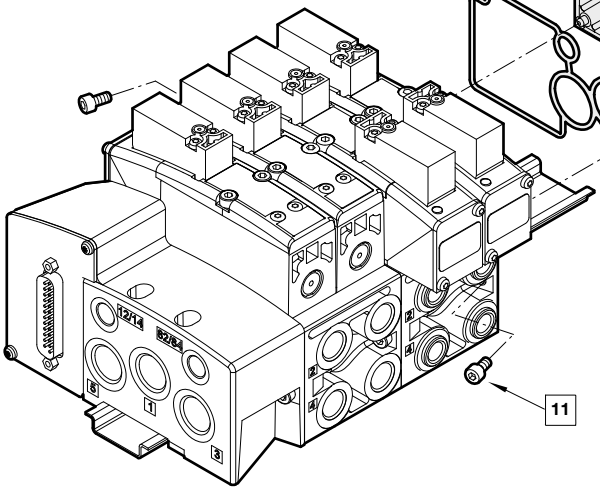
Model	Ports 2 & 4	Description
VS2672504-BGF0	G1/4	Add-on station for D-Sub connectors and Fieldbus
VS2672504-YGF0	PIF 6 mm	Add-on station for D-Sub connectors and Fieldbus
VS2672504-8GF0	PIF 8 mm	Add-on station for D-Sub connectors and Fieldbus
VS2672505-BGF0	G1/4	Add-on station for Conduit entry and M23 connector
VS2672505-YGF0	PIF 6 mm	Add-on station for Conduit entry and M23 connector
VS2672505-8GF0	PIF 8 mm	Add-on station for Conduit entry and M23 connector

Valves and accessories to be ordered separately.

Step 1



Step 2



11 Torque = 1,2 … 1,6 Nm
Screwdriver speed = max. 1100 r.p.m
12 Torque = 1,2 … 1,6 Nm
Screwdriver speed = max. 1100 r.p.m

For detailed assembly instructions, please see maintenance & instruction booklet

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VALVE ISLANDS

VS45 2 x 3/2, 5/2, 5/3, Size 45 mm

- 24 V d.c. Multipole
- Integrated Fieldbus
- Field expandable with single add-on stations
- Dual spool technology, solenoid and air pilot actuated valves
  - VS45G Glandless spool and sleeve for long life
  - VS45S Softseal spool for high flow
- Wide range of accessories
- Universal PNP/NPN 24 V d.c. Multipole

Technical Data

Medium:
Compressed air, filtered to 40 µm, lubricated or non-lubricated

Flow:

Series	Function	l/min
VS45G	5/2	3200
VS45G	5/3	2900
VS45S	2x3/2	3900
VS45S	5/2	4200
VS45S	5/3	3700

Mounting:
Sub-base

Ports 2+4:
G 3/8, G 1/2

Ports 1, 3, 5:
G 3/4

Ambient/Media temperature:
Ambient:
-15°C … +50°C
Media:
-5°C … +50°C

Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Body/sub-base:
Die-cast aluminium

Glandless spool & Sleeve (VS45G):
Aluminium, hard anodised,PTFE coated

Softseal spool (VS45S):
Aluminium with HNBR seals

Plastic parts:
POM, PA, PPA, TPE, PBT

Mounting sheets/screws:
Steel, zinc coated

Springs:
Stainless steel

Sandwich plates:
Aluminium bar material

Electrical contacts:
Brass, tin/gold coated

PCB:
Glass reinforced epoxy



Online at **store.norgren.com**

Models - Plug-in connection

2x3/2 Double solenoid actuated softseal valves (flow 3900 l/min)

Model	Function 2x2/2	Actuation/return	Pilot supply	Pilot pressure (bar)	Operating pressure (bar)	Manual override	Voltage	Short code
VS45SA11DF313A	2x3/2 NC or 5/3 COE	Solenoid/Spring	Internal	–	3 … 10	Push only	24 V d.c. 1,2 W	SAU
VS45SA11DF213A	2x3/2 NC or 5/3 COE	Solenoid/Spring	Internal	–	3 … 10	Push & turn	24 V d.c. 1,2 W	SAT
VS45SA22DF313A	2x3/2 NC or 5/3 COE	Solenoid/Spring	External	1,7 *1)	0 … 10	Push only	24 V d.c. 1,2 W	SDU
VS45SA22DF213A	2x3/2 NC or 5/3 COE	Solenoid/Spring	External	1,7 *1)	0 … 10	Push & turn	24 V d.c. 1,2 W	SDT
VS45SB11DF213A	2x3/2 NO or 5/3 COP	Solenoid/Spring	Internal	–	3 … 10	Push & turn	24 V d.c. 1,2 W	SBT
VS45SB22DF213A	2x3/2 NO or 5/3 COP	Solenoid/Spring	External	1,7 *1)	0 … 10	Push & turn	24 V d.c. 1,2 W	SET

*1) Plus 0,6 x operating pressure.
NO = Normally Open, NC = Normally Closed, COE = Central Open Exhaust, COP = Central Open Pressure.
Valve dimensions see page 193.

5/2 Single and double solenoid actuated glandless valves (flow 3200 l/min)

Model	Function 2x2/2	Actuation/return	Pilot supply	Pilot pressure (bar)	Operating pressure (bar)	Manual override	Voltage	Short code
VS45G511DF213A	5/2	Solenoid/Solenoid	Internal	–	2 … 10	Push & turn	24 V d.c. 1,2 W	GJT
VS45G517DF313A	5/2	Solenoid/Spring	Internal	–	2 … 10	Push only	24 V d.c. 1,2 W	GGU
VS45G517DF213A	5/2	Solenoid/Spring	Internal	–	2 … 10	Push & turn	24 V d.c. 1,2 W	GGT

5/2 Single and double solenoid actuated softseal valves (flow 4200 l/min)

Model	Function 2x2/2	Actuation/return	Pilot supply	Pilot pressure (bar)	Operating pressure (bar)	Manual override	Voltage	Short code
VS45S511DF313A	5/2	Solenoid/Solenoid	Internal	–	2 … 10	Push only	24 V d.c. 1,2 W	SJU
VS45S511DF213A	5/2	Solenoid/Solenoid	Internal	–	2 … 10	Push & turn	24 V d.c. 1,2 W	SJT
VS45S517DF313A	5/2	Solenoid/Spring	Internal	–	2 … 10	Push only	24 V d.c. 1,2 W	SGU
VS45S517DF213A	5/2	Solenoid/Spring	Internal	–	2 … 10	Push & turn	24 V d.c. 1,2 W	SGT
VS45S527DF313A	5/2	Solenoid/Spring	External	2 … 10	-0,9 … 10	Push only	24 V d.c. 1,2 W	SHU

5/3 Double solenoid actuated glandless valves (flow 3200 l/min)

Model	Function 2x2/2	Actuation/return	Pilot supply	Pilot pressure (bar)	Operating pressure (bar)	Manual override	Voltage	Short code
VS45G611DF313A	5/3 APB	Solenoid/Solenoid	Internal	–	2 … 10	Push only	24 V d.c. 1,2 W	GLU
VS45G611DF213A	5/3 APB	Solenoid/Solenoid	Internal	–	2 … 10	Push & turn	24 V d.c. 1,2 W	GLT
VS45G711DF313A	5/3 COE	Solenoid/Solenoid	Internal	–	2 … 10	Push only	24 V d.c. 1,2 W	GQU
VS45G711DF213A	5/3 COE	Solenoid/Solenoid	Internal	–	2 … 10	Push & turn	24 V d.c. 1,2 W	GQT
VS45G722DF313A	5/3 COE	Solenoid/Solenoid	External	2 … 10	-0,9 … 16	Push only	24 V d.c. 1,2 W	GRU

5/3 Double solenoid actuated softseal valves (flow 3700 l/min)

Model	Function 2x2/2	Actuation/return	Pilot supply	Pilot pressure (bar)	Operating pressure (bar)	Manual override	Voltage	Short code
VS45S611DF313A	5/3 APB	Solenoid/Solenoid	Internal	–	2,5 … 10	Push only	24 V d.c. 1,2 W	SLU
VS45S611DF213A	5/3 APB	Solenoid/Solenoid	Internal	–	2,5 … 10	Push & turn	24 V d.c. 1,2 W	SLT
VS45S622DF313A	5/3 APB	Solenoid/Solenoid	External	2,5 … 10	-0,9 … 10	Push only	24 V d.c. 1,2 W	SMU

Valve dimensions see page 193.
APB = All Ports Blocked, COE = Centre Open Exhaust.

Electrical details for solenoid operators

Voltage tolerances	(24 V d.c) +/- 10%
Rating	100% Continuous duty
Inlet orifice	0,8 mm
Indication	LED green
Surge surpression	Transil diode
Materials	PPS (body), FPM and NBR (seal)

Protection classification (IP Code):
All VS45 valve islands fulfill IP65 and NEMA4 ratings.

Power supply and precautions:
All VS45 24 V d.c products are designed to be used with a protective extra low voltage (PELV) power supply.
All VS45 115 V a.c products correspond to the protection class I.
Connection of the protective earth (PE) ground is required.

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VALVE ISLANDS

VS45 2 x 3/2, 5/2, 5/3, Size 45 mm

Models - Individually wired

2x3/2 Double solenoid actuated softseal valves (flow 3900 l/min)

Model	Function 2x2/2	Actuation/return	Pilot supply	Pilot pressure (bar)	Operating pressure (bar)	Manual override
VS45SA11DC3**#	2x3/2 NC or 5/3 COE	Solenoid/Spring	Internal	–	3 … 10	Push only
VS45SA11DC2**#	2x3/2 NC or 5/3 COE	Solenoid/Spring	Internal	–	3 … 10	Push & turn
VS45SA22DC3**#	2x3/2 NC or 5/3 COE	Solenoid/Spring	External	1,7 *1)	0 … 10	Push only
VS45SA22DC2**#	2x3/2 NC or 5/3 COE	Solenoid/Spring	External	1,7 *1)	0 … 10	Push & turn
VS45SB11DC3**#	2x3/2 NO or 5/3 COP	Solenoid/Spring	Internal	–	3 … 10	Push only
VS45SB11DC2**#	2x3/2 NO or 5/3 COP	Solenoid/Spring	Internal	–	3 … 10	Push & turn
VS45SB22DC3**#	2x3/2 NO or 5/3 COP	Solenoid/Spring	External	1,7 *1)	0 … 10	Push only
VS45SB22DC2**#	2x3/2 NO or 5/3 COP	Solenoid/Spring	External	1,7 *1)	0 … 10	Push & turn
VS45SC11DC3**#	2x3/2 NO/NC	Solenoid/Spring	Internal	–	3 … 10	Push only
VS45SC11DC2**#	2x3/2 NO/NC	Solenoid/Spring	Internal	–	3 … 10	Push & turn
VS45SC22DC3**#	2x3/2 NO/NC	Solenoid/Spring	External	1,7 *1)	0 … 10	Push only
VS45SC22DC2**#	2x3/2 NO/NC	Solenoid/Spring	External	1,7 *1)	0 … 10	Push & turn

*1) Plus 0,6 x operating pressure.
NO = Normally Open, NC = Normally Closed, COE = Central Open Exhaust, COP = Central Open Pressure.
Valve dimensions see page 193.

5/2 Single and double solenoid actuated glandless valves (flow 3200 l/min)

Model	Function	Actuation/return	Pilot supply	Pilot pressure (bar)	Operating pressure (bar)	Manual override
VS45G511DC3**#	5/2	Solenoid/Solenoid	Internal	–	2 … 10	Push only
VS45G511DC2**#	5/2	Solenoid/Solenoid	Internal	–	2 … 10	Push & turn
VS45G522DC3**#	5/2	Solenoid/Solenoid	External	2 … 10	-0,9 … 16	Push only
VS45G522DC2**#	5/2	Solenoid/Solenoid	External	2 … 10	-0,9 … 16	Push & turn
VS45G517DC3**#	5/2	Solenoid/Spring	Internal	–	1,6 … 10	Push only
VS45G517DC2**#	5/2	Solenoid/Spring	Internal	–	1,6 … 10	Push & turn
VS45G527DC3**#	5/2	Solenoid/Spring	External	2 … 10	-0,9 … 16	Push only
VS45G527DC2**#	5/2	Solenoid/Spring	External	2 … 10	-0,9 … 16	Push & turn

5/2 Single and double solenoid actuated softseal valves (flow 4200 l/min)

Model	Function	Actuation/return	Pilot supply	Pilot pressure (bar)	Operating pressure (bar)	Manual override
VS45S511DC3**#	5/2	Solenoid/Solenoid	Internal	–	2 … 10	Push only
VS45S511DC2**#	5/2	Solenoid/Solenoid	Internal	–	2 … 10	Push & turn
VS45S522DC3**#	5/2	Solenoid/Solenoid	External	2 … 10	-0,9 … 10	Push only
VS45S522DC2**#	5/2	Solenoid/Solenoid	External	2 … 10	-0,9 … 10	Push & turn
VS45S517DC3**#	5/2	Solenoid/Spring	Internal	–	2 … 10	Push only
VS45S517DC2**#	5/2	Solenoid/Spring	Internal	–	2 … 10	Push & turn
VS45S527DC3**#	5/2	Solenoid/Spring	External	2 … 10	-0,9 … 10	Push only
VS45S527DC2**#	5/2	Solenoid/Spring	External	2 … 10	-0,9 … 10	Push & turn

5/2 Single and double solenoid actuated glandless valves (flow 3200 l/min)

Model	Function	Actuation/return	Pilot supply	Pilot pressure (bar)	Operating pressure (bar)	Manual override
VS45G611DC3**#	5/3 APB	Solenoid/Solenoid	Internal	–	2 … 10	Push only
VS45G611DC2**#	5/3 APB	Solenoid/Solenoid	Internal	–	2 … 10	Push & turn
VS45G622DC3**#	5/3 APB	Solenoid/Solenoid	External	2 … 10	-0,9 … 16	Push only
VS45G622DC2**#	5/3 APB	Solenoid/Solenoid	External	2 … 10	-0,9 … 16	Push & turn
VS45G711DC3**#	5/3 COE	Solenoid/Solenoid	Internal	–	2 … 10	Push only
VS45G711DC2**#	5/3 COE	Solenoid/Solenoid	Internal	–	2 … 10	Push & turn
VS45G722DC3**#	5/3 COE	Solenoid/Solenoid	External	2 … 10	-0,9 … 16	Push only
VS45G722DC2**#	5/3 COE	Solenoid/Solenoid	External	2 … 10	-0,9 … 16	Push & turn

** Please insert voltage codes at first, # Please insert connector codes.
APB = All Ports Blocked, COE = Centre Open Exhaust.
Valve dimensions see page 193.

5/3 Double solenoid actuated softseal valves (flow 3700 l/min)

Model	Function	Actuation/return	Pilot supply	Pilot pressure (bar)	Operating pressure (bar)	Manual override
VS45S611DC3**#	5/3 APB	Solenoid/Solenoid	Internal	–	2,5 … 10	Push only
VS45S611DC2**#	5/3 APB	Solenoid/Solenoid	Internal	–	2,5 … 10	Push & turn
VS45S622DC3**#	5/3 APB	Solenoid/Solenoid	External	2,5 … 10	-0,9 … 10	Push only
VS45S622DC2**#	5/3 APB	Solenoid/Solenoid	External	2,5 … 10	-0,9 … 10	Push & turn

** Please insert voltage codes at first, # Please insert connector codes.
APB = All Ports Blocked, COE = Centre Open Exhaust.
Valve dimensions see page 193.

** Voltage codes and spare pilot valves

Voltage	Code	Manual override	Power Inrush/Hold	Pilot valve
24 V d.c.	13	Push & turn	1,2 W	VS45DC213-KG00
110/120 V 50/60 Hz	18	Push & turn	2,1 / 1,5 VA	VS45DC218-KG00
24 V d.c.	13	Push only	1,2 W	VS45DC313-KG00
110/120 V 50/60 Hz	18	Push only	2,1 / 1,5 VA	VS45DC318-KG00

Connector codes and part numbers

Code			Part number
A	=	Solenoid without connector	
B	=	12-250 V a.c./d.c. wireable connector	V10027-D00
C	=	12-250 V a.c./d.c. 3 m moulded cable	V10013-D03
H	=	12-24 V d.c. LED, Surge suppression, wireable connector	V10012-D13
J	=	110 V a.c. LED, Surge suppression, wireable connector	V10012-D18
5	=	24 V a.c./d.c., LED, Surge suppression, 3 m moulded cable	V10014-D03
6	=	110 V a.c., LED, Surge suppression, 3 m moulded cable	V10015-D03

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VALVE ISLANDS
VS45 2 x 3/2, 5/2, 5/3, Size 45 mm

Models - Air pilot actuation

5/2 Single and double pilot actuated glandless valves (flow 3200 l/min)

Model	Actuation/return	Pilot supply	Pilot pressure (bar)	Operating pressure (bar)
VS45G5D7AX900A	Air/spring	External	2 … 10	1,6 … 10

5/2 Single and double pilot actuated softseal valves (flow 4200 l/min)

Model	Actuation/return	Pilot supply	Pilot pressure (bar)	Operating pressure (bar)
VS45S5D7AX900A	Air/spring	External	2 … 10	2 … 10
VS45S5DDAX900A	Air/Air	External	2 … 10	2 … 10

5/3 Double external pilot actuated glandless valves (flow 2900 l/min)

Model	Function	Actuation/return	Pilot supply	Pilot pressure (bar)	Operating pressure (bar)
VS45G5DDAX900A	APB	Air/Air	External	2 … 10	-0,9 … 16

5/3 Double internal pilot actuated glandless valves (flow 2900 l/min)

Model	Function	Actuation/return	Pilot supply	Pilot pressure (bar)	Operating pressure (bar)
VS45S5D7AX900A	APB	Air/Air	External	2 … 10	2,5 … 10

*1) Plus 0,6 x operating pressure.
Valve dimensions see page 193.

Online at **store.norgren.com**

Accessories - Base accessories

Blanking plate	Port blanking discs for modular sub-base
	
VS4540415-KG00	V40414-K00 (Ports 1, 3, 5)

Sandwich plates

Single pressure regulator plate	Double pressure regulator plate	Flow regulator plate	Replacement gauge
			
VS4540410-KG10 (Port 1)	VS4540410-KG40 (Ports 2+4)	VS4540408-KG00	18-015-212

Replacement Solenoids

Plug-in replacement solenoids			Individually wired replacement solenoids			Air pilot replacement operator
						
VS45DF313-KG00	24V DC 1,2W	Push only	VS45DC313-KG00	24V DC 1,2W	Push only	VS45AX900-KG00
VS45DF213-KG00	24V DC 1,2W	Push & turn	VS45DC213-KG00	24V DC 1,2W	Push & turn	–
VS45DF513-KG00	24V DC 1,2W	Extended, push only	VS45DC318-KG00	110/120 Vac	Push only	–
–	–	–	VS45DC218-KG00	110/120 Vac	Push & turn	–

Kits include screws, gasket and V ring.

Cables

D Sub-connector 25 pin, IP65	D Sub-connector 44 pin, IP65	D Sub-connector 25 pin 90°, IP65	D Sub-connector 44 pin 90°, IP65
			
V11569-E01 (1 m)	V11570-E01 (1 m)	V12086-E01 (1 m)	V12088-E01 (1 m)
V11569-E03 (3 m)	V11570-E03 (3 m)	V12086-E03 (3 m)	V12088-E03 (3 m)
V11569-E05 (5 m)	V11570-E05 (5 m)	V12086-E05 (5 m)	V12088-E05 (5 m)

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VALVE ISLANDS
VS45 2 x 3/2, 5/2, 5/3, Size 45 mm

Multipole options

Connector type	Voltage	No. of stations	Max. no. solenoids
D-Sub 25-pin	24 V d.c.	02/03/04/05/06/07/08/09/10/11/12	24
D-Sub 44-pin	24 V d.c.	08/09/10/11/12/13/14/15/16	32

For details of single parts, consult our technical service.

Fieldbus options and accessories

Fieldbus protocol	Fieldbus interface/connector	Power connector (Fieldbus and valves)	No. of stations	Max. no. solenoids
Profibus DP	1xD-Sub9-pin	M12 4-pin	04/05/06/07/08/09/10/11/12/13/14/15/16	32
	2xM125-pin	M12 4-pin	04/05/06/07/08/09/10/11/12/13/14/15/16	32
CANopen	1xM125-pin	M12 4-pin	04/05/06/07/08/09/10/11/12/13/14/15/16	32
AB RIO	2xM125-pin	M12 4-pin	04/05/06/07/08/09/10/11/12/13/14/15/16	32

For parts and assembly instructions of Fieldbus components, consult our technical service.

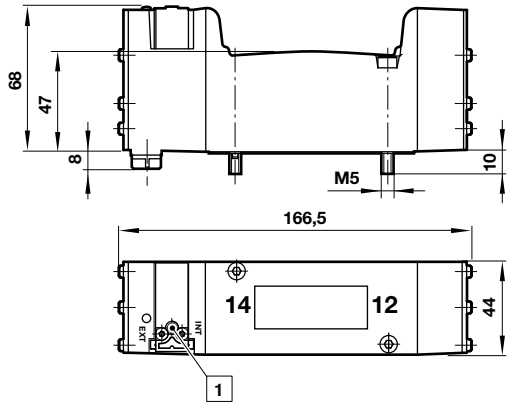
Fieldbus accessories

	Model	Description	Connection	Cable length	Protection class
Fieldbus power connector					
	V11588-E01	Profibus DP (4-pin, female) Interbus-S (4-pin, female) DeviceNet (4-pin, female) CANopen (4-pin, female) AB RIO (4-pin, female)	M12	Wireable	IP65 Required for ATEX
Communication cable and connector					
	V11589-E01	DeviceNet (5-pin, female) CANopen (5-pin, female) AB RIO (5-pin, female)	M12	Wireable	IP65 Required for ATEX
	V11590-E01	Profibus DP, reverse keyway (5-pin, male)	M12	Wireable	IP65 Required for ATEX
	V11591-E01	Profibus DP, reverse keyway (5-pin, female)	M12	Wireable	IP65 Required for ATEX
	V11654-E01	Profibus DP connector (9-pin, male) with terminating resistor	D-Sub	Wireable	IP65 Required for ATEX
	V11592-E01	Profibus DP terminating resistor (male)	M12	–	IP40

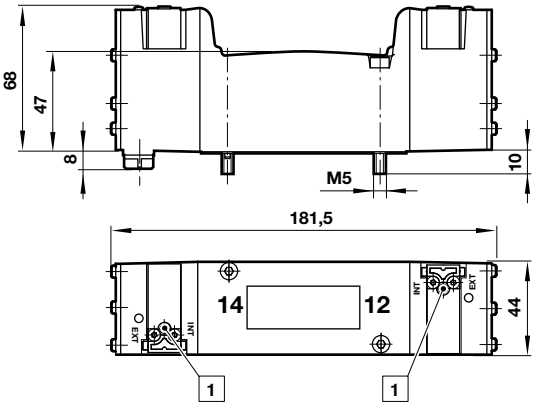
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Dimensions - Valve

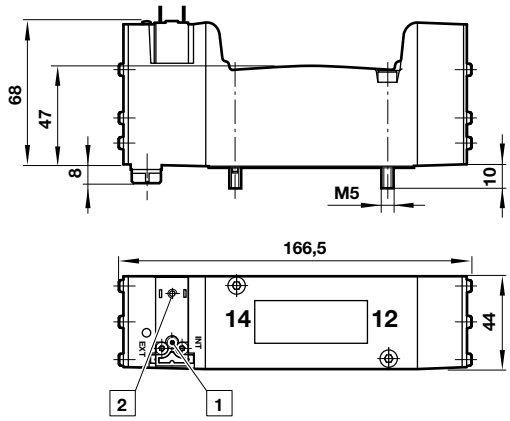
Plug-in connection
VS45*5*7DF*13A models
5/2 Single solenoid valve, spring return



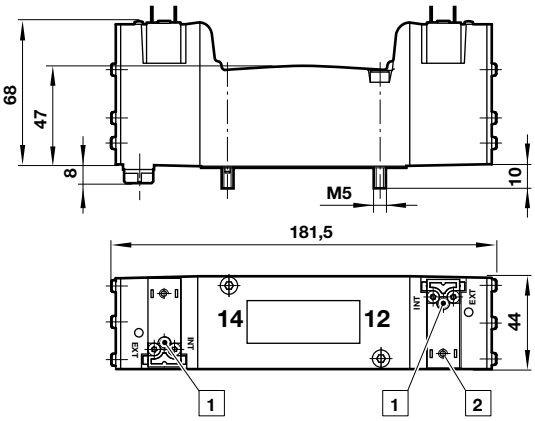
Plug-in connection
VS45****DF*13A models
2x3/2, 5/2 and 5/3 Double solenoid valve



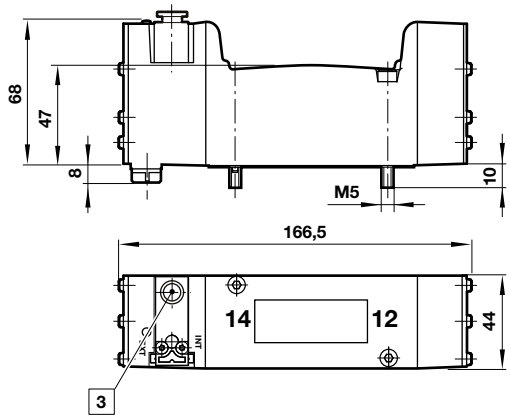
Individually wired connection
VS45*5*7DC*1*A models
5/2 Single solenoid valve, spring return



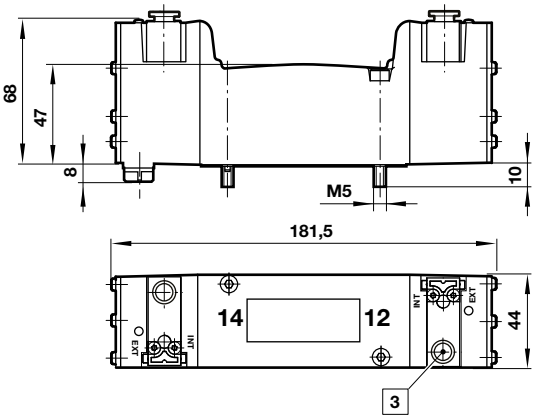
Individually wired connection
VS45****DC*1*A models
2x3/2, 5/2 and 5/3 Double solenoid valve



Air pilot
VS45*5D*AX900A models
5/2 Single air pilot valve, spring return



Air pilot
VS45****AX900A models
2x3/2, 5/2 and 5/3 Double air pilot valve



1 Manual override
2 Electrical connection
3 Pilot port ø 4 mm

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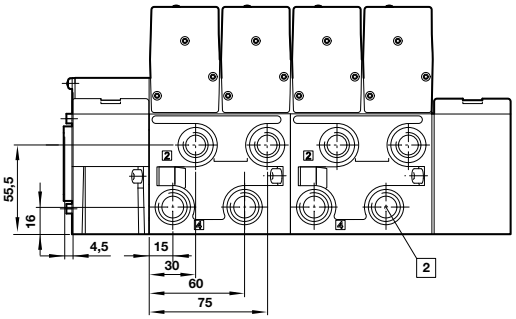
VALVE ISLANDS

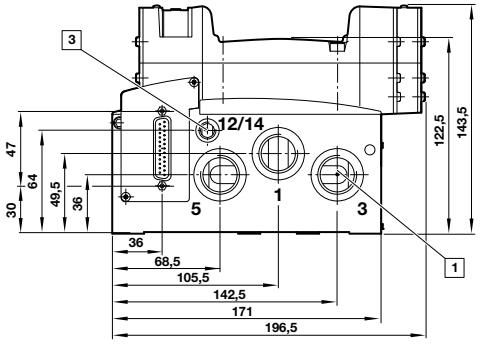
VS45 2 x 3/2, 5/2, 5/3, Size 45 mm

Dimensions - Valve island

Multipole/fieldbus connection.

Contact us for sub-base and end plate kit ordering information.



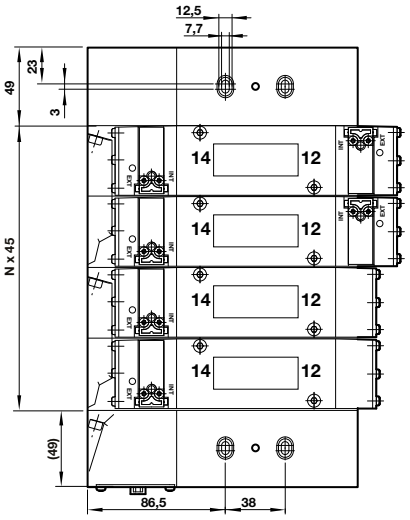


1 Ports 1, 3 and 5 G 3/4

2 Ports 2 and 4 G 3/8G or G 1/2

3 Ports 12/14 G 1/8

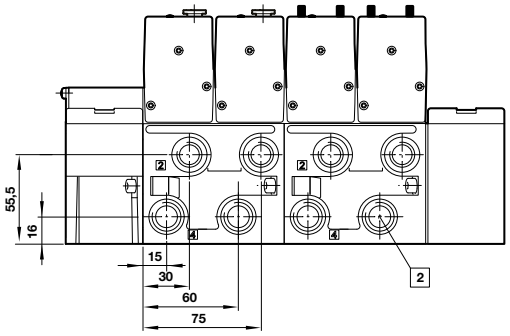
N Number of stations

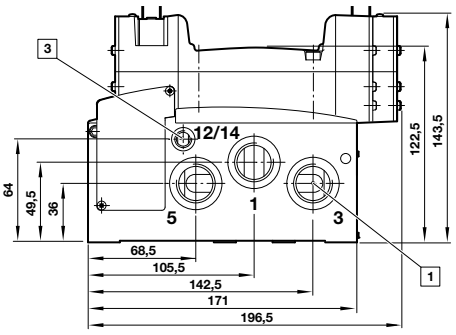


Electrical connection	Min. no. of valve stations	Max. no. of valve stations
Multipole	2	16
Other Fieldbus protocols	4	16

Individually wired & air pilot.

Contact us for sub-base and end plate kit ordering information.



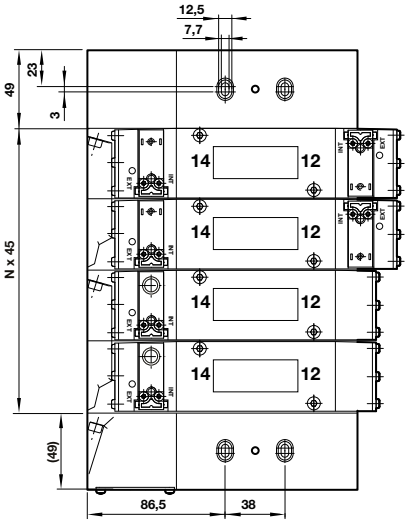


1 Ports 1, 3 and 5 G 3/4

2 Ports 2 and 4 G 3/8G or G 1/2

3 Ports 12/14 G 1/8

N Number of stations



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and use the new improved search function. If you cannot
see the option you require please contact us.

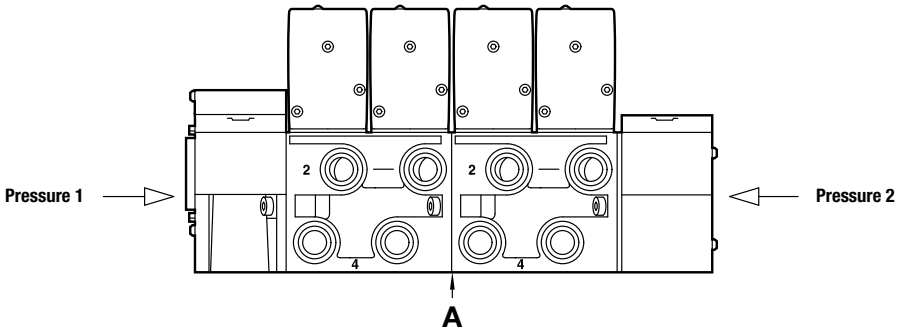
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Multi pressure configurations

A

Blanking disc	Type
V40414-K00	Suitable for ports 1, 3 and/or 5

Dual pressure

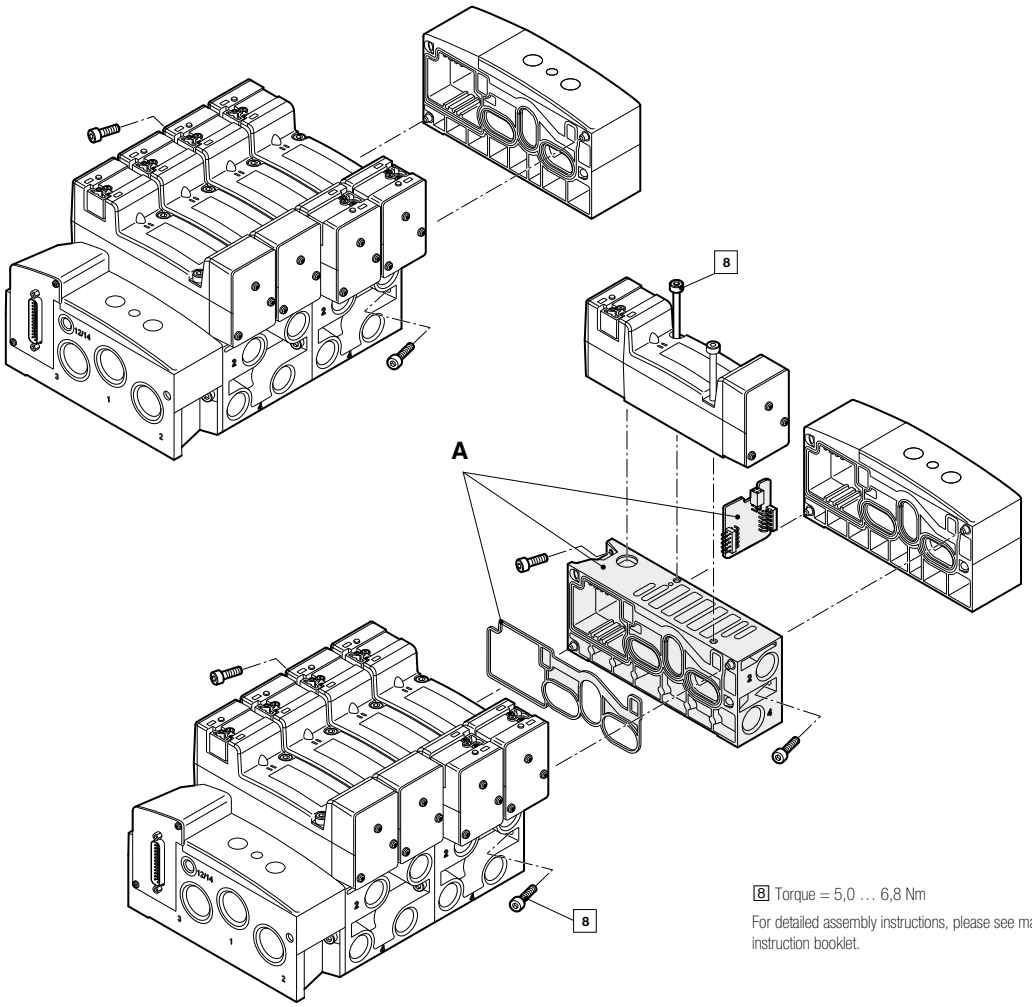


A – Single add-on stations including PCB, sub-base, gasket and screws

Model	Ports 2 & 4	Description
VS4540400-CGC1	G3/8	Add-on station for D-Sub connectors and Fieldbus
VS4540400-CGC1	G1/2	Add-on station for D-Sub connectors and Fieldbus

Valves and accessories to be ordered separately.

Step 1



Step 2

8 Torque = 5,0 … 6,8 Nm

For detailed assembly instructions, please see maintenance & instruction booklet.

Online at store.norgren.com

MINI ISO VALVES

V40/V41 2 x 3/2, 5/2 and 5/3, Solenoid and pilot actuated, ISO 15407-1/VDMA 24 563, Size 18 mm

- High performance, compact design
- Flexible sub-base system
- Multipressure system capability
- Wide range of accessories
- Dual spool technology
  - V40 Glandless spool and sleeve (long life)
  - V41 Softseal spool (high flow)
- Valve exchange under pressure

Technical Data

Medium:
Compressed air, filtered to 40 µm, lubricated or non-lubricated

Operation:
V40: Glandless spool valve, solenoid pilot or air pilot actuated
V41: Softseal spool valve, solenoid pilot or air pilot actuated

Flow:
V41 Softseal

Function	l/min
2x3/2	610
5/2	650
5/3	680

V40 Glandless

5/2	570
5/3	610

Mounting:
Sub-base

Ports 2+4:

Operating pressure:
Maximum pressure
10 bar V41 models and V40 solenoid pilot actuated valves with internal pilot supply
16 bar V40 solenoid pilot actuated valves w. ext. pilot supply and V40 air pilot actuated valves

Details of minimum and maximum pilot pressure see overleaf

Ambient temperature:
-15°C … +50°C
V40/V41 solenoid and V41 air pilot models
-15°C … +80°C
V40 air pilot models

Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Body:
Die-cast aluminium

Sub-base:
Aluminium alloy

Spool and sleeve:
Hard anodized, PTFE coated, matched aluminium (V40) or aluminium alloy spool (V41) with HNBR seals

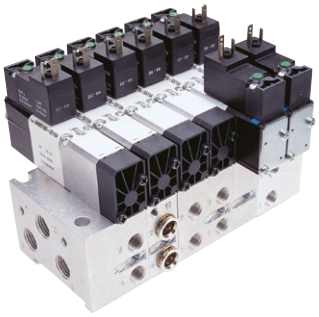
Plastic parts:
POM

Static seals:
NBR

End cover & Screws:
Zinc plated

Springs:
Stainless steel

EXPRESS



Models - 2 x 3/2 Solenoid pilot actuated softseal valves

Model	Function 2 x 3/2	Actuation/return	Pilot supply	Pilot exhaust	Operating pressure (bar)	Pilot pressure (bar)	Flow (l/min)
V415A11D-*1)	NC	Solenoid/Spring	Internal	Collected #	2,5 … 10	–	610
V415A22D-*1)	NC	Solenoid/Spring	External	Not collected	0 … 10	1,7 + (0,35 x operating pressure)	610
V415B11D-*1)	NO	Solenoid/Spring	Internal	Collected #	2,5 … 10	–	610
V415B22D-*1)	NO	Solenoid/Spring	External	Not collected	0 … 10	1,7 + (0,35 x operating pressure)	610
V415C11D-*1)	NO/NC	Solenoid/Spring	Internal	Collected #	2,5 … 10	–	610
V415C22D-*1)	NO/NC	Solenoid/Spring	External	Not collected	0 … 10	1,7 + (0,35 x operating pressure)	610

1) Insert voltage code from tables on page 197.
# Pilot exhaust collected and exhausted via port 14.
NO = Normally open, NC = Normally closed.

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Models - 5/2 Solenoid pilot actuated glandless and softseal valves

Model	Pilot supply	Pilot exhaust	Operator 14	Operator 12	Operating pressure (bar)	Pilot pressure (bar)	Sealing system	Flow (l/min)
V405513D-*1)	Internal	Collected #	Solenoid	Air spring	1 … 10	–	Glandless	570
V415513D-*1)	Internal	Collected #	Solenoid	Air spring	1 … 10	–	Soft seal	650
V405523D-*1)	External	Not collected	Solenoid	Air spring	-0,9 … 16	1 … 10	Glandless	570
V415523D-*1)	External	Not collected	Solenoid	Air spring	-0,9 … 10	1 … 10	Soft seal	650
V405516D-*1)	Internal	Collected #	Solenoid	Spring	1,6 … 10	–	Glandless	570
V415517D-*1)	Internal	Collected #	Solenoid	Spring	2 … 10	–	Soft seal	650
V405526D-*1)	External	Not collected	Solenoid	Spring	-0,9 … 16	1,6 … 10	Glandless	570
V415527D-*1)	External	Not collected	Solenoid	Spring	-0,9 … 10	2 … 10	Soft seal	650
V405511D-*1)	Internal	Collected #	Solenoid	Solenoid	2 … 10	–	Glandless	570
V415511D-*1)	Internal	Collected #	Solenoid	Solenoid	2 … 10	–	Soft seal	650
V405522D-*1)	External	Not collected	Solenoid	Solenoid	-0,9 … 16	2 … 10	Glandless	570
V415522D-*1)	External	Not collected	Solenoid	Solenoid	-0,9 … 10	2 … 10	Soft seal	650
V405591D-*1)	Internal	Collected #	Solenoid (priority)	Solenoid	2 … 10		Glandless	570
V405592D-*1)	External	Not collected	Solenoid (priority)	Solenoid	-0,9 … 16	2 … 10	Glandless	570

Models - 5/3 Solenoid pilot actuated glandless and softseal valves

Model	Function	Pilot supply	Pilot exhaust	Operator 14	Operator 12	Operating pressure (bar)	Pilot pressure (bar)	Sealing system	Flow (l/min)
V405611D-*1)	APB	Internal	Collected #	Solenoid	Solenoid	2 … 10	–	Glandless	610
V415611D-*1)	APB	Internal	Collected #	Solenoid	Solenoid	2 … 10	–	Soft seal	680
V405622D-*1)	APB	External	Not collected	Solenoid	Solenoid	-0,9 … 16	2 … 10	Glandless	610
V415622D-*1)	APB	External	Not collected	Solenoid	Solenoid	-0,9 … 10	2 … 10	Soft seal	680
V405711D-*1)	COE	Internal	Collected #	Solenoid	Solenoid	2 … 10	–	Glandless	610
V415711D-*1)	COE	Internal	Collected #	Solenoid	Solenoid	2,5 … 10	–	Soft seal	680
V405722D-*1)	COE	External	Not collected	Solenoid	Solenoid	-0,9 … 16	2 … 10	Glandless	610
V415722D-*1)	COE	External	Not collected	Solenoid	Solenoid	-0,9 … 10	2,5 … 10	Soft seal	680
V405811D-*1)	COP	Internal	Collected #	Solenoid	Solenoid	2 … 10	–	Glandless	610
V415811D-*1)	COP	Internal	Collected #	Solenoid	Solenoid	2 … 10	–	Soft seal	680
V405822D-*1)	COP	External	Not collected	Solenoid	Solenoid	-0,9 … 16	2 … 10	Glandless	610
V415822D-*1)	COP	External	Not collected	Solenoid	Solenoid	-0,9 … 10	2 … 10	Soft seal	680

*1) Insert voltage code from tables below.
# Pilot exhaust collected and exhausted via port 14.
APB = All Ports Blocked, COE = Centre Open Exhaust, COP = Centre open pressure.

Electrical details for solenoid operators

Voltage tolerances	-10%/+15%
Rating	100% Continuous duty
Inlet orifice	0,8 mm
Electrical connection	15 mm DIN EN 175301-803 (DIN 43 650) Table C
Manual override	Shrouded push button, spring return Convertible into lockable type with set-up kit, part no. V70532-K00
Protection class	IP 65 with sealed plug (ISO 6952) NEMA 4
Materials	PPS (body), FPM and NBR (seal)

Intrinsically safe version available on request.

Voltage codes & spare pilots

Voltage	Coil code	Current	Spare pilot valve
12 V d.c.	C312A	1 W	VZC7L2C1-C312A
24 V d.c.	C313A	1,2 W	VZC7L2C1-C313A
48 V 50/60 Hz	C316A	2,1/1,5 VA	VZC7L2C1-C316A
110 V d.c.	C317A	1 W	VZC7L2C1-C317A
115 V 50/60 Hz	C318A	2,1/1,5 VA	VZC7L2C1-C318A

Other voltages available on request. Spare pilot valves are delivered with mounting screws.

MINI ISO VALVES

V40/V41 2 x 3/2, 5/2 and 5/3, Solenoid and pilot actuated, ISO 15407-1/VDMA 24 563, Size 18 mm

Models - 2 x 3/2 Air pilot actuated softseal valves

Model	Function 2 x 3/2	Actuation/return 2 x 3/2	Operating pressure (bar)	Pilot pressure (bar)	Sealing system	Flow (l/min)
V415A33A-X0020	NC	Air/Spring	0 … 10	1,7 + (0,35 x operating pressure)	Soft seal	610
V415B33A-X0020	NO	Air/Spring	0 … 10	1,7 + (0,35 x operating pressure)	Soft seal	610
V415C33A-X0020	NO/NC	Air/Spring	0 … 10	1,7 + (0,35 x operating pressure)	Soft seal	610

Models - 5/2 Air pilot actuated glandless and softseal valves

Model	Operator 14	Operator 12	Operating pressure (bar)	Pilot pressure (bar)	Sealing system	Flow (l/min)
V405537A-X0090	Air	Spring	-0,9 … 16	1,6 … 16	Glandless	570
V415537A-X0090	Air	Spring	-0,9 … 10	2 … 10	Soft seal	610
V405533A-X0020	Air	Air	-0,9 … 16	2 … 16	Glandless	570
V415533A-X0020	Air	Air	-0,9 … 10	2 … 10	Soft seal	610
V405533A-X0070	Air (priority)	Air	-0,9 … 16	2 … 16	Glandless	570

Models - 5/3 Air pilot actuated glandless and softseal valves

Model	Function	Operator 14	Operator 12	Operating pressure (bar)	Pilot pressure (bar)	Sealing system	Flow (l/min)
V405633A-X0020	APB	Air	Air	-0,9 … 16	2 … 16	Glandless	610
V415633A-X0020	APB	Air	Air	-0,9 … 10	2 … 10	Soft seal	680
V405733A-X0020	COE	Air	Air	-0,9 … 16	2 … 16	Glandless	610
V415733A-X0020	COE	Air	Air	-0,9 … 10	2,5 … 16	Soft seal	680
V405833A-X0020	COP	Air	Air	-0,9 … 16	2 … 16	Glandless	610
V415833A-X0020	COP	Air	Air	-0,9 … 10	2 … 10	Soft seal	680

Valve function: NO = Normally open, NC = Normally closed.
APB = All Ports Blocked, COE = Centre Open Exhaust, COP = Centre Open Pressure.

MINI ISO VALVES

V40/V41 2 x 3/2, 5/2 and 5/3, Solenoid and pilot actuated, ISO 15407-1/VDMA 24 563, Size 18 mm

Accessories

DIN EN 50 022 rail (1 m)	DIN-rail mounting kit	Blanking disc to modular sub-base	Manual override set-up kit	Blanking plate for unused station	Transition plate V40/V41 » V44/V45
					
V10009-C00 (35 x 7,5 mm)	V70531-KA0	V70422-K50 (Ports 1,3,5)	V70532-K00	V70400-K50	–
V10592-C01 (35 x 15 mm)	–	V70423-K50 (Ports 12 & 14)	–	–	V70436-B00 *1)

*1) With supply and exhaust ports.

Sandwich plates

Intermediate supply/ exhaust manifold	Single valve shut-off plate	Single pressure regulator plate	Double pressure regulator plate	Flow regulator plate	Sandwich plate with additional pressure port 1
					
V70429-A50 (G1/8)	V70430-K50 (Port 1 blocked)	V70427-K51 (Port 1 reg.)	V70427-K54 (Ports 2+4 reg.)	V70428-K50 (Ports 3+5 reg.)	V70435-A50 (G1/8)
V70429-P50 (1/8NPTF)	–	V70427-K52 (Port 2 reg.)	–	–	V70435-P50 (1/8NPTF)
–	–	V70427-K53 (Port 4 reg.)	–	–	–

Sub-bases and end plates

Single station sub-base	Double station modular sub-base	Single station modular sub-base	End plate kit	Fixed length sub-base (1/3/5 G1/4, 2/4 G1/8)
				
V70401-A5B	V70432-Y5F (Ports 2+4 on side)	V70425-X5F (Ports 2+4 on side)	V70424-B5C (End ported, G1/4)	V70402-A50 (2 stations)
–	–	V70426-X5F (Ports 2+4 on side)*	V70431-A5F (Ports 2+4 on side. 1/3/5 G1/4, 2/4 G1/8)	V70404-A50 (4 stations)
–	–	V70425-A5E (Ports 2+4 on bottom)	–	V70406-A50 (6 stations)
–	–	V70426-A5E (Ports 2+4 on bottom)*	–	V70408-A50 (8 stations)
–	–	–	–	V70410-A50 (10 stations)
–	–	–	–	V70412-A50 (12 stations)

* Pilot ports 12+14 on side.

Connector plug - Ordered separately

I15 mm DIN EN 175301-803 (DIN 43 650) Table C

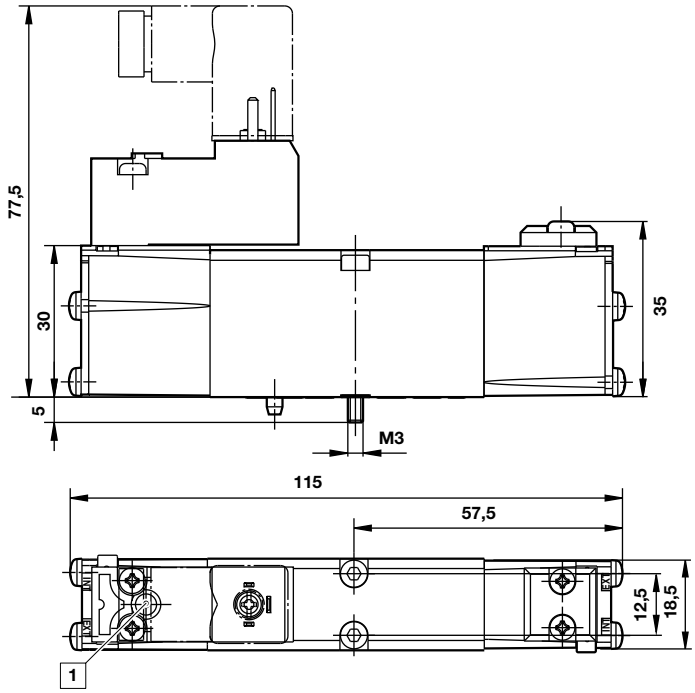
V10027-D00 250 V a.c./300 Vd.c.

MINI ISO VALVES

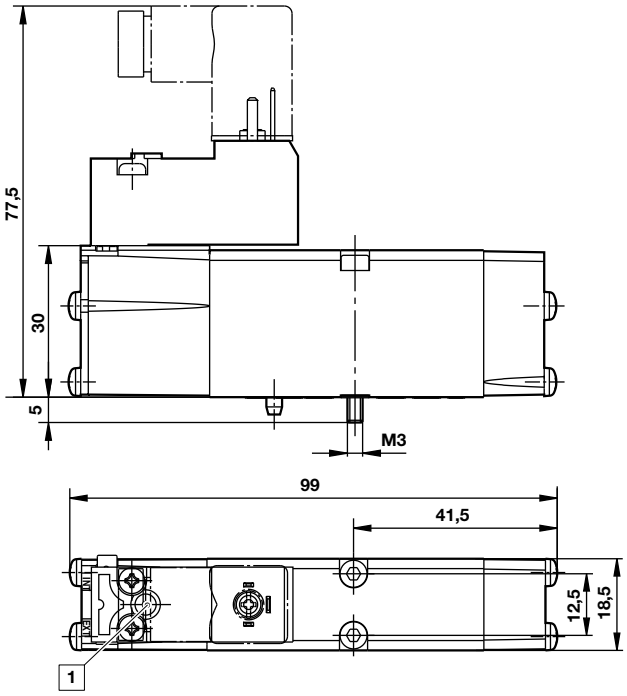
V40/V41 2 x 3/2, 5/2 and 5/3, Solenoid and pilot actuated, ISO 15407-1/VDMA 24 563, Size 18 mm

Dimensions

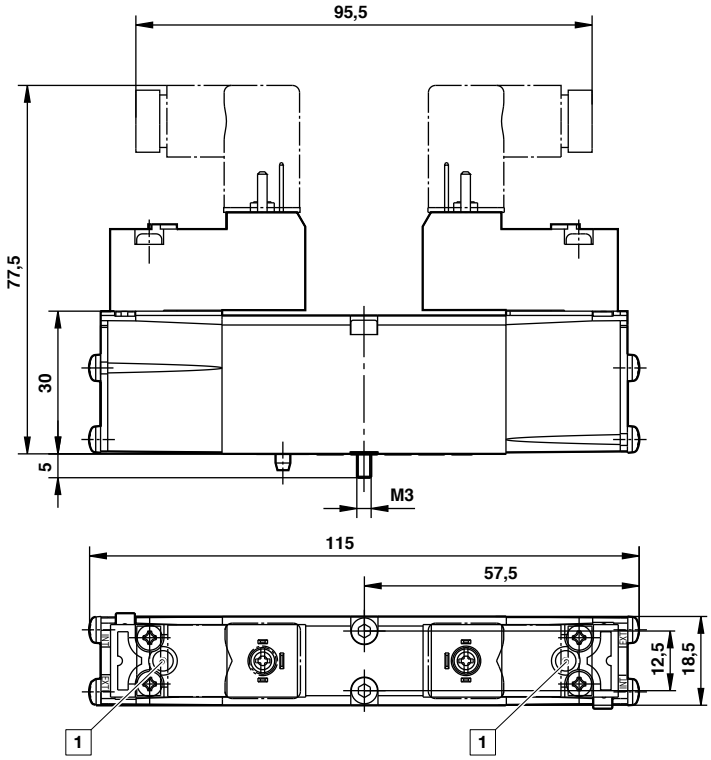
V4155*3D-C3***
5/2 Single solenoid pilot valve
Air spring return



V4055**D-C3***
5/2 Single solenoid pilot valve
Mechanical (& air) spring valve



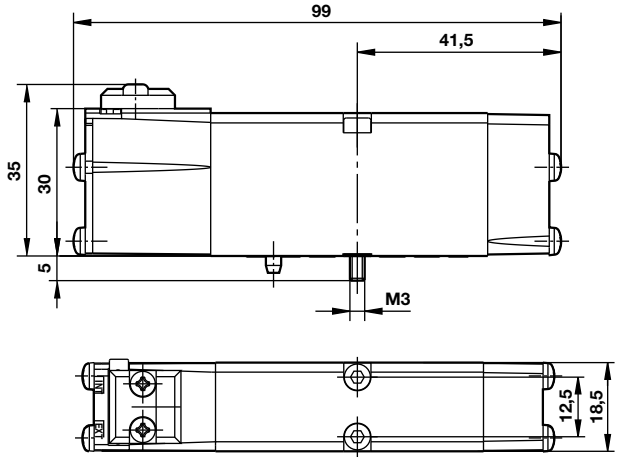
V4055**D-C3*** & V4155**D-C3***
5/2 Double solenoid pilot valve
V405***D-C3*** & V415***D-C3***
2x3/2 + 5/3 Double solenoid pilot valve



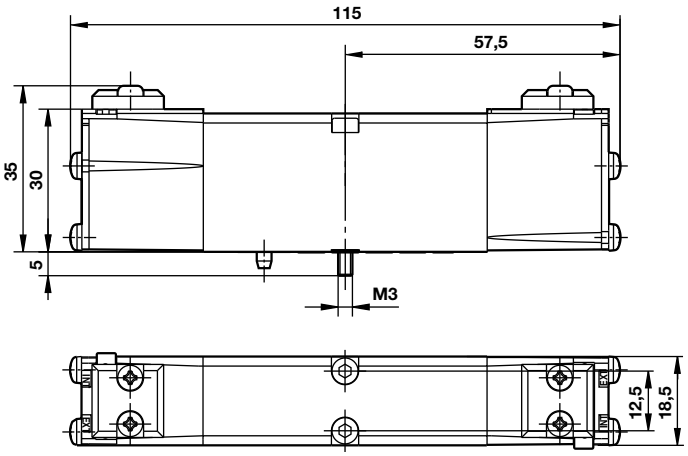
1 Manual override

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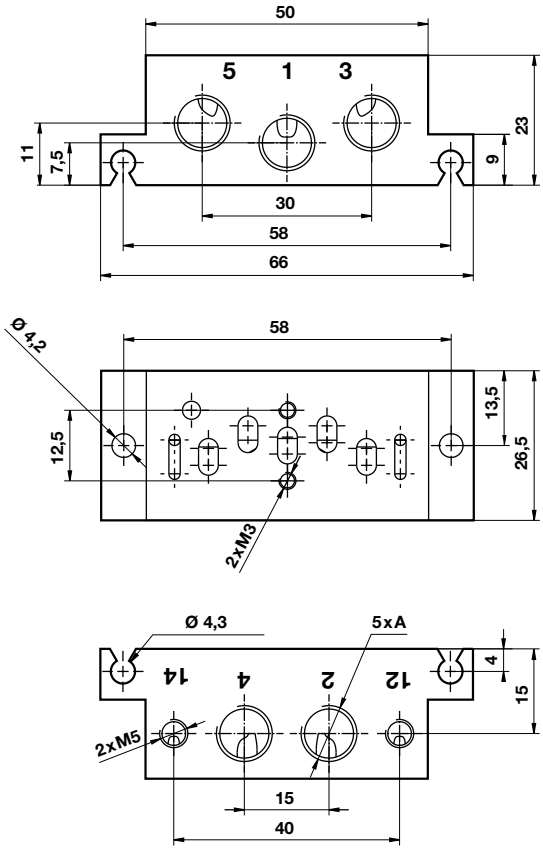
V415537A-X0090
5/2 Single air pilot valve



V405537A-X0090
5/2 Single air pilot valve
V405*33A-X00*0 & V415*33A-X00*0
2x3/2, 5/2 + 5/3 Double air pilot valve



Single station sub-base – Side ported with pilot ports



Model	Port size A
V70401-A5B	G1/8 side ported with pilot ports

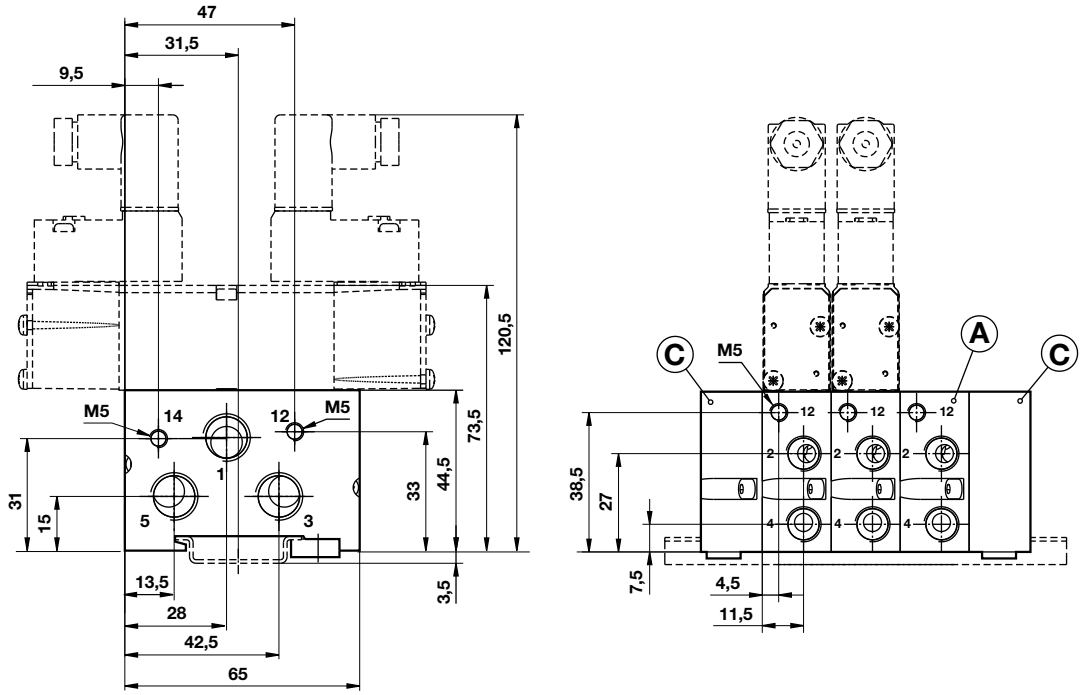
Note: Pilot ports = M5.

Online at **store.norgren.com**

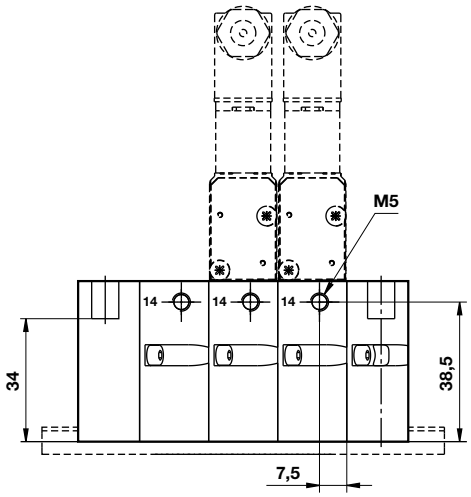
MINI ISO VALVES

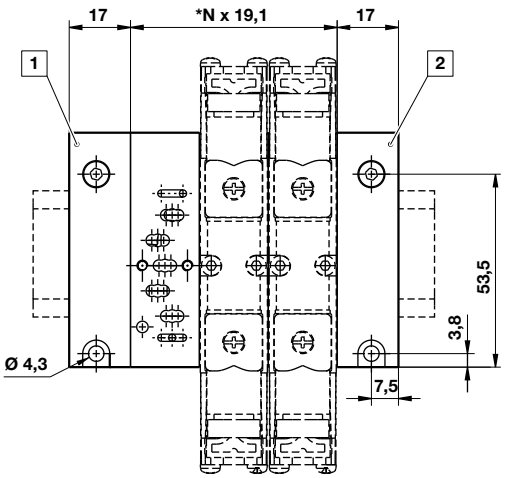
V40/V41 2 x 3/2, 5/2 and 5/3, Solenoid and pilot actuated, ISO 15407-1/VDMA 24 563, Size 18 mm

Side ported sub-base



Bottom and side ported sub-base





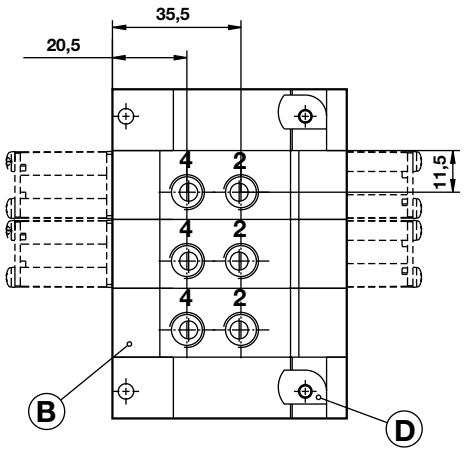
N = number of stations
x/y = Insert port type from table below

1 Right hand side
2 Left hand side

Code x	Code y	Ports 2 & 4	Ports
A	A	G1/8	M5
8	–	Ø 8 mm PIF	M5
6	–	Ø 6 mm PIF	M5

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Modular sub-bases parts for DIN rail or surface mounting
Bottom ported sub-base



Note: Port 14 either used for external pilot air supply or for collected pilot air exhaust. Therefore, never plug port 14 when using valves with internal pilot air supply. Port 12 is not used, plugging not necessary.

Individual components

Modular sub-base (A)	Ports 2+4 on side	V70425-x5F		
Double station modular sub-base	Ports 2+4 on side	V70432-y5F		
Modular sub-base (A)	Ports 2+4 on side	Pilot ports 12+14 on side	V70426-x5F	
Modular sub-base (B)	Ports 2+4 on bottom	V70425-A5E		
Modular sub-base (B)	Ports 2+4 on bottom	Pilot ports 12+14 on side	V70426-A5E	
End plate kit (C)	End ported	V70424-B5C (G1/4)		End ported end caps 1 left hand and 1 right hand
End plate kit with valve station	Ports 2+4 on side	V70431-A5F (1/3/5 G1/4, 2/4 G1/8)		End ported end caps 1 left and 1 right

Accessories

DIN EN 50022 rail	35 x 7,5 mm, 1m	V10009-C00
DIN EN 50022 rail	35 x 15 mm, 1m	V10592-C01
DIN rail (D)	Mounting kit	V70531-KA0
Blanking disk to modular sub-base	Ports 1, 3, 5	V70422-K50
	Ports 12+14	V70423-K50

Online at **store.norgren.com**

MINI ISO VALVES

V44/V45 Solenoid and pilot actuated, ISO 15407-1/VDMA 24 563, Size 26 mm

- High performance, compact design
- Flexible sub-base system
- Multipressure system capability
- Wide range of accessories
- Dual spool technology
  - V44 Glandless spool and sleeve (long life)
  - V45 Softseal spool (high flow)
- Valve exchange under pressure

Technical Data

Medium:
Compressed air, filtered to 40 µm, lubricated or non-lubricated

Operation:
V44: Glandless spool valve, solenoid pilot or air pilot actuated
V45: Softseal spool valve, solenoid pilot or air pilot actuated

Flow:

Softseal	
Function	l/min
2x3/2 NC	1100
2X3/2 NO	1000
5/2	1200
5/3	1150
Glandless	
5/2	900
5/3	900

Mounting:
Sub-base

Operating pressure:
See tables for individual details

Ambient temperature:
-15°C … +50°C
V44/V45 solenoid and V45 air pilot models
-15°C … +80°C
V44 air pilot models

Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Body & Sub-base:
Die cast aluminium

Spool & Sleeve:
Hard anodized, PTFE coated, matched aluminium (V44); aluminium alloy spool with HNBR Seals (V45)

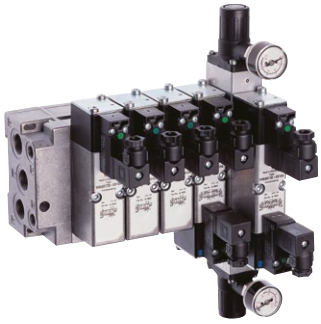
Plastic parts:
POM

Static seals:
NBR

End cover & Screws:
Zinc plated

Springs:
Stainless steel

EXPRESS



Models - 2 x 3/2 Solenoid pilot actuated softseal valves

Model	Function 2 x 3/2	Actuation/Return	Pilot supply	Pilot exhaust	Operating pressure (bar)	Pilot pressure (bar)	Flow (l/min)
V45AA11D-*1)	NC	Solenoid/Spring	Internal	Collected #	3 … 10	–	1000
V45AA22D-*1)	NC	Solenoid/Spring	External	Not collected	0 … 10	1,5 + (0,35 x operating pressure)	1000
V45AB11D-*1)	NO	Solenoid/Spring	Internal	Collected #	3 … 10	–	1000
V45AB22D-*1)	NO	Solenoid/Spring	External	Not collected	0 … 10	1,5 + (0,35 x operating pressure)	1000
V45AC11D-*1)	NO/NC	Solenoid/Spring	Internal	Collected #	3 … 10	–	1000/1100
V45AC22D-*1)	NO/NC	Solenoid/Spring	External	Not collected	0 … 10	1,5 + (0,35 x operating pressure)	1000/1100

*1) Insert voltage code from tables on page 205.
# Pilot exhaust collected and exhausted via port 14.
NO = Normally open, NC = Normally closed.

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Models - 5/2 Solenoid pilot actuated glandless and softseal valves

Model	Pilot supply	Pilot exhaust	Operator 14	Operator 12	Operating pressure (bar)	Pilot pressure (bar)	Sealing system	Flow (l/min)
V44A513D-*1)	Internal	Collected #	Solenoid	Air spring	1 … 10	–	Glandless	900
V44A523D-*1)	External	Not collected	Solenoid	Air spring	-0,9 … 16	1 … 10	Glandless	900
V44A517D-*1)	Internal	Collected #	Solenoid	Spring	1,6 … 10	–	Glandless	900
V45A517D-*1)	Internal	Collected #	Solenoid	Spring	2 … 10	–	Soft	1200
V44A527D-*1)	External	Not collected	Solenoid	Spring	-0,9 … 16	1,6 … 10	Glandless	900
V45A527D-*1)	External	Not collected	Solenoid	Spring	-0,9 … 10	2 … 10	Soft	1200
V44A511D-*1)	Internal	Collected #	Solenoid	Solenoid	2 … 10	–	Glandless	900
V45A511D-*1)	Internal	Collected #	Solenoid	Solenoid	2 … 10	–	Soft	1200
V44A522D-*1)	External	Not collected	Solenoid	Solenoid	-0,9 … 16	2 … 10	Glandless	900
V45A522D-*1)	External	Not collected	Solenoid	Solenoid	-0,9 … 10	2 … 10	–	1200
V44A591D-*1)	Internal	Collected #	Solenoid (priority)	Solenoid	2 … 10	–	Glandless	900
V44A592D-*1)	External	Not collected	Solenoid (priority)	Solenoid	-0,9 … 16	2 … 10	Glandless	900

Models - 5/3 Solenoid pilot actuated glandless and softseal valves

Model	Function	Pilot supply	Pilot exhaust	Operator 14	Operator 12	Operating pressure (bar)	Pilot pressure (bar)	Sealing system	Flow (l/min)
V44A611D-*1)	APB	Internal	Collected #	Solenoid	Solenoid	2 … 10	–	Glandless	900
V45A611D-*1)	APB	Internal	Collected #	Solenoid	Solenoid	2,5 … 10	–	Soft	1150
V44A622D-*1)	APB	External	Not collected	Solenoid	Solenoid	-0,9 … 16	2 … 10	Glandless	900
V45A622D-*1)	APB	External	Not collected	Solenoid	Solenoid	-0,9 … 10	2,5 … 10	Soft	1150
V44A711D-*1)	COE	Internal	Collected #	Solenoid	Solenoid	2 … 10	–	Glandless	900
V45A711D-*1)	COE	Internal	Collected#	Solenoid	Solenoid	2,5 … 10	–	Soft	1150
V44A722D-*1)	COE	External	Not collected	Solenoid	Solenoid	-0,9 … 16	2 … 10	Glandless	900
V45A722D-*1)	COE	External	Not collected	Solenoid	Solenoid	-0,9 … 10	2,5 … 10	Soft	1150
V44A811D-*1)	COP	Internal	Collected #	Solenoid	Solenoid	2 … 10	–	Glandless	900
V45A811D-*1)	COP	Internal	Collected #	Solenoid	Solenoid	2,5 … 10	–	Soft	1150
V44A822D-*1)	COP	External	Not collected	Solenoid	Solenoid	-0,9 … 16	2 … 10	Glandless	900
V45A822D-*1)	COP	External	Not collected	Solenoid	Solenoid	-0,9 … 10	2,5 … 10	Soft	1150

*1) Insert voltage code from tables below.
# Pilot exhaust collected and exhausted via port 14.
APB = All Ports Blocked, COE = Centre Open Exhaust, COP = Centre open pressure.

Electrical details for solenoid operators

Voltage tolerances	-10%/+15%
Rating	100% Continuous duty
Inlet orifice	0,8 mm
Electrical connection	15 mm DIN EN 175301-803 (DIN 43 650) Table C
Manual override	Shrouded push button, spring return Convertible into lockable type with set-up kit, part no. V70532-K00
Protection class	IP 65 with sealed plug (ISO 6952) NEMA 4
Materials	PPS (body), FPM and NBR (seal)

Voltage codes & spare pilots

Voltage	Coil code	Current	Spare pilot valve
12 V d.c.	C312A	1 W	VZC7L2C1-C312A
24 V d.c.	C313A	1,2 W	VZC7L2C1-C313A
48 V 50/60 Hz	C316A	2,1/1,5 VA	VZC7L2C1-C316A
110 V d.c.	C317A	1 W	VZC7L2C1-C317A
115 V 50/60 Hz	C318A	2,1/1,5 VA	VZC7L2C1-C318A

Other voltages available on request. Spare pilot valves are delivered with mounting screws.

MINI ISO VALVES

V44/V45 Solenoid and pilot actuated, ISO 15407-1/VDMA 24 563, Size 26 mm

Models - 2 x 3/2 Air pilot actuated softseal valves

Model	Function 2 x 3/2	Actuation/return 2 x 3/2	Operating pressure (bar)	Pilot pressure (bar)	Sealing system	Flow (l/min)
V45AA33A-X0020	NC	Air/Spring	0 … 10	1,7 + (0,35 x operating pressure)	Soft	1100
V45AB33A-X0020	NO	Air/Spring	0 … 10	1,7 + (0,35 x operating pressure)	Soft	1000
V45AC33A-X0020	NO/NC	Air/Spring	0 … 10	1,7 + (0,35 x operating pressure)	Soft	1000/1100

Models - 5/2 Air pilot actuated glandless and softseal valves

Model	Operator 14	Operator 12	Operating pressure (bar)	Pilot pressure (bar)	Sealing system	Flow (l/min)
V44A537A-X0090	Air	Spring	-0,9 … 16	1,6 … 16	Glandless	900
V45A537A-X0090	Air	Spring	-0,9 … 10	2 … 10	Soft	1200
V44A533A-X0020	Air	Air	-0,9 … 16	2 … 16	Glandless	900
V45A533A-X0020	Air	Air	-0,9 … 10	2 … 10	Soft	1200
V44A533A-X0070	Air (priority)	Air	-0,9 … 16	2 … 16	Glandless	900

Models - 5/3 Air pilot actuated glandless and softseal valves

Model	Function	Operator 14	Operator 12	Operating pressure (bar)	Pilot pressure (bar)	Sealing system	Flow (l/min)
V44A633A-X0020	APB	Air	Air	-0,9 … 16	2 … 16	Glandless	900
V45A633A-X0020	APB	Air	Air	-0,9 … 10	2,5 … 10	Soft	1150
V44A733A-X0020	COE	Air	Air	-0,9 … 16	2 … 16	Glandless	900
V45A733A-X0020	COE	Air	Air	-0,9 … 10	2,5 … 10	Soft	1150
V44A833A-X0020	COP	Air	Air	-0,9 … 16	2 … 16	Glandless	900
V45A833A-X0020	COP	Air	Air	-0,9 … 10	2,5 … 10	Soft	1150

Valve function: NO = Normally open, NC = Normally closed.
APB = All Ports Blocked, COE = Centre Open Exhaust, COP = Centre Open Pressure.

Accessories

DIN EN 50 022 rail (1 m)	DIN-rail mounting kit	Blanking disc to modular sub-base	Manual override set-up kit	Blanking plate for unused station	Transition plate V40/V41 » V44/V45
					
V10009-C00 (35 x 7,5 mm)	V70531-KA0	V70522-K00 (Ports 1,3,5)	V70532-K00	V70500-KA0	–
V10592-C01 (35 x 15 mm)	–	V70523-K00 (Ports 12 & 14)	–	–	V70436-B00 *1)

*3) With supply and exhaust ports.

Sandwich plates

Intermediate supply/ exhaust manifold	Single valve shut-off plate	Single pressure regulator plate	Double pressure regulator plate	Flow regulator plate	Sandwich plate with additional pressure port 1
					
V70529-BA0 (G1/4)	V70530-KA0 (Port 1 blocked)	V70527-KA1 (Port 1 reg.)	V70527-KA4 (Ports 2+4 reg.)	V70528-KA0 (Ports 3+5 reg.)	V70535-B50 (G1/4)
–	–	V70527-KA2 (Port 2 reg.)	–	–	–
–	–	V70527-KA3 (Port 4 reg.)	–	–	–

Sub-bases and end plates

Single station sub-base	Single station modular sub-base	End plate kit	Fixed length sub-base
			
V70501-BAB	V70525-X5F (Ports 2+4 on side)	V70524-CAC (Side ported. G3/8, 12 & 14 G1/8)	V70502-BA0 (2 stations)
–	V70526-X5F (Ports 2+4 on side)*	–	V70504-BA0 (4 stations)
–	V70525-BAE (Ports 2+4 on bottom)	–	V70506-BA0 (6 stations)
–	V70526-BAE (Ports 2+4 on bottom)*	–	V70508-BA0 (8 stations)
–	–	–	V70510-BA0 (10 stations)
–	–	–	V70512-BA0 (12 stations)

* Pilot ports 12+14 on side.

Connector plug - ordered separately

I15 mm DIN EN 175301-803 (DIN 43 650) Table C

V10027-D00 250 V a.c./300 Vd.c.

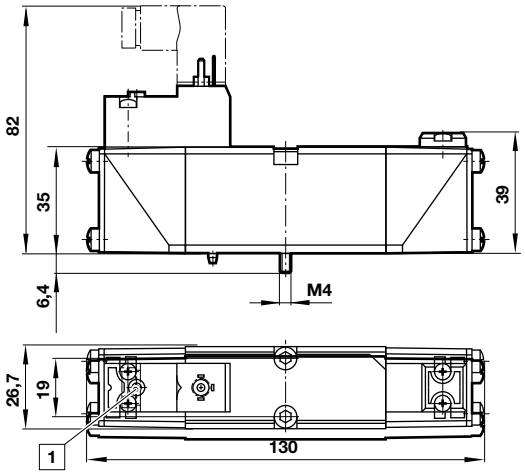
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MINI ISO VALVES

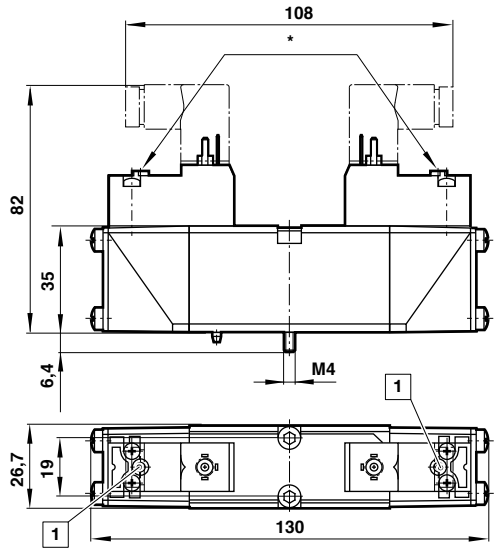
V44/V45 Solenoid and pilot actuated, ISO 15407-1/VDMA 24 563, Size 26 mm

Dimensions

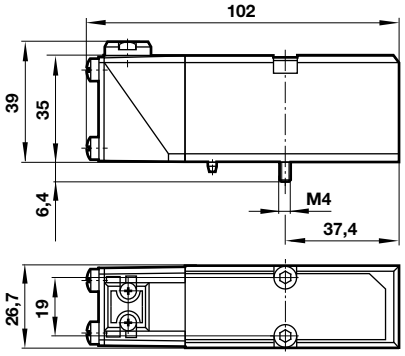
V44A5*3D-C3***
5/2 Single solenoid pilot valve
Air spring return



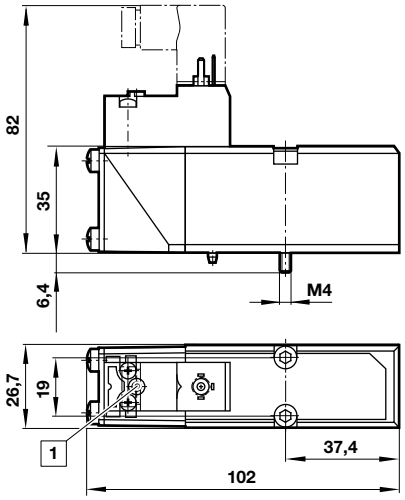
V44A5**D-C3*** & V45A5**D-C3***
5/2 Double solenoid pilot valve
V44A***D-C3*** & V45A***D-C3***
2x3/2 + 5/3 Double solenoid pilot valve



V44A537A-X00*0 & V45A537A-X00*0
5/2 Single air pilot valve

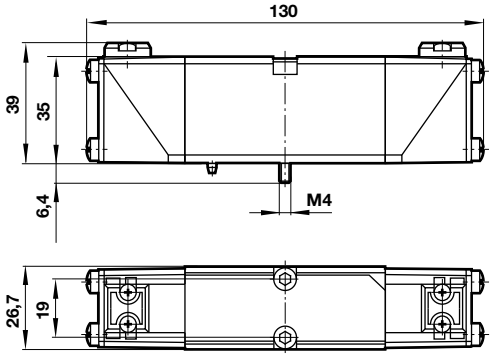


V44A5*7D-C3*** & V45A5*7D-C3***
5/2 Single solenoid pilot valve
Mechanical spring return



1 Manual override

V44A*33A-X00*0 & V45A*33A-X00*0
2 x 3/2, 5/2 + 5/3 Double air pilot valve



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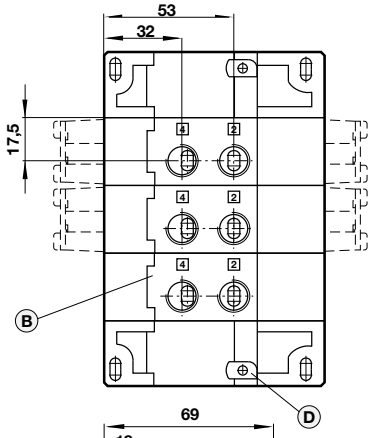
IMI Precision Engineering

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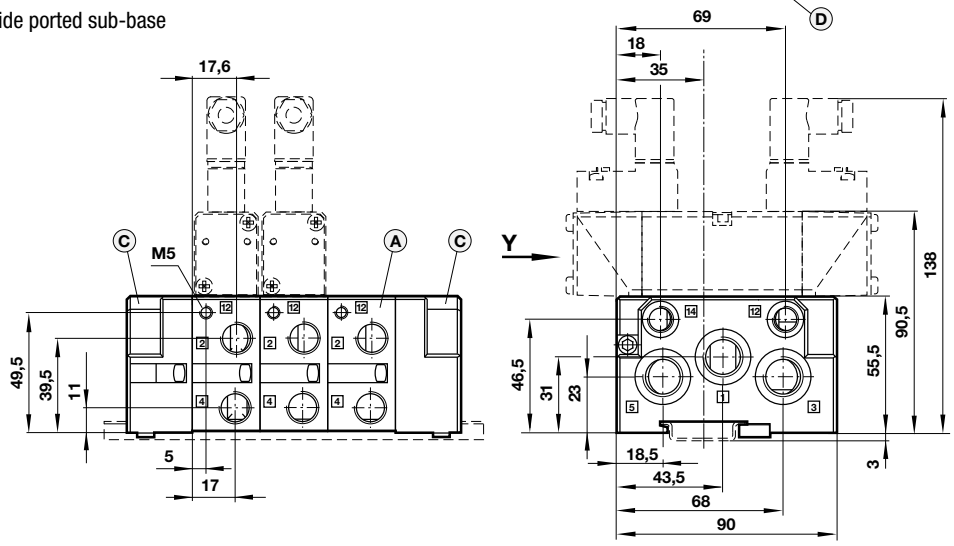
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Modular sub-bases parts for DIN rail or surface mounting

Bottom ported sub-base

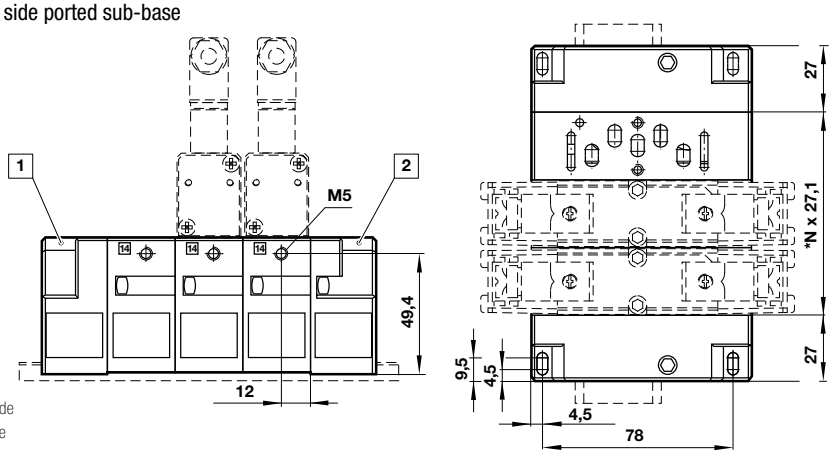


Side ported sub-base



Bottom and side ported sub-base

View Y



1 Right hand side
2 Left hand side

Code	Ports 2 & 4	Ports 12/14
B	G1/4	M5
8	Ø 8 mm PIF	M5
Y	Ø 6 mm PIF	M5

N = number of stations.
x = Insert port type from table below.

Note: Port 14 either used for external pilot air supply or for collected pilot air exhaust.

Therefore, never plug port 14 when using valves with internal pilot air supply.

Port 12 is not used, plugging not necessary.

Individual components

Modular sub-base (A)	Ports 2+4 on side	V70525-x5F (0,18 kg)		
Modular sub-base (A)	Ports 2+4 on side	Pilot ports 12+14 on side	V70526-x5F (0,18 kg)	
Modular sub-base (B)	Ports 2+4 on bottom	V70525-BAE (0,18 kg)		
Modular sub-base (B)	Ports 2+4 on bottom	Pilot ports 12+14 on side	V70526-BAE (0,18 kg)	
End plate kit (C)	Side ported	V70524-CAC (0,36 kg) (G3/8, 12 & 14 G1/8)		End ported end caps 1 left hand and 1 right hand

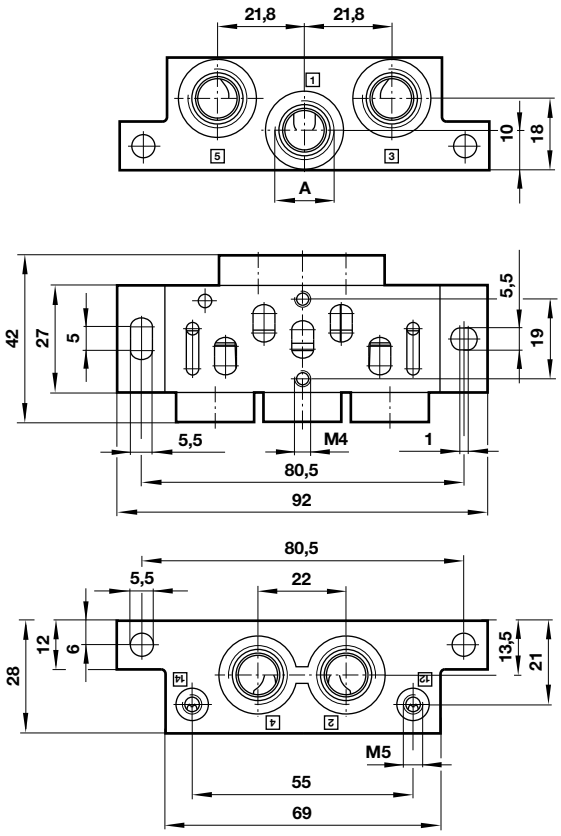
Accessories

DIN EN 50022 rail	35 x 7,5 mm, 1m	V10009-C00 (0,31 kg)
DIN EN 50022 rail	35 x 15 mm, 1m	V10592-C01 (1,02 kg)
DIN rail (D)	Mounting kit	V70531-KAO (0,01 kg)
Blanking disk to modular sub-base	Ports 1, 3, 5	V70522-K00 (0,01 kg)
Blanking disk to modular sub-base	Ports 12+14	V70523-K00 (0,01 kg)

MINI ISO VALVES

V44/V45 Solenoid and pilot actuated, ISO 15407-1/VDMA 24 563, Size 26 mm

Single station sub-base – side ported with pilot ports



Model	Port size A
V70501-BAB	G1/4 side ported with pilot ports 0,11 kg

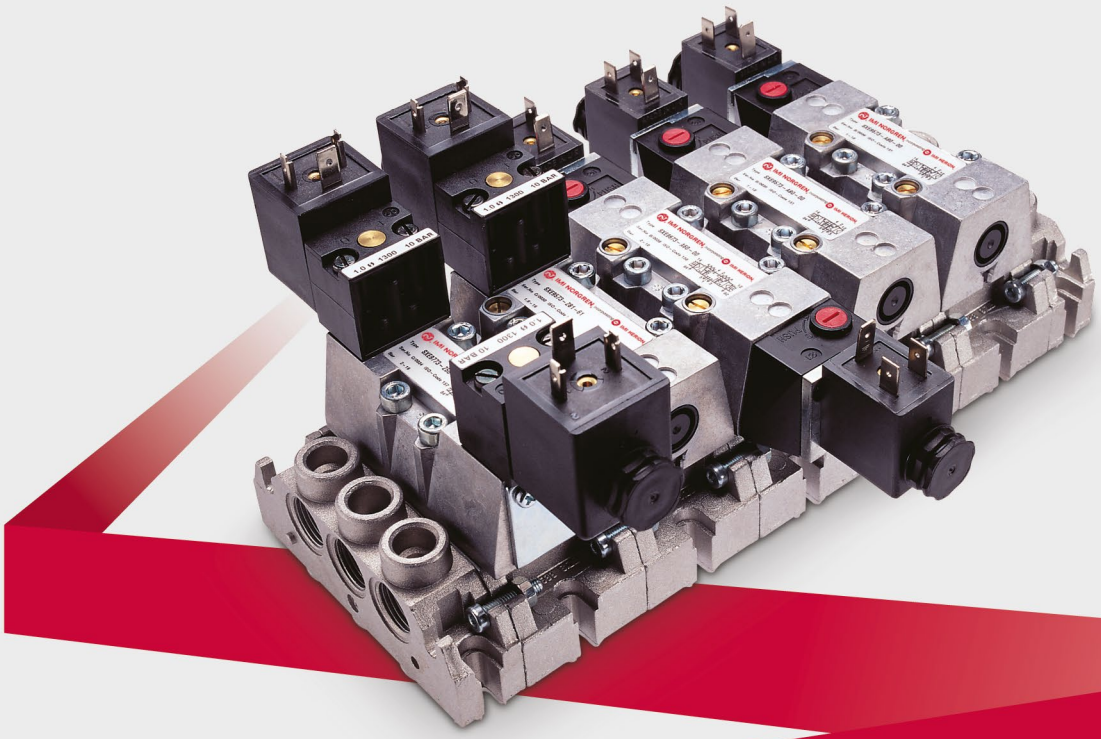
Note: Pilot ports = M5.

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Trouble free life!

- Three sizes of valve, with or without integral flow regulators, 5/2 and 5/3 function, with standard or CNOMO solenoids or air pilots and single station or manifold bases
- Hard-anodised, low friction aluminium spool and sleeve offers long life, and constant performance from start-up in all kinds of environments. Copes with many airline contaminants
- Fast switching times coupled with low power solenoids, perfect in high cycling applications

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SOLENOID & PILOT ACTUATED SPOOL VALVES

ISO★STAR Sub-base, 5/2 & 5/3, ISO #1 to ISO #3

- Specially coated glandless spool and sleeve for long trouble-free life
- Integral flow regulators available on ISO #1 and #2 sizes
- Low power solenoids feature manual override as standard
- Wide range of sub-bases and accessories
- Conforms to ISO 5599-1

Technical Data

Medium:
Compressed air, filtered, lubricated, non lubricated

Operating pressure:
Maximum 16 bar, see table for individual details

Flow:
ISO #1 1230 l/min
ISO #2 2450 l/min
ISO #3 4400 l/min

Ambient temperature:
-15°C … +50°C solenoid models
-15°C … +80°C pilot models

Air supply must be dry enough to avoid ice formation at temperatures below +2°C

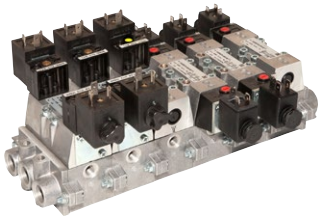
Materials

Body:
die-cast aluminium

Spool & Sleeve:
Hard anodised aluminium with special teflon coating

Seals:
nitrile

EXPRESS



Models - Solenoid pilot actuated valves

End solenoid models		CNOMO solenoid models		Size	Function	Mid position	Actuation	Flow regulator
Model	Operating pressure (bar)	Model	Operating pressure (bar)					
SXE 9573-A71-00-***	1,8 … 10	SXE 9573-Z71-81-***	1,8 … 16	ISO #1	5/2	–	Sol/Spring	–
SXE 9573-A81-00-***	1,8 … 10	SXE 9573-Z81-81-***	1,8 … 16	ISO #1	5/2	–	Sol/Spring	Built-in
SXE 9573-A70-00-***	1 … 10	SXE 9573-Z70-60-***	1 … 10	ISO #1	5/2	–	Sol/Air spring	–
SXE 9573-A80-00-***	1 … 10	SXE 9573-Z80-60-***	1 … 10	ISO #1	5/2	–	Sol/Air spring	Built-in
SXE 0573-A50-00-***	2 … 10	SXE 0573-Z50-81-***	2 … 16	ISO #1	5/2	–	Sol/Sol	–
SXE 0573-A60-00-***	2 … 10	SXE 0573-Z60-81-***	2 … 16	ISO #1	5/2	–	Sol/Sol	Built-in
SXE 9673-A60-00-***	2 … 10	SXE 9673-Z60-81-***	2 … 16	ISO #1	5/3	APB	Sol/Sol	Built-in
SXE 9773-A60-00-***	2 … 10	SXE 9773-Z60-81-***	2 … 16	ISO #1	5/3	COE	Sol/Sol	Built-in
SXE 9873-A60-00-***	2 … 10	SXE 9873-Z60-81-***	2 … 16	ISO #1	5/3	COP	Sol/Sol	Built-in
SXE 9574-A71-00-***	1,8 … 10	SXE 9574-Z71-81-***	1,8 … 16	ISO #2	5/2	–	Sol/Spring	–
SXE 9574-A81-00-***	1,8 … 10	SXE 9574-Z81-81-***	1,8 … 16	ISO #2	5/2	–	Sol/Spring	Built-in
SXE 9574-A70-00-***	1 … 10	SXE 9574-Z70-60-***	1 … 10	ISO #2	5/2	–	Sol/Air spring	–
SXE 9574-A80-00-***	1 … 10	SXE 9574-Z80-60-***	1 … 10	ISO #2	5/2	–	Sol/Air spring	Built-in
SXE 0574-A50-00-***	2 … 10	SXE 0574-Z50-81-***	2 … 16	ISO #2	5/2	–	Sol/Sol	–
SXE 0574-A60-00-***	2 … 10	SXE 0574-Z60-81-***	2 … 16	ISO #2	5/2	–	Sol/Sol	Built-in
SXE 9674-A60-00-***	2 … 10	SXE 9674-Z60-81-***	2 … 16	ISO #2	5/3	APB	Sol/Sol	Built-in
SXE 9774-A60-00-***	2 … 10	SXE 9774-Z60-81-***	2 … 16	ISO #2	5/3	COE	Sol/Sol	Built-in
SXE 9874-A60-00-***	2 … 10	SXE 9874-Z60-81-***	2 … 16	ISO #2	5/3	COP	Sol/Sol	Built-in
SXE 9575-A71-00-***	1,8 … 10	SXE 9575-Z71-81-***	1,8 … 16	ISO #3	5/2	–	Sol/Spring	–
SXE 9575-A70-00-***	1 … 10	SXE 9575-Z70-60-***	1 … 10	ISO #3	5/2	–	Sol/Air spring	–
SXE 0575-A50-00-***	2 … 10	SXE 0575-Z50-81-***	2 … 16	ISO #3	5/2	–	Sol/Sol	–
SXE 9675-A50-00-***	2 … 10	SXE 9675-Z50-81-***	2 … 16	ISO #3	5/3	APB	Sol/Sol	–
SXE 9775-A50-00-***	2 … 10	SXE 9775-Z50-81-***	2 … 16	ISO #3	5/3	COE	Sol/Sol	–
SXE 9875-A50-00-***	2 … 10	SXE 9875-Z50-81-***	2 … 16	ISO #3	5/3	COP	Sol/Sol	–

APB = All Ports Blocked, COE = Centre Open Exhaust, COP = Centre Open Pressure. Service kits not available for these valves.
*** Insert voltage codes for standard or CNOMO model from correct table below. Order connector plugs separately.
Manual override on end solenoid models: Push to operate spring return, lockable.
Manual override on CNOMO solenoid models (-60/***): Screwdriver memory type.
Manual override on CNOMO solenoid models (-81/***): Push to operate spring return.
For valve only remove "***" and replace with K after 00.

Models - Air pilot actuated valves

Model	Size	Function	Mid position	Actuation	Flow regulator	Operating pressure (bar)	kg
SXP 9573-170-00	ISO #1	5/2	–	Pilot/Spring	–	-0,9 … 16	0,21
SXP 9573-180-00	ISO #1	5/2	–	Pilot/Spring	Built-in	-0,9 … 16	0,26
SXP 0573-170-00	ISO #1	5/2	–	Pilot/Pilot	–	-0,9 … 16	0,30
SXP 0573-180-00	ISO #1	5/2	–	Pilot/Pilot	Built-in	-0,9 … 16	0,30
SXP 9673-180-00	ISO #1	5/3	APB	Pilot/Pilot	Built-in	-0,9 … 16	0,25
SXP 9773-180-00	ISO #1	5/3	COE	Pilot/Pilot	Built-in	-0,9 … 16	0,24
SXP 9873-180-00	ISO #1	5/3	COP	Pilot/Pilot	Built-in	-0,9 … 16	0,25
SXP 9574-170-00	ISO #2	5/2	–	Pilot/Spring	–	-0,9 … 16	0,45
SXP 9574-180-00	ISO #2	5/2	–	Pilot/Spring	Built-in	-0,9 … 16	0,45
SXP 0574-170-00	ISO #2	5/2	–	Pilot/Pilot	–	-0,9 … 16	0,50
SXP 0574-180-00	ISO #2	5/2	–	Pilot/Pilot	Built-in	-0,9 … 16	0,50
SXP 9674-180-00	ISO #2	5/3	APB	Pilot/Pilot	Built-in	-0,9 … 16	0,58
SXP 9774-180-00	ISO #2	5/3	COE	Pilot/Pilot	Built-in	-0,9 … 16	0,58
SXP 9874-180-00	ISO #2	5/3	COP	Pilot/Pilot	Built-in	-0,9 … 16	0,58
SXP 9575-170-00	ISO #3	5/2	–	Pilot/Spring	–	-0,9 … 16	0,72
SXP 0575-170-00	ISO #3	5/2	–	Pilot/Pilot	–	-0,9 … 16	0,72
SXP 9675-170-00	ISO #3	5/3	APB	Pilot/Pilot	–	-0,9 … 16	0,80
SXP 9775-170-00	ISO #3	5/3	COE	Pilot/Pilot	–	-0,9 … 16	0,80
SXP 9875-170-00	ISO #3	5/3	COP	Pilot/Pilot	–	-0,9 … 16	0,80

APB = All Ports Blocked, COE = Centre Open Exhaust, COP = Centre Open Pressure. Service kits not available for these valves.

22 mm Coil with connector interface acc. to Industrial Standard			22 mm Coil with connector interface acc. to DIN 43650 table B			30 mm Coil with connector interface acc. to DIN 43650 table A			
Model	**Code**	**Power inrush/hold**	**Model**	**Code**	**Power inrush/hold**	**Model**	**Code**	**Power inrush/hold**	**Voltage**
QM/48/12J/21	12J	2 W	V10626-A12L	12L	2 W	V10633-A22N	22N	1,5 W	12 V d.c.
QM/48/13J/21	13J	2 W	V10626-A13L	13L	2 W	V10633-A23N	23N	1,5 W	24 V d.c.
QM/48/14J/21	14J	4/2,5 VA	V10626-A14L	14L	4/2,5 VA	V10633-A24N	24N	2 VA	24 V 50/60 Hz
–	–	–	–	–	–	V10633-A26N	26N	2 VA	48 V 50/60 Hz
QM/48/18J/21	18J	4/2,5 VA	V10626-A18L	18L	4/2,5 VA	V10633-A28N	28N	2 VA	110/120 V 50/60 Hz
QM/48/19J/21	19J	6/5 VA	V10626-A19L	19L	6/5 VA	V10633-A29N	29N	3 VA	220/240 V 50/60 Hz

Voltage codes and spare coils for 16 bar models (CNOMO only)

30 mm Coil with connector interface acc. to DIN 43650 table A			
Model	**Voltage**	**Code**	**Power inrush/hold**
V10633-A33N	24 V d.c.	33N	4 W
V10633-A88N	110/120 V a.c.	88N	8 VA
V10633-A89N	230 V a.c.	89N	8 VA

Electrical details for end & CNOMO solenoid operators

Voltage tolerance:	±10%
Rating:	100% E.D.
Inlet orifice:	1,0 mm
Electrical connection:	Corresponding to chosen coil. See voltage code tables
Solenoid coil	May be rotated at 90° intervals
Protection class:	IP 65 with sealed plug (ISO 6952)

Options

- ISO #4 models are also available – contact our Technical Service.
- Central M12 x 1 connector External pilot supply versions.

Online at **store.norgren.com**

SOLENOID & PILOT ACTUATED SPOOL VALVES
ISO★STAR Sub-base, 5/2 & 5/3, ISO #1 to ISO #3

Bases - VDMA 24 345 sub-bases

	Form A Side ported	Form B Bottom ported	Form C Manifold	Form D End plates	Blanking disk
					
ISO#1	M/P19126 (G1/4)	M/P19125 (G1/4)	CQM/22152/3/21	CQM/22152/3/22	FP 8382
ISO#2	M/P19132 (G3/8)	M/P19131 (G3/8)	CQM/22253/3/21	CQM/22253/3/22	FP 8482
ISO#3	M/P19138 (G1/2)	M/P19137 (G1/2)	CQM/22354/3/21	CQM/22354/3/22	FP 8582

Universal base options (side & bottom ported)

	Modular base	Transition plate	Blanking disc (dual supply)	End plates*	End plate, side ports open
					
ISO#1	CQM/22152/3/27 (G1/4)	CQM/22152/3/29 (#1-#2)	M/P43173	CQM/22152/3/28 (G3/8)	CQM/22152/3/31 (G3/8)
ISO#2	CQM/22253/3/27 (G3/8)	–	M/P43174	CQM/22253/3/28 (G1/2)	CQM/22253/3/31 (G1/2)

* All ports supplied blanked for optimum system configuration.

Accessories

	Single pressure regulator plate		Single pressure regulator plate		Single pressure regulator plate		Double pressure regulator plate	
								
ISO #1	V71010-KB1	Port 1 reg.	V71012-KB2	Port 2 reg.	V71012-KB3	Port 4 reg.	V71012-KB4	Ports 2+4 reg.

Connector plug - ordered separately

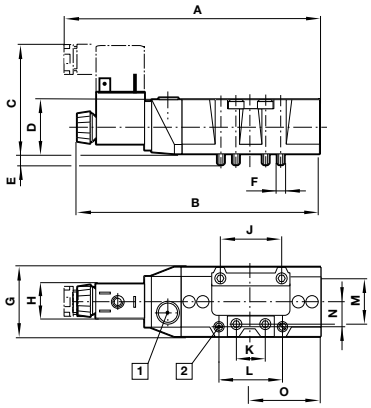
30 mm, EN 175301-803
(DIN 43650 B) Form A 2-pole + PE



0570275

Dimensions

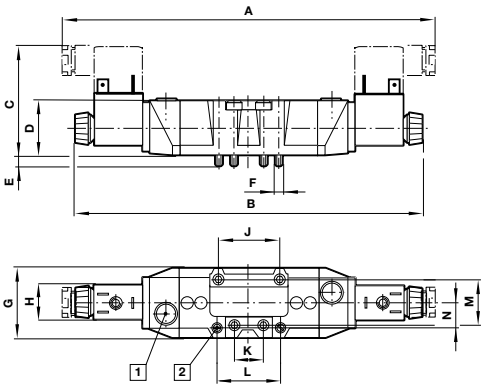
Single end solenoid models



1 Manual override
2 Flow regulators

	ISO 1	ISO 2	ISO 3
A	154	181	207,5
B	146	173	197
C	66	71	72
D	33	42	43
E	7,5	8	11,5
F	M5	M6	M8
G	42	55	62,5
H	22/30	22/30	22/30
J	36	48	64
K	18	24	32
L	38	48	–
M	28	38	48
N	15	20	–
O	42	53	65,4

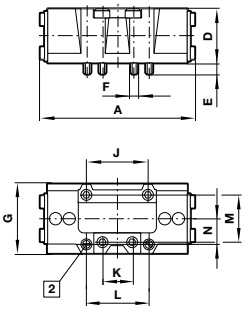
Double end solenoid models



1 Manual override
2 Flow regulators

	ISO 1	ISO 2	ISO 3
A	222	255	284
B	204	239	263
C	65	71	72
D	33	42	43
E	7,5	8	11,5
F	M5	M6	M8
G	42	55	62,5
H	22/30	22/30	22/30
J	36	48	64
K	18	24	32
L	38	48	–
M	28	38	48
N	15	20	–

Single and double pilot models

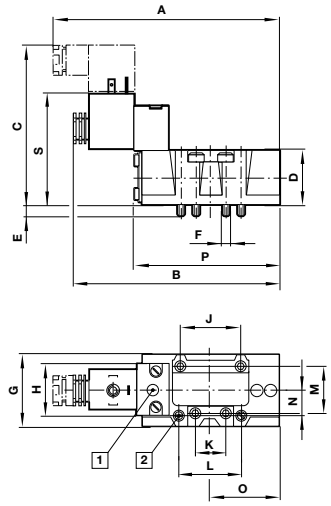


2 Flow regulators

	ISO 1		ISO 2		ISO 3	
	Single	Double	Single	Double	Single	Double
A	88	92,5	112	119	135,5	140 (142)
D	33	33	42	42	43	43
E	7,5	7,5	8	8	11,5	11,5
F	M5	M5	M6	M6	M8	M8
G	42	42	55	55	62,5	62,5
J	36	36	48	48	64	64
K	18	18	24	24	32	32
L	38	38	48	48	–	–
M	28	28	38	38	48	48
N	15	15	20	20	–	–
O	42		53		65,5	

( ) for 5/3 way valves.

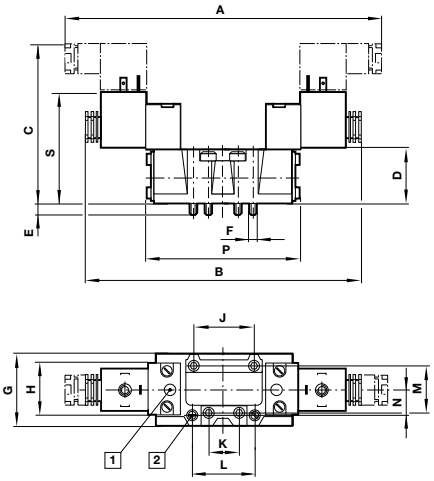
Single CNOMO solenoid valves



1 Manual override
2 Flow regulators

	ISO 1	ISO 2	ISO 3
A	137,5	157,5	181
B	128	148	170
C	98	107	108
D	33	42	43
E	7,5	8	11,5
F	M5	M5	M8
G	42	55	62,5
H	32	32	32
J	36	48	64
K	18	24	32
L	38	48	–
M	28	38	48
N	15	20	–
O	42	53	65,5
P	88	112	135,5
S	62	71	78,5

Double CNOMO solenoid valves



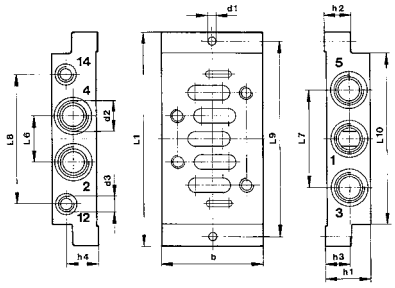
1 Manual override
2 Flow regulators

	ISO 1	ISO 2	ISO 3
A	191	208	231
B	171	189	212
C	89	107	108
D	33	42	43
E	7,5	8	11,5
F	M5	M6	M8
G	42	55	62,5
H	32	32	32
J	36	48	64
K	18	24	32
L	38	48	–
M	28	38	48
N*	15	20	–
P	92,5	119	140 (142)
S	62	71	78,5

( ) for 5/3 way valves.

SOLENOID & PILOT ACTUATED SPOOL VALVES
ISO★STAR Sub-base, 5/2 & 5/3, ISO #1 to ISO #3

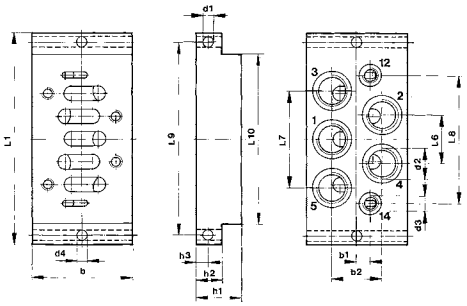
VDMA 24 345 Sub-bases
Side ported



ISO		b	d1	d2	d3	h1	h2	h3*	h4	L1	L6	L7	L8	L9	L10
1	M/P19126	48	5,5	G1/4	G1/8	32	10	10,5 (21,5)	23,5	110	24	43	58	98	84
2	M/P19132	57	6,6	G3/8	G1/8	40	13	14 (26)	30	124	30	56	74	112	95
3	M/P19138	71	6,6	G1/2	G1/8	32	18	179	22	149	32	68	90	136	119

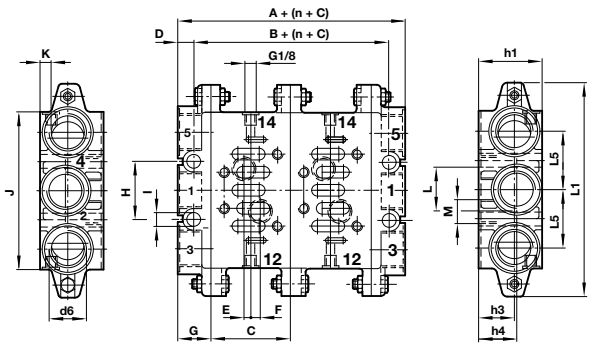
( ) Dimension for ports 3 and 5.

Bottom ported



ISO		b	b1	b2	d1	d2	d3	d4	h1	h2	h3	L1	L6	L7	L8	L9	L10
1	M/P19125	46	7	23	5,5	G1/4	G1/8	5,5	30	10	5	110	23	46	62	98	84
2	M/P19131	56	8	27	6,6	G3/8	G1/8	6,6	35	13	6,5	124	28	56	73	112	95
3	M/P19137	71	10	34	6,6	G1/2	G1/8	6,69	32	18	9	149	34	68	90	136	119

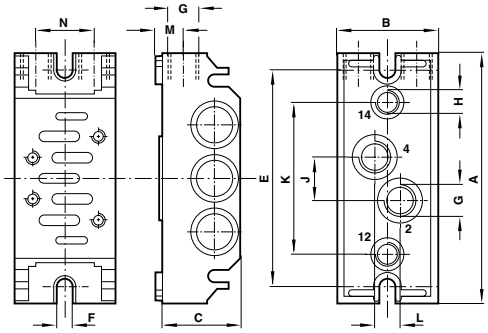
End plates and manifold



ISO	A	B	C	D	E	F	G	H	I	J	K	L	M	h1	h3	h4	L1	L5	d6
1	44	22	43	11	1,5	7,5	22	28	7	85	8,5	26	G1/4	46	21	24	110	28	3/8"
2	52	26	56	13	5	6	26	35	9	100	9	30	G3/8	47	22	24	135	28	1/2"
3	60	30	71	15	6	8	30	52	12	140	10	38	G1/2	56	31	34	190	52	1"

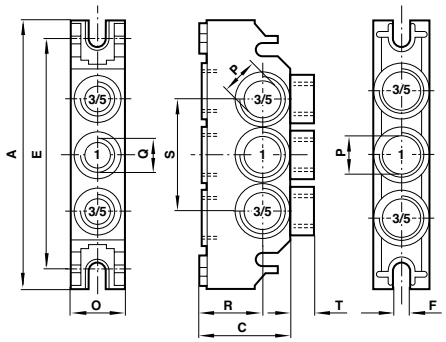
Maximum 12 stations.

Universal sub-base options
Modular base with side, end and bottom ports open
CQM/22152/3/27, CQM22253/3/27



ISO	A	B	C	E	F	G	H	J	K	L	M	N	kg
1	106	43	36	92	5,5	G1/4	G1/8	18	64	11	12	28	0,16
2	120	56	43	102	6,5	G3/8	G1/8	24	68	19	15	38	0,35

Universal end plate, all ports blocked – CQM/22152/28, CQM/22253/3/28
Universal end plate, side ports open – CQM/22152/3/31, CQM22253/3/31

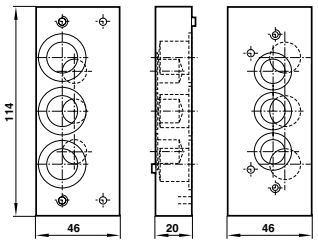


ISO	A	C	E	F	O	P	Q	R	S	T	kg
1	106	36	92	5,5	22	G3/8	G1/4	25	44	9	0,13
2	120	46	102	6,5	29	G1/2	G1/4	31	58	7	0,23

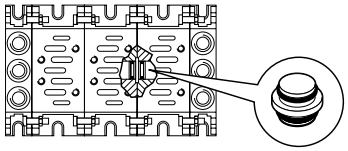
Drill dimensions for opening ports

G1/4	Ø 8
G3/8	Ø 15
G1/2	Ø 15

Transition plate from ISO #1 to ISO #2 universal sub-bases
CQM/22152/3/29



Blanking disk for ISO #1 and ISO #2 universal sub-bases
M/P43173, M/P43174



IMI Precision Engineering
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IMI NORGREN

SOLENOID & PILOT ACTUATED SPOOL VALVES

UM/22000 Sub-base 5/2 and 5/3, ISO #4

- Sub-base mounted, ISO 5599-1
- Steel reinforced main seals
- 16 bar and 10 bar CNOMO solenoid pilots with locking or non-locking manual override
- Low power coils (1,5W)
- Wide range of sub-bases and accessories

Technical Data

Medium:
Compressed air, 40 µm filtered, lubricated or non-lubricated

Operating pressure:
Solenoid pilot actuated valves: 10 bar
Air pilot actuated valves and solenoid pilot actuated valves:16 bar

Flow:
5660 l/min

Ambient temperature:
-15°C … +50°C solenoid models
-15°C … +80°C pilot models

Air supply must be dry enough to avoid ice formation at temperatures below +2°C

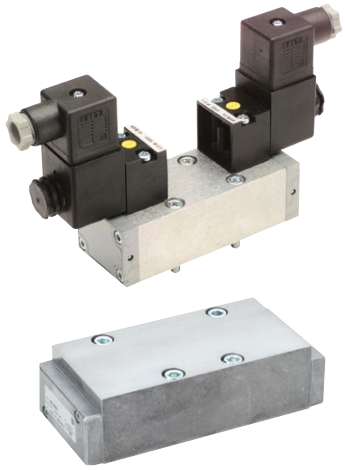
Materials

Body:
die-cast aluminium

Spool:
Light alloy aluminium

Seals:
NBR

EXPRESS



Models - 5/2 Solenoid pilot actuated valves – 10 bar models

Model	ISO size	Operator/return	Pilot supply	Flow (l/min)	Operating pressure (bar)	Pilot pressure (bar)
UM/22456/172/6#/*1)	4	Solenoid/spring and air	Internal	5660	2,5 … 10	–
UM/22456/22/6#/*1)	4	Solenoid/spring	External	5660	-0,9 … 16	1,8 *2) … 10
UM/22456/123/6#/*1)	4	Solenoid/ solenoid	Internal	5660	2 … 10	–
UM/22456/23/6#/*1)	4	Solenoid/ solenoid	External	5660	-0,9 … 16	1,5 *2) … 10

Insert code for manual override: 0 = turn to lock, 1 = push only.
*1) Insert voltage code from page 218. Standard are: '13J' for 24 V d.c. or '19J' for 240 V a.c.
*2) Plus (0,1 x supply pressure).

Models - 5/3 Solenoid pilot actuated valves – 10 bar models

Model	ISO size	Function	Operator/return	Pilot supply	Flow (l/min)	Operating pressure (bar)
UM/22456/6123/6#/*1)	4	APB	Solenoid/ solenoid	Internal	5490	2,8 … 10
UM/22466/6123/6#/*1)	4	COE	Solenoid/ solenoid	Internal	5490	2,8 … 10

Insert code for manual override: 0 = turn to lock, 1 = push only.
*1) Insert voltage code from page 218. Standard are: '13J' for 24 V d.c. or '19J' for 240 V a.c.
Function: APB = All Ports Blocked, COE = Centre Open Exhaust.

Models - 5/2 Solenoid pilot actuated valves – 16 bar models

Model	ISO size	Operator/return	Pilot supply	Flow (l/min)	Operating pressure (bar)	Pilot pressure (bar)
UM/22456/172/8#/*1)	4	Solenoid/spring and air	Internal	5660	2,5 … 16	–
UM/22456/22/8#/*1)	4	Solenoid/spring	External	5660	-0,9 … 16	1,8 *2) … 16
UM/22456/123/8#/*1)	4	Solenoid/ solenoid	Internal	5660	2 … 16	–
UM/22456/23/8#/*1)	4	Solenoid/ solenoid	External	5660	-0,9 … 16	1,5 *2) … 16

Insert code for manual override: 0 = turn to lock, 1 = push only.
*1) Insert voltage code from page 218. Standard are: '33N' for 24 V d.c. or '89N' for 240 V a.c.
*2) Plus (0,1 x supply pressure).

SOLENOID AND PILOT ACTUATED SPOOL VALVES
UM/22000 Sub-base 5/2 and 5/3, ISO #4

Models - 5/3 Solenoid pilot actuated valves – 16 bar models

Model	ISO size	Function	Operator/return	Pilot supply	Flow (l/min)	Operating pressure (bar)
UM/22456/6123/8#/*1)	4	APB	Solenoid/ solenoid	Internal	5490	2,8 … 16
UM/22466/6123/8#/*1)	4	COE	Solenoid/ solenoid	Internal	5490	2,8 … 16

Insert code for manual override: 0 = turn to lock, 1 = push only.
*1) Insert voltage code from table below. Standard are: '33N' for 24 V d.c. or '89N' for 240 V a.c.
Function: APB = All Ports Blocked, COE = Centre Open Exhaust.

Models - 5/2 Air pilot actuated valves – 16 bar models

Model	ISO size	Operator/return	Flow (l/min)	Operating pressure (bar)	Pilot pressure (bar)	Weight (kg)	Dimensions No.
UM/22456/40	4	Air/spring	5660	-0,9 … 16	1,8 *2) … 16	1,30	6
UM/22456/3	4	Air/air	5660	-0,9 … 16	1,5 *2) … 16	1,20	5

*2) plus (0,1 x supply pressure).

Models - Standard version - 5/3 Air pilot actuated valves – 16 bar models

Model	ISO size	Function	Operator/return	Flow (l/min)	Operating pressure (bar)	Pilot pressure (bar)	Weight (kg)	Dimensions No.
UM/22456/63	4	APB	Air/air	5490	-0,9 … 16	2,8 *2) … 16	1,20	5
UM/22466/63	4	COE	Air/air	5490	-0,9 … 16	2,8 *2) … 16	1,20	5

*2) plus (0,1 x supply pressure).
Function: APB = All Ports Blocked, COE = Centre Open Exhaust.

Online at store.norgren.com

Voltage codes and spare coils for 10 bar solenoid models

22 mm Coil with connector interface acc. to Industrial Standard			22 mm Coil with connector interface acc. to EN 175 301-803, form B			30 mm Coil with connector interface acc. to EN 175 301-803, form A			
Model	Code	Power inrush/hold	Model	Code	Power inrush/hold	Model	Code	Power inrush/hold	Voltage
QM/48/12J/21	12J	2 W	V10626-A12L	12L	2 W	V10633-A22N	22N	1,5 W	12 V d.c.
QM/48/13J/21	13J	2 W	V10626-A13L	13L	2 W	V10633-A23N	23N	1,5 W	24 V d.c.
QM/48/14J/21	14J	4/2,5 VA	V10626-A14L	14L	4/2,5 VA	V10633-A24N	24N	3/2 VA	24 V 50/60 Hz
QM/48/16J/21	16J	4/2,5 VA	V10626-A16L	16L	4/2,5 VA	V10633-A26N	26N	3/2 VA	48 V 50/60 Hz
QM/48/18J/21	18J	4/2,5 VA	V10626-A18L	18L	4/2,5 VA	V10633-A28N	28N	3/2 VA	110/120 V 50/60 Hz
QM/48/19J/21	19J	6/5 VA	V10626-A19L	19L	6/5 VA	V10633-A29N	29N	3/2 VA	220/240 V 50/60 Hz

Voltage codes and spare coils for 16 bar models

30 mm Coil with connector interface acc. to EN 175 301-803, form A			
Model	Voltage	Code	Power inrush/hold
V10633-A32N	12 V d.c.	32N	4 W
V10633-A33N	24 V d.c.	33N	4 W
V10633-A37N	110 V d.c.	37N	4 W
V10633-A84N	24 V a.c.	84N	10/8 VA
V10633-A88N	110/120 V 50/60 Hz	88N	10/8 VA
V10633-A89N	220/240 V 50/60 Hz	89N	10/8 VA

Other Voltages available on request.

Electrical details for solenoid operators

Voltage tolerance:	±10%
Rating:	100% E.D.
Inlet orifice:	1,0 mm
Electrical connection:	Corresponding to chosen coil: EN 175301-803 - Form A, 30 mm EN 175301-803 - Form B, 22 mm Industrial Standard, 22 mm
Solenoid coil	May be rotated at 90° intervals
Protection class:	IP 65 with sealed plug

Options

- ISO #1, ISO #2 & ISO #3 models are also available – contact our Technical Service.

Bases - VDMA 24 345 sub-bases

	Form A Side ported	Form B Bottom ported	Form C Manifold
			
ISO#4	M/P19144 (G3/4)	M/P19143 (G3/4)	CQM/22456/3/21

Accessories

	Blanking plate	Flow regulator plate		Spares kit
				
ISO #4	CQM/22456/3/23	CQM/22456/3/26	Port 3 and 5 reg.	QM/22456/3/00

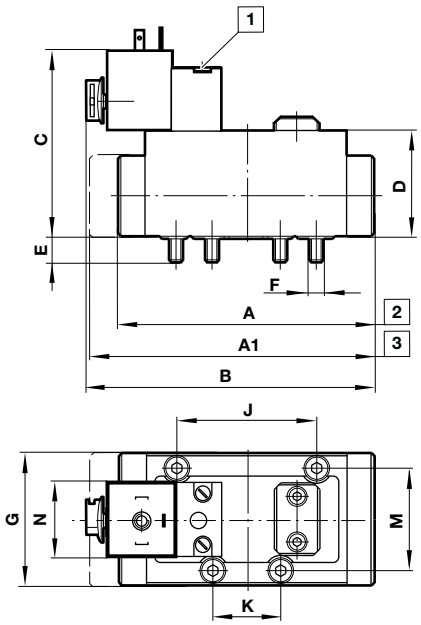
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SOLENOID AND PILOT ACTUATED SPOOL VALVES

UM/22000 Sub-base 5/2 and 5/3, ISO #4

Dimensions

5/2 Single solenoid valve

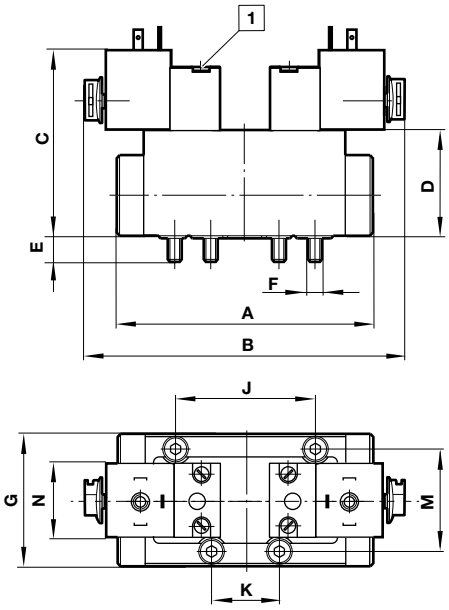


1 Manual override
2 Model …/172
3 Model …/22, …/122

	A	A1	B	C	D	E	F	G	J	K	M	N*
ISO#4	177	187	152	83	45	14	M8	75	80	40	58	22 or 30

* Illustrated with 30 mm coil.

5/2 and 5/3 Double solenoid valves

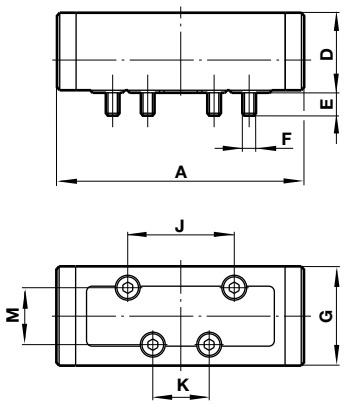


1 Manual override

	A	B	C	D	E	F	G	J	K	M	N*
ISO#4	177	140	83	45	14	M8	75	80	40	58	22 or 30

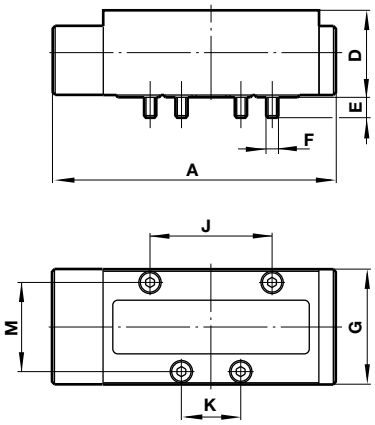
* Illustrated with 30 mm coil.

5/2 and 5/3 Double air pilot valves



	Model	A	D	E	F	G	J	K	M
ISO#4	…/3, …/63	164	45	14	M8	75	80	40	58

5/2 Single air pilot valves



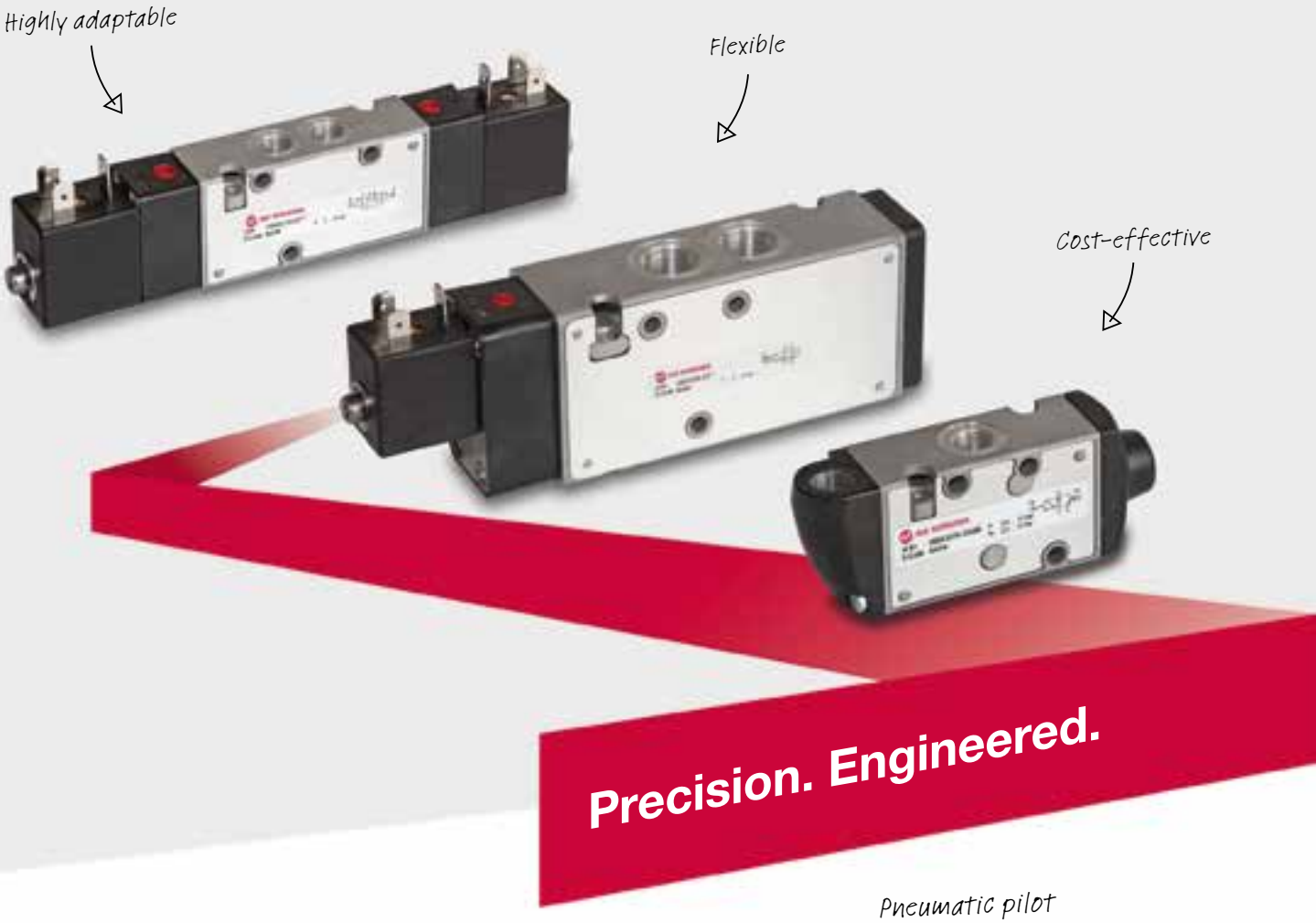
	Model	A	D	E	F	G	J	K	M
ISO#4	…/40	187	45	14	M8	75	80	40	58

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IMI NORGREN



V60 series
in-line valves

The IMI Norgren V60 series is one of the industry's largest range of in-line valves, with thousands of product combinations.

Offering high flow together with a compact body size, V60 series valves can flow up to twice the value of older styles of similar spool valves. Not just simple – the series also includes twin 3/2 functions in one body.

- Four sizes of valve, flowing 500 to 4,500 lit/min coupled with compact body size and a number of valve functions, to meet most requirements
- Quickly replaceable solenoid coils, choice of manual override and option of collected exhaust
- Manifold base system allows assembly of valves for more complex applications. Valve types can be mixed on one assembly and piped with multi-pressures

Pneumatic pilot options



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IMI NORGREN

IN-LINE VALVES

V60 … 63 3/2, 2x3/2, 5/2 & 5/3, G1/8 … G1/2

- 3/2, 5/2, 5/3 and 2 x 3/2 solenoid actuated valves
- G1/8 … G1/2
- Proven sealing system maintenance-free
- Different manual override options available
- Manifold system for easy assembly

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Ambient temperature:
-10°C … +50°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Body/sub-base:
Aluminium

Softseal spool:
NBR/stainless steel

Springs:
Stainless steel

EXPRESS



Models - Solenoid actuated

Actuation	G1/8	Operating Pressure (bar)	G1/4	Operating Pressure (bar)	G3/8	Operating Pressure (bar)	G1/2	Operating Pressure (bar)
Flow (l/min)								
3/2 & 5/2	750	–	1300	–	2600	–	4500	–
2x3/2 & 5/3	500	–	950	–	1900	–	2200	–
3/2 Valves								
Sol/Air Spring NC	V60A413A-A2000	2 … 10	V61B413A-A2000	2 … 10	V62C413A-A2000	2 … 10	V63D413A-A2000	3 … 10
Sol / Spring NC	V60A417A-A2000	2 … 10	V61B417A-A2000	2 … 10	V62C417A-A2000	2 … 10	V63D417A-A2000	2 … 10
Sol/Sol	V60A411A-A3000	1,5 … 10	V61B411A-A3000	1,5 … 10	V62C411A-A3000	1,5 … 10	V63D411A-A3000	2 … 10
2 x 3/2 Valves								
Sol/Spring NC	V60AA11A-A2000	2 … 10	V61BA11A-A2000	2 … 10	V62CA11A-A2000	2 … 10	–	–
5/2 Valves								
Sol/Air Spring	V60A513A-A2000	2 … 10	V61B513A-A2000	2 … 10	V62C513A-A2000	2 … 10	V63D513A-A2000	3 … 10
Sol / Spring	V60A517A-A2000	3 … 10	V61B517A-A2000	3 … 10	V62C517A-A2000	3 … 10	V63D517A-A2000	3 … 10
Sol/Sol	V60A511A-A3000	1,5 … 10	V61B511A-A3000	1,5 … 10	V62C511A-A3000	1,5 … 10	V63D511A-A3000	2 … 10
5/3 Valves								
Sol/Sol APB	V60A611A-A3000	3 … 10	V61B611A-A3000	3 … 10	V62C611A-A3000	3 … 10	V63D611A-A2000	3 … 10
Sol/Sol COE	V60A711A-A3000	3 … 10	V61B711A-A3000	3 … 10	V62C711A-A3000	3 … 10	V63D711A-A2000	3 … 10
Sol/Sol COP	V60A811A-A3000	3 … 10	V61B811A-A3000	3 … 10	V62C811A-A3000	3 … 10		
Accessories								
Straight Fitting	C02250618	–	C02250828	–	C02251038	–	C02251248	–
Elbow Fitting	C02470618	–	C02470828	–	C02471038	–	C02471248	–
Silencer	T40C1800	–	T40C2800	–	T40C3800	–	T40C4800	–
Basic Plug	M/P19063	–	M/P19063	–	M/P19063	–	M/P19063	–

Note: For Manual Overide Options - Digit 10 is :- 2 - Turn & Lock (Standard - Sol/Spring), 3 Push Only (Standard - Sol/Sol).
Note: The above are for valves without coils - for coils to be included remove 000 and replace with Coil Code from the tables below.
Note: APB = All Ports Blocked, COE = Centre Open Exhaust, COP = Centre Open Pressure, NC = Normally closed.

Voltage codes and spare coils

Model	Voltage	Coil code	Power inrush/hold
			
22 mm coil for connector interface acc. to industrial standard			
QM/48/12/J/21	12 V d.c.	12J	2 W
QM/48/13J/21	24 V d.c	13J	2 W
QM/48/18J/21	110/120V 50/60Hz	18J	4/2,5 VA
QM/48/19J/21	220/240 V 50/60 Hz	19J	6/5 VA
22 mm coil for connector interface acc. EN 175 301-803, form B			
V10626-A12L	12 V d.c	12L	2 W
V10626-A13L	24 V d.c	13L	2 W
V10626-A18L	110/120 V 50/60 Hz	18J	4/2,5 VA
V10626-A19L	220/240 V 50/60 Hz	19J	6/5 VA

Connector plugs must be ordered separately. Other voltages available, please contact us.

Electrical details for solenoid operators

Voltage tolerance:	± 10%	
Rating:	100% continuous duty	
Inlet orifice:	0,8 mm	
Electrical connection (corresponding to choosen coil):	EN 175301-803 - Form B, 22 mm	
	Industrial Standard, 22 mm	
Solenoid:	4 x 90° rotable	
Manual override:	Without	# =1
	Push and turn to lock	# = 2
	Push only (not lockable)	# = 3
Protection class:	IP 65 (with sealed plug)	

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Models - Pilot actuated

Actuation	G1/8	Operating pressure (bar)	Pilot pressure external (bar)	G1/4	Operating Pressure (bar)	Pilot pressure external (bar)	G3/8	Operating pressure (bar)	Pilot pressure external (bar)	G1/2	Operating pressure (bar)	Pilot pressure external (bar)
Flow (l/min)												
3/2 & 5/2	750	–	–	1300	–	–	2600	–	–	4500	–	–
2x3/2 & 5/3	500	–	–	950	–	–	1900	–	–	2200	–	–
3/2 Valves												
Air/Spring NC	V60A4D7A-XA090	-0,9 … 10	2,5 … 10	V61B4D7A-XA090	-0,9 … 10	2,5 … 10	V62C4D7A-XA090	-0,9 … 10	2,5 … 10	V63D4D7A-XA090	-0,9 … 16	3 … 16
Air/Spring NO	V60A3D7A-XA090	-0,9 … 10	2,5 … 10	V61B3D7A-XA090	-0,9 … 10	2,5 … 10	V62C3D7A-XA090	-0,9 … 10	2,5 … 10	V63D3D7A-XA090	-0,9 … 16	3 … 16
Air/Air NC	V60A4DDA-XA020	-0,9 … 10	1,5 … 10	V61B4DDA-XA020	-0,9 … 10	1,5 … 10	V62C4DDA-XA020	-0,9 … 10	1,5 … 10	V63D4DDA-XA020	-0,9 … 16	1,5 … 16
2 x 3/2 Valves												
Air/Air NC/NC	V60AADDA-XA020	2 … 10	2 … 10	V61BADDA-XA020	2 … 10	2 … 10	V62CADDA-XA020	2 … 10	2 … 10	–	–	–
Air/Air NO/NO	V60ABDDA-XA020	2 … 10	2 … 10	V61BBDDA-XA020	2 … 10	2 … 10	V62CBDDA-XA020	2 … 10	2 … 10	–	–	–
Air/Air NO/NC	V60ACDDA-XA020	2 … 10	2 … 10	V61BCDDA-XA020	2 … 10	2 … 10	V62CCDDA-XA020	2 … 10	2 … 10	–	–	–
5/2 Valves												
Air/Spring	V60A5D7A-XA090	-0,9 … 10	2,5 … 10	V61B5D7A-XA090	-0,9 … 10	2,5 … 10	V62C5D7A-XA090	-0,9 … 10	2,5 … 10	V63D5D7A-XA090	-0,9 … 16	3 … 16
Air/Air	V60A5DDA-XA020	-0,9 … 10	1,5 … 10	V61B5DDA-XA020	-0,9 … 10	1,5 … 10	V62C5DDA-XA020	-0,9 … 10	1,5 … 10	V63D5DDA-XA020	-0,9 … 16	1,5 … 16
5/3 Valves												
Air/Air APB	V60A6DDA-XA020	-0,9 … 10	3 … 10	V61D6DDA-XA020	0,9 … 10	3 … 10	V62C6DDA-XA020	-0,9 … 10	3 … 10	V63D6DDA-XA020	-0,9 … 10	3 … 10
Air/Air COE	V60A7DDA-XA020	-0,9 … 10	3 … 10	V61D7DDA-XA020	-0,9 … 10	3 … 10	V62C7DDA-XA020	-0,9 … 10	3 … 10	V63D7DDA-XA020	-0,9 … 10	3 … 10
Air/Air COP	V60A8DDA-XA020	-0,9 … 10	3 … 10	V61D8DDA-XA020	-0,9 … 10	3 … 10	V62C8DDA-XA020	-0,9 … 10	3 … 10	–	–	–
Accessories												
Straight Fitting	C02250618	–	–	C02250828	–	–	C02251038	–	–	C02251248	–	–
Elbow Fitting	C02470618	–	–	C02470828	–	–	C02471038	–	–	C02471248	–	–
Silencer	T40C1800	–	–	T40C2800	–	–	T40C3800	–	–	T40C4800	–	–
Straight Fitting - Pilot Port	C02250618	–	–	C02250618	–	–	C02250618	–	–	C02250618	–	–
Elbow Fitting - Pilot Port	C02470618	–	–	C02470618	–	–	C02470618	–	–	C02470618	–	–

Note: APB = All Ports Blocked, COE = Centre Open Exhaust, COP = Centre Open Pressure, NC = Normally closed, NO = Normally open, NC/NC = Both valves normally closed (port P), NO/NO = Both valves normally open (port P), NO/NC = 1valve normally open, 1 valve normally closed (port P).

Options

Solenoid actuated:

- NPT port size
- Without manual override
- External pilot supply

Pilot actuated:

- NPT port size

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IN-LINE VALVES
V60 … 63 3/2, 2x3/2, 5/2 & 5/3, G1/8 … G1/2

Manifold system for common pressure supply (V60 and V61)

Series	Manifold* 2 to 9 stations	10 and 12 stations	Bracket for manifold	Blanking plug for unused valve station
				
V60	263962 *1)	263963 *2)	0555485	0491586
V61	263942 *1)	263943 *2)	0555484	0491587

* Supplied with bolt and sealing washers.
*1) Insert station code after model numbers: 2, 3, 4, 5, 6, 7 and 8.
*2) Insert station code after model numbers: 9 (for V61 only), 0 for 10 and 2 for 12.

Sub-bases

Series	Valve stations 2	3	4	6	12
					
V60	2221002000000000	2221003000000000	2221004000000000	2221006000000000	2221012000000000
V61	2221102000000000	2221103000000000	2221104000000000	2221106000000000	2221112000000000
V62	2221202000000000	2221203000000000	2221204000000000	2221206000000000	2221212000000000

Accessories for sub-bases

Series	Blanking plate	Blanking plug for 2 station and 3 station manifolds	Pressure shut-off for 4 station op to 12 station manifolds	Pressure shut-off for ports 3 & 5 (R & S)	DIN rail mounting kit
					
V60	0100561000000000	0701208000000000	0100567000000000	0110236000000000	0101796000000000
V61	0100563000000000	0701209000000000	0100569000000000	0110237000000000	0101796000000000
V62	0100565000000000	0701210000000000	0100571000000000	0110238000000000	0101796000000000

Coil accessories

Diffusor for pilot exhaust	Circlip for coil fixing
	
81110800	81021600

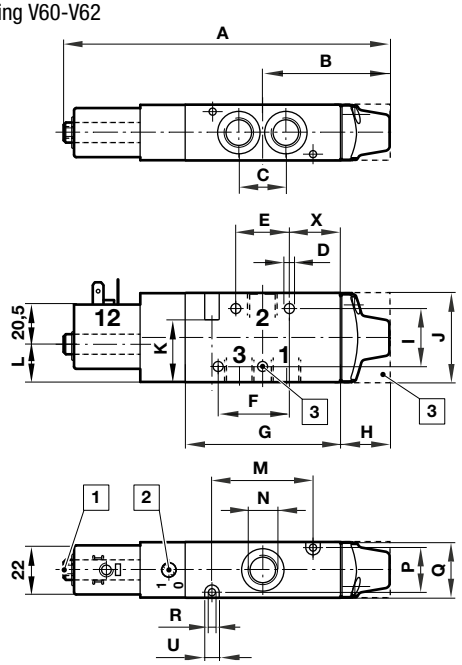
Connector plugs - ordered separately

Industrial standard 22 mm 2-pole + PE	22 mm, EN 175301-803 (DIN 43650 B) Form B 2-pole + PE
	
0657868000000000 12 … 250 V a.c./d.c.	0680003000000000 12 … 250 V a.c./d.c.
0680000000000000 15 … 30 V DC; LED, surge surpression	0664811000000000 15 … 30 V DC; LED, surge surpression
0680001000000000 150 … 250 V a.c.; glim lamp	0664812000000000 150 … 250 V a.c.; glim lamp

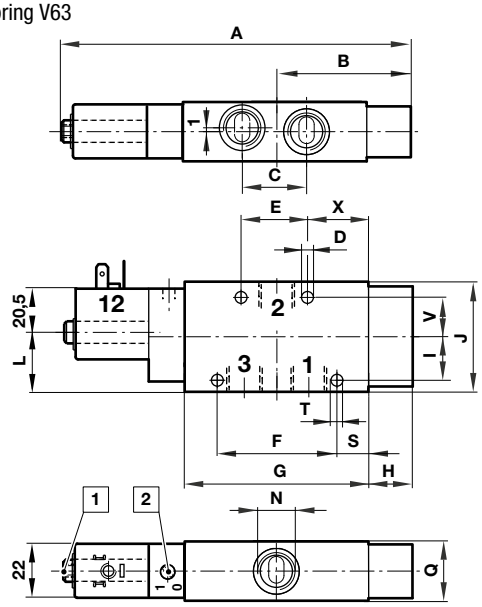
Note: Light emitting gaskets can not be used.

Dimensions

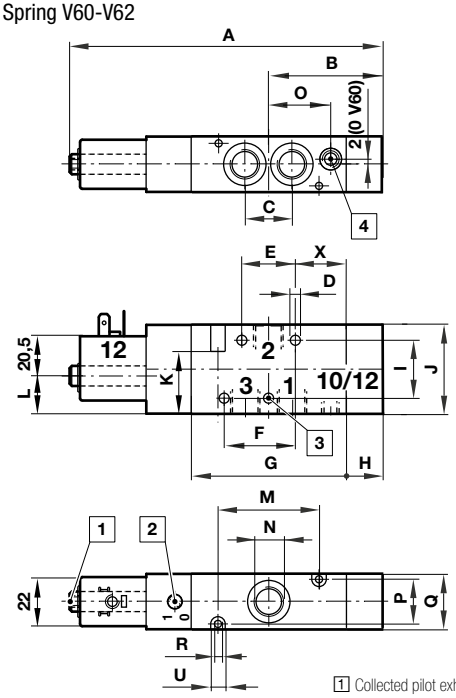
3/2 Sol/Spring V60-V62



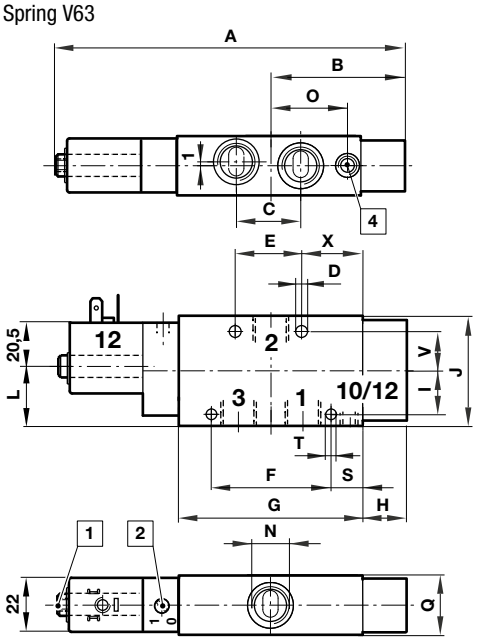
3/2 Sol/Spring V63



3/2 Sol/Air Spring V60-V62



3/2 Sol/Air Spring V63



1 Collected pilot exhaust (M5)
2 Manual Override
3 V62: Central mounting hole (left hole is not applicable) and square end cover
4 External pilot port, M5 (V60 & V61), G1/8

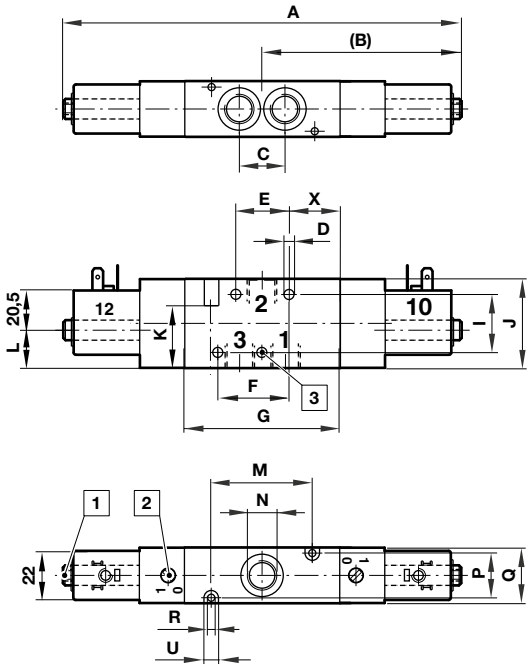
Model	A	B	C	Ø D	E	F	G	H	I	J	K	L	M	N	O	P	Q	Ø R	S	Ø T	Ø U	V	X
V60A417A—…	125	45	16	4,5	18	25	56	17	26	35	28	12	35	G1/8	–	17	22	3,2	–	–	6,5	–	19
V61B417A—…	147	57,5	21	4,5	24	32	70	22,5	26	40	28	17	46	G1/4	–	20	25	3,2	–	–	6,5	–	23
V62C417A—…	166,5	70	24,5	4,5	26	–	83,5	28	36	55	44	32	54	G3/8	–	28	34	4,5	–	–	8	23	30
V63D417A—…	197	87,5	38	7	46	75	108	33,5	26	65	–	38	–	G1/2	–	–	35	–	18,5	5,5	–	–	36
V60A413A—…	116,5	37	16	4,5	18	25	56	9	26	35	28	12	35	G1/8	–	17	22	3,2	–	–	6,5	–	19
V61B413A—…	132,5	43	21	4,5	24	32	70	8	26	40	28	17	46	G1/4	–	20	25	3,2	–	–	6,5	–	23
V62C413A—…	147	50,5	24,5	4,5	26	–	83,5	9	36	55	44	32	54	G3/8	–	28	34	4,5	–	–	8	–	30
V63D413A—…	190	80	38	7	46	75	108	26	26	65	–	38	–	G1/2	–	–	35	–	18,5	5,5	–	23	36

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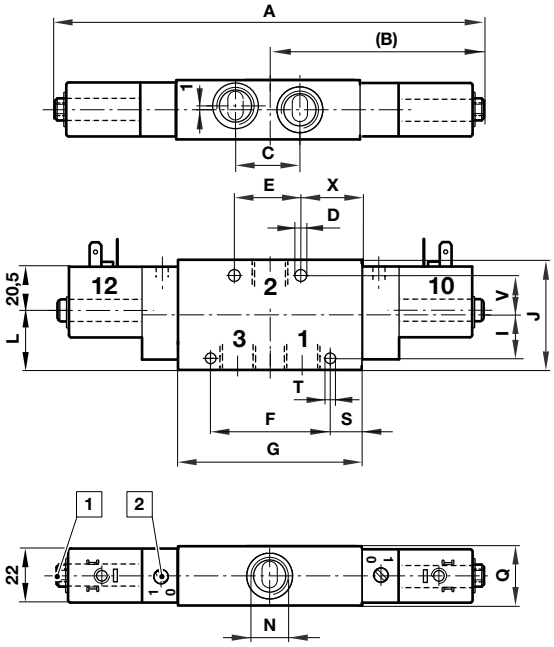
IN-LINE VALVES

V60 … 63 3/2, 2x3/2, 5/2 & 5/3, G1/8 … G1/2

3/2 Sol/Sol V60-V62



3/2 Sol/Sol V63



1 Collected pilot exhaust (M5)
2 Manual Override
3 V62: Central mounting hole (left hole is not applicable) and square end cover
4 External pilot port, M5 V60 & V61), G1/8

Model	A	B	C	Ø D	E	F	G	H	I	J	K	L	M	N	P	Q	Ø R	S	Ø T	Ø U	V	X
V60A411A—…	116,5	37	16	4,5	18	25	56	9	26	35	28	12	35	G1/8	–	22	3,2	–	–	6,5	–	19
V61B411A—…	132,5	43	21	4,5	24	32	70	8	26	40	28	17	46	G1/4	–	25	3,2	–	–	6,5	–	23
V62C411A—…	147	50,5	24,5	4,5	26	–	83,5	9	36	55	44	32	54	G3/8	–	34	4,5	–	–	8	–	30
V63D411A—…	190	80	38	7	46	75	108	26	26	65	–	38	–	G1/2	45	35	–	18,5	5,5	–	23	36

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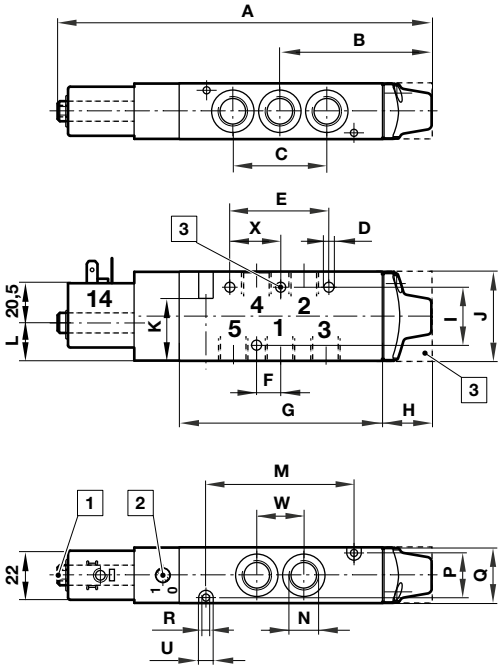
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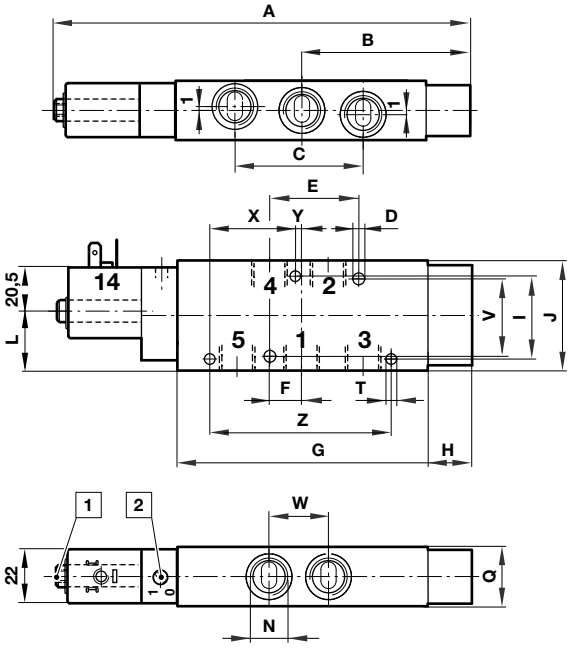
IN-LINE VALVES

V60 … 63 3/2, 2x3/2, 5/2 & 5/3, G1/8 … G1/2

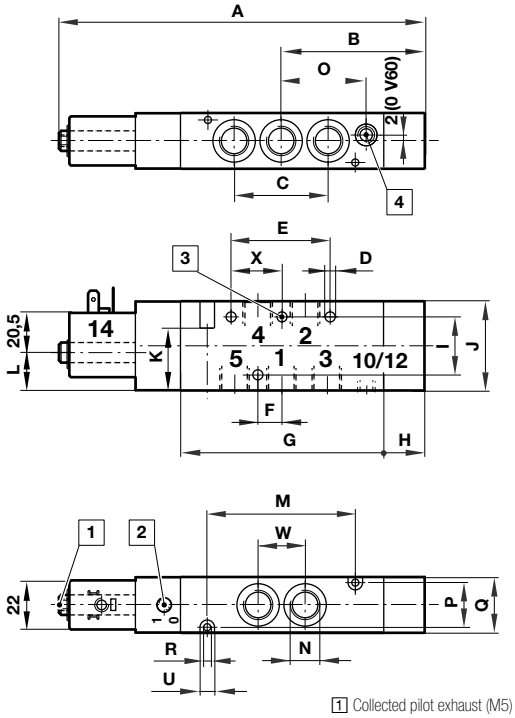
5/2 Sol/Spring V60-V62



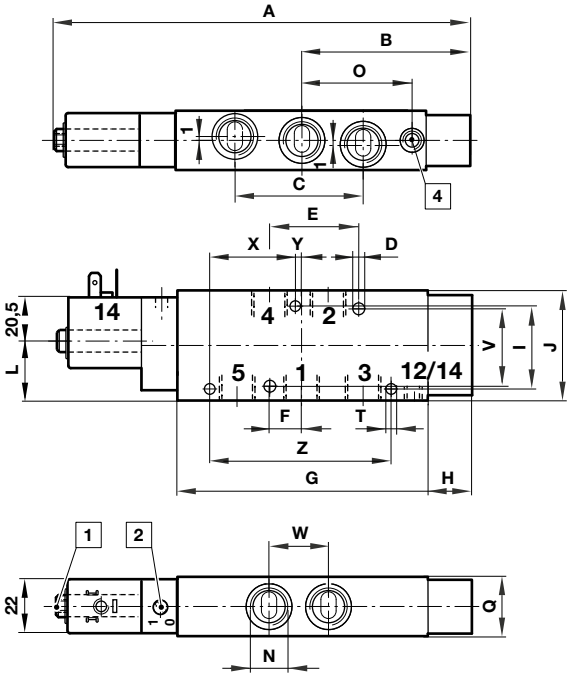
5/2 Sol/Spring V63



5/2 Sol/Air Spring V60-V62



5/2 Sol/Air Spring V63



1 Collected pilot exhaust (M5)
2 Manual Override
3 V62: Central mounting hole (left hole is not applicable) and square end cover
4 External pilot port, M5 (V60 & V61), G1/8

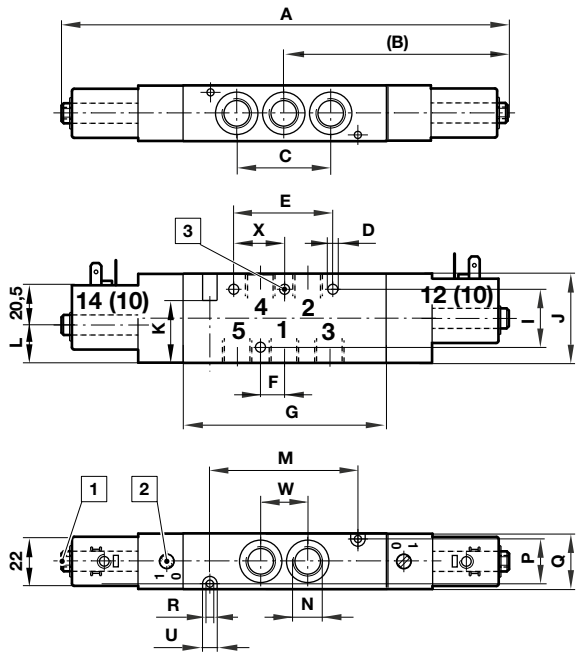
Model	A	B	C	Ø D	E	F	G	H	I	J	K	L	M	N	O	P	Q	Ø R	Ø T	Ø U	V	W	X	Y	Z
V60A517A—…	140	52,5	32,5	4,5	33,5	8	71	17	26	35	28	12	50	G1/8	–	17	22	3,2	–	6,5	–	16	17	–	–
V61B517A—…	167	67,5	42	4,5	44	10	90	22,5	26	40	28	17	66	G1/4	–	20	25	3,2	–	6,5	–	21	22	–	–
V62C517A—…	191	82	49	4,5	–	12	108	28	36	55	44	32	78	G3/8	–	28	34	4,5	–	8	–	24,5	26	–	–
V63D517A—…	235	106,5	76	7	60	19	146	33,5	52	65	–	38	–	G1/2	–	–	35	–	5,5	–	46	38	57,5	3	115
V60A513A—…	132	44,5	32,5	4,5	33,5	8	71	9	26	35	28	12	50	G1/8	–	17	22	3,2	–	6,5	–	16	17	–	–
V61B513A—…	153	53	42	4,5	44	10	90	8	26	40	28	17	66	G1/4	–	20	25	3,2	–	6,5	–	21	22	–	–
V62C513A—…	171,5	62,5	49	4,5	–	12	108	8,5	36	55	44	32	78	G3/8	–	28	34	4,5	–	8	–	24,5	26	–	–
V63D513A—…	228	99	76	7	60	19	146	26	52	65	–	38	–	G1/2	–	–	35	–	5,5	–	46	38	57,5	3	115

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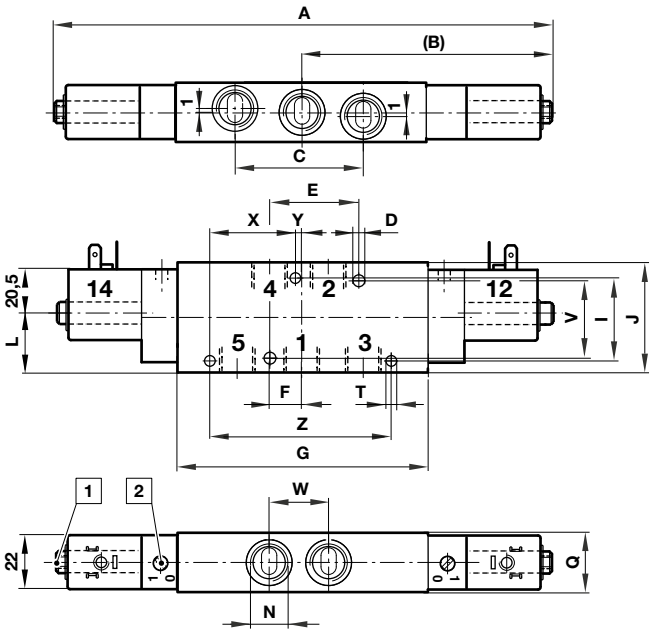
IN-LINE VALVES

V60 … 63 3/2, 2x3/2, 5/2 & 5/3, G1/8 … G1/2

5/2 & 2x3/2 Sol/Sol V60-V62



5/2 Sol/Sol V63



1 Collected pilot exhaust (M5)
2 Manual Override
3 V62: Central mounting hole (left hole is not applicable)

Model	A	B	C	Ø D	E	F	G	I	J	K	L	M	N	P	Q	Ø R	Ø T	Ø U	V	W	X	Y	Z
V60A511A—…	174,5	87,5	32,5	4,5	33,5	8	71	26	35	28	12	50	G1/8	17	22	3,2	–	6,5	–	16	17	–	–
V60AA11A—…	174,5	87,5	32,5	4,5	33,5	8	71	26	35	28	12	50	G1/8	17	22	3,2	–	6,5	–	16	17	–	–
V61B511A—…	199	99,5	42	4,5	44	10	90	26	40	28	17	66	G1/4	20	25	3,2	–	6,5	–	21	22	–	–
V61BA11A—…	199	99,5	42	4,5	44	10	90	26	40	28	17	66	G1/4	20	25	3,2	–	6,5	–	21	22	–	–
V62C511A—…	218	109	49	4,5	–	12	108	36	55	44	32	78	G3/8	28	34	4,5	–	8	–	24,5	26	–	–
V62CA11A—…	218	109	49	4,5	–	12	108	36	55	44	32	78	G3/8	28	34	4,5	–	8	–	24,5	26	–	–
V63D511A—…	257	128,5	76	7	60	19	146	52	65	–	38	–	G1/2	–	35	–	5,5	–	46	38	57,5	3	115

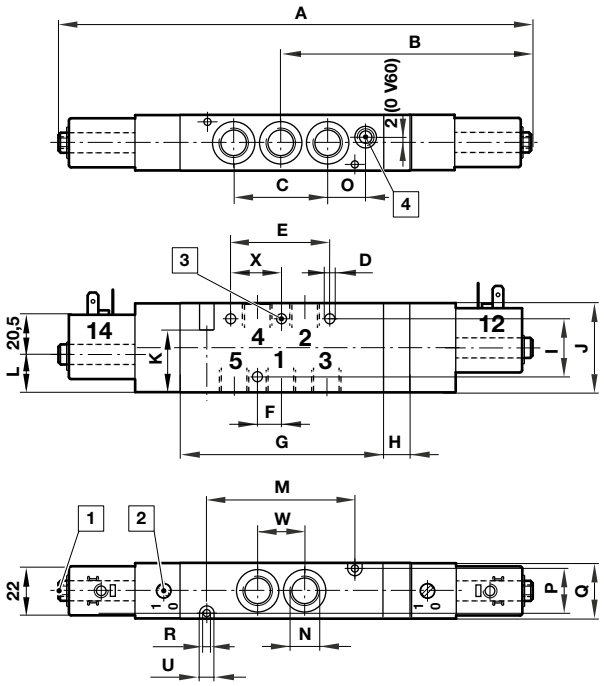
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5/3 Sol/Sol V60-V62



1 Collected pilot exhaust (M5)
2 Manual Override
3 V62: Central mounting hole (left hole is not applicable) and square end cover
4 External pilot port, M5 (V60 & V61), G1/8

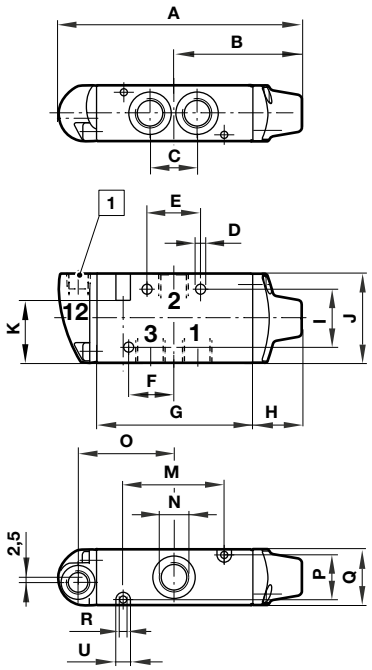
Model	A	B	C	Ø D	E	F	G	H	I	J	K	L	M	N	O	P	Q	Ø R	Ø U	W	X
V60A611A—…	188,5	101,5	32,5	4,5	33,5	8	71	14	26	35	28	12	50	G1/8	13	17	22	3,2	6,5	16	17
V60A711A—…	188,5	101,5	32,5	4,5	33,5	8	71	14	26	35	28	12	50	G1/8	13	17	22	3,2	6,5	16	17
V60A811A—…	188,5	101,5	32,5	4,5	33,5	8	71	14	26	35	28	12	50	G1/8	13	17	22	3,2	6,5	16	17
V61B611A—…	217	117,5	42	4,5	44	10	90	18	26	40	28	17	66	G1/4	18	20	25	3,2	6,5	21	22
V61B711A—…	217	117,5	42	4,5	44	10	90	18	26	40	28	17	66	G1/4	18	20	25	3,2	6,5	21	22
V61B811A—…	217	117,5	42	4,5	44	10	90	18	26	40	28	17	66	G1/4	18	20	25	3,2	6,5	21	22
V62C611A—…	240,5	131,5	49	4,5	–	12	108	22,5	36	55	44	32	78	G3/8	23,5	28	34	4,5	8	24,5	26
V62C711A—…	240,5	131,5	49	4,5	–	12	108	22,5	36	55	44	32	78	G3/8	23,5	28	34	4,5	8	24,5	26
V62C811A—…	240,5	131,5	49	4,5	–	12	108	22,5	36	55	44	32	78	G3/8	23,5	28	34	4,5	8	24,5	26
V62C811A—…	240,5	131,5	49	4,5	–	12	108	22,5	36	55	44	32	78	G3/8	23,5	28	34	4,5	8	24,5	26

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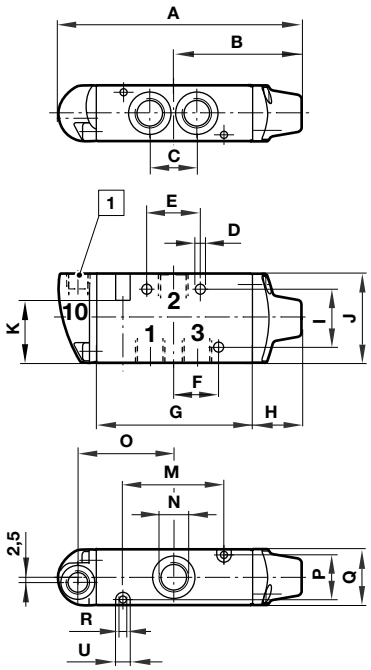
IN-LINE VALVES

V60 … 63 3/2, 2x3/2, 5/2 & 5/3, G1/8 … G1/2

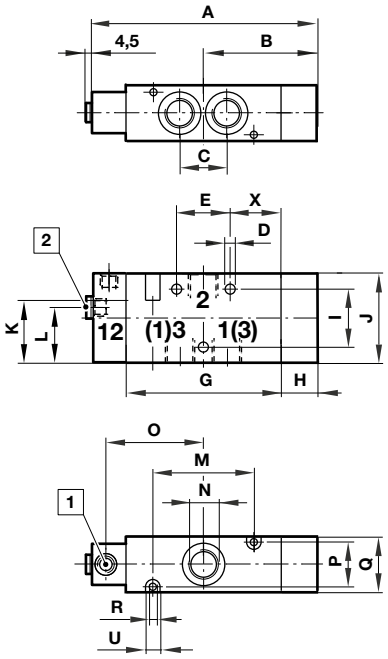
3/2NC Air/Spring V60-V61



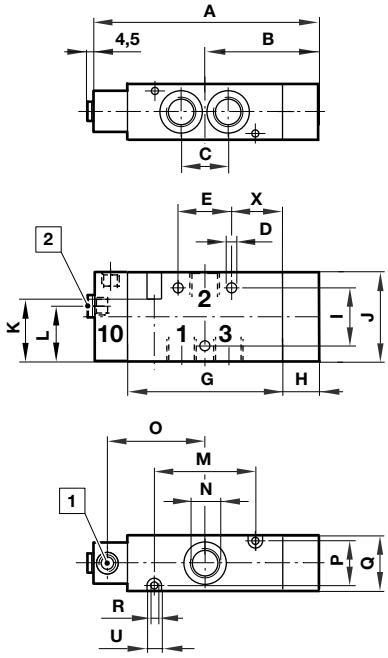
3/2NO Air/Spring V60-V61



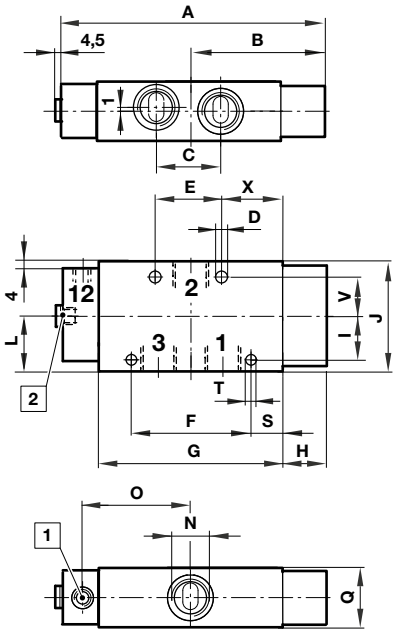
3/2NC Air/Spring V62



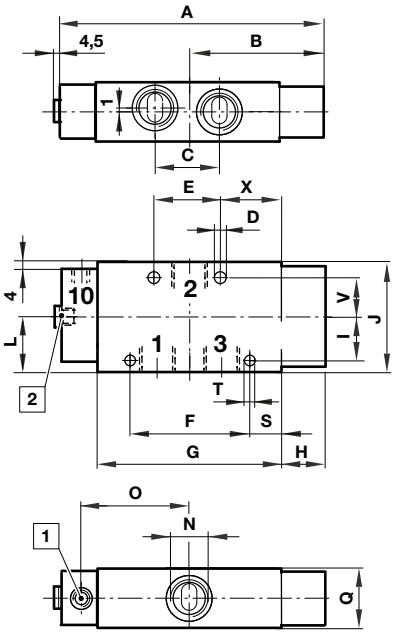
3/2NO Air/Spring V62



3/2NC Air/Spring V63



3/2NO Air/Spring V63



1 Pilot ports G1/8
2 Alternative pilot ports G1/8

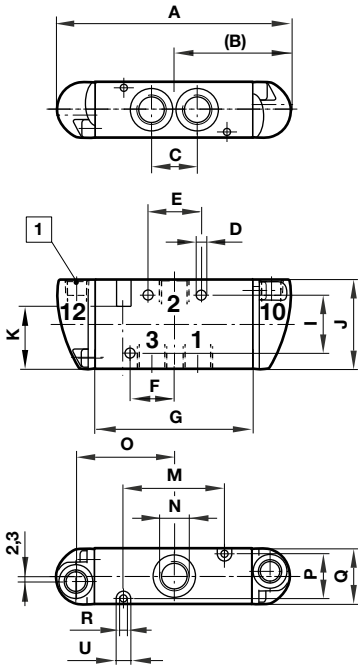
Model	A	B	C	Ø D	E	F	G	H	I	J	K	L	M	N	O	P	Q	Ø R	S	Ø T	Ø U	V	X
V60A313A—…	89,5	45	16	4,5	18	16	56	17	26	35	28	–	35	G1/8	36	17	22	3,2	–	–	6,5	–	–
V61B313A—…	110	57,5	21	4,5	24	20	70	22,5	26	40	28	–	46	G1/4	43	20	25	3,2	–	–	6,5	–	–
V62C313A—…	89,5	45	16	4,5	18	16	56	17	26	35	28	–	35	G1/8	36	17	22	3,2	–	–	6,5	–	–
V63D313A—…	110	57,5	21	4,5	24	20	70	22,5	26	40	28	–	46	G1/4	43	20	25	3,2	–	–	6,5	–	–
V60A411A—…	132	70	24,5	4,5	26	–	83,5	28	36	55	–	33,5	54	G3/8	52	28	34	4,5	–	–	8	–	30
V61B411A—…	132	70	24,5	4,5	26	–	83,5	28	36	55	–	33,5	54	G3/8	52	28	34	4,5	–	–	8	–	28
V62C411A—…	162	87,5	38	7	46	75	108	33,5	26	65	–	39,5	–	G1/2	64	–	35	–	18,5	5,5	–	23	36
V63D411A—…	162	87,5	38	7	46	75	108	33,5	26	65	–	39,5	–	G1/2	64	–	35	–	14,5	5,5	–	23	26

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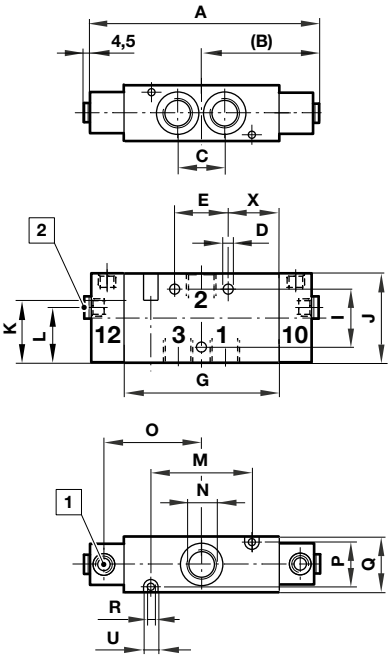
IN-LINE VALVES

V60 … 63 3/2, 2x3/2, 5/2 & 5/3, G1/8 … G1/2

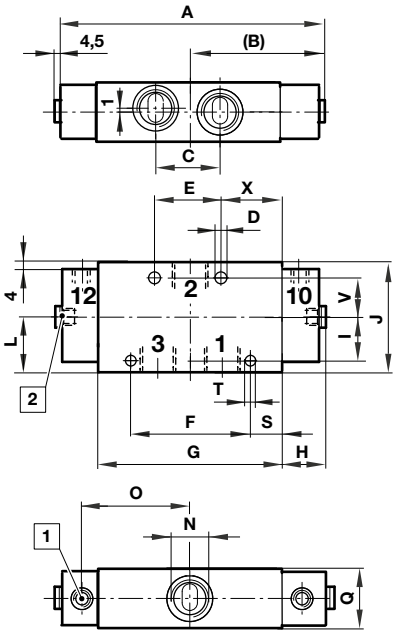
3/2NC Air/Air V60 & V61



3/2NC Air/Air V62



3/2NC Air/Air V63



[1] Pilot ports G1/8
[2] Alternative pilot ports G1/8

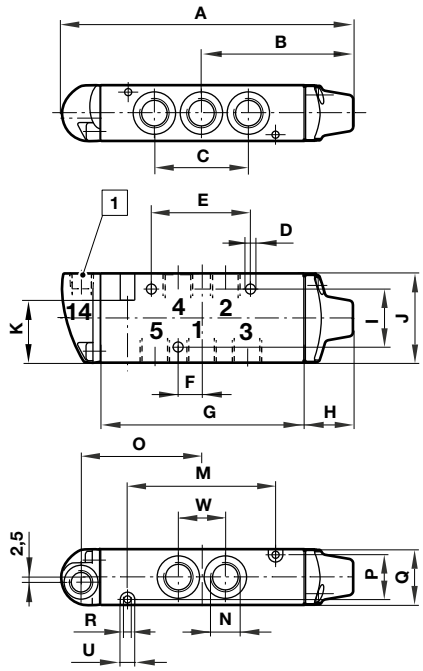
Model	A	B	C	D	E	F	G	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	X
V60A4DDA—…	89	44,5	16	4,5	18	16	56	26	35	28	–	35	G1/8	36	17	22	3,2	–	–	6,5	–	–
V61B4DDA—…	104	52	21	4,5	24	20	70	26	40	28	–	46	G1/4	43	20	25	3,2	–	–	6,5	–	–
V62C4DDA—…	124	62	24,5	4,5	26	–	83,5	36	55	44	33,5	54	G3/8	52	28	34	4,5	–	–	8	–	30
V63D4DDA—…	148	74	38	7	46	75	108	26	65	–	39,5	–	G1/2	64	–	35	–	18,5	5,5	–	23	36

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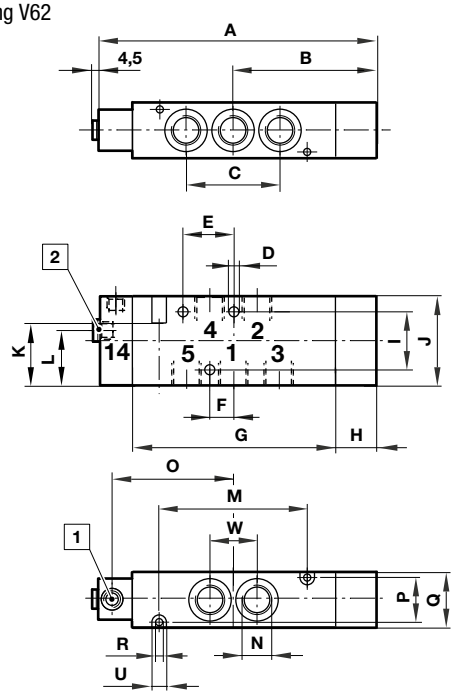
IN-LINE VALVES

V60 … 63 3/2, 2x3/2, 5/2 & 5/3, G1/8 … G1/2

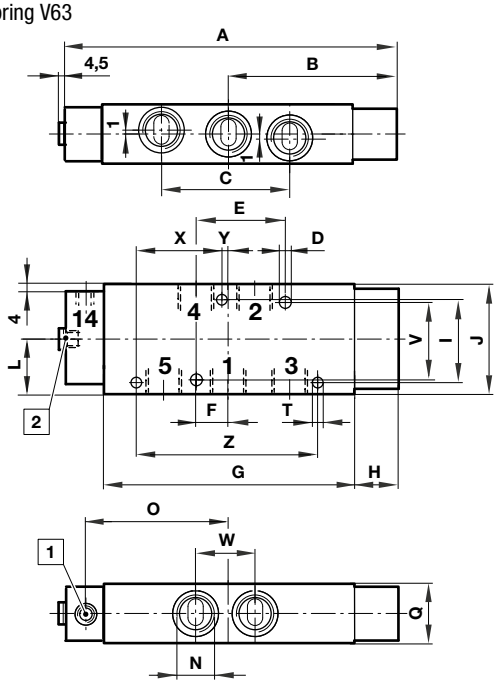
5/2 Air/Spring V60 & V61



5/2 Air/Spring V62



5/2 Air/Spring V63



1 Pilot ports G1/8 or 1/8-27 NPT
2 Alternative pilot ports G1/8 or 1/8-27 NPT

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	T	U	V	W	X	Y	Z
V60A5D7A—…	105	52,5	32,5	4,5	33,5	8	71	17	26	35	28	–	50	G1/8	43,5	17	22	3,2	–	6,5	–	16	–	–	–
V61B5D7A—…	130	67,5	42	4,5	44	10	90	22,5	26	40	28	–	66	G1/4	53	20	25	3,2	–	6,5	–	21	–	–	–
V62C5D7A—…	156	82	49	4,5	26	12	108	28	36	55	44	33,5	78	G3/8	64	28	34	4,5	–	8	–	24,5	–	–	–
V63D5D7A—…	200	106,5	76	7	60	19	146	33,5	52	65	–	39,5	–	G1/2	83	–	35	–	5,5	–	46	38	57,5	3	115

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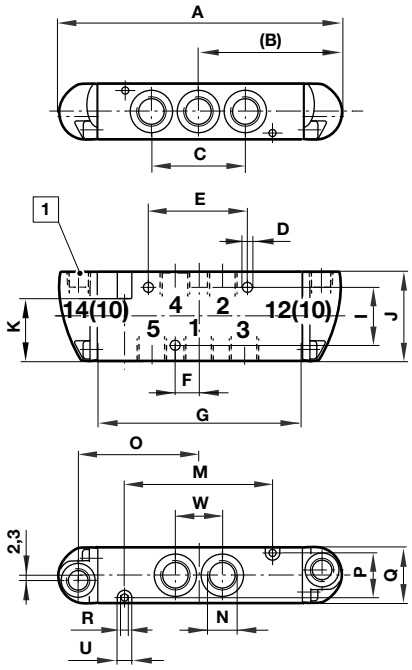
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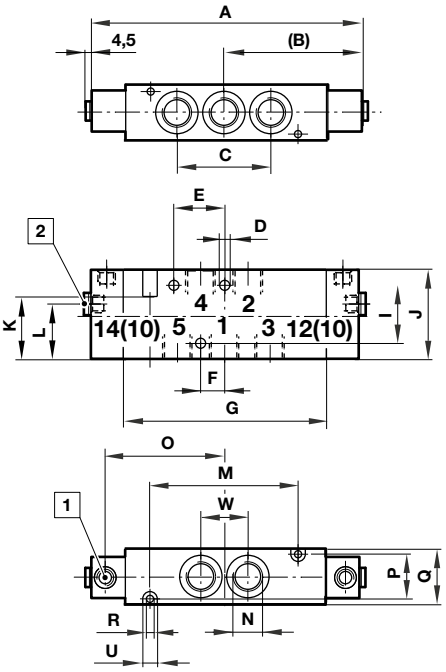
IN-LINE VALVES

V60 … 63 3/2, 2x3/2, 5/2 & 5/3, G1/8 … G1/2

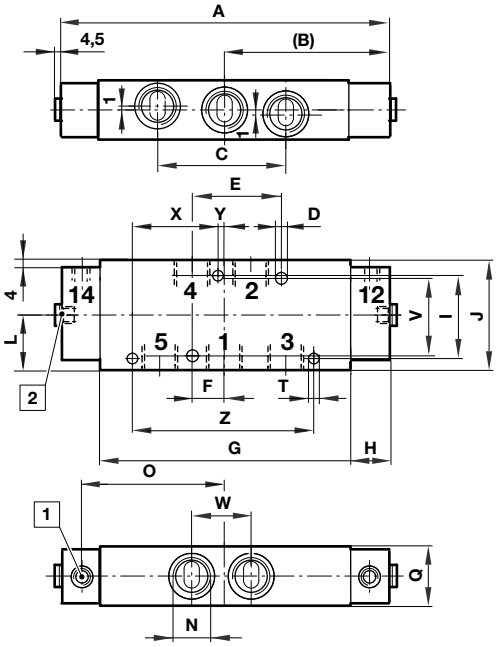
5/2 & 2x3/2 Air/Air V60 & V61



5/2 & 2x3/2 Air/Air V62



5/2 & 2x3/2 Air/Air V63



[1] Pilot ports G1/8
[2] Alternative pilot ports G1/8

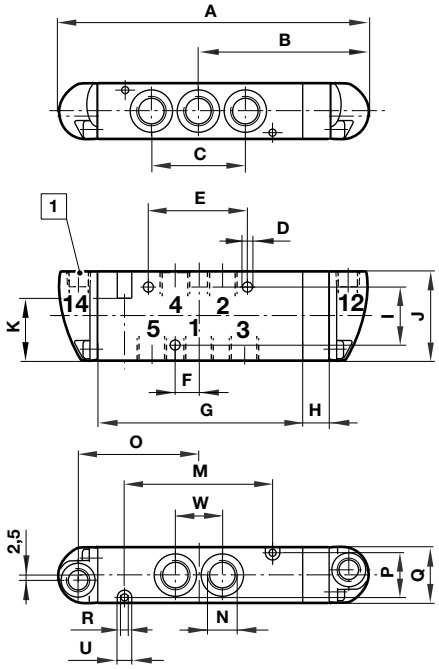
Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	T	U	V	W	X	Z
V60A5DDA—…	104,5	52,5	32,5	4,5	33,5	8	71	–	26	35	28	–	50	G1/8	44	17	22	3,2	–	6,5	–	16	–	–
V60AADDA—…	104,5	52,5	32,5	4,5	33,5	8	71	–	26	35	28	–	50	G1/8	44	17	22	3,2	–	6,5	–	16	–	–
V60ABDDA—…	104,5	52,5	32,5	4,5	33,5	8	71	–	26	35	28	–	50	G1/8	44	17	22	3,2	–	6,5	–	16	–	–
V60ACDDA—…	104,5	52,5	32,5	4,5	33,5	8	71	–	26	35	28	–	50	G1/8	44	17	22	3,2	–	6,5	–	16	–	–
V61B5DDA—…	124	62	42	4,5	44	10	90	–	26	40	28	–	66	G1/4	53	20	25	3,2	–	6,5	–	21	–	–
V61BADDA—…	124	62	42	4,5	44	10	90	–	26	40	28	–	66	G1/4	53	20	25	3,2	–	6,5	–	21	–	–
V61BBDDA—…	124	62	42	4,5	44	10	90	–	26	40	28	–	66	G1/4	53	20	25	3,2	–	6,5	–	21	–	–
V61BCDDA—…	124	62	42	4,5	44	10	90	–	26	40	28	–	66	G1/4	53	20	25	3,2	–	6,5	–	21	–	–
V62C5DDA—…	148	74	49	4,5	26	12	108	–	36	55	44	33,5	78	G3/8	64	28	34	4,5	–	8	–	24,5	–	–
V62CADDA—…	148	74	49	4,5	26	12	108	–	36	55	44	33,5	78	G3/8	64	28	34	4,5	–	8	–	24,5	–	–
V62CBDDA—…	148	74	49	4,5	26	12	108	–	36	55	44	33,5	78	G3/8	64	28	34	4,5	–	8	–	24,5	–	–
V62CCDDA—…	148	74	49	4,5	26	12	108	–	36	55	44	33,5	78	G3/8	64	28	34	4,5	–	8	–	24,5	–	–
V63D5DDA—…	186	93	76	7	60	19	146	–	52	65	–	39,5	–	G1/2	83	–	35	–	5,5	–	46	38	57,5	115

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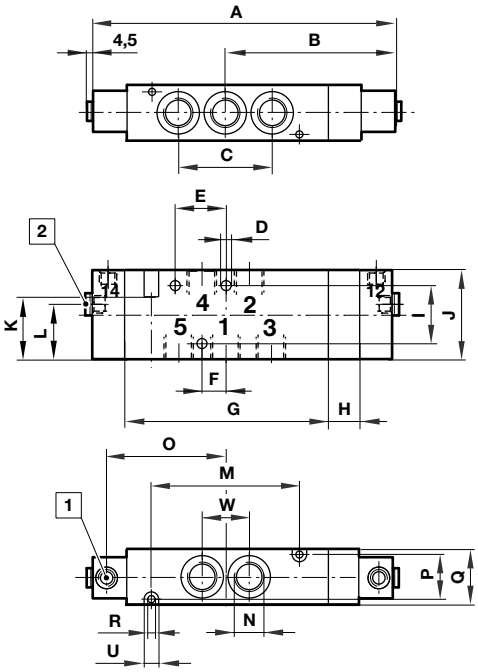
IN-LINE VALVES

V60 … 63 3/2, 2x3/2, 5/2 & 5/3, G1/8 … G1/2

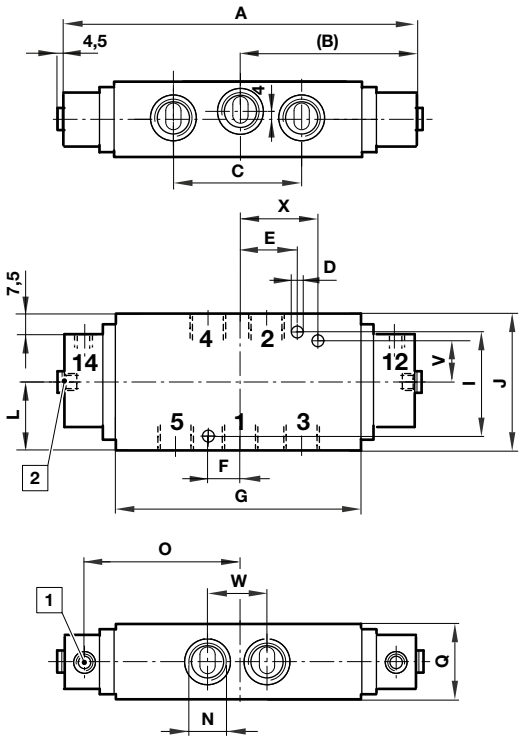
5/3 Pilot/Pilot V60 & V61



5/3 Pilot/Pilot V62



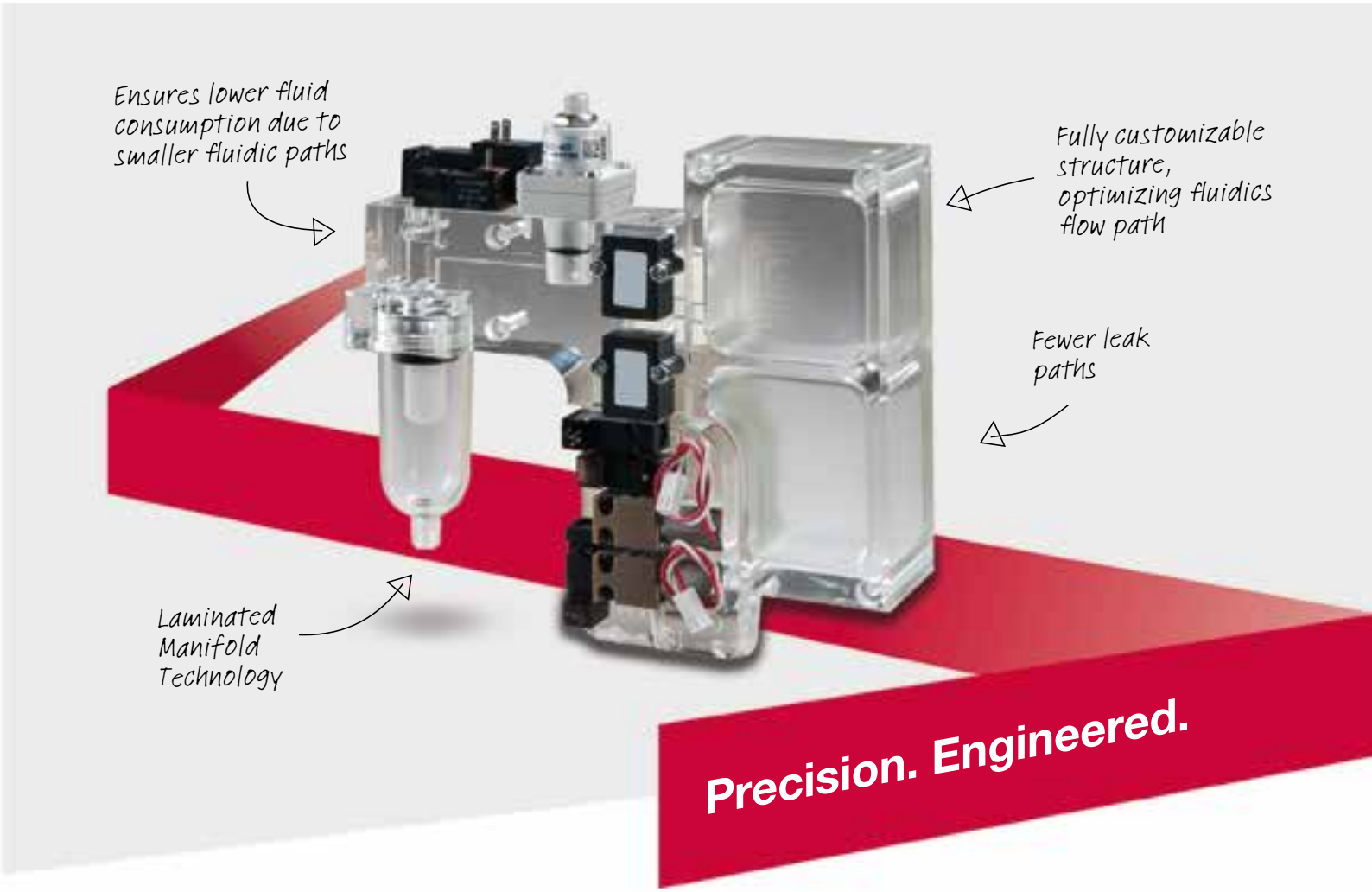
5/3 Pilot/Pilot V63



1 Pilot ports G1/8
2 Alternative pilot ports G1/8

Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	U	V	W	X
V60A6DDA—…	118,5	66	32,5	4,5	33,5	8	71	14	26	35	28	–	50	G1/8	43,5	17	22	3,2	6,5	–	16	–
V60A7DDA—…	118,5	66	32,5	4,5	33,5	8	71	14	26	35	28	–	50	G1/8	43,5	17	22	3,2	6,5	–	16	–
V60A8DDA—…	118,5	66	32,5	4,5	33,5	8	71	14	26	35	28	–	50	G1/8	43,5	17	22	3,2	6,5	–	16	–
V61B6DDA—…	142	80	42	4,5	44	10	90	18	26	40	28	–	66	G1/4	53	20	25	3,2	6,5	–	21	–
V61B7DDA—…	142	80	42	4,5	44	10	90	18	26	40	28	–	66	G1/4	53	20	25	3,2	6,5	–	21	–
V61B8DDA—…	142	80	42	4,5	44	10	90	18	26	40	28	–	66	G1/4	53	20	25	3,2	6,5	–	21	–
V62C6DDA—…	170,5	96,5	49	4,5	26	12	108	22,5	36	55	44	33,5	78	G3/8	64	28	34	4,5	8	–	24,5	–
V62C7DDA—…	170,5	96,5	49	4,5	26	12	108	22,5	36	55	44	33,5	78	G3/8	64	28	34	4,5	8	–	24,5	–
V62C8DDA—…	170,5	96,5	49	4,5	26	12	108	22,5	36	55	44	33,5	78	G3/8	64	28	34	4,5	8	–	24,5	–
V63D6DDA—…	216	108	66	7	34	16	160	–	50	70	–	41	–	G1/2	98	–	40	–	–	21	33	44
V63D7DDA—…	216	108	66	7	34	16	160	–	50	70	–	41	–	G1/2	98	–	40	–	–	21	33	44

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IN-LINE VALVES

V50 … V53 3/2, 5/2 or 5/3, G1/8 … G1/2

- Solenoid actuated and pilot operated spool valve
- High flow in-line valves
- Compact and robust design
- Low power energy efficient solenoids
- Flexible in-line and manifold mounting options

Technical Data

Medium:
Compressed air, filtered (40 µm) lubricated or non lubricated

Mounting position:
In-line or sub-base

Ambient temperature:
Pilot models: -5°C … +60°C
Solenoid models: -5°C … +50°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Body/sub-base:
Die-cast aluminium alloy or aluminium alloy, white painted

Softseal spool:
NBR/aluminium alloy

Mounting sheets/screws:
Steel

Springs:
Stainless steel

EXPRESS



Models - Solenoid actuated

	G1/8	Operating Pressure (bar)	G1/4	Operating Pressure (bar)	G3/8	Operating Pressure (bar)	G1/2	Operating Pressure (bar)
Flow (l/min)								
3/2 & 5/2	480	–	1020	–	1705	–	2480	–
5/3	270	–	755	–	1190	–	1910	–
Models - 3/2 Valves								
Actuation	–	–	–	–	–	–	–	–
Sol/Air Spring	V50A413A-A2***	2 … 8	–	–	–	–	–	–
Sol/Spring	–	–	V51B417A-A2***	2 … 8	V52C417A-A2***	2 … 8	V53D417A-A2***	2 … 8
Sol/Sol	V50A411A-A2***	2 … 8	V51B411A-A2***	2 … 8	V52C411A-A2***	2 … 8	V53D411A-A2***	2 … 8
Models - 5/2 Valves								
Actuation	–	–	–	–	–	–	–	–
Sol/Air Spring	V50A513A-A2***	2 … 8	–	–	–	–	–	–
Sol / Spring	–	–	V51B517A-A2***	2 … 8	V52C517A-A2***	2 … 8	V53D517A-A2***	2 … 8
Sol/Sol	V50A511A-A2***	2 … 8	V51B511A-A2***	2 … 8	V52C511A-A2***	2 … 8	V53D511A-A2***	2 … 8
Models - 5/3 Valves								
Actuation	–	–	–	–	–	–	–	–
Sol/Sol APB	V50A611A-A2***	3 … 8	V51B611A-A2***	3 … 8	V52C611A-A2***	3 … 8	V53D611A-A2***	3 … 8
Sol/Sol COE	V50A711A-A2***	3 … 8	V51B711A-A2***	3 … 8	V52C711A-A2***	3 … 8	V53D711A-A2***	3 … 8
Sol/Sol COP	V50A811A-A2***	3 … 8	V51B811A-A2***	3 … 8	V52C811A-A2***	3 … 8	V53D811A-A2***	3 … 8
Accessories								
Straight Fitting	C02250618	–	C02250828	–	C02251038	–	C02251248	–
Elbow Fitting	C02470618	–	C02470828	–	C02471038	–	C02471248	–
Silencer	T40C1800	–	T40C2800	–	T40C3800	–	T40C4800	–

Voltage codes and spare coils

V50 models only

15 mm coil for connector interface acc. EN 175 301-803, form C

Model	Voltage	Power Inrush/Hold	Code
			
V12958-A12	12 V d.c.	2,9 W	12A
V12958-A13	24 V d.c.	2,9 W	13A
V12958-A18	110/120 V 50/60 Hz	3,7/3,1 VA	18A
V12958-A19	220/240 V 50/60 Hz	3,7/3,1 VA	19A

V51 … V53 series

22 mm coil for connector interface acc. to industrial standard

Model	Voltage	Power Inrush/Hold	Code
			
QM/48/12J/21	12 V d.c.	2 W	12J
QM/48/13J/21	24 V d.c	2 W	13J
QM/48/18J/21	110/120 V 50/60 Hz	4/2,5 VA	18J
QM/48/19J/21	220/240 V 50/60 Hz	6/5 VA	19J

Electrical details for solenoid operators

Voltage tolerance	± 10%
Rating	100% continuous duty
Inlet orifice	0,6 mm; V50
	0,8 mm; V51 … V53
Electrical connection (corresponding to choosen coil)	EN 175301-803 - Form C; 15 mm; V50
	Industrial Standard; 22 mm; V51 … V53
Solenoid coil mounting	Four positions x 90°
Manual override	Push and turn to lock (plastic)
Protection class	IP 65 (with sealed plug)

Connector plugs - included in delivery

15 mm, EN 175301-803 (DIN 43650 B) Form C 2-pole + PE	Industrial standard 22 mm 2-pole + PE
	
V10027-D00	0657868000000000

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Models - Pilot actuated

	G1/8	Operating Pressure (bar)	Pilot Pressure external (bar)	G1/4	Operating Pressure (bar)	Pilot Pressure external (bar)	G3/8	Operating Pressure (bar)	Pilot Pressure external (bar)	G1/2	Operating Pressure (bar)	Pilot pressure external (bar)
Flow (l/min)												
3/2 & 5/2	480	–	–	1020	–	–	1705	–	–	2480	–	–
2x3/2 & 5/3	270	–	–	755	–	–	1190	–	–	1910	–	–
Models - 3/2 Valves												
Actuation	–	–	–	–	–	–	–	–	–	–	–	–
Air/Air Spring NC	V50A4D3A-XA090	0 … 8	1,5 … 8	–	–	–	–	–	–	–	–	–
Air/Spring NC	–	–	–	V51B4D7A-XA090	0 … 8	1,5 … 8	V52C4D7A-XA090	0 … 8	2 … 8	V53D4D7A-XA090	0 … 8	2 … 8
Air/Air NC	V50A4DDA-XA020	0 … 8	1,5 … 8	V51B4DDA-XA020	0 … 8	1,5 … 8	V52C4DDA-XA020	0 … 8	2 … 8	V53D4DDA-XA020	0 … 8	2 … 8
Models - 5/2 Valves												
Actuation	–	–	–	–	–	–	–	–	–	–	–	–
Air/Air Spring	V50A5D3A-XA090	0 … 8	1,5 … 8	–	–	–	–	–	–	–	–	–
Air/Spring				V51B5D7A-XA090	0 … 8	1,5 … 8	V52C5D7A-XA090	0 … 8	2 … 8	V53D5D7A-XA090	0 … 8	2 … 8
Air/Air	V50A5DDA-XA020	0 … 8	1,5 … 8	V51B5DDA-XA020	0 … 8	1,5 … 8	V52C5DDA-XA020	0 … 8	2 … 8	V53D5DDA-XA020	0 … 8	2 … 8
Models - 5/3 Valves												
Actuation	–	–	–	–	–	–	–	–	–	–	–	–
Air/Air APB	V50A6DDA-XA020	0 … 8	1,5 … 8	V51D6DDA-XA020	0 … 8	1,5 … 8	V52C6DDA-XA020	0 … 8	2 … 8	V53D6DDA-XA020	0 … 8	2 … 8
Air/Air COE	V50A7DDA-XA020	0 … 8	1,5 … 8	V51D7DDA-XA020	0 … 8	1,5 … 8	V52C7DDA-XA020	0 … 8	2 … 8	V53D7DDA-XA020	0 … 8	2 … 8
Air/Air COP	V50A8DDA-XA020	0 … 8	1,5 … 8	V51D8DDA-XA020	0 … 8	1,5 … 8	V52C8DDA-XA020	0 … 8	2 … 8	V53D8DDA-XA020	0 … 8	2 … 8
Accessories												
Straight Fitting	C02250618	–	–	C02250828	–	–	C02251038	–	–	C02251248	–	–
Elbow Fitting	C02470618	–	–	C02470828	–	–	C02471038	–	–	C02471248	–	–
Silencer	T40C1800	–	–	T40C2800	–	–	T40C3800	–	–	T40C4800	–	–
Straight Fitting - Pilot Port	C02250618	–	–	C02250618	–	–	C02250618	–	–	C02250618	–	–
Elbow Fitting - Pilot Port	C02470618	–	–	C02470618	–	–	C02470618	–	–	C02470618	–	–

Manifold system and blanking plates

For valve series	Manifold for 3 port valves SO G thread	Blanking plate for 3 port valves	Manifold for 5 port valves ISO G thread	Blanking plate for 5 port valves
				
V50 (1/8")	V50A3 *1)	V500351	V50A5 *1)	V500551
V51 (1/4")	V51B3 *1)	V510351	V51B5v	V510551
V52 (3/8")	V52C3 *1)	V520351	V52C5 *1)	V520551
V53 (1/2")	V53D3 *1)	V530351	V53D5v	V530551

*1) Number of stations 02 … 08 for 2 … 8 stations.

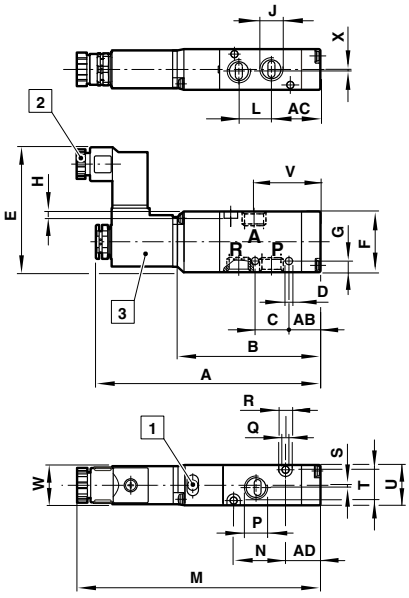
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IN-LINE VALVES
V50 … V53 3/2, 5/2 or 5/3, G1/8 … G1/2

Dimensions

1

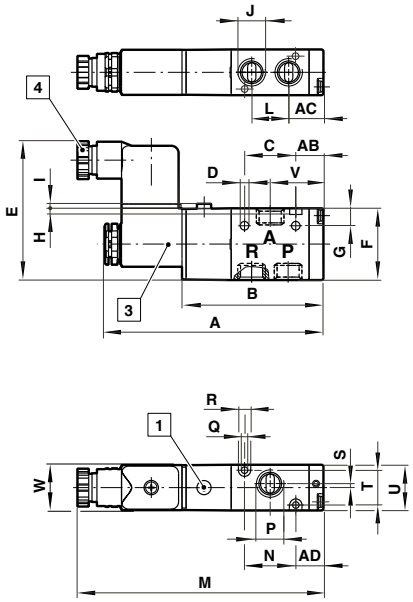
3/2 Single solenoid pilot valve, 1/8" port
Air return



1 Manual override (Push and Turn)
2 Gland size Pg 7

2

3/2 Single solenoid pilot valve, 1/4"… 1/2" ports
Spring return



3 Solenoid rotates 2 x 180° (V50), 4 x 90° (V51 … V53)
4 Gland size Pg 9

Series	Dimension No.	A	AB	AC	AD	B	C	D	E	F	G	H	I	J	L	M	N	P	Q	R	S	T	U	V	W	X
V50	1	99,5	13,5	21,5	15,5	65	15	3,2	55,5	27	5	3	–	1/8"	14,5	108	23	1/8"	3,2	6	1	13	18	29,5	16	0,5
V51	2	106,5	13,5	17	13,5	69	25	4,2	67	35	8,5	3	3	1/4"	18	120	25	1/4"	3,2	6	2	17	22,5	26	22	–
V52	2	126,5	13	26	15	89	26	4,5	73	46,5	39,5	4	3	3/8"	26	139,5	41	3/8"	4,5	8	–	23	30	41	22	–
V53	2	133	12,5	27	15	96	29	4,5	73	46,5	39,5	4	3	1/2"	29	146	48	1/2"	4,2	8	2,5	23	30	40,5	22	–

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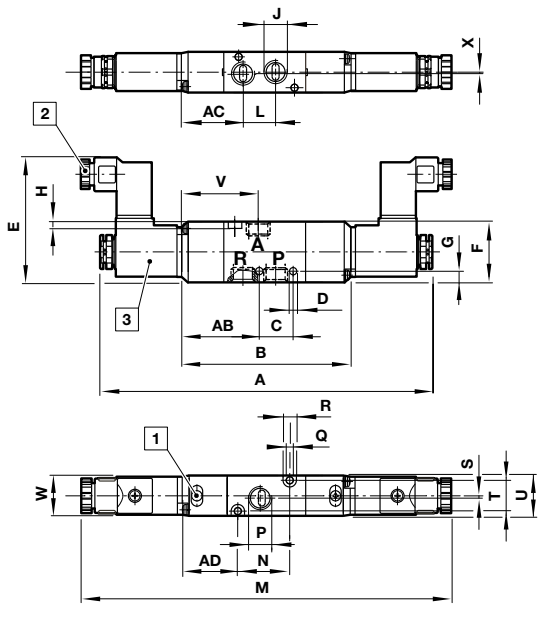
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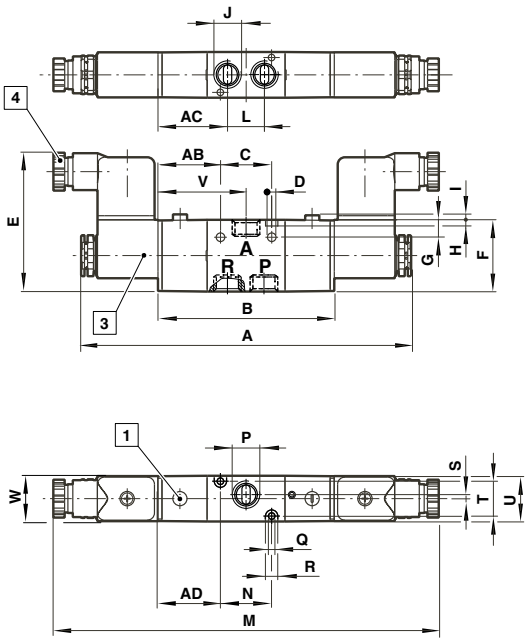
3

3/2 Double solenoid pilot valve, 1/8" port



4

3/2 Double solenoid pilot valve, 1/4"… 1/2" ports



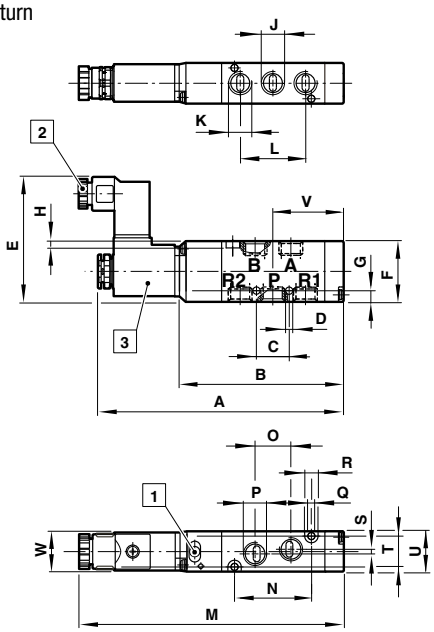
1 Manual override (Push and Turn)
2 Gland size Pg 7
3 Solenoid rotates 2 x 180° (V50), 4 x 90° (V51 … V53)
4 Gland size Pg 9

Series	Dimension No.	A	AB	AC	AD	B	C	D	E	F	G	H	I	J	L	M	N	P	Q	R	S	T	U	V	W	X
V50	3	144,5	36,5	29	27	76,5	15	3,2	55,5	27	5	3	–	1/8"	14,5	161,5	23	1/8"	3,2	6	1	13	18	35,5	16	0,5
V51	4	144,5	30,5	34	30,5	86	25	4,2	67	35	8,5	3	3	1/4"	18	188	25	1/4"	3,2	6	2	17	22,5	43	22	–
V52	4	182	31	44	33	107	26	4,5	73	46,5	39,5	4	3	3/8"	26	208	41	3/8"	4,5	8	—	23	30	59	22	–
V53	4	188	30,5	45	33	114	29	4,5	73	46,5	39,5	4	3	1/2"	29	214	48	1/2"	4,2	8	2,5	23	30	58,5	22	–

5

5/2 Single solenoid pilot valve, 1/8" port

Air return

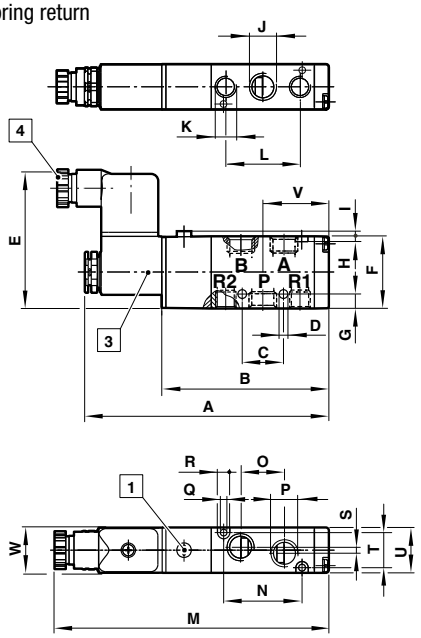


1 Manual override (Push and Turn)
2 Gland size Pg 7
3 Solenoid rotates 2 x 180° (V50), 4 x 90° (V51 … V53)
4 Gland size Pg 9

6

5/2 Single solenoid pilot valve, 1/4"… 1/2" ports

Spring return



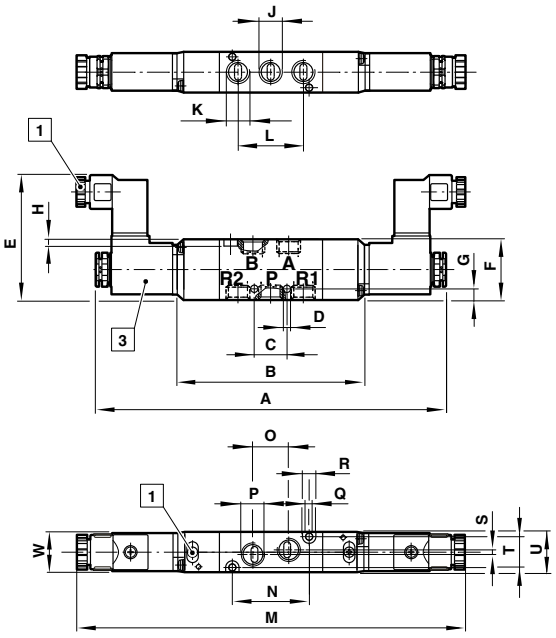
Series	Dimension No.	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
V50	5	110	76	14,5	3,2	54	27	5	3	–	1/8"	1/8"	29	118,5	34	16	1/8"	3,2	6	2	13	18	32,5	16
V51	6	118,5	81	20	4,2	67	35	7	3	3	1/4"	1/8"	36	132	38	21	1/4"	3,2	6	3	17	22,5	32	22
V52	6	145,5	108	26	5,5	73	46,5	4,5	4	3	3/8"	3/8"	52	158,5	13	30	3/8"	4,5	8	–	23	30	45	22
V53	6	157	120	29	4,5	73	46,5	7	4	3	1/2"	1/2"	58	170	72	28	1/2"	4,2	8	4,5	23	30	51	22

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IN-LINE VALVES
V50 … V53 3/2, 5/2 or 5/3, G1/8 … G1/2

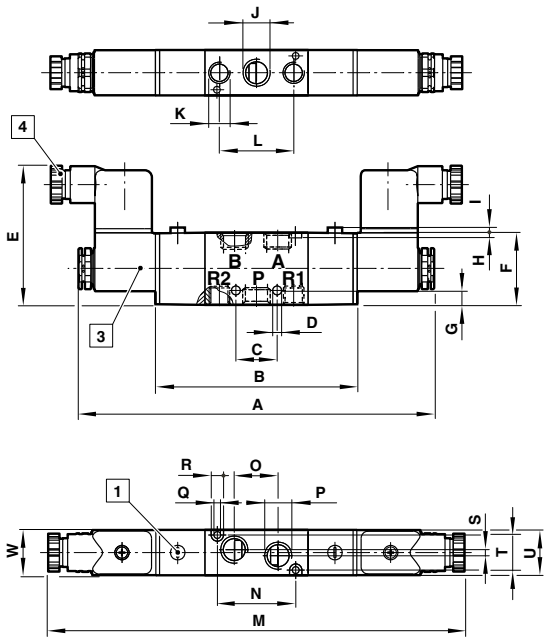
7

5/2 Double solenoid pilot valve, 1/8" port



8

5/2 Double solenoid pilot valve, 1/4"… 1/2" ports



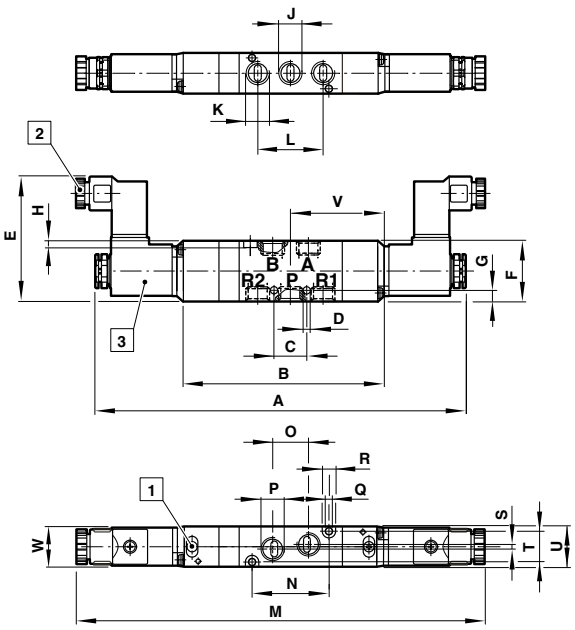
1 Manual override (Push and Turn)
2 Gland size Pg 7
3 Solenoid rotates 2 x 180° (V50), 4 x 90° (V51 … V53)
4 Gland size Pg 9

Series	Dimension No.	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	W
V50	7	155	87	14,5	3,2	55	27	5	3	–	1/8"	1/8"	29	172	34	16	1/8"	3,2	6	2	13	18	16
V51	8	173	98	20	4,2	67	35	7	3	3	1/4"	1/8"	36	200	38	21	1/4"	3,2	6	3	17	22,5	22
V52	8	201	126	26	5,5	73	46,5	4,5	4	3	3/8"	3/8"	52	228	13	30	3/8"	4,5	8	–	23	30	22
V53	8	212	138	29	4,5	73	46,5	7	4	3	1/2"	1/2"	58	238	72	28	1/2"	4,2	8	4,5	23	30	22

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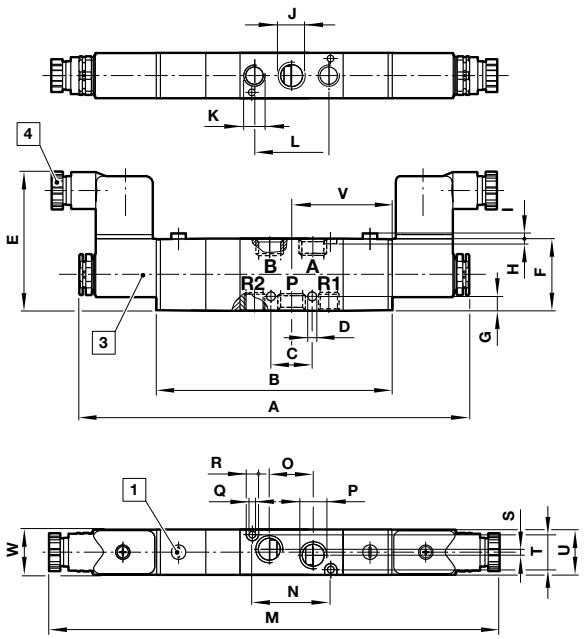
9

5/3 Double solenoid pilot valve, 1/8" port



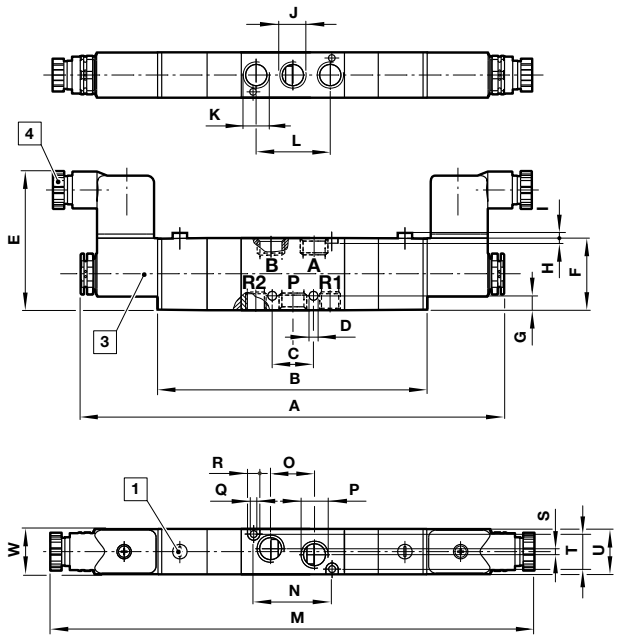
10

5/3 Double solenoid pilot valve, 1/4" port



11

5/3 Double solenoid pilot valve, 3/8"and 1/2" ports



1 Manual override (Push and Turn)
2 Gland size Pg 7
3 Solenoid rotates 2 x 180° (V50), 4 x 90° (V51 … V53)
4 Gland size Pg 9

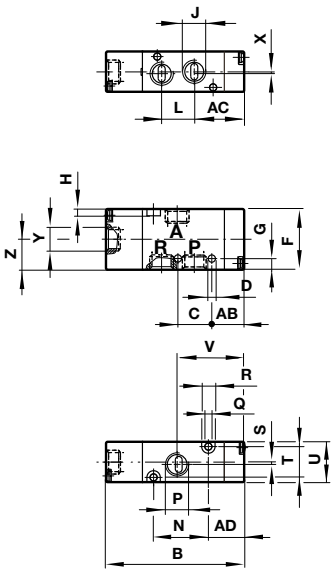
Series	Dimension No.	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
V50	9	164	96	14,5	3,2	55	27	5	3	–	1/8"	1/8"	29	181	34	16	1/8"	3,2	6	2	13	18	43,5	16
V51	10	194	119	20	4,2	67	35	7	3	3	1/4"	1/8"	36	221	38	21	1/4"	3,2	6	3	17	22,5	48,5	22
V52	11	254,5	179,5	26	5,5	73	46,5	4,5	4	3	3/8"	3/8"	52	281,5	13	30	3/8"	4,5	8	–	23	30	–	22
V53	11	265,5	191,5	29	4,5	73	46,5	7	4	3	1/2"	1/2"	58	291,5	72	28	1/2"	4,2	8	4,5	23	30	–	22

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IN-LINE VALVES
V50 … V53 3/2, 5/2 or 5/3, G1/8 … G1/2

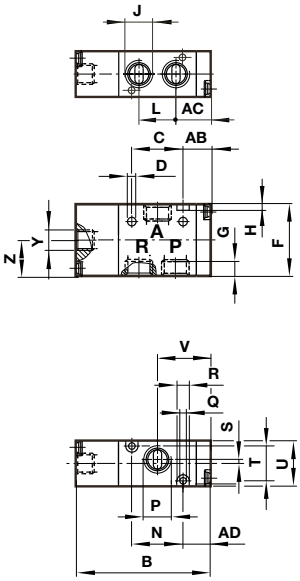
12

3/2 Single air pilot valve, 1/8" port
Air spring return



13

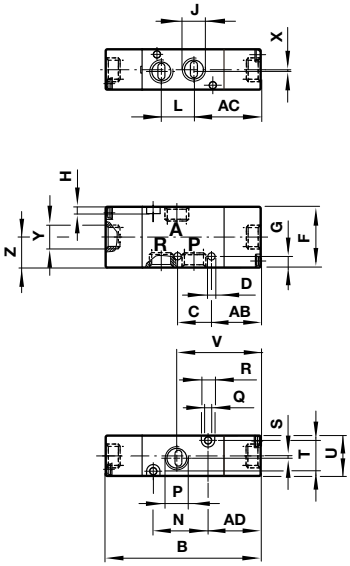
3/2 Single air pilot valve, 1/4"… 1/2" ports
Spring return



Series	Dimension No.	AB	AC	AD	B	C	D	F	G	H	J	L	N	P	Q	R	S	T	U	V	X	Y	Z
V50	12	13,5	21,5	15,5	61,5	15	3,2	27	5	3	1/8"	14,5	23	1/8"	3,2	6	1	13	18	29,5	0,5	1/8"	13,5
V51	13	13,5	17	13,5	65,5	25	4,2	35	8,5	3	1/4"	18	25	1/4"	3,2	6	2	17	22,5	26	–	1/8"	17,5
V52	13	13	26	15	87	26	4,5	46,5	39,5	4	3/8"	26	41	3/8"	4,5	8	–	23	30	41	–	1/8"	17
V53	13	12,5	27	15	94	29	4,5	46,5	39,5	4	1/2"	29	48	1/2"	4,2	8	2,5	23	30	40,5	–	1/8"	17

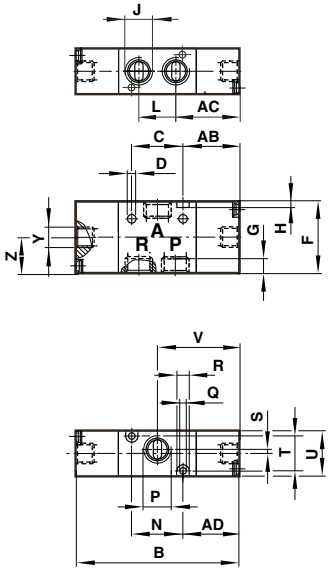
14

3/2 Double air pilot valve, 1/8" port



15

3/2 Double air pilot valve, 1/4"… 1/2" ports

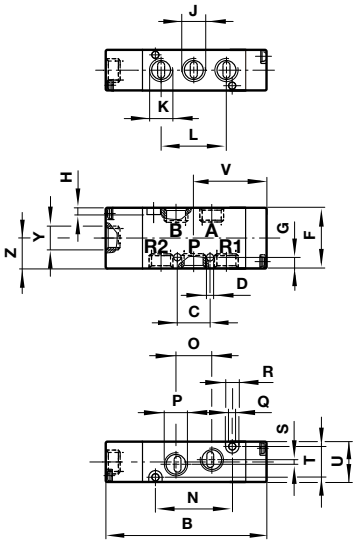


Series	Dimension No.	AB	AC	AD	B	C	D	F	G	H	J	L	N	P	Q	R	S	T	U	V	X	Y	Z
V50	14	13,5	21,5	15,5	69	15	3,2	27	5	3	1/8"	14,5	23	1/8"	3,2	6	1	13	18	29,5	0,5	1/8"	13,5
V51	15	13,5	17	13,5	79	25	4,2	35	8,5	3	1/4"	18	25	1/4"	3,2	6	2	17	22,5	26	–	1/8"	17,5
V52	15	13	26	15	103	26	4,5	46,5	39,5	4	3/8"	26	41	3/8"	4,5	8	–	23	30	41	–	1/8"	17
V53	15	12,5	27	15	110	29	4,5	46,5	39,5	4	1/2"	29	48	1/2"	4,2	8	2,5	23	30	40,5	–	1/8"	17

Online at store.norgren.com

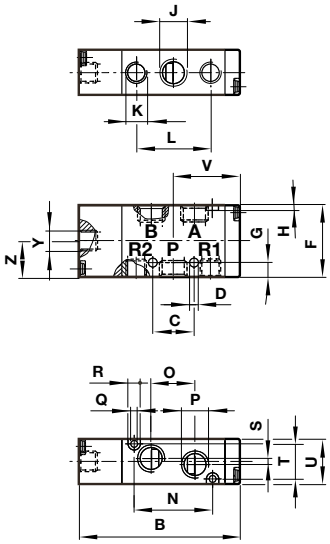
16

5/2 Single air pilot valve, 1/8" port
Air spring return



17

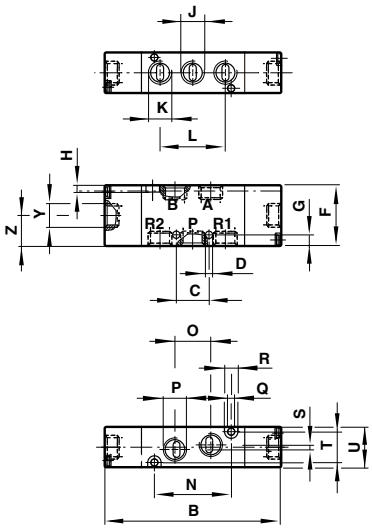
5/2 Single air pilot valve, 1/4"… 1/2" ports
Spring return



Series	Dimension No.	B	C	D	F	G	H	J	K	L	N	L	O	P	Q	R	S	T	U	V	Y	Z	Z
V50	16	72,5	14,5	3,2	27	5	3	1/8"	1/8"	29	34	14,5	16	1/8"	3,2	6	2	13	18	32,5	1/8"	13,5	13,5
V51	17	77,5	20	4,2	35	7	3	1/4"	1/8"	36	38	18	21	1/4"	3,2	6	3	17	22,5	32	1/8"	17,5	17,5
V52	17	106	26	5,5	46,5	4,5	4	3/8"	3/8"	52	13	26	30	3/8"	4,5	8	–	23	30	45	1/8"	17	17
V53	17	118	29	4,5	46,5	7	4	1/2"	1/2"	58	72	29	28	1/2"	4,2	8	4,5	23	30	51	1/8"	17	17

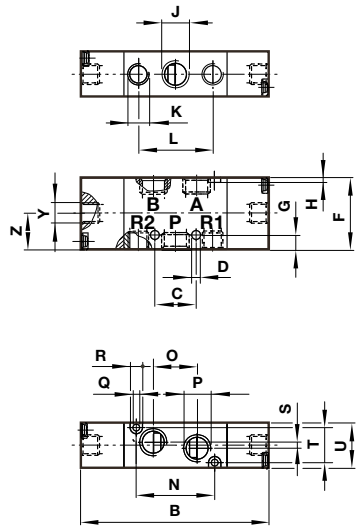
18

5/2 Double air pilot valve, 1/8" port



19

5/2 Double air pilot valve, 1/4"… 1/2" ports



Series	Dimension No.	B	C	D	F	G	H	J	K	L	N	O	P	Q	R	S	T	U	Y	Z
V50	18	80	14,5	3,2	27	5	3	1/8"	1/8"	29	34	16	1/8"	3,2	6	2	13	18	1/8"	13,5
V51	19	91	20	4,2	35	7	3	1/4"	1/8"	36	38	21	1/4"	3,2	6	3	17	22,5	1/8"	17,5
V52	19	122	26	5,5	46,5	4,5	4	3/8"	3/8"	52	13	30	3/8"	4,5	8	–	23	30	1/8"	17
V53	19	134	29	4,5	46,5	7	4	1/2"	1/2"	58	72	28	1/2"	4,2	8	4,5	23	30	1/8"	17

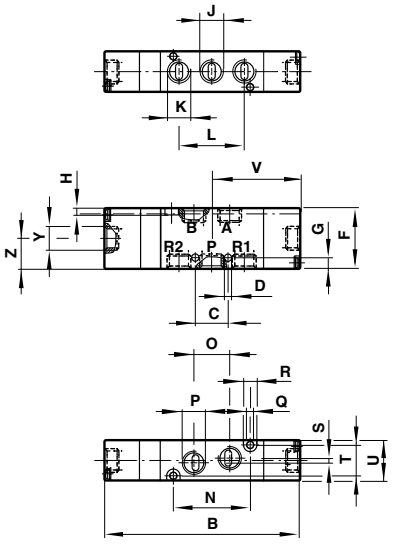
Online at store.norgren.com

IN-LINE VALVES

V50 … V53 3/2, 5/2 or 5/3, G1/8 … G1/2

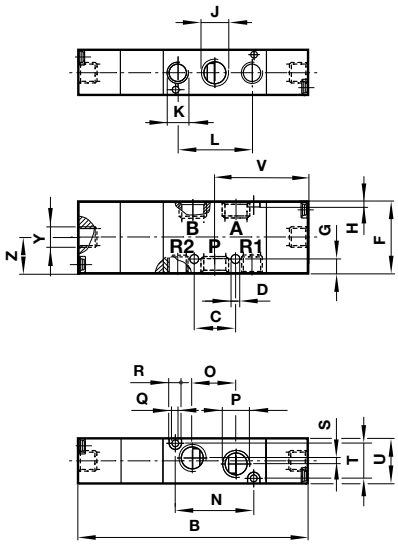
20

5/3 Double air pilot valve, 1/8” port



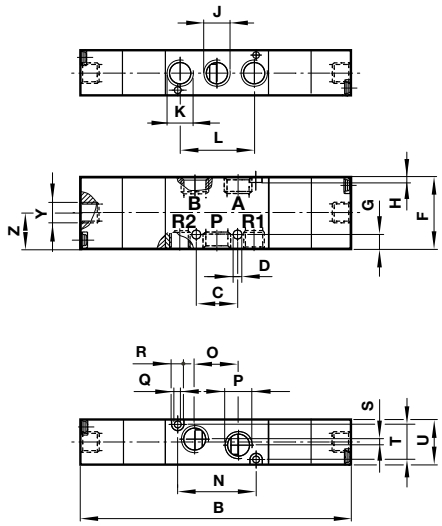
21

5/3 Double air pilot valve, 1/4” port



22

5/3 Double air pilot valve, 3/8”and 1/2” ports



Series	Dimension No.	B	C	D	F	G	H	J	K	L	N	O	P	Q	R	S	T	U	V	Y	Z
V50	20	89	14,5	3,2	27	5	3	1/8	1/8”	29	34	16	1/8”	3,2	6	2	13	18	40	1/8“	13,5
V51	21	112	20	4,2	35	7	3	1/4	1/8”	36	38	21	1/4”	3,2	6	3	17	22,5	45,5	1/8“	17,5
V52	22	175,5	26	5,5	46,5	4,5	4	3/8	3/8”	52	13	30	3/8”	4,5	8	–	23	30	87,5	1/8“	17
V53	22	187,5	29	4,5	46,5	7	4	1/2	1/2”	58	72	28	1/2”	4,2	8	4,5	23	30	93,5	1/8“	17

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IMI Precision Engineering

For further information, visit store.norgren.com
and use the new improved search function. If you cannot
see the option you require please contact us.

IMI NORGREN

SOLENOID ACTUATED 22 MM POPPET VALVES

Excel 22, M/49 3/2, NC, G1/8

- In-line and sub-base mounted – compact and convenient
- Manual override as standard

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operating pressure:
0 … 10 bar

Ambient temperature:
-20°C … +50°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Coil:
Glass reinforced thermo plastic

Manual override base:
Glass reinforced PA

Armature:
Stainless iron

Sub-base:
Aluminium

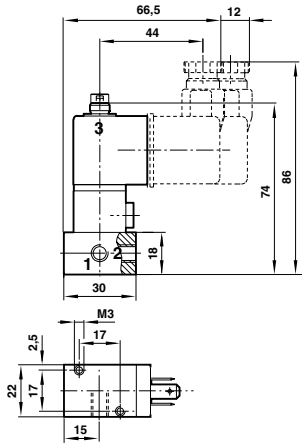
Seals:
NBR

Tube & spring:
Stainless steel

EXPRESS



Dimensions



Models

Accessories

1mm Orifice low power Model	Actuation	Port size	Flow (l/min)	Operating pressure (bar)	Mounting	Straight fitting	Elbow fitting	Basic plug
								
M/49/MAZ***	3/2 NC	G1/8	30	0 … 10	Single	C02250618	C02470618	M/P19063

*** Insert voltage codes from table below.
Order connector plugs separately.

Voltage codes and spare coils

Voltage	1,0 mm orifice (low power)		
	Code	Power	Coil
12 V d.c.	12J	2 W	QM/48/12J/21
24 V d.c.	13J	2 W	QM/48/13J/21
24 V 50/60 Hz	14J	4/2,5 VA	QM/48/14J/21
110/120 V 50/60 Hz	18J	4/2,5 VA	QM/48/18J/21
220/240 V 50/60 Hz	19J	6/5 VA	QM/48/19J/21

SOLENOID ACTUATED 32 MM POPPET VALVES

Excel 32, V04 & V05 2/2 and 3/2, NO/NC G1/8, G1/4

- In-line and sub-base mounted
- Extensive range of power and orifice size options
- Compact installation
- Removeable coil
- Standard exhaust diffuser

Technical Data

Medium:
Compressed air, filtered, lubricated and non-lubricated

Operating pressure:
Maximum 16 bar. See individual details

Ambient temperature:
-20°C … +50°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Coil:
Glass reinforced PA

Armature:
Stainless iron

Tube & spring:
Stainless steel

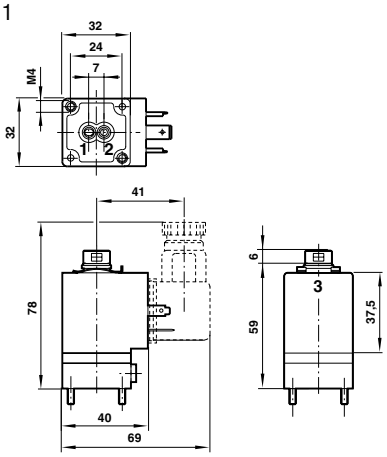
Base:
Zinc alloy (G1/8) brass (G1/4), glass reinforced polyester (interface)

Seals:
NBR (FPM)

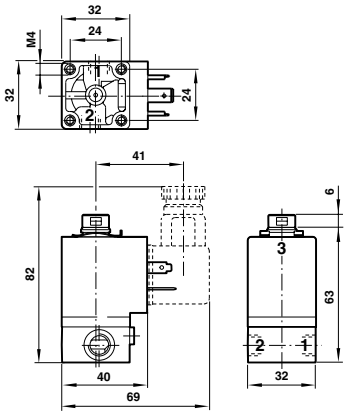


Dimensions

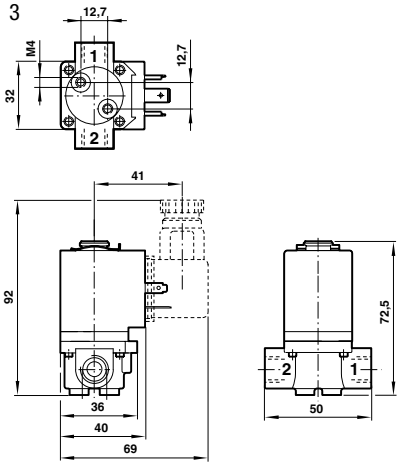
1



2



3



Models

Accessories

Model	Actuation	Port size	Flow (l/min)	Operating pressure (bar)	Dimension No.	Straight fitting	Elbow fitting	Basic plug
								
V05X286M-B63*A	2/2 NC	Interface	150	0 … 16	1	–	–	M/P15737
V04A286M-B62*A	2/2 NC	G1/8	190	0 … 10	2	C02250618	C02470618	M/P15737
V04B286M-B42*A	2/2 NC	G1/4	190	0 … 10	3	C02250828	C02470828	M/P15737
V05B286N-B43*A	2/2 NC	G1/4	260	0 … 13	3	C02250828	C02470828	M/P15737
V04X386L-B62*A	3/2 NO	Interface	95	0 … 10	1	–	–	M/P15737
V04A386L-B62*A	3/2 NO	G1/8	120	0 … 10	2	C02250618	C02470618	M/P15737
V04X486L-B62*A	3/2 NC	Interface	95	0 … 10	1	–	–	M/P15737
V05X486M-B63*A	3/2 NC	Interface	150	0 … 10	1	–	–	M/P15737
V04A486L-B62*A	3/2 NC	G1/8	120	0 … 10	2	C02250618	C02470618	M/P15737
V05A486M-B63*A	3/2 NC	G1/8	190	0 … 10	2	C02250618	C02470618	M/P15737

* Insert voltage codes from table below. Order connector plugs separately.

For interface valves use manifold M/P35598/#. # = number of stations from 1 … 6.
For more details, see full datasheet.

Voltage codes and spare coils

Voltage	Code	Coil	
		V04	V05
12 V d.c.	2	V04X286A-Q1222	–
24 V d.c.	3	V04X286A-Q1223	V05X286A-Q1233
110 … 120 V 50/60 Hz	8	V04X286A-Q1228	V05X286A-Q1238
220 … 240 V 50/60 Hz	9	V04X286A-Q1229	V05X286A-Q1239

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INDIRECT SOLENOID ACTUATED POPPET VALVES

70300 2/2, G1/2 … G1

- High flow rate
- Variable valve solenoid combination
- Standard manual override with normally closed valves

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operation:
Indirect solenoid operated poppet valve
(versions with external pilot port available)

Flow direction:
Fixed

Mounting position:
Any, but preferably with solenoid vertical

Ambient temperature:
-10°C … +60°C

Depending on solenoid system.

Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Body:
Aluminium

Inner parts:
POM

Seals:
PUR



Models - Standard version

Model *1)	Function	Port size	Orifice (mm)	Actuation/return	Pilot supply	Flow (l/min)	Operating pressure (bar)	Pilot pressure (bar)	Switching time (ms)
									
7030117	NC	G 1/2	12	Solenoid/spring	Internal	3000	1 … 16	–	20
7032130	NC	G 3/4	20	Solenoid/spring	Internal	8500	1 … 16	–	25
7032230	NC	G 1	25	Solenoid/spring	Internal	8500	1 … 16	–	25
7032630	NO	G 3/4	20	Solenoid/spring	Internal	8500	1 … 15	–	25
7032730	NO	G 1	25	Solenoid/spring	Internal	8500	1 … 15	–	25
7032131	NC	G 3/4	20	Solenoid/spring	External	8500	0 … 15	1 … 16	25
7032231	NC	G 1	25	Solenoid/spring	External	8500	0 … 15	1 … 16	25
7032631	NO	G 3/4	20	Solenoid/spring	External	8500	0 … 14	1 … 15	25
7032731	NO	G 1	25	Solenoid/spring	External	8500	0 … 14	1 … 15	25

*1) When ordering please indicate solenoid, voltage and current type (frequency).

Vacuum version

Model *1)	Function	Port size	Orifice (mm)	Actuation/return	Pilot supply	Flow (l/min)	Operating pressure (bar)	Pilot pressure (bar)	Switching time (ms)
									
7030118	NC	G 1/2	12	Solenoid/spring	External	3000	-1 … +6	4 … 10	20
7032132	NC	G 3/4	20	Solenoid/spring	External	8500	-1 … +6	4 … 10	25
7032232	NC	G 1	25	Solenoid/spring	External	8500	-1 … +6	4 … 10	25
7030709	NO	G 1/2	12	Solenoid/spring	External	3000	-1 … +6	4 … 10	20
7032632	NO	G 3/4	20	Solenoid/spring	External	8500	-1 … +6	4 … 10	25
7032732	NO	G 1	25	Solenoid/spring	External	8500	-1 … +6	4 … 10	25

*1) When ordering please indicate solenoid, voltage and current type (frequency).

INDIRECT SOLENOID ACTUATED POPPET VALVES
70300 2/2, G1/2 … G1

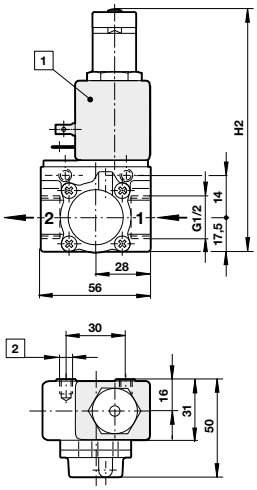
Solenoids group, standard voltages

Model	Power consumption 24 V d.c. (W)	Power consumption 230 V a.c. (VA)	Rated current 24 V d.c. (m A)	Rated current 230 V a.c. (m A)	Protection class IP/NEMA	Ex-Protection (ATEX-Category)	Temperature Ambient/Media (°C)	Electrical connection
								
0200	12,1	15	504	63	IP65 (with connector)	–	-25 … +60 Media: +80 max	Connector DIN EN 175301-803, form A *1)

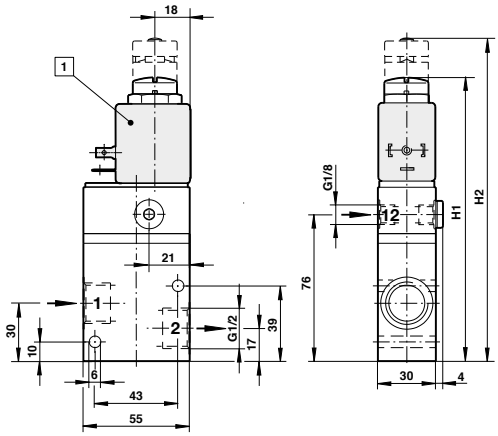
Standard voltages (±10%) 24 V d.c., 230 V a.c., other voltages on request. Design according to VDE 0580, EN 50014/50028. 100% duty cycle.
*1) Connector/cable gland is not scope of delivery, see table »Accessories«.

Dimensions

7030117



7030118, 7030709



1 Solenoid rotate 4 x 90°
2 M6 x 7,5 deep

H2 *2)	Model
121	7030117

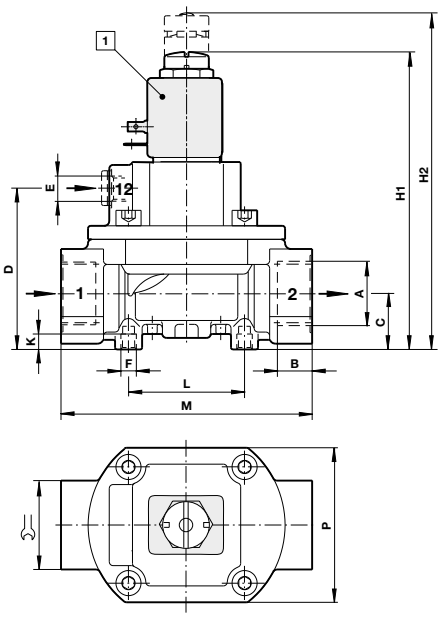
*2) With manual override.

H1 *1)	H2 *2)	Model
–	167	7030118
147	–	7030709

*1) Without manual override.
*2) With manual override.

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703213, 703263, 703223, 703273



1 Solenoid rotate 4 x 90°

Model	A	B	C	D	E	H1 *1)	H2 *2)	F	K	L	M	P	
703213	G 3/4	20	29	83,5	G 1/4	–	174	M8	8	60	130	80	46
703263	G 3/4	20	29	83,5	G 1/4	154	–	M8	8	60	130	80	46
703223	G 1	18	29	83,5	G 1/4	–	174	M8	8	60	130	80	46
703273	G 1	18	29	83,5	G 1/4	154	–	M8	8	60	130	80	46

*1) Without manual override.
*2) With manual override.

Options

- Alternative Solenoids

Online at store.norgren.com

INDIRECT SOLENOID ACTUATED POPPET VALVES

80200 3/2, G1/2 … G2

- High flow rate
- Optionally pilot-operated by external pilot source
- High repeatability of switching time
- Easily interchangeable solenoid system

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Mounting position:
Optional, preferaby vertical with strong vibration vertical to axis of vibration

Operating pressure:
-1 … 10 bar

Ambient temperature:
-10°C … +60°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Housing:
Aluminium

Seals:
PUR

Inner parts:
POM



Standard Models

Model *1)	Function	Port size 1	2	3	Orifice (mm)	Pilot supply	Flow (l/min)	Operating pressure (bar)	Pilot pressure (bar)
									
8026570	NC	G1/2	G1/2	G3/4	15	Internal	5500	2 … 10	–
8026670	NC	G3/4	G3/4	G1	20	Internal	8000	2 … 10	–
8026770	NC	G1	G1	G1	25	Internal	9000	2 … 10	–
8026870	NC	G1	G1 1/4	G1 1/4	32	Internal	14000	2 … 10	–
8026970	NC	G1 1/2	G1 1/2	G1 1/2	40	Internal	21000	2 … 10	–
8027070	NC	G 2	G 2	G 2	50	Internal	31000	2 … 10	–
8028570	NO	G1/2	G1/2	G3/4	15	Internal	5500	2 … 10	–
8028670	NO	G3/4	G3/4	G1	20	Internal	8000	2 … 10	–
8028770	NO	G1	G1	1	25	Internal	9000	2 … 10	–
8028870	NO	G1	G1 1/4	G1 1/4	32	Internal	14000	2 … 10	–
8028970	NO	G1 1/2	G1 1/2	G1 1/2	40	Internal	21000	2 … 10	–
8029070	NO	G2	G2	G2	50	Internal	31000	2 … 10	–
8026571	NC	G1/2	G 1/2	G3/4	15	External	5500	0 … 10	2 … 10
8026671	NC	G3/4	G3/4	G1	20	External	8000	0 … 10	2 … 10
8026771	NC	G1	G1	G1	25	External	9000	0 … 10	2 … 10
8026871	NC	G1	G1 1/4	G1 1/4	32	External	14000	0 … 10	2 … 10
8026971	NC	G1 1/2	G1 1/2	G1 1/2	40	External	21000	0 … 10	2 … 10
8027071	NC	G2	G2	G2	50	External	31000	0 … 10	2 … 10
8028571	NO	G1/2	G1/2	G3/4	15	External	5500	2 … 10	2 … 10
8028671	NO	G3/4	G3/4	G1	20	External	8000	2 … 10	2 … 10
8028771	NO	G1	G1	G1	25	External	9000	2 … 10	2 … 10
8028871	NO	G1	G1 1/4	G1 1/4	32	External	14000	2 … 10	2 … 10
8028971	NO	G1 1/2	G1 1/2	G1 1/2	40	External	21000	2 … 10	2 … 10
8029071	NO	G2	G2	G2	50	External	31000	2 … 10	2 … 10

*1) When ordering please indicate solenoid, voltage, current type (frequency).

Models for vacuum

Model *1)	Function	Port size 1	2	3	Orifice (mm)	Pilot supply	Flow (l/min)	Operating pressure (bar)	Pilot pressure (bar)
									
8026572	NC	G1/2	G1/2	G3/4	15	External	5500	-1 … 6	4 … 10
8026672	NC	G3/4	G3/4	G1	20	External	8000	-1 … 6	4 … 10
8026772	NC	G1	G1	G1	25	External	9000	-1 … 6	4 … 10
8026872	NC	G1	G1 1/4	G1 1/4	32	External	14000	-1 … 6	4 … 10
8026972	NC	G1 1/2	G1 1/2	G1 1/2	40	External	21000	-1 … 6	4 … 10
8027072	NC	G 2	G 2	G 2	50	External	31000	-1 … 6	4 … 10

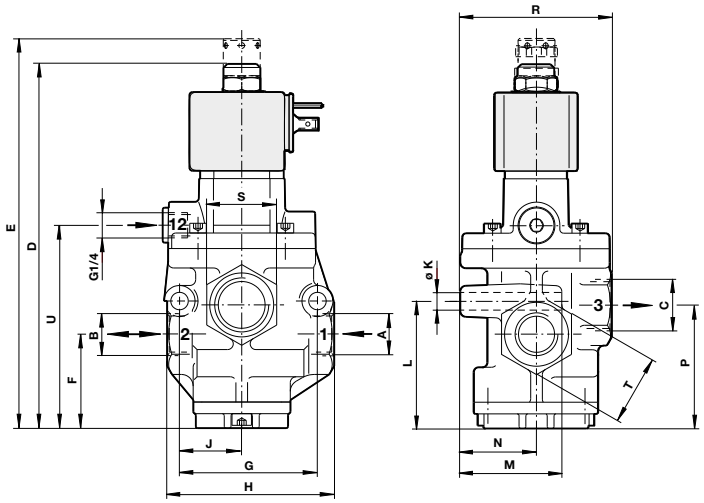
*1) When ordering please indicate solenoid, voltage, current type (frequency).

Solenoids group 16D, standard voltages

Model *1)	Power consumption 24 V d.c. (W)	230 V a.c. (VA)	Rated current 24 V d.c. (m A)	230 V a.c. (m A)	Protection class IP/NEMA	Temperature Ambient/Media (°C)	Electrical connection
							
0800	16,9	–	703	–	IP65 (with connector)	-25 … +60 Media: +80 max	Connector DIN EN 175301-803, form A *1)
3803	–	17,3	–	75	IP65 (with connector)	-25 … +60 Media: +80 max	Connector DIN EN 175301-803, form A *1)

Standard voltages (±10%) 24 V d.c., 230 V a.c., other voltages on request. Design according to VDE 0580, EN 50014/50028. 100% duty cycle.
*1) Connector/cable gland is not scope of delivery, see table »Accessories«.
Attention: The protection class for coil series 46xx and 48xx is determined by the choice of cable gland.
Example: if an ATEX-certified cable gland is used that has Ex d type of protection, the solenoid will have the protection class Ex d mb; if a cable gland with Ex e type of proteciton is used, the solenoid will have protection class Ex e mb.

Dimensions



1 Solenoid can be indexed by 4 x 90°

Model	A	B	C	D	E	F	G	H	J	Ø K	L	M	P	R	S	T	U
802657	G1/2	G1/2	G3/4	187,5	–	48	71	86	32	9	65,5	52	63,5	78	36	36	104,5
802667	G3/4	G3/4	G1	197,5	–	51,5	82,5	112	39	9	74,5	54	73	92	46	46	114,5
802677	G1	G1	G1	197,5	–	51,5	82,5	112	39	9	74,5	54	73	92	46	46	114,5
802687	G1	G1 1/4	G1 1/4	239	–	70	104	142	48	11	108	64	98	108	60	60	148
802697	G1 1/2	G1 1/2	G1 1/2	265	–	85	118	164	50,5	14	121,5	70	115,5	123	60	68	168
802707	G2	G2	G2	304	–	98	148	200	66	18	144	85	137	153	90	90	204
802857	G1/2	G1/2	G3/4	–	200,5	48	71	86	32	9	65,5	52	63,5	78	36	36	104,5
802867	G3/4	G3/4	G1	–	210,5	51,5	82,5	112	39	9	74,5	54	73	92	46	46	114,5
802877	G1	G1	G1	–	210,5	51,5	82,5	112	39	9	74,5	54	73	92	46	46	114,5
802887	G1	G1 1/4	G1 1/4	–	252	70	104	142	48	11	108	64	98	108	60	60	148
802897	G1 1/2	G1 1/2	G1 1/2	–	279	85	118	164	50,5	14	121,5	70	115,5	123	60	68	168
802907	G2	G2	G2	–	317	98	148	200	66	18	144	85	137	153	90	90	204

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SOLENOID AND PILOT ACTUATED POPPET VALVES

Prospector® 2/2 & 3/2, G3/8 … G1

- Exceptionally high flow
- High reliability
- Durable, robust construction

Technical Data*

* Basic valve without solenoid operator

Medium:
Filtered and lubricated or non lubricated compressed air

Operating pressure:
Pilot actuated: 2 … 10 bar
Solenoid actuated: 0 … 20 bar

Pilot port size:
G1/4 for ISO G version only

Mounting:
Through-holes in valve body

Ambient temperature:
Solenoid pilot: -20°C … +50°C
Air pilot: -20°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Body, piston, poppets and sub-base:
aluminium alloy

Operators:
zinc or alumnium solenoid pilot operators, stainless steel or steel, reinforced polyester, brass or polyurethane, acetal, copper wire

Elastomers:
NBR



Models

Solenoid pilot operated

Model	Function	Port size	Valve size (inch)	Flow (l/min)	Dimension No.
AA013C-00-CE***	2/2 NC	G 3/8	1/2	3,351	1
AA014C-00-CE***	2/2 NC	G 1/2	1/2	5,224	1
AA015C-00-CE***	2/2 NC	G 3/4	1/2	6,407	1
AA026C-00-CE***	2/2 NC	G 1	1	13,307	2
BA013C-00-CE***	2/2 NO	G 3/8	1/2	3,746	1
BA014C-00-CE***	2/2 NO	G 1/2	1/2	5,323	1
BA015C-00-CE***	2/2 NO	G 3/4	1/2	6,210	1
BA026C-00-CE***	2/2 NO	G 1	1	15,180	2
DA023C-00-CE***	3/2 NC	G 3/8	1/2	4,830	3
DA024C-00-CE***	3/2 NC	G 1/2	1/2	5,717	3
DA025C-00-CE***	3/2 NC	G 3/4	1/2	6,111	3
DA036C-00-CE***	3/2 NC	G 1	1	14,391	4
EA023C-00-CE***	3/2 NO	G 3/8	1/2	4,534	3
EA024C-00-CE***	3/2 NO	G 1/2	1/2	5,421	3
EA025C-00-CE***	3/2 NO	G 3/4	1/2	5,717	3
EA036C-00-CE***	3/2 NO	G 1	1	13,602	4

*** Insert voltage code.

Air pilot operated

Model	Function	Port size	Valve size (inch)	Pilot port size	Flow (l/min)	Dimension No.
AA013H-AA	2/2 NC	G 3/8	1/2	G 1/4	3,351	5
AA014H-AA	2/2 NC	G 1/2	1/2	G 1/4	5,224	5
AA015H-AA	2/2 NC	G 3/4	1/2	G 1/4	6,407	5
AA026H-AA	2/2 NC	G 1	1	G 1/4	13,307	6
BA013H-AA	2/2 NO	G 3/8	1/2	G 1/4	3,746	5
BA014H-AA	2/2 NO	G 1/2	1/2	G 1/4	5,323	5
BA015H-AA	2/2 NO	G 3/4	1/2	G 1/4	6,210	5
BA026H-AA	2/2 NO	G 1	1	G 1/4	15,180	6
DA023H-AA	3/2 NC	G 3/8	1/2	G 1/4	4,830	7
DA024H-AA	3/2 NC	G 1/2	1/2	G 1/4	5,717	7
DA025H-AA	3/2 NC	G 3/4	1/2	G 1/4	6,111	7
DA036H-AA	3/2 NC	G 1	1	G 1/4	14,391	8
EA023H-AA	3/2 NO	G 3/8	1/2	G 1/4	4,534	7
EA024H-AA	3/2 NO	G 1/2	1/2	G 1/4	5,421	7
EA025H-AA	3/2 NO	G 3/4	1/2	G 1/4	5,717	7
EA036H-AA	3/2 NO	G 1	1	G 1/4	13,602	8

Technical data – Solenoid operators

Type	22 mm solenoid valve with sub base inlet and outlet connections
Circuit function	3/2 Normally closed
Orifice	1,6 mm
Seal material	Flourine rubber
Body & coil material	Glass reinforced nylon
Port connection	Exhaust port M5 plugged with diffusor
Voltage tolerance	±10% of nominal
Electrical connection	3 pin industrial standard

Manual override	Turn and lock
Pressure range	2 …10 bar
Fluid temperature range	-20 … +90°C *1)
Ambient temperature range	-20 … +50°C *1)
Duty cycle	100% ED
Opening/closing time	10 … 20/5 … 10 ms
Protection class	IP65 with connector

*1) -40°C is available upon request.

Solenoid pilot valves – Voltage codes and part numbering

Voltage	Power	Inrush/hold	Voltage code – solenoid pilot valve with manual overide	Spare – replacement coil part number with manual overide
24 V d.c.	7,5 W	–	83J	QM/48/83J/21
110 V a.c.	–	8 VA	88J	QM/48/88J/21
230 V a.c.	–	8 VA	89J	QM/48/89J/21

Note: Solenoid pilot valve without manual override also available – contact our Technical service.

Accessories

Connector

0657868000000000

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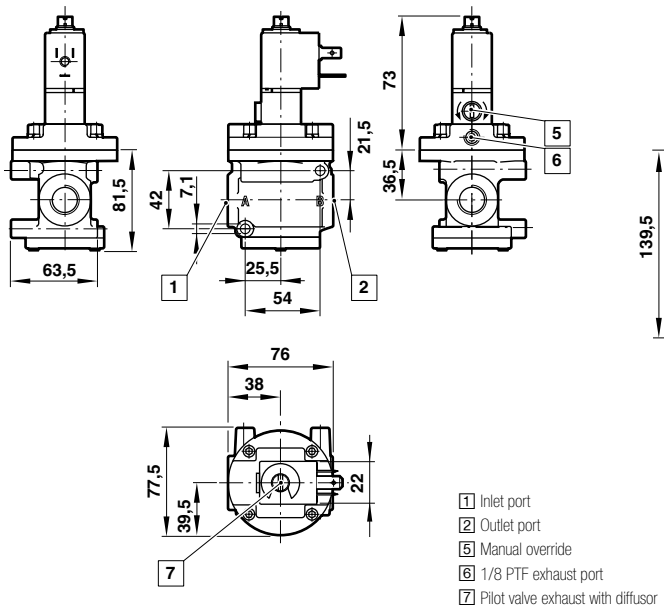
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Dimensions

1

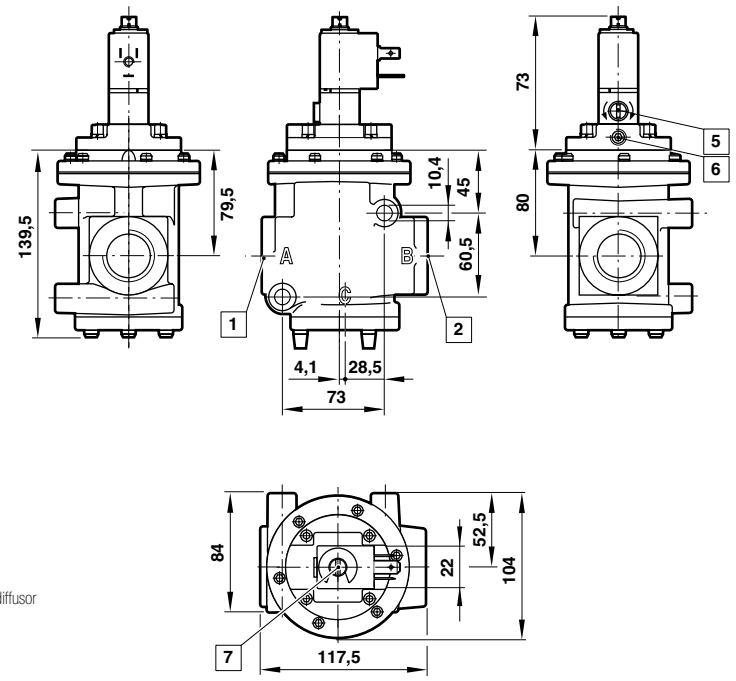
1/2” valve size, solenoid valve
Port size: 3/8” 1/2 or 3/4”



1 Inlet port
2 Outlet port
5 Manual override
6 1/8 PTF exhaust port
7 Pilot valve exhaust with diffusor

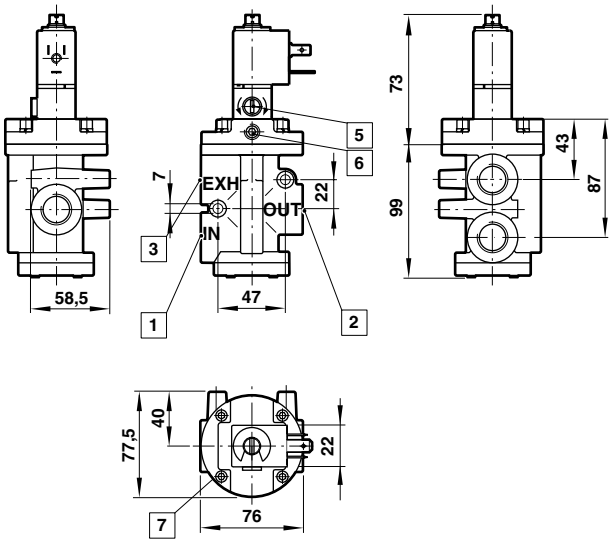
2

1” valve size, solenoid valve
Port size: 1”



3

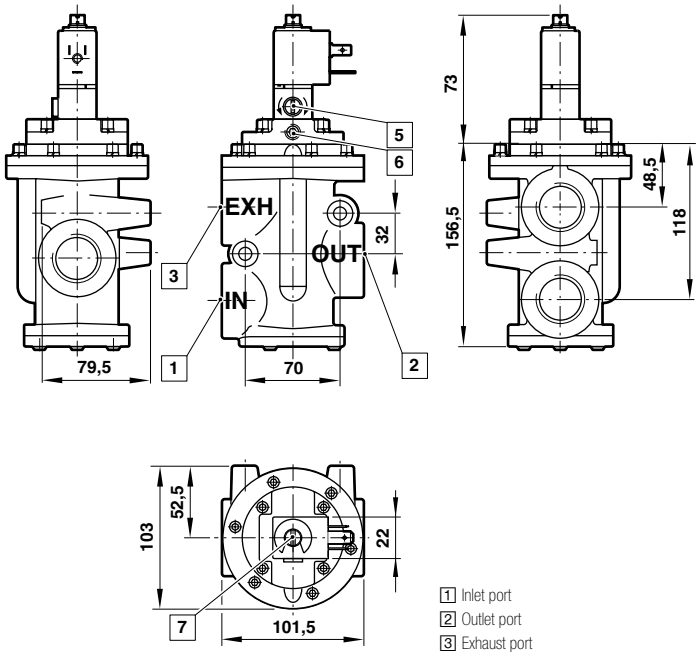
1/2” valve size, solenoid valve
Port size: 3/8” 1/2 or 3/4”



1 Manual override

4

1” valve size, solenoid valve
Port size: 1”



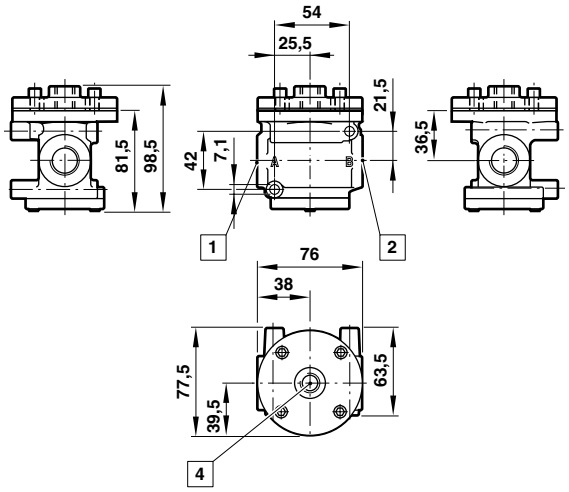
1 Inlet port
2 Outlet port
3 Exhaust port
5 Manual override
6 1/8 PTF exhaust port
7 Pilot valve exhaust with diffusor

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SOLENOID AND PILOT ACTUATED POPPET VALVES
Prospector® 2/2 & 3/2, G3/8 … G1

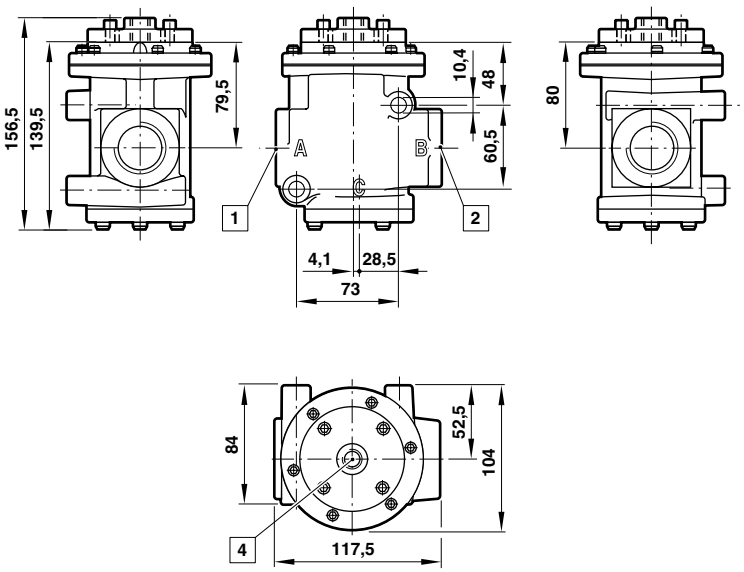
5

1/2” valve size, air pilot valve
Port size: 3/8” 1/2 or 3/4”



6

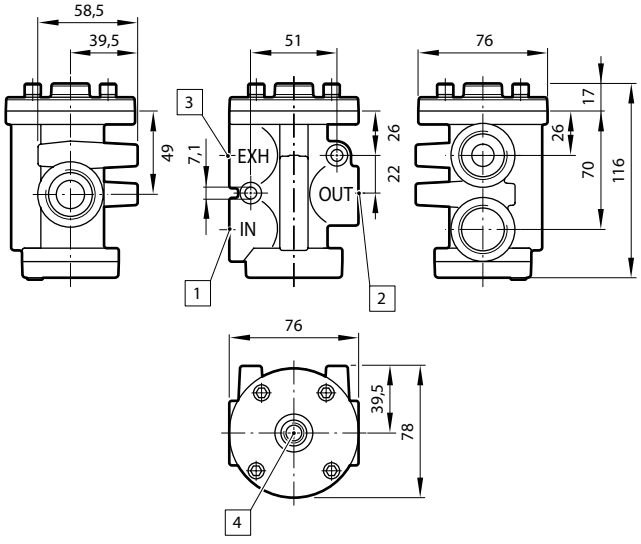
1” valve size, air pilot valve
Port size: 1”



1 Inlet port
2 Outlet port
4 Pilot port G1/8

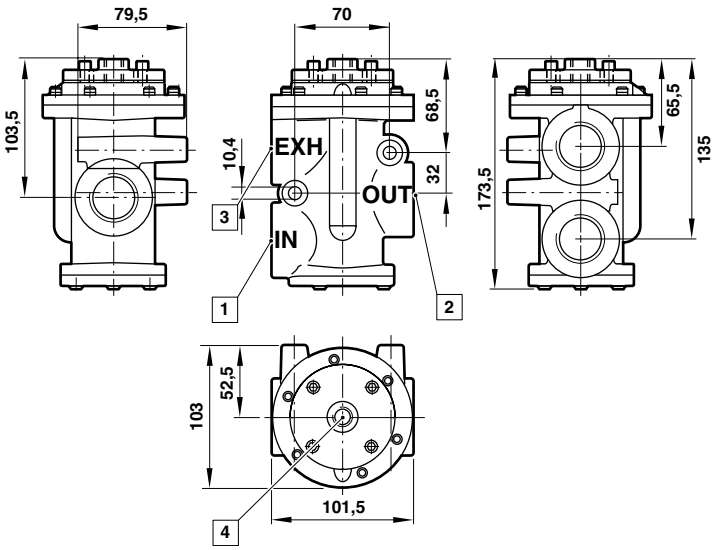
7

1/2” valve size, air pilot valve
Port size: 3/8” 1/2 or 3/4”



8

1” valve size, air pilot valve
Port size: 1”



1 Inlet port
2 Outlet port
3 Exhaust port
4 Pilot port G1/8

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IN-LINE SOLENOID VALVE

26360, 80207 3/2, 5/2, G1/4 & G1/2

- For single and double operated actuators
- Manual override with and without detent
- Simple design of soft seal spool
- Easily interchangeable solenoid
- Maintenance-free
- All valves available with Ex protected coils (ATEX or other international approvals)

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Operating pressure:
1 … 10 bar (see table below)

Orifice:
6 and 12 mm

Flow direction:
Fixed

Mounting:
Optional, preferably with solenoid on top

Ambient temperature:
-10°C … +60°C
-20°C upon request
Depending on solenoid system

Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Housing:
Aluminium anodized

Pilot flange:
Plastic (POM)

Seals:
NBR



Models - 3/2 way NC

Model *1)	Actuation/ return	Port size	Operating pressure (bar) min.	max.	Flow (l/min)	Switching time (ms)	Manual override with/ without detent	Dimension No.
								
8020766	Sol / air	G 1/4	1	10	1200	35	–	1
8020767	Sol / air	G 1/4	1	10	1200	35	without	1
8020867	Sol / air	G 1/2	1,5	10	3000	35	without	1
8020765	Sol / air	G 1/4	1	10	1200	35	with	1
8020865	Sol / air	G 1/2	1,5	10	3000	35	with	1

Models - 5/2 way

Model *1)	Actuation/ return	Port size	Operating pressure (bar) min.	max.	Flow (l/min)	Switching time (ms)	Manual override with/ without detent	Dimension No.
								
2636066	Sol / air	G 1/4	1	10	1200	35	–	2
2636067	Sol / air	G 1/4	1	10	1200	35	without	3
2636065	Sol / air	G 1/4	1	10	1200	35	with	3
2637065	Sol / air	G 1/2	2	10	3000	40	with	4
2636265	Sol / sol	G 1/4	1	10	1200	30	with	5
2637265	Sol / sol	G 1/2	2	10	3000	35	with	6

*1) When ordering, please indicate solenoid, voltage and current (frequency).

IN-LINE SOLENOID VALVE
26360, 80207 3/2, 5/2, G1/4 & G1/2

Solenoid operators

	Model	Power consumption		Rated current		Protection class IP/NEMA	Ex-Protection (ATEX-Category)	Temperature Ambient/Media (°C)	Electrical connection
		24 V d.c. (W)	230 V a.c. (VA)	24 V d.c. (m A)	230 V a.c. (m A)				
	0242	2,7	–	113	–	IP65 (with connector)	–	-25 … +60 Fluid: max. +80	Connector DIN EN 175301-803 Form A *1)
	0245	–	4,2	–	18	IP65 (with connector)	–	-25 … +60 Fluid: max. +80	Connector DIN EN 175301-803 Form A *1)
	3215	2,7	–	113	–	IP65 (with connector)	II 3 G Ex nA II T4 II 3 D Ex tD A22 T 90°C	-20 … +60	Special connector DIN EN 175301-803 Form A included
	0298	3,6	–	150	–	IP66	II 2 G Ex mb IIC T4 Gb II 2 D Ex mb IIIC T110°C Db	-20 … +70	Cable length 3 m
	0299	–	4,6	–	18	IP66	II 2 G Ex mb IIC T4 Gb II 2 D Ex mb IIIC T110°C Db	-20 … +70	Cable length 3 m

Standard voltages (±10%) 24 V d.c., 230 V a.c., other voltages on request. Design according to VDE 0580, EN 50014/50028. 100% duty cycle.
*1) Connector is not scope of delivery, see table »Accessories«.

Approvals

Model	Approvals	
	ATEX	FM
029x	KEMA 02 ATEX 1347 X	–
321x, 381x	EC-Declaration of Conformity	–

Accessories

Cable gland
Protection class Ex e, Ex d (ATEX), Nickel plated brass



Silencer *1)



Exhaust guard *2)



Connector, form A



Model	Thread	Cable Ø	Material	Protection class (ATEX)			
0588819000000000	M 20x1,5	5,0 … 8,0 mm	Nickel plated brass	II2GD Ex e	M/S2 (G1/4)	0613422000000000 (G1/4)	0570275000000000
0588851000000000	M 20x1,5	10 … 14 mm	Nickel plated brass	II2GD Ex d	M/S4 (G1/2)	0613423000000000 (G1/2)	–
0588925000000000	1/2-14-NPT	7,5 … 11,9 mm	Nickel plated brass	II2GD Ex d	–	–	–

*1) For indoors use only.
*2) For outdoors use.

Options

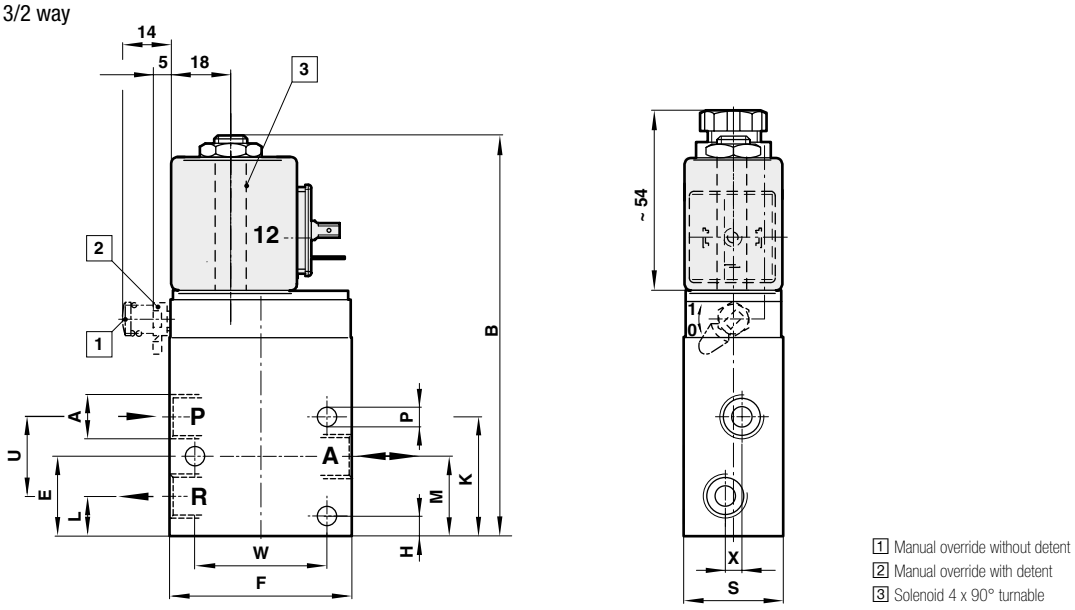
- Alternative solenoid coils

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Dimensions - Valves

1

3/2 way



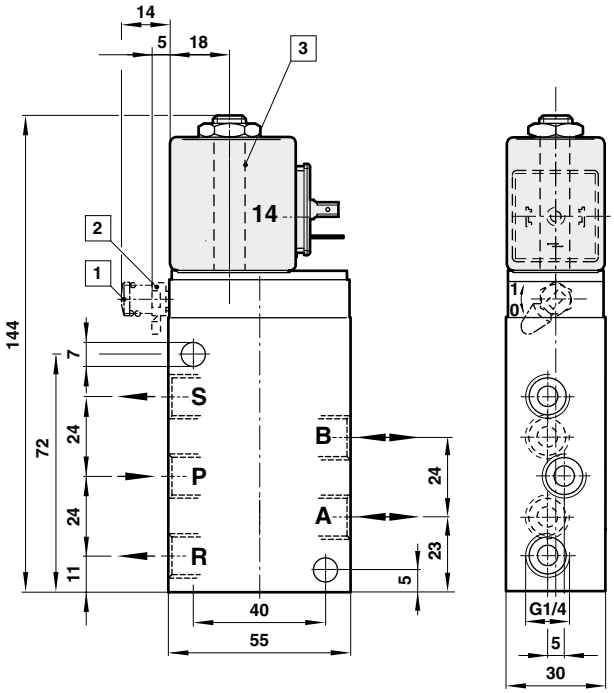
1 Manual override without detent
2 Manual override with detent
3 Solenoid 4 x 90° turnable

A	B	E	F	H	K	L	M	P	S	T	U	W	X	Model
G1/4	120	24,5	55	7,5	34,5	11	23	5,5	30	18,5	24	41	5	8020766
G1/4	127	24,5	55	7,5	34,5	11	23	5,5	30	18,5	24	41	5	8020767
G1/4	127	24,5	55	7,5	34,5	11	23	5,5	30	18,5	24	41	5	8020765
G1/2	157	77,5	65	31,5	–	29	50	7	35	23,5	33	46	–	8020867
G1/2	148	77,5	65	31,5	–	29	50	7	35	23,5	33	46	–	8020865

2

5/2 way

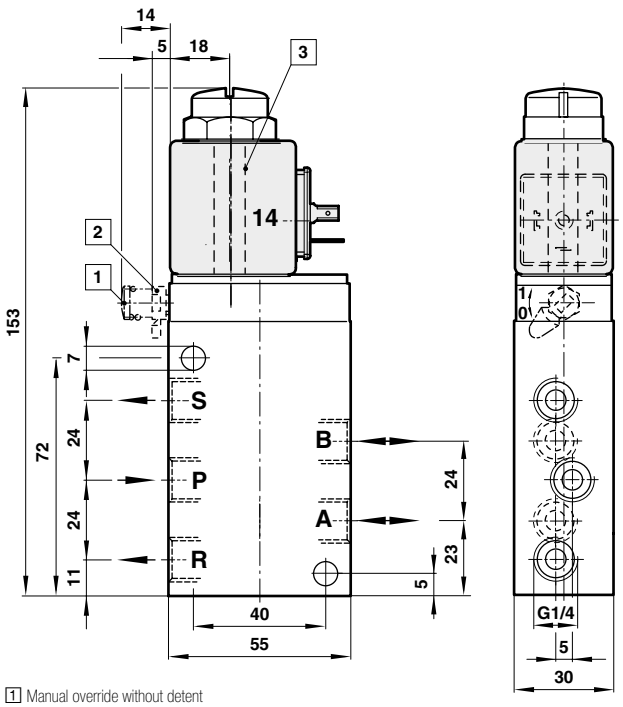
2636066



3

5/2 way

2636067, 2636065



1 Manual override without detent
2 Manual override with detent
3 Solenoid 4 x 90° turnable

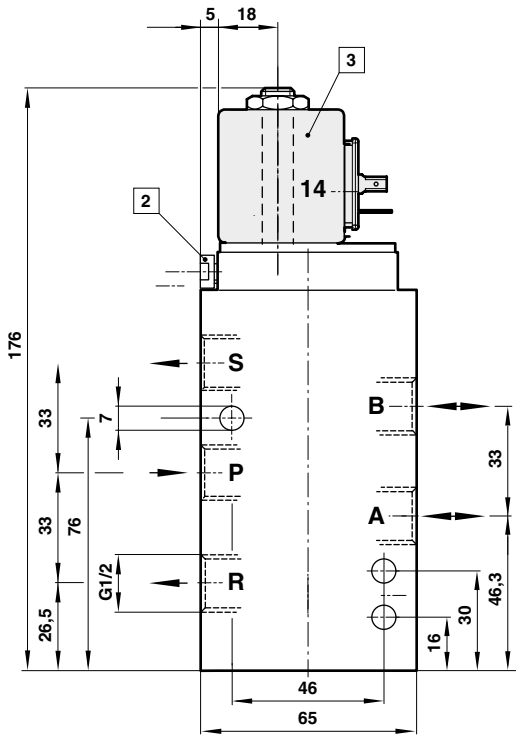
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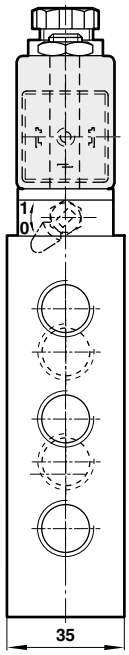
IN-LINE SOLENOID VALVE
26360, 80207 3/2, 5/2, G1/4 & G1/2

4

5/2 way

2637065



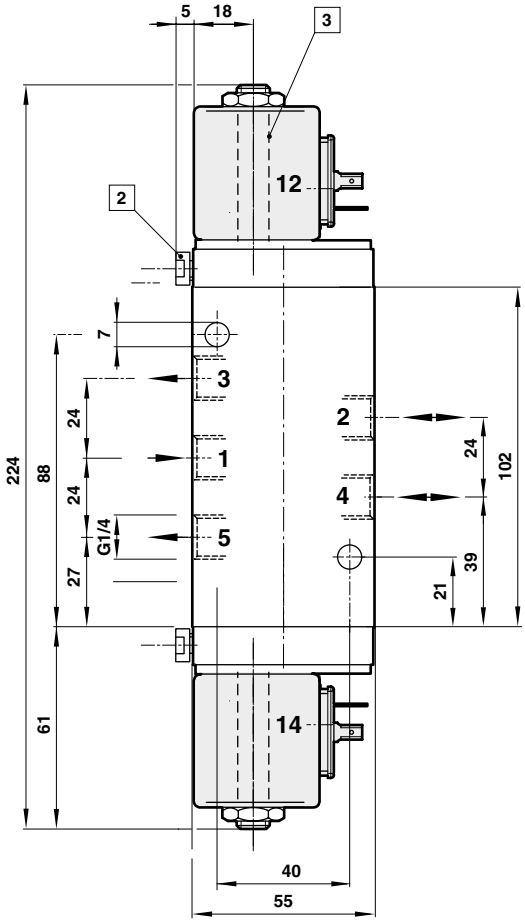


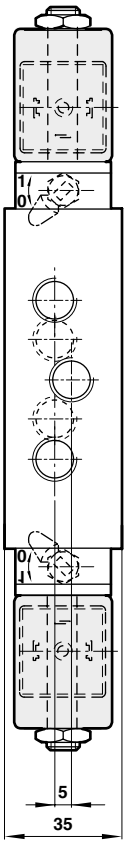
1 Manual override without detent
2 Manual override with detent
3 Solenoid 4 x 90° turnable

5

5/2 way

2636265





1 Manual override without detent
2 Manual override with detent
3 Solenoid 4 x 90° turnable

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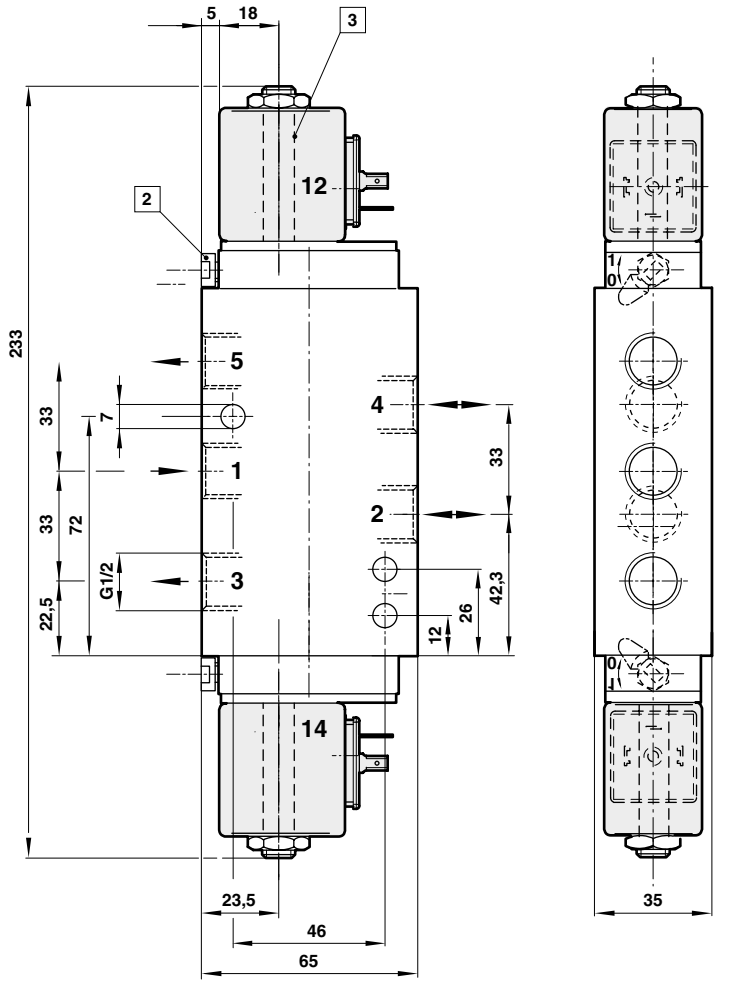
IMI HERION

IN-LINE SOLENOID VALVE
26360, 80207 3/2, 5/2, G1/4 & G1/2

6

5/2 way

2637265



2 Manual override with detent
3 Solenoid 4 x 90° turnable

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see the option you require please contact us.

IMI Precision Engineering

IN-LINE SOLENOID VALVE

26230, 80107 3/2, 5/2 & 5/3, G1/4 & G1/2

- Straight-through flow, high Cv-factor
- Standard manual override
- Compact design
- Easily interchangeable solenoid system
- Maintenance-free, easy to service
- The valves and solenoids (see solenoid table) are ATEX approved

Technical Data

Medium:
Compressed air filtered, lubricated or non-lubricated

Operation:
Solenoid, indirectly controlled

Operating pressure:
1 … 10 bar (see table below)

Nominal size:
6 and 12 mm

Flow direction:
Fixed

Mounting position:
Optional, preferably vertical

Ambient temperature:
-10°C … +50°C
Depending on solenoid system

Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Housing:
Aluminium

Pilot flange:
Plastic

Seat seal:
NBR



Models

Model *	Port size	Function	Operation/return	Nominal size (mm)	Operating pressure min. (bar)	Operating pressure max. (bar)	Flow (l/min)	Power consumption (W)	Dimensions No.
									
8010750 *2)	G 1/4	3/2 NC	Solenoid/air	6	1,0	10 *3)	1200	< 5	1
8010850 *2)	G 1/2	3/2 NC	Solenoid/air	12	1,5	10 *3)	3000	< 5	2
8012750 *2)	G 1/4	3/2 NO	Solenoid/air	6	1,0	10 *3)	1200	< 5	1
8012850 *2)	G 1/2	3/2 NO	Solenoid/air	12	1,5	10 *3)	3000	< 5	2
8011750	G 1/4	3/2 NC	Solenoid/solenoid	6	1,0	10	1200	< 5	3
2623000 *2)	G 1/4	5/2	Solenoid/air	6	1	10 *3)	1200	< 5	5
2623500 *2)	G 1/2	5/2	Solenoid/air	12	2	10 *3)	3000	< 5	6
2623100	G 1/4	5/2	Solenoid/solenoid	6	1	10	1200	< 5	7
2623600	G 1/2	5/2	Solenoid/solenoid	12	2	10	3000	< 5	8
2623200	G 1/4	5/3 COE	Solenoid/solenoid	6	3	10	900	< 5	9
2623700	G 1/2	5/3 COE	Solenoid/solenoid	12	2,5	10	2200	< 5	10
2623300	G 1/4	5/3 APB	Solenoid/solenoid	6	3	10	900	< 5	9
2623800	G 1/2	5/3 APB	Solenoid/solenoid	12	2,5	10	2200	< 5	10
2623400	G 1/4	5/3 COP	Solenoid/solenoid	6	3	10	900	< 5	9

* When ordering please indicate solenoid, voltage and current type (frequency).
*2) Port 3 is not throttleable.
*3) Stagnation pressure at 3 ≤ operating pressure -1 bar.
APB = All Ports Blocked, COE = Centre Open Exhaust, COP = Centre Open Pressure.

Online at **store.norgren.com**

IN-LINE SOLENOID VALVE
26230, 80107 3/2, 5/2 & 5/3, G1/4 & G1/2

Solenoid actuators

	Model	Power consumption 24 V d.c. (W)	Power consumption 230 V a.c. (VA)	Rated current 24 V d.c. (m A)	Rated current 230 V a.c. (m A)	Protection class IP/NEMA	Ex-Protection (ATEX-Category)	Temperature Ambient/Media (°C)	Electrical connection
	3052	4,8	8,5	70	–	IP65 (with connector)	–	-15 … +50	Connector DIN EN 175301-803, form B *1)
	3030	4,4	8,0	190	–	IP65 (with connector)	–	-15 … +50	Connector DIN EN 175301-803, form B *1)
	3060	5,0	–	210	–	IP65 (with connector)	II 2 G Ex mb IIC T4/T5 Gb II 2 G Ex mb IIC T4 Gb II 2 D Ex mb tb T130°C Db	-20 … +50	Cable length 3 m
	3061	–	5	–	22	IP65 (with connector)	II 2 G Ex mb IIC T4 Gb II 2 D Ex mb tb T130°C Db	-20 … +50 *2)	Cable length 3 m

Standard voltages (±10%) 24 V d.c., 230 V a.c., other voltages on request.
*1) Connector is not scope of delivery, see table »Accessories«Valves and solenoids can only be combined if their electrical ratings correspond with each other (see table »Technical Data«).
For valve with power consumption < 5 watt please use 4,8 or 4,5 watt solenoids.

Approvals

Model	Approvals ATEX
306x	PTB 03 ATEX 2015

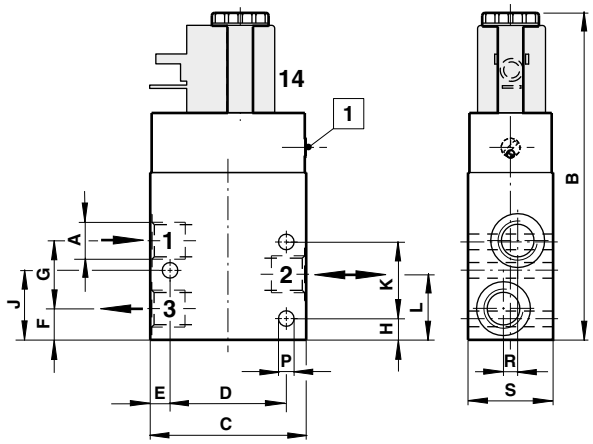
Accessories

Connector DIN EN 175301-803	Silencer *1)	Exhaust guard *2)
		
0570275000000000 (Form A)	M/S2 (G1/4)	0613422000000000 (G1/4)
0680003000000000 (Form B)	M/S4 (G1/2)	0613423000000000 (G1/2)

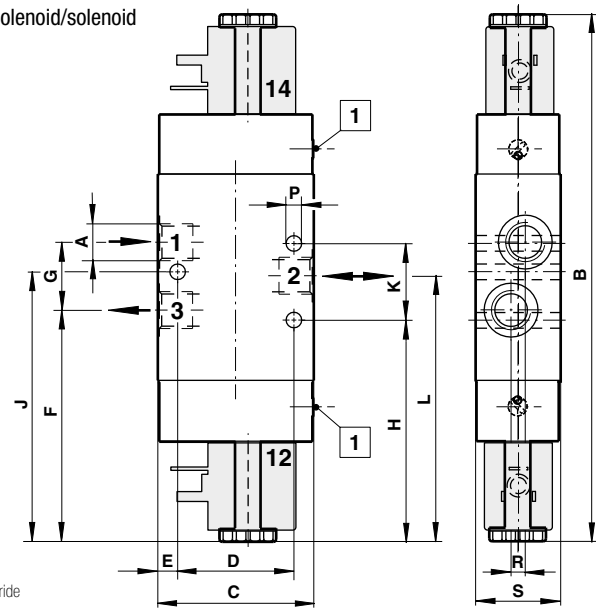
*1) For indoors use only.
*2) For outdoors use.

Dimensions - Valves

1 2
3/2 - Solenoid/air



3 4
3/2 - Solenoid/solenoid



1 Manual override

No.	A	B	C	D	E	F	G	H	J	K	L	Ø P	R	S
1	G 1/4	115,5	55	41	7	11	24	7,5	24,5	27	23	5,5	5	30
2	G 1/2	143,5	65	46	9,5	29	33	31,5	–	46	50	7	2,5	35

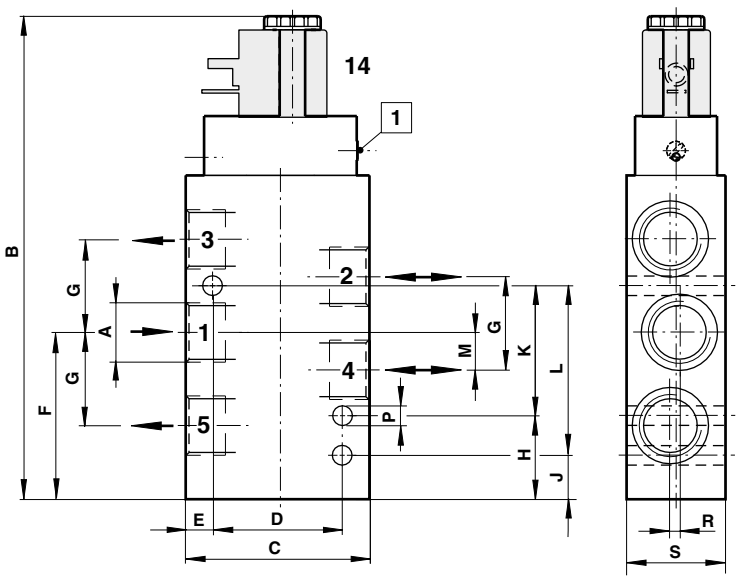
No.	A	B	C	D	E	F	G	H	J	K	L	Ø P	R	S
3	G 1/4	186,5	55	41	7	81,5	24	78	95	27	93,5	5,5	5	30
4	G 1/2	195,5	65	46	9,5	81	33	81	–	46	100,5	7	2,5	35

IN-LINE SOLENOID VALVE

26230, 80107 3/2, 5/2 & 5/3, G1/4 & G1/2

5 6

5/2 - Solenoid/air

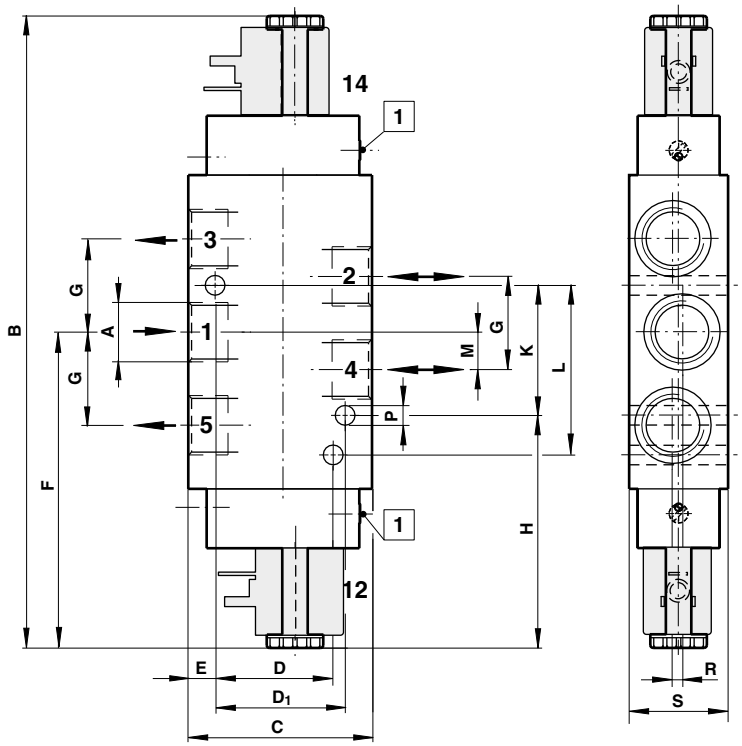


1 Manual override

No.	A	B	C	D	E	F	G	H	J	K	L	M	Ø P	R	S
5	G 1/4	139,5	55	40	7,5	35	24	–	5	–	67	12	7	5	30
6	G 1/2	171,5	65	46	9,5	59,5	33	30	16	46	60	13	7	3	35

7 … 10

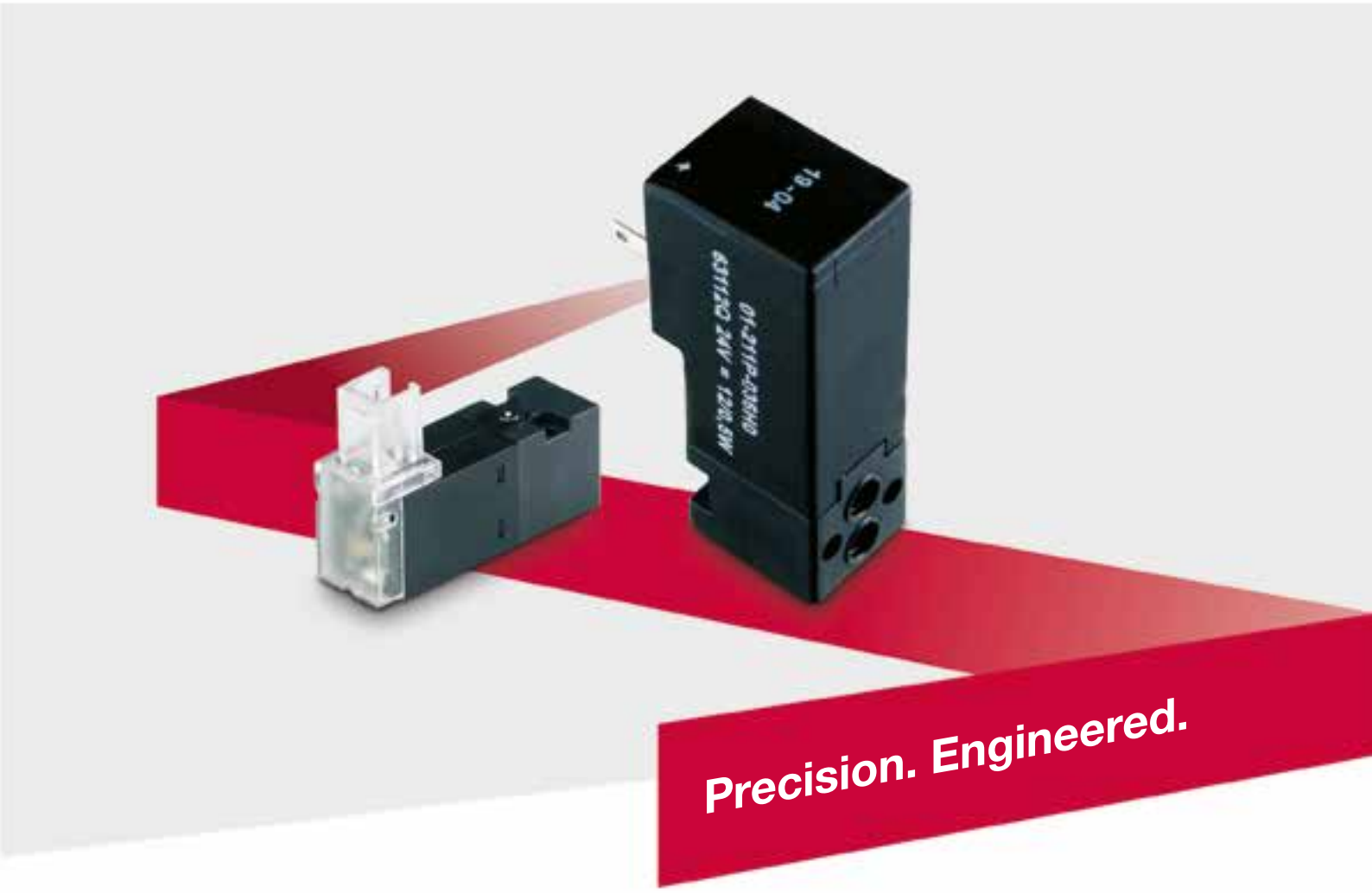
5/2 - Solenoid/air



1 Manual override

No.	A	B	C	D	D1	E	F	G	H	K	L	M	Ø P	R	S
7	G 1/4	214,5	55	40	40	7,5	107,5	24	77,5	67	–	12	7	5	30
8	G 1/2	223,5	65	46	46	9,5	112	33	82,5	46	60	13	7	3	35
9	G 1/4	232,5	55	40	40	7,5	118	24	88	67	–	12	7	5	30
10	G 1/2	289	70	46	50	10	144,5	33	–	50	60	16,5	7	4	40

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DIRECT ACTING SOLENOID VALVE

MICROSOL 2/2, 3/2 - 15 mm

- Manifold mounting
- Compact design
- High flow rate
- In excess of 100 – Mio. cycle rate
- Up to 3,6 mm orifice

Technical Data

Medium:
Air, oxygen, neutral gases (10% to 95% humidity, non condensing), 40 µm filtered

Operation:
Direct acting 2-way and 3-way valves, normally closed and normally opened

Operating pressure:
see table

Flow:
6 … 120 l/min at 2 bar at +20°C

kv factor:
0,15 … 3 (Cv: 0,01 … 0,2)

Orifice:
2/2 way valves: 0,5 … 3,6 mm
3/2 way valves: 0,5 … 1,5 mm

Response time:
10 … 15 ms
Response time measured according to ISO 12238

Life expectancy:
≥100 million cycles
(except Hit & Hold valves)

Ambient temperature:
-10°C … +50°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Body:
PPS

Seat seals:
NBR, FPM

Internal parts:
Stainless steel, PA 6/6



Electrical details

Voltage:	24 V d.c.
Voltage range:	-10 % … +15 % @ 100 % duty cycle
Electrical insulation:	1500 V a.c.
Insulation class:	F (155°C)
Protection class according to EN 60529:	IP 51 with connector

Embedded electronics options

Integrated pulse width modulation (PWM)
Reverse polarity protection
Led signalization

Models

Accessories

Model	Operation	Orifice	Operating pressure (bar)	kv *1) (l/min)	Voltage *3) (V d.c.)	Power consumption (W) *2)	Dimension No.	Mounting plate with M5 thread — 1 position for 2 ways valve up to 2 mm orifice and 3 ways valve	Electrical connector MPM 9,4 mm industry standard (C192) to mate AMP spade 2,8 x 0,5 mm
									
01-211P200-H0+13111+AYV	2/2 NC (Flow direction from 1 » 2)	0,5	0 … 15	0,15	24	1	1	S050.1010	N050.1456
01-211P201-H0+13111+AYV		0,8	0 … 10	0,4	24	1	1	S050.1010	N050.1456
01-211P202-H0+63111+AYZ		1,2	0 … 10	0,75	24	2	1	S050.1010	N050.1456
01-211P204-H0+63111+AYZ		2	0 … 4	1,3	24	2	1	S050.1010	N050.1456
01-211P-036H0+63111+AZN	2/2 NC (Flow direction from 2 » 1)	3,6	0 … 6	3	24	12/0,5	2	S050.1010	N050.1456
01-221P200-H0+631A1+AYZ	2/2 NO ECI *4)	0,5	0 … 16	0,15	24	2	1	S050.1010	N050.1456
01-221P202-H0+631A1+AYZ		1,2	0 … 10	0,75	24	2	1	S050.1010	N050.1456
01-221P204-H0+631A1+AYZ		2	0 … 6	1,4	24	2	1	S050.1010	N050.1456
01-311P101-H0+13111+AYV	3/2 NC	0,8	0 … 8	0,28	24	1	3	S050.1010	N050.1456
01-311P1011H0+63111+AYZ		1,1	0 … 10	0,42	24	2	3	S050.1010	N050.1456
01-311P1015H0+63111+AYZ		1,5	0 … 6	0,55	24	2	3	S050.1010	N050.1456
01-321P101-H0+631A1+AYZ	3/2 NO ECI *4)	0,8	0 … 10	0,28	24	2	3	S050.1010	N050.1456
01-321P1011H0+631A1+AYZ		1,1	0 … 6	0,42	24	2	3	S050.1010	N050.1456
01-321P1015H0+631A1+AYZ		1,5	0 … 3	0,55	24	2	3	S050.1010	N050.1456
01-331P1070H0+63111+AYZ	3/2 UNI	0,7	0 … 6	0,24	24	2	3	S050.1010	N050.1456
01-331P1010H0+63111+AYZ		1	0 … 3,5	0,36	24	2	3	S050.1010	N050.1456
01-331P1015H0+63111+AYZ		1,5	0 … 2	0,55	24	2	3	S050.1010	N050.1456

*1) Cv - Value in [gal/min] = kv x 0,07; kv for 3/2 way valves represents flow value between ports 2 and 3.
*2) Valve models with 2 power consumption values are equipped with ‚Hit & Hold' power saving electronic.
*3) Valve models available with different nominal voltages.
*4) ECI - Push type version.

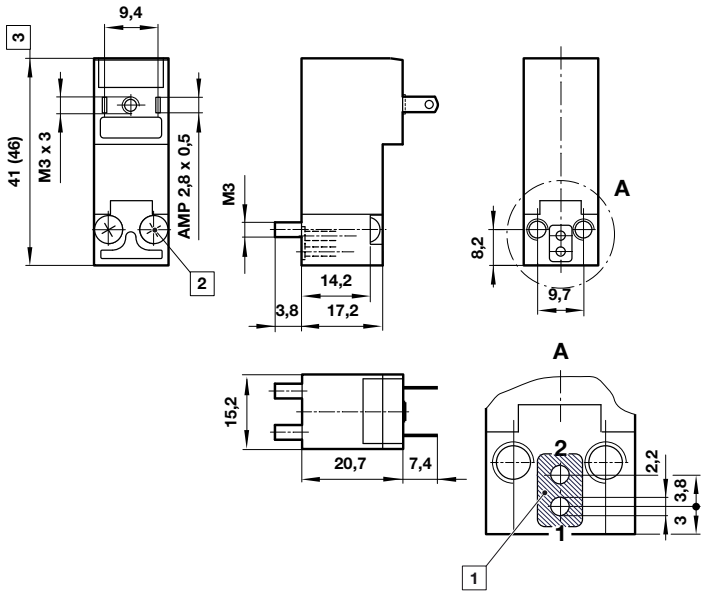
Online at **store.norgren.com**

DIRECT ACTING SOLENOID VALVE
MICROSOL 2/2, 3/2 - 15 mm

Dimensions

1

2 ways standard

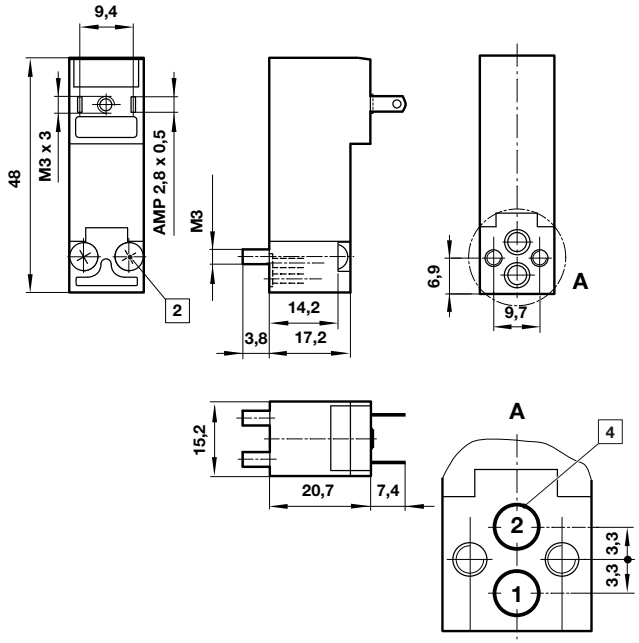


1 Sealing area
2 The recommended mounting screw tightening torque is 0,6 Nm.
3 Value in ( ) for ECI version

All solenoids are supplied with mounting screws and gasket.

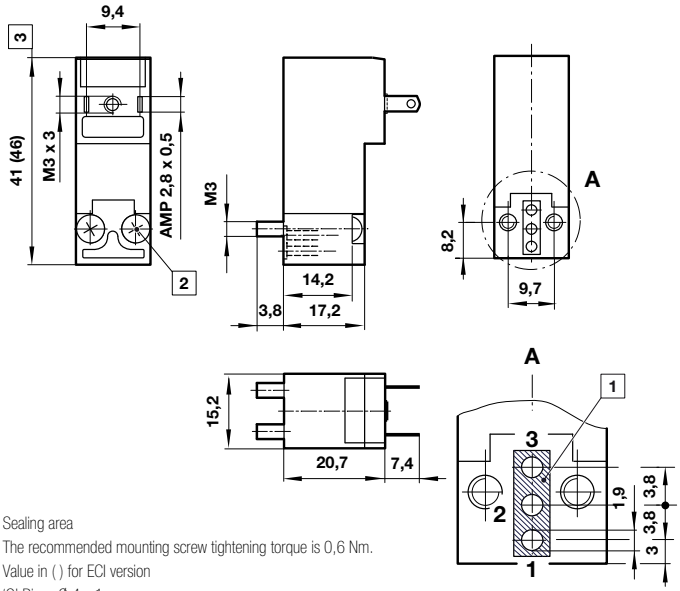
2

2 ways 3,6 mm orifice



3

3 ways standard



1 Sealing area
2 The recommended mounting screw tightening torque is 0,6 Nm.
3 Value in ( ) for ECI version
4 'O' Rings Ø 4 x 1

All solenoids are supplied with mounting screws and gasket or 'O' Rings.

Options

- Pneumatic configuration (latching)
- Operating pressure (also vacuum)
- Materials
- Voltage
- Pneumatic port allocation
- Power consumption
- Electrical connections (300 mm flying leads, connector types)
- Coil orientation
- Protection class
- M5 ported mounting plate - 2 … 8 positions

DIRECT ACTING SOLENOID VALVE

PICOSOL 2/2, 3/2 - 10 mm

- Manifold mounting
- Compact Design
- Long life – 100 million cycles
- Low power consumption

Technical Data

Medium:
Air, oxygen, neutral gases (10% … 95% humidity, non condensing), 40 µm filtered

Operation:
Direct acting 2-way and 3-way valves, normally closed and normally opened

Operating pressure:
0 … 10 bar

Flow:
5 … 32 l/min at 2 bar at +20°C

Orifice:
0,6 … 2 mm

Response time:
10 … 15 ms
Response time measured according to ISO 12238

Life expectancy:
≥100 Mio. cycles for 1 W valves

Weight:
10,5 g

Ambient temperature:
-10°C … +50°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Body:
PPS

Seat seals:
FPM, NBR, EPDM

Internal parts:
Stainless steel, PAA



Models

Model	Operation	Orifice (mm)	Operating pressure (bar)	kv *1) (l/min)	Power consumption (W) *2)	Voltage (V d.c.)	Manual override *3)	Seal material	Dimension No.
11-221PI060H1+1111+AYV	2/2 NO (3/2 mounting pattern)	0,6	0 … 10	0,12	1	24	With	FPM	2
11-221PI011H1+1111+AYR		1,1	0 … 4	0,3	1	24	With	FPM	2
11-211PI060H1+1111+AYV	2/2 NC (3/2 mounting pattern)	0,6	0 … 8	0,12	1	24	With	FPM	2
11-211PI01-H1+1111+AYV		0,8	2 … 8	0,19	1	24	With	FPM	2
11-211PI011H1+1111+AYV		1,1	0,5 … 2,1	0,3	1	24	With	FPM	2
11-211P601-H1+1311+AYV	2/2 NC	0,8	0 … 8	0,2	1	24	Without	FPM	1
11-211P602-H1+1311+AYR		1,2	0 … 4	0,39	1	24	Without	FPM	1
11-211P603-H1+6311+AXA		1,6	0 … 8	0,54	4/0,4	24	Without	FPM	1
11-311PI060H1+1111+AYV	3/2 NC	0,6	0 … 8	0,12	1	24	With	FPM	2
11-311PI01-H1+1111+AYV		0,8	2 … 8	0,19	1	24	With	FPM	2
11-311PI011H1+6111+AZR		1,1	2 … 8	0,37	3/0,3	24	With	FPM	2
11-311PI013H1+6111+AZR		1,3	2 … 6,5	0,44	3/0,3	24	With	FPM	2
11-321PI01-H1+1111+AYV	3/2 NO	0,8	0 … 6	0,19	1	24	With	FPM	2
11-331PI01-H1+1111+AYV	3/2 UNI	0,8	0 … 2	0,18	1	24	With	FPM	2

*1) Cv = 0,07 kv.
*2) Power consumption: "boosting power during ca. 50 ms"/ "holding power".
*3) Push only.

Electrical details

Voltage:	24 V d.c.
Rating:	100 % E.D.
Voltage tolerance	± 10%
Power consumption:	1[W] (3/0,3 W)*
Electrical insulation	1000 V a.c.
Protection class	IP 51
Insulation class	F (155°C)

* With optional PWM control.

Embedded electronics options

Integrated pulse width modulation (PWM)
Enhanced opening time repeatability
Larger input voltage tolerances
Improved boosting by plunger movement detection
Improved boosting by plunger movement detection with power adaptation
Faster valve closing
Current control for improved performances over temperature range
Reverse polarity protection
Led signalization

Pulse width modulation (PWM) control

A PWM can be used to control the valve and should be set as follows:

	Definition	Value to be applied
Hit voltage	Voltage used for the valve to commute	Valve nominal voltage
Holding voltage	Voltage applied to the valve after commutation	Set duty cycle to guarantee specified holding voltage. 50% of nominal voltage can be used if no value specified.
Hit time	Maximum time required to ensure full valve commutation	40 ms at T > 20°C *1)
PWM frequency		20 … 30 kHz

*1) Please contact us for application outside of those conditions.

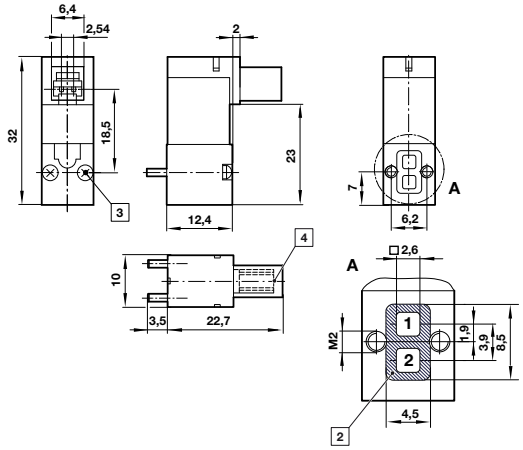
Accessories

Mounting plate with barbed fittings for 3 mm ØID tubing (up to 2 bar)	Mounting manifold with M3 threads — 1 position	Electrical connector Molex 50-57-9402 with 300 mm flying leads
		
S111.1772	S110.1277	S110.1032

Electrical connection

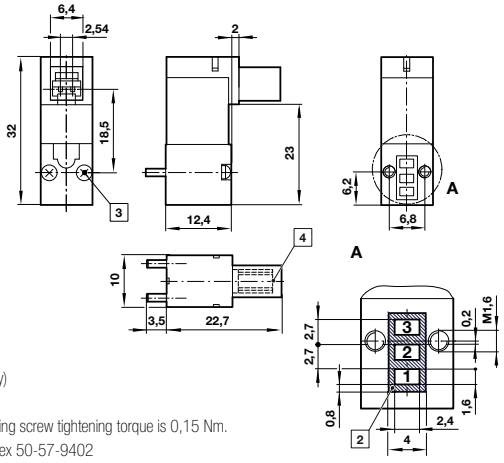
1

With manual override



2

Without manual override



1 Manual override, push only)
2 Sealing area
3 The recommended mounting screw tightening torque is 0,15 Nm.
4 Connector mates with Molex 50-57-9402

All solenoids are supplied with mounting screws and gasket.

Options

- Operating pressure (vacuum)
- Medium temperature
- Ambient temperature
- Response time
- Power consumption
- Materials
- Coils
- Protection class
- Degreased for oxygen use
- Manual override

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TWO-HAND CONTROL UNIT

XSHC04 PIF 4 mm

- Meets the requirements of EN574 Class IIIB *1)
- Certificate of Conformity supplied with every unit
- Both hands must be engaged simultaneously
- Single fault tolerant
- Protection against accidental operation
- No setting or adjustment required

Technical Data

Medium:
Compressed air filtered to 40 µm, lubricated or non-lubricated operation

Operating pressure:
3 … 8 bar

Ambient temperature:
-5°C … +40°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Outer cover and end plates:
Steel

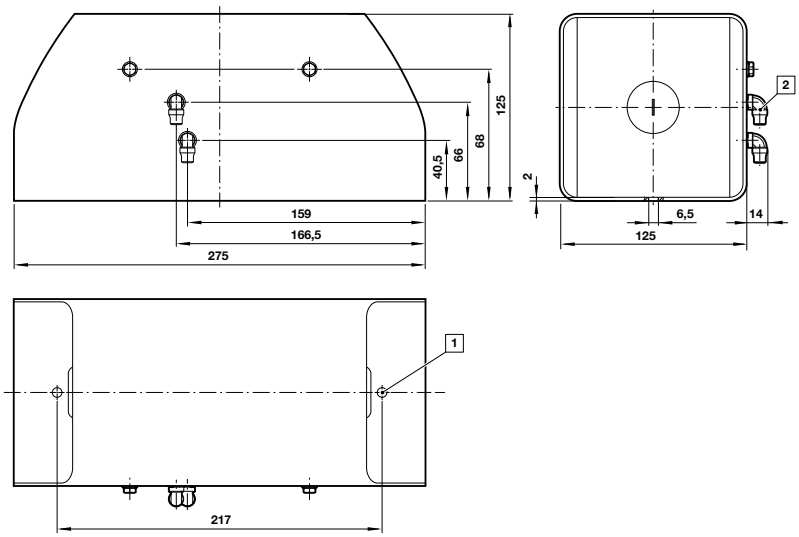
Buttons:
Co-polymer

Seals:
NBR

*1) *The scope of the Machinery Directive encompasses safety components as well as machinery, and since two-hand control units are classed as safety components this requires the XSHC04 to satisfy the essential health and safety requirements of the Directive. One method of ensuring this is to conform with published European Norm (EN) Standards. In the case of the XSHC04 the main standard is EN574 Safety of Machinery – Two Hand Control Devices, Functional Aspects – Principles for Design. This standard classifies two- hand controls into various types, each requiring minimum performance and safety characteristics, such as simultaneous operation, fault tolerance, prevention of accidental operation etc.

EXPRESS



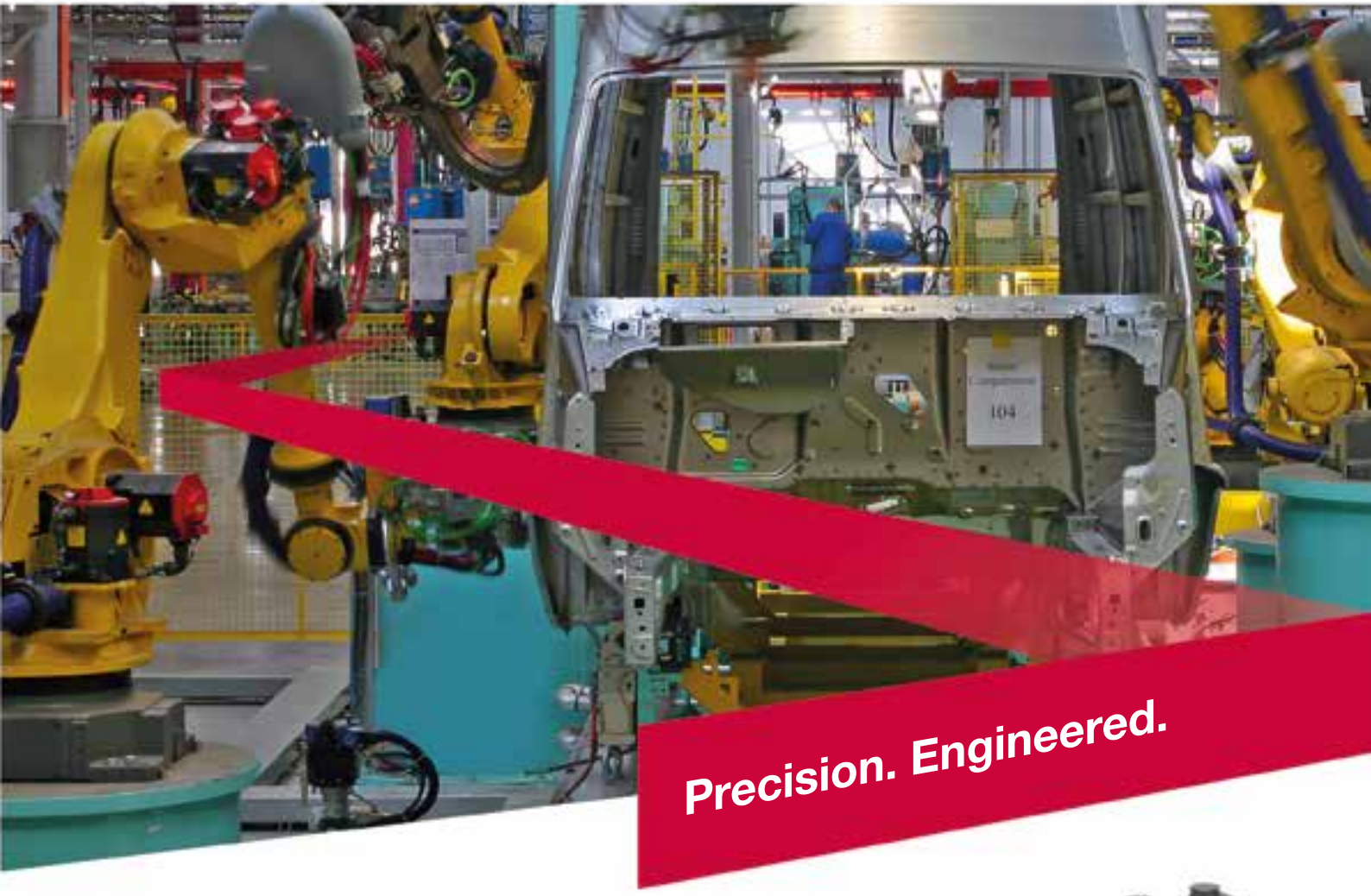


1 Mounting hole
2 Pneufit fitting turnable

Models

Model	O/D tube	Return	Operation
XSHC04	4 mm	0,6 s max.	Both buttons must be operated within 0,5 secs

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Safety Technology

- Over 50 years experience in safety applications
- Safety applications DIN EN ISO 13849
- Competent and professional consulting and system design of safety controls
- Very high B10
- DGUV certified self-monitored safety valves
- Important safety features such as:
  - Safe exhaust
  - Safe position
  - Safe stop
  - Reliable reversing
  - Safely limited speed and more



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SOLENOID ACTUATED SAFETY VALVES

SCVA08, SCVA20 & SCVA32 3/2 – G1/4, G3/4, G1

- Redundant valve assembly, pneumatic self-monitoring with integrated safety silencer
- Ensures safe loading and venting
- Requires no cyclical monitoring or evaluation system
- A complete range in sizes - DN 8, 20 and 32
- With the appropriate application, performance level “e” (cat. 4) of DIN EN ISO 13849-1 is achieved for the safety function “Pressure building up from ‘1’ to ‘2’ and pressure dropping from ‘2’ to ‘3’ “- DGUV approval

Technical Data

Medium:
Compressed air, filtered ≤ 50 µm, lubricated or non-lubricated

Operating Pressure:
See table below

Mounting:
Preferably upright with solenoids on top

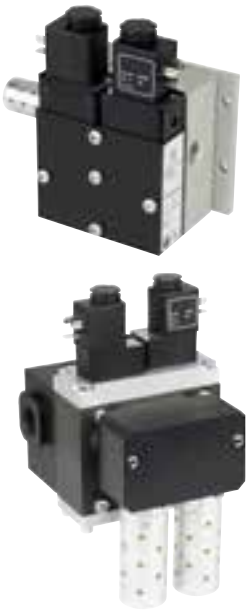
Press control:
Valves are not approved for press clutch and brake applications

Ambient temperature:
-10°C … +60°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Housing:
Aluminium

Seals:
PUR or NBR



Technical data – Solenoids

Standard voltages	24 V d.c.
Duty cycle	100% ED
Protection class	IP65

Other voltages on request!

Models

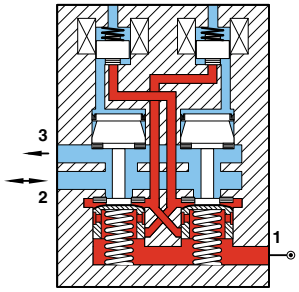
Accessories

Model	Port size	Orifice (mm)	Power at 24 V d.c. (W)	Pressure range (bar)	Flow 1 » 2 (l/min)	Flow 2 » 3 (l/min)	Port sizes 1	2	3	Plug	Pressure switch - flange/face mounted direct onto valve *2)
											
SCVA081BB0A02400	G1/4	8	4,8	3 … 10	1280	1550	G 1/4	G 1/4	G 1/4	0680003000000000, EN 175301-803 - form B	0881400000000000
SCVA201EF0B02400	G3/4	20	11	2 … 10	3900	14000	G 3/4	G 3/4	G 1	0570275000000000, EN 175301-803 - form A	0881400000000000
SCVA321FH0C02400	G1	32	16	2 … 10	8250	30000	G 1	–	–	0570275000000000, EN 175301-803 - form A	0881400000000000

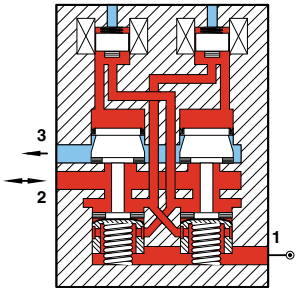
*2) The pressure switch is not required as part of the safe functioning system within the valve, its is offered as a means of indicating that the valve taken up a safe condition ie. no pressure at the output port 2.

Functional diagram

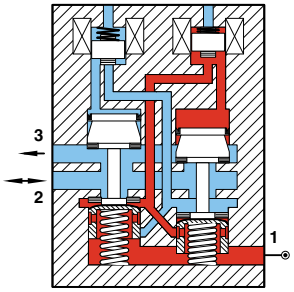
Basic position
Channel “2” onto “3”
Safety silencer relieved



Working position
Both solenoids energized
Channel „1“ onto „2“ turned on



Safety position
For unbalanced control, faulty solenoid, dirty valve, etc.



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Time to vent residual pressure to 0,5 bar

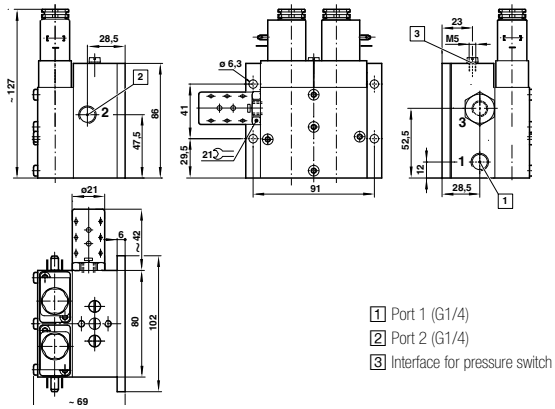
Model	Volume (dm³)	Operating pressure (bar)	Exhaust time (ms)
SCVA081…	1	5	200
		8	250
		10	290
	3	5	560
		8	730
		10	820

Model	Volume (dm³)	Operating pressure (bar)	Exhaust time (ms)
SCVA201…	8	5	230
		8	290
		10	330
	20	5	520
		8	700
		10	800

Model	Volume (dm³)	Operating pressure (bar)	Exhaust time (ms)
SCVA321…	20	5	310
		8	400
		10	420
	50	5	730
		8	930
		10	1100

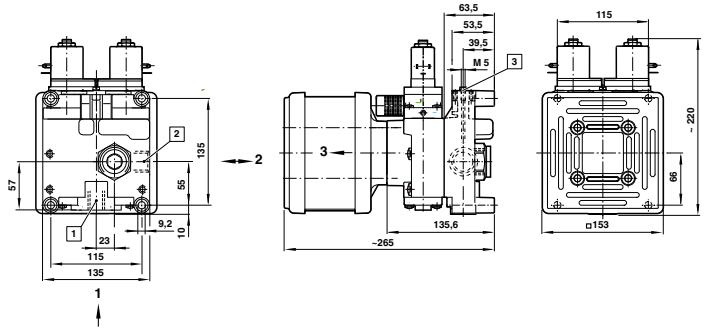
Dimensions

SCVA081BB0A02400 (G1/4)



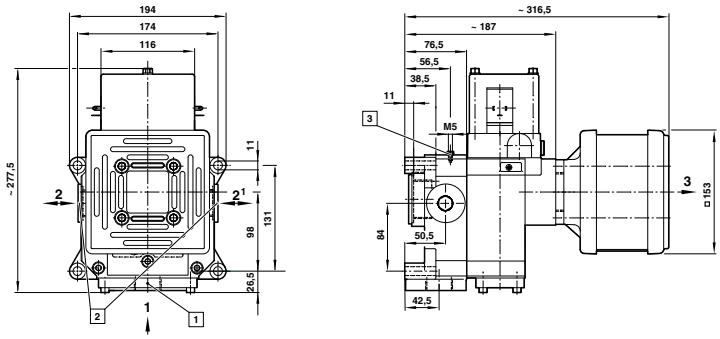
1 Port 1 (G1/4)
2 Port 2 (G1/4)
3 Interface for pressure switch

SCVA201EF0B02400 (G3/4)



1 Port 1 (G3/4)
2 Port 2 (G3/4)
3 Interface for pressure switch

SCVA321FH0C02400 (G1)



1 Port 1 (G1)
2 Alternative ports (G1), two plugs are in scope of delivery
3 Interface for pressure switch

SOLENOID ACTUATED SAFETY VALVES

SCVA10 3/2 – G1/2

- Redundant valve assembly, pneumatic selfmonitoring with integrated safety silencer
- Ensures safe loading and venting
- Requires no cyclical monitoring or evaluation system
- With the appropriate application, performance level “e” (cat. 4) of DIN EN ISO 13849-1 is achieved for the safety function “Pressure building up from ‘1’ to ‘2’ and pressure dropping from ‘2’ to ‘3’ “- DGUV approval
- Valve interface enables direct mount to the Excelon 73/74 series air preparation products

Technical Data

Medium:
Compressed air, filtered ≤ 50 µm, lubricated or non-lubricated

Operating pressure:
See table below

Mounting:
Preferably upright with solenoids

Press control:
Valves are not approved for press clutch and brake applications

Ambient temperature:
-10°C … +60°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Housing:
Aluminium

Seals:
PUR or NBR

EXPRESS



Accessories

Model	Orifice (mm)	Power at 24 V d.c. (W)	Pressure range (bar)	Flow 1 » 2 (l/min)	Flow 2 » 3 (l/min)	Port sizes 1	2	3	Connector form A, DIN EN 175301-803	Quikclamp® with wall bracket *1)	Quikmount pipe adaptor	Pressure switch - flange/face mounted direct onto valve *2)
												
SCVA101DE1A02400	10	4,8	2 … 10	3400	6500	G 1/2	G 1/2	G 3/4	06800030000000000	4314-52	4315-11 (G1/2)	08814000000000000

*1) Quikmount pipe adaptor please order separately.
*2) The pressure switch is not required as part of the safe functioning system within the valve, its is offered as a means of indicating that the valve taken up a safe condition ie. no pressure at the output port 2.

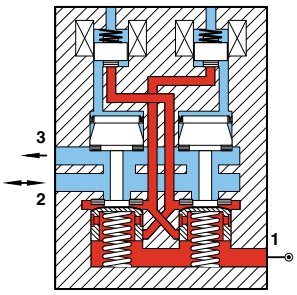
Technical data – Solenoids

Standard voltages	24 V d.c.
Duty cycle	100% ED
Protection class	IP65

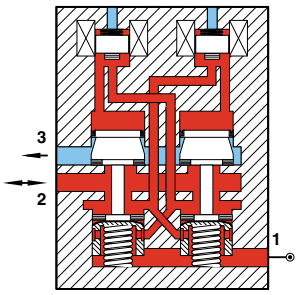
Other voltages on request!

Functional diagram

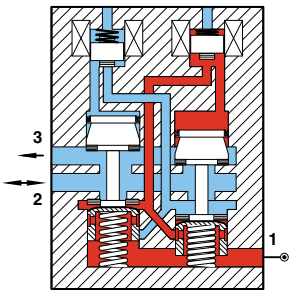
Basic position
Channel “2” onto “3”
Safety silencer relieved



Working position
Both solenoids energized
Channel „1“ onto „2“ turned on



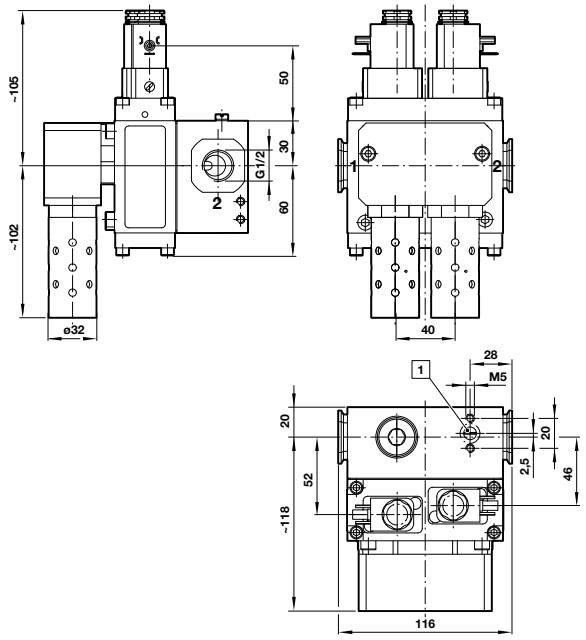
Safety position
For unbalanced control, faulty solenoid, dirty valve, etc.



Time to vent residual pressure to 0,5 bar

Model	Volume (dm^3)	Operating pressure (bar)	Exhaust time (ms)
SCVA101…	3	5	200
		8	250
		10	280
	8	5	450
		8	580
		10	640

Dimensions



Online at store.norgren.com

SAFETY VALVES WITH INTEGRATED SOFT START FUNCTION

SCSQ 3/2, G1/2

- Redundant valve assembly, pneumatic self-monitoring with integrated safety silencer
- Requires no cyclical monitoring or evaluation system
- With the appropriate application, performance level “e” (cat. 4) of DIN EN ISO 13849-1 is achieved for the safety function “Pressure building up from ‘1’ to ‘2’ and pressure dropping from ‘2’ to ‘3’ “- DGUV approval
- Valve interface enables direct mount to the Excelon 73/74 series air preparation products

Technical Data

Medium:
Compressed air, filtered ≤ 50 µm, lubricated or non-lubricated

Operating pressure:
See table below

Mounting:
Preferably upright with solenoids on top

Press control:
Valves are not approved for press clutch and brake applications

Ambient temperature:
-10°C … +60°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Housing:
Aluminium

Seals:
PUR, NBR



Models

Accessories

Model	Orifice (mm)	Power at 24 V d.c. (W)	Pressure range (bar)	Flow 1 » 2 (l/min)	Flow 2 » 3 (l/min)	Port sizes 1	2	3	Connector form A, DIN EN 175301-803	Quikclamp® with wall bracket *1)	Quikmount pipe adaptor	Pressure switch - flange/face mounted direct onto valve *2)
												
SCSQ101D01D02400	10	4,5	3,5 … 10	3000	5700	G 1/2	G 1/2	G 3/4	05702750000000000	4314-52	4315-11 (G1/2)	08814000000000000

*1) Quikmount pipe adaptor please order separately.
*2) The pressure switch is not required as part of the safe functioning system within the valve, its is offered as a means of indicating that the valve taken up a safe condition ie. no pressure at the output port 2.

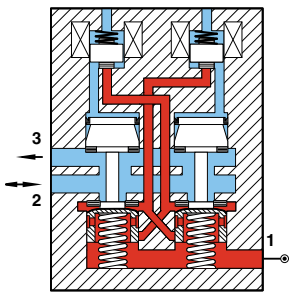
Technical data – Solenoids

Standard voltages	24 V d.c.
Duty cycle	100% ED
Protection class	IP65

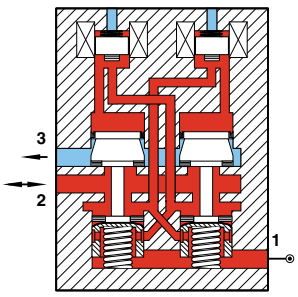
Other voltages on request!

Functional diagram

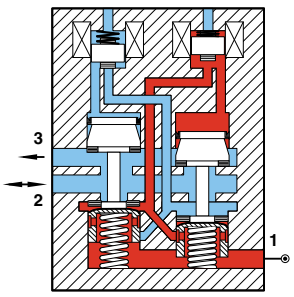
Basic position
Channel “2” onto “3”
Safety silencer relieved



Working position
Both solenoids energized
Channel „1“ onto „2“ turned on



Safety position
For unbalanced control, faulty solenoid, dirty valve, etc.



Soft start function
The safety valve with soft start function provides for a controlled build-up of pressure at the valve output in two stages:
Stage 1 – The pressure builds up slowly depending on the setting of the throttle valve and the volume of the system to be filled.
Stage 2 – At a certain pressure level (ps) an internal pilot valve operates bypassing the throttle allowing full operating pressure at the valve outlet. This pressure level (ps) will be dependant on the operating pressure (po) of the system and can be estimated to be greater than 60% of the operating pressure (ps > = 0,6 x po)

Filling time depending on throttle position of soft start valve

From switching signal ON to pressure build-up 90% of rated pressure

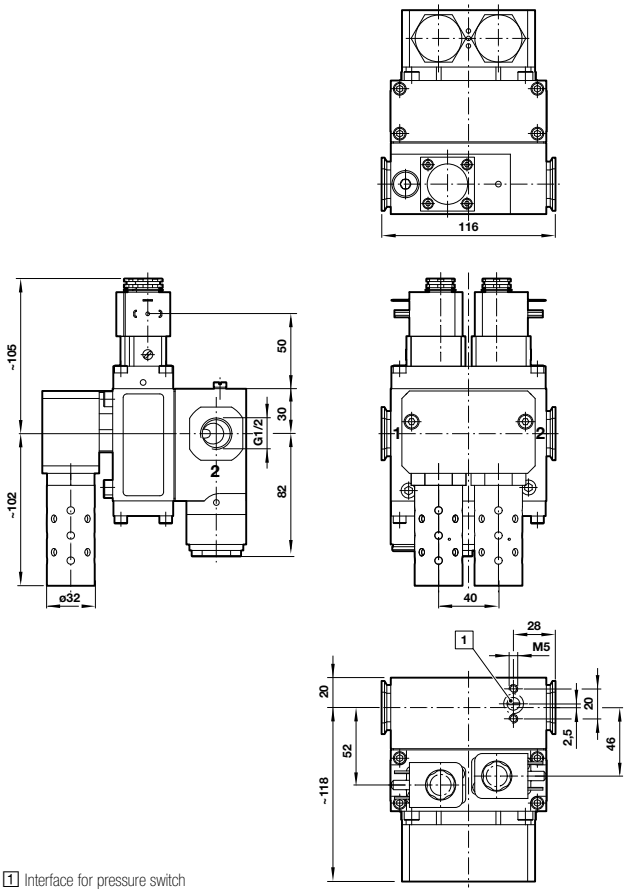
Operating pressure (bar)	Volume (dm^3)	Filling time approx. (ms) Numbers of needle turn		
		4	6	12
5	3	3200	2600	1700
	8	8300	7000	4300
6	3	3000	2400	1500
	8	7800	6500	3900
8	3	2700	2200	1400
	8	7300	5700	3700

Exhausting time

From switching signal OFF to pressure reduction to 10% of rated pressure

Operating pressure (bar)	Volume (dm^3)	Exhaust time (ms)
5	3	190
	8	440
6	3	200
	8	460
8	3	210
	8	480

Dimensions



1 Interface for pressure switch

SOLENOID ACTUATED PRESS SAFETY VALVES

XSz 8 … XSz 50 3/2, G 1/4 … G2

- Inherently fail-safe without residual pressure
- Dynamic self monitoring
- For use with pneumatic clutch and brake systems and other 3-way safety functions
- Conforms to DIN ISO13849-1 (perf level 'e', cat IV) OSHA, BG, CSA and other approvals
- Improves safety and reduces downtime
- No additional electrical monitoring required
- Easily fitted into existing systems

Technical Data

Medium:
Compressed air, filtered (≤50µm), lubricated and non-lubricated

Suitable oils:
Shell Tellus S2 MA 32, ExxonMobil Febis K 32 or comparable oil with DVI values < 8 (DIN ISO 1817) and ISO viscosity class 32-46 (DIN 51519)

Operating Pressure:
2 … 10 bar
For more details please see table

Mounting position:
Preferably upright with solenoids on top

Ambient temperature:
-10°C … +60°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Body:
Aluminium

Seals:
PUR, NBR



Models

Model *	Series	Pressure range (bar)	Flow 1 (P) »2 (A) 2 (A) » 3 (R)		Port sizes				Dimension No.
			(m³/h)	(m³/h)	1 (P)	2 (A)	2_1 (A_1)	3 (R)	
24928063052	XSz 8 *1)	3 … 10	77	93	G1/4	G1/4	–	G1/4	1
24928083052	XSz 8 *1)	3 … 10	77	98	G1/4	G1/4	–	G3/8	1
24929323052	XSz 10 *2)	2 … 10	190	390	G1/2	G1/2	(G1/2)	–	2
24929303052	XSz 10 *4)	2 … 10	190	390	G1/2	G1/2	(G1/2)	G3/4	2
24930320200	XSz 20 *2)	2 … 8	230	840	G3/4	G3/4	G1	–	3
24930300200	XSz 20 *4)	2 … 8	230	840	G3/4	G3/4	G1	G1	3
24931050800	XSz 32 *2)	2 … 8	495	1800	G1	G1	G1 1/2	–	4
24931060800 *3)	XSz 32 *2)	2 … 8	495	1800	G1	G1	G1 1/2	–	4
24931300800	XSz 32 *4)	2 … 8	495	1800	G1	G1	G1 1/2	G1 1/2	4
24931310800 *3)	XSz 32 *4)	2 … 8	495	1800	G1	G1	G1 1/2	G1 1/2	4
24932300800	XSz 50 *4)	2 … 8	1100	3300	G1 1/2	G2	–	G2	5
24932310800 *3)	XSz 50 *4)	2 … 8	1100	3300	G1 1/2	G2	–	G2	5

Port sizes in brackets are plugged.
* To order please insert voltage requested for each valve. All solenoids are delivered without plugs.
*1) XSz 8 valves are delivered with silencer.
*2) Valves delivered with integrated silencer and without flange (R ports).
*3) With pressure balance Model 1028100.
*4) Valves delivered without silencer and with flange.

Technical data – Solenoids

Model	0200, 0800, and 3052
Standard voltages	24 V d.c. and 230 V a.c., other on request
Duty cycle	100% ED
Protection class	IP65
Electrical connection	DIN EN 175301-803 (DIN 43650), form A

Model	Power consumption V d.c. (W)	Current V a.c.	
		Inrush (VA)	Hold (VA)
0200	11	22	15
0800	16	50	27
3052	4,8	12	8,5

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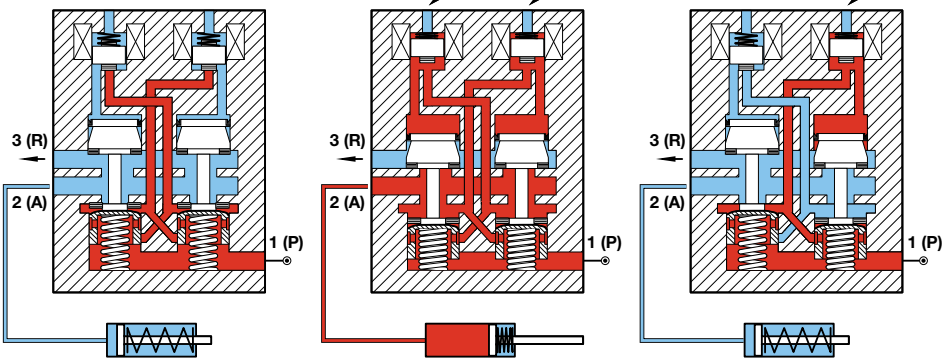
Accessories

Series	Connector DIN EN 175301-803	Silencer	Integrated silencer	Integrated silencer	High efficiency silencer
					
XSz 8	0680003000000000	MB002B (G 1/4), MB003B (G 3/8)	–	–	–
XSz 10	0680003000000000	–	0016422000000000	–	0016420000000000
XSz 20	0570275000000000	–	–	0016622000000000	0016520000000000
XSz 32	0570275000000000	–	–	0016622000000000	0016620000000000
XSz 50	0570275000000000	–	–	–	0016720000000000

Caution: the safety is related to the quality of the silencer, use only IMI Norgren original silencers.

Series	Connector DIN EN 175301-803
	
XSz 50	0545005000000000 (port A, G2, and pressure switches port G1/4)

Functional diagram



Solenoids de-energized
A port is exhausted. P port is closed, no connection from P to A. No residual pressure on port A as port A is freely exhausted through port R. No acting pressure on port A.

Solenoids energized
Pilots are synchronously energised. Connection from port P to A. Working pressure on A. No passage from P to R. Dynamic self monitoring of both pilot systems, checking each other at each cycle for proper functioning.

Malfunction
Pilots non-synchronously energised. Dynamic monitor notices failure operation and prevents the pistons from giving connection from P to A. Synchronously port A exhausts through R. No residual pressure remains in the system since P and A are not connected. The pilot line has lost the pressure and is locked.

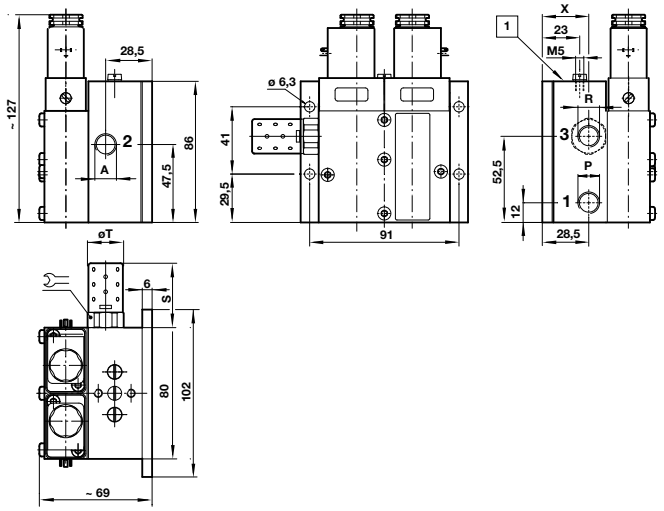
1 (P) = Air pressure port, 2 (A) = Power port (clutch / brake), 3 (R) = Exhaust.
IMI Norgren XSz Safety valves comply with the Category IV of DIN EN ISO 13849-1, if the operating system has been designed and realised according to Category IV.

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SOLENOID ACTUATED PRESS SAFETY VALVES
XSz 8 … XSz 50 3/2, G 1/4 … G2

Dimensions

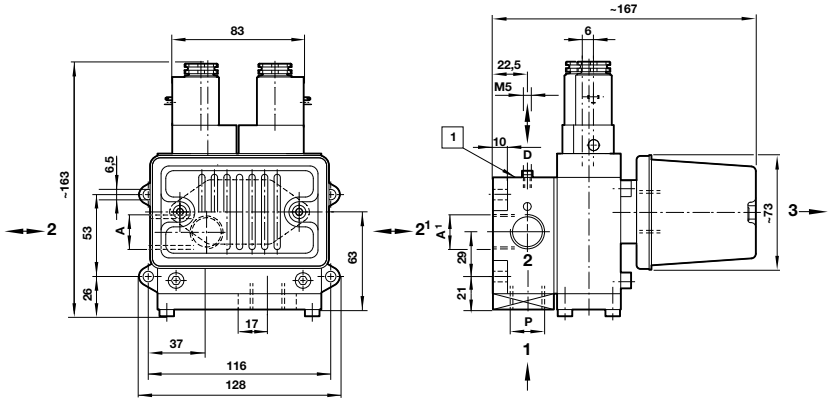
1 - XSz 8 - with silencer



Model	1 (P)	2 (A)	3 (R)	S	øT	X	⌯
24928063052	G 1/4	G 1/4	G 1/4	42	21	–	21
24928083052	G 1/4	G 1/4	G 3/8	75	32	26,5	32

[1] Flange surface for pressure switch and failure indicator unit

2 - XSz 10 - with silencer

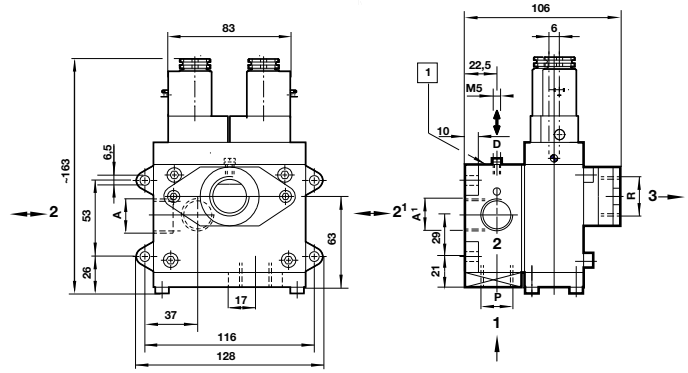


Model	1 (P)	2 (A)	2¹ (A¹)	3 (R)
24929323052	G 1/2	G 1/2	G 1/2 *	–
24929303052	G 1/2	G 1/2	G 1/2 *	G3/4

* closed

[1] Flange surface for pressure switch and failure indicator unit

2 - XSz 10 - without silencer



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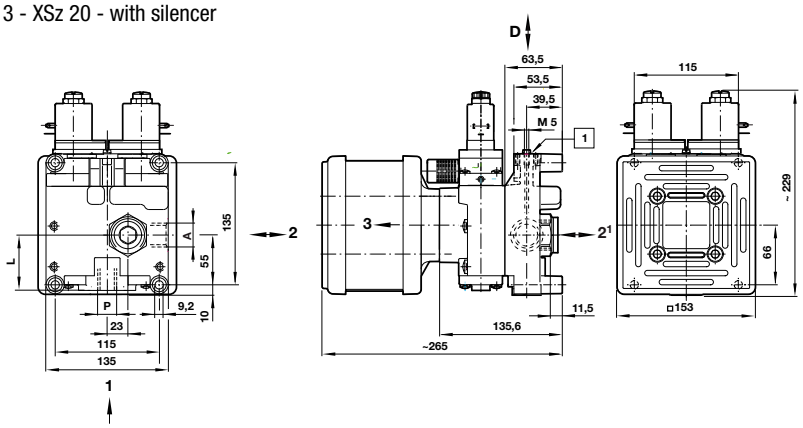
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see the option you require please contact us.

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SOLENOID ACTUATED PRESS SAFETY VALVES

XSz 8 … XSz 50 3/2, G 1/4 … G2

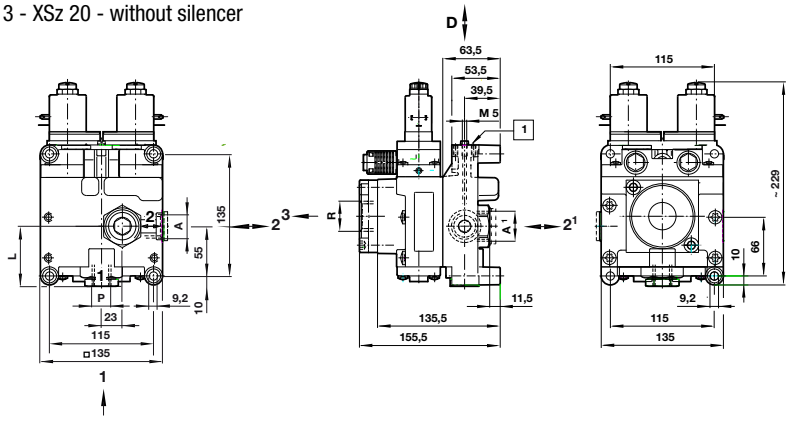
3 - XSz 20 - with silencer



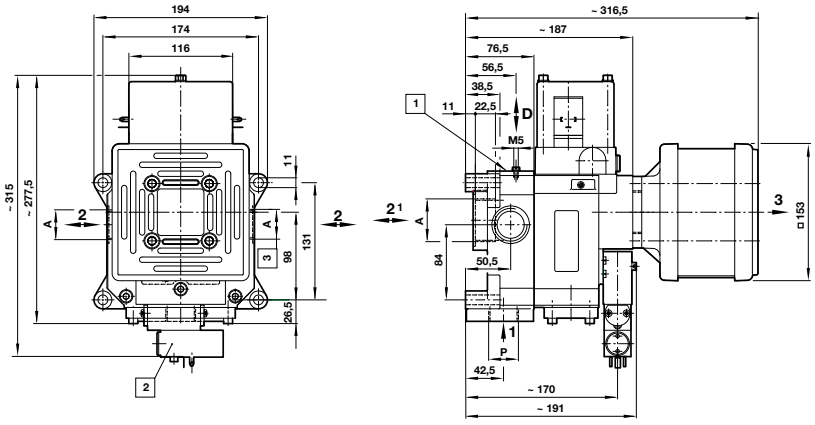
Model	1 (P)	2 (A)	2¹ (A¹)	3 (R)	L
24930320200	G 3/4	G 3/4	G 1	–	66,5 (57)
24930300200	G 3/4	G3/4	G 1	G 1	66,5 (57)

[1] Flange surface for pressure switch and failure indicator unit

3 - XSz 20 - without silencer



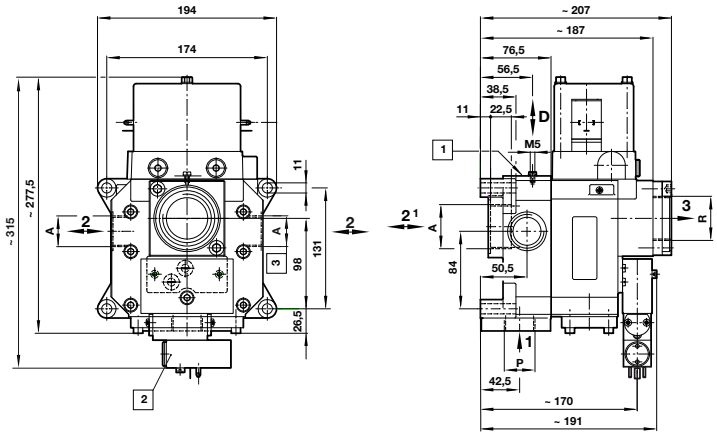
4 - XSz 32 - with silencer and pressure balance



Model	1 (P)	2 (A)	2¹ (A¹)	3 (R)
24931060800	G1	G1	G1 1/2	–
24931310800	G1	G1	G1 1/2	G1 1/2
24931300800	G1	G1	G1 1/2	G1 1/2
24931050800	G1	G1	G1 1/2	–

[1] Flange surface for pressure switch and failure indicator unit
[2] Pressure balance

4 - XSz 32 - without silencer, with pressure balance



Online at store.norgren.com

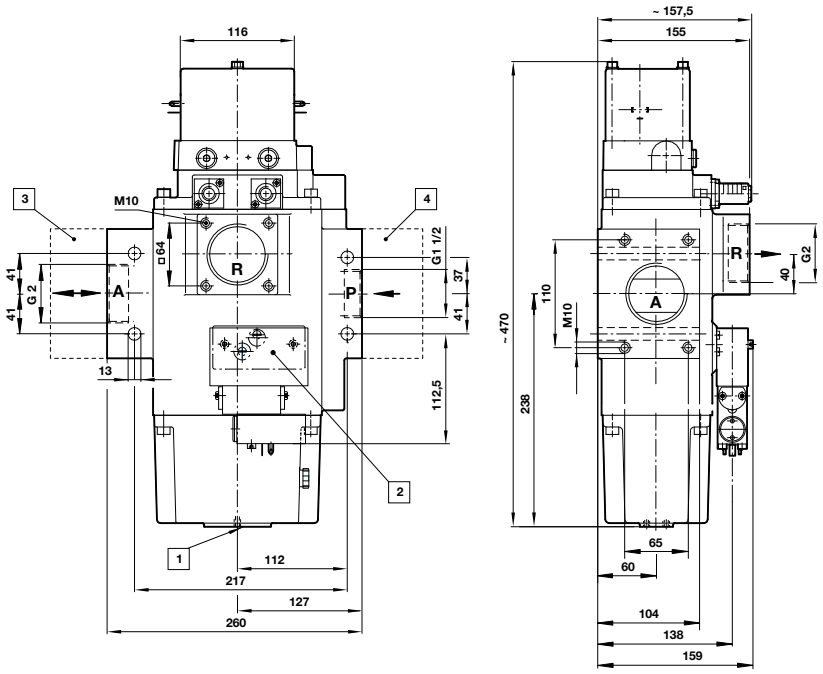
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SOLENOID ACTUATED PRESS SAFETY VALVES
XSz 8 … XSz 50 3/2, G 1/4 … G2

5 - XSz 50 - without silencer, with pressure balance



1 Flange surface for pressure switch and failure indicator unit
2 Pressure balance
3 Flange surface for 18D pressure switch

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IMI Precision Engineering

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IMI HERION

INLINE LOCKOUT VALVE

CR04 & C002 3/2, G1/2, G3/4, G1 and 1/2", 3/4", 1" PTF

- Lockable only in the "off" position
- Clear visual indication when in the "on" position
- High exhaust flow
- Helps you to comply to OSHA regulation 29 CFR 1910.147 - The control of hazardous energy (lockout/tagout)

Technical Data

Medium:
Compressed air

Operating Pressure:
0 … 20 bar

Mounting:
Optional

Ambient temperature:
-30°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Valve body:
Aluminum

Silencer base:
Zinc

Spool, T-Handle, silencer shell:
Aluminum

Spring detent:
Stainless steel

Elastomers:
NBR and PUR

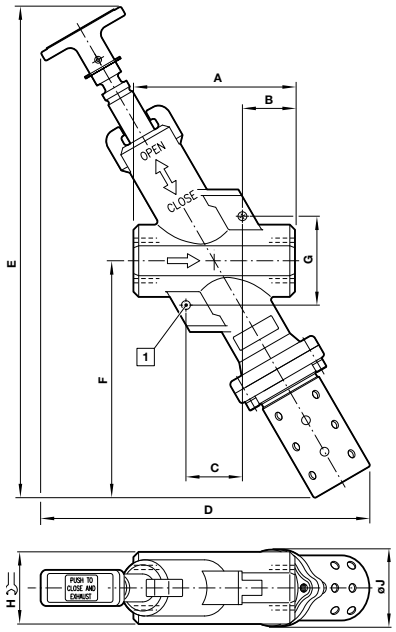


Models

Accessories

Model	Basic size	Port size	Flow 1 » 2 (l/min)	Flow 2 » 3 (l/min)	Handle colour	Weight (kg)	Replacement silencer	Padlock with two keys	Repair kits
									
CR043C	1/2"	G1/2	8200	6970	Red	0,95	ML004F	0613633000000000 (brass)	53474-43 (NBR - 1/2" base size)
C0023C	1/2"	1/2" PTF	8200	6970	Black	0,95	ML004F	0613633000000000 (brass)	53474-43 (NBR - 1/2" base size)
CR043D	1/2"	G3/4	11120	7590	Red	0,92	ML004F	0613633000000000 (brass)	53474-43 (NBR - 1/2" base size)
C0023D	1/2"	3/4" PTF	11120	7590	Black	0,92	ML004F	0613633000000000 (brass)	53474-43 (NBR - 1/2" base size)
CR044B	1"	G1	14300	8120	Red	1,88	ML008F	–	53475-34 (NBR - 1" base size)
C0024B	1"	1" PTF	14300	8120	Black	1,88	ML008F	–	53475-34 (NBR - 1" base size)

Dimensions



Basic size	A	B	C	D	E	F	G	H	øJ
1/2"	102	35	32	202	299	136	57	48	48
1"	127 (131)	41 (43)	44	266	399	198	77	57	54

( ) = values for PTF version.

1 Hole dia 7 mm

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Super X series

Manual and mechanical valve

Strong, robust and reliable, they employ a mixture of custom-made and electrical style operating heads on a modular body system covering 3/2, 5/2 and 5/3 functions. Newer options now include many 3/2 versions with a moulded body having either threaded ports or integral push-in fittings.

For heavier applications, traditional die-cast bodies are still available. In addition to the standard catalogued series, IMI Precision Engineering also produces many special options covering more diverse applications.

- Compact, high flow for body size with electrical style operators – complete integration with other control systems and aesthetically pleasing
- Wide range of operators in all functions, able to meet most control requirements – best use of standard product with total flexibility and minimum spares holding and inventory count
- Moulded body available with integral PIFs



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IMI Precision Engineering

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MANUALLY & MECHANICALLY ACTUATED SPOOL VALVE

Super X 3/2, 5/2 and 5/3, G1/8, G1/4 and 6mm PIF

- Suitable for multi-directional flow and dual supply applications
- High flow rate
- Electrical style manual operators offer ease of use, and include several special use versions which can be used to comply with health and safety requirements

Technical Data

Medium:
Compressed air, filtered, lubricated and non-lubricated

Operating pressure:
Maximum 10 bar

Flow:
1/8" 335 l/min
1/4" 965 l/min

Ambient temperature:
0°C … +70°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

3/2 way PA body valves
Metal versions are available on request

Port assembly torque:
Use recommended torque for fittings. This should not exceed 10 Nm, otherwise damage may occur to body.

PIF Ports:
The PIF fittings are suitable for PA 11 or 12, PU (92 to 98 shore) and other plasticised or unplasticised tubing which conforms to the tolerances specified in BS5409, Part 1, 1976, light and normal duty, DIN 73378, DIN74234, NFE 49-100. Tube is to be cut square and free of burrs.

Materials

Plastic version for 3/2 way valves only

Body and end cover:
PA6

Operators:
Aluminium, steel, plastic etc.

Seals:
NBR

Metal version

Body:
Diecast zinc

End cover:
Aluminium or glass-filled nylon

Operators:
Aluminium, steel, plastic etc.

Seals:
NBR

EXPRESS



Models – 3/2 mechanical valves

Accessories

	Model	Port size	Actuation	Body	Operating pressure (bar)	Operating force (N)	Dimension No.	Spares kit
	03040002	G1/8	Plunger/spring	PA6	- 0,9 … 10	31	1	03840802
	03040032	ø 6 mm	Plunger/spring	PA6	- 0,9 … 10	31	1	03840802
	03060002	G1/4	Plunger/spring	Zinc	- 0,9 … 10	53	23	03860202
	03041702	G1/8	Plunger/pilot	Zinc	- 0,9 … 10 *1)	18	2	03840802
	03040202	G1/8	Roller/spring	PA6	- 0,9 … 10	31	3	03840802
	03040232	ø 6 mm	Roller/spring	PA6	- 0,9 … 10	31	3	03840802
	03060202	G1/4	Roller/spring	Zinc	- 0,9 … 10	61	24	03860202
	03040902	G1/8	Roller/pilot	Zinc	- 0,9 … 10	18 *1)	4	03840802
	03042702	G1/8	Roller lever/pilot	Zinc	- 0,9 … 10	9 *1)	6	03840802
	03062402	G1/4	Roller lever/pilot	Zinc	- 0,9 … 10	9 *1)	27	03861202
	03041102	G1/8	Roller lever/spring	PA6	- 0,9 … 10	31	5	03840802
	03041132	ø 6 mm	Roller lever/spring	PA6	- 0,9 … 10	31	5	03840802
	03061102	G1/4	Roller lever/spring	Zinc	- 0,9 … 10	45	26	03860202
	03029302	G1/8	Roller lever (heavy duty) /spring	PA6	- 0,9 … 10	31	7	03840802
	03029332	ø 6 mm	Roller lever (heavy duty)/spring	PA6	- 0,9 … 10	31	7	03840802
	03041002	G1/8	One way trip lever/spring	PA6	- 0,9 … 10	31	9	03840802
	03029402	G1/8	One way trip lever (heavy duty)/spring	PA6	- 0,9 … 10	31	10	03840802
	03043202	G1/8	Antenna/spring	PA6	- 0,9 … 10	0,3 at tip	11	03843202
	03043232	ø 6 mm	Antenna/spring	PA6	- 0,9 … 10	0,3 at tip	11	03843202
	03042302	G1/8	Sensitive roller/spring	Zinc	- 0,9 … 10	1	8	03847302

*1) At zero bar, reset pressure 2 bar minimum.
Pressure for pilot function is the minimum pressure to operate the valve. The valve may switch below this pressure.

Online at store.norgren.com

MANUALLY & MECHANICALLY ACTUATED SPOOL VALVE

Super X 3/2, 5/2 and 5/3, G1/8, G1/4 and 6mm PIF

Models – 3/2 manual valves

Accessories

	Model	Port size	Actuation	Body	Colour	Operating pressure (bar)	Operating force (N)	Dimension No.	Spares kit
	03040402	G1/8	Button/spring	PA6	Black	- 0,9 … 10	31	33	03840802
	03040432	ø 6 mm	Button/spring	PA6	Black	- 0,9 … 10	31	33	03840802
	03040502	G1/8	Button/spring	PA6	Green	- 0,9 … 10	31	33	03840802
	03040532	ø 6 mm	Button/spring	PA6	Green	- 0,9 … 10	31	33	03840802
	03040602	G1/8	Button/spring	PA6	Red	- 0,9 … 10	31	33	03840802
	03040632	ø 6 mm	Button/spring	PA6	Red	- 0,9 … 10	31	33	03840802
	03060402	G1/4	Knob/spring	Zinc	Black	- 0,9 … 10	53	67	03861202
	03034502	G1/8	Knob/spring	PA6	Black	- 0,9 … 10	18	44	03840802
	03034532	ø 6 mm	Knob/spring	PA6	Black	- 0,9 … 10	18	44	03840802
	03036602	G1/8	Button (palm)/spring	PA6	Red	- 0,9 … 10	31	35	03840802
	03036632	ø 6 mm	Button (palm)/spring	PA6	Red	- 0,9 … 10	31	35	03840802
	03036702	G1/8	Button (palm)/spring	PA6	Green	- 0,9 … 10	31	35	03840802
	03036732	ø 6 mm	Button (palm)/spring	PA6	Green	- 0,9 … 10	31	35	03840802
	03036802	G1/8	Button (palm)/spring	PA6	Black	- 0,9 … 10	31	35	03840802
	03036832	ø 6 mm	Button (palm)/spring	PA6	Black	- 0,9 … 10	31	35	03840802
	03040802	G1/8	Button/pilot	Zinc	Black	- 0,9 … 10 *1)	18	34	03840802
	03042002	G1/8	Button/pilot	Zinc	Green	- 0,9 … 10 *1	18	34	03840802
	03042102	G1/8	Button/pilot	Zinc	Red	- 0,9 … 10 *1	18	34	03840802
	03060802	G1/4	Button/pilot	Zinc	Black	- 0,9 … 10 *1	13	68	03861202
	03041402	G1/8	Button (shrouded)/spring	PA6	Black	- 0,9 … 10	31	36	03840802
	03041432	ø 6 mm	Button (shrouded)/spring	PA6	Black	- 0,9 … 10	31	36	03840802
	03041502	G1/8	Button (shrouded)/spring	PA6	Green	- 0,9 … 10	31	36	03840802
	03041532	ø 6 mm	Button (shrouded)/spring	PA6	Green	- 0,9 … 10	31	36	03840802
	03041602	G1/8	Button (shrouded)/spring	PA6	Red	- 0,9 … 10	31	36	03840802
	03041632	ø 6 mm	Button (shrouded)/spring	PA6	Red	- 0,9 … 10	31	36	03840802
	03042802	G1/8	Emergency stop/twist reset	PA6	Red	- 0,9 … 10	18	37	03840802
	03042832	ø 6 mm	Emergency stop/twist reset	PA6	Red	- 0,9 … 10	18	37	03840802
	03041902	G1/8	Rotary knob/set reset	PA6	Black	- 0,9 … 10	–	46	03840802
	03041932	ø 6 mm	Rotary knob/set reset	PA6	Black	- 0,9 … 10	–	46	03840802
	03033502801	G1/8	Button(Palm)/key	PA6	Red	- 0,9 … 10	31	39	03840802
	03033532801	ø 6 mm	Button(Palm)/key	PA6	Red	- 0,9 … 10	31	39	03840802
	030418 02801	G1/8	Key/key	PA6	Red	- 0,9 … 10	–	48	03840802
	030418 22801	ø 6 mm	Key/key	PA6	Red	- 0,9 … 10	–	48	03840802
	03042502	G1/8	Knob/knob	PA6	Black	- 0,9 … 10	18	44	03840802
	03042532	ø 6 mm	Knob/knob	PA6	Black	- 0,9 … 10	18	44	03840802
	03062502	G1/4	Knob/knob	Zinc	Black	- 0,9 … 10	13	69	03860202
	03042402	G1/8	Knob/knob or pilot	Zinc	Black	- 0,9 … 10	18	45	03840802
	03062702	G1/4	Knob/knob or pilot	Zinc	Black	- 0,9 … 10 *3)	13	70	03861202
	03042602	G1/8	Knob lever/spring	PA6	Black	- 0,9 … 10	18	43	03840802
	03043802	G1/8	Lever/spring	Zinc	Black	- 0,9 … 10	9	42	03840802
	03063802	G1/4	Lever/spring	Zinc	Black	- 0,9 … 10	15	71	03860202
	03040302	G1/8	Toggle/toggle	PA6	Black	- 0,9 … 10	28	41	03840802
	03040332	ø 6 mm	Toggle/toggle	PA6	Black	- 0,9 … 10	28	41	03840802
	03043702	G1/8	Lever/lever	PA6	Black	- 0,9 … 10	9	42	03840802
	03029602	G1/8	Lever/lever	Zinc	Black	- 0,9 … 10	13	40	03840802
	03063702	G1/4	Lever/lever	Zinc	Black	- 0,9 … 10	13	71	03860202
	03048102	G1/8	Pedal/spring	Zinc	Black	- 0,9 … 10	22	49	03840802
	03068102	G1/4	Pedal/spring	Zinc	Black	- 0,9 … 10	22	66	03860202
	03048302	G1/8	Pedal/pedal	Zinc	Black	- 0,9 … 10	22	49	03840802
	03068302	G1/4	Pedal/pedal	Zinc	Black	- 0,9 … 10	22	66	03860202

*1) At zero bar, reset pressure 2 bar minimum. *3) Reset pressure: 4 bar minimum.

Pressure for pilot function is the minimum pressure to operate the valve. The valve may switch below this pressure.

Models – 3/2 adaptor valves for Klöckner Möller actuators

Accessories

Model	Port size	Actuation	Body	Operating pressure (bar)	Operating force (N)	Dimension No.	Spares kit
03029502	G1/8	Plunger/spring	PA6	- 0,9 … 10	31	78	03840802
03029532	ø 6 mm	Plunger/spring	PA6	- 0,9 … 10	31	78	03840802

Models – 5/2 mechanical valves

Accessories

	Model	Port size	Actuation	Operating pressure (bar)	Operating force (N)	Dimension No.	Spares kit
	X3044002	G1/8	Plunger/spring	- 0,9 … 10	54	12	03840802
	X3064002	G1/4	Plunger/spring	- 0,9 … 10	62	28	03860202
	X3045702	G1/8	Plunger/pilot	- 0,9 … 10	22 *1)	13	03840802
	X3044202	G1/8	Roller/spring	- 0,9 … 10	54	14	03840802
	X3064202	G1/4	Roller/spring	- 0,9 … 10	67	29	03860202
	X3044902	G1/8	Roller/pilot	- 0,9 … 10	22 *1)	15	03840802
	X3064902	G1/4	Roller/pilot	- 0,9 … 10	13 *1)	30	03861202
	X3045102	G1/8	Roller lever/spring	- 0,9 … 10	31	16	03840802
	X3065102	G1/4	Roller lever/spring	- 0,9 … 10	45	31	03860202
	X3039302	G1/8	Roller lever (heavy duty)/spring	- 0,9 … 10	31	18	03840802
	X3045002	G1/8	One-way trip/spring	- 0,9 … 10	31	20	03840802
	X3039402	G1/8	One-way trip (heavy duty)/spring	- 0,9 … 10	31	21	03840802
	X3046702	G1/8	Roller lever/pilot	- 0,9 … 10	9 *1)	17	03840802
	X3066402	G1/4	Roller lever/pilot	- 0,9 … 10	9 *1)	32	03861202
	X3047202	G1/8	Antennar/spring	- 0,9 … 10 *2)	0,3	22	N/A
	X3046302	G1/8	Sensitive roller/spring	- 0,9 … 10 *2)	1	19	N/A

*1) At zero bar, reset pressure 2 bar minimum.
*2) Constant pilot pressure supply: 3 bar minimum.
The oerating pressure for pilot function is the minimum pressure to operate the valve. The valve may switch below this pressure.

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MANUALLY & MECHANICALLY ACTUATED SPOOL VALVE
Super X 3/2, 5/2 and 5/3, G1/8, G1/4 and 6mm PIF

Models – 5/2 manual valves

Accessories

	Model	Port size	Actuation	Colour	Operating pressure (bar)	Operating force (N)	Dimension No.	Spares kit
	X3044402	G1/8	Button (palm)/spring	Black	- 0,9 … 10	54	50	03840802
	X3044502	G1/8	Button (palm)/spring	Green	- 0,9 … 10	54	50	03840802
	X3044602	G1/8	Button (palm)/spring	Red	- 0,9 … 10	54	50	03840802
	X3064402	G1/4	Button/spring	Black	- 0,9 … 10	62	72	03860202
	X3038602	G1/8	Button (palm)/spring	Red	- 0,9 … 10	31	51	03840802
	X3038702	G1/8	Button (palm)/spring	Green	- 0,9 … 10	31	51	03840802
	X3038802	G1/8	Button (palm)/spring	Black	- 0,9 … 10	31	51	03840802
	X3044802	G1/8	Button (palm)/pilot	Black	- 0,9 … 10 *1)	22	53	03840802
	X3046002	G1/8	Button (palm)/pilot	Green	- 0,9 … 10 *1)	22	53	03840802
	X3046102	G1/8	Button (palm)/pilot	Red	- 0,9 … 10 *1)	22	53	03840802
	X3045402	G1/8	Button (shrouded)/spring	Black	- 0,9 … 10	54	52	03840802
	X3045502	G1/8	Button (shrouded)/spring	Green	- 0,9 … 10	54	52	03840802
	X3045602	G1/8	Button (shrouded)/spring	Red	- 0,9 … 10	54	52	03840802
	X3046802	G1/8	Emergency stop/twist reset	Red	- 0,9 … 10	18	51	03847302
	X3037502	G1/8	Button (palm)/key		- 0,9 … 10	–	55	03840802
	X3045802801	G1/8	Key/key		- 0,9 … 10	–	64	03840802
	X3045902	G1/8	Rotary knob/knob reset		- 0,9 … 10	–	54	03840802
	X3046502	G1/8	Knob/knob	Black	- 0,9 … 10	22	61	03840802
	X3066502	G1/4	Knob/knob	Black	- 0,9 … 10	13	74	03860202
	X3046402	G1/8	Knob, push/knob, pull or pilot	Black	- 0,9 … 10 *1)	22	62	03860202
	X3064802	G1/4	Knob, push/knob, pull or pilot	Black	- 0,9 … 10 *1)	13	73	03861202
	X3046602	G1/8	Knob lever/spring		- 0,9 … 10	31	60	03840802
	X3047802	G1/8	Lever/spring	Black	- 0,9 … 10	16	58	03840802
	X3067802	G1/4	Lever/spring	Black	- 0,9 … 10	15	75	03860202
	X3029602	G1/8	Toggle/toggle	Black	- 0,9 … 10	13	56	03840802
	X3044302	G1/8	Toggle/toggle	Black	- 0,9 … 10	48	57	03840802
	X3047702	G1/8	Toggle/lever	Black	- 0,9 … 10	13	58	03840802
	X3067702	G1/4	Toggle/lever	Black	- 0,9 … 10	13	75	03860202
	X3048202	G1/8	Pedal/spring	Black	- 0,9 … 10	22	65	03840802
	X3068202	G1/4	Pedal/spring	Black	- 0,9 … 10	22	77	03860202
	X3048402	G1/8	Pedal/pedal	Black	- 0,9 … 10	22	65	03840802
	X3068402	G1/4	Pedal/pedal	Black	- 0,9 … 10	22	76	03860202

The oerating pressure for pilot function is the minimum pressure to operate the valve. The valve may switch below this pressure.

Models – 5/2 adaptor valves for Klöckner Möller actuators

Accessories

Model	Port size	Actuation	Operating pressure (bar)	Operating force (N)	Dimension No.	Spares kit
X0039502	G1/8	Plunger/spring	- 0,9 … 10	54	79	03840802

MANUALLY & MECHANICALLY ACTUATED SPOOL VALVE

Super X 3/2, 5/2 and 5/3, G1/8, G1/4 and 6mm PIF

Models – 5/3 manual valves

Accessories

	Model	Port size	Actuation	Colour	Function	Operating pressure (bar)	Operating force (N)	Dimension No.	Spares kit
	X3343802	G1/8	Lever/spring/lever	Black	APB	- 0,9 … 10	15	60	03840802
	X3363802	G1/4	Lever/spring/lever	Black	APB	- 0,9 … 10	15	76	03860202
	X3347802	G1/8	Lever/spring/lever	Black	COE	- 0,9 … 10	15	60	03840802
	X3367802	G1/4	Lever/spring/lever	Black	COE	- 0,9 … 10	15	76	03860202
	X3343702	G1/8	Lever/lever/lever	Black	APB	- 0,9 … 10	12	76	03840802
	X3363702	G1/4	Lever/lever/lever	Black	APB	- 0,9 … 10	12	76	03860202
	X3347702	G1/8	Lever/lever/lever	Black	COE	- 0,9 … 10	12	60	03840802
	X3367702	G1/4	Lever/lever/lever	Black	COE	- 0,9 … 10	12	76	03860202

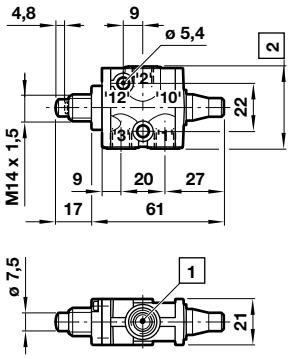
APB = All Ports Blocked, COE = Centre Open Exhaust.

Dimensions

1

03040002, 03040032

3/2 Plunger actuated spring return valve

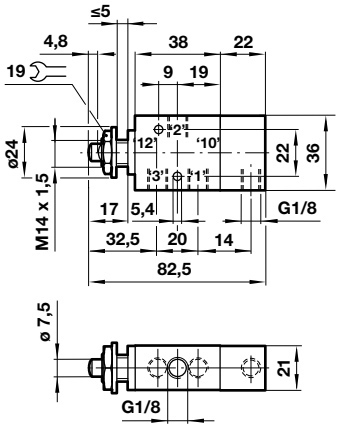


The plunger on this valve is designed for axial loading only.
Nut and mounting washer kit supplied as optional extra part number 03 0430 00

2

03041702

3/2 Plunger actuated pilot return valve

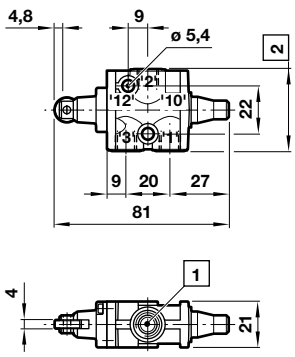


Full movement: 4,8 mm
Panel hole: Ø 15 mm
The plunger on this valve is designed for axial loading only. This valve can be panel mounted.

3

03040202, 03040232

3/2 Roller actuated spring return valve



Maximum recommended cam rise: 4,5 mm
Cam angle of approach: 30° maximum
Cam speed: 8 m/min. maximum
Operating speed: 300 cpm

1 Port size G1/8 or ø 6 mm
2 37 mm for G1/8 and 45 mm for ø 6 mm

Online at store.norgren.com

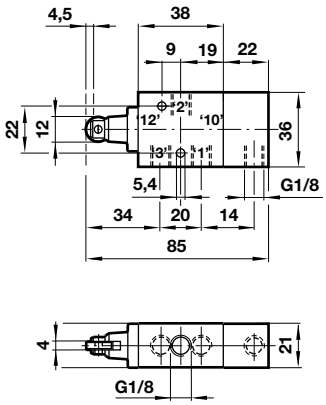
MANUALLY & MECHANICALLY ACTUATED SPOOL VALVE

Super X 3/2, 5/2 and 5/3, G1/8, G1/4 and 6mm PIF

4

03040902

3/2 Roller actuated pilot return valve

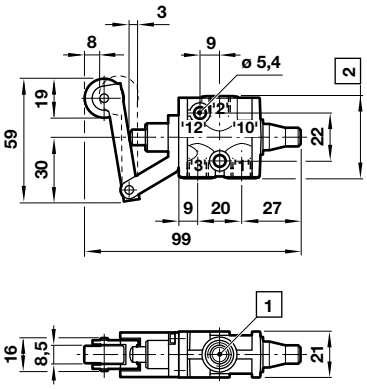


Maximum recommended cam rise: 4,5 mm
Cam angle of approach: 30° maximum
Cam speed: 8 m/min. maximum
Operating speed: 300 cpm

5

03041102, 03041132

3/2 Roller lever actuated spring return valve

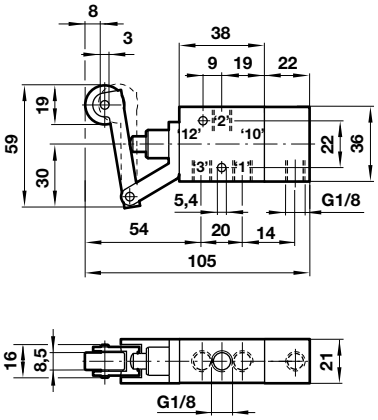


Operating travel: 8 mm
Over-travel: 3 mm
Cam angle of approach: 45° maximum
Cam speed: 8 m/min. maximum
Operating speed: 300 cpm

6

03042702

3/2 Roller lever actuated pilot return valve

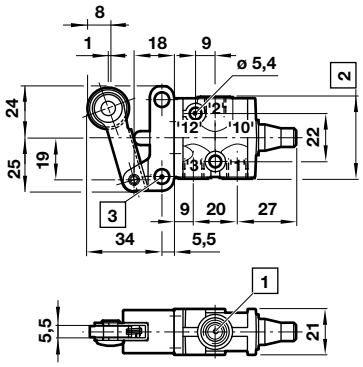


Operating travel: 8 mm
Over-travel: 3 mm
Cam angle of approach: 45° maximum
Cam speed: 8 m/min. maximum
Operating speed: 300 cpm

7

03029302, 03029332

3/2 Heavy duty roller lever actuated spring return valve

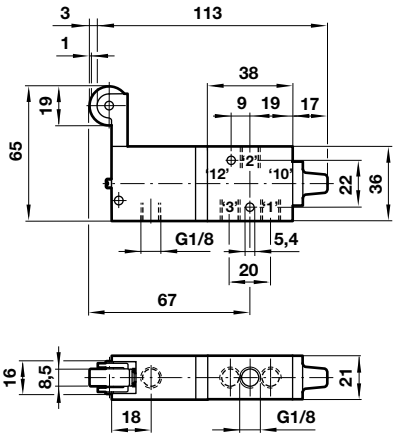


Operating Travel: 8 mm
Over-travel: 1 mm
Cam angle of approach: 45° maximum
Cam speed: 8 m/min. maximum
Operating speed: 300 cpm

8

03042302

3/2 Sensitive roller lever actuated spring return valve

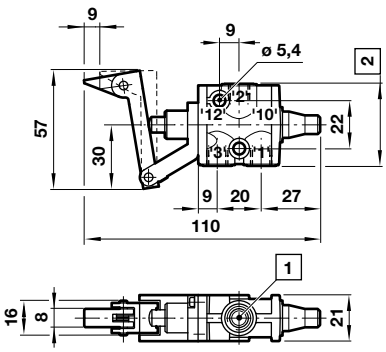


Pre-travel: 1 mm; Over-travel: 3 mm
Cam angle of approach: 45° maximum
Cam speed: 6,5 m/min. maximum

9

03041002

3/2 One-way trip actuated spring return valve



Cam rise: 9 mm
Cam angle of approach: 90° maximum
Cam speed: 2 m/min. maximum
Operating speed: 120 cpm

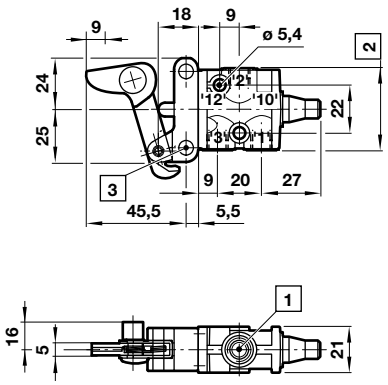
[1] Port size G1/8 or ø 6 mm
[2] 37 mm for G1/8 and 45 mm for ø 6 mm
[3] 0,7 mm thick spacing washer must be used if additional mounting holes are used.

Online at **store.norgren.com**

10

03029402

3/2 Heavy duty one-way trip actuated spring return valve

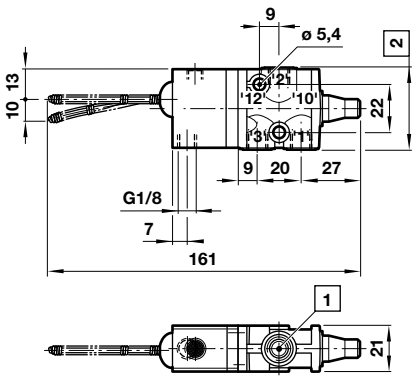


Cam rise: 9 mm
Cam angle of approach: 90° maximum
Cam speed: 2 m/min. maximum
Operating speed: 120 cpm

11

03043202, 03043232

3/2 Antenna actuated spring return valve

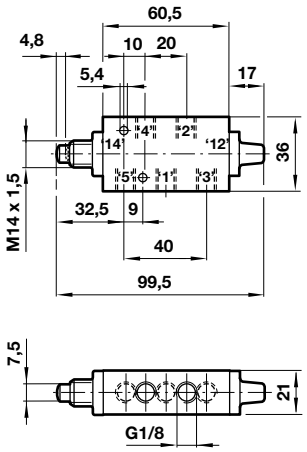


Operating movement:
10 mm minimum in any direction.

12

X3044002

5/2 Plunger actuated spring return valve

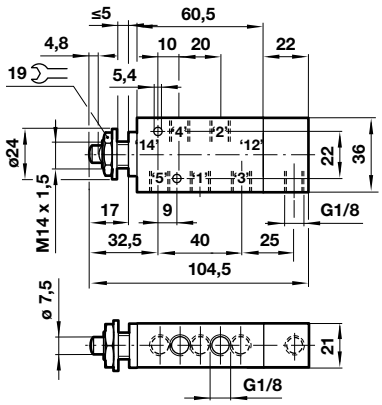


Full movement: 4,8 mm
The plunger on this valve is designed for axial loading only.
Nut and mounting washer kit supplied as optional extra part number 03 0430 00

13

X3045702

5/2 Plunger actuated pilot return valve

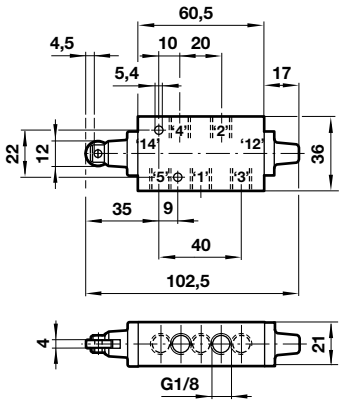


Full movement: 4,8 mm
Panel hole: Ø 15 mm
The plunger on this valve is designed for axial mounting only. This valve can be panel mounted.

14

X3044202

5/2 Roller actuated spring return valve

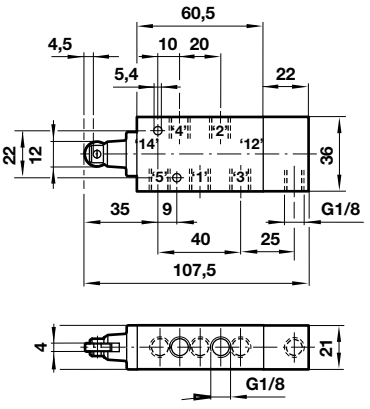


Maximum recommended can rise: 4,5 mm
Cam angle of approach: 30° maximum
Cam speed: 8 m/min. maximum
Operating speed: 300 cpm

15

X3044902

5/2 Roller actuated pilot return valve



Maximum recommended cam rise: 4,5 mm
Cam angle of approach: 30° maximum
Cam speed: 8 m/min. maximum
Operating speed: 300 cpm

1 Port size G1/8 or ø 6 mm
2 37 mm for G1/8 and 45 mm for ø 6 mm
3 0,7 mm thick spacing washer must be used if additional mounting holes are used.

Online at store.norgren.com

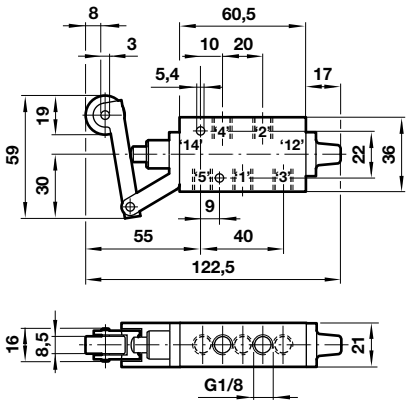
MANUALLY & MECHANICALLY ACTUATED SPOOL VALVE

Super X 3/2, 5/2 and 5/3, G1/8, G1/4 and 6mm PIF

16

X3045102

5/2 Roller lever actuated spring return valve

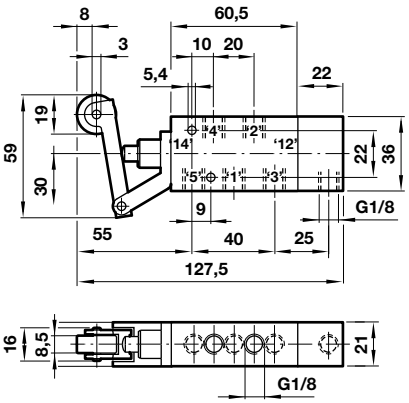


Operating travel: 8 mm
Over-travel: 3 mm
Cam angle of approach: 45° maximum
Cam speed: 8 m/min. maximum
Operating speed: 300 cpm

17

X3046702

5/2 Roller lever actuated pilot return valve

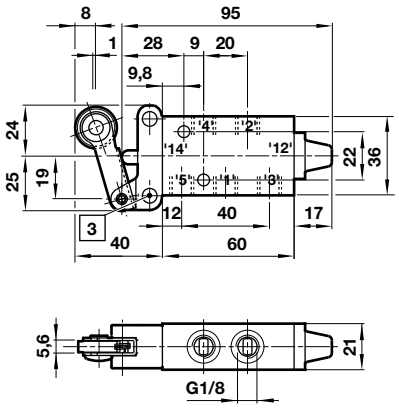


Operating travel: 8 mm; Over-travel: 3 mm
Cam angle of approach: 45° maximum
Cam speed: 8 m/min. maximum
Operating speed: 300 cpm

18

X3039302

5/2 Heavy duty roller lever actuated spring return valve

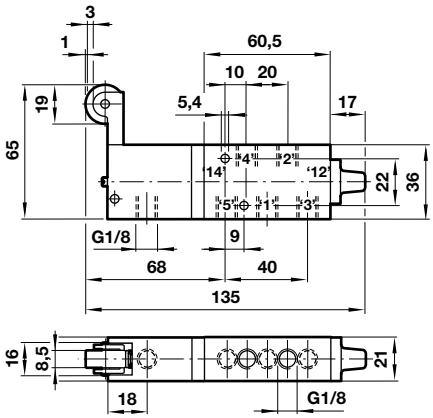


Operating travel: 8 mm
Over-travel: 1 mm
Cam angle of approach: 45° maximum
Cam speed: 8 m/min. maximum
Operating speed: 300 cpm

19

X3046302

5/2 Sensitive roller lever actuated spring return valve

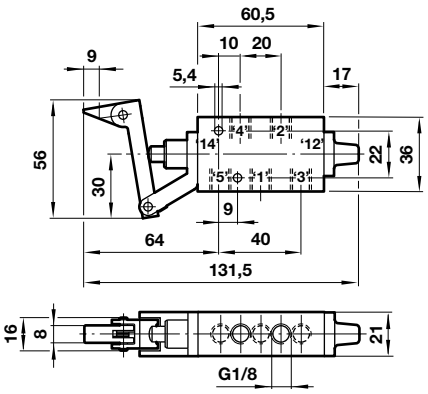


Pre-travel: 1 mm
Over-travel: 3 mm
Cam angle of approach: 45° maximum
Cam speed: 6,5 m/min. maximum

20

X3045002

5/2 One-way trip actuated spring return valve

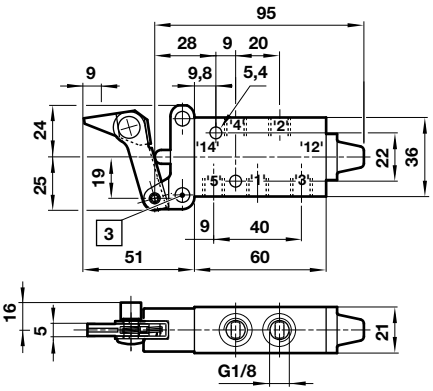


Cam rise: 9 mm
Cam angle of approach: 90° maximum
Cam speed: 2 m/min. maximum
Operating speed: 120 cpm

21

X3039402

5/2 Heavy duty one-way trip actuated spring return valve



Cam rise: 9 mm
Cam angle of approach: 90° maximum
Cam speed: 2 m/min. maximum
Operating speed: 120 cpm

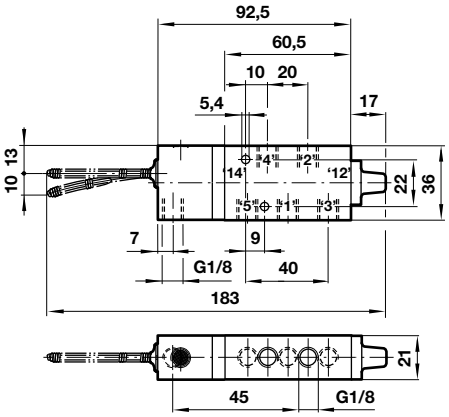
[3] 0,7 mm thick spacing washer must be used if additional mounting holes are used.

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22

X3047202

5/2 Antenna actuated spring return valve

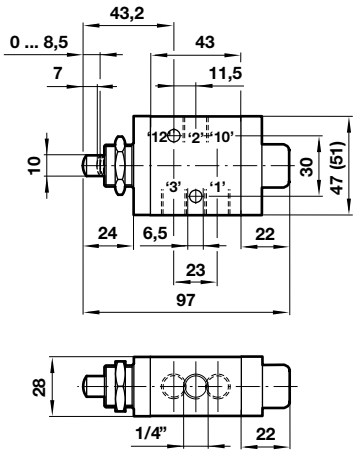


Operating movement: 10 mm minimum in any direction.

23

03060002

3/2 Plunger actuated spring return valve

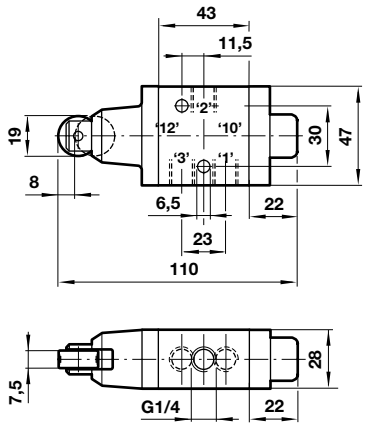


Panel hole: Ø 21 mm
The plunger on this valve is designed for axial loading only.

24

03060202

3/2 Roller actuated spring return valve

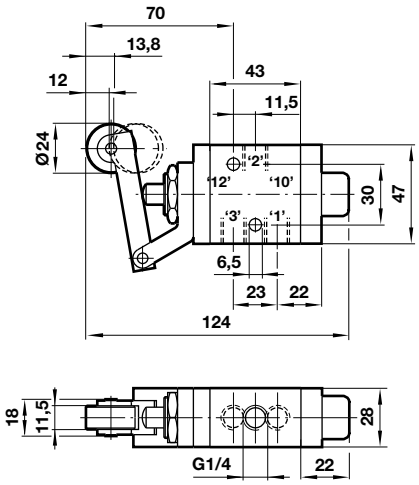


Cam angle of approach: 45° maximum
Cam speed: 6 m/min. maximum
Operating speed: 200 cpm

26

03061102

3/2 Roller lever actuated spring return valve

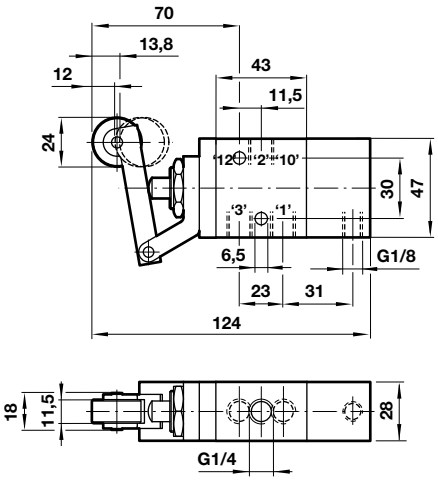


Cam angle of approach: 45° maximum
Cam speed: 5 m/min. maximum
Operating speed: 150 cpm

27

03062402

3/2 Roller lever actuated pilot return valve

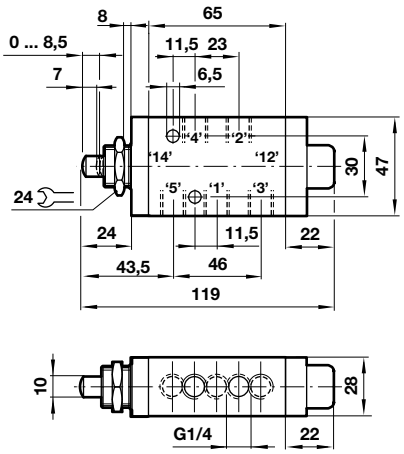


Cam angle of approach: 45° maximum
Cam speed: 5 m/min. maximum
Operating speed: 150 cpm

28

X3064002

5/2 Plunger actuated spring return valve



Panel hole: Ø 21 mm
The plunger on this valve is designed for axial loading only.

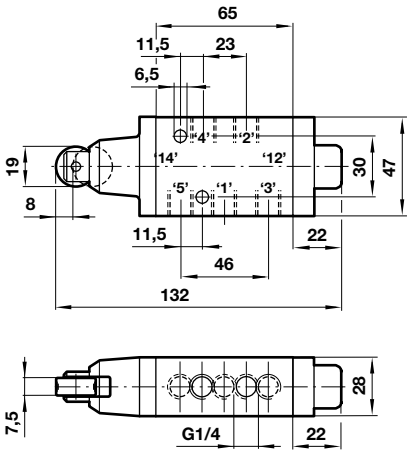
MANUALLY & MECHANICALLY ACTUATED SPOOL VALVE

Super X 3/2, 5/2 and 5/3, G1/8, G1/4 and 6mm PIF

29

X3064202

5/2 Roller actuated spring return valve

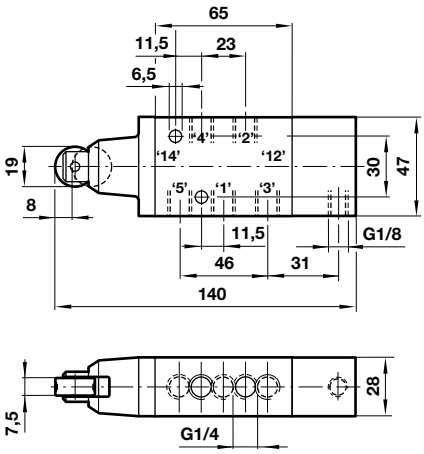


Cam angle of approach: 45° maximum
Cam speed: 6 m/min. maximum
Operating speed: 200 cpm

30

X3064902

5/2 Roller actuated pilot return valve

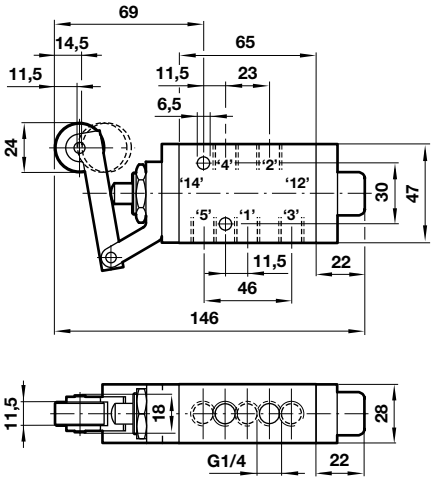


Cam angle of approach: 45° maximum
Cam speed: 6 m/min. maximum
Operating speed: 200 cpm

31

X3065102

5/2 Roller lever actuated spring return valve

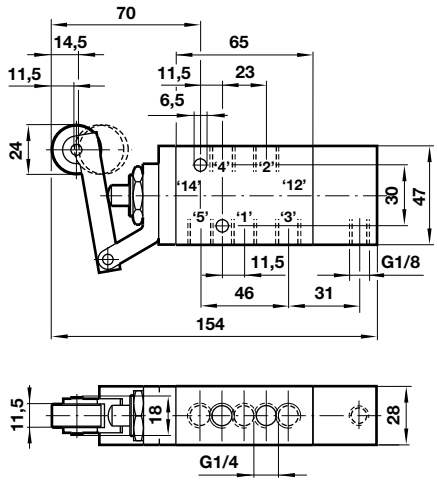


Cam angle of approach: 45° maximum
Cam speed: 5 m/min. maximum
Operating speed: 150 cpm

32

X3066402

5/2 Roller lever actuated pilot return valve

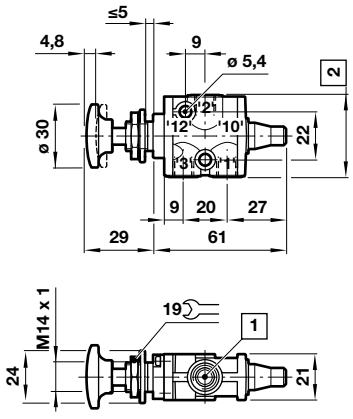


Cam angle of approach: 45° maximum
Cam speed: 5 m/min. maximum
Operating speed: 150 cpm

33

03040402, 03040502, 03040602

3/2 Button operated spring return valves

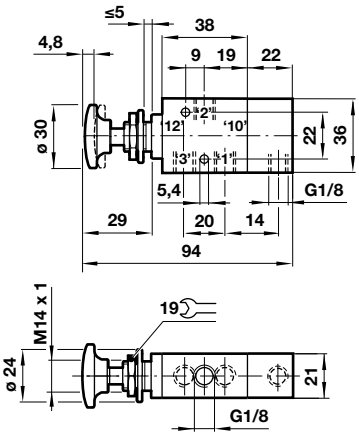


These valves are suitable for panel mounting by means of an optional nut and washer, reference 03 0430 00; a shrouded panel mounting kit is also available, reference 03 0429 00.

34

03040802, 03042002, 03042102

3/2 Button operated pilot return valve



These valves are suitable for panel mounting by means of an optional nut and washer, reference 03 0430 00; a shrouded panel mounting kit is also available, reference 03 0429 00.

1 Port size G1/8 or ø 6 mm
2 37 mm for G1/8 and 45 mm for ø 6 mm

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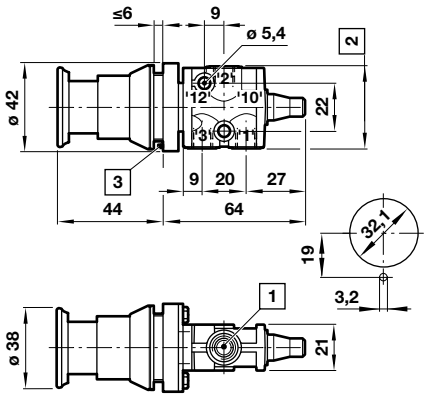
MANUALLY & MECHANICALLY ACTUATED SPOOL VALVE

Super X 3/2, 5/2 and 5/3, G1/8, G1/4 and 6mm PIF

35

03036602, 03036702, 03036802

3/2 Button (Palm) operated spring return valves

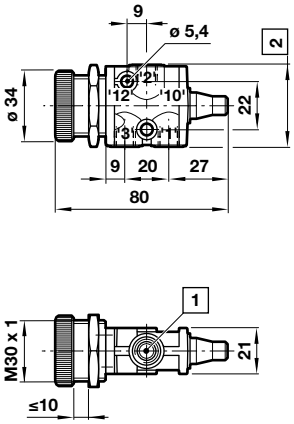


These valves are suitable for panel mounting.

36

03041402, 03041502, 03041602

3/2 Button (Shrouded) operated spring return valves

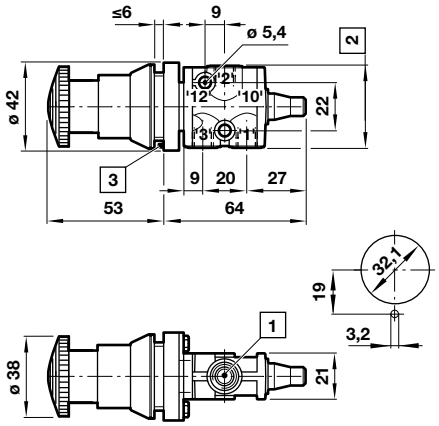


These valves are suitable for panel mounting.

37

03042802, 03042832

3/2 Button (Palm) operated, twist return valve (Emergency stop)

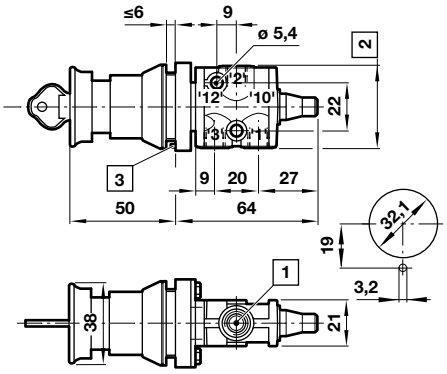


Valve latches when button is depressed and returns when the locking ring is rotated anti-clockwise.
This valve is suitable for panel mounting.

39

03033502, 03033532

3/2 Button (Palm) operated key return valve

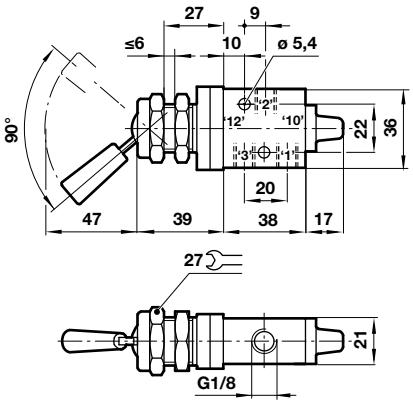


Valve latches when button is depressed.
To reset, turn key. This valve is suitable for panel mounting.

40

03029602

3/2 Toggle operated toggle return valve

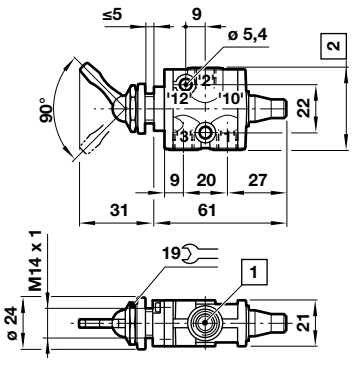


Panel hole: Ø 22,5 mm
This valve is suitable for panel mounting.

41

03040302, 03040332

3/2 Toggle operated spring return valve



This valve is suitable for panel mounting.
A fingertip extension is available for this valve, reference 07003301.

[1] Port size G1/8 or ø 6 mm
[2] 37 mm for G1/8 and 45 mm for ø 6 mm

Online at store.norgren.com

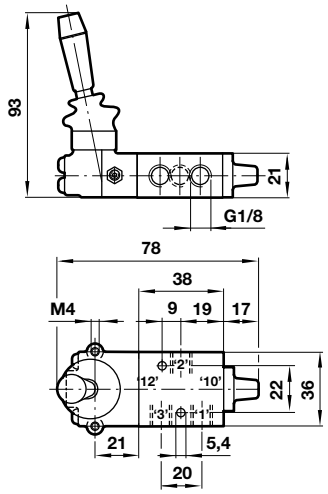
MANUALLY & MECHANICALLY ACTUATED SPOOL VALVE

Super X 3/2, 5/2 and 5/3, G1/8, G1/4 and 6mm PIF

42

03043802 & 03043702

3/2 Lever operated spring return valve

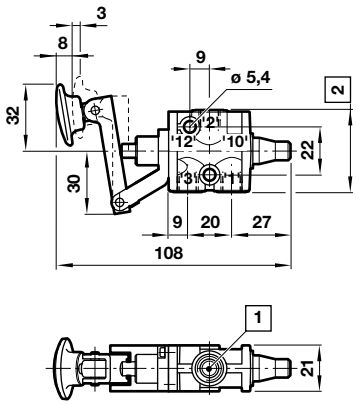


Model 03043702 features a positive detent.
Panel hole: Ø 24 mm
Panel thickness: 8 mm maximum

43

03042602

3/2 Knob lever operated spring return valve



This valve is suitable for panel mounting.
Panel hole: Ø 24 mm;
Panel thickness: 8 mm maximum

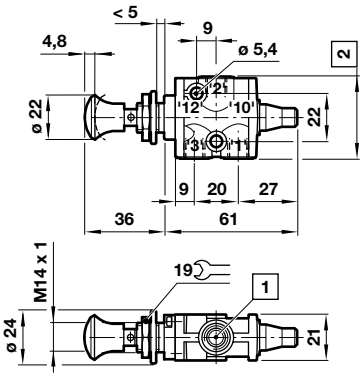
44

03034502, 03034532

3/2 Knob operated spring return valve

03042502, 03042532

3/2 Knob operated knob return valve

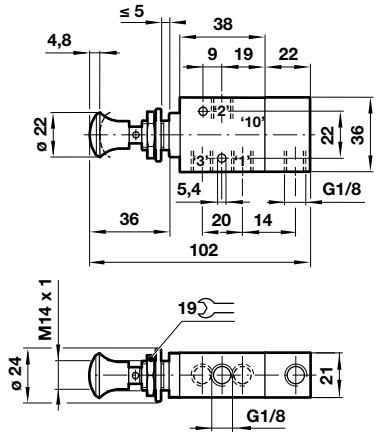


This valve is suitable for panel mounting by means of an optional nut and washer, reference 03043000.

45

03042402

3/2 Knob operated, knob or pilot return valve

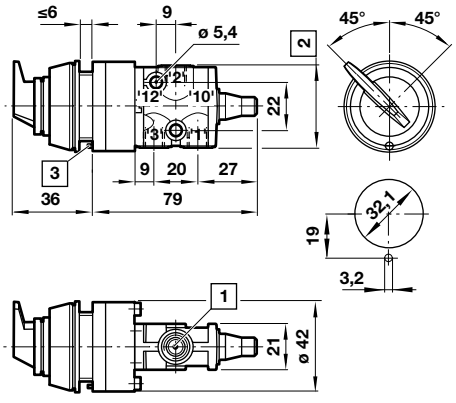


This valve is suitable for panel mounting by means of an optional nut and washer, reference 03 0430 00.

46

03041902, 03041923

3/2 Rotary knob operated rotary knob return valve



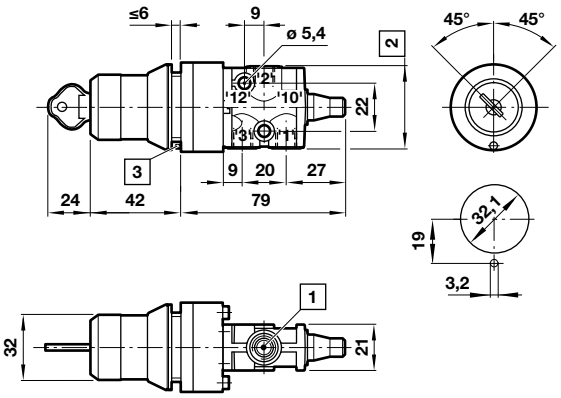
Switch shown in non-operated position
This valve is sutiable for panel mounting.

[1] Port size G1/8 or ø 6 mm
[2] 37 mm for G1/8 and 45 mm for ø 6 mm
[3] 0,7 mm thick spacing washer must be used if additional mounting holes are used.

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48

03041802801, 03041832801
3/2 Key operated key return valve

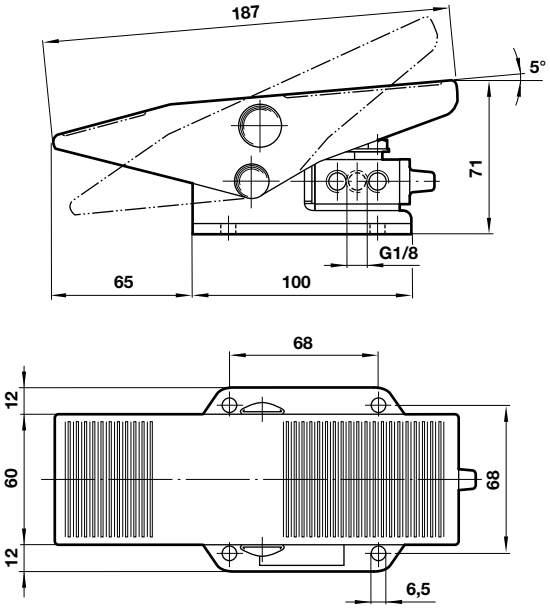


The key is removable in both positions.
Key slot shown in non-operated position.
Two keys are supplied.
This valve is suitable for panel mounting.

1 Port size G1/8 or ø 6 mm
2 37 mm for G1/8 and 45 mm for ø 6 mm

49

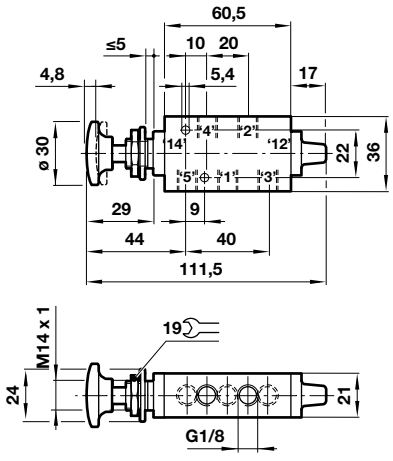
03048102
3/2 Pedal operated spring return valve
03048302
3/2 Pedal operated pedal return valve



A foot guard is available for this valve, reference 03 0480 60.

50

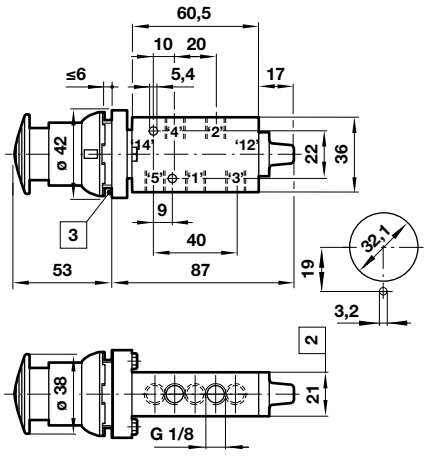
X3044402, X3044502, X3044602
5/2 Button (Palm) operated spring return valves



Operating force: 54 N
These valves are suitable for panel mounting by means of an optional nut and washer, reference 03043000; a shrouded panel mounting kit is also available, reference 03042900.

51

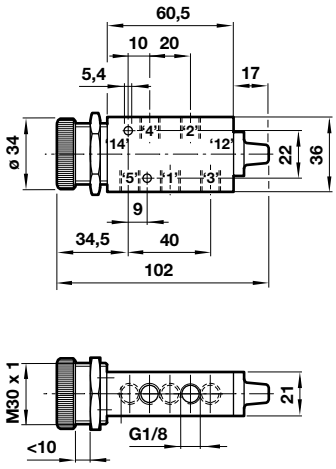
X3038602, X3038702, X3038802, X3046802
5/2 Button (Palm) operated spring return valves



These valves are suitable for panel mounting.

52

X3045402, X3045502, X3045602
5/2 Button (Shrouded) operated spring return valves



These valves are suitable for panel mounting.

Online at store.norgren.com

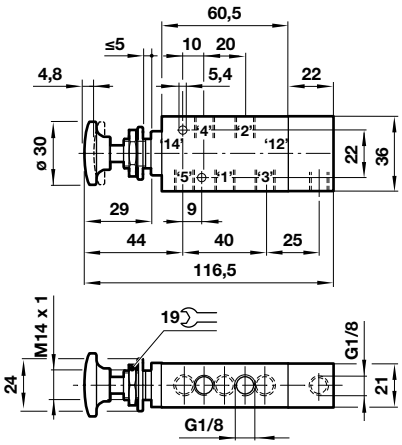
MANUALLY & MECHANICALLY ACTUATED SPOOL VALVE

Super X 3/2, 5/2 and 5/3, G1/8, G1/4 and 6mm PIF

53

X3044802, X3046002, X3046102

5/2 Button (Palm) operated pilot return valves]

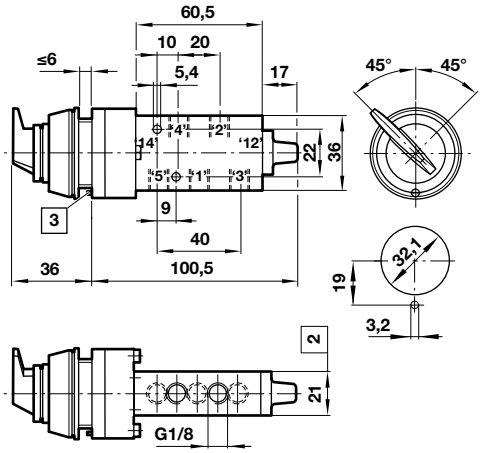


These valves are suitable for panel mounting by means of an optional nut and washer, reference 03043000; a shrouded panel mounting kit is also available, reference 03042900.

54

X3045902

5/2 Rotary knob operated rotary knob return valve

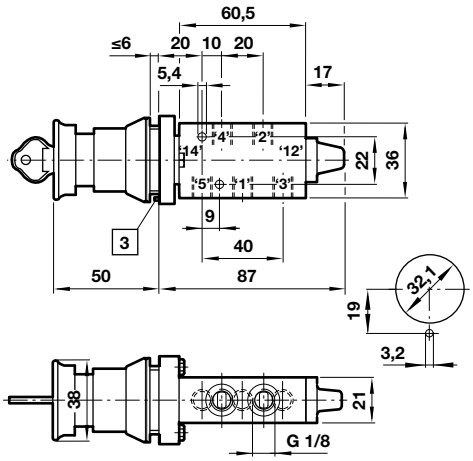


Switch shown in non-operated position
This valve is sutiable for panel mounting.

55

X3037502

5/2 Button (Palm) operated key return valve



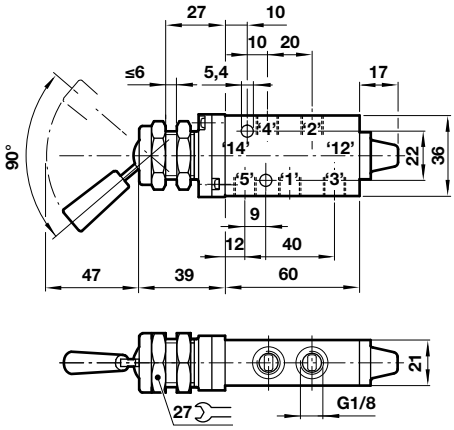
Valve latches when button is depressed.
To reset, turn key. This valve is suitable for panel mounting.

3 0,7 mm thick spacing washer must be used if additional mounting holes are used.

56

X3029602

5/2 Toggle operated toggle return valve

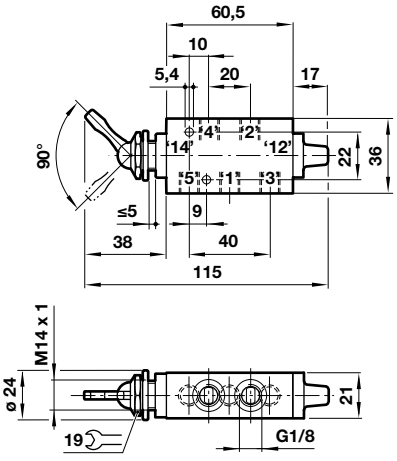


Panel hole: Ø 22,5 mm
This valve is suitable for panel mounting.

57

X3044302

5/2 Toggle operated spring return valve5

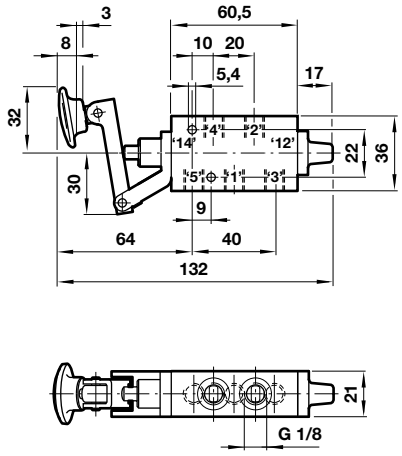


This valve is suitable for panel mounting.
A fingertip extension is available for use on this valve, reference 07 0033 01.

58

X3046602

5/2 Lever operated spring return valve



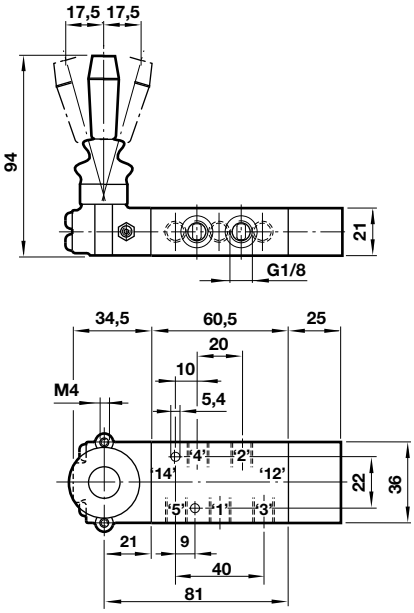
This valve is suitable for panel mounting.
Panel hole: Ø 24 mm;
Panel thickness: 8 mm maximum

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60

X3343802, X3347802, X3343702, X3347702

5/3 Lever operated valves

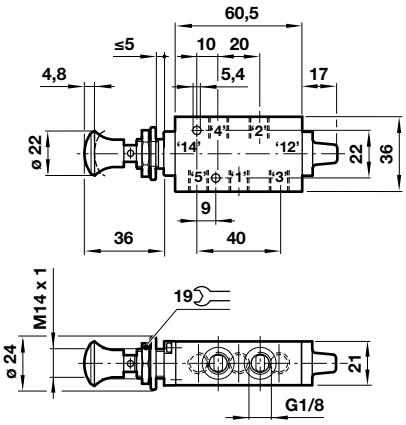


All models are suitable for panel mounting, by means of a bezel kit, reference 03 3437 64.
Panel hole: Ø 24 mm
Panel thickness: 8mm maximum

61

X3046502

5/2 Knob operated knob return valve

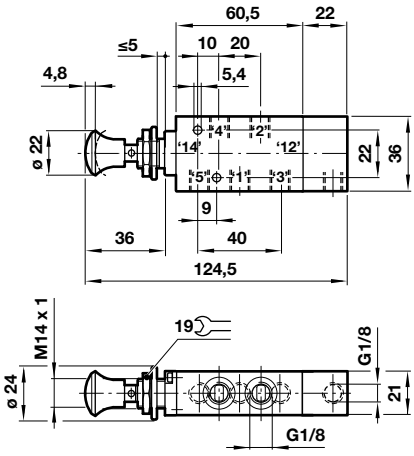


This valve is suitable for panel mounting by means of an optional nut and washer, reference 03043000.

62

X3046402

5/2 Knob operated, knob or pilot return valve

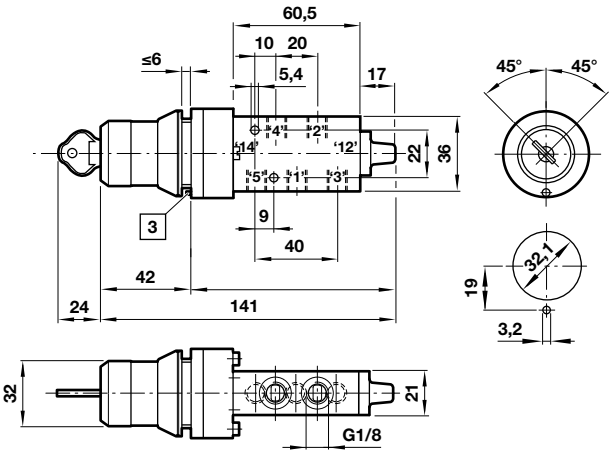


These valves are suitable for panel mounting by means of an optional nut and washer, reference 03043000

64

X3045802801

5/2 Key operated key return valve



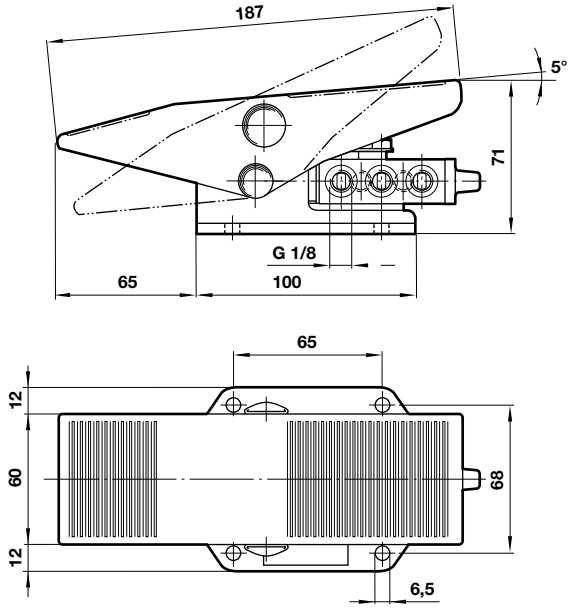
The key is removable in both positions.
Key slot shown in non-operated position.
Two keys are supplied.
This valve is suitable for panel mounting.

MANUALLY & MECHANICALLY ACTUATED SPOOL VALVE

Super X 3/2, 5/2 and 5/3, G1/8, G1/4 and 6mm PIF

65

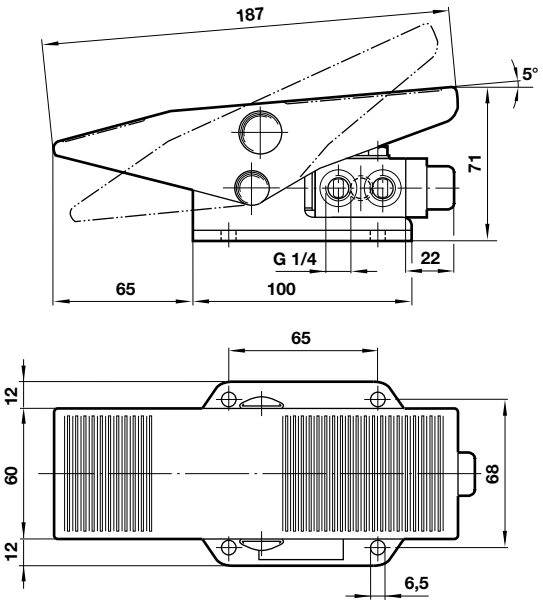
X3048202
5/2 Pedal operated spring return valve
X3048402
5/2 Pedal operated pedal return valve



A foot guard is available for this valve, reference 03048060.

66

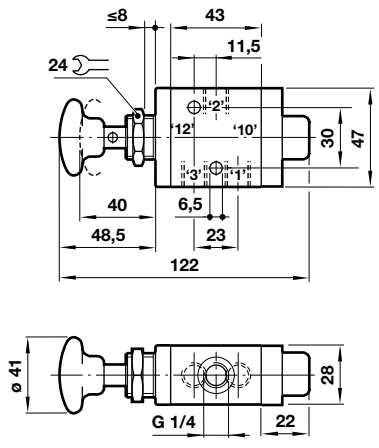
03068102
3/2 Pedal operated spring return valve
03068302
3/2 Pedal operated pedal return valve



A foot guard is available for this valve, reference 03048060.

67

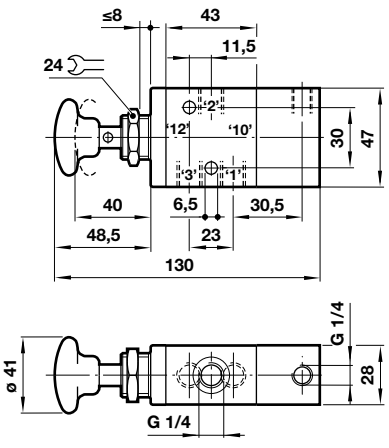
03060402
3/2 Button operated spring return valve



This valve is suitable for panel mounting and includes a nut and washer.
Panel hole: Ø 21 mm

68

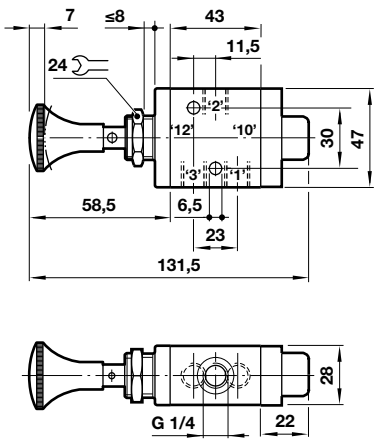
03060802
3/2 Button operated pilot return valve



This valve is suitable for panel mounting and includes a nut and washer.
Panel hole: Ø 21 mm

69

03062502
3/2 Knob operated knob return valve



This valve is suitable for panel mounting and includes a nut and washer.
Panel hole: Ø 21 mm

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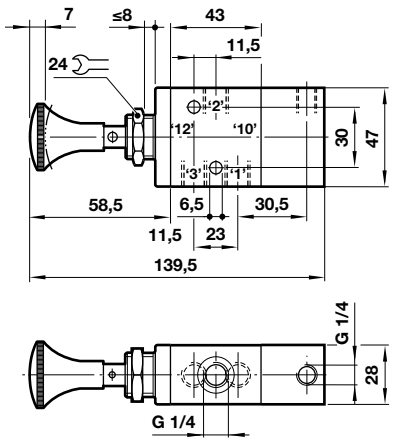
MANUALLY & MECHANICALLY ACTUATED SPOOL VALVE

Super X 3/2, 5/2 and 5/3, G1/8, G1/4 and 6mm PIF

70

03062702

3/2 Knob operated, knob or pilot return valve

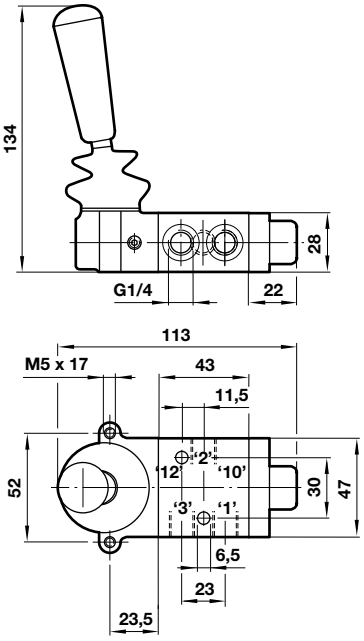


This valve is suitable for panel mounting and includes a nut and washer.
Panel hole: Ø 21 mm

71

03063802, 03063702

3/2 Lever operated valve

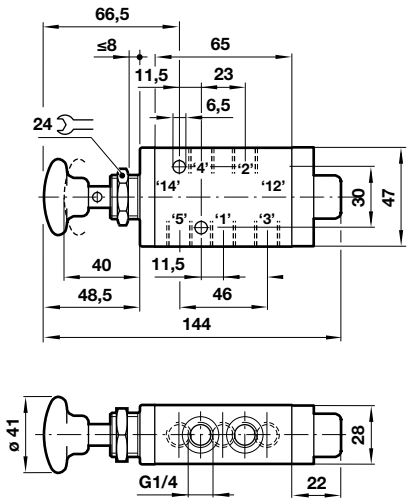


Model 03063702 features a positive detent in each position.
Both models are suitable for panel mounting by means of a bezel kit,reference 03363764.
Panel hole: Ø 31 mm;
Panel thickness: 8 mm maximum

72

X3064402

5/2 Button operated spring return valve

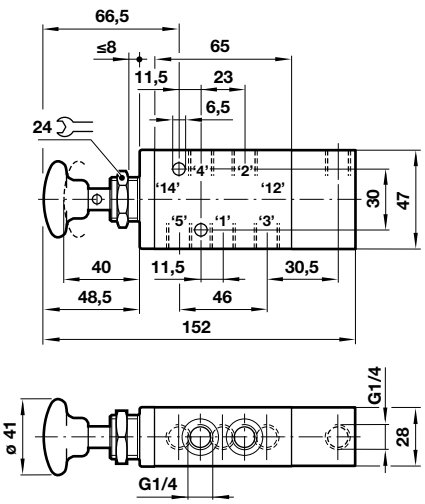


This valve is suitable for panel mounting and includes a nut and washer.
Panel hole: Ø 21 mm

73

X3064802

5/2 Button operated pilot return valve

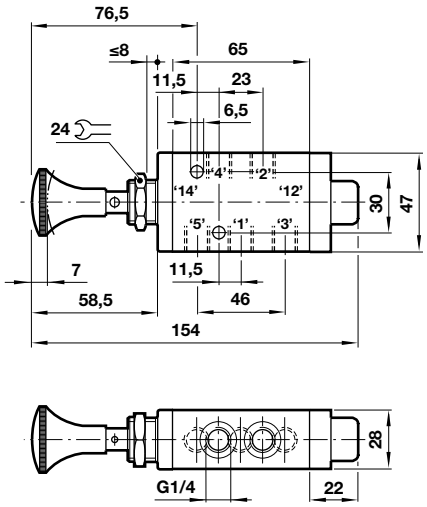


This valve is suitable for panel mounting and includes a nut and washer.
Panel hole: Ø 21 mm

74

X3066502

5/2 Knob operated knob return valven



This valve is suitable for panel mounting and includes a nut and washer.
Panel hole: Ø 21 mm

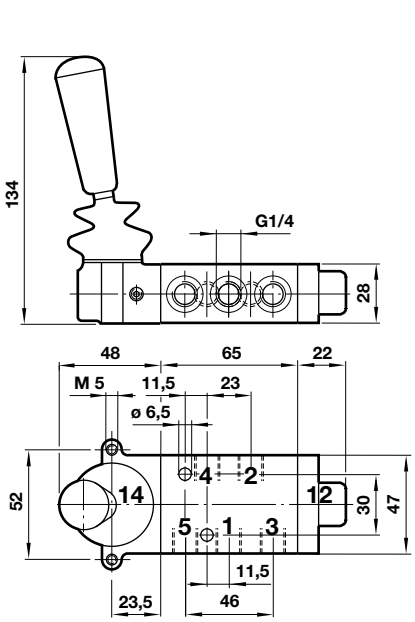
MANUALLY & MECHANICALLY ACTUATED SPOOL VALVE

Super X 3/2, 5/2 and 5/3, G1/8, G1/4 and 6mm PIF

75

X3067802, X3067702

5/2 Lever operated valve

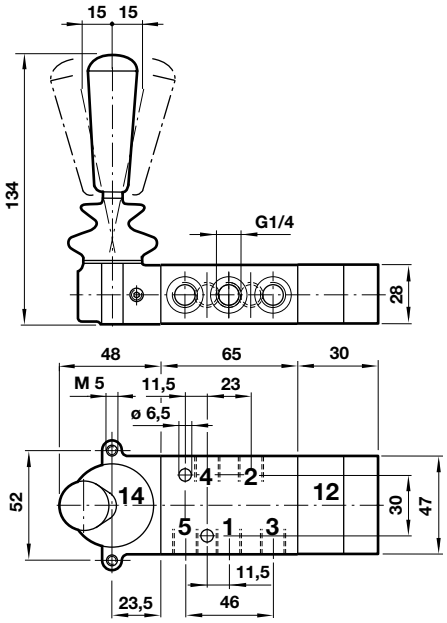


Model X3067702 features a positive detent in each position.
Both models are suitable for panel mounting by means of a bezel kit, reference 03363764.
Panel hole: Ø 31 mm
Panel thickness: 8 mm maximum

76

X3363802, X3367802, X3363702, X3367702

5/3 Three position lever operated valves



These valves are suitable for panel mounting by means of a bezel kit, reference 03363764.
Panel hole: Ø 31 mm
Panel thickness: 8 mm maximum

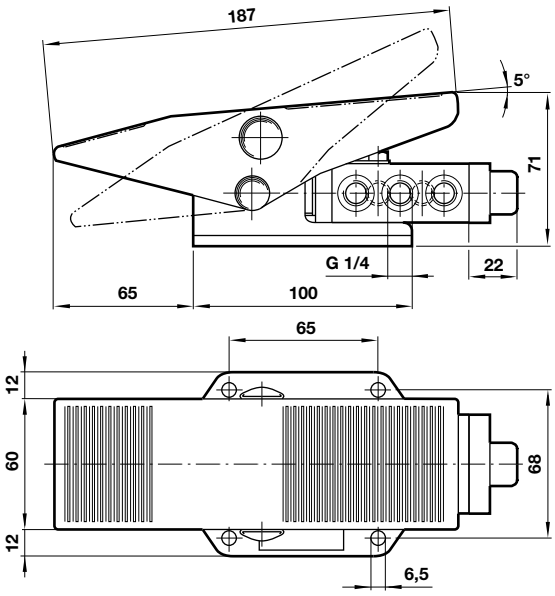
77

X3068202

5/2 Pedal operated spring return valve

X3068402

5/2 Pedal operated pedal return valve



A foot guard is available for this valve, reference 03048060.

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see the option you require please contact us.
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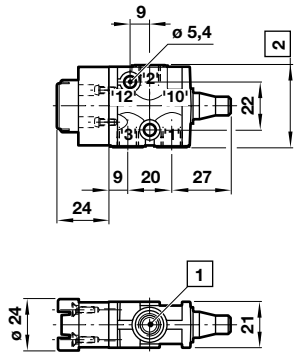
MANUALLY & MECHANICALLY ACTUATED SPOOL VALVE

Super X 3/2, 5/2 and 5/3, G1/8, G1/4 and 6mm PIF

78

03029502, 03029532

3/2 Adapter valve

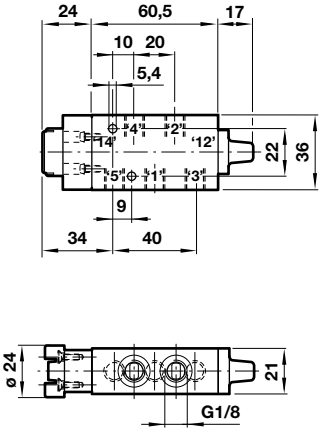


This valve is for use with standard electrical style operating heads.
For details see below.

79

X3039502

5/2 Adapter valve



This valve is for use with standard electrical style operating heads.
For details see below.

Operating heads for use with G1/8, 3/2 and 5/2 Adaptor valves

Panel hole: Ø 22,5 mm

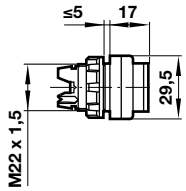
Panel thickness: 6 mm maximum

V11783-C01 (pink)

V11783-C02 (green)

V11783-C03 (black)

Button (palm) operated, spring return

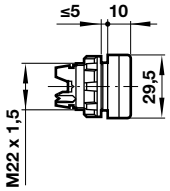


V11783-C04 (pink)

V11783-C05 (green)

V11783-C06 (black)

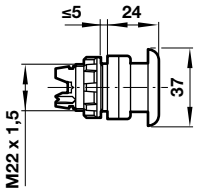
Button (shrouded) operated, spring return



V11783-C07 (red)

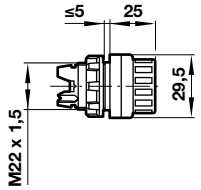
V11783-C08 (green)

Button (mushroom) operated, spring return



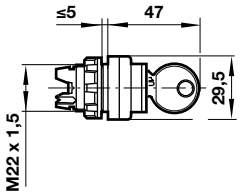
V11783-C10

Rotary knob operated rotary knob return



V11783-C12

Key operated key return



ROTARY HAND VALVE

VHLA 4/2, 4/3, G1/4 … G1/2

- Manually operated hand valve
- Easy to grasp and rotate handle
- Detented centre position
- Panel mounting option
- High flow

Technical Data

Medium:
Compressed air, filtered, lubricated and non-lubricated

Operating pressure:
0 … 9,7 bar

Flow:
400 … 3100 l/min

Ambient temperature:
-5°C … +60°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Body and cover:
Aluminium alloy

Seals:
NBR

EXPRESS



Models

Accessories

Model	Port size	Function	Flow (l/min)	Panel mount nut	Straight fitting	Elbow fitting	Silencer
							
VHLA202-02G	G1/4	4/2	400	VHLA-200N	C02250828	C02470828	T40C2800
VHLA302-03G	G3/8	4/2	1100	VHLA-300N	C02251038	C02471038	T40C3800
VHLA402-04G	G1/2	4/2	3100	VHLA-400N	C02251248	C02471248	T40C4800
VHLA200-02G	G1/4	4/3 APB	400	VHLA-200N	C02250828	C02470828	T40C2800
VHLA300-03G	G3/8	4/3 APB	1100	VHLA-300N	C02251038	C02471038	T40C3800
VHLA400-04G	G1/2	4/3 APB	3100	VHLA-400N	C02251248	C02471248	T40C4800
VHLA201-02G	G1/4	4/3 COE	400	VHLA-200N	C02250828	C02470828	T40C2800
VHLA301-03G	G3/8	4/3 COE	1100	VHLA-300N	C02251038	C02471038	T40C3800
VHLA401-04G	G1/2	4/3 COE	3100	VHLA-400N	C02251248	C02471248	T40C4800

Caution: These valves are not leak free, care should be taken with safety critical applications and where an APB valve is used to hold an actuator in a mid position.
Installation: It is recommended that air pressure is applied only at port 1, otherwise leakage may occur - (ie. reverse porting is not recommended). It is recommended that a silencer is fitted in the exhaust port, particularly in applications where dust is present.

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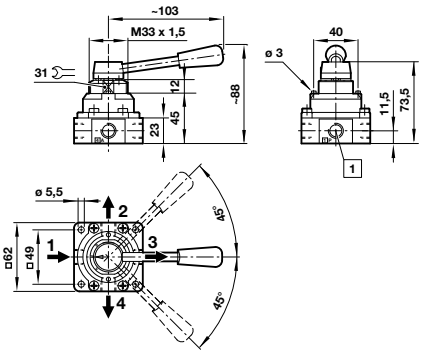
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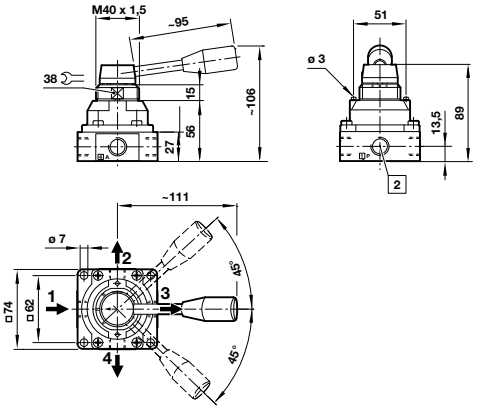
Dimensions

Panel mount nut

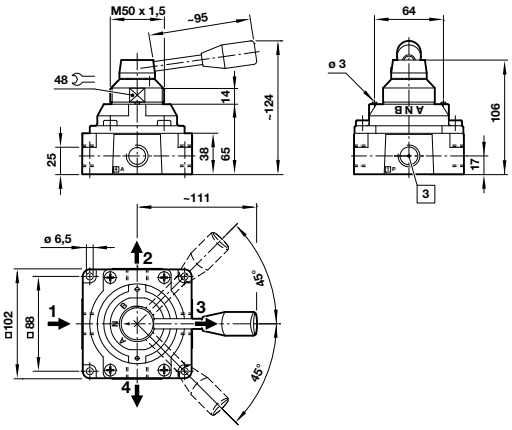
G1/4



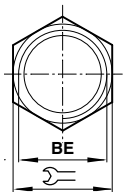
G3/8



G1/2



[1] All ports G1/4
[2] All ports G3/8
[3] All ports G1/2



BE		KW	Model
M33x1,5	40	6	VHLA-200N
M40x1,5	50	6	VHLA-300N
M50x1,5	55	8	VHLA-400N

POPPET VALVE MANUAL/MECHANICAL

S/666 3/2 G1/8

- Long established and well-proven valves
- Compact size
- Normally closed and normally open models
- May also be used as 2/2 valves

Technical Data

Medium:
Compressed air, filtered, lubricated and non-lubricated

Operation:
Poppet valves, directly actuated

Mounting:
Through-holes in valve body

Port Size:
G1/8

Operating Pressure:
2 … 10 bar

Flow:
666 range = 174 l/min
667 range = 156 l/min

Ambient temperature:
-20°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Body:
Diecast zinc alloy

Piston:
Aluminium

Seals:
NBR

EXPRESS



Models

Model	Function	Actuation	Dimension No.	Spares Kit
Mechanical				
S/666/14	3/2 NC	Plunger/Spring	7	QS/666/1/00
S/666/8	3/2 NC	Roller/Spring	8	QS/666/1/00
S/667/8	3/2 NO	Roller/Spring	8	QS/667/1/00
S/666/108	3/2 NC	Variable Roller/Spring	1	QS/666/1/00
S/666/106	3/2 NC	Variable Rod/Spring	2	QS/666/1/00
S/666/116	3/2 NC	Antenna Spring/Spring	3	QS/666/1/00
Manual				
S/666/1	3/2 NC	Button/Spring	6	QS/666/1/00
S/666/7	3/2 NC	Lever/Lever (Panel mounting)	5	QS/666/1/00
S/666/117	3/2 NC	Lever (long)/Lever (panel mounting)	4	QS/666/1/00

Accessories

IMI Precision Engineering

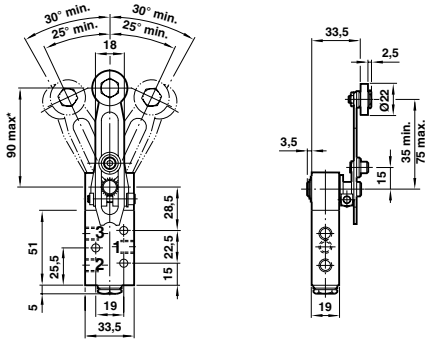
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POPPET VALVE MANUAL/MECHANICAL
S/666 3/2 G1/8

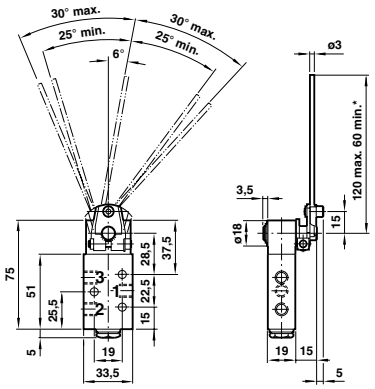
Dimensions

1-S/666/108



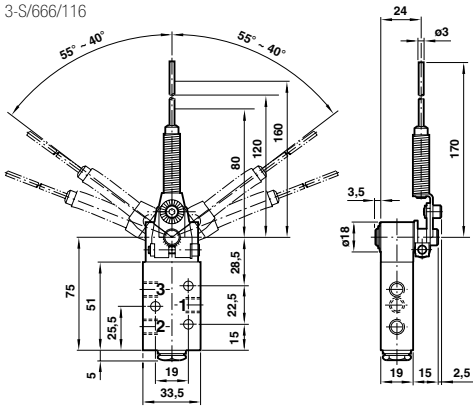
Mechanism may be operated either side of centre line.
When the valve is mounted horizontally, the roller is recommended to be positioned on the upper face of the arm.
*Alternative position

2- S/666/106



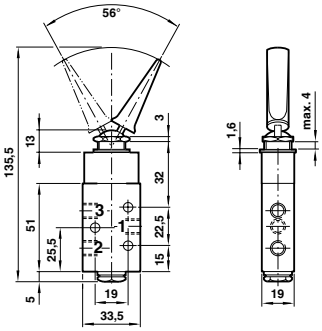
Mechanism may be operated either side of centre line.
*Recommended

3-S/666/116



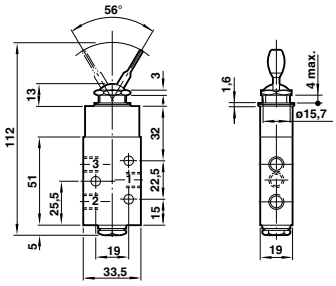
*Rotation at Point of Application: 40° minimum @ 80 mm
50° minimum @ 120 mm
55° minimum @ 160 mm
Mechanism may be operated either side of centre line.

4-S/666/117



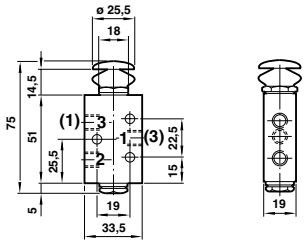
Panel hole: ø 16 mm
Panel thickness: 4 mm maximum

5-S/666/7

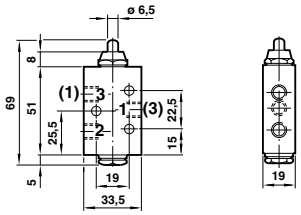


Panel hole: ø 16 mm
Panel thickness: 4 mm maximum

6-S/666/1

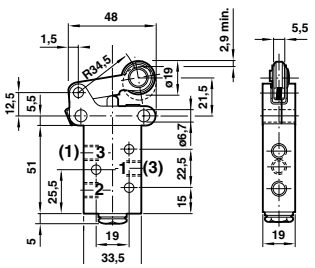


7-S/666/14



Pre-travel: 0,8 mm closed top seat
Operating Travel: 0,8 mm open bottom seat
Over-travel: 1,5 mm
Model number S/667/14 type 3/2 normally open numbers are shown in brackets.

8-S/666/8 & S/667/8



Pre-travel: 1,4 mm closed top seat
Operating Travel: 1,4 mm open bottom seat
Over-travel: 2,2 mm
Model number S/667/8 type 3/2 normally open numbers are shown in brackets.

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MANUAL IN-LINE VALVE

M/1700 5/2, 5/3, G1/4, G1/2

- Compact, well proven range – perfectly suited to many applications
- Air assisted detent ensures positive valve location
- Simple servicing and sub-base mounting for reduced down-time

Technical Data

Medium:
Compressed air, filtered, lubricated and non-lubricated

Operating pressure:
2 … 10 bar

Flow:

Size	l/min
G1/4	1290
G1/2	3200

Ambient temperature:
-20°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Body/sub-base:
Pressure die-cast zinc alloy

Spool:
Aluminium

Seals:
Nitrile

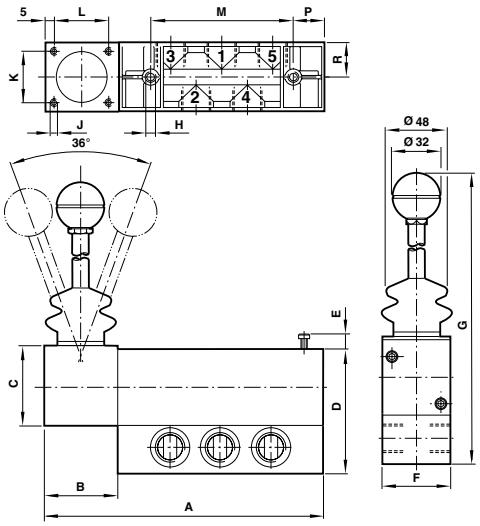
EXPRESS



Models

Model	Size	Function	Actuation	Mid position
M/1702/177	G1/4	5/2	Lever/Lever	–
M/1702/87	G1/4	5/3	Lever/Lever/Lever	APB
M/1704/177	G1/2	5/2	Lever/Lever	–
M/1704/87	G1/2	5/3	Lever/Lever/Lever	APB
M/1704/687	G1/2	5/3	Lever/Spring/Lever	APB
M/1714/687	G1/2	5/3	Lever/Spring/Lever	COE

Dimensions



Model	A	B	C	D	E	F	G	H	J	K	L	M	P	R
M/1702	143,5	42	41,5	65	0,5	35	200,5	M6	M4	27	32	67,5	17	17,5
M/17*4	197	49	56,5	89,5	9,5	35	222,5	M8	M5	35,5	35,5	101,5	23	24

PROPORTIONAL PRESSURE CONTROL VALVE

VP10 G1/4

- Air piloted proportional pressure valve
- Reliable, rugged design
- Excellent accuracy
- IP 65 environmental protection in normal position

Technical Data

Medium:
Compressed air, filtered to 5 µm, dry and oil free

Flow capacity:
Up to 300 l/min

Air consumption:
Up to 1 bar: 2,8Nl/min,
up to 2 bar: 4,0Nl/min,
up to 4 bar: 7,5Nl/min,
up to 8 bar: 9,0Nl/min

Supply Pressure:
At least 0,7 bar above max. required output pressure.
Up to 2bar instruments: max 5bar,
up to 8bar instruments: max 10 bar

Ambient temperature:
-40°C … +85°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Response time:
< 0,35 seconds for 10 … 90% or 90 … 10% of output pressure into a 10cc load (1 bar range instruments)

Supply sensitivity:
> 0,075% span output change per % supply pressure change

Linearity:
≤ 0,5% of span

Hysteresis:
≤ 0,5% of span

Materials

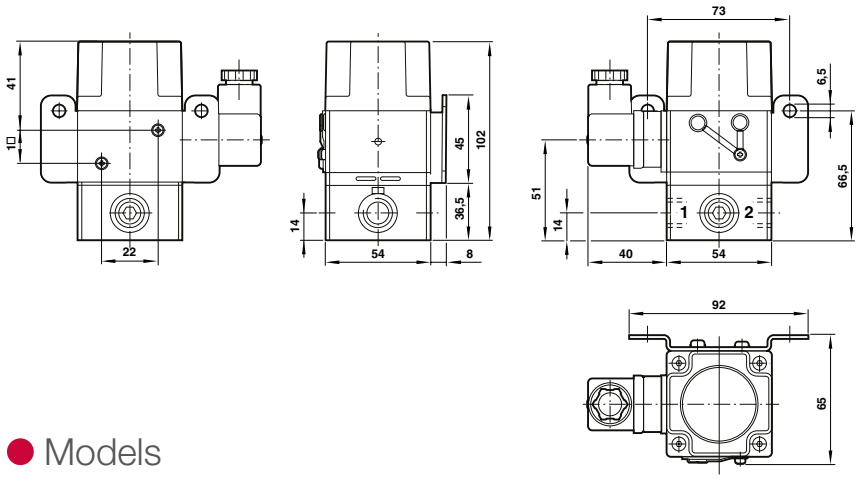
Body:
Passivated zinc die-casting, epoxy painted

Cover:
Glass reinforced PA

Diaphragms:
NBR



Dimensions



Models

Accessories

Model	Port size	Flow (l/min)	Operating pressure (bar)	Control signal	Straight fitting	Elbow fitting
						
VP1001BJ400A00	G1/4	300	0,2 … 1	4 … 20 mA	C02250828	C02470828
VP1006BJ401A00	G1/4	300	0,2 … 6	4 … 20 mA	C02250828	C02470828
VP1008BJ401A00	G1/4	300	0,2 … 8	4 … 20 mA	C02250828	C02470828

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MINIATURE PROPORTIONAL PRESSURE CONTROL VALVE

VP12 G1/8

- Compact and flexible design
- Reliable, rugged, open-loop device
- Low power consumption

Technical Data

Medium:
Compressed air filtered to 5 µm, oil free and dry air

Supply pressure:
At least 1,5 bar above maximum required output pressure

Degree of protection:
IP20

Ambient temperature:
0°C … +60°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Linearity:
< 1,5% of span

Hysteresis and deadband:
< 1% of span

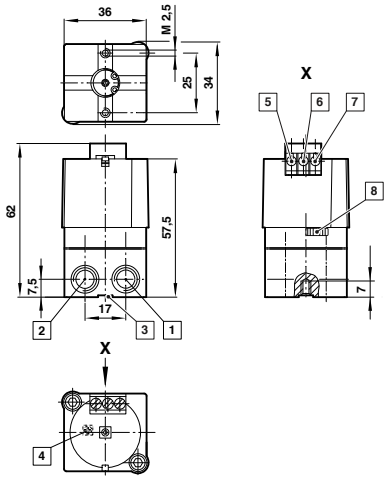
Materials

Body:
Zinc casting & nylon

Diaphragms:
NBR



Dimensions



1 Inlet port (G1/8 or 1/8 NPT)
2 Outlet port (G1/8 or 1/8 NPT)
3 Exhaust, do not obstruct
4 Span adjust pot (under lid)
5 Power (3 wire units only)
6 Signal (2 & 3 wire units)
7 Common (2 & 3 wire units)
8 Adjust zero

Models

Accessories

Model	Port size	Flow (l/min)	Operating pressure (bar)	Control signal	Straight fitting	Elbow fitting
						
VP1202BG101Q00	G1/8"	200	0 … 2bar	0 … 10v	C02250618	C02470618
VP1204BG101Q00	G1/8"	200	0 … 4bar	0 … 10v	C02250618	C02470618
VP1206BG101Q00	G1/8"	200	0 … 6bar	0 … 10v	C02250618	C02470618
VP1208BG101Q00	G1/8"	200	0 … 8bar	0 … 10v	C02250618	C02470618
VP1202BG401Q00	G1/8"	200	0 … 2bar	4 … 20mA	C02250618	C02470618
VP1204BG401Q00	G1/8"	200	0 … 4bar	4 … 20mA	C02250618	C02470618
VP1206BG401Q00	G1/8"	200	0 … 6bar	4 … 20mA	C02250618	C02470618
VP1208BG401Q00	G1/8"	200	0 … 8bar	4 … 20mA	C02250618	C02470618

Options

- Manifold version
- PSI settings

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PROPORTIONAL PRESSURE CONTROL VALVE

VP50 G1/4

- Port size: 1/4" (ISO G or NPT) or manifold
- Closed-loop air piloted proportional pressure control valve
- High flow
- Excellent performance characteristics
- Fast response time with pressure output display
- Adjustable gain and pressure range
- Low power consumption
- Feedback signal
- Manifold mountable

Technical Data

Medium:
Compressed air, filtered to 5 µm, dry and oil free

Operation:
Air piloted spool valve with integrated electronic pressure control

Supply pressure:
Minimum 2 bar above maximum output required, 12 bar max.

Air Supply sensitivity:
Better than 0,75% span output change per bar supply pressure change

Flow:
Up to 1400 N l/min

Air consumption:
< 5 N l/min

Ambient temperature:
0°C … +50°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Linearity:
< 1%

Hysteresis and deadband:
< 1%

Materials

Body:
Aluminium

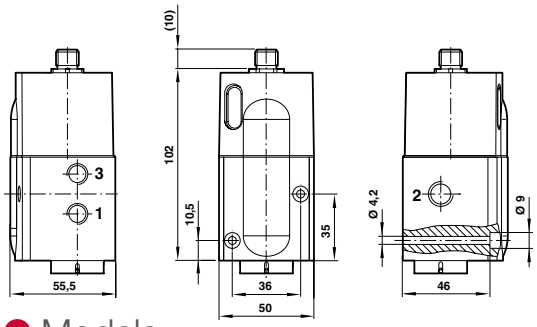
Lid:
Zinc die cast

Front cover:
Grivory

End cap:
PA



Dimensions



Models

Model	Port Size	Flow (l/min)	Operating pressure (bar)	Control signal
				
VP5002BJ111H00	G1/4	1400	0 … 2	0 … 10 V
VP5002BJ411H00	G1/4	1400	0 … 2	4 … 20 mA
VP5006BJ111H00	G1/4	1400	0 … 6	0 … 10 V
VP5006BJ411H00	G1/4	1400	0 … 6	4 … 20 mA
VP5008BJ111H00	G1/4	1400	0 … 8	0 … 10 V
VP5008BJ411H00	G1/4	1400	0 … 8	4 … 20 mA
VP5010BJ111H00	G1/4	1400	0 … 10	0 … 10 V
VP5010BJ411H00	G1/4	1400	0 … 10	4 … 20 mA

Accessories

Straight fitting	Elbow fitting	Silencer	Connector with 5m moulded cable
			
C02250828	C02470828	T40C2800	0250081000000000
C02250828	C02470828	T40C2800	0250081000000000
C02250828	C02470828	T40C2800	0250081000000000
C02250828	C02470828	T40C2800	0250081000000000
C02250828	C02470828	T40C2800	0250081000000000
C02250828	C02470828	T40C2800	0250081000000000
C02250828	C02470828	T40C2800	0250081000000000
C02250828	C02470828	T40C2800	0250081000000000

Electrical Information

Electromagnetic compatibility	CE marked: conforms to EC requirements EN 50081-2 (1994) and EN 50082-2 (1995)
Electrical input signal	4 … 20 mA or 0 … 10 V factory set
Electrical power input	24 V d.c. ±25% (power consumption <1 W)
Output pressure feedback signal	0 … 10 V full range
Connections	M12 5 pin

Pin configuration



1	+24 V d.c. supply
2	0 … 10V feedback
3	Control signal (+ve)
4	Common (DC supply signal and feedback return)
5	Chassis

Online at store.norgren.com

PROPORTIONAL PRESSURE CONTROL VALVE

VP50S G1/4

- Closed loop air pilot operated proportional pressure control valve with pressure output display
- Fast response time
- High flow
- Excellent performance characteristics
- Adjustable gain
- Adjustable pressure range
- Low power consumption
- Feedback signal
- Manifold mountable

Technical Data

Medium:
Compressed air, filtered to 5 µm, dry and oil free

Operation:
Air piloted spool valve with integrated electronic pressure control

Supply pressure:
Minimum 2 bar above maximum output required, 12 bar max.

Supply sensitivity:
Better than 0,75% span output change per bar supply pressure change

Flow:
Standard units up to 1400 N l/min (see characteristic curves)

Air consumption:
<5 N l/min

Ambient temperature:
0°C … +50°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Linearity:
< 1%

Hysteresis and deadband:
< 1%

Materials

Body:
Aluminium

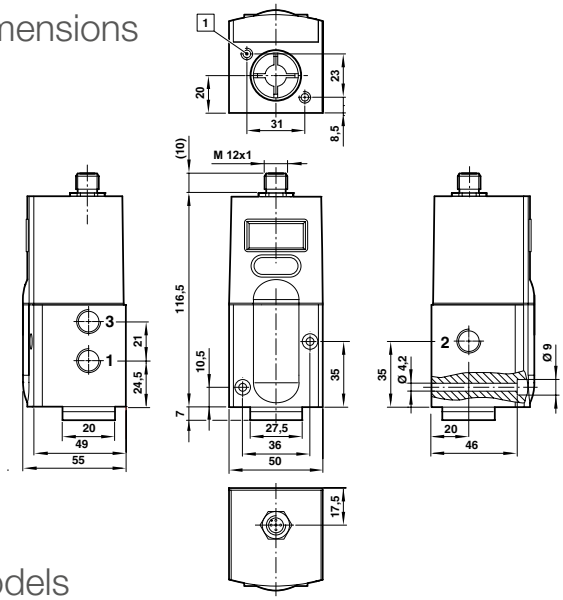
Lid:
Nylon

Front cover and End cap:
Nylon

EXPRESS



Dimensions



Electrical Information

Electromagnetic compatibility	CE marked: conforms to EC requirements EN 50081-2 (1994) and EN 50082-2 (1995)
Electrical input signal	4 … 20 mA or 0 … 10 V factory set
Electrical power input	24 V d.c. ±25% (power consumption <1 W)
Output pressure feedback signal	0 … 10 V full range, <±1% Accuracy
Connections	M12x1, 5 pin

Pin configuration



1	+24 V d.c. supply
2	0 … 10V feedback
3	Control signal (+VE)
4	Common (supply signal and feedback return)
5	Chassis

Models

Accessories

Model	Port size	Flow (l/min)	Output pressure (bar)	Control signal	Straight fitting	Elbow fitting	Silencer	Connector with 5m moulded cable
								
VP5002SBJ111H00	G1/4	1400	0 … 2	0 … 10 V	C02250828	C02470828	T40C2800	0250081000000000
VP5002SBJ411H00	G1/4	1400	0 … 2	4 … 20 mA	C02250828	C02470828	T40C2800	0250081000000000
VP5006SBJ111H00	G1/4	1400	0 … 6	0 … 10 V	C02250828	C02470828	T40C2800	0250081000000000
VP5006SBJ411H00	G1/4	1400	0 … 6	4 … 20 mA	C02250828	C02470828	T40C2800	0250081000000000
VP5010SBJ111H00	G1/4	1400	0 … 10	0 … 10 V	C02250828	C02470828	T40C2800	0250081000000000
VP5010SBJ411H00	G1/4	1400	0 … 10	4 … 20 mA	C02250828	C02470828	T40C2800	0250081000000000

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PROPORTIONAL PRESSURE CONTROL VALVE

VP51 Programmable G1/4

- Closed loop air pilot digital proportional control valve
- Fully programmable with on-board diagnostics
- Ability to set up offline
- Multi-language menu option
- Password protection option at first level functionality
- Instant LED warning functions
- Pressure output display; no gauge necessary
- High speed response

Technical Data

Medium:
Compressed air, filtered to 5 µm, dry and oil free

Output pressure:
User adjustable up to 10 bar

Supply pressure:
Minimum 2 bar above maximum output required, 12 bar max

Ambient temperature:
0°C … +50°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Air Supply sensitivity:
Better than 0,75% span output change per bar supply pressure change

Flow:
Standard units up to 1400 N l/min (see characteristic curves)

Air consumption:
< 5 N l/min

Linearity:
< 1%

Hysteresis and deadband:
< 1%

Materials

Body:
Aluminium

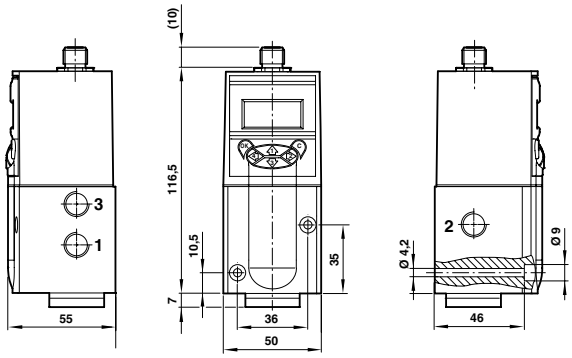
Lid:
Zinc die cast

Front cover:
Nylon

EXPRESS



Dimensions



Models

Accessories

Model	Port size	Max. flow (l/min)	Output pressure (bar)	Control signal	Straight fitting	Elbow fitting	Silencer	Connector with 5m moulded cable
								
VP5002SBJ111H00	G1/4	1400	0 … 10	0 … 10 V	C02250828	C02470828	T40C2800	0250081000000000
VP5010SBJ411H00	G1/4	1400	0 … 10	4 … 20 mA	C02250828	C02470828	T40C2800	0250081000000000

Electrical Information

Electromagnetic compatibility	CE marked: conforms to EC requirements EN 50081-2 (1994) and EN 50082-2 (1995)
Electrical input signal	4 … 20 mA or 0 … 10 V factory set
Electrical power input	24 V d.c. ±25% (power consumption <1 W)
Output pressure feedback signal	0 … 10 V full range or user-configurable switched output
Connections	M12 5 pin

Pin configuration



1	+24 V d.c. supply
2	0 … 10 V feedback
3	Control signal (+ve)
4	Common (DC supply signal and feedback return)
5	Chassis

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PROPORTIONAL PRESSURE CONTROL VALVE

VP23 3-WAY – G1/4 … G3/8

- All-digital control electronics
- Variable pressure control
- Optional: serial interface with LED display
- Free of lacquer affecting substances

Technical Data

Ambient/Media temperature:
Ambient: -5°C … +60°C
Media: -5°C … +50°C
(no condensation permitted)
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Linearity:
< ± 1,0% (p2 max.)

Hysteresis:
< ± 0,5% (p2 max.)

Materials

Valve housing:
Aluminium

Electronic housing:
PAA

Seals:
NBR, HNBR on request

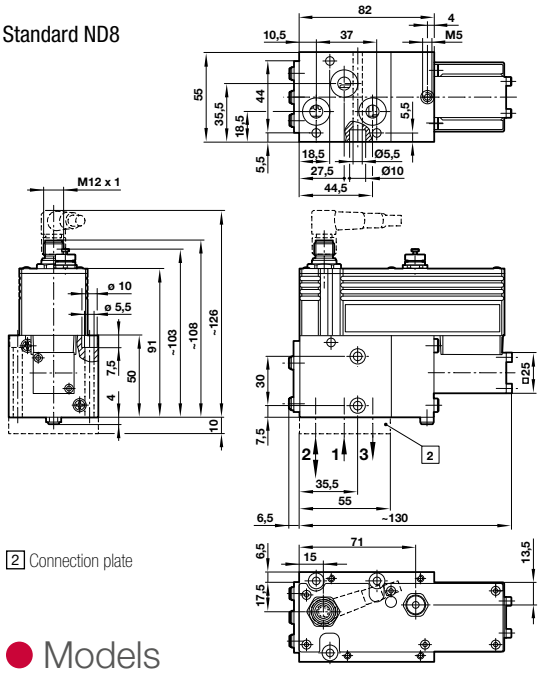
Internal parts:
PBT

Springs:
Steel



Dimensions

Standard ND8



2 Connection plate

Models

Model	Orifice (mm)	Operating pressure	Set point	Actual value	Connector
VP2302BD461MB201	8 mm	0 … 2 bar	4 … 20 mA	0 … 10 V/4 … 20 mA	M12/8 pin
VP2310BD461MB201	8 mm	0 … 10 bar	4 … 20 mA	0 … 10 V/4 … 20 mA	M12/8 pin
VP2316BD461MB201	8 mm	0 … 16 bar	4 … 20 mA	0 … 10 V/4 … 20 mA	M12/8 pin

Connection plates

Model	Description	Ports
		
0542636	Connection plate NG 8	G1/4
0543705	Connection plate NG 8	G3/8

Connecting plugs

Model	Description	Specification
		
0250811	Connecting plug	M12x1; 8-pin; 5 m, 8 x 0,25 mm², straight
0250813	Connecting plug	M12x1; 8-pin; 5 m, 8 x 0,25 mm², 90°
0252383	Connecting plug	M12x1; 8-pin; screw terminals, 90°

Note: Cable material PUR shielded.

Serial interface accessories

Adaptor cable Model	Description
	
5988319	Adaptor cable with software CD VP tool

Options

- 16 mm nominal size
- Profibus DP version

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see the option you require please contact us.

IMI NORGREN

CURRENT TO PRESSURE (I/P) ELECTRONIC CONVERTER

140 Failsafe G1/4 or 1/4 NPT

- Excellent accuracy
- Jack Socket for on-site monitoring
- Fail-Safe
- Weatherproof (IP66 or Type 4X)
- Fast response and minimal temperature effect
- High flow

Technical Data

Medium:
Oil free, dry air, min filtered to 50 µm; internal in-built air filter

Output pressure:
0,2 … 1 bar

Supply pressure:
1,2 … 10,3 bar

Response time:
< 1 second (from 0 … 90% or 90 … 10% of output pressure into a 0,5 litre load)

Temperature sensitivity:
Typically < 0,06% span/°C between -40°C … +85°C

Supply sensitivity:
< 0,1% of span for full supply pressure range

Ambient temperature:
-40°C … +85°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

I.P. Rating:
IP66, NEMA Type 4X

Linearity independent:
Mean < 0,1% of span

Hysteresis & deadband:
Mean < 0,1% of span

Materials

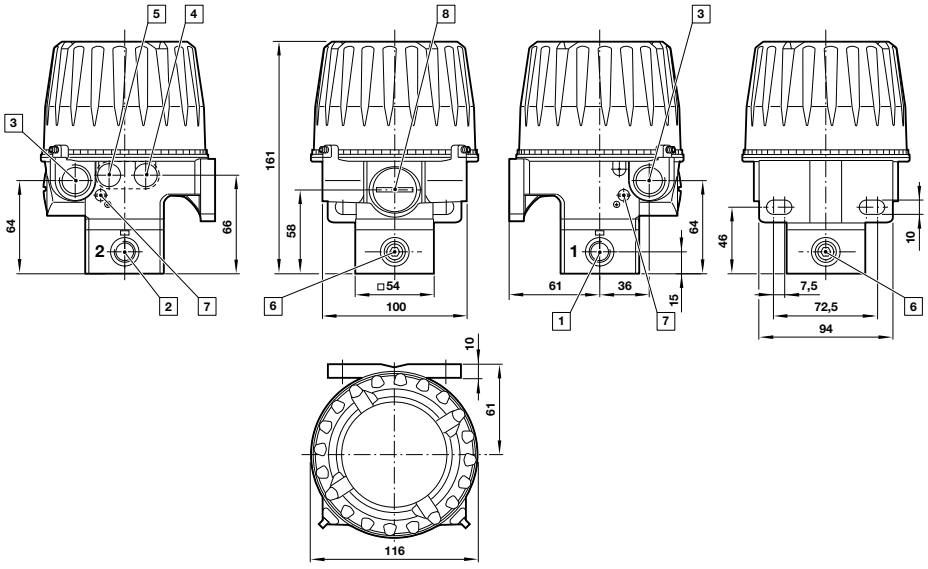
Body:
aluminium and zinc diecasting

Diaphragms:
NBR
Black epoxy powder coating standard



FM APPROVED

Dimensions



1 Inlet port
2 Outlet port
3 Conduit entry (1/2 NPT standard)
4 Enclosed bleed port (1/8 NPT)
5 Exhaust port
6 1/4" Gauge port
7 External earth
8 Air filter

Models

Model Multi certified units only – IS/Type N/Exd	Certification	Port size	Output pressure	Conduit Entry
EX14001BJ4LE2	Cenelec only	G 1/4	0,2 … 1 bar	M 20 x 1,5
EX14001BK4EE1	ATEX: Ex ia, Exd, Exn FM/CSA:I.S., N.I.	1/4 NPT	0,2 … 1 bar	1/2 NPT

Options available: Output pressure monitoring gauge.

Electrical parameters

Input Signal	4 … 20 mA (two wire) Terminal voltage < 6,5 V at 20 mA
Failure Mode	Pressure falls to below 15 mbar (0,2 psi) in < 2 sec when input signal fails
Overload Protection	100 mA max overload current
Connections	1/2" NPT or M20; internal terminal block with capacity up to 2,5 mm2 conductor

CURRENT TO PRESSURE (I/P) ELECTRONIC CONVERTER

422 Fail Freeze 1/4 NPT

- Fail freeze operation
- Minimum vibration effects
- IP 65 environmental protection in normal position

Technical Data

Medium:
Oil free, dry air, filtered to 5 µm

Supply pressure:
at least 0,7 bar above maximum required output pressure maximum 3 bar gauge

Flow capacity:
Up to 300NL/min

Response time:
< 8 sec (typically < 3 sec) from 10% … 90% of output pressure into a 0,5 litre volume
< 8 sec (typically < 3 sec) from 90% … 10% of output pressure into a 0,5 litre volume

Temperature sensitivity:
Typically < 0,034% span/°C between -10°C … +60°C

Supply sensitivity:
< 0,1% of span for full supply pressure range

Ambient temperature:
-20°C … +70°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Linearity:
≤ 0,5% of span

Hysteresis:
≤ 0,5% of span

Materials

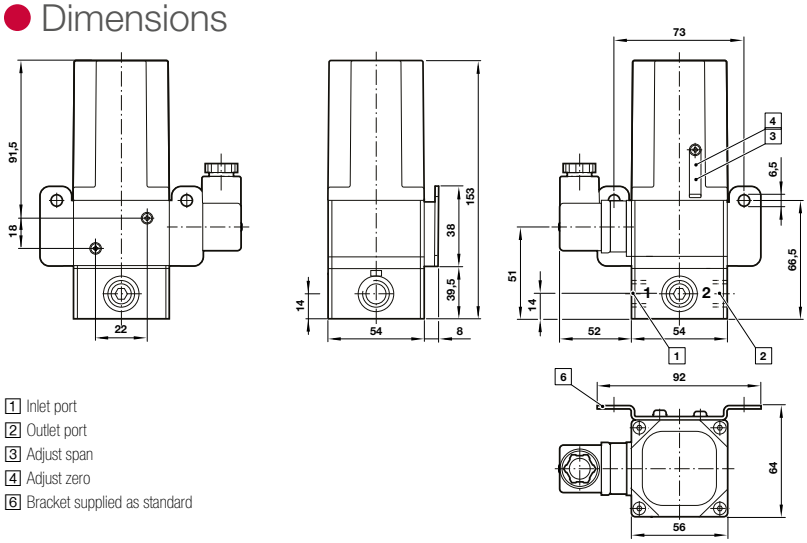
Body:
zinc diecasting passivated and epoxy painted

Cover:
Glass renforced PA

Diaphragms:
NBR



Dimensions



1 Inlet port
2 Outlet port
3 Adjust span
4 Adjust zero
6 Bracket supplied as standard

Models

Model	Port	Output pressure
AC2100	1/4 NPT	0,2-1 bar
AC0100	1/4 NPT	3-15 psi
AC0138X	1/4 NPT	0,2 - 1,0 Kg/cm^2

For other port sizes or options please contact your sales representative.

Electrical parameters

Input Signal	4-20 mA (two wire). Terminal voltage typically 7,5 V at 20 mA
Failure Mode	Output pressure held at previous value when input signal fails; drift rate 0,02% in 30 seconds
Overload Protection	100 mA max. overload current. Unit unaffected by short duration reverse current
Connections	30mm square connector provided (DIN 43650, form A) mountable in 4 directions
Span/Zero	Independently adjustable up to 20% output range

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CURRENT TO PRESSURE (I/P) CONVERTER

422 IS Fail Freeze G1/4 or 1/4 NPT

- ATEX I.S. I/P Converter
- Fail freeze operation
- Minimum vibration effects
- Excellent accuracy

Technical Data

Medium:
Oil free, dry air, filtered to 5 µm

Output pressure:
0,2 … 1 bar

Supply pressure:
at least 0,7 bar above maximum required output pressure maximum 4 bar gauge

Flow capacity:
Up to 250 Nl/min

I.P. Rating:
IP65 with piped exhaust

EMC Compatibility:
Compliant and CE marked in accordance with the EC Directive 2004/108/EC tested to BS EN 61000-6-2:2005 BS EN 61000-6-4:2007+ A11:2011

Ambient temperature:
-10°C … +70°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Linearity:
≤ 0,5% of span

Hysteresis:
Typically ≤ 0,5% of span

Materials

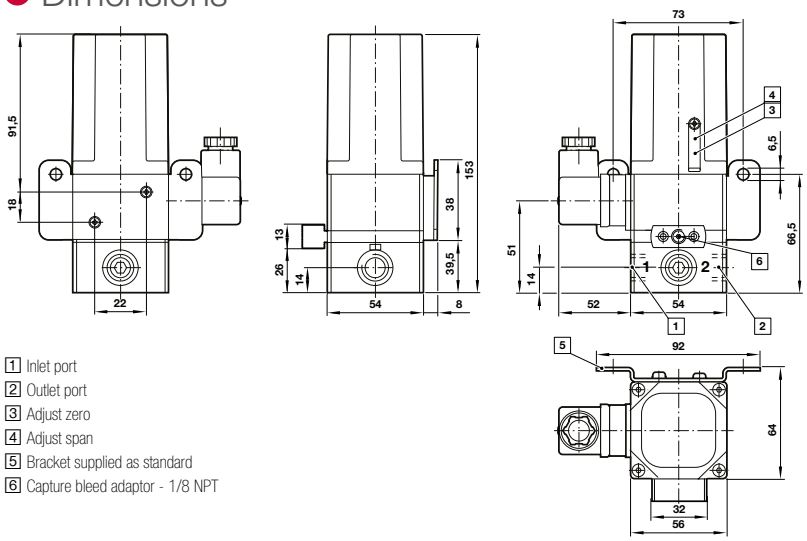
Body:
zinc diecasting passivated and epoxy painted

Cover:
Glass renforced PA

Diaphragms:
NBR



Dimensions



1 Inlet port
2 Outlet port
3 Adjust zero
4 Adjust span
5 Bracket supplied as standard
6 Capture bleed adaptor - 1/8 NPT

Models

Model	Port size	Output pressure
AC301PJ1	G1/4	3 … 15 psi
AC301PK1	1/4 NPT	3 … 15 psi
AC301BJ1	G1/4	0,2 … 1 bar
AC301BK1	1/4 NPT	0,2 … 1 bar

Certification

Certification Agency	ATEX Intrinsically safe	IECEx Intrinsically safe
	CE Ex II	
Sira	1/4 NPT Sira 03ATEX2007X Ex ia IIC T4 Ga (Ta = -40 … +80°C) Ui = 28 V d.c. Ii = 110 mA Pi = 0,8 W Ci = 5 nF Li = 0,24 mH 1G	IECEx SIR 11.0095X Ex ia IIC T4 Ga (Ta = -40 … +80°C) Ui = 28 V d.c. Ii = 110 mA Pi = 0,8 W Ci = 5 nF Li = 0,24 mH

Electrical parameters

Input Signal	4 … 20 mA (two wire). Terminal voltage typically < 11 V at 20 mA
Failure Mode	Output pressure held at previous value when input signal fails; drift rate ≤ 0,2% of span in 5 minutes
Overload Protection	30 mA max. overload current. Unit unaffected by reverse current
Connections	30mm square connector provided (DIN 43650, form A) mountable in 4 directions
Span/Zero	Independently adjustable up to 15% output range

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PROPORTIONAL FLOW CONTROL VALVE

VP60 G1/4

- High flow rate, low pressure loss
- Calibrated, linear flow characteristic with zero crossover
- Choice of setpoint input: 4 … 20 mA, ±5 V, 0 … 10 V, fixed value, function generator, optional Profibus DP
- Silicon-free to test spec P-VW 3.10.7/01.92
- Fast dynamic response
- Diagnostic function
- CE compliant 89/336/EEC

Technical Data

Medium:
ISO8573-1 Class: 2-3-1, filtered, dried, oil-free
The dynamic performance and service life of the valve may be significantly reduced if using unfiltered air containing water and oil!

Operation:
Directly-controlled spool valve with fast dynamic response

Flow:
1200 N l/min at p1 = 6 bar, p2 = 5 bar

Ambient/Media temperature:
Ambient: 0°C … +60°C
Media: 5°C … +60°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Leakage:
Typical value: 8 N l/min
(p1 = 10 bar and p2/4 = 0 bar)

Degree of protection:
IP65

Service life:
>250 million full-travel operations with recommended air quality

Response sensitivity:
± 0,5 (% max. Q)*

Hysteresis:
± 0,5 (% max. Q)*

Repeat accuracy:
± 1,0 (% max. Q)*

Linearity:
± 3,0 (% max. Q)*
* Values related to 20°C
Dynamic values stated relate 24 V d.c. power supply

Materials

Electronic enclosure:
PAA

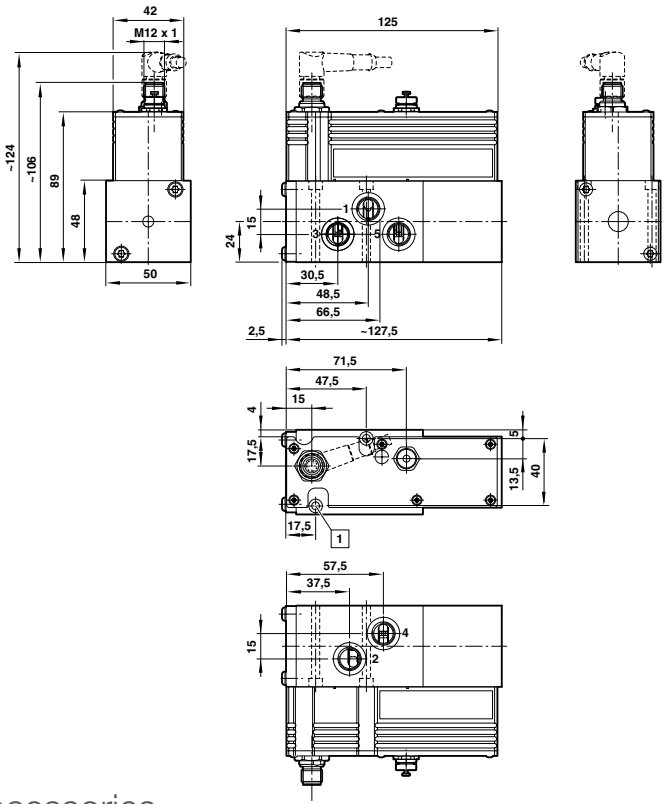
Valve housing and internal parts:
anodised aluminium

Other static seals:
NBR

Actuator magnet:
Fe, surface refined



Dimensions



Models

Accessories

Model	Orifice (mm)	Output pressure (bar)	Set point	Actual value	Straight fitting	Elbow fitting	Silencer	Straight connector M 12 x 1	Elbow connector M 12 x 1
									
VP6010LJ461MB200	8	-1 … 16	4 … 20 mA	0 … 10 V/4 … 20 mA	C02250828	C02470828	T40C2800	0250811000000000	0250813000000000
VP6010LJ661MB200	8	-1 … 16	-5 V … +5 V	0 … 10 V/4 … 20 mA	C02250828	C02470828	T40C2800	0250811000000000	0250813000000000
VP6010LJ761MB200	8	-1 … 16	0 … 10 V	0 … 10 V/4 … 20 mA	C02250828	C02470828	T40C2800	0250811000000000	0250813000000000

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IMI NORGREN



IMI Buschjost
valves

The constant research and continuing innovation behind the IMI Buschjost name has helped to create a market leader in process and multimedia valves, which can be found in a huge variety of applications worldwide.

In fact, in Germany, IMI Buschjost process valves are amongst only three brands which are SIL certified for use in power plants.

SOLENOID OPERATED VALVES:

- Port sizes from G1/4 to G2 plus options of flange connections
- Range of body and seal materials to cover most industrial applications
- Extensive use of patented IMI Buschjost Click-on® coils
- ATEX versions available
- Diaphragm (up to 16 bar) and piston (up to 40 bar versions available)
- Range covers direct, indirect and forced lift versions

PRESSURE OPERATED VALVES

- Port sizes G1/4 to G2
- Diaphragm and piston versions available up to 16 bar depending upon size and actuator type
- Range of body and seal materials to cover most industry applications
- Suitable for fluid viscosities up to 600 centistokes and fluids with contamination
- Solenoid pilot operator available to directly mount to the valve actuator

CLICK-ON® BENEFITS

- Valve core tube completely sealed – fluid cannot escape
- Solenoid can be removed and replaced without tools
- Can be rotated through 360°
- Cannot be over tightened leading to damage to valve
- Totally IP65 protected

Engineering GREAT Solutions

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IMI BUSCHJOST

2/2-WAY DIRECTLY OPERATED VALVES

Series 82510, 82610

- 2/2-way seat valves
- G1/8 … 3/8
- Suitable for vacuum
- High flow rate
- Functional compact design
- Body with M5 fastening thread as standard
- Solenoid interchangeable without tools (Click-on®)
- Valve operates without pressure differential (Zero delta P)

Technical Data

Switching function:
Normally closed

Flow direction:
Determined

Mounting position:
Optional, preferably solenoid vertical on top

EXPRESS





	82510 (82520)	82610 (84620)
Medium	Neutral gases and liquids	Neutral and slightly aggressive gases and liquid fluids
Port size	G1/8 … 3/8 (1/8 … 3/8 NPT)	G1/8 … 3/8 (1/8 … 3/8 NPT)
Operating pressure	0 … 10/25/40/70 bar	0 … 10/25/40/70 bar
Temperature		
Media temperature	-10°C … +90°C	-10°C … +110°C
Ambient temperature	-10°C … +50°C	-10°C … +50°C
Material		
Body	Brass (CW617N)	Stainless steel (1.4408)
Seat seal	NBR	FPM
Internal parts	Stainless steel, brass	Stainless steel

Models - Valves normally closed

Port size	Orifice (mm)	Series 82510 Model	Operating pressure (bar)	Series 82610 Model	Operating pressure (bar)
G1/8	1,5	8251800.910x.xxxxx	0 … 25	8261803.910x.xxxxx	0 … 25
G1/4	1,5	8251000.910x.xxxxx	0 … 25	8261003.910x.xxxxx	0 … 25
G3/8	1,5	8251100.910x.xxxxx	0 … 25	8261103.910x.xxxxx	0 … 25
G1/8	1,5	8251807.915x.xxxxx	0 … 70	8261807.915x.xxxxx	0 … 70
G1/4	1,5	8251007.915x.xxxxx	0 … 70	8261007.915x.xxxxx	0 … 70
G3/8	1,5	8251107.915x.xxxxx	0 … 70	8261107.915x.xxxxx	0 … 70
G1/8	2,5	8251820.910x.xxxxx	0 … 10	8261823.910x.xxxxx	0 … 10
G1/4	2,5	8251020.910x.xxxxx	0 … 10	8261023.910x.xxxxx	0 … 10
G3/8	2,5	8251120.910x.xxxxx	0 … 10	8261123.910x.xxxxx	0 … 10
G1/8	2,5	8251820.915x.xxxxx	0 … 40	8261823.915x.xxxxx	0 … 40
G1/4	2,5	8251020.915x.xxxxx	0 … 40	8261023.915x.xxxxx	0 … 40
G3/8	2,5	8251120.915x.xxxxx	0 … 40	8261123.915x.xxxxx	0 … 40
G1/8	3	8251840.910x.xxxxx	0 … 4	8261843.910x.xxxxx	0 … 4
G1/4	3	8251040.910x.xxxxx	0 … 4	8261043.910x.xxxxx	0 … 4
G3/8	3	8251140.910x.xxxxx	0 … 4	8261143.910x.xxxxx	0 … 4
G1/8	3	8251840.915x.xxxxx	0 … 20	8261843.915x.xxxxx	0 … 20
G1/4	3	8251040.915x.xxxxx	0 … 20	8261043.915x.xxxxx	0 … 20
G3/8	3	8251140.915x.xxxxx	0 … 20	8261143.915x.xxxxx	0 … 20
G1/8	4	8251860.915x.xxxxx	0 … 12	8261863.915x.xxxxx	0 … 12
G1/4	4	8251060.915x.xxxxx	0 … 12	8261063.915x.xxxxx	0 … 12
G3/8	4	8251160.915x.xxxxx	0 … 12	8261163.915x.xxxxx	0 … 12
G1/8	5	8251880.915x.xxxxx	0 … 6	8261883.915x.xxxxx	0 … 6
G1/4	5	8251080.915x.xxxxx	0 … 6	8261083.915x.xxxxx	0 … 6
G3/8	5	8251180.915x.xxxxx	0 … 6	8261183.915x.xxxxx	0 … 6

Models - Valves normally open

Port size	Orifice (mm)	Series 82510 Model	Operating pressure (bar)	Series 82610 Model	Operating pressure (bar)
G1/4	1,5	8251001.910x.xxxxx	0 … 16	8261001.910x.xxxxx	0 … 16
G1/4	2,5	8251021.910x.xxxxx	0 … 6	8261021.910x.xxxxx	0 … 6
G1/4	2,5	8251021.915x.xxxxx	0 … 25	8261021.915x.xxxxx	0 … 25
G1/4	3	8251041.910x.xxxxx	0 … 3	8261041.915x.xxxxx	0 … 3
G1/4	3	8251041.915x.xxxxx	0 … 16	8261041.915x.xxxxx	0 … 16
G1/4	4	8251061.915x.xxxxx	0 … 8	8261061.915x.xxxxx	0 … 8

Options

- Seat seal EPDM
- Seat seal FPM
- Seat seal PTFE
- Manual override
- Normally open

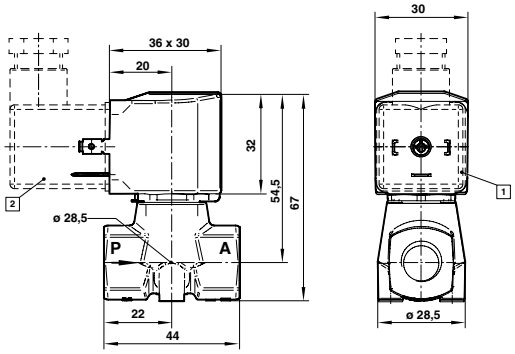
Voltage codes and spare coils

Voltage and frequency solenoid							
Code Voltage	**Code Frequency**	**Voltage**	**Frequency**	**Power consumption**			
				Inrush	**Holding**	**Inrush**	**Holding**
				9101 *1)		**9151 *1)**	
024	00	24 V d.c.	–	8 W	8 W	18 W	18 W
024	50	24 V a.c.	50 Hz	15 VA	12 VA	45 VA	35 VA
110	50	110 V a.c.	50 Hz	15 VA	12 VA	45 VA	35 VA
120	60	120 V a.c.	50 Hz	15 VA	12 VA	45 VA	35 VA
230	50	230 V a.c.	50 Hz	15 VA	12 VA	45 VA	35 VA

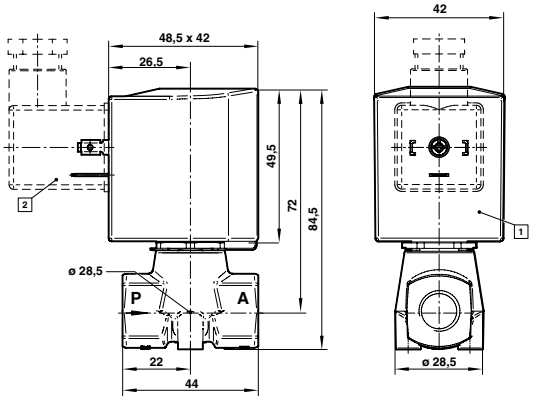
*1) Note: cULus coil only / up to +55°C ambient temperature.
Further versions on request!

Dimensions

82510/82610 with solenoid 9101



82510/82610 with solenoid 9151



1 Solenoid rotatable 360°
2 Socket turnable 4 x 90° (Socket included)

2/2-WAY FORCE LIFTED VALVES

Series 82530, 82560

- 2/2-way diaphragm valves
- DN 10, G1/4 … 1/2
- Functional design
- Compact solenoid with integrated core tube
- Valve operates without differential pressure (Zero delta P)
- Series 82530: Operating pressure 0 … 20 bar with alternating current and NBR sealing
- Series 82560: Suitable for vacuum

Technical Data

Switching function:
Normally closed

Flow direction:
Determined

Mounting position:
Optional, preferably solenoid vertical on top





	82530 (82630)	82560 (82570)
Medium	Neutral gases and liquids	Slightly aggressive gases and liquids
Port size	G1/4 … 1/2 (1/4 … 1/2 NPT)	G1/4 … 1/2 (1/4 … 1/2 NPT)
Operating pressure	0 … 10 bar	0 … 10 bar
Temperature		
Media temperature	-10°C … +90°C	-10°C … +90°C
Ambient temperature	-10°C … +50°C	-10°C … +50°C
Material		
Body	Brass (CW617N), PA66	Stainless steel (1.4408), PA66
Seat seal	NBR	NBR
Internal parts	Stainless steel, PVDF	Stainless steel, PVDF, Sandvik 1802

Models - Valves normally closed

Port size	Orifice (mm)	Series 82530 Model	Operating pressure (bar)	Series 82560 Model	Operating pressure (bar)
G1/4	10	8253000.8001.xxxxx	0 … 10	8256000.8001.xxxxx	0 … 10
G3/8	10	8253100.8001.xxxxx	0 … 10	8256100.8001.xxxxx	0 … 10
G1/2	10	8253200.8001.xxxxx	0 … 10	8256200.8001.xxxxx	0 … 10

Voltage codes and spare coils

Voltage and frequency solenoid					
Code Voltage	Code Frequency	Voltage	Frequency	Power consumption Inrush	Holding
				8001	
024	00	24 V d.c.	–	12 W	12 W
024	50	24 V a.c.	50 Hz	20 VA	16 VA
110	50	110 V a.c.	50 Hz	20 VA	16 VA
120	60	120 V a.c.	60 Hz	20 VA	16 VA
230	50	230 V a.c.	50 Hz	20 VA	16 VA

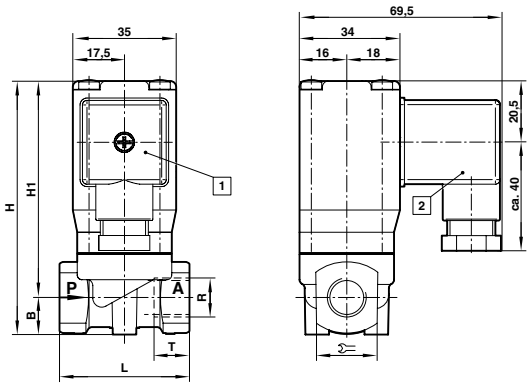
Further versions on request!

Options

- Seat seal EPDM
- Seat seal FPM
- Media temperature up to +150°C with HNBR seat seal

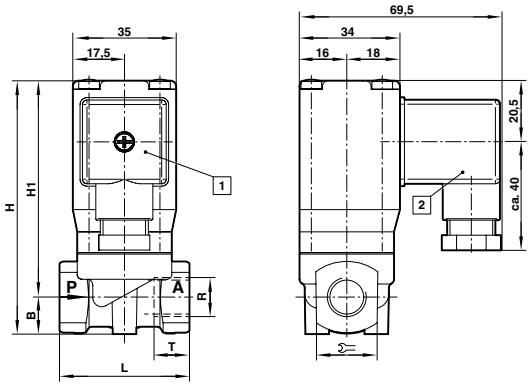
Dimensions

82530



Model	Port size	B	H	H1	L	⌓	T
8253000.8001.xxxxx	G1/4	14	87	73	44	21	12
8253100.8001.xxxxx	G3/8	14	87	73	44	21	12
8253200.8001.xxxxx	G1/2	14	90	74,5	60	27	15

82560



Model	Port size	B	H	H1	L	⌓	T
8256000.8001.xxxxx	G1/4	12,5	85,5	73	44	21	12
8256100.8001.xxxxx	G3/8	12,5	85,5	73	44	21	12
8256200.8001.xxxxx	G1/2	14	88,5	74,5	60	27	15

1 Solenoid rotatable 360°
2 Socket turnable 4 x 90° (Socket included)

Online at store.norgren.com

2/2-WAY FORCE LIFTED VALVES

Series 82540, 82590, 82090, 83040

- 2/2-way diaphragm valves
- DN 8 … 50, G1/4 … 2
- Series 82540, 82590, 83040
  - High flow rate
  - Damped operation
  - For robust industry
  - Suitable for vacuum
  - Valve operates without differential pressure (Zero delta P)
  - Solenoid interchangeable without tools (Click-on®) only solenoid 915x and 940x
- For systems with low or fluctuating pressure solutions
- Series 82090: Functional compact design

Technical Data

Switching function:
Normally closed

Flow direction:
Determined

Mounting position:
Optional, preferably solenoid vertical on top

Options

- Seat seal EPDM
- Seat seal FPM
- Manual override
- Normally open

EXPRESS






	82540 (82640)	82590 (84490)	82090 with DVGW approval	83040
Medium	Neutral gases and liquids	Slightly aggressive gases and liquids	Neutral gases and liquid fuels	Neutral gases and liquid fuels
Port size	G1/4 … 2 (1/4 … 2 NPT)	G1/4 … 2 (1/4 … 2 NPT)	G1/4 … 1	DN 15 … DN 50
Operating pressure	0 … 10/16 bar	0 … 10/16 bar	0 … 8 bar	0 … 10/16 bar
Temperature				
Media temperature	-10°C … +90°C	-10°C … +90°C	0°C … +60°C	-10 … +90°C
Ambient temperature	-10°C … +50°C	-10°C … +50°C	0°C … +60°C	-10 … +50°C
Material				
Body	Brass (CW617N)	Stainless steel (1.4408)	Brass (CW617N)	Cast steel, brass
Seat seal	NBR-K	NBR-K	NBR-G	NBR
Internal parts	Stainless steel, PVDF, brass	Stainless steel, PVDF	Stainless steel, brass	Stainless steel, PVDF, brass

Standard models

Port size	Orifice (mm)	Series 82540 Model	Operating pressure (bar)	Series 82590 Model	Operating pressure (bar)	Series 82090 Model	Operating pressure (bar)	Series 83040 Model (Flange)	Operating pressure (bar)
G1/4	8	8254000.915x.xxxxx	0 … 10	8259000.915x.xxxxx	0 … 10	8209000.917x.xxxxx	0 … 8	–	–
G1/4	8	8254000.930x.xxxxx	0 … 16 *1)	8259000.930x.xxxxx	0 … 16	–	–	–	–
G3/8	10	8254100.915x.xxxxx	0 … 10	8259100.915x.xxxxx	0 … 10	8209100.917x.xxxxx	0 … 8	–	–
G3/8	10	8254100.930x.xxxxx	0 … 16 *1)	8259100.930x.xxxxx	0 … 16	–	–	–	–
G1/2	12	8254200.915x.xxxxx	0 … 10	8259200.915x.xxxxx	0 … 10	8209200.917x.xxxxx	0 … 8	–	–
G1/2	12	8254200.930x.xxxxx	0 … 16 *1)	8259100.930x.xxxxx	0 … 16	–	–	–	–
–	15	–	–	–	–	–	–	8304200.915x.xxxxx	0 … 10
–	15	–	–	–	–	–	–	8304200.830x.xxxxx	0 … 16
G3/4	20	8254300.915x.xxxxx	0 … 10	8259300.915x.xxxxx	0 … 10	8209300.917x.xxxxx	0 … 8	8304300.915x.xxxxx	0 … 10
G3/4	20	8254300.930x.xxxxx	0 … 16 *1)	8259300.930x.xxxxx	0 … 16	–		8304300.830x.xxxxx	0 … 16
G1	25	8254400.915x.xxxxx	0 … 10	8259400.915x.xxxxx	0 … 10	8209400.917x.xxxxx	0 … 8	8304400.915x.xxxxx	0 … 10
G1	25	8254400.930x.xxxxx	0 … 16 *1)	8259400.930x.xxxxx	0 … 16	–	–	8304400.830x.xxxxx	0 … 16
G1 1/4	32	8254500.940x.xxxxx	0 … 16	8259500.940x.xxxxx	0 … 16	–	–	8304500.940x.xxxxx	0 … 16
G1 1/2	40	8254600.940x.xxxxx	0 … 16	8259600.940x.xxxxx	0 … 16	–	–	8304600.940x.xxxxx	0 … 16
G2	50	8254700.940x.xxxxx	0 … 16	8259700.940x.xxxxx	0 … 16	–	–	8304700.940x.xxxxx	0 … 16

*1) Note: For liquid mediums and an operating pressure > 10 bar is the maximum allowed differential pressure limited to 2 bar.

Voltage codes and spare coils

Voltage and frequency solenoid									
Code Voltage	Code Frequency	Voltage	Frequency	Inrush 9151/9154 *2)	Holding 9151/9154 *2)	Inrush 9301/9304 *2)	Holding 9301/9304 *2)	Inrush 9401/9404 *2) *3)	Holding 9401/9404 *2) *3)
024	00	24 V d.c.	–	18 W	18 W	18 W	18 W	38 W	38 W
024	50	24 V a.c.	50 Hz	45 VA	35 VA	106 VA	35 VA	42 VA	42 VA
110	50	110 V a.c.	50 Hz	45 VA	35 VA	106 VA	35 VA	42 VA	42 VA
120	60	120 V a.c.	60 Hz	45 VA	35 VA	106 VA	35 VA	42 VA	42 VA
230	50	230 V a.c.	50 Hz	45 VA	35 VA	106 VA	35 VA	42 VA	42 VA

*2) Note: cULus coil only / up to +55°C ambient temperature (with the exeption of solenoid 94xx up to 41 V a.c.). *3) A.c. only with rectifier plug. Further versions on request!

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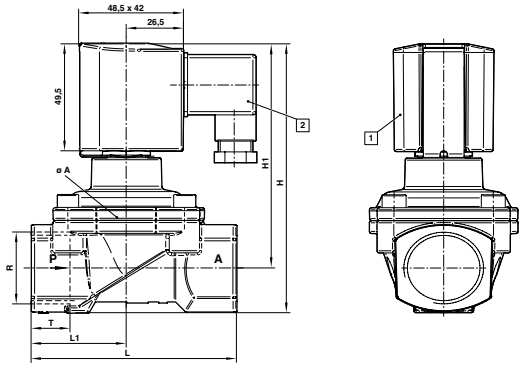
Voltage codes and spare coils

Voltage and frequency solenoid													
Code Voltage	Code Frequency	Voltage	Frequency	Inrush	Holding	Inrush	Holding	Inrush	Holding	Inrush	Holding	Inrush	Holding
				9151/9154 *2) *3)		8401/8404 *3)		9401/9404 *2) *3)		8301/8304 *3)		9178/9179 *2)	
024	00	24 V d.c.	–	18 W	18 W	40 W	40 W	38 W	38 W	22 W	22 W	18 W	–
024	49	24 V a.c.	40 … 60 Hz	20 VA	20 VA	45 VA	45 VA	42 VA	42 VA	25 VA	25 VA	20 VA	20 VA
110	49	110 V a.c.	40 … 60 Hz	20 VA	20 VA	45 VA	45 VA	42 VA	42 VA	25 VA	25 VA	20 VA	20 VA
120	49	120 V a.c.	40 … 60 Hz	20 VA	20 VA	45 VA	45 VA	42 VA	42 VA	25 VA	25 VA	–	–
230	49	230 V a.c.	40 … 60 Hz	20 VA	20 VA	45 VA	45 VA	42 VA	42 VA	25 VA	25 VA	20 VA *4)	20 VA *4)

*2) Note: cULus coil only / up to +55°C ambient temperature (with the exeption of solenoid 94xx up to 41 V a.c.). *3) Note: A.c. only with rectifier plug. *4) Solenoid 9179. Further versions on request!

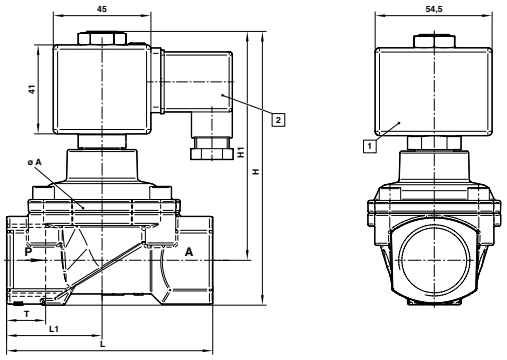
Dimensions

82540/82590 with solenoid 915x (10 bar)



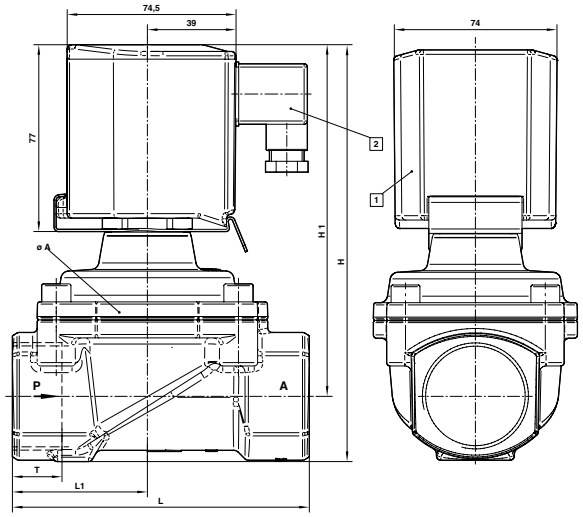
Model	Port size	ø A	H	H1	L	L1	T
8254000.915x.xxxxx	G1/4	44	104	92,5	60	27,5	12
8254100.915x.xxxxx	G3/8	44	104	92,5	60	27,5	12
8254200.915x.xxxxx	G1/2	44	108	94,5	67	31	14
8254300.915x.xxxxx	G3/4	50	115	99	80	36,5	16
8254400.915x.xxxxx	G1	62	124	103,5	95	44	18

82540/82590 with solenoid 930x (16 bar)



Model	Port size	ø A	H	H1	L	L1	T
8254000.930x.xxxxx	G1/4	44	104	92,5	60	27,5	12
8254100.930x.xxxxx	G3/8	44	104	92,5	60	27,5	12
8254200.930x.xxxxx	G1/2	44	108	94,5	67	31	14
8254300.930x.xxxxx	G3/4	50	115	99	80	36,5	16
8254400.930x.xxxxx	G1	62	124	103,5	95	44	18

82540/82590 with solenoid 940x (16 bar)



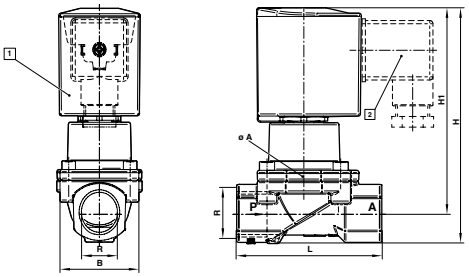
[1] Solenoid rotatable 360°
[2] Socket turnable 4 x 90° (Socket included)

Model	Port size	A	H	H1	L	L1	T
8254500.940x.xxxxx	G1 1/4	92	186	157	132	60	20
8254600.940x.xxxxx	G1 1/2	92	186	157	132	60	22
8254700.940x.xxxxx	G2	109	201,5	167	160	74	24

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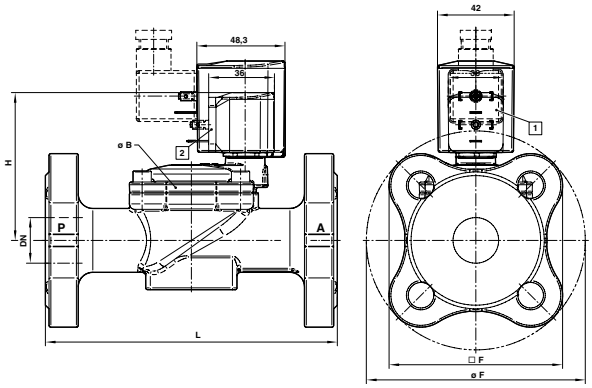
2/2-WAY FORCE LIFTED VALVES
Series 82540, 82590, 82090, 83040

82090



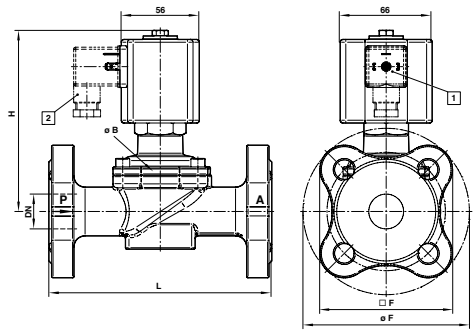
Model	Port size	ø A	H	H1	L
8209000.917x.xxxxx	G1/4	44	104	92,5	60
8209100.917x.xxxxx	G3/8	44	104	92,5	60
8209200.917x.xxxxx	G1/2	44	108	94,5	67
8209300.917x.xxxxx	G3/4	50	115	99	80
8209400.917x.xxxxx	G1	62	124	103,5	95

83040 wih Solenoid 915x (10 bar)



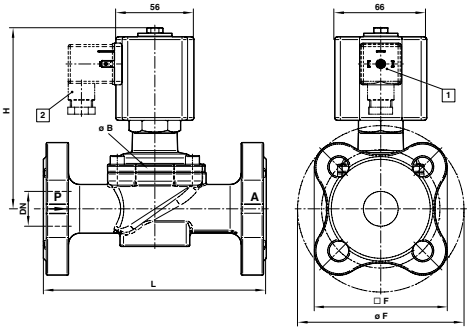
Model	Orifice	ø B	ø F	F	H	L
8304200.915x.xxxxx	15	44	96	77	97	130
8304300.915x.xxxxx	20	50	110	86,6	105	150
8304400.915x.xxxxx	25	62	120	95,1	108	160

83040 wih Solenoid 830x (16 bar)



Model	Orifice	ø B	ø F	F	H	L
8304200.830x.xxxxx	15	44	96	77	157,5	130
8304300.830x.xxxxx	20	50	110	86,6	170	150
8304400.830x.xxxxx	25	62	120	95,1	175	160

83040 wih Solenoid 940x (16 bar)



Model	Orifice	ø B	ø F	F	H	L
8304500.940x.xxxxx	32	92	140	110,7	158	180
8304600.940x.xxxxx	40	92	150	117,8	162	200
8304700.940x.xxxxx	50	109	165	128,4	171	230

1 Solenoid rotatable 360°

2 Socket turnable 4 x 90° (Socket included)

2/2-WAY FORCE LIFTED VALVES

Series 86700, 86720, 86740

- 2/2-way piston valves
- DN 8 … 50, G1/4 … 2
- Valve operates without differential pressure (Zero delta P)
- Series 86700:
  - Valve with PTFE piston guide rings
  - Suitable for vacuum
- Series 86720:
  - High flow rate
  - For steam and hot water
  - Damped operation
- Series 86740:
  - Valve piston with PTFE guide-ring
  - Suitable for vacuum

Technical Data

Switching function:
Normally closed

Flow direction:
Determined

Mounting position:
Optional, preferably solenoid vertical on top







	86700 (86710)	86720 (86730)	86740 (86750)
Medium	Air, water and oil	Neutral steam and liquids	Slightly aggressive gases and liquid fluids
Port size	G1/4 … 2 (1/4 … 2 NPT)	G1/4 … 2 (1/4 … 2 NPT)	G1/4 … 2 (1/4 … 2 NPT)
Operating pressure	0 … 25/40 bar	0 … 16 bar	0 … 25/40 bar
Temperature			
Media temperature	-20°C … +90°C	0°C … +200°C	-20°C … +90°C
Ambient temperature	-20°C … +50°C	0°C … +60°C	-20°C … +50°C
Material			
Body	Brass (CW617N)	Brass (CW617N)	Stainless steel (1.4408)
Seat seal	NBR	PTFE	NBR
Internal parts	Stainless steel, PTFE/carbon, brass	Stainless steel, PTFE/carbon, brass	Stainless steel, PTFE/carbon

Standard models

Port size	Orifice (mm)	Series 86700 Model	Operating pressure (bar)	Series 86720 Model	Operating pressure (bar)	Model	Operating pressure (bar)
G1/4	8	8670000.830x.xxxxx	0 … 25	8672000.840x.xxxxx	0 … 16	8674000.830x.xxxxx	0 … 25
G3/8	10	8670100.830x.xxxxx	0 … 25	8672100.840x.xxxxx	0 … 16	8674100.830x.xxxxx	0 … 25
G1/2	12	8670200.830x.xxxxx	0 … 25	8672200.840x.xxxxx	0 … 16	8674200.830x.xxxxx	0 … 25
G3/4	20	8670300.830x.xxxxx	0 … 25	8672300.840x.xxxxx	0 … 16	8674300.830x.xxxxx	0 … 25
G1	25	8670400.830x.xxxxx	0 … 25	8672400.840x.xxxxx	0 … 16	8674400.830x.xxxxx	0 … 25
G1 1/4	32	8670500.840x.xxxxx	0 … 25	8672500.840x.xxxxx	0 … 16	8674500.840x.xxxxx	0 … 25
G1 1/2	40	8670600.840x.xxxxx	0 … 25	8672600.840x.xxxxx	0 … 16	8674600.840x.xxxxx	0 … 25
G2	50	8670700.840x.xxxxx	0 … 25	8672700.840x.xxxxx	0 … 16	8674700.840x.xxxxx	0 … 25

Voltage codes and spare coils

Voltage and frequency solenoid						
Code Voltage	**Code Frequency**	**Voltage**	**Frequency**	**Power consumption Inrush / Holding 8301/8304 *1)**	**Inrush / Holding 8401/8404 *1)**	**Inrush / Holding 8402/8406 *1)**
024	00	24 V d.c.	–	22 W	40 W	29 W
024	49	24 V a.c.	40 … 60 Hz	25 VA	45 VA	33 VA
110	49	110 V a.c.	40 … 60 Hz	25 VA	45 VA	33 VA
120	49	120 V a.c.	40 … 60 Hz	25 VA	45 VA	33 VA
230	49	230 V a.c.	40 … 60 Hz	25 VA	45 VA	33 VA

*1) Note: A.c. with rectifier plug.
Further versions on request!

Options

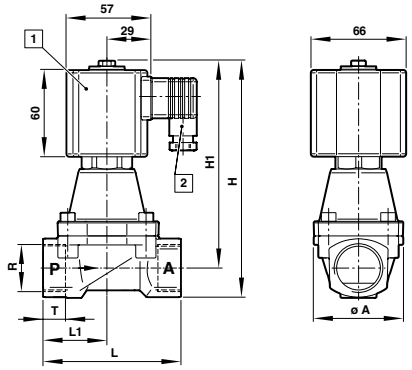
- Seat seal CR for ammonia
- Manual override
- Version for viscosity up to 80 cst
- Operating pressure up to 40 bar
- Normally open
- Explosion approved coils

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2/2-WAY FORCE LIFTED VALVES
Series 86700, 86720, 86740

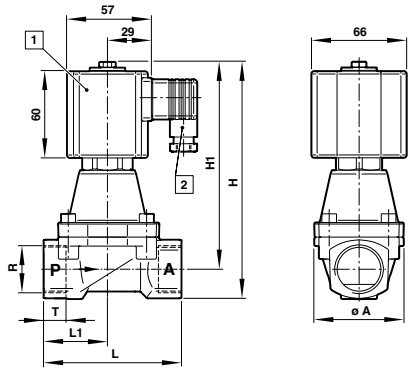
Dimensions

86700 with solenoid 830x



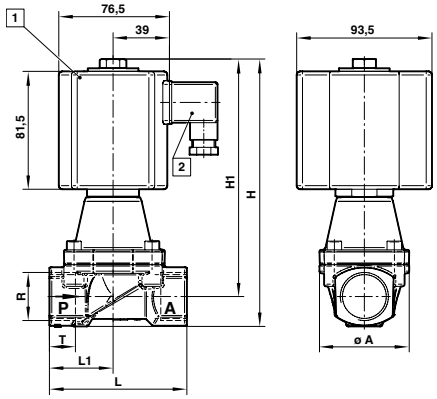
Model	Port size	A	H	H1	L	L1	T
8670000.830x.xxxxx	G1/4	44	143	132	60	27,5	12
8670100.830x.xxxxx	G3/8	44	143	132	60	27,5	12
8670200.830x.xxxxx	G1/2	44	145	132	67	31	14
8670300.830x.xxxxx	G3/4	50	154	137	80	35,5	16
8670400.830x.xxxxx	G1	62	164	143,5	95	44	18

86700 with solenoid 840x



Model	Port size	A	H	H1	L	L1	T
8670500.840x.xxxxx	G1 1/4	92	212,5	183,5	132	60	20
8670600.840x.xxxxx	G1 1/2	92	212,5	183,5	132	60	22
8670700.840x.xxxxx	G2	109	212,5	183,5	160	74	24

86720 with solenoid 840x

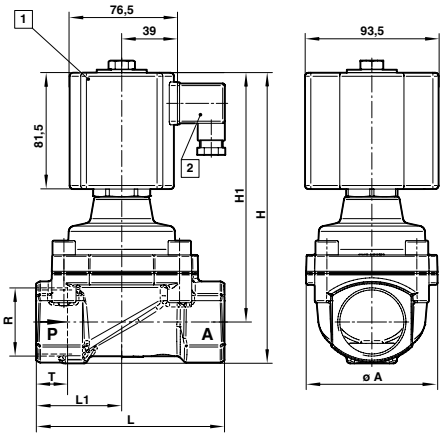


Model	Port size	A	H	H1	L	L1	T
8672000.840x.xxxxx	G1/4	44	143	132	60	27,5	12
8672100.840x.xxxxx	G3/8	44	143	132	60	27,5	12
8672200.840x.xxxxx	G1/2	44	145	132	67	31	14
8672300.840x.xxxxx	G3/4	50	154	137	80	35,5	16
8672400.840x.xxxxx	G1	62	164	143,5	95	44	18

[1] Solenoid rotatable 360°
[2] Socket turnable 4 x 90° (Socket included)

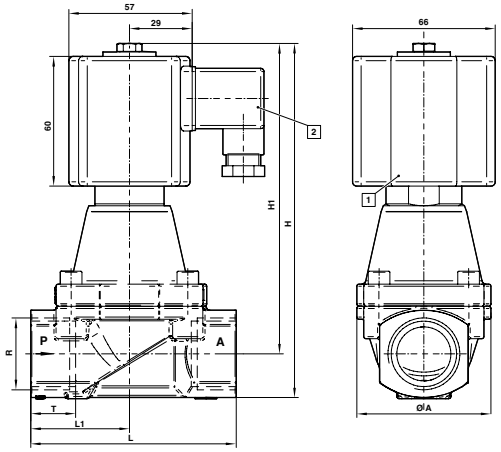
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86720 with solenoid 840x



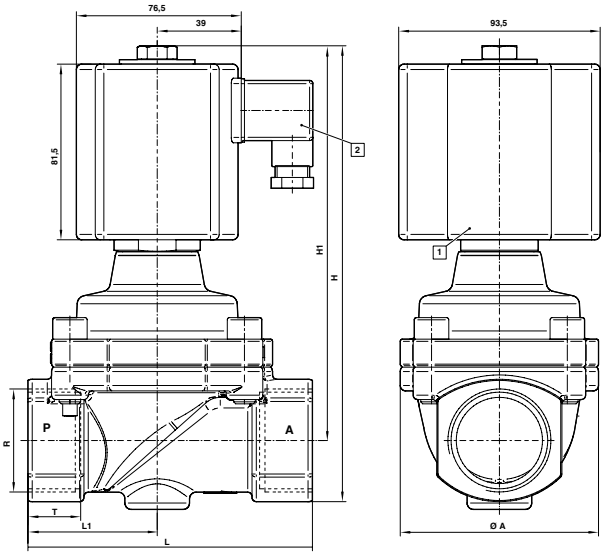
Model	Port size	A	H	H1	L	L1	T
8672500.840x.xxxxx	G1 1/4	92	212	183	132	60	20
8672600.840x.xxxxx	G1 1/2	92	212	183	132	60	22
8672700.840x.xxxxx	G2	109	226	192	160	74	24

86740 with solenoid 830x



Model	Port size	A	H	H1	L	L1	T
8674000.830x.xxxxx	G1/4	44	143	132	60	60	12
8674100.830x.xxxxx	G3/8	44	143	132	60	60	12
8674200.830x.xxxxx	G1/2	44	145	132	67	67	14
8674300.830x.xxxxx	G3/4	50	154	137	80	80	16
8674400.830x.xxxxx	G1	62	164	143,5	95	95	18

86740 with solenoid 840x



Model	Port size	A	H	H1	L	L1	T
8674500.840x.xxxxx	G1 1/4	92	212,5	183,5	132	132	20
8674600.840x.xxxxx	G1 1/2	92	212,5	183,5	132	132	22
8674700.840x.xxxxx	G2	109	226,5	192	160	160	24

[1] Solenoid rotatable 360°

[2] Socket turnable 4 x 90° (Socket included)

2/2-WAY INDIRECLY OPERATED SOLENOID VALVES

Series 82400, 82470, 82730, 83030

- 2/2-way seat valves
- DN 8 … 50, G1/4 … 2
- High flow rate
- Damped operation
- Functional compact design
- Solenoid interchangeable without tools (Click-on®)
- Fluids of Group 2 acc. Pressure Equipment Directive 97/23/EC (Series 83030)

Technical Data

Switching function:
Normally closed

Flow direction:
Determined

Mounting position:
Optional, preferably solenoid vertical on top

Differential pressure:
0,1 bar required

EXPRESS






	82400 (82410)	82470 (82680)	82730 (82740)	83030
Medium	Neutral gases and liquids	Hot water, steam	Slightly aggressive gases and liquid fluids	Neutral gases and liquids
Port size	G1/4 … 2 (1/4 … 2 NPT)	G1/4 … 1 (1/4 … 1 NPT)	G1/4 … 2 (1/4 … 2 NPT)	DN 15 … DN 50
Operating pressure	0,1 … 10/16 bar	0,1 … 10 bar	0,1 … 10/16 bar	0,1 … 10/16 bar
Temperature				
Media temperature	-10°C … +90°C	0°C … +150°C	-10°C … +90°C	-10°C … +90°C
Ambient temperature	-10°C … +50°C	-10°C … +60°C	-10°C … +50°C	-10°C … +50°C
Material				
Body	Brass (CW617N)	Brass (CW617N)	Stainless steel (1.4408)	Cast steel, brass
Seat seal	NBR	HNBR	NBR	NBR
Internal parts	Stainless steel, PVDF, brass from DN 25	Stainless steel, brass	Stainless steel, PVDF	Stainless steel, PVDF resp. Brass from DN 32

Standard models

Port size	Orifice (mm)	Series 82400 Model	Operating pressure (bar)	Series 82470 Model	Operating pressure (bar)	Series 82730 Model	Operating pressure (bar)	Series 83030 Model (Flange)	Operating pressure (bar)
G1/4	8	8240000.9101.xxxxx	0,1 … 16	8247000.9101.xxxxx	0,1 … 10	8273000.9101.xxxxx	0,1 … 16	–	–
G3/8	10	8240100.9101.xxxxx	0,1 … 16	8247100.9101.xxxxx	0,1 … 10	8273100.9101.xxxxx	0,1 … 16	–	–
G1/2	12	8240200.9101.xxxxx	0,1 … 16	8247200.9101.xxxxx	0,1 … 10	8273200.9101.xxxxx	0,1 … 16	–	–
–	15	–	–	–	–	–	–	8303200.9101.xxxxx	0,1 … 16
G3/4	20	8240300.9101.xxxxx	0,1 … 16	8247300.9101.xxxxx	0,1 … 10	8273300.9101.xxxxx	0,1 … 16	8303300.9101.xxxxx	0,1 … 16
G1	25	8240400.9101.xxxxx	0,1 … 16	8247400.9101.xxxxx	0,1 … 10	8273400.9101.xxxxx	0,1 … 16	8303400.9101.xxxxx	0,1 … 16
G1 1/4	32	8240500.9101.xxxxx	0,1 … 10 *1)	–	–	8273500.9101.xxxxx	0,1 … 10 *1)	8303500.9101.xxxxx	0,1 … 10 *1)
G1 1/2	40	8240600.9101.xxxxx	0,1 … 10 *1)	–	–	8273600.9101.xxxxx	0,1 … 10 *1)	8303600.9101.xxxxx	0,1 … 10 *1)
G2	50	8240700.9101.xxxxx	0,1 … 10 *1)	–	–	8273700.9101.xxxxx	0,1 … 10 *1)	8303700.9101.xxxxx	0,1 … 10 *1)

*1) Note: Operating pressure 0,1 … 16 bar with solenoid 9151.

Voltage codes and spare coils

Voltage and frequency solenoid							
Code Voltage	Code Frequency	Voltage	Frequency	Power consumption			
				Inrush	Holding	Inrush	Holding
				9101 *2)		9151*2)	
024	00	24 V d.c.	–	8 W	8 W	18 W	18 W
024	50	24 V a.c.	50 Hz	15 VA	12 VA	45 VA	35 VA
110	50	110 V a.c.	50 Hz	15 VA	12 VA	45 VA	35 VA
120	60	120 V a.c.	60 Hz	15 VA	12 VA	45 VA	35 VA
230	50	230 V a.c.	50 Hz	15 VA	12 VA	45 VA	35 VA

*2) Note: cULus coil only / up to +55°C ambient temperature.
Further versions on request!

Options

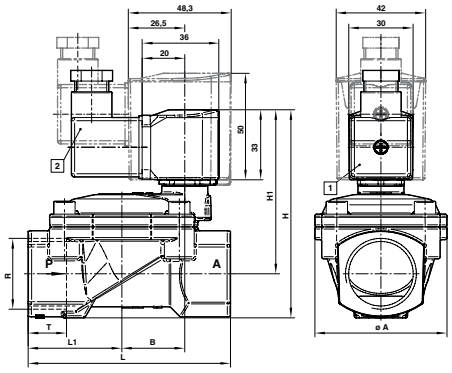
- Normally open (NO)
- Manual override
- Seat seal FPM
- Seat seal EPDM
- Bi-stabil version
- Latching-coil system
- Version for drinking water with diaphragm according to KTW
- Flanges acc.to ASME B 16.5 150 lb/sq.In. (Series 83030)
- FM/NEMA approved coil Modele 382x for USA + Canada
- With sealed core tube
- With Drain plug (Gardening version)
- ATEX approved coils

2/2-WAY INDIRECLY OPERATED SOLENOID VALVES
Series 82400, 82470, 82730, 83030

Dimensions

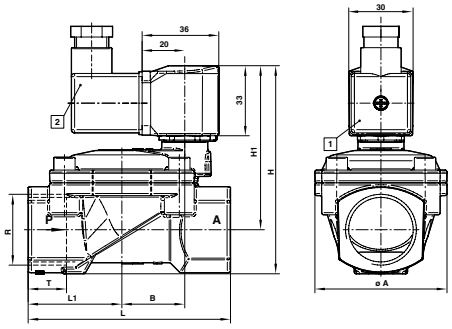
1 Solenoid rotatable 360°
2 Socket turnable 4 x 90° (Socket included)

82400



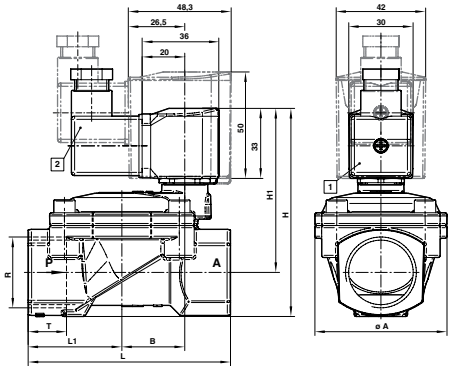
Model	Port size	A	B	H	H1	L	L1	T
8240000.9101.xxxxx	G1/4	44	19,5	78,5	67	60	27,5	12
8240100.9101.xxxxx	G3/8	44	19,5	78,5	67	60	27,5	12
8240200.9101.xxxxx	G1/2	44	19,5	81	67	67	31	14
8240300.9101.xxxxx	G3/4	50	24	88	71,5	80	36,5	16
8240400.9101.xxxxx	G1	62	29,5	97,5	77	95	44	18
8240500.9101.xxxxx	G1 1/4	92	44,5	124,5	95,5	132	60	20
8240600.9101.xxxxx	G1 1/2	92	44,5	124,5	95,5	132	60	22
8240700.9101.xxxxx	G2	109	54,5	142,5	108	160	74	24

82470



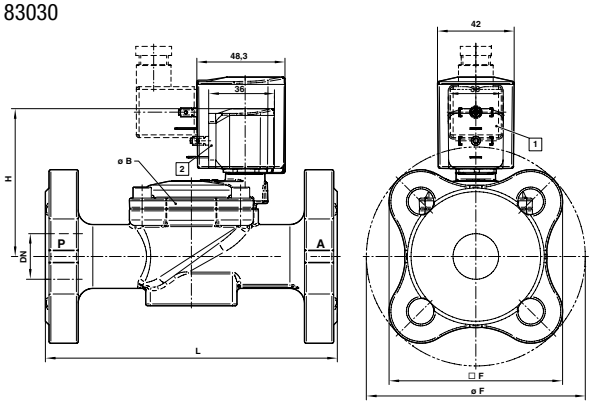
Model	Port size	A	B	H	H1	L	L1	T
8247000.9101.xxxxx	G1/4	44	19,5	78,5	67	60	27,5	12
8247100.9101.xxxxx	G3/8	44	19,5	78,5	67	60	27,5	12
8247200.9101.xxxxx	G1/2	44	19,5	81	67	67	31	14
8247300.9101.xxxxx	G3/4	50	24	88	71,5	80	36,5	16
8247400.9101.xxxxx	G1	62	29,5	97,5	77	95	44	18

82730



Model	Port size	A	B	H	H1	L	L1	T
8273000.9101.xxxxx	G1/4	44	19,5	78,5	67	60	27,5	12
8273100.9101.xxxxx	G3/8	44	19,5	78,5	67	60	27,5	12
8273200.9101.xxxxx	G1/2	44	19,5	81	67	67	31	14
8273300.9101.xxxxx	G3/4	50	24	88	71,5	80	36,5	16
8273400.9101.xxxxx	G1	62	29,5	97,5	77	95	44	18
8273500.9101.xxxxx	G1 1/4	92	44,5	124,5	95,5	132	60	20
8273600.9101.xxxxx	G1 1/2	92	44,5	124,5	95,5	132	60	22
8273700.9101.xxxxx	G2	109	54,5	142,5	108	160	74	24

83030



Model	Orifice	ø B	ø F	F	H	L
8303000.9101.xxxxx	15	44	96	77	69	130
8303100.9101.xxxxx	20	50	110	86,6	77	150
8303200.9101.xxxxx	25	62	120	95,1	81	160
8303300.9101.xxxxx	32	92	140	110,7	97	180
8303400.9101.xxxxx	32	92	140	110,7	114	180
8303500.9101.xxxxx	40	92	150	117,8	102	200
8303600.9101.xxxxx	40	92	150	117,8	119	200
8303700.9101.xxxxx	50	109	165	128,4	113	230
8303700.9151.xxxxx	50	109	165	128,4	131	230

Contact face acc. to DIN EN 1092-1/B.

Online at store.norgren.com

2/2-WAY INDIRECTLY OPERATED VALVES

Series 85360, 85380, 85660

- 2/2-way piston valves
- DN 8 … 50, G1/4 … 2, Flange connection, Pressure rating PN 40
- Compact build piston valve
- Functional design
- High flow rate
- Piston guided in PTFE rings
- Solenoid interchangeable without tools (Click-on®)
- Series 85360:
  - Damped operation via cone
- Series 85380:
  -Leakrate E acc. to DIN EN 12266-1

Technical Data

Switching function:
Normally closed

Flow direction:
Determined

Mounting position:
Optional, preferably solenoid vertical on top

Differential pressure:
0,5/1 bar required







	85360 (85370)	85380 (85390)	85660
Medium	Neutral gases and liquids	Neutral steam and liquids	Neutral gases and liquid fluids
Port size	G1/4 … 2 (1/4 … 2 NPT)	G1/4 … 1 (1/4 … 1 NPT)	DN 15 … 50
Operating pressure	0,5 … 40 bar	1 … 25 bar	0,5 … 40 bar
Temperature			
Media temperature	-20°C … +90°C	0°C … +200°C	-20°C … +90°C
Ambient temperature	-20°C … +50°C	0°C … +50°C with solenoid mounted vertical underneath max. +60 °C *4)	-20°C … +50°C
Material			
Body	Brass (CW617N)	Brass (CW617N)	Cast steel (1.0619), brass (CW617N)
Seat seal	NBR	PTFE	NBR
Internal parts	Stainless steel, brass, PTFE/carbon	Stainless steel, FPM, PTFE	Stainless steel, brass, PTFE

Standard models

Port size	Orifice (mm)	Series 85360 Model	Operating pressure (bar)	Series 85380 Model	Operating pressure (bar)	Series 85660 Model (Flange)	Operating pressure (bar)
G1/4	8	8536000.915x.xxxxx	0,5 … 40	8538000.915x.xxxxx	1 … 25	–	–
G3/8	10	8536100.915x.xxxxx	0,5 … 40	8538100.915x.xxxxx	1 … 25	–	–
G1/2	12	8536200.915x.xxxxx	0,5 … 40	8538200.915x.xxxxx	1 … 25	–	–
–	15	–	–	–	–	8566200.915x.xxxxx	0,5 … 40
G3/4	20	8536300.915x.xxxxx	0,5 … 40	8538300.915x.xxxxx	1 … 25	8566300.915x.xxxxx	0,5 … 40
G1	25	8536400.915x.xxxxx	0,5 … 40	8538400.915x.xxxxx	1 … 25	8566400.915x.xxxxx	0,5 … 40
G1 1/4	32	8536500.915x.xxxxx	0,5 … 40	–	–	8566500.915x.xxxxx	0,5 … 40
G1 1/2	40	8536600.915x.xxxxx	0,5 … 40	–	–	8566600.915x.xxxxx	0,5 … 40
G2	50	8536700.915x.xxxxx	0,5 … 40	–	–	8566700.915x.xxxxx	0,5 … 40

Voltage codes and spare coils

Voltage and frequency solenoid							
Code Voltage	Code Frequency	Voltage	Frequency	Power consumption			
				Inrush	Holding	Inrush	Holding
				9151 *1)		9152 *2)	
024	00	24 V d.c.	–	18 W	18 W	10 W	10 W
024	50	24 V a.c.	50 Hz	45 VA	35 VA	45 VA	15 VA
110	50	110 V a.c.	50 Hz	45 VA	35 VA	45 VA	15 VA
120	60	120 V a.c.	60 Hz	45 VA	35 VA	45 VA	15 VA
230	50	230 V a.c.	50 Hz	45 VA	35 VA	45 VA	15 VA

*1) Note: cULus coil only.
*2) Note: cULus coil only / up to +55°C ambient temperature.
Further versions on request!

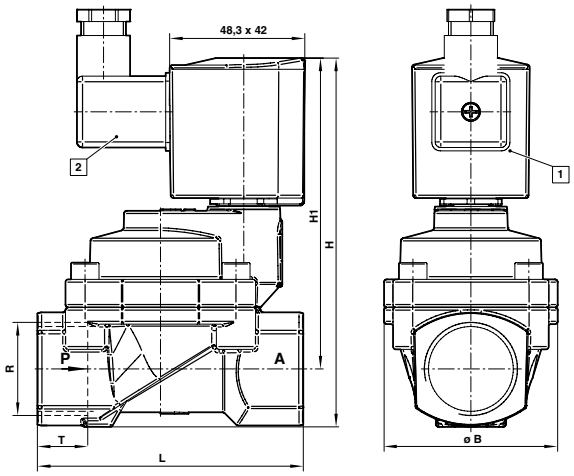
Options

- Normally open
- Manual override
- Version for drinking water
- Special version for PET-bottling systems

Online at store.norgren.com

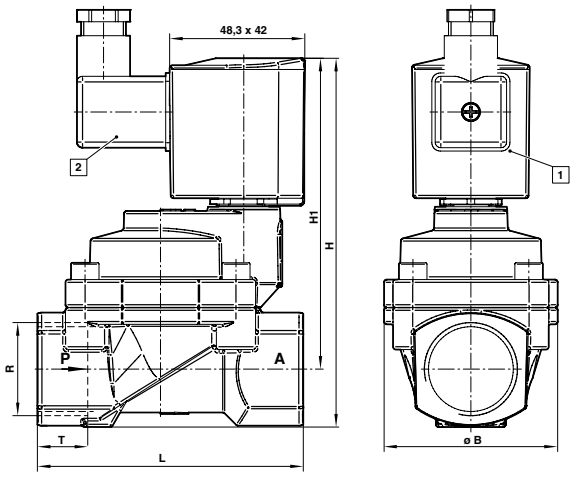
Dimensions

85360



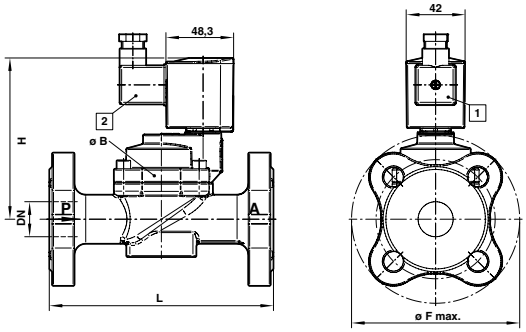
Model	Port size	ø B	H	H1	L	T
8536000.9151.xxxxx	G1/4	44	105	93,5	60	12
8536100.9151.xxxxx	G3/8	44	105	93,5	60	12
8536200.9151.xxxxx	G1/2	44	107,5	102,5	67	14
8536300.9151.xxxxx	G3/4	50	119	102,5	80	16
8536400.9151.xxxxx	G1	62	131,5	110,5	95	18
8536500.9151.xxxxx	G1 1/4	92	166	137	132	20
8536600.9151.xxxxx	G1 1/2	92	166	137	132	22
8536700.9151.xxxxx	G2	109	186	151,5	160	24

85380



Model	Port size	ø B	H	H1	L	T
8538000.9152.xxxxx	G1/4	44	105	93,5	60	12
8538100.9152.xxxxx	G3/8	44	105	93,5	60	12
8538200.9152.xxxxx	G1/2	44	107,5	102,5	67	14
8538300.9152.xxxxx	G3/4	50	119	102,5	80	16
8538400.9152.xxxxx	G1	62	131,5	110,5	95	18

85660



Model	Orifice	ø B	ø F max.	H	H1
8566200.9101.xxxxx	15	44	96	96	130
8566300.9101.xxxxx	20	50	110	108,5	150
8566400.9101.xxxxx	25	62	115	115	160
8566500.9101.xxxxx	32	92	140	138,5	180
8566600.9101.xxxxx	40	92	150	143,5	200
8566700.9101.xxxxx	50	109	165	156,5	230

[1] Solenoid rotatable 360°
[2] Socket turnable 4 x 90° (Socket included)

2/2-WAY PRESSURE ACTUATED VALVES BY EXTERNAL FLUID

Series 84500, 84520

- 2/2-way seat valves
- DN 15 … 50, G1/2 … 2
- Easy rebuilding into »normally open« or »double-acting« without tools
- Optical position indicator is standard
- Damped closing (Valve closes against flow direction)
- Suitable for contaminated flow fluid
- Suitable for vacuum up to max. 90%
- Reversed flow direction optional

Technical Data

Switching function:
Normally closed

Flow direction:
Determined

Mounting position:
Optional, preferably solenoid vertical on top

EXPRESS





	84500 (84510)	84520 (84530)
Medium	Neutral gases and liquids	Aggressive gases and liquids
Pilot fluid	Neutral gases max. +60°C	Neutral gases max. +60°C
Port size	G1/2 … 2 (1/2 … 2 NPT)	G1/2 … 2 (1/2 … 2 NPT)
Operating pressure	0 … 25 bar (depends on port size)	0 … 25 bar (depends on port size)
Pilot pressure	3,5 … 10 bar	3,5 … 10 bar
Temperature		
Media temperature	-10°C … +180°C	-10°C … +180°C
Ambient temperature	-10°C … +60°C	-10°C … +60°C
Material Process fluid		
Body	Brass (CW617N)	Stainless steel (1.4581)
Seat seal	PTFE	PTFE
Internal parts	Brass, stainless steel	Stainless steel
Material Pilot fluid		
Body	Polyamid 66 with glass fibre 30%	Polyamid 66 with glass fibre 30%
Seals	NBR	NBR
Internal parts	Brass, stainless steel	Brass, stainless steel, 1.8159, 1.1200

Standard models

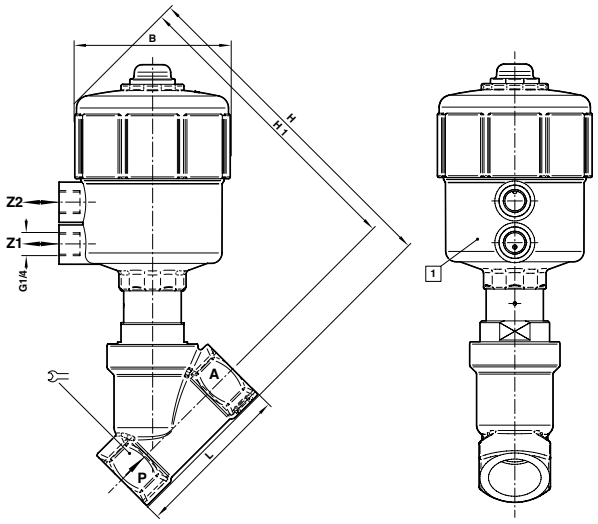
Port size	Series 84500 Model	Operating pressure (bar)	Series 84520 Model	Operating pressure (bar)
G1/2	8450200.0000.00000	0 … 16 (25)	8452200.0000.00000	0 … 16 (25)
G3/4	8450300.0000.00000	0 … 10 (16)	8452300.0000.00000	0 … 10 (16)
G1	8450400.0000.00000	0 … 10	8452400.0000.00000	0 … 10
G1 1/4	8450500.0000.00000	0 … 7	8452500.0000.00000	0 … 7
G1 1/2	8450600.0000.00000	0 … 4,5	8452600.0000.00000	0 … 4,5
G2	8450700.0000.00000	0 … 3	8452700.0000.00000	0 … 3

Options

- Namur interface plate for namur pilot valve
- Electrical position indicator
- Linear cone positioner with integrated sensor

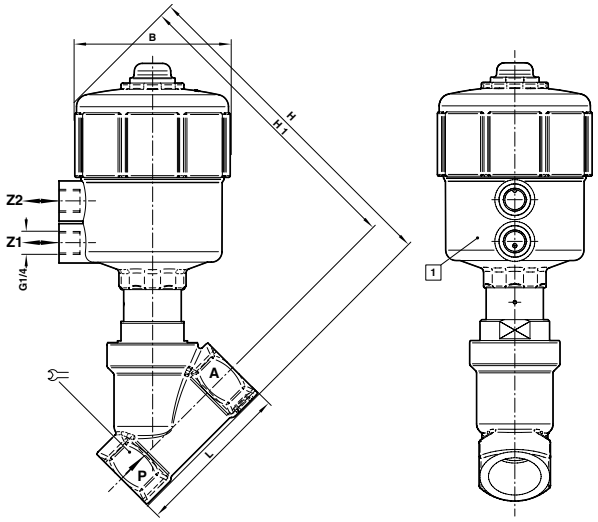
Dimensions

84500



Model	Port size	B	H	H1	L	
8450200.0000.00000	G1/2	89,5	177,5	164	65	27
8450300.0000.00000	G3/4	89,5	184	168	75	32
8450400.0000.00000	G1	89,5	194,5	174	90	41
8450500.0000.00000	G1 1/4	89,5	209,5	184,5	110	50
8450600.0000.00000	G1 1/2	89,5	208,5	186	120	55
8450700.0000.00000	G2	89,5	229,5	194,5	150	70

84520



Model	Port size	B	H	H1	L	
8452200.0000.00000	G1/2	89,5	177,5	164	65	27
8452300.0000.00000	G3/4	89,5	184	168	75	32
8452400.0000.00000	G1	89,5	194,5	174	90	41
8452500.0000.00000	G1 1/4	89,5	209,5	184,5	110	50
8452600.0000.00000	G1 1/2	89,5	208,5	186	120	55
8452700.0000.00000	G2	89,5	229,5	194,5	150	70

[1] Actuator may be rotated 360°

2/2-WAY PRESSURE ACTUATED VALVES BY EXTERNAL FLUID

Series 84720, 84740

- 2/2-way seat valves
- DN 15 … 25, G1/2 … 1
- Optical position indicator is standard
- Damped closing (Valve closes against flow direction)
- Suitable for contaminated flow fluid
- Suitable for vacuum up to max. 90%
- Reversed flow direction optional
- High flow rate
- Option pressure actuated by external liquid fluid

Technical Data

Switching function:
Normally closed

Flow direction:
Determined

Mounting position:
Optional

EXPRESS





	84720 (84730)	84740 (84750)
Medium	Neutral gases and liquids	Aggressive gases and liquids
Pilot fluid	Neutral gases max. +60°C	Neutral gases max. +60°C
Port size	G1/2 … 1 (1/2 … 1 NPT)	G1/2 … 1 (1/2 … 1 NPT)
Operating pressure	0 … 16 bar (depends on port size)	0 … 16 bar (depends on port size)
Pilot pressure	3,5 … 10 bar	3,5 … 10 bar
Temperature		
Media temperature	-10°C … +180°C	-10°C … +180°C
Ambient temperature	-10°C … +60°C	-10°C … +60°C
Material Process fluid		
Body	Brass (CW617N)	Stainless steel
Seat seal	PTFE	PTFE
Internal parts	Brass, stainless steel	Stainless steel
Material Pilot fluid		
Body	Polyamid 66 with glass fibre 30%	Polyamid 66 with glass fibre 30%
Seals	NBR	NBR
Internal parts	Brass, stainless steel	Brass, stainless steel

Standard models

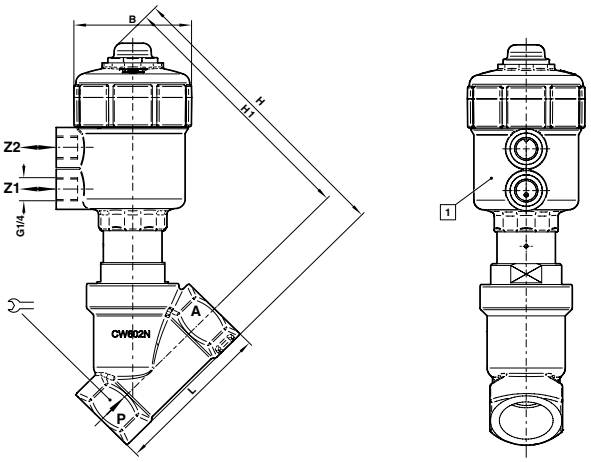
Port size	Series 84720 Model	Operating pressure (bar)	Series 84740 Model	Operating pressure (bar)
G1/2	8472200.0000.00000	0 … 16	8474200.0000.00000	0 … 16
G3/4	8472300.0000.00000	0 … 8	8474300.0000.00000	0 … 8
G1	8472400.0000.00000	0 … 5	8474400.0000.00000	0 … 5

Options

- Namur interface plate for Namur pilot valve
- Electrical position indicator
- Normally open
- Double acting

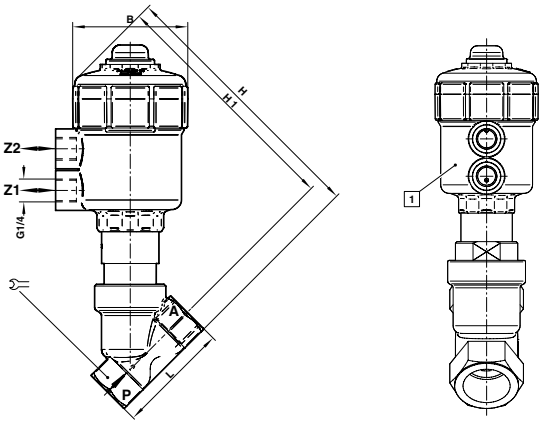
Dimensions

84720



Model	Port size	B	H	H1	L	
8472200.0000.00000	G1/2	66	154	140,5	65	27
8472300.0000.00000	G3/4	66	160	144,5	75	32
8472400.0000.00000	G1	66	171	150,5	90	41

84740



Model	Port size	B	H	H1	L	
8474200.0000.00000	G1/2	66	154	140,5	65	27
8474300.0000.00000	G3/4	66	160	144,5	75	32
8474400.0000.00000	G1	66	171	150,5	90	41

1 Actuator may be rotated 360°

2/2-WAY PRESSURE ACTUATED VALVES BY EXTERNAL FLUID

Series 82180, 82280, 82580

- 2/2-way seat valves
- DN 15 … 50
- For robust industry applications
- Series 82180, 82280:
  - High flow rate
  - Suitable for contaminated process fluid
  - Damped operation (Valves closes against flow direction)
  - Suitable for vacuum up to max. 90%
  - Option pressure actuated by external liquid fluid
- Series 82580:
  - EC Modele examination certificate Product ID-No.: CE-0085 AT0091 Valve class A Valve group 2
  - High function reliability
  - Short response time < 1 s
  - Qualification approval acc. to EN 161/3394 Part 1

Technical Data

Switching function:
Normally closed

Flow direction:
Determined

Mounting position:
Optional, preferably solenoid vertical on top







	82180 (82190)	82280 (82290)	82580 with DVGW-approval
Medium	Neutral gases and liquids	Neutral gases and liquids	Neutral burnable gases and other neutral gases
Pilot fluid	Neutral gases max. +80°C	Neutral gases max. +80°C	Neutral gases max. +80°C
Port size	G1/2 … 2 (1/2 … 2 NPT)	G1/2 … 2 (1/2 … 2 NPT)	G1/2 … 2 (1/2 … 2 NPT)
Operating pressure	0 … 16 bar (depends on port size)	0 … 10/16 bar	0 … 10 bar
Pilot pressure	3,8 … 8 bar	3,8 … 8 bar	5 … 8 bar
Temperature			
Media temperature	-10°C … +180°C	-10°C … +180°C	-10°C … +60°C
Ambient temperature	-10°C … +60°C	-10°C … +60°C	-10°C … +60°C
Material Process fluid			
Body	Brass (CW617N)	Brass (CW617N)	Brass (CW617N)
Seat seal	PTFE	PTFE	FPM
Internal parts	Brass, stainless steel	Brass, stainless steel	Brass, stainless steel
Material Pilot fluid			
Body	Stainless steel, aluminium	Stainless steel, aluminium	Stainless steel (1.4408)
Seals	NBR	NBR	NBR
Internal parts	Coated steel	Coated steel	Coated steel

Standard models

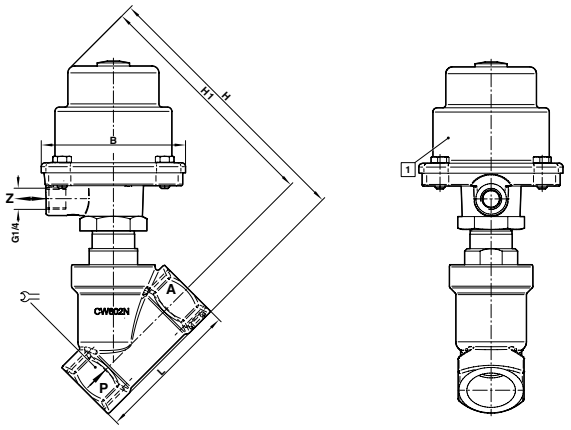
Port size	Orifice (mm)	Series 82180 Model	Operating pressure (bar)	Series 82280 Model	Operating pressure (bar)	Series 82580 Model	Operating pressure (bar)
G1/2	15	8218200.0000.00000	0 … 16	–	–	8258200.0000.xxxxx	0 … 10
G3/4	20	8218300.0000.00000	0 … 10	–	–	8258300.0000.xxxxx	0 … 10
G1	25	8218400.0000.00000	0 … 10	–	–	8258400.0000.xxxxx	0 … 10
G1 1/4	32	8218500.0000.00000	0 … 7	8228500.0000.00000	0 … 16	8258500.0000.xxxxx	0 … 10
G1 1/2	40	8218600.0000.00000	0 … 4,5	8228600.0000.00000	0 … 10	8258600.0000.xxxxx	0 … 10
G2	50	8218700.0000.00000	0 … 3	8228700.0000.00000	0 … 10	8258700.0000.xxxxx	0 … 10

Options

- Normally open
- Operating pressure up to 25 bar

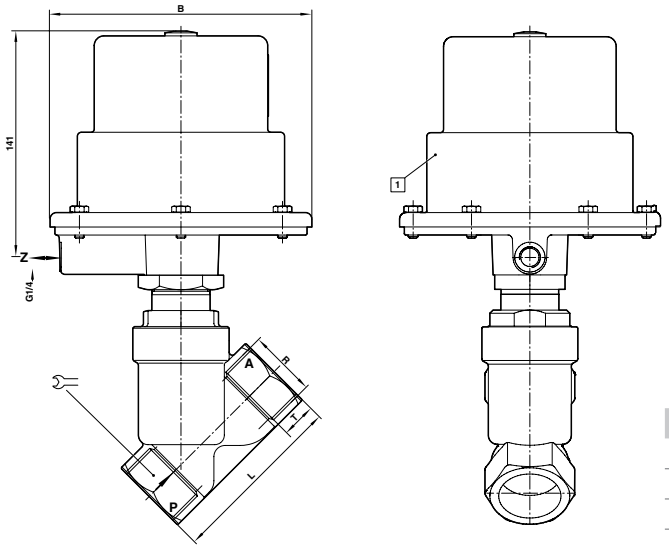
Dimensions

82180 actuator ø 70 mm



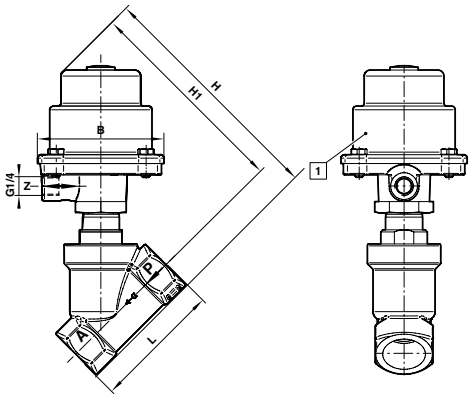
Model	Port size	B	H	H1	L	
8218200.0000.00000	G1/2	89,5	154	140,5	65	27
8218300.0000.00000	G3/4	89,5	160	144	75	32
8218400.0000.00000	G1	89,5	171	150,5	90	41
8218500.0000.00000	G1 1/4	89,5	186	161	110	50
8218600.0000.00000	G1 1/2	89,5	190	162,5	120	55
8218700.0000.00000	G2	89,5	206	171	150	70

82280 actuator ø 125 mm



Model	Port size	B	H	H1	L	
8228500.0000.00000	G1 1/4	163	250	225	110	50
8228600.0000.00000	G1 1/2	163	255	227,5	120	55
8228700.0000.00000	G2	163	270	235	150	70

82580



Model	Port size	B	H	H1	L
8258200.0000.00000	G1/2	89,5	154	140,5	65
8258300.0000.00000	G3/4	89,5	160	144	75
8258400.0000.00000	G1	89,5	171	150,5	90
8258500.0000.00000	G1 1/4	89,5	186	161	110
8258600.0000.00000	G1 1/2	89,5	190	162,5	120
8258700.0000.00000	G2	89,5	206	171	150

[1] Actuator may be rotated 360°

2/2-WAY PRESSURE ACTUATED VALVES BY EXTERNAL FLUID

Series 83240, 83250

- 2/2-way seat valves
- DN 15 … 100, G1/2 … 2
- Suitable for steam
- Can be used as Y-pattern/selector valve (pressure connected to A)
- High flow rate
- Series 83240:
  - Damped closing
  - For robust industry applications

Technical Data

Switching function:
Normally closed from P to A, closed by spring force, opened from P to A by pilot pressure

Flow direction:
Determined

Mounting position:
Optional





	83240	83250
Medium	Neutral gases and liquids	Neutral gases and liquids
Pilot fluid	Air max. +80°C	Neutral gases max. +60°C
Port size	DN 15 … 100	DN 15 … 50, G1/2 … 2 (1/2 … 2 NPT)
Operating pressure	0 … 16 bar (depends on port size)	0 … 16 bar (depends on port size)
Pilot pressure	4,5 … 7 bar	5,5 … 7 bar
Temperature		
Media temperature	-10°C … +180°C	-10°C … +180°C
Ambient temperature	-10°C … +80°C	-10°C … +80°C
Material Process fluid		
Body	Grey cast iron	Gun metal
Seat seal	PTFE	PTFE
Internal parts	Brass, stainless steel	Stainless steel, brass
Material Pilot fluid		
Body	–	Aluminium
Seal	–	NBR
Internal parts	–	Brass, stainless steel

Standard models

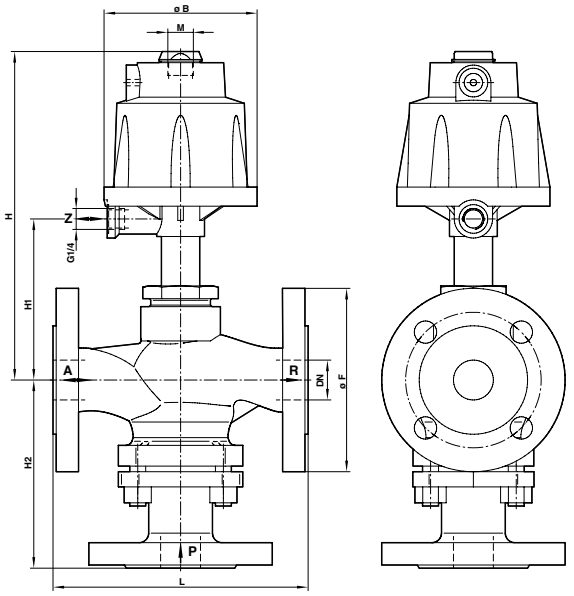
Port size	Orifice (mm)	Series 83240 Model (Flange)	Operating pressure (bar)	Series 83250 Model	Operating pressure (bar)
G1/2	15	8324200.0000.00000	0 … 16	8325200.0000.00000	0 … 16
G3/4	20	8324300.0000.00000	0 … 16	8325300.0000.00000	0 … 16
G1	25	8324400.0000.00000	0 … 10	8325400.0000.00000	0 … 10
G1 1/4	32	8324500.0000.00000	0 … 16	8325500.0000.00000	0 … 16
G1 1/2	40	8324600.0000.00000	0 … 14	8325600.0000.00000	0 … 14
G2	50	8324700.0000.00000	0 … 10	8325700.0000.00000	0 … 10
–	65	8324800.0000.00000	0 … 7	–	–
–	80	8324900.0000.00000	0 … 4	–	–
–	100	8325000.0000.00000	0 … 2	–	–

Options

- Normally open (NO) P → A
- Water as a pilot fluid
- Electrical position indicator

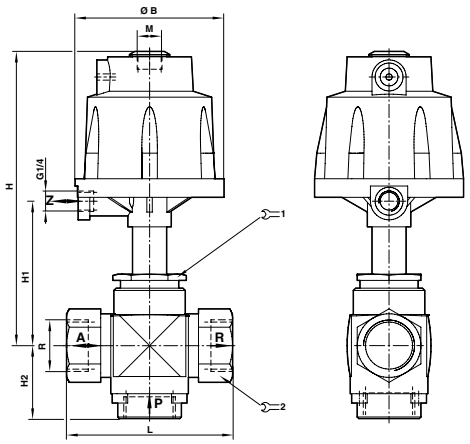
Dimensions

83240



Model	Orifice	ø B	ø F	H	H1	H2	L	M
83242xx.0000.00000	15	96	95	193	95	97	130	M16 x 1
83243xx.0000.00000	20	96	105	198	100	112	150	M16 x 1
83244xx.0000.00000	25	96	115	199	101	118	160	M16 x 1
83245xx.0000.00000	32	164	140	285	141	142	180	M22 x 1,5
83246xx.0000.00000	40	164	150	293	149	148	200	M22 x 1,5
83247xx.0000.00000	50	164	165	300	156	158	230	M22 x 1,5
83248xx.0000.00000	65	164	185	314	170	183	290	M22 x 1,5
83249xx.0000.00000	80	164	200	326	182	204	310	M22 x 1,5
83250xx.0000.00000	100	164	220	339	195	236	350	M22 x 1,5

83250



Model	Port size	ø B	H	H1	H2	L	M	1	2
8325200.0000.00000	G1/2	96	186	88	41	75	M16 x 1	36	27
8325300.0000.00000	G3/4	96	190	92	46	87	M16 x 1	36	32
8325400.0000.00000	G1	96	190	92	47	107	M16 x 1	41	41
8325500.0000.00000	G1 1/4	164	269	125	66	123	M22 x 1,5	55	50
8325600.0000.00000	G1 1/2	164	269	125	68	147	M22 x 1,5	55	58
8325700.0000.00000	G2	164	273	129	74	171	M22 x 1,5	55	70

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2/2-WAY PRESSURE ACTUATED VALVES BY EXTERNAL FLUID

Series 83350, 83380

- 2/2-way seat valves
- DN 15 … 100, G1/2 … 2
- Any flow direction and mounting position
- Special seal materials are required for use with oil and oleiferous media

Technical Data

Switching function:
Normally closed; closed by spring force, opened by pilot pressure

Flow direction:
Optional

Mounting position:
Optional





	83350	83380
Medium	Neutral gases and liquids	Neutral gases and liquids
Pilot fluid	Air max. +40°C	Air max. +40°C
Port size	G1/2 … 2	DN 15 … 150
Operating pressure	0 … 10 bar	0 … 6/8/10 bar
Pilot pressure	5,5 … 7 bar	5,5 … 7 bar
Temperature		
Media temperature	-10°C … +80°C	-10°C … +80°C
Ambient temperature	-10°C … +55°C	-10°C … +55°C
Material Process fluid		
Body	Grey cast iron	Grey cast iron
Seat seal	EPDM	EPDM
Material Pilot fluid		
Body	Polymer material	Polymer material
Seal	NBR	NBR
Internal parts	Coated steel	Coated steel

Standard models

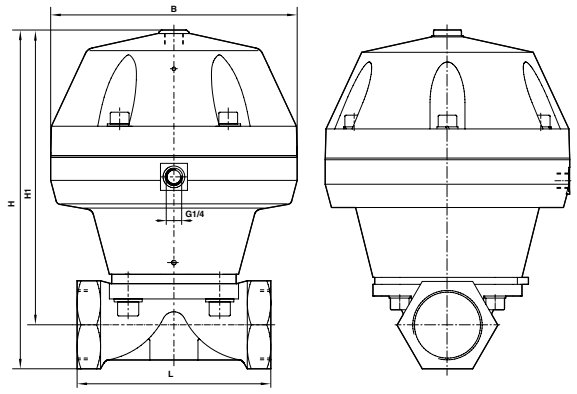
Port size	Orifice (mm)	Series 83350 Model	Operating pressure (bar)	Series 83380 Model (Flange)	Operating pressure (bar)
G1/2	15	8335200.0000.00000	0 … 10	8338200.0000.00000	0 … 10
G3/4	20	8335300.0000.00000	0 … 10	8338300.0000.00000	0 … 10
G1	25	8335400.0000.00000	0 … 10	8338400.0000.00000	0 … 10
G1 1/4	32	8335500.0000.00000	0 … 10	8338500.0000.00000	0 … 10
G1 1/2	40	8335600.0000.00000	0 … 10	8338600.0000.00000	0 … 10
G2	50	8335700.0000.00000	0 … 10	8338700.0000.00000	0 … 10
–	65	–	–	8338800.0000.00000	0 … 6
–	80	–	–	8338900.0000.00000	0 … 8
–	100	–	–	8339000.0000.00000	0 … 6
–	125	–	–	8339100.0000.00000	0 … 8
–	150	–	–	8339200.0000.00000	0 … 6

Options

- Normally open
- Seat seal FPM
- Seat seal PTFE
- Valve body material stainless steel
- Electrical position indicator

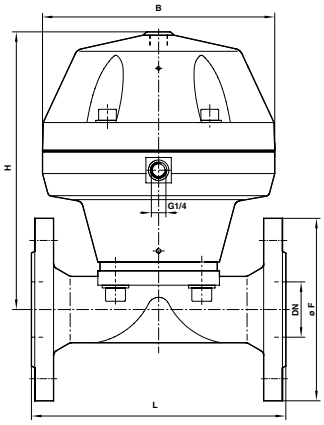
Dimensions

83350



Model	Port size	B	H	H1	L
8335200.0000.00000	G1/2	125	164	148	5
8335300.0000.00000	G3/4	125	168,5	148	85
8335400.0000.00000	G1	125	171	148	110
8335500.0000.00000	G1 1/4	155	230,5	203	120
8335600.0000.00000	G1 1/2	155	235,5	203	140
8335700.0000.00000	G2	210	285,5	248	165

83380



Model	Orifice	B *1)	ø F	H	L
8338200.0000.00000	15	130	95	148	130
8338300.0000.00000	20	150	105	148	150
8338400.0000.00000	25	160	115	148	160
8338500.0000.00000	32	180	140	203	180
8338600.0000.00000	40	200	150	203	200
8338700.0000.00000	50	230	165	248	230
8338800.0000.00000	65	290	185	329	290
8338900.0000.00000	80	310	200	339	310
8339000.0000.00000	100	350	220	354	350
8339100.0000.00000	125	400	250	519	400
8339200.0000.00000	150	480	285	514	480

*1) B = max. depth.

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2/2-WAY PRESSURE ACTUATED VALVES BY EXTERNAL FLUID

Series 82210

- 2/2-way piston seat valves
- DN 15 … 100
- High flow rate
- Damped closing
- Suitable for contaminated process fluids

Technical Data

Switching function:
Normally closed

Flow direction:
Determined

Mounting position:
Optional, preferably solenoid vertical on top



	82210
Medium	For neutral gaseous and liquid fluids
Port size	DN 15 … 100
Operating pressure	0 … 16 bar (depends on port size)
Temperature	
Media temperature	-10°C … +180°C
Ambient temperature	-10°C … +60°C
Material	
Body	Spheroidal cast iron (EN-GJS-400-18-LT)
Seat seal	PTFE
Internal parts	1.4571, 1.4568, 1.4305, brass

Standard models

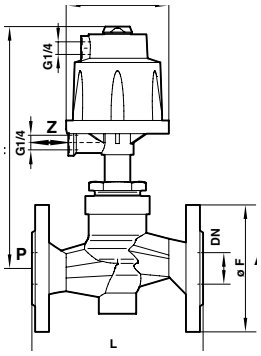
Orifice (mm)	Series 82210 Model	Operating pressure (bar)	Pilot pressure (bar)
15	8221200.0000.00000	0 … 16	5,5 … 10 bar
20	8221300.0000.00000	0 … 16	5,5 … 10 bar
25	8221400.0000.00000	0 … 10	5,5 … 10 bar
32	8221500.0000.00000	0 … 16	4 … 8 bar
40	8221600.0000.00000	0 … 12	4 … 8 bar
50	8221700.0000.00000	0 … 10	5,5 … 8 bar
65	8221800.0000.00000	0 … 7	5,5 … 8 bar
80	8221900.0000.00000	0 … 5	5,5 … 8 bar
100	8222000.0000.00000	0 … 2,5	5,5 … 8 bar

Options

- Normally open
- Electrical position indicator
- Stainless steel body
- Higher operating pressure

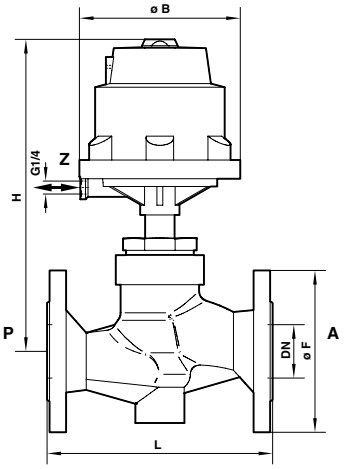
Dimensions

82210



Model	Orifice	ø B	ø F	H	L
82212xx.0000.00000	15	96	95	201	130
82213xx.0000.00000	20	96	105	208	150
82214xx.0000.00000	25	96	115	219	160

82210



Model	Orifice	ø B	ø F	H	L
82215xx.0000.00000	32	164	140	299	180
82216xx.0000.00000	40	164	150	310	200
82217xx.0000.00000	50	164	165	318	230
82218xx.0000.00000	65	164	185	346	290
82219xx.0000.00000	80	164	200	361	310
82220xx.0000.00000	100	164	220	382	350

Online at **store.norgren.com**

3/2-WAY DIRECTLY OPERATED VALVES

Series 84660, 84680

- 3/2-way seat valves
- G1/4, DN 1,6 and 3
- Compact design
- Complete with connector and gasket
- Solenoid interchangeable without tools (Click-on®)
- Noiseless exhaust
- Low power consumption

Technical Data

Switching function:
Normally closed

Flow direction:
Determined

Mounting position:
Optional, preferably solenoid vertical on top

EXPRESS



	84660 (84670)	84680 (84690)
Medium	Filtered, lubricated resp. non-lubricated air or neutral liquid fluids	Filtered, lubricated resp. non-lubricated air or neutral liquid fluids
Port size	DN 1,6	DN 3
Operating pressure	1 … 10 bar	1 … 10 bar
Temperature		
Media temperature	-10°C … +60°C	-10°C … +60°C
Ambient temperature	-10°C … +60°C	-10°C … +60°C
Material		
Body	Aluminium	Aluminium
Seat seal	TPU	TPU
Internal parts	Stainless steel, PPS	Stainless steel, PPS

Standard models

Orifice (mm)	Port size Internal	External R	A	Series 84660 Model	Operating pressure (bar)	Flow *2) (l/min)	Series 84680 Model	Operating pressure (bar)	Flow *2) (l/min)
1,6	G1/4	*1)	G1/4	8466000.910x.xxxxx	1 … 10	1,2	–	–	–
3	G1/4	*1)	G1/4	–	–	–	8468000.915x.xxxxx	1 … 10	3,3

*1) Note: Noiseless exhaust.

Voltage codes and spare coils

Voltage and frequency solenoid 9101/9151 *2)							
Code Voltage	Code Frequency	Voltage	Frequency	Power consumption			
				Inrush	Holding	Inrush	Holding
				9101 *2)		9151 *2)	
024	00	24 V d.c.	–	8 W	8 W	18 W	18 W
024	50	24 V a.c.	50 Hz	15 VA	12 VA	45 VA	35 VA
110	50	110 V a.c.	50 Hz	15 VA	12 VA	45 VA	35 VA
120	60	120 V a.c.	60 Hz	15 VA	12 VA	45 VA	35 VA
230	50	230 V a.c.	50 Hz	15 VA	12 VA	45 VA	35 VA

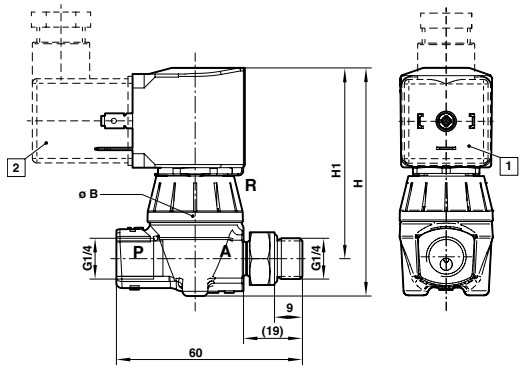
*2) Note: cULus coil only / up to +55°C ambient temperature.
Further versions on request!

Options

- Manual override
- Connection Port P and A female G1/8
- Explosion proofed coils

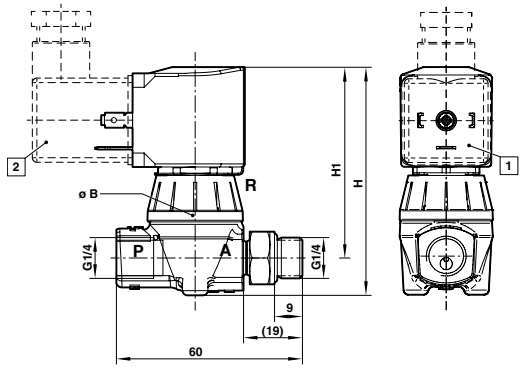
Dimensions

84660



Model	Orifice	ø B	H	H1
8466000.9101.xxxxx	1,6	31	73,6	61,5

84680



Model	Orifice	ø B	H	H1
8468000.9151.xxxxx	3	130	148	130

1 Solenoid rotatable 360°
2 Socket turnable 4 x 90° (Socket included)

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2/2-WAY PRESSURE ACTUATED VALVES BY EXTERNAL FLUID

Series 82160, 82710

- 2/2-way seat valves
- DN 8 … 50, G1/4 … 2
- Series 82160:
  - Damped closing
  - For fluids with high particle contamination
  - Fluid isolated from valve actuator
  - Optimised dimensions and weight
  - Vacuum version as an option
  - Compact valve for industrial applications
- Series 82710:
  - Spindle seal with diaphragm
  - Suitable for contaminated process fluids
  - Optical position indicator is standard

Technical Data

Switching function:
Normally closed with pilot pressure

Flow direction:
Determined

Mounting position:
Optional





	82160 (82260)	82710 (82750)
Medium	Neutral fluids with high particle contamination	Neutral gases and liquids
Pilot fluid	Air max. +60°C	Air, water, hydraulic oil max. +90°C
Port size	G1/4 … 2	G1/4 … 1/2
Pilot connection	G1/4	G1/8
Operating pressure	0,2 … 16 bar	-0,9 … 6 bar
Pilot pressure	G1/4 … 1/2 max. 6 bar higher than operating pressure G3/4 … 2 max. 1 bar higher than operating pressure	3 … 8 bar
Temperature		
Media temperature	-10°C … +90°C	-10°C … +90°C
Ambient temperature	-10°C … +60°C	-10°C … +50°C
Material Process fluid		
Body	Brass (CW617N)	Brass (CW617N)
Seat seal	NBR	Fabric reinforced NBR diaphragm
Internal parts	Brass, stainless steel	–
Material Pilot fluid		
Body	–	Brass, PPO (cover)
Seat seal	–	Fabric reinforced NBR diaphragm

Standard models

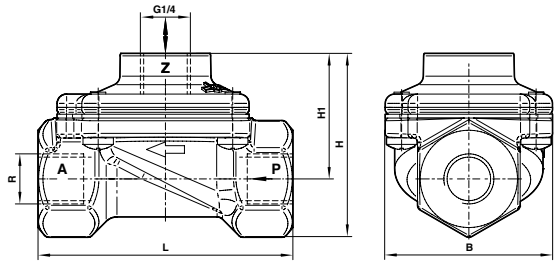
Port size	Orifice (mm)	Series 82160 Model (Flange)	Operating pressure (bar)	Series 82710 Model	Operating pressure (bar)
G1/4	8	8216000.0000.00000	0,2 … 16	8271000.0000.00000	-0,9 … 6
G3/8	10	8216100.0000.00000	0,2 … 16	8271100.0000.00000	-0,9 … 6
G1/2	12	8216200.0000.00000	0,2 … 16	8271200.0000.00000	-0,9 … 6
G3/4	20	8216300.0000.00000	0,2 … 16	–	–
G1	25	8216400.0000.00000	0,2 … 16	–	–
G1 1/4	32	8216500.0000.00000	0,2 … 16	–	–
G1 1/2	40	8216600.0000.00000	0,2 … 16	–	–
G2	50	8216700.0000.00000	0,2 … 16	–	–

Options

- Fabric diaphragm FPM (Series 82160)
- Fabric diaphragm NBR (Series 82160)
- Suitable for vacuum (Series 82160)
- Seat seal FPM (Series 82710)
- Seat seal EPDM (Series 82710)
- Seat seal FPM, Body stainless steel 1.4581 (Series 82710)

Dimensions

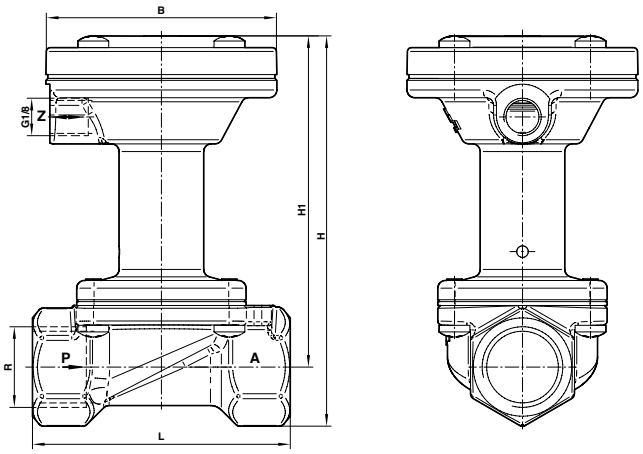
82160



Model	Port size	B *1)	H	H1	L
8216000.0000.00000	G1/4	44	48	33	67
8216100.0000.00000	G3/8	44	48	33	67
8216200.0000.00000	G1/2	44	48	33	67
8216300.0000.00000	G3/4	70	81	57	95
8216400.0000.00000	G1	70	81	57	95
8216500.0000.00000	G1 1/4	96	103	70	132
8216600.0000.00000	G1 1/2	96	103	70	132
8216700.0000.00000	G2	112	121	81	160

*1) B = max. depth.

82710



Model	Port size	B	H	H1	L
8271000.0000.00000	G1/4	96	186	88	75
8271100.0000.00000	G3/8	96	190	92	87
8271200.0000.00000	G1/2	96	190	92	107

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2/2-WAY PRESSURE ACTUATED VALVES BY EXTERNAL FLUID

Series 82380, 82480

- 2/2-way seat valves
- DN 15 … 50, G1/2 … 2 (1/2 … 2 NPT)
- Suitable for contaminated process fluids
- High flow rate
- High media compatibility due to optimal material combinations
- For robust industry applications
- Damped closing (valve closes against flow direction)
- Suitable for vacuum up to max. 90%

Technical Data

Switching function:
Normally closed

Flow direction:
Determined

Mounting position:
Optional





	82380 (82390)	82480 (82490)
Medium	Aggressive gases and liquids	Aggressive gases and liquids
Pilot fluid	Neutral gases max. +80°C	Neutral gases max. +80°C
Port size	G1/2 … 2 (1/2 … 2 NPT)	G1/2 … 2 (1/2 … 2 NPT)
Operating pressure	0 … 16 bar (depends on port size)	0 … 16 bar (depends on port size)
Pilot pressure	3,8 … 8 bar	3,8 … 8 bar
Temperature		
Media temperature	-10°C … +180°C	-10°C … +180°C
Ambient temperature	-10°C … +60°C	-10°C … +60°C
Material Process fluid		
Body	Stainless steel (1.4408)	Stainless steel (1.4408)
Seat seal	PTFE	PTFE
Internal parts	Stainless steel	Stainless steel
Material Pilot fluid		
Body	Stainless steel, aluminium	Stainless steel, aluminium
Seals:	NBR	NBR
Internal parts	Coated steel	Coated steel

Standard models

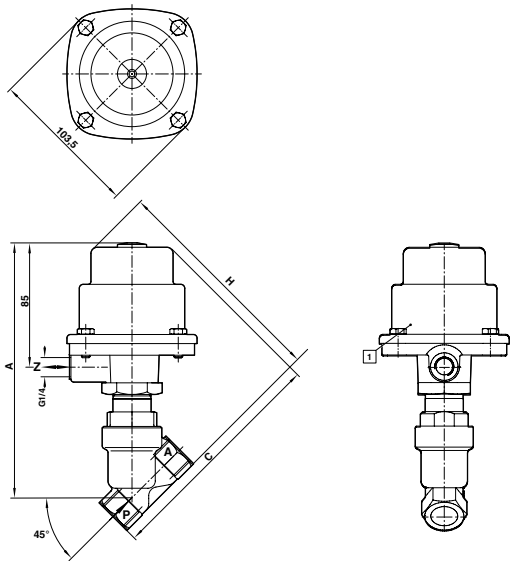
Port size	Orifice (mm)	Series 82380 Model	Operating pressure (bar)	Series 82480 Model	Operating pressure (bar)
G1/2	15	8238200.0000.00000	0 … 16	–	–
G3/4	20	8238300.0000.00000	0 … 10	–	–
G1	25	8238400.0000.00000	0 … 10	–	–
G1 1/4	32	8238500.0000.00000	0 … 7	8248500.0000.00000	0 … 16
G1 1/2	40	8238600.0000.00000	0 … 4,5	8248600.0000.00000	0 … 10
G2	50	8238700.0000.00000	0 … 3	8248700.0000.00000	0 … 10

Options

- Normally open (NO)
- Seat seal FPM
- Electrical position indicator
- Optical position indicator
- Media temperature max. +200°C
- Stainless steel actuator
- Spindle seal 80 with stainless steel bellows

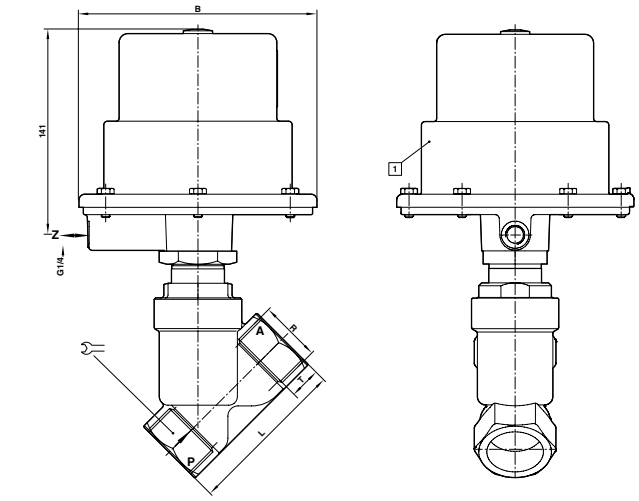
Dimensions

82380 actuator ø 70 mm (A)



Model	Port size	B	C	H	L	T	
8238200.0000.00000	G1/2	89,5	159	154	65	15	27
8238300.0000.00000	G3/4	89,5	165	160	75	16,5	32
8238400.0000.00000	G1	89,5	175	171	90	19	41
8238500.0000.00000	G1 1/4	89,5	189	186	110	21,5	50
8238600.0000.00000	G1 1/2	89,5	193	190	120	21,5	55
8238700.0000.00000	G2	89,5	211	206	150	26	70

82480 actuator ø 125 mm (A)



Model	Port size	B	C	H	L	T	
8248500.0000.00000	G1 1/4	163	253	250	110	21,5	50
8248600.0000.00000	G1 1/2	163	257	255	120	21,5	55
8248700.0000.00000	G2	163	275	270	150	26	70

1 Actuator may be rotated 360°

Online at **store.norgren.com**

2/2-WAY PRESSURE ACTUATED VALVES BY EXTERNAL FLUID

Series 84180, 84190

- 2/2-way piston seat valves
- DN 2 … 10
- Compact miniature actuator ø 30 mm
- Actuator may be rotated 360°
- Suitable for contaminated process fluid
- Suitable for vacuum up to max. 90%
- Reversed flow direction optional
- High flow rate
- Valve operates without pressure differential (Zero delta P)
- Clip angle M5 standard

Technical Data

Switching function:
Normally closed

Flow direction:
Determined

Mounting position:
Optional





	84180 (84380)	84190 (84390)
Medium	Neutral, aggressive gases and liquids up to 600 mm^2/s	Neutral, aggressive gases and liquids up to 600 mm^2/s
Pilot fluid	Neutral gases max. +60°C	Neutral gases max. +80°C
Port size	DN 2 … 10, G1/8 … 1/2	DN 2 … 10, G1/8 … 1/2
Operating pressure	0 … 25 bar (depends on port size)	0 … 25 bar (depends on port size)
Pilot pressure	4 … 10 bar	4 … 10 bar
Temperature		
Media temperature	-10°C … +90°C	-10°C … +90°C
Ambient temperature	-10°C … +60°C	-10°C … +60°C
Material Process fluid		
Body	Brass (CW617N)	Stainless steel (1.4408)
Seat seal	NBR	NBR
Internal parts	PTFE	Stainless steel
Material Pilot fluid		
Body	Brass (CW617N)	Stainless steel (1.4404)
Seals	NBR	NBR
Internal parts	Stainless steel, brass	Stainless steel, brass

Standard models

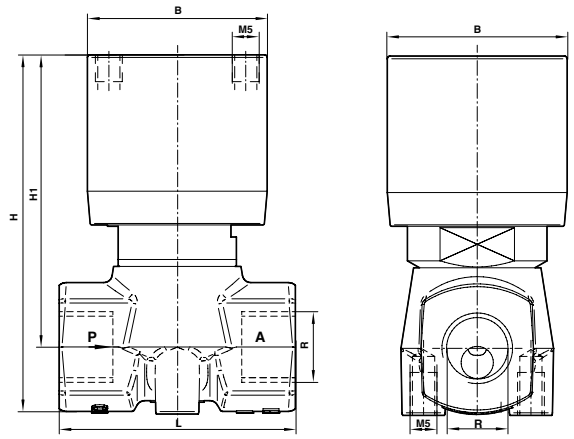
Port size	Orifice (mm)	Series 84180 Model	Operating pressure (bar)	Series 84190 Model	Operating pressure (bar)
G1/8	2	8418800.0000.00000	0 … 25	8419800.0000.00000	0 … 25
G1/4	4	8418020.0000.00000	0 … 25	8419020.0000.00000	0 … 25
G3/8	6	8418140.0000.00000	0 … 20	8419140.0000.00000	0 … 20
G1/2	10	8418260.0000.00000	0 … 8	8419260.0000.00000	0 … 8

Options

- Normally open (NO)
- Seat seal FPM
- Seat seal EPDM
- Double acting
- Higher operating pressure

Dimensions

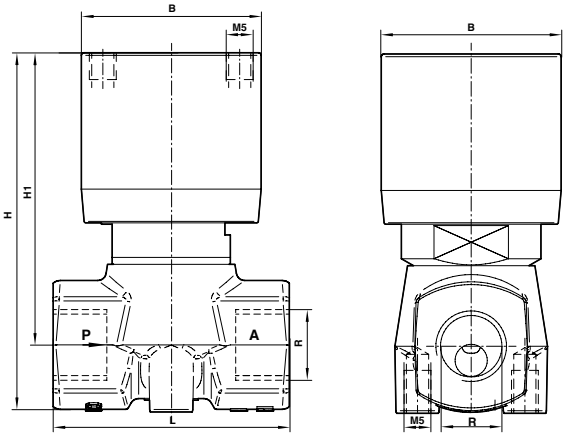
84180



Model	Port size	B *1)	H	H1	L
8418800.0000.00000	G1/8	44	65	53	44
8418020.0000.00000	G1/4	44	65	53	44
8418140.0000.00000	G3/8	44	65	53	44
8418260.0000.00000	G1/2	60	81	67	60

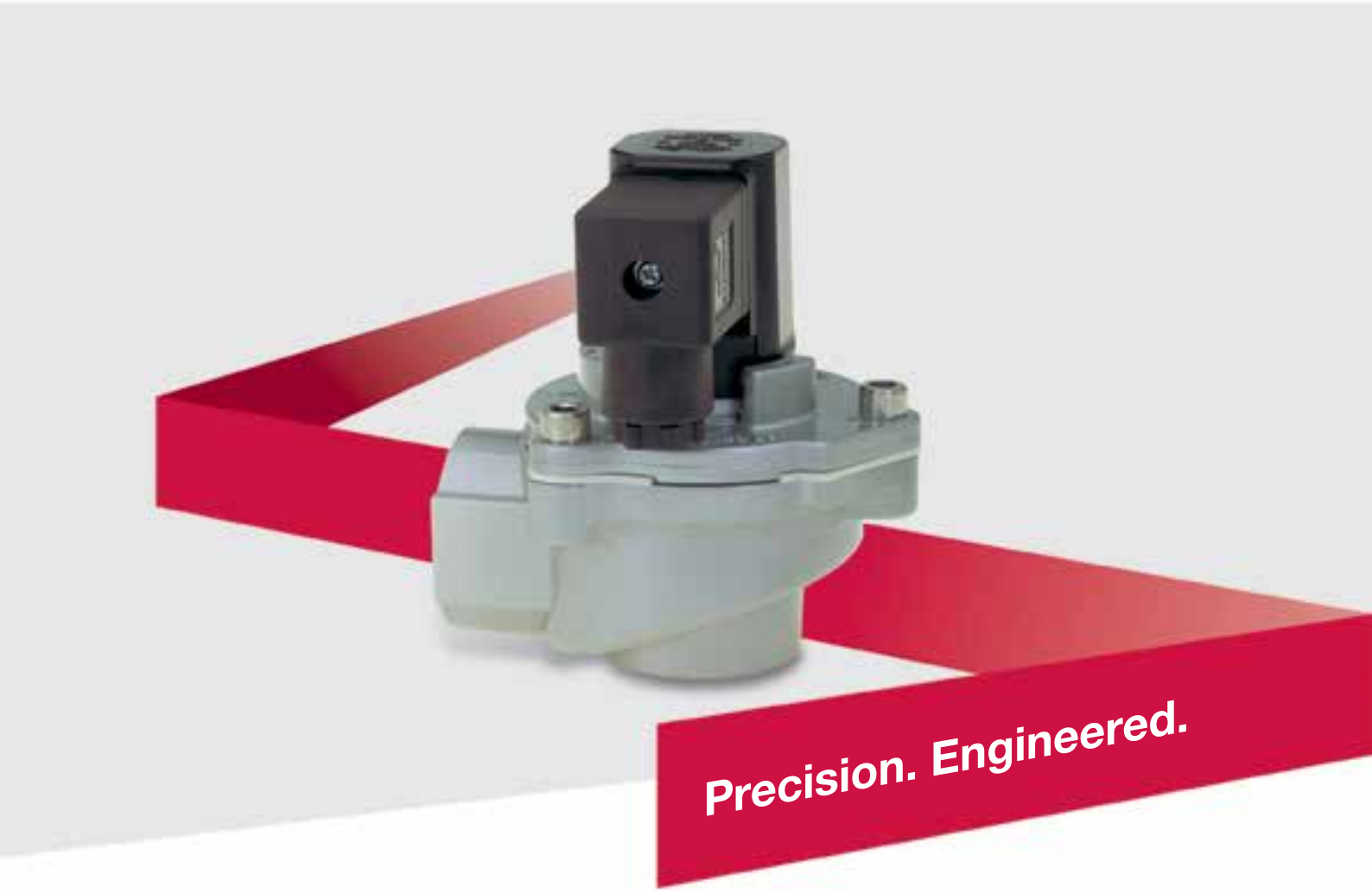
*1) B = max. depth.

84190



Model	Port size	B *1)	H	H1	L
8419800.0000.00000	G1/8	44	65	53	44
8419020.0000.00000	G1/4	44	65	53	44
8419140.0000.00000	G3/8	44	65	53	44
8419260.0000.00000	G1/2	60	81	67	60

*1) B = max. depth.



Efficient and inexpensive dust filter cleaning

Filter valves for air-blasting have been developed to allow efficient and inexpensive cleaning. Top priorities in the developers' requirements specification were to optimise the filter cleaning, reduce air consumption and prolong the valves' service life. To achieve optimum cleaning with the compressed air pulse, the pressure in the filter has to reach the set point very quickly. This means that the valves must open fully within a few milliseconds.

Compared with the previous models, the IMI Buschjost filter valve series has extremely fast opening times, which are essential for effective, intensive cleaning. The closing mechanism is just as fast as the opening mechanism. This determines the economical operation of a valve. The air pulse must return to zero as quickly as possible, as any minor delay will only consume air and cost money.

Product highlight:

- High grade materials
- Solenoid exchangeable without tools (TWIST-ON®)
- CE-mark
- Optimized strength
- Designed with newest CAD-technologies
- High flow rate
- One-piece diaphragm
- Usable from –40 ... +140°C
- High corrosion resistance (optional)
- Explosion proof up to hazardous area 1/21 and temperature class T4/ T5
- Usable for low pressure- and vacuum applications
- Integrated silencer
- Frost proof solenoid system
- International registrations like GOST-R or CRN available

Engineering GREAT Solutions

Find out more
www.imi-precision.com

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IMI Precision Engineering

For further information, visit **store.norgren.com** and use the new improved search function. If you cannot see the option you require please contact us.

2/2-WAY DIRECTLY OPERATED VALVES

Series 82080

- 2/2-way seat valves
- DN 3 … 8, G1/4 … 3/8
- Functional design
- Suitable for aggressive fluids
- Compact solenoid with integrated core tube
- Core tube protected with PTFE-bellow
- Unsusceptible to calcification and magnetization of foreign particles

Technical Data

Switching function:
Normally closed

Flow direction:
Determined

Mounting position:
Optional, preferably solenoid vertical on top



	82080
Medium	Aggressive gases and fluids
Port size	G1/4 … 3/8
Operating pressure	0 … 7 bar (depends on port size)
Temperature	
Media temperature	-10°C … +110°C
Ambient temperature	-10°C … +50°C
Material	
Body	PVDF
Seat seal	EPDM
Internal parts	PTFE-bellows

Standard models

Port size	Orifice (mm)	Series 82080 Model	Operating pressure (bar)
G1/4	3	8208000.805x.xxxxx	0 … 7
G3/8	3	8208100.805x.xxxxx	0 … 7
G1/4	4,5	8208060.805x.xxxxx	0 … 5
G3/8	4,5	8208160.805x.xxxxx	0 … 5
G1/4	6	8208070.805x.xxxxx	0 … 2
G3/8	6	8208170.805x.xxxxx	0 … 2
G1/4	8	8208080.805x.xxxxx	0 … 1
G3/8	8	8208180.805x.xxxxx	0 … 1

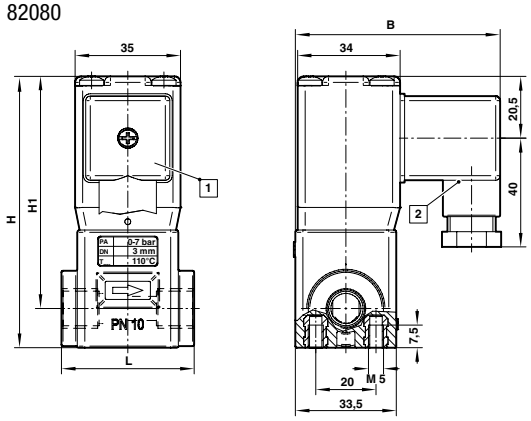
Voltage codes and spare coils

Voltage and frequency solenoid							
Code Voltage	Code Frequency	Voltage	Frequency	Power consumption			
				Inrush	Holding	Inrush	Holding
				8050		8051*1)	
024	00	24 V d.c.	–	12 W	12 W	–	–
110	49	110 V a.c.	40 … 60 Hz	–	–	13 VA	13 VA
120	49	120 V a.c.	40 … 60 Hz	–	–	13 VA	13 VA
230	49	230 V a.c.	40 … 60 Hz	–	–	13 VA	13 VA

*1) Note: A.c. with rectifier plug.

Dimensions

82080



[1] Solenoid rotatable 4 x 90°
[2] Socket turnable 4 x 90° (Socket included)

Model	Port size	Orifice	B *2)	H	H1	L
8208000.805x.xxxxx	G1/4	3	70	90	77	44
8208100.805x.xxxxx	G3/8	3	70	90	77	44
8208060.805x.xxxxx	G1/4	4,5	70	90	77	44
8208160.805x.xxxxx	G3/8	4,5	70	90	77	44
8208070.805x.xxxxx	G1/4	6	70	90	77	44
8208170.805x.xxxxx	G3/8	6	70	90	77	44
8208080.805x.xxxxx	G1/4	8	70	90	77	44
8208180.805x.xxxxx	G3/8	8	70	90	77	44

*2) B = max. depth

Online at store.norgren.com

2/2-WAY DIRECTLY OPERATED VALVES

Series 83150, 83153

- 2/2-way seat valves
- DN 1,5 … 8, G1/4 … 3/8
- Functional design
- Series 83150
  - Solenoid interchangeable without tools (Click-on®)
  - Good corrosion resistance

Technical Data

Switching function:
Normally closed

Flow direction:
Determined

Mounting position:
Optional, preferably solenoid vertical on top

Differential pressure:
0,1 bar required





	83150	83153
Medium	Neutral gases and liquids	Neutral gases and liquids
Port size	DN 2,5 … 4,5	DN 1,5 … 4,5
Operating pressure	0 … 3/4/12 bar	0 … 3/4/5/12/16 bar
Temperature		
Media temperature	0°C … +125°C	0°C … +125°C
Ambient temperature	0°C … +50°C	0°C … +50°C
Material		
Body	PPSU (Polyphenylsulfon)	PPSU (Polyphenylsulfon)
Seat seal	EPDM	EPDM
Internal parts	Stainless steel	Stainless steel

Standard models

Port size	Orifice (mm)	Series 83150 Model	Operating pressure (bar)				Series 83153 Model Inlet	Series 83153 Model Middle	Series 83153 Model End	Operating pressure (bar)	
			9846	9830	9837	9897				9846	9837
6/4	1,5	–	–	–	–	–	8315300.98xx.xxxxx	8315310.98xx.xxxxx	8315320.98xx.xxxxx	16	12
6/4	2,5	8315000.98xx.xxxxx	12	12	4	4	–	–	–	–	–
6/4	2,5	8315003.98xx.xxxxx	4	4	–	–	–	–	–	–	–
6/4	2,5	–	–	–	–	–	8315301.98xx.xxxxx	8315311.98xx.xxxxx	8315321.98xx.xxxxx	12	5
6/4	3,5	8315001.98xx.xxxxx	4	4	–	–	–	–	–	–	–
6/4	3,5	–	–	–	–	–	8315302.98xx.xxxxx	8315312.98xx.xxxxx	8315322.98xx.xxxxx	4	–
8/6	4,5	8315002.98xx.xxxxx	3	3	–	–	–	–	–	–	–
8/6	4,5	–	–	–	–	–	8315303.98xx.xxxxx	8315313.98xx.xxxxx	8315323.98xx.xxxxx	3	–
4 PIF *1)	1,5	–	–	–	–	–	8315305.98xx.xxxxx	8315315.98xx.xxxxx	8315325.98xx.xxxxx	16	12
4 PIF *1)	2,5	8315020.98xx.xxxxx	12	12	4	4	–	–	–	–	–
4 PIF *1)	2,5	8315023.98xx.xxxxx	4	4	–	–	–	–	–	–	–
4 PIF *1)	3,5	8315021.98xx.xxxxx	4	4	–	–	–	–	–	–	–
6 PIF *1)	2,5	–	–	–	–	–	8315306.98xx.xxxxx	8315316.98xx.xxxxx	8315326.98xx.xxxxx	12	5
6 PIF *1)	3,5	–	–	–	–	–	8315307.98xx.xxxxx	8315317.98xx.xxxxx	8315327.98xx.xxxxx	4	–
6 PIF *1)	4,5	–	–	–	–	–	8315308.98xx.xxxxx	8315318.98xx.xxxxx	8315328.98xx.xxxxx	3	–

*1) Note: Push-in fitting.
Series 83150: Valve design No. 00, 01, 03 compression fitting Ø 6 mm. Valve design No. 02 compression fitting Ø 8 mm. Valve design No. 20 … 23 Push-in fitting Ø 4 mm.

Solenoids

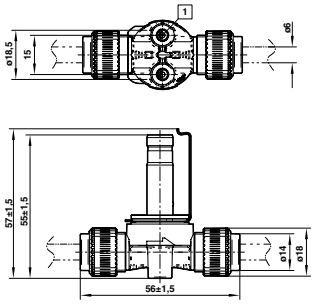
Options			
9846	**9830**	**9837**	**9897**
Voltage 24 V d.c. d.c. 9,5 W Voltage range ± 10% Duty cycle 40% ED 3 min SD Terminals 6,3 x 0,8 Protection class IP 00	Voltage 24 V d.c. d.c. 9,5 W Voltage range ± 10% Duty cycle 100% ED Terminals 6,3 x 0,8 Protection class IP 00	Voltage 24 V d.c. d.c. 11 W Voltage range +0% / -5% Duty cycle 50% ED 1 min SD Terminals 6,3 x 0,8 Protection class IP 00	Voltage 24 V 40 … 60 Hz a.c. 9 VA Voltage range ±10% Duty cycle 40% ED 3 min SD Plug with rectifier EN175301-803A Protection class IP 00

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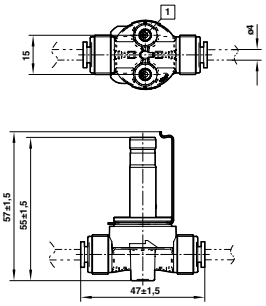
Dimensions

83150

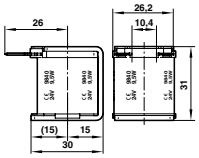
831500x



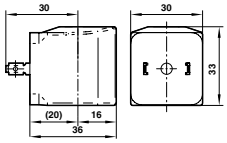
831502x



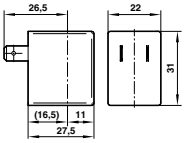
9846.02400



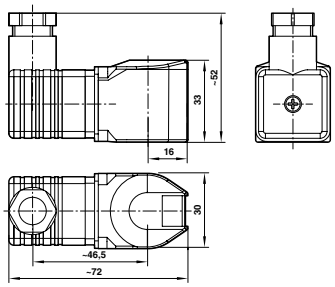
9830.02400



9837.02400

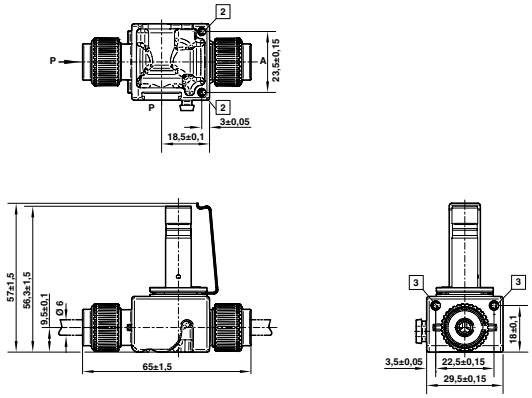


9897.23049

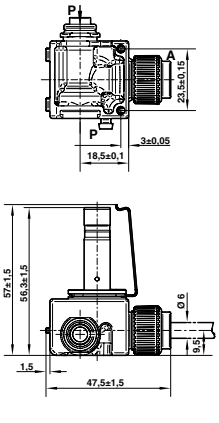


83153

Inlet



Middle



[1] Mounting holes
Ø 3,8 x 9 mm deep

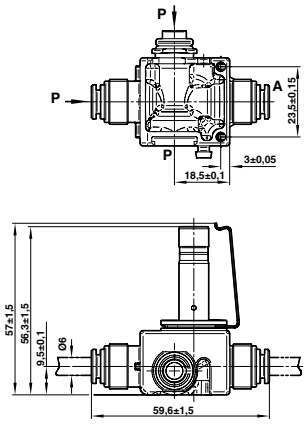
[2] Mounting holes
Ø 2,5 x 11,5 mm deep

[3] Mounting holes
Ø 3,8 x 9 mm deep

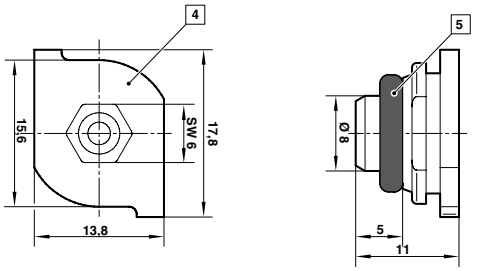
[4] Tubing plug 1702467

[5] O-ring 1702427

End



Tubing plug an O-ring
Please order O-ring No. 1702427 separately.



Recommendation:
- Interlink a maximum of 7 valves
- Fix the interlinked manifold with a bolting at inlet and outlet

2/2-WAY FORCE LIFTED VALVES, BACK PRESSURE TIGHT

Series 85340, 85440

- 2/2-way piston valves
- DN 12 … 50, G1/2 … 2 Flange connection
- Valve works without minimum pressure differential
- Up to 16 bar backpressure tight with leak rate E according to DIN EN 12266-1

Technical Data

Switching function:
Normally closed; no switching function at back pressure

Flow direction:
Determined

Mounting position:
Solenoid vertical on top





	85340	85440
Medium	Slightly aggressive fluids	Slightly aggressive fluids
Port size	DN 15 … 50	DN 12 … 50, G1/2 … 2
Operating pressure	P > A: 0 … 25 bar A > P: 0 … 16 bar, backpressure tight	P > A: 0 … 25 bar A > P: 0 … 16 bar, backpressure tight
Temperature		
Media temperature	0°C … +90°C	0°C … +90°C
Ambient temperature	0°C … +50°C	0°C … +50°C
Material		
Body	Stainless steel (1.4408)	G1/2: manifold of stainless steel (1.4305) G3/4 … 2: stainless steel (1.4408)
Seat seal	NBR	NBR
Internal parts	Stainless steel	Stainless steel, PTFE/carbon

Standard models

Port size	Series 85340 Model (Flange)	Operating pressure (bar)	Back pressure tight (bar)	Series 85440 Model	Operating pressure (bar)	Back pressure tight (bar)
15	8534200.840x.xxxxx	0 … 25	0 … 16	8544200.840x.xxxxx	0 … 25	0 … 16
20	8534300.840x.xxxxx	0 … 25	0 … 16	8544300.840x.xxxxx	0 … 25	0 … 16
25	8534400.840x.xxxxx	0 … 25	0 … 16	8544400.840x.xxxxx	0 … 25	0 … 16
32	8534500.950x.xxxxx	0 … 25	0 … 16	8544500.950x.xxxxx	0 … 25	0 … 16
40	8534600.950x.xxxxx	0 … 25	0 … 16	8544600.950x.xxxxx	0 … 25	0 … 16
50	8534700.950x.xxxxx	0 … 25	0 … 16	8544700.950x.xxxxx	0 … 25	0 … 16

Voltage codes and spare coils

Voltage and frequency solenoid							
Code Voltage	Code Frequency	Voltage	Frequency	Power consumption			
				Inrush	Holding	Inrush	Holding
				8401/8404 *1)		9501/9504 *1)	
024	00	24 V d.c.	–	40 W	40 W	80 W	80 W
024	49	24 V a.c.	40 … 60 Hz	45 VA	45 VA	89 VA	89 VA
110	49	110 V a.c.	40 … 60 Hz	45 VA	45 VA	89 VA	89 VA
120	49	120 V a.c.	40 … 60 Hz	45 VA	45 VA	89 VA	89 VA
230	49	230 V a.c.	40 … 60 Hz	45 VA	45 VA	89 VA	89 VA

*1) Note: A.c. only with rectifier plug.
Further versions on request!

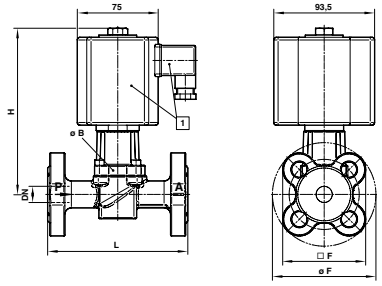
Options

- Manual override
- Seat seal FPM
- Seat seal PTFE
- Seat seal EPDM
- Electrcal position indicator
- Flanges acc. to ASME B 16.5 150 lb/sq.In.
- Flanges 48 acc. to ASME B 16.5 300 lb/sq.In.

Dimensions

1 Solenoid rotatable 360°
Socket turnable 4 x 90°
(Socket included)

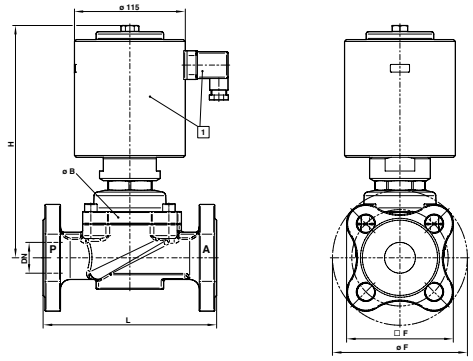
85340 with solenoid 840x



Model	Orifice	ø B	ø F max.	F	H	L
8534200.840x.xxxxx *2)	15	44	96	77	154	130
8534300.840x.xxxxx	20	50	110	86,6	162	150
8534400.840x.xxxxx	25	62	120	95,1	167,5	160

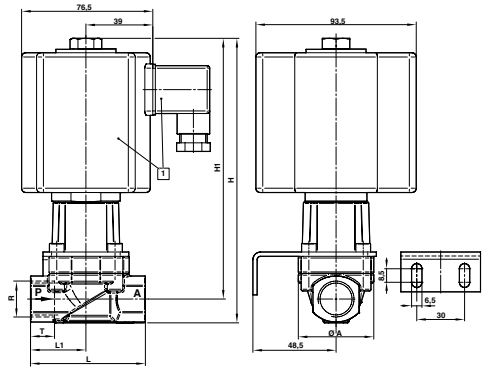
*2) Manifold of stainless steel (1.4408).

85340 with solenoid 950x



Model	Orifice	ø B	ø F max.	F	H	L
8534500.950x.xxxxx	32	92	140	110,7	260	180
8534600.950x.xxxxx	40	92	150	117,8	260	200
8534700.950x.xxxxx	50	109	165	128,4	248	230

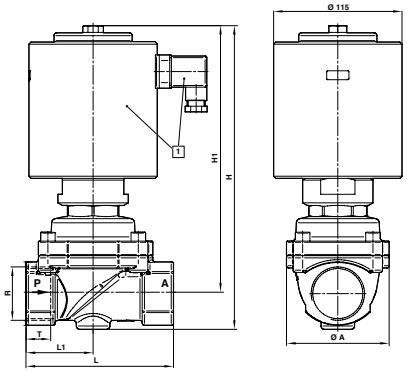
85440 with solenoid 840x



Model	Port size	ø A	H	H1	L	L1	T
8544200.840x.xxxxx *3)	G1/2	44	166,5	150	80	40	14
8544300.840x.xxxxx	G3/4	50	166,5	150	80	38,6	16
8544400.840x.xxxxx	G1	62	184	164	95	45,6	18

*3) Manifold of stainless steel (1.4408).

85440 with solenoid 950x



Model	Port size	ø A	H	H1	L	L1	T
8544500.950x.xxxxx	G1 1/4	92	186	253	132	60	20
8544600.950x.xxxxx	G1 1/2	92	286	253	132	60	22
8544700.950x.xxxxx	G2	109	N.D.	N.D.	160	74	24

Online at **store.norgren.com**

2/2-WAY FORCE LIFTED VALVES

Series 86540, 86580

- 2/2-way piston valves
- DN 15 … 50, Flange connection, Pressure rating PN 40
- Valve operates without differential pressure (Zero delta P)
- Valve piston with PTFE guide-ring
- Suitable for vacuum

Technical Data

Switching function:
Normally closed

Flow direction:
Determined

Mounting position:
Optional, preferably solenoid vertical on top





	86540	86580
Medium	Slightly aggressive gases and liquid fluids	Slightly aggressive gases and liquid fluids
Port size	DN 15 … 50	DN 15 … 50
Operating pressure	0 … 25 bar	0 … 25 bar
Temperature		
Media temperature	-20°C … +90°C	-20°C … +90°C
Ambient temperature	-20°C … +50°C	-20°C … +50°C
Material		
Body	Stainless steel (1.4408)	Stainless steel (1.4408)
Seat seal	NBR	NBR
Internal parts	Stainless steel, PTFE/carbon	Stainless steel

Standard models

Orifice (mm)	Series 86540 Model	Operating pressure (bar)	Series 86580 Model	Operating pressure (bar)
15	8654200.830x.xxxxx	0 … 25	8658200.840x.xxxxx	0 … 25
20	8654300.830x.xxxxx	0 … 25	8658300.840x.xxxxx	0 … 25
25	8654400.830x.xxxxx	0 … 25	8658400.840x.xxxxx	0 … 25
32	8654500.840x.xxxxx	0 … 25	8658500.840x.xxxxx	0 … 25
40	8654600.840x.xxxxx	0 … 25	8658600.840x.xxxxx	0 … 25
50	8654700.840x.xxxxx	0 … 25	8658700.840x.xxxxx	0 … 25

Voltage codes and spare coils

Voltage and frequency solenoid							
Code Voltage	Code Frequency	Voltage	Frequency	Power consumption			
				Inrush	Holding	Inrush	Holding
				8401/8404 *1)		8301/8304 *1)	
024	00	24 V d.c.	–	40 W	40 W	22 W	22 W
024	49	24 V a.c.	40 … 60 Hz	45 VA	45 VA	25 VA	25 VA
110	49	110 V a.c.	40 … 60 Hz	45 VA	45 VA	25 VA	25 VA
120	49	120 V a.c.	40 … 60 Hz	45 VA	45 VA	25 VA	25 VA
230	49	230 V a.c.	40 … 60 Hz	45 VA	45 VA	25 VA	25 VA

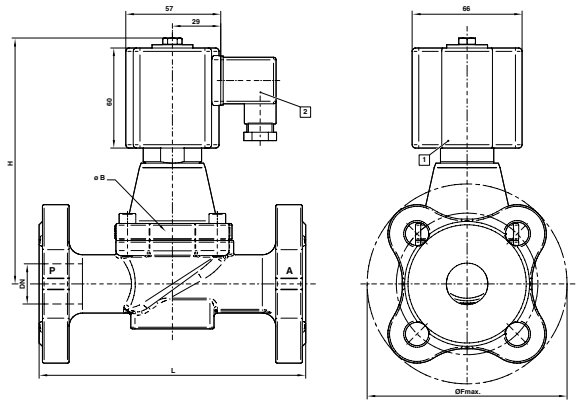
*1) Note: A.c. only with rectifier plug.
Further versions on request!

Options

- Inspection certificate DIN EN 10204 - 3.1

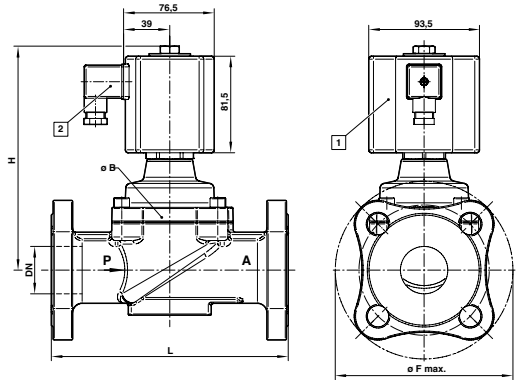
Dimensions

86540 with solenoid 830x



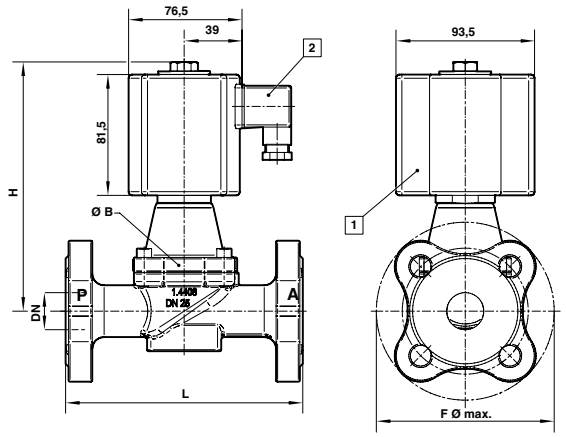
Model	Orifice	ø B	ø F max.	H	L
8654200.830x.xxxxx	15	44	96	142	130
8654300.830x.xxxxx	20	50	110	150	150
8654400.830x.xxxxx	25	62	115	155	160

86540 with solenoid 840x



Model	Orifice	ø B	ø F max.	H	L
8654500.840x.xxxxx	32	92	140	184	180
8654600.840x.xxxxx	40	92	150	189	200
8654700.840x.xxxxx	50	109	165	197	230

86580



Model	Orifice	ø B	ø F max.	H	L
8658200.840x.xxxxx	15	44	96	142	130
8658300.840x.xxxxx	20	50	110	150	150
8658400.840x.xxxxx	25	62	115	155	160
8658500.840x.xxxxx	32	92	140	184	180
8658600.840x.xxxxx	40	92	150	189	200
8658700.840x.xxxxx	50	109	165	197	230

1 Solenoid rotatable 360°
2 Socket turnable 4 x 90°
(Socket included)

2/2-WAY FORCE LIFTED VALVES

Series 85780, 85840

- 2/2-way piston valves
- DN 15 … 100, Flange connection, Pressure rating PN 40 (PN 25)
- Suitable for use in single-channel safety-related systems in 85780/85840 accordance with DIN EN 61508 / 61511 up to and including SIL 2 and up to and including SIL 3 in multi-channel systems
- High flow rate
- For robust industry applications
- Damped operation
- For systems with low or fluctuating pressure
- Valve operates without differential pressure

Technical Data

Switching function:
Normally closed

Flow direction:
Determined

Mounting position:
Optional, preferably solenoid vertical on top





	85780	85840
Medium	Neutral gases and liquid fluids (air, water, gases according to DVGW datasheet G 260 with seat seal FPM – oils and other fluids on request)	Air, water, gases according to DVGW data sheet G 260 with seat seal FPM, oils and other fluids on request
Port size	DN 15 … 100	DN 8 … 50, G1/4 … 2
Operating pressure	0 … 25 bar	0 … 25 bar
Temperature		
Media temperature	-10°C … +60°C	-10°C … +60°C
Ambient temperature	-10°C … +50°C	-10°C … +50°C
Material		
Body	Up to DN 50: stainless steel (1.4408) From DN 65: stainless steel (1.4581)	Stainless steel (1.4408)
Seat seal	NBR	NBR
Internal parts	Stainless steel, PTFE/carbon	Stainless steel, PTFE/carbon

Standard models

Orifice (mm)	Series 85780 Model (Flange)	Operating pressure (bar)	Series 85580 Model	Operating pressure (bar)
8	–	–	8584000.840x.xxxxx	0 … 25
10	–	–	8584100.840x.xxxxx	0 … 25
12	–	–	8584200.840x.xxxxx	0 … 25
15	8578200.840x.xxxxx	0 … 25	8584300.840x.xxxxx	0 … 25
20	8578300.840x.xxxxx	0 … 25	8584400.840x.xxxxx	0 … 25
25	8578400.840x.xxxxx	0 … 25	8584500.840x.xxxxx	0 … 25
32	8578500.840x.xxxxx	0 … 25	8584600.840x.xxxxx	0 … 25
40	8578600.840x.xxxxx	0 … 25	8584700.840x.xxxxx	0 … 25
50	8578700.840x.xxxxx	0 … 25	–	–
65	8578800.950x.xxxxx	0 … 25	–	–
80	8578900.950x.xxxxx	0 … 25	–	–
100	8579000.950x.xxxxx	0 … 25	–	–

Voltage codes and spare coils

Voltage and frequency solenoid							
Code Voltage	Code Frequency	Voltage	Frequency	Power consumption			
				Inrush	Holding	Inrush	Holding
				8401/8404 *1)		9501/9504 *1)	
024	00	24 V d.c.	–	40 W	40 W	80 W	80 W
024	49	24 V a.c.	40 … 60 Hz	45 VA	45 VA	89 VA	89 VA
110	49	110 V a.c.	40 … 60 Hz	45 VA	45 VA	89 VA	89 VA
120	49	120 V a.c.	40 … 60 Hz	45 VA	45 VA	89 VA	89 VA
230	49	230 V a.c.	40 … 60 Hz	45 VA	45 VA	89 VA	89 VA

*1) Note: A.c. only with rectifier plug.
Further versions on request!

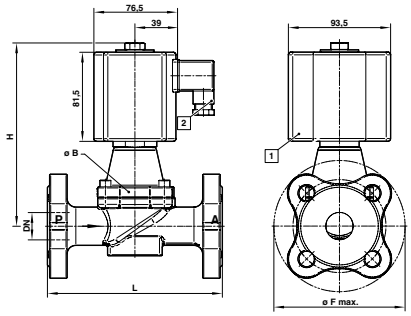
Options

- Inspection certificate DIN EN 10204 - 3.1 (DN 15 … 50)
- Inspection certificate DIN EN 10204 - 3.1 (DN 65 … 100)

Dimensions

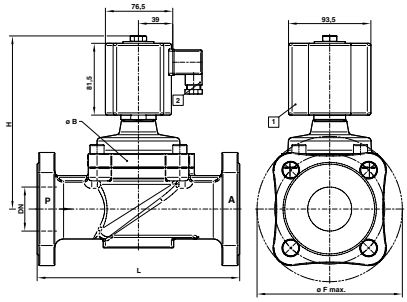
85780 with solenoid 840x

1 Solenoid rotatable 360°
2 Socket turnable 4 x 90°
(Socket included)



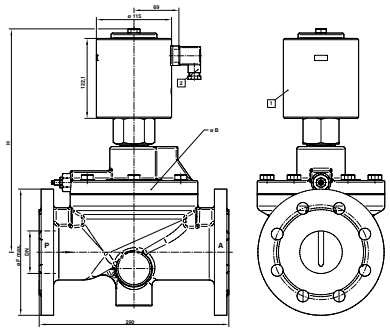
Model	Orifice	ø B	ø F max.	H	L
8578200.840x.xxxxx	15	44	96	154	130
8578300.840x.xxxxx	20	50	110	163	150
8578400.840x.xxxxx	25	62	115	168	160

85780 with solenoid 840x



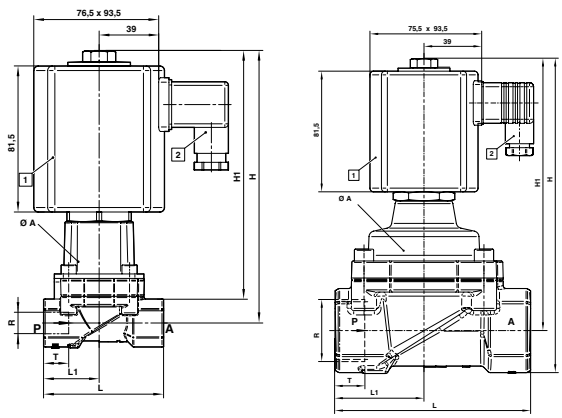
Model	Orifice	ø B	ø F max.	H	L
8578500.840x.xxxxx	32	92	140	184	180
8578600.840x.xxxxx	40	92	150	190	200
8578700.840x.xxxxx	50	109	165	197	230

85780 with solenoid 950x



Model	Orifice	ø B	ø F max.	H	L
8578800.950x.xxxxx	65	195	185	327	290
8578900.950x.xxxxx	80	220	200	347	310
8579000.950x.xxxxx	100	265	235	376	350

85840



Model	Port size	A	H	H1	L	L1	T
8584000.840x.xxxxx	G1/4	44	163,5	152,5	60	27	12
8584100.840x.xxxxx	G3/8	44	163,5	152,5	60	27	12
8584200.840x.xxxxx	G1/2	44	166	152	67	31	14
8584300.840x.xxxxx	G3/4	50	174	157,5	80	35,5	16
8584400.840x.xxxxx	G1	62	184,5	164	95	44	18
8584500.840x.xxxxx	G1 1/4	92	212,5	183,5	132	60	20
8584600.840x.xxxxx	G1 1/2	92	212,5	183,5	132	60	22
8584700.840x.xxxxx	G2	109	226,5	192	160	74	24

2/2-WAY FORCE LIFTED VALVES

Series 86500, 86520

- 2/2-way piston valves
- DN 15 … 50, Flange connection, Pressure rating PN 40
- Valve operates without differential pressure (Zero delta P)
- Valve piston with PTFE guide-ring
- Series 86500:
  - Suitable for vacuum

Technical Data

Switching function:
Normally closed

Flow direction:
Determined

Mounting position:
Optional, preferably solenoid vertical on top





	86500	86520
Medium	Neutral gases and liquid fluids	Neutral steam and liquid fluids
Port size	DN 15 … 50	DN 15 … 50
Operating pressure	0 … 25 bar	0 … 16 bar
Temperature		
Media temperature	-20°C … +90°C	0°C … +200°C
Ambient temperature	-20°C … +50°C	0°C … +60°C
Material		
Body	Cast steel, brass	Stainless steel (1.4408), brass
Seat seal	NBR	PTFE
Internal parts	Stainless steel, PTFE/carbon, brass	Stainless steel, PTFE/carbon, FPM

Standard models

Orifice (mm)	Series 86500 Model (Flange)	Operating pressure (bar)	Series 86520 Model (Flange)	Operating pressure (bar)
15	8650200.830x.xxxxx	0 … 25	8652200.840x.xxxxx	0 … 16
20	8650300.830x.xxxxx	0 … 25	8652300.840x.xxxxx	0 … 16
25	8650400.830x.xxxxx	0 … 25	8652400.840x.xxxxx	0 … 16
32	8650500.840x.xxxxx	0 … 25	8652500.840x.xxxxx	0 … 16
40	8650600.840x.xxxxx	0 … 25	8652600.840x.xxxxx	0 … 16
50	8650700.840x.xxxxx	0 … 25	8652700.840x.xxxxx	0 … 16

Voltage codes and spare coils

Voltage and frequency solenoid							
Code Voltage	Code Frequency	Voltage	Frequency	Power consumption			
				Inrush	Holding	Inrush	Holding
				8401/8404 *1)		8301/8304 *1)	
024	00	24 V d.c.	–	40 W	40 W	22 W	22 W
024	49	24 V a.c.	40 … 60 Hz	45 VA	45 VA	25 VA	25 VA
110	49	110 V a.c.	40 … 60 Hz	45 VA	45 VA	25 VA	25 VA
120	49	120 V a.c.	40 … 60 Hz	45 VA	45 VA	25 VA	25 VA
230	49	230 V a.c.	40 … 60 Hz	45 VA	45 VA	25 VA	25 VA

*1) Note: A.c. only with rectifier plug.
Further versions on request!

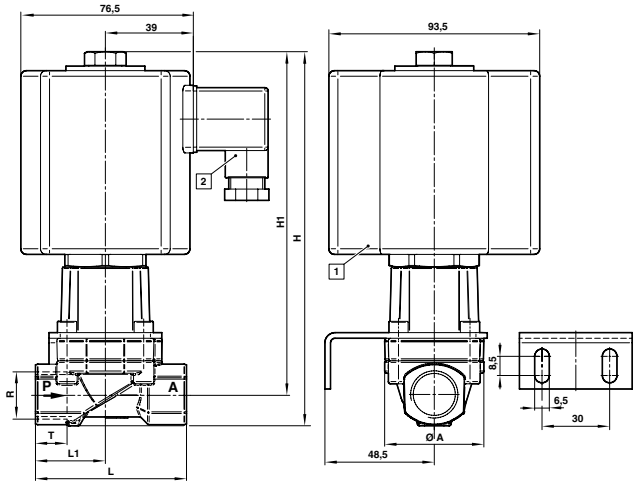
Options

- Normally open (NO)
- Manual override
- Seat seal FPM
- Seat seal PTFE
- Seat seal EPDM
- Max. operating pressure 40 bar
- Position indicator

Dimensions

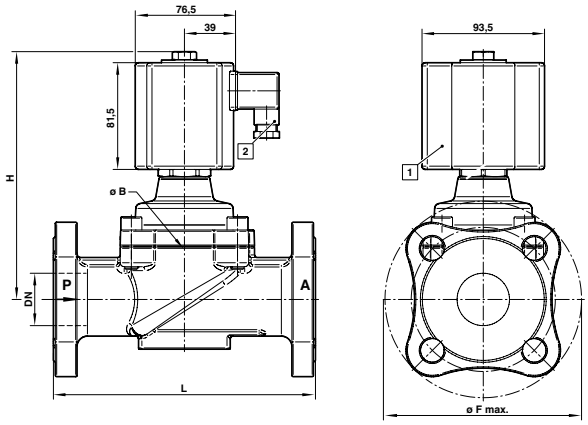
86500 with solenoid 830x

1 Solenoid rotatable 360°
2 Socket turnable 4 x 90°
(Socket included)



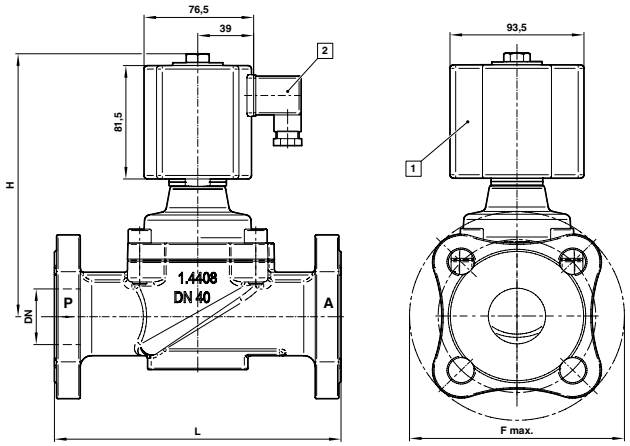
Model	Orifice	ø B	ø F max.	H	L
8650200.830x.xxxxx	15	44	96	134	130
8650300.830x.xxxxx	20	50	110	142	150
8650400.830x.xxxxx	25	62	115	148	160

86500 with solenoid 840x



Model	Orifice	ø B	ø F max.	H	L
8650500.840x.xxxxx	32	92	140	184	180
8650600.840x.xxxxx	40	92	150	189	200
8650700.840x.xxxxx	50	109	165	197	230

86520



Model	Orifice	ø F max.	H	L
8652200.840x.xxxxx	15	96	142	130
8652300.840x.xxxxx	20	110	150	150
8652400.840x.xxxxx	25	115	155	160
8652500.840x.xxxxx	32	140	184	180
8652600.840x.xxxxx	40	150	189	200
8652700.840x.xxxxx	50	165	197	230

2/2-WAY MOTOR OPERATED VALVES

Series 82880

- 2/2-way piston valves
- G1/2 … 1
- Low power consumption
- Wear-resistant ceramic rotary action sliding plate
- Valve remains on last setting if power is lost
- Will handle contaminated fluids

Technical Data

Switching function:
Normally closed

Flow direction:
Determined

Mounting position:
Optional, preferably solenoid vertical on top



	82880
Medium	Neutral gases and liquids
Port size	DN 15, DN 20
Operating pressure	-0,9 … 6/10 bar
Temperature	
Media temperature	-10°C … +90°C
Ambient temperature	-10°C … +40°C
Material	
Body	Brass (CW617N)
Seat seal	NBR
Internal parts	Oxyd-ceramic

Standard models

Port size	Orifice (mm)	Series 82880 *1) Model	Operating pressure (bar)
Cartridge	15	8288500.96xx.xxxxx	-0,9 … 10
G1/2	15	8288200.96xx.xxxxx	-0,9 … 10
G3/4	20	8288300.96xx.xxxxx	-0,9 … 6
G1	20	8288400.96xx.xxxxx	-0,9 … 6

*1) Note: See motor drives for motor cat no and power supply.

Models - Stepping motor 9668 / D.c. motor 9651

Port size	Orifice (mm)	Series 82880 *1) Model	Operating pressure *2) (bar)	Flow kv value *2) (m^3/h)
Cartridge	15	8288500.9668.02400	-0,9 … 10	1,1
G1/2	15	8288200.9668.02400	-0,9 … 16	1,1
G3/4	20	8288300.9668.02400	-0,9 … 16	4,4
G1	20	8288400.9668.02400	-0,9 … 16	4,4

*2) Note: If operating pressure > 10 bar longer duration possible, avoid long downtimes.

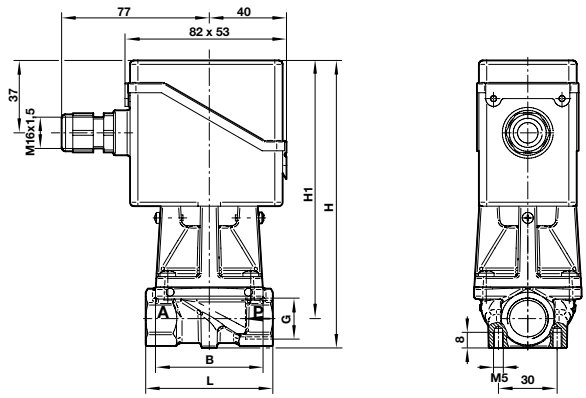
Motor

Port size	Standard voltage Tolerance ± 10% (V)	Frequency (Hz)	Power consumption (VA/W)	Protection class	Torque (Ncm)	Operating time through *4) 90° ◁	Model *1)
D.c. motor	24 V	–	1,5	IP54	120	10 … 14	9615.02400
Synchronousmotor	24 V	50	3	IP54	120	10	9636.02450
Stepping motor	24 V	*3)	5	IP54	120	10	9638.02400
D.c. motor	24 V	–	2,5	IP54	200	13 … 16	9651.02400
Stepping motor	24 V	0	3,3 max. 9,1	IP54	120 *5)	5	9668.02400

*3) Nominal stepping frequency 200 Hz. *4) Operating time depends on operating pressure. *5) Short duration max. 300 Ncm.

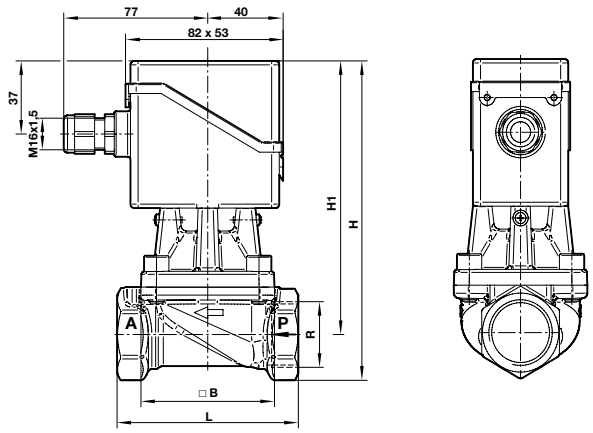
Dimensions

82880 up to G1/2

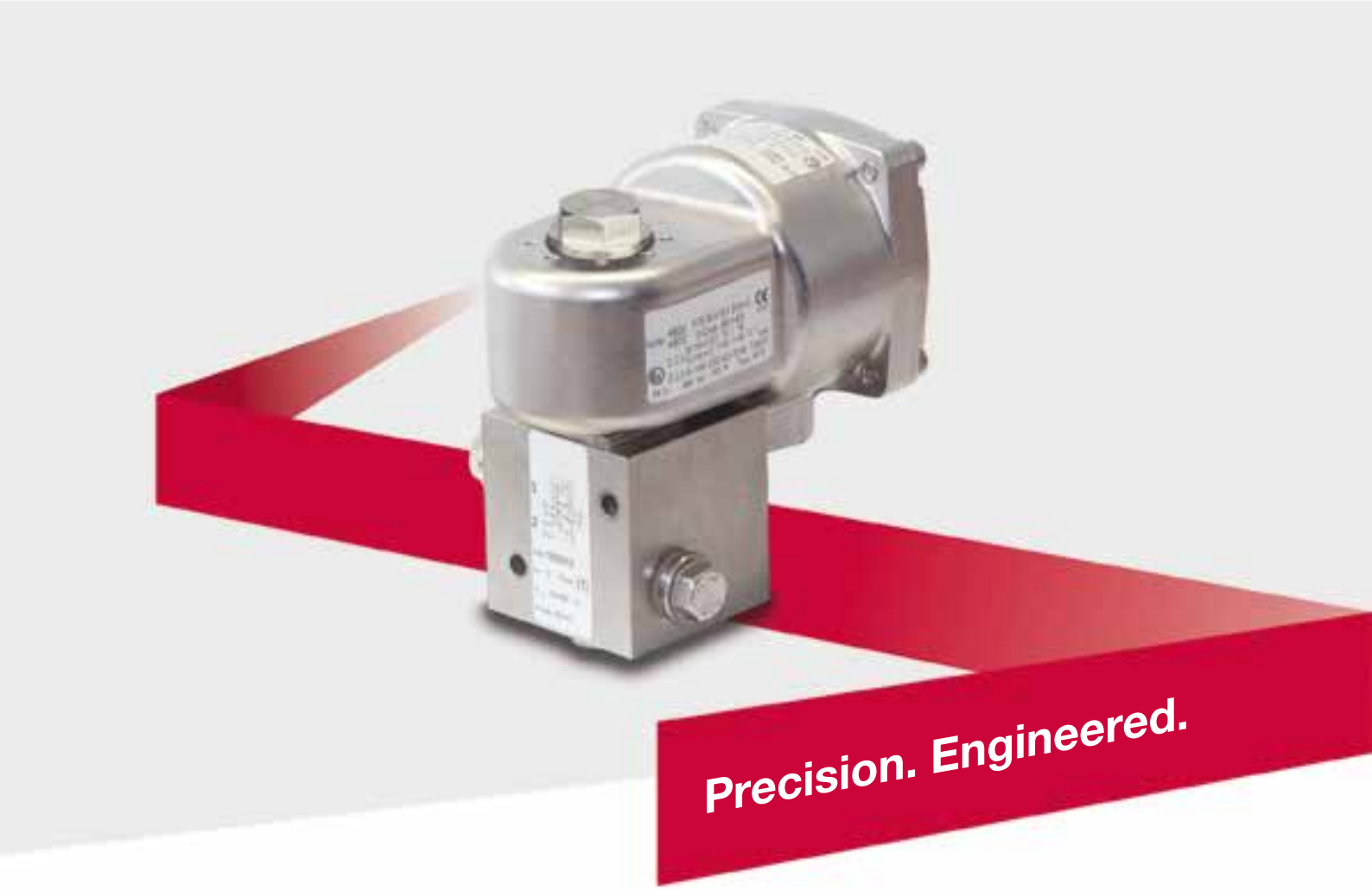


Model	Port size	B	H	H1	L
8288200.96xx.xxxxx	G1/2	55	147	134	65

82880 G3/4 … 1



Model	Port size	B	H	H1	L
8288300.96xx.xxxxx	G3/4	70	164	140	95
8288400.96xx.xxxxx	G1	70	164	140	95



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SOLENOID ACTUATED NAMUR VALVE

97100 6 mm orifice (ND) – 3/2, 5/2, 5/3 APB, G1/4

- 3/2 or 5/2 way function via adapter plates
- Rest position in the event of power failure (monostable design)
- Manual override with detent

Technical Data

Medium:
Compressed air filtered, lubricated or non-lubricated

Operating pressure:
2 … 8 bar

Flow direction:
Fixed

Mounting position:
Optional

Ambient temperature:
Valve: -15°C … +50°C
Solenoid: See solenoid table

With minus temperatures, use conditioned dry air. If installed in the open protect all connections against the penetration of moisture.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Housing:
Aluminium anodized

Pilot flange:
Plastic (PBT)

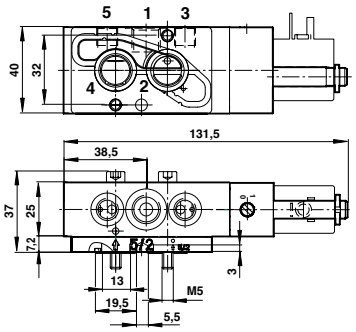
Flange plate:
Aluminium

Seals:
NBR

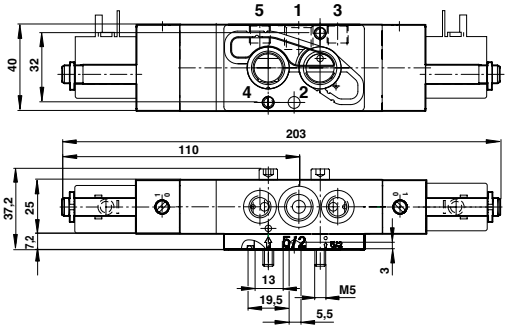


Dimensions

1 Solenoid/Spring



2 Solenoid/Solenoid



Models – 3/2, 5/2 and 5/3 valves

Model	Voltage	Actuation	Port size 1	Port size 3 (5)	Port size 2, 4	Function	Flow (l/min)	Dimension No.
								
9710000303602400	24 V d.c.	Solenoid/Spring	G1/4	G 1/8	Flange	5/2	750	1
9710000303623050	230 V a.c							
9711000303602400	24 V d.c.	Solenoid/Solenoid	G1/4	G 1/8	Flange	5/2	750	2
9711000303623050	230 V a.c							
9712000303602400	24 V d.c.	Solenoid/Solenoid	G1/4	G 1/8	Flange	5/3 APB	500	2
9712000303623050	230 V a.c							

APB = All Ports Blocked. Exterior free of non-ferrous metals. For models without coil, replace the last nine digits of the part number with 000000000.

Solenoid details

	3/2, 5/2 and 5/3 valves					
	Power Consumption 24 V d.c. (W)	230 V a.c. (VA)	Protection class	Temperatures °C ambient/fluid	Electrical connection	Solenoid code
						
	1,6	3,5	IP 65 (with connector)	-15 … +50	DIN EN 175301-803 Form A [6]	3036

Standard voltages 24 V d.c., 230 V a.c. Other voltages on request. Design acc. to VDE 0580, EN 50014/50028. 100% duty cycle.
6) Connector not supplied; required connector for d.c.: part no. 0570275 Form A, see 'Accessories' table.

SOLENOID ACTUATED NAMUR VALVE

97100 6 mm orifice (ND) – 3/2, 5/2, 5/3 APB, G1/4

Models – 3/2, 5/2 and 5/3 valves for minimal electrical power

Model 24 V d.c.	Voltage	Actuation	Port size 1	3 (5)	2, 4	Function	Flow (l/min)	Dimension No.
								
9710002305002400	24 V d.c.	Solenoid/Spring	G1/4	G1/8	Flange	5/2	750	1
9710002303402400	24 V d.c.							
9710002303420600	230 V a.c.							
9712002305002400	24 V d.c.	Solenoid/Solenoid	G1/4	G1/8	Flange	5/3 APB	500	2
9712002303402400	24 V d.c.							
9712002303420600	230 V a.c.							

APB = All Ports Blocked. Exterior free of non-ferrous metals. For models without coil, replace the last nine digits of the part number with 000000000.

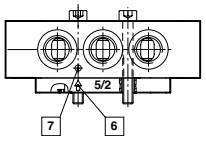
Solenoid details

	3/2, 5/2 and 5/3 valves for minimal electrical power							
	Power Consumption 24 V d.c. (W)	230 V a.c. (VA)	Rated current 24 V d.c. (mA)	230 V a.c. (mA)	Protection class	Temperatures °C ambient/fluid	Electrical connection	Solenoid code
								
	1,7	–	70	–	IP 65 (with connector)	-15 … +50	DIN EN 175301-803 Form B [6]	3050
								
	0,7	2	29	–	IP 65 (with connector) [2]	-15 … +50	DIN EN 175301-803 Form A [6]	3034

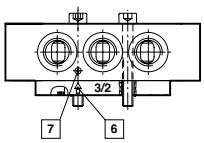
Standard voltages 24 V d.c., 230 V a.c. Other voltages on request. Design acc. to VDE 0580, EN 50014/50028. 100% duty cycle.
2) Valves can be operated with d.c. only. For 230 V a.c. application please use 206 V d.c. coil together with rectifier plug 0663303.
6) Connector not supplied; required connector for d.c.: part no. 0680003 Form B and 0570275 Form A, see 'Accessories' table.

Conversion instructions

5/2 way function (original mode of supply)



3/2 way function



3/2 resp. 5/2 way function can be achieved just by swapping enclosed adaptor plates. Make sure Marker and Arrow do match as shown on drawing at left. Original mode of supply: 5/2 function.

6 Arrow
7 Marker

Electrical connection M12 x 1

Model	Pin	Cable
	1	brown
	2	white
	3	blue
	4	black

Accessories

Silencer	Connectors
	
M/S2 (G1/8)*	0570275000000000 Form A
	0663303000000000 Form A with rectifier
	0680003000000000 Form B

* For indoor use.

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SOLENOID ACTUATED INLINE VALVE

97100 6 mm orifice (ND) – 3/2, 5/2, 5/3 APB, G1/4

- For single and double operated actuators
- Crossover-free switching, switch-over function guaranteed even with small cross section air supply
- Manual override with detent standard
- EX-Protection (ATEX-Category)

Technical Data

Medium:
Compressed air filtered, lubricated or non-lubricated

Operating pressure:
2 … 8 bar

Flow direction:
Fixed

Mounting position:
Optional

Ambient temperature:
Valve: -15°C … +80°C
Solenoid: See solenoid table

With minus temperatures, use conditioned dry air. If installed in the open protect all connections against the penetration of moisture.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Housing:
Aluminium 3.0615 anodized

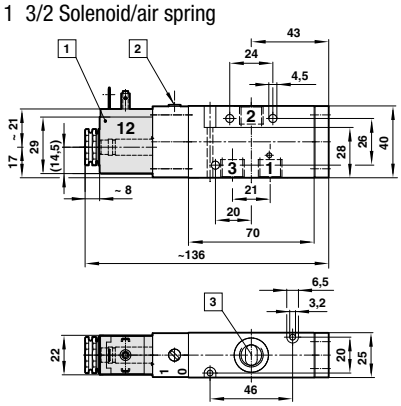
Pilot flange:
Plastic (PBT)

Seals:
NBR

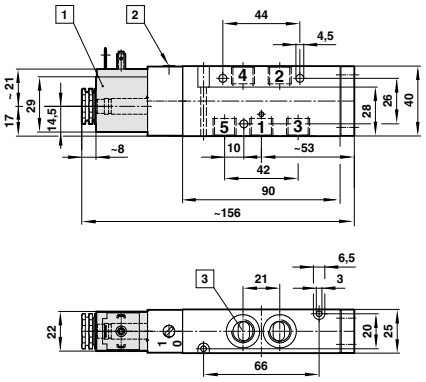


Dimensions

1 3/2 Solenoid/air spring

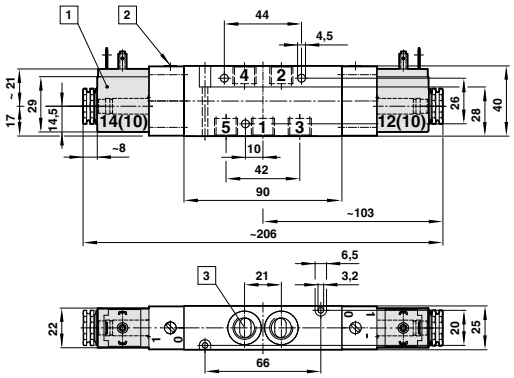


2 5/2 Solenoid/air spring

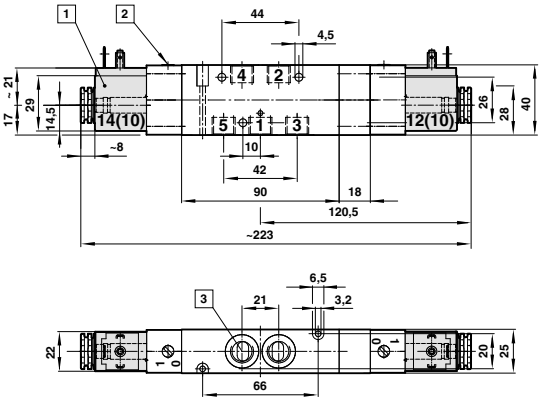


1 Solenoid 90° turnable
2 Manual override
3 Port size G1/4 or 1/4 NPT

3 5/2 Solenoid/solenoid



4 5/3 APB Solenoid/solenoid



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SOLENOID ACTUATED INLINE VALVE

97100 6 mm orifice (ND) – 3/2, 5/2, 5/3 APB, G1/4

Models

Model *1)	Actuation	Port size	Function	Flow (l/min)	Dimension No.
					
9713032000000000	Solenoid/Air spring	G1/4	3/2	750	1
9710032000000000	Solenoid/Air spring	G1/4	5/2	750	2
9711032000000000	Solenoid/Solenoid	G1/4	5/2	750	3
9712032000000000	Solenoid/Solenoid	G1/4	5/3 APB	500	4

*1) Models shown are without coil. When ordering, please indicate solenoid, voltage and current (frequency).
NOTE:To order one valve you need to add the following information:
- Valve body part number according to the Model column without 000000000.
- Solenoid code according to the table below.
- Voltage and frequency: 02400 for 24V d.c. and 23050 for 230V a.c.
Valve function: APB = All Ports Blocked.

Solenoid details

	Solenoid code	Power consumption		Rated current		Protection class IP/NEMA	Ex-Protection (ATEX-Category)	Temperature Ambient/Media (°C)	Electrical connection
		24 V d.c. (W)	230 V a.c. (VA)	24 V d.c. (m A)	230 V a.c. (m A)				
	3050	1,8	–	70	–	IP65 (with connector)	–	-15 … +50	Connector DIN EN 175301-803, form B *1)
	3034	0,7	2,0 *2)	29	4	IP65 (with connector)	–	-15 … +50	Connector DIN EN 175301-803, form A *1)
	3046	2	–	85	–	IP65 (with connector)	II 3 G Ex nA IIC T5 Gc II 3 D Ex tc IIIC T95° Dc IP65	-15 … +50	Special connector DIN EN 175301-803, form A *1)
	3062	2,7	–	115	–	IP65 (with connector)	II 2 G Ex mb IIC T5 Gb II 2 D Ex mb tb T95°C Db	-20 … +50 *2)	Cable length 3 m
	3063	–	2,1	–	9	IP65 (with connector)	II 2 G Ex mb IIC T5 Gb II 2 D Ex mb tb T95°C Db	-20 … +50 *2)	Cable length 3 m
	3071	2,7	–	115	–	IP65 (with connector)	–	-10 … +50	Connector *1) M12x1, DIN IEC 61076-2-101 Solenoid with yellow LED

Standard voltages (±10%) 24 V d.c., 230 V a.c., other voltages on request. Design according to VDE 0580, EN 50014/50028. 100% duty cycle.
*1) Connector is not scope of delivery, see table »Accessories«.
*2) For battery installation +40°C only.

Electrical connection M 12 x 1

Pin	Signal	Cable
		
1	+ UB	brown
2	Out 2 (PNP) / analogue 4 to 20 mA	white
3	0 Volt	blue
4	Out 1 (PNP)	black

Solenoid details

Model	Approvals		
	ATEX	IECEx	FM
304x	PTB 06 ATEX 2055	–	–
306x	PTB 03 ATEX 2015	–	–
307x	EC-Declaration of Conformity	–	–

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SOLENOID ACTUATED INLINE VALVE

97100 6 mm orifice (ND) – 3/2, 5/2, 5/3 APB, G1/4

Accessories

Connectors DIN EN 175301-803	Connectors M12 x 1	M12 x 1	Silencer
			
0570275000000000 Form A	0523055000000000 (without cable)	0523056000000000 (90°, without cable)	M/S2 (G1/4)
0663300000000003 Form A (with rectifier)	0523057000000000 (2 m cable)	0523058000000000 (90°, 2 m cable length)	
0680003000000000 Form B	0523052000000000 (5 m cable)	0523053000000000 (90°, 5 m cable length)	

Manifold plates

2 stations	3 stations	4 stations	6 stations	12 stations
				
2221102000000000	2221103000000000	2221104000000000	2221106000000000	2221112000000000

Accessories for manifold plates

Blanking plate *1)	Blanking plug for 2 station and 3 station manifolds	Pressure shut-off part *2) for 4 station up to 12 station manifolds	DIN mounting kit
			
0100563000000000	0701209000000000	0100569000000000	0101796000000000

*1) For blocking of unused valve stations.
*2) Necessory for using two different pressure.

Options

- Alternative threads
- Intrinsically safe coils

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SOLENOID ACTUATED NAMUR VALVE

97300 3/2, 5/2, G1/4

- For single and double acting actuators
- 3/2 or 5/2 way function in one valve
- Manual override with detent
- Compact design
- Options are available for the protection class EEx m and EEx ia, for zones 1, 2 (gases) ATEX cat. II 2 G, EEx nA, for zones 2 (gases), 22 (dust) ATEX cat.II 3 GD ask your Express team for more details

Technical Data

Medium:
Compressed air filtered, lubricated or non-lubricated

Operating pressure:
2 … 8 bar

Flow direction:
Fixed

Mounting position:
Optional

Ambient temperature:
-15°C … +50°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Housing:
Aluminium anodized

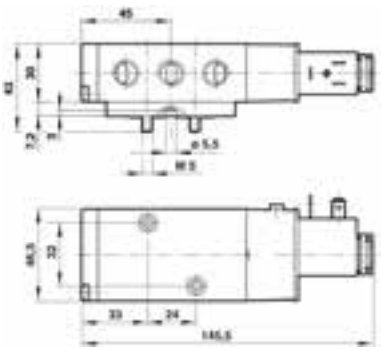
Pilot flange:
Plastic (PBT)

Seals:
NBR

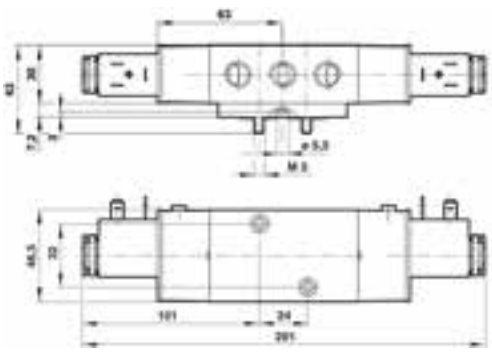


Dimensions

1 Solenoid/Spring



2 Solenoid/Solenoid



Models

Model	Voltage	Port size 1, 3, 5	Port size 2, 4	Function	Flow (l/min)	Dimension No.	Electrical connection
							
9730000305002400	24 V d.c	G1/4	Flange	5/2, 3/2 Sol/Spring	1300	1	DIN EN 175301-803 Form B
9730000305023050	230 V a.c.						
9730000303602400	24 V d.c	G1/4	Flange	5/2, 3/2 Sol/Spring	1300	1	DIN EN 175301-803 Form A
9730000303623050	230 V a.c.						
9731000305002400	24 V d.c	G1/4	Flange	5/2, 3/2 Sol/Sol	1300	2	DIN EN 175301-803 Form B
9731000305023050	230 V a.c.						
9731000303602400	24 V d.c	G1/4	Flange	5/2, 3/2 Sol/Sol	1300	2	DIN EN 175301-803 Form A
9731000303623050	230 V a.c.						

For valves without coils, substitute the last nine digits of the part number for 000000000.

SOLENOID ACTUATED NAMUR VALVE
97300 3/2, 5/2, G1/4

Solenoid details

	Power Consumption 24 V d.c. (W)	230 V a.c. (VA)	Protection category	Protection class	Temperatures °C ambient/fluid	Electrical connection	Solenoid code
							
	1,8	4,3	–	IP 65 (with connector)	-15 … +50	DIN EN 175301-803 Form B [1)]	3050
							
	1,6	3,5	–	IP 65 (with connector)	-15 … +50	DIN EN 175301-803 Form A [1)]	3036

Standard voltages 24 V d.c., 230 V a.c. Other voltages on request.
*1) Connector is not included in delivery; Required connectors 068003 form B or 0570275 form A.

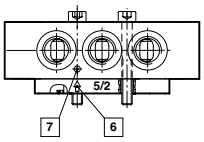
Accessories

Silencer	Connectors	Flange plate	Yoke
			
M/S2 (G1/8)*	0570275000000000 Form A	0612790000000000 Single connection plate	0540593000000000
	0663303000000000 Form A with rectifier	0612791000000000 NAMUR-slot use in combination with 0612790 (Alu)	
	0680003000000000 Form B		

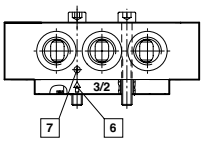
* For indoor use.

Conversion instructions

5/2 way function (original mode of supply)



3/2 way function



3/2 resp. 5/2 way function can be achieved just by swapping enclosed adaptor plates. Make sure Marker and Arrow do match as shown on drawing at left. Original mode of supply: 5/2 function.

6 Arrow
7 Marker

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SOLENOID ACTUATED INLINE SPOOL VALVE

97105 3/2, 5/2 & 5/3, G1/4 – G1/2

- UV-approval based on type examination DIN EN 161, DIN 3394 and IEC 61 508, multichannel up to SIL 3
- Crossover-free switching
- Suited for outdoor use under critical environment conditions
- Variable valve solenoid combination
- Add-on manual override

Technical Data

Medium:
Filtered, non-lubricated and dried compressed air, instrument air, nitrogen and other non-flammable neutral, dry fluids

Operating pressure:
2,5 … 8 bar with internal air supply
0 … 8 bar with external air supply

Ambient/Media temperature:
-40°C … +65°C (SNBR)
-25°C … +80°C (HNBR)
Depending on solenoid system

Air supply must be dry enough to avoid ice formation at temperatures below +2°C

For outdoor installations must be protected all connections against the penetration of moisture and a solenoid with IP66 protection must be used!

Materials

Body:
Aluminium 3.0615 with surface treatment for rough environmantal conditions. (Stainless steel DIN 50018: Condensate test with alternating temperatures in sulphuric atmosphere, DIN 50021/ASTM B117-73: Salt spray test with different sodium chloride solutions, tested in ammonia atmosphere). Stainless steel 1.4404 (316 L)

Seals:
SNBR (special NBR) or HNBR



The solenoid valves are used in ATEX- zones, resulting from Protection Class Atex-category of solenoids (see table of solenoids).

Models – Housing: aluminium anodized: SNBR -40 … +65C *3)

Model *1)	Port size	Function	Actuation/Return	Operating pressure (bar)	Flow (l/min)	Test certificate IEC 61508 *2)	Dimension No.
							
9713535000000000	G 1/4	3/2	Solenoid/Spring	2,5 … 8	1300	x	1
9713555000000000	G 1/2	3/2	Solenoid/Spring	2,5 … 8	2600		2
9710535000000000	G 1/4	5/2	Solenoid/Spring	2,5 … 8	1300	x	3
9710555000000000	G 1/2	5/2	Solenoid/Spring	2,5 … 8	2600		4
9711535000000000	G 1/4	5/2	Solenoid/Solenoid	2,5 … 8	1300		5
9712535000000000	G 1/4	5/3	Solenoid/Solenoid, APB	2,5 … 8	950		7

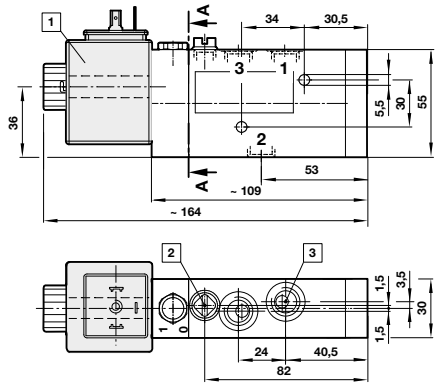
Models – Housing: stainless steel: SNBR -40 … +65C *3)

Model *1)	Port size	Function	Actuation/Return	Operating pressure (bar)	Flow (l/min)	Test certificate IEC 61508 *2)	Dimension No.
							
9713735000000000	G 1/4	3/2	Solenoid/Spring	2,5 … 8	1300	x	1
9713755000000000	G 1/2	3/2	Solenoid/Spring	2,5 … 8	2600		2
9710735000000000	G 1/4	5/2	Solenoid/Spring	2,5 … 8	1300	x	3
9710755000000000	G 1/2	5/2	Solenoid/Spring	2,5 … 8	2600		4
9711735000000000	G 1/4	5/2	Solenoid/Solenoid	2,5 … 8	1300		5

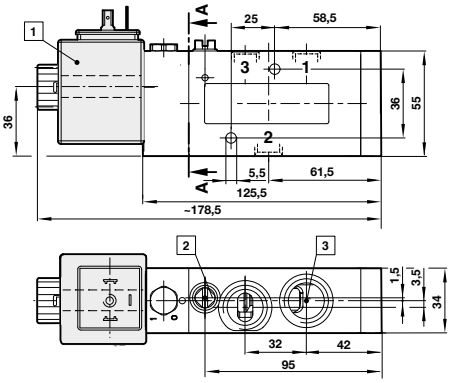
*1) Models shown are without coil. When ordering please indicate solenoid, voltage and current type (frequency).
NOTE:To order one valve you need to add the following information:
- Valve body part number according to the Model column without 000000000.
- Solenoid code according to the table below.
- Voltage and frequency: 02400 for 24V d.c. and 23050 for 230V a.c.
*2) Since May 2008, Date code A8192.
*3) For operation in plants according to IEC 61511/61508 -40°C … +40°C see test certificate (on request).

Dimensions

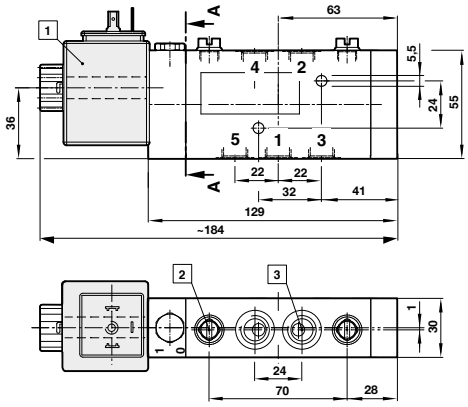
1 - 9713535, 9713735



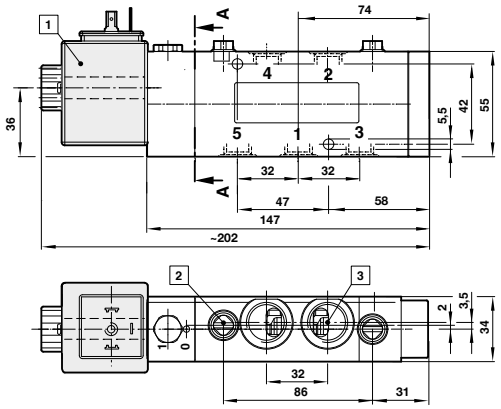
2 - 9713555, 9713755



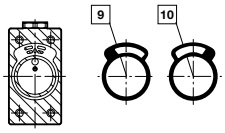
3 - 9710535, 9710735



4 - 9710555, 9710755

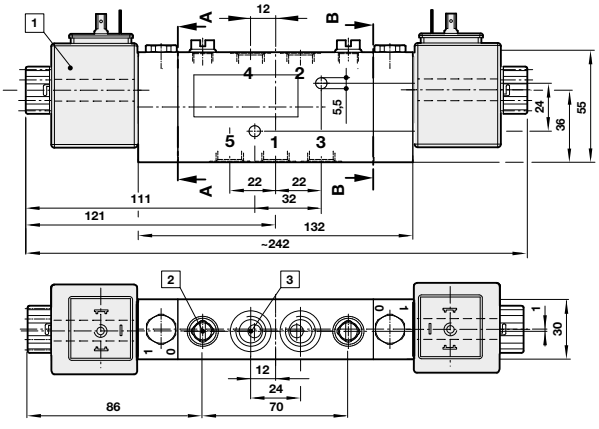


A - A

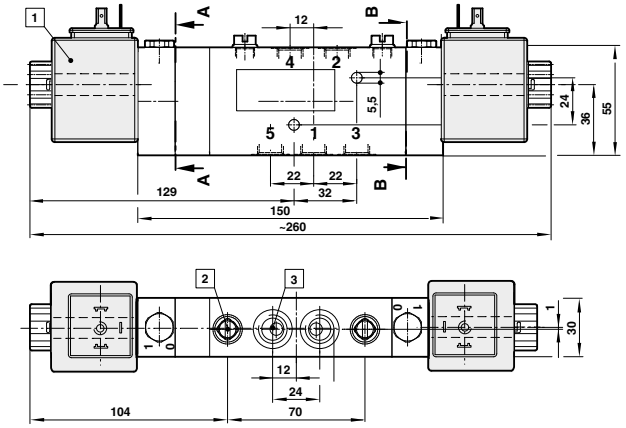


[1] Solenoid
[2] External control pressure connection G1/8
[3] Working port G1/4, G1/2
[9] Position of gasket internal pilot air
[10] Position of gasket external pilot air

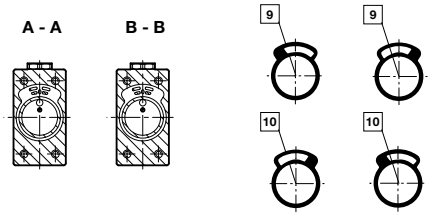
5 - 9711535, 9711735



7 - 9712535



A - A B - B



[1] Solenoid
[2] External control pressure connection G1/8
[3] Working port G1/4, G1/2
[9] Position of gasket internal pilot air
[10] Position of gasket external pilot air

SOLENOID ACTUATED NAMUR SPOOL VALVE

97105 3/2, 5/2 & 5/3, G1/4 – G1/2

- TUV-approval based on type examination DIN EN 161, DIN 3394 and IEC 61 508
- Valves for safety systems multi-channel up to SIL 3
- Crossover-free switching
- Add-on manual override
- International approvals: IEC Ex, FM, CSA

Technical Data

Medium:
Filtered, non-lubricated and dried compressed air, instrument air, nitrogen and other non-flammable neutral, dry fluids

Operating pressure:
2,5 … 8 bar with internal air supply
0 … 8 bar with external air supply (G1/2, 1/2 NPT or low power pilot system only)

Ambient/Media temperature:
Valve:
-40°C … +65°C (SNBR)
-25°C … +80°C (HNBR)
Depending on solenoid system.

Air supply must be dry enough to avoid ice formation at temperatures below +2°C

For outdoor installations must be protected all connections against the penetration of moisture and a solenoid with IP66 protection must be used!

Materials

Body:
Aluminium 3.0615 with surface treatment for rough environmantal conditions. Approved according to DIN 50018: Condensate test with alternating temperatures in sulphuric atmosphere, DIN 50021/ ASTM B117-73: Salt spray test with different sodium chloride solutions, tested in ammonia atmosphere). Stainless steel 1.4404 (316 L)

Seals:
SNBR (special NBR) or HNBR



The solenoid valves are used in ATEX- zones, resulting from Protection Class Atex-category of solenoids (see table of solenoids).

Models – Housing: aluminium anodized, pilot flange: SNBR -40°C … +65°C *3)

Model *1)	Port size 1, 3, (5)	2, 4	Actuation/Return	Operating pressure (bar)	Flow *4) (l/min)	Test certificate IEC 61508 *2)
						
9710505000000000	G1/4	Flange	Solenoid/Spring	2,5 … 8	1300	x
9710595000000000	G1/2	Flange	Solenoid/Spring	2,5 … 8	2600	–
9711505000000000	G1/4	Flange	Solenoid/Solenoid	2,5 … 8	1300	–

Models – Housing: stainless steel, pilot flange: SNBR -40°C … +65°C *3)

Model *1)	Port size 1, 3, (5)	2, 4	Actuation/Return	Operating pressure (bar)	Flow *4) (l/min)	Test certificate IEC 61508 *2)
						
9710705000000000	G1/4	Flange	Solenoid/Spring	2,5 … 8	1300	x
9711705000000000	G1/4	Flange	Solenoid/Solenoid	2,5 … 8	1300	–

G 1/4 Flange Solenoid/solenoid Aluminium 2,5 … 8 bar.

*1) Models shown are without coil. When ordering please indicate solenoid, voltage and current type (frequency).

NOTE:To order one valve you need to add the following information:

- Valve body part number according to the Model column without 000000000.
- Solenoid code according to the table below.
- Voltage and frequency: 02400 for 24V d.c. and 23050 for 230V a.c.

*2) Since May 2008, Date code A8192.

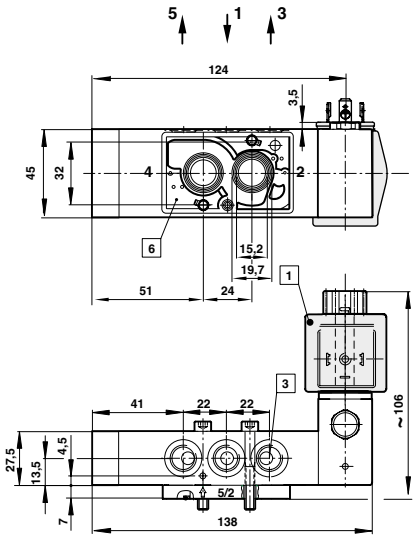
*3) For operation in plants according to IEC 61511/61508 -40°C … +40°C see test certificate (on request).

*4) Flow characteristics conforms to ISO6358 [6 » 5 bar].

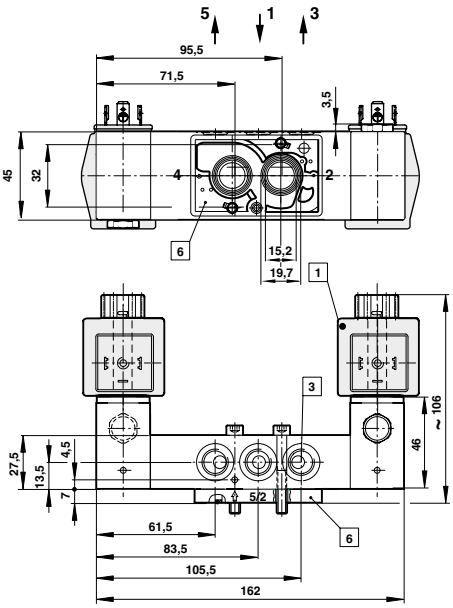
Note for *4): Connecting pipe / Fitting: In order to ensure and a pressure collapse avoid the flow, the supply air cross section shouldwith 1/4: ≥ 8 mm; with 1/2: ≥≥ 10 mm. With smaller cross section the inlet (A1) should more largely, however at least equally large line at the port (A2; A1).

Dimensions

1 - 9710505, 9710705

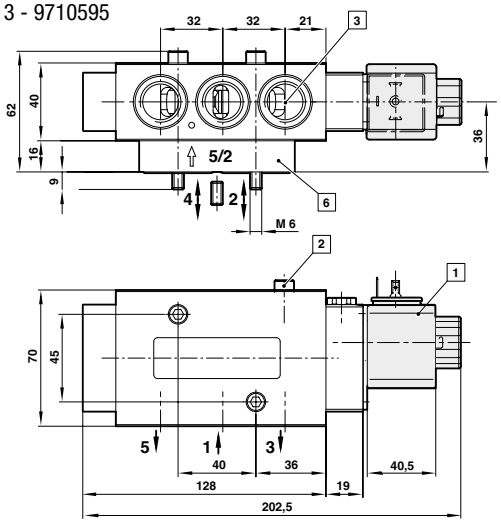


2 - 9711505, 9711705



[1] Solenoid
[3] Port G 1/4
[6] NAMUR connection plate 3/2 or 5/2 way function

3 - 9710595



[1] Solenoid
[2] External control pressure connection G1/8
[3] Port G1/2
[6] NAMUR connection plate 3/2 or 5/2 way function

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SOLENOID OPERATORS & ACCESSORIES
97105 Inline/Namur

Solenoid operators

	Model	Power consumption 24 V DC (W)	Power consumption 230 V AC (VA)	Rated current 24 V DC (m A)	Rated current 230 V AC (m A)	Ex-Protection	Protection Class (ATEX-Category) Nominal resistance (according to EN60529)	Temperature Ambient/Medium (°C)	Electrical connection
	0763	1,9	2,1 *5)	78	11	–	IP00 without Connector IP65 (with Connector)	-25 … +60	DIN EN 175 301-803 Form A *5) *6)
	4200	0,8	–	38	–	II2G II2D	Ex e mb IIC T5/T6 Gb Ex tb IIIC T130°C Db IP 66 (with cable gland)	-40 … +80 T5 -40 … +70 T6 -40 … +80	M20 X 1,5 *6)
	4201	–	1,3	–	6	II2G II2D	Ex e mb IIC T5/T6 Gb Ex tb IIIC T130°C Db IP 66 (with cable gland)	-40 … +80 T5 -40 … +70 T6 -40 … +80	M20 X 1,5 *6)
	4602	0,8	–	33	–	II2G II2D	Ex d mb IIC T5/T6 Gb Ex e mb IIC T5/T6 Gb Ex tb IIIC T130°C Db IP 66 (with cable gland)	-40 … +80 T5 -40 … +70 T6 -40 … +80	M20 X 1,5 *6)
	4603	–	1,3	–	6	II2G II2D	Ex d mb IIC T5/T6 Gb Ex e mb IIC T5/T6 Gb Ex tb IIIC T130°C Db IP 66 (with cable gland)	-40 … +80 T5 -40 … +70 T6 -40 … +80	M20 X 1,5 *6)
Stainless Steel 	4802	0,8	–	33	–	II2G	Ex mb d IIC T4/T6 Gb Ex mb e II T4/T6 Gb IP 66 (with cable gland)	-40 … +50 T4 -40 … +40 T6	M20 X 1,5 *6)
	4803		1,3	–	6	II2G	Ex mb d IIC T4/T6 Gb Ex mb e II T4/T6 Gb IP 66 (with cable gland)	-40 … +50 T4 -40 … +40 T6	M20 X 1,5 *6)

Standard voltages (±10%) 24 V d.c., 230 V a.c., other voltages on request. Design according to VDE 0580, EN 50014/50028. 100% duty cycle.

*5) Required connector: model 0570275 for V DC; model 0663303 for V AC, to be ordered Solenoid Voltage 200V DC!

*6) Connector cable gland not supplied, see table »Accessories«.

Attention: The protection class for coil series 46xx and 48xx is determined by the choice of cable gland.

Example: if an ATEX-certified cable gland is used that has Ex d type of protection, the solenoid will have the protection class Ex d mb; if a cable gland with Ex e type of proteciton is used, the solenoid will have protection class Ex e mb.

Accessories

Cable gland Protection Ex e, Ex d (ATEX), Nickel plated brass/stainless steel	Model	Thread	Cable Ø	Material	Protection class (ATEX)
	0588819000000000	M 20x1,5	5,0 … 8,0 mm	Nickel plated brass	II2GD Ex e
	0588851000000000	M 20x1,5	10 … 14 mm	Nickel plated brass	II2GD Ex d
	0588925000000000	1/2-14-NPT	7,5 … 11,9 mm	Nickel plated brass	II2GD Ex d
	0589385000000000	M 20x1,5	9,0 … 13 mm	Model Approvals 1.4571 (316 Ti)	II2GD Ex e
	0589395000000000	M 20x1,5	7,0 … 12 mm	Model Approvals 1.4571 (316 Ti)	II2GD Ex d
	0589387000000000	M 20x1,5	10 … 14 mm	Model Approvals 1.4571 (316 Ti)	II2GD Ex d

Connector	Inlet filter	Add-on manual override	Add-on manual override (for start-up only)
			
0570275000000000	0681173000000000 (1/4")	0553886000000000 (without detent)	0613379000000000 (without detent)
0663303 000000000 (with rectifier)		0553887000000000 (with detent)	

*1) For indoors use only.

*2) For outdoors use ~ 0,2 (bar).

Approvals

Model	Approvals ATEX	IECEx
42xx	KEMA 98 ATEX 4452 X	IECEx KEM 09.0068X
46xx	PTB 02 ATEX 2085 X	IECEx PTB 11.0094X
48xx	PTB 06 ATEX 2054 X	IECEx PTB 07.0039X

DIRECT SOLENOID ACTUATED POPPET VALVES

95000 1,5 … 6 mm orifice (ND) 2/2, NC/NO, G1/4

- Direct acting solenoid – operation down to zero bar pressure
- Short switching times
- Assembled oil and grease-free
- For a.c. solenoid systems with integrated rectifier (40 … 60 Hz)
- Includes solenoids for ATEX, FM, CSA and XP approvals

Technical Data

Medium:
Neutral gaseous and liquid fluids

Flow direction:
Fixed

Mounting position:
Optional, preferably with solenoid on top

Media temperature:
-25°C … +80°C NBR

Ambient temperature:
Depending on solenoid system
-25°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C
For contaminated fluids installation of an upstream filter is recommended

Materials

Housing:
Brass 2.0401 (Ms 58)

Seals:
NBR
Other see option selector

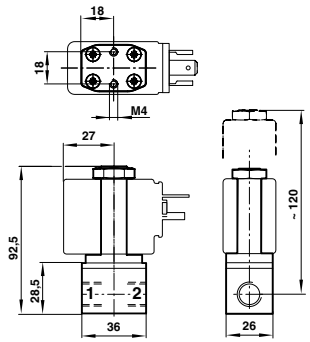
Inner parts:
Stainless steel 1.4104 (430F), Brass 2.0401 (Ms 58)

EXPRESS

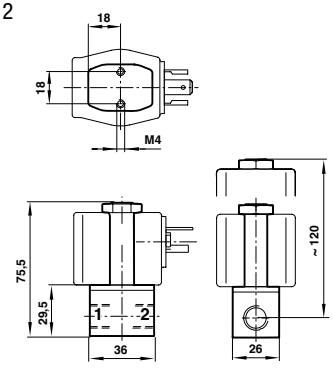


Dimensions

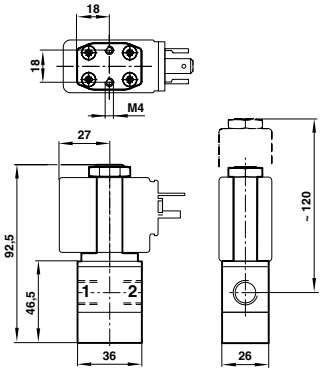
1



2



3



Models

Model	Function	Port size	Orifice (mm)	Operating pressure (bar)	Flow (l/min)	Solenoid group	Dimension No.
							
9500100xxxx*****	2/2 NC	G1/4	1,5	0 … 40	70	13B	1
9500200xxxx*****	2/2 NC	G1/4	2	0 … 35	120	13B	1
9500300xxxx*****	2/2 NC	G1/4	3	0 … 10	200	13C	1
9500400xxxx*****	2/2 NC	G1/4	4	0 … 12	350	13D	1
9501500xxxx*****	2/2 NC	G1/4	5	0 … 5	450	16D	2
9501600xxxx*****	2/2 NC	G1/4	6	0 … 5	550	16D	2
9502210xxxx*****	2/2 NO	G1/4	2	0 … 40	70	13B	3
9502310xxxx*****	2/2 NO	G1/4	3	0 … 10	160	13B	3

**** Insert solenoid code according to solenoid group from tables on page 381. ***** Insert voltage code from table below.

Voltage codes

24 V d.c.	02400
230 V a.c.	23050

Other voltages available, please call your please contact us.

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DIRECT SOLENOID ACTUATED POPPET VALVES

96000 2 … 5 mm orifice (ND) 3/2, NC/NO, G1/4

- Direct acting solenoid – operation down to zero bar pressure
- Short switching times
- Assembled oil and grease-free
- For a.c. solenoid systems with integrated rectifier (40 … 60 Hz)
- Includes solenoids for ATEX, FM, CSA and XP approvals

Technical Data

Medium:
Neutral gaseous and liquid fluids

Flow direction:
Fixed

Mounting position:
Optional, preferably with solenoid on top

Media temperature:
-25°C … +80°C NBR

Ambient temperature:
Depending on solenoid system
-25°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C
For contaminated fluids installation of an upstream filter is recommended

Materials

Housing:
Brass 2.0401 (Ms 58)

Seals:
NBR
Others see option selector

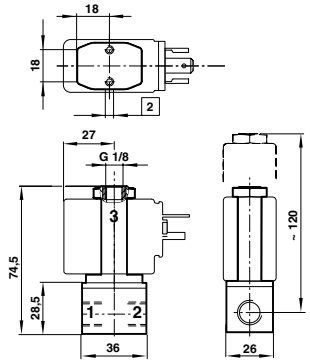
Inner parts:
Stainless steel 1.4104 (430F), Brass 2.0401 (Ms 58)

EXPRESS

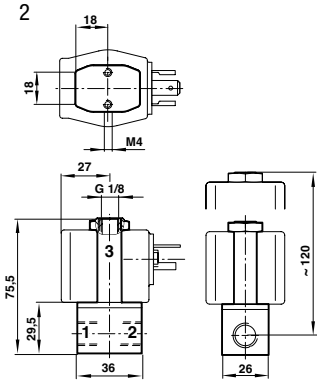


Dimensions

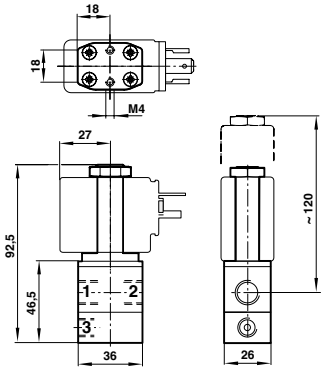
1



2



3



Models

Model	Function	Port size	Orifice (mm)	Operating pressure (bar)	Flow l/min	Solenoid group	Dimension No.
							
9600210xxxx*****	3/2 NC	G1/4	2	0 … 10	120	13B	1
9600240xxxx*****	3/2 NC	G1/4	2	0 … 18	120	13D	1
9600320xxxx*****	3/2 NC	G1/4	3	0 … 6	200	13C	1
9600340xxxx*****	3/2 NC	G1/4	3	0 … 14	200	13D	1
9601430xxxx*****	3/2 NC	G1/4	4	0 … 8	350	16C	2
9601440xxxx*****	3/2 NC	G1/4	4	0 … 10	350	16D	1
9601540xxxx*****	3/2 NC	G1/4	5	0 … 7	450	16D	2
9602210xxxx*****	3/2 NO	G1/4	2	0 … 9	100	13B	3
9602340xxxx*****	3/2 NO	G1/4	3	0 … 9	160	13D	3
9602440xxxx*****	3/2 NO	G1/4	4	0 … 6	300	16D	3

**** Insert solenoid code according to solenoid group from tables on page 381. ***** Insert voltage codes from table below.

Voltage codes

24 V d.c.	02400
230 V a.c.	23050

Other voltages available, please call your please contact us.

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Model	Power consumption		Voltage		Protection category	Protection class	Temperatures °C ambient/fluid	Electrical connection	Solenoid code
	24 V d.c. (W)	230 V a.c. (VA)	24 V d.c. (mA)	230 V a.c. (mA)					
									
Group 13B	8,0	–	331	–	–	IP 65 (with connector) [5]	-25 … +60 Fluid: max. 80	DIN EN 175301-803 Form A [6]	0246 [7]
Group 13B	–	9,2	–	40	–	IP 65 (with connector) [5]	-25 … +60 Fluid: max. 80	DIN EN 175301-803 Form A [6]	3206 [7]

Model	Power consumption		Voltage		Protection category	Protection class	Temperatures °C ambient/fluid	Electrical connection	Solenoid code
	24 V d.c. (W)	230 V a.c. (VA)	24 V d.c. (mA)	230 V a.c. (mA)					
									
Group 13C	12,1	–	504	–	–	IP 65 (with connector) [5]	-25 … +60 Fluid: max. 80	DIN EN 175301-803 Form A [6]	0200 [7]
Group 13C	–	11,3	–	49	–	IP 65 (with connector) [5]	-25 … +60 Fluid: max. 80	DIN EN 175301-803 Form A [6]	3204 [7]
									
Group 13C	8,9	–	369	–	II2G [2]	Ex e mb IIC T4/T5 Gb	T5: -40 … +55	M20 x 1,5 [6]	4220 [8]
Group 13C					II2D	Ex tb IIIC T 130°C Db IP66 [2] [10]	T4: -40 … +65	M20 x 1,5 [6]	4220 [8]

Model	Power consumption		Voltage		Protection category	Protection class	Temperatures °C ambient/fluid	Electrical connection	Solenoid code
	24 V d.c. (W)	230 V a.c. (VA)	24 V d.c. (mA)	230 V a.c. (mA)					
									
Group 13D	16,9	–	703	–	–	IP 65 (with connector) [5]	-25 … +60 Fluid: max. 80	DIN EN 175301-803 Form A [6]	0700 [7]
Group 13D	–	19,5	–	75	–	IP 65 (with connector) [5]	-25 … +60 Fluid: max. 80	DIN EN 175301-803 Form A [6]	3703 [7]
									
Group 13D	11,4	–	475	–	II2G	Ex e mb IIC T4/T5 Gb [2] [10]	T5: -40 … +40	M20 x 1,5 [6]	4230 [8]
Group 13D					II2D	Ex tb IIIC T 130°C Db IP66	T5: -40 … +50	M20 x 1,5 [6]	4230 [8]

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SOLENOID OPERATORS
95000 & 96000 Poppet Valves

Model	Power consumption		Voltage		Protection category	Protection class	Temperatures °C ambient/fluid	Electrical connection	Solenoid code
	24 V d.c. (W)	230 V a.c. (VA)	24 V d.c. (mA)	230 V a.c. (mA)					
									
Group 16C	6,8	–	284	–	–	IP 65 (with connector) [5]	-25 … +60 Fluid: max. 80	DIN EN 175301-803 Form A [6]	0827 [7]
Group 16C	–	10,6	–	46	–	IP 65 (with connector) [5]	-25 … +60 Fluid: max. 80	DIN EN 175301-803 Form A [6]	3805 [7]

Model	Power consumption		Voltage		Protection category	Protection class	Temperatures °C ambient/fluid	Electrical connection	Solenoid code
	24 V d.c. (W)	230 V a.c. (VA)	24 V d.c. (mA)	230 V a.c. (mA)					
									
Group 16D	16,9	–	703	–	–	IP00 without plug [5] IP65 with plug [5]	-25 … +60	DIN EN 175301-803 Form A [6]	0800 [7]
Group 16D	–	17,3	–	75	–	IP00 without plug [5] IP65 with plug [5]	-25 … +60	DIN EN 175301-803 Form A [6]	3803 [7]

Standard voltages 24 V d.c., 230 V a.c. Other voltages on request.
Design acc. to VDE 0580, EN 50014/50028. 100% duty cycle.
2) Category II 2 GD, EC-Type Examination Certificate KEMA 98 ATEX 4452 X.
5) Required connector type 0570275.
6) Connector/cable gland not supplied, see 'Accessories' table.
7) Suitable for outdoor installation only if equipped with a special protection (e.g. cubicle installation).
8) This solenoid has a fuse with an appropriate rating.
10) IEC Ex Certificate of Conformity IEC Ex KEM 09.0068.

Accessories

Cable glands Protection class EEx e, EEx d (ATEX), Ms nickel plated brass	Connectors
	
EEx e 0588819000000000 (for solenoid 42xx /46xx M20 x 1,5)	0570275000000000

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DIRECT SOLENOID ACTUATED POPPET VALVES

24011 5 mm orifice (ND) 3/2, Universal, G1/4, 1/4 NPT, flange with NAMUR interface

- Main application: single operated process actuators
- TÜV-approval based on IEC 61 508, DIN V 19 251. Approvals: DIN EN 161/3394 DVGW, group Rm and EN 13611
- Standard NAMUR type manifold system for easy assembly
- Rest position in the event of power failure provided by mechanical return spring
- Solenoids include ATEX versions
- Suitable for outdoor use under critical environment conditions (see solenoid list)

Technical Data

Medium:
Neutral or aggressive gaseous or liquid fluids. Fluid viscosity up to 40 centistokes.
Compressed air, filtered, non-lubricated and dry.

Flow:
340 l/min

Flow direction:
Optional

Mounting position:
Optional, preferably vertical

Media temperature:
-25°C … +80°C NBR,
-10°C … +120°C FPM
water up to +95°C,
-40°C … +60°C VMQ

For temperatures below 0°C use conditioned dry air. If installed outdoors protect all connections against the penetration of moisture.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Valve body, trim, coil housing and top cover:
stainless steel 1.4404 (316 L)

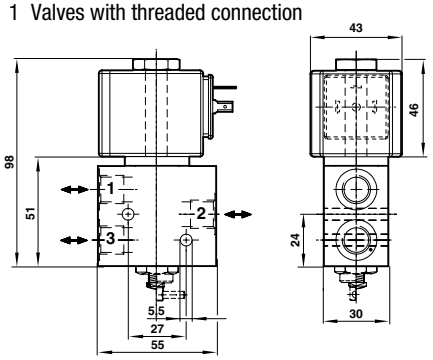
O-rings seats & seals:
high NBR

Body:
Aluminium anodized (suitable for high humidity, sulphuric, sodium chloride or ammonia environments), brass 2.0401 (Ms 58) or stainless steel 1.4404 (316 L)

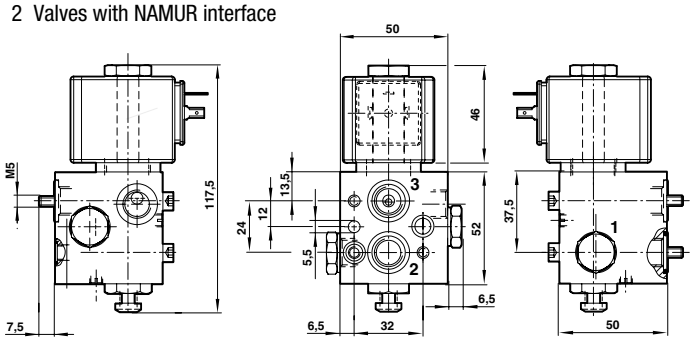


Dimensions

1 Valves with threaded connection



2 Valves with NAMUR interface



Models – Valves with threaded connection – Brass valves

Model	Voltage	Port size	Operating pressure (bar)	Materials seat seal	Manual override	Solenoid group	Dimension No.	Test certificate IEC 61 508
								
2401103080002400	24 V d.c.	G1/4	0 … 10	NBR	–	A	1	•
2401103380323050	230 V a.c.							
2401103426002400	24 V d.c.	G1/4	0 … 10	NBR	–	B	1	•
2401103426123050	230 V a.c.							
2401103466002400	24 V d.c.	G1/4	0 … 10	NBR	–	B	1	•
2401126080002400	24 V d.c.	G1/4	0 … 10	FPM	–	A	1	•
2401126380323050	230 V a.c.							
2401126426002400	24 V d.c.	G1/4	0 … 10	FPM	–	B	1	•

Models – Valves with threaded connection – Stainless steel valves (1,4404/316l) for aggressive environment

Model	Voltage	Port size	Operating pressure (bar)	Materials seat seal	Manual override	Solenoid group	Dimension No.	Test certificate IEC 61 508
2401147080002400	24 V d.c.	1/4 NPT	0 … 10	FKM	–	A	1	
2401147380323050	230 V a.c.							

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DIRECT SOLENOID ACTUATED POPPET VALVES

24011 5 mm orifice (ND) 3/2, Universal, G1/4, 1/4 NPT, flange with NAMUR interface

Models – Valves with namur interface – Aluminium valves anodized

Model	Voltage	Port size	Operating pressure (bar)	Materials seat seal	Manual override	Solenoid group	Dimension No.	Test certificate IEC 61 508**
2401109080002400	24 V d.c.	G1/4	0 … 10	NBR	Add-on	A	2	•
2401109380323050	230 V a.c.							
2401109426002400	24 V d.c.	G1/4	0 … 10	NBR	Add-on	B	2	•
2401109426123050	230 V a.c.							

** Certificate not included with valve and should be ordered separately- part number 0695241000000000
Approval S 137/01, SIL 4 for low demand mode, SIL 3 for high demand mode, Approval S 83/96, AK 7 (request from manufacturer)
Particulary for valves with TÜV approval and installation in plants, based on safety standards DIN V 19250, IEC 61511, taking into account Maintenance instruction document 7503444.
The responsibility for the maintenance and repair of the solenoid valves lies with the users or the supervisory authority for these process systems.

Group A solenoid details

	Power Consumption 24 V d.c. (W)	Power Consumption 230 V a.c. (VA)	Voltage 24 V d.c. (mA)	Voltage 230 V a.c. (mA)	Protection category	Protection class	Temperatures °C ambient/fluid	Electrical connection	Solenoid code
									
	16,9	–	703	–	–	IP00 without plug [5] IP65 with plug [5]	-25 … +60	DIN EN175301-803 Form A [6]	0800 [7]
	–	19,5	–	75	–	IP00 without plug [5] IP65 with plug [5]	-25 … +60	DIN EN175301-803 Form A [6]	3803 [7]

Group B solenoid details

	Power Consumption 24 V d.c. (W)	Power Consumption 230 V a.c. (VA)	Voltage 24 V d.c. (mA)	Voltage 230 V a.c. (mA)	Protection category	Protection class	Temperatures °C ambient/fluid	Electrical connection	Solenoid code
									
	3,9	–	162	–	II2G II2D	Ex e mb IIC T4/T6 Gb Ex tb IIIC T 130°C Db IP66 [*2), *10)]	T4: -40 … +80 T6: -40 … +55	M20 x 1,5 [6]	4260 [8]
	–	5,3	–	23	II2G II2D	Ex e mb IIC T4/T6 Gb Ex tb IIIC T 130°C Db IP66 [*2), *10)]	T4: -40 … +80 T6: -40 … +55	M20 x 1,5 [6]	4261 [8]
	3,9	–	162	–	II2G II2D	Ex d mb IIC T4/T6 Gb Ex e mb IIC T4/T6 Gb Ex tb IIIC T130°C Db [*3)]	T4: -40 … +80 T6: -40 … +55	1/2 NPT [6]	4660 [8]

Standard voltages 24 V d.c., 230 V a.c. Other voltages on request. Design acc. to VDE 0580, EN 50014/50028. 100% duty cycle.
2) Category II 2 GD, EC-Type Examination Certificate KEMA 98 ATEX 4452 X.
3) Category II 2 GD, EC-Type Examination Certificate PTB 02 ATEX 2085 X.
5) Required connector for d.c. type 0570275. Connector with rectifier for a.c. or universal current: type 0663303.
6) Connector/cable gland not supplied, see 'Accessories' table.
7) Suitable for outdoor installation only if equipped with a special protection (e.g. cubicle installation).
8) This solenoid has a fuse with an appropriate rating.
10) IEC Ex Certificate of Conformity IEC Ex KEM 09.0068.

Accessories

Cable glands Protection class EEx e, EEx d (ATEX), Ms nickel plated brass	Connectors d.c.	Connectors a.c.	Silencer
			
EEx e 0588819000000000 (for solenoid 42xx /46xx M20 x 1,5)	0570275000000000	0663303000000000 with rectifier	M/S2 (G1/8)*
EEx e 0588925000000000 (for solenoid 42xx / 46xx 1/2" NPT)			

* For indoor use.

Options

- Push only manual overide
- Semi automatic manual overide
- Turm & lock maual overide
- Additional ATEX coils
- IECEx approved coils

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- Regulator Cv range: 0.08 - 83

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IN-LINE FLOW REGULATORS (BLOCK FORM)

C00GE and C00GP Uni-directional – Ø 4 … 12

- High flow performance
- In-line or panel mounting
- Adjustment can be locked
- Captive regulator needle will not blow out when unscrewed
- Nickel plated brass components provide corrosion and contamination resistance and an extended life

Technical Data

Medium:
Compressed air, filtered, lubricated and non-lubricated

Operating pressure:
10 bar max.

Ambient temperature:
0°C … +60°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Tube sizes:
4 … 12 mm

Tubing types:
Nylon 11 or 12, Polyurethane 85, 95 or 98 durometer

Materials

Body:
PBT

Seals:
NBR (silicone free) u-packing and O-rings

Threaded bodies:
Nickel plated brass

Release sleeve and backing ring:
POM

Grab-ring:
Stainless steel

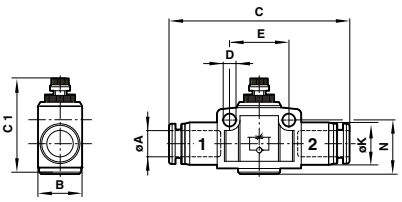
Collar:
Nickel plated brass

EXPRESS



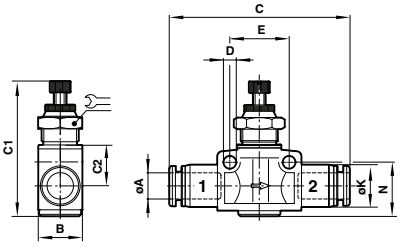
Models – In-line flow control

Model	ØA	B	C	C1 min.	C1 max.	D	E	ØK	N
C00GE0400	4	12	45	30	33	3,3	15	11	13,5
C00GE0600	6	16	50	35	39,5	4,4	20,5	13	17,5
C00GE0800	8	19	55,5	37,5	42	4,4	23	15	20
C00GE1000	10	23	61	44	49	4,4	28	17,5	23
C00GE1200	12	26,5	70	47,5	53,5	4,4	32	20,5	25,5



Models – In-line and panel mounting flow control

Model	ØA	B	C	C1 min.	C1 max.	C2	D	E	ØK	N		Panel hole	Panel thickness
C00GP0400	4	12	42	35,5	38	5,5	3,2	15,5	11	13,5	12	11	5
C00GP0600	6	16	49,5	43	48,5	8	4,3	20,5	13	17,5	17	16	6
C00GP0800	8	19	56,5	47,5	53	8,5	4,3	23	15	20	19	17	6
C00GP1000	10	23	63	53,5	61,5	10,5	4,3	27,5	17,5	23	22	17	7
C00GP1200	12	26,5	73,5	57,5	64,5	12	4,4	32,5	20,5	25,5	24	21	7



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BLOCK FORM FLOW REGULATORS

T1000 and T1100 Uni-directional (T1000) – M5, G1/8 … G1/2 Bi-directional (T1100) – G1/8 … G1/2

- Compact size/low weight/ in-line units
- High flow performance
- Suitable for panel and wall mounting
- Two way flow control (T1100 series)
- Adjustment can be locked
- Captive regulator needle will not blow out when unscrewed
- Adjusting knob position line

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated, inert gases

Operating pressure:
1 … 10 bar (T1000 series G1/8 … G1/2)
0,3 … 10 bar (T1000 series M5)
0 … 10 bar (T1100 series)

Ambient temperature:
-20°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Body:
Aluminium alloy

Seals:
Nitrile

Needle and internal parts:
Brass

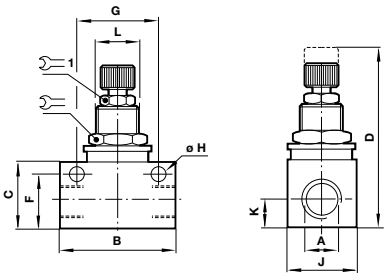
External parts:
Aluminium alloy

EXPRESS



Dimensions

Model	A	B	C	D	F	G	ØH	J	K	L	
T1000M0500	M5	25	15	45	12	18	4,5	12	5,5	M10 x 0,75	12
T1000C1800	G1/8	34	20	51	16,5	24	4,5	16	8	M12 x 1	14
T1000C2800	G1/4	45	25,5	61,5	21	32	4,5	19	9,5	M14 x 1	17
T1000C3800	G3/8	58	32,5	78,5	27	43	4,5	28	13	M20 x 1	24
T1000C4800	G1/2	65	36	82	30,5	50	4,5	30	15	M20 x 1	24
T1100C1800	G1/8	34	20	51	16,5	24	4,5	16	8	M12 x 1	14
T1100C2800	G1/4	45	25,4	61,5	20,8	32	4,5	19	9,5	M12 x 1	17
T1100C4800	G1/2	65	36	82	30,5	50	6,5	30	15	M20 x 1	24



Models

Model	Port size	Max. regulated flow factor		Free flow factor		Opening pressure (bar)	Minimum operating pressure (bar)
		C*	CV	C*	CV		
T1000M0500	M5	0,28	0,07	0,28	0,07	0,3	0,3
T1000C1800	G1/8	0,57	0,14	1,50	0,37	<0,1	1
T1000C2800	G1/4	1,30	0,32	2,80	0,69	<0,1	1
T1000C3800	G3/8	4,80	1,17	6,70	1,64	<0,1	1
T1000C4800	G1/2	7,50	1,84	8,30	2,00	<0,1	1
T1100C1800	G1/8	0,57	0,14	–	–	–	0
T1100C2800	G1/4	1,30	0,32	–	–	–	0
T1100C4800	G1/2	7,50	1,84	–	–	–	0

* C: measured in $dm^3/(s.bar)$.

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HEAVY DUTY FLOW REGULATORS

M/800 In-line Uni-directional – G1/8 … G1

- Line mounted general purpose regulators
- Captive regulating needle will not blow out when unscrewed
- Calibrated adjusting knob, can be locked
- Suitable for wall mounting
- High operating pressure

Technical Data

Medium:
Compressed air, filtered, lubricated and non-lubricated

Operating pressure:
0,3 … 16 bar

Ambient temperature:
-20°C … +80°C
(Alternative models to 150°C)
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

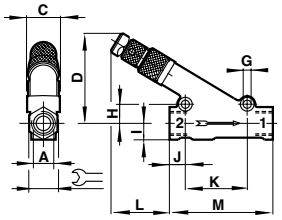
Materials

S/836, M/837, M/839
Body, adjusting knob and locking ring: brass

M/840, M/855
Body, adjusting knob and locking ring: aluminium
Seals: nitrile rubber.



Dimensions



Model	A	D max.	Ø G	H	I	J	K	L	M	
S/836	G1/8	38	5,1	8,5	8	5	24,5	27,5 max.	46	13
M/837	G1/4	37,5	5,2	11	9,5	6	41	25 max.	60	17
M/839	G1/2	80	8,3	17	16	13	57	53 max.	95	28
M/840	G3/4	104	8,3	21,5	17,5	20,5	76	66 max.	118	32
M/855	G1	147	13	26	24	23	90	107 max.	150	48w

Models

BSPP Model	Port size	Max. regulated flow factor		Free flow factor		Spare kit
		C**	CV	C**	CV	
						
S/836	G1/8	0,7	0,17	2,1	0,6	QS/520/00
S/837	G1/4	2	0,49	4,3	1	QS/521/00
S/839	G1/2	12	2,9	17	4,1	QS/522/00
M/840	G3/4	18	4,4	38	9,3	QS/523/00
M/855	G1	36	8,8	45	11	QS/524/00

** C measured in $dm^3/(s.bar)$.

Options

- High temperature version
- Alternative threads

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EXHAUST FLOW REGULATOR/SILENCERS

T20 M5, G1/8 … G1/2

- Compact, integral flow regulator and silencer units
- Captive regulating needle will not blow out when unscrewed
- Reduced dimensions

Technical Data

Medium:
Compressed air, filtered, lubricated and non-lubricated, inert gases

Operating pressure:
1 … 10 bar

Ambient temperature:
-20°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Body and washer:
Nylon

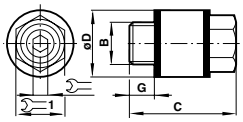
Silencer:
Porous polyethylene

Adjusting screw:
High tensile zinc electroplated steel

EXPRESS



Dimensions



Model	B	C	G	Ø D		1
T20M0500	M5	16	5	-	1,5	8
T20C1800	G1/8	20,5	6	15	2,5	13
T20C2800	G1/4	29	7	18	4	15
T20C3800	G3/8	38	8	24	6	20
T20C4800	G1/2	50	10	30	8	25

Models

Model	Thread	Port size	Max. regulated flow factor C**	CV
				
T20M0500	Metric	M5	0,3	0,07
T20C1800	BSPP	1/8	1,6	0,4
T20C2800	BSPP	1/4	3,2	0,8
T20C3800	BSPP	3/8	6,9	1,7
T20C4800	BSPP	1/2	10	2,4

** C measured in $dm^3/(s.bar)$.

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3/2 POPPET VALVE MANUAL/MECHANICAL

S/1340 G1/4

- Very rugged, heavy duty valves
- Corrosion resistant
- Adjustable lever operators, may be rotated at 90° intervals
- Integral alternative ports

Technical Data

Medium:
Compressed air, filtered, lubricated and non-lubricated

Operation:
Poppet valves, directly actuated

Mounting:
Through-holes in valve body

Port Size:
G1/4

Operating Pressure:
0,7 … 10 bar

Flow:
1300 l/min

Ambient temperature:
+5 … +75°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Body, poppet and lever:
Brass

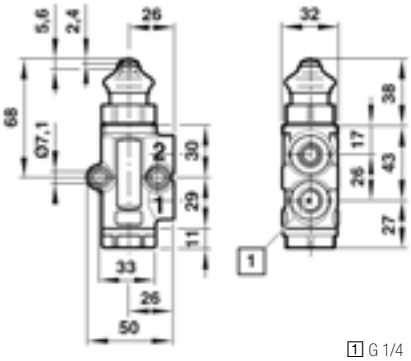
Screws and roller:
Stainless steel

Seals:
NBR



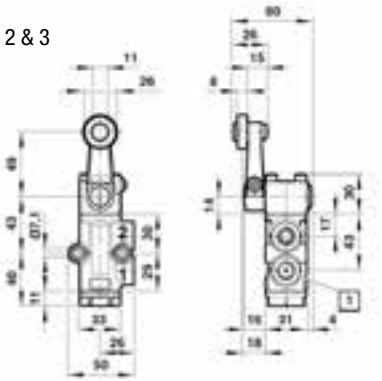
Dimensions

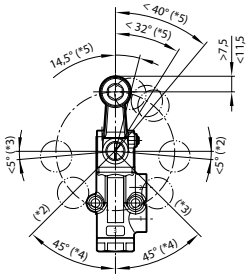
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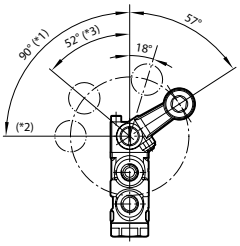


1 G 1/4

2 & 3







Models

Model	Actuation	Dimension No.	Spares kit
S/1340/14	Plunger/Spring	1	QS/1340/6/00
S/1340/8	Roller/Spring	2	QS/1340/6/00
S/1340/48	One-way trip/spring	2	QS/1340/6/00

S/1340/8:

- Pre-travel: 14° maximum, exhaust seat closes
- Operating Travel: 32°/7,5 mm minimum, including pre-travel
- Total movement of valve including over-travel:
- 40°/11,5 mm maximum

Notes:

1. Operating lever must not be set to exceed this position at any time during operation.
2. Maximum rest position of operating lever for valve operating clockwise.
3. Maximum rest position of operating lever for valve operating anti-clockwise.
4. Operating lever must not enter this arc at any time during operation.
5. Valve may be operated either clockwise or anti-clockwise.
6. Operating lever may be positioned at any angle on the operating spindle providing the conditions of operation in notes 1 … 5 are maintained.

Operating mechanism may be rotated through 360° at 90° intervals.

S/1340/48:

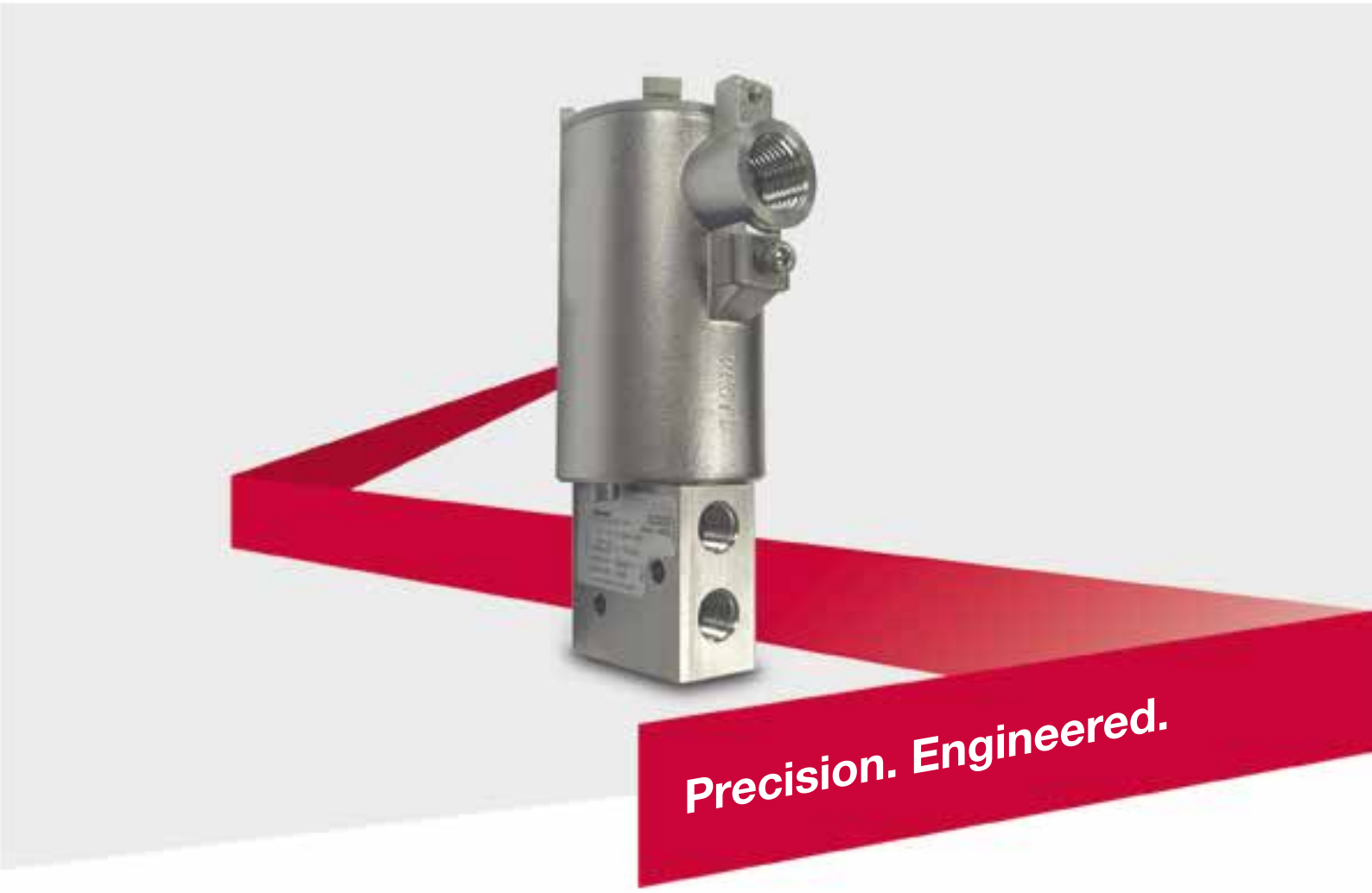
- Pre-travel: 19° maximum, exhaust seat closes
- Operating Travel: 36°/9,5 mm minimum, including pre-travel
- Total movement of valve including over-travel:
- 40°/10,5 mm maximum
- Minimum movement anti-clockwise to trip valve:
- 38° (valve does not operate)

Notes:

1. Operating lever must not be set to exceed this position at any time during movement to operate or to trip valve.
2. Maximum rest position of operating lever if full amount of over-travel is required.
3. Operating lever must not enter this arc at any time during movement to trip valve.
4. Operating lever must not enter this arc at any time during operation.
5. Valve may be operated clockwise, but does not operate anti-clockwise.
6. Operating lever may be positioned at any angle on the operating spindle providing the conditions of operation in notes 1 … 5 are maintained

Operating mechanism may be rotated through 360° at 90° intervals.

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IN-LINE EXCESS FLOW SHUT-OFF VALVES

T60 Air fuses G1/4 … G1 1/2

- Assists in complying with safety regulations
- Tamper proof
- Compact and safe design
- Low pressure drop
- Automatically resets after failure correction
- High corrosion resistance
- High air pressure rating

Technical Data

Medium:
Compressed air, filtered, lubricated and non-lubricated and inert gases

Operating pressure:
Maximum 16 bar, minimum according to hose length

Ambient temperature:
-20°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

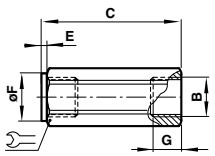
Body:
Aluminium

Internal parts:
Brass

Spring:
Stainless steell



Dimensions



Model	B	C	E	Ø F	G	
T60C2890	G1/4	51	3	21	11	21
T60C2891	G1/4	51	3	21	11	21
T60C3890	G3/8	62	5	24	14	24
T60C3891	G3/8	62	5	24	14	24
T60C4890	G1/2	78	5	32	15	32
T60C4891	G1/2	78	5	32	15	32
T60C6890	G3/4	90	5	32	19	32
T60C6891	G3/4	90	5	32	19	32
T60C8890	G1	118	5	51	25,5	51
T60C8891	G1	118	5	51	25,5	51
T60CB890	G1 1/2	145	5	64	25,5	64
T60CB891	G1 1/2	145	5	64	25,5	64

Models

Model	Port size BSPP	Drop pressure at shut off flow (bar)	Shut off flow rate at 7 bar (dm³/s) ±10%	Flow at 7 bar Δ P 0,07 bar (dm³/s)
T60C2890	1/4	0,14	8,3	6,5
T60C2891	1/4	0,3	14	6,5
T60C3890	3/8	0,14	19,4	13,5
T60C3891	3/8	0,3	32,2	13,5
T60C4890	1/2	0,14	32,2	23,2
T60C4891	1/2	0,3	48,3	23,2
T60C6890	3/4	0,14	48,3	43
T60C6891	3/4	0,3	80	43
T60C8890	1	0,14	92	68
T60C8891	1	0,3	128	68
T60CB890	1 1/2	0,14	186	145
T60CB891	1 1/2	0,3	268	145

Flow and pressure test conducted according to ISO 6358 test circuit. Mean measured flow values are provided at standard reference conditions.

NON-RETURN VALVES

T55 In-line G1/8 … G1/2

- Permit free flow of air in one direction only
- Simple, reliable design
- Silicone free
- Low cracking pressure

Technical Data

Medium:
Compressed air, filtered, lubricated and non-lubricated

Operating pressure:
0,1 … 10 bar

Ambient temperature:
-20°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Body:
Aluminium

O-ring:
Nitrile rubber

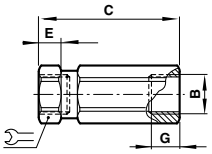
Valve:
POM

Spring:
Stainless steel

EXPRESS



Dimensions



Model	B	C	E	G	⌲
T55C1800	G1/8	42,5	7	7	14
T55C2800	G1/4	54	8	10	17
T55C3800	G3/8	63	9	13,5	24
T55C4800	G1/2	77	12	13,5	27

Models

BSPP	Port size	Flow factor C*	CV
T55C1800	1/8	2,4	0,59
T55C2800	1/4	5,5	1,35
T55C3800	3/8	9,0	2,20
T55C4800	1/2	15,0	3,70

*C: measured in $dm^3/(s.bar)$.

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NON-RETURN VALVE

C00GL, C01G2, C02G2, C01G3, C02G3 Ø 4 … 12, M5, G1/8 … G1/2, R1/8 … R1/4

- High flow performance
- Nickel plated brass components provide corrosion and contamination resistance and an extended life (C01G2, C02G2, C01G3, C02G3)
- Pre applied thread sealant on all taper threads and recessed captive O-ring on parallel threads provides optimum rapid sealing (C01G2, C02G2, C01G3, C02G3)

Technical Data

Medium:
Compressed air, filtered, lubricated and non-lubricated

Operating pressure:
10 bar max.

Ambient temperature:
0°C … +60°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Tube sizes:
4 … 12 mm

Thread options (C01G2, C02G2, C01G3, C02G3):
M5, 1/8, 1/4, 3/8 and 1/2
ISO G and ISO R

Tubing types:
Nylon 11 or 12
Polyurethane 85, 95 or 98 durometer

Materials

Tube to tube bodies:
Ø4 … Ø8: PBT
Ø10 … Ø12: Aluminium

Threaded bodies:
Nickel plated brass

Seals:
NBR (silicone free) u-packing and O-rings

Release sleeve and backing ring:
POM

Grab-ring:
Stainless steel

Collar:
Nickel plated brass

Thread sealant:
Threebond 2350BI



Models - taper thread

Model Non-return (in)	Model Non-return (out)	O/D Tube	Thread
			
C01G20418	C01G30418	4	R1/8
C01G20618	C01G30618	6	R1/8
C01G20828	C01G30828	8	R1/4

Models - tube to tube

Model	Model	O/D Tube
		
C00GL0400	–	4
C00GL0600	–	6
C00GL0800	–	8
–	C00GL1000	10
–	C00GL1200	12

Models - parallel thread

Model Non-return (in)	Model Non-return (out)	O/D Tube	Thread
			
C02G20405	C02G30405	4	M5
C02G20418	C02G30418	4	G1/8
C02G20618	C02G30618	6	G1/8
C02G20828	C02G30828	8	G1/4
C02G21038	C02G31038	10	G3/8
C02G21248	C02G31248	12	G1/2

NON-RETURN VALVES

T50P Ø 4 … 12mm PIF

- Allow free flow in one direction only
- Simple reliable design
- Low weight
- Low cracking pressure
- High operating pressure

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated, vacuum

Operation:
Non-return valve

Operating pressure:
-0,9 … 16 bar (-13 … 232 psi)

Cracking pressure:
0,03 … 0,05 bar (0,4 … 0,7 psi)

O/D tube:
Ø 4, 6, 8, 10, 12 mm

Ambient temperature:
-20°C … +80°C max.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Tubing types:
PA 11 or 12, PUR and other plasticised or unplasticised tubing which conforms to the tolerances specified in BS 5409, Part 1, 1976, light and normal duty, DIN 73378, DIN 74234, NFE 49-100

Materials

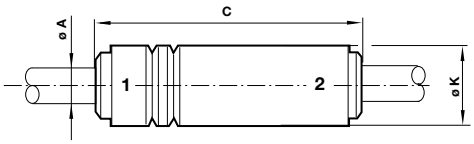
Body:
Aluminium

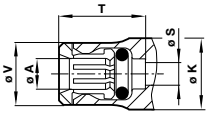
Grab ring:
Nickel plated brass

'O'-ring:
NBR



Dimensions





T50P

Model	Ø A	C	Ø K
T50P0004	4	49	11
T50P0006	6	56,5	13
T50P0008	8	61	15
T50P0010	10	77,5	20
T50P0012	12	88,5	22

*1) Dimensions here and in the individual tables refer to the collet being in the 'IN' position.

Collet

Ø A O/D tube	Ø S	Ø T *1)	V	Ø K
4	2,8	14	7,5	10
5	3,4	15	10	11
6	4,4	15,5	11	12
8	6	16,5	13	14
10	7,6	21	14,5	17
12	9,6	24,5	18	20,5

Models

Model	Ø Tube (mm)	Flow factor C *1)	b *2)	Cv	Flow at 6 » 5 bar (dm^3/min)
T50P0004	4	0,4	0,23	0,1	96
T50P0006	6	1,45	0,36	0,36	349
T50P0008	8	2,9	0,3	0,7	699
T50P0010	10	5,1	0,35	1,25	1229
T50P0012	12	8,4	0,42	2,1	2024

*1) Measured in dm^3/(s.bar).
*2) b = critical pressure ratio.

Online at store.norgren.com

HEAVY DUTY NON-RETURN VALVE

S/520 G1/8 … G1

- Allows free flow in one direction only
- Simple reliable design
- High operating pressure and temperature
- Spares kit available

Technical Data

Medium:
Compressed air, filtered, lubricated and non-lubricated

Operation:
Heavy duty non-return valves

Operating pressure:
0,3 … 16 bar

Cracking pressure:
< 0,1 bar (1 psi)

Port sizes:
G1/8 … G1

Mounting:
Line mounted

Ambient temperature:
Standard
-20°C … +80°C max.
For high temperature applictions +150°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

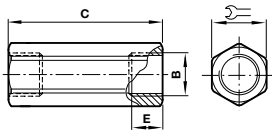
Body:
Brass

Valve:
Aluminium

Seals:
NBR
Note: FPM Seals for high temperature version



Dimensions



Model	B	C	B	E	
S/520	G1/8	43	1/8	10	14
S/521	G1/4	48	1/4	11	19
S/532	G3/8	62	3/8	13	22
S/522	G1/2	76	1/2	17	27
S/523	G3/4	92	3/4	18	36
S/524	G1	124	1	25	49

Models

Model	Port size	Flow factor C *1)	CV	Service kit
S/520	G1/8	2,4	0,6	QS/520/00
S/521	G1/4	4,3	1	QS/521/00
S/532	G3/8	10,5	2,6	QS/532/00
S/522	G1/2	17	4,2	QS/522/00
S/523	G3/4	42	10,3	QS/523/00
S/524	G1	55,5	13,6	QS/524/00

**1) Measured in $dm^3/(s.bar)$ *2) Measured in m^3/h.

Options

- Alternative threads
- High temperature versions

SHUTTLE VALVE

T65 G1/8 & G1/4

- Allow two independent signal sources to be connected to a common pilot line
- Can be used to perform an 'OR' logic function
- Can be combined to operate from three or more sources
- Valves can be ganged together

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated, inert gas

Operation:
Shuttle valve ('OR' logic function)

Operating pressure:
0,7 … 10 bar

Port size:
G 1/8, G 1/4

Mounting:
Line mounted

Ambient temperature:
-20°C … +80°C max.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Body:
Zinc alloy

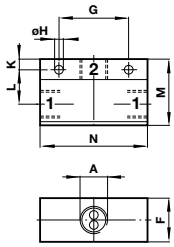
Ball:
NBR

Valve seat:
Brass

EXPRESS



Dimensions



Model	Port size	Flow factor C *1)	Cv	Flow at 6 - 1 bar (dm³/min)
T65C1800	G 1/8	1,7	0,42	412
T65C2800	G 1/4	2,6	0,64	631

*1) Measured in dm³/(s.bar).

Models

Model	A	F	Ø H	K	L	M	N
T65C1800	G1/8	15	5,25	6	10	25	36
T65C2800	G1/4	20	5,25	8	12	30	50

Online at store.norgren.com

BLOCKING VALVE

102GA, 102GH 4 … 10 mm, G1/8 … G1/2

- Very compact units
- Positive tube anchorage
- Safer pneumatic systems

Technical Data

Medium:
Compressed air

Operating pressure:
1 … 10 bar

Tube size:
4, 6, 8, 10 mm

Tube types:
PA 11 or 12, PU and other plasticised or unplasticised tubing

Ambient temperature:
-20°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Body and banjo bolt:
Nickel plated brass

Washer:
NBR and PUR



Models – Push-in and thread ports

Model	Port size 1 (mm)	Port size 2	Pilot port	Pilot pressure (bar)
102GA0418	4	G1/8	M5	2,5
102GA0618	6	G1/8	M5	2,5
102GA0628	6	G1/4	M5	2,5
102GA0828	8	G1/4	M5	2,5
102GA0838	8	G3/8	M5	3
102GA1038	10	G3/8	M5	3
102GA1248	12	G1/2	M5	2,5

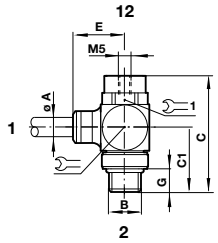
Models – Thread ports only

Model	Port size 1	Port size 2	Pilot port	Pilot pressure (bar)
102GA1818	G1/8	G1/8	M5	2,5
102GA1828	G1/8	G1/4	M5	2,5
102GA2828	G1/4	G1/4	M5	2,5
102GA3838	G3/8	G3/8	M5	3
102GA4848	G1/2	G1/2	M5	2,5
102GH2828X2	G1/4	G1/4	G1/8	2,5
102GH3838X2	G3/8	G3/8	G1/8	3
102GH4848X2	G1/2	G1/2	G1/8	2,5

BLOCKING VALVE
102GA, 102GH 4 … 10 mm, G1/8 … G1/2

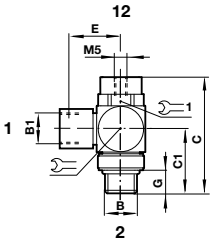
Dimensions

Push-in fitting x BSPP thread



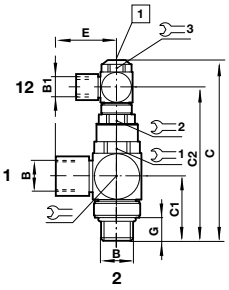
Model	Ø A	B	C	C1	E	G		1
102GA0418	4	G1/8	41	20	22	6	13	16
102GA0618	6	G1/8	41	20	23	6	13	16
102GA0628	6	G1/4	48	26	25	10,5	17	20
102GA0828	8	G1/4	48	26	26	10,5	17	20
102GA0838	8	G3/8	55	29	28	10,8	22	24
102GA1038	10	G3/8	55	29	32,5	10,8	22	24
102GA1248	12	G1/2	65,5	36	39,5	12,8	27	30

BSPP thread x BSPP thread



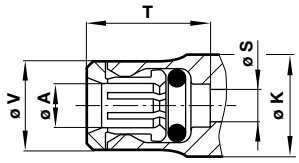
Model	Ø A	B / B1	C	C1	E	G		1
102GA0418	4	G1/8	41	20	22	6	13	16
102GA0618	6	G1/8	41	20	23	6	13	16
102GA0628	6	G1/4	48	26	25	10,5	17	20
102GA0828	8	G1/4	48	26	26	10,5	17	20
102GA0838	8	G3/8	55	29	28	10,8	22	24
102GA1038	10	G3/8	55	29	32,5	10,8	22	24
102GA1248	12	G1/2	65,5	36	39,5	12,8	27	30

BSPP thread x BSPP thread and manual override



Model	B	B1	C	C1	C2	E	G	+1	2+3
102GH2828X2	G1/4	G1/8	80	26	64,5	24,5	10,5	20 / 17	13 / 13
102GH3838X2	G3/8	G1/8	87	29	74,5	27	10,5	24 / 22	17 / 13
102GH4848X2	G1/2	G1/8	97	36	84,5	34	12,5	30 / 27	17 / 13

Collet



Ø A O/D tube	Ø S	Ø T *1)	V	Ø K
4	2,8	14	7,5	10
6	4,4	15,5	11	12
8	6	16,5	13	14
10	7,6	21	14,5	17
12	9,6	24,5	18	20,5

*1) Dimensions here and in the individual tables refer to the collet being in the 'IN' position.

Online at store.norgren.com

PRESSURE REDUCING VALVE

102GB 4 … 10 mm, G1/8 … G1/2

- Compact units
- System running cost savings by optimising cylinder pressure
- Designed for mounting on valves
- Push-in or threaded ports available
- Relief feature to protect against over pressure

Technical Data

Medium:
Compressed air, filtered, lubricated and non-lubricated

Operating pressure:
Primary pressure 1 … 10 bar max.
Secondary pressure 1 … 8 bar max.

Ambient temperature:
-20°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

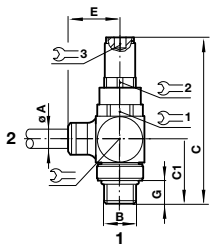
Body and banjo bolt:
Nickel plated brass

Washer:
NBR and PU



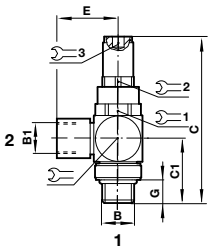
Dimensions

Push-in fitting x BSPP thread



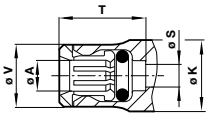
Model	Ø A	B	C	C1	E	G	+1	2+3
102GB0418	4	G1/8	73	20	22	6	13 / 16	11 / 5
102GB0628	6	G1/4	81	26	25	10,5	17 / 20	13 / 5
102GB0828	8	G1/4	81	26	26	10,5	17 / 20	13 / 5
102GB0838	8	G3/8	86	29	28	10,8	22 / 24	17 / 6
102GB1038	10	G3/8	86	29	32,5	10,8	22 / 24	17 / 6

BSPP thread x BSPP thread



Model	B	B1	C	C1	E	G	+1	2+3
102GB1818	G1/8	G1/8	73	20	17,5	6	13 / 16	11 / 5
102GB2828	G1/4	G1/4	81	26	24,5	10,5	17 / 20	13 / 5
102GB4848	G1/2	G1/2	89	36	34	12,5	22 / 24	17 / 6

Collet



Ø A O/D tube	Ø S	Ø T *1)	V	Ø K
4	2,8	14	7,5	10
6	4,4	15,5	11	12
8	6	16,5	13	14
10	7,6	21	14,5	17

Models – Push-in fitting on port 1

Model	O/D tube 1 (mm)	Port size 2
102GB0418	4	G1/8
102GB0628	6	G1/4
102GB0828	8	G1/4
102GB0838	8	G3/8
102GB1038	10	G3/8

Models – Thread on port 1

Model	Port size 1	Port size 2
102GB1818	G1/8	G1/8
102GB2828	G1/4	G1/4
102GB4848	G1/2	G1/2

Online at **store.norgren.com**

PRESSURE SENSOR VALVE

102GD Ø 4 mm, G1/8 & G1/4

- Very compact units
- Easy tube insertion for rapid assembly of pneumatic circuits
- Positive tube anchorage
- Simpler pneumatic systems
- Eliminates need for electrical reed switches

Technical Data

Medium:
Compressed air, filtered, lubricated and non-lubricated

Operating pressure:
10 bar max.(cylinder pressure)
3 … 10 bar (sensor supply pressure)

Tube types:
Nylon 11 or 12, polyurethane and other plasticised or unplasticised tubing

Ambient temperature:
-20°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

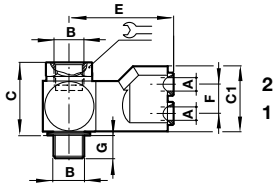
Body:
PA

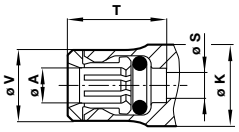
Banjo bolt:
Nickel plated brass

Washer:
NBR and PU



Dimensions





102GD

Model	ø A	B	C	C1	E	F	G	
102GD0418	4	G1/8	25	21	45,2	9,5	5,5	15
102GD0428	4	G1/4	29	21	47,2	9,5	6,5	19

Collet

Ø A O/D tube	Ø S	Ø T *1)	V	Ø K
4	2,8	14	7,5	10

*1) Dimensions here and in the individual tables refer to the collet being in the 'IN' position.

Models

Model	O/D tube 1 (mm)	Port size 2
102GD0418	4	G1/8
102GD0428	4	G1/4

Online at store.norgren.com

QUICK EXHAUST VALVES

T70, S/511, S/513, S/514 G1/8 … G1/2

- Enables air to be exhausted quickly from air reservoirs and cylinders
- Allows higher cylinder speeds to be achieved
- Simple, compact design and construction
- Very reliable in operation

Technical Data

Medium:
Compressed air, filtered, lubricated and non-lubricated

Operating pressure:
0,5 … 10 bar (T70)
0,7 … 10 bar (S/511)
0,7 … 7 bar (S/513, S/514)

Ambient temperature:
-20°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Body & cover:
Zinc alloy (T70*1800 & T70*2800, S/513), aluminium alloy (T70*3800 & T70*4800, S/511, S/514)

Seals:
Nitrile (T70), polyurethane (S/51*)

O-ring:
Nitrile

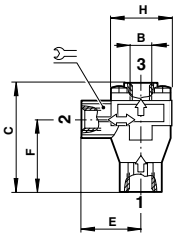
Element:
Porous plastic (S/513, S/514)

EXPRESS

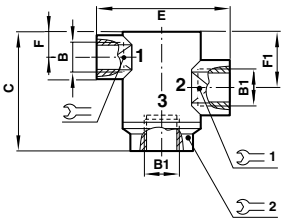


Dimensions

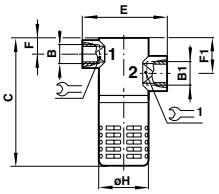
T70



S/511



S/513, S/514



Model - T70	B	C	E	F	
T70C1800	G1/8	53	28	35,5	19
T70C2800	G1/4	53	28	35,5	19
T70C3800	G3/8	73,5	40	48	30
T70C4800	G1/2	73,5	40	48	30

Model - S/511	B	B1	C	E	F	F1		1	2
S/511	G1/2	G3/4	86	100	17	48	30	36	32

Model - S/513, S/514	B	B1	C	E	F	F1	Ø H	1
S/513	G1/4	G3/8	86,5	58	10	23	34	21 / 23
S/514	G1/2	G3/4	134	100	17	48	47,5	30 / 36

Models



Model	Port size BSPP	Flow (1 … 2)** C*	Cv	Flow (2 … 3)** C*	Cv	Service kit
T70C1800	G1/8	3,8	0,93	7	1,72	T70C1800K00
T70C2800	G1/4	7,4	1,8	9,7	2,38	T70C2800K00
T70C3800	G3/8	14,5	3,55	20,5	5	T70C3800K00
T70C4800	G1/2	19,7	4,83	25	6,13	T70C4800K00
S/511	G1/2	21,6	5,3	39	9,56	QS/511/00
S/513	G1/4	7,6	1,86	13,5	3,3	QS/510/00
S/514	G1/2	21,6	5,3	39	9,56	QS/511/00

* C = dm^3/(s.bar). ** Flow factor measured at 6 bar inlet pressure.

SOLENOID PLUGS AND CABLES

15mm, 22mm & 30mm

EXPRESS

15mm plugs according to DIN EN175301-803 form C

Connector	Model	Connector type	Cable length	Voltage a.c.	Voltage d.c.	Features	Suppression	Protection class	Gland size	Power consumption
Plug with moulded cable 	V10013-D01	DIN EN175301-803	1000 mm	–	–	–	–	IP 65	Pg 7	–
	V10013-D03	DIN EN175301-803	3000 mm	–	–	–	–	IP 65	Pg 7	–
Plug with cable gland 	V10027-D00	DIN EN175301-803	–	–	–	–	–	IP 65	Pg 7	–
	0588666000000000	DIN EN175301-803	–	–	–	–	–	IP 65	Pg 7	–
Indicator plug 	V10012-D13	DIN EN175301-803	–	12 … 24 V	12 … 24 V	LED,VDR	•	IP 65	Pg 7	0,25W
	V10012-D18	DIN EN175301-803	–	110 V	110 V	LED,VDR	•	IP 65	Pg 7	0,25W
	V10012-D19	DIN EN175301-803	–	220 V	220 V	LED,VDR	•	IP 65	Pg 7	0,25W
Indicator plug with moulded cable 	V10014-D01	DIN EN175301-803	1000 mm	24 V	24 V	LED,VDR	•	IP 65	Pg 7	0,25W
	V10014-D03	DIN EN175301-803	3000 mm	24 V	24 V	LED,VDR	•	IP 65	Pg 7	0,25W
	V10015-D01	DIN EN175301-803	1000 mm	110 V	110 V	LED,VDR	•	IP 65	Pg 7	0,25W
	V10015-D03	DIN EN175301-803	3000 mm	110 V	110 V	LED,VDR	•	IP 65	Pg 7	0,25W
	V10016-D01	DIN EN175301-803	1000 mm	220 V	220 V	LED,VDR	•	IP 65	Pg 7	0,25W
	V10016-D03	DIN EN175301-803	3000 mm	220 V	220 V	LED,VDR	•	IP 65	Pg 7	0,25W
Light emitting gasket 	V10037-E13	DIN EN175301-803	–	12 … 24 V	12 … 24 V	Green LED	•	IP 65	Pg 7	0,25W
	V10037-E18	DIN EN175301-803	–	110 … 120 V	110 … 120 V	Green LED	•	IP 65	Pg 7	1W
	V10037-E19	DIN EN175301-803	–	220 … 240 V	220 … 240 V	Green LED	•	IP 65	Pg 7	1W

22mm plugs according to Industrial standard or DIN EN175301-803 form B

Connector	Model	Connector type	Cable length	Voltage a.c.	Voltage d.c.	Features	Suppression	Protection class	Gland size	Power consumption
Plug with moulded cable 	M/P43313/1	22mm Industrial std.	1000 mm	–	–	–	–	IP 65	Pg 9	–
	M/P43313/3	22mm Industrial std.	3000 mm	–	–	–	–	IP 65	Pg 9	–
Plug with cable gland 	M/P19063	22mm Industrial std.	–	–	–	–	–	IP 65	Pg 9	–
	0657868000000000	22mm Industrial std.	–	12 … 250 V	12 … 250 V	–	•	IP 65	Pg 9	0,25W
	0680000000000000	22mm Industrial std.	–	–	15 … 30V	Green LED	•	IP 65	Pg 9	1W
	0680001000000000	22mm Industrial std.	–	250 V	–	Green LED	•	IP 65	Pg 9	1W
Indicator plug 	M/P24121/1	22mm Industrial std.	–	12 … 24 V	12 … 24 V	LED,VDR	•	IP 65	Pg 9	0,25W
	M/P24121/2	22mm Industrial std.	–	110 V	110 V	LED,VDR	•	IP 65	Pg 9	0,25W
	M/P24121/3	22mm Industrial std.	–	220 V	220 V	LED,VDR	•	IP 65	Pg 9	0,25W
Indicator plug with moulded cable 	M/P43314/11	22mm Industrial std.	1000 mm	24 V	24 V	LED,VDR	•	IP 65	Pg 9	0,25W
	M/P43314/13	22mm Industrial std.	3000 mm	24 V	24 V	LED,VDR	•	IP 65	Pg 9	0,25W
	M/P43314/21	22mm Industrial std.	1000 mm	110 V	110 V	LED,VDR	•	IP 65	Pg 9	0,25W
	M/P43314/23	22mm Industrial std.	3000 mm	110 V	110 V	LED,VDR	•	IP 65	Pg 9	0,25W
	M/P43314/31	22mm Industrial std.	1000 mm	220 V	220 V	LED,VDR	•	IP 65	Pg 9	0,25W
	M/P43314/33	22mm Industrial std.	3000 mm	220 V	220 V	LED,VDR	•	IP 65	Pg 9	0,25W
Light emitting gasket 	M/P40859	22mm Industrial std.	–	12 … 24 V	12 … 24 V	Green LED	•	IP 65	–	0,25W
	M/P40886	22mm Industrial std.	–	110 … 120 V	110 … 120 V	Green LED	•	IP 65	–	1W
	M/P40860	22mm Industrial std.	–	220 … 240 V	220 … 240 V	Green LED	•	IP 65	–	1W

Online at store.norgren.com

SOLENOID PLUGS AND CABLES

15mm, 22mm & 30mm

EXPRESS

30mm plugs according to DIN EN175301-803 form A

Connector	Model	Connector type	Cable length	Voltage a.c.	Voltage d.c.	Features	Suppression	Protection class	Gland size	Power consumption
Plug with moulded cable 	M/P43315/1	DIN EN175301-803	1000 mm	–	–	–	–	IP 65	Pg 11	–
	M/P43315/3	DIN EN175301-803	3000 mm	–	–	–	–	IP 65	Pg 11	–
Plug with cable gland 	M/P15737	DIN EN175301-803	–	250 V	300 V	–	–	IP 65	Pg 11	–
	M/P19117	DIN EN175301-803	–	–	240 V	–	–	IP 65	Pg 11	–
	0570275000000000	DIN EN175301-803	–	250 V	300 V	–	–	IP 65	Pg 11	–
	0663303000000000	DIN EN175301-803	–	12 … 250 V	12 … 250 V	–	–	IP 65	Pg 11	–
	0570110000000000	DIN EN175301-803	–	12 … 240 V	12 … 240 V	–	–	IP 65	Pg 11	–
Indicator plug 	M/P24120/1	DIN EN175301-803	–	10 … 50 V	10 … 50 V	LED,VDR	•	IP 65	Pg 11	0,25W
	M/P24120/2	DIN EN175301-803	–	70 … 115 V	70 … 115 V	LED,VDR	•	IP 65	Pg 11	0,25W
	M/P24120/3	DIN EN175301-803	–	150 … 240 V	150 … 240 V	LED,VDR	•	IP 65	Pg 11	0,25W
Indicator plug with moulded cable 	M/P43316/11	DIN EN175301-803	1000 mm	24 V	24 V	LED,VDR	•	IP 65	Pg 11	0,25W
	M/P43316/13	DIN EN175301-803	3000 mm	24 V	24 V	LED,VDR	•	IP 65	Pg 11	0,25W
	M/P43316/23	DIN EN175301-803	3000 mm	110 V	110 V	LED,VDR	•	IP 65	Pg 11	0,25W
	M/P43316/31	DIN EN175301-803	1000 mm	220 V	220 V	LED,VDR	•	IP 65	Pg 11	0,25W
	M/P43316/33	DIN EN175301-803	3000 mm	220 V	220 V	LED,VDR	•	IP 65	Pg 11	0,25W
Light emitting gasket 	M/P40861	DIN EN175301-803	–	12 … 24 V	12 … 24 V	Green LED	•	IP 65	Pg 11	0,25W
	M/P40880	DIN EN175301-803	–	110 … 120 V	110 … 120 V	Green LED	•	IP 65	Pg 11	0,25W
	M/P40862	DIN EN175301-803	–	220 … 240 V	220 … 240 V	Green LED	•	IP 65	Pg 11	0,25W

Online at **store.norgren.com**

Pressure Switches

A comprehensive range of Pressure Switches, providing a range of different options for converting pressure changes into an electrical signal. The range includes electromechanical and electronic switches suitable for pneumatic and all fluid applications.



Off line programming

Strong, versatile





Light, compact, easy to use

Fast Find Guide

Please note: These products represent only part of the IMI Precision Engineering pressure switch range. If you can't see the option you require please contact us.

Electro-Mechanical Pressure Switches

18D Pneumatic
-1 … 30 bar



EXPRESS Page 407

18D Hydraulic
5 … 420 bar



Page 408

20D
Low pressure, Allfluid and ATEX
0,5 … 16 bar



Page 409

8D
Pneumatic and Hydraulic
0,2 … 30 bar
5 … 250 bar



Page 410

M/1339
Pneumatic
0 … 10 bar



Page 411

04015600
Pneumatic
0 … 10 bar



Page 412

99D - Mini pressure switch
Electro-mechanical
0 … 10 bar



Page 413

Electronic Pressure Switches

33D Pneumatic/Allfluid
-1 … 400 bar



Page 414

40D Pneumatic
-1 … 25 bar



Page 415

51D Pneumatic
-1 … 10 bar



EXPRESS Page 416

Pressure Sensors

18S Pneumatic
-1 … 25 bar



Page 417

Online at **store.norgren.com**

ELECTRO-MECHANICAL PRESSURE SWITCH

18D Pneumatic -1 … 30 bar

- Gold-plated contacts
- High cycle life
- Vibration resistant to 15 g
- Microswitch approved by UL and CSA
- Intrinsically safe operation

Technical Data

Medium:
For filtered, lubricated or non lubricated compressed air, neutral and incombustible gases

Operation:
Diaphragm

Ambient temperature:
-10°C … +85°C
except for ATEX versions
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Repeatability:
±4%, of full scale

Materials

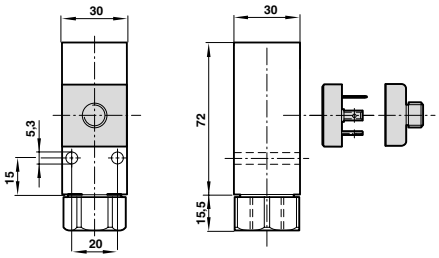
Housing: Aluminium (brass)
Seals: NBR/FPM

EXPRESS





Dimensions



Options

- Other M12 configurations available
- Other flange options available
- NPT connection thread
- Low temperature versions

Models

Accessories

Standard Model	Pressure range (bar)	Fluid connection	Electrical connection	Switching pressure difference (bar)	Max. over pressure (bar)	Plug	Electrical connector M12 x 1 Straight x 2 m long	90° x 2 m long
0880100000000000	-1 … 0	G1/4	DIN EN 175301-803 Form A	0,15 … 0,18	80	–	–	–
0880110000000000	-1 … 1	G1/4	DIN EN 175301-803 Form A	0,25 … 0,35	80	–	–	–
0880200000000000	0,2 … 2	G1/4	DIN EN 175301-803 Form A	0,20 … 0,35	80	–	–	–
0880300000000000	0,5 … 8	G1/4	DIN EN 175301-803 Form A	0,35 … 0,85	80	–	–	–
0880400000000000	1 … 16	G1/4	DIN EN 175301-803 Form A	0,40 … 1,20	80	–	–	–
0880600000000000	1 … 30	G1/4	DIN EN 175301-803 Form A	1,00 … 5,00	80	–	–	–
0880226000000000*	0,2 … 4	G1/4	DIN EN 175301-803 Form A	0,20 … 0,35	80	0570110000000000	–	–
0880326000000000*	0,5 … 8	G1/4	DIN EN 175301-803 Form A	0,35 … 0,85	80	0570110000000000	–	–
0880426000000000*	1 … 16	G1/4	DIN EN 175301-803 Form A	0,40 … 1,20	80	0570110000000000	–	–
0881100000000000	-1 … 0	Flange	DIN EN 175301-803 Form A	0,15 … 0,18	80	–	–	–
0881200000000000	0,2 … 2	Flange	DIN EN 175301-803 Form A	0,20 … 0,35	80	–	–	–
0881300000000000	0,5 … 8	Flange	DIN EN 175301-803 Form A	0,35 … 0,85	80	–	–	–
0881400000000000	1 … 16	Flange	DIN EN 175301-803 Form A	0,40 … 1,20	80	–	–	–
0880160000000000	-1 … 0	G1/4	M12 x 1	0,15 … 0,18	80	–	0523057000000000	0523058000000000
0880260000000000	0,2 … 2	G1/4	M12 x 1	0,20 … 0,35	80	–	0523057000000000	0523058000000000
0880360000000000	0,5 … 8	G1/4	M12 x 1	0,35 … 0,85	80	–	0523057000000000	0523058000000000
0880460000000000	1 … 16	G1/4	M12 x 1	0,40 … 1,20	80	–	0523057000000000	0523058000000000
MODELS FOR WATER APPLICATIONS								
0880323000000000	0,5 … 8	G1/4	DIN EN 175301-803 Form A	0,35 … 0,85	80	0570110000000000	–	–
MODELS CONFORMING TO ATEX – ZONE 2 AND 22 (Ex II 3G/D)								
0880280000000000	0,2 … 2	G1/4	DIN EN 175301-803 Form A	0,20 … 0,35	80	0570110000000000	–	–
0880380000000000	0,5 … 8	G1/4	DIN EN 175301-803 Form A	0,35 … 0,85	80	–	–	–
0880480000000000	1 … 16	G1/4	DIN EN 175301-803 Form A	0,40 … 1,20	80	–	–	–

* Switch is LABS free, plug needs to be ordered separately, all other DIN connector versions include standard connector plug.

ELECTRO-MECHANICAL PRESSURE SWITCH

18D Hydraulic 5 … 420 bar

- Microswitch with gold plated contacts
- High number of switching cycles
- Vibration resistant to 15 g
- Microswitch approved by UL and CSA
- Intrinsically safe operation

Technical Data

Medium:
For neutral, self lubricating fluids, e.g. hydraulic oil, lube oil, light fuel oil

Operation:
Piston type sensor system

Ambient/Media temperature:
-25°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Media viscosity:
Up to 1000 mm²/s

Repeatability:
±4%, of full scale

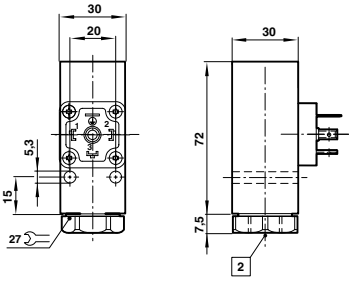
Materials

Body: Aluminium/steel
Seals: PTFE, NBR

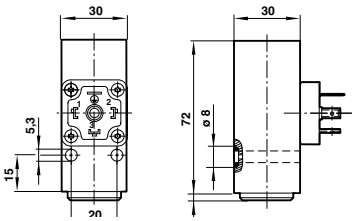


Dimensions

G1/4



Flange



Models

Standard Model	Pressure range (bar)	Fluid connection	Electrical connection	Switching pressure difference (bar)	Max. over pressure (bar)
					
0882100000000000	5 … 70	G1/4	DIN EN 175301-803 Form A	10,5 … 15	400
0882200000000000	10 … 160	G1/4	DIN EN 175301-803 Form A	11 … 17	400
0882300000000000	25 … 250	G1/4	DIN EN 175301-803 Form A	11 … 17	400
0882400000000000	40 … 420	G1/4	DIN EN 175301-803 Form A	17 … 38	600
0883100000000000	5 … 70	Flange	DIN EN 175301-803 Form A	10,5 … 15	400
0883200000000000	10 … 160	Flange	DIN EN 175301-803 Form A	11 … 17	400
0883300000000000	25 … 250	Flange	DIN EN 175301-803 Form A	11 … 17	400
0883400000000000	40 … 420	Flange	DIN EN 175301-803 Form A	17 … 38	600

All versions include standard connector plug.

Accessories

Pressure port reducing nipple	Surge damper	Connector DIN EN 175301-803
		
0574767000000000 (brass)	0574773000000000 (brass)	0570110000000000 (Form A)
0550083000000000 (stainless steel)	0553258000000000 (stainless steel)	

Options

- M12 connections
- NPT thread options
- ATEX options

ELECTRO-MECHANICAL PRESSURE SWITCH

20D Allfluid: 0,5 … 16 bar – ATEX Allfluid: 0,5 … 10 bar – Low Pressure: 0 … 0,25 bar

- High accuracy
- Robust metal housing (Standard and Low pressure)
- Robust metal housing in weather-resisting version (ATEX)

Technical Data

Medium:
For neutral, agressive (Standard only), non-flammable gases and fluids

Operating pressure:
Allfluid: 0,5 … 16 bar
ATEX Allfluid: 0,5 … 10 bar
Low Pressure:-0,025 … 1,6 bar
(Other ranges available, please contact us)

Ambient/Media temperature:
Standard and Low pressure:
Ambient: -25°C … +80°C
Media: -10°C … +100°C
ATEX:
Ambient: -10°C … +75°C
Media: -10°C … +75°C

Materials

Housing: Die cast aluminium
Sensor: Stainless steel

20D Allfluid



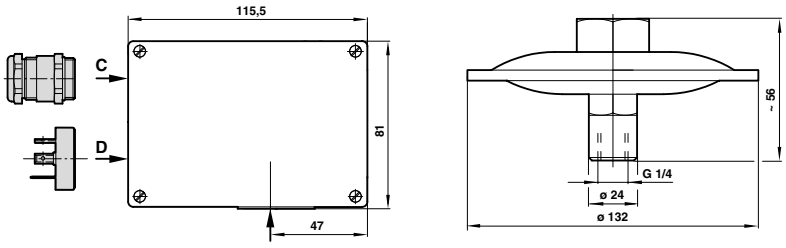
20D ATEX



20D Low pressure



Dimensions



Options

- Other pressure ranges
- Other electrical connections

Models

Accessories

ALLFLUID Model	Pressure range (bar)	Fluid connection	Electrical connection	Switching pressure difference (bar)	Range – Switching pressure difference (bar) Lower	Upper & min.	Upper max.	Max. over pressure (bar)	Plug	Bracket – Steel
										
1801505000000000	0,5 … 6	G1/2	Gland Pg 13,5	Adjustable	0,80	0,90	5,00	20	–	0574772000000000
1801605000000000	0,5 … 10	G1/2	Gland Pg 13,5	Adjustable	0,90	1,90	8,00	20	–	0574772000000000
1801615000000000	0,5 … 10	G1/2	M20 x 1,5	Adjustable	0,90	1,90	8,00	20	–	0574772000000000
1801715000000000	1 … 16	G1/2	M20 x 1,5	Adjustable	1,70	2,00	12,00	50	–	0574772000000000
1811505000000000	0,5 … 6	G1/2	Gland Pg 13,5	Fixed	0,30	0,35	–	20	–	0574772000000000
1811605000000000	0,5 … 10	G1/2	Gland Pg 13,5	Fixed	0,30	0,40	–	20	–	0574772000000000
1811615000000000	0,5 … 10	G1/2	M20 x 1,5	Fixed	0,30	0,40	–	20	–	0574772000000000
1811715000000000	1 … 16	G1/2	M20 x 1,5	Fixed	0,70	0,80	–	50	–	0574772000000000
ATEX ALLFLUID										
1841615000000000	0,5 … 10	G1/2	M20 x 1,5	Fixed	0,70	0,90	–	20	–	0574772000000000
1851615000000000	0,5 … 10	G1/2	M20 x 1,5	Adjustable	0,70	0,90	8,00	20	–	0574772000000000
LOW PRESSURE										
1812500000000000	0 … 0,025	G1/4	DIN EN 175301-803 Form A	Fixed	0,003	0,004	–	0,5	0570110000000000	0574772000000000
1812600000000000	0 … 0,06	G1/4	DIN EN 175301-803 Form A	Fixed	0,004	0,006	–	0,5	0570110000000000	0574772000000000
1812700000000000	0,004 … 0,16	G1/4	DIN EN 175301-803 Form A	Fixed	0,004	0,008	–	0,5	0570110000000000	0574772000000000
1812800000000000	0 … 0,25	G1/4	DIN EN 175301-803 Form A	Fixed	0,004	0,009	–	0,5	0570110000000000	0574772000000000

Note: Other pressure ranges available. Please contact us.

ELECTRO-MECHANICAL PRESSURE SWITCH

8D Pneumatic: 0,2 ... 30 bar - **Hydraulic:** 5 ... 250 bar

- Robust design
- High Accuracy

Technical Data

Medium:
Pneumatic: For neutral, gaseous fluids
Hydraulic: For neutral liquid fluids

Operation:
Diaphragm

Repeatability:
±2% of final value
(depending on regulating pressure)

Media viscosity:
Up to 1000 mm^2/s

Ambient/Media temperature:
Ambient: -10°C ... +80°C
Media: 0°C ... +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

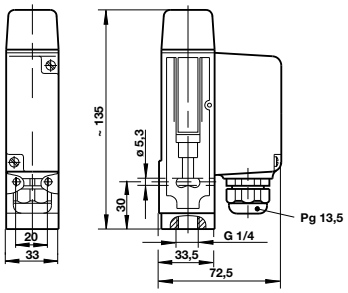
Body:
Aluminium

Seals:
NBR; FPM/PTFE

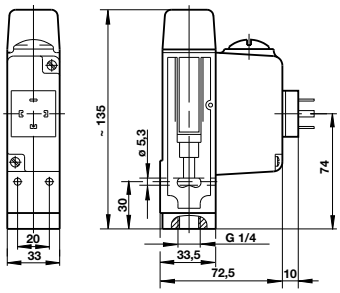


Dimensions

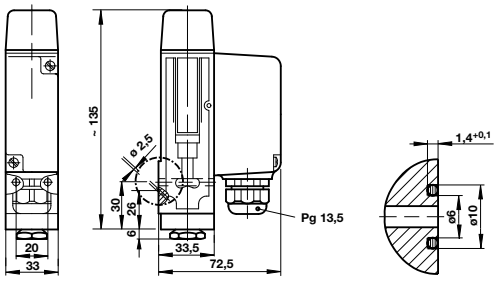
G1/4, cable gland



G1/4, form A



Flange, cable gland



Models

Accessories

Pneumatic switches Model	Pressure range (bar)	Fluid connection	Electrical connection	Adjustment method	Switching pressure difference (bar)	Max. over pressure (bar)	Plug
							
0820150000000000	0,2 ... 12	G1/4	Gland pg 13,5	Allen screw – cover	0,9 ... 1,4	50	–
0820155000000000	0,2 ... 12	G1/4	DIN EN 175301-803 Form A	Allen screw – cover	0,9 ... 1,4	50	0570110000000000
0820750000000000	0,5 ... 30	G1/4	Gland pg 13,5	Allen screw – cover	1,0 ... 2,0	50	–
0820850000000000	0,5 ... 30	Flange	Gland pg 13,5	Allen screw – cover	1,0 ... 2,0	50	–

Hydraulic switches Model	Pressure range (bar)	Fluid connection	Electrical connection	Adjustment method	Switching pressure difference (bar)	Max. over pressure (bar)	Plug
							
0821051000000000	5 ... 70	G1/4	Gland pg 13,5	Hex. screw & cover	7 ... 12	250	–
0821055000000000	5 ... 70	G1/4	DIN EN 175301-803 Form A	Hex. screw & cover	7 ... 12	250	0570110000000000
0821050000000000	10 ... 160	G1/4	Gland pg 13,5	Hex. screw & cover	9 ... 18	250	–
0821150000000000	10 ... 160	Flange	Gland pg 13,5	Hex. screw & cover	9 ... 18	250	–
0821097000000000	50 ... 250	G1/4	Gland pg 13,5	Hex. screw & cover	12 ... 16	340	–

ELECTRO-MECHANICAL PRESSURE SWITCH

M/1339 Pneumatic 0 … 10 bar

Pneumatic

- Non adjustable
- N/O or N/C operation

Technical Data

Medium:
Compressed air, filtered, lubricated and non-lubricated

Operation:
Pressure switch, non-adjustable

Mounting:
Holes in switch casing for self-tapping screws

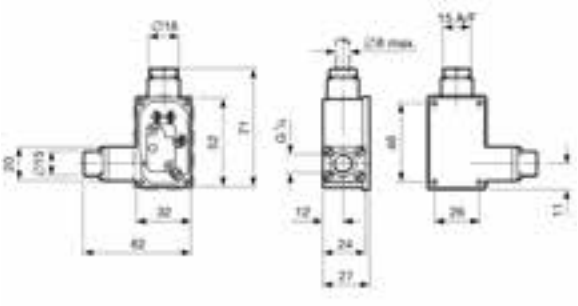
Ambient temperature:
-20°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Polyacetal casing, NBR seals.



Dimensions



Models

Model	Pressure range (bar)	Fluid connection	Switching pressure
			
M/1339	0 … 10	G1/8	2 bar +/- 0,5 bar

ELECTRO-MECHANICAL PRESSURE SWITCH

04015600 Pneumatic 0 … 10 bar

Pneumatic

- Wide adjustment range
- N/O or N/C operation

Technical Data

Medium:
Compressed air, filtered, lubricated and non-lubricated

Operation:
Pressure switch, adjustable

Mounting:
Holes in switch casing

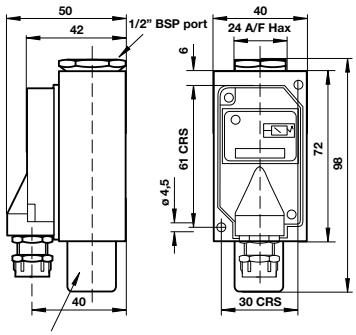
Ambient temperature:
-10°C … +70°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Dlecast zinc alloy casing, NBR seals.



Dimensions



Adjustment:
Remove cover. Use 3 mm A/F key for adjustment and 13 mm A/F spanner or lockout.

Models

Model	Pressure range (bar)	Fluid connection	Pressure differential (bar)
			
04015600	0 … 10	G1/8	0,2 … 0,7

IMI Precision Engineering

For further information, visit **store.norgren.com** and use the new improved search function. If you cannot see the option you require please contact us.

IMI NORGREN

MINI PRESSURE SWITCH

99D Electro-Mechanical 0 … 10 bar

- Very small construction
- Screw-in type
- AMP E-terminals 2,8 x 0,8 mm

Technical Data

Medium:
Lubricated air, oil and other neutral lubricated fluids

Over pressure:
20 bar maximum

Mounting position:
Optional

Degree of protection:
IP00

Ambient/Media temperature:
Ambient: -10°C … +60°C
Media: 0°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

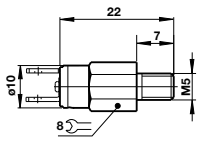
Materials

Body: Stainless steel
Seals: NBR/POM

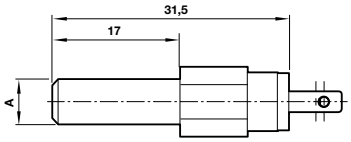


Dimensions

99505..



VM10..



Models

Model	Port size	Pressure range (bar)	Contact range P_{VU} (bar)	P_{VO} (bar)
				
9950501	M5	0 … 10	1,5 … 2,5	2,0 … 3,5
9950502	M5	0 … 10	2,5 … 3,7	3,0 … 5,0
9950509	M5	0 … 10	3,5 … 5,1	4,7 … 6,2

Model	Port size	Pressure range (bar)	Contact range P_{VU} (bar)	P_{VO} (bar)
				
VM106517AQ0804	4 mm	0 … 10	3,0 … 5,0 bar	2,5 … 3,7 bar
VM106517AQ0806	6 mm	0 … 10	3,0 … 5,0 bar	2,5 … 3,7 bar

ELECTRONIC PRESSURE SWITCH

33D Pneumatic and Allfluid -1 … 400 bar

- Display of system pressure and unit (pressure unit programmable)
- Compact and robust design
- Easy programming of set points and additional functions
- Transistor output signals 1 x PNP/2 x PNP/1 x PNP + 4 … 20 mA
- Electronic lock
- Switching status indicated by LED
- Standard M12 x 1 electrical connection (IP 65)
- For pneumatic, allfluid and hydraulic applications

Technical Data

Medium:
Filtered compressed air, lubricated or unlubricated, neutral gases, neutral fluids

Display:
LCD 4 digits illuminated, pressure unit programmable for bar, psi, mpa

Mounting position:
Optional

Operating pressure:
-1 … 16 bar (pneumatic)
0 … 400 bar (hydraulic/allfluid)

Ambient/Media temperature:
Ambient: -10°C … +60°C
Media: -10°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

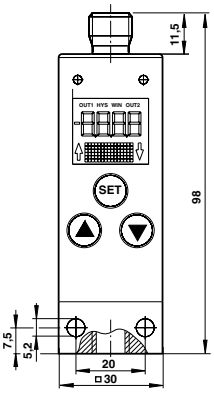
Materials

Pneumatic:
Housing: Aluminium/Stainless steel
Sensor (fluid-affected parts):
Silizium/Aluminium

Allfluid:
Housing: Aluminium/Stainless steel
Sensor (fluid-affected parts):
Stainless steel 1.4571 (0 … 250 bar),
Stainless steel 1.4542 (400 … 630 bar)



Dimensions



Options

- M12 connections
- NPT thread options
- ATEX options



Electrical parameters

Electrical connection:	M12 x 1
Power supply:	10 … 32 V d.c. (polarity safe) digital models
	15 … 32 V d.c. (polarity safe) analogue models

Electrical connection M12 x 1

PIN-	Signal	Cable colour
1	+UB	Brown
2	Out 2 (PNP) / analogue 4 … 20 mA	White
3	0 V	Blue
4	Out 1 (PNP)	Black
5	PE	Grey

Models

Accessories

Model	Pressure range (bar)	Over Pressure (bar)	Fluid connection	Output signal	Electrical connector M12 x 1			
					Straight x 2 m long	Straight x 5 m long	90° x 2 m long	90° x 5 m long
								
0863012000000000	-1 … 1	10	G1/4	1 x PNP	0523057000000000	0523052000000000	0523058000000000	0523053000000000
0863022000000000	-1 … 1	10	G1/4	2 x PNP	0523057000000000	0523052000000000	0523058000000000	0523053000000000
0863042000000000	-1 … 1	10	G1/4	1 x PNP / analogue 4 … 20 mA	0523057000000000	0523052000000000	0523058000000000	0523053000000000
0863016000000000	-1 … 1	10	Flange	1 x PNP	0523057000000000	0523052000000000	0523058000000000	0523053000000000
0863112000000000	0 … 10	40	G1/4	1 x PNP	0523057000000000	0523052000000000	0523058000000000	0523053000000000
0863122000000000	0 … 10	40	G1/4	2 x PNP	0523057000000000	0523052000000000	0523058000000000	0523053000000000
0863212000000000	0 … 16	30	G1/4	1 x PNP	0523057000000000	0523052000000000	0523058000000000	0523053000000000
0863222000000000	0 … 16	30	G1/4	2 x PNP	0523057000000000	0523052000000000	0523058000000000	0523053000000000
0863242000000000	0 … 16	30	G1/4	1 x PNP / analogue 4 … 20 mA	0523057000000000	0523052000000000	0523058000000000	0523053000000000
0863216000000000	0 … 16	30	Flange	1 x PNP	0523057000000000	0523052000000000	0523058000000000	0523053000000000
0863312000000000	0 … 40	100	G1/4	1 x PNP	0523057000000000	0523052000000000	0523058000000000	0523053000000000
0863322000000000	0 … 40	100	G1/4	2 x PNP	0523057000000000	0523052000000000	0523058000000000	0523053000000000
0863342000000000	0 … 40	100	G1/4	1 x PNP / analogue 4 … 20 mA	0523057000000000	0523052000000000	0523058000000000	0523053000000000
0863412000000000	0 … 100	200	G1/4	1 x PNP	0523057000000000	0523052000000000	0523058000000000	0523053000000000
0863422000000000	0 … 100	200	G1/4	2 x PNP	0523057000000000	0523052000000000	0523058000000000	0523053000000000
0863512000000000	0 … 160	300	G1/4	1 x PNP	0523057000000000	0523052000000000	0523058000000000	0523053000000000
0863612000000000	0 … 250	500	G1/4	1 x PNP	0523057000000000	0523052000000000	0523058000000000	0523053000000000
0863622000000000	0 … 250	500	G1/4	2 x PNP	0523057000000000	0523052000000000	0523058000000000	0523053000000000
0863712000000000	0 … 400	750	G1/4	1 x PNP	0523057000000000	0523052000000000	0523058000000000	0523053000000000

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ELECTRONIC PRESSURE SWITCH

40D Pneumatic -1 … 25 bar

- Space saving design
- Easy programming of set points
- Design with and without display
- Special functions selectable
- Analogue (1 … 5V) and digital outputs, as NO/NC programmable
- Revolving display
- Not for outdoor application

Technical Data

Medium:
For non aggressive gases and dry, non lubricated compressed air

Operation:
Pressure sensors are converting a fluidic signal into digital output and a proportional analogue voltage output signal

Repeatability:
± 0,2 % of measuring range

Vibration proof:
10 … 55 Hz, 1,5 mm, xyz, 2 h

Ambient temperature:
0°C … +50°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

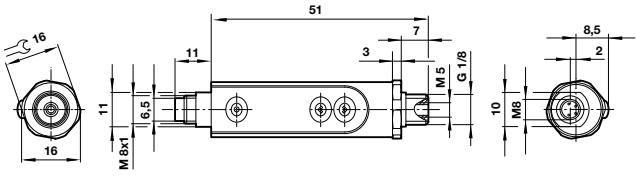
Materials

Housing: Plastic ABS - PC
Fluid ports: Nickel plated brass

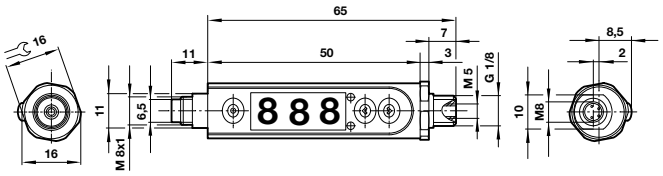


Dimensions

Without display



With display



Electrical connection M8 x 1

PIN-No.	Signal	Cable colour
1	+UB	Brown
2	PNP 2/ analogue 1 … 5V	White
3	0 V	Blue
4	PNP 1	Black



Models

Accessories

Model	Port size	Pressure range (bar)	Display	Output signal	Connector M8 x 1 Straight x 1,5m long	Straight x 5m Long	90° x 1,5m Long	90° x 5 m Long
								
0862440000000000	G1/8 or M5	-1 … 0	10	1 x PNP/analogue 1 … 5 V	0523449000000000	0523447000000000	0523446000000000	0523448000000000
0862441000000000	G1/8 or M5	-1 … 0	10	2 x PNP	0523449000000000	0523447000000000	0523446000000000	0523448000000000
0862442000000000	G1/8 or M5	0 … 10	750	2 x PNP	0523449000000000	0523447000000000	0523446000000000	0523448000000000

ELECTRONIC PRESSURE SWITCH

51D Pneumatic -1 … 10 bar

- System pressure (unit bar, psi, Mpa, KPa, kgf/cm², mmHg, InHg or mmH_2O) selectable
- High accuracy and resolution
- Switching status indicated by LED

Technical Data

Medium:
For filtered, lubricated or non lubricated compressed air, neutral and incombustible gases

Ambient temperature:
0°C … +50°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Display:
3 1/2 digit LED

Repeatability (switch output):
≤ ±0,2% of full scale (FS) ±1 digit
- without temperature sensitivity

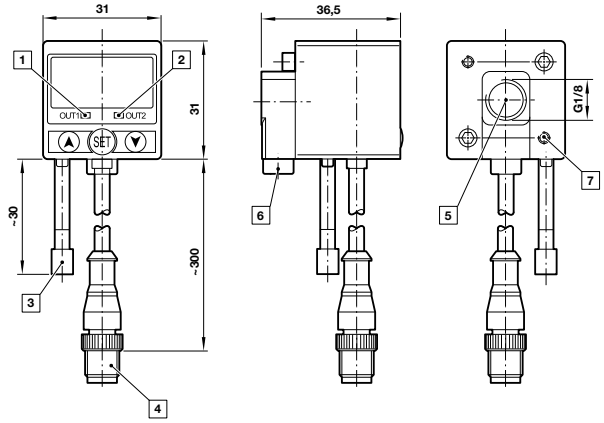
Materials

Body:
PC

EXPRESS



Dimensions



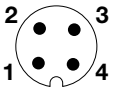
1 Switch OUT 1, green LED
2 Switch OUT 2, red LED
3 Dustproof protector
4 Connector M12 x 1
5 Inlet port
6 Alternative inlet port G1/8 plugged
7 Thread for mounting screw

Electrical parameters

Electrical connection:	M12 x 1
Power supply:	12 … 24 V d.c.
	24 V d.c. (PNP) maximum
	30 V d.c. (NPN) maximum

Electrical connection M12 x 1

PIN-No.	Signal	Cable colour
1	+UB	Brown
2	Out 2	White
3	–	Blue
4	Out 1	Black



Models

Accessories

Model	Port size	Switching pressure range (bar)	Over pressure (bar)	Output signal	Mounting bracket (wall mounting)	Mounting bracket (bottom mounting)	Panel mounting kit
							
0860810000000000	G 1/8	-1 … 10	15	2 x PNP	0860000000000000	0860001000000000	0860005000000000
0860815000000000	G 1/8	-1 … 10	15	2 x NPN	0860000000000000	0860001000000000	0860005000000000
0860820000000000	G 1/8	- 1 … 1	3	2 x PNP	0860000000000000	0860001000000000	0860005000000000
0860825000000000	G 1/8	- 1 … 1	3	2 x NPN	0860000000000000	0860001000000000	0860005000000000

PRESSURE SENSORS

18S Pneumatic -1 … 25 bar

- Temperature compensated
- Vacuum and overpressure
- Robust design for pneumatic and industrial applications
- Not for outdoor application

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated

Mounting position:
Optional

Ambient temperature:
-10°C … +85°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

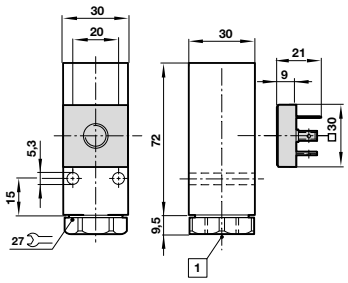
Materials

Housing: Aluminium anodized
Sensor: VMQ piezo-resistive (with passive side to fluid)
O-ring: NBR (flange version only)

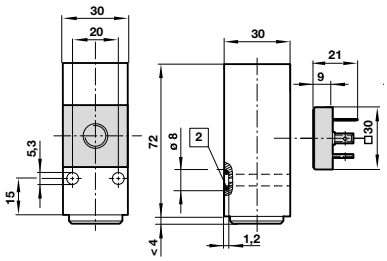


Dimensions

G1/4



Flange



1 Fluid port
2 O-ring 5 x 1,5

Electrical connection

DIN 43650	
PIN-No.	**Wiring**
1	+UB
2	Signal 4 … 20 mA

Models

Accessories

Options

- M12 connections

Model 43650	Port size	Measuring range (Relative pressure) (bar)	Value max. (Over pressure) (bar)	Connector DIN EN 175301-803
				
0862081000000000	G1/4	-1 … 1	10	0570110000000000
0862085000000000	Flange	-1 … 1	10	0570110000000000
0862181000000000	G1/4	0 … 10	30	0570110000000000
0862185000000000	Flange	0 … 10	30	0570110000000000
0862381000000000	G1/4	0 … 25	40	0570110000000000
0862385000000000	Flange	0 … 25	40	0570110000000000



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Air Preparation (FRL)

Going right back to 1927 when Carl Norgren first sketched out the design for the original FRL, IMI Precision Engineering have been at the forefront of air preparation products.

In this section you will find a whole family of air preparation products. Tried and tested Olympian Plus and Excelon ranges, miniature and large capacity units. We list units for general purpose use and more specialised applications - precision regulators, stainless steel units, valves for safety critical situations, etc.
Use the fast find guide to speed you to the right product to get the job done, pdf datasheets are available online via the webstore or call the team for rapid quotation and delivery.



Fast Find Guide

Please note: These products represent only part of the IMI Precision Engineering air preparation range.
If you can't see the option you require please contact us.

Olympian Plus – Plug-in, Quick Change System

Combination filter/ regulator & lubricator BL64, BL68 G1/2 & G1  EXPRESS Page 423	**General purpose filters F64G, F68G** G1/4 … G 11/2  EXPRESS Page 424	**High efficiency oil removal filters F64C/H, F68C/H** G1/4 … G1  EXPRESS Page 426	**High efficiency oil/oil vapour removal filters F64B/L, FFV68** G1/4 … G1  Page 428	**Filter Combination Units FFB64, FFB68** G1/4 … G3/8  Page 430	**Pressure regulators R64G, R68G** G1/4 … G11/2  EXPRESS Page 432
Filter/regulators B64G, B68G G1/4 … G11/2  EXPRESS Page 434	**Lubricators L64, L68** G1/4 … G11/2  EXPRESS Page 436	**Soft start/dump valves P64F, P68F** G1/4 … G3/4  EXPRESS Page 438	**Monitored soft start/ dump valve P64S** G1/4 … G3/4  Page 439	**Pressure relief valves V64H, V68H** G1/4 … G1  EXPRESS Page 440	**Accessories**  EXPRESS Page 442

Excelon® – Modular System

Combination filter/ regulator & lubricator BL72, BL73, BL74 G1/4 … G1/2  EXPRESS Page 445	**General purpose filters F72G, F73G, F74G** G1/4 … G3/4  EXPRESS Page 446	**High efficiency Oil removal filters F72C, F73C, F74C, F74H** G1/4 … G3/4  EXPRESS Page 448	**High efficiency Oil vapour removal filters F72V, F74V** G1/4 … G3/4  EXPRESS Page 449	**Pressure regulators R72G, R73G, R74G** G1/4 … G3/4  EXPRESS Page 450	**Manifold regulator R72M, R74M** G1/4, G3/8, G1/2, G3/4  Page 452
Filter/regulators B72G, B73G, B74G G1/4 … G3/4  EXPRESS Page 454	**Lubricators L72, L73, L74** G1/4 … G3/4  EXPRESS Page 456	**Soft start/dump valves P72F, P74F** G1/4 … G3/4  EXPRESS Page 458	**Monitored soft start/ dump valves P74S** G1/2  Page 459	**Pressure relief valves V72G, V74G** G1/4 … G3/4  EXPRESS Page 460	**Accessories**  EXPRESS Page 461

Miniature Series, General Purpose

Filter/regulators and lubricators P1H G1/8, G1/4  EXPRESS Page 462	**General purpose filter F07** G1/8, G1/4  EXPRESS Page 463	**Puraire® oil removal filter F39** G1/8, G1/4  EXPRESS Page 464	**Pressure regulators R07** G1/8, G1/4  EXPRESS Page 465	**Filter/regulator B07** G1/8, G1/4  EXPRESS Page 466	**Lubricators L07** G1/8, G1/4  EXPRESS Page 467
Pressure relief valve – diaphragm type V07 G1/8, G1/4  EXPRESS Page 468					

Fast Find Guide

Please note: These products represent only part of the IMI Precision Engineering air preparation range. If you can't see the option you require please contact us.

Large Capacity Series Units

General purpose filters
F17
3/4" … 1 1/2"

Page 469

General purpose filters
F18
G 1 1/2 & 2"

EXPRESS Page 470

Oil removal filters
F47
11/2" & 2"

Page 471

Pilot operated regulators
11-808, R18, 11-400/11-204
G1/4 … G2

Page 472

Micro-fog and oil-fog lubricators
L17
3/4" … 1 1/2"

Page 474

Special Purpose

Pre-set regulator
R16
G1/4

EXPRESS Page 476

Fast response pressure regulators
20AG
G1/2 … G1

Page 477

'Micro Trol' special purpose pressure regulators
R24
G1/4 … G1 1/4

Page 478

Precision and instrument regulator
11-818, R27
G1/4

EXPRESS Page 479

Stainless Steel – General Purpose and Precision

Filters, pressure regulators, lubricators
F22, R22, L22
1/2" NPTF

Page 480

General purpose filter/regulator
B38
3/8" … 3/4" PTF

Page 482

Precision regulator & filter regulator
R38, B38
1/4" NPTF

Page 483

General purpose regulators & filter regulator
R05, B05
1/4" PTF

Page 484

Accessories

Gauges

EXPRESS Page 485

Auto drain

Page 485

Drip leg drain

Page 485



Precision. Engineered.

Air preparation
Box Sets

The IMI Norgren 'box set' concept takes away that potential by giving you one product, one part number, at one price - a total package. The unit is pre-assembled before despatch and also includes a strong mounting bracket, pressure gauge and an exhausting shut-off valve for isolation of the upstream supply. Choose either a larger Olympian Plus unit, or the smaller Excelon unit, each with their own special features to suit the application.

- Olympian has a unique plug-in yoke system, with ¼ turn release mechanism for units each having a built-in safety feature to prevent incorrect installation and potential unsafe removal, saving time and money with shortest downtime and lowest stocking cost of replacement parts
- Excelon has a modular 'Quikclamp' system allowing units to be quickly and easily removed without disturbing pipework
- Metal bowls on Olympian unit offers greatest protection against contamination and contains an automatic drain valve for safe removal of contaminant (filter only)



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OLYMPIAN PLUS PLUG-IN SYSTEM

Combination filter/regulators and lubricator BL64, BL68 – G1/2 & G1

- Shut off valve for safe isolation of supply
- General purpose filter removing condensate and particle contamination
- Regulator ensuring optimum working pressure for economy and safety
- Lubricator to deliver a correct level of oil lubrication into the downstream system optimising life expectancy of other products
- Sturdy bracket for correct mounting
- Pressure gauge for constant monitoring of output pressure

Technical Data

Medium:
Compressed air only

Maximum inlet pressure:
17 bar

Ambient temperature:
-20°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Pressure range:
BL64: 0,3 … 10 bar
BL68: 0,4 … 8 bar
Note: Outlet pressure can be adjusted in excess of and also less than those listed

Gauge ports:
Rc1/8

Materials

BL64:
Body & Yoke: Zinc alloy
Connection piece: Aluminium
Metal bowl: Aluminium
Prismatic liquid level indicator: Grilamid
Sight dome: Transparent PA
Element: Sintered Plastic
Elastomers: NBR

BL68:
Body, Bowl & Yoke: Aluminium
Liquid level indicator: Pyrex
Filter element: Sintered plastic
Elastomers: NBR

EXPRESS

BL64

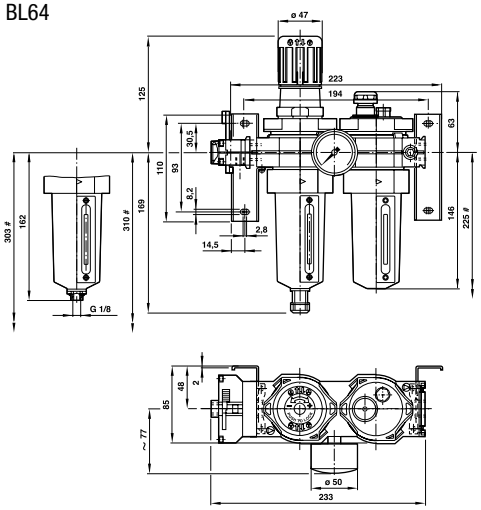


BL68

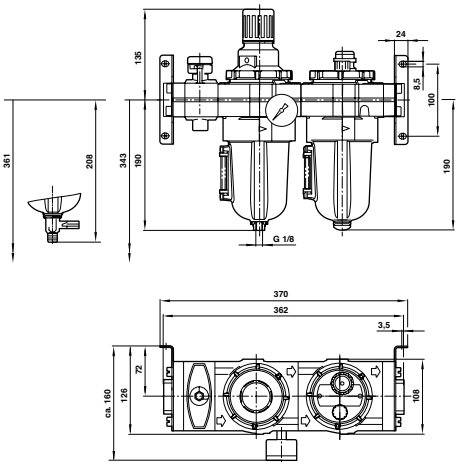


Dimensions

BL64



BL68



Minimum clearance required to remove bowl

Options

- Alternative outlet ranges
- Alternatve port sizes
- Element 5um
- Alternative bowl options
- Oil fog lubricator

Models

Accessories

Service Kit

Boxed sets BL64 and BL68 with shut-off valve			Tamper resistant kit	Quick fill nipple	Service kits	
Auto drain Model	Manual drain Model	Port size			Auto drain	Manual drain
						
BL64-401	BL64-421	G1/2	4355-51	18-011-024	B64G-KITA40R & L64M-KIT	B64G-KITM40R & L64M-KIT
BL68-801	BL68-821	G1	4355-51	18-011-021	B68G-KITA40R & L68M-KIT	B64G-KITM40R & L64M-KIT

Boxed sets BL64 and BL68 without shut-off valve			Tamper resistant kit	Quick fill nipple	Service kits	
Auto drain Model	Manual drain Model	Port size			Auto drain	Manual drain
						
BL64-405	BL64-425	G1/2	4355-51	18-011-024	B64G-KITA40R & L64M-KIT	B64G-KITM40R & L64M-KIT
BL68-805	BL68-825	G1	4355-51	18-011-021	B68G-KITA40R & L68M-KIT	B64G-KITM40R & L64M-KIT

OLYMPIAN PLUS PLUG-IN SYSTEM

General purpose filters F64G, F68G – G1/4 … G 11/2

- Effective liquid removal and positive solid filtration
- Large filter element area for minimum pressure drop

Technical Data

Medium:
Compressed air only

Maximum inlet pressure:
17 bar

Ambient temperature:
-20°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

F64G:
Body & Yoke: Zinc alloy
Connection piece: Aluminium
Metal bowl: Aluminium
Prismatic liquid level indicator: Grilamid
Filter element: Sintered plastic
Elastomers: NBR

F68G:
Body, Bowl & Yoke: Aluminium
Liquid level indicator: Pyrex
Filter element: Sintered plastic
Elastomers: NBR

EXPRESS

F64G

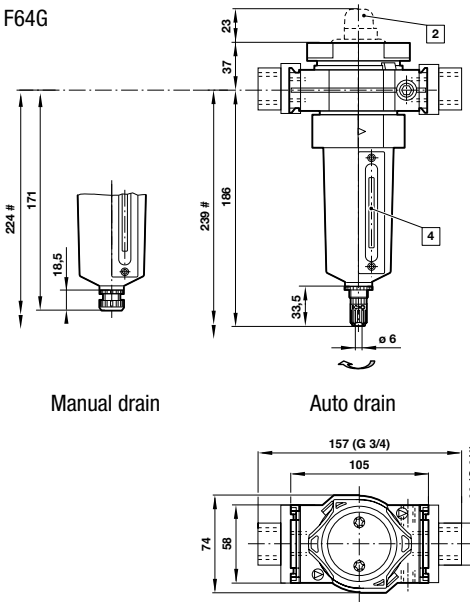


F68G

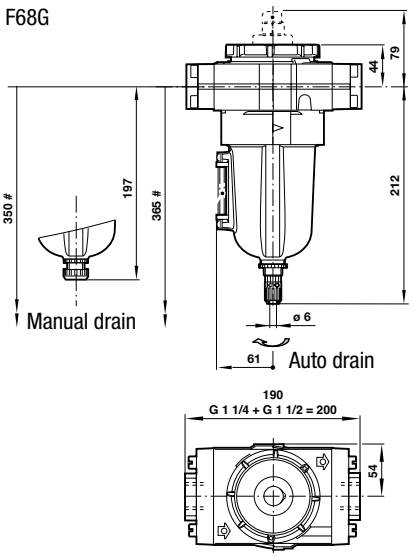


Dimensions

F64G



F68G



Minimum clearance required to remove bowl
2 Service indicator optional
4 Sight glass

Options

- Alternative thread forms
- Alternative bowl sizes (68)
- Mechanical service life indicator

IMI Precision Engineering

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and use the new improved search function. If you cannot
see the option you require please contact us.

IMI NORGREN

OLYMPIAN PLUS PLUG-IN SYSTEM
General purpose filters F64G, F68G – G1/4 … G 11/2

Models

Accessories

Service Kit

F64G series Auto drain Model	Manual drain Model	Port size	Flow* (dm^3/s)	Element (µm)	Wall mounting bracket	3/2 Shut-off valve**	Silencer (shut-off valve)	Auto drain	Manual drain
									
F64G-2GN-AD3	F64G-2GN-MD3	G1/4	33	40	74504-50	T64T-2GB-P1N	T40B1800	F64G-KITA40	F64G-KITM40
F64G-3GN-AD3	F64G-3GN-MD3	G3/8	66	40	74504-50	T64T-3GB-P1N	T40B1800	F64G-KITA40	F64G-KITM40
F64G-4GN-AD3	F64G-4GN-MD3	G1/2	75	40	74504-50	T64T-4GB-P1N	T40B1800	F64G-KITA40	F64G-KITM40
F64G-6GN-AD3	F64G-6GN-MD3	G3/4	75	40	74504-50	T64T-6GB-P1N	T40B1800	F64G-KITA40	F64G-KITM40
F64G-2GN-AD1	F64G-2GN-MD1	G1/4	33	5	74504-50	T64T-2GB-P1N	T40B1800	F64G-KITA05	F64G-KITM05
F64G-3GN-AD1	F64G-3GN-MD1	G3/8	66	5	74504-50	T64T-3GB-P1N	T40B1800	F64G-KITA05	F64G-KITM05
F64G-4GN-AD1	F64G-4GN-MD1	G1/2	75	5	74504-50	T64T-4GB-P1N	T40B1800	F64G-KITA05	F64G-KITM05
F64G-6GN-AD1	F64G-6GN-MD1	G3/4	75	5	74504-50	T64T-6GB-P1N	T40B1800	F64G-KITA05	F64G-KITM05

F68G series Auto drain Model	Manual drain Model	Port size	Flow* (dm^3/s)	Element (µm)	Wall mounting bracket	3/2 Shut-off valve**	Silencer (shut-off valve)	Auto drain	Manual drain
									
F68G-6GN-AR3	F68G-6GN-MR3	G3/4	160	40	18-001-979	T68H-6GB-B2N	T40B2800	F68G-KITA40	F68G-KITM40
F68G-8GN-AR3	F68G-8GN-MR3	G1	190	40	18-001-979	T68H-8GB-B2N	T40B2800	F68G-KITA40	F68G-KITM40
F68G-AGN-AR3	F68G-AGN-MR3	G1 1/4	200	40	18-001-978	T68H-AGB-B2N	T40B2800	F68G-KITA40	F68G-KITM40
F68G-BGN-AR3	F68G-BGN-MR3	G1 1/2	200	40	18-001-972	T68H-BGB-B2N	T40B2800	F68G-KITA40	F68G-KITM40
F68G-6GN-AR1	F68G-6GN-MR1	G3/4	160	5	18-001-979	T68H-6GB-B2N	T40B2800	F68G-KITA05	F68G-KITM05
F68G-8GN-AR1	F68G-8GN-MR1	G1	190	5	18-001-979	T68H-8GB-B2N	T40B2800	F68G-KITA05	F68G-KITM05
F68G-AGN-AR1	F68G-AGN-MR1	G1 1/4	200	5	18-001-978	T68H-AGB-B2N	T40B2800	F68G-KITA05	F68G-KITM05
F68G-BGN-AR1	F68G-BGN-MR1	G1 1/2	200	5	18-001-972	T68H-BGB-B2N	T40B2800	F68G-KITA05	F68G-KITM05

* Typical flow with 6,3 bar inlet pressure and 0,5 bar pressure drop.
** Threaded exhaust port.
For replacement filter (without yoke) substitute 'N' at the 5th and 6th digits eg: F68G-NNN-AR3 (F68).
For other styles of mounting bracket and accessories, please refer to page 442.

OLYMPIAN PLUS PLUG-IN SYSTEM

'Puraire'® high efficiency oil removal filters F64C/H, F68C/H – G1/4 … G1

- High efficiency coalescing filters
- Coalescing element removes sub-micron particles and converts oil and water mist to liquid form to drain away
- Service indicator standard

Technical Data

Medium:
Compressed air only

Maximum inlet pressure:
17 bar

Remaining oil content:
0,01 mg/m^3 max at 21°C

Particle removal:
To 0,01 µm

Ambient temperature:
-20°C … +65°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

F64C/H:
Body & Yoke: Zinc alloy
Connection piece: Aluminium
Metal bowl: Aluminium
Element: Composite
Prismatic liquid level indicator: Grilamid
Elastomers: NBR

F68C/H:
Body, Yoke & Bowl: Aluminium
Liquid level indicator: Pyrex
Element: Synthetic fibre & PU foam
Elastomers: NBR
Service life indicator:
Body: Transparent PA
Internal parts: Acetal
Spring: Stainless steel
Elastomers: NBR

EXPRESS

F64C/H

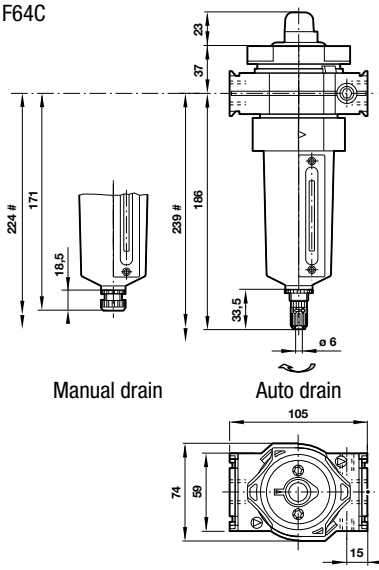


F68C/H

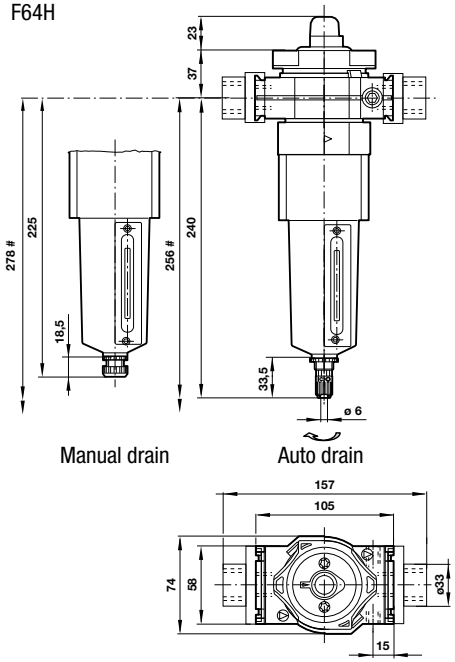


Dimensions

F64C

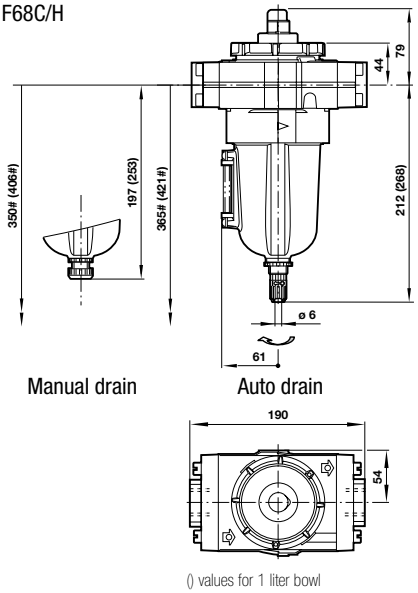


F64H



Minimum clearance required to remove bowl

F68C/H



() values for 1 liter bowl

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OLYMPIAN PLUS PLUG-IN SYSTEM
'Puraire'® high efficiency oil removal filters F64C/H, F68C/H – G1/4 … G1

Models

Accessories

Service Kit

F64C/H series Auto drain Model	Manual drain Model	Port size	Flow* (dm^3/s)	Wall mounting bracket	3/2 Shut-off valve**	Silencer (shut-off valve)	Auto drain	Manual drain
								
F64C-2GD-AD0	F64C-2GD-MD0	G1/4	16	74504-50	T64T-2GB-P1N	T40B1800	F64C-KITA0C	
F64H-3GD-AD0	F64H-3GD-MD0	G3/8	28	74504-50	T64T-3GB-P1N	T40B1800	F64H-KITA0C	
F64H-4GD-AD0	F64H-4GD-MD0	G1/2	28	74504-50	T64T-4GB-P1N	T40B1800	F64H-KITA0C	
F64H-6GD-AD0	F64H-6GD-MD0	G3/4	28	74504-50	T64T-6GB-P1N	T40B1800	F64H-KITA0C	

F68C/H series Auto drain Model	Manual drain Model	Port size	Flow* (dm^3/s)	Wall mounting bracket	3/2 Shut-off valve**	Silencer (shut-off valve)	Auto drain	Manual drain
								
F68C-4GD-AR0	F68C-4GD-MR0	G1/2	35	18-001-979	T68H-4GB-B2N	T40B2800	F68C-KITA0C	F68C-KITA0C
F68H-6GD-AU0	F68H-6GD-MU0	G3/4	35	18-001-979	T68H-6GB-B2N	T40B2800	F68C-KITA0C	F68C-KITA0C
F68H-8GD-AU0	F68H-8GD-MU0	G1	60	18-001-979	T68H-8GB-B2N	T40B2800	F68C-KITA0C	F68C-KITA0C

* To maintain stated oil content at 6,3 inlet pressure. ** Threaded exhaust port.
For replacement filter (without yoke) substitute 'N' at the 5th and 6th digits eg: F68H-NND-AU0.
For other styles of mounting bracket and accessories, please refer to page 442.

Typical performance characteristics

Inlet pressure (bar)	Maximum flow dm^3/s*			
	F64C	F64H	F68C	F68H
1	6,4	11,2	14	24
3	11,0	19,3	24	41
5	14,3	24,9	31	53
6,3	16,0	28,0	35	60
7	16,9	29,5	36,7	63
9	19,1	33,5	42	72

* Maximum flow to maintain stated oil removal performance.

Options

- Alternative thread forms
- Alternative bowl sizes (68)
- Without service life indicator

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OLYMPIAN PLUS PLUG-IN SYSTEM

'Ultraire'® high efficiency oil/oil vapour removal filters F64B/L, FFV68 – G1/4 … G1

- F64B/F64L are 'dual function' products incorporating an oil removal element (bottom) and an oil vapour removal element (top)
- FFV68 are two separate coupled filters (F68C/H & F68V/Y)
- Ultra high efficiency coalescing filters with active carbon pack
- Carbon pack assists in the removal of hydro-carbon gases and odours
- High Intensity blue colour change indication when contaminated
- Carbon pack service life 1000 hours at 21ºC

Technical Data

Medium:
Compressed air only

Maximum inlet pressure:
17 bar

Remaining oil content:
0,003 mg/m^3 at 21°C

Particle removal:
To 0,01 µm

Ambient temperature:
-20°C … +65°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

F64B/L:
Body & Yoke: Zinc alloy
Connection piece: Aluminium
Metal bowl: Aluminium
Main filter element & Activated carbon pack: Composite materials
Prismatic liquid level indicator: Grilamid
Elastomers: NBR

FFV68:
Body, Yoke & Bowl: Aluminium
Liquid level indicator: Pyrex
Main filter element & Activated carbon pack: Composite materials
Elastomers: NBR
Service life indicator:
Body: Transparent PA
Internal parts: Acetal
Spring: Stainless steel
Elastomers: NBR

F64B/L

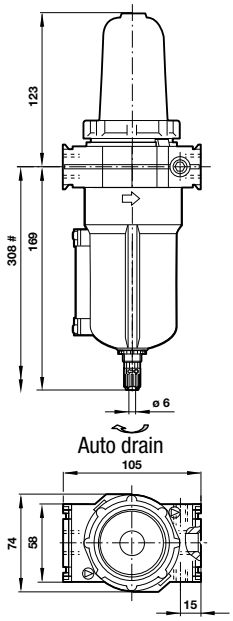


FFV68

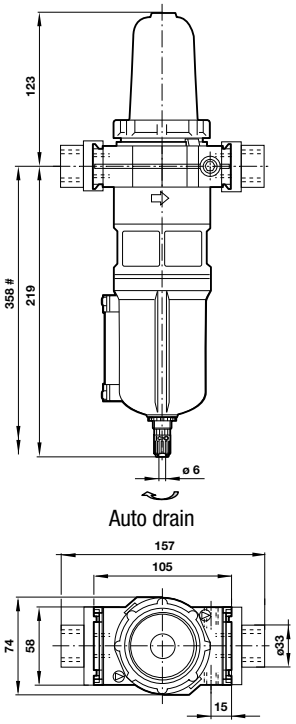


Dimensions

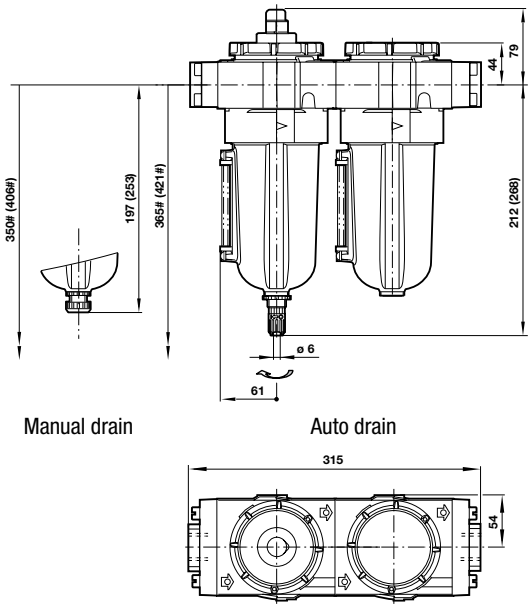
F64B



F64L



FFV68



Minimum clearance required to remove bowl
() values for 1 liter bowl

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OLYMPIAN PLUS PLUG-IN SYSTEM
'Ultraire'® high efficiency oil/oil vapour removal filters F64B/L, FFV68 – G1/4 … G1

Models

Accessories

Service Kit

F64B/L series Auto drain Model	Port size	Flow* (dm³/s)	Wall mounting bracket	3/2 Shut-off valve**	Silencer (shut-off valve)	Auto drain
						
F64B-2GN-AR0	G1/4	7	74504-50	T64T-2GB-P1N	T40B1800	F64B-KITA0V
F64L-3GN-AR0	G3/8	11	74504-50	T64T-3GB-P1N	T40B1800	F64L-KITA0V
F64L-4GN-AR0	G1/2	11	74504-50	T64T-4GB-P1N	T40B1800	F64L-KITA0V
F64L-6GN-AR0	G3/4	11	74504-50	T64T-6GB-P1N	T40B1800	F64L-KITA0V

FFV68 series Auto drain Model	Port size	Flow* (dm³/s)	Wall mounting bracket	3/2 Shut-off valve**	Silencer (shut-off valve)	Auto drain
						
FFV68-408	G1/2	25	18-001-979	T68H-4GB-B2N	T40B2800	F68C-KITA0C, F68V-KIT00V
FFV68-608	G3/4	35	18-001-979	T68H-6GB-B2N	T40B2800	F68H-KITA0C, F68V-KIT00V
FFV68-808	G1	60	18-001-979	T68H-8GB-B2N	T40B2800	F68H-KITA0C, F68V-KIT00V

* To maintain stated oil at 6,3 bar inlet pressure.
** Threaded exhaust port.

For other styles of mounting bracket and accessories, please refer to page 442.

Typical performance characteristics

Inlet pressure (bar)	Maximum flow dm³/s*			
	F64B	F64L	FFV68-408	FFV68-608
1	2,8	4,4	10	24
3	4,8	7,6	17	41
5	6,2	9,8	20	53
6,3	7,0	11,0	25	60
7	7,3	11,5	26	63
9	8,4	13,2	30	72

* Maximum flow to maintain stated oil removal performance.

Options

- Alternative thread forms
- Manual drains

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OLYMPIAN PLUS PLUG-IN SYSTEM

Filter Combination Units FFB64 & FFB68 – G1/4 … G3/4

- Pre-assembled combinations include a general purpose pre-filter and 'Ultraire'® oil/oil vapour removal filter
- Activated carbon pack assists in the removal of hydro-carbon gases and odours
- Pre filter extends life of oil removal filter

Technical Data

Medium:
Compressed air only

Maximum inlet pressure:
17 bar

Remaining oil content:
0,003 mg/m^3 at 21°C

Particle removal:
To 0,01 µm

Ambient temperature:
-20°C … +65°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

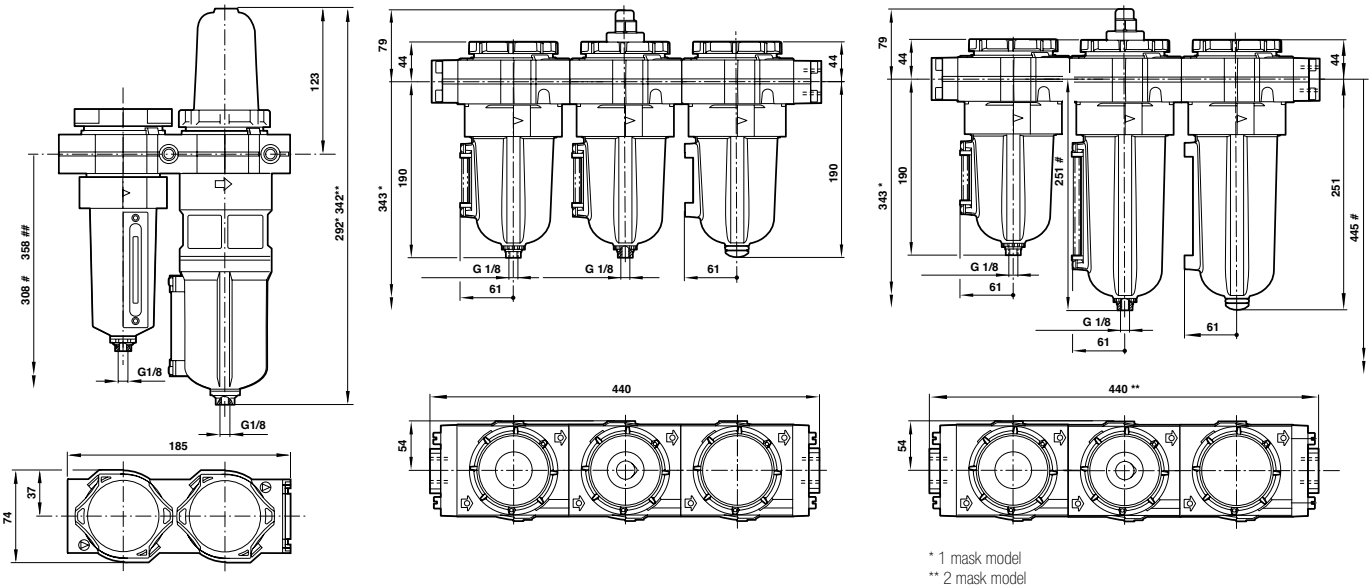
Materials

Bowl: Aluminium & Zinc
Body:
64 series - Zinc Alloy
68 series - Aluminium
Pre-filter element: Sintered bronze or Plastic
Main filter element & Activated carbon pack: Composite materials



Dimensions

(3 sizes depending on Flow requirements)



* 1 mask model
** 2 mask model
# Minimum clearance required to remove bowl
Drain

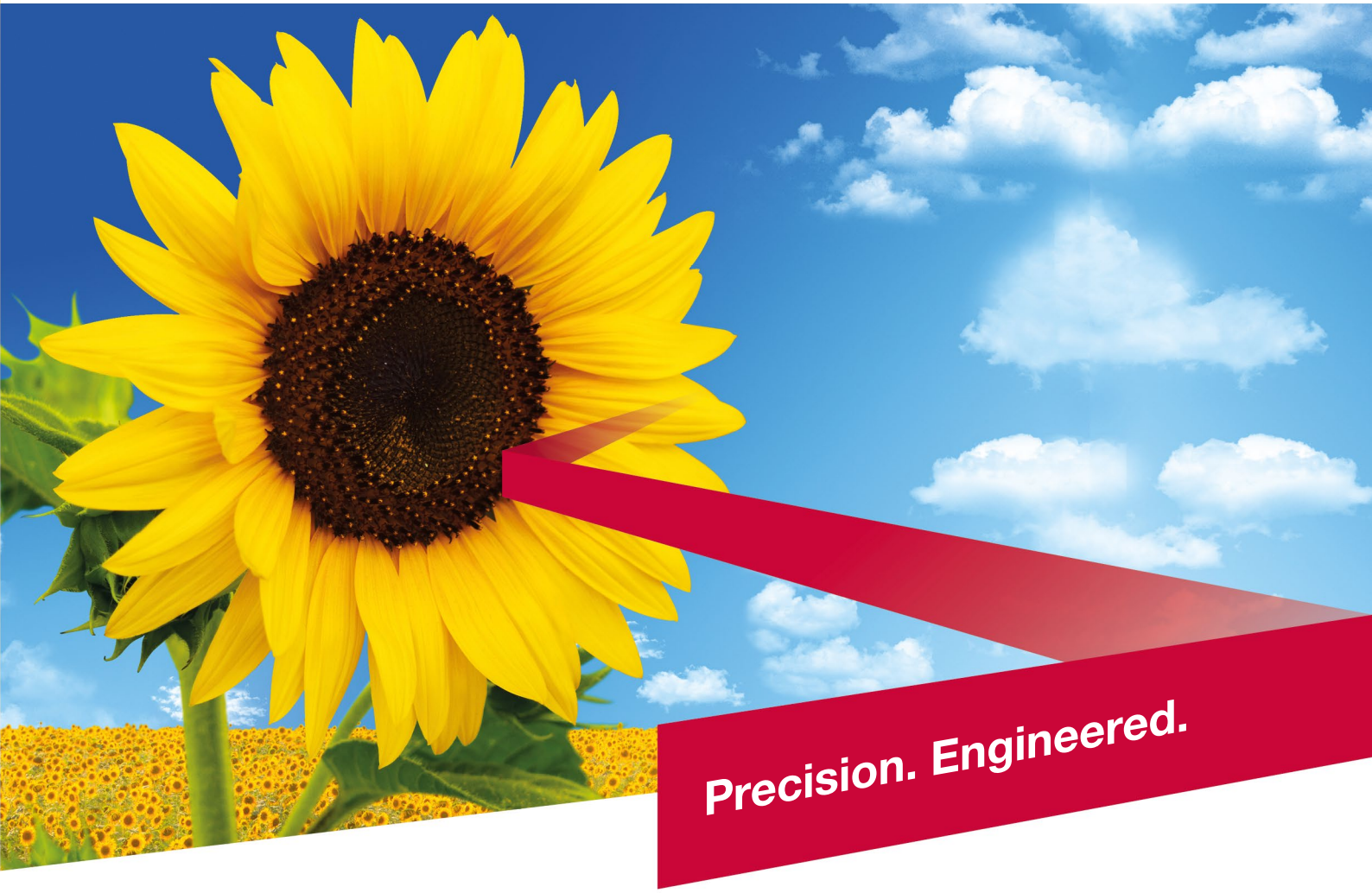
Models

Accessories

Service Kit

FFB64 series Auto drain Model	Port size	Flow* (dm^3/s)	Number of masks	Primary pre-filter (µm)	Wall mounting bracket	3/2 Shut-off valve**	Silencer (shut-off valve)	
								
FFB64-208	G1/4	7	1	5	74504-50	T64T-2GB-P1N	T40B1800	F64G-KITA05 & F64B-KITA0V
FFB64-308	G3/8	11	2	5	74504-50	T64T-3GB-P1N	T40B1800	F64G-KITA05 & F64L-KITA0V
FFB68-408	G1/2	35	3	25	18-001-979	T68H-4GB-B2N	T40B2800	–
FFB68-608	G3/4	60	4/5	25	18-001-979	T68H-6GB-B2N	T40B2800	–

** Threaded exhaust port.
For service kit numbers refer to individual units.
For other styles of mounting bracket and accessories, please refer to page 442.



Energy saving
in compressed air systems

Compressed air is often wrongly assumed to be a cheap or even 'free' source of power. It is not.

Numerous independent studies confirm that industry wastes around 30% of the compressed air it generates. The aim of IMI Precision Engineering is to help the end user minimise wastage, by improving existing installed systems. It will highlight key areas for savings, and offer practical advice on an action plan.

Sources of energy loss in compressed air systems:

- Leakage
- Misuse
- Over pressurisation
- Pressure drop

Components that can help energy saving:

- Energy and safety: components fitted for safety reasons, such as preset regulators and shut off valves and tamper resistant covers
- Generation: the correct selection of control equipment to multiple compressor set ups, attention to inlet cooling and after treatment of the compressed air can realise good energy savings. Regular and correct maintenance of compressors, filters and dryers is also vital.

Engineering GREAT Solutions

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OLYMPIAN PLUS PLUG-IN SYSTEM

Pressure regulators R64G, R68G – G1/4 … G1 1/2

- Diaphragm and balanced valve design ensure good regulation characteristics
- Non-rising adjusting knob has snap-action lock

Technical Data

Medium:
Compressed air only

Maximum inlet pressure:
R64G: 17 bar
R68G: 20 bar

Gauge ports:
Rc1/8

Ambient temperature:
-20°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Pressure range:
R64G: 0,3 … 10 bar (Knob)
0,7 … 17 bar (T-bar)
R68G: 0,4 … 8 bar (Knob)
0,7 … 17 bar (T-bar)
Note: Outlet pressure can be adjusted in excess of and also less than those listed

Materials

R64G:
Body & Yoke: Zinc alloy
Connection piece: Aluminium
Bonnet: Aluminium
Adjusting knob: Acetal resin
Elastomers: NBR

R68G:
Body, Yoke & Bonnet: Aluminium
Adjusting knob: Acetal resin
Elastomers: NBR

EXPRESS

R64G

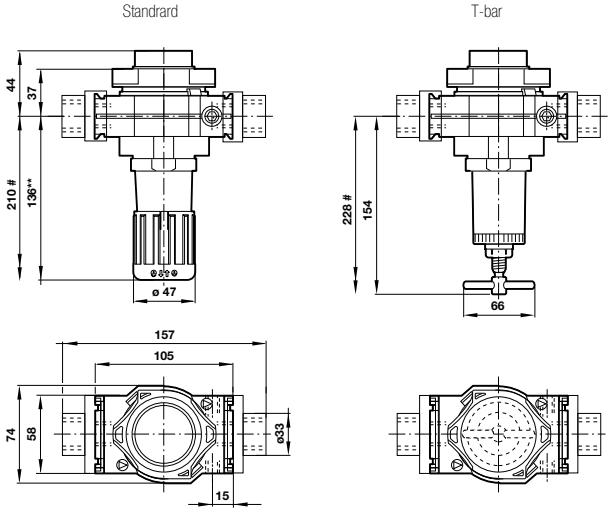


R68G

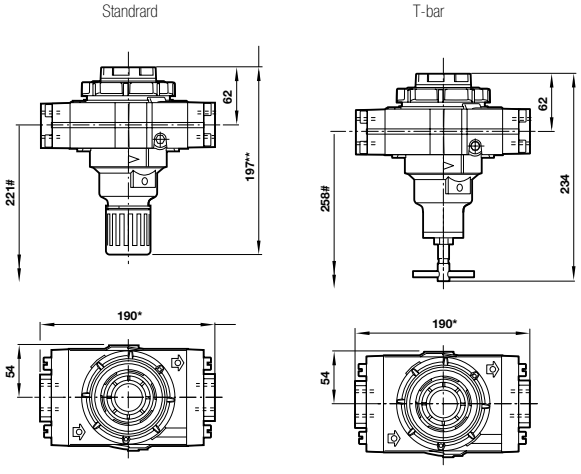


Dimensions

R64G



R68G



Minimum clearance required to remove unit from yoke
* For 1 1/4 and 1 1/2 ported yokes add 10 mm
** Reduces by 4 mm with knob in locked position

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OLYMPIAN PLUS PLUG-IN SYSTEM
Pressure regulators R64G, R68G – G1/4 … G1 1/2

Models

Accessories

Service Kit

R64G series Model	Port size	Pressure range (bar)	Flow* (dm^3/s)	Bonnet	Wall mounting bracket	Gauge	3/2 Shut-off valve**	Silencer (shut-off valve)	Tamper resistant kit	
										
R64G-2GK-RMN	G1/4	0,3 … 10	33	Knob	74504-50	18-015-013 (0 … 10 bar)	T64T-2GB-P1N	T40B1800	4355-51	R64G-KITR
R64G-3GK-RMN	G3/8	0,3 … 10	80	Knob	74504-50	18-015-013 (0 … 10 bar)	T64T-3GB-P1N	T40B1800	4355-51	R64G-KITR
R64G-4GK-RMN	G1/2	0,3 … 10	120	Knob	74504-50	18-015-013 (0 … 10 bar)	T64T-4GB-P1N	T40B1800	4355-51	R64G-KITR
R64G-6GK-RMN	G3/4	0,3 … 10	120	Knob	74504-50	18-015-013 (0 … 10 bar)	T64T-6GB-P1N	T40B1800	4355-51	R64G-KITR
R64G-2GT-RSN	G1/4	0,7 … 17	33	T-bar	74504-50	18-015-014 (0 … 25 bar)	T64T-2GB-P1N	T40B1800	–	R64G-KITR
R64G-3GT-RSN	G3/8	0,7 … 17	80	T-bar	74504-50	18-015-014 (0 … 25 bar)	T64T-3GB-P1N	T40B1800	–	R64G-KITR
R64G-4GT-RSN	G1/2	0,7 … 17	120	T-bar	74504-50	18-015-014 (0 … 25 bar)	T64T-4GB-P1N	T40B1800	–	R64G-KITR
R64G-6GT-RSN	G3/4	0,7 … 17	120	T-bar	74504-50	18-015-014 (0 … 25 bar)	T64T-6GB-P1N	T40B1800	–	R64G-KITR

R68G series Model	Port size	Pressure range (bar)	Flow* (dm^3/s)	Bonnet	Wall mounting bracket	Gauge	3/2 Shut-off valve**	Silencer (shut-off valve)	Tamper resistant kit	
										
R68G-6GK-RLN	G3/4	0,4 … 8	150	Knob	18-001-979	18-015-013 (0 … 10 bar)	T68H-6GB-B2N	T40B2800	4355-51	R68G-KITR
R68G-8GK-RLN	G1	0,4 … 8	170	Knob	18-001-979	18-015-013 (0 … 10 bar)	T68H-8GB-B2N	T40B2800	4355-51	R68G-KITR
R68G-AGK-RLN	G1 1/4	0,4 … 8	170	Knob	18-001-978	18-015-013 (0 … 10 bar)	T68H-AGB-B2N	T40B2800	4355-51	R68G-KITR
R68G-BGK-RLN	G1 1/2	0,4 … 8	170	Knob	18-001-972	18-015-013 (0 … 10 bar)	T68H-BGB-B2N	T40B2800	4355-51	R68G-KITR
R68G-6GT-RSN	G3/4	0,7 … 17	150	T-bar	18-001-979	18-015-014 (0 … 25 bar)	T68H-6GB-B2N	T40B2800	–	R68G-KITR
R68G-8GT-RSN	G1	0,7 … 17	170	T-bar	18-001-979	18-015-014 (0 … 25 bar)	T68H-8GB-B2N	T40B2800	–	R68G-KITR
R68G-AGT-RSN	G1 1/4	0,7 … 17	170	T-bar	18-001-978	18-015-014 (0 … 25 bar)	T68H-AGB-B2N	T40B2800	–	R68G-KITR
R68G-BGT-RSN	G1 1/2	0,7 … 17	170	T-bar	18-001-972	18-015-014 (0 … 25 bar)	T68H-BGB-B2N	T40B2800	–	R68G-KITR

* Typical flow with 10 bar inlet pressure and 1 bar droop from set pressure of 6,3 bar.
** Threaded exhaust port.
For replacement regulator (without yoke) substitute 'N' at the 5th and 6th digits eg: R68G-NNK-RLN.
For other styles of mounting bracket and accessories, please refer to page 442.

Options

- Alternative thread forms
- Alternative outlet ranges
- Non-relieving options

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OLYMPIAN PLUS PLUG-IN SYSTEM

Filter/regulators B64G, B68G – G1/4 … G11/2

- High efficiency water removal
- Good regulation characteristics
- Non-rising adjusting knob has snap-action lock

Technical Data

Medium:
Compressed air only

Maximum inlet pressure:
17 bar

Gauge ports:
Rc1/8

Ambient temperature:
-20°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Pressure range:
B64G: 0,3 … 10 bar (Knob)
0,7 … 17 bar (T-bar)
B68G: 0,4 … 8 bar (Knob)
0,7 … 17 bar (T-bar)
Note: Outlet pressure can be adjusted in excess of and also less than those listed

Materials

B64G:
Body & Yoke: Zinc alloy
Bonnet & Bowl: Aluminium
Elastomers: NBR
Filter element: Sintered plastic

B68G:
Body, Bonnet, Bowl & Yoke: Aluminium
Adjusting knob: Acetal resin
Elastomers: NBR
Filter element: Sintered plastic

EXPRESS

B64G

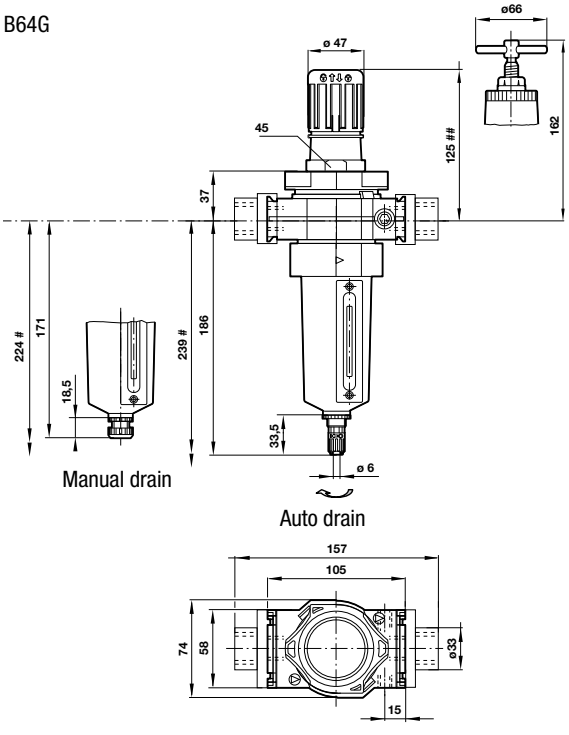


B68G

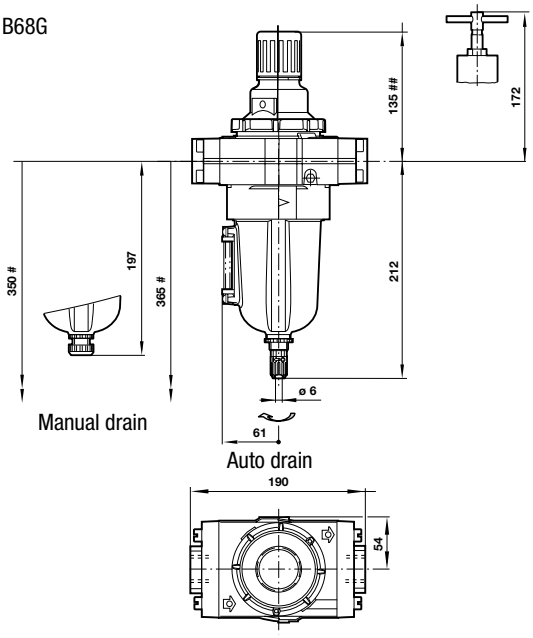


Dimensions

B64G



B68G



Minimum clearance required to remove bowl
Reduces by 4 mm with knob in locked position

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OLYMPIAN PLUS PLUG-IN SYSTEM
Filter/regulators B64G, B68G – G1/4 … G11/2

Models

Accessories

Service Kit

B64G series Auto drain Model	Manual drain Model	Port size	Pressure range (bar)	Flow* (dm^3/s)	Element (µm)	Bonnet	Wall mounting bracket	Gauge**	3/2 Shut-off valve***	Silencer (shut-off valve)	Tamper resistant kit	Auto drain	Manual drain
													
B64G-2GK-AD3-RMN	B64G-2GK-MD3-RMN	G1/4	0,3 … 10	30	40	Knob	74504-50	18-015-013	T64T-2GB-P1N	T40B1800	4355-51	B64G-KITA40R	B64G-KITM40R
B64G-3GK-AD3-RMN	B64G-3GK-MD3-RMN	G3/8	0,3 … 10	76	40	Knob	74504-50	18-015-013	T64T-3GB-P1N	T40B1800	4355-51	B64G-KITA40R	B64G-KITM40R
B64G-4GK-AD3-RMN	B64G-4GK-MD3-RMN	G1/2	0,3 … 10	106	40	Knob	74504-50	18-015-013	T64T-4GB-P1N	T40B1800	4355-51	B64G-KITA40R	B64G-KITM40R
B64G-6GK-AD3-RMN	B64G-6GK-MD3-RMN	G3/4	0,3 … 10	106	40	Knob	74504-50	18-015-013	T64T-6GB-P1N	T40B1800	4355-51	B64G-KITA40R	B64G-KITM40R
B64G-2GT-AD3-RSN	B64G-2GT-MD3-RSN	G1/4	0,7 … 17	30	40	T-bar	74504-50	18-015-014	T64T-2GB-P1N	T40B1800	–	B64G-KITA40R	B64G-KITM40R
B64G-3GT-AD3-RSN	B64G-3GT-MD3-RSN	G3/8	0,7 … 17	76	40	T-bar	74504-50	18-015-014	T64T-3GB-P1N	T40B1800	–	B64G-KITA40R	B64G-KITM40R
B64G-4GT-AD3-RSN	B64G-4GT-MD3-RSN	G1/2	0,7 … 17	106	40	T-bar	74504-50	18-015-014	T64T-4GB-P1N	T40B1800	–	B64G-KITA40R	B64G-KITM40R
B64G-6GT-AD3-RSN	B64G-6GT-MD3-RSN	G3/4	0,7 … 17	106	40	T-bar	74504-50	18-015-014	T64T-6GB-P1N	T40B1800	–	B64G-KITA40R	B64G-KITM40R
B64G-2GK-AD1-RMN	B64G-2GK-MD1-RMN	G1/4	0,3 … 10	30	5	Knob	74504-50	18-015-013	T64T-2GB-P1N	T40B1800	4355-51	B64G-KITA05R	B64G-KITM05R
B64G-3GK-AD1-RMN	B64G-3GK-MD1-RMN	G3/8	0,3 … 10	76	5	Knob	74504-50	18-015-013	T64T-3GB-P1N	T40B1800	4355-51	B64G-KITA05R	B64G-KITM05R
B64G-4GK-AD1-RMN	B64G-4GK-MD1-RMN	G1/2	0,3 … 10	106	5	Knob	74504-50	18-015-013	T64T-4GB-P1N	T40B1800	4355-51	B64G-KITA05R	B64G-KITM05R
B64G-6GK-AD1-RMN	B64G-6GK-MD1-RMN	G3/4	0,3 … 10	106	5	Knob	74504-50	18-015-013	T64T-6GB-P1N	T40B1800	4355-51	B64G-KITA05R	B64G-KITM05R
B64G-2GT-AD1-RSN	B64T-2GK-MD1-RSN	G1/4	0,7 … 17	30	5	T-bar	74504-50	18-015-014	T64T-2GB-P1N	T40B1800	–	B64G-KITA05R	B64G-KITA05R
B64G-3GT-AD1-RSN	B64T-3GK-MD1-RSN	G3/8	0,7 … 17	76	5	T-bar	74504-50	18-015-014	T64T-3GB-P1N	T40B1800	–	B64G-KITA05R	B64G-KITA05R
B64G-4GT-AD1-RSN	B64T-4GK-MD1-RSN	G1/2	0,7 … 17	106	5	T-bar	74504-50	18-015-014	T64T-4GB-P1N	T40B1800	–	B64G-KITA05R	B64G-KITA05R
B64G-6GT-AD1-RSN	B64T-6GK-MD1-RSN	G3/4	0,7 … 17	106	5	T-bar	74504-50	18-015-014	T64T-6GB-P1N	T40B1800	–	B64G-KITA05R	B64G-KITA05R

B64G series Auto drain Model	Manual drain Model	Port size	Pressure range (bar)	Flow* (dm^3/s)	Element (µm)	Bonnet	Wall mounting bracket	Gauge**	3/2 Shut-off valve***	Silencer (shut-off valve)	Tamper resistant kit	Auto drain	Manual drain
													
B68G-6GK-AR3-RLN	B68G-6GK-MR3-RLN	G3/4	0,4 … 8	240	40	Knob	18-001-979	18-015-013	T68H-6GB-B2N	T40B2800	4355-51	B68G-KITA40R	B68G-KITM40R
B68G-8GK-AR3-RLN	B68G-8GK-MR3-RLN	G1	0,4 … 8	240	40	Knob	18-001-979	18-015-013	T68H-8GB-B2N	T40B2800	4355-51	B68G-KITA40R	B68G-KITM40R
B68G-AGK-AR3-RLN	B68G-AGK-MR3-RLN	G1 1/4	0,4 … 8	240	40	Knob	18-001-978	18-015-013	T68H-AGB-B2N	T40B2800	4355-51	B68G-KITA40R	B68G-KITM40R
B68G-BGK-AR3-RLN	B68G-BGK-MR3-RLN	G1 1/2	0,4 … 8	240	40	Knob	18-001-972	18-015-013	T68H-BGB-B2N	T40B2800	4355-51	B68G-KITA40R	B68G-KITM40R
B68G-6GT-AR3-RSN	B68G-6GT-MR3-RSN	G3/4	0,7 … 17	240	40	T-bar	18-001-979	18-015-014	T68H-6GB-B2N	T40B2800	–	B68G-KITA40R	B68G-KITM40R
B68G-8GT-AR3-RSN	B68G-8GT-MR3-RSN	G1	0,7 … 17	240	40	T-bar	18-001-979	18-015-014	T68H-8GB-B2N	T40B2800	–	B68G-KITA40R	B68G-KITM40R
B68G-AGT-AR3-RSN	B68G-AGT-MR3-RSN	G1 1/4	0,7 … 17	240	40	T-bar	18-001-978	18-015-014	T68H-AGB-B2N	T40B2800	–	B68G-KITA40R	B68G-KITM40R
B68G-BGT-AR3-RSN	B68G-BGT-MR3-RSN	G1 1/2	0,7 … 17	240	40	T-bar	18-001-972	18-015-014	T68H-BGB-B2N	T40B2800	–	B68G-KITA40R	B68G-KITM40R
B68G-6GK-AR1-RLN	B68G-6GK-MR1-RLN	G3/4	0,4 … 8	240	5	Knob	18-001-979	18-015-013	T68H-6GB-B2N	T40B2800	4355-51	B68G-KITA05R	B68G-KITM05R
B68G-8GK-AR1-RLN	B68G-8GK-MR1-RLN	G1	0,4 … 8	240	5	Knob	18-001-979	18-015-013	T68H-8GB-B2N	T40B2800	4355-51	B68G-KITA05R	B68G-KITM05R
B68G-AGK-AR1-RLN	B68G-AGK-MR1-RLN	G1 1/4	0,4 … 8	240	5	Knob	18-001-978	18-015-013	T68H-AGB-B2N	T40B2800	4355-51	B68G-KITA05R	B68G-KITM05R
B68G-BGK-AR1-RLN	B68G-BGK-MR1-RLN	G1 1/2	0,4 … 8	240	5	Knob	18-001-972	18-015-013	T68H-BGB-B2N	T40B2800	4355-51	B68G-KITA05R	B68G-KITM05R
B68G-6GT-AR1-RSN	B68G-6GT-MR1-RSN	G3/4	0,7 … 17	240	5	T-bar	18-001-979	18-015-014	T68H-6GB-B2N	T40B2800	–	B68G-KITA05R	B68G-KITM05R
B68G-8GT-AR1-RSN	B68G-8GT-MR1-RSN	G1	0,7 … 17	240	5	T-bar	18-001-979	18-015-014	T68H-8GB-B2N	T40B2800	–	B68G-KITA05R	B68G-KITM05R
B68G-AGT-AR1-RSN	B68G-AGT-MR1-RSN	G1 1/4	0,7 … 17	240	5	T-bar	18-001-978	18-015-014	T68H-AGB-B2N	T40B2800	–	B68G-KITA05R	B68G-KITM05R
B68G-BGT-AR1-RSN	B68G-BGT-MR1-RSN	G1 1/2	0,7 … 17	240	5	T-bar	18-001-972	18-015-014	T68H-BGB-B2N	T40B2800	–	B68G-KITA05R	B68G-KITM05R

* Typical flow with 10 bar inlet pressure and 1 bar droop from set pressure of 6,3 bar.
** Pressure range: 18-015-013 = 0 … 10 bar; 18-015-014 = 0 … 25 bar.
*** Threaded exhaust port.
For replacement filter/regulator (without yoke) substitute "N" at the 5th and 6th digits eg. B68G-NNK-AR3-RLN.
For other styles of mounting bracket and accessories, please refer to page 442.

Options

- Alternative thread forms
- Alternative outlet ranges
- Non-relieving
- Alternative bowl sizes (68)

OLYMPIAN PLUS PLUG-IN SYSTEM

Lubricators L64, L68 – G1/4 … G11/2

- Micro-fog plug-in lubricators for best lubrication in general purpose pneumatic applications

Technical Data

Medium:
Compressed air only

Maximum inlet pressure:
17 bar

Start point:
L64: 1,5 dm^3/s
L68: 6 dm^3/s

Bowl Capacity:
L64: 0,2 l
L68: 0,5 l

Ambient temperature:
-20°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

L64:
Body & Yoke: Zinc alloy
Sight dome: Transparent PA
Elastomers: NBR

L68:
Body & Yoke: Aluminium
Bowl: Aluminium (0,5 & 1 l); Steel (5 l)
Sight dome: Pyrex (0,5 & 1 l); PA (5 l)
Elastomers: NBR

EXPRESS

L64

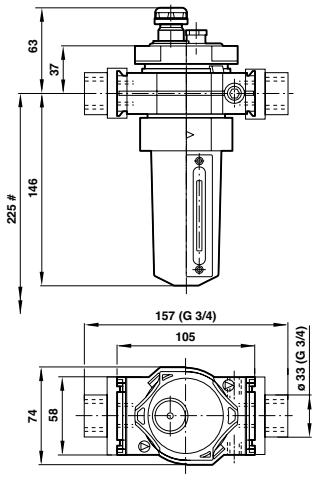


L68

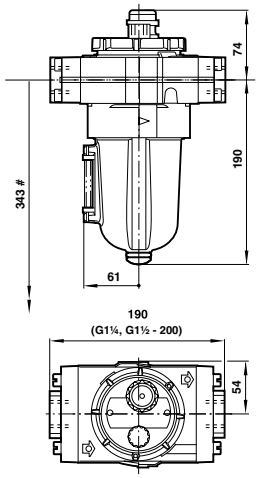


Dimensions

L64



L68



Minimum clearance required to remove bowl

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see the option you require please contact us.

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Models

Accessories

Service Kit

L64 series Model	Type	Port size	Flow* (dm^3/s)	Wall mounting bracket	3/2 Shut-off valve**	Silencer (shut-off valve)	
							
L64M-2GP-EDN	Micro-fog	G1/4	25	74504-50	T64T-2GB-P1N	T40B1800	L64M-KIT
L64M-3GP-EDN	Micro-fog	G3/8	62	74504-50	T64T-3GB-P1N	T40B1800	L64M-KIT
L64M-4GP-EDN	Micro-fog	G1/2	72	74504-50	T64T-4GB-P1N	T40B1800	L64M-KIT
L64M-6GP-EDN	Micro-fog	G3/4	72	74504-50	T64T-6GB-P1N	T40B1800	L64M-KIT
L64C-2GP-EDN	Oil-fog	G1/4	25	74504-50	T64T-2GB-P1N	T40B1800	L64C-KIT
L64C-3GP-EDN	Oil-fog	G3/8	62	74504-50	T64T-3GB-P1N	T40B1800	L64C-KIT
L64C-4GP-EDN	Oil-fog	G1/2	72	74504-50	T64T-4GB-P1N	T40B1800	L64C-KIT
L64C-6GP-EDN	Oil-fog	G3/4	72	74504-50	T64T-6GB-P1N	T40B1800	L64C-KIT

L68 series Model	Type	Port size	Flow* (dm^3/s)	Wall mounting bracket	3/2 Shut-off valve**	Silencer (shut-off valve)	
							
L68M-6GP-ERN	Micro-fog	G3/4	175	18-001-979	T68H-6GB-B2N	T40B2800	L68M-KIT
L68M-8GP-ERN	Micro-fog	G1	175	18-001-979	T68H-8GB-B2N	T40B2800	L68M-KIT
L68M-AGP-ERN	Micro-fog	G1 1/4	175	18-001-978	T68H-AGB-B2N	T40B2800	L68M-KIT
L68M-BGP-ERN	Micro-fog	G1 1/2	175	18-001-972	T68H-BGB-B2N	T40B2800	L68M-KIT
L68C-6GP-ERN	Oil-fog	G3/4	175	18-001-979	T68H-6GB-B2N	T40B2800	L68C-KIT
L68C-8GP-ERN	Oil-fog	G1	175	18-001-979	T68H-8GB-B2N	T40B2800	L68C-KIT
L68C-AGP-ERN	Oil-fog	G1 1/4	175	18-001-978	T68H-AGB-B2N	T40B2800	L68C-KIT
L68C-BGP-ERN	Oil-fog	G1 1/2	175	18-001-972	T68H-BGB-B2N	T40B2800	L68C-KIT

* Typical flow with 6,3 bar inlet pressure and 0,5 bar pressure drop.
** Threaded exhaust port.
To order a basic unit without yoke substitute 'N' at the 5th and 6th letters respectively e.g. L68M-NNP-EDN.
For other styles of mounting bracket and accessories, please refer to page 442.

Options

- Alternative thread forms
- Quick fill device
- Alternative bowl sizes
- High Flow (68)
- Bowl Drain (68)

Online at **store.norgren.com**

OLYMPIAN PLUS PLUG-IN SYSTEM

Soft start dump valve P64F & P68F – G1/4 … G 1 1/2

- Assists machine designers in complying with the European Machineries Directive
- Can help existing machinery to comply with PUWER (Provision and Use of Work Equipment Regulations)
- Controlled increase of downstream pressure on start up
- Solenoid, air pilot or manual operator
- High forward flow capacity
- High flow dump facility

Technical Data

Medium:
Compressed air only

Maximum operating pressure:
For solenoid operated versions: 10 bar
For pilot operated versions: 17 bar

Minimum operating pressure:
3 bar

Ambient temperature:
-20°C … +80°C
(solenoid version up to +50°C)
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Air pilot port:
P64F: Rc1/4 P68F: G1/4

Exhaust port:
P64F: G1/2 P68F: G1

Maximum flow:
P64F: 57dm³/s P68F: 147dm³/s
Note: Maximum flow with 6,3 bar inlet pressure and pressure drop of 0,5 bar

Snap pressure:
Full flow when downstream pressure reaches 50-80% of inlet pressure

Materials

P64F:
Body & Yoke: Zinc alloy
Intermediate body: Aluminium
Top plate: Zinc
Elastomers: NBR

P68F:
Body, Yoke, Top & Bottom plate: Aluminium
Filter discs: Sintered plastic
Internal components: Brass/steel
Elastomers: NBR

EXPRESS

P64F

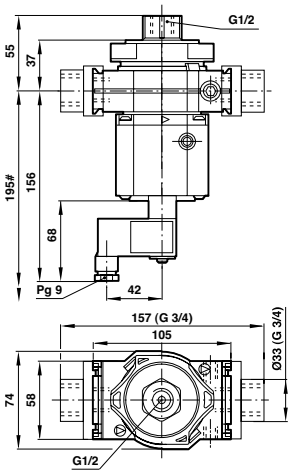


P68F

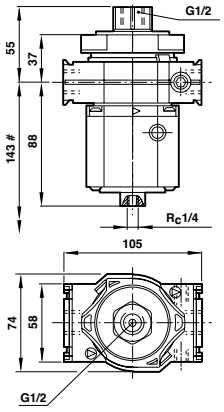


Dimensions

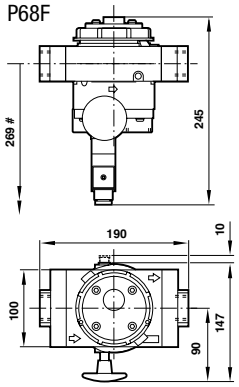
P64F Solenoid



P64F Air Pilot



P68F



Minimum clearance required to remove unit

Options

- Alternative thread forms
- Manual lockouts
- Alternative voltage

Models

Accessories

P64F & P68F series – 24V d.c. Solenoid pilot operated Model	Air pilot operated Model	Port size	Wall mounting bracket	Silencer (dump valve)	3/2 Shut-off valve*	Silencer (shut-off valve)	Basic solenoid plug
							
P64F-2GC-PFN	P64F-2GA-NNN	G1/4	74504-50	MB004B	T64T-2GB-P1N	T40B1800	0657868000000000
P64F-3GC-PFN	P64F-3GA-NNN	G3/8	74504-50	MB004B	T64T-3GB-P1N	T40B1800	0657868000000000
P64F-4GC-PFN	P64F-4GA-NNN	G1/2	74504-50	MB004B	T64T-4GB-P1N	T40B1800	0657868000000000
P64F-6GC-PFN	P64F-6GA-NNN	G3/4	74504-50	MB004B	T64T-6GB-P1N	T40B1800	0657868000000000
P68F-6GA-NPN	P68F-6GA-NNN	G3/4	18-001-979	MB008B	T68H-6GB-B2N	T40B2800	0657868000000000
P68F-8GA-NPN	P68F-8GA-NNN	G1	18-001-979	MB008B	T68H-8GB-B2N	T40B2800	0657868000000000
P68F-AGA-NPN	P68F-AGA-NNN	G1 1/4	18-001-978	MB008B	T68H-AGB-B2N	T40B2800	0657868000000000
P68F-BGA-NPN	P68F-BGA-NNN	G1 1/2	18-001-972	MB008B	T68H-BGB-B2N	T40B2800	0657868000000000

* Threaded exhaust port.

To order a basic unit without yoke substitute 'N' at the 5th and 6th letters respectively e.g. P64F-NNC-PFN.
For other styles of mounting bracket and accessories, please refer to page 442.

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OLYMPIAN PLUS PLUG-IN SYSTEM

Soft start monitored dump valve P64S – G1/4 … G3/4

- Controlled increase of downstream pressure on start up
- Monitored dump function
- High forward flow capacity
- High flow dump facility
- Soft start valves allow a controlled increase of pressure onto downstream cylinders/ machines offering protection to personnel equipment
- The positively driven micro switch ensures a monitored dump function

Note: Turn on system air supply prior to applying signal to operator. Failure to do so may cause valve to continuously exhaust.

Technical Data

Medium:
Compressed air only

Maximum pressure:
10 bar

Minimum operating pressure:
3 bar

Ambient temperature:
-20°C … +50°C
(Solenoid rating max is 50°C whilst unit max is 80°C. Consult our Technical Service for use below +2°C)

Gauge ports:
Rc1/8

Exhaust port:
G1/2

Snap pressure:
Full flow when downstream pressure reaches 35% - 60% of inlet pressure

Charge time:
For 2 litre downstream volume and inlet pressure of 6,3 bar, 0,2s minimum, 75 secs. maximum

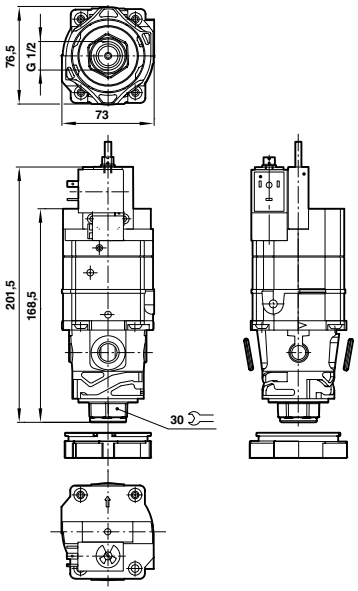
Solenoid operator:
22 mm, 24V DC, 2W only
(no manual overide)

Materials

Body: Zinc alloy
Intermediate body: Aluminium
Filter discs: Sintered plastic
Internal components:
Brass: Steel or Stainless steel
Top plate: Aluminium
Exhaust bonnet: Zinc alloy
Yoke: Zinc alloy
Elastomers: NBR



Dimensions



Models

Accessories

P64S series Model	Port size	Wall mounting bracket	Gauge 0 … 10 bar	3/2 Shut-off valve**	Silencer	Silencer (shut-off valve)	Basic solenoid plug
							
P64S-2GC-N1N	G1/4	74504-50	18-015-013	T64T-2GB-P1N	MB004B (R1/2)	T40B1800	0657868000000000
P64S-3GC-N1N	G3/8	74504-50	18-015-013	T64T-3GB-P1N	MB004B (R1/2)	T40B1800	0657868000000000
P64S-4GC-N1N	G1/2	74504-50	18-015-013	T64T-4GB-P1N	MB004B (R1/2)	T40B1800	0657868000000000
P64S-6GC-N1N	G3/4	74504-50	18-015-013	T64T-3GB-P1N	MB004B (R1/2)	T40B1800	0657868000000000

** Threaded exhaust port.
To order a basic unit without yoke, subsitiute "N" at the 5th and 6th letters respectively e.g. P64S-NNC-N1N.
For other styles of mounting bracket and accessories, please refer to page 442.

OLYMPIAN PLUS PLUG-IN SYSTEM

Pressure relief valves V64H, V68H – G1/4 … G1

- Olympian relief valves protect compressed air systems from over-pressurisation
- High relief capacity, sensitive and accurate
- Threaded relief port for silencer or piped exhaust

IMI Precision Engineering pressure relief valves comply with category 0(S.E.P.) and category 1 of the Pressure Equipment Directive 97/23/EC.

Technical Data

Medium:
Compressed air only

Gauge ports:
Rc1/8

Relief port:
V64H: G1/2
V68H: G1

Ambient temperature:
-20°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Relief pressure adjustment range:
V64H:
V64H - … - RMN: 1 … 10 bar
V64H - … - RSN: 2 … 16 bar
V68H:
V68H - … - RMN: 0,3 … 10 bar
V68H - … - RSN: 0,7 … 17 bar

Materials

V64H:
Body, Bonnet & Yoke: Zinc alloy
Connection piece: Aluminium
Bottom plug: Aluminium
Adjusting screw: Steel
Elastomers: NBR

V68H:
Body, Bonnet & Yoke: Aluminium
Adjusting screw: Steel
Elastomers: NBR

EXPRESS

V64H

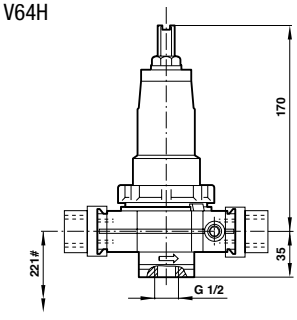


V68H

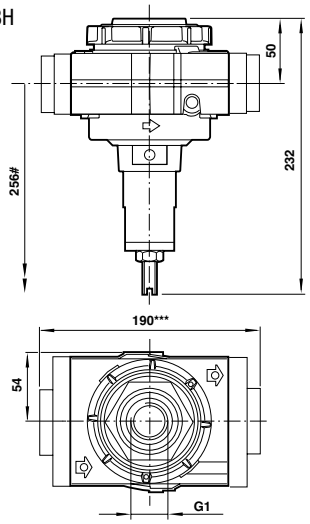


Dimensions

V64H



V68H



*** For 1 1/4 and 1 1/2 ported yokes add 10 mm
# Minimum clearance required to remove unit from yoke

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OLYMPIAN PLUS PLUG-IN SYSTEM
Pressure relief valves V64H, V68H – G1/4 … G1

Models

Accessories

Service Kit

V64H series Model	Port size	Pressure range (bar)	Wall mounting bracket	Gauge	Silencer (relief valve)	3/2 Shut-off valve**	Silencer (shut-off valve)	Tamper resistant kit	
									
V64H-2GD-RMN	G1/4	1 … 10	74504-50	18-015-013 (0 … 10 bar)	MB004B	T64T-2GB-P1N	T40B1800	1581-90	V64H-KIT
V64H-3GD-RMN	G3/8	1 … 10	74504-50	18-015-013 (0 … 10 bar)	MB004B	T64T-3GB-P1N	T40B1800	1581-90	V64H-KIT
V64H-4GD-RMN	G1/2	1 … 10	74504-50	18-015-013 (0 … 10 bar)	MB004B	T64T-4GB-P1N	T40B1800	1581-90	V64H-KIT
V64H-6GD-RMN	G3/4	1 … 10	74504-50	18-015-013 (0 … 10 bar)	MB004B	T64T-6GB-P1N	T40B1800	1581-90	V64H-KIT
V64H-2GD-RSN	G1/4	2 … 16	74504-50	18-015-014 (0 … 25 bar)	MB004B	T64T-2GB-P1N	T40B1800	1581-90	V64H-KIT
V64H-3GD-RSN	G3/8	2 … 16	74504-50	18-015-014 (0 … 25 bar)	MB004B	T64T-3GB-P1N	T40B1800	1581-90	V64H-KIT
V64H-4GD-RSN	G1/2	2 … 16	74504-50	18-015-014 (0 … 25 bar)	MB004B	T64T-4GB-P1N	T40B1800	1581-90	V64H-KIT
V64H-6GD-RSN	G3/4	2 … 16	74504-50	18-015-014 (0 … 25 bar)	MB004B	T64T-6GB-P1N	T40B1800	1581-90	V64H-KIT

V68H series Model	Port size	Pressure range (bar)	Wall mounting bracket	Gauge	Silencer (relief valve)	3/2 Shut-off valve**	Silencer (shut-off valve)	Tamper resistant kit	
									
V68H-6GD-RMN	G3/4	0,3 … 10	18-001-979	18-015-013 (0 … 10 bar)	MB008B	T68H-6GB-B2N	T40B2800	1581-90	V68H-KIT
V68H-8GD-RMN	G1	0,3 … 10	18-001-979	18-015-013 (0 … 10 bar)	MB008B	T68H-8GB-B2N	T40B2800	1581-90	V68H-KIT
V68H-AGD-RMN	G1 1/4	0,3 … 10	18-001-979	18-015-013 (0 … 10 bar)	MB008B	T68H-AGB-B2N	T40B2800	1581-90	V68H-KIT
V68H-BGD-RMN	G1 1/2	0,3 … 10	18-001-979	18-015-013 (0 … 10 bar)	MB008B	T68H-BGB-B2N	T40B2800	1581-90	V68H-KIT
V68H-6GD-RSN	G3/4	0,7 … 17	18-001-979	18-015-014 (0 … 25 bar)	MB008B	T68H-6GB-B2N	T40B2800	1581-90	V68H-KIT
V68H-8GD-RSN	G1	0,7 … 17	18-001-979	18-015-014 (0 … 25 bar)	MB008B	T68H-8GB-B2N	T40B2800	1581-90	V68H-KIT
V68H-AGD-RSN	G1 1/4	0,7 … 17	18-001-979	18-015-014 (0 … 25 bar)	MB008B	T68H-AGB-B2N	T40B2800	1581-90	V68H-KIT
V68H-BGD-RSN	G1 1/2	0,7 … 17	18-001-979	18-015-014 (0 … 25 bar)	MB008B	T68H-BGB-B2N	T40B2800	1581-90	V68H-KIT

** Threaded exhaust port.
To order a basic unit without yoke substitute 'N' at the 5th and 6th letters respectively e.g. P64F-NNC-PFN.
For other styles of mounting bracket and accessories, please refer to page 442.

Options

- Alternative thread forms
- Additional outlet ranges

OLYMPIAN PLUS PLUG-IN SYSTEM

Accessories

EXPRESS

YOKES

- When installed, enables Olympian basic units to be 'plugged in' or removed without disturbing connecting pipework



Models

Single Unit Model	Double Unit Model	Series	Port size
Y64A-2GA-N1N	Y64A-2GA-N2N	64	G1/4
Y64A-3GA-N1N	Y64A-3GA-N2N	64	G3/8
Y64A-4GA-N1N	Y64A-4GA-N2N	64	G1/2
Y64A-6GA-N1N	Y64A-6GA-N2N	64	G3/4
Y68A-6GN-N1N	Y68A-6GN-N2N	68	G3/4
Y68A-8GN-N1N	Y68A-8GN-N2N	68	G1
Y68A-AGN-N1N	Y68A-AGN-N2N	68	G1 1/4
Y68A-BGN-N1N	Y68A-BGN-N2N	68	G1 1/2

Yokes may be installed in a pipe system in advance of the selection or fitment of the basic units.

YOKE CONNECTOR KIT

- Allows quick and easy connection of one Olympian Plus product/accessory to another



Models

Model	Series
74503-51	64
18-026-987	68

END CONNECTOR

- Provides a threaded end to an assembly



Models

Model	Series	Port size
74505-50	64	G1/2
74505-53	64	G3/4

For use with end mounted porting block or for G1/2 or G3/4 over porting.

SHUT-OFF VALVE

- 3 port/2 position
- Easy to operate
- Lockable in the 'closed' position



Models

Model	Series	Port size
T64T-2GB-P1N	64	G1/4
T64T-3GB-P1N	64	G3/8
T64T-4GB-P1N	64	G1/2
T64T-6GB-P1N	64	G3/4
T68H-6GB-B2N	68	G3/4
T68H-8GB-B2N	68	G1
T68H-AGB-B2N	68	G1 1/4
T68H-BGB-B2N	68	G1 1/2

Lockout facility. G1/8 exhaust port on 64 series, use silencer, ref. T40B1800.

PORTING BLOCKS

- Provides 3 auxiliary air outlets
- Can be installed in a combination to branch off to smaller sub-systems
- Type 74507-53 is often installed between a filter-regulator and lubricator. Its integral nonreturn valve prevents any reverse flow of lubricant contaminating the upstream air



Models

Model	Series
74507-50	64
74507-53	64 with integral non-return valve

2 G1/4 outlets. 1 G3/8 outlet.

Model	Series	Top port	Side port
18-026-986	68	G1/2	G1/4

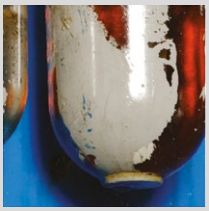
Porting blocks may be used as spacers, gauge ports or as auxiliary air outlets. They may be fitted to end connectors, rear entry manifolds, shut-off valves and rear entry shut-off valves.

Use the correct length screws (supplied) when fitting porting blocks.

If your FRL looks like this…







…it's wasting energy and money, it's unsafe and environmentally unfriendly.

And the chances are it will fail the Health and Safety at Work regulations and it's unlikely to comply with Environmental rules for safe disposal of contaminants.

1. Polycarbonate bowl needs replacing to comply with BS 6005:1997
2. Auto drain will not dispose of contaminants safely
3. Filter elements could be blocked
4. Regulator will not be maintaining optimum pressure
5. Lubricator is neither effective or efficient
6. Replacement is both time consuming and costly



Olympian 64 series FRL

Precision. Engineered.

It's time to upgrade

To the Olympian 64 Series, a better overall solution because:

- It is completely interchangeable
- It can be replaced in seconds without disturbing pipe work
- It is fully serviceable and there are comprehensive service kits available to ensure it is efficient and cost effective, complies with Health & Safety regulations and is environmentally friendly

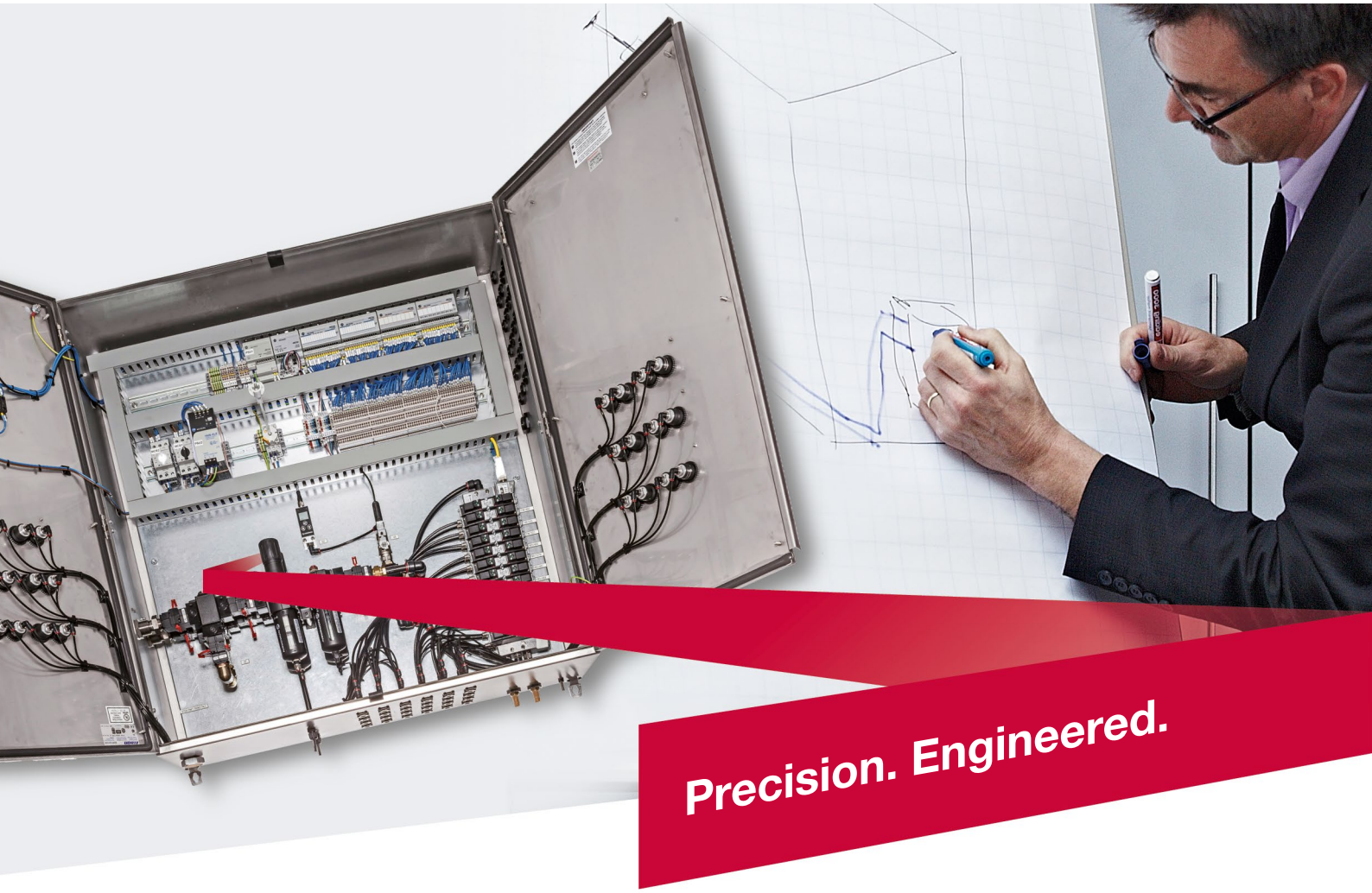
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EXCELON MODULAR SYSTEM

Combination filter/regulators and lubricators BL72, BL73, BL74 – G1/4 … G1/2

- Shut off valve for safe isolation of supply
- General purpose filter removing condensate and particle contamination
- Regulator ensuring optimum working pressure for economy and safety
- Lubricator to deliver a correct level of oil lubrication into the downstream system optimising life expectancy of other products
- Sturdy bracket for correct mounting
- Pressure gauge for constant monitoring of output pressure

Technical Data

Medium:
Compressed air only

Maximum inlet pressure:
10 bar

Gauge ports:
Rc 1/8

Ambient temperature:
-20°C … +50°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Pressure range:
0,3 … 10 bar
Note: Outlet pressure can be adjusted in excess of and also less than those listed

Materials

BL72:
Body: Zinc
Bowl: Transparent PC
Elastomers: CR & NBR

BL73:
Body: Die cast aluminium
Bowl: Transparent PC
Elastomers: CR & NBR

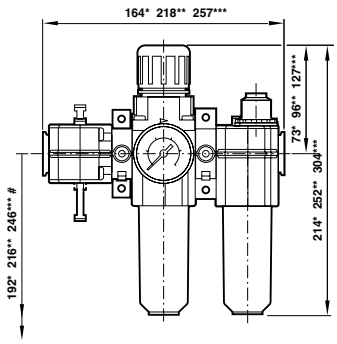
BL74:
Body: Die cast aluminium
Bowl: Transparent PC with steel guard
Metal bowl: Die cast aluminium
Elastomers: CR & NBR

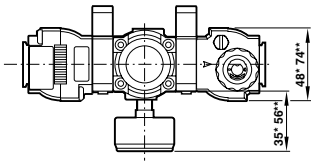
EXPRESS





Dimensions





* BL72, ** BL73, *** BL74
# Minimum clearance required to remove bowl

Options

- Alternative outlet ranges
- Alternative port sizes
- Element 5µm
- Alternative bowl options
- Oil fog lubricator

Models

Accessories

Service Kit

Boxed sets BL72, BL73 and BL74 with shut-off valve				Tamper resistant kit	Quick fill nipple	Auto drain	Manual drain
Auto drain Model	Manual drain Model	Port size	Bowl				
							
BL72-201GA	BL72-221G	G1/4	T	4255-51	–	B72G-KITA40R & L72M-KIT	B72G-KITM40R & L72M-KIT
BL73-301G	BL73-321G	G3/8	T	4455-51	18-011-024	B73G-KITA40R & L73M-KIT	B73G-KITM40R & L73M-KIT
BL74-401G	BL74-421G	G1/2	GT	4355-51	18-011-024	B74G-KITA40R & L74M-KIT	B74G-KITM40R & L74M-KIT

Boxed sets BL72, BL73 and BL74 with shut-off valve				Tamper resistant kit	Quick fill nipple	Auto drain	Manual drain
Auto drain Model	Manual drain Model	Port size	Bowl				
							
BL72-205GA	BL72-225G	G1/4	T	4255-51	–	B72G-KITA40R & L72M-KIT	B72G-KITM40R & L72M-KIT
BL73-305G	BL73-325G	G3/8	T	4455-51	18-011-024	B73G-KITA40R & L73M-KIT	B73G-KITM40R & L73M-KIT
BL74-405G	BL74-425G	G1/2	GT	4355-51	18-011-024	B74G-KITA40R & L74M-KIT	B74G-KITM40R & L74M-KIT

GT= Guarded transparent bowl.
T=Transparent bowl.

Online at store.norgren.com

EXCELON MODULAR SYSTEM

General purpose filters F72G, F73G, F74G – G1/4 … G3/4

- Excelon design allows in-line installation or modular installation with other Excelon products
- Quick release bayonet bowl

Technical Data

Medium:
Compressed air only

Maximum inlet pressure:
10 bar

Ambient temperature:
-34°C … +50°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

F72G:
Body: Die cast zinc
Bowl: Transparent PC alternative transparent PC with steel guard alternative aluminium
Liquid level indicator lens (metal bowl): Transparent PA
Filter element: Sintered PP
Elastomers: CR & NBR

F73G:
Body: Die cast aluminium
Bowl: Transparent PC alternative transparent PC with steel guard alternative aluminium
Liquid level indicator lens (metal bowl): Transparent PA
Filter element: Sintered PP
Elastomers: CR & NBR

F74G:
Body: Die cast aluminium
Bowl: Transparent PC with steel guard or die cast aluminium
Liquid level indicator lens (metal bowl): Transparent PA
Filter element: Sintered PP
Elastomers: CR & NBR

EXPRESS

F72G

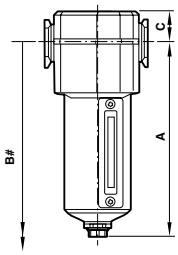


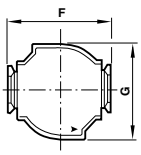
F73G



F74G







Minimum clearance required to remove bowl

Dimensions

Series	Drain	A	B	C	F	G
72	Auto	141	192	19	50	48
	Manual	134	185	19	50	48
73	Auto	147	207	25	68	62
	Manual	156	216	25	68	62
74	Auto	161	230	25	80	74
	Manual	177	246	25	80	74

EXCELON MODULAR SYSTEM
General purpose filters F72G, F73G, F74G – G1/4 … G3/4

Models

F72G series Auto drain Model	Manual drain Model	Port size	Flow* (dm^3/s)	Element (µm)	Bowl	Wall mounting bracket	Auto drain	Manual drain
								
F72G-2GN-AL3	F72G-2GN-QT3	G1/4	28	40	T	4224-50	F72G-KITA40	F72G-KITM40
F72G-3GN-AL3	F72G-3GN-QT3	G3/8	28	40	T	4224-50	F72G-KITA40	F72G-KITM40
F72G-2GN-AL1	F72G-2GN-QT1	G1/4	28	5	T	4224-50	F72G-KITA05	F72G-KITM05
F72G-3GN-AL1	F72G-3GN-QT1	G3/8	28	5	T	4224-50	F72G-KITA05	F72G-KITM05

F73G series Auto drain Model	Manual drain Model	Port size	Flow* (dm^3/s)	Element (µm)	Bowl	Wall mounting bracket	Auto drain	Manual drain
								
F73G-2GN-AT3	F73G-2GN-QT3	G1/4	29	40	T	4424-50	F73G-KITA40	F73G-KITM40
F73G-3GN-AT3	F73G-3GN-QT3	G3/8	35	40	T	4424-50	F73G-KITA40	F73G-KITM40
F73G-4GN-AT3	F73G-4GN-QT3	G1/2	38	40	T	4424-50	F73G-KITA40	F73G-KITM40
F73G-2GN-AT1	F73G-2GN-QT1	G1/4	29	5	T	4424-50	F73G-KITA05	F73G-KITM05
F73G-3GN-AT1	F73G-3GN-QT1	G3/8	35	5	T	4424-50	F73G-KITA05	F73G-KITM05
F73G-4GN-AT1	F73G-4GN-QT1	G1/2	38	5	T	4424-50	F73G-KITA05	F73G-KITM05

F74G series Auto drain Model	Manual drain Model	Port size	Flow* (dm^3/s)	Element (µm)	Bowl	Wall mounting bracket	Auto drain	Manual drain
								
F74G-3GN-AP3	F74G-3GN-QP3	G3/8	66	40	GT	4324-50	F74G-KITA40	F74G-KITM40
F74G-4GN-AP3	F74G-4GN-QP3	G1/2	83	40	GT	4324-50	F74G-KITA40	F74G-KITM40
F74G-6GN-AP3	F74G-6GN-QP3	G3/4	83	40	GT	4324-50	F74G-KITA40	F74G-KITM40
F74G-3GN-AP1	F74G-3GN-QP1	G3/8	66	5	GT	4324-50	F74G-KITA05	F74G-KITM05
F74G-4GN-AP1	F74G-4GN-QP1	G1/2	83	5	GT	4324-50	F74G-KITA05	F74G-KITM05
F74G-6GN-AP1	F74G-6GN-QP1	G3/4	83	5	GT	4324-50	F74G-KITA05	F74G-KITM05

GT= Guarded transparent bowl.
T= Transparent bowl.
* Typical flow with 6,3 bar inlet pressure and 0,5 bar pressure drop.
For other styles of mounting bracket and accessories, please refer to page 461.

Options

- Alternative thread forms
- Alternative bowl options
- Mechanical service life indicator

EXCELON MODULAR SYSTEM

'Puraire'® high efficiency oil removal filters F72C, F73C, F74C, F74H – G1/4 … G3/4

- Excelon design allows in-line installation or modular installation with other Excelon products
- High efficiency oil and particle removal
- Quick release bayonet bowl
- Service indicator standard

Technical Data

Medium:
Compressed air only

Maximum inlet pressure:
10 bar transparent bowl or guarded
8 bar transparent bowl
F72C with auto drain

Remaining oil content:
0,01 mg/m^3 at +21°C

Particle removal:
To 0,01 µm

Ambient temperature:
-34°C … +50°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

F72C:
Body: Zinc
Transparent bowl: PC
Element: Synthetic fibre & PU foam
Elastomers: CR & NBR

F73C:
Body: Die cast aluminium
Bowl: Transparent PC, with or without steel guard alternative aluminium
Element: Synthetic fibre & PE foam
Elastomers: CR & NBR

F74C:
Body: Die cast aluminium
Bowl: Transparent PC with steel guard or die cast aluminium
Element: Synthetic fibre & PE foam
Elastomers: CR & NBR

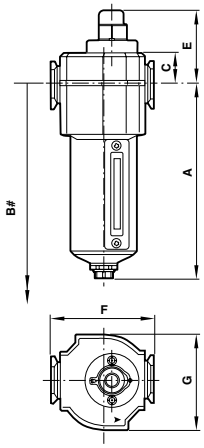
Service life indicator:
Body: Transparent PA
Internal parts: Acetal
Spring: Stainless steel
Elastomers: NBR

EXPRESS





Dimensions



Minimum clearance required to remove bowl

Series	Drain	A	B	C	E	F	G
F72C	Auto	141	192	19	53	50	48
F73C	Auto	147	207	25	60	68	62
F74C	Auto	161	230	25	60	80	74
F74H	Auto	214	267	25	60	80	74

Options

- Alternative thread forms
- Guarded ploycarbonate bowls (72,73)
- Metal bowls
- Without service life indicator
- Manual drains

Typical performance characteristics

Inlet pressure (bar)	Maximum flow (dm^3/s)			
	F72C	F73C	F74C	F74H
1	1,8	4,0	6,4	11,2
3	3,1	6,9	11,0	19,3
5	4,0	8,9	14,3	24,9
6,3	4,5	10,0	16,0	28,0
7	4,7	10,5	16,9	29,5
9	5,4	12,0	19,1	33,5

* Maximum flow to maintain stated oil removal performance.

Models

Auto drain Model	Port size	Flow* (dm^3/s)	Bowl	Accessories: Wall mounting bracket	Service Kit
					
F72C-2GD-AL0	G1/4	4,5	T	4224-50	F72C-KITA0C
F72C-3GD-AL0	G3/8	4,5	T	4224-50	F72C-KITA0C
F73C-2GD-AT0	G1/4	10	T	4424-50	F73C-KITA0C
F73C-3GD-AT0	G3/8	10	T	4424-50	F73C-KITA0C
F73C-4GD-AT0	G1/2	10	T	4424-50	F73C-KITA0C
F74C-3GD-AP0	G3/8	16	GT	4324-50	F74C-KITA0C
F74C-4GD-AP0	G1/2	16	GT	4324-50	F74C-KITA0C
F74H-4GD-AP0	G1/2	28	GT	4324-50	F74H-KITA0C
F74H-6GD-AP0	G3/4	28	GT	4324-50	F74H-KITA0C

GT= Guarded transparent bowl.
T=Transparent bowl.

* To maintain stated oil content at 6,3 bar inlet pressure.
For other styles of mounting bracket and accessories, please refer to page 461.

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EXCELON MODULAR SYSTEM

'Ultraire'® high efficiency oil vapour removal filters F72V, F74V – G1/4 … G3/4

- Excelon design allows in-line or modular installation with other Excelon products
- Adsorbing type activated carbon element removes oil vapours and most hydrocarbon odours
- Quick release bayonet bowl
- High Intensity blue colour change indication when contaminated
- Carbon pack service life 1000 hours at 21ºC

Technical Data

Medium:
Compressed air only

Maximum inlet pressure:
F72V: 10 bar
F74V: 17 bar

Remaining oil content:
0,003 mg/m³ max. at +21°C

Ambient temperature:
Transparent bowl:
-34°C … +50°C (F72V)
Metal bowl: -34°C … +65°C (F74V)
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

F72V:
Body: Zinc
Transparent bowl: PC
Element: Activated carbon & PC
Elastomers: NBR

F74V:
Body: Die cast alminium
Metal bowl: Die cast alminium
Element: Activated carbon & Alminium
Elastomers: CR & NBR

EXPRESS

F72V

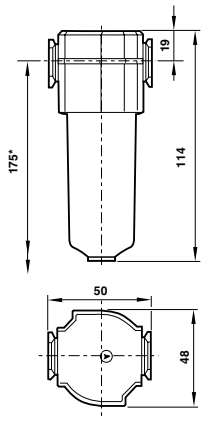


F74V

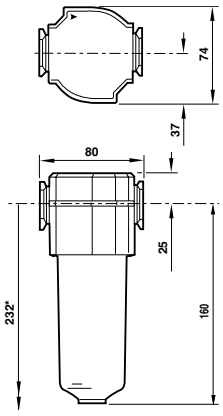


Dimensions

F72V

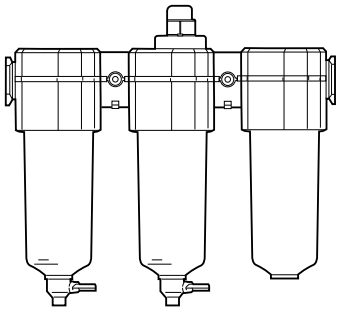


F74V



Minimum clearance required to remove bowl

Oil vapour removal filters must be protected upstream by an oil removal filter. A typical assembly:



General purpose filter | Oil removal filter | Oil vapour removal filter

Models

F72V series Model	Port size	Flow* (dm³/s)	Bowl	Wall mounting bracket	
					
F72V-2GN-ETC	G1/4	1,6	T	4224-50	F72V-KITA0V
F72V-3GN-ETC	G3/8	1,6	T	4224-50	F72V-KITA0V

F74V series Model	Port size	Flow* (dm³/s)	Bowl	Wall mounting bracket	
					
F74V-3GN-EMA	G3/8	13	M	4324-50	F74V-KITA0V
F74V-4GN-EMA	G1/2	13	M	4324-50	F74V-KITA0V
F74V-6GN-EMA	G3/4	13	M	4324-50	F74V-KITA0V

M= Metal bowl.
T=Transparent bowl.

* To maintain stated oil content at 6,3 bar inlet pressure.

For other styles of mounting bracket and accessories, please refer to page 461.

Accessories

Service Kit

Typical performance characteristics

Inlet pressure (bar)	Maximum flow (dm³/s)	
	F72V	F74V
2,5	1,0	8,7
4	1,3	10,7
6,3	1,6	13,3
8	1,8	15,6
10	2,0	17,6

* Maximum flow to maintain stated oil removal performance.

Options

- Alternative thread forms

EXCELON MODULAR SYSTEM

Pressure regulators R72G, R73G, R74G – G1/4 … G3/4

- Excelon® design allows in-line or modular installation
- Balanced valve design for optimum pressure control
- Standard relieving models allow reduction of downstream pressure when the system is dead-ended
- Push to lock adjusting knob with tamper resistant accessory

Technical Data

Medium:
Compressed air only

Maximum inlet pressure:
20 bar

Gauge ports:
Rc1/8

Ambient temperature:
R72G: -34°C … +65°C
R73G & R74G: -34°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Pressure range:
0,3 … 10 bar (Knob)
0,7 … 17 bar (T-bar) - 73&74 series only
Note: Outlet pressure can be adjusted in excess of and also less than those listed

Materials

R72G:
Body: Die cast zinc
Bottom plug: Acetal
Bonnet: Acetal
Valve: PP & TPV
Elastomers: NBR

R73G & R74G:
Body & Bonnet: Die cast aluminium
Bottom plug: Acetal
Elastomers: NBR

EXPRESS

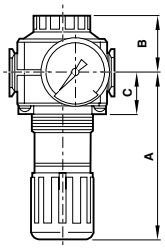
R72G

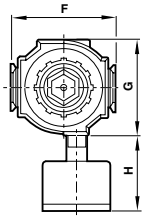


R73G & R74G



Dimensions





Series	A	B	C	F	G	H	Panel Ø	Panel depth
72	73	33	26	50	48	35	40	0 … 4
73	96	39	31	68	62	56	48	2 … 6
74	127	43	31	80	74	56	52	2 … 6

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Pressure regulators R72G, R73G, R74G – G1/4 … G3/4

Models

Accessories

Service Kit

R72G series Model	Port size	Pressure range (bar)	Flow* (dm^3/s)	Bonnet	Wall mounting bracket	Neck mounting bracket	Gauge	Tamper resistant kit	
									
R72G-2GK-RMN	G1/4	0,3 … 10	33	Knob	4224-50	74316-50	18-015-989 (0 … 10 bar)	4255-51	R72G-KITR
R72G-3GK-RMN	G3/8	0,3 … 10	33	Knob	4224-50	74316-50	18-015-989 (0 … 10 bar)	4255-51	R72G-KITR

R73G series Model	Port size	Pressure range (bar)	Flow* (dm^3/s)	Bonnet	Wall mounting bracket	Neck mounting bracket	Gauge	Tamper resistant kit	
									
R73G-2GK-RMN	G1/4	0,3 … 10	50	Knob	4424-50	4461-50	18-015-013 (0 … 10 bar)	4455-51	R73G-KITR
R73G-3GK-RMN	G3/8	0,3 … 10	60	Knob	4424-50	4461-50	18-015-013 (0 … 10 bar)	4455-51	R73G-KITR
R73G-4GK-RMN	G1/2	0,3 … 10	60	Knob	4424-50	4461-50	18-015-013 (0 … 10 bar)	4455-51	R73G-KITR
R73G-2GT-RSN	G1/4	0,7 … 17	50	T-bar	4424-50	4461-50	18-015-014 (0 … 25 bar)	–	R73G-KITR
R73G-3GT-RSN	G3/8	0,7 … 17	60	T-bar	4424-50	4461-50	18-015-014 (0 … 25 bar)	–	R73G-KITR
R73G-4GT-RSN	G1/2	0,7 … 17	60	T-bar	4424-50	4461-50	18-015-014 (0 … 25 bar)	–	R73G-KITR

R74G series Model	Port size	Pressure range (bar)	Flow* (dm^3/s)	Bonnet	Wall mounting bracket	Neck mounting bracket	Gauge	Tamper resistant kit	
									
R74G-3GK-RMN	G3/8	0,3 … 10	98	Knob	4324-50	4368-51	18-015-013 (0 … 10 bar)	4355-51	R74G-KITR
R74G-4GK-RMN	G1/2	0,3 … 10	105	Knob	4324-50	4368-51	18-015-013 (0 … 10 bar)	4355-51	R74G-KITR
R74G-6GK-RMN	G3/4	0,3 … 10	105	Knob	4324-50	4368-51	18-015-013 (0 … 10 bar)	4355-51	R74G-KITR
R74G-3GT-RSN	G3/8	0,7 … 17	98	T-bar	4324-50	4368-51	18-015-014 (0 … 25 bar)	–	R74G-KITR
R74G-4GT-RSN	G1/2	0,7 … 17	105	T-bar	4324-50	4368-51	18-015-014 (0 … 25 bar)	–	R74G-KITR
R74G-6GT-RSN	G3/4	0,7 … 17	105	T-bar	4324-50	4368-51	18-015-014 (0 … 25 bar)	–	R74G-KITR

* Typical flow with 10 bar inlet pressure and 1 bar droop from set pressure of 6,3 bar.

For other styles of mounting bracket and accessories, please refer to page 461.

Options

- Alternative thread forms
- Alternative outlet ranges
- Non-relieving options
- Reverse flow

EXCELON® MODULAR SYSTEM

Manifold regulator R72M, R74M – G1/4, G3/8, G1/2, G3/4

- Excelon® design allows in-line or modular installation
- Manifold typically up to six regulators without booster signal

Technical Data

Medium:
Compressed air only

Maximum inlet pressure:
20 bar

Ambient temperature:
R72M: -34°C … 65°C
R74M: -34°C … 80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

R72M:
Body: Zinc
Bottom plug: Acetal
Bonnet: Acetal
Valve: PP & TPV
Elastomers: NBR

R74M:
Body: Aluminum
Bonnet: Aluminum
Elastomers: NBR
Bottom plug: Acetal

R72M



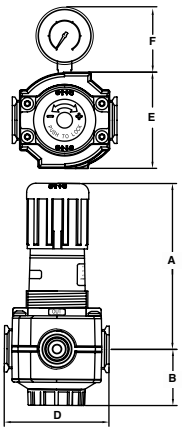
R74M



Options

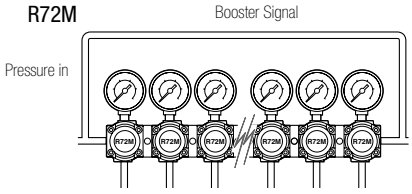
- Alternative thread forms
- Alternative outlet ranges
- Non-relieving options

Dimensions

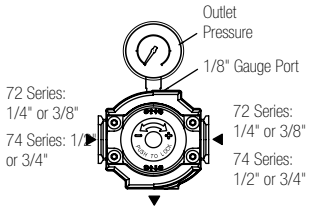


Series	A	B	D	E	F	Panel Ø	Panel depth
72	73	33	50	48	48	39	0 … 4
74	127	43	80	74	69	52	1,8 … 6

Typical manifold regulator application (R72M shown)



Note: Part number shown refers to regulator units only. Order Quikclamps as shown to assemble as required



Outlet port:
72 Series: 1/4"
74 Series: 1/2"

Models

Accessories

Service Kit

Model	Port size	Flow* (dm³/s)	Quikclamp	Quikclamp and quikclamp wall bracket	Gauge 0 … 10 bar	Tamper resistant kit	Service kit
							
R72M-2GK-RMN	G3/4	39	4214-51	4214-52	18-015-027	4255-51	4381-500
R72M-3GK-RMN	G3/8	39	4214-51	4214-52	18-015-027	4255-51	4381-500
R74M-4GK-RMN	G1/2	105	4314-51	4314-52	18-015-027	4355-51	4381-700
R74M-6GK-RMN	G3/4	105	4314-51	4314-52	18-015-027	4355-51	4381-700

* Typical flow with 10 bar inlet pressure and 1 bar droop from set pressure of 6,3 bar.
For other styles of mounting bracket and accessories, please refer to page 461.

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EXCELON MODULAR SYSTEM

Filter/regulators B72G, B73G, B74G – G1/4 … G3/4

- Excelon design allows in-line installation or modular installation with other Excelon products
- High efficiency water and particle removal
- Quick release bayonet bowl
- Push to lock adjusting knob with tamper resistant accessory

Technical Data

Medium:
Compressed air only

Maximum inlet pressure:
10 bar: Polycarbonate and Guarded Polycarbonate bowl
17 bar: Metal bowl

Pressure range:
0,3 … 10 bar
0,7 … 17 bar - B73, B74

Gauge ports:
Rc1/8

Ambient temperature:
-34°C … +50°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

B72G:
Body: Zinc
Bonnet: Acetal
Valve: PP & TPV
Transparent bowl: PC
Metal bowl: Zinc
Liquid level indicator lens (metal bowl): Transparent PA
Filter element: Sintered PP
Elastomers: CR & NBR

B73G:
Body: Die cast aluminium
Bonnet: Zinc
Valve: Brass
Bowl: Transparent PC alternative transparent PC with steel guard alternative aluminium
Liquid level indicator lens (metal bowl): Transparent PA
Filter element: Sintered PP
Elastomers: CR & NBR

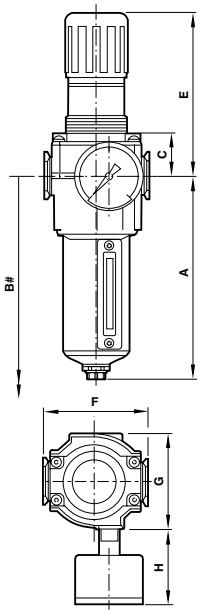
B74G:
Body: Die cast aluminium
Bonnet: Aluminium
Valve: Brass
Bowl: Transparent PC with steel guard or die cast aluminium
Liquid level indicator lens (metal bowl): Transparent PA
Filter element: Sintered PP
Elastomers: CR & NBR

EXPRESS





Dimensions



Minimum clearance required to remove bowl

Series	Drain	A	B	C	E	F	G	H	Panel Ø
72	Auto	141	192	26	73	50	48	35	40
	Manual	134	185	26	73	50	48	35	40
73	Auto	147	207	31	96	68	62	56	48
	Manual	156	216	31	96	68	62	56	48
74	Auto	161	230	31	127	80	74	56	52
	Manual	177	246	31	127	80	74	56	52

Options

- Alternative thread forms
- Alternative outlet ranges
- Alternative bowl options
- Non-relieving options
- Reverse flow

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Models

Accessories

Service Kit

B72G series Auto drain Model	Manual drain Model	Port size	Pressure range (bar)	Flow* (dm^3/s)	Element (µm)	Bowl	Wall mounting bracket	Neck mounting bracket	Gauge (0 … 10 bar)	Tamper resistant kit	Auto drain	Manual drain
												
B72G-2GK-AL3-RMN	B72G-2GK-QT3-RMN	G1/4	0,3 … 10	38	40	T	4224-50	74316-50	18-015-989	4255-51	B72G-KITA40R	B72G-KITM40R
B72G-3GK-AL3-RMN	B72G-3GK-QT3-RMN	G3/8	0,3 … 10	38	40	T	4224-50	74316-50	18-015-989	4255-51	B72G-KITA40R	B72G-KITM40R
B72G-2GK-AL1-RMN	B72G-2GK-QT1-RMN	G1/4	0,3 … 10	38	5	T	4224-50	74316-50	18-015-989	4255-51	B72G-KITA05R	B72G-KITM05R
B72G-3GK-AL1-RMN	B72G-3GK-QT1-RMN	G3/8	0,3 … 10	38	5	T	4224-50	74316-50	18-015-989	4255-51	B72G-KITA05R	B72G-KITM05R

B73G series Auto drain Model	Manual drain Model	Port size	Pressure range (bar)	Flow* (dm^3/s)	Element (µm)	Bowl	Wall mounting bracket	Neck mounting bracket	Gauge**	Tamper resistant kit	Auto drain	Manual drain
												
B73G-2GK-AT3-RMN	B73G-2GK-QT3-RMN	G1/4	0,3 … 10	49	40	T	4424-50	4461-50	18-015-013	4455-51	B73G-KITA40R	B73G-KITM40R
B73G-3GK-AT3-RMN	B73G-3GK-QT3-RMN	G3/8	0,3 … 10	50	40	T	4424-50	4461-50	18-015-013	4455-51	B73G-KITA40R	B73G-KITM40R
B73G-4GK-AT3-RMN	B73G-4GK-QT3-RMN	G1/2	0,3 … 10	50	40	T	4424-50	4461-50	18-015-013	4455-51	B73G-KITA40R	B73G-KITM40R
B73G-2GT-AD3-RSN	B73G-2GT-QD3-RSN	G1/4	0,7 … 17	49	40	M	4424-50	4461-50	18-015-014	–	B73G-KITA40R	B73G-KITM40R
B73G-3GT-AD3-RSN	B73G-3GT-QD3-RSN	G3/8	0,7 … 17	50	40	M	4424-50	4461-50	18-015-014	–	B73G-KITA40R	B73G-KITM40R
B73G-4GT-AD3-RSN	B73G-4GT-QD3-RSN	G1/2	0,7 … 17	50	40	M	4424-50	4461-50	18-015-014	–	B73G-KITA40R	B73G-KITM40R
B73G-2GK-AT1-RMN	B73G-2GK-QT3-RMN	G1/4	0,3 … 10	49	5	T	4424-50	4461-50	18-015-013	4455-51	B73G-KITA05R	B73G-KITM05R
B73G-3GK-AT1-RMN	B73G-3GK-QT3-RMN	G3/8	0,3 … 10	50	5	T	4424-50	4461-50	18-015-013	4455-51	B73G-KITA05R	B73G-KITM05R
B73G-4GK-AT1-RMN	B73G-4GK-QT3-RMN	G1/2	0,3 … 10	50	5	T	4424-50	4461-50	18-015-013	4455-51	B73G-KITA05R	B73G-KITM05R
B73G-2GT-AD1-RSN	B73G-2GT-QD1-RSN	G1/4	0,7 … 17	49	5	M	4424-50	4461-50	18-015-014	–	B73G-KITA05R	B73G-KITM05R
B73G-3GT-AD1-RSN	B73G-3GT-QD1-RSN	G3/8	0,7 … 17	50	5	M	4424-50	4461-50	18-015-014	–	B73G-KITA05R	B73G-KITM05R
B73G-4GT-AD1-RSN	B73G-4GT-QD1-RSN	G1/2	0,7 … 17	50	5	M	4424-50	4461-50	18-015-014	–	B73G-KITA05R	B73G-KITM05R

B74G series Auto drain Model	Manual drain Model	Port size	Pressure range (bar)	Flow* (dm^3/s)	Element (µm)	Bowl	Wall mounting bracket	Neck mounting bracket	Gauge**	Tamper resistant kit	Auto drain	Manual drain
												
B74G-3GK-AP3-RMN	B74G-3GK-QP3-RMN	G3/8	0,3 … 10	77	40	GT	4324-50	4368-51	18-015-013	4355-51	B74G-KITA40R	B74G-KITM40R
B74G-4GK-AP3-RMN	B74G-4GK-QP3-RMN	G1/2	0,3 … 10	100	40	GT	4324-50	4368-51	18-015-013	4355-51	B74G-KITA40R	B74G-KITM40R
B74G-6GK-AP3-RMN	B74G-6GK-QP3-RMN	G3/4	0,3 … 10	100	40	GT	4324-50	4368-51	18-015-013	4355-51	B74G-KITA40R	B74G-KITM40R
B74G-3GK-AD3-RSN	B74G-3GK-QD3-RSN	G3/8	0,7 … 17	77	40	M	4324-50	4368-51	18-015-014	–	B74G-KITA40R	B74G-KITM40R
B74G-4GT-AD3-RSN	B74G-4GT-QD3-RSN	G1/2	0,7 … 17	100	40	M	4324-50	4368-51	18-015-014	–	B74G-KITA40R	B74G-KITM40R
B74G-6GT-AD3-RSN	B74G-6GT-QD3-RSN	G3/4	0,7 … 17	100	40	M	4324-50	4368-51	18-015-014	–	B74G-KITA40R	B74G-KITM40R
B74G-3GK-AP1-RMN	B74G-3GK-QP1-RMN	G3/8	0,3 … 10	77	5	GT	4324-50	4368-51	18-015-013	4355-51	B74G-KITA05R	B74G-KITM05R
B74G-4GK-AP1-RMN	B74G-4GK-QP1-RMN	G1/2	0,3 … 10	100	5	GT	4324-50	4368-51	18-015-013	4355-51	B74G-KITA05R	B74G-KITM05R
B74G-6GK-AP1-RMN	B74G-6GK-QP1-RMN	G3/4	0,3 … 10	100	5	GT	4324-50	4368-51	18-015-013	4355-51	B74G-KITA05R	B74G-KITM05R
B74G-3GT-AD1-RSN	B74G-3GT-QD1-RSN	G3/8	0,7 … 17	77	5	M	4324-50	4368-51	18-015-014	–	B74G-KITA05R	B74G-KITM05R
B74G-4GT-AD1-RSN	B74G-4GT-QD1-RSN	G1/2	0,7 … 17	100	5	M	4324-50	4368-51	18-015-014	–	B74G-KITA05R	B74G-KITM05R
B74G-6GT-AD1-RSN	B74G-6GT-QD1-RSN	G3/4	0,7 … 17	100	5	M	4324-50	4368-51	18-015-014	–	B74G-KITA05R	B74G-KITM05R

GT = Guarded transparent bowl.
M =Metal bowl.
T =Transparent bowl.
* Typical flow with 10 bar inlet pressure and 1 bar droop from set pressure of 6,3 bar.
** Pressure range: 18-015-013 = 0 … 10 bar; 18-015-014 = 0 … 25 bar.
For other styles of mounting bracket and accessories, please refer to page 461.

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IMI Precision Engineering

EXCELON MODULAR SYSTEM

Lubricators L72, L73, L74 – G1/4 … G3/4

- Excelon® design allows in-line or modular installation
- Flow sensor provides a constant density of oil delivery over a wide range of flows
- All round (360°) visibility of sight-feed dome for ease of drip rate setting
- Micro-fog lubricators for best lubrication in general purpose pneumatic applications

Technical Data

Medium:
Compressed air only

Maximum inlet pressure:
10 bar

Start point:
L72M: 0,94 dm^3/s,
L72C: 0,47 dm^3/s
L73: 0,71 dm^3/s
L74: 0,94 dm^3/s
Minimum flow required for lubricator operation at 6,3 bar inlet pressure

Bowl capacity:
L72: 0,05 l
L73: 0,10 l
L74: 0,20 l

Ambient temperature:
-34°C … +50°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

L72:
Transparent bowl: PC
Metal bowl: Zinc
Body: Zinc
Elastomers: CR & NBR
Sight-feed dome: Transparent PA
Liquid level indicator lens (metal bowl): Transparent PA

L73:
Transparent bowl: PC alternative transparent PC with steel guard alternative aluminium
Body: Die cast aluminium
Sight-feed dome: Transparent PA
Elastomers: CR & NBR

L74:
Transparent bowl: PC with steel guard
Metal bowl: Die cast aluminium
Body: Die cast aluminium
Sight-feed dome: Transparent PA
Elastomers: CR & NBR

EXPRESS

L72



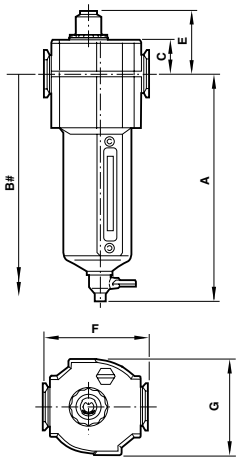
L73



L74



Dimensions



Minimum clearance required to remove bowl

Series	A	B	C	E	F	G
72	110	191	19	41	50	48
73	156	255	25	46	68	62
74	177	276	25	46	80	74

Options

- Alternative thread forms
- Quick fill device
- Alternative bowl types
- Bowl Drain (74)

Online at **store.norgren.com**

Models

Accessories

Service Kit

B72G series Auto drain Model	Type	Port size	Flow* (dm³/s)	Bowl	Wall mounting bracket	Auto drain
						
L72M-2GP-ETN	Micro-fog	G1/4	24	T	4224-50	L72M-KIT
L72M-3GP-ETN	Micro-fog	G3/8	24	T	4224-50	L72M-KIT
L72C-2GP-ETN	Oil-fog	G1/4	24	T	4224-50	L72C-KIT
L72C-3GP-ETN	Oil-fog	G3/8	24	T	4224-50	L72C-KIT

L73 series Auto drain Model	Type	Port size	Flow* (dm³/s)	Bowl	Wall mounting bracket	Auto drain
						
L73M-2GP-ETN	Micro-fog	G1/4	30	T	4424-50	L73M-KIT
L73M-3GP-ETN	Micro-fog	G3/8	38	T	4424-50	L73M-KIT
L73M-4GP-ETN	Micro-fog	G1/2	38	T	4424-50	L73M-KIT
L73C-2GP-ETN	Oil-fog	G1/4	30	T	4424-50	L73C-KIT
L73C-3GP-ETN	Oil-fog	G3/8	38	T	4424-50	L73C-KIT
L73C-4GP-ETN	Oil-fog	G1/2	38	T	4424-50	L73C-KIT

L73 series Auto drain Model	Type	Port size	Flow* (dm³/s)	Bowl	Wall mounting bracket	Auto drain
						
L74M-3GP-QPN	Micro-fog	G3/8	50	GT	4324-50	L74M-KIT
L74M-4GP-QPN	Micro-fog	G1/2	73	GT	4324-50	L74M-KIT
L74M-6GP-QPN	Micro-fog	G3/4	73	GT	4324-50	L74M-KIT
L74C-3GP-QPN	Oil-fog	G3/8	50	GT	4324-50	L74C-KIT
L74C-4GP-QPN	Oil-fog	G1/2	73	GT	4324-50	L74C-KIT
L74C-6GP-QPN	Oil-fog	G3/4	73	GT	4324-50	L74C-KIT

GT= Guarded transparent bowl.
T=Transparent bowl.
* Typical flow with 6,3 bar inlet pressure and 0,5 bar pressure drop.
For other styles of mounting bracket and accessories, please refer to page 461.

Online at **store.norgren.com**

EXCELON MODULAR SYSTEM

Soft start/dump valves P72F, P74F – G1/4 … G3/4

- Assists machine designers in complying with the European Machineries Directive
- Can help existing machinery to comply with PUWER (Provision and Use of Work Equipment Regulations)
- Controlled increase of downstream pressure on start up
- High forward flow capacity
- High flow dump facility

Technical Data

Medium:
Compressed air only

Maximum operating pressure:
10 bar (solenoid pilot operated),
17 bar (air pilot operated)

Minimum operating pressure:
3 bar

Ambient temperature:
P72F: -20°C … + 65°C
P74F: -20°C … + 80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Air pilot port:
P72F M5, P74F Rc1/4

Exhaust port:
P72F Rc1/4, P74F G1/2

Maximum flow:
P72F 21 dm^3/s, P74F 57 dm^3/s
Note: Maximum flow with 6,3 bar inlet pressure and pressure drop of 0,5 bar

Snap pressure:
Full flow when downstream pressure reaches 50-80% of inlet pressure

Materials

P72F:
Body: Zinc
Internal components: Brass/steel
Filter discs: Sintered plastic
Elastomers: Syntetic materials

P74F:
Main body: Aluminum
Intermediate body: Aluminum
Top plate: Zinc
Exhaust bonnet: Zinc
Internal components: Brass/steel
Filter discs: Sintered plastic
Elastomers: Syntetic materials

EXPRESS

P72F

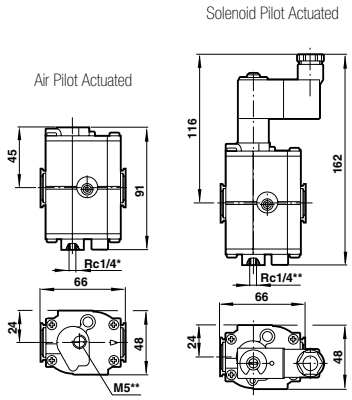


P74F

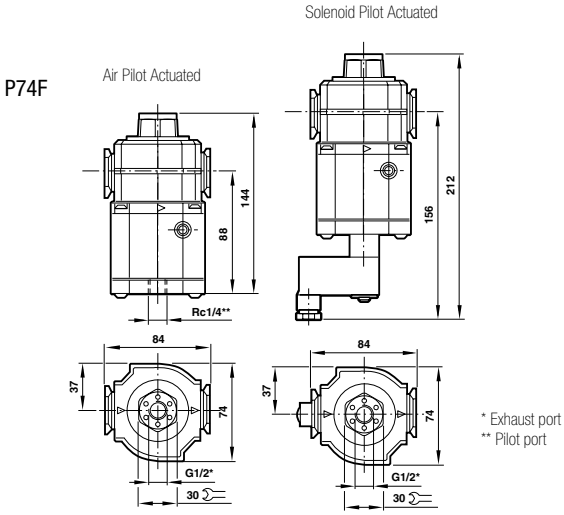


Dimensions

P72F



P74F



* Exhaust port
** Pilot port

Options

- Alternative thread forms
- Manual lockouts
- Alternative voltage
- CNOMO options

Models

P72F series - 24V d.c. Solenoid pilot operated Model	Air pilot operated Model	Port size	Silencer	Basic solenoid plug
				
P72F-2GC-PFN	P72F-2GA-NNN	G1/4	MB002B	0657868000000000
P72F-3GC-PFN	P72F-3GA-NNN	G3/8	MB002B	0657868000000000

P74F series - 24V d.c. Solenoid pilot operated Model	Air pilot operated Model	Port size	Silencer	Basic solenoid plug
				
P74F-3GC-PFN	P74F-3GA-NNN	G3/8	MB004B	0657868000000000
P74F-4GC-PFN	P74F-4GA-NNN	G1/2	MB004B	0657868000000000
P74F-6GC-PFN	P74F-6GA-NNN	G3/4	MB004B	0657868000000000

Accessories

For other styles of mounting bracket and accessories, please refer to page 461.

EXCELON MODULAR SYSTEM

Soft start monitored dump valve P74S – G1/2

- Controlled increase of downstream pressure on start up
- Monitored dump function
- High forward flow capacity
- High flow dump facility
- Soft start valves allow a controlled increase of pressure onto downstream cylinders/ machines offering protection to personnel equipment
- The positively driven micro switch ensures a monitored dump function

Note: Turn on system air supply prior to applying signal to operator. Failure to do so may cause valve to continuously exhaust

Technical Data

Medium:
Compressed air only

Operating pressure:
10 bar maximum
3 bar minimum

Ambient temperature:
-20°C … 50°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Gauge ports:
Rc1/8

Exhaust ports:
ISO G1/2

Snap pressure:
Full flow when downstream pressure reaches 35% - 60% of inlet pressure

Charge time:
For 2 litre downstream volume and inlet pressure of 6,3 bar, 0,2s minimum, 75 secs. maximum

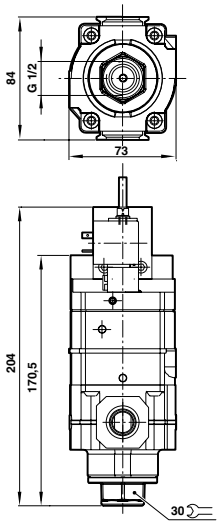
Solenoid operator:
22 mm, 24V DC, 2W only
(no manual overide)

Materials

Body & Intermediate body: Aluminium
Elastomers: Synthetic materials
Filter discs: Sintered plastic
Internal components: Brass/steel
Top plate & Exhaust bonnet: Zinc



Dimensions



Options

- Alternative thread forms

Models

Accessories

Model	Port size	Wall mounting bracket	Gauge 0 … 10 bar	Silencer	Basic solenoid plug
					
P74S-4GC-N1N	G1/2	4324-50	18-015-013	MB004B	0657868000000000

For other styles of mounting bracket and accessories, please refer to page 461.

EXCELON MODULAR SYSTEM

Pressure relief valves V72G, V74G – G1/4 … G 3/4

- Excelon design allows in-line installation or modular installation with other Excelon products (V72G only)
- Push to lock adjusting knob with tamper resistant accessory
- Helps protect air operated equipment from over pressurisation

IMI Precision Engineering pressure relief valves comply with category 0(S.E.P.) and category 1 of the Pressure Equipment Directive 97/23/EC.

Technical Data

Medium:
Compressed air only

Gauge ports:
Rc1/8

Relief port:
V72G: Rc1/4
V74G: G1/2

Ambient temperature:
V72G: -34°C … +65°C
V74G: -34°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Relief pressure adjustment range:
0,3 … 10 bar
Note: Outlet pressure can be adjusted in excess of and also less than those listed

Materials

V72G:
Body: Zinc
Bonnet: Acetal
Elastomers: NBR
Bottom plug: Acetal

V74G:
Body & Bonnet: Aluminium
Valve: Aluminium & NBR
Elastomers: NBR
Bottom plug: Acetal

EXPRESS

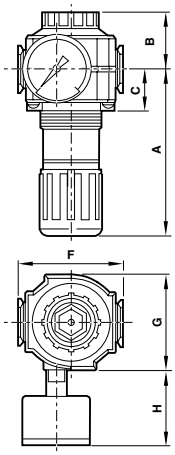
V72G



V74G



Dimensions



Series	A	B	C	F	G	H	Panel Ø	Panel depth
72	73	25	26	50	48	35	40	0 … 4
74	127	43	31	80	74	56	52	2 … 6

Options

- Alternative thread forms
- Alternative outlet ranges
- T-bar option (74 series)

Models / Accessories / Service Kit

V72G series Model	Port size	Wall mounting bracket	Neck mounting bracket	Gauge 0 … 10 bar	Tamper resistant kit	Silencer	
							
V72G-2GK-NMN	G1/4	4224-50	74316-50	18-015-989	4255-51	MB002B	V72G-KIT
V72G-3GK-NMN	G3/8	4224-50	74316-50	18-015-989	4255-51	MB002B	V72G-KIT

V74G series Model	Port size	Wall mounting bracket	Neck mounting bracket	Gauge 0 … 10 bar	Tamper resistant kit	Silencer	
							
V74G-3GK-NMN	G3/8	4324-50	4368-51	18-015-013	4355-51	MB004B	V74G-KIT
V74G-4GK-NMN	G1/2	4324-50	4368-51	18-015-013	4355-51	MB004B	V74G-KIT
V74G-6GK-NMN	G3/4	4324-50	4368-51	18-015-013	4355-51	MB004B	V74G-KIT

For other styles of mounting bracket and accessories, please refer to page 461.

EXCELON MODULAR SYSTEM

Accessories

EXPRESS

SHUT-OFF VALVES

- Ideal for isolating sub-systems not in use
- Easy to operate – low stiction
- Lockable in the 'closed' position



WALL MOUNTING BRACKET

- Provides secure wall mounting for individual Excelon products*

* Except P72, P74, T73 and T74 units



QUIKCLAMP

- Allows easy connection of one Excelon unit to another
- One piece – no loose parts
- Uniquely, connected products can be rotated in 90° increments



QUIKCLAMPS AND WALL BRACKETS

- Allows easy connection of one
- Excelon unit to another
- One piece – no loose parts
- Uniquely, connected products can be rotated in 90° increments
- Secure mounting to a wall, panel or machine surface



MANIFOLD BLOCK

- Provides a manifolding capability for up to 3 products, e.g. 3 pressure regulators can be mounted on one block to provide 3 different secondary pressures from a common primary pressure
- Ideal for right-angled piping



PORTING BLOCK

- Provides 3 G1/4 auxiliary air outlets
- Ideal for branching off to smaller sub-systems
- When placed between a filter-regulator and lubricator allows branching off to systems requiring a non-lubricated supply



QUIKMOUNT PIPE ADAPTORS

- Use with Quikclamps to provide threaded connections to system piping
- Can be used on products with unthreaded ports



Models

Series	Port size	3/2 Shut-off valve*	Wall mounting bracket	Quikclamp	Quikclamps and wall brackets	Manifold block	Porting block	Quikmount pipe adaptors
								
72	G1/4	T72T-2GA-P1N	4224-50	4214-51	4214-52	4228-03	4216-52	4215-08
72	G3/8	T72T-3GA-P1N	4224-50	4214-51	4214-52	4228-03	4216-52	4215-09
73	G1/4	T73T-2GA-P1N	4424-50	4314-51	4314-52	4328-53	4316-52	4315-09
73	G3/8	T73T-3GA-P1N	4424-50	4314-51	4314-52	4328-53	4316-52	4315-10
73	G1/2	T73T-4GA-P1N	4424-50	4314-51	4314-52	4328-53	4316-52	4315-11
74	G3/8	T74T-3GA-P1N	4324-50	4314-51	4314-52	4328-53	4316-52	4315-10
74	G1/2	T74T-4GA-P1N	4324-50	4314-51	4314-52	4328-53	4316-52	4315-11
74	G3/4	T74T-6GA-P1N	4324-50	4314-51	4314-52	4328-53	4316-52	4315-12

* Threaded exhaust port.

MINIATURE UNITS, GENERAL PURPOSE

Combination filter/regulators and lubricators P1H – G1/8, G1/4

- Combinations of filter-regulators and lubricators can be ordered as pre-assembled units
- Complete control of filtration, regulation and lubrication at a single point
- Micro-fog versions for most general purpose pneumatic applications

Technical Data

Medium:
Compressed air only

Maximum inlet pressure:
10 bar

Ambient temperature:
-20°C … +50°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Pressure range:
0,3 … 10 bar
Note: Outlet pressure can be adjusted in excess of and also less than those listed

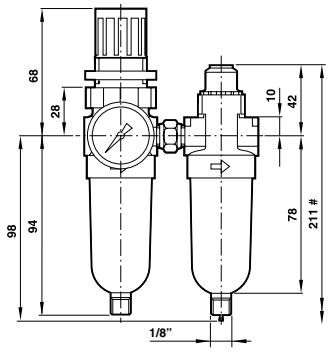
Materials

Body: Zinc alloy
Bonnet: Acetal (Regulator)
Knob: Acetal
Bowl: Plastic or Zinc alloy
Filter element: Sintered PE
Valve: Brass
Sight dome: PA
Seals: NBR

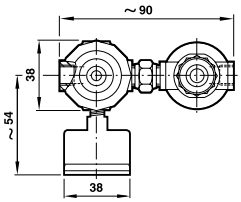
EXPRESS



Dimensions



Minimum clearance required to remove bowl



Options

- Integral mounting bracket
- Alternative outlet ranges
- Alternative bowls
- Alternative element sizes

Models

Accessories

Service Kit

P1H series			Accessories		Service Kit	
Auto drain Model	Manual drain Model	Port size	Neck mounting bracket and nut	Gauge 0 … 10 bar	Auto drain	Manual drain
						
P1H-100-A3QG	P1H-100-M3QG	G1/8	18-025-003	18-015-989	B07-KITA40R & L07-KIT	B07-KITM40R & L07-KIT
P1H-200-A3QG	P1H-200-M3QG	G1/4	18-025-003	18-015-989	B07-KITA40R & L07-KIT	B07-KITM40R & L07-KIT

* Typical flow with 10 bar inlet pressure and 1 bar droop from set pressure of 6,3 bar.

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MINIATURE UNITS, GENERAL PURPOSE

Filter F07 – G1/8, G1/4

- Direct ported filters with high water removal efficiency
- Automatic drains supplied as standard
- High flow miniature unit
- Transparent bowl for 360° visibility

Technical Data

Medium:
Compressed air only

Maximum inlet pressure:
10 bar

Ambient temperature:
-34°C … +50°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

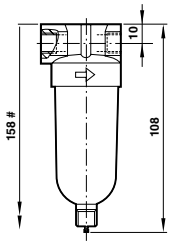
Body: Zinc alloy
Bowl: Plastic or Zinc alloy
Filter element: PE
Elastomers: NBR

EXPRESS

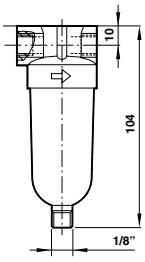


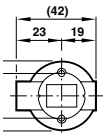
Dimensions

Manual drain



Auto drain





Minimum clearance required to remove bowl

Options

- Alternative thread forms
- Metal bowl

Models

Accessories

Service Kit

F07 series					Wall mounting bracket	Auto drain	Manual drain
Auto drain Model	Manual drain Model	Port size	Flow* (dm^3/s)	Element (µm)			
							
F07-100-A3TG	F07-100-M3TG	G1/8	9	40	5939-06	F07-KITA40	F07-KITM40
F07-200-A3TG	F07-200-M3TG	G1/4	11,5	40	5939-06	F07-KITA40	F07-KITM40
F07-100-A1TG	F07-100-M1TG	G1/8	9	5	5939-06	F07-KITA05	F07-KITM05
F07-200-A1TG	F07-200-M1TG	G1/4	11,5	5	5939-06	F07-KITA05	F07-KITM05

* Typical flow with 6,3 bar inlet pressure and 0,5 bar pressure drop.

MINIATURE UNITS, PURAIRE® OIL REMOVAL

Filter F39 – G1/8, G1/4

- Very compact unit
- Maximum remaining oil content and particle removal to 0,01µm

Technical Data

Medium:
Compressed air only

Maximum inlet pressure:
10 bar Transparent bowl

Filter element:
0,01 µm

Remaining oil content:
0,01 ppm at +21°C

Bowl size:
31 ml

Drain:
Manual or automatic

Ambient/Media temperature:
Transparent bowl -34 … +50°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C
Note: Install an F07 filter with a 5 µm filter element upstream of the F39 filter for maximum service life.

Materials

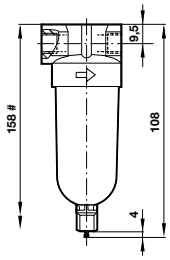
Body: Zinc alloy
Bowl: Plastic
Element: Synthetic fiber and PE foam
Seals: NBR

EXPRESS

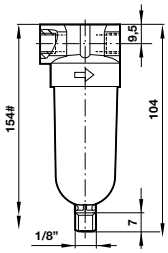


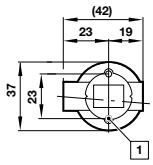
Dimensions

Manual drain



Auto drain





Minimum clearance required to remove bowl

Typical performance characteristics

Inlet pressure (bar)	Flow * (dm3/s)
1	1,2
3	2
5	2,7
6,3	3
7	3,1
9	3,6

* Maximum flow to maintain stated oil removal performance.

Models

Accessories

Service Kit

F39 series Auto drain Model	Port size	Flow* (dm^3/s)	Drain	Bowl	Wall mounting bracket	Automatic drain
						
F39-100-M0TG	G1/8	2,8	Manual	Plastic	5939-06	4141-10
F39-200-M0TG	G1/4	3	Manual	Plastic	5939-06	4141-10
F39-100-A0TG	G1/8	2,8	Automatic	Plastic	5939-06	F39-KITA0C
F39-200-A0TG	G1/4	3	Automatic	Plastic	5939-06	F39-KITA0C

* Max. flow at 6,3 bar.

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and use the new improved search function. If you cannot
see the option you require please contact us.

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MINIATURE UNITS, GENERAL PURPOSE

Pressure regulator R07 – G1/8, G1/4

- Ported regulators for general purpose pneumatic applications
- Relieving operation as standard
- Non-rising adjusting knob with snap-action lock

Technical Data

Medium:
Compressed air only

Maximum inlet pressure:
20 bar

Gauge ports:
Rc1/8

Ambient temperature:
-34°C … +65°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Pressure range:
0,3 … 7 bar
0,5 … 10 bar
Note: Outlet pressure can be adjusted in excess of and also less than those listed

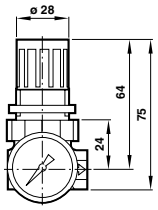
Materials

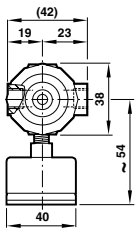
Body: Zinc alloy
Bonnet & Knob: Acetal
Valve: Brass
Seals: NBR

EXPRESS



Dimensions





Options

- Alternative thread forms
- Alternative outlet ranges
- Non releieving option

Models

Accessories

Service Kit

R07 series Model	Port size	Outlet pressure range (bar)	Flow* (dm^3/s)	Neck mounting bracket (incl. nut)	Mounting nut only plastic	Mounting nut only metal	Gauge 0 … 10 bar	
								
R07-100-RNKG	G1/8	0,3 … 7	6,5	18-025-003	2962-89	2962-04	18-015-989	R07-KITR
R07-200-RNKG	G1/4	0,3 … 7	6,5	18-025-003	2962-89	2962-04	18-015-989	R07-KITR
R07-105-RNMG	G1/8	0,5 … 10	7	18-025-003	2962-89	2962-04	18-015-989	R07-KITR
R07-205-RNMG	G1/4	0,5 … 10	7	18-025-003	2962-89	2962-04	18-015-989	R07-KITR

* Typical flow with 10 bar inlet pressure and 1 bar droop from set pressure of 6,3 bar.

MINIATURE UNITS, GENERAL PURPOSE

Filter regulator B07 – G1/8, G1/4

- Filter-regulators for all general purpose pneumatic applications
- High performance design provides high flow with minimum pressure drop
- Non-rising adjusting knob has snap-action lock
- Transparent bowl for 360° visibility

Technical Data

Medium:
Compressed air only

Maximum inlet pressure:
10 bar

Gauge ports:
Rc1/8

Pressure range:
0,3 … 7 bar
0,3 … 10 bar
Note: Outlet pressure can be adjusted in excess of and also less than those listed

Ambient temperature:
Transparent bowl: -34°C … +50°C
Metal bowl: -34°C … +65°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

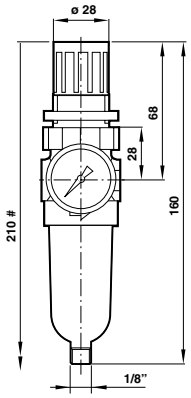
Body: Zinc alloy
Bonnet: Acetal
Bowl: Plastic or zinc alloy
Filter element: Sintered PE
Seals: NBR

EXPRESS



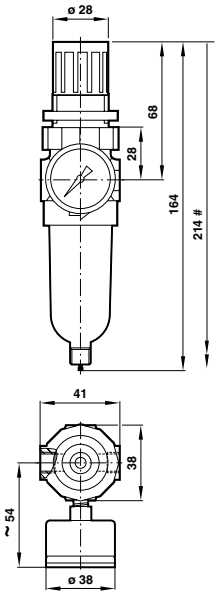
Dimensions

Auto drain



Minimum clearance required to remove bowl

Manual drain



Options

- Alternative thread form
- Outlet pressure ranges
- Non-relieving

Models

Accessories

Service Kit

B07 series							Wall mounting bracket (incl. nut)	Mounting nut only plastic	Mounting nut only metal	Gauge 0 … 10 bar	Auto drain	Manual drain
Auto drain Model	Manual drain Model	Port size	Pressure range (bar)	Flow* (dm^3/s)	Element (µm)	Bowl						
												
B07-101-A3KG	B07-101-M3KG	G 1/8	0,3 … 7	6,2	40	T	18-025-003	2962-89	2962-04	18-015-989	B07-KITA40R	B07-KITM40R
B07-201-A3KG	B07-201-M3KG	G 1/4	0,3 … 7	6,5	40	T	18-025-003	2962-89	2962-04	18-015-989	B07-KITA40R	B07-KITM40R
B07-205-A3MG	B07-205-M3MG	G 1/4	0,3 … 10	6,5	40	M	18-025-003	2962-89	2962-04	18-015-989	B07-KITA40R	B07-KITM40R
B07-101-A1KG	B07-101-M1KG	G 1/8	0,3 … 7	6,2	5	T	18-025-003	2962-89	2962-04	18-015-989	B07-KITA05R	B07-KITM05R
B07-201-A1KG	B07-201-M1KG	G 1/4	0,3 … 7	6,5	5	T	18-025-003	2962-89	2962-04	18-015-989	B07-KITA05R	B07-KITM05R
B07-205-A1MG	B07-205-M1MG	G 1/4	0,3 … 10	6,5	5	M	18-025-003	2962-89	2962-04	18-015-989	B07-KITA05R	B07-KITM05R

* Typical flow with 10 bar inlet pressure and 1 bar droop from set pressure of 6,3 bar. T= Transparent blow, M= Metal blow.

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MINIATURE UNITS, GENERAL PURPOSE

Lubricators L07 – G1/8, G1/4

- Micro-fog lubricators provide a fine mist for most general purpose pneumatic applications
- Transparent bowl for 360° visibility

Technical Data

Medium:
Compressed air only

Maximum inlet pressure:
10 bar

Start point:
0,24 dm^3/s
Minimum flow required for lubricator operation at 6,3 bar inlet pressure

Ambient temperature:
-20°C … +50°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

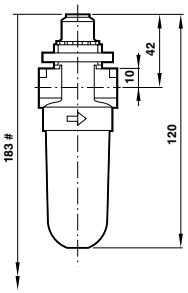
Materials

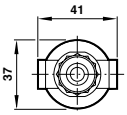
Body: Zinc alloy
Bowl: PC or Zinc alloy
Sight-feed dome: PA
Elastomers: NBR

EXPRESS



Dimensions





Minimum clearance required to remove bowl

Options

- Alternative thread forms
- Metal bowl
- Bowl with drain

Models

L07 series Model	Port size	Flow* (dm^3/s)	Accessories Neck mounting bracket and nut	Service Kit
				
L07-100-MPQG	G1/8	5	18-025-003	L07-KIT
L07-200-MPQG	G1/4	6,7	18-025-003	L07-KIT

* Typical flow with 6,3 bar inlet pressure and 0,5 bar pressure drop.

MINIATURE UNITS, GENERAL PURPOSE

Pressure relief valve – Diaphragm type V07 – G1/8, G1/4

- Protect compressed air systems from over-pressurisation

IMI Precision Engineering pressure relief valves comply with category O(S.E.P.) and category 1 of the Pressure Equipment Directive 97/23/EC.

Technical Data

Medium:
Compressed air only

Gauge ports:
Rc1/8

Relief port:
As inlet port

Pressure range:
0,3 … 7 bar

Ambient temperature:
-34°C … +65°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Relief pressure adjustment range:
0,3 … 9 bar

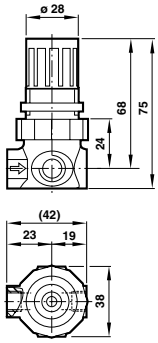
Materials

Bonnet: Acetal
Body: Zinc alloy
Knob: Acetal
Valve: Brass
Seals: NBR

EXPRESS



Dimensions



Options

- Alternative thread form
- Alterative outlet ranges

Models

V07 series Model	Port size	Accessories Neck mounting bracket and nut	Gauge 0 … 10 bar	Service Kit
				
V07-100-NNKG	G1/8	18-025-003	18-015-989	V07-KIT
V07-200-NNKG	G1/4	18-025-003	18-015-989	V07-KIT

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LARGE CAPACITY GENERAL PURPOSE UNITS

General purpose filters F17 – 3/4" … 1 1/2" (ISO G, PTF)

- Direct ported filters with high water removal efficiency
- Manual drain available
- High flow with minimal pressure drop

Technical Data

Medium:
Compressed air only

Maximum operating pressure:
17 bar

Particle removal:
40 µm standard; 5 µm optional

Bowl size:
0,5 or 1 l

Ambient/Media temperature:
-20 … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

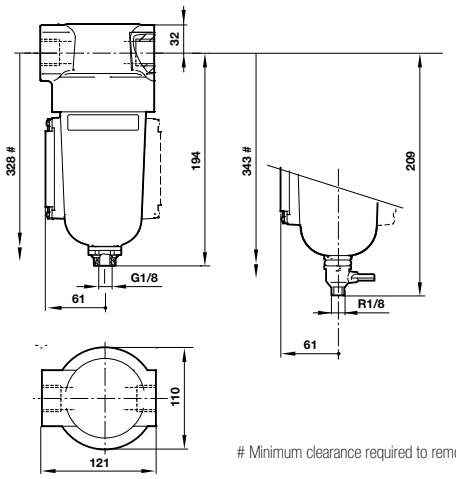
Body & bowl: Aluminum
Bowl sight glass: Pyrex
Filter element: Sintered bronze
Elastomers: CR & NBR



Dimensions

0,5 l

Auto drain



Manual drain

Minimum clearance required to remove bowl

Options

- Filter element: 5 µm
- Bowl: 1l with or without sight glass

Models

Accessories

Service Kit

F17 Model	Port size	Filter element (µm)	Flow* (dm^3/s)	Drain	Bowl	Wall mounting bracket	Service kit '0'-rings and gaskets	Replacement elements
								
F17-600-M3HG	G3/4	40 µm	183	Manual	0,5 l with sight glass	6212-50	F17-100A	5311-03
F17-800-M3HG	G1	40 µm	236	Manual	0,5 l with sight glass	6212-50	F17-100A	5311-03
F17-A00-M3HG	G1 1/4	40 µm	236	Manual	0,5 l with sight glass	6212-51	F17-100A	5311-03
F17-600-A3HG	G3/4	40 µm	183	Automatic	0,5 l with sight glass	6212-50	F17-100A	5311-03
F17-800-A3HG	G1	40 µm	236	Automatic	0,5 l with sight glass	6212-50	F17-100A	5311-03
F17-A00-A3HG	G1 1/4	40 µm	236	Automatic	0,5 l with sight glass	6212-51	F17-100A	5311-03

* Typical flow with a 40 µm element at 6,3 bar inlet pressure and 0,5 bar pressure drop.

LARGE CAPACITY GENERAL PURPOSE UNITS

General purpose filters F18 – G1 1/2 & 2

- Direct ported filter with high water removal efficiency
- High flow with minimal pressure drop
- Highly visible prismatic liquid level indicator lens

Technical Data

Medium:
Compressed air only

Maximum pressure:
17 bar

Ambient temperature:
-34°C … +80°C

Particle removal:
5 or 40 µm

Materials

Body, Intermediate body & Bowl: Aluminum
Liquid level indicator: Transparent nylon
Filter element: Sintered bronze
Elastomers: NBR

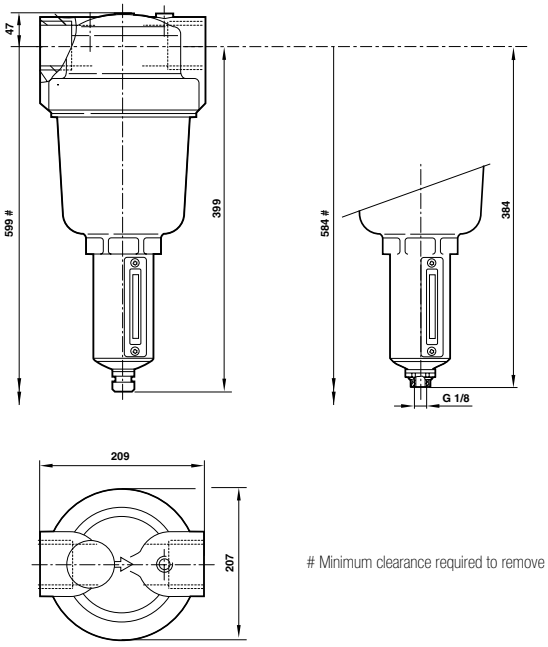
EXPRESS



Dimensions

Manual drain

Auto drain



Minimum clearance required to remove bowl

Options

- Alternative thread form

Models

Service Kit

F18 - Model Auto drain	Manual drain	Port size	Flow* (dm³/s)	Element Size	Bowl	
						
F18-B00-A1DG	F18-B00-M1DG	G1 1/2	765	5 µm	Metal	F18-100A(5)
F18-B00-A3DG	F18-B00-M3DG	G1 1/2	765	40 µm	Metal	F18-100A
F18-C00-A1DG	F18-C00-M1DG	G2	765	5 µm	Metal	F18-100A(5)
F18-C00-A3DG	F18-C00-M3DG	G2	765	40 µm	Metal	F18-100A

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LARGE CAPACITY UNITS

Oil removal filters F47 – 1 1/2" & 2" (ISO G, PTF)

- High efficiency oil and particle removal
- Standard service life indicator turns from green to red when the filter element needs to be replaced

Technical Data

Medium:
Compressed air only

Maximum pressure:
17 bar

Particle removal:
0,01 µm

Remaining oil content:
0,01mg/m³ maximum

Ambient/Media temperature:
-34° … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

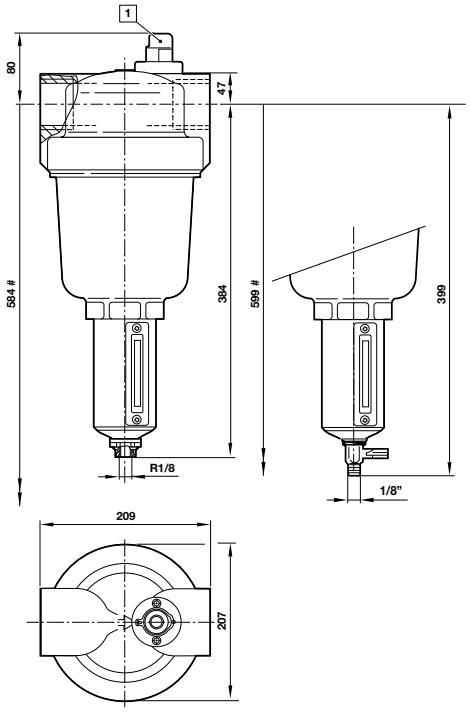
Body, Intermediate body & Bowl: Aluminum
Liquid level indicator: Transparent PA
Element: Synthetic fiber & PU foam
Elastomers: CR & NBR

Service life indicator:
Body: Transparent PA
Internal parts: Acetal
Spring: Stainless steel
Elastomers: NBR

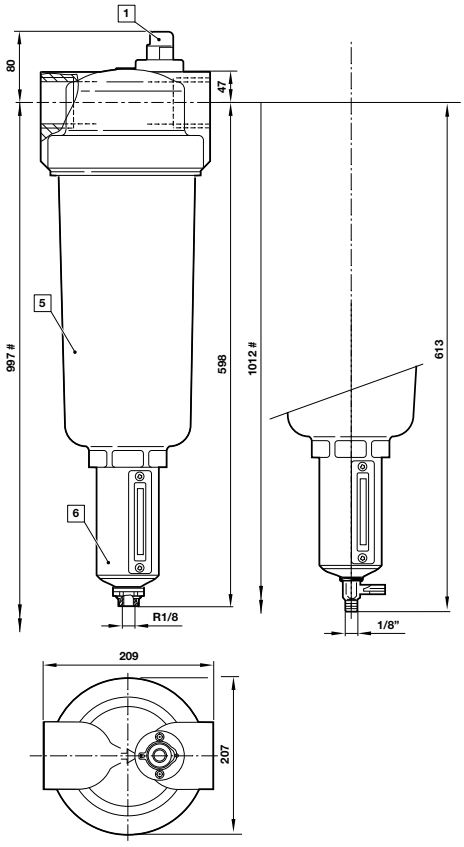


Dimensions

Standard flow element



High flow element



Min clearance required to remove intermediate body and bowl
1 Services indicator

Models

F47 Model	Port size	Flow* (dm³/s)	Drain	Bowl
				
F47-B01-A0DG	G 1 1/2	118 (standard flow)	Automatic	Metal
F47-C01-A0DG	G 2	156 (standard flow)	Automatic	Metal
F47-C21-A0DG	G 2	284 (high flow)	Automatic	Metal (long)

* Maximum flow with 6,3 bar inlet pressure to maintain stated oil removal performance.

Options

- High flow
- Manual drain

LARGE CAPACITY PILOT OPERATED REGULATORS

11-808, R18, 11-400/11-204 – G1/4 ... G2

- Can be installed at any point in the compressed air system without regard to accessibility – pilot regulator can be installed in the most convenient location
- Can be used wth conventional or feedback pilot regulator
- Feedback pilot regulator senses downstream pressure and automatically adjusts pilot operated regulator outlet pressure

Technical Data

Medium:
Compressed air only

Maximum inlet pressure:
11-808, 11-204: 20 bar
11-400: 25 bar
R18: 31 bar

Ambient temperature:
-20°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

11-808:
Body: Zinc
Bonnet: Aluminium
Valve: Brass
Elastomers: NBR

R18:
Body & Bonnet: Aluminum alloy
Bottom plug: Acetal
Valve: Aluminum & PA
Elastomers: NBR

11-808



R18 remote pilot

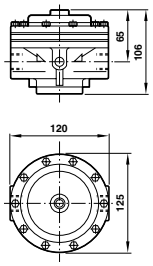


R18 integral pilot

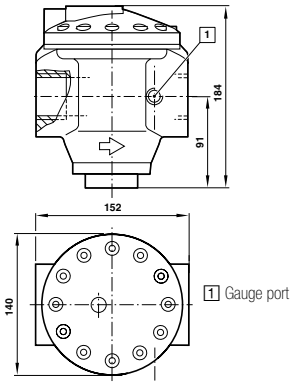


Dimensions

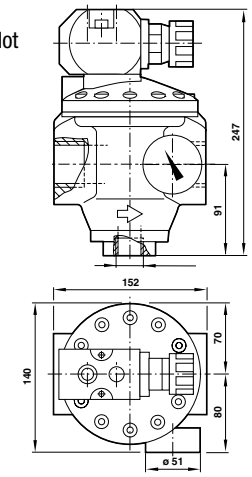
11-808



R18 remote pilot



R18 integral pilot



Models

Accessories

Service Kit

R18 remote pilot						Exhaust silencer	Gauge adaptor	Gauge** 0 … 25 bar	
Model	**Port size**	**Flow* (dm³/s)**	**Pressure range (bar)**	**Operation**	**Adjustment method**				
R18-B00-RNXG	G1 1/2	944	0,16 … 17	Relieving	Remote pilot	MB006B	150232818	18-015-014	R18-100R
R18-C00-RNXG	G2	944	0,16 … 17	Relieving	Remote pilot	MB006B	150232818	18-015-014	R18-100R

R18 integral pilot						Exhaust silencer	Gauge adaptor	Gauge** 0 … 10 bar	
Model	**Port size**	**Flow* (dm³/s)**	**Pressure range (bar)**	**Operation**	**Adjustment method**				
R18-B05-RNLG	G1 1/2	944	0,3 … 8,5	Relieving	Integral pilot	MB006B	150232818	18-015-013	R18-100R & 5945-41
R18-C05-RNLG	G2	944	0,3 … 8,5	Relieving	Integral pilot	MB006B	150232818	18-015-013	R18-100R & 5945-41

* Max. flow with 7 bar inlet pressure. 6,3 bar outlet pressure and a droop of 1 bar from set.
Alternative models available – contact IMI Precision Engineering technical service.

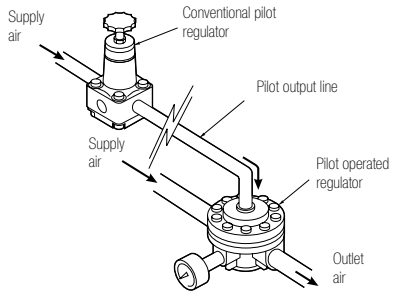
11-808 series						Wall mounting bracket	Gauge** 0 … 25 bar	
Model	**Port size**	**Flow* (dm³/s)**	**Pressure range (bar)**	**Operation**	**Adjustment method**			
11-808-960	G3/4	180	20 Max.	Relieving	Remote pilot	18-001-027	18-015-014	11-908-100
11-808-980	G1	180	20 Max.	Relieving	Remote pilot	18-001-027	18-015-014	11-908-100

* Max. flow with 8 bar inlet pressure, 6,3 bar outlet pressure and a droop of 1 bar from set.
** Alternative gauges available see page 485.

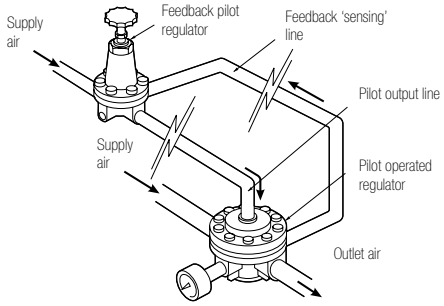
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11-400/11-204

Conventional pilot



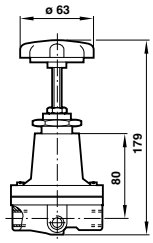
Feedback pilot

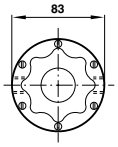




Feedback pilot regulators give more sensitive control and quicker reaction to downstream pressure changes
Feedback 'sensing' line to be kept to miniumum length (<200mm)

Dimensions





Model – Conventional pilot regulators

Accessories

Service Kit

11-400, 20AL series					Bracket	Gauge	
Model	**Port size**	**Pressure range (bar)**	**Operation**	**Mounting**			
							
11400-2G-PC100	G1/4	0,06 … 2	Relieving	Bracket	18-001-005	18-015-010	11400-100
11400-2G-PE100	G1/4	0,06 … 4	Relieving	Bracket	18-001-005	18-015-011	11400-100
11400-2G-PG100	G1/4	0,16 … 7	Relieving	Bracket	18-001-005	18-015-012	11400-100
20AL-X2G-PK100	G1/4	7 … 20	Relieving	Bracket	18-001-005	18-015-014	11400-100

Model – Feedback pilot regulators

Accessories

Service Kit

11-204 series					Bracket	Gauge	
Model	**Port size**	**Pressure range (bar)**	**Operation**	**Mounting**			
							
11-204-004	G1/4	0,16 … 7	Relieving	Panel/Bracket	18-001-005	18-015-012	11-204-100
11-204-006	G1/4	4 … 17	Relieving	Panel/Bracket	18-001-005	18-015-014	11-204-100

LARGE CAPACITY UNITS

Micro-fog and oil-fog lubricators L17 – 3/4" … 1 1/2" (ISO G/PTF)

- Micro-fog lubricators provide a fine mist for most general purpose pneumatic applications
- Oil-fog lubricators for heavy duty lubrication
- Can be serviced without the use of tools or removal from the air line

Technical Data

Medium:
Compressed air only

Maximum operating pressure:
17 bar

Start point (minimum flow required for lubricator operation):
3,8 dm^3/s at 6,3 bar inlet pressure

Bowl size:
0,5 or 1 l

Ambient/Media temperature:
-20° … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

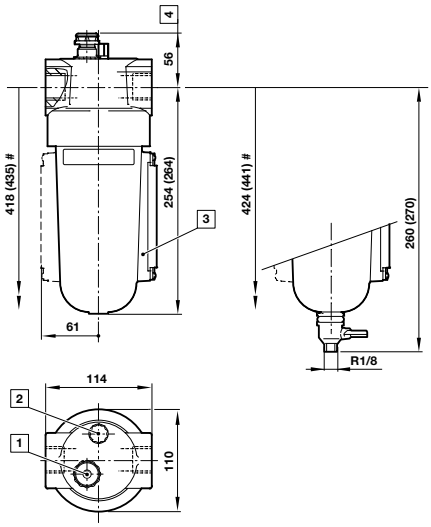
Materials

Body and bowl: Aluminium alloy
Sight feed dome: Transparent PA
Elastomers: CR & NBR



Dimensions

0,5 & 1 l



Min clearance required to remove bowl
Values in ( ) for 1" version
1 Oil adjustable screw
2 Oil fill plug
3 Sight-feed dome
4 Standard dome: 56 mm, Pyrex dome: 69 mm

Options

- Alternative thread form
- Bowl: 1 l

Models

L17 Model	Port size	Flow* (dm^3/s)	Lubricator type	Bowl	Accessories: Wall mounting bracket	Service Kit
						
L17-600-MP9G	G3/4	76	Micro-fog	0,5 l with sight glass	6212-50	5771-02
L17-800-MP9G	G1	130	Micro-fog	0,5 l with sight glass	6212-50	5771-02
L17-A00-MP9G	G1 1/4	130	Micro-fog	0,5 l with sight glass	6212-51	5771-02
L17-B00-MP9G	G1 1/2	130	Micro-fog	0,5 l with sight glass	6212-51	5771-02
L17-600-OP9G	G3/4	76	Oil-fog	0,5 l with sight glass	6212-50	5771-02
L17-800-OP9G	G1	130	Oil-fog	0,5 l with sight glass	6212-50	5771-02
L17-A00-OP9G	G1 1/4	130	Oil-fog	0,5 l with sight glass	6212-51	5771-02
L17-B00-OP9G	G1 1/2	130	Oil-fog	0,5 l with sight glass	6212-51	5771-02

* Typical flow with 6,3 bar inlet pressure and 0,5 bar pressure drop.

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MINIATURE PRE-SET REGULATOR

R16 G1/4"

- Factory pre-set and sealed to give a regulated pressure of 2 bar
- Tamper resistant
- Compact

Technical Data

Medium:
Compressed air only

Maximum pressure:
28 bar

Ambient temperature:
-20°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Typical Setting Accuracy of Regulator with 7 bar inlet pressure and zero flow:
2 bar (+0,07 bar, - 0,2 bar)

Gauge ports:
Rc 1/8

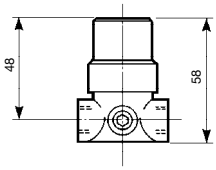
Materials

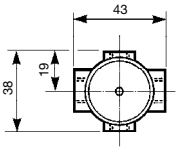
Body: Zinc alloy
Bonnet: Aluminium alloy

EXPRESS



Dimensions





Models

Model	Port size	Pre-set pressure
R16-200-R30G	G1/4	2 bar

Options

- Other pre-set ranges

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SPECIAL PURPOSE

High flow pressure regulator 20AG – G1/2 … G1

- Ported regulators for general purpose pneumatic applications
- Relieving operation as standard, optional non-relieving
- Large diaphragm provides accurate and quick response to changing flow demands and line pressure

Technical Data

Medium:
Compressed air only

Maximum inlet pressure:
28 bar

Gauge ports:
G1/8

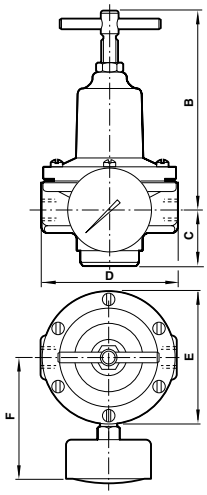
Ambient temperature:
-20°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Body: Zinc alloy
Bonnet: Aluminium alloy
Bottom plug: Glass filled nylon for G 1/2, aluminium for G 3/4 and G 1
Adjusting screw: Steel-plated
Elastomers: Synthetic rubber



Dimensions



Series	B (max.)	C	D	ØE	F
20AG-X4G	126	36	86	83	125
20AG-X6G	192	41	124	124	160
20AG-X8G	192	41	124	124	160

Options

- Alternative thread form
- Non-relieving operation

Models

Accessories

Service Kit

20AG series Model	Port size	Pressure range (bar)	Flow* (dm^3/s)	Operation	Adjustment	Mounting	Bracket	Gauge	Service Kit
									
20AG-X4G-PD100	G 1/2	0,1 … 3,5	60	Relieving	T Bar	Bracket	18-001-005	18-015-011	20AG-X4-100
20AG-X4G-PH100	G 1/2	0,2 … 8,0	60	Relieving	T Bar	Bracket	18-001-005	18-015-013	20AG-X4-100
20AG-X4G-PH102	G 1/2	0,2 … 8,0	60	Relieving	Plastic Knob	Bracket	18-001-005	18-015-013	20AG-X4-100
20AG-X4G-PH103	G 1/2	0,2 … 8,0	60	Relieving	T Bar	Panel Mounting	–	18-015-013	20AG-X4-100
20AG-X4G-PJ100	G 1/2	7 … 16	60	Relieving	T Bar	Bracket	18-001-005	18-015-014	20AG-X4-100
20AG-X4G-PJ103	G 1/2	7 … 16	60	Relieving	T Bar	Panel Mounting	–	18-015-014	20AG-X4-100
20AG-X6G-PD100	G 3/4	0,1 … 3,5	80	Relieving	T Bar	Bracket	18-001-029	18-015-011	20AG-X8-100
20AG-X6G-PH100	G 3/4	0,2 … 8,0	80	Relieving	T Bar	Bracket	18-001-029	18-015-013	20AG-X8-100
20AG-X8G-PD100	G 1	0,1 … 3,5	100	Relieving	T Bar	Bracket	18-001-029	18-015-011	20AG-X8-100
20AG-X8G-PH100	G 1	0,2 … 8,0	100	Relieving	T Bar	Bracket	18-001-029	18-015-013	20AG-X8-100
20AG-X8G-PH102	G 1	0,2 … 8,0	100	Relieving	Plastic Knob	Bracket	18-001-029	18-015-013	20AG-X8-100

* Typical flow with 7 bar inlet pressure and 1 bar droop from set pressure of 4 bar.

SPECIAL PURPOSE 'MICRO TROL'

High flow, high relief pressure regulator R24 – G1/4 … G1 1/4

- Exceptionally high flow and relief flow characteristics
- Easy to adjust even at high output pressures
- Balanced valve minimises effect of variations in inlet pressure on outlet pressure
- Panel mounted facility

Technical Data

Medium:
Compressed air only

Maximum inlet pressure:
20 bar

Ambient temperature:
0°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Body & Bonnet: Zinc alloy
Bottom plug & Adjusting knob (manual): Acetal resin
Main valve: Brass/Synthetic rubber
Elastomers: Synthetic rubber

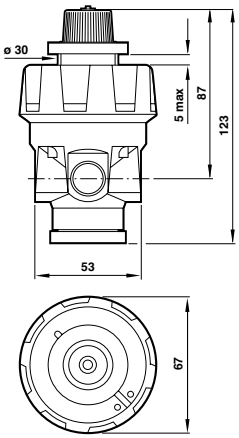




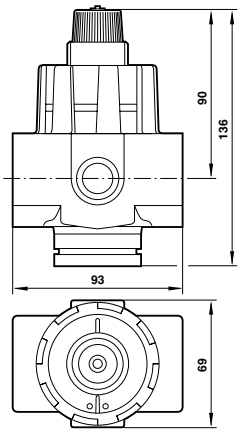
Dimensions

Manual

1/4" … 1/2"

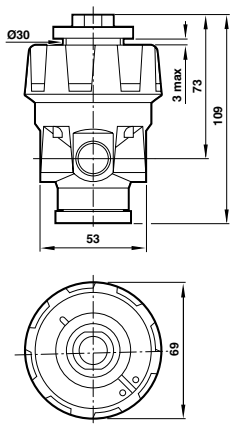


3/4" ... 1 1/4"

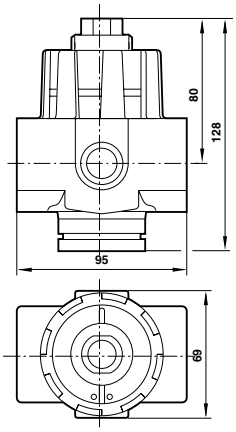


Air Pilot

1/4" … 1/2"



3/4" ... 1 1/4"



Options

- Alternative thread form
- Alternative outlet pressure range

Models

Accessories

Service Kit

R24 series Model	Port size	Pressure range (bar)	Operation	Adjustment method	Neck mounting bracket	Gauge adaptor*	Gauge	
								
R24-200-RNLG	G1/4	0,7 … 8	Relieving	Manual - Knob	18-999-412	150232818	18-015-013	5292-52
R24-200-RNSG	G1/4	0,7 … 17	Relieving	Manual - Knob	18-999-412	150232818	18-015-014	5292-52
R24-201-RNXG	G1/4	None	Relieving	Air Pilot	18-999-412	150232818	18-015-014	5292-54
R24-300-RNLG	G3/8	0,7 … 8	Relieving	Manual - Knob	18-999-412	150233818	18-015-013	5292-52
R24-300-RNSG	G3/8	0,7 … 17	Relieving	Manual - Knob	18-999-412	150233818	18-015-014	5292-52
R24-301-RNXG	G3/8	None	Relieving	Air Pilot	18-999-412	150233818	18-015-014	5292-54
R24-400-RNLG	G1/2	0,7 … 8	Relieving	Manual - Knob	18-999-412	150234818	18-015-013	5292-52
R24-400-RNSG	G1/2	0,7 … 17	Relieving	Manual - Knob	18-999-412	150234818	18-015-014	5292-52
R24-401-RNXG	G1/2	None	Relieving	Air Pilot	18-999-412	150234818	-18-015-014	5292-54
R24-600-RNLG	G3/4	0,7 … 8	Relieving	Manual - Knob	18-999-412	150234818	18-015-013	5292-53
R24-600-RNSG	G3/4	0,7 … 17	Relieving	Manual - Knob	18-999-412	150234818	18-015-014	5292-53
R24-601-RNXG	G3/4	None	Relieving	Air Pilot	18-999-412	150234818	18-015-014	5292-55
R24-800-RNLG	G1	0,7 … 8	Relieving	Manual - Knob	18-999-412	150234818	18-015-013	5292-53
R24-800-RNSG	G1	0,7 … 17	Relieving	Manual - Knob	18-999-412	150234818	18-015-014	5292-53
R24-801-RNXG	G1	None	Relieving	Air Pilot	18-999-412	150234818	18-015-014	5292-55
R24-A00-RNLG	G1 1/4	0,7 … 8	Relieving	Manual - Knob	18-999-412	150234818	18-015-013	5292-53
R24-A00-RNSG	G1 1/4	0,7 … 17	Relieving	Manual - Knob	18-999-412	150234818	18-015-014	5292-53
R24-A01-RNXG	G1 1/4	None	Relieving	Air Pilot	18-999-412	150234818	18-015-014	5292-55

* Adaptor required to connect standard pressure gauge to respective unit.

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PRECISION & INSTRUMENT REGULATOR

Pressure regulator R27-200, 11-818 – G1/4

R27-200:

- High precision regulator using a control chamber instead of a spring, so increasing its sensitivity to any variations and eliminating any spring hysteresis
- Perfect for dead-end applications
- Excellent long term stability

11-818:

- Precision instruments with integral pilot to ensure very close pressure control in a compact form
- Unit double filters air before reaching pilot valve to help prevent leakage and malfunction
- Panel mounting facility

* Not recommended for dead-end applications

Technical Data

Medium:
Dry, oil free air, filtered to 5µm

Maximum inlet pressure:
R27: 10 bar (minimum 0,2 above output)
11-818 Low pressure: 8 bar
11-818 Standard pressure: 10 bar
11-818 High pressure: 14 bar

Ambient temperature:
R27: -20 … +70°C
11-818: 0 … +70°C

Materials

R27:
Body: Passivated zinc & Epoxy painted
Springs: Stainless steel
Elastomers: NBR

11-818:
Body & Bonnet: Zinc alloy
Adjusting knob: Acetal resin
Elastomers: NBR

EXPRESS

R27-200

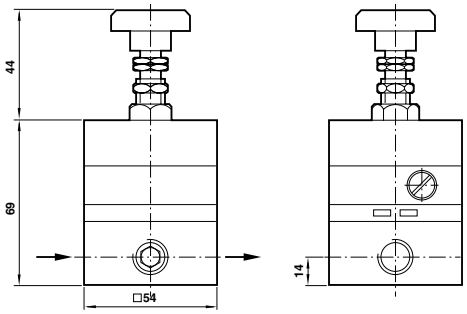


11-818

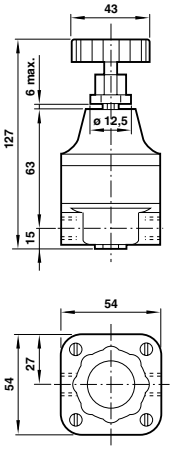


Dimensions

R27-200



11-818



Models

Accessories Service Kit

11-818 series								Panel mounting nut	
Model	**Port size**	**Pressure range (bar)**	**Flow* (dm^3/s)**	**Accuracy # (bar)**	**Operation**	**Gauge ports**	**Tamper proof adjusting screw**		
11-818-999	G1/4	0,02 … 0,50 (low)		0,01	Relieving	–	–	3081-01	2787-96
11-818-998	G1/4	0,02 … 0,50 (low)		0,01	Relieving	–	Tamper proof	3081-01	2787-96
11-818-100	G1/4	0,07 … 4 (standard)	8	0,03	Relieving	–	–	3081-01	2787-98
11-818-101	G1/4	0,07 … 4 (standard)	8	0,03	Relieving	–	Tamper proof	3081-01	2787-98
11-818-110	G1/4	0,4 … 10 (high)		0,05	Relieving	–	–	3081-01	2787-97
11-818-987	G1/4	0,02 … 0,50 (low)		0,01	Relieving	R1/4	–	3081-01	2787-96
11-818-993	G1/4	0,07 … 4 (standard)	8	0,03	Relieving	R1/4	–	3081-01	2787-98
11-818-991	G1/4	0,4 … 10 (high)		0,05	Relieving	R1/4	–	3081-01	2787-97

* Typical flow with 8 bar inlet pressure and 0,05 bar droop from set pressure of 4 bar # Typical mid range variance from set pressure with 7 bar inlet at 2 dm^3/s flow.
Note: 11-818 is not a constant bleed device, when being used under flow conditions no air is consumed. Air bleed is only effective under zero flow conditions as in a dead end application.

R27-200 series							
Model	**Port size**	**Pressure range (bar)**	**Flow* (dm^3/s)**	**Hysteresis/ repeatability#**	**Sensitivity**	**Operation**	**Gauge ports**
R27-200-RNCG	G1/4	0,14 … 2,0	8	< 0,05%	> 0,3 mbar	Relieving	G1/4
R27-200-RNFG	G1/4	0,14 … 4,0	8	< 0,05%	> 0,3 mbar	Relieving	G1/4
R27-200-RNLG	G1/4	0,14 … 8,0	8	< 0,05%	> 0,3 mbar	Relieving	G1/4

* Maximum flow achieved under ideal conditions. # Typical values at mid range.
Note: R27 reglators are designed as constant bleed devices and consume air, typically less than 0,016dm^3/s.

STAINLESS STEEL GENERAL PURPOSE

Filters, pressure regulators, lubricators F22, R22, L22 – 1/2" NPTF

- Lloyds Register Type Approved
- Materials meet NACE* recommendations (MR-0175, 2002 revision)
- 25 µm filter element as standard
- Orientable metal bowls with sightglasses

* National Association of Corrosion Engineers – recognised oil-field recommendation for resistance to sulphide stress cracking common in well-head and other corrosive environments

Technical Data

Medium:
Compressed air only

Maximum inlet pressure:
F22, L22 17 bar
R22: 20 bar

Gauge ports:
R22: 1/4 PTF

Pressure range:
R22: 0,4 … 10 bar
Note: Outlet pressure can be adjusted in excess of and also less than those listed

Operation:
R22: Relieving
L22: Oil-fog

Start Point:
L22: 1,7 dm^3/s at 6,3 bar

Ambient temperature:
-20°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

F22:
Body & Bowl: Stainless steel
Filter element: PE
Elastomers: Synthetic rubber

R22:
Body, Bonnet & Adjusting screw: Stainless steel
Elastomers: Synthetic rubber

L22:
Body & Bowl: Stainless steel
Elastomers: Synthetic rubber

F22



R22

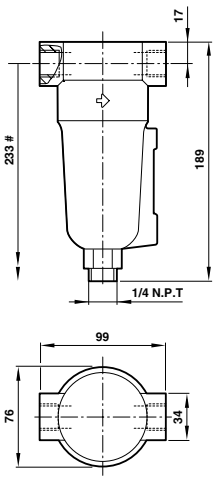


L22

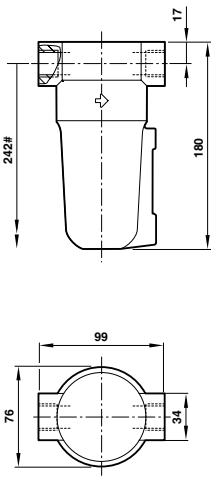


Dimensions

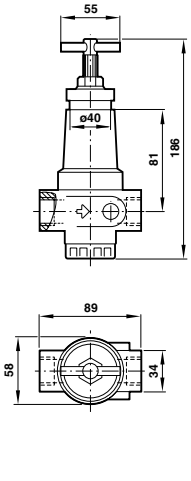
F22 Auto drain



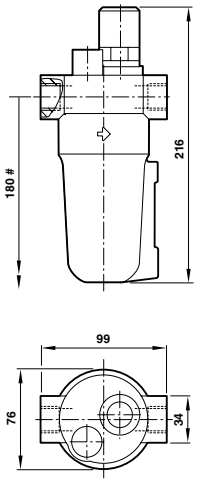
F22 Manual drain



R22



L22



Minimum clearance required to remove bowl

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STAINLESS STEEL GENERAL PURPOSE
Filters, pressure regulators, lubricators F22, R22, L22 – 1/2" NPTF

Models

Accessories

Service Kit

F22 series Auto drain Model	Manual drain Model	Port size	Flow* (dm^3/s)	Element	Wall mounting bracket	Auto drain	Manual drain
							
F22-400-A7DA	F22-400-M7DA	1/2 PTF	57	25 µm	18-001-962	F22-KITA25	F22-KITM25

* Typical flow with 6,3 bar inlet pressure and 0,5 bar pressure drop.

R22 series Model	Port size	Flow* (dm^3/s)	Pressure range (bar)	Wall mounting bracket	Neck mounting bracket	Gauge**	
							
R22-401-RNMA	1/2 PTF	50	0,4 … 10	18-001-962	18-001-959	18-015-909	R22-KITR

* Typical flow with 10 bar inlet pressure and 1 bar droop from set pressure of 6,3 bar.
** Not to NACE standard.

L22 series Model	Port size	Flow* (dm^3/s)	Wall mounting bracket	
				
L22-400-OP8A	1/2 PTF	48	18-001-962	L22-KIT

* Typical flow with 10 bar inlet pressure and 0,5 bar pressure drop.

Options - Filter

- Stainless steel element
- 5 µm element

Options - Regulator

- Alternative outlet pressure ranges
- Non-relieving operation

STAINLESS STEEL GENERAL PURPOSE

Filter/regulator B38 – 3/8 … 3/4 PTF

- Designed for use in corrosive enviroments
- Metallic parts meet NACE Standard MR-01-75*
- Lloyd's register type approval
- Applications include marine enviroments, oil and gas production, chemical and food processing, medical analysis
- Relieving or non relieving models. Relieving models allow reduction of outlet pressure even when the system is dead-ended.

* National Association of Corrosion Engineers – recognised oil-field recommendation for resistance to sulphide stress cracking common in well-head and other corrosive environments

Technical Data

Medium:
Compressed air only

Maximum inlet pressure:
Autodrain: 17 bar
Manual drain: 31 bar

Flow:
50 dm³/s
Typical flow with 12 bar inlet pressure, 8 bar set pressure and 1 bar droop from set

Gauge ports:
1/4" PTF

Relief port:
1/8" PTF

Ambient temperature:
-40°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Particle removal:
5 µm or 25 µm filter element

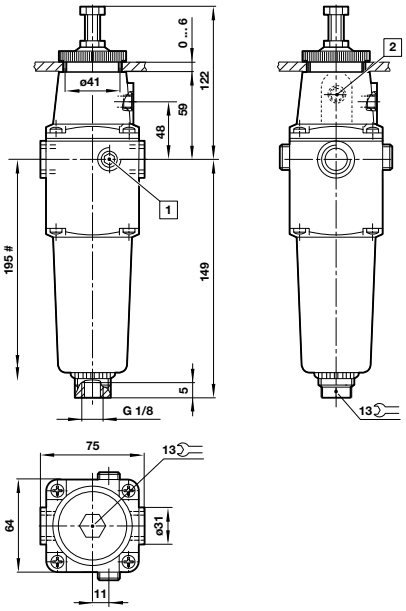
Materials

Body, Bowl, Bonnet & Adjusting screw: Stainless steel
Filter element: High density polyethylene
Elastomers: Synthetic rubber

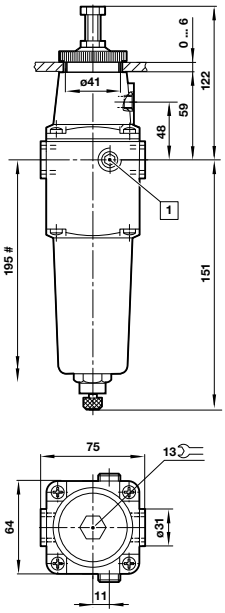


Dimensions

Auto drain



Manual drain



Minimum clearance required to remove bowl
1 1/4 PTF Gauge port
2 1/8 PTF Relief port

Options

- 25µm element

Models

Accessories

Sevice kits

B38 series Auto drain Model	Manual drain Model	Port size	Pressure range (bar)	Flow* (dm³/s)	Operation	Element	Neck mounting bracket & nut	Gauge	Plastic adjusting knob	Filter element	Valve assembly and diaphragm	Drain kit
												
B38-344-A1LA	B38-344-M1LA	3/8 PTF	0,3 … 9	50	Relieving	5 µm	18-001-973	18-015-909	74630-04	2787-43	2787-41 (relieving)	3000-87 (automatic)
B38-444-A1LA	B38-444-M1LA	1/2 PTF	0,3 … 9	50	Relieving	5 µm	18-001-973	18-015-909	74630-04	2787-43	2787-41 (relieving)	3000-87 (automatic)
B38-644-A1LA	B38-644-M1LA	3/4 PTF	0,3 … 9	50	Relieving	5 µm	18-001-973	18-015-909	74630-04	2787-43	2787-41 (relieving)	3000-87 (automatic)

* Typical flow with 12 bar inlet pressure and 1 bar droop from set pressure of 8 bar.
Units supplied complete with panel mounting ring.

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STAINLESS STEEL

Precision regulators and filter/regulators R38, B38 – 1/4 NPTF

- Designed for use in corrosive environments
- Applications include marine environment, oil and gas production, chemical and food processing, medical analysis
- Model for precision regulation and high flow
- Metallic parts meet NACE* Standard MR-01-75

* National Association of Corrosion Engineers – recognised oil-field recommendation for resistance to sulphide stress cracking common in well-head and other corrosive environments

Technical Data

Medium:
Compressed air only

Maximum inlet pressure:
R38 - 31 bar
B38 Manual drain - 31 bar
B38 Auto drain - 17 bar

Gauge ports:
1/4" PTF

Pressure range:
See table below
Note: Outlet pressure can be adjusted in excess of and also less than those listed

Ambient temperature:
-40°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

R38:
Body, Bowl, Bonnet & Adjusting screw: Stainless steel
Elastomers: Synthetic rubber

B38:
Body, Bowl, Bonnet & Adjusting screw: Stainless steel
Filter element: High density PUR (25 µm), Stainless steel (5 µm)
Elastomers: Synthetic rubber

R38

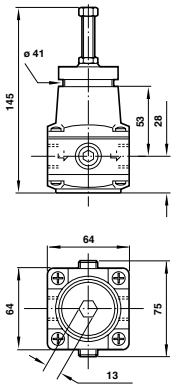


B38

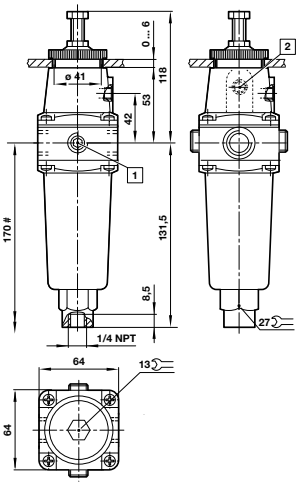


Dimensions

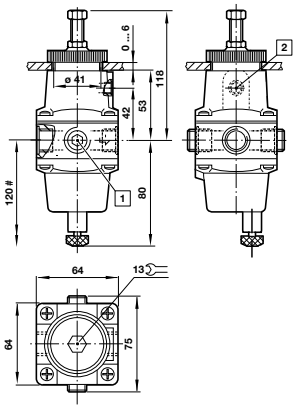
R38



B38 Auto drain



Manual drain, short bowl



Minimum clearance required to remove bowl
1 1/4 PTF Gauge port
2 1/8 PTF Relief port

Options

- Non relieving operation
- 25µm element (B38)

Models

R38 series Precision pressure regulator				Neck mounting bracket & nut	Gauge	Plastic adjusting knob	
Model	**Port size**	**Pressure range (bar)**	**Flow* (dm³/s)**				
R38-240-RNCA	1/4 PTF	0,04 … 2	8	18-001-973	18-015-913	74630-04	R38-100R
R38-240-RNFA	1/4 PTF	0,07 … 4	8	18-001-973	18-015-913	74630-04	R38-101R
R38-240-RNMA	1/4 PTF	0,40 … 10	8	18-001-973	18-015-909	74630-04	R38-102R

B38 series Precision pressure regulator						Neck mounting bracket & nut	Gauge	Plastic adjusting knob	Filter element	Service kit	Drain kit
Model	**Port size**	**Pressure range (bar)**	**Flow* (dm³/s)**	**Drain**	**Element**						
B38-244-B1FA	1/4 PTF	0,07 … 4	8	Manual	5 µm	18-001-973	18-015-913	74630-04	B38-100S(5)	R38-101R	–
B38-244-A1FA	1/4 PTF	0,07 … 4	8	Automatic	5 µm	18-001-973	18-015-913	74630-04	B38-100S(5)	R38-101R	3000-90
B38-244-B1KA	1/4 PTF	0,25 … 7	8	Manual	5 µm	18-001-973	18-015-909	74630-04	B38-100S(5)	R38-101R	–
B38-244-A1KA	1/4 PTF	0,25 … 7	8	Automatic	5 µm	18-001-973	18-015-909	74630-04	B38-100S(5)	R38-101R	3000-90
B38-244-B1MA	1/4 PTF	0,5 … 10	8	Manual	5 µm	18-001-973	18-015-909	74630-04	B38-100S(5)	R38-102R	–
B38-244-A1MA	1/4 PTF	0,5 … 10	8	Automatic	5 µm	18-001-973	18-015-909	74630-04	B38-100S(5)	R38-102R	3000-90

* Typical flow with 7 bar inlet pressure and 0,05 bar droop from set pressure of 1 bar.

STAINLESS STEEL GENERAL PURPOSE

Regulators and filter-regulator B05, R05 – 1/4" PTF

- Metallic parts meet NACE* recommendations
- Miniature high corrosion resistant design
- Adjusting knob has snap-action lock
- Particularly suitable for marine, petro-chemical, food processing, medical, dental and similar applications
- Panel mounting facility

* National Association of Corrosion Engineers - recognised oil-field recommendation for resistance to sulphide stress cracking common in well-head and other corrosive environments.

Technical Data

Medium:
Compressed air only

Maximum inlet pressure:
20 bar

Gauge ports:
1/8" PTF

Pressure range:
0,3 … 8,5 bar

Ambient temperature:
Acetal knob: -25°C … +66°C
T-bar: -25°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

B05:
Body, Valve & Bowl: 1.4104 (316) stainless steel
Bonnet: 1.4104 (316) stainless steel with T-handle or Acetal adjusting knob
Valve seat: Acetal
Springs: 1.4319 (302) stainless steel
Drain: stainless steel or Acetal
Element: Sintered PE
Elastomers: FPM, automatic drain NBR

R05:
Body & Valve: 1.4104 (316) stainless steel
Bonnet: 1.4104 (316) stainless steel with T-handle or Acetal with stainless steel adjusting screw
Valve seat: Acetal
Springs: 1.4319 (302) stainless steel
Elastomers: FPM

B05



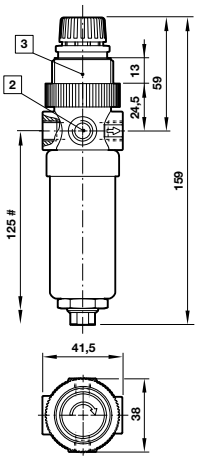
R05



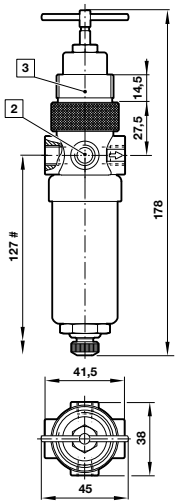
Dimensions

B05

Filter/Regulator with acetal knob with autodrain

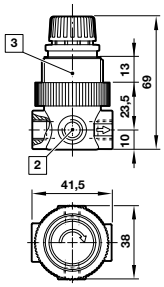


Filter/Regulator with T bar and automatic drain

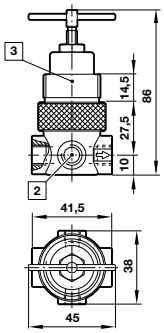


R05

Regulator with Acetal bonnet



Regulator with stainless steel T-handle



[2] Gauge port: 1/8 PTF, standard units are shipped with two plugs for sealing gauge ports.
[3] Panel mounting hole diameter 30 mm, Panel thickness 0 … 6 mm

Options

- Non relieving operation
- Alternative output range
- 40 µm element (B05)
- Manual drain (B05)

Models

Accessories

Service Kit

B05 series Model	Port size	Pressure range (bar)	Flow* (dm^3/s)	Bonnet	Gauge**	Mounting nut	
							
B05-233-A1LA	1/4 PTF	0,3 … 8,5	7	Knob	18-015-844	2962-89	3820-08
B05-238-A1LA	1/4 PTF	0,3 … 8,5	7	T-bar	18-015-844	2962-89	3820-08

R05 series Model	Port size	Pressure range (bar)	Flow* (dm^3/s)	Bonnet	Gauge**	Mounting nut	Auto drain
							
R05-200-RNLA	1/4 PTF	0,3 … 8,5	7	Knob	18-015-844	2962-89	R05-KITR
R05-232-RNLA	1/4 PTF	0,3 … 8,5	7	T-bar	18-015-844	2962-89	R05-KITR

* Typical flow with 10 bar inlet pressure and 1 bar droop from set pressure of 6,3 bar.
** Not NACE standard.

IMI Precision Engineering
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IMI NORGREN

AIR PREPARATION ACCESSORIES

Gauges, Auto-drain, Drip leg drain

GAUGES

EXPRESS

- Monitor pressures in a compressed air system for optimum efficiency
- Choice of pressure ranges
- Direct or panel mounted

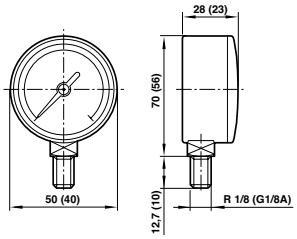


Standard Steel and plastic

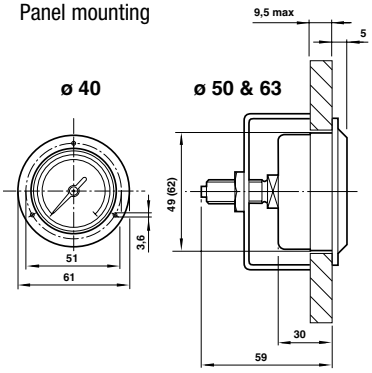
Model	Pressure range (bar)	Nominal diameter (mm)	Connection type / mounting	Port connection
18-015-887	0 … 1	40	Centre Back	R1/8
18-015-991	0 … 1,6	40	Centre Back	R1/8
18-015-886	0 … 2,5	40	Centre Back	R1/8
18-015-990	0 … 4	40	Centre Back	R1/8
18-015-885	0 … 6	40	Centre Back	R1/8
18-015-989	0 … 10	40	Centre Back	R1/8
18-015-884	0 … 16	40	Centre Back	R1/8
18-015-908	0 … 25	40	Centre Back	R1/8
18-015-010	0 … 1,6	50	Centre Back	R1/8
18-015-011	0 … 4	50	Centre Back	R1/8
18-015-012	0 … 6	50	Centre Back	R1/8
18-015-013	0 … 10	50	Centre Back	R1/8
18-015-014	0 … 25	50	Centre Back	R1/8
18-015-893	0 … 1	63	Centre Back	R1/8
18-015-892	0 … 2,5	63	Centre Back	R1/8
18-015-891	0 … 6	63	Centre Back	R1/8
18-015-856	0 … 10	63	Centre Back	R1/8
18-015-855	0 … 16	63	Centre Back	R1/8
18-015-888	0 … 25	63	Centre Back	R1/8
18-015-879	0 … 1,6	40	Panel Mounted	G1/8A
18-015-878	0 … 6	40	Panel Mounted	G1/8A
18-015-877	0 … 10	40	Panel Mounted	G1/8A
18-015-858	0 … 6	50	Panel Mounted	G1/8A
18-015-857	0 … 10	50	Panel Mounted	G1/8A
18-015-883	0 … 1,6	63	Panel Mounted	G1/4A
18-015-882	0 … 6	63	Panel Mounted	G1/4A
18-015-852	0 … 10	63	Panel Mounted	G1/4A
18-015-851	0 … 16	63	Panel Mounted	G1/4A
18-015-024	0 … 1,6	50	Bottom	R1/8
18-015-025	0 … 4	50	Bottom	R1/8
18-015-026	0 … 6	50	Bottom	R1/8
18-015-027	0 … 10	50	Bottom	R1/8
18-015-028	0 … 25	50	Bottom	R1/8
18-015-854	0 … 10	63	Bottom	G1/4A
18-015-853	0 … 25	63	Bottom	G1/4A

Dimensions

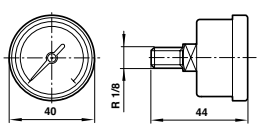
Bottom

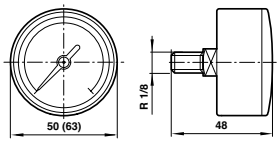


Panel mounting



Centre back



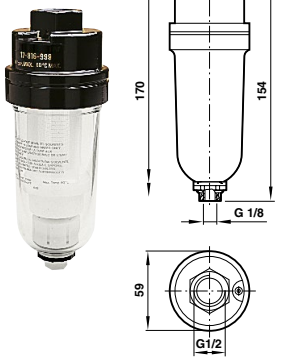


Stainless Steel

Model	Pressure range (bar)	Nominal diameter (mm)	Connection type / mounting	Port connection
18-015-844	0 … 10	40	Centre Back	1/8 NPT
18-015-913	0 … 6	40	Centre Back	1/4 NPT
18-015-909	0 … 10	40	Centre Back	1/4 NPT
18-015-905	0 … 25	40	Centre Back	1/4 NPT

DRIP LEG DRAIN

- Fully automatic unit that can drain liquid from low points in compressed air systems



Models

Model	Port size	Bowl
17-816-998	G1/2	Metal
17-816-999	G1/2	Transparent

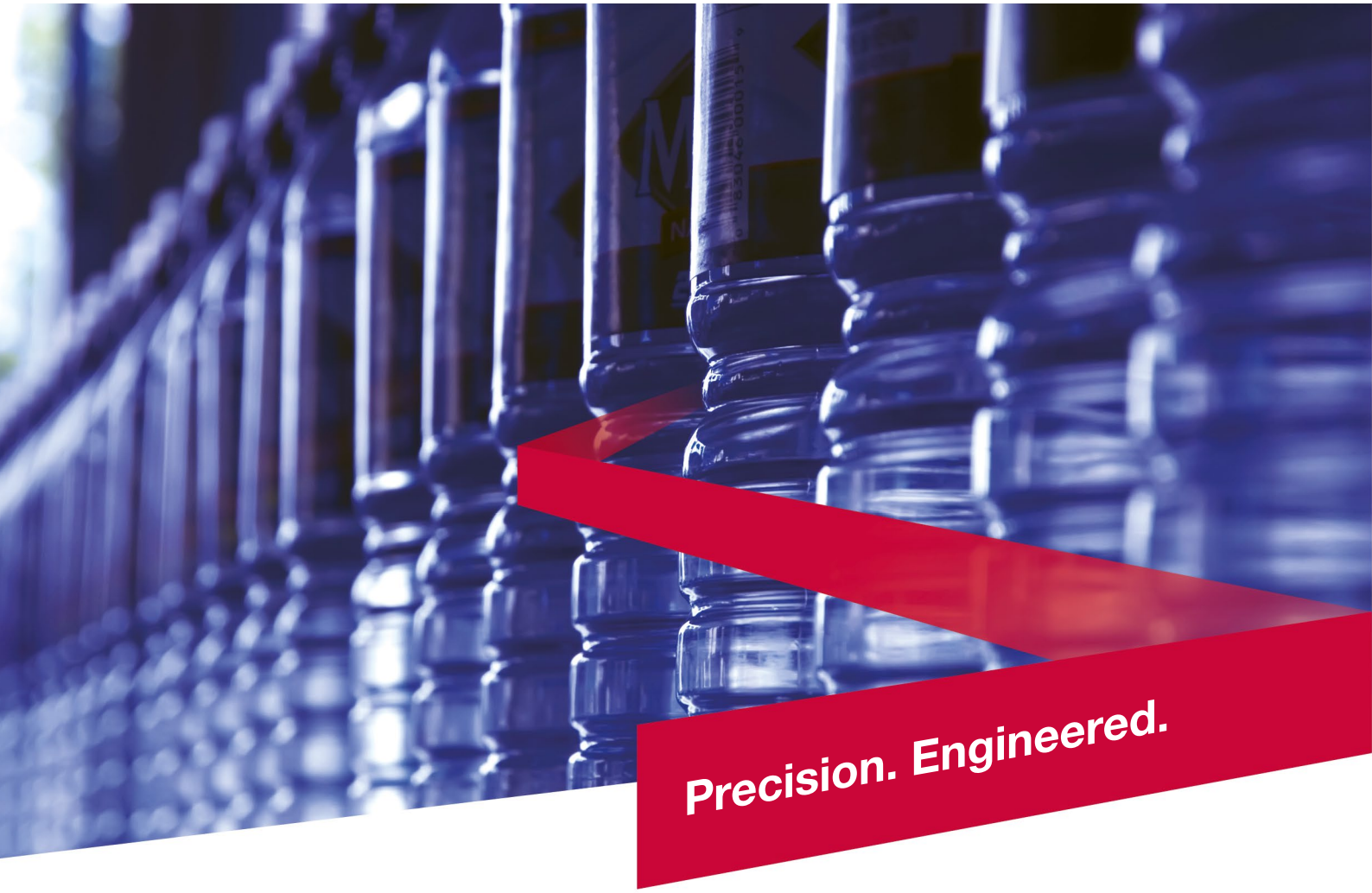
AUTO-DRAIN

- Spare parts for filters and filter/regulators



Models

Model	Bowl
4000-50R	Excelon 72, Excelon Pro
4000-51R	Excelon 73
3000-97	Excelon 74
6000-50	Olympian 64, 68



IMI Precision Engineering is a complete 'air' solution supplier to **the PET industry**



Our expertise covers 7 bar standard pneumatics to 20 bar pre-blowing lines P1 and 40 bar P2 solutions, including 11 functions on the blowing wheel for valving, as well as 24 functions for air recovery and management.

Our range offers 40 bar blowing blocks, cooling valves, air recovery products & solutions, pneumatic stretch actuators, and capping cylinders for hot & cold fill processes.

Engineering ***GREAT*** *Solutions*

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IMI BUSCHJOST®

IMI FAS®

IMI HERION®

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IMI Precision Engineering

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Fittings, tubing & accessories

The product group most associated with the ‘Enots’ brand, fittings are of vital importance, since they are used to connect all other products and make them operate. The IMI Precision Engineering range includes labour saving push in types in composite, brass and stainless steel for all manner of applications.

We then have compression fittings ranges suitable for heavier industry and even a push in fitting suitable for vehicle braking systems.

Add to this a whole selection of BSP connectors, flow regulators, non return valves, air fuses, blow guns, flexible hoses and quick release connectors and you have one of the industries’ largest accessory ranges around.



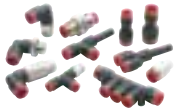
Fast Find Guide

Please note: These products represent only part of the IMI Precision Engineering fittings range.
If you can't see the option you require please contact us.

Fittings

Pneufit push-in fittings
Ø 4 … 14 mm

EXPRESS Page 490

Pneufit C composite fittings
Ø 3 … 16 mm

EXPRESS Page 490

Miniature Pneufit M composite fittings
Ø 3 … 6 mm

Page 490

Pneufit S stainless steel push in fittings
Ø 4 … 12 mm

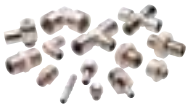
Page 490

24 series push-on tube fittings
Ø 4/2,5 mm … 15/12,5 mm

Page 515

43 series compression fittings – external nut
Ø 4 … 22 mm

Page 518

BSP & hose fittings
M5, 1/8" … 1" BSP

EXPRESS Page 522

Pneufit C selection box

EXPRESS Page 491

Tubing & Hoses

Nylon tubing
Ø 4 … 16 mm

EXPRESS Page 529

Polyurethane tubing
Ø 3 … 16 mm

EXPRESS Page 529

Metal braided rubber hose
Ø 6 … 12 mm

Page 530

Pneuflex tubing
Ø 6 … 8 mm

EXPRESS Page 530

Weld tubing
Ø 6 … 14 mm

Page 530

Tube cutter

EXPRESS Page 530

Tubing channels & clips
Ø 6 … 12 mm

EXPRESS Page 530

Accessories

233 series
Single and double shut off quick release couplings

Page 532

238 series
Single shut off quick release couplings

EXPRESS Page 532

234 series
Double shut off quick release couplings

Page 532

237 series
Single shut off quick release couplings

Page 532

M/S, T45 series
Porous plastic silencers
M5, G1/8 … G1
Ø4 … 12 Stem

EXPRESS Page 536

T40 series
Sintered bronze silencers
M5, 1/8 … 1

EXPRESS Page 536

MA, MB series
Silencers
M5, G1/8 … G2
R1/8 … R1

EXPRESS Page 536

M/151 series
Exhaust filter
G1/8 … G1

EXPRESS Page 536

IMI Herion silencer
G1/8 … G1/2

Page 536

Coalescing silencers
G1/2 … G1

Page 536

0613422 0613423 series
Exhaust filter
1/4", 1/2"

Page 539

60 & 61 series
Ball valves
1/8" … 1 1/2"

EXPRESS Page 540

M/7300
Sleeve valve
G1/8 … G1/2

Page 541

BG series
Blow guns

EXPRESS Page 541

Slow rotating joints
1/8" … 3/8"

Page 542

Fast rotating joints
1/4"

Page 542



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- Real time price and availability information
- On-line technical support with 24 hour access to IMI Precision Engineering engineers
- Downloadable technical data sheets for all the technical information you need to know about our products

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IMI Precision Engineering

PUSH-IN FITTINGS

● PNEUFIT

Metric Ø 4 … 14 mm O/D tube

EXPRESS



- Compact units featuring retained collets and positive tube anchorage
- Silicone free O-ring seals
- Non-PTFE based thread sealant on all BSP taper threads
- Easy tube insertion for rapid assembly
- Internal hexagon on straight adaptors allows assembly in confined spaces
- Wide range of types available
- Reliable and corrosion resistant

Technical Data

Medium:
Compressed air

Operating pressure:
Vacuum – 18 bar unless otherwise stated (dependant on tubing specification)

Ambient temperature:
-20°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Tubing:
Nylon 11 or 12, polyurethane 85 to 98

Materials

Body:
Nickel plated brass or glass filled nylon

Collet:
Nickel plated brass

'O' ring:
Silicone free nitrile rubber

Sealing washer (parallel threads):
Nitrile 'O'-ring

Thread sealant:
Non-PTFE

● PNEUFIT C

Metric Ø 4 … 16 mm O/D tube

EXPRESS



- Pneufit C push in fittings represent one of the industries largest ranges of industrial fittings, with in excess of 1,000 shapes and sizes
- Assembly times can be reduced to the minimum by using the parallel threaded versions, or choose taper to ensure perfect sealing under less than ideal port conditions
- Body material is either PBT or nickel plated brass offering good resistance to corrosion or contamination, and all components are retained within the body to make a perfect seal every time
- In addition to standard shapes, the range also includes manifolds, banjo flow regulators isolating valves and other items to offer maximum benefit from using standard widely available parts

Technical Data

Medium:
Compressed air

Operating pressure:
750mm Hg to 10 bar

Ambient temperature:
-20°C … +60°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Tubing:
Nylon 11 or 12, polyurethane 85 to 98

Materials

Body:
PBT

Seals:
NBR (silicone free) u-packing and O-rings

Threaded bodies:
Nickel plated brass

Release sleeve and backing ring:
POM

Grab-ring:
Stainless steel

Collar:
Nickel plated brass

Thread sealant:
Chemitech G-175L

● PNEUFIT M

Metric 3, 4, 6 mm O/D tube



- IMI Norgren Pneufit® M fittings are ready to use, offering fast assembly with no need for tools and providing optimum flow
- Releasable stainless-steel grab ring to grip nylon or polyurethane tube (85 or 95 durometer)
- Nickel plated brass components provide corrosion and contamination resistance and an extended life
- Pre applied thread sealant on all taper threads and recessed captive O-ring on parallel threads provides optimum rapid sealing
- Immediate quality sealing using silicone free U-packing
- Miniature Pneufit® M is an ultra compact alternative where space is at a premium

Technical Data

Medium:
Compressed air

Operating pressure:
750 mm Hg vacuum, up to 10 bar

Ambient temperature:
-20°C … +60°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Tubing:
Nylon 11 or 12, polyurethane 85 to 98

Materials

Body:
PBT

Seals:
NBR (silicone free) u-packing and O-rings

Threaded bodies:
Nickel plated brass

Release sleeve and backing ring:
POM

Grab-ring:
Stainless steel

Collar:
Nickel plated brass

Thread sealant:
Chemitech G-175L

Warning: The push-in tube fittings in this section must not be used in vehicle air braking and ancillary systems. For push-in fittings suitable for these applications please refer to our Fleetfit range on our website.

● PNEUFIT S

Metric Ø 4mm … 12mm



- Resistant to aggressive environments
- Suitable for food and beverage applications
- Very compact units
- Easy tube insertion and removal for rapid assembly of pneumatic circuits
- Positive tube anchorage
- Straight adaptors feature internal hexagon for allen key
- Swivel function on all elbows and tees

Technical Data

Medium:
Compressed air
For other media please consult Technical Department

Operating pressure:
Vacuum – 15 bar
(dependent upon operating specification of tubing)

Ambient temperature:
-15°C … +225°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Tubing types:
Nylon 6, 11 or 12, Polyurethane 85 to 98 Shore A hardness (33 to 52 Shore D) and PTFE tubing

Materials

Body, release sleeve and grab ring:
Aisi 316L (1.4404) stainless steel

'O' ring and thread seal (BSPP):
FPM

Lubricants:
FDA approved



Pneufit C
Selection Box

We know that many of our customers use a wide range of fittings, and if they have an emergency, valuable time is wasted looking for a replacement.

Solve this problem by ordering our selection boxes for immediate use when required. Four kits available covering popular tube sizes:

- > Up to 360 items in each kit – straight connectors, elbows, tees, tube connectors, plugs
- > Includes handy tube cutter ensuring perfect joint
- > Strong moulded carry case
- > Contents identified for easy re-ordering

Model	Type
NE/11152	4 & 6 mm fittings kit
NE/11154	4 & 8 mm fittings kit
NE/11433	8 & 10 mm fittings kit
NE/11376	10 & 12 mm fittings kit

Find out more
www.imi-precision.com

Engineering GREAT Solutions

IMI NORGREN

PUSH-IN FITTINGS

Straight adaptors and connectors

Straight Adaptor (External & Internal) Parallel






		Pneufit	Pneufit C	Pneufit M	Pneufit S
Metric & BSPP Thread	**O/D Tube**				
M3	3	–	–	M02250303	–
M3	4	102250403	–	M02250403	–
M5	3	–	–	M02250305	–
M5	4	102250405	C02250405	M02250405	S02250405
M5	5	102250505			–
M5	6	102250605	C02250605	M02250605	–
M6	3	–	–	M02250306	S02250418
M6	4	–	C02250406	M02250406	–
M6	6	–	C02250606	M02250606	–
G1/8	4	102250418	C02250418	–	–
G1/8	5	102250518	–	–	–
G1/8	6	102250618	C02250618	–	S02250618
G1/8	8	102250818	C02250818	–	S02250818
G1/8	10	102251018	C02251018	–	–
G1/4	4	102250428	C02250428	–	S02250428
G1/4	5	102250528	–	–	–
G1/4	6	102250628	C02250628	–	S02250628
G1/4	8	102250828	C02250828	–	S02250828
G1/4	10	102251028	C02251028	–	S02251028
G1/4	12	102251228	C02251228	–	–
G3/8	4	–	C02250438	–	–
G3/8	6	–	C02250638	–	–
G3/8	8	102250838	C02250838	–	–
G3/8	10	102251038	C02251038	–	S02251038
G3/8	12	102251238	C02251238	–	S02251238
G3/8	14	102251438	–	–	–
G3/8	16	–	C02251638	–	–
G1/2	8	102250848	C02250848	–	–
G1/2	10	102251048	C02251048	–	–
G1/2	12	102251248	C02251248	–	S02251248
G1/2	14	102251448	–	–	–
G1/2	16	–	C02251648	–	–

Straight Adaptor (External & Internal) Taper






		Pneufit	Pneufit C	Pneufit M	Pneufit S
BSPT Thread	**O/D Tube**				
R1/8	4	101250418	C01250418	M01250418	S01250418
R1/8	5	101250518	–	–	–
R1/8	6	101250618	C01250618	M01250618	S01250618
R1/8	8	101250818	C01250818	–	S01250818
R1/8	10	101251018	C01251018	–	–
R1/8	12	–	C01251218	–	–
R1/4	4	101250428	C01250428	–	S01250428
R1/4	5	101250528		–	–
R1/4	6	101250628	C01250628	–	S01250628
R1/4	8	101250828	C01250828	–	S01250828
R1/4	10	101251028	C01251028	–	S01251028
R1/4	12	101251228	C01251228	–	–
R3/8	4	–	C01250438	–	–
R3/8	6	–	C01250638	–	–
R3/8	8	101250838	C01250838	–	–
R3/8	10	101251038	C01251038	–	S01251038
R3/8	12	101251238	C01251238	–	S01251238
R3/8	14	101251438	–	–	–
R3/8	16	–	C01251638	–	–
R1/2	6	–	C01250648	–	–
R1/2	8	101250848	C01250848	–	–
R1/2	10	101251048	C01251048	–	–
R1/2	12	101251248	C01251248	–	S01251248
R1/2	14	101251448	–	–	–
R1/2	16	–	C01251648	–	–

Straight Adaptor (Internal Hex Only) Parallel



		Pneufit C	Pneufit M
Metric & BSPP Thread	**O/D Tube**		
M3	3	–	M022A0303
M3	4	–	M022A0403
M5	3	–	M022A0305
M5	4	C022A0405	M022A0405
M5	6	C022A0605	M022A0605
M6	3	–	M022A0306
M6	4	C022A0406	M022A0406
M6	6	C022A0606	M022A0606

Straight Adaptor (Internal Hex Only) Taper



		Pneufit C	Pneufit M
BSPT	**O/D Tube**		
R1/8	4	C012A0418	M012A0418
R1/8	6	C012A0618	M012A0618
R1/8	8	C012A0818	–
R1/8	10	C012A1018	–
R1/8	12	C012A1218	–
R1/4	4	C012A0428	–
R1/4	6	C012A0628	–
R1/4	8	C012A0828	–
R1/4	10	C012A1028	–
R1/4	12	C012A1228	–
R3/8	4	C012A0438	–
R3/8	6	C012A0638	–
R3/8	8	C012A0838	–
R3/8	10	C012A1038	–
R3/8	12	C012A1238	–
R1/2	8	C012A0848	–
R1/2	10	C012A1048	–
R1/2	12	C012A1248	–

Straight Union (Equal)



		Pneufit	Pneufit C	Pneufit M	Pneufit S
O/D Tube	**O/D Tube**				
3	3	–	–	M00200300	–
4	4	100200400	C00200400	M00200400	S00200400
5	5	100200500	–	–	–
6	6	100200600	C00200600	M00200600	S00200600
8	8	100200800	C00200800	–	S00200800
10	10	100201000	C00201000	–	S00201000
12	12	100201200	C00201200	–	S00201200
14	14	100201400	–	–	–
16	16	–	C00201600	–	–

Straight Union (Unequal)



		Pneufit C	Pneufit M
O/D Tube	**O/D Tube**		
4	3	–	M00200403
6	3	–	M00200603
6	4	C00200604	M00200604
8	4	C00200804	–
8	6	C00200806	–
10	6	C00201006	–
10	8	C00201008	–
12	8	C00201208	–
12	10	C00201210	–
16	12	C00201612	–

PUSH-IN FITTINGS

Straight adaptors and connectors

Bulkhead Connector





		Pneufit	Pneufit C	Pneufit S
O/D Tube	**Bulkhead Thread**			
4	M10x1,0	100290400	–	–
4	M12 x 1	–	C00290400	S00290400
5	M12x1,0	100290500	–	–
6	M14 x 1	–	C00290600	S00290600
6	M14x1,5	100290600	–	–
8	M16 x 1	–	C00290800	S00290800
8	M16x1,5	100290800	–	–
10	M20 x 1	–	C00291000	S00291000
10	M20x1,5	100291000	–	–
12	M22 x 1	–	C00291200	S00291200
12	M24x1,5	100291200	–	–
14	M24x1,5	100291400	–	–

Mixed Bulkhead Connector



PIF to compression fitting			Pneufit
O/D Tube	**O/D Tube**	**Thread**	
4	4	M12x1,0	100310404
6	6	M15x1,0	100310606
8	8	M18x1,5	100310808
10	10	M20x1,5	100311010
12	12	M24x1,5	100311212

Supplied complete with tubing nut and sleeve.

Straight Adaptor (Female Bulkhead Parallel)



		Pneufit C
Metric & BSPP Thread	**O/D Tube**	
G1/8	4	C02320418
G1/8	6	C02320618
G1/8	8	C02320818
G1/8	10	–
G1/4	4	C02320428
G1/4	6	C02320628
G1/4	8	C02320828
G1/4	10	C02321028
G1/4	12	C02321228
G3/8	4	C02320438
G3/8	6	C02320638
G3/8	8	C02320838
G3/8	10	C02321038
G3/8	12	C02321238
G3/8	16	–
G1/2	8	–
G1/2	10	C02321048
G1/2	12	C02321248

PUSH-IN FITTINGS

Straight adaptors and connectors

Straight Adaptor (Female Thread)





Thread	O/D Tube	Pneufit	Pneufit C	Pneufit M
M3	3	–	–	M02260303
M3	4	–	–	M02260403
M5	3	–	–	M02260305
M5	4	102260405	C02260405	M02260405
M5	5	102260505	–	–
M5	6	–	–	M02260605
M6	3	–	–	M02260306
M6	4	–	–	M02260406
M6	6	–	–	M02260606
Rc1/8	4	–	–	M01260418
Rc1/8	6	–	–	M01260618
G1/8	10	–	–	–
G1/8	4	102260418	C02260418	–
G1/8	5	102260518	–	–
G1/8	6	102260618	C02260618	–
G1/8	8	102260818	C02260818	–
G1/8	10	–	C02261018	–
G1/4	4	102260428	C02260428	–
G1/4	5	102260528	–	–
G1/4	6	102260628	C02260628	–
G1/4	8	102260828	C02260828	–
G1/4	10	102261028	C02261028	–
G1/4	12	–	C02261228	–
G3/8	4	–	C02260438	–
G3/8	6	–	C02260638	–
G3/8	8	–	C02260838	–
G3/8	10	102261038	C02261038	–
G3/8	12	102261238	C02261238	–
G3/8	14	–	–	–
G3/8	16	–	–	–
G1/2	8	–	C02260848	–
G1/2	10	–	C02261048	–
G1/2	12	102261248	C02261248	–

Stem Reducer



O/D Stem	O/D Tube	Pneufit	Pneufit C
5	4	100230504	–
6	4	100230604	C00230604
6	5	100230605	–
8	4	100230804	C00230804
8	5	100230805	–
8	6	100230806	C00230806
10	4	100231004	–
10	5	100231005	–
10	6	100231006	C00231006
10	8	100231008	C00231008
12	4	100231204	–
12	5	100231205	–
12	6	100231206	C00231206
12	8	100231208	C00231208
12	10	100231210	C00231210
14	6	100231406	–
14	8	100231408	–
14	10	100231410	–
14	12	100231412	–
16	12	–	C00231612

Stem Union (Equal)



O/D Stem	Pneufit	Pneufit C
4	100220400	C00220400
5	100220500	–
6	100220600	C00220600
8	100220800	C00220800
10	100221000	C00221000
12	100221200	C00221200
14	100221400	–
16	–	C00221600

PUSH-IN FITTINGS

Straight adaptors and connectors

Stem Expander (Stem/Tube)



		Pneufit C
O/D Stem	O/D Tube	
4	6	C00230406
6	8	C00230608

Stem Union (Unequal)



		Pneufit C
O/D Stem	O/D Stem	
6	4	C00220604
8	6	C00220806
10	8	C00221008
12	10	C00221210
16	12	C00221612

Stem Tailpiece Adaptor



		Pneufit
O/D Stem	Hose Bore	
5	6,5	100190505
6	6,5	100190605
6	8	100190606
8	8	100190806
8	9,6	100190808
10	12	100191010
12	12	100191210
12	15	100191212

Straight Stem Adaptor - Taper



		Pneufit
BSPT Thread	O/D Stem	
R1/8	4	101150418
R1/8	5	101150518
R1/8	6	101150618
R1/8	8	101150818
R1/8	10	–
R1/8	12	–
R1/4	4	101150428
R1/4	5	101150528
R1/4	6	101150628
R1/4	8	101150828
R1/4	10	101151028
R1/4	12	–
R3/8	4	–
R3/8	6	–
R3/8	8	101150838
R3/8	10	101151038
R3/8	12	101151238
R1/2	8	–
R1/2	10	101151048
R1/2	12	101151248
R1/2	14	101151448

Plug



	Pneufit C
O/D Tube	
4	C00040400
6	C00040600
8	C00040800
10	C00041000
12	C00041200
16	C00041600

Straight Stem Adaptor - Parallel



		Pneufit
BSPP Thread	O/D Stem	
G1/8	4	102150418
G1/8	5	102150518
G1/8	6	102150618
G1/8	8	102150818
G1/4	4	102150428
G1/4	5	102150528
G1/4	6	102150628
G1/4	8	102150818
G1/4	10	102151028
G3/8	8	102150838
G3/8	10	102151038
G3/8	12	102151238
G3/8	14	102151438
G1/2	10	102151048
G1/2	12	102151248
G1/2	14	102151448

Cap (Female Plug)



	Pneufit C
O/D Tube	
4	C00120400
6	C00120600
8	C00120800
10	C00121000
12	C00121200
16	C00121600

Elbow Union (Equal)






		Pneufit	Pneufit C	Pneufit M	Pneufit S
O/D Tube	**O/D Tube**				
3	3	–	–	M00400300	–
4	4	100400400	C00400400	M00400400	S00400400
5	5	100400500	–	–	–
6	6	100400600	C00400600	M00400600	S00400600
8	8	100400800	C00400800	–	S00400800
10	10	100401000	C00401000	–	S00401000
12	12	100401200	C00401200	–	S00401200
14	14	100401400	–	–	–
16	16	–	C00401600	–	–

Stem Elbow (Equal)




		Pneufit	Pneufit C
O/D Tube	**O/D Stem**		
4	4	100430400	C00430400
6	6	100430600	C00430600
8	8	100430800	C00430800
10	10	–	C00431000
12	12	–	C00431200
16	16	–	C00431600

Fixed Elbow Adaptor - Taper



		Pneufit
BSPT Thread	**O/D Tube**	
R1/8	4	101450418
R1/8	5	101450518
R1/8	6	101450618
R1/8	8	101450818
R1/8	10	101451018
R1/4	4	101450428
R1/4	5	101450528
R1/4	6	101450628
R1/4	8	101450828
R1/4	10	101451028
R1/4	12	101451228
R3/8	8	101450838
R3/8	10	101451038
R3/8	12	101451238
R1/2	8	101450848
R1/2	10	101451048
R1/2	12	101451248

PUSH-IN FITTINGS

Elbow adaptors and connectors

90° Swivel Elbow Adaptor - Parallel






		Pneufit	Pneufit C	Pneufit M	Pneufit S
Metric & BSPP Thread	**O/D Tube**				
M3	3	–	–	M02470303	–
M3	4	102470403	–	M02470403	–
M5	3		–	M02470305	–
M5	4	102470405	C02470405	M02470405	S02470405
M5	5	102470505	–	–	–
M5	6	102470605	C02470605	M02470605	–
M6	3	–	–	M02470306	–
M6	4	–	C02470406	M02470406	–
M6	6	–	C02470606	M02470606	–
G1/8	4	102470418	C02470418	–	S02470418
G1/8	5	102470518	–	–	–
G1/8	6	102470618	C02470618	–	S02470618
G1/8	8	102470818	C02470818	–	S02470818
G1/8	10	102471018	C02471018	–	–
G1/4	4	102470428	C02470428	–	S02470428
G1/4	5	102470528	–	–	–
G1/4	6	102470628	C02470628	–	S02470628
G1/4	8	102470828	C02470828	–	S02470828
G1/4	10	102471028	C02471028	–	S02471028
G1/4	12	102471228	C02471228	–	–
G3/8	4	–	C02470438	–	–
G3/8	6	–	C02470638	–	–
G3/8	8	102470838	C02470838	–	–
G3/8	10	102471038	C02471038	–	S02471038
G3/8	12	102471238	C02471238	–	S02471238
G3/8	14	102471438	–	–	–
G3/8	16		C02471638	–	–
G1/2	8	102470848	C02470848	–	–
G1/2	10	102471048	C02471048	–	–
G1/2	12	102471248	C02471248	–	S02471248
G1/2	14	102471448	–	–	–
G1/2	16	–	C02471648	–	–

90° Swivel Elbow Adaptor - Taper






		Pneufit	Pneufit C	Pneufit M	Pneufit S
BSPT Thread	**O/D Tube**				
R1/8	4	101470418	C01470418	M01470418	S01470418
R1/8	5	101470518	–	–	–
R1/8	6	101470618	C01470618	M01470618	S01470618
R1/8	8	101470818	C01470818	–	S01470818
R1/8	10	101471018	C01471018	–	–
R1/8	12	–	C01471218	–	–
R1/4	4	101470428	C01470428	–	S01470428
R1/4	5	101470528	–	–	–
R1/4	6	101470628	C01470628	–	S01470628
R1/4	8	101470828	C01470828	–	S01470828
R1/4	10	101471028	C01471028	–	S01471028
R1/4	12	101471228	C01471228	–	–
R3/8	4	–	C01470438	–	–
R3/8	6	–	C01470638	–	–
R3/8	8	101470838	C01470838	–	–
R3/8	10	101471038	C01471038	–	S01471038
R3/8	12	101471238	C01471238	–	S01471238
R3/8	14	101471438	–	–	–
R3/8	16	–	C01471638	–	–
R1/2	6	–	C01470648	–	–
R1/2	8	101470848	C01470848	–	–
R1/2	10	101471048	C01471048	–	–
R1/2	12	101471248	C01471248	–	S01471248
R1/2	14	101471448	–	–	–
R1/2	16	–	C01471648	–	–

90° Swivel Elbow Adaptor (Extended)



		Pneufit	Pneufit C
Metric & BSPT Thread	**O/D Tube**		
M5	4	–	C02540405
M5	6	–	C02540605
M6	4	–	C02540406
M6	6	–	C02540606
R1/8	4	101540418	C01540418
R1/8	6	101540618	C01540618
R1/8	8	101540818	C01540818
R1/8	10	–	C01541018
R1/8	12	–	C01541218
R1/4	4	101540428	C01540428
R1/4	6	101540628	C01540628
R1/4	8	101540828	C01540828
R1/4	10	–	C01541028
R1/4	12	–	C01541228
R3/8	4	101540838	C01540438
R3/8	6	–	C01540638
R3/8	8	–	C01540838
R3/8	10	101541038	C01541038
R3/8	12	–	C01541238
R3/8	16	–	C01541638
R1/2	6	–	C01540648
R1/2	8	–	C01540848
R1/2	10	–	C01541048
R1/2	12	–	C01541248
R1/2	16	–	C01541648

90° Swivel Elbow Adaptor (Female)



		Pneufit C
Metric & BSPT Thread	**O/D Tube**	
M5	4	C02480405
M5	6	C02480605
M6	4	C02480406
M6	6	C02480606
Rc1/8	4	C01480418
Rc1/8	6	C01480618
Rc1/8	8	C01480818
Rc1/4	4	C01480428
Rc1/4	6	C01480628
Rc1/4	8	C01480828
Rc1/4	10	C01481028
Rc1/4	12	C01481228
Rc3/8	6	C01480638
Rc3/8	8	C01480838
Rc3/8	10	C01481038
Rc3/8	12	C01481238
Rc1/2	10	C01481048
Rc1/2	12	C01481248

Bulkhead Swivel Elbow Connector



		Pneufit	Pneufit C
O/D Tube	**Bulkhead thread**		
4	M12 x1,0	100490400	C00490400
5	M12x1,0	100490500	–
6	M14x1,0	–	C00490600
6	M14x1,5	100490600	–
8	M16 x 1	–	C00490800
8	M16x1,5	100490800	–
10	M20 x 1	–	C00491000
10	M22x1,5	100491000	–
12	M22 x 1	–	C00491200
12	M24x1,5	100491200	–

45° Swivel Adaptor - Parallel



		Pneufit
BSPP Thread	**O/D Stem**	
G1/8	6	102570618
G1/8	8	102570818
G1/4	6	102570628
G1/4	8	102570828

PUSH-IN FITTINGS

Y and quadruple connectors

Union Y (Equal)





O/D Tube	Pneufit	Pneufit C	Pneufit M
3	–	–	M00820300
4	100820400	C00820400	M00820400
6	100820600	C00820600	M00820600
8	100820800	C00820800	–
10	100821000	C00821000	–
12	–	C00821200	–

Union Y (Unequal)





O/D Tube	O/D Tube	Pneufit	Pneufit C	Pneufit M
4	3	–	–	M00820403
4	6	–	C00820604	–
4	8	–	C00820804	–
6	3	–	–	M00820603
6	4	100820604	–	M00820604
6	10	–	C00821006	–
8	6	100820806	–	–
8	10	–	C00821008	–
8	12	–	C00821208	–
10	8	100821008	–	–
10	12	–	C00821210	–

Swivel Y Adaptor - Taper



BSPT Thread	O/D Tube	Pneufit	Pneufit C
R1/8	4	101880418	C01880418
R1/8	6	101880618	C01880618
R1/8	8	101880818	C01880818
R1/8	10	–	C01881018
R1/8	12	–	C01881218
R1/4	4	–	C01880428
R1/4	6	–	C01880628
R1/4	8	101880828	C01880828
R1/4	10	–	C01881028
R1/4	12	–	C01881228
R3/8	4	–	C01880438
R3/8	6	–	C01880638
R3/8	8	–	C01880838
R3/8	10	101881038	C01881038
R3/8	12	–	C01881238
R1/2	6	–	C01880648
R1/2	8	–	C01880848
R1/2	10	101881048	C01881048
R1/2	12	–	C01881248

Swivel Y Adaptor - Parallel



Metric & BSPP Thread	O/D Tube	Pneufit	Pneufit C
M5	4	102880405	C02880405
M5	6	102880605	C02880605
M6	4	–	C02880406
M6	6	–	C02880606
G1/8	4	–	C02880418
G1/8	6	–	C02880618
G1/8	8	–	C02880818
G1/8	10	–	C02881018
G1/4	4	–	C02880428
G1/4	6	–	C02880628
G1/4	8	–	C02880828
G1/4	10	–	C02881028
G1/4	12	–	C02881228
G3/8	4	–	C02880438
G3/8	6	–	C02880638
G3/8	8	–	C02880838
G3/8	10	–	C02881038
G3/8	12	–	C02881238
G1/2	6	–	C02880648
G1/2	8	–	C02880848
G1/2	10	–	C02881048
G1/2	12	–	C02881248

Stem Y (Equal)



		Pneufit C
O/D Stem	**O/D Tube**	
4	4	C00840400
6	6	C00840600
8	8	C00840800
10	10	C00841000
12	12	C00841200

Stem Y (Unequal)



		Pneufit C
O/D Stem	**O/D Tube**	
6	4	C00840604
8	6	C00840806
10	8	C00841008
12	10	C00841210

Quadruple Y Adaptor



		Pneufit C
BSPP & BSPT Thread	**O/D Tube**	
R1/8	4	C01950418
R1/8	6	C01950618
R1/4	4	C01950428
R1/4	6	C01950628
G1/8	4	C02950418
G1/8	6	C02950618
G1/4	4	C02950428
G1/4	6	C02950628

Quadruple Reducer



		Pneufit C
O/D Tube	**O/D Tube**	
6	4	C00960604
8	6	C00960806

Quadruple Reducer



		Pneufit C
O/D Stem	**O/D Tube**	
6	4	C00970604
8	6	C00970806

PUSH-IN FITTINGS

Tee adaptors and connectors

Union Tee (Equal)






	Pneufit	Pneufit C	Pneufit M	Pneufit S
O/D Tube				
3	–	–	M00600300	–
4	100600400	C00600400	M00600400	S00600400
5	100600500	–	–	–
6	100600600	C00600600	M00600600	S00600600
8	100600800	C00600800	–	S00600800
10	100601000	C00601000	–	S00601000
12	100601200	C00601200	–	S00601200
14	100601400	–	–	–
16	–	C00601600	–	–

Fixed Tee Adaptor - Taper



		Pneufit
BSPT Thread	**O/D Tube**	
R1/8	4	101650418
R1/8	5	101650518
R1/8	6	101650618
R1/8	8	101650818
R1/4	6	101650628
R1/4	8	101650828
R1/4	10	101651028
R1/4	12	101651228

Union Tee (Unequal)



		Pneufit C
O/D Tube	**O/D Tube**	
4	6	C006A0604
6	8	C006A0806
6	10	C006A1006
8	10	C006A1008
8	12	C006A1208
10	12	C006A1210
10	16	C006A1610
12	16	C006A1612

Fixed Side Tee Adaptor - Taper



		Pneufit
BSPT Thread	**O/D Tube**	
R1/8	4	101750418
R1/8	5	101750518
R1/8	6	101750618
R1/8	8	101750818
R1/4	5	101750528
R1/4	6	101750628
R1/4	8	101750828
R1/4	10	101751028
R1/4	12	101751228
R3/8	8	101750838
R3/8	10	101751038
R3/8	12	101751238

Swivel Tee Adaptor - Parallel






		Pneufit	Pneufit C	Pneufit M	Pneufit S
Metric & BSPP Thread	**O/D Tube**				
M3	3	–	–	M02670303	–
M3	4	–	–	M02670403	–
M5	3	–	–	M02670305	–
M5	4	102670405	C02670405	M02670405	S02670405
M5	5	102670505	–	–	–
M5	6	102670605	C02670605	M02670605	–
M6	3	–	–	M02670306	–
M6	4	–	C02670406	M02670406	–
M6	6	–	C02670606	M02670606	–
G1/8	4	102670418	C02670418	–	S02670418
G1/8	5	102670518	–	–	–
G1/8	6	102670618	C02670618	–	S02670618
G1/8	8	102670818	C02670818	–	S02670818
G1/8	10	–	C02671018	–	–
G1/4	4	102670428	C02670428	–	–
G1/4	6	102670628	C02670628	–	S02670628
G1/4	8	102670828	C02670828	–	S02670828
G1/4	10	102671028	C02671028	–	S02671028
G1/4	12	102671228	C02671228	–	–
G3/8	4	–	C02670438	–	–
G3/8	6	–	C02670638	–	–
G3/8	8	102670838	C02670838	–	–
G3/8	10	102671038	C02671038	–	S02671038
G3/8	12	102671238	C02671238	–	S02671238
G3/8	14	102671438	–	–	–
G3/8	16	–	C02671638	–	–
G1/2	8	–	C02670848	–	–
G1/2	10	–	C02671048	–	S02671048
G1/2	12	–	C02671248	–	–
G1/2	14	102671448	–	–	–
G1/2	16	–	C02671648	–	–

Swivel Tee Adaptor - Taper






		Pneufit	Pneufit C	Pneufit M	Pneufit S
BSPT Thread	**O/D Tube**				
R1/8	4	101670418	C01670418	M01670418	S01670418
R1/8	5	101670518	–	–	–
R1/8	6	101670618	C01670618	M01670618	S01670618
R1/8	8	101670818	C01670818	–	S01670818
R1/8	10	–	C01671018	–	–
R1/8	12	–	C01671218	–	–
R1/4	4	101670428	C01670428	–	–
R1/4	6	101670628	C01670628	–	S01670628
R1/4	8	101670828	C01670828	–	S01670828
R1/4	10	101671028	C01671028	–	S01671028
R1/4	12	101671228	C01671228	–	–
R3/8	4	–	C01670438	–	–
R3/8	6	–	C01670638	–	–
R3/8	8	101670838	C01670838	–	–
R3/8	10	101671038	C01671038	–	S01671038
R3/8	12	101671238	C01671238	–	S01671238
R3/8	14	101671438	–	–	–
R3/8	16	–	C01671638	–	–
R1/2	6	–	C01670648	–	–
R1/2	8	–	C01670848	–	–
R1/2	10	101671048	C01671048	–	S01671048
R1/2	12	101671248	C01671248	–	S01671248
R1/2	14	101671448	–	–	–
R1/2	16	–	C01671648	–	–

PUSH-IN FITTINGS

Tee adaptors and connectors

Swivel Tee Adaptor (Female)



		Pneufit C
Metric & BSPT Thread	**O/D Tube**	
M5	4	C026C0405
M5	6	C026C0605
M6	4	C026C0406
M6	6	C026C0606
Rc1/8	4	C016C0418
Rc1/8	6	C016C0618
Rc1/8	8	C016C0818
Rc1/8	10	C016C1018
Rc1/4	4	C016C0428
Rc1/4	6	C016C0628
Rc1/4	8	C016C0828
Rc1/4	10	C016C1028
Rc1/4	12	C016C1228
Rc3/8	6	C016C0638
Rc3/8	8	C016C0838
Rc3/8	10	C016C1038
Rc3/8	12	C016C1238
Rc1/2	8	C016C0848
Rc1/2	10	C016C1048
Rc1/2	12	C016C1248

Swivel Side Tee Adaptor - Parallel







		Pneufit	Pneufit C	Pneufit M
Metric & BSPP Thread	**O/D Tube**			
M3	3	–	–	M02680303
M3	4	–	–	M02680403
M5	3	–	–	M02680305
M5	4	102680405	C02680405	M02680405
M5	6	–	C02680605	M02680605
M6	3	–	–	M02680306
M6	4	–	C02680406	M02680406
M6	6	–	C02680606	M02680606
G1/8	4	102680418	C02680418	–
G1/8	6	102680618	C02680618	–
G1/8	8	102680818	C02680818	–
G1/8	10	–	C02681018	–
G1/4	4	–	C02680428	–
G1/4	6	102680628	C02680628	–
G1/4	8	102680828	C02680828	–
G1/4	10	102681028	C02681028	–
G1/4	12	102681228	C02681228	–
G3/8	4	–	C02680438	–
G3/8	6	–	C02680638	–
G3/8	8	102680838	C02680838	–
G3/8	10	102681038	C02681038	–
G3/8	12	102681238	C02681238	–
G3/8	14	102681438	–	–
G1/2	8	–	C02680848	–
G1/2	10	–	C02681048	–
G1/2	12	–	C02681248	–
G1/2	14	102681448	–	–

Swivel Side Tee Adaptor - Taper





		Pneufit	Pneufit C	Pneufit M
BSPT Thread	**O/D Tube**			
R1/8	4	101680418	C01680418	M01680418
R1/8	5	101680518	–	–
R1/8	6	101680618	C01680618	M01680618
R1/8	8	101680818	C01680818	–
R1/8	10	101681038	C01681018	–
R1/8	12	–	C01681218	–
R1/4	4	101680428	C01680428	–
R1/4	6	101680628	C01680628	–
R1/4	8	101680828	C01680828	–
R1/4	10	101681028	C01681028	–
R1/4	12	101681228	C01681228	–
R3/8	4	–	C01680438	–
R3/8	6	–	C01680638	–
R3/8	8	101680838	C01680838	–
R3/8	10		C01681038	–
R3/8	12	101681238	C01681238	–
R3/8	14	101681438		–
R1/2	6	–	C01680648	–
R1/2	8	–	C01680848	–
R1/2	10	–	C01681048	–
R1/2	12	101681248	C01681248	–
R1/2	14	101681448	–	–

Stem Tee (Equal)



		Pneufit C
O/D Stem	**O/D Tube**	
4	4	C00630400
6	6	C00630600
8	8	C00630800
10	10	C00631000
12	12	C00631200

Stem Tee (Unequal)



		Pneufit C
O/D Stem	**O/D Tube**	
6	4	C00630604
8	6	C00630806
10	8	C00631008
12	10	C00631210

Stem Tee (Equal)



		Pneufit C
O/D Stem	**O/D Tube**	
4	4	C00640400
6	6	C00640600
8	8	C00640800
10	10	C00641000
12	12	C00641200

Stem Tee (Unequal)



		Pneufit C
O/D Stem	**O/D Tube**	
6	4	C00640604
8	6	C00640806
10	8	C00641008
12	10	C00641210

PUSH-IN FITTINGS

Banjo flow controler and banjo accessories

Banjo Flow Control - Taper (Regulating Out)





		Pneufit*	Pneufit C
BSPT Thread	**O/D Tube**		
R1/8	4	10TA00418	C0TA00418
R1/8	6	10TA00618	C0TA00618
R1/8	8	–	C0TA00818
R1/4	4	–	C0TA00428
R1/4	6	10TA00628	C0TA00628
R1/4	8	10TA00828	C0TA00828
R1/4	10	10TA01028	C0TA01028
R1/4	12	–	C0TA01228
R3/8	6	–	C0TA00638
R3/8	8	10TA00838	C0TA00838
R3/8	10	10TA01038	C0TA01038
R3/8	12	–	C0TA01238
R1/2	8	–	C0TA00848
R1/2	10	–	C0TA01048
R1/2	12	10TA01248	C0TA01248

*Pressure rating on this item 10 bar.

Banjo Flow Control - Parallel (Regulating Out)





		Pneufit	Pneufit C
Metric & BSPP Thread	**O/D Tube**		
M5	3	–	C0K510305
M5	4	10K510405	C0K510405
M5	5	10K510505	
M5	6	10K510605	C0K510605
G1/8	4	10K510418	C0K510418
G1/8	5	10K510518	
G1/8	6	10K510618	C0K510618
G1/8	8	10K510818	C0K510818
G1/4	4	–	C0K510428
G1/4	6	10K510628	C0K510628
G1/4	8	10K510828	C0K510828
G1/4	10	10K511028	C0K511028
G1/4	12	–	C0K511228
G3/8	6	–	C0K510638
G3/8	8	10K510838	C0K510838
G3/8	10	10K511038	C0K511038
G3/8	12	10K511238	C0K511238
G1/2	8	–	C0K510848
G1/2	10	–	C0K511048
G1/2	12	10K511248	C0K511248

Banjo Flow Assembly (Regulating Out)



		Pneufit
BSPT Thread	**O/D Tube**	
R1/8	4	10T000418
R1/8	6	10T000618
R1/8	8	10T000818
R1/4	6	10T000628
R1/4	8	10T000828
R1/4	10	10T001028
R3/8	8	10T000838
R3/8	10	10T001038
R1/2	12	10T001248

Banjo Flow Control - Taper (Regulating In)



		Pneufit C
BSPT Thread	**O/D Tube**	
R1/8	4	C0SA00418
R1/8	8	C0SA00618
R1/8	8	C0SA00818
R1/4	4	C0SA00428
R1/4	6	C0SA00628
R1/4	8	C0SA00828
R1/4	10	C0SA01028
R1/4	12	C0SA01228
R3/8	6	C0SA00638
R3/8	8	C0SA00838
R3/8	10	C0SA01038
R3/8	12	C0SA01238
R1/2	8	C0SA00848
R1/2	10	C0SA01048
R1/2	12	C0SA01248

Banjo Flow Control - Parallel (Regulating In)



		Pneufit C
Metric & BSPP Thread	**O/D Tube**	
M5	3	C0L510305
M5	4	C0L510405
M5	6	C0L510605
G1/8	4	C0L510418
G1/8	6	C0L510618
G1/8	8	C0L510818
G1/4	4	C0L510428
G1/4	6	C0L510628
G1/4	8	C0L510828
G1/4	10	C0L511028
G1/4	12	C0L511228
G3/8	6	C0L510638
G3/8	8	C0L510838
G3/8	10	C0L511038
G3/8	12	C0L511238
G1/2	8	C0L510848
G1/2	10	C0L511048
G1/2	12	C0L511248

Elbow Banjo Assembly (Non-Regulating Bolt - Parallel)



		Pneufit	Pneufit C
Metric & BSPP Thread	**O/D Tube**		
M5	4	10A510405	C0A510405
M5	5	10A510505	–
M5	6	10A510605	C0A510605
G1/8	4	10A510418	C0A510418
G1/8	6	10A510618	C0A510618
G1/8	8	10A510818	C0A510818
G1/4	4		C0A510428
G1/4	6	10A510628	C0A510628
G1/4	8	10A510828	C0A510828
G1/4	10	10A511028	C0A511028
G3/8	6	–	C0A510638
G3/8	8	10A510838	C0A510838
G3/8	10	10A511038	C0A511038
G3/8	12	–	C0A511238
G1/2	8	–	C0A510848
G1/2	10	–	C0A511048
G1/2	12	–	C0A511248

Shrouded Banjo (Regulating Out - Taper)



		Pneufit C
BSPT Thread	**O/D Tube**	
R1/8	4	C0TB00418
R1/8	6	C0TB00618
R1/8	8	C0TB00818
R1/4	4	C0TB00428
R1/4	6	C0TB00628
R1/4	8	C0TB00828
R1/4	10	C0TB01028
R1/4	12	C0TB01228
R3/8	6	C0TB00638
R3/8	8	C0TB00838
R3/8	10	C0TB01038
R3/8	12	C0TB01238
R1/2	8	C0TB00848
R1/2	10	C0TB01048
R1/2	12	C0TB01248

Swivel Banjo (Regulating Out - Taper)



		Pneufit C
BSPT Thread	**O/D Tube**	
R1/8	4	C0T560418
R1/8	6	C0T560618
R1/8	8	C0T560818
R1/4	4	C0T560428
R1/4	6	C0T560628
R1/4	8	C0T560828
R1/4	10	C0T561038
R1/4	12	C0T561228
R3/8	6	C0T560638
R3/8	8	C0T560838
R3/8	10	C0T561048
R3/8	12	C0T561238
R1/2	8	C0T560828
R1/2	10	C0T561048
R1/2	12	C0T561248

Tee Banjo Assembly (Non-Regulating Bolt - Parallel)



		Pneufit
Metric & BSPP Thread	**O/D Tube**	
M5	4	10A710405
G1/8	4	10A710418
G1/8	6	10A710618
G1/8	8	10A710818
G1/4	6	10A710628
G1/4	8	10A710828

Shrouded Banjo (Regulating Out - Parallel)



		Pneufit C
BSPT Thread	**O/D Tube**	
M5	4	C0KB00405
M5	6	C0KB00605
G1/8	4	C0KB00418
G1/8	6	C0KB00618
G1/8	8	C0KB00818
G1/4	4	C0KB00428
G1/4	6	C0KB00628
G1/4	8	C0KB00828
G1/4	10	C0KB01028
G1/4	12	C0KB01228
G3/8	6	C0KB00638
G3/8	8	C0KB00838
G3/8	10	C0KB01038
G3/8	12	C0KB01238
G1/2	8	C0KB00848
G1/2	10	C0KB01048
G1/2	12	C0KB01248

Swivel Banjo Flow Control (Regulating Out - Parallel)



		Pneufit C
Metric & BSPP Thread	**O/D Tube**	
M5	4	C0K560405
M5	6	C0K560605
G1/8	4	C0K560418
G1/8	6	C0K560618
G1/8	8	C0K560818
G1/4	4	C0K560428
G1/4	6	C0K560628
G1/4	8	C0K560828
G1/4	10	C0K561038
G1/4	12	C0K561228
G3/8	6	C0K560638
G3/8	8	C0K560838
G3/8	10	C0K561048
G3/8	12	C0K561238
G1/2	8	C0K560828
G1/2	10	C0K561048
G1/2	12	C0K561248

PUSH-IN FITTINGS

Banjo flow controler and banjo accessories

Flow Control + Pilot Check - Taper



		Pneufit C
BSPT Thread	**O/D Tube**	
R1/8	6	C01GN0618
R1/8	8	C01GN0818
R1/4	6	C01GN0628
R1/4	8	C01GN0828
R3/8	8	C01GN0838
R3/8	10	C01GN1038
R3/8	12	C01GN1238
R1/2	10	C01GN1048
R1/2	12	C01GN1248

Flow Control + Pilot Check - Parallel



		Pneufit C
BSPP Thread	**O/D Tube**	
G1/8	6	C02GN0618
G1/8	8	C02GN0818
G1/4	6	C02GN0628
G1/4	8	C02GN0828
G3/8	8	C02GN0838
G3/8	10	C02GN1038
G3/8	12	C02GN1238
G1/2	10	C02GN1048

Elbow banjo body - Taper



		Pneufit
Bolt Thread	**O/D Tube**	
M5	4	100510405
M5	5	100510505
M5	6	100510605
G1/8	4	100510418
G1/8	6	100510618
G1/8	8	100510818
G1/4	6	100510628
G1/4	8	100510828
G1/4	10	100511028
G3/8	8	100510838
G3/8	10	100511038
G3/8	12	100511238
G1/2	12	100511248

Tee Banjo Body - Taper



		Pneufit
Bolt Thread	**O/D Tube**	
M5	4	100710405
M5	6	100710605
G1/8	4	100710418
G1/8	6	100710618
G1/8	8	100710818
G1/4	6	100710628
G1/4	8	100710828

Banjo Bolt Parallel Non-Regulating Single Stacking - Parallel



	Pneufit
Metric & BSPP Thread	
M5	20A000005
G1/8	20A000018
G1/4	20A000028
G3/8	20A000038
G1/2	20A000048

Regulating Out Banjo Parallel Bolts Single Stacking (screwdriver adjustable - Parallel)



		Pneufit
Metric & BSPP Thread	**Flow**	
M5	Reg in	20L000005
G1/8A	Reg out	20K000018
G1/8A	Reg in	20L000018
G1/8A	Bi direc	20M000018
G1/4A	Reg out	20K000028
G1/4A	Reg in	20L000028
G1/4A	Bi direc	20M000028
G3/8A	Reg in	20L000038
G1/2A	Bi direc	20M000048

Banjo Bolt Non-Regulating Single Stacking with top port - Parallel



		Pneufit
Bolt Thread	**Port Thread**	
G1/8	G1/8	20E001818
G1/4	G1/4	20F002828
G3/8	G3/8	20G003838

Banjo Bolt Non-Regulating Double Stacking - Parallel



	Pneufit
Metric & BSPP Thread	
M5	20B000005
G1/8	20B000018
G1/4	20B000028
G3/8	20B000038
G1/2	20B000048

Banjo Bolt Non-Regulating Triple Stacking - Parallel



	Pneufit
BSPP Thread	
G1/8	20C000018
G1/4	20C000028
G3/8	20C000038

PUSH-IN FITTINGS
Cross and manifolds

Elbow Manifold



		Pneufit
O/D Tube Inlet	**O/D Tube Outlet (x6)**	
8	4	100D60804
8	6	100D60806
10	6	100D61006
10	8	100D61008

Elbow Manifold - Taper



			Pneufit
BSPT Thread	**O/D Tube Inlet**	**O/D Tube Outlet (x6)**	
R1/4	8	6	101D60628
R3/8	8	6	101D60638
R1/2	10	8	101D60848

Manifold Union



		Pneufit C
O/D Tube Outlet	**O/D Tube Inlet**	
4	6	C00D30604
4	8	C00D30804
6	8	C00D30806
6	10	C00D31006
8	10	C00D31008

Adaptor Manifold - Taper



			Pneufit C
BSPT Thread	**O/D Tube**	**O/D Tube**	
R1/8	4	6	C01D30418
R1/8	4	8	C01D30428
R1/4	6	8	C01D30628
R3/8	8	10	C01D30838

Union Cross



	Pneufit C
O/D Tube	
4	C00900400
6	C00900600
8	C00900800
10	C00901000
12	C00901200

Stem Manifold



			Pneufit C
O/D Stem	**O/D Tube**	**O/D Tube**	
6	4	6	C00J30604
8	4	8	C00J30804
8	6	8	C00J30806
10	8	10	C00J31008

Banjo with Top Port - M5 & Taper



		Pneufit C
Metric & BSPT Thread	**O/D Tube**	
M5	4	C0D510405
M5	6	C0D510605
R1/8	4	C0E510418
R1/8	6	C0E510618
R1/8	8	C0E510818
R1/4	4	C0F510428
R1/4	6	C0F510628
R1/4	8	C0F510828
R1/4	10	C0F511028
R3/8	6	C0G510638
R3/8	8	C0G510838
R3/8	10	C0G511038
R3/8	12	C0G511238

Branch adaptor (Male)



		Pneufit C
Metric & BSPP & BSPT Thread	**O/D Tube**	
M5	4	C0A700405
G1/8	6	C0A700618
G1/4	8	C0A700828
G1/4	10	C0A701028
G3/8	10	C0A701038
G3/8	12	C0A701238
G1/2	12	C0A701248
R1/8	6	C0N700618
R1/4	8	C0N700828
R1/4	10	C0N701028
R3/8	10	C0N701038
R3/8	12	C0N701238
R1/2	12	C0N701248

Branch adaptor (Female)



		Pneufit C
Metric & BSPP & BSPT Thread	**O/D Tube**	
M5	4	C0D7K0405
G1/8	6	C0E7K0618
G1/4	8	C0F7K0828
G1/4	10	C0F7K1028
G3/8	10	C0G7K1038
G3/8	12	C0G7K1238
G1/2	12	C0H7K1248
R1/8	6	C0E7J0618
R1/4	8	C0F7J0828
R1/4	10	C0F7J1028
R3/8	10	C0G7J1038
R3/8	12	C0G7J1238
R1/2	12	C0H7J1248

PUSH-IN FITTINGS
Self sealing adaptors



No air flow when tubing is removed -
air flow is restored when tubing is inserted

Straight Self-Seal - Taper



BSPT Thread	O/D Tube	Pneufit C
R1/8	4	C01240418
R1/8	6	C01240618
R1/4	6	C01240628
R1/4	8	C01240828
R1/4	10	C01241028
R1/4	12	C01241228
R3/8	8	C01240838
R3/8	10	C01241038
R3/8	12	C01241238
R1/2	10	C01241048
R1/2	12	C01241248

Straight Self-Seal - Parallel



BSPP Thread	O/D Tube	Pneufit C
G1/8	4	C02240418
G1/8	6	C02240618
G1/4	6	C02240628
G1/4	8	C02240828
G1/4	10	C02241028
G1/4	12	C02241228
G3/8	8	C02240838
G3/8	10	C02241038
G3/8	12	C02241238
G1/2	10	C02241048
G1/2	12	C02241248

Elbow Self-Seal



BSPT Thread	O/D Tube	Pneufit C
R1/8	4	C014J0418
R1/8	6	C014J0618
R1/8	8	C014J0818
R1/4	6	C014J0628
R1/4	8	C014J0828
R1/4	10	C014J1028
R3/8	10	C014J1038
R3/8	12	C014J1238
R1/2	10	C014J1048
R1/2	12	C014J1248

Elbow Self-Seal



Metric & BSPP Thread	O/D Tube	Pneufit C
M5	4	C024J0405
M5	6	C024J0605
G1/8	4	C024J0418
G1/8	6	C024J0618
G1/4	6	C024J0628
G1/4	8	C024J0828
G1/4	10	C024J1028
G3/8	8	C024J0838
G3/8	10	C024J1038
G3/8	12	C024J1238
G1/2	10	C024J1048
G1/2	12	C024J1248

Union Straight Self-Seal



O/D Tube	Pneufit C
4	C002J0400
6	C002J0600
8	C002J0800
10	C002J1000
12	C002J1200

3/2 shut off valves (Taper Male)



	Pneufit C
BSPT Thread	
R1/8	C01GG1818
R1/4	C01GG2828
R3/8	C01GG3838
R1/2	C01GG4848

3/2 shut off valves (Tube/Taper Male)



		Pneufit C
BSPT Thread	**O/D Tube**	
R1/8	6	C01GH0618
R1/8	8	C01GH0818
R1/4	6	C01GH0628
R1/4	8	C01GH0828
R1/4	10	C01GH1028
R1/4	12	C01GH1228
R3/8	6	C01GH0638
R3/8	8	C01GH0838
R3/8	10	C01GH1038
R3/8	12	C01GH1238
R1/2	10	C01GH1048
R1/2	12	C01GH1248

3/2 shut off valves (Tube/Tube)



	Pneufit C
O/D Tube	
6	C00GF0600
8	C00GF0800
10	C00GF1000
12	C00GF1200

3/2 shut off valves (Taper Male/Tube)



		Pneufit C
BSPT Thread	**O/D Tube**	
R1/8	6	C01GJ0618
R1/8	8	C01GJ0818
R1/4	6	C01GJ0628
R1/4	8	C01GJ0828
R1/4	10	C01GJ1028
R1/4	12	C01GJ1228
R3/8	6	C01GJ0638
R3/8	8	C01GJ0838
R3/8	10	C01GJ1038
R3/8	12	C01GJ1238
R1/2	10	C01GJ1048
R1/2	12	C01GJ1248



Precision. Engineered.

Pneufit C
range





When it comes to pneumatic fittings, most users give little real thought to this product, often seen as simply a commodity. However, fittings connect all other components together, so it is vital to make the right choice.

The Pneufit C range is probably one of the largest and most user-friendly push-in fitting ranges on the market, from basic shapes and sizes to function fittings, manifolds, flow regulators and isolating valves. For more specialist applications, consider the miniature Pneufit M range or the stainless steel Pneufit S.

- Dry coating applied to taper threads, and captive O ring seal on parallel versions – ready for use from the pack with no additional pre-assembly creating a leak and trouble free sealing joint
- Straight adaptors also include an internal hexagon to assist installation
- Stainless steel grab ring ensures positive retention of tubing under load conditions

Engineering GREAT Solutions

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PUSH-ON TUBE FITTING

24 Series Metric Ø 4/2,5 … 15/12,5 mm OD/ID tube

- Ideal for use on vacuum systems
- For simple and quick connection of pneumatic circuits
- Neat, compact design
- Precision machined for complete reliability
- Corrosion resistant
- Unique barb shape ensures good grip on tube even if fitting is tightened by hand
- Ideal for use in confined spaces where tight bend radii are required
- Tubing nuts included

Technical Data

Medium:
Compressed air

Operating pressure:
Vacuum: –15 bar
(dependant on tube operating specification)

Ambient temperature:
-18°C … +70°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Tube sizes:
4/2,5 mm, 5/3 mm, 6/4 mm, 8/6 mm, 10/8 mm, 12/10 mm, 15/12,5 mm OD/ID

Tube types:
Nylon 11 and 12, polyurethane

Materials

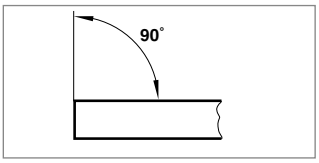
Nut & Body:
Nickel plated brass to OT58 UNI 5705

'O' ring:
NBR 70

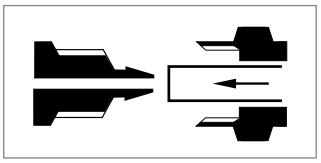
Sealing washer:
Polyamide 66



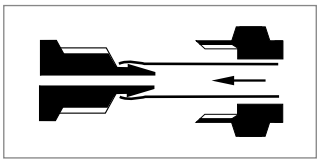
Method of assembly



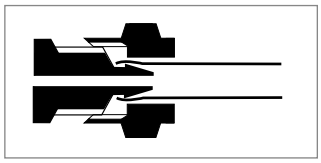
1. Ensure that the end of the tube is cut square and is free from burrs.



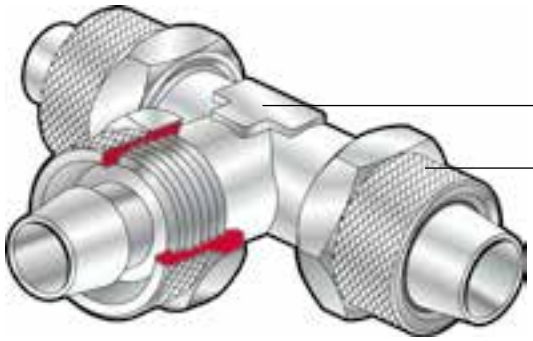
2. Place the knurled nut over the tube.



3. Push the tube over the barbed end of the fitting up to the tube stop.



4. Screw the knurled nut onto the fitting until finger tight. The hexagon on the nut is to aid release.



PUSH-ON TUBE FITTING

24 Series Metric Ø 4/2,5 … 15/12,5 mm OD/ID tube

Straight Male Adaptor



Male BSPT	O/D I/D Tube	Model
R1/8	4/2,5	241250418
R1/8	6/4	241250618
R1/8	8/6	241250818
R1/8	10/8	241251018
R1/4	6/4	241250628
R1/4	8/6	241250828
R1/4	10/8	241251028
R3/8	6/4	241250638
R3/8	8/6	241250838
R3/8	10/8	241251038
R3/8	12/10	241251238
R1/2	8/6	241250848
R1/2	10/8	241251048
R1/2	12/10	241251248

Straight Female Adaptor



Female BSPP	O/D I/D Tube	Model
G1/8	6/4	242260618
G1/8	8/6	242260818
G1/4	6/4	242260628
G1/4	8/6	242260828
G1/4	10/8	242261028
G3/8	6/4	242260638
G3/8	8/6	242260838
G3/8	10/8	242261038
G1/2	8/6	242260848
G1/2	10/8	242261048

Straight Male Adaptor



Male BSPP	O/D I/D Tube	Model
M5	4/2,5	242250405
M5	6/4	242250605
G1/8	4/2,5	242250418
G1/8	6/4	242250618
G1/8	8/6	242250818
G1/8	10/8	242251018
G1/4	8/6	242250828
G1/4	10/8	242251028
G3/8	6/4	242250638
G3/8	8/6	242250838
G3/8	10/8	242251038
G3/8	10/8	242251238
G1/2	6/4	242250648
G1/2	8/6	242250848
G1/2	10/8	242251048
G1/2	10/8	242251248
G1/2	15/12,5	242251548

Supplied complete with sealing washer.

Straight Connector



O/D I/D Tube	O/D I/D Tube	Model
4/2,5	4/2,5	240200400
6/4	6/4	240200600
8/6	6/4	240200806
8/6	8/6	240200800
10/8	10/8	240201000
12/10	12/10	240201200

Bulkhead Connector



O/D I/D Tube	Model
4/2,5	240290400
6/4	240290600
8/6	240290806
8/6	240290800
10/8	240291000
12/10	240291200

PUSH-ON TUBE FITTING

24 Series Metric Ø 4/2,5 … 15/12,5 mm OD/ID tube

Elbow Male Adaptor



Male BSPT	O/D I/D Tube	Model
R1/8	4/2,5	241450418
R1/8	6/4	241450618
R1/8	8/6	241450818
R1/8	10/8	241451018
R1/4	6/4	241450628
R1/4	8/6	241450828
R1/4	10/8	241451028
R3/8	6/4	241450638
R3/8	8/6	241450838
R3/8	10/8	241451038
R3/8	12/10	241451238
R1/2	8/6	241450848
R1/2	10/8	241451048
R1/2	12/10	241451248

Equal Cross Connector



O/D I/D Tube	Model
6/4	240900600
8/6	240900800
10/8	240901000
12/10	240901200

Swivel Elbow Adaptor



Male BSPP	O/D I/D Tube	Model
G1/8	6/4	242470618
G1/8	8/6	242470818
G1/4	6/4	242470628
G1/4	8/6	242470828
G1/4	10/8	242471028

Supplied complete with sealing washer.

Elbow Banjo Assembly Non-Regulating



Bolt Thread	O/D I/D Tube	Model
M5	4/2,5	24A510405
M5	6/4	24A510605
G1/8	4/2,5	24A510418
G1/8	6/4	24A510618
G1/8	8/6	24A510818
G1/4	6/4	24A510628
G1/4	8/6	24A510828
G1/4	10/8	24A511028
G3/8	6/4	24A510638
G3/8	8/6	24A510838
G3/8	12/10	24A511238
G1/2	12/10	24A511248

Supplied complete with sealing washer.

Tee Connector



O/D I/D Tube	Model
4/2,5	240600400
6/4	240600600
8/6	240600806
8/6	240600800
10/8	240601006
10/8	240601008
10/8	240601000
12/10	240601200

Banjo Flow Regulator Regulating Out



Bolt Thread	O/D I/D Tube	Model
M5	4/2,5	24K510405
M5	6/4	24K510605
G1/8	4/2,5	24K510418
G1/8	6/4	24K510618
G1/8	8/6	24K510818
G1/4	6/4	24K510628
G1/4	8/6	24K510828
G1/4	10/8	24K511028

COMPRESSION FITTINGS EXTERNAL NUT

43 Series Metric Ø 4 … 22 mm O/D tube

- Rugged and durable
- Ideal for most industrial applications
- Wide range of types and sizes
- Thread sizes from 1/8" to 1" BSP
- Supplied assembled with tubing sleeves, nuts and appropriate seals

Technical Data

Medium:
These fittings are designed for use with compressed air, oils, water and other fluids used in pneumatic and low pressure hydraulic applications
Consult our Technical Service for details

Operating pressure:
The maximum working pressure is limited by the type of tubing being used

Ambient temperature:
The maximum working temperature is limited by the type of tubing being used

Tube sizes:
4, 6, 8, 10, 12, 14, 15, 16, 18, 22 mm O/D
Threads used on products conform to:
ISO 7,1 Taper BSP
ISO 228 Parallel BSP
ISO R/226 metric

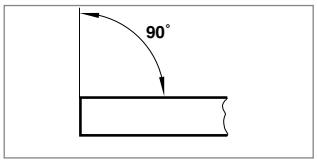
Tube types:
Nylon 11 or 12 and other plasticised or unplasticised tubing and other soft plastic tubing
Copper, annealed and half-hard
Double wall brazed steel tube (Bundy)

Materials

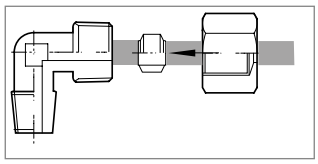
Brass to OT 58 UNI 5705 for all items, except sealing washers which are nylon
All brass items have a nickel plated finish unless otherwise stated



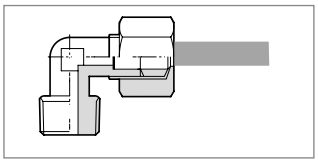
Method of assembly



1. Ensure that the tube is cut square and is free from fraze.



2. For larger sizes of metal tubes it is beneficial to lightly oil the tubing nut and sleeve before tightening the joint. Place the tubing nut and sleeve on the tube and push the tube into the fitting until it bottoms on the tube stop.



3. Holding the tube firmly in contact with the tube stop screw the tubing nut down finger tight and then tighten a further 11/4-11/2 full turns. Slacken off the assembly and ensure that the groove made by sleeve is even. Release nut and re-tighten nut an extra quarter turn.

Note
When fitting to curved tubes ensure that section entering the fitting is straight for a minimum of twice the nut height.
The method of preparation and assembly described will ensure leak-proof joints over a wide pressure range, depending upon the size and type of tubing being used. Failure to follow this guide, or over-tightening at any joint, may lead to damage of the fittings or an unsatisfactory seal.

COMPRESSION FITTINGS EXTERNAL NUT

43 Series Metric Ø 4 … 22 mm O/D tube



Straight Male Adaptor

BSPP Thread	O/D Tube	Model
G1/8	4	432250418
G1/8	6	432250618
G1/8	8	432250818
G1/4	6	432250628
G1/4	8	432250828
G1/4	10	432251028
G3/8	8	432250838
G3/8	10	432251038
G3/8	14	432251438
G1/2	14	432251448
G3/4	22	432252268
G1	22	432252288



Straight Male Adaptor

BSPT Thread	O/D Tube	Model
R1/8	4	431250418
R1/8	6	431250618
R1/8	8	431250818
R1/4	4	431250428
R1/4	6	431250628
R1/4	8	431250828
R1/4	10	431251028
R1/4	12	431251228
R3/8	6	431250638
R3/8	8	431250838
R3/8	10	431251038
R3/8	12	431251238
R3/8	14	431251438
R1/2	10	431251048
R1/2	12	431251248
R1/2	14	431251448
R1/2	15	431251548
R1/2	16	431251648
R1/2	18	431251848
R1/2	22	431252248
R3/4	16	431251668
R3/4	18	431251868
R3/4	22	431252268



Straight Connector

O/D Tube	Model
4	430200400
6	430200600
8	430200800
10	430201000
12	430201200
14	430201400
15	430201500
16	430201600
18	430201800
22	430202200



Straight Female Adaptor

BSPP Thread	O/D Tube	Model
G1/8	4	432260418
G1/8	6	432260618
G1/8	8	432260818
G1/4	6	432260628
G1/4	8	432260828
G1/4	10	432261028
G1/4	12	432261228
G3/8	8	432260838
G3/8	10	432261038
G3/8	12	432261238
G3/8	14	432261438
G1/2	10	432261048
G1/2	12	432261248
G1/2	14	432261448
G1/2	15	432261548
G1/2	16	432261648
G1/2	18	432261848
G3/4	16	432261668
G3/4	18	432261868
G3/4	22	432262268



Bulkhead Connector

O/D Tube	B	Model
4	M8x1,0	430290400
6	M10x1,0	430290600
8	M12x1,0	430290800
10	M16x1,5	430291000
12	M18x1,5	430291200
14	M20x1,5	430291400

Minimum bulkhead thickness 3,0 mm.

COMPRESSION FITTINGS EXTERNAL NUT

43 Series Metric Ø 4 … 22 mm O/D tube



Straight Stem Adaptor

BSPP Thread	O/D Stem	Model
G1/8	6	432150618
G1/8	8	432150818
G1/4	6	432150628
G1/4	8	432150828
G1/4	10	432151028
G3/8	8	432150838
G3/8	10	432151038
G3/8	14	432151438
G1/2	14	432151448



Male Elbow Adaptor

BSPT Thread	O/D Tube	Model
R1/8	4	431450418
R1/8	6	431450618
R1/8	8	431450818
R1/4	6	431450628
R1/4	8	431450828
R1/4	10	431451028
R1/4	12	431451228
R3/8	8	431450838
R3/8	10	431451038
R3/8	12	431451238
R3/8	14	431451438
R1/2	10	431451048
R1/2	12	431451248
R1/2	14	431451448
R1/2	15	431451548
R1/2	16	431451648
R1/2	18	431451848
R3/4	18	431451868
R3/4	22	431452268



Elbow Connector

O/D Tube	Model
4	430400400
6	430400600
8	430400800
10	430401000
12	430401200
14	430401400
15	430401500
16	430401600
18	430401800
22	430402200



Male Tee Adaptor

BSPT Thread	O/D Tube	Model
R1/8	4	431650418
R1/8	6	431650618
R1/8	8	431650818
R1/4	6	431650628
R1/4	8	431650828
R1/4	10	431651028
R1/4	12	431651228
R3/8	8	431650838
R3/8	10	431651038
R3/8	12	431651238
R3/8	14	431651438
R1/2	10	431651048
R1/2	12	431651248
R1/2	14	431651448
R1/2	15	431651548
R1/2	16	431651648
R1/2	18	431651848
R3/4	18	431651868
R3/4	22	431652268



Tee Connector

O/D Tube	Model
4	430600400
6	430600600
8	430600800
10	430601000
12	430601200
14	430601400
15	430601500
16	430601600
18	430601800
22	430602200

COMPRESSION FITTINGS EXTERNAL NUT

43 Series Metric Ø 4 … 22 mm O/D tube

Male Side Tee Adaptor



BSPT Thread	O/D Tube	Model
R1/8	4	431750418
R1/8	6	431750618
R1/8	8	431750818
R1/4	6	431750628
R1/4	8	431750828
R3/8	8	431750838

Elbow Banjo Assembly



BSPP Thread	O/D Tube	Model
G1/8	4	43A510418
G1/8	6	43A510618
G1/8	8	43A510818
G1/4	6	43A510628
G1/4	8	43A510828
G1/4	10	43A511028
G1/4	14	43A511428
G3/8	8	43A510838
G3/8	10	43A511038
G3/8	14	43A511438
G1/2	14	43A511448
G3/4	22	43A512268

Four Way Connector



O/D Tube	Model
4	430900400
6	430900600
8	430900800
10	430901000
12	430901200
14	430901400

Reducing Connector



O/D Tube	O/D Tube	Model
6	4	430280604
8	6	430280806
10	8	430281008
12	10	430281210
14	12	430281412

Natural brass finish for sleeve and reducer.

Tube Support



O/D I/D Tube	Model
4/2,7	430330403
6/4	430330604
8/6	430330806
10/8	430331008
12/9	430331209
14/10	430331210
14/12	430331412
15/12,5	430331512
16/13	430331613
18/15	430331815
18/16	430331816
22/18	430332218

Natural brass finish. For use on plastic tubing.

Universal Tubing Sleeve



O/D Tube	Model
4	430020400
6	430020600
8	430020800
10	430021000
12	430021200
14	430021400
15	430021500
16	430021600
18	430021800
22	430022200

Natural brass finish.

BSP & HOSE FITTINGS

M5, 1/8" … 1" BSP

- Bright nickel plated
- Corrosion resistant
- Compact design
- Washers included where necessary

Technical Data

Medium:
Compressed air or any fluids compatible with the materials listed opposite.

Operating pressure:
Generally limited by tubing specification, except non regulating banjo bolts (max 18 bar) and regulating banjo bolts (max 10 bar) due to sealing washer.

Ambient temperature:
Generally limited by tubing specification except where plastic sealing washers are used (banjo bolts, and M5 units). In these cases temperature is limited to +70°C.

Materials

Brass type OT UNI EN 12164/5 CW614/7N and undergo a nickel-plating process

Sealing washers:
Copper (Acetal for M5 items)

EXPRESS



Sleeve Adaptor (Parallel Threads)



Metric & BSPP Thread	Metric & BSPP Thread	Model
M5	M5	160220505
G1/8	M5	160221805
G1/8	G1/8	160221818
G1/4	G1/8	160222818
G1/4	G1/4	160222828
G3/8	G1/8	160223818
G3/8	G1/4	160223828
G3/8	G3/8	160223838
G1/2	G1/8	160224818
G1/2	G1/4	160224828
G1/2	G3/8	160224838
G1/2	G1/2	160224848
G3/4	G1/2	160226848
G3/4	G3/4	160226868
G1	G3/4	160228868
G1	G1	160228888



Reducing Connector (Parallel)

Reducing Male BSPP	Female and BSPP Thread	Model
G1/8	M5	160231805
G1/4	G1/8	160232818
G3/8	G1/8	160233818
G3/8	G1/4	160233828
G1/2	G1/8	160234818
G1/2	G1/4	160234828
G1/2	G3/8	160234838
G3/4	G1/4	160236828
G3/4	G3/8	160236838
G3/4	G1/2	160236848



Reducing Connector

Reducing Male BSPT	Female BSPP	Model
R1/8	G1/8	150231818
R1/4	G1/8	150232818
R1/4	G1/4	150232828
R3/8	G1/8	150233818
R3/8	G1/4	150233828
R3/8	G3/8	150233838
R1/2	G1/8	150234818
R1/2	G1/4	150234828
R1/2	G3/8	150234838
R1/2	G1/2	150234848
R3/4	G1/4	150236828
R3/4	G3/8	150236838
R3/4	G1/2	150236848
R1	G1/2	150238848
R1	G3/4	150238868



Expanding Connector (Parallel)

Metric & BSPP Thread	Female BSPP	Model
M5	G1/8	160230518
G1/8	G1/4	160231828
G1/8	G3/8	160231838
G1/4	G3/8	160232838
G1/4	G1/2	160232848
G3/8	G1/2	160233848
G1/2	G3/4	160234868

Supplied with sealing washer.



Expanding Connector (Taper)

Expanding Male BSPT	Female BSPP	Model
R1/8	G1/4	150231828
R1/8	G3/8	150231838
R1/8	G1/2	150231848
R1/4	G3/8	150232838
R1/4	G1/2	150232848
R3/8	G1/2	150233848
R3/8	G3/4	150233868
R1/2	G3/4	150234868
R3/4	G1	150236888



Adaptor

Female NPTF	Male BSPT	Model
1/8 NPT	R1/8	154231818
1/4 NPT	R1/4	154232828
3/8 NPT	R3/8	154233838
1/2 NPT	R1/2	154234848

Female BSPP	Male NPT	Model
G1/4	1/8 NPT	172232828
G3/8	3/8 NPT	172233838



Bulkhead Connector

Metric & BSPP Thread	Male Metric Thread	Model
M5	M10x1,0	160290005
G1/8	M16x1,5	160290018
G1/4	M20x1,5	160290028
G3/8	M26x1,5	160290038
G1/2	M28x1,5	160290048
G3/4	M33x1,5	160290068
G1	M42x1,5	160290088
G1 1/4	M48x1,5	1602900a8

Supplied with locknut.

BSP & HOSE FITTINGS

M5, 1/8" … 1" BSP

Nipple Adaptor (Taper Threads)



BSPT Thread	BSPT Thread	Model
R1/8	R1/8	150201818
R1/4	R1/8	150202818
R1/4	R1/4	150202828
R3/8	R1/8	150203818
R3/8	R1/4	150203828
R3/8	R3/8	150203838
R1/2	R1/8	150204818
R1/2	R1/4	150204828
R1/2	R3/8	150204838
R1/2	R1/2	150204848
R3/4	R1/2	150206848
R3/4	R3/4	150206868
R1	R3/4	150208868
R1	R1	150208888

Nipple Adaptor (Parallel Threads)



Metric & BSPP Thread	Metric & BSPP Thread	Model
M5	M5	160200505
G1/8	M5	160201805
G1/8	G1/8	160201818
G1/4	G1/8	160202818
G1/4	G1/4	160202828
G3/8	G1/4	160203828
G3/8	G3/8	160203838
G1/2	G1/4	160204828
G1/2	G3/8	160204838
G1/2	G1/2	160204848
G3/4	G1/2	160206848
G3/4	G3/4	160206868
G1	G3/4	160208868
G1	G1	160208888

Supplied with sealing washers.

Flat Union (Taper Threads)



Male BSPT	Model
R1/8	150331818
R1/4	150332828
R3/8	150333838
R1/2	150334848
R3/4	150336868
R1	150338888

Nipple Adaptor (BSPT/NPTF)



Male BSPT	Male NPTF	Model
R1/8	1/8 NPT	154201818
R1/4	1/8 NPT	154202828
R3/8	3/8 NPT	154203838
R1/2	1/2 NPT	154204848

Adaptor fittings – allow connection between components and system using BSP or NPT threads.

Elbow Connector (Parallel Threads)



Female BSPP	Model
G1/8	160420018
G1/4	160420028
G3/8	160420038
G1/2	160420048
G3/4	160420068

Plug (Taper Threads)



BSPT Thread	Model
R1/4	150050028
R3/8	150050038
R1/2	150050048
R3/4	150050068
R1	150050088

Tee Connector



Male BSPT	Female BSPP	Model
R1/8	G1/8	150690018
R1/4	G1/4	150690028
R3/8	G3/8	150690038
R1/2	G1/2	150690048

Plug (Parallel Threads)



Metric & BSPP Threads	Model
M5	160050005
G1/8	160050018
G1/4	160050028
G3/8	160050038
G1/2	160050048
G3/4	160050068
G1	160050088

Supplied with sealing washer.

Elbow Connector



Male BSPT	Female BSPP	Model
R1/8	G1/8	150430018
R1/4	G1/4	150430028
R3/8	G3/8	150430038
R1/2	G1/2	150430048
R3/4	G3/4	150430068

Tee Connector (Parallel Threads)



Female BSPP	Model
G1/8	160620018
G1/4	160620028
G3/8	160620038
G1/2	160620048
G3/4	160620068

Elbow Connector (Taper Threads)



BSPT Thread	Model
R1/8	150400018
R1/4	150400028
R3/8	150400038
R1/2	150400048

Tee Connector (Taper Threads)



BSPT Thread	Model
R1/8	150600018
R1/4	150600028
R3/8	150600038
R1/2	150600048
R3/4	150600068
R1	150600088

Hose Adaptor (Taper Threads)



Hose Bore mm	BSPT Thread	Model
4	R1/8	291170418
6	R1/8	291170618
6	R1/4	291170628
7	R1/8	291170718
7	R1/4	291170728
7	R3/8	291170738
8	R1/4	291170828
8	R3/8	291170838
9	R1/8	291170918
9	R1/4	291170928
9	R3/8	291170938
9	R1/2	291170948
10	R1/8	291171018
10	R1/4	291171028
10	R3/8	291171038
12	R3/8	291171238
16	R3/8	291171638
16	R1/2	291171648
16	R3/4	291171668
25	R3/4	291172568
25	R1	291172588
32	R1	291173288

BSP & HOSE FITTINGS
M5, 1/8" … 1" BSP

Hose Adaptor



Hose Bore mm	BSPP Thread	Model
3	M5	292170305
4	G1/8	292170418
6	G1/8	292170618
6	G1/4	292170628
9	G1/8	292170918
9	G1/4	292170928
9	G3/8	292170938
9	G1/2	292170948
19	G3/4	292171968

Supplied with sealing washer.

Elbow Banjo Assembly Non-Regulating (Parallel Threads)



Male BSPP	Female BSPP	Model
G1/8	G1/8	16A511818
G1/4	G1/4	16A512828
G3/8	G3/8	16A513838
G1/2	G1/2	16A514848

Female parallel BSP thread to male parallel BSP thread.

Elbow Banjo Assembly Regulating Out (Parallel Threads)



Male BSPP	Female BSPP	Model
G1/8	G1/8	16K511818
G1/4	G1/4	16K512828
G3/8	G3/8	16K513838
G1/2	G1/2	16K514848

Arrow on bolt hexagon indicates free flow direction.
Pressure range 1 … 10 bar.

Elbow Banjo Body (Parallel Threads)



Female BSPP	Bolt Thread	Model
G1/8	1/8"	160511818
G1/4	1/4"	160512828
G3/8	3/8"	160513838
G1/2	1/2"	160514848

Female parallel BSP thread.



Precision. Engineered.

Machining profile available so there is no requirement for thread adaptors

Compression fittings for use under extreme conditions of temperature and pressure – 34 & 36 Series



IMI Precision Engineering full fittings range features 10000+ fittings, probably the most comprehensive range available from a single supplier. The IMI Norgren compression fittings are quick and easy to use. Ideally suited for most general industrial applications.

- Wide range of types and sizes – Metric & imperial
- Rugged and durable
- Thread adaptor not required when machining profile is utilised
- Maximum pressures are often limited by the tubing used

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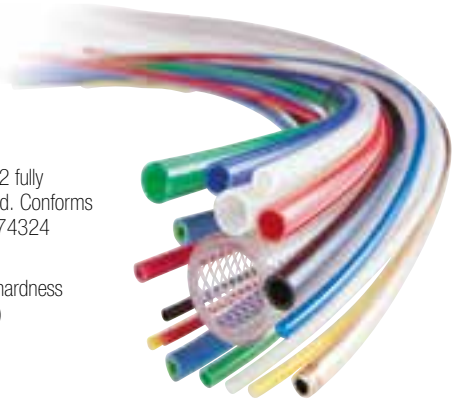
IMI NORGREN

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IMI Precision Engineering

TUBING & HOSES

Ø 3 … 16 mm O/D



- Available in a range of colours for ease of identification
- In addition to general industrial applications Nylon is suitable for use on air braking systems of commercial vehicles and conforms to DIN 74324. (Applicable sizes; 6, 8, 10, 12, 16mm O/D)
- 25 metre lengths supplied in cartons providing good protection and easy storage
- Polyurethane offers excellent mechanical properties and industry leading flexibility

Technical Data

Medium:
Compressed air. Consult our Technical Service for use with other fluids.

Operating pressure:
See table below

Materials

Nylon tube:
Nylon (polyamide) type PA12 fully plasticised and light stabilised. Conforms to material standard of DIN 74324

Polyurethane tube:
Is light stabilised and has a hardness of Shore D 52 (98 Shore A)

Maximum operating pressures and bend radi

O/D mm		4	5	6	8	10	12	14	16
Max. pressure (bar)* at -40°C … +20°C	Nylon	31	33	27	19	19	19	16	19
	Polyurethane	10	11	9	9	9	9	–	–
Min. bend radius mm	Nylon	25	25	30	40	60	60	80	95
	Polyurethane	6	7	9	16	17	25	–	–

Maximum continuous working temperature: nylon +80°C, polyurethane +60°C.
* Multiply by factors in table below for use at higher temperatures.

Operating pressure/temperature conversion factors

Working temperature	Factor (Nylon)	Factor (Polyurethane)
–40°C … +20°C	1	1
+30°C	0,83	0,85
+40°C	0,75	0,7
+50°C	0,64	0,6
+60°C	0,57	0,5
+80°C	0,47	–

To calculate working pressures at various temperatures, multipy working pressure at –40°C … +20°C by factor given in table.
Maximum continuous working temperature: Nylon +80°C, Polyurethane +60°C.

Tube sizes (metric)

O/D mm	3	4	5	6	8	10	12	14	16
Nylon	–	•	•	•	•	•	•	•	•
Polyurethane	•	•	•	•	•	•	•	–	•

Online at **store.norgren.com**

EXPRESS



Nylon tube

Colour	Length (m)	O/D I/D tube							
		4/2,5*	5/3*	6/4	8/6	10/7,5	12/9	14/11*	16/12
Natural	25	PA2-0004025C	PA2-0005025C	PA2-0006025C	PA2-0008025C	PA2-0010025C	PA2-0012025C	PA2-0014025C	PA2-0016025C
Natural	100	PA2-0004100	–	PA2-0006100	PA2-0008100	PA2-0010100	PA2-0012100	–	–
Red	25	PA2-0104025C	PA2-0105025C	PA2-0106025C	PA2-0108025C	PA2-0110025C	PA2-0112025C	PA2-0114025C	PA2-0116025C
Red	100	PA2-0104100	–	PA2-0106100	PA2-0108100	PA2-0110100	PA2-0112100	–	–
Green	25	PA2-0204025C	PA2-0205025C	PA2-0206025C	PA2-0208025C	PA2-0210025C	PA2-0212025C	PA2-0214025C	PA2-0216025C
Green	100	PA2-0204100	–	PA2-0206100	PA2-0208100	PA2-0210100	PA2-0212100	–	–
Yellow	25	PA2-0304025C	PA2-0305025C	PA2-0306025C	PA2-0308025C	PA2-0310025C	PA2-0312025C	PA2-0314025C	PA2-0316025C
Yellow	100	PA2-0304100	–	PA2-0306100	PA2-0308100	PA2-0310100	PA2-0312100	–	–
Blue	25	PA2-0504025C	PA2-0505025C	PA2-0506025C	PA2-0508025C	PA2-0510025C	PA2-0512025C	PA2-0514025C	PA2-0516025C
Blue	100	PA2-0504100	–	PA2-0506100	PA2-0508100	PA2-0510100	PA2-0512100	–	–
Black	25	PA2-0704025C	PA2-0705025C	PA2-0706025C	PA2-0708025C	PA2-0710025C	PA2-0712025C	PA2-0714025C	PA2-0716025C
Black	100	PA2-0704100	–	PA2-0706100	PA2-0708100	PA2-0710100	PA2-0712100	–	–
Silver	25	PA2-0904025C	PA2-0905025C	PA2-0906025C	PA2-0908025C	PA2-0910025C	PA2-0912025C	PA2-0914025C	PA2-0916025C
Silver	100	PA2-0904100	–	PA2-0906100	PA2-0908100	PA2-0910100	PA2-0912100	–	–

Note: 'C' at last digit in part number indicates packed in a box/carton.
*Tube size does not conform to DIN 74324.

EXPRESS



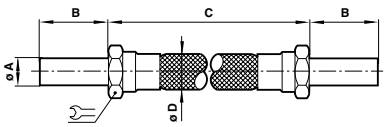
Polyurethane tube

Colour	Length (m)	O/D I/D tube							
		3/2	4/2,5	5/3	6/4	8/5,5	10/7	12/8	16/11
Natural	25	PU2-0003025C	PU2-0004025C	PU2-0005025C	PU2-0006025C	PU2-0008025C	PU2-0010025C	PU2-0012025C	PU2-0016025C
Natural	100	–	PU2-0004100	–	PU2-0006100	PU2-0008100	PU2-0010100	PU2-0012100	–
Red	25	–	PU2-0104025C	PU2-0105025C	PU2-0106025C	PU2-0108025C	PU2-0110025C	PU2-0112025C	–
Red	100	–	PU2-0104100	–	PU2-0106100	PU2-0108100	PU2-0110100	PU2-0112100	–
Green	25	–	PU2-0204025C	PU2-0205025C	PU2-0206025C	PU2-0208025C	PU2-0210025C	PU2-0212025C	–
Green	100	–	PU2-0204100	–	PU2-0206100	PU2-0208100	PU2-0210100	PU2-0212100	–
Yellow	25	–	PU2-0304025C	PU2-0305025C	PU2-0306025C	PU2-0308025C	PU2-0310025C	PU2-0312025C	–
Yellow	100	–	PU2-0304100	–	PU2-0306100	PU2-0308100	PU2-0310100	PU2-0312100	–
Blue	25	PU2-0503025C	PU2-0504025C	PU2-0505025C	PU2-0506025C	PU2-0508025C	PU2-0510025C	PU2-0512025C	PU2-0516025C
Blue	100	–	PU2-0504100	–	PU2-0506100	PU2-0508100	PU2-0510100	PU2-0512100	–
Black	25	–	PU2-0704025C	PU2-0705025C	PU2-0706025C	PU2-0708025C	PU2-0710025C	PU2-0712025C	–
Black	100	–	PU2-0704100	–	PU2-0706100	PU2-0708100	PU2-0710100	PU2-0712100	–
Silver	25	–	PU2-0904025C	–	PU2-0906025C	PU2-0908025C	PU2-0910025C	PU2-0912025C	–
Silver	100	–	PU2-0904100	–	PU2-0906100	PU2-0908100	PU2-0910100	PU2-0912100	–

Note: 'C' at last digit in part number indicates packed in a box/carton.

TUBING & HOSES
Ø 3 … 16 mm O/D





Metal braided rubber hose

Pressure (bar)*	O/D mm ØA	B	Length (mm) C						
			250	300	400	500	600	750	1000
69	6	23	–	42004000300	–	42004000500	42004000600	42004000750	42004001000
69	8	26	42005000250	–	42005000400	42005000500	42005000600	42005000750	42005001000
69	10	28	42006000250	42006000300	42006000400	42006000500	42006000600	42006000750	42006001000
47	12	30	–	42007000300	42007000400	42007000500	42007000600	42007000750	42007001000

*Maximum working pressure at -20°C … +100°C for fluids other than compressed air. Maximum with compressed air is 10 bar.

Installation notes:
1. Flexible hose is weakened when installed in a twisted position.
2. Ample bend radius should be allowed to avoid collapsing the hose.
3. When hose is installed in a flexing application remember that metal end fittings are not part of the flexible portion.
4. Use elbows or adaptors to eliminate excess hose bends.
5. Not suitable for use with push-in-fittings.

EXPRESS



Pneuflex Tubing

Model	O/D tube	Adaptor (thread)	Length of closed spiral	Working length (mm)	Operating pressure (bar)
PU310600218	6	R1/8	165	2000	10
PU310800228	8	R1/4	180	2000	10
PU310800428	8	R1/4	400	4000	10

EXPRESS



Weld Tubing

Black Model	Blue Model	Diameter (mm)	Length (m)	Operating pressure at 23°C max. (bar)
NORWELD0706050	NORWELD0506050	6	50	25
NORWELD0708050	NORWELD0508050	8	50	25
NORWELD0710050	NORWELD0510050	10	50	15
NORWELD0712050	NORWELD0512050	12	50	12
NORWELD0714050	NORWELD0514050	14	50	12

Ideally suited for use with 10 series pneufit fittings in welding environment applications.
Check technical specification for temperature conversion factors.



Tube Cutter

Model	Type
M/3314	Cutter
39012010	Replacement blade (pack of 10)

For use on nylon and polyurethane tubing 4 … 16 mm.

EXPRESS



Tubing Channels

Model	O/D Tube	No. of channels
100HA0600	6	10
100HA0800	8	10
100H61200	12	6



Tube Clips – single sided

Model	O/D
34021802	4
34021804	6
34021805	8
34021806	10
34021807	12
34021508	16



Mobile Pneumatics

With over 40 years experience working directly with global commercial vehicle manufacturers, IMI Precision Engineering offer a comprehensive range of pneumatic, hydraulic, electronic and vacuum solutions covering every major vehicle system, from the front bumper to the rear.

Our range of cab, chassis and powertrain solutions deliver fuel efficiency, emissions reduction and faster assembly times for the world's leading commercial vehicle manufacturers. We understand the market trends, environmental challenges, emissions standards and specifications that matter to truck manufacturers and Tier 1 suppliers.

We provide:

- Reliable, durable and proven products
- Precise proportional control
- Smaller, lighter systems
- Industry certifications
- Improved performance & efficiency
- Improved safety
- Reduced emissions
- Improved comfort and ergonomics

We have been able to resolve challenging and critical applications across a range of industries, including:

- Trailer manufacturers
- Body Builders
- Bus & Coach manufacturers
- Specialist Vehicle manufacturers (mining, agricultural and marine)



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IMI Precision Engineering

QUICK RELEASE COUPLINGS

● 233 SERIES

Nominal diameter 5 = 20mm²



- Single shut off: The hose connection (plug) has a through bore whilst the upstream coupling shuts off immediately when the connection is broken. The ideal solution for simple air tools or similar.
- Single handed operation
- Compact robust construction
- High flow, low pressure drop

Technical Data

Operating pressure:
0 … 35 bar

Working temperature:
-20°C … +100°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Air flow:
560 l/min (6 bar inlet, pressure drop 0,5 bar)

Materials

Coupling:

Body & Sleeve:
Nickel plated brass

Valve:
Brass

Spring & Locking ring/balls:
Stainless steel

Seals:
NBR

Plug:

Body:
Nickel plated steel

● 233 SERIES

Nominal diameter 5 = 20mm²



- Double shut off: After disconnection the flow stops in both coupling w plug. The medium is retained in both connection lines and pressure is not released.
- Single handed operation
- Compact robust construction
- High flow, low pressure drop
- Wide range of connections

Technical Data

Operating pressure:
0 … 35 bar

Working temperature:
-20°C … +100°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Air flow:
310 l/min (6 bar inlet, pressure drop 0,5 bar)

Materials

Coupling:

Body & Sleeve:
Nickel plated brass

Valve:
Brass

Spring & Locking ring/balls:
Stainless steel

Seals:
NBR

Plug:

Body:
Nickel plated steel

Compatibility

233 Double shut off are not compatible with 233 single shut off due to valve connection method

● 238 SERIES

Nominal diameter 7,2 = 40mm²

EXPRESS



- Single shut off: The hose connection (plug) has a through bore whilst the upstream coupling shuts off immediately when the connection is broken. The ideal solution for simple air tools or similar
- Single handed operation
- European standard industrial coupling
- High flow rate, low pressure drop
- Industrial standard profile

Technical Data

Operating pressure:
0 … 35 bar

Working temperature:
-20°C … +100°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Air flow:
1000 l/min (input pressure 6 bar, pressure drop 0,5 bar)

Materials

Coupling:

Body & Sleeve:
Nickel plated brass

Valve:
Brass

Spring & Locking ring/balls:
Stainless steel

Seals:
NBR

Plug:

Body:
Nickel plated brass

234 SERIES

Nominal diameter 7,8 = 48mm²



- Single shut off: The hose connection (plug) has a through bore whilst the upstream coupling shuts off immediately when the connection is broken. The ideal solution for simple air tools or similar.
- Single handed operation
- Low pressure drop
- High flow rate

Technical Data

Operating pressure:
0 … 35 bar

Working temperature:
-20°C … +100°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Air flow:
1800 l/min (input pressure 6 bar, pressure drop 0,5 bar)

Materials

Coupling:

Body & Sleeve:
Nickel plated steel

Valve:
Brass

Spring & Locking ring/balls:
Stainless steel

Seals:
NBR

Plug:

Body:
Nickel plated steel

237 SERIES

Nominal diameter 5,5 = 25mm²



- Single shut off: The hose connection (plug) has a through bore whilst the upstream coupling shuts off immediately when the connection is broken. The ideal solution for simple air tools or similar.

Technical Data

Operating pressure:
0 … 35 bar

Working temperature:
-20°C … +100°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Air flow:
900 l/min (6 bar inlet pressure, pressure drop 0,5 bar)

Materials

Coupling:

Body & Sleeve:
Nickel plated brass/steel

Valve:
Brass

Spring & Locking ring/balls:
Stainless steel

Seals:
NBR

Plug:

Body:
Nickel plated steel

QUICK RELEASE COUPLINGS

Coupling with BSPP male thread







	233 Series Single shut off	233 Series Double shut off	238 Series Single shut off	234 Series Single shut off	237 Series Single shut off
Male thread					
G1/8	233210018	–	–	–	–
G1/4	233210028	233410028	238210028	–	–
G3/8	–	–	238210038	–	–
G1/2	–	–	238210048	–	–
R1/4	–	–	–	234210028	237210028
R3/8	–	–	–	234210038	237210038
R1/2	–	–	–	234210048	–

Coupling with BSPP female thread







	233 Series Single shut off	233 Series Double shut off	238 Series Single shut off	234 Series Single shut off	237 Series Single shut off
Female thread					
G1/8	233220018	–	–	–	–
G1/4	233220028	233420028	238220028	234220028	237220028
G3/8	–	–	238220038	234220038	237220038
G1/2	–	–	238220048	234220048	237220048

Coupling with push on fitting



	233 Series Single shut off
O/D I/D Tube	
6/4	233260400
8/6	233260600

Coupling with metric hose tail







	233 Series Single shut off	233 Series Double shut off	238 Series Single shut off	234 Series Single shut off	237 Series Single shut off
Hose Bore / Hose Barb					
4	233230400	–	–	–	–
6	233230600	233430600	238230600	234230600	237230600
9	233230900	–	238230900	234230900	237230900
13	–	–	238231300	234231300	237231300

Plug with BSPP male thread







	233 Series Single shut off	233 Series Double shut off	238 Series Single shut off	234 Series Single shut off	237 Series Single shut off
Male thread					
G1/8	233110018	–	238110018	–	–
G1/4	233110028	233310028	238110028	–	–
G3/8	–	–	238110038	–	–
G1/2	–	–	238110048	–	–
R1/8	–	–	–	234110018	–
R1/4	–	–	–	234110028	237110028
R3/8	–	–	–	234110038	237110038
R1/2	–	–	–	234110048	237110048

Plug with BSPP female thread







	233 Series Single shut off	233 Series Double shut off	238 Series Single shut off	234 Series Single shut off	237 Series Single shut off
Female thread					
G1/8	233120018	–	–	–	–
G1/4	233120028	233320028	238120028	234120028	237120028
G3/8	–	–	238120038	234120038	237120038
G1/2	–	–	238120048	234120048	237120048

Plug with metric hose tail







	233 Series Single shut off	233 Series Double shut off	238 Series Single shut off	234 Series Single shut off	237 Series Single shut off
Hose Bore / Tailpiece					
4	233130400	–	–	–	–
6	233130600	233330600	238130600	234130600	237130600
9	233130900	–	238130900	234130900	237130900
13	–	–	238131300	234131300	237131300

Plug with push on fitting



	233 Series Single shut off
O/D I/D Tube	
6/4	233160400
8/6	233160600

Options

- Couplings with spring guards
- Self venting couplings

SILENCERS

● POROUS PLASTIC SILENCERS
M/S & T45

EXPRESS



- Reduce the noise levels of pneumatic equipment
- Compact, efficient and lightweight
- Operating pressure is -1 … 10 bar
- Operating temperature is -20ºC … +80ºC

Technical Data

Medium:
Compressed air, filtered 50 µm, lubricated and non lubricated/vacuum, inert gases

Operating pressure:
-1 … 10 bar maximum (vacuum service)

Media temperature:
-20°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Body:
UHMW PE porous plastic

Connector base:
PE (black)

● SINTERED BRONZE SILENCERS
T40

EXPRESS



- Reduce the noise levels of pneumatic equipment
- Compact and efficient
- Operating pressure is 10 bar max.
- Operating temperature is -20ºC … +80ºC

Technical Data

Medium:
Compressed air, filtered, lubricated or non lubricated, vacuum, Inert gases

Operating pressure:
10 bar maximum

Media temperature:
-20°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Element:
Sintered bronze

Body:
Brass

● EXHAUST FILTERS
M/1500 series

EXPRESS



- Prevent the ingress of dirt with minimal flow restriction
- Robust and compact
- Operating pressure is 10 bar max.
- Operating temperature is -20ºC … +80ºC

Technical Data

Medium:
Compressed air, filtered, lubricated or non-lubricated, inert gases

Operating pressure:
10 bar max.

Media temperature:
-20°C … +80°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Body:
Aluminium alloy

Element:
Sintered bronze

QUIETAIRE HEAVY DUTY SILENCERS

MA & MB Series

EXPRESS



- Reduce the noise levels of pneumatic equipment
- Prevent open line exhaust dangers
- Corrosion resistant
- High flow capacity with low back pressure
- Brass mesh screen and aluminium construction provide improved flow, longer life and cleanable element
- Prevent metal chips, abrasive grits, dust and other contaminants from entering open exhaust ports

Technical Data

Medium:
Compressed air, filtered, lubricated and non-lubricated, inert gases

Operating pressure:
-1 … 20 bar

Ambient temperature:
-20°C … +80°C

Operation:
Exhaust silencer

Mounting:
Directly in the exhaust port

Materials

Aluminium body and shell, brass mesh element

PLASTIC SILENCERS

00145 … 00148 Series



- Reduce the noise levels of pneumatic equipment
- Compact, efficient and lightweight
- Screw directly into the exhaust port
- Prevent the ingress of dirt

Technical Data

Medium:
Compressed air, filtered 50 µm, lubricated and non lubricated

Operation:
Exhaust silencer

Operating pressure:
10 bar maximum

Mounting:
Directly in exhaust port

Ambient temperature:
-20°C … +60°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Body:
PA

Filter:
Felt insert

COALESCING EXHAUST SILENCERS

CS and MQ0 Series



- Easily replaceable cartridge element
- Removal of oil mist from exhaust air provides cleaner work environment
- Snap-on liquid sump with manual drain to collect coalesced oil
- Assists in complying with Noise and COSHH regulations
- Rugged, corrosion resistant construction

Technical Data

Operating temperature:
CS13 and CS15 series: -20°C … +50°C
MQ series: -20°C … +50°C

Working pressure range:
0 … 6 bar

Residual oil:
< 0,1 mg/m^3 (1 bar 20°C)

Noise reduction:
As low as 69dBa (dependant on application)

Element replacement at:
2 bar pressure drop

Materials

Body and Yoke:
CS13: Zinc alloy
CS15 & MQ0xxx: Aluminium

Cage:
Aluminium

Element:
Composite materials

Bowl:
PE

Elastomers:
NBR

SILENCERS

Standard Silencers







	Porous Plastic	Plastic silencers	Sintered Bronze	Exhaust Filwter	Quietaire	
Male Thread						
M5	M/S0	–	T40M0500	–	–	–
G1/8	M/S1	0014500000000000	T40C1800	M/1511	–	–
R1/8	–	–	T40B1800	–	MB001B	–
G1/4	M/S2	0014600000000000	T40C2800	M/1512	–	–
R1/4	–	–	T40B2800	–	MB002B	–
G3/8	M/S3	0014700000000000	T40C3800	–	–	–
R3/8	–	–	–	–	MBP03B	Short Version
R3/8	–	–	T40B3800	–	MB003B	–
G1/2	M/S4	0014800000000000	T40C4800	M/1514	–	–
R1/2	–	–	T40B4800	–	MB004B	–
G3/4	M/S6	–	T40C6800	M/1516	–	–
R3/4	–	–	–	–	MBP06	Short Version
R3/4	–	–	T40B6800	–	MB006	–
G1	M/S8	–	T40C8800	M/1518	–	–
R1	–	–	T40B8800	–	MB008B	–
R1 1/4	–	–	–	–	MBP10B	Short Version
Female Thread						
Rc1/8	–	–	–	–	MA001B	–
Rc1/4	–	–	–	–	MA002B	–
Rc3/8	–	–	–	–	MA003B	–
Rc1/2	–	–	–	–	MA004B	–
Rc3/4	–	–	–	–	MA006B	–
Rc1	–	–	–	–	MA008B	–
G 1 1/4	–	–	–	–	MA010C	–
G 1 1/2	–	–	–	–	MA012C	–
G2	–	–	–	–	MA016C	–
Stems (PIF)						
4mm Dia.	T45P0004	–	–	–	–	–
6mm Dia.	T45P0006	–	–	–	–	–
8mm Dia.	T45P0008	–	–	–	–	–
10mm Dia.	T45P0010	–	–	–	–	–
12mm Dia.	T45P0012	–	–	–	–	–

Coalescing Exhaust Silencers

				Accessories
Port size	**CS13**	**CS15**	**MQ**	**Replacement element**
				
G1/2	CS13-464-10GG	–	MQ004C	3236-01
G3/4	CS13-664-10GG	–	MQ006C	3236-01
G1	–	CS15-800-10DD	MQ008C	3237-01
Without yoke	–	CS15-000-0000	–	3237-01

EXHAUST FILTER

0613422, 0613423 1/4“, 1/2“

- Suitable for outdoor use
- Protects against contamination and moisture penetration
- Compact, efficient, lightweight
- Can be screwed directly into exhaust ports
- Suitable for BSP or NPT thread

Technical Data

Medium:
Lubricated or non-lubricated compressed air, inert gases

Operation:
The non-return function protects the spring chamber of pneumatic actuators in particular against aggressive ambient air.

Operating pressure:
10 bar maximum

Ambient/Media temperature:
-55°C … +80°C

Materials

Housing:
POM

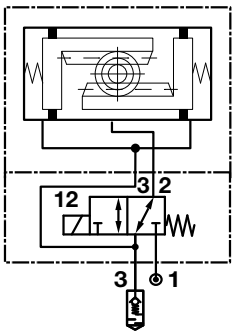
‘O’-rings:
VMQ



Models

Model	Port size	Suitable for
0613422000000000	1/4”	G1/4, 1/4 NPT
0613423000000000	1/2”	G1/2, 1/2 NPT

Example of use



BALL VALVES

60 & 61 Series Brass 1/8" … 1 1/2" BSP

- Precision engineered shut-off valves
- Minimum resistance to fluid flow
- Positive quick open/shut action
- Flow in either direction (except exhaust type)

Technical Data

Medium:
Compressed air, inert gases, water, depending upon valve seat material

Operating pressure:
Refer to tables

Ambient temperature:
Refer to tables

Materials

60 Series:
Nickel plated brass to UNI-5705-65, chromium plated brass, zinc plated steel, PTFE seats and nitrile or Fkm rubber seals

61 Series:
Stainless steel body, stem, ball nut and handle PTFE seats

EXPRESS





Standard Full Bore

Model	Female (B)	Maximum pressure (bar)
602112128	G1/4	40
602112138	G3/8	40
602112148	G1/2	40
602112168	G3/4	40
602112188	G1	40
6021121A8	G1 1/4	40
6021121B8	G1 1/2	40
6021121C8	G2	40

PTFE seats, HNBR seals Operating temperature: -15°C … +90°C.



Exhausting Full Bore

Model	Female (B)	Maximum pressure (bar)
602113128EX	G1/4	12
602113138EX	G3/8	12
602113148EX	G1/2	12
602113168EX	G3/4	12
602113188EX	G1	12
6021131A8EX	G1 1/4	12
6021131B8EX	G1 1/2	12

PTFE seats, nitrile seals Operating temperature: 0°C … +60°C.



Lockable Exhausting Full Bore

Model	Female (B)	Maximum pressure (bar)
601812128	G1/4	13,6
601812138	G3/8	13,6
601812148	G1/2	13,6
601812168	G3/4	13,6
601812188	G1	13,6

Note: lever lockable only in closed position Standard handle accepts Ø 7 mm shackle.
Operating Temperarture -10°C … +100°C.



Three Way Full Bore

Model	Female (B)	Maximum pressure (bar)
602114428	G1/4	25
602114438	G3/8	25
602114448	G1/2	25
602114468	G3/4	16

PTFE seats, nitrile seals Operating temperature: -15°C … +120°C.



Stainless Steel Ball Valves

Model	Female (B)	Maximum pressure (bar)
615112128	G1/4	100
615112138	G3/8	100
615112148	G1/2	100
615112168	G3/4	64
615112188	G1	64

Operating temperature: -20°C … +150°C.
* To order 'Tee' handled version change 4th character to 2.



Mini Reduced Bore

Model	Female (B)	Maximum pressure (bar)
601112118	G1/8	10
601112128	G1/4	10
601112138	G3/8	10
601112148	G1/2	10

Model	Female/ Male (B)	Maximum pressure (bar)
601112218	G1/8	10
601112228	G1/4	10
601112238	G3/8	10
601112248	G1/2	10

PTFE seats, nitrile seals Operating temperature: -10°C … +90°C.

MANUALLY ACTUATUED SLEEVE VALVE

M/7300, 3/2 G1/8 … G1/2

- Sliding sleeve operation
- Very compact in-line units Easy to install
- Very simple and reliable operation 3/2 function

Technical Data

Medium:
Compressed air, filtered, lubricated and non-lubricated

Operation:
Sleeve valve, directly actuated, with open exhaust

Operating pressure:
10 bar max.

Mounting:
Concentrically directly in the pipework

Ambient temperature:
-20°C … +80°C max.
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Body:
Chrome-nickel plated brass

Sleeve:
Grey anodised aluminium

Seals:
NBR



Models

Model	Port size	Flow 1 » 2 at 6 » 5 bar (Nl/min)
M/7318	G1/8	376
M/7328	G1/4	775
M/7338	G3/8	1590
M/7348	G1/2	3025

BLOW GUNS

BG Series

BG4000:
- Bright chrome finish
- Cushioned corporate vinyl thumb grip
- Exhausts air when nozzle is blocked
- Complies with O.S.H.A.

BG5000:
- One piece design in moulded high impact plastic
- Exhausts air when nozzle is blocked
- Complies with O.S.H.A.

Technical Data

Medium:
Non-lubricated compressed air, filtered

Connection:
G1/4 (BG4000 and BG5000)

Operating pressure:
10 bar maximum line pressure
The USA O.S.H.A. recommendations state that nozzle pressures should not exceed 2 bar. This ensures that the blocked end condition pressure will not exceed the 0,4 bar that could penetrate human skin with possibly fatal consequences. Blow guns should always be supplied through a suitable pressure regulator to ensure safe operation

Materials

Body:
BG4000: brass bright chrome finish
BG5000: one piece design in moulded high impact plastic

EXPRESS



Models

Model	Port size	Description
BG4000	G1/4	Metal Blow Gun
BG5000	G1/4	Plastic Blow Gun

SLOW ROTATING JOINTS

- For use with a variety of fluids
- 7 bar maximum
- 50 r.p.m. maximum

Technical Data

Medium:
Compressed air or oil but not water
Consult our Technical Service for use with any medium other than compressed air

Ambient temperature:
-10°C ... +70°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Body:
Brass

Spindle:
Steel zing plated

Seals:
FPM



Models

Model	Male Thread	Female Thread
04017400	R1/8	G1/8
04017500	R1/4	G1/4
04017600	R3/8	G3/8

FAST ROTATING JOINTS

- Pressure and vacuum models
- For use with a variety of fluids
- 7 bar maximum
- 2000 r.p.m. maximum

Technical Data

Medium:
Compressed air only

Ambient temperature:
-10°C ... +70°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

Body:
Brass

Spindle:
Stainless steel

Clip:
Steel phoshated

Seals:
NBR



Models

Model	Medium	Male Thread	Female Thread
04016100	Pressure	R1/4	G1/4
04016200	Vacuum upto -740mmHg	R1/4	G1/4

Index



IMI Precision Engineering

Index

PART NUMBER	PAGES
0014*	538
00145 … 00148 Series	537
010*	371
01-2*	264
01-3*	264
0200	248
025*	312
030*	283
04015600	412
052*	371
0523052000000000	138
0523052000000000	140
0523052000000000	414
0523053000000000	140
0523053000000000	414
0523057000000000	138, 407
0523057000000000	140
0523057000000000	414
0523058000000000	138, 407
0523058000000000	140
0523058000000000	414
0523446000000000	415
0523447000000000	415
0523448000000000	415
0523449000000000	415
054*	312
0550083000000000	408
0553258000000000	408
057*	371
0570*	404
05701*	404
0570110000000000	138, 407
0570110000000000	408
0570110000000000	409
0570110000000000	410
0570110000000000	417
0570275	214
0574767000000000	408
0574772000000000	409
0574773000000000	408
0588*	403
061*	373
0613422*	539
0613423*	539
06578*	403
066*	371
0663*	404
068*	371
06800*	403
070*	371
082015*	410
082075*	410
082085*	410
082105*	410
082109*	410
082115*	410
0860000000000000	139, 416
0860001000000000	139, 416
0860005000000000	139, 416
086081*	416

PART NUMBER	PAGES
086082*	139, 416
0862*8	417
086244*	415
08630*	140
08630*	414
08631*	414
08632*	414
08633*	414
08634*	414
08635*	414
08636*	414
08637*	414
08801*	138, 407
08802*	407
08803*	407
08804*	407
08821*	408
08822*	408
08823*	408
08824*	408
10019*	496
10020*	493
10022*	495
10023*	495
10029*	494
10031*	494
10040*	497
10043*	497
10049*	499
10051*	508
10060*	502
10071*	508
10082*	500
10082*	500
100D6*	510
100H*	530
10115*	496
10125*	492
10145*	497
10147*	498
10154*	499
10165*	502
10167*	503
10168*	505
10175*	502
10188*	500
101D6*	510
10215*	496
10225*	492
10226*	495
10247*	498
10257*	499
10267*	503
10268*	504
10288*	500
102GA*	398
102GB*	400
102GD*	401
102GH*	398
10A51*	507

PART NUMBER	PAGES
10A71*	507
10K51*	506
10T00*	506
10TA0*	506
11-2*	266
11-3*	266
11-808-****	472
11-818-***	479
11-908-****	472
140 Series	313
15005*	524
15020*	524
15023*	523
15023****	478
15033*	524
15040*	525
15043*	525
15060*	525
15069*	524
15420*	524
15423*	523
1581-90	441
16005*	524
16020*	524
16022*	522
16023*	523
16029*	523
16042*	524
16051*	526
16062*	525
16A51*	526
16K51*	526
17223*	523
17-816-***	485
18-001-***	425, 427, 429, 430, 433, 435, 437, 441 472, 477, 481, 482, 483
18-011-***	423, 445
18-015-***	425, 427, 429, 430, 433, 435, 439, 441, 451, 452, 455, 459, 460, 462, 465, 466, 468, 472, 477, 478, 481, 482, 483, 484, 485
18015*	409
18016*	409
18017*	409
18-025-003	462, 465, 466, 467, 468
18-026-98*	442
18125*	409
18126*	409
18127*	409
18128*	409
18-999-412	478
18D	138, 407, 408
18S	417
20*00*	509
20A00*	508
20AG-***	477
20AG-X*-100	477
20D	409
20L00*	508
222*	371
233 SERIES	532
23312*	535
23313*	535

PART NUMBER	PAGES
23316*	535
23321*	534
23322*	534
23323*	534
23326*	534
23332*	535
23333*	535
23341*	534
23342*	534
23343*	534
234 Series	533
23412*	535
23413*	535
23421*	534
23422*	534
23423*	534
237 Series	533
23712*	535
23713*	535
23721*	534
23722*	534
23723*	534
238 Series	532
23812*	535
23813*	535
23821*	534
23822*	534
23823*	534
24 Series	515
24011 Series	383
24011*	383
24020*	516
24029*	516
24060*	517
24090*	517
24125*	516
24145*	517
24225*	516
24226*	516
24247*	517
24A51*	517
24K51*	517
262*	260
263*	255
2787-**	479, 482
29117*	525
29217*	526
2962-**	465, 466, 484
3000-**	482, 483, 485
3081-01	479
323*	538
33D	140
33D	414
34021*	530
3820-08	484
39012010	530
4*14-5*	452, 461
4*15-**	461
4*16-5*	461
4*24-50	447, 448, 449, 451, 455, 457, 459, 460, 461

PART NUMBER	PAGES
4*28-*3	461
4*55-51	423, 433, 435, 445, 451, 452, 455, 460
4000-***	485
4016*00	542
4017*00	542
40D	415
4200*	530
422 IS	315
422 Series	314
43 Series	518
43002*	521
43020*	519
43028*	521
43029*	519
43033*	521
43040*	520
43060*	520
43090*	521
43125*	519
43145*	520
43165*	520
43175*	521
43215*	520
43225*	519
43226*	519
4368-51	451, 455, 460
4381-***	452
43A51*	521
4461-50	451, 455
51D	139, 416
5292-**	478
5311-03	469
5771-02	474
5939-06	463
5945-41	472
598*	312
60 & 61 Series	540
6000-**	485
6011121*	540
6011122*	540
6018121*	540
6021121*	540
6021131*	540
6021144*	540
6151121*	540
6212-**	469, 474
6578680*	224
66481*	224
680*	224
703*	247
70300 Series	247
74316-50	451, 455, 460
7450*-**	425, 427, 429, 430, 433, 435, 437, 441, 442
74630-04	482, 483
801*	260
802*	250, 251
8020*	255
80200 Series	250
81*	224
820*	322, 353

PART NUMBER	PAGES
821*	336, 346
822*	336, 342
823*	348
824*	328, 348
825*	318, 320, 322, 336
826*	318
827*	328, 346
828*	364
830*	322
830*	328
831*	354
832*	338
833*	340
841*	350
845*	332
846*	344
847*	334
853*	330, 356
854*	356
856*	330
857*	360
858*	360
865*	358, 362
867*	325
8D	410
950*	379
95000 Series	379, 381
9600*	380
96000 Series	380, 381
971*	367, 368, 370
971*5*	374, 376
971*7*	374, 376
97100 Series	367, 369
97105 Series	374, 376
973*	372
97300 Series	372
995050*	413
99D	413
A/44000	102
AA0*	252
AC*	314
AC301*	314
B05-***-****	484
B07-***-****	466
B07-***-****	482
B07-KIT****	462, 466
B38-***-****	483
B38-100	483
B64G-***-***-***	435
B64G-KIT****	423, 435
B64T-***-***-***	435
B68G-***-***-***	435
B68G-KIT****	423, 433, 435
B72G-***-***	455
B72G-KIT****	445, 455
B73G-***-***	455
B73G-KIT****	445, 455
B74G-***-***	455
B74G-KIT****	445, 455
BA0*	252

PART NUMBER	PAGES
BG Series	541
BG4000	541
BG5000	541
BL64-**	423
BL68-**	423
BL72-***	445
BL73-***	445
BL74-***	445
BSP	522
C0*	394
C0*51*	511
C0*7**	511
C0*70*	511
C0004*	151, 159
C0004*	496
C0012*	496
C002	281
C0020*	493
C0022*	495
C0022*	496
C0023*	495
C0023*	496
C0029*	494
C002J*	513
C0040*	497
C0043*	497
C0049*	499
C0060*	502
C0063*	505
C0064*	505
C006A*	502
C0082*	500
C0082*	500
C0084*	501
C0090*	510
C0096*	501
C0097*	501
C00D3*	510
C00GE	386
C00GF*	513
C00GP	386
C00J3*	510
C0124*	512
C0125*	492
C012A*	493
C0147*	498
C014J*	512
C0154*	499
C0167*	503
C0168*	505
C016C*	504
C0188*	500
C0195*	501
C01D3*	510
C01GG*	513
C01GH*	513
C01GJ*	513
C01GN*	508
C0224*	512
C0225*	492

PART NUMBER	PAGES
C0226*	495
C022A*	493
C0232*	494
C0247*	498
C0248*	499
C024J*	512
C0254*	499
C0267*	503
C0268*	504
C026C*	504
C0288*	500
C02GN*	508
C0A51*	507
C0K51*	506
C0K56*	507
C0KB0*	507
C0L51*	506
C0SA0*	506
C0T56*	507
C0TA0*	506
C0TB0*	507
CQM*	214, 219
CR04	281
CS & MQ0 Series	537
CS13-*	538
CS15-*	538
DA0*	252
EA0*	252
EX1400*	313
Excel 22	245
Excel 32	246
F07-***-****	463
F17-***-****	469
F17-100A	469
F18-***-****	470
F18-100A	470
F22-***-****	481
F22-KIT***	481
F47-***-****	471
F64B-***-***	429
F64B-KIT***	429, 430
F64C-***-***	427
F64C-KIT****	427
F64G-***-***	425
F64G-KIT****	425, 430
F64H-***-***	427
F64H-KIT****	427
F64L-***-***	429
F64L-KIT***	429, 430
F68C-***-***	427
F68C-KIT****	427, 429
F68G-***-***	425
F68G-KIT****	425
F68H-***-***	427
F68H-KIT****	429
F68V-KIT***	429
F72C-***-***	448
F72C-KIT****	448
F72G-***-***	447
F72G-KIT****	447

PART NUMBER	PAGES
F72V-***-***	449
F72V-KIT****	449
F73C-***-***	448
F73C-KIT****	447
F73G-***-***	447
F73G-KIT****	447
F74C-KIT****	448
F74G-***-***	447
F74G-KIT****	447
F74H-***-***	448
F74H-KIT****	448
F74V-***-***	449
F74V-KIT****	449
FFB64-***	430
FFB68-***	430
FFV68-***	429
FP*	214
ISO*STAR	212
KA/80**/M/*	115
KA/8000	73
KM/31***	117
KM/55***/M/*	118
KM/8***/M/**	1113
KQ*/80**/**	65, 83, 115, 116, 119
KQM/55***/**	116, 119
L07-***-****	467
L07-KIT****	462, 463, 467
L17-***-****	474
L22-***-****	481
L22-KIT	481
L64C-***-***	437
L64C-KIT	437
L64M-***-***	437
L64M-KIT	423, 437
L68C-***-***	437
L68C-KIT	437
L68M-***-***	437
L68M-KIT	423, 437
L72C-***-***	457
L72C-KIT	457
L72M-***-***	457
L72M-KIT	445, 457
L73C-***-***	457
L73C-KIT	457
L73M-***-***	457
L73M-KIT	445, 457
L74C-***-***	457
L74C-KIT	457
L74M-***-***	457
L74M-KIT	445, 457
M/1***	88
M/1339	411
M/1460**/M/****	97
M/1461**/M/****	99
M/1462**/M/****	100
M/15**/**	87
M/1500 series	536
M/151*	538
M/162***/MI/***	107
M/17*	306

PART NUMBER	PAGES
M/30*0M	86
M/31***	110
M/32***	110
M/3314	530
M/44000/M	102
M/46800/HM	102
M/46800/M	102
M/46800/PM	102
M/48200/H	102
M/48800/P	102
M/49	245
M/49000	102
M/49100	102
M/49200	102
M/49800/P	102
M/50/***/**	124
M/559**	123
M/58001	136
M/58002	136
M/58007	136
M/58008	136
M/58009	136
M/58019	136
M/58080	136
M/58102	132
M/58112	131
M/583**	134
M/584**	134
M/60***	90
M/60**/***	33
M/6028*/**	104
M/610***/MR/**	93
M/610**/M/**	93
M/73*8	541
M/800	388
M/840	68
M/855	68
M/P*	214, 219
M/P10***	85, 89
M/P11***	85
M/P13***	24, 29, 35
M/P15*	404
M/P150*/***	29, 46, 51
M/P1710/**	51
M/P19*	403
M/P19***	24, 29, 32, 35, 46, 58, 61, 65, 71, 83
M/P241*	403
M/P29***	29, 35
M/P34***	32, 119, 124, 126
M/P40***	33, 46, 58, 61, 65, 71, 83
M/P408*	403
M/P41858	112
M/P433*	403
M/P71***/*	29, 46, 51, 58
M/P72***	83, 114, 116
M/P73***/*	65, 124
M/P7406*	101
M/P98**	89
M/PA33*	403
M/S & T45	536

PART NUMBER	PAGES
M/S*	538
M/S2	371
M0020*	493
M0040*	497
M0060*	502
M0082*	500
M0082*	500
M0125*	492
M012A*	493
M0147*	498
M0167*	503
M0168*	505
M0225*	492
M0226*	495
M022A*	493
M0247*	498
M0267*	503
M0268*	504
MA & MB Series	537
MA *** M	121
MA0*	538
MB0*	538
MBP*	538
MC *** M**	120
MICROSOL 01*	264
MQ00*	538
NE/11***	491
NORWELD0*	530
P1H-***-****	462
P64F-***-***	438
P64S-***-***	439
P68F-***-***	438
P72F-***-***	458
P74F-***-***	458
P74S-***-***	459
PA2-0*	529
PICOSOL 11*	266
PM/31***	108
PNEUFIT	490
PNEUFIT C	490
PNEUFIT M	490
PNEUFIT S	491
PQA/182***/**	46, 58, 71
PRA/181***/M/***	55, 73
PRA/182***/L4/*	72, 73
PRA/182***/M/***	56, 73
PRA/183***/M/***	55, 73
PRA/822***/M/***	59, 73
PRA/84****/M/***	63, 73
PRA/862***/MI*/****/*	73, 78
PRA/882***/MI*/**/*	80
Prospector®	252
PRQA/82****/**	59
PRQA/84****/**	63
PU2-0*	529
PU310*	530
PVQ*/****/**	59, 61, 65, 83
QA/1460**/88/**00	97, 99, 100
QA/192***/**	46
QA/80**/**	46, 58, 61, 65, 67, 68, 70, 71, 72, 107, 123

PART NUMBER	PAGES
QA/80**/**/*	57, 71
QA/81**/**	46, 58, 61, 68
QA/81**/**/*	57
QA/82**/**	68
QA/83**/**	68
QM*	213, 218, 222, 236, 245
QM/1***/00	89
QM/132/**	126
QM/140	128
QM/140/***/**	35, 128
QM/146***/**	101
QM/15**/00	87
QM/162***/00	107
QM/192***/**	37, 39, 40, 46
QM/27/2/1	68
QM/30*0/00	85
QM/31/***/22	68, 126
QM/32/**	126
QM/33/***/**	35
QM/4**	85, 89
QM/55***/**	29, 32, 35
QM/57***/**	29, 51
QM/60***/M/00	91
QM/6028*/00	105
QM/6028*/TI/00	105
QM/61***/00	93
QM/7**	85, 89
QM/8**	85, 86, 89
QM/80**/**	24, 29, 32, 35, 46, 51, 58, 61, 70, 83, 107, 123
QM/81**/**	46, 58
QM/9**	89
QM/9***/00	84
QM/90***/**	51
QM/94*	29
R05-***-****	484
R05-KITR	484
R07-***-****	465
R07-KITR	465
R18-***-****	472
R18-***-****	476
R18-100R	472
R22-***-****	481
R22-KITR	481
R24-***-****	478
R27-***-****	479
R38-***-****	483
R38-10**	483
R64G-***-***	433
R68G-***-***	433
R72G-***-***	451
R72G-KIT*	451
R72M-***-***	452
R73G-***-***	451
R73G-KIT*	451
R74G-***-***	451
R74G-KIT*	451
R74M-***-***	452
RA/191***/M/**	37, 73
RA/191***/MX/**	37, 73
RA/192***/M/**	39, 40, 73

PART NUMBER	PAGES
RA/192***/MX/**	39, 40, 73
RA/193***/M/**	37, 73
RA/193***/MX/**	37
RA/28*00/M/*	66, 73
RA/8***/L4/*	72, 73
RA/8***/M/***	68, 73
RM/280**/M	21
RM/554**/M/**	30, 31
RM/80**/M	22
RM/9**	84
RM/91***/M/**	47
RM/92***/M/**	48
RM/93***/M/**	47
RT/571**/M	25
RT/572**/M	26
RT/573**/M	25
S/1340	390
S/511	402
S/513	402
S/514	402
S/52*	396
S/666	304
S/83*	388
S0020*	493
S0029*	494
S0040*	497
S0060*	502
S0125*	492
S0147*	498
S0167*	503
S0225*	492
S0247*	498
S0267*	503
S11*	267
SCSQ	272
SCVA*	270
Super X	283
SXE*	212
SXP*	213
T1000	387
T1100	387
T20*	389
T40	536
T40*	538
T45P*	151, 159
T45P00*	538
T50P	395
T55	393
T60	392
T64T-***-***	425, 427, 429, 430, 433, 435, 437, 438, 439, 442
T65	397
T68H-***-***	425, 427, 429, 430, 433, 435, 437, 438, 439, 442
T70*	402
T72T-***-***	461
T73T-***-***	461
T74T-***-***	461
TM/50/***/**	124
TQM/31/**	126
UM/22*	217
V04*	246

PART NUMBER	PAGES
V05*	246
V07-***-****	468
V07-KIT	468
V10*	151, 159, 166, 178, 199, 207, 213, 218, 222, 236
V100*	403
V11*	151, 159, 167, 168, 179, 191, 192
V11*	301
V12*	151, 191, 236
V40*	195
V40/V41	196
V44/V45	204
V5*	236
V6*	222, 225
V64H-***-***	441
V64H-KIT	441
V68H-***-***	441
V68H-KIT	441
V70*	166, 178, 183, 199, 207
V71*	214
V72G-***-***	460
V72G-KIT	460
V74G-***-***	460
V74G-KIT	460
VE1A*	168, 179
VHLA	302
VM/146000	102
VM/146100	102
VM10*	149, 159, 166
VM106517AQ080*	413
VM15*	157
VP10*	307
VP12*	308
VP23	312
VP50*	309
VP51	311
VP60	316
VS18*	162
VS26*	167, 174
VS45*	186
VSM/556**/N2/***	34
X00*	286
X30*	285
X33*	287
XSHC04	268
XSz*	276
Y64A-***-***	442
Y68A-***-***	442

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