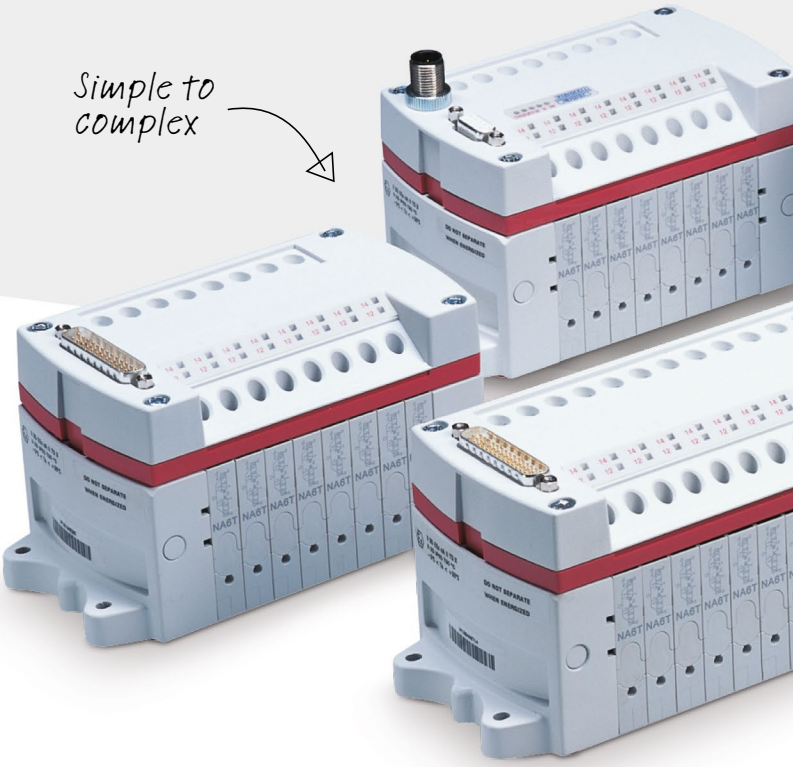
Valves

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

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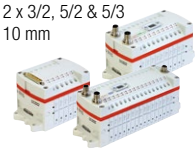
Valve Islands

VM10
2 x 3/2, 5/2 & 5/3
10 mm

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VM15
2 x 3/2, 5/2 & 5/3
15 mm

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VS18
2 x 2/2, 2 x 3/2, 5/2 & 5/3
ISO 15407-2
18 mm

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VS26
2 x 2/2, 2 x 3/2, 5/2 & 5/3
ISO 15407-2
26 mm

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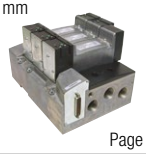
VS45
2 x 3/2, 5/2 & 5/3 valves
45 mm

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Sub-base Valves

V40/V41
2 x 3/2, 5/2 & 5/3 Valve
ISO 15407-1/VDMA 24 563
18 mm

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V44/V45
2 x 3/2, 5/2 & 5/3 Valve
ISO 15407-1/VDMA 24 563
26 mm

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ISO★STAR
5/2 & 5/3
ISO #1 … ISO #3

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UM/22000
5/2 & 5/3
ISO #4

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In-line and Manifold Valves

V60 … 63
3/2, 2x3/2, 5/2 & 5/3
G1/8 … G1/2

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V50 … 53
3/2, 5/2 & 5/3
G1/8 … G1/2

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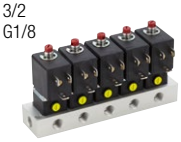
EXCEL 22, M/49
3/2
G1/8

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EXCEL 32, V04 & V05
2/2 & 3/2
G1/8, G1/4, interface

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70300
2/2
G1/2 … G1

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80200
3/2
G1/2 … G2

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Prospector®
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G3/8 … G1

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26360, 80207
3/2, 5/2
G1/4 & G1/2

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26230, 80107
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G1/4, G1/2

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Microsol
2/2, 3/2
15 mm

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Picosol
2/2, 3/2
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Special Purpose Valves

Two-hand control unit XSHC04
4 mm PIF

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Safety valves SCVA
3/2
G1/4, G3/4, G1

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Safety valves SCVA10
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G1/2

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Safety valves SCSQ
3/2
G1/2

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Solenoid actuated press safety valves XSz
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Inline lockout valve CR04 & C002
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1/2 PTF … 1 PTF

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6 mm PIF

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VP12
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VP50
G1/4

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VP50S
G1/4

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VP51
G1/4

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VP23
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140 Failsafe
G1/4 or 1/4 NPT

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422 Fail Freeze
1/4 NPT

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422 IS Fail Freeze
G1/4 or 1/4 NPT

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VP60
G1/4

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2/2
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97300 NAMUR
3/2 & 5/2
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97105 Inline/Namur
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24011 NAMUR
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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

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T1000 Uni-directional
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COT, COK, COS, COL BANJO FLOW REGULATORS
(COMPOSITE BODY)

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10TA, 10K BANJO FLOW REGULATORS
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16K51, BANJO FLOW REGULATORS
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C00GL, C01G, C02G Non-return valves
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T50P Non-return valves
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102GB
Pressure reducing valves
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Pressure sensor valves
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T70, S/511, S/513, S/514 Quick exhaust valves
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Solenoid plugs and cables
15 mm, 22 mm & 30 mm

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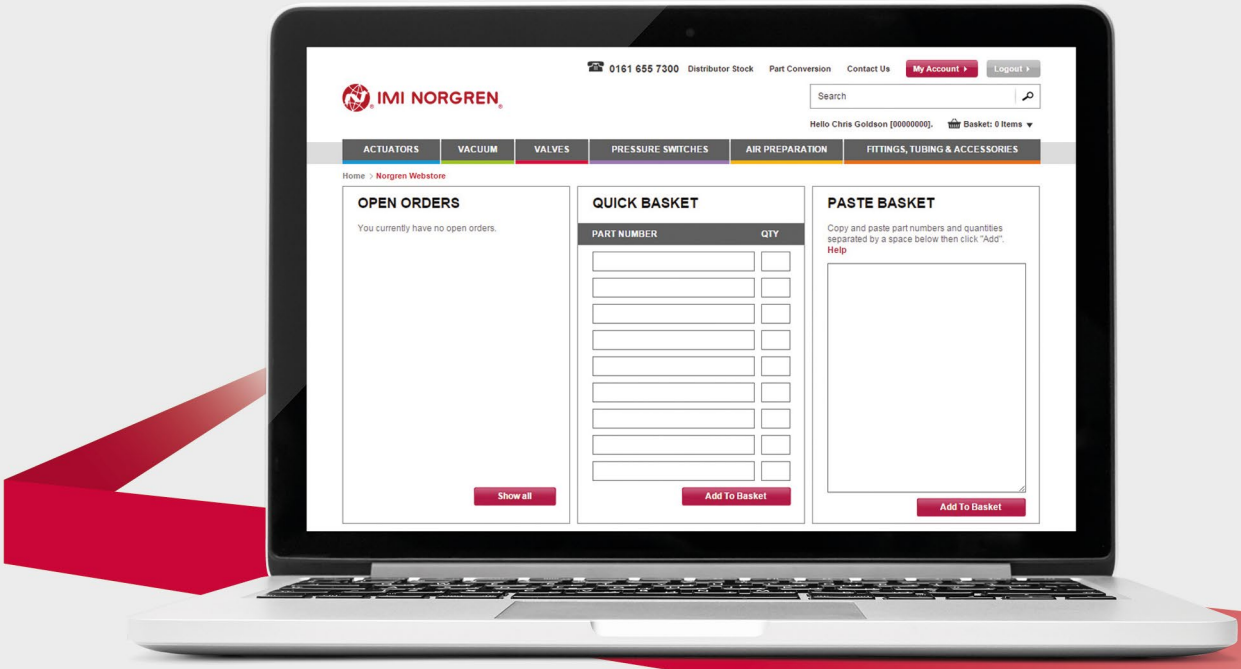

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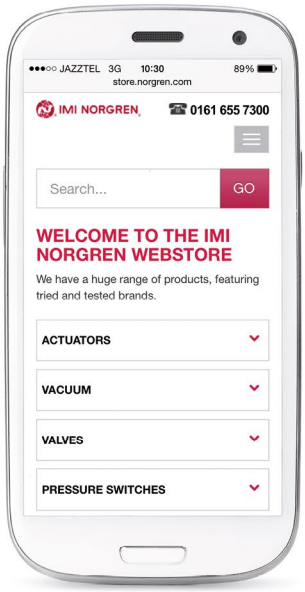

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IMI Precision Engineering

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:

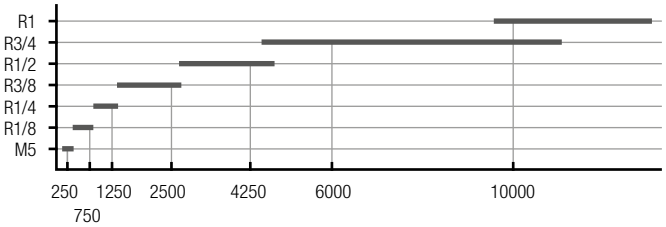
The Correct sizing is based upon the required force and applied pressure. Go to page 17 for more information on cylinder sizing and air consumption.

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

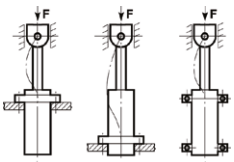
ISO 8573-1 specifies quality classes for compressed air. A class number is made up from the individual maximum allowable contents of solid particles, water and oil in air and can be used to specify air quality for use with valves and other pneumatic applications.

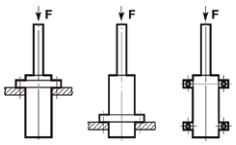
Class	Solids particle size max µm	concentration maximum mg/m³	Water Max. Pressure Dew Point °C	Oil concentration mg/m³
1	0,1	0,1	-70	0,01
2	1	1	-40	0,1
3	5	5	-20	1
4	15	8	+3	5
5	40	10	+7	25
6	–	–	+10	–

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.

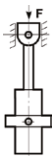
LOAD AND BUCKLING

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.

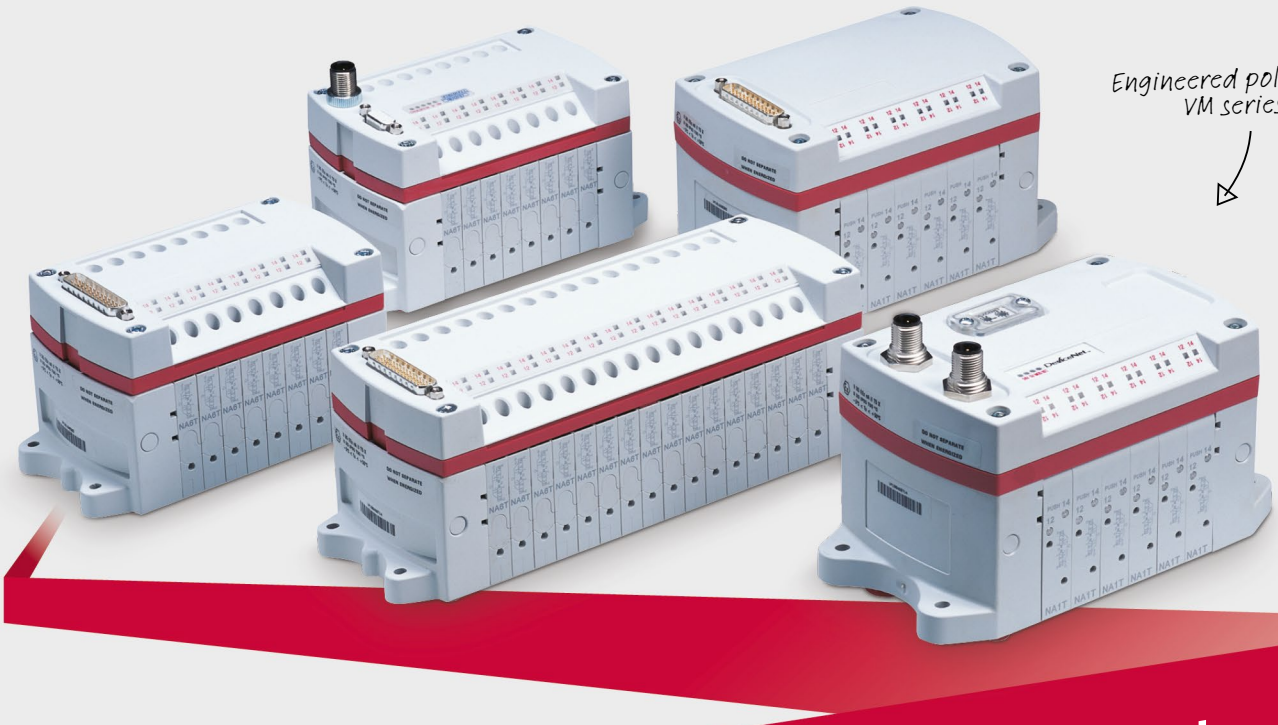
FLOW FACTOR CONVERSION TABLE

	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

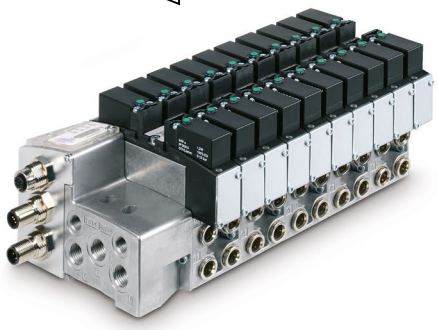
For almost 20 years, IMI Precision Engineering has been able to offer a pre-assembled valve block generally known as a 'valve island'. The current VM and VS series offer a choice of product to meet most industrial control applications.

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



Engineering GREAT Solutions

Find out more
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IMI NORGREN

IMI Precision Engineering

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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

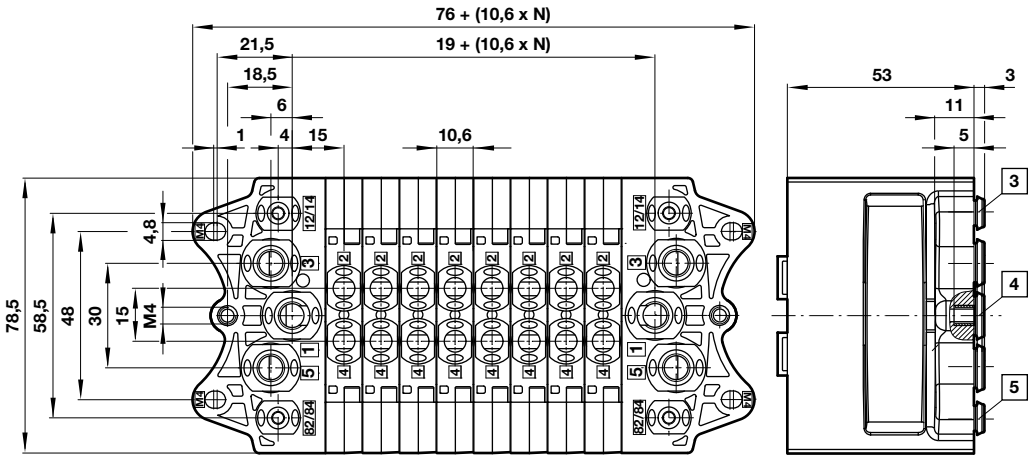
	Model	Description	Connection	Cable length	Short code
	V11588-E01	Fielbus power connector DeviceNet (4 pin, female) CANopen (4 pin, female) Profibus-DP (4 pin, female)	M12	Wireable	R1
	V11589-E01	DeviceNet (5 pin, female) CANopen (5 pin, female)	M12	Wireable	R2
	V11590-E01	Profibus-DP, reverse keyway (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

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.

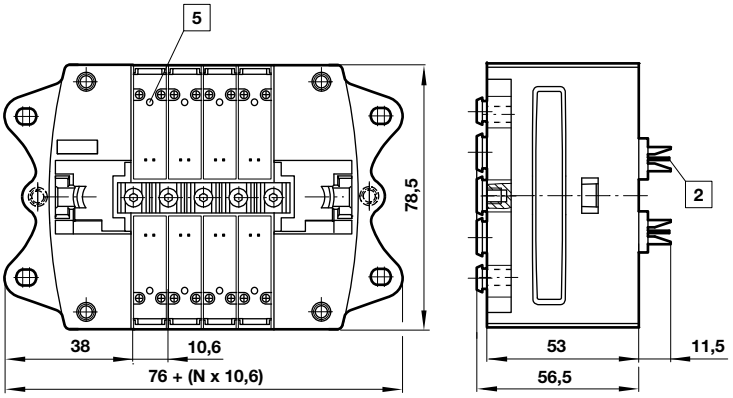
Panel cut-out detail

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

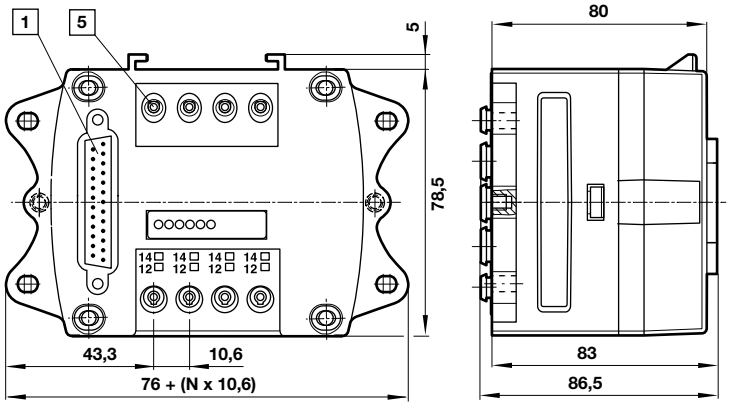
Individually wired IP40



2 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



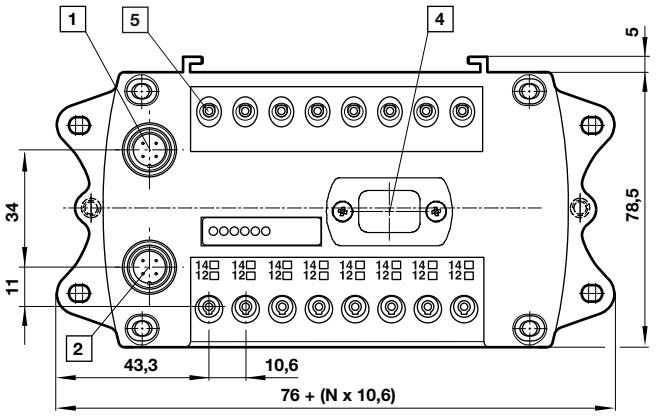
1 25 Pin connector for 4, 6, 8, 10 & 12 station
5 44 Pin connector for 12 & 16 station Manual override, actuate with srew driver
N = number of stations

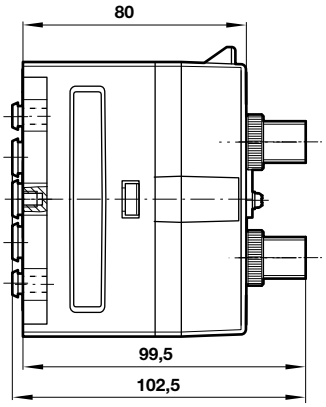
-ve common Model	Multipole	No. of stations	Max. no. of coils
VM106517AQ0404	25 Pin connector	4	8
VM106517AQ0406	25 Pin connector	6	12
VM106517AQ0408	25 Pin connector	8	16
VM106517AQ0410	25 Pin connector	10	20
VM106517AQ0412	25 Pin connector	12	24
VM106517AQ0512	44 Pin connector	12	24
VM106517AQ0516	44 Pin connector	16	32

VALVE ISLANDS
VM10 2 x 3/2, 5/2 or 5/3 – 10 mm

Fieldbus connections (M12 connector types IP65)

DeviceNet
CANopen



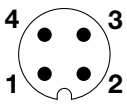


1 M12 power connector
2 M12 protocol connector
4 Rotary address switch
5 Manual override, actuate with srew driver
N = number of stations

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

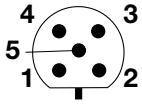
Power connection, male



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	–	–

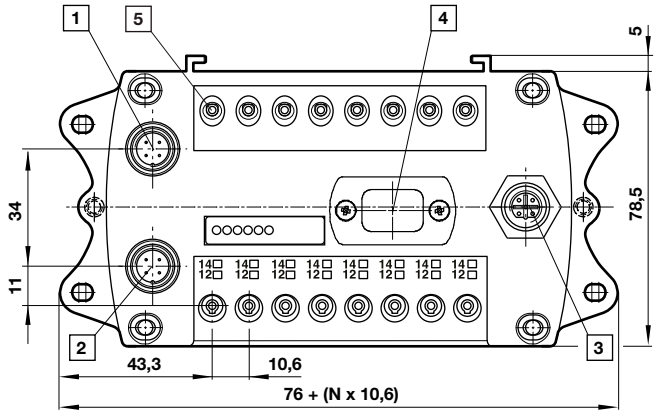
Viewed from above.

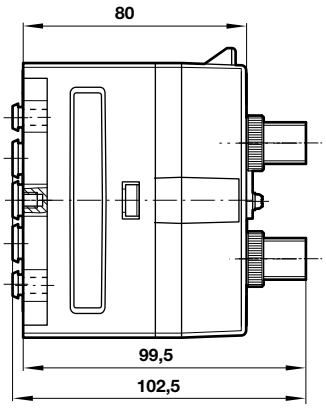
DeviceNet & CANopen



Pin no.	Function
1	Drain
2	V+
3	V-
4	CAN_H
5	CAN_L2

Fieldbus connections (M12 connector types IP65)



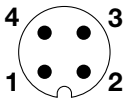


1 M12 power connector
2 M12 protocol connector (male)
3 M12 protocol connector (female)
4 Rotary address switch
5 Manual override, actuate with srew driver
N = number of stations

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

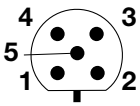
Power connection, male

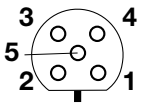


Pin no.	Function	Tolerance	Max. current
1	24 VB Logic circuit supply	±30%	300 mA
2	24 VA Valves	±10%	1,5 A
3	0 V	–	1,53 A
4	Earth	–	–

Viewed from above.

Profibus-DP



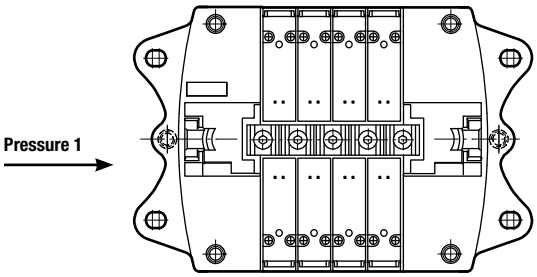


Male Communication in / Female Communication out	Pin no.	Function
	1	5 VI Opto isolator
	2	A-line (green)
	3	0 VI Opto isolated
	4	B-line (red)
	5	Shield

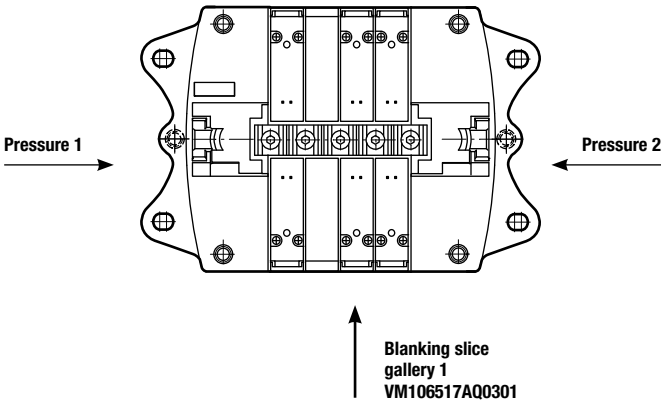
VALVE ISLANDS
VM10 2 x 3/2, 5/2 or 5/3 – 10 mm

Multi-pressure options

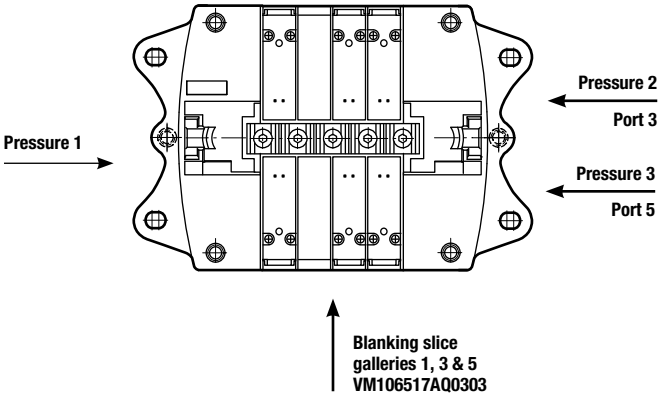
Single pressure



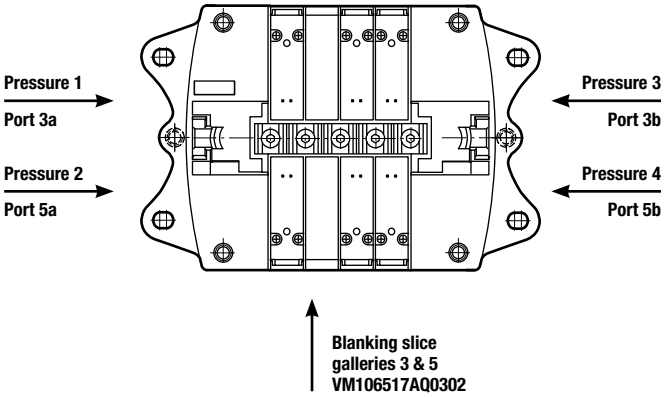
Two pressure



Three pressure



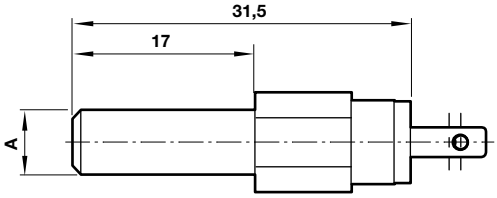
Four pressure



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

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.

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

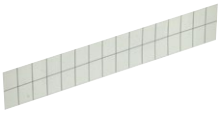
* For selection of port sizes please refer to the following table:

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.

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)	–

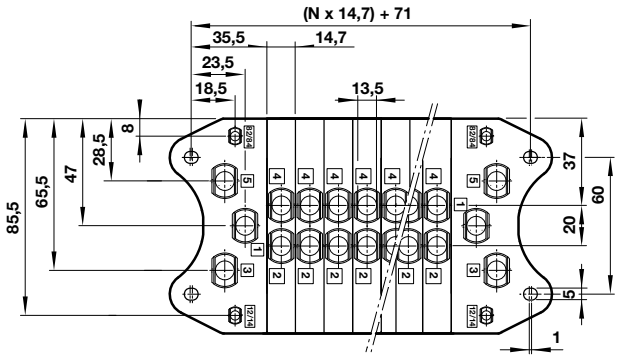
Pressure switch for pilot ports 12 and 14	Silencer	Plug
		
VM106517AQ0806 (6 mm)	T45P0006 (6 mm)	C00040600 (6 mm)
–	T45P0008 (8 mm)	C00040800 (8 mm)
–	T45P0010 (10 mm)	C00041000 (10 mm)
–	T45P0012 (12 mm)	C00041200 (12 mm)

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



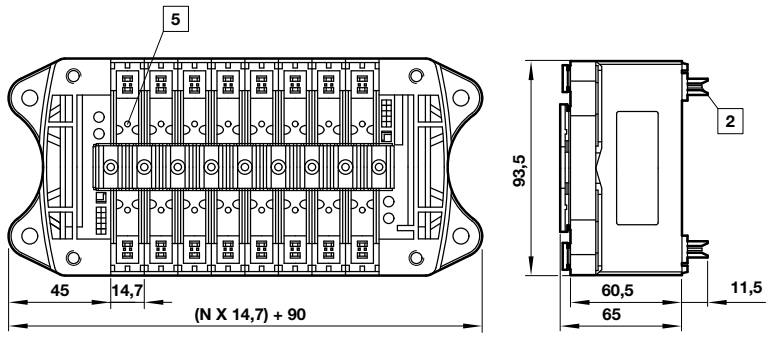
N = number of stations

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

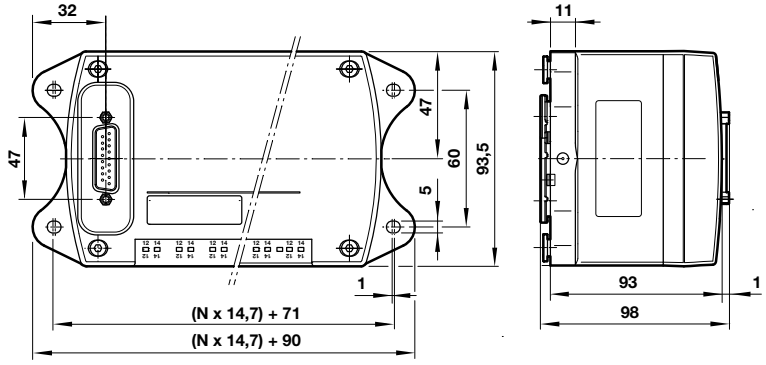


2 2 pin connector interface
5 Manual override
N = number of stations

Individually wired	No. of stations	Max. no. of coils
2 pin connector	2 … 20	40

* kg + valves weight.

Multipole IP65

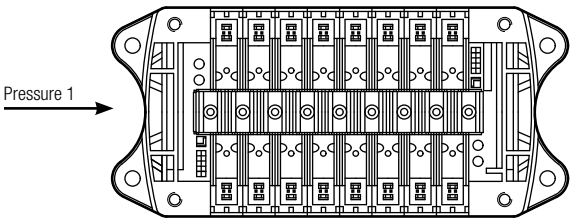


N = number of stations

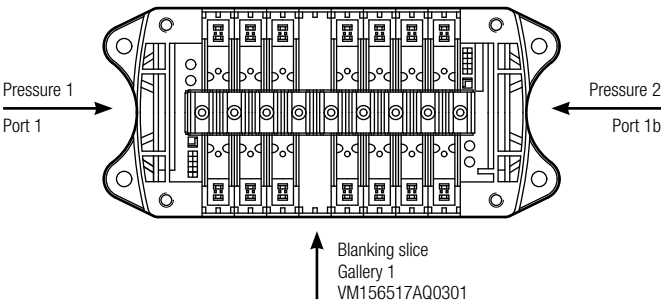
Model -ve common	Multipole	No. of stations	Max. no. coils
VM156517AQ0404	25 Pin connector	4	8
VM156517AQ0406	25 Pin connector	6	12
VM156517AQ0408	25 Pin connector	8	16
VM156517AQ0410	25 Pin connector	10	20
VM156517AQ0412	25 Pin connector	12	24
VM156517AQ0516	44 Pin connector	16	32

Multi-pressure options

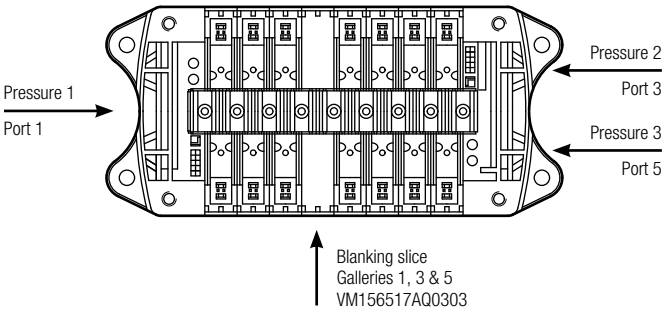
Single pressure



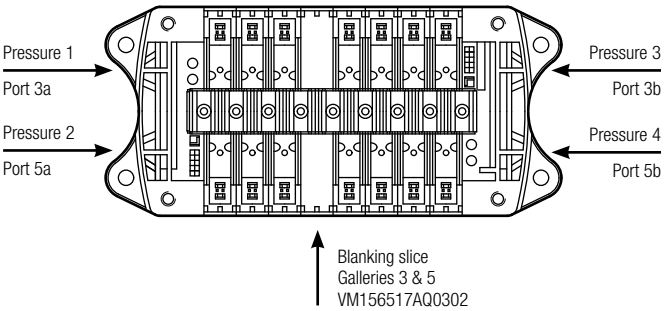
Two pressure



Three pressure



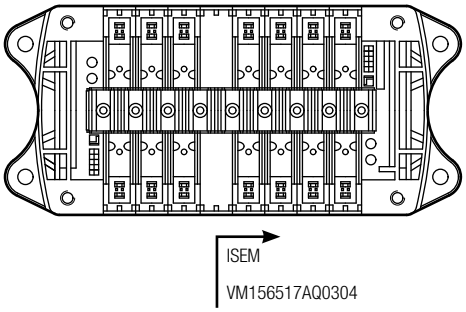
Four pressure



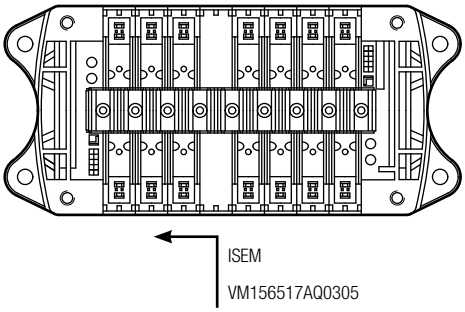
Please Note - the 3 & 4 Pressure islands shown above are achieved by using externally piloted 2x3/2 valves and reverse porting via ports 3 & 5.
Please note that when 2x3/2 valves are reverse ported the functions are also reversed i.e. N/C becomes N/O and N/O becomes N/C.

Multi-pressure options – Intermediate supply exhaust manifolds single pressure

Feed right

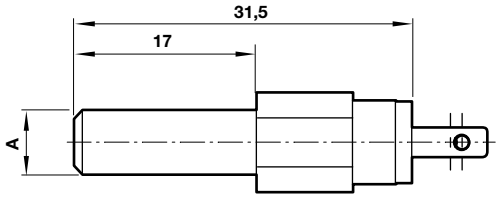


Feed left



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

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

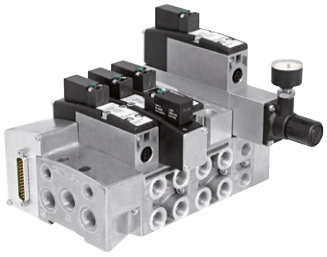
Springs:
Stainless steel

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.

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.

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.

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.

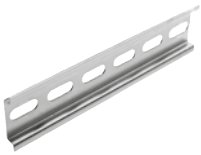
ATEX:
The 24 V d.c Multipole and Fieldbus valve islands fulfils the requirement of the standard 94/9/EC for intended use in hazardous locations.

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.

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.

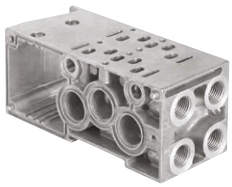
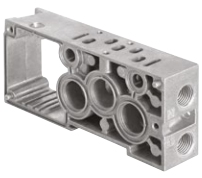
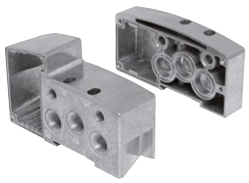
Base accessories

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.		

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.

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

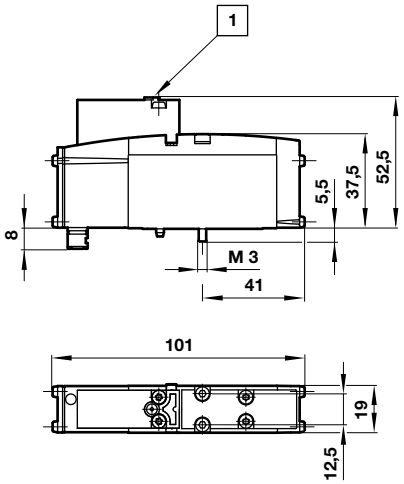
For parts and assembly instructions of Fieldbus components, consult our technical service.

Fieldbus accessories

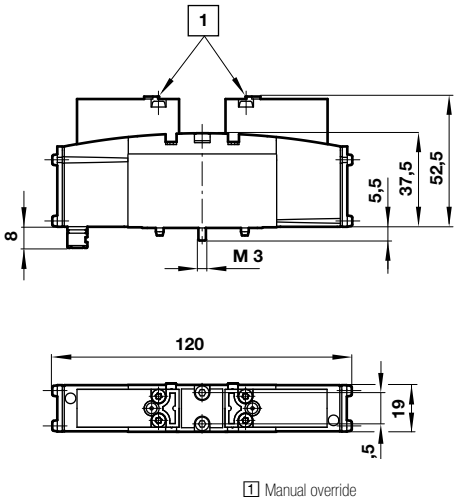
	Model	Description	Connection	Cable length	Protection class
Fieldbus power connector					
	V11588-E01	Profibus DP (4-pin, female) Interbus-S (4-pin, female) DeviceNet (4-pin, female) CANopen (4-pin, female)	M12	Wireable	IP65 Required for ATEX
	VS2672907-KG00	Profibus DP (5-pin, female)	7/8	Wireable	IP65 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

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

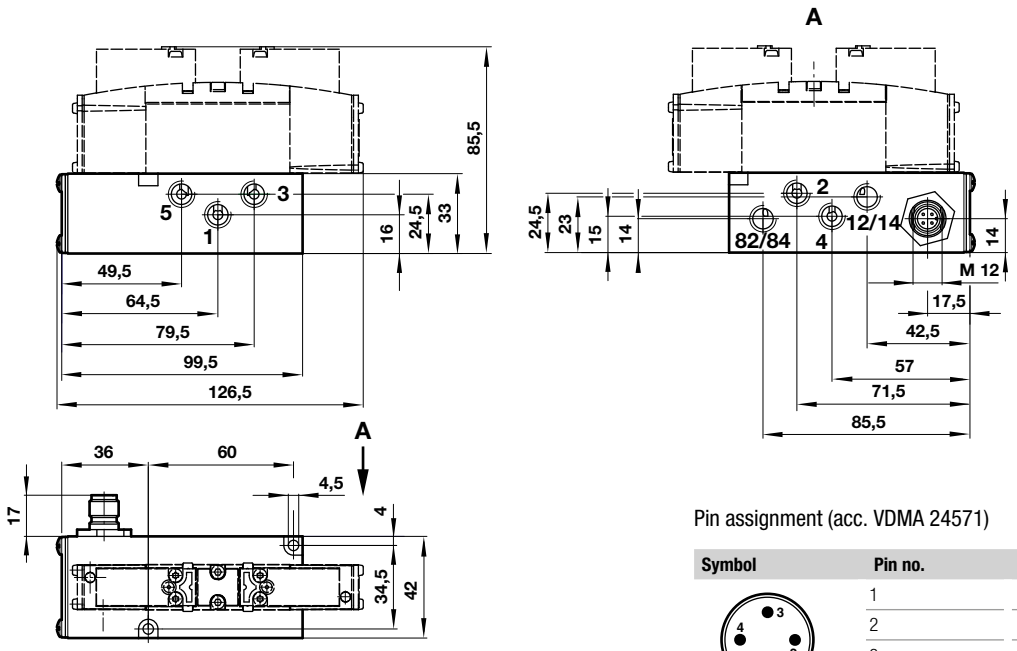
PLUG-IN MINI ISO VALVE ISLANDS

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

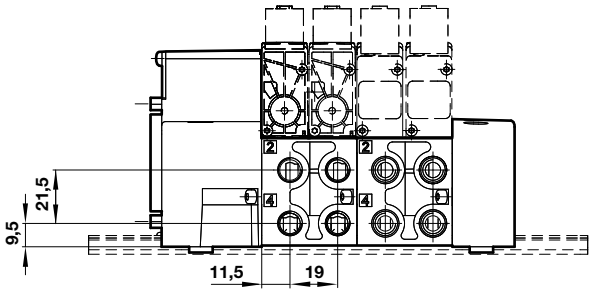


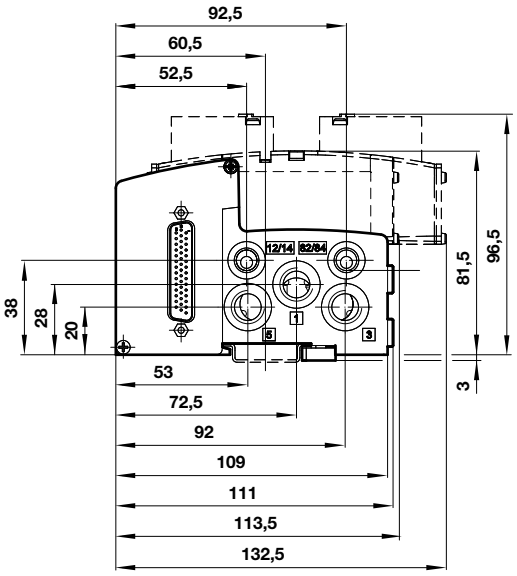
Pin assignment (acc. VDMA 24571)

Symbol	Pin no.	Function
	1	Not used
	2	Signal for solenoid 12
	3	Common for solenoid 12 and 14
	4	Signal for solenoid 14

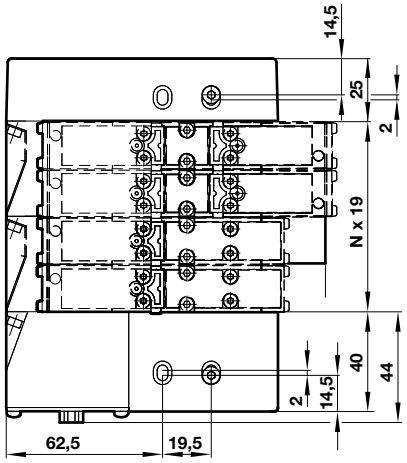
Dimensions - Valve island

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

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

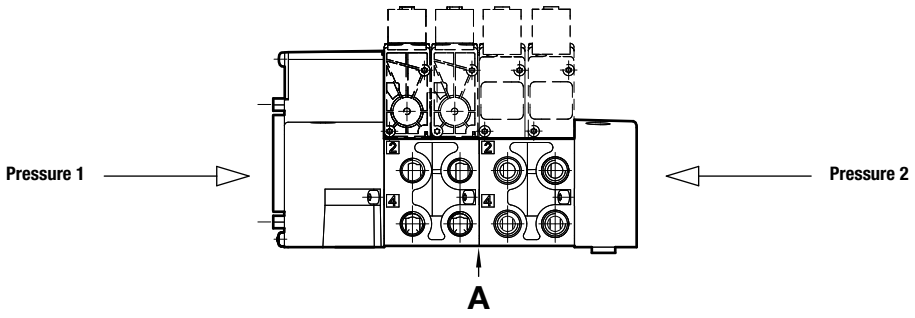
A

Blanking disc	Type
VS1872405-KF00	Suitable for ports 1, 3 and/or 5

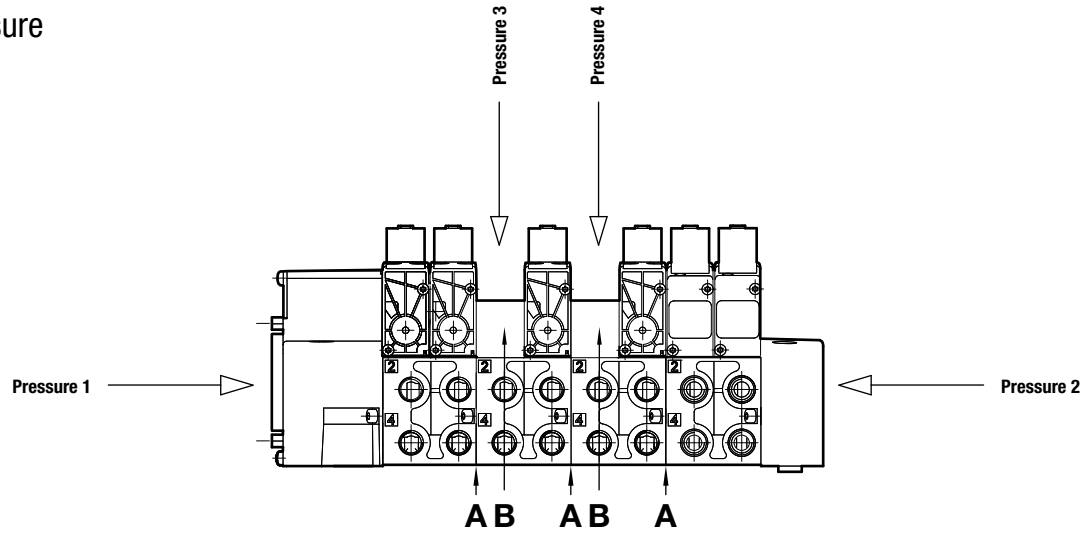
B

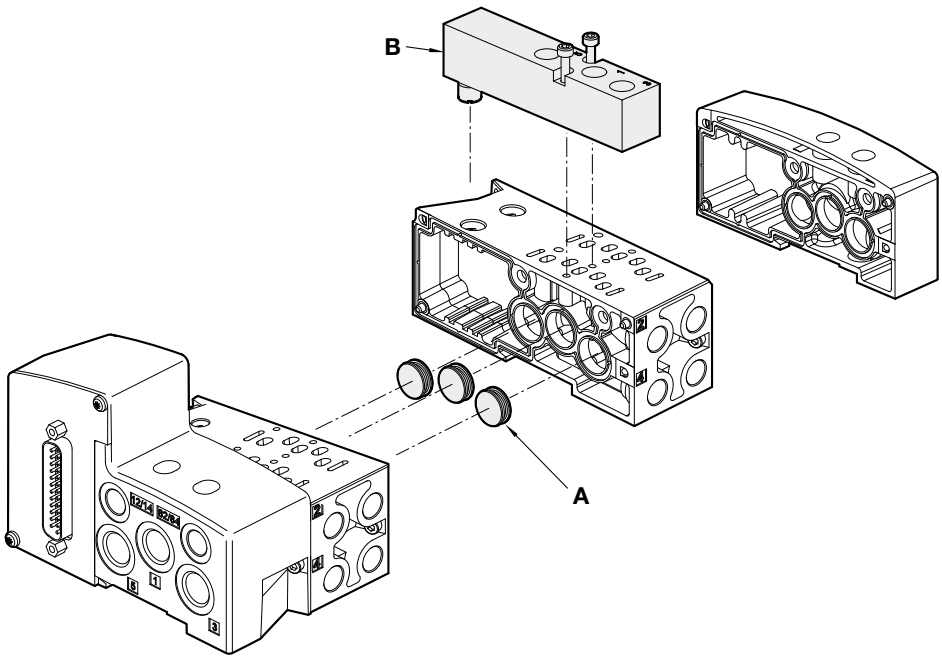
Intermediate supply/exhaust module	Type
VS1872402-AF00	G 1/8

Dual pressure



Multi pressure



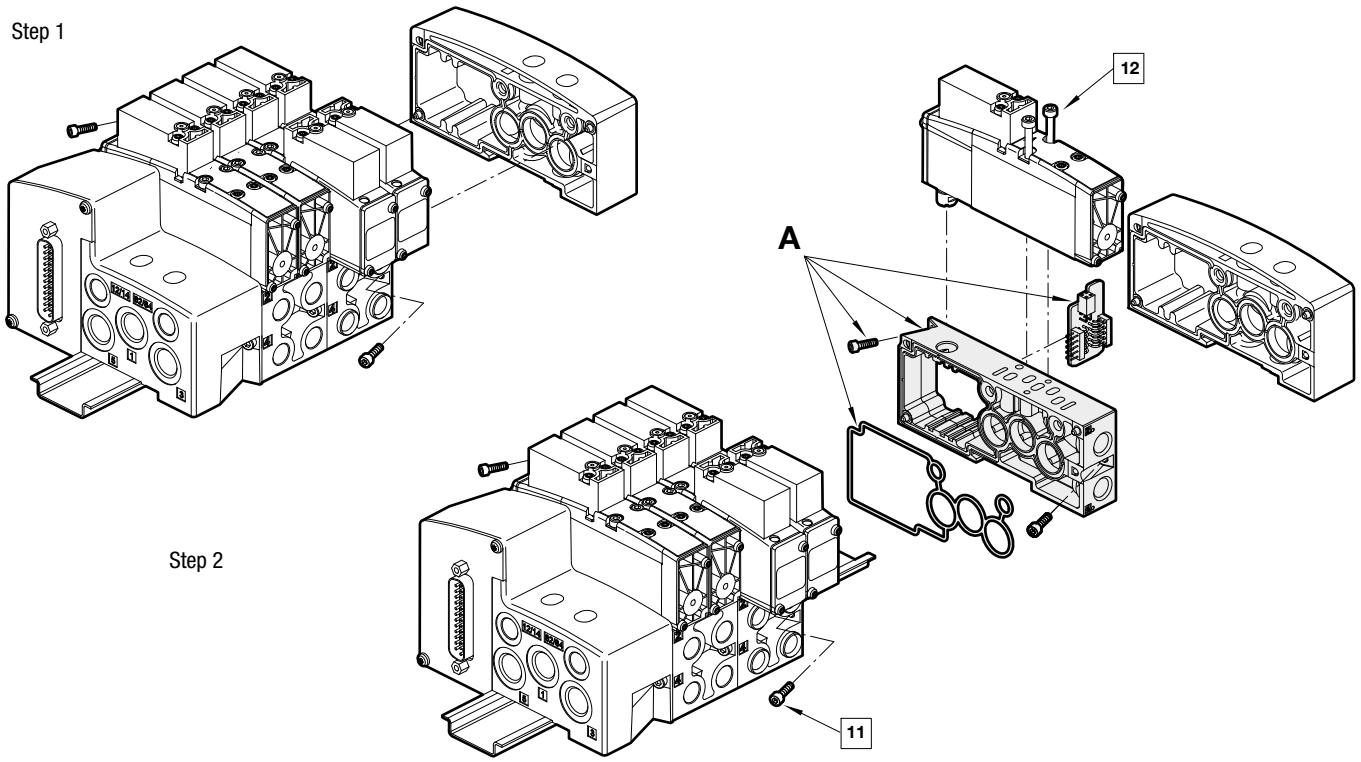


A – Single add-on stations including PCB, sub-base, gasket and screws

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

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

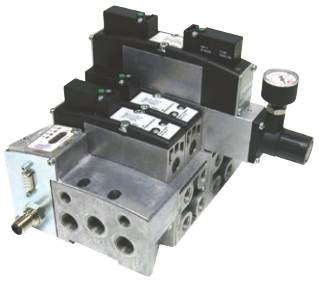
Springs:
Stainless steel

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.

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

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.

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.

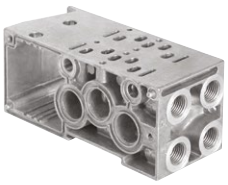
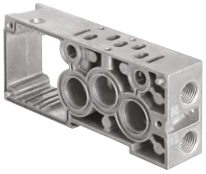
Base accessories

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.		

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

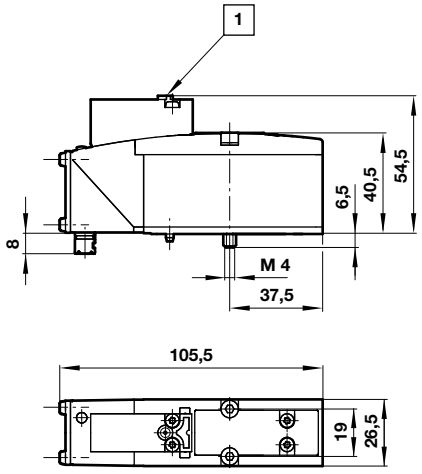
PLUG-IN MINI ISO VALVE ISLANDS

VS26 2 x 2/2, 2 x 3/2, 5/2 or 5/3, size 26 mm

Dimensions - Valve

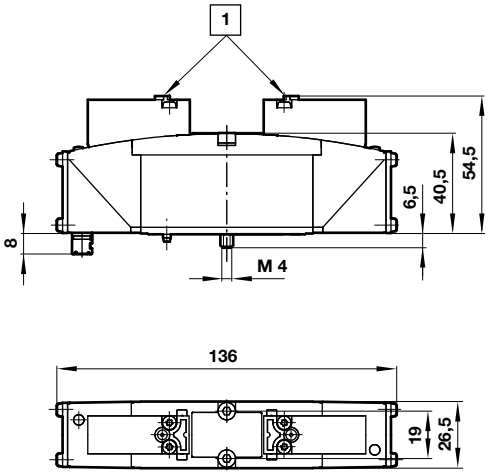
VS26*5*7DF*1*A

5/2 Single solenoid pilot valve, mechanical spring return



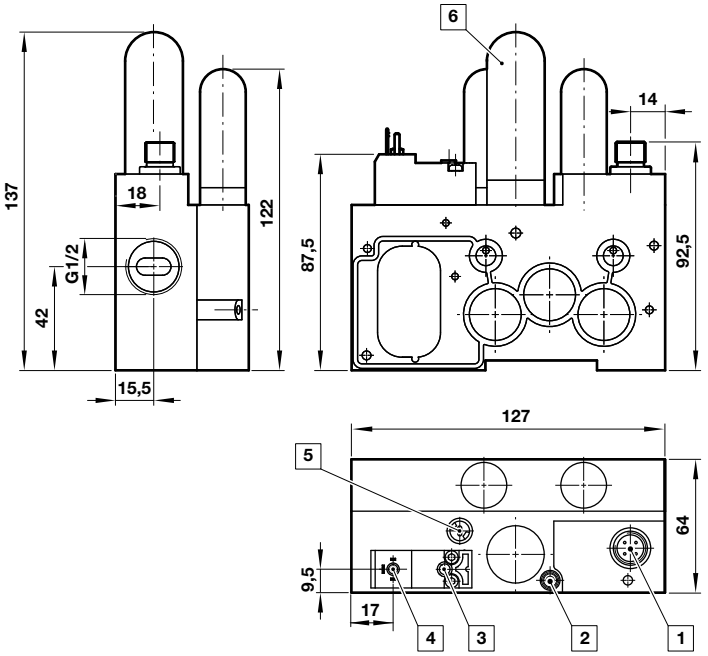
VS26*5*7DF*1*A

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

Single station sub-base

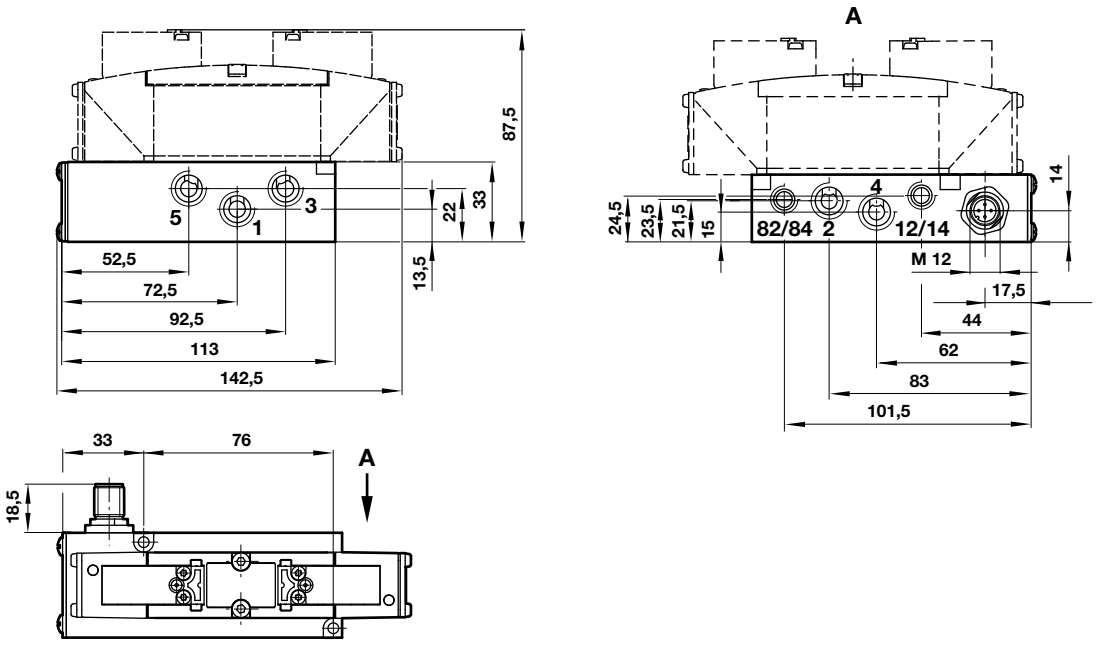
Model	Description	Ports 1, 3 & 5	Ports 12/14 & 82/84	Ports 2 & 4	Connector type
VS2672510-BG00	Single station sub-base for 24 V d.c.	G1/4	G1/8	G1/4	M12

Base accessories

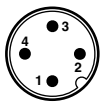
Model	Description
VS2672902-BG00	Intermediate supply/exhaust module, port size G1/4 *1)
VS2672904-KG00	Blanking plate for blocking of unused stations (supplied with gasket)

*1) For use see page 182.

Connector type: M12



Pin assignment (acc. VDMA 24571)

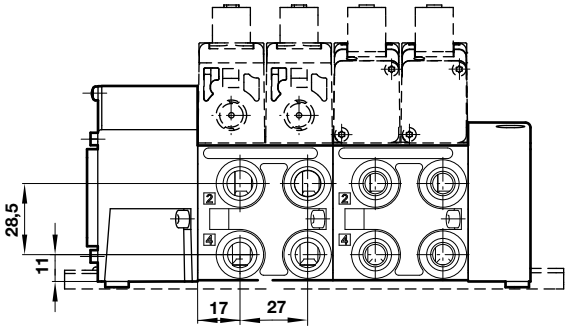
Symbol	Pin no.	Function
	1	Not used
	2	Signal for solenoid 12
	3	Common for solenoid 12 and 14
	4	Signal for solenoid 14

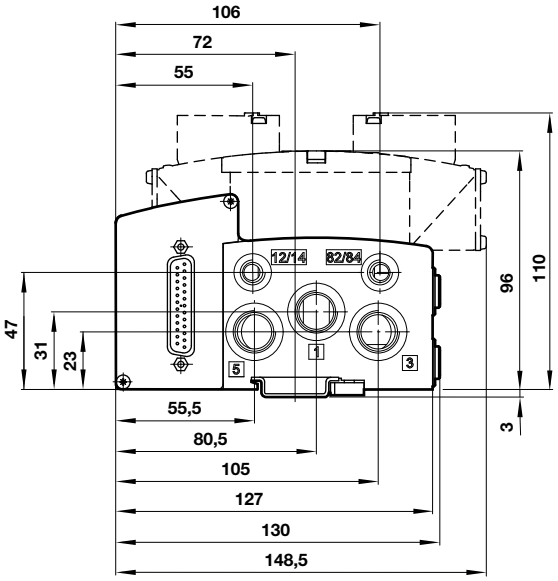
PLUG-IN MINI ISO VALVE ISLANDS

VS26 2 x 2/2, 2 x 3/2, 5/2 or 5/3, size 26 mm

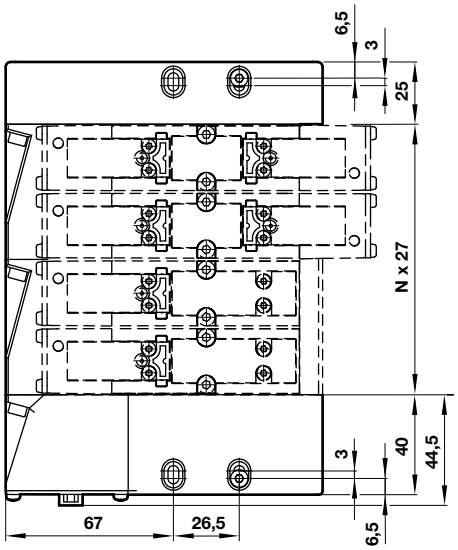
Dimensions - Valve island

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

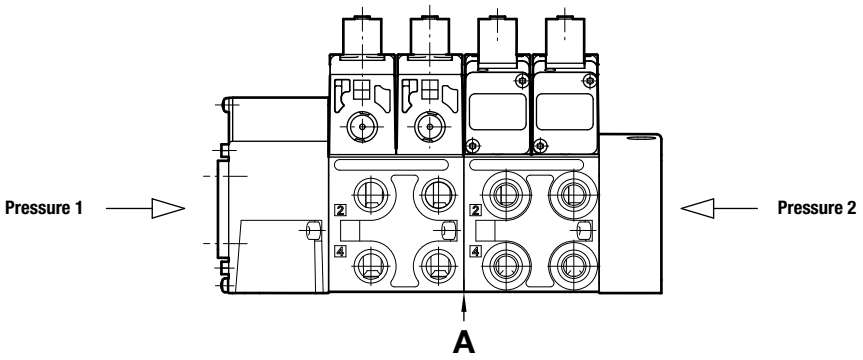
A

Blanking disc	Type
V70522-K00	Suitable for ports 1, 3 and/or 5

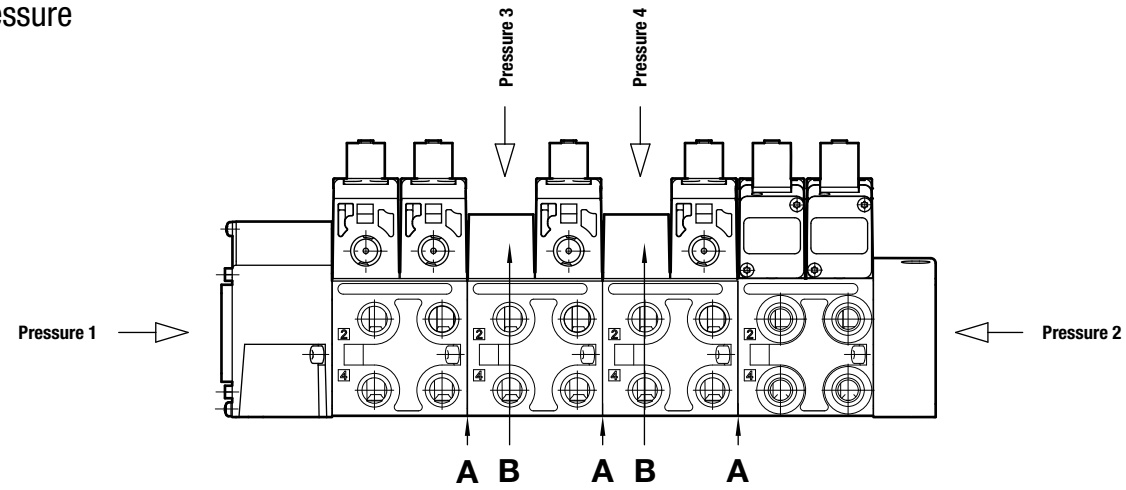
B

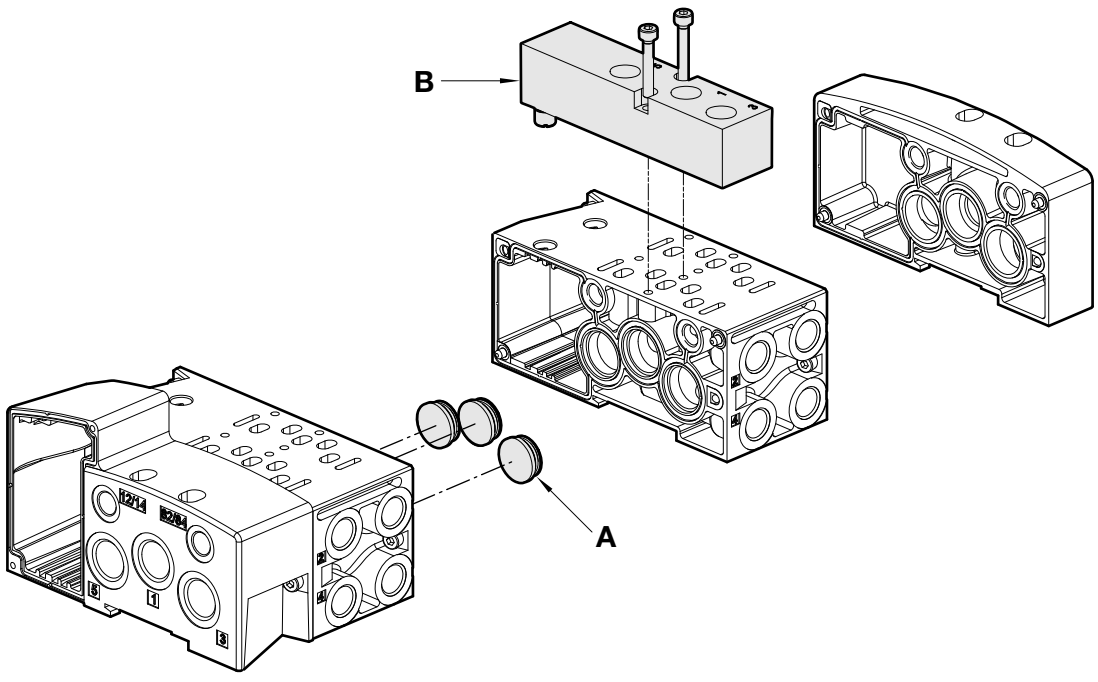
Intermediate supply/exhaust module	Type
VS2672902-BG00	G 1/4

Dual pressure



Multi pressure





PLUG-IN MINI ISO VALVE ISLANDS

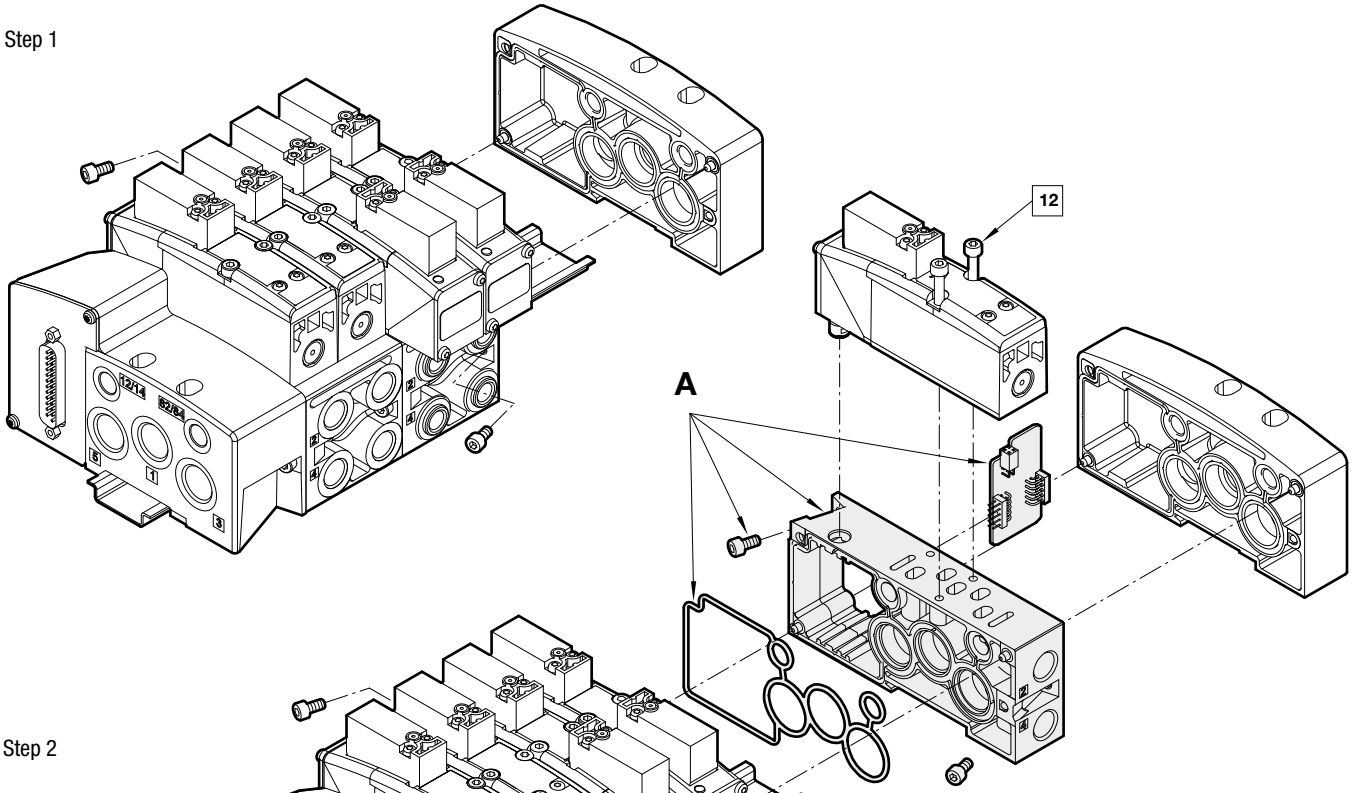
VS26 2 x 2/2, 2 x 3/2, 5/2 or 5/3, size 26 mm

A – Single add-on stations including PCB, sub-base, gasket and screws

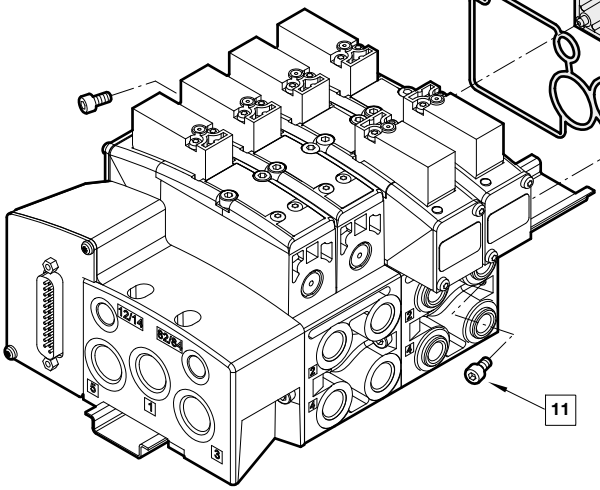
Model	Ports 2 & 4	Description
VS2672504-BGF0	G1/4	Add-on station for D-Sub connectors and Fieldbus
VS2672504-YGF0	PIF 6 mm	Add-on station for D-Sub connectors and Fieldbus
VS2672504-8GF0	PIF 8 mm	Add-on station for D-Sub connectors and Fieldbus
VS2672505-BGF0	G1/4	Add-on station for Conduit entry and 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

Reliable even in the **most demanding applications**

Strong fluctuations in temperature, wide voltage tolerances or harsh environments: IMI Precision Engineering products withstand the most extreme conditions. More than 80 years' experience, technical know-how and a comprehensive knowledge of legislation are incorporated in the development and manufacture of reliable products. Internationally recognised certificates such as ATEX, DVGW, SIL or CSA certify their quality.

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IMI Precision Engineering

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

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.

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

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.

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)

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

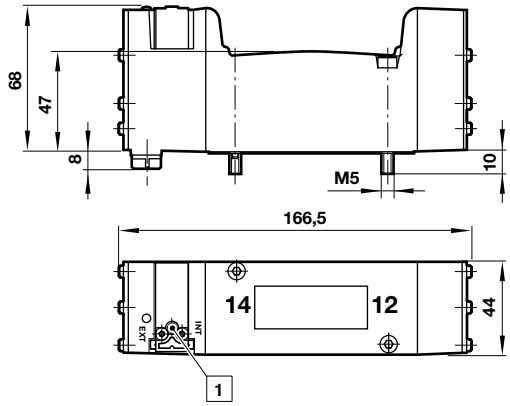
For parts and assembly instructions of Fieldbus components, consult our technical service.

Fieldbus accessories

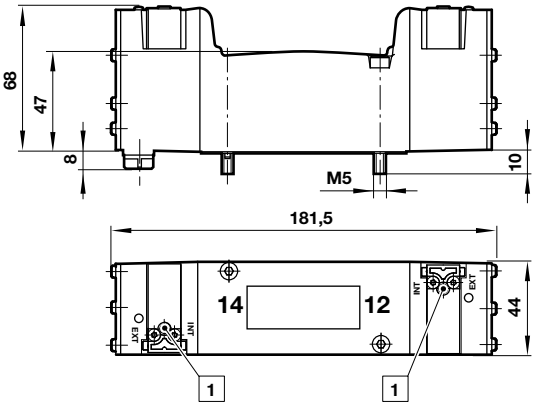
	Model	Description	Connection	Cable length	Protection class
Fieldbus power connector					
	V11588-E01	Profibus DP (4-pin, female) Interbus-S (4-pin, female) DeviceNet (4-pin, female) CANopen (4-pin, female) AB RIO (4-pin, female)	M12	Wireable	IP65 Required for ATEX
Communication cable and connector					
	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

Dimensions - Valve

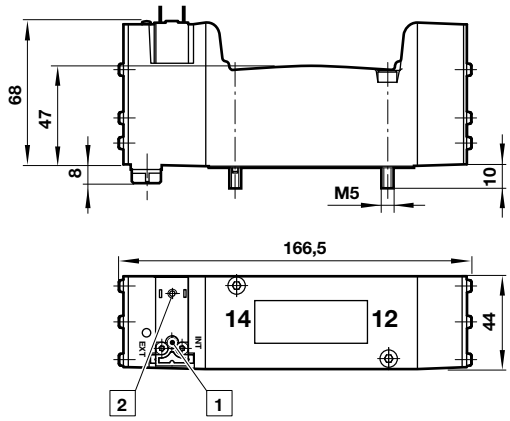
Plug-in connection
VS45*5*7DF*13A models
5/2 Single solenoid valve, spring return



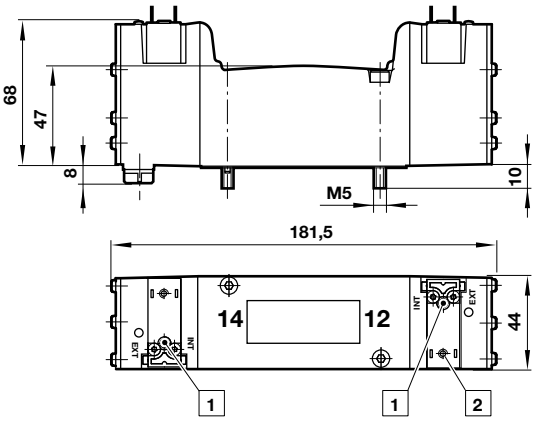
Plug-in connection
VS45****DF*13A models
2x3/2, 5/2 and 5/3 Double solenoid valve



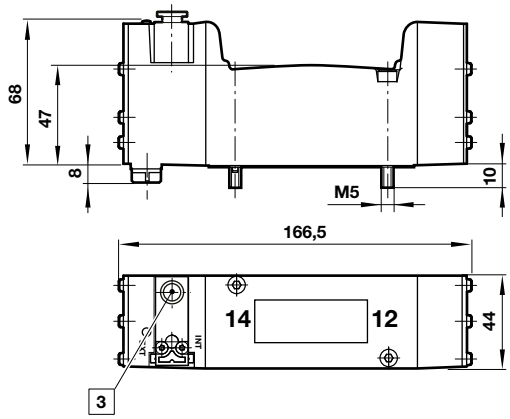
Individually wired connection
VS45*5*7DC*1*A models
5/2 Single solenoid valve, spring return



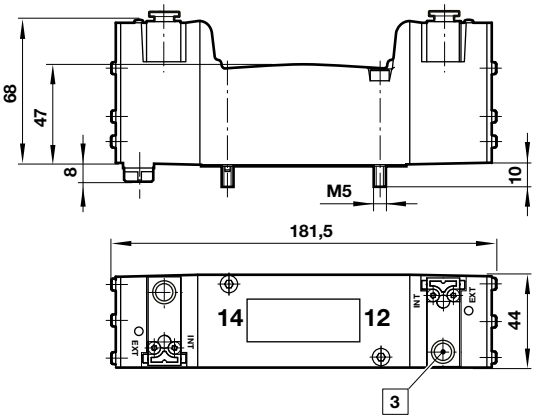
Individually wired connection
VS45****DC*1*A models
2x3/2, 5/2 and 5/3 Double solenoid valve



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

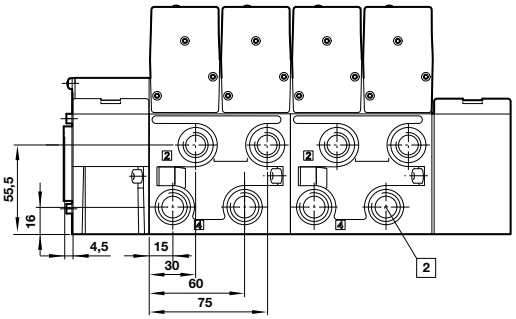
VALVE ISLANDS

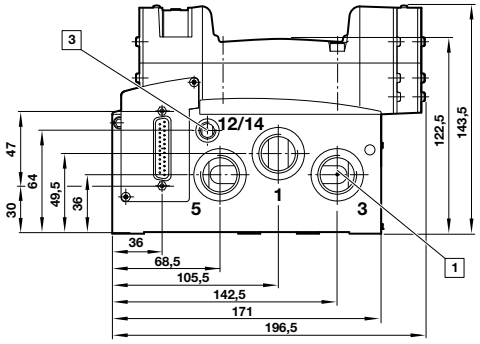
VS45 2 x 3/2, 5/2, 5/3, Size 45 mm

Dimensions - Valve island

Multipole/fieldbus connection.

Contact us for sub-base and end plate kit ordering information.



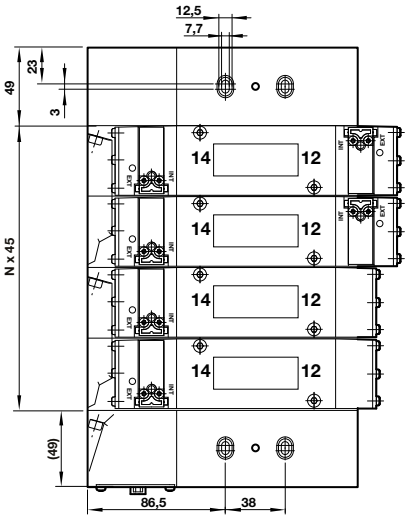


1 Ports 1, 3 and 5 G 3/4

2 Ports 2 and 4 G 3/8G or G 1/2

3 Ports 12/14 G 1/8

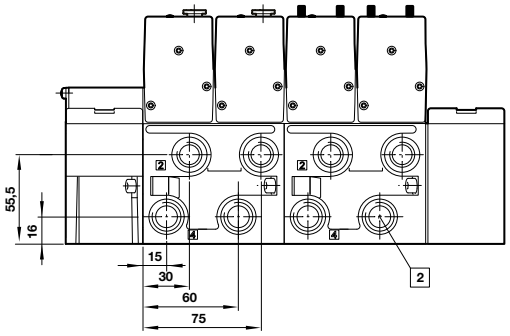
N Number of stations

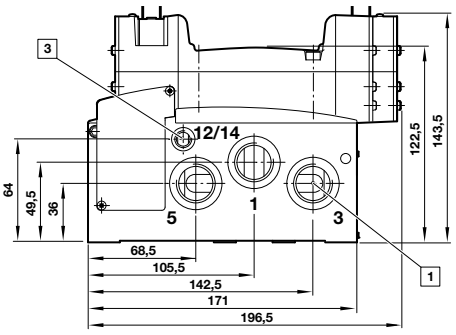


Electrical connection	Min. no. of valve stations	Max. no. of valve stations
Multipole	2	16
Other Fieldbus protocols	4	16

Individually wired & air pilot.

Contact us for sub-base and end plate kit ordering information.



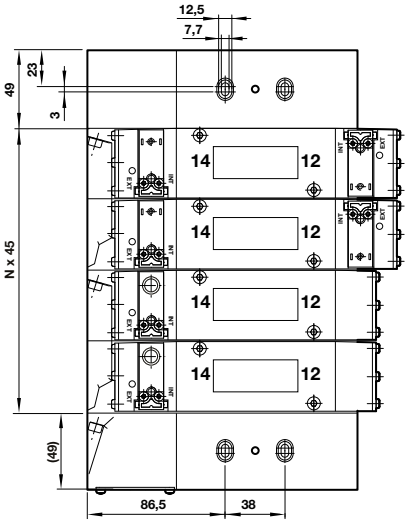


1 Ports 1, 3 and 5 G 3/4

2 Ports 2 and 4 G 3/8G or G 1/2

3 Ports 12/14 G 1/8

N Number of stations

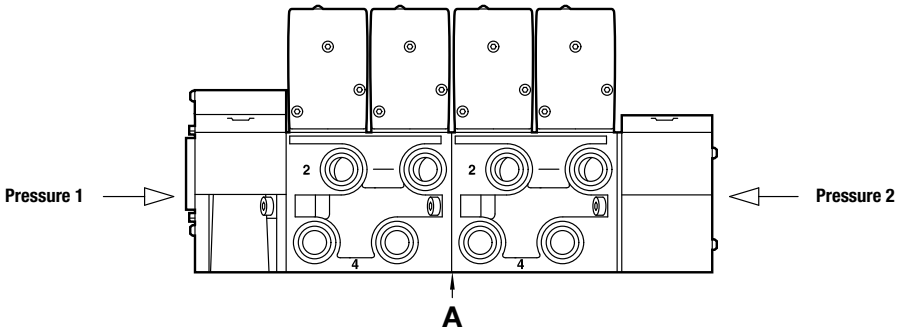


Multi pressure configurations

A

Blanking disc	Type
V40414-K00	Suitable for ports 1, 3 and/or 5

Dual pressure

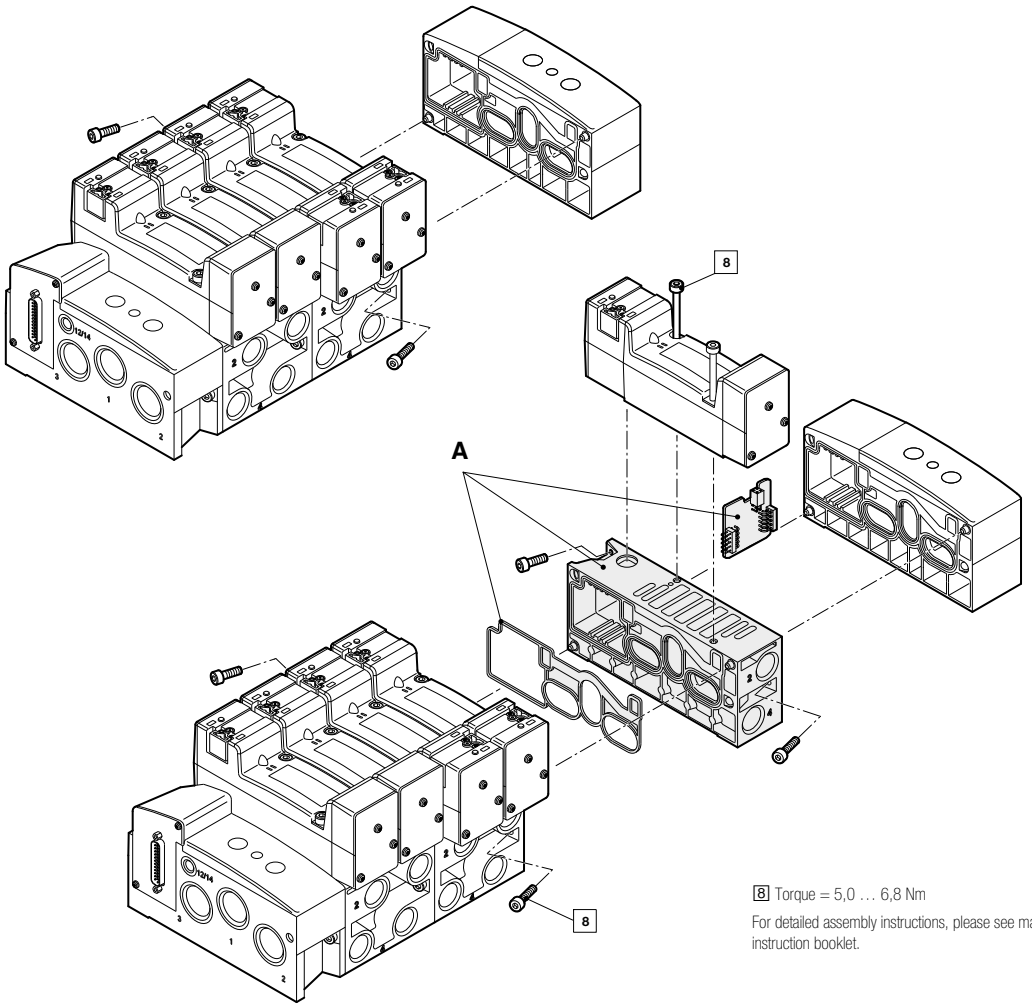


A – Single add-on stations including PCB, sub-base, gasket and screws

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.

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

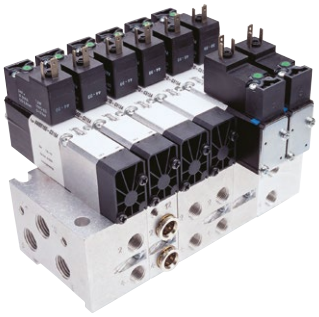
Plastic parts:
POM

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.

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

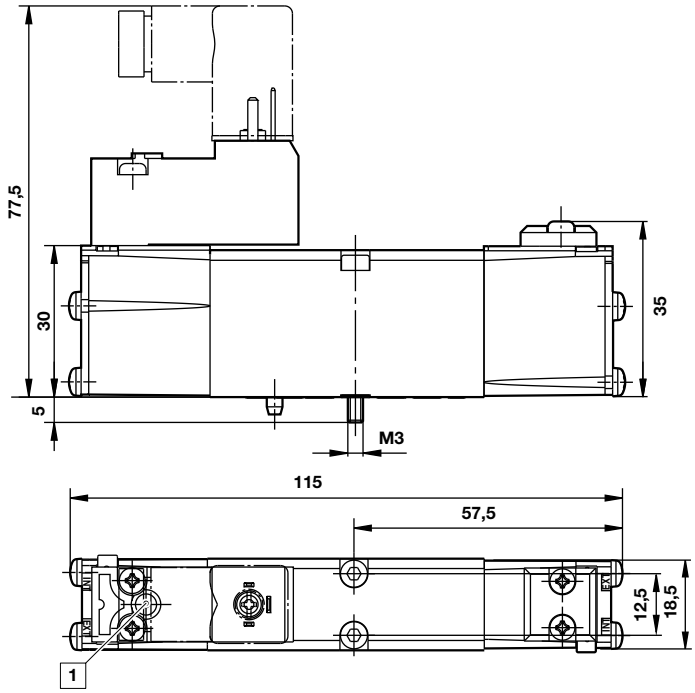
V10027-D00 250 V a.c./300 Vd.c.

MINI ISO VALVES

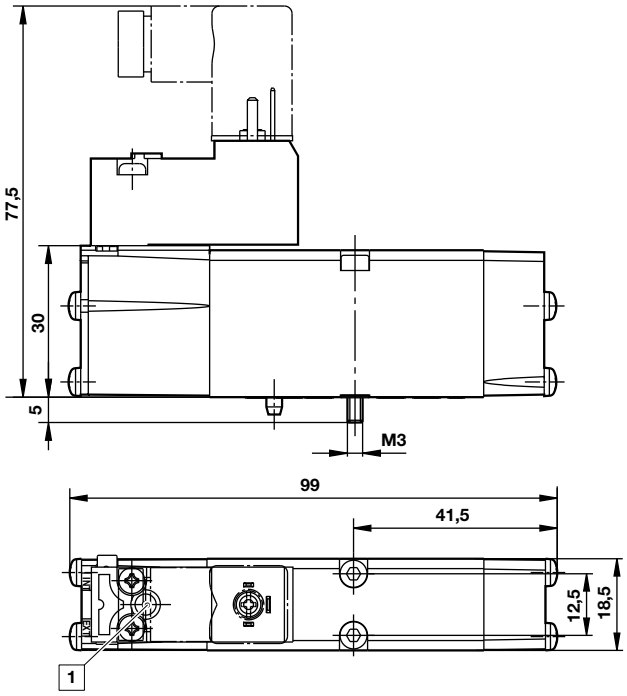
V40/V41 2 x 3/2, 5/2 and 5/3, Solenoid and pilot actuated, ISO 15407-1/VDMA 24 563, Size 18 mm

Dimensions

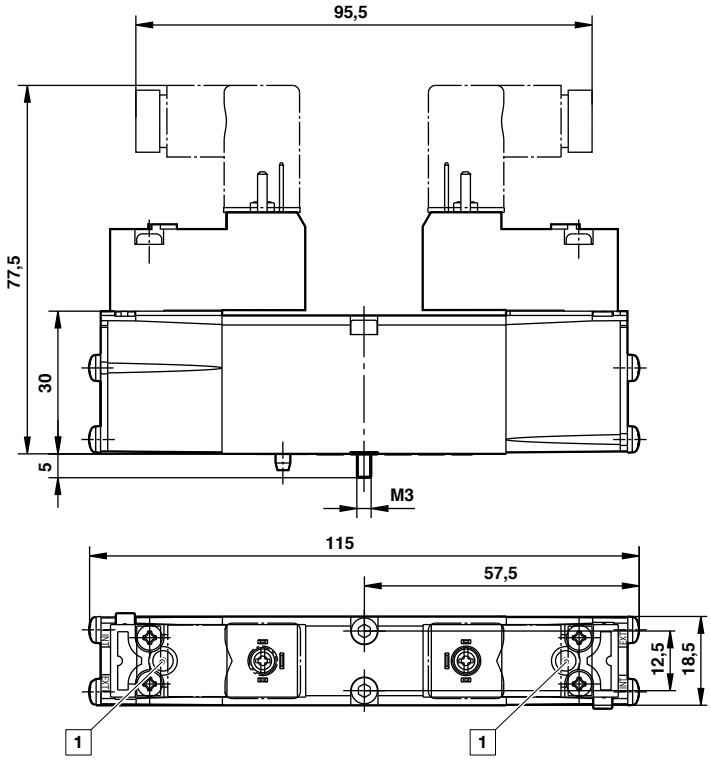
V4155*3D-C3***
5/2 Single solenoid pilot valve
Air spring return



V4055**D-C3***
5/2 Single solenoid pilot valve
Mechanical (& air) spring valve

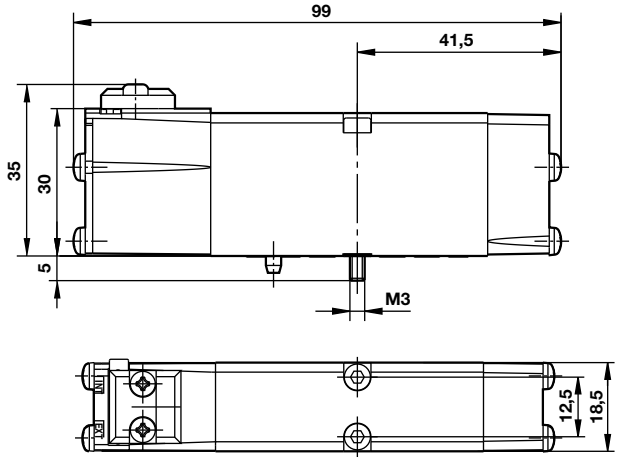


V4055**D-C3*** & V4155**D-C3***
5/2 Double solenoid pilot valve
V405***D-C3*** & V415***D-C3***
2x3/2 + 5/3 Double solenoid pilot valve

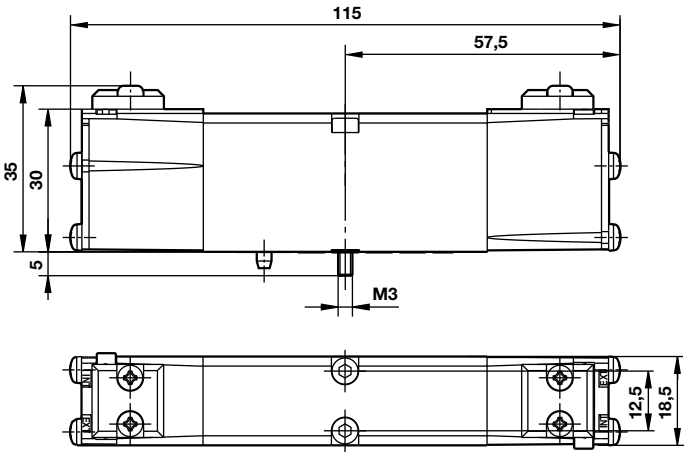


1 Manual override

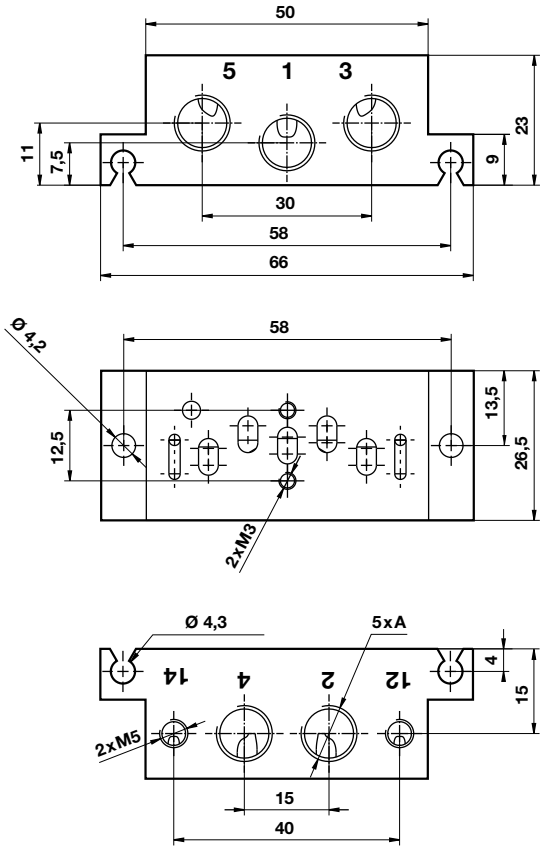
V415537A-X0090
5/2 Single air pilot valve



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



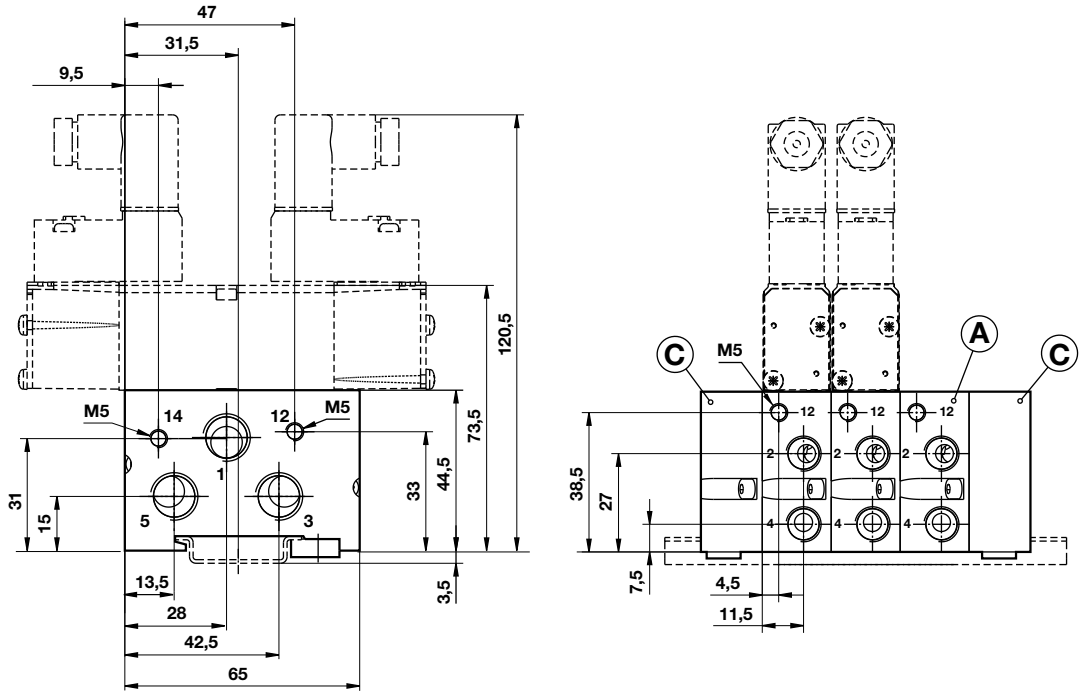
Model	Port size A
V70401-A5B	G1/8 side ported with pilot ports

Note: Pilot ports = M5.

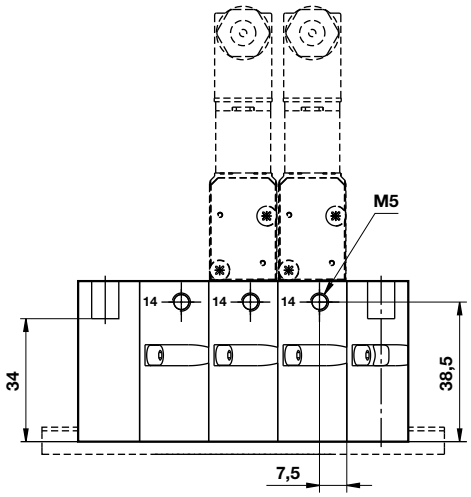
MINI ISO VALVES

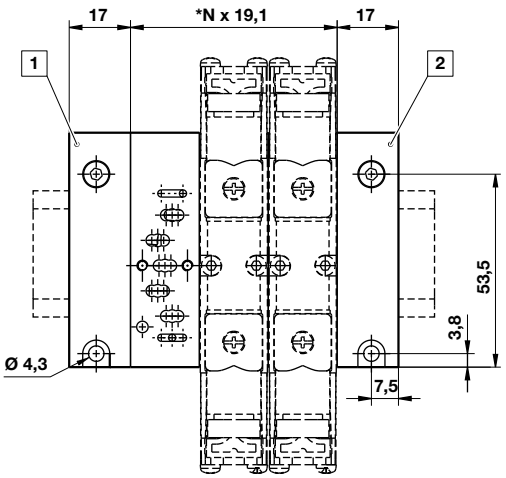
V40/V41 2 x 3/2, 5/2 and 5/3, Solenoid and pilot actuated, ISO 15407-1/VDMA 24 563, Size 18 mm

Side ported sub-base



Bottom and side ported sub-base



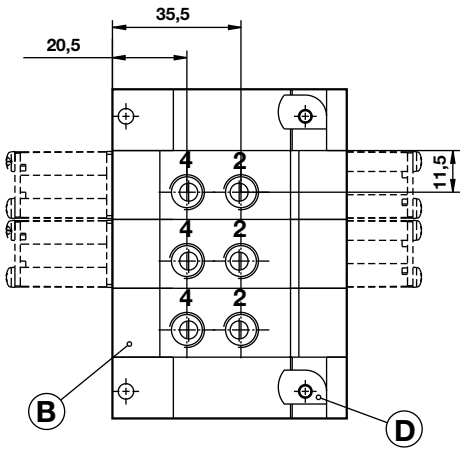


N = number of stations
x/y = Insert port type from table below

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

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

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)

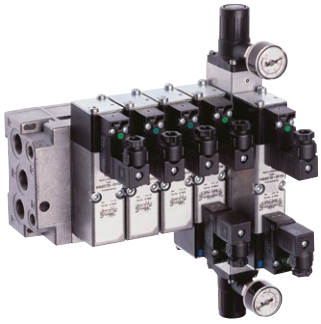
Plastic parts:
POM

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.

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

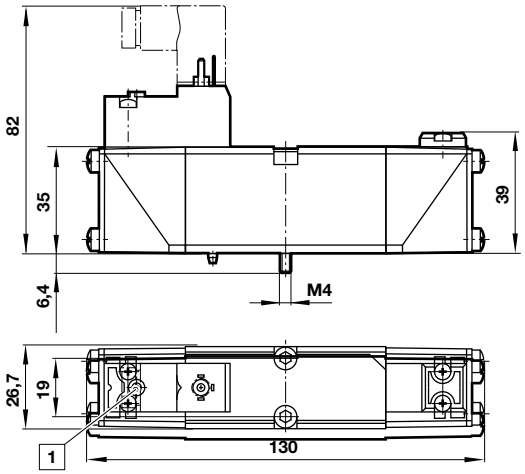
V10027-D00 250 V a.c./300 Vd.c.

MINI ISO VALVES

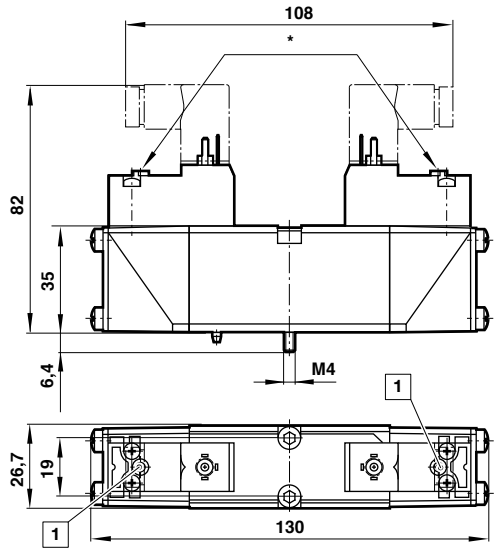
V44/V45 Solenoid and pilot actuated, ISO 15407-1/VDMA 24 563, Size 26 mm

Dimensions

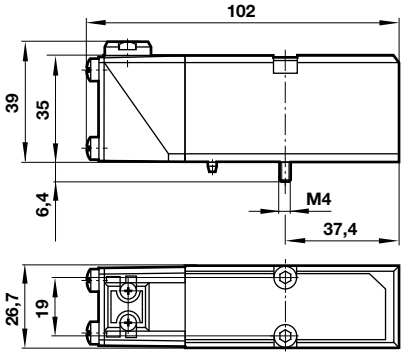
V44A5*3D-C3***
5/2 Single solenoid pilot valve
Air spring return



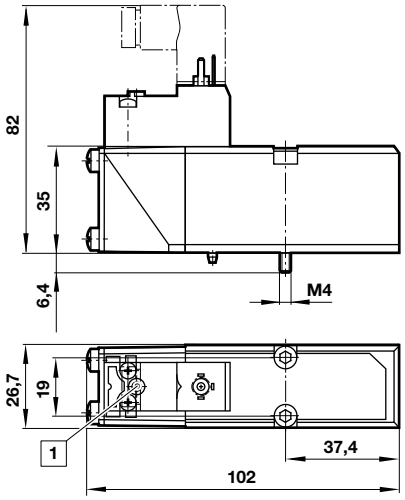
V44A5**D-C3*** & V45A5**D-C3***
5/2 Double solenoid pilot valve
V44A***D-C3*** & V45A***D-C3***
2x3/2 + 5/3 Double solenoid pilot valve



V44A537A-X00*0 & V45A537A-X00*0
5/2 Single air pilot valve

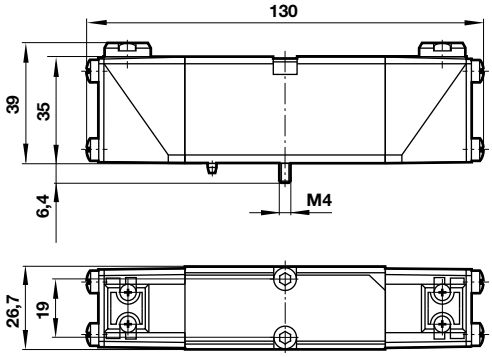


V44A5*7D-C3*** & V45A5*7D-C3***
5/2 Single solenoid pilot valve
Mechanical spring return



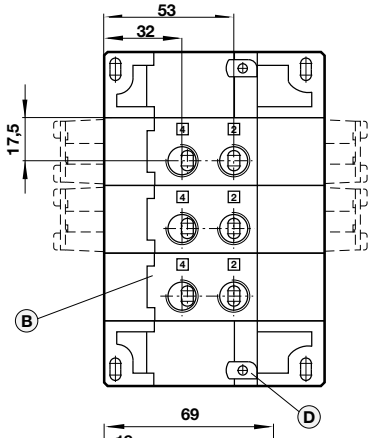
1 Manual override

V44A*33A-X00*0 & V45A*33A-X00*0
2 x 3/2, 5/2 + 5/3 Double air pilot valve

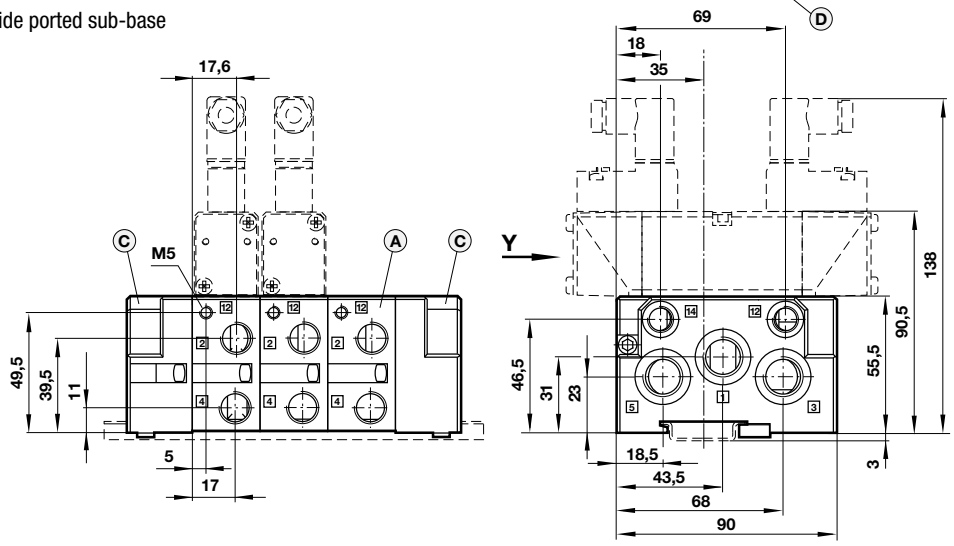


Modular sub-bases parts for DIN rail or surface mounting

Bottom ported sub-base

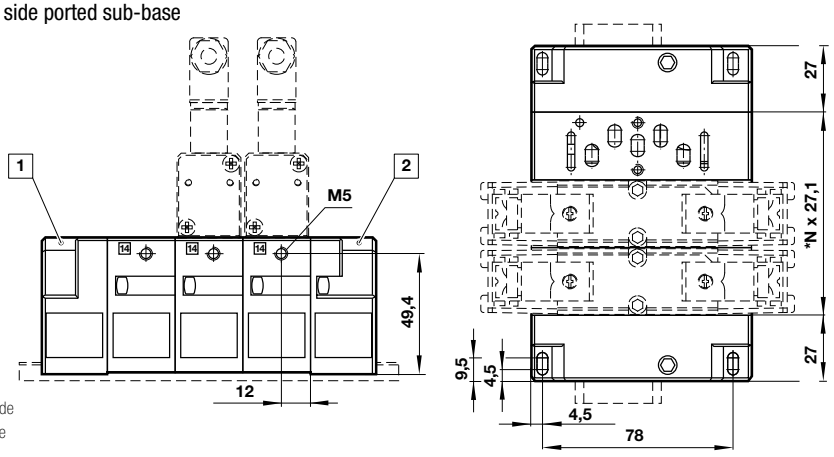


Side ported sub-base



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

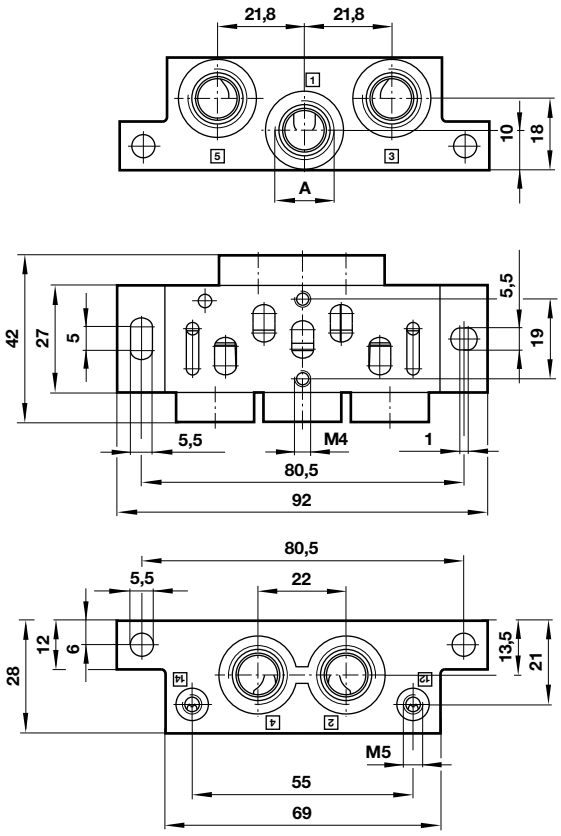
Accessories

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

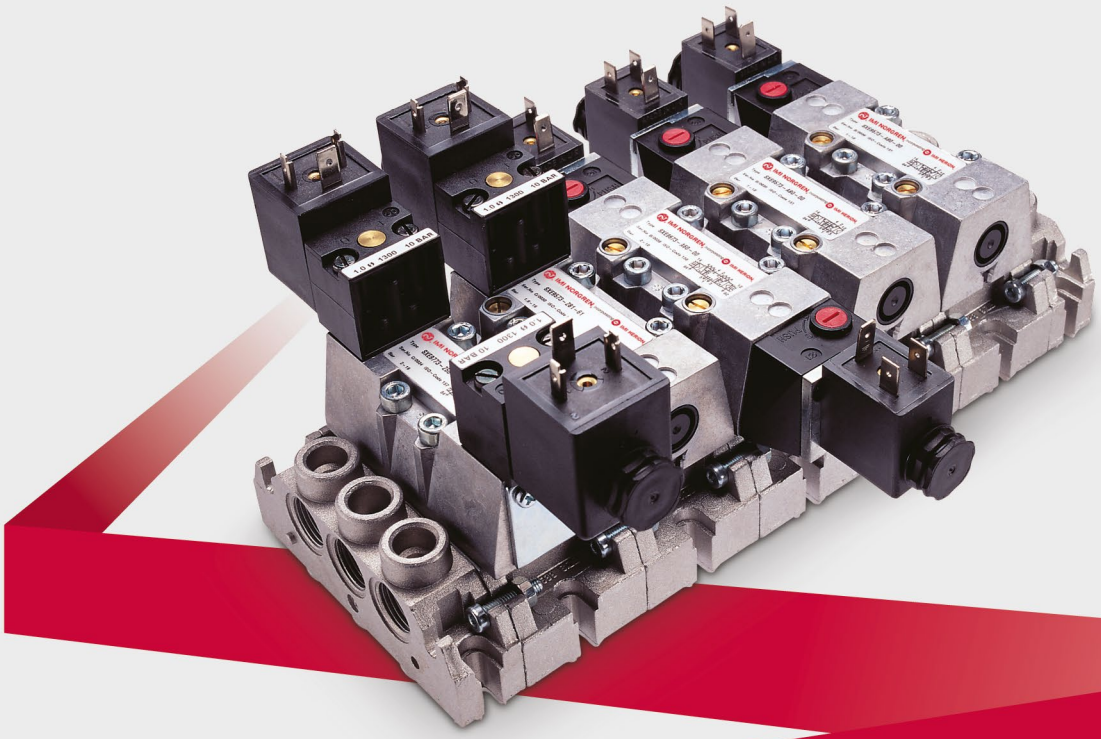
V44/V45 Solenoid and pilot actuated, ISO 15407-1/VDMA 24 563, Size 26 mm

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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SXE series and SXP series

Integral flow regulators

The ISO★STAR range now uses an aluminium spool but is still hugely valued. In many industries, it has effectively replaced Beech products with a more up-to-date, more cost-effective solution. Dimensionally interchangeable with other systems conforming to ISO, IMI Precision Engineering is a pioneer of the low friction, fast-switching, long-life glandless spool.

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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IMI Precision Engineering

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

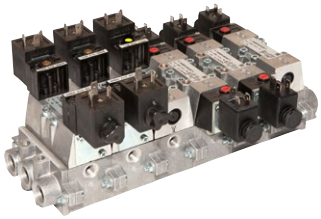
Materials

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.

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.

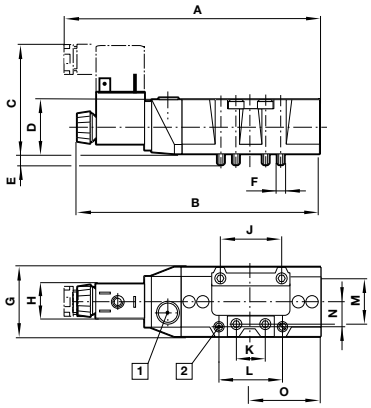
Connector plug - ordered separately

30 mm, EN 175301-803
(DIN 43650 B) Form A 2-pole + PE

0570275

Dimensions

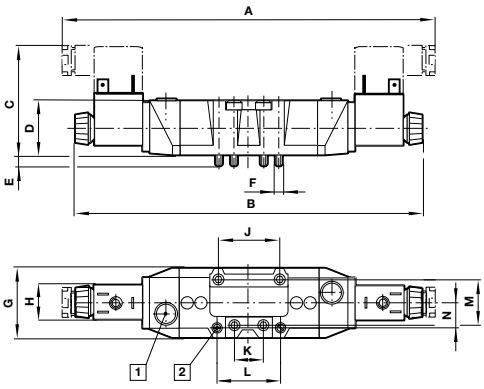
Single end solenoid models



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

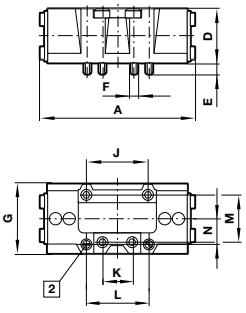
Double end solenoid models



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

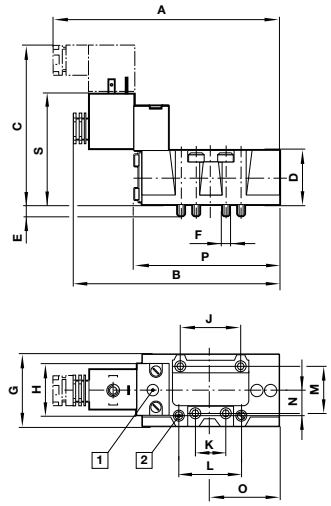


2 Flow regulators

	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.

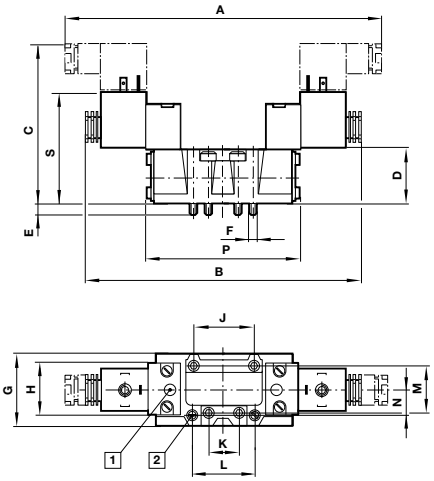
Single CNOMO solenoid valves



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



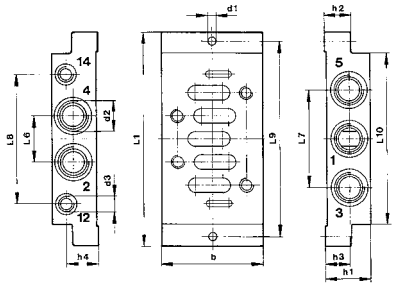
1 Manual override
2 Flow regulators

	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

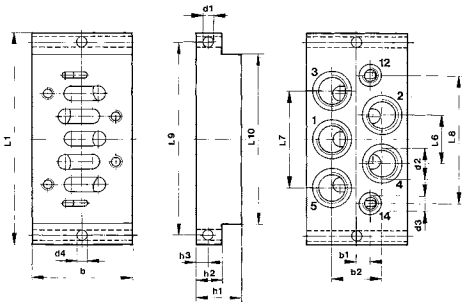
VDMA 24 345 Sub-bases
Side ported



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

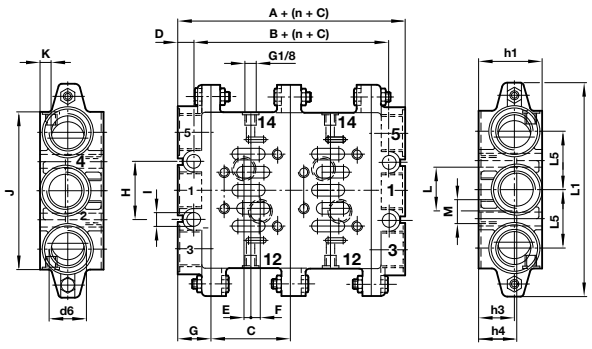
( ) Dimension for ports 3 and 5.

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

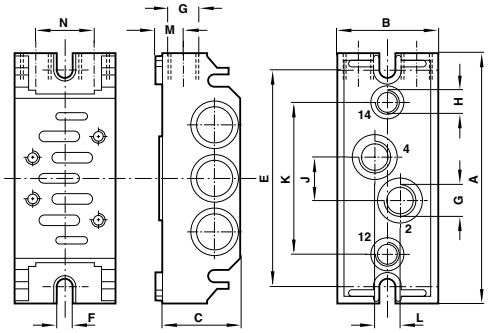
End plates and manifold



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"

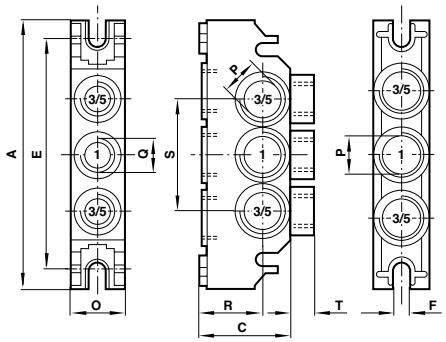
Maximum 12 stations.

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

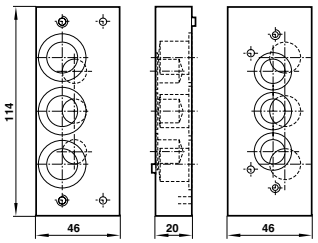


ISO	A	C	E	F	O	P	Q	R	S	T	kg
1	106	36	92	5,5	22	G3/8	G1/4	25	44	9	0,13
2	120	46	102	6,5	29	G1/2	G1/4	31	58	7	0,23

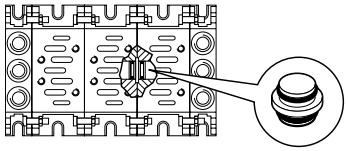
Drill dimensions for opening ports

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



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

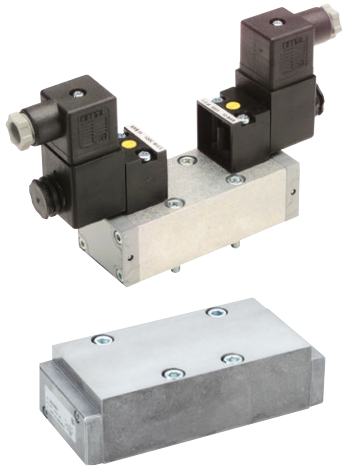
Materials

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.

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

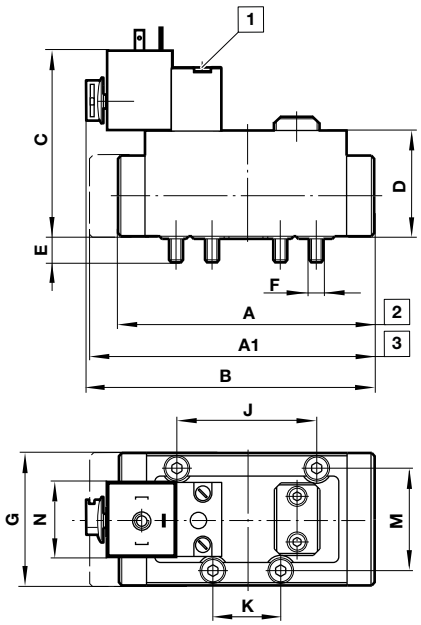
	Blanking plate	Flow regulator plate		Spares kit
				
ISO #4	CQM/22456/3/23	CQM/22456/3/26	Port 3 and 5 reg.	QM/22456/3/00

SOLENOID AND PILOT ACTUATED SPOOL VALVES

UM/22000 Sub-base 5/2 and 5/3, ISO #4

Dimensions

5/2 Single solenoid valve

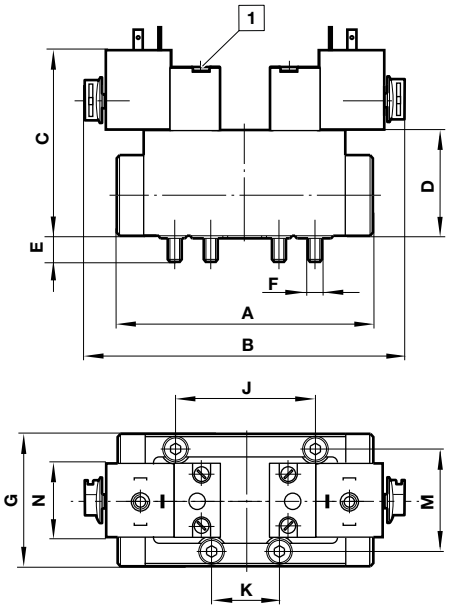


1 Manual override
2 Model …/172
3 Model …/22, …/122

	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

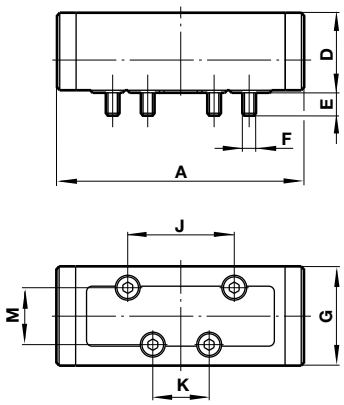


1 Manual override

	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

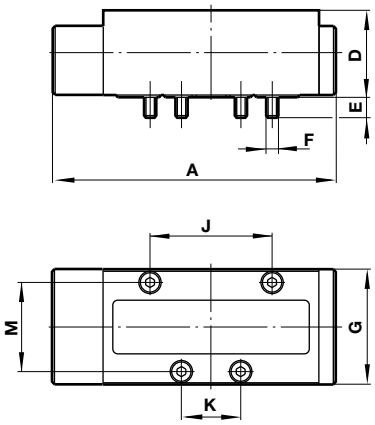
* Illustrated with 30 mm coil.

5/2 and 5/3 Double air pilot valves

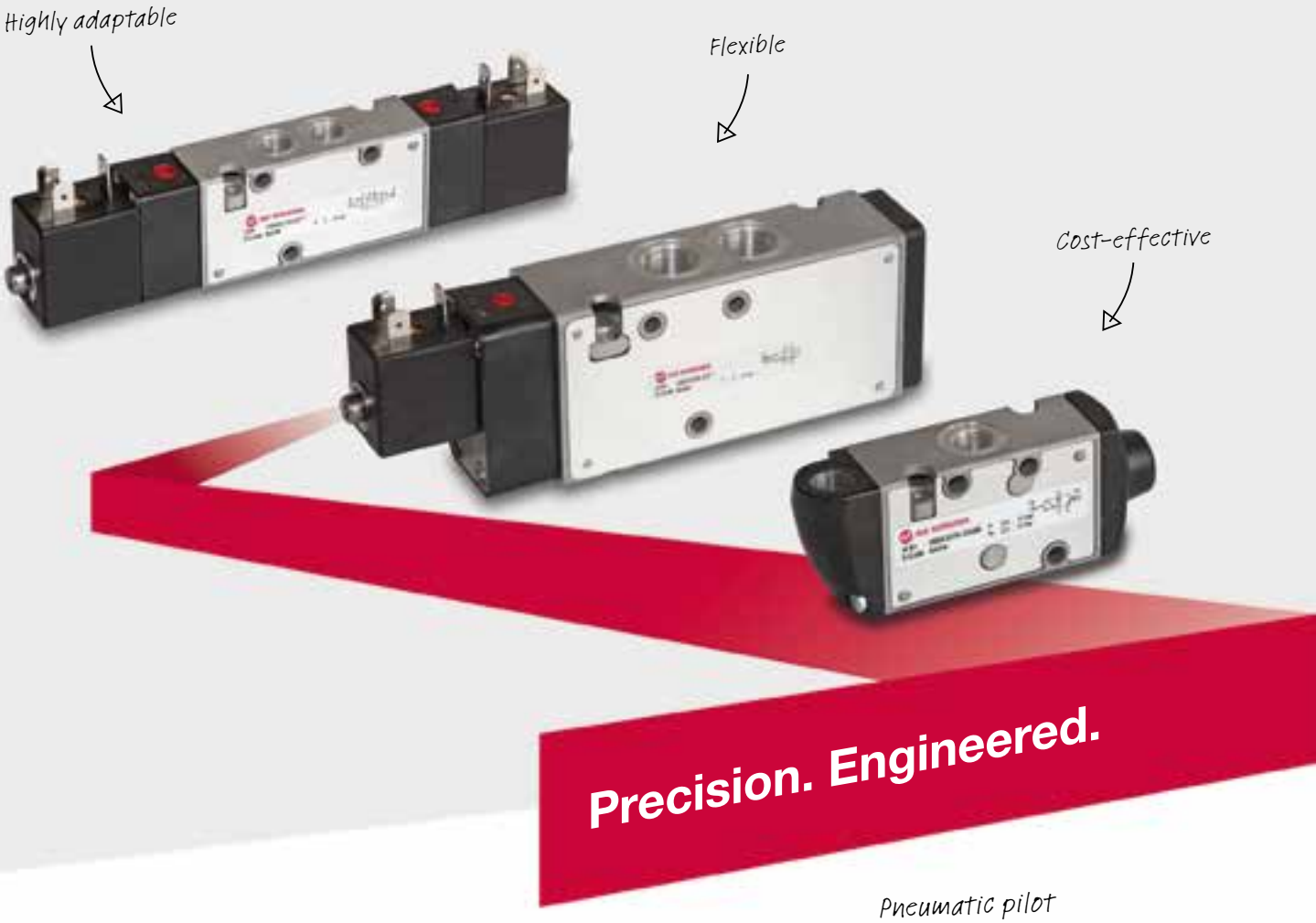


	Model	A	D	E	F	G	J	K	M
ISO#4	…/3, …/63	164	45	14	M8	75	80	40	58

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



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

Engineering GREAT Solutions

Find out more
www.imi-precision.com

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)	

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

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

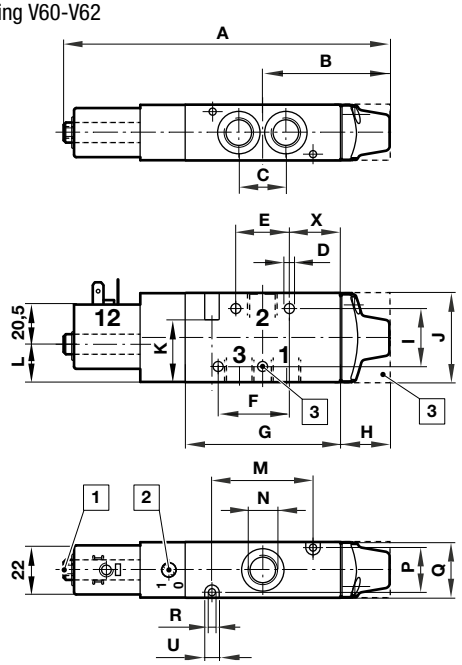
Connector plugs - ordered separately

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

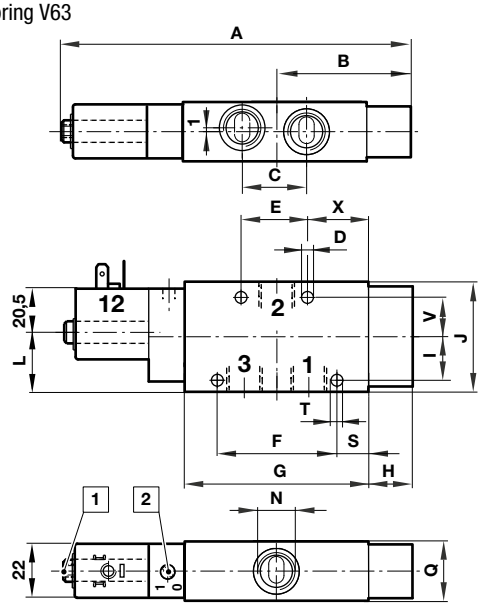
Note: Light emitting gaskets can not be used.

Dimensions

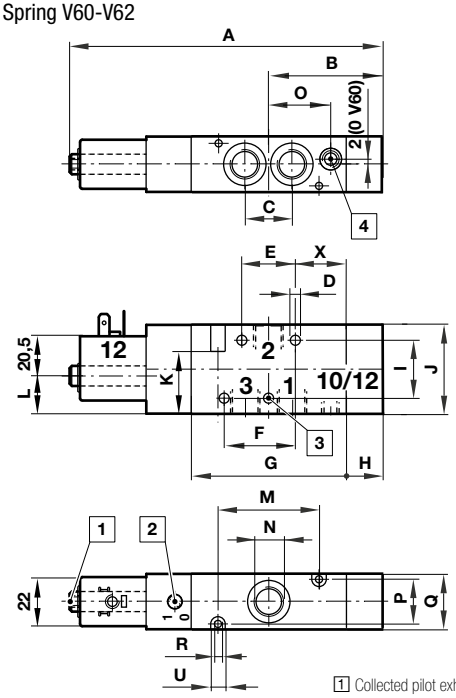
3/2 Sol/Spring V60-V62



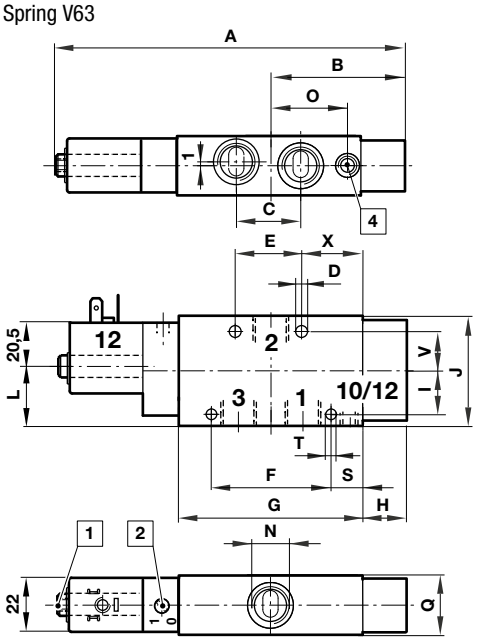
3/2 Sol/Spring V63



3/2 Sol/Air Spring V60-V62



3/2 Sol/Air Spring V63



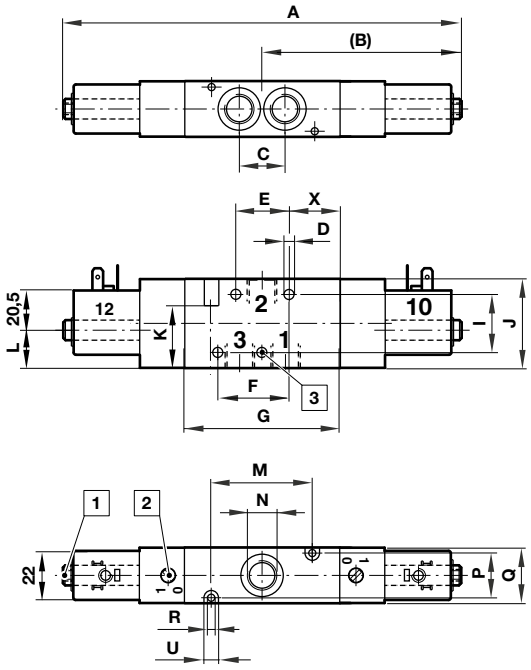
1 Collected pilot exhaust (M5)
2 Manual Override
3 V62: Central mounting hole (left hole is not applicable) and square end cover
4 External pilot port, M5 (V60 & V61), G1/8

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

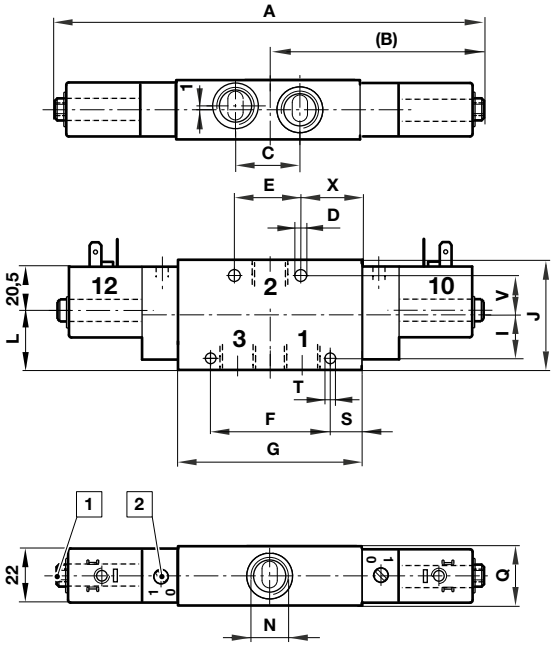
IN-LINE VALVES

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



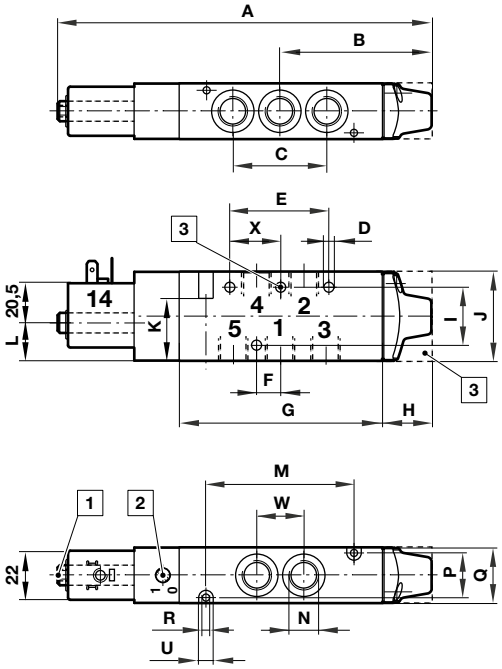
1 Collected pilot exhaust (M5)
2 Manual Override
3 V62: Central mounting hole (left hole is not applicable) and square end cover
4 External pilot port, M5 V60 & V61), G1/8

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

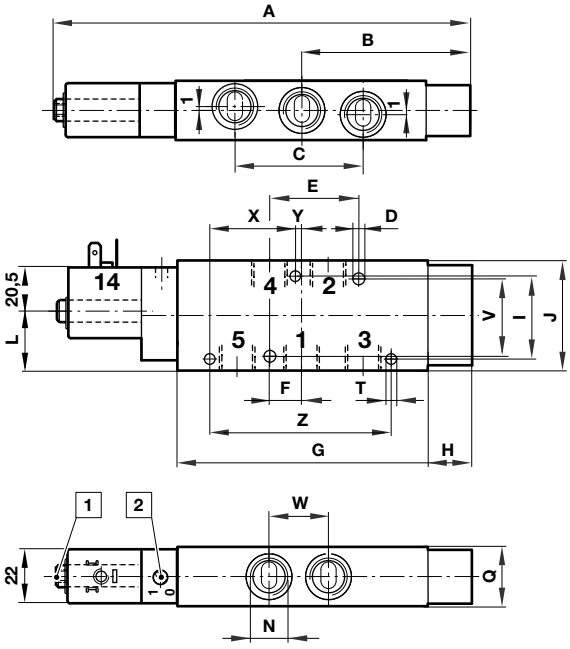
IN-LINE VALVES

V60 … 63 3/2, 2x3/2, 5/2 & 5/3, G1/8 … G1/2

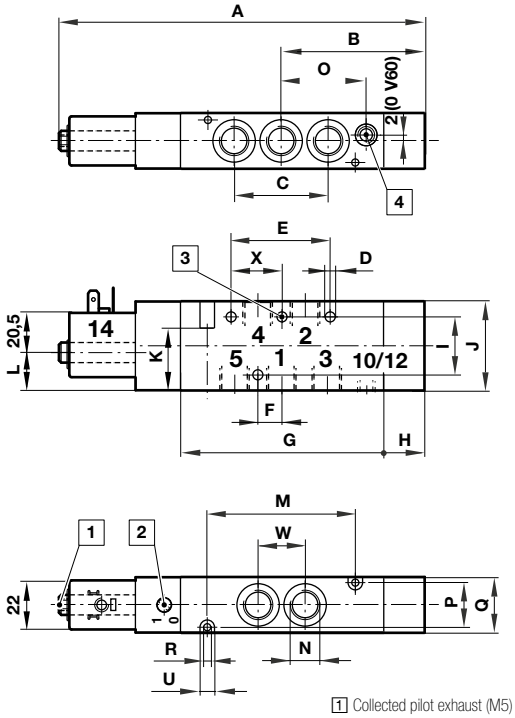
5/2 Sol/Spring V60-V62



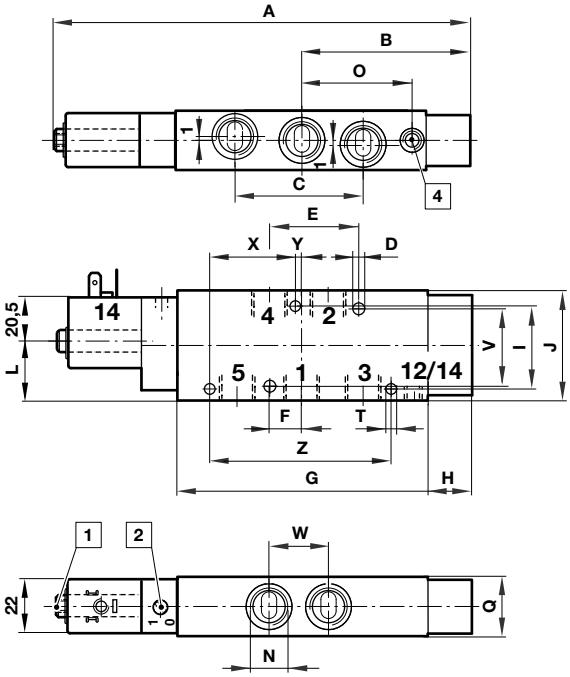
5/2 Sol/Spring V63



5/2 Sol/Air Spring V60-V62



5/2 Sol/Air Spring V63



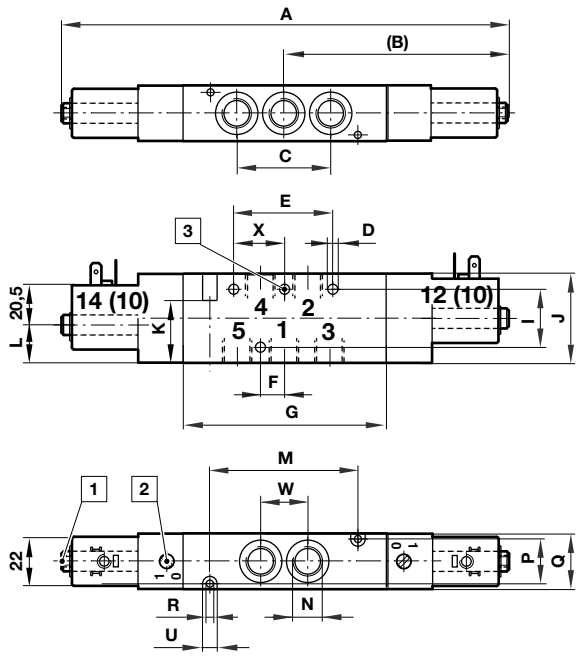
1 Collected pilot exhaust (M5)
2 Manual Override
3 V62: Central mounting hole (left hole is not applicable) and square end cover
4 External pilot port, M5 (V60 & V61), G1/8

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

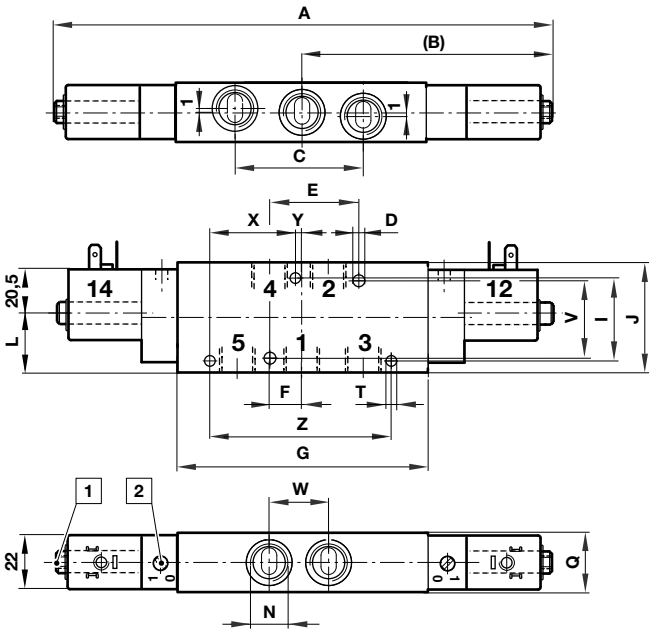
IN-LINE VALVES

V60 … 63 3/2, 2x3/2, 5/2 & 5/3, G1/8 … G1/2

5/2 & 2x3/2 Sol/Sol V60-V62



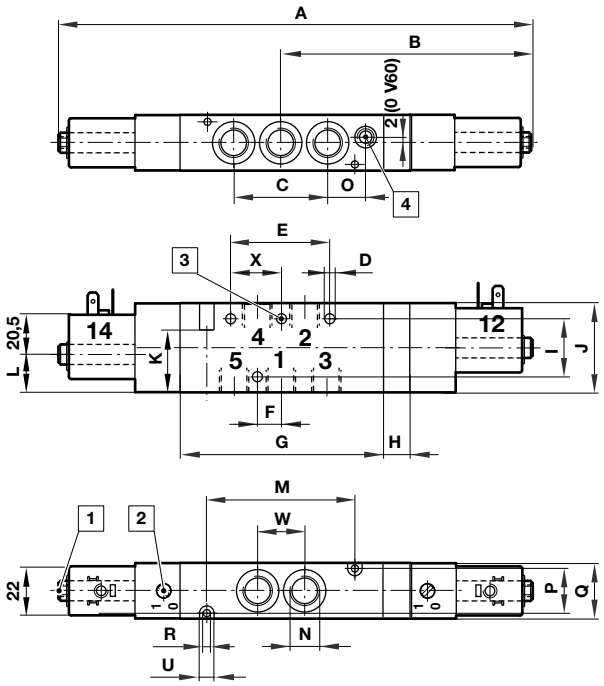
5/2 Sol/Sol V63



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

5/3 Sol/Sol V60-V62



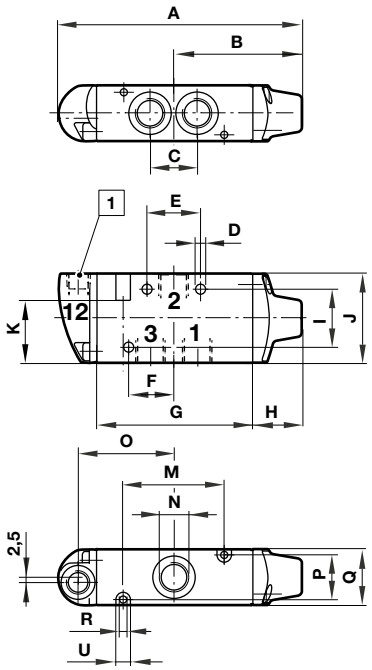
1 Collected pilot exhaust (M5)
2 Manual Override
3 V62: Central mounting hole (left hole is not applicable) and square end cover
4 External pilot port, M5 (V60 & V61), G1/8

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

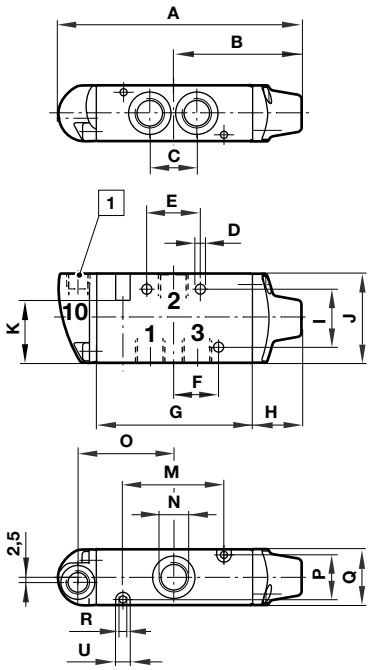
IN-LINE VALVES

V60 … 63 3/2, 2x3/2, 5/2 & 5/3, G1/8 … G1/2

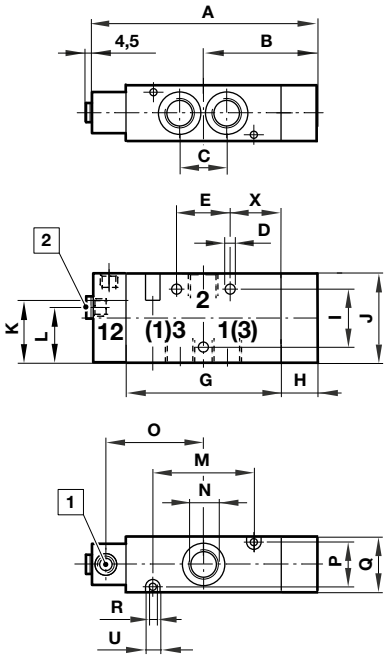
3/2NC Air/Spring V60-V61



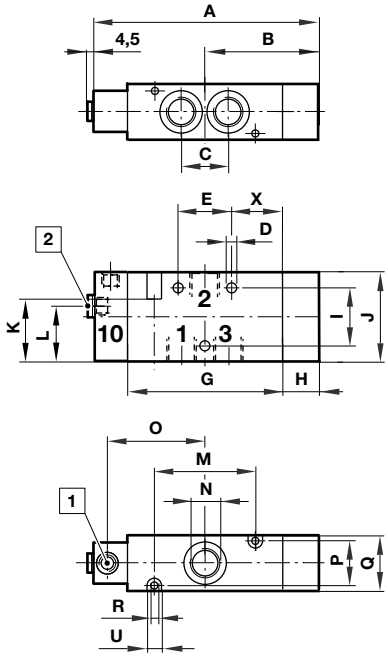
3/2NO Air/Spring V60-V61



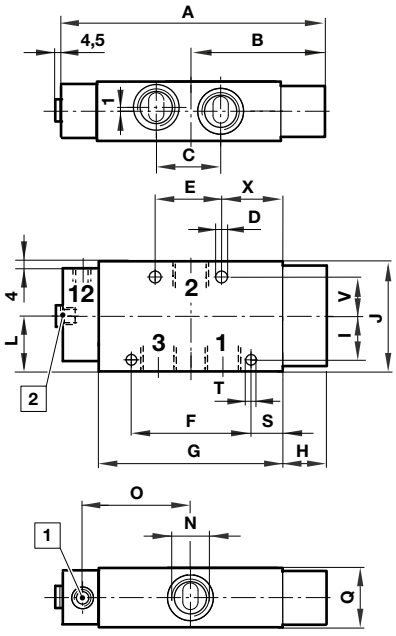
3/2NC Air/Spring V62



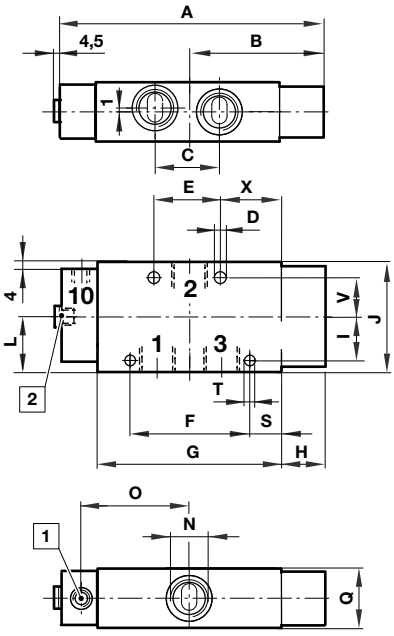
3/2NO Air/Spring V62



3/2NC Air/Spring V63



3/2NO Air/Spring V63



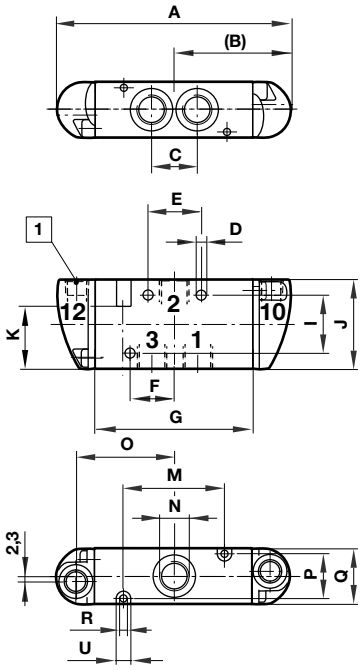
1 Pilot ports G1/8
2 Alternative pilot ports G1/8

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

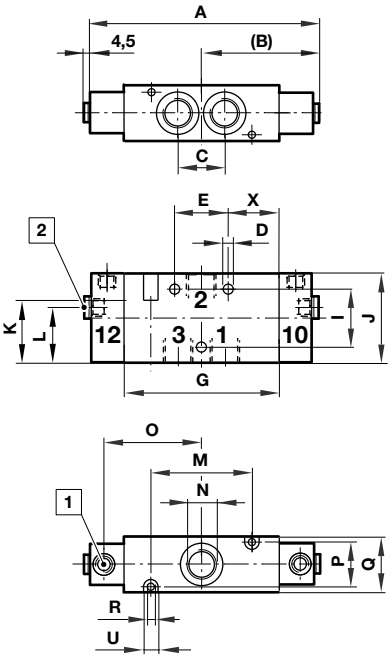
IN-LINE VALVES

V60 … 63 3/2, 2x3/2, 5/2 & 5/3, G1/8 … G1/2

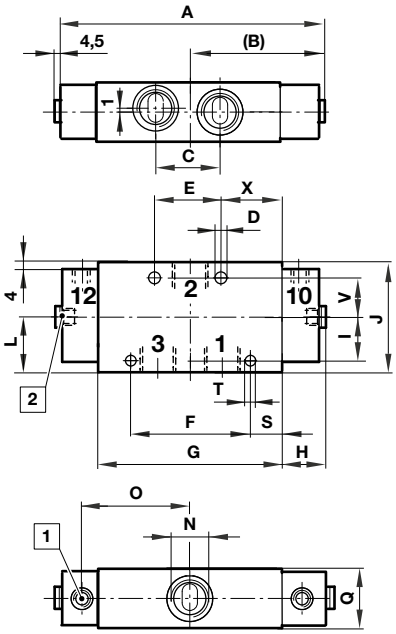
3/2NC Air/Air V60 & V61



3/2NC Air/Air V62



3/2NC Air/Air V63



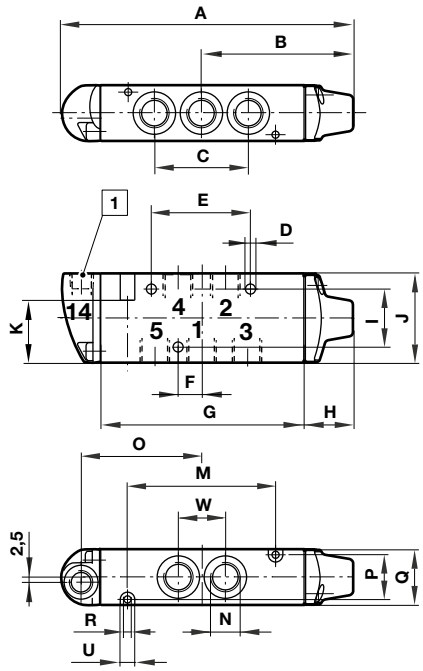
[1] Pilot ports G1/8
[2] Alternative pilot ports G1/8

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

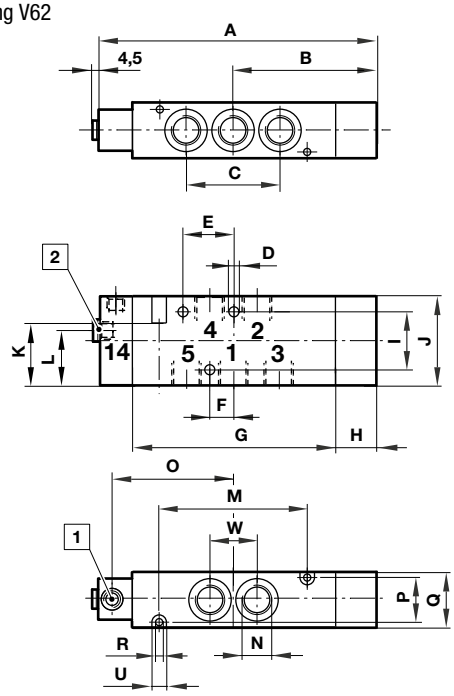
IN-LINE VALVES

V60 … 63 3/2, 2x3/2, 5/2 & 5/3, G1/8 … G1/2

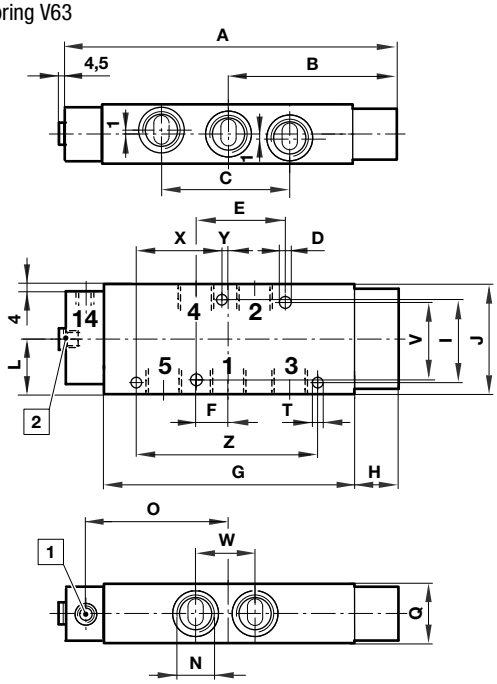
5/2 Air/Spring V60 & V61



5/2 Air/Spring V62



5/2 Air/Spring V63



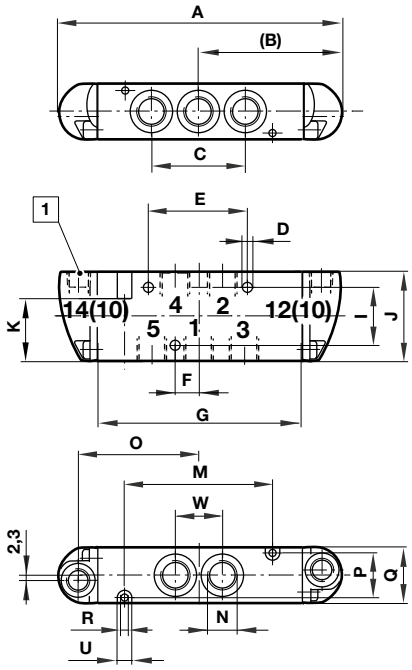
1 Pilot ports G1/8 or 1/8-27 NPT
2 Alternative pilot ports G1/8 or 1/8-27 NPT

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

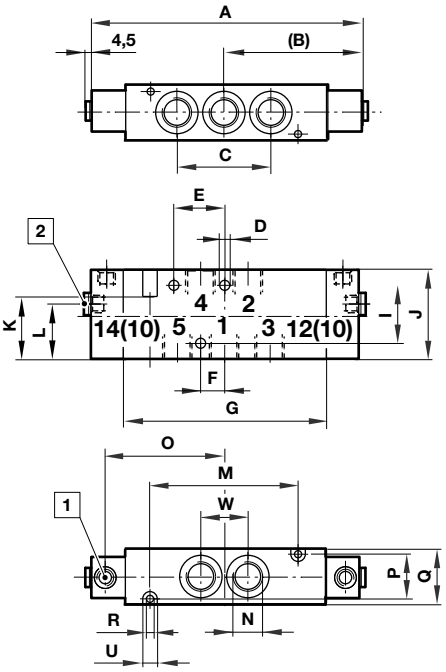
IN-LINE VALVES

V60 … 63 3/2, 2x3/2, 5/2 & 5/3, G1/8 … G1/2

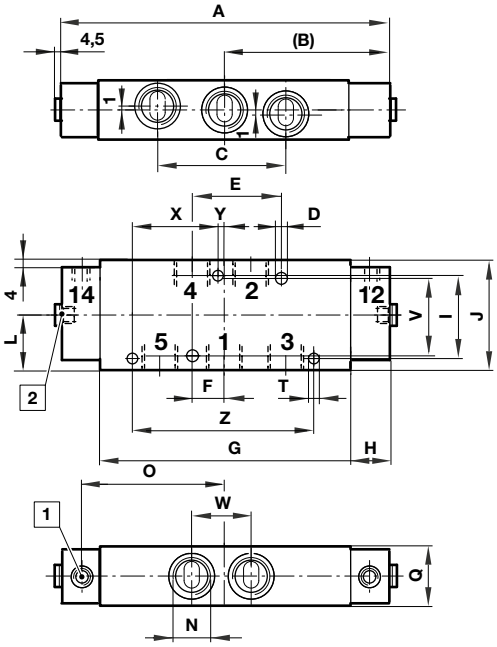
5/2 & 2x3/2 Air/Air V60 & V61



5/2 & 2x3/2 Air/Air V62



5/2 & 2x3/2 Air/Air V63



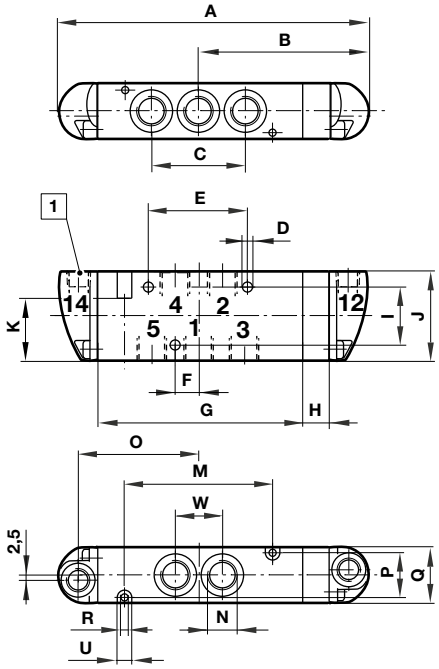
[1] Pilot ports G1/8
[2] Alternative pilot ports G1/8

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

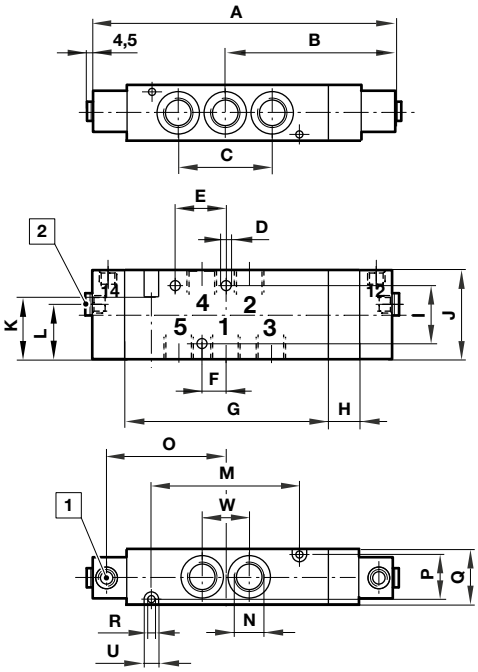
IN-LINE VALVES

V60 … 63 3/2, 2x3/2, 5/2 & 5/3, G1/8 … G1/2

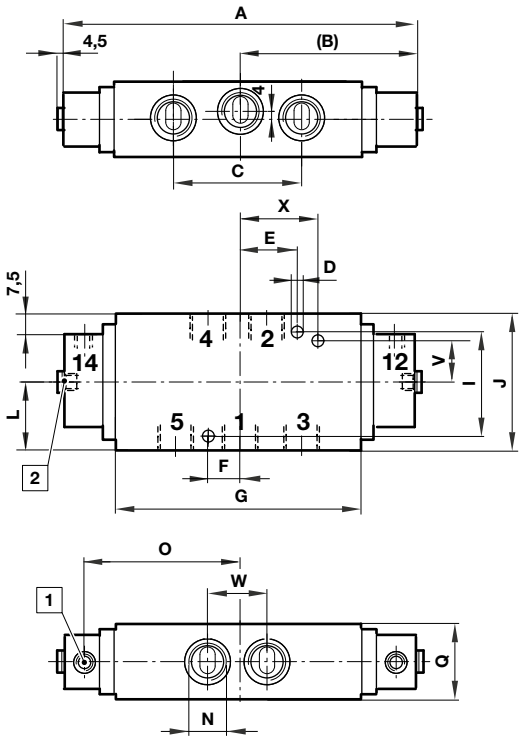
5/3 Pilot/Pilot V60 & V61



5/3 Pilot/Pilot V62

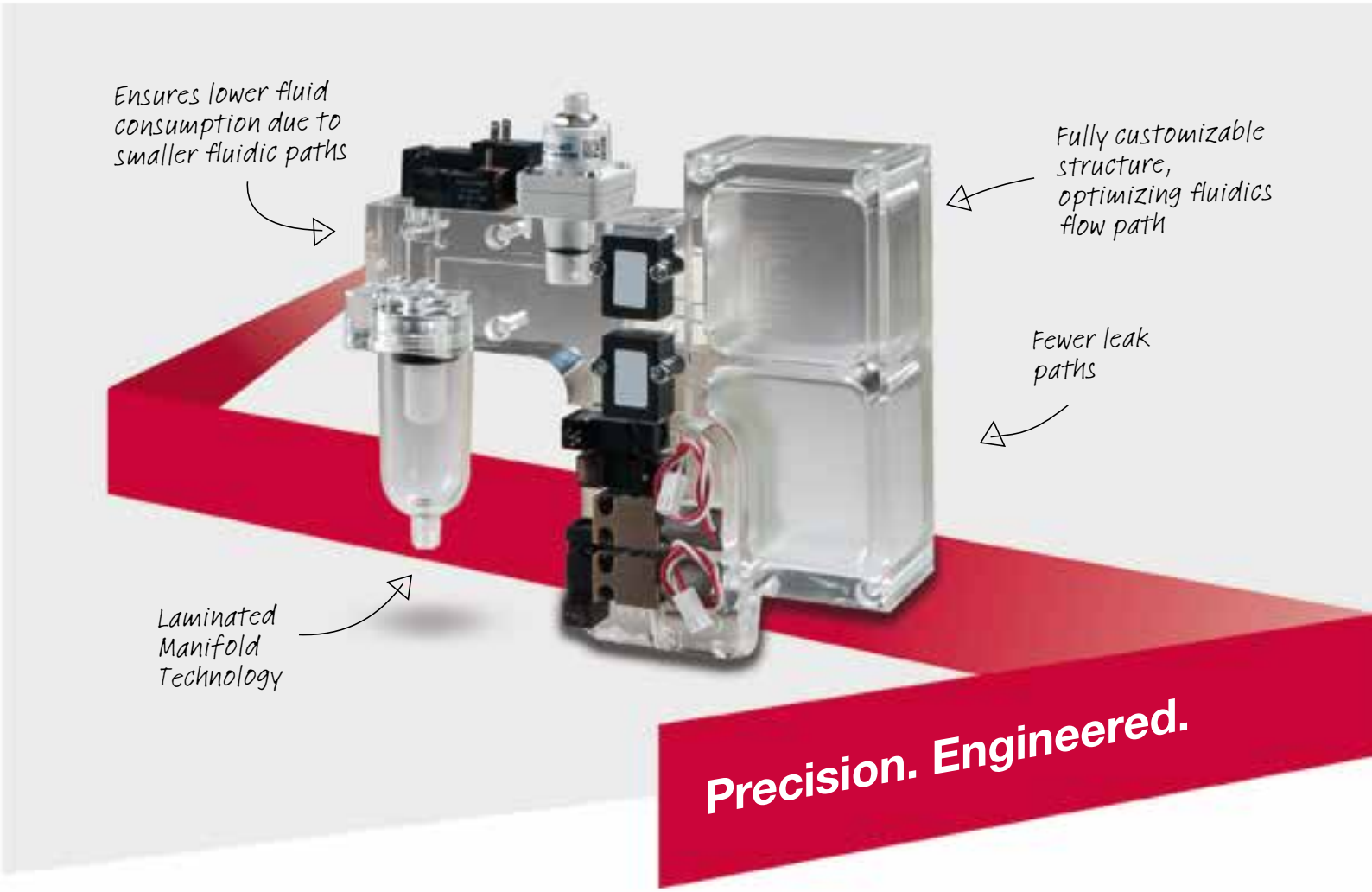


5/3 Pilot/Pilot V63



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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IMI Precision Engineering

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

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

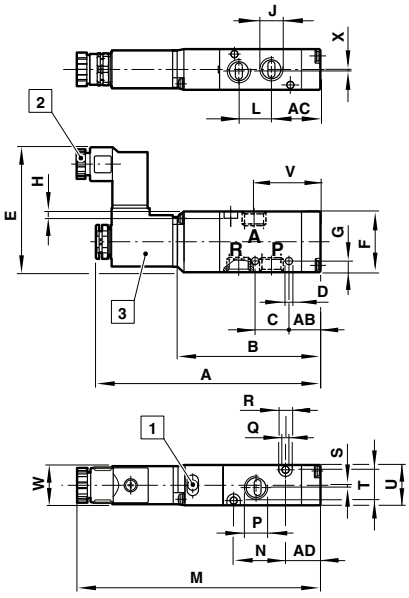
*1) Number of stations 02 … 08 for 2 … 8 stations.

IN-LINE VALVES
V50 … V53 3/2, 5/2 or 5/3, G1/8 … G1/2

Dimensions

1

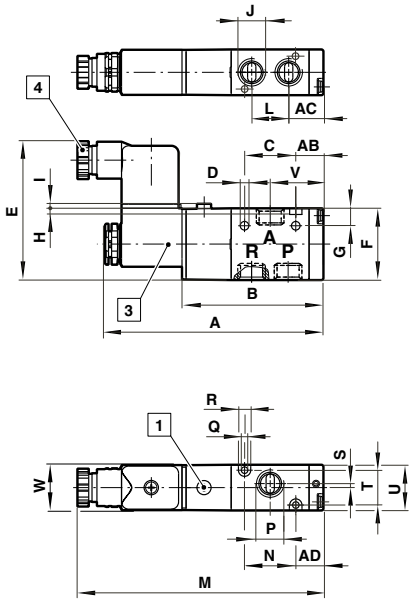
3/2 Single solenoid pilot valve, 1/8" port
Air return



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

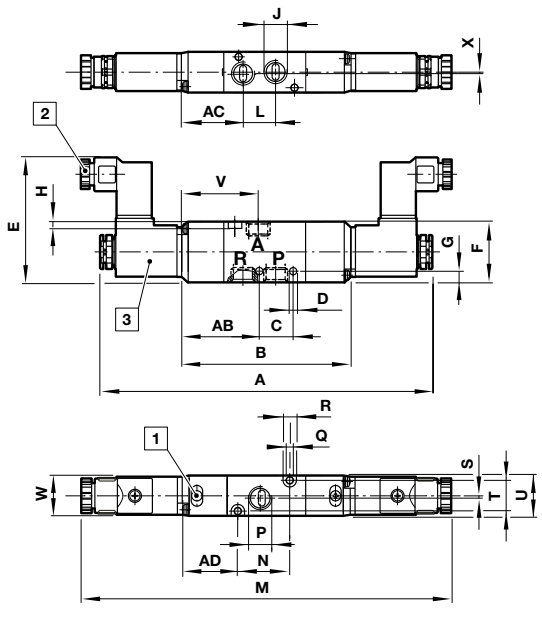


3 Solenoid rotates 2 x 180° (V50), 4 x 90° (V51 … V53)
4 Gland size Pg 9

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	–

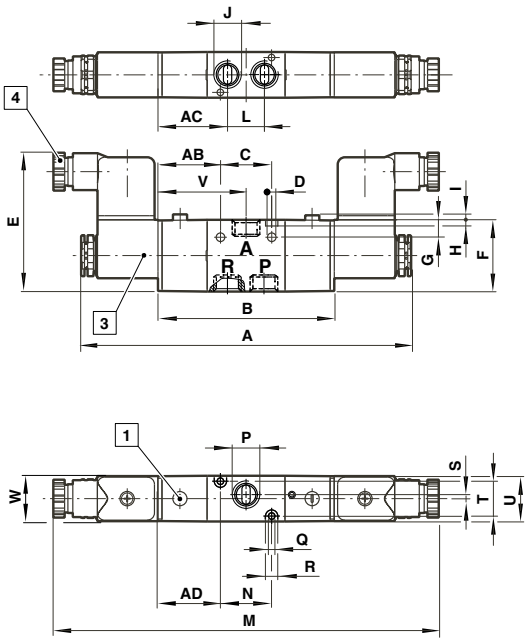
3

3/2 Double solenoid pilot valve, 1/8" port



4

3/2 Double solenoid pilot valve, 1/4"… 1/2" ports



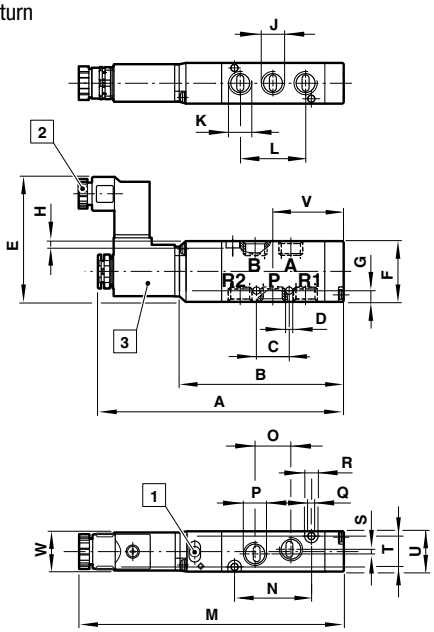
1 Manual override (Push and Turn)
2 Gland size Pg 7
3 Solenoid rotates 2 x 180° (V50), 4 x 90° (V51 … V53)
4 Gland size Pg 9

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

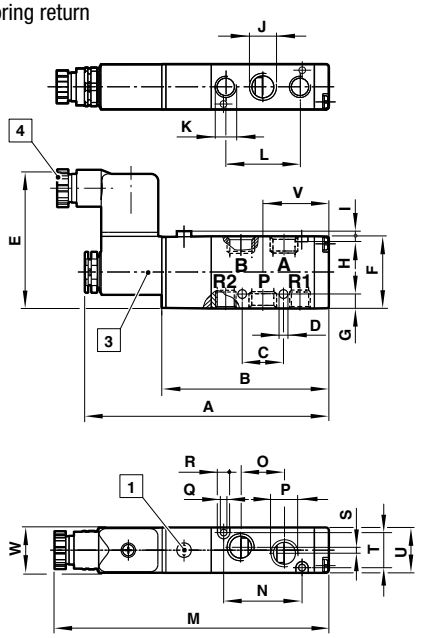


1 Manual override (Push and Turn)
2 Gland size Pg 7
3 Solenoid rotates 2 x 180° (V50), 4 x 90° (V51 … V53)
4 Gland size Pg 9

6

5/2 Single solenoid pilot valve, 1/4"… 1/2" ports

Spring return

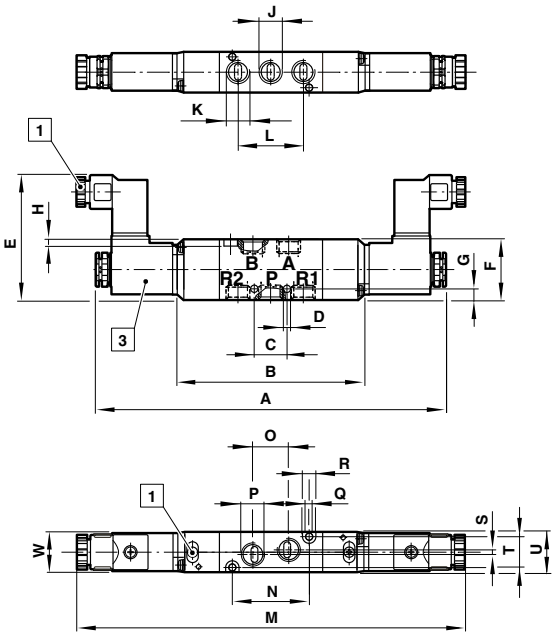


Series	Dimension No.	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
V50	5	110	76	14,5	3,2	54	27	5	3	–	1/8"	1/8"	29	118,5	34	16	1/8"	3,2	6	2	13	18	32,5	16
V51	6	118,5	81	20	4,2	67	35	7	3	3	1/4"	1/8"	36	132	38	21	1/4"	3,2	6	3	17	22,5	32	22
V52	6	145,5	108	26	5,5	73	46,5	4,5	4	3	3/8"	3/8"	52	158,5	13	30	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

IN-LINE VALVES
V50 … V53 3/2, 5/2 or 5/3, G1/8 … G1/2

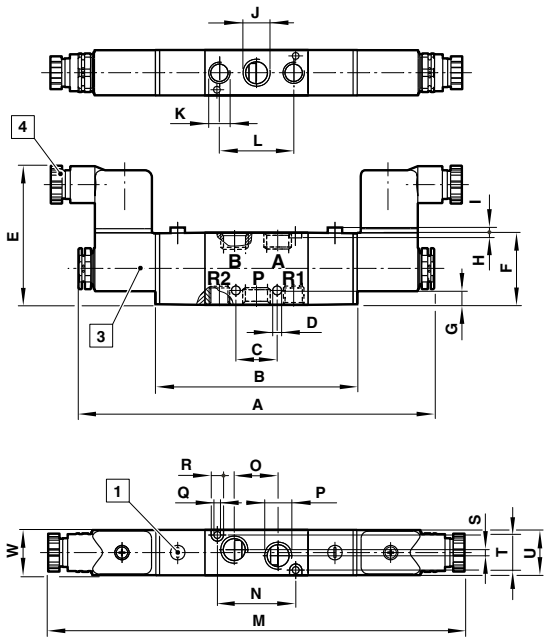
7

5/2 Double solenoid pilot valve, 1/8" port



8

5/2 Double solenoid pilot valve, 1/4"… 1/2" ports

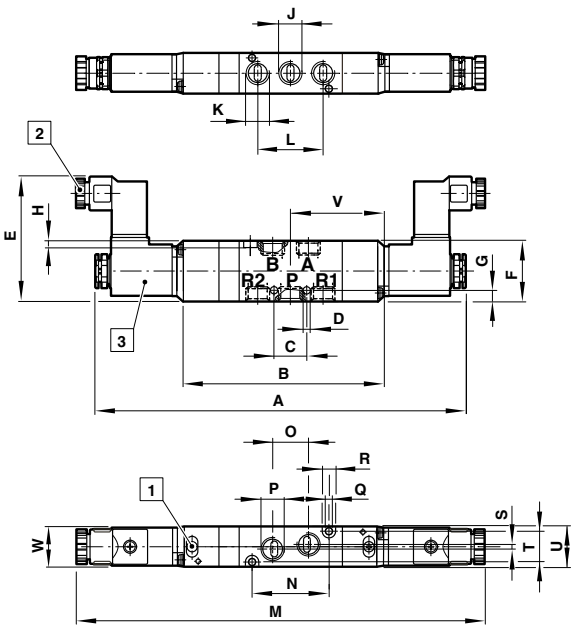


1 Manual override (Push and Turn)
2 Gland size Pg 7
3 Solenoid rotates 2 x 180° (V50), 4 x 90° (V51 … V53)
4 Gland size Pg 9

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

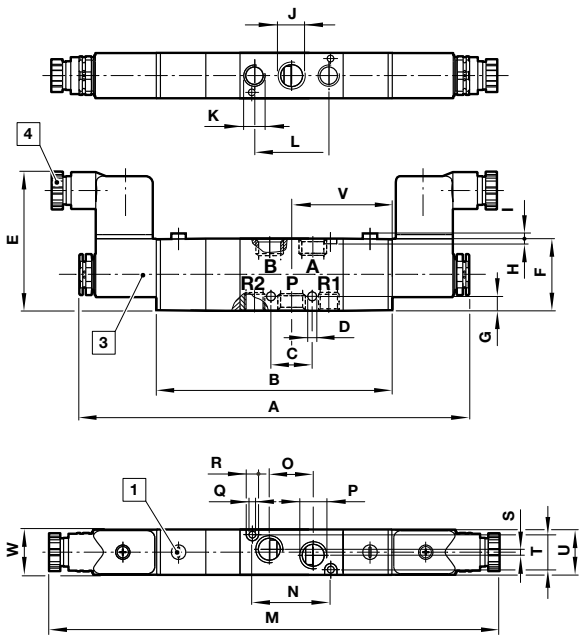
9

5/3 Double solenoid pilot valve, 1/8" port



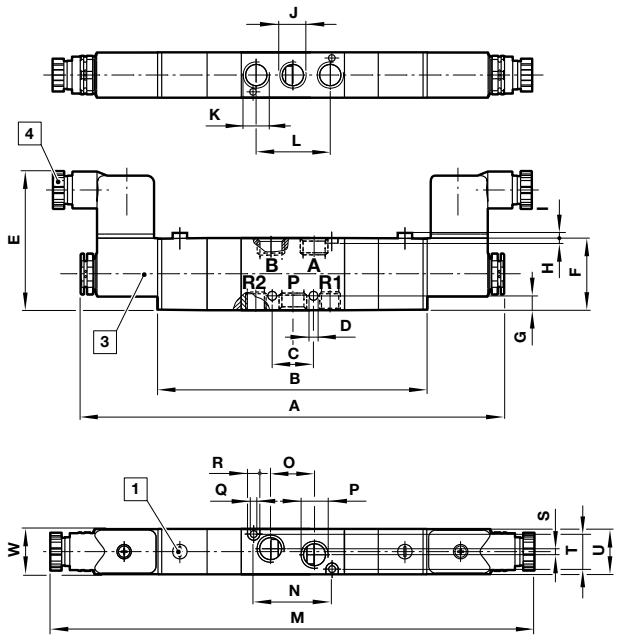
10

5/3 Double solenoid pilot valve, 1/4" port



11

5/3 Double solenoid pilot valve, 3/8"and 1/2" ports



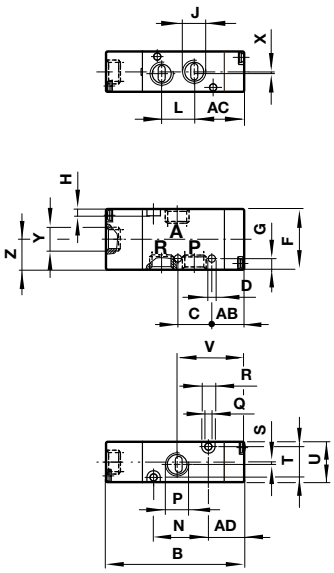
1 Manual override (Push and Turn)
2 Gland size Pg 7
3 Solenoid rotates 2 x 180° (V50), 4 x 90° (V51 … V53)
4 Gland size Pg 9

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

IN-LINE VALVES
V50 … V53 3/2, 5/2 or 5/3, G1/8 … G1/2

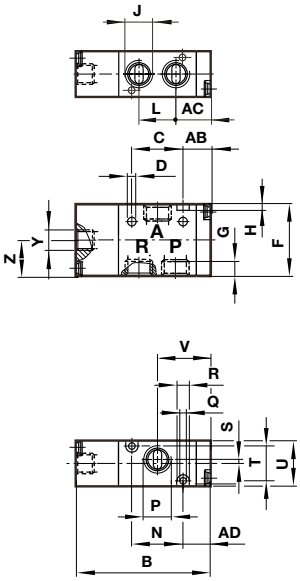
12

3/2 Single air pilot valve, 1/8" port
Air spring return



13

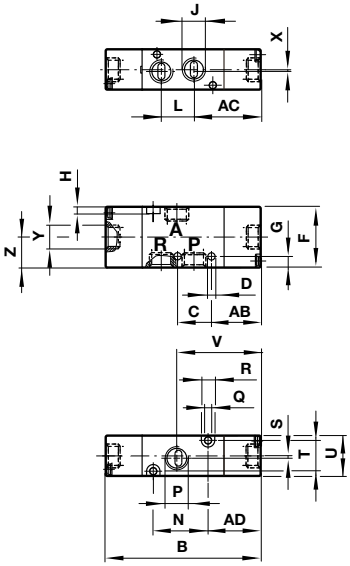
3/2 Single air pilot valve, 1/4"… 1/2" ports
Spring return



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

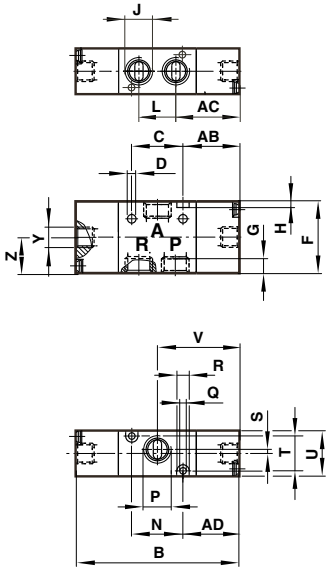
14

3/2 Double air pilot valve, 1/8" port



15

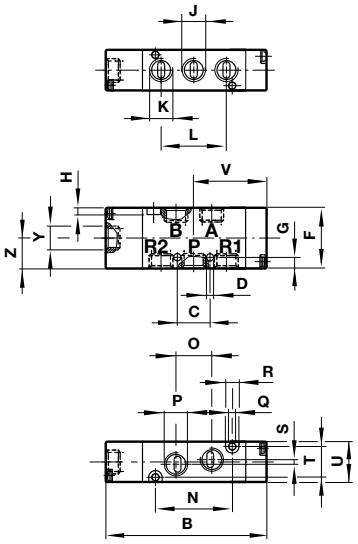
3/2 Double air pilot valve, 1/4"… 1/2" ports



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

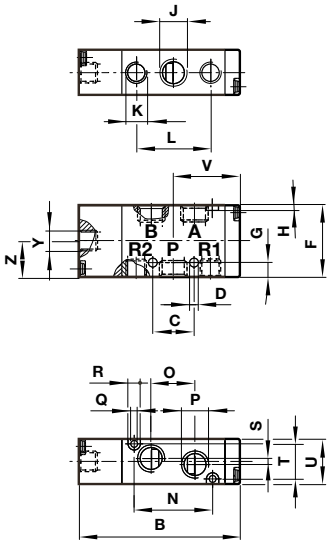
16

5/2 Single air pilot valve, 1/8" port
Air spring return



17

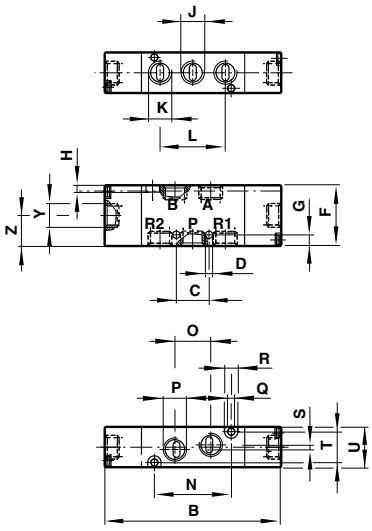
5/2 Single air pilot valve, 1/4"… 1/2" ports
Spring return



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

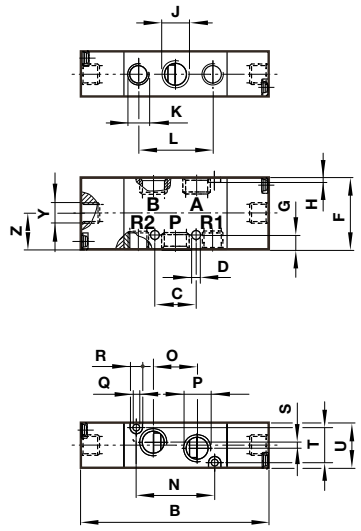
18

5/2 Double air pilot valve, 1/8" port



19

5/2 Double air pilot valve, 1/4"… 1/2" ports



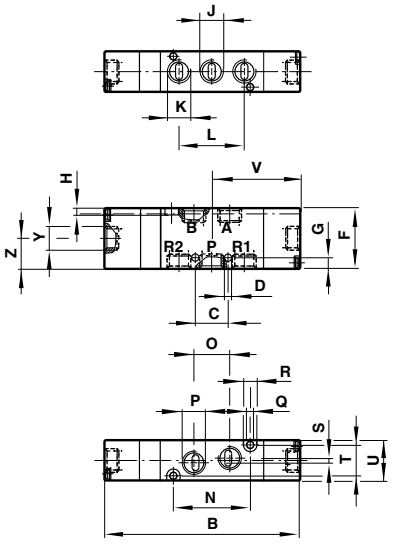
Series	Dimension No.	B	C	D	F	G	H	J	K	L	N	O	P	Q	R	S	T	U	Y	Z
V50	18	80	14,5	3,2	27	5	3	1/8"	1/8"	29	34	16	1/8"	3,2	6	2	13	18	1/8"	13,5
V51	19	91	20	4,2	35	7	3	1/4"	1/8"	36	38	21	1/4"	3,2	6	3	17	22,5	1/8"	17,5
V52	19	122	26	5,5	46,5	4,5	4	3/8"	3/8"	52	13	30	3/8"	4,5	8	–	23	30	1/8"	17
V53	19	134	29	4,5	46,5	7	4	1/2"	1/2"	58	72	28	1/2"	4,2	8	4,5	23	30	1/8"	17

IN-LINE VALVES

V50 … V53 3/2, 5/2 or 5/3, G1/8 … G1/2

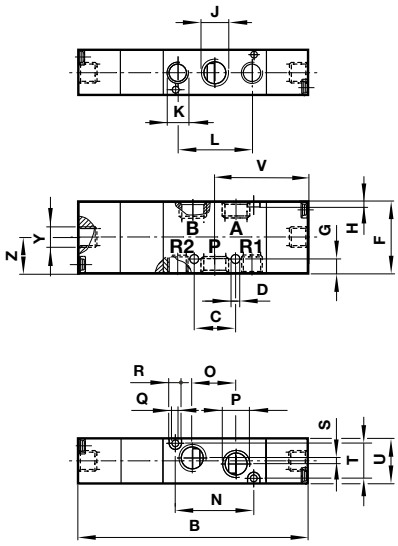
20

5/3 Double air pilot valve, 1/8” port



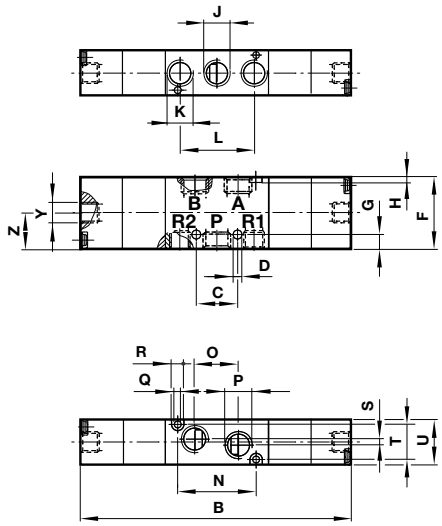
21

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

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

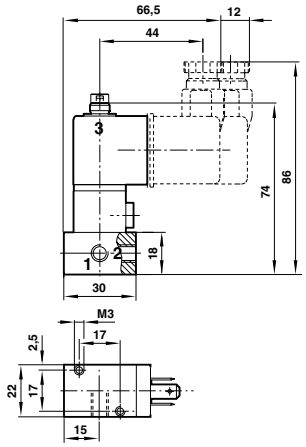
Sub-base:
Aluminium

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

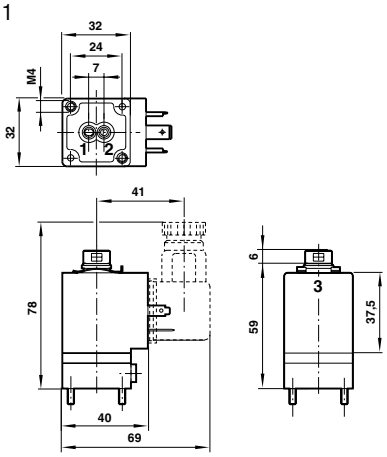
Tube & spring:
Stainless steel

Base:
Zinc alloy (G1/8) brass (G1/4), glass reinforced polyester (interface)

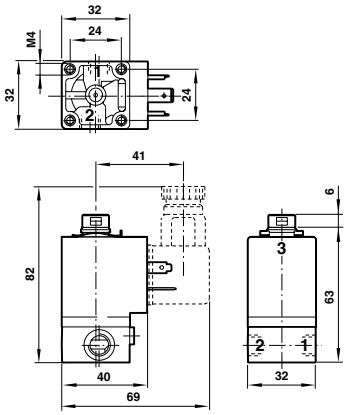
Seals:
NBR (FPM)

Dimensions

1



2



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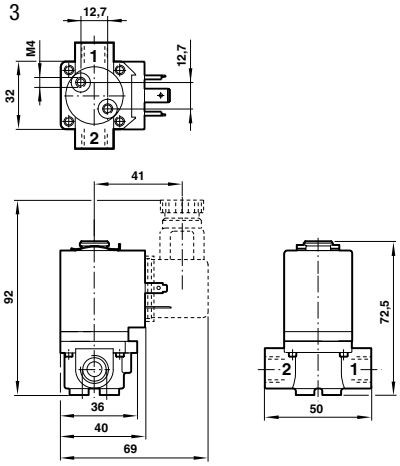


Models

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

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

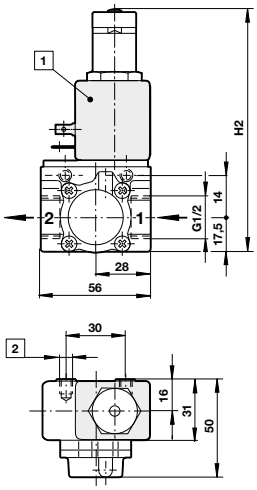
Solenoids group, standard voltages

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)

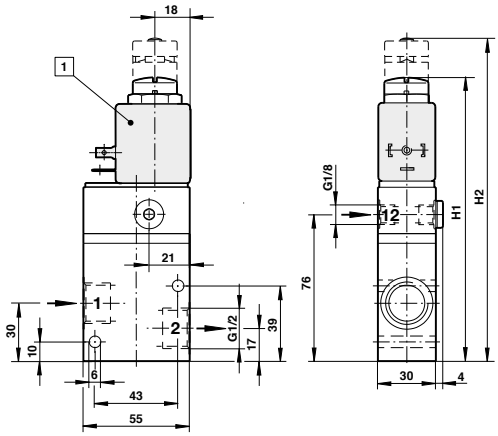
Standard voltages (±10%) 24 V d.c., 230 V a.c., other voltages on request. Design according to VDE 0580, EN 50014/50028. 100% duty cycle.
*1) Connector/cable gland is not scope of delivery, see table »Accessories«.

Dimensions

7030117



7030118, 7030709



1 Solenoid rotate 4 x 90°
2 M6 x 7,5 deep

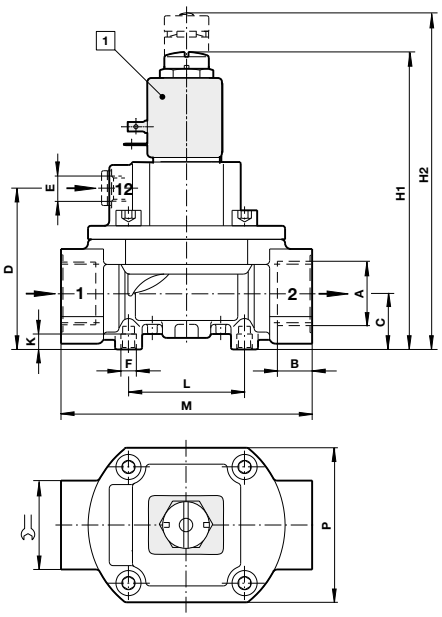
H2 *2)	Model
121	7030117

*2) With manual override.

H1 *1)	H2 *2)	Model
–	167	7030118
147	–	7030709

*1) Without manual override.
*2) With manual override.

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

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

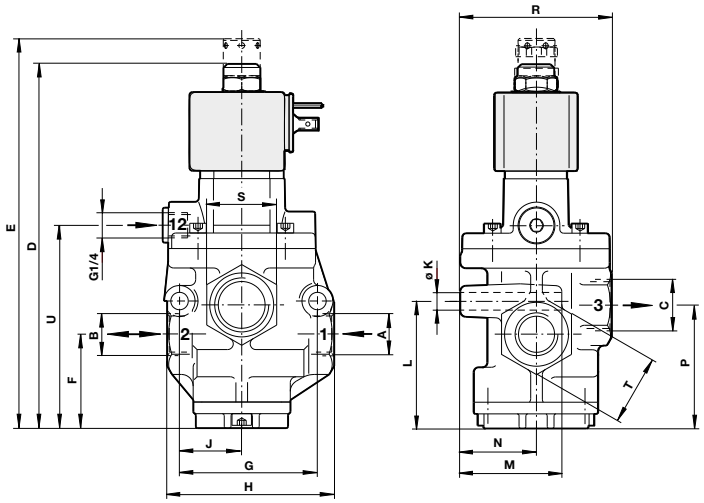
*1) When ordering please indicate solenoid, voltage, current type (frequency).

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

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

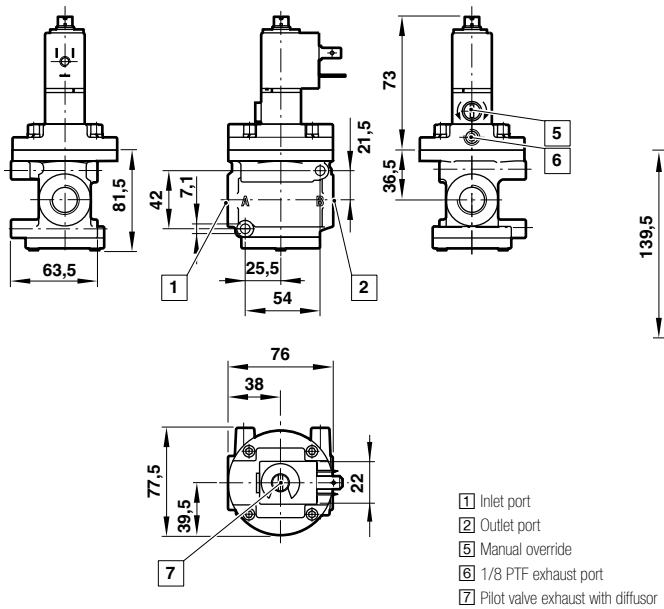
Connector

0657868000000000

Dimensions

1

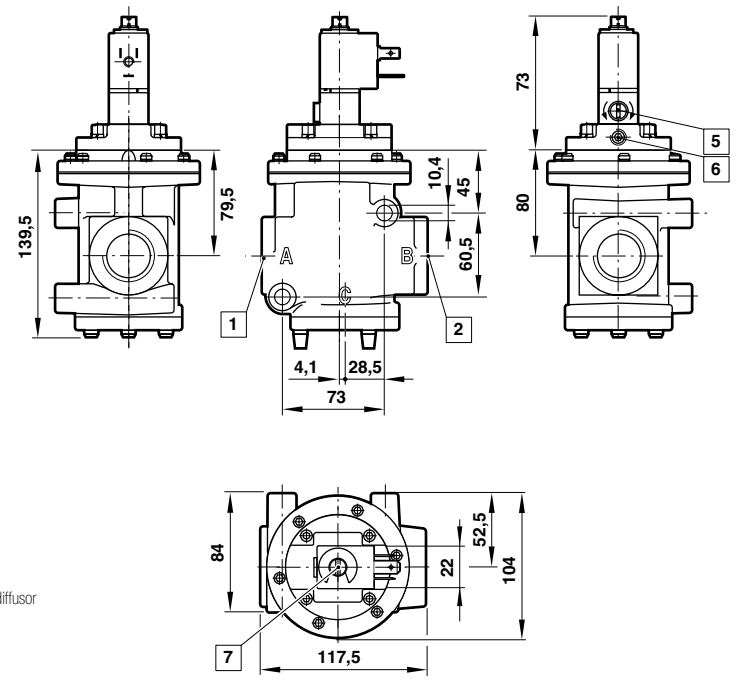
1/2” valve size, solenoid valve
Port size: 3/8” 1/2 or 3/4”



1 Inlet port
2 Outlet port
5 Manual override
6 1/8 PTF exhaust port
7 Pilot valve exhaust with diffusor

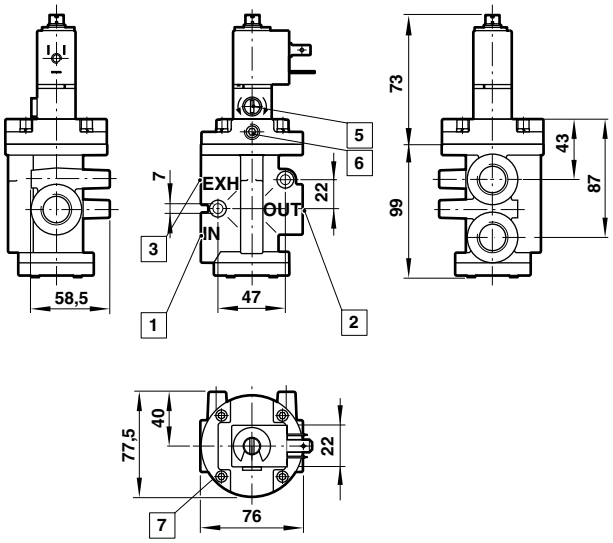
2

1” valve size, solenoid valve
Port size: 1”



3

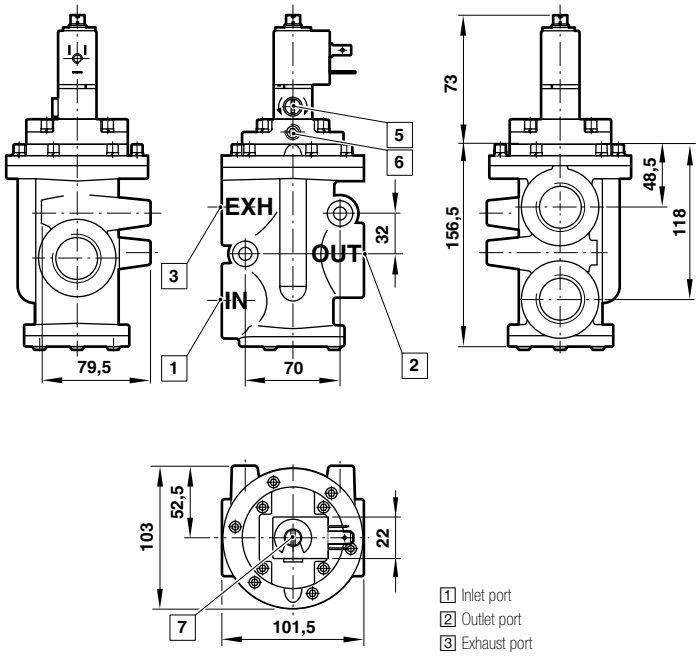
1/2” valve size, solenoid valve
Port size: 3/8” 1/2 or 3/4”



1 Manual override

4

1” valve size, solenoid valve
Port size: 1”

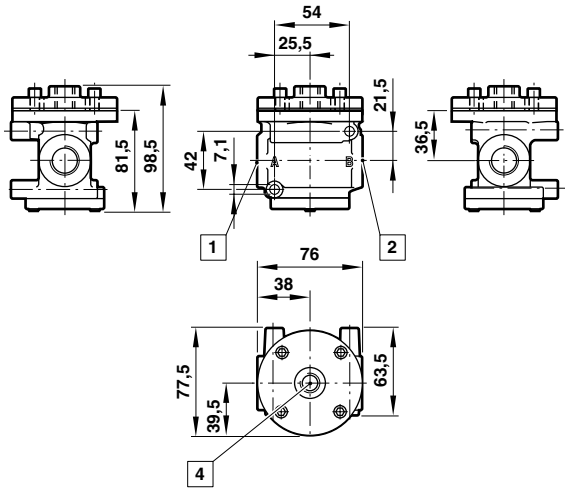


1 Inlet port
2 Outlet port
3 Exhaust port
5 Manual override
6 1/8 PTF exhaust port
7 Pilot valve exhaust with diffusor

SOLENOID AND PILOT ACTUATED POPPET VALVES
Prospector® 2/2 & 3/2, G3/8 … G1

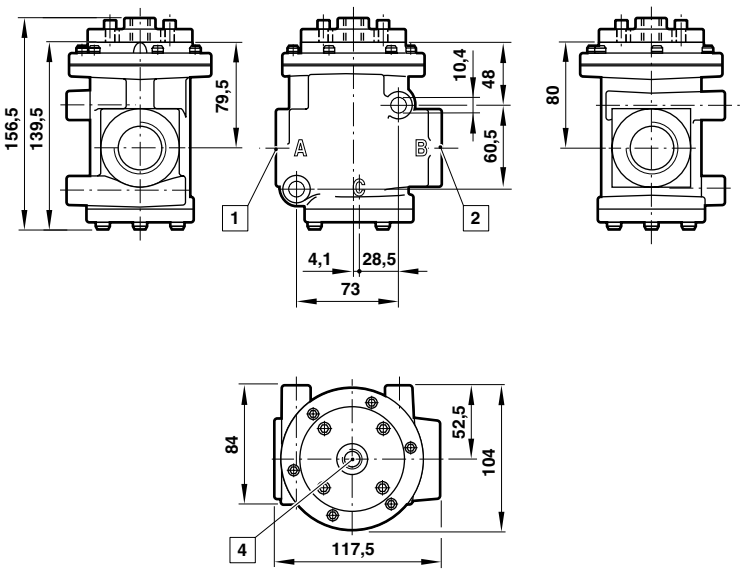
5

1/2” valve size, air pilot valve
Port size: 3/8” 1/2 or 3/4”



6

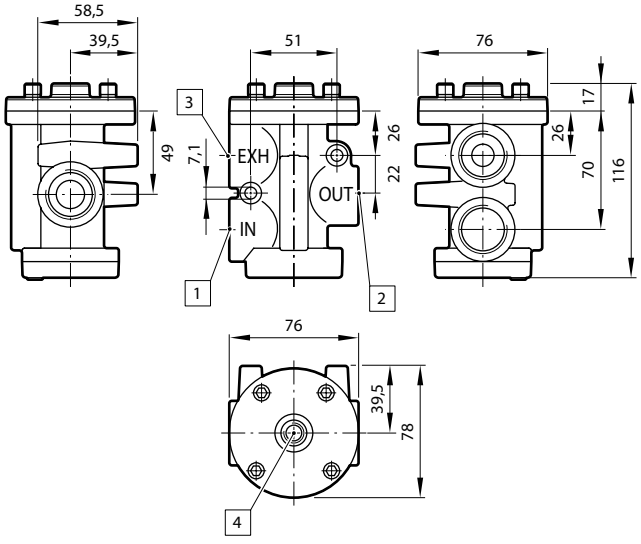
1” valve size, air pilot valve
Port size: 1”



1 Inlet port
2 Outlet port
4 Pilot port G1/8

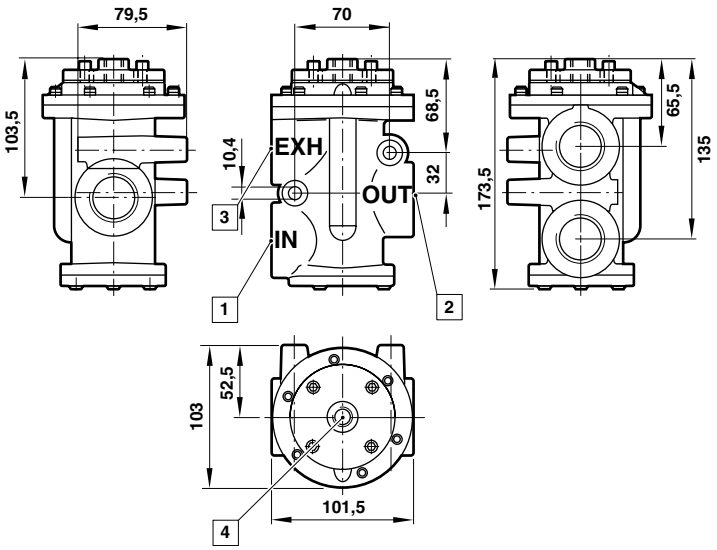
7

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

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.

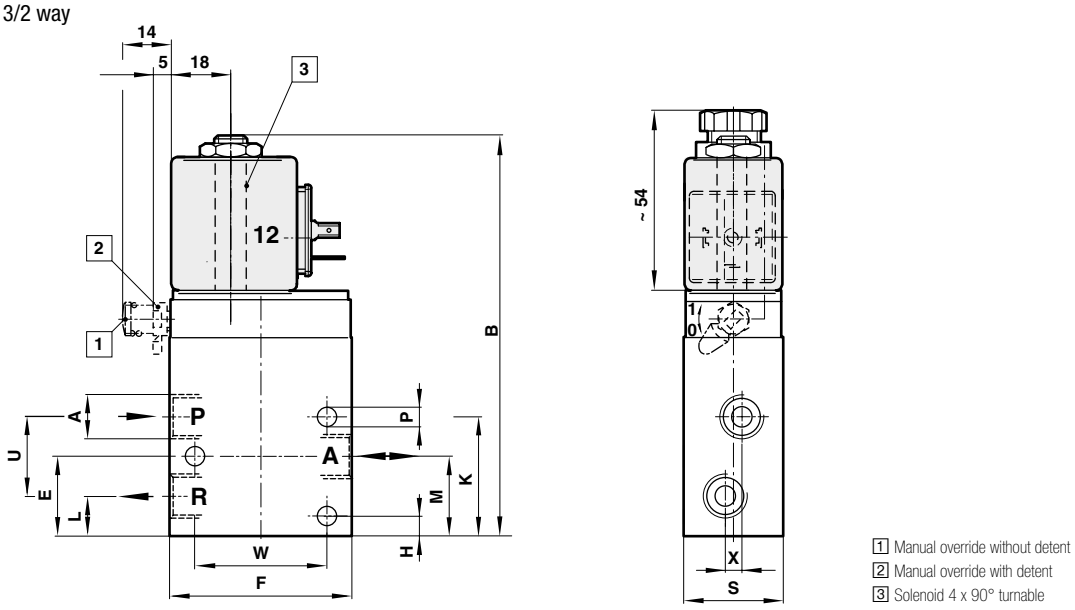
Options

- Alternative solenoid coils

Dimensions - Valves

1

3/2 way



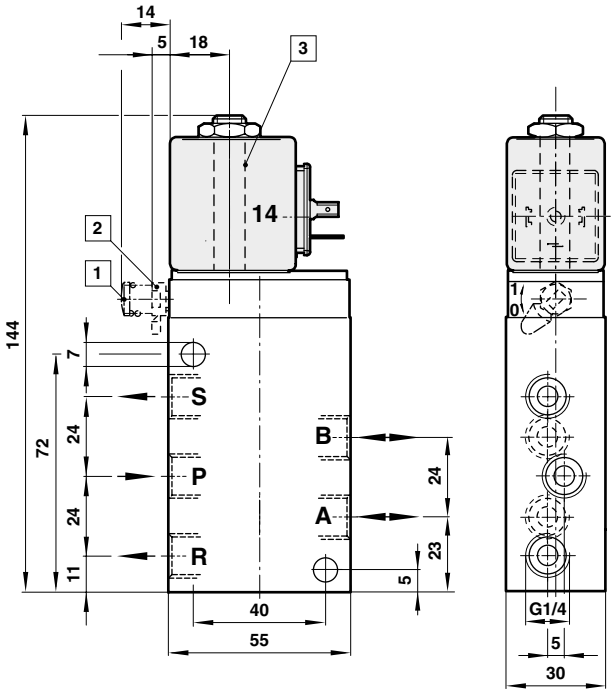
1 Manual override without detent
2 Manual override with detent
3 Solenoid 4 x 90° turnable

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

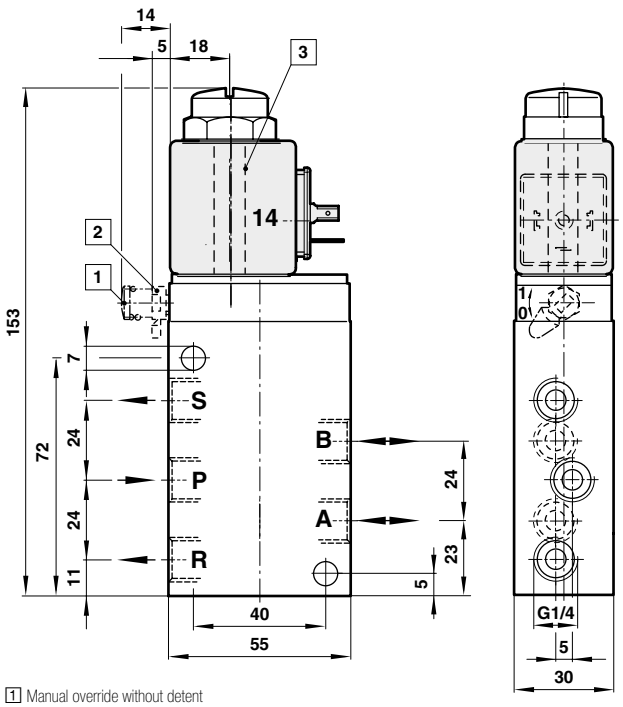
2636066



3

5/2 way

2636067, 2636065



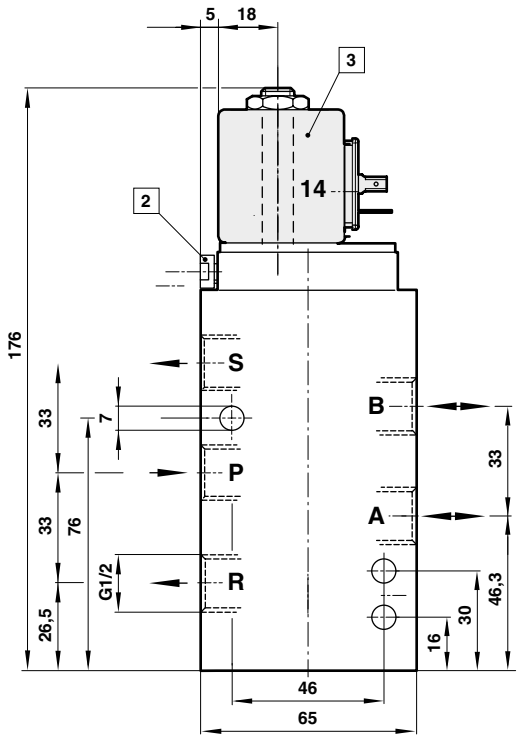
1 Manual override without detent
2 Manual override with detent
3 Solenoid 4 x 90° turnable

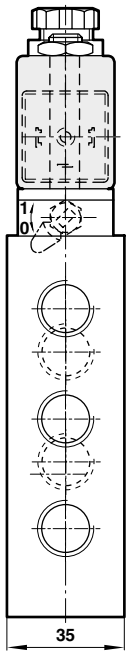
IN-LINE SOLENOID VALVE
26360, 80207 3/2, 5/2, G1/4 & G1/2

4

5/2 way

2637065



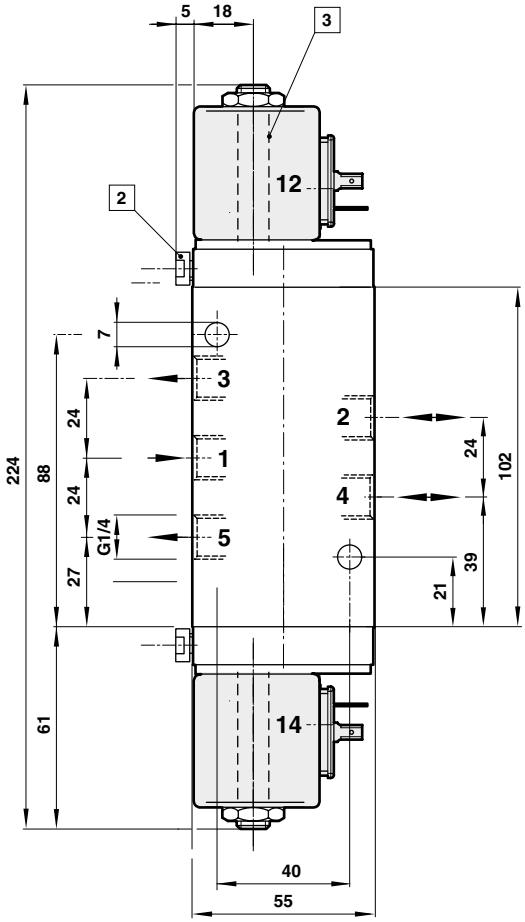


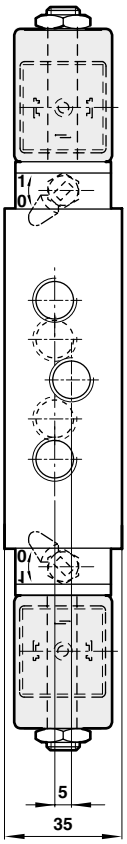
1 Manual override without detent
2 Manual override with detent
3 Solenoid 4 x 90° turnable

5

5/2 way

2636265





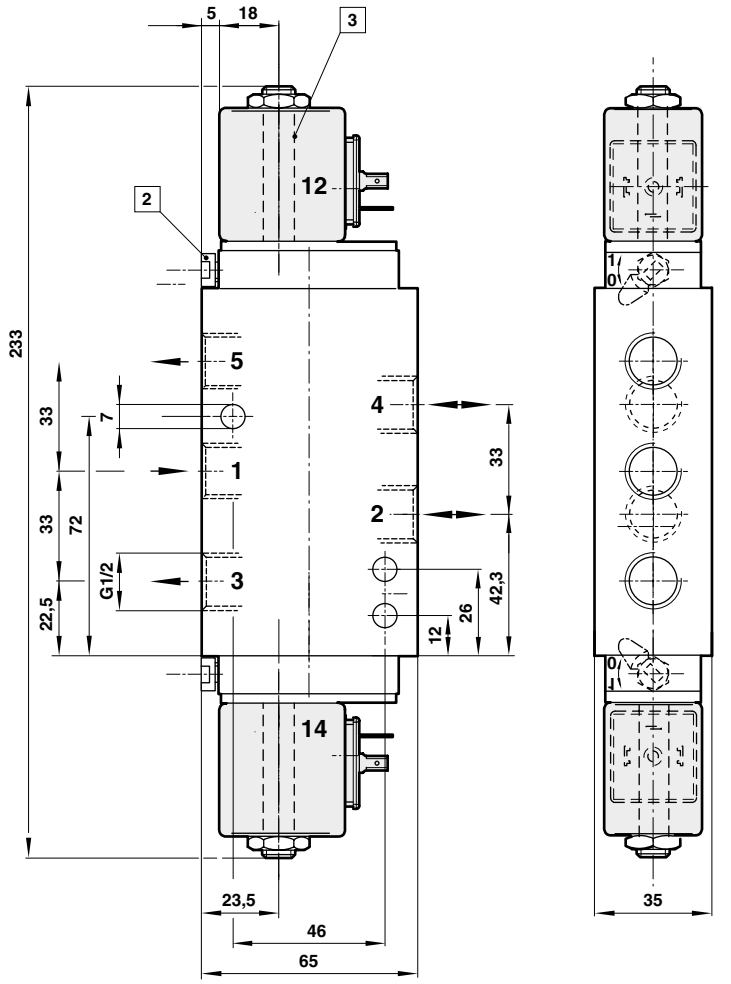
1 Manual override without detent
2 Manual override with detent
3 Solenoid 4 x 90° turnable

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

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.

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

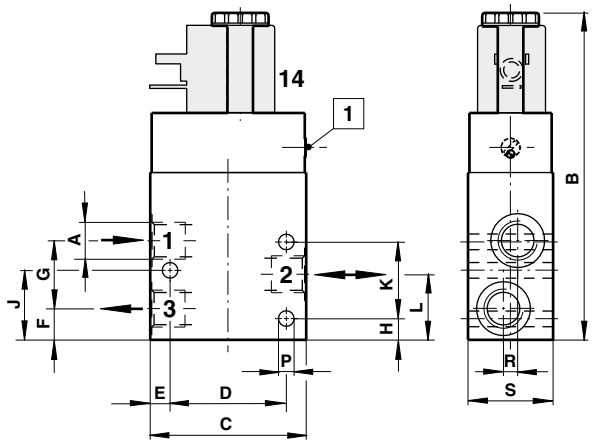
Accessories

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)

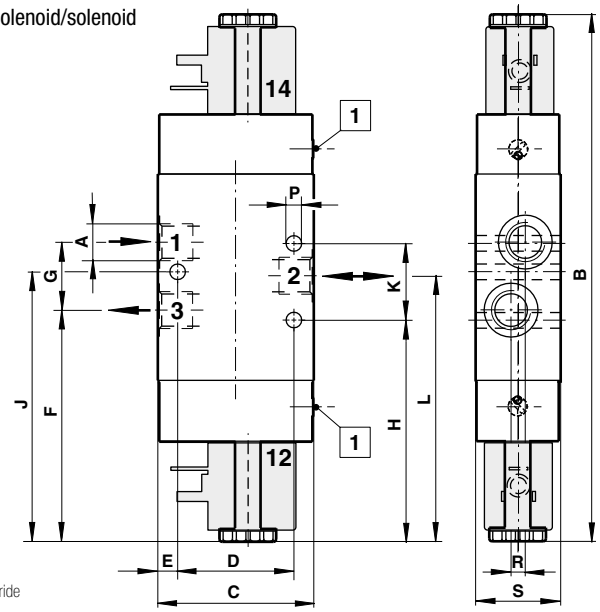
*1) For indoors use only.
*2) For outdoors use.

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

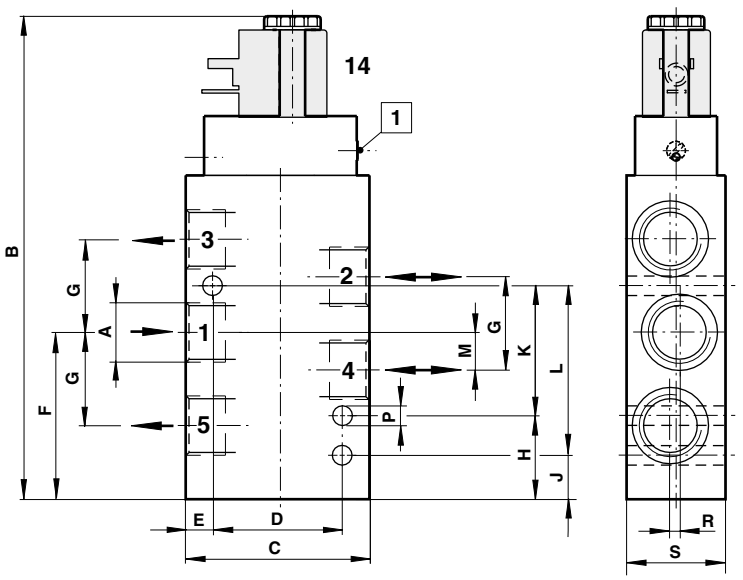
No.	A	B	C	D	E	F	G	H	J	K	L	Ø P	R	S
3	G 1/4	186,5	55	41	7	81,5	24	78	95	27	93,5	5,5	5	30
4	G 1/2	195,5	65	46	9,5	81	33	81	–	46	100,5	7	2,5	35

IN-LINE SOLENOID VALVE

26230, 80107 3/2, 5/2 & 5/3, G1/4 & G1/2

5 6

5/2 - Solenoid/air

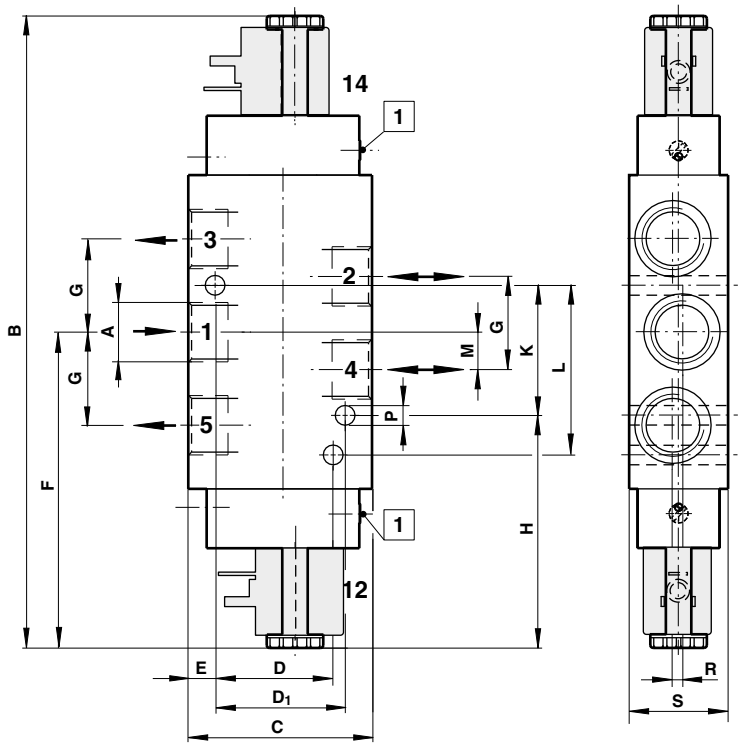


1 Manual override

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

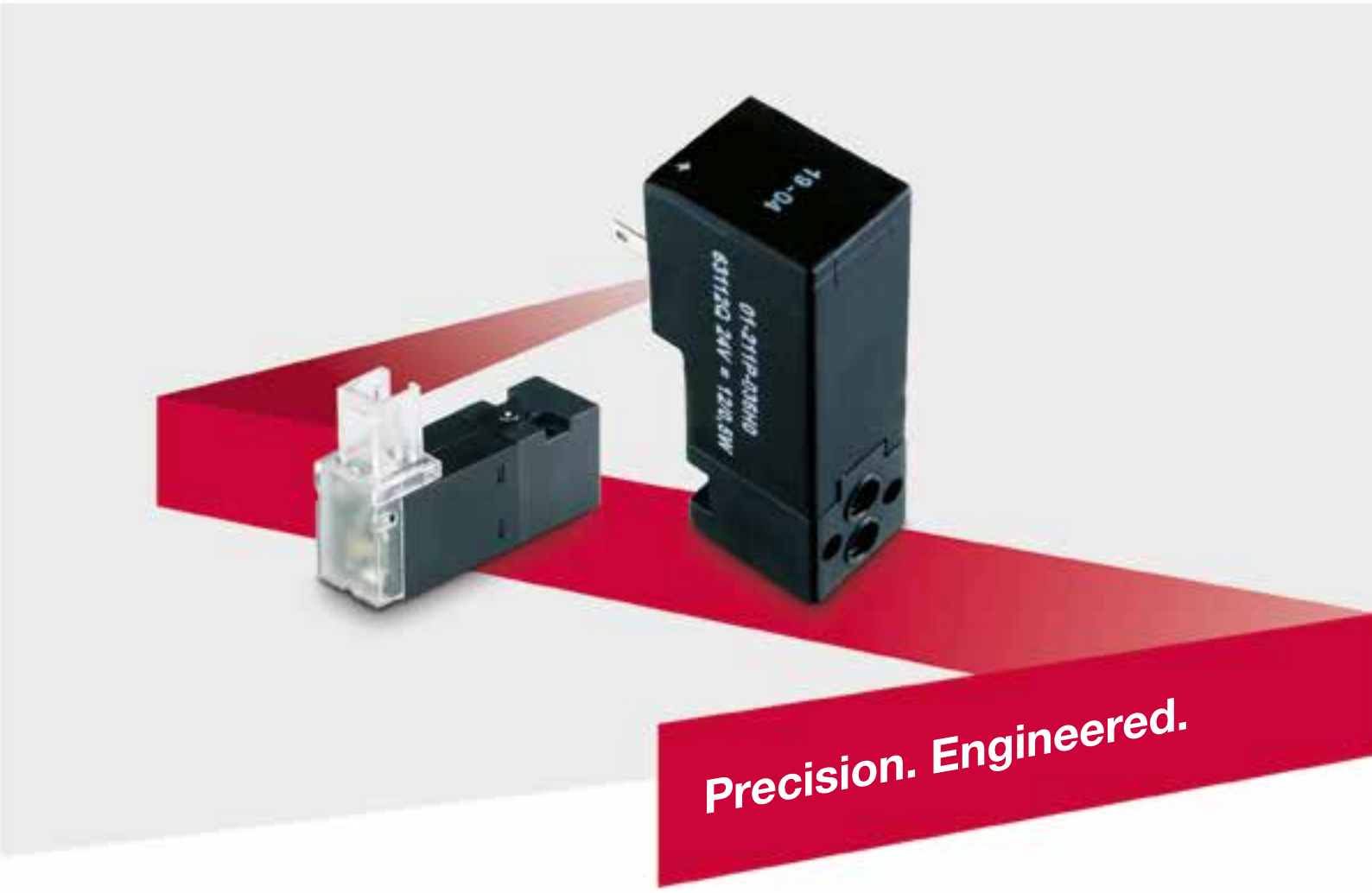
7 … 10

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



IMI FAS

Globally acclaimed miniature fluid control solutions

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. IMI FAS is focused on miniature solenoid valve technology for 10mm and 15mm valve applications.

The IMI FAS miniature solenoid valves deliver unrivalled performance to power ratio, reliability, and modularity. Providing industry leading products in on/off, proportional, and media isolated functionalities in order to deliver unprecedented flexibility to meet specific industry requirements.

Engineering GREAT Solutions

IMI FAS

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www.imi-precision.com

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

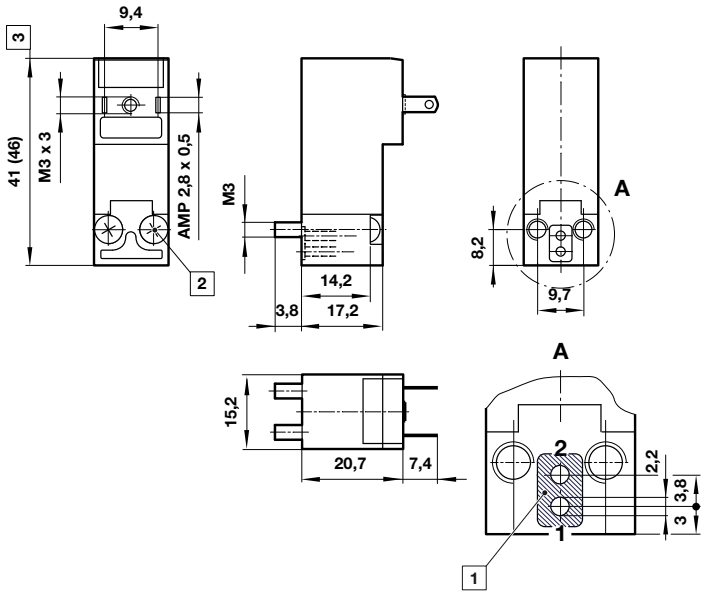
*1) Cv - Value in [gal/min] = kv x 0,07; kv for 3/2 way valves represents flow value between ports 2 and 3.
*2) Valve models with 2 power consumption values are equipped with ‚Hit & Hold' power saving electronic.
*3) Valve models available with different nominal voltages.
*4) ECI - Push type version.

DIRECT ACTING SOLENOID VALVE
MICROSOL 2/2, 3/2 - 15 mm

Dimensions

1

2 ways standard

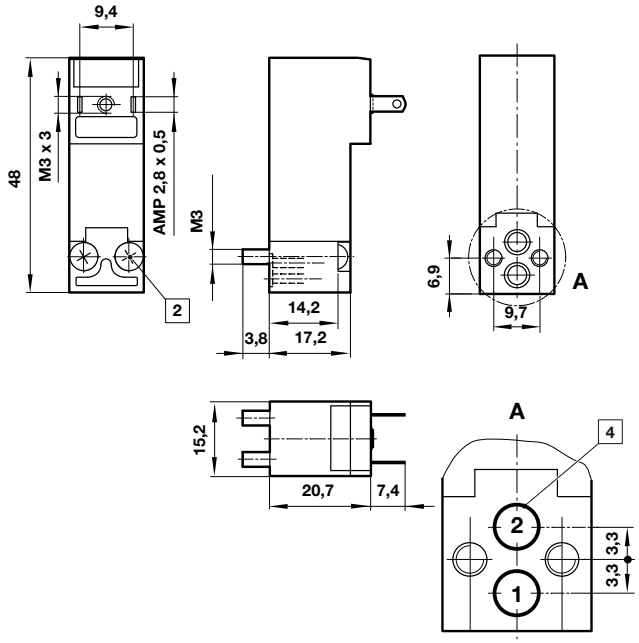


1 Sealing area
2 The recommended mounting screw tightening torque is 0,6 Nm.
3 Value in ( ) for ECI version

All solenoids are supplied with mounting screws and gasket.

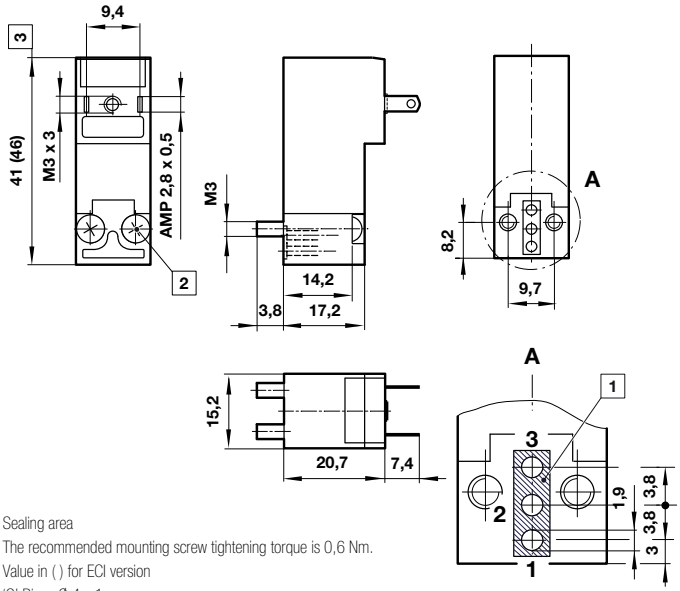
2

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.

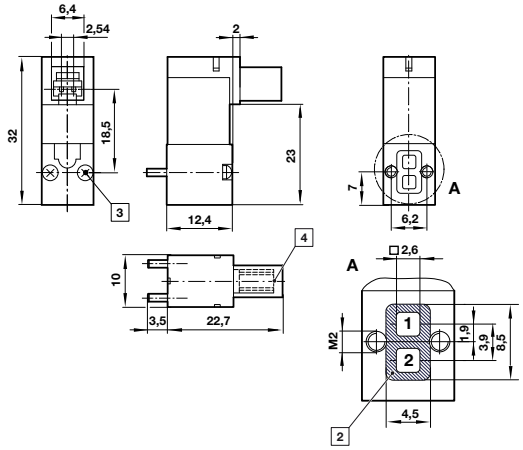
Accessories

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

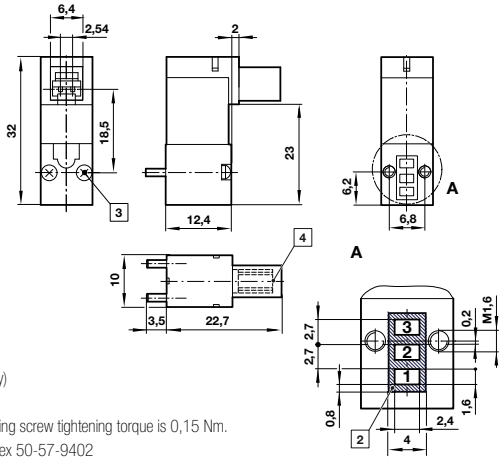
1

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

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

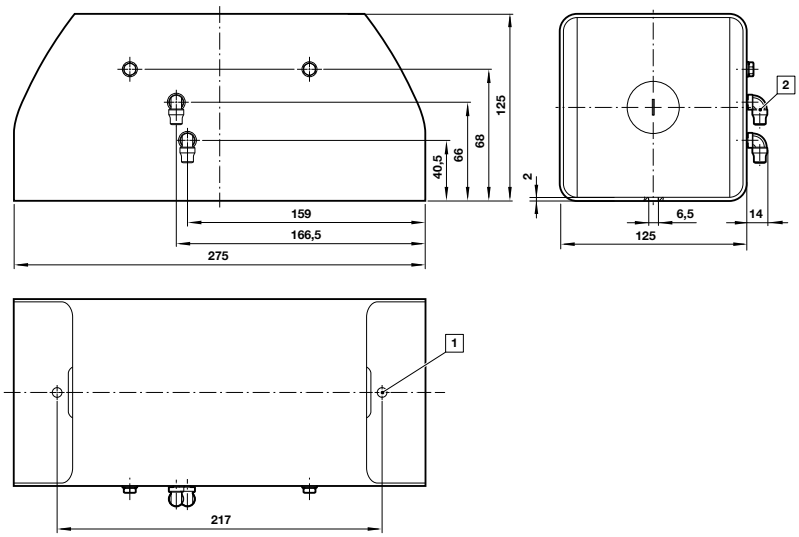
Outer cover and end plates:
Steel

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.

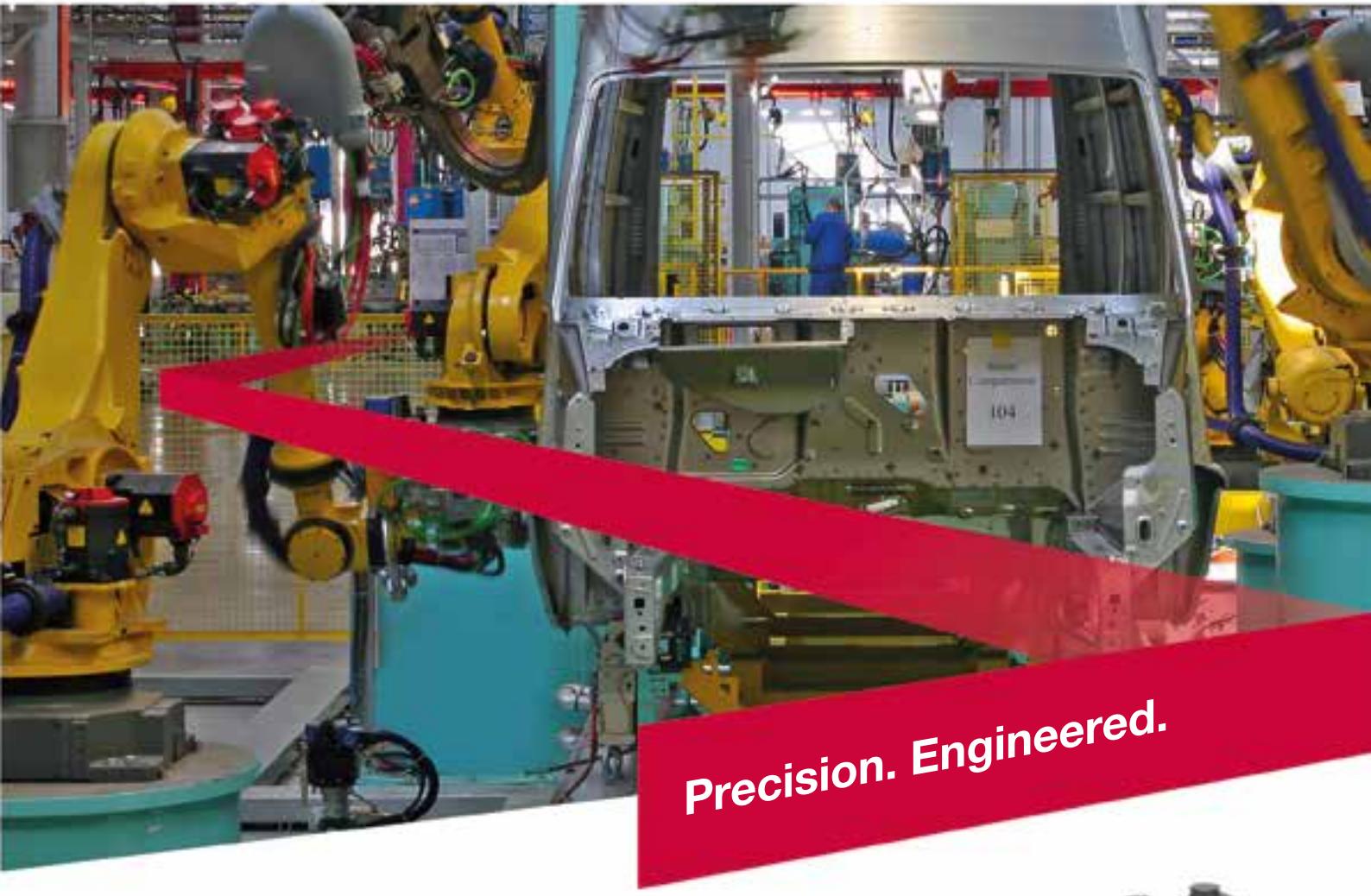
EXPRESS



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

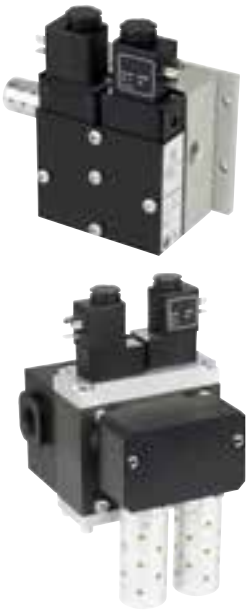
Press control:
Valves are not approved for press clutch and brake applications

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

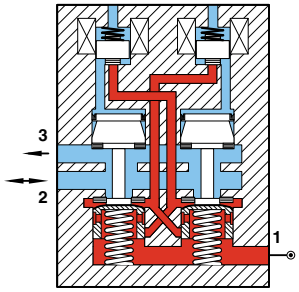
Accessories

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

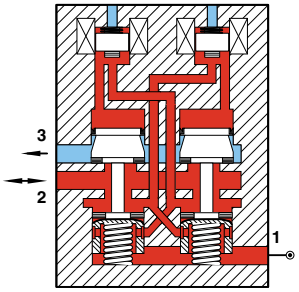
*2) The pressure switch is not required as part of the safe functioning system within the valve, its is offered as a means of indicating that the valve taken up a safe condition ie. no pressure at the output port 2.

Functional diagram

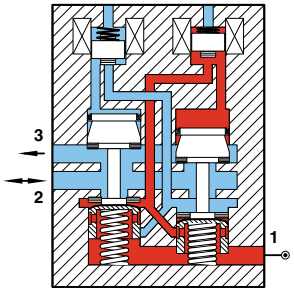
Basic position
Channel “2” onto “3”
Safety silencer relieved



Working position
Both solenoids energized
Channel „1“ onto „2“ turned on



Safety position
For unbalanced control, faulty solenoid, dirty valve, etc.



Time to vent residual pressure to 0,5 bar

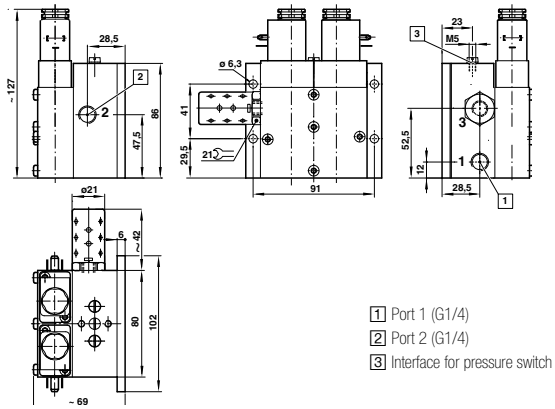
Model	Volume (dm³)	Operating pressure (bar)	Exhaust time (ms)
SCVA081…	1	5	200
		8	250
		10	290
	3	5	560
		8	730
		10	820

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

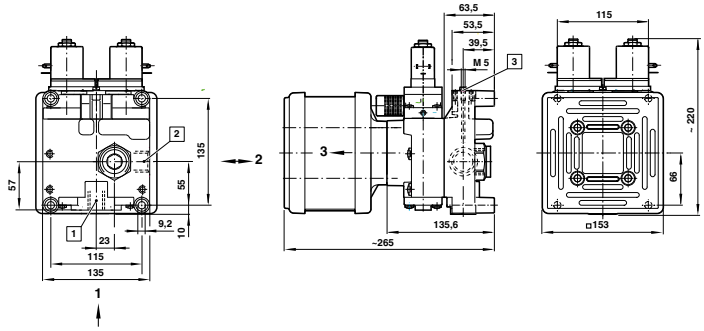
Dimensions

SCVA081BB0A02400 (G1/4)



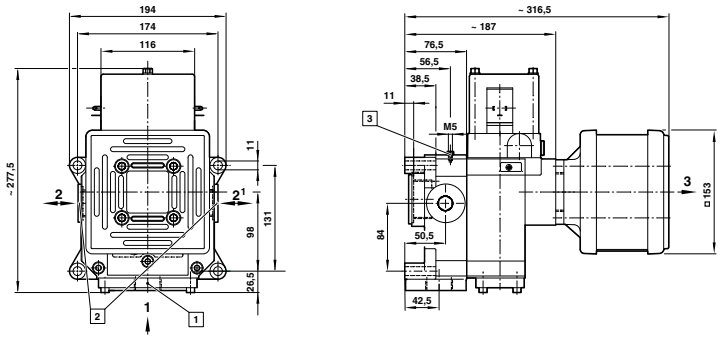
1 Port 1 (G1/4)
2 Port 2 (G1/4)
3 Interface for pressure switch

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.

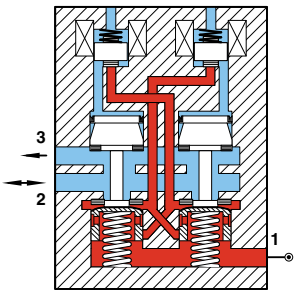
Technical data – Solenoids

Standard voltages	24 V d.c.
Duty cycle	100% ED
Protection class	IP65

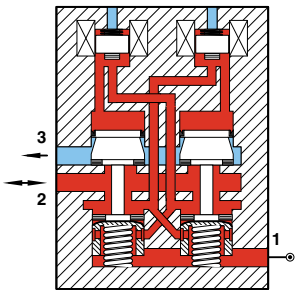
Other voltages on request!

Functional diagram

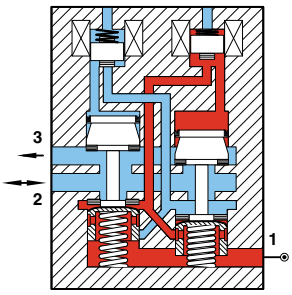
Basic position
Channel “2” onto “3”
Safety silencer relieved



Working position
Both solenoids energized
Channel „1“ onto „2“ turned on



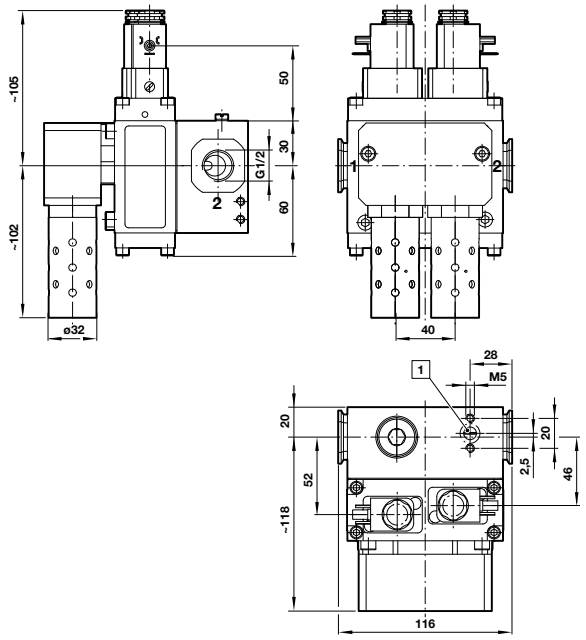
Safety position
For unbalanced control, faulty solenoid, dirty valve, etc.



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



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.

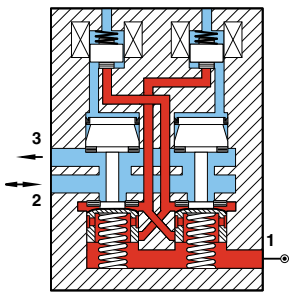
Technical data – Solenoids

Standard voltages	24 V d.c.
Duty cycle	100% ED
Protection class	IP65

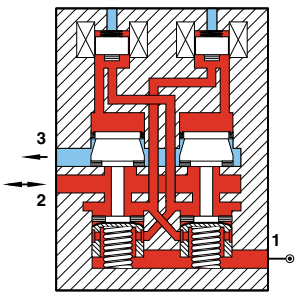
Other voltages on request!

Functional diagram

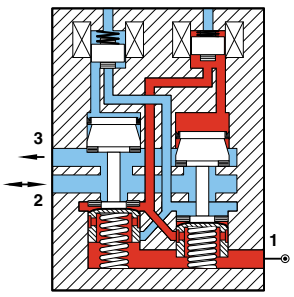
Basic position
Channel “2” onto “3”
Safety silencer relieved



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

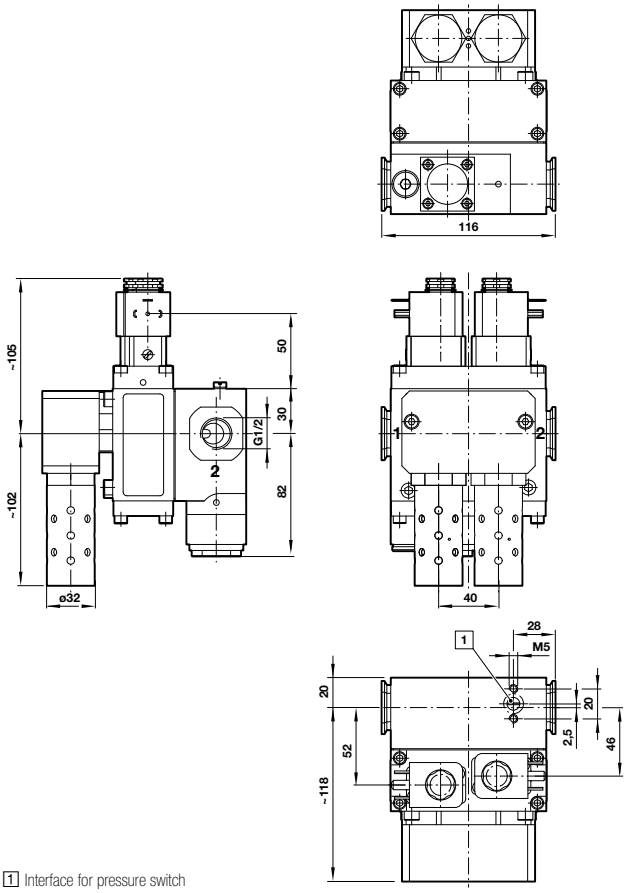
Operating pressure (bar)	Volume (dm^3)	Filling time approx. (ms) Numbers of needle turn		
		4	6	12
5	3	3200	2600	1700
	8	8300	7000	4300
6	3	3000	2400	1500
	8	7800	6500	3900
8	3	2700	2200	1400
	8	7300	5700	3700

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

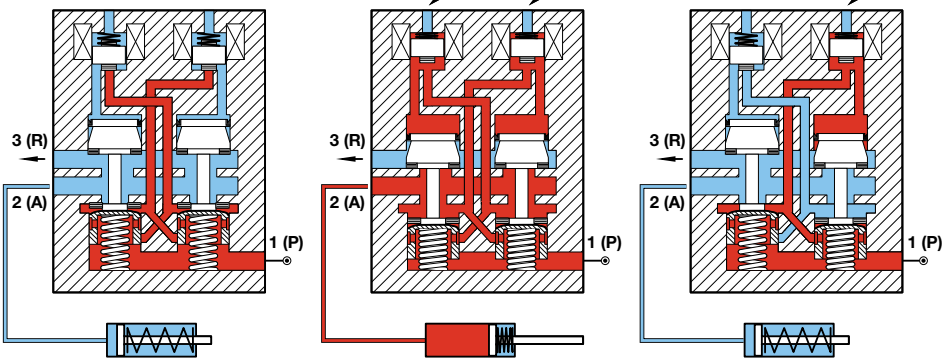
Accessories

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.

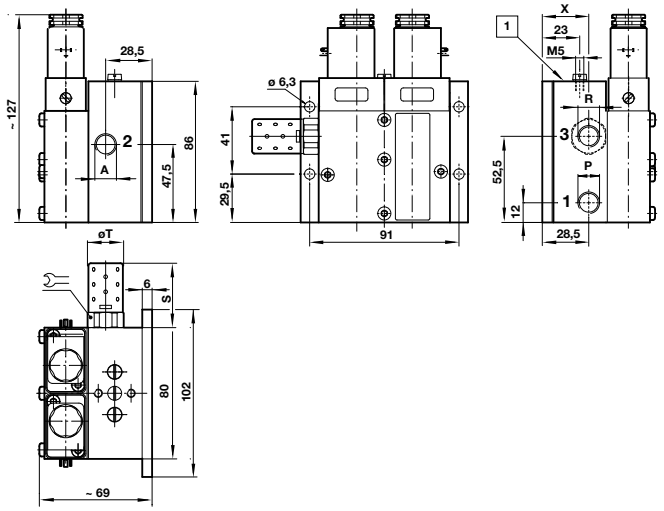
Malfunction
Pilots non-synchronously energised. Dynamic monitor notices failure operation and prevents the pistons from giving connection from P to A. Synchronously port A exhausts through R. No residual pressure remains in the system since P and A are not connected. The pilot line has lost the pressure 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.

SOLENOID ACTUATED PRESS SAFETY VALVES
XSz 8 … XSz 50 3/2, G 1/4 … G2

Dimensions

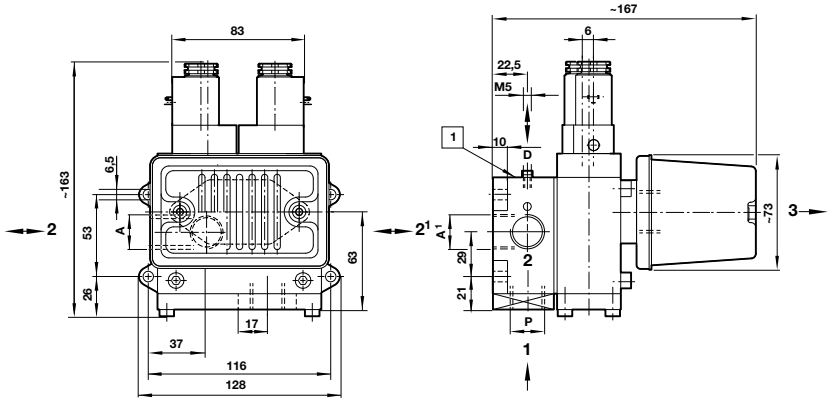
1 - XSz 8 - with silencer



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

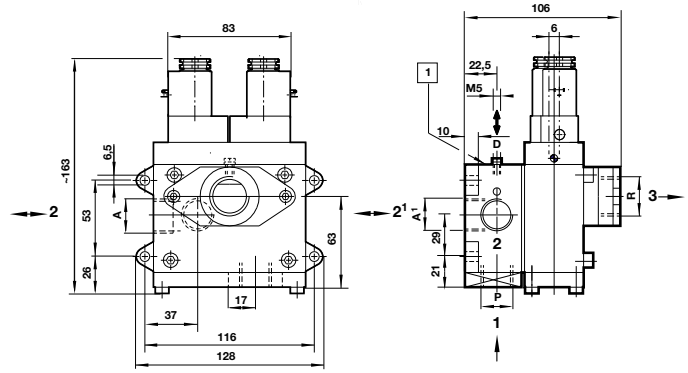


Model	1 (P)	2 (A)	2¹ (A¹)	3 (R)
24929323052	G 1/2	G 1/2	G 1/2 *	–
24929303052	G 1/2	G 1/2	G 1/2 *	G3/4

* closed

[1] Flange surface for pressure switch and failure indicator unit

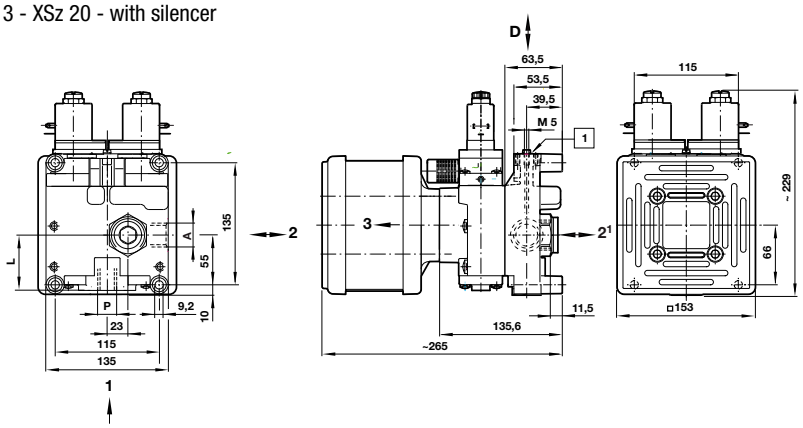
2 - XSz 10 - without silencer



SOLENOID ACTUATED PRESS SAFETY VALVES

XSz 8 … XSz 50 3/2, G 1/4 … G2

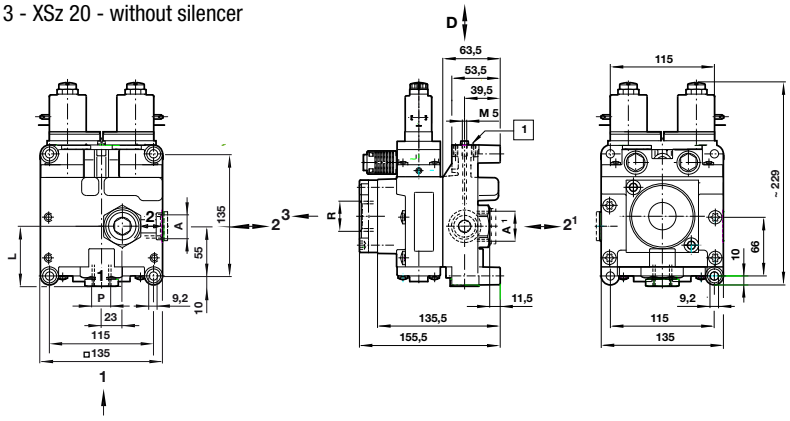
3 - XSz 20 - with silencer



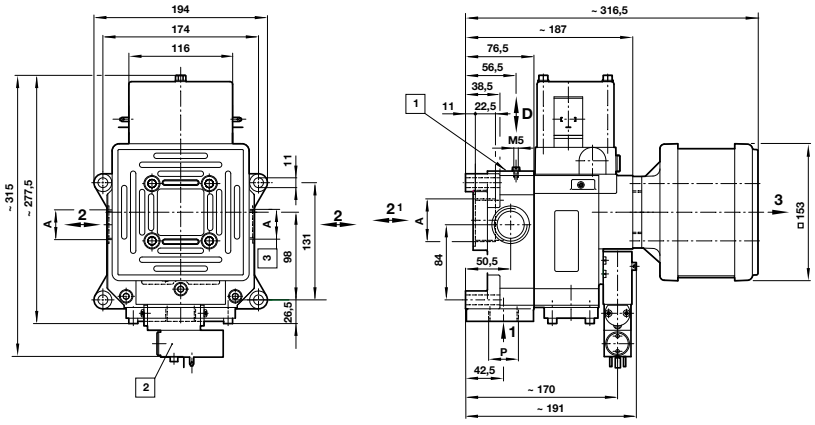
Model	1 (P)	2 (A)	2¹ (A¹)	3 (R)	L
24930320200	G 3/4	G 3/4	G 1	–	66,5 (57)
24930300200	G 3/4	G3/4	G 1	G 1	66,5 (57)

[1] Flange surface for pressure switch and failure indicator unit

3 - XSz 20 - without silencer



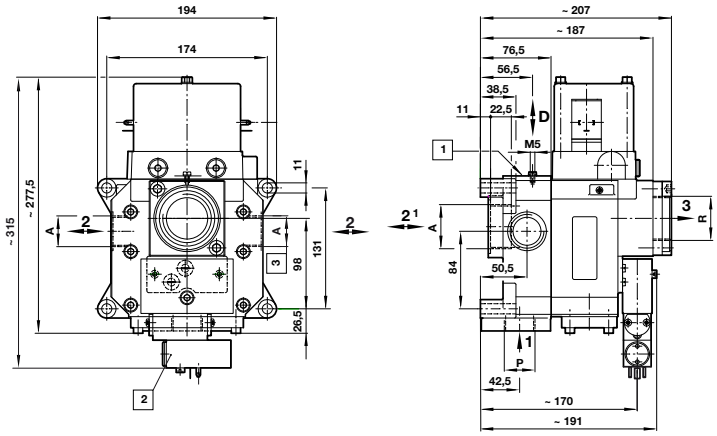
4 - XSz 32 - with silencer and pressure balance



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	–

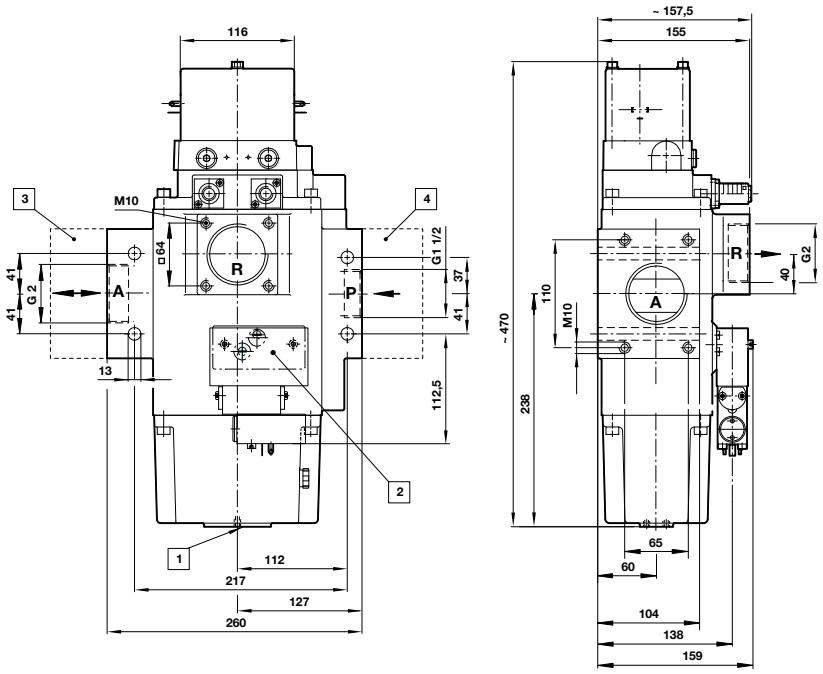
[1] Flange surface for pressure switch and failure indicator unit
[2] Pressure balance

4 - XSz 32 - without silencer, with pressure balance



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

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

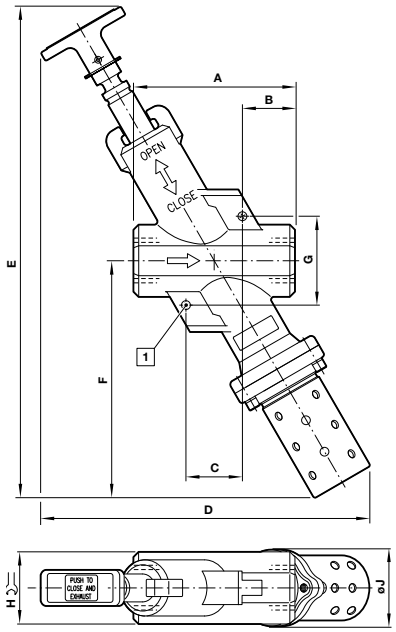
Elastomers:
NBR and PUR

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

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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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.

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.

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

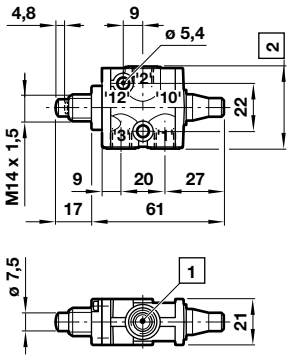
APB = All Ports Blocked, COE = Centre Open Exhaust.

Dimensions

1

03040002, 03040032

3/2 Plunger actuated spring return valve

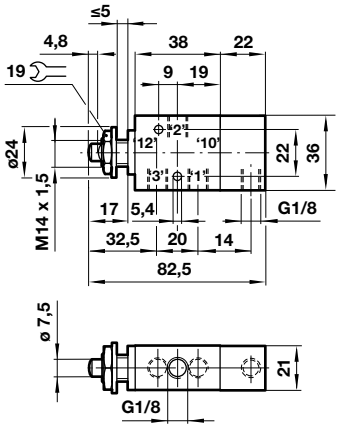


The plunger on this valve is designed for axial loading only.
Nut and mounting washer kit supplied as optional extra part number 03 0430 00

2

03041702

3/2 Plunger actuated pilot return valve

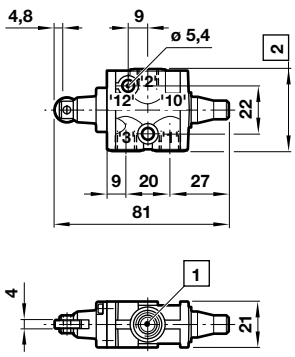


Full movement: 4,8 mm
Panel hole: Ø 15 mm
The plunger on this valve is designed for axial loading only. This valve can be panel mounted.

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

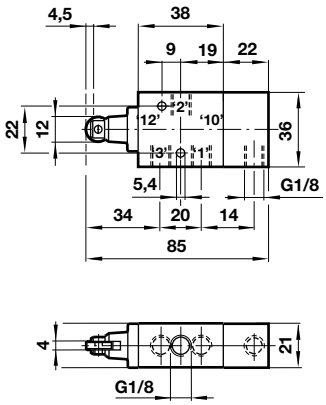
MANUALLY & MECHANICALLY ACTUATED SPOOL VALVE

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

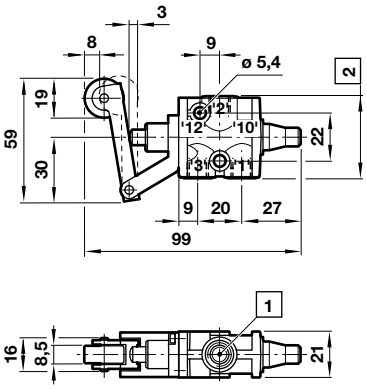


Maximum recommended cam rise: 4,5 mm
Cam angle of approach: 30° maximum
Cam speed: 8 m/min. maximum
Operating speed: 300 cpm

5

03041102, 03041132

3/2 Roller lever actuated spring return valve

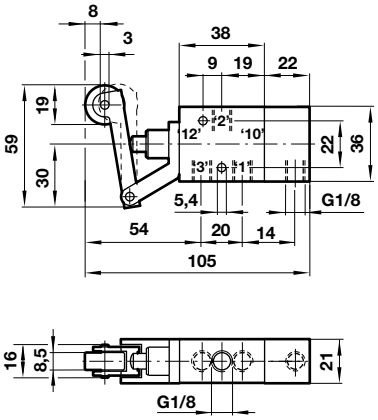


Operating travel: 8 mm
Over-travel: 3 mm
Cam angle of approach: 45° maximum
Cam speed: 8 m/min. maximum
Operating speed: 300 cpm

6

03042702

3/2 Roller lever actuated pilot return valve

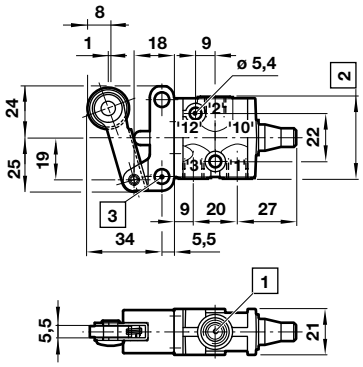


Operating travel: 8 mm
Over-travel: 3 mm
Cam angle of approach: 45° maximum
Cam speed: 8 m/min. maximum
Operating speed: 300 cpm

7

03029302, 03029332

3/2 Heavy duty roller lever actuated spring return valve

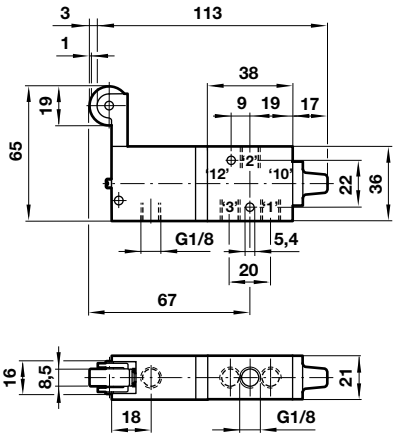


Operating Travel: 8 mm
Over-travel: 1 mm
Cam angle of approach: 45° maximum
Cam speed: 8 m/min. maximum
Operating speed: 300 cpm

8

03042302

3/2 Sensitive roller lever actuated spring return valve

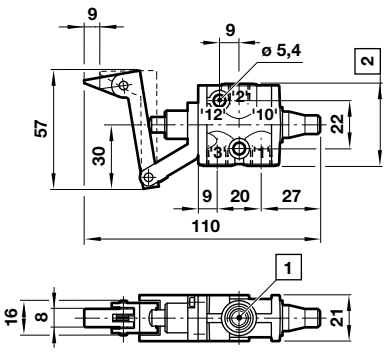


Pre-travel: 1 mm; Over-travel: 3 mm
Cam angle of approach: 45° maximum
Cam speed: 6,5 m/min. maximum

9

03041002

3/2 One-way trip actuated spring return valve



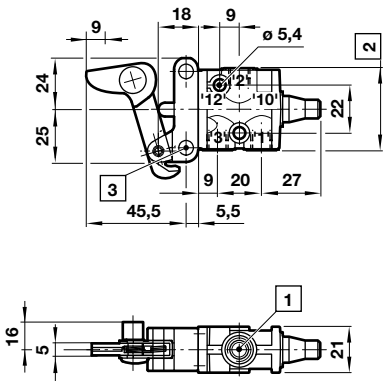
Cam rise: 9 mm
Cam angle of approach: 90° maximum
Cam speed: 2 m/min. maximum
Operating speed: 120 cpm

[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.

10

03029402

3/2 Heavy duty one-way trip actuated spring return valve

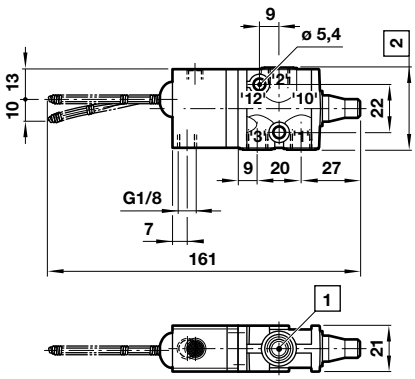


Cam rise: 9 mm
Cam angle of approach: 90° maximum
Cam speed: 2 m/min. maximum
Operating speed: 120 cpm

11

03043202, 03043232

3/2 Antenna actuated spring return valve

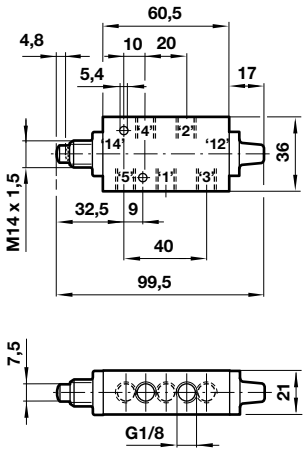


Operating movement:
10 mm minimum in any direction.

12

X3044002

5/2 Plunger actuated spring return valve

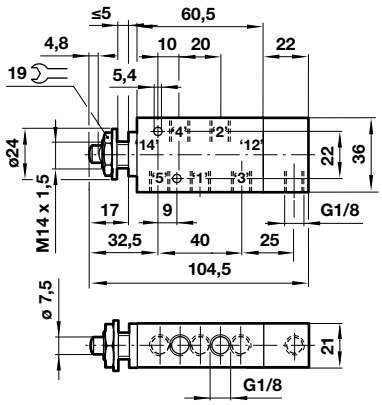


Full movement: 4,8 mm
The plunger on this valve is designed for axial loading only.
Nut and mounting washer kit supplied as optional extra part number 03 0430 00

13

X3045702

5/2 Plunger actuated pilot return valve

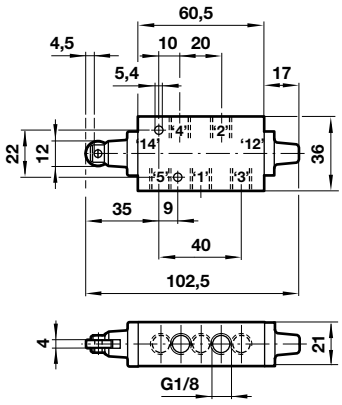


Full movement: 4,8 mm
Panel hole: Ø 15 mm
The plunger on this valve is designed for axial mounting only. This valve can be panel mounted.

14

X3044202

5/2 Roller actuated spring return valve

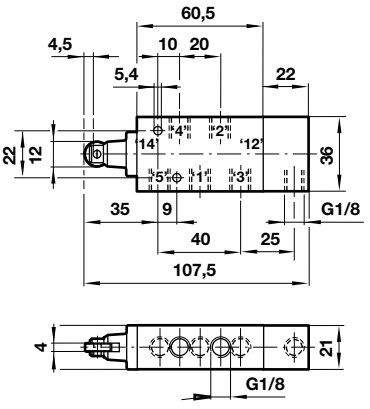


Maximum recommended can rise: 4,5 mm
Cam angle of approach: 30° maximum
Cam speed: 8 m/min. maximum
Operating speed: 300 cpm

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.

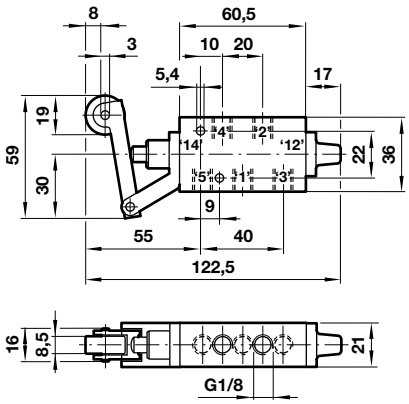
MANUALLY & MECHANICALLY ACTUATED SPOOL VALVE

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

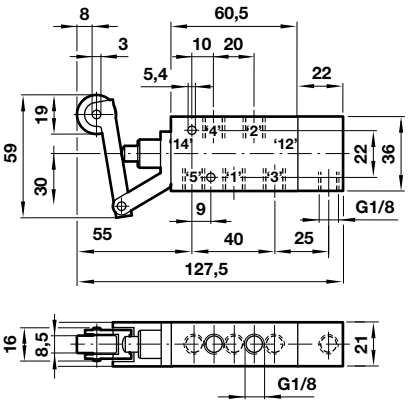


Operating travel: 8 mm
Over-travel: 3 mm
Cam angle of approach: 45° maximum
Cam speed: 8 m/min. maximum
Operating speed: 300 cpm

17

X3046702

5/2 Roller lever actuated pilot return valve

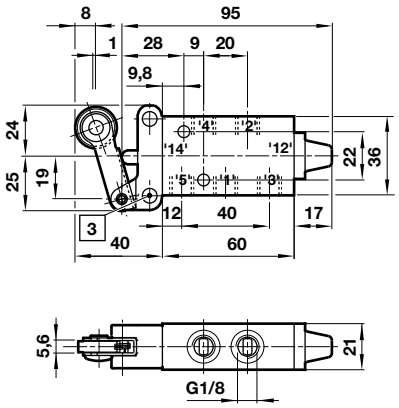


Operating travel: 8 mm; Over-travel: 3 mm
Cam angle of approach: 45° maximum
Cam speed: 8 m/min. maximum
Operating speed: 300 cpm

18

X3039302

5/2 Heavy duty roller lever actuated spring return valve

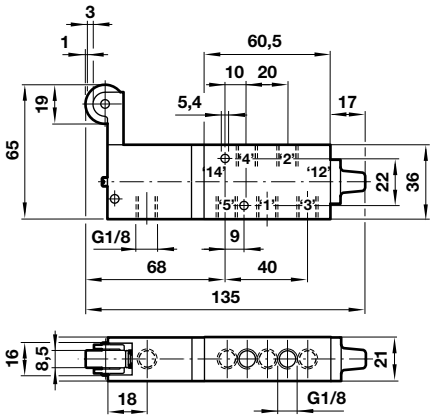


Operating travel: 8 mm
Over-travel: 1 mm
Cam angle of approach: 45° maximum
Cam speed: 8 m/min. maximum
Operating speed: 300 cpm

19

X3046302

5/2 Sensitive roller lever actuated spring return valve

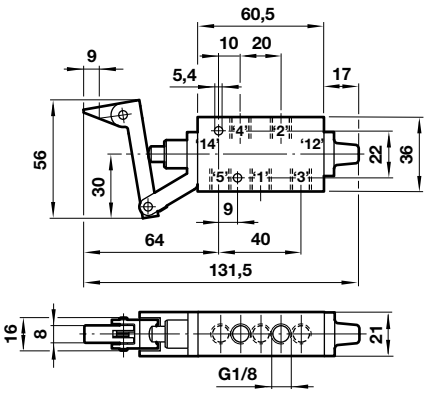


Pre-travel: 1 mm
Over-travel: 3 mm
Cam angle of approach: 45° maximum
Cam speed: 6,5 m/min. maximum

20

X3045002

5/2 One-way trip actuated spring return valve

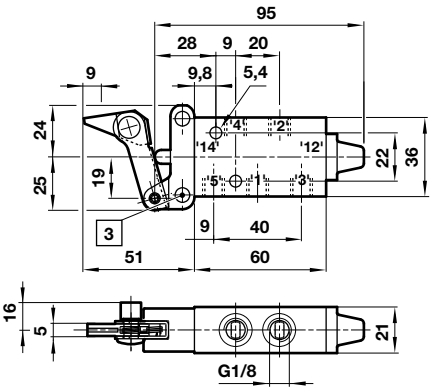


Cam rise: 9 mm
Cam angle of approach: 90° maximum
Cam speed: 2 m/min. maximum
Operating speed: 120 cpm

21

X3039402

5/2 Heavy duty one-way trip actuated spring return valve



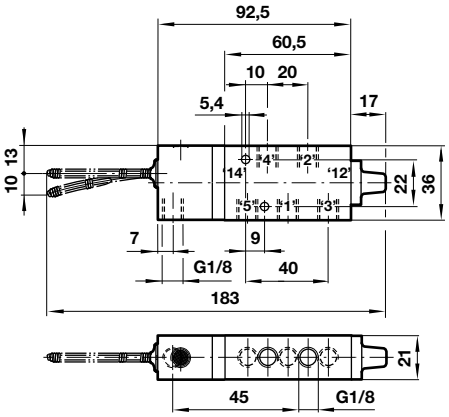
Cam rise: 9 mm
Cam angle of approach: 90° maximum
Cam speed: 2 m/min. maximum
Operating speed: 120 cpm

[3] 0,7 mm thick spacing washer must be used if additional mounting holes are used.

22

X3047202

5/2 Antenna actuated spring return valve

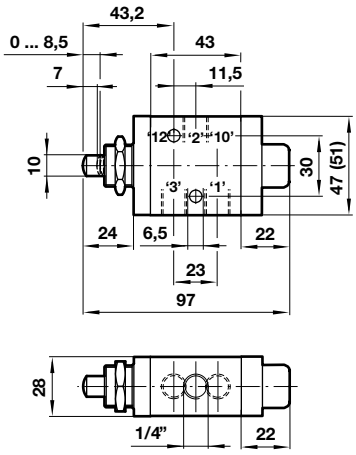


Operating movement: 10 mm minimum in any direction.

23

03060002

3/2 Plunger actuated spring return valve

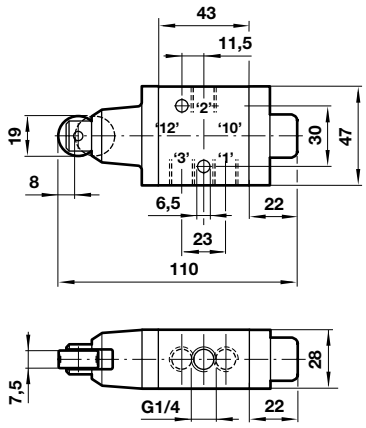


Panel hole: Ø 21 mm
The plunger on this valve is designed for axial loading only.

24

03060202

3/2 Roller actuated spring return valve

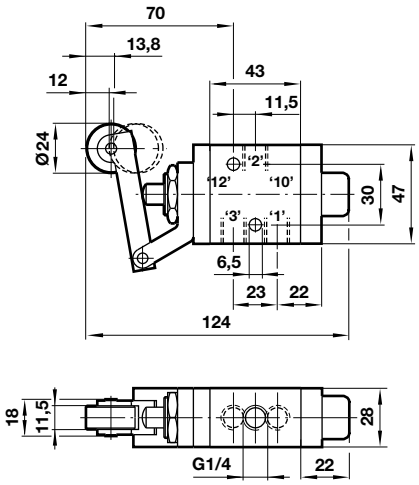


Cam angle of approach: 45° maximum
Cam speed: 6 m/min. maximum
Operating speed: 200 cpm

26

03061102

3/2 Roller lever actuated spring return valve

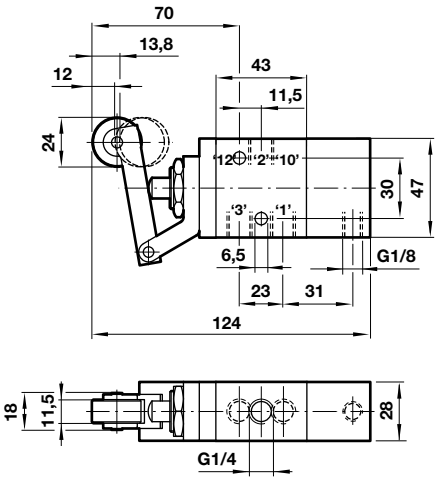


Cam angle of approach: 45° maximum
Cam speed: 5 m/min. maximum
Operating speed: 150 cpm

27

03062402

3/2 Roller lever actuated pilot return valve

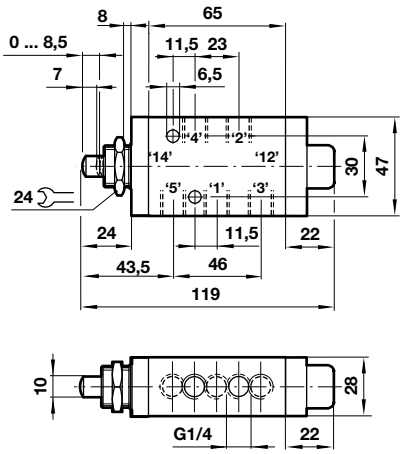


Cam angle of approach: 45° maximum
Cam speed: 5 m/min. maximum
Operating speed: 150 cpm

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.

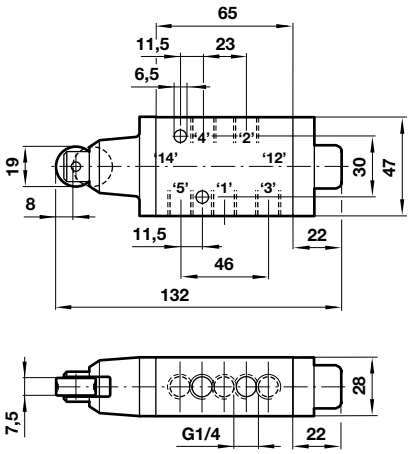
MANUALLY & MECHANICALLY ACTUATED SPOOL VALVE

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

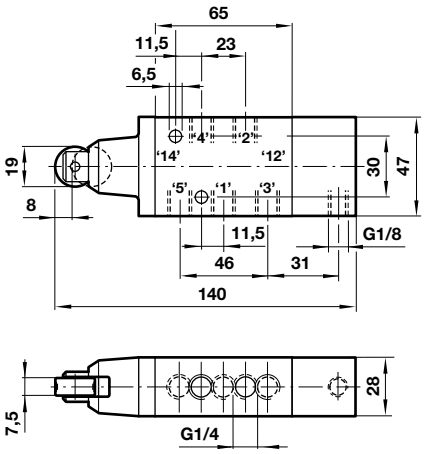


Cam angle of approach: 45° maximum
Cam speed: 6 m/min. maximum
Operating speed: 200 cpm

30

X3064902

5/2 Roller actuated pilot return valve

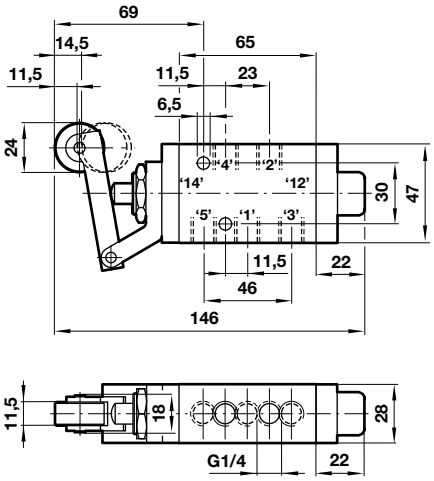


Cam angle of approach: 45° maximum
Cam speed: 6 m/min. maximum
Operating speed: 200 cpm

31

X3065102

5/2 Roller lever actuated spring return valve

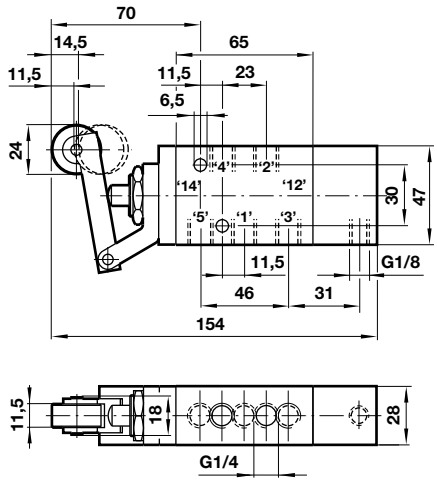


Cam angle of approach: 45° maximum
Cam speed: 5 m/min. maximum
Operating speed: 150 cpm

32

X3066402

5/2 Roller lever actuated pilot return valve

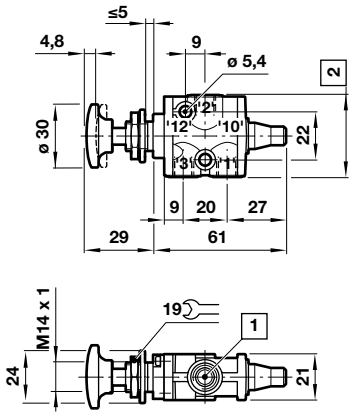


Cam angle of approach: 45° maximum
Cam speed: 5 m/min. maximum
Operating speed: 150 cpm

33

03040402, 03040502, 03040602

3/2 Button operated spring return valves

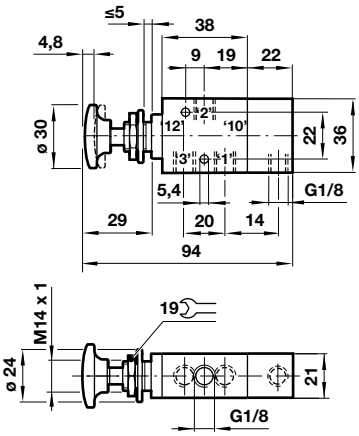


These valves are suitable for panel mounting by means of an optional nut and washer, reference 03 0430 00; a shrouded panel mounting kit is also available, reference 03 0429 00.

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

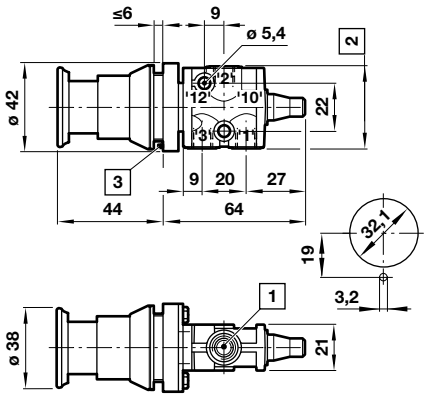
MANUALLY & MECHANICALLY ACTUATED SPOOL VALVE

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

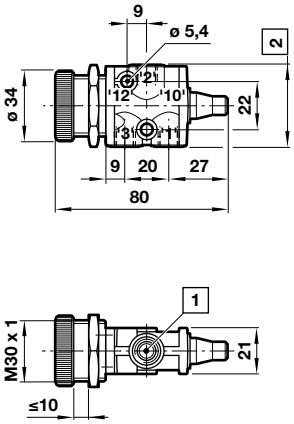


These valves are suitable for panel mounting.

36

03041402, 03041502, 03041602

3/2 Button (Shrouded) operated spring return valves

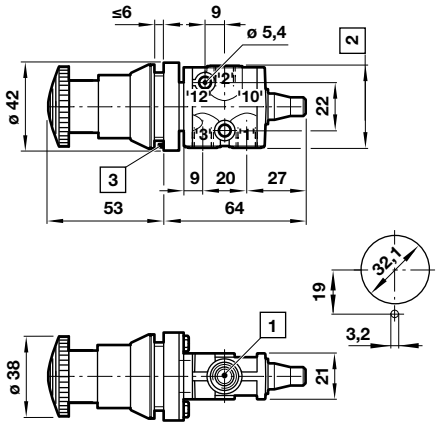


These valves are suitable for panel mounting.

37

03042802, 03042832

3/2 Button (Palm) operated, twist return valve (Emergency stop)

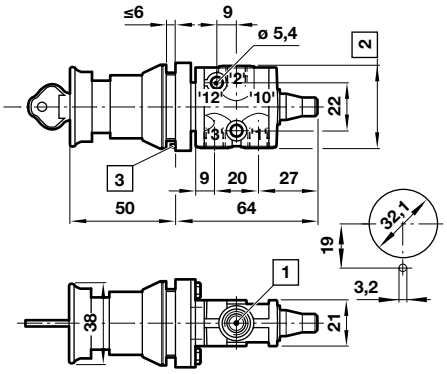


Valve latches when button is depressed and returns when the locking ring is rotated anti-clockwise.
This valve is suitable for panel mounting.

39

03033502, 03033532

3/2 Button (Palm) operated key return valve

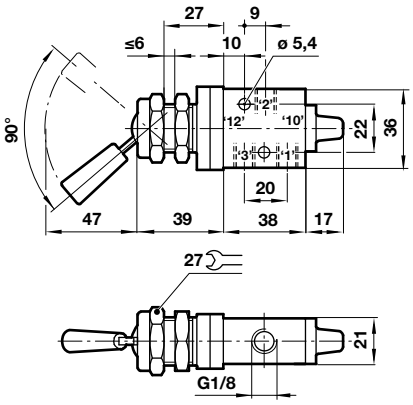


Valve latches when button is depressed.
To reset, turn key. This valve is suitable for panel mounting.

40

03029602

3/2 Toggle operated toggle return valve

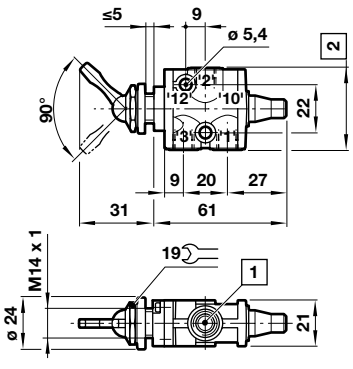


Panel hole: Ø 22,5 mm
This valve is suitable for panel mounting.

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

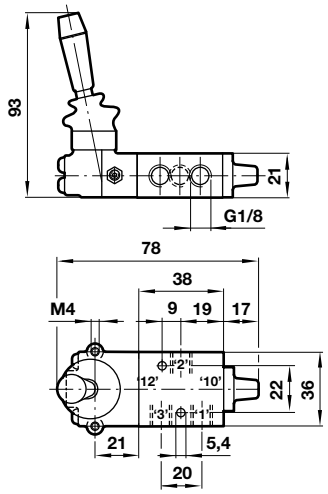
MANUALLY & MECHANICALLY ACTUATED SPOOL VALVE

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

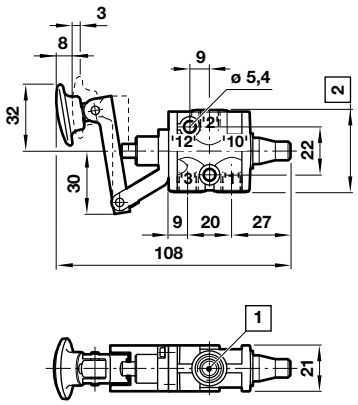


Model 03043702 features a positive detent.
Panel hole: Ø 24 mm
Panel thickness: 8 mm maximum

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

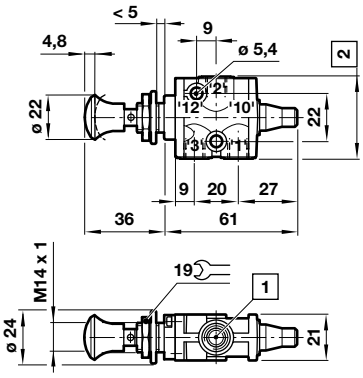
44

03034502, 03034532

3/2 Knob operated spring return valve

03042502, 03042532

3/2 Knob operated knob return valve

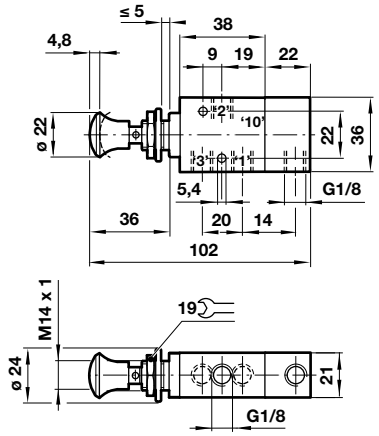


This valve is suitable for panel mounting by means of an optional nut and washer, reference 03043000.

45

03042402

3/2 Knob operated, knob or pilot return valve

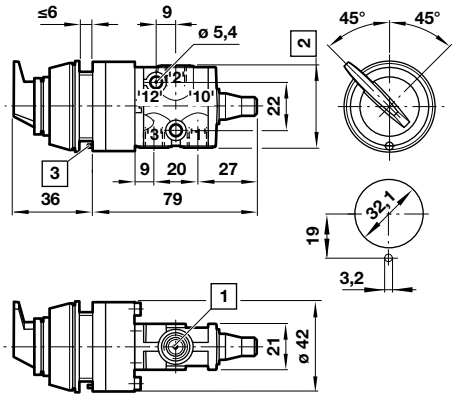


This valve is suitable for panel mounting by means of an optional nut and washer, reference 03 0430 00.

46

03041902, 03041923

3/2 Rotary knob operated rotary knob return valve

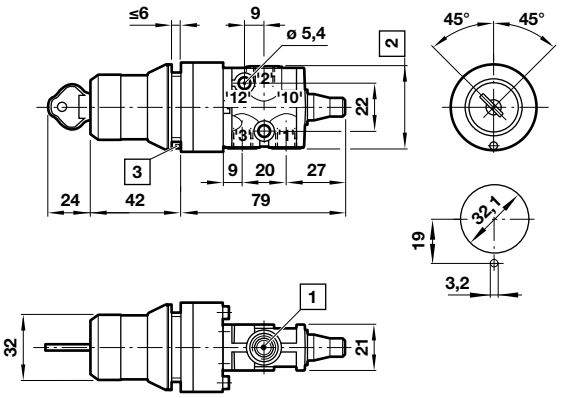


Switch shown in non-operated position
This valve is sutiable for panel mounting.

[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.

48

03041802801, 03041832801
3/2 Key operated key return valve

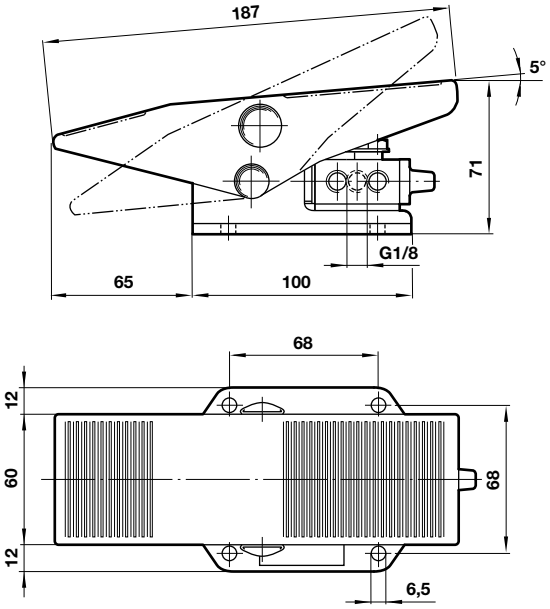


The key is removable in both positions.
Key slot shown in non-operated position.
Two keys are supplied.
This valve is suitable for panel mounting.

1 Port size G1/8 or ø 6 mm
2 37 mm for G1/8 and 45 mm for ø 6 mm

49

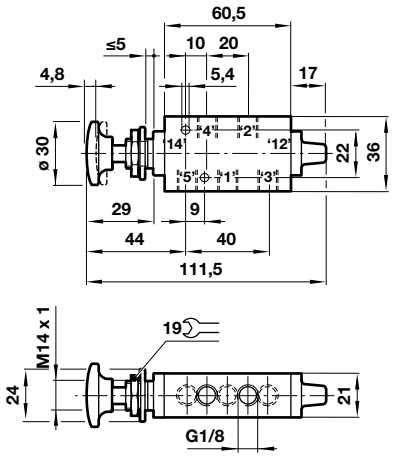
03048102
3/2 Pedal operated spring return valve
03048302
3/2 Pedal operated pedal return valve



A foot guard is available for this valve, reference 03 0480 60.

50

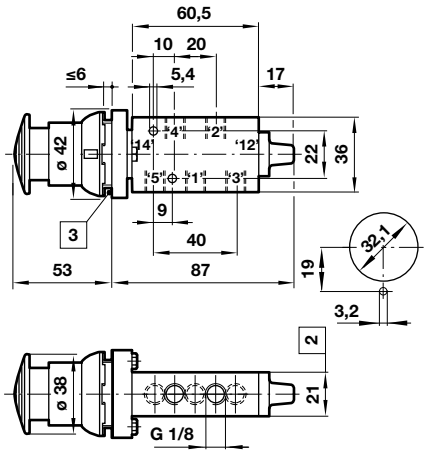
X3044402, X3044502, X3044602
5/2 Button (Palm) operated spring return valves



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

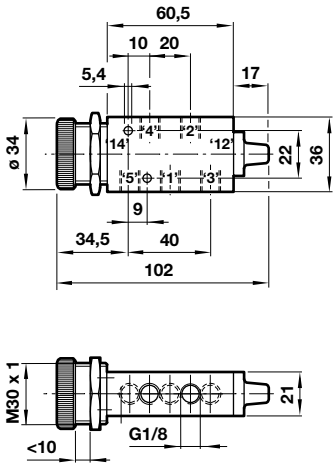
X3038602, X3038702, X3038802, X3046802
5/2 Button (Palm) operated spring return valves



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.

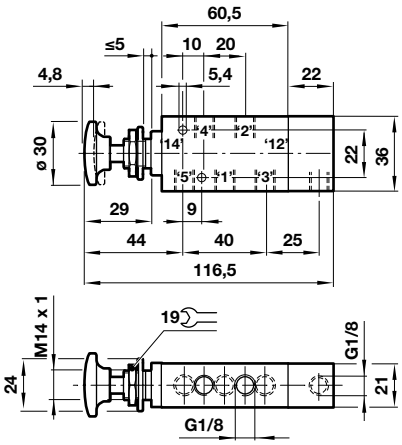
MANUALLY & MECHANICALLY ACTUATED SPOOL VALVE

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]

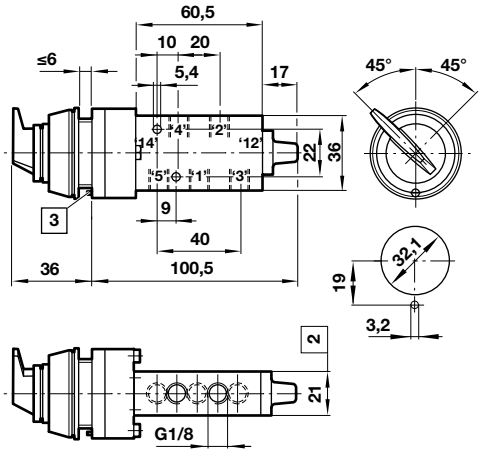


These valves are suitable for panel mounting by means of an optional nut and washer, reference 03043000; a shrouded panel mounting kit is also available, reference 03042900.

54

X3045902

5/2 Rotary knob operated rotary knob return valve

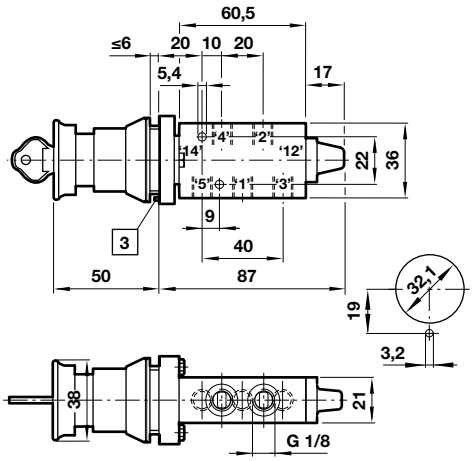


Switch shown in non-operated position
This valve is sutiable for panel mounting.

55

X3037502

5/2 Button (Palm) operated key return valve



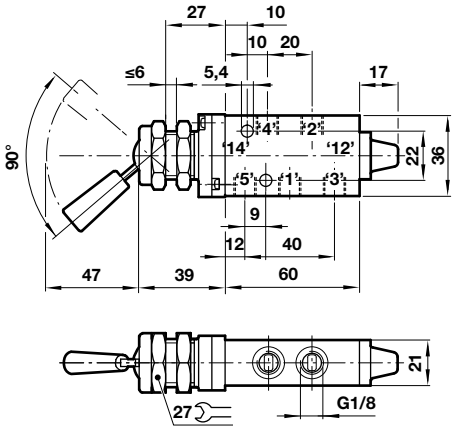
Valve latches when button is depressed.
To reset, turn key. This valve is suitable for panel mounting.

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

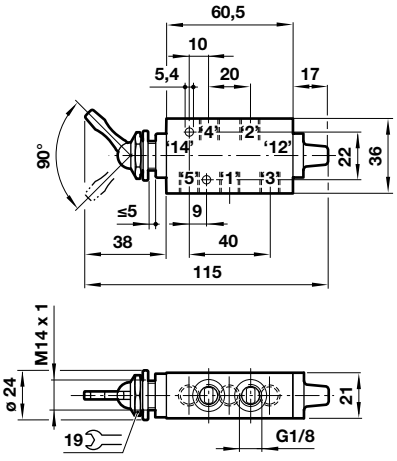


Panel hole: Ø 22,5 mm
This valve is suitable for panel mounting.

57

X3044302

5/2 Toggle operated spring return valve5

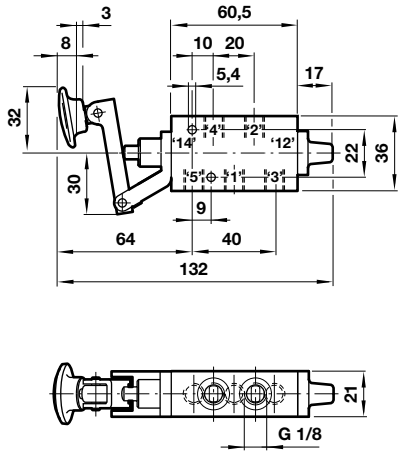


This valve is suitable for panel mounting.
A fingertip extension is available for use on this valve, reference 07 0033 01.

58

X3046602

5/2 Lever operated spring return valve

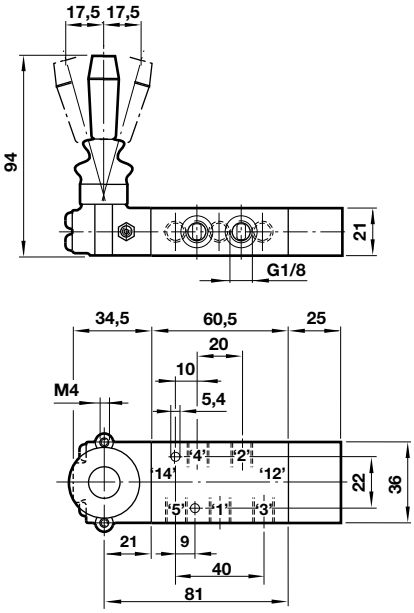


This valve is suitable for panel mounting.
Panel hole: Ø 24 mm;
Panel thickness: 8 mm maximum

60

X3343802, X3347802, X3343702, X3347702

5/3 Lever operated valves

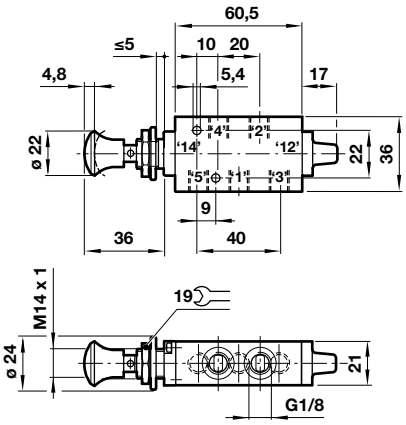


All models are suitable for panel mounting, by means of a bezel kit, reference 03 3437 64.
Panel hole: Ø 24 mm
Panel thickness: 8mm maximum

61

X3046502

5/2 Knob operated knob return valve

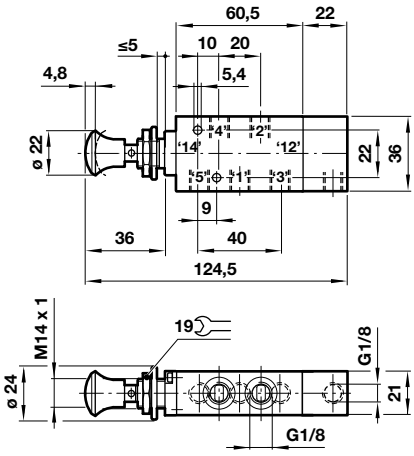


This valve is suitable for panel mounting by means of an optional nut and washer, reference 03043000.

62

X3046402

5/2 Knob operated, knob or pilot return valve

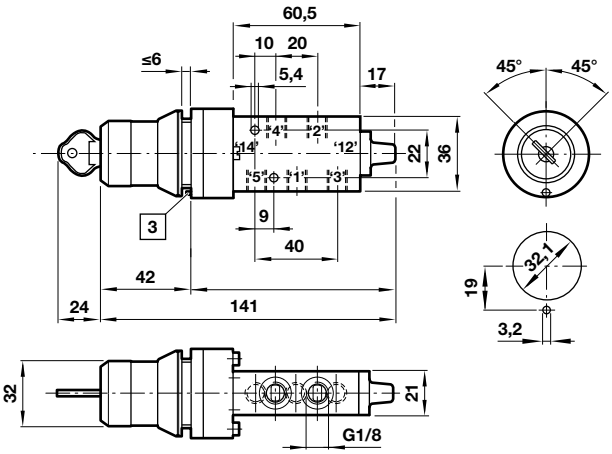


These valves are suitable for panel mounting by means of an optional nut and washer, reference 03043000

64

X3045802801

5/2 Key operated key return valve



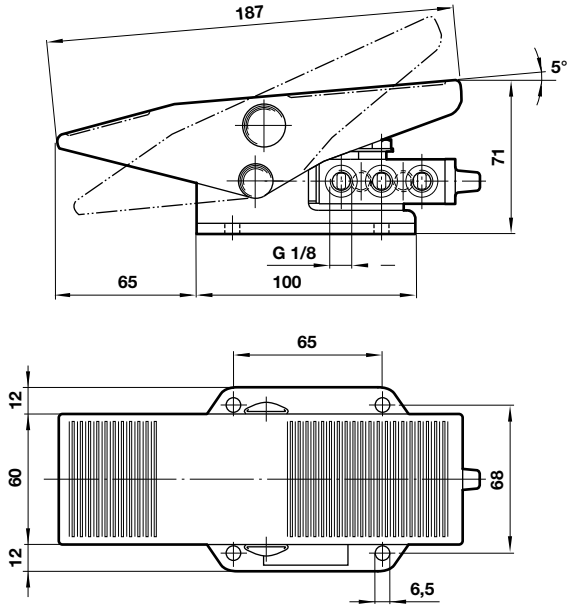
The key is removable in both positions.
Key slot shown in non-operated position.
Two keys are supplied.
This valve is suitable for panel mounting.

MANUALLY & MECHANICALLY ACTUATED SPOOL VALVE

Super X 3/2, 5/2 and 5/3, G1/8, G1/4 and 6mm PIF

65

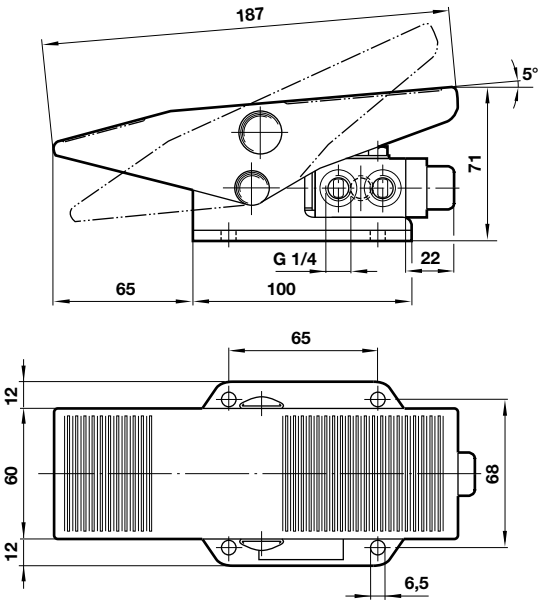
X3048202
5/2 Pedal operated spring return valve
X3048402
5/2 Pedal operated pedal return valve



A foot guard is available for this valve, reference 03048060.

66

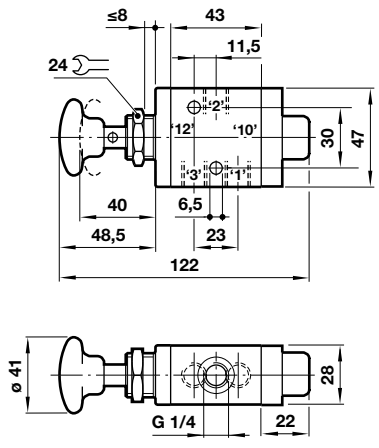
03068102
3/2 Pedal operated spring return valve
03068302
3/2 Pedal operated pedal return valve



A foot guard is available for this valve, reference 03048060.

67

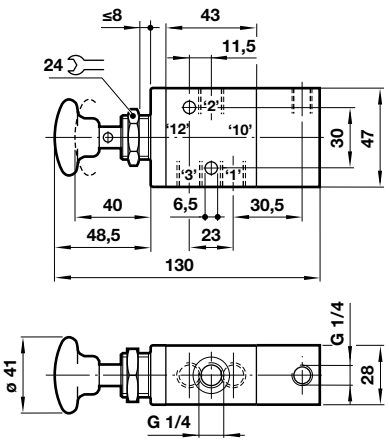
03060402
3/2 Button operated spring return valve



This valve is suitable for panel mounting and includes a nut and washer.
Panel hole: Ø 21 mm

68

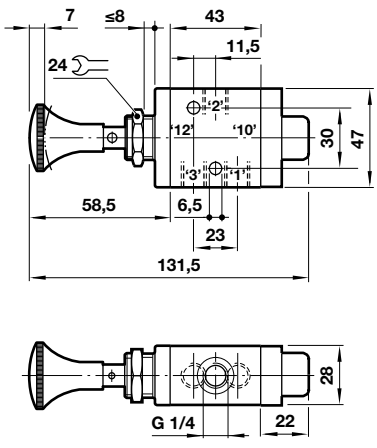
03060802
3/2 Button operated pilot return valve



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

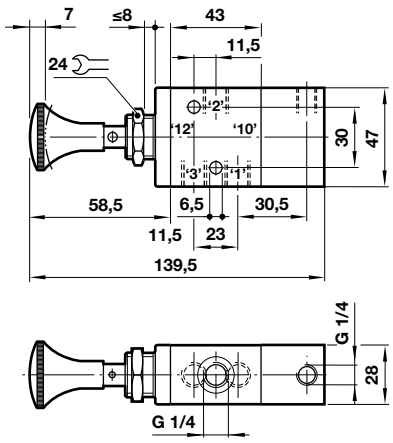
MANUALLY & MECHANICALLY ACTUATED SPOOL VALVE

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

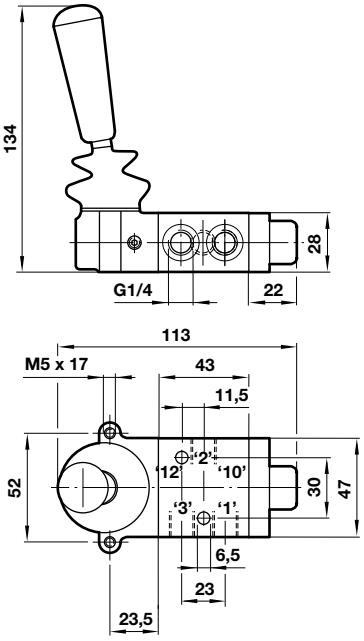


This valve is suitable for panel mounting and includes a nut and washer.
Panel hole: Ø 21 mm

71

03063802, 03063702

3/2 Lever operated valve

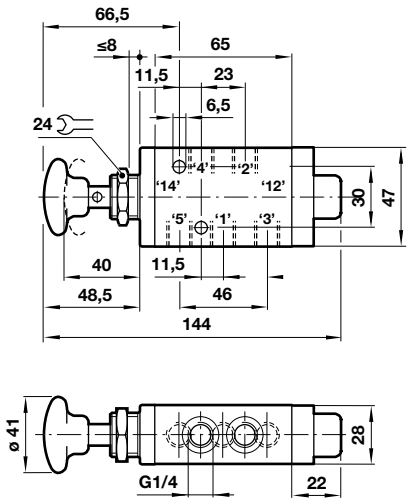


Model 03063702 features a positive detent in each position.
Both models are suitable for panel mounting by means of a bezel kit,reference 03363764.
Panel hole: Ø 31 mm;
Panel thickness: 8 mm maximum

72

X3064402

5/2 Button operated spring return valve

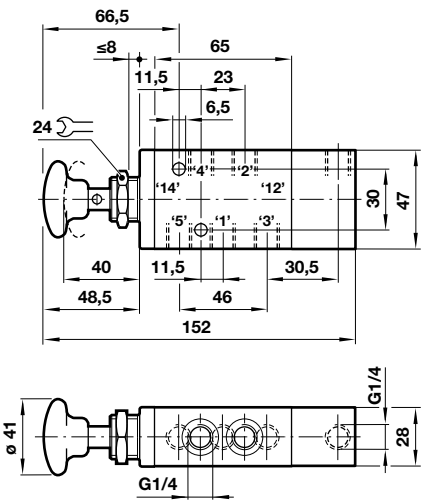


This valve is suitable for panel mounting and includes a nut and washer.
Panel hole: Ø 21 mm

73

X3064802

5/2 Button operated pilot return valve

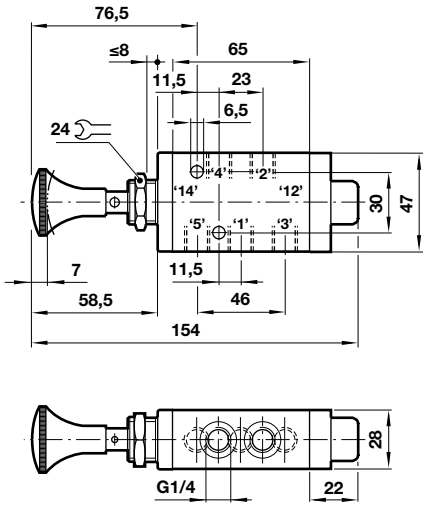


This valve is suitable for panel mounting and includes a nut and washer.
Panel hole: Ø 21 mm

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

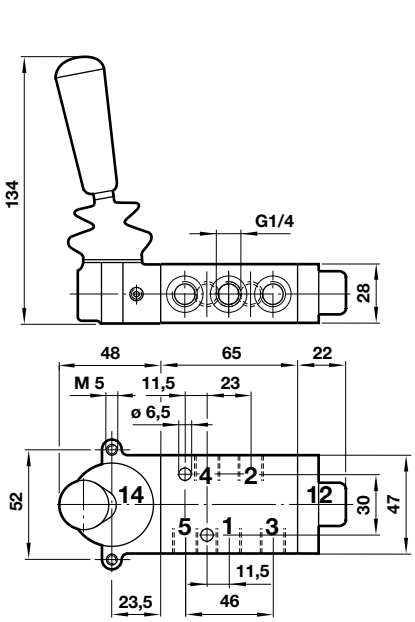
MANUALLY & MECHANICALLY ACTUATED SPOOL VALVE

Super X 3/2, 5/2 and 5/3, G1/8, G1/4 and 6mm PIF

75

X3067802, X3067702

5/2 Lever operated valve

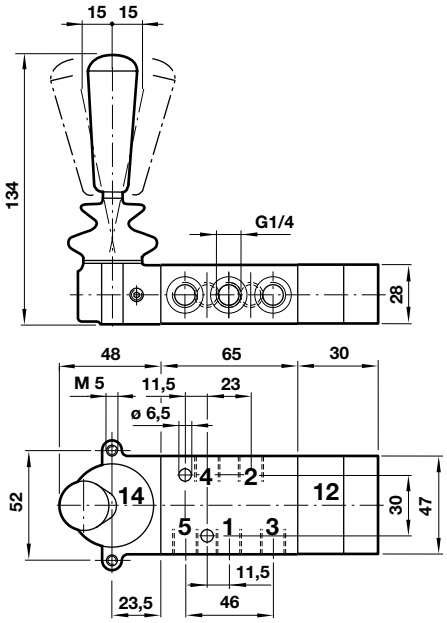


Model X3067702 features a positive detent in each position.
Both models are suitable for panel mounting by means of a bezel kit, reference 03363764.
Panel hole: Ø 31 mm
Panel thickness: 8 mm maximum

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

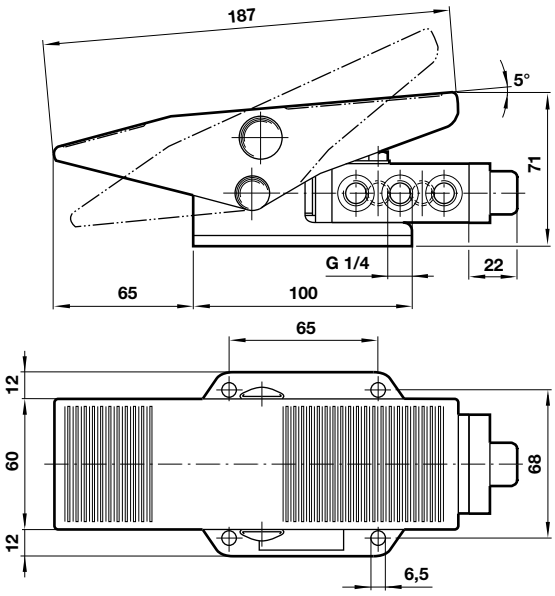
77

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.

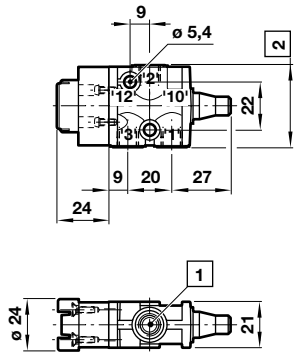
MANUALLY & MECHANICALLY ACTUATED SPOOL VALVE

Super X 3/2, 5/2 and 5/3, G1/8, G1/4 and 6mm PIF

78

03029502, 03029532

3/2 Adapter valve

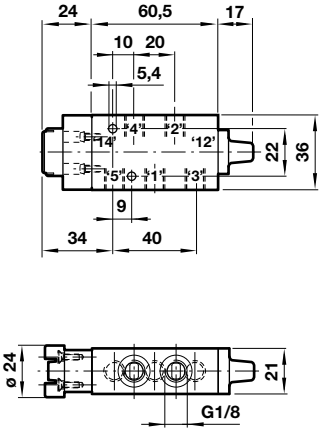


This valve is for use with standard electrical style operating heads.
For details see below.

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

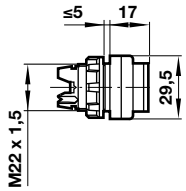
Panel thickness: 6 mm maximum

V11783-C01 (pink)

V11783-C02 (green)

V11783-C03 (black)

Button (palm) operated, spring return

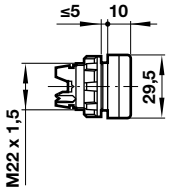


V11783-C04 (pink)

V11783-C05 (green)

V11783-C06 (black)

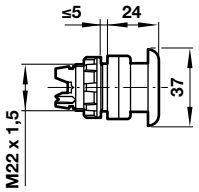
Button (shrouded) operated, spring return



V11783-C07 (red)

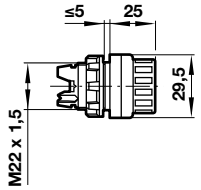
V11783-C08 (green)

Button (mushroom) operated, spring return



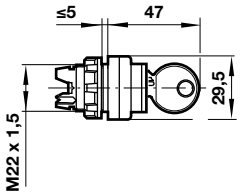
V11783-C10

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

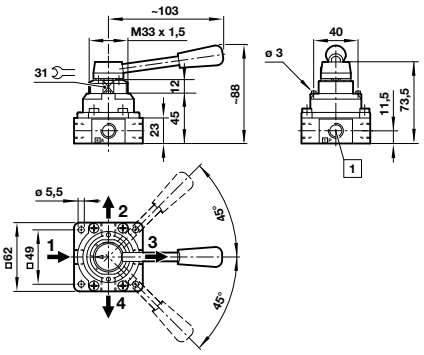
Model	Port size	Function	Flow (l/min)	Panel mount nut	Straight fitting	Elbow fitting	Silencer
							
VHLA202-02G	G1/4	4/2	400	VHLA-200N	C02250828	C02470828	T40C2800
VHLA302-03G	G3/8	4/2	1100	VHLA-300N	C02251038	C02471038	T40C3800
VHLA402-04G	G1/2	4/2	3100	VHLA-400N	C02251248	C02471248	T40C4800
VHLA200-02G	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.

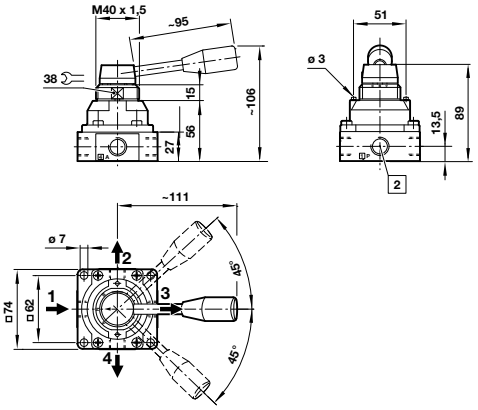
Dimensions

Panel mount nut

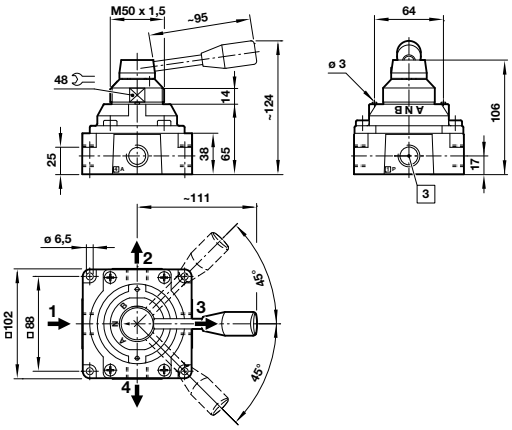
G1/4



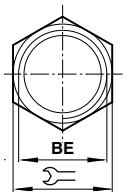
G3/8



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

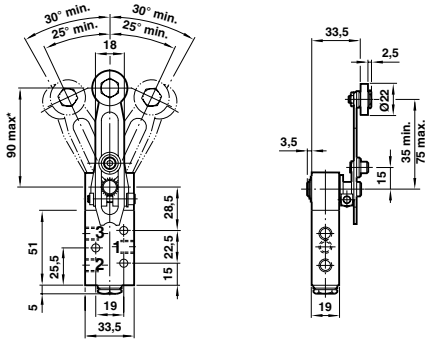
Model	Function	Actuation	Dimension No.	Spares Kit
Mechanical				
S/666/14	3/2 NC	Plunger/Spring	7	QS/666/1/00
S/666/8	3/2 NC	Roller/Spring	8	QS/666/1/00
S/667/8	3/2 NO	Roller/Spring	8	QS/667/1/00
S/666/108	3/2 NC	Variable Roller/Spring	1	QS/666/1/00
S/666/106	3/2 NC	Variable Rod/Spring	2	QS/666/1/00
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

POPPET VALVE MANUAL/MECHANICAL
S/666 3/2 G1/8

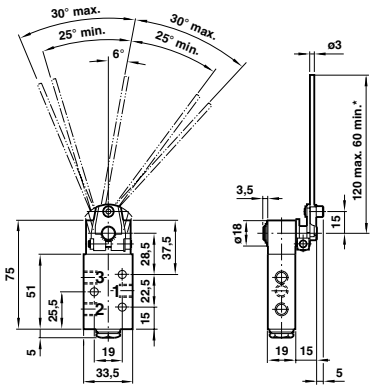
Dimensions

1-S/666/108



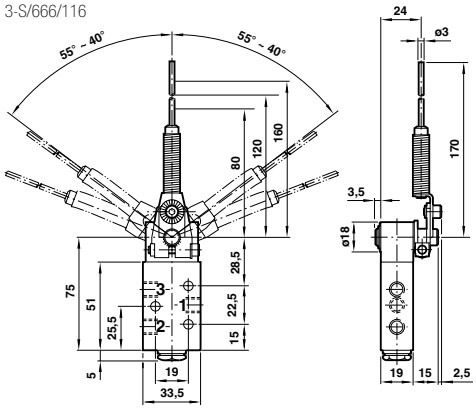
Mechanism may be operated either side of centre line.
When the valve is mounted horizontally, the roller is recommended to be positioned on the upper face of the arm.
*Alternative position

2- S/666/106



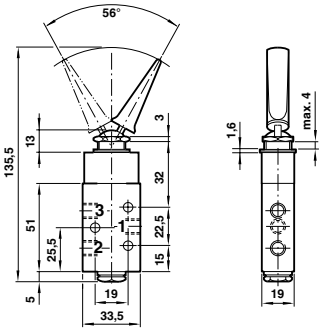
Mechanism may be operated either side of centre line.
*Recommended

3-S/666/116



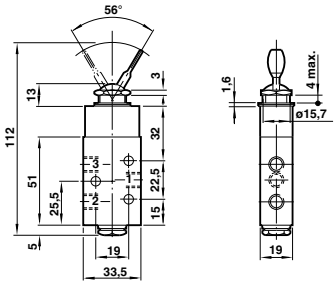
*Rotation at Point of Application: 40° minimum @ 80 mm
50° minimum @ 120 mm
55° minimum @ 160 mm
Mechanism may be operated either side of centre line.

4-S/666/117



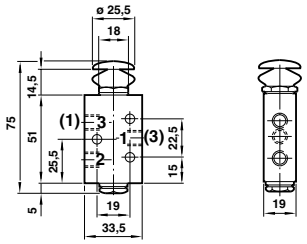
Panel hole: ø 16 mm
Panel thickness: 4 mm maximum

5-S/666/7

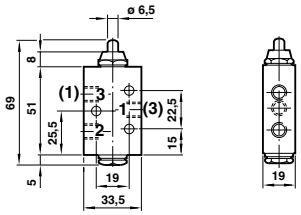


Panel hole: ø 16 mm
Panel thickness: 4 mm maximum

6-S/666/1

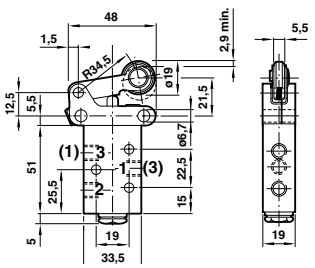


7-S/666/14



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.

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

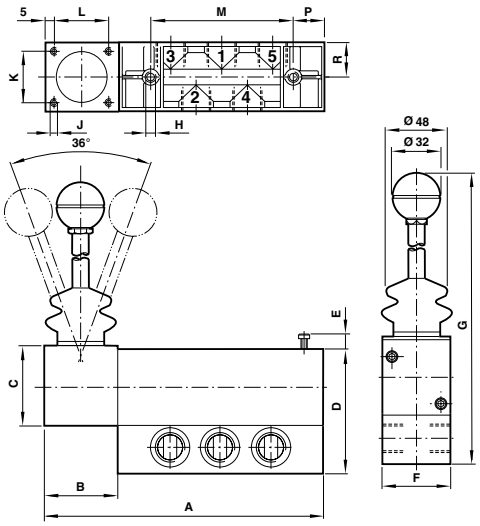
Seals:
Nitrile

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

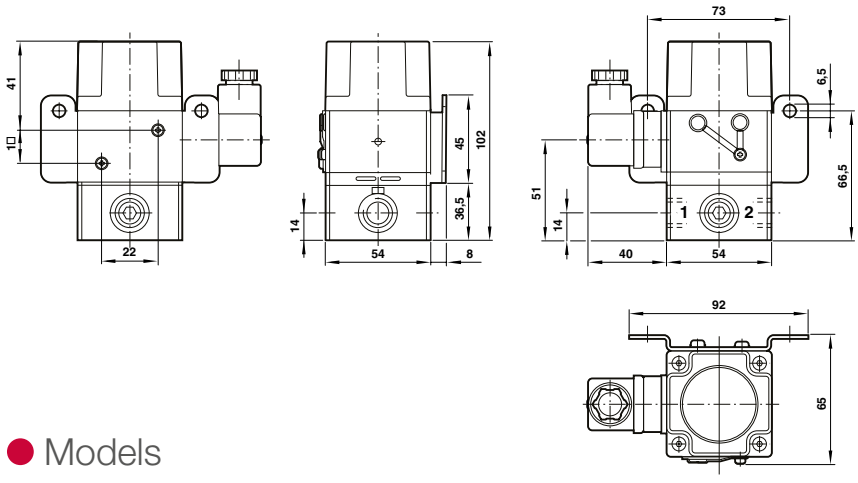
Materials

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

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

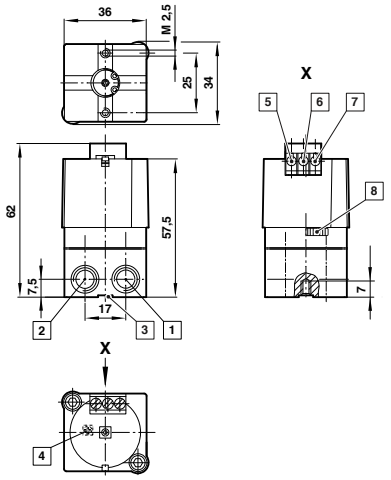
Hysteresis and deadband:
< 1% of span

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

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

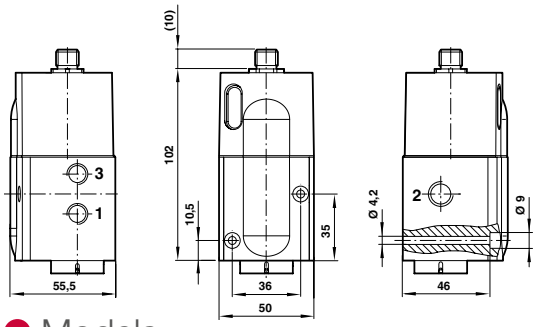
Body:
Aluminium

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

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

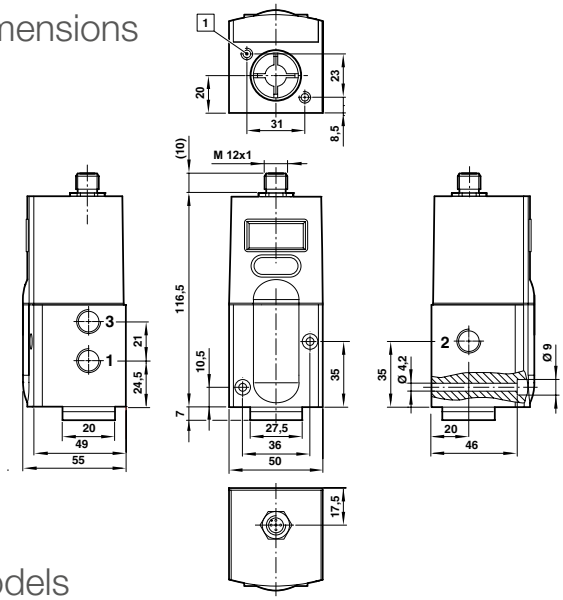
Body:
Aluminium

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

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

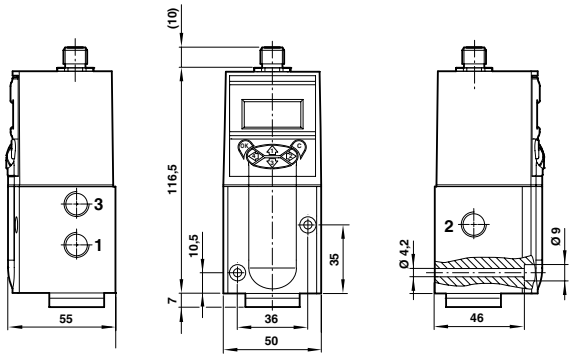
Body:
Aluminium

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

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

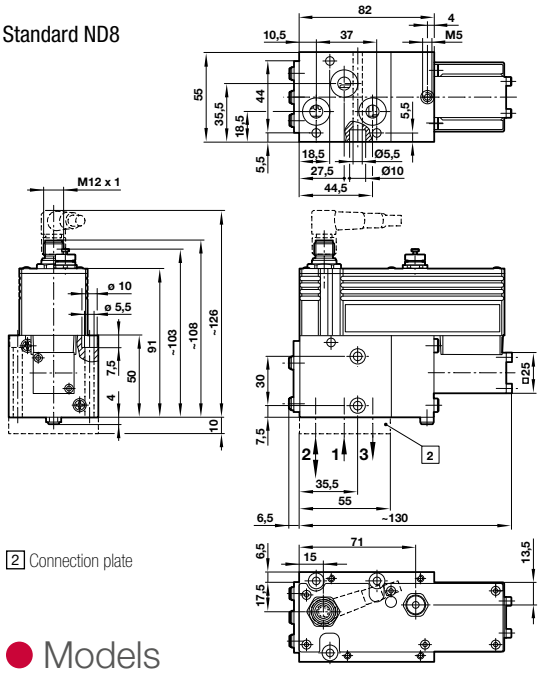
Seals:
NBR, HNBR on request

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

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

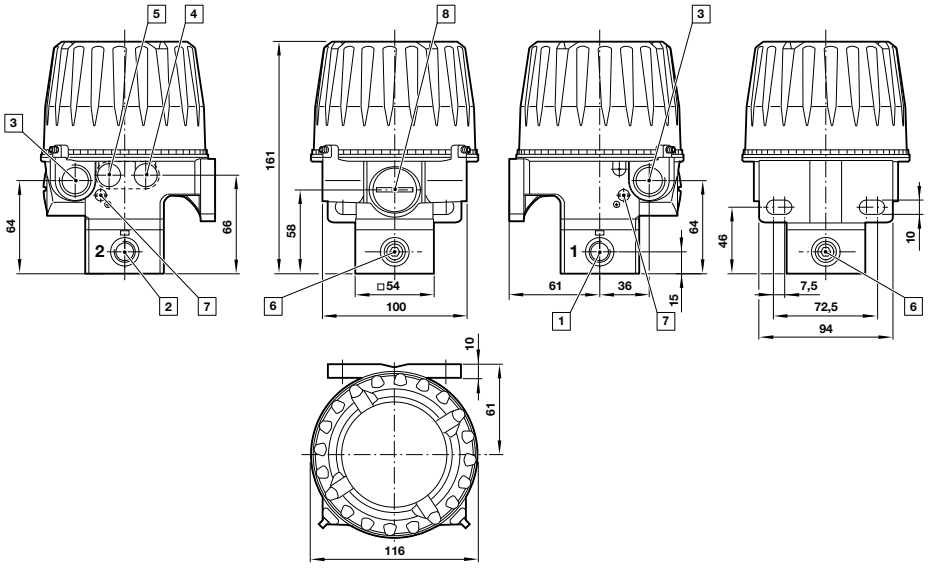
Materials

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

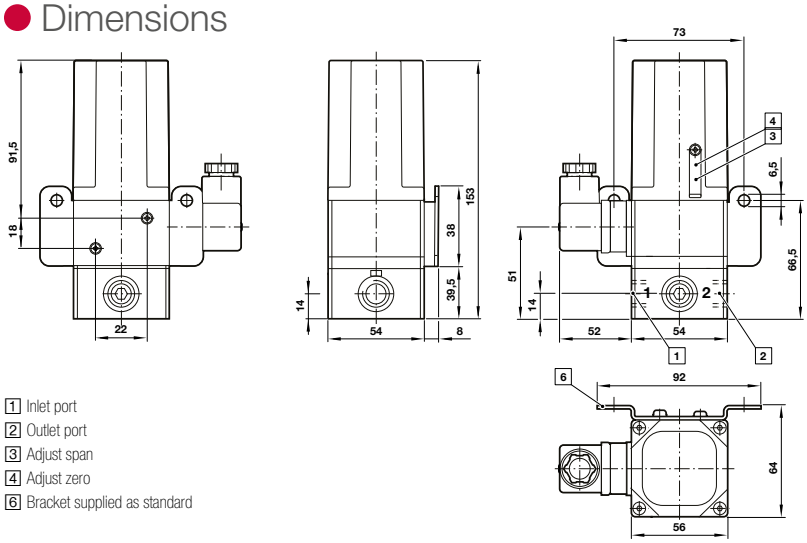
Materials

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

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

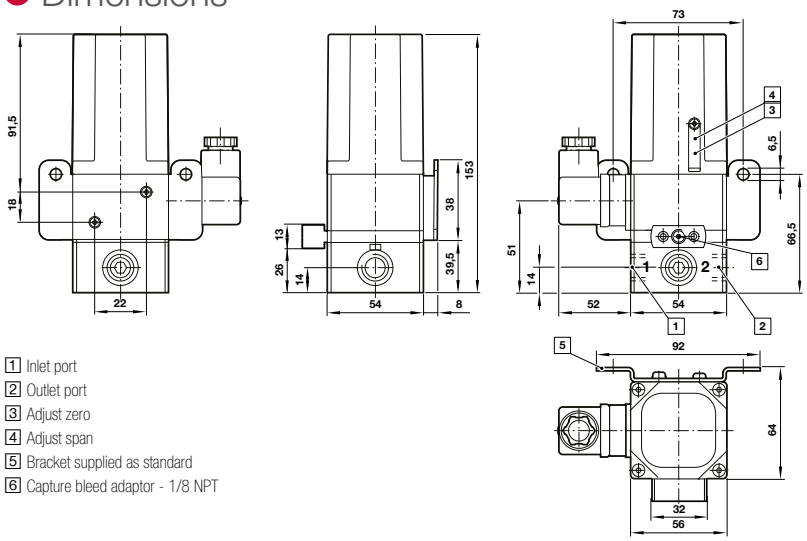
Materials

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

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

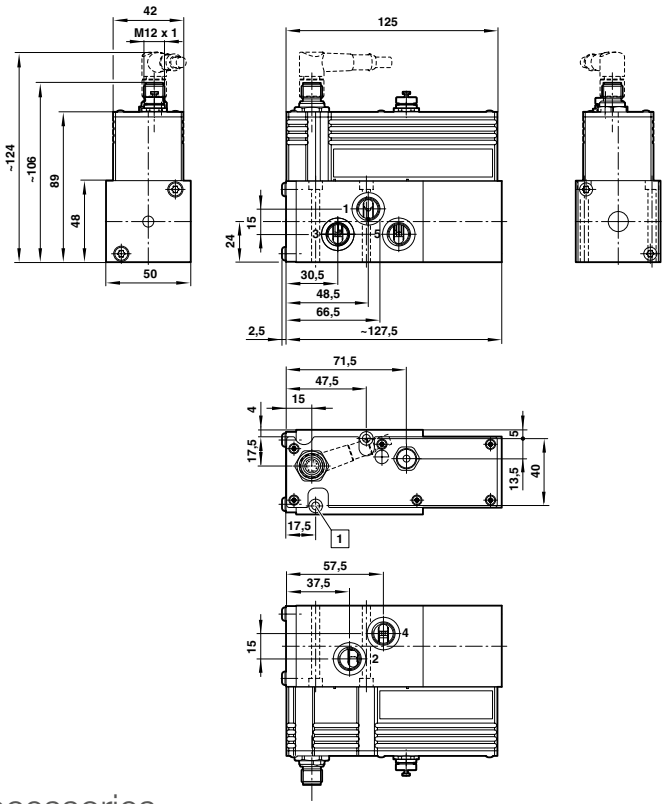
Electronic enclosure:
PAA

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

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

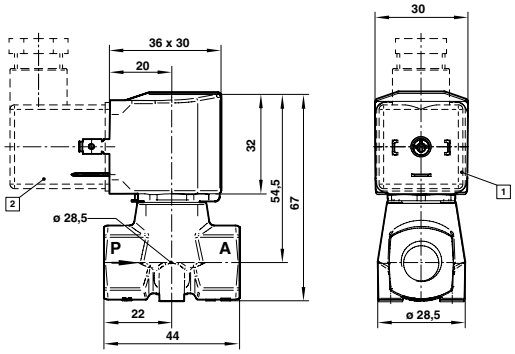
Voltage codes and spare coils

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

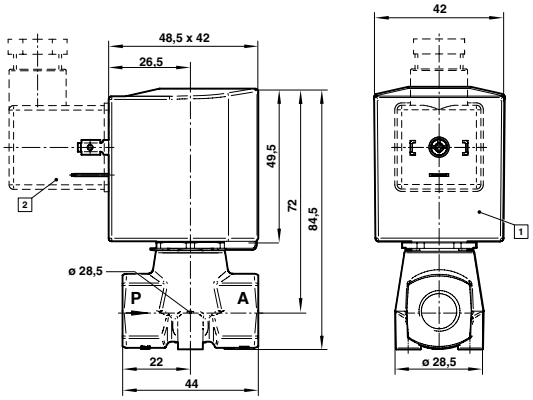
*1) Note: cULus coil only / up to +55°C ambient temperature.
Further versions on request!

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

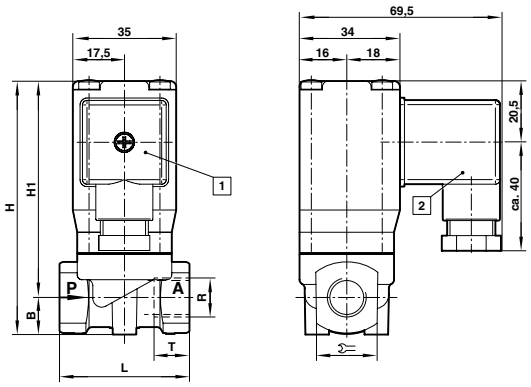
Further versions on request!

Options

- Seat seal EPDM
- Seat seal FPM
- Media temperature up to +150°C with HNBR seat seal

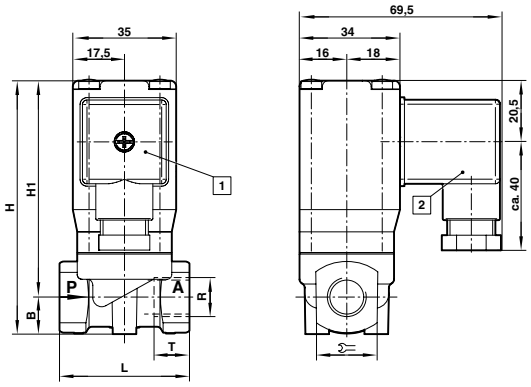
Dimensions

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)

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!

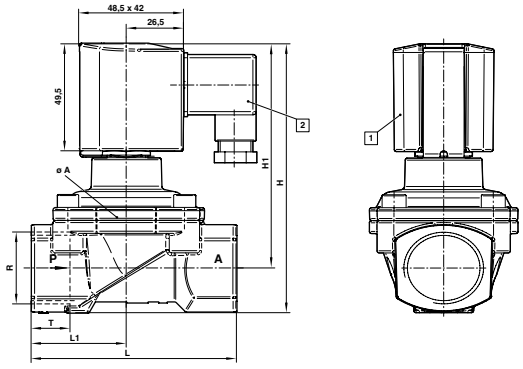
Voltage codes and spare coils

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!

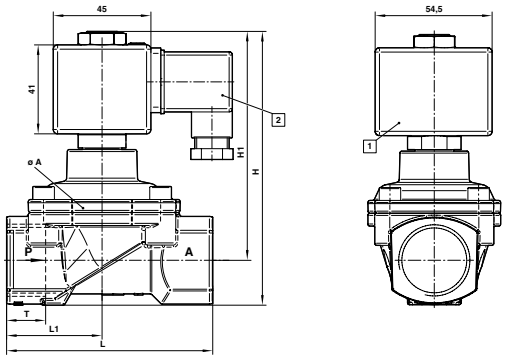
Dimensions

82540/82590 with solenoid 915x (10 bar)



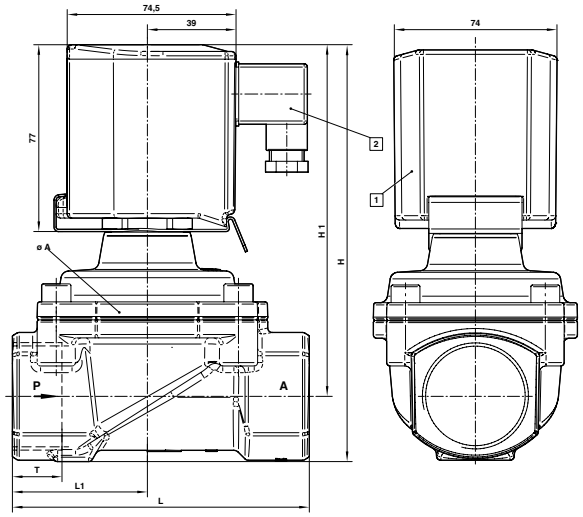
Model	Port size	ø A	H	H1	L	L1	T
8254000.915x.xxxxx	G1/4	44	104	92,5	60	27,5	12
8254100.915x.xxxxx	G3/8	44	104	92,5	60	27,5	12
8254200.915x.xxxxx	G1/2	44	108	94,5	67	31	14
8254300.915x.xxxxx	G3/4	50	115	99	80	36,5	16
8254400.915x.xxxxx	G1	62	124	103,5	95	44	18

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)

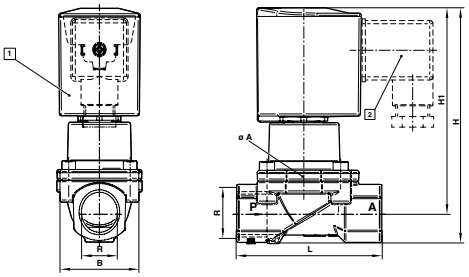


[1] Solenoid rotatable 360°
[2] Socket turnable 4 x 90° (Socket included)

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

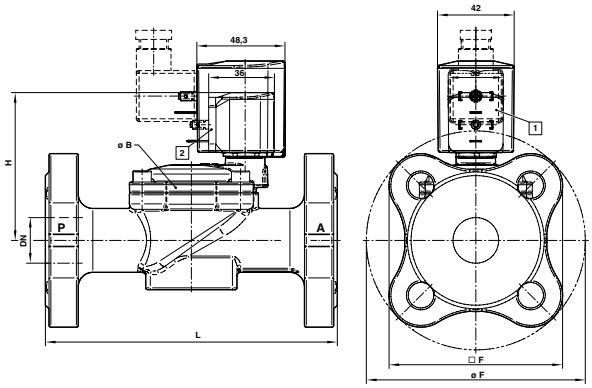
2/2-WAY FORCE LIFTED VALVES
Series 82540, 82590, 82090, 83040

82090



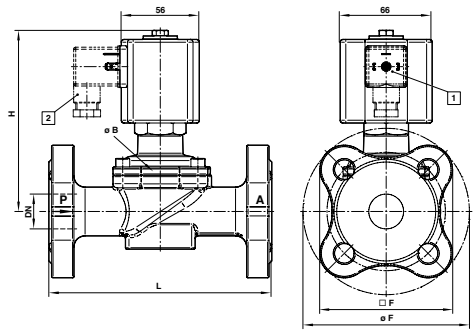
Model	Port size	ø A	H	H1	L
8209000.917x.xxxxx	G1/4	44	104	92,5	60
8209100.917x.xxxxx	G3/8	44	104	92,5	60
8209200.917x.xxxxx	G1/2	44	108	94,5	67
8209300.917x.xxxxx	G3/4	50	115	99	80
8209400.917x.xxxxx	G1	62	124	103,5	95

83040 wih Solenoid 915x (10 bar)



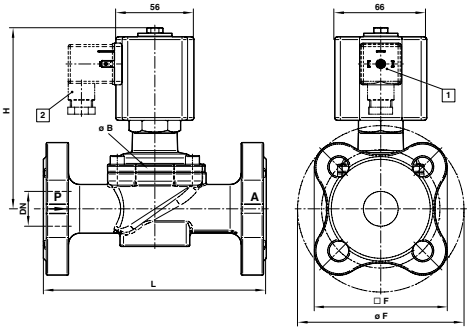
Model	Orifice	ø B	ø F	F	H	L
8304200.915x.xxxxx	15	44	96	77	97	130
8304300.915x.xxxxx	20	50	110	86,6	105	150
8304400.915x.xxxxx	25	62	120	95,1	108	160

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!

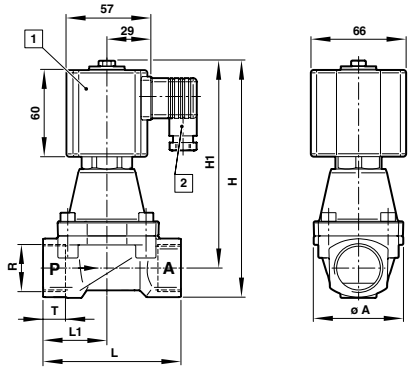
Options

- 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

2/2-WAY FORCE LIFTED VALVES
Series 86700, 86720, 86740

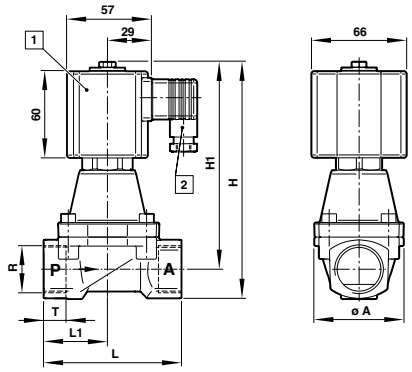
Dimensions

86700 with solenoid 830x



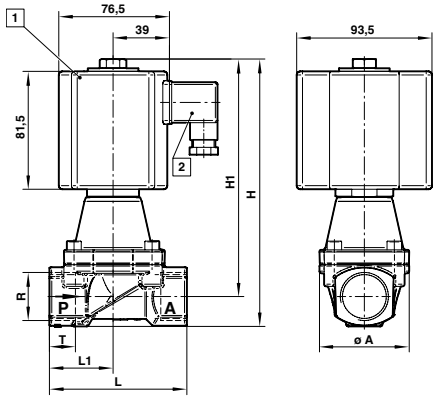
Model	Port size	A	H	H1	L	L1	T
8670000.830x.xxxxx	G1/4	44	143	132	60	27,5	12
8670100.830x.xxxxx	G3/8	44	143	132	60	27,5	12
8670200.830x.xxxxx	G1/2	44	145	132	67	31	14
8670300.830x.xxxxx	G3/4	50	154	137	80	35,5	16
8670400.830x.xxxxx	G1	62	164	143,5	95	44	18

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

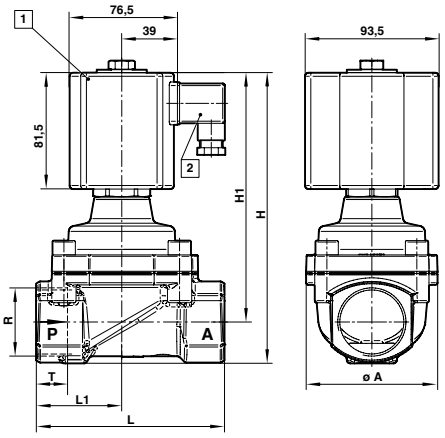
86720 with solenoid 840x



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

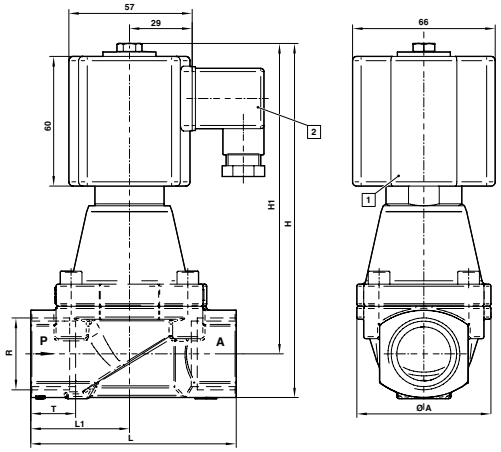
[1] Solenoid rotatable 360°
[2] Socket turnable 4 x 90° (Socket included)

86720 with solenoid 840x



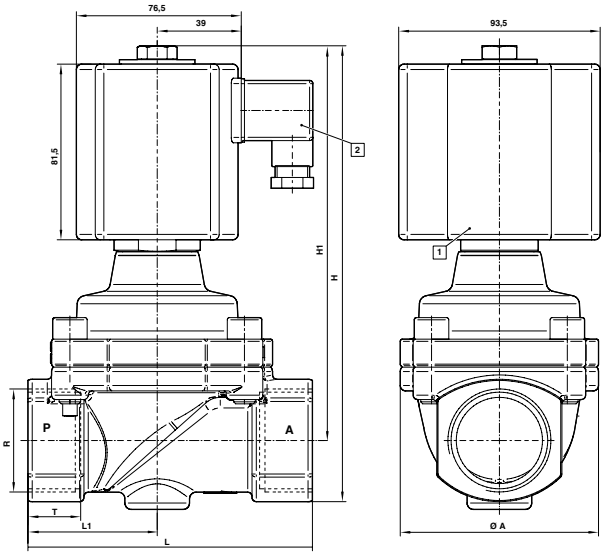
Model	Port size	A	H	H1	L	L1	T
8672500.840x.xxxxx	G1 1/4	92	212	183	132	60	20
8672600.840x.xxxxx	G1 1/2	92	212	183	132	60	22
8672700.840x.xxxxx	G2	109	226	192	160	74	24

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

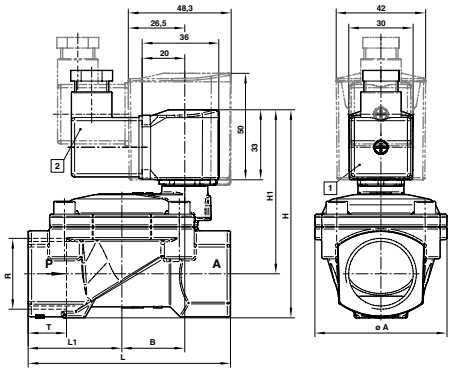
- Normally open (NO)
- Manual override
- Seat seal FPM
- Seat seal EPDM
- Bi-stabil version
- Latching-coil system
- Version for drinking water with diaphragm according to KTW
- Flanges acc.to ASME B 16.5 150 lb/sq.In. (Series 83030)
- FM/NEMA approved coil Modele 382x for USA + Canada
- With sealed core tube
- With Drain plug (Gardening version)
- ATEX approved coils

2/2-WAY INDIRECLY OPERATED SOLENOID VALVES
Series 82400, 82470, 82730, 83030

Dimensions

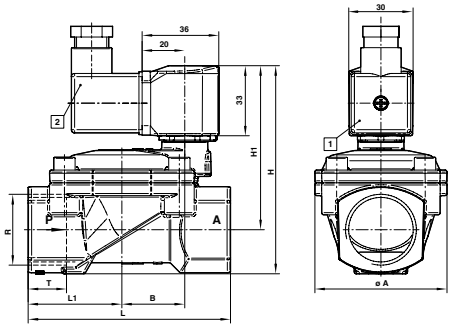
1 Solenoid rotatable 360°
2 Socket turnable 4 x 90° (Socket included)

82400



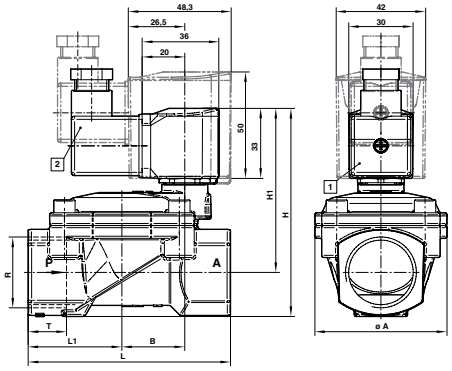
Model	Port size	A	B	H	H1	L	L1	T
8240000.9101.xxxxx	G1/4	44	19,5	78,5	67	60	27,5	12
8240100.9101.xxxxx	G3/8	44	19,5	78,5	67	60	27,5	12
8240200.9101.xxxxx	G1/2	44	19,5	81	67	67	31	14
8240300.9101.xxxxx	G3/4	50	24	88	71,5	80	36,5	16
8240400.9101.xxxxx	G1	62	29,5	97,5	77	95	44	18
8240500.9101.xxxxx	G1 1/4	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



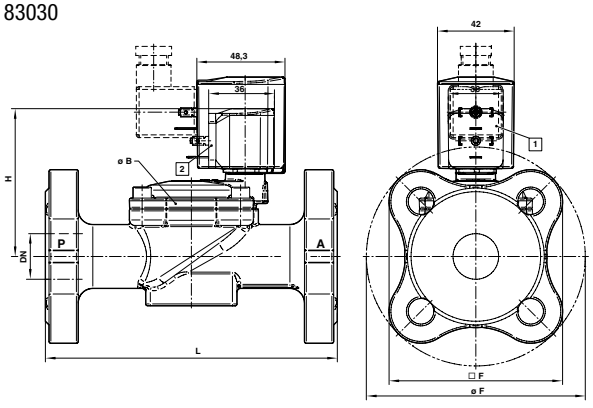
Model	Port size	A	B	H	H1	L	L1	T
8247000.9101.xxxxx	G1/4	44	19,5	78,5	67	60	27,5	12
8247100.9101.xxxxx	G3/8	44	19,5	78,5	67	60	27,5	12
8247200.9101.xxxxx	G1/2	44	19,5	81	67	67	31	14
8247300.9101.xxxxx	G3/4	50	24	88	71,5	80	36,5	16
8247400.9101.xxxxx	G1	62	29,5	97,5	77	95	44	18

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.

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

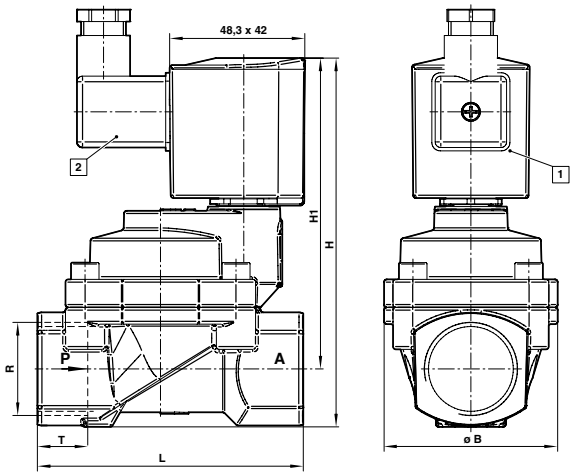
*1) Note: cULus coil only.
*2) Note: cULus coil only / up to +55°C ambient temperature.
Further versions on request!

Options

- Normally open
- Manual override
- Version for drinking water
- Special version for PET-bottling systems

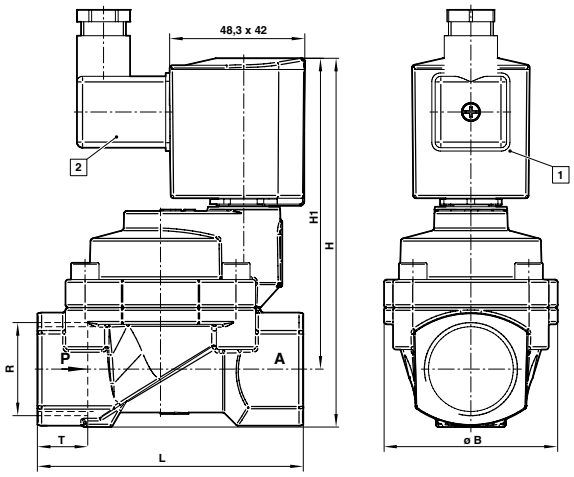
Dimensions

85360



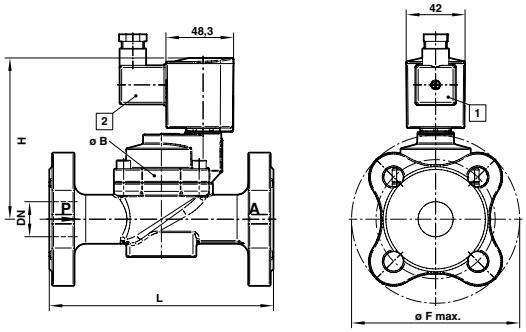
Model	Port size	ø B	H	H1	L	T
8536000.9151.xxxxx	G1/4	44	105	93,5	60	12
8536100.9151.xxxxx	G3/8	44	105	93,5	60	12
8536200.9151.xxxxx	G1/2	44	107,5	102,5	67	14
8536300.9151.xxxxx	G3/4	50	119	102,5	80	16
8536400.9151.xxxxx	G1	62	131,5	110,5	95	18
8536500.9151.xxxxx	G1 1/4	92	166	137	132	20
8536600.9151.xxxxx	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

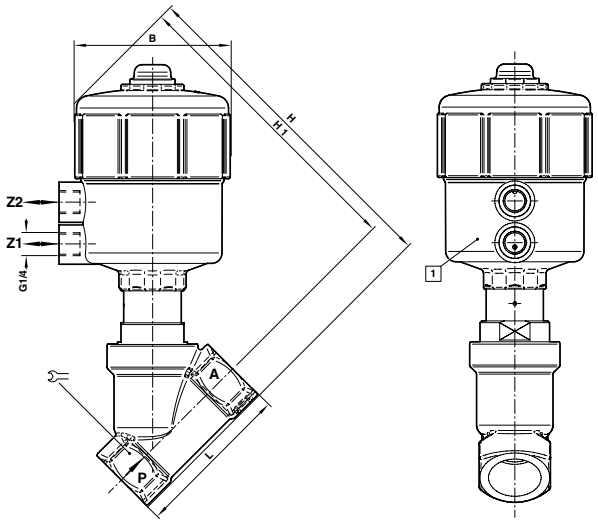
Port size	Series 84500 Model	Operating pressure (bar)	Series 84520 Model	Operating pressure (bar)
G1/2	8450200.0000.00000	0 … 16 (25)	8452200.0000.00000	0 … 16 (25)
G3/4	8450300.0000.00000	0 … 10 (16)	8452300.0000.00000	0 … 10 (16)
G1	8450400.0000.00000	0 … 10	8452400.0000.00000	0 … 10
G1 1/4	8450500.0000.00000	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

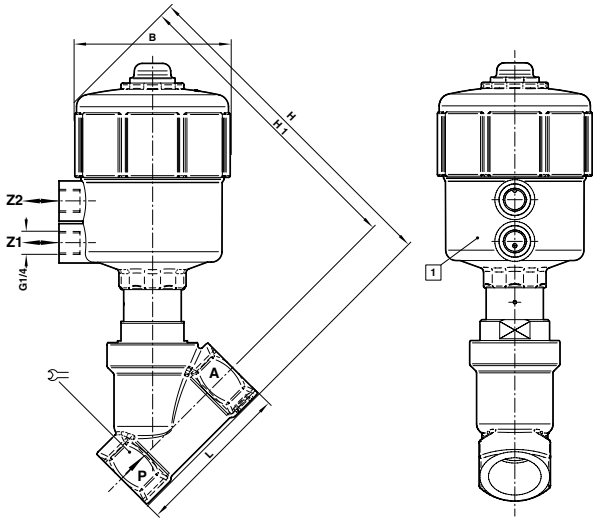
Dimensions

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

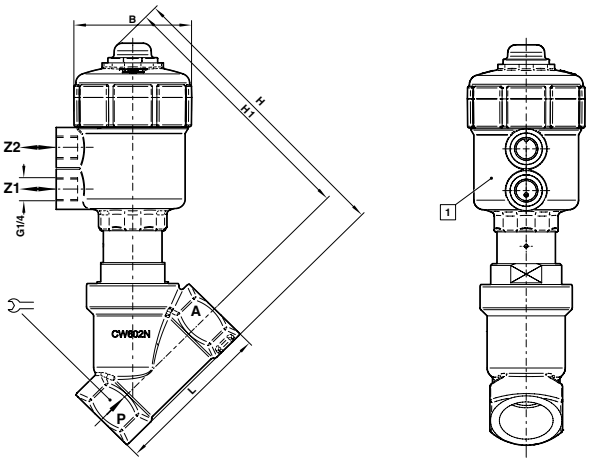
Port size	Series 84720 Model	Operating pressure (bar)	Series 84740 Model	Operating pressure (bar)
G1/2	8472200.0000.00000	0 … 16	8474200.0000.00000	0 … 16
G3/4	8472300.0000.00000	0 … 8	8474300.0000.00000	0 … 8
G1	8472400.0000.00000	0 … 5	8474400.0000.00000	0 … 5

Options

- Namur interface plate for Namur pilot valve
- Electrical position indicator
- Normally open
- Double acting

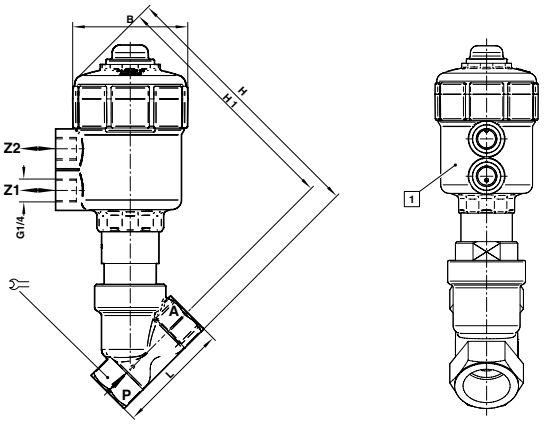
Dimensions

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

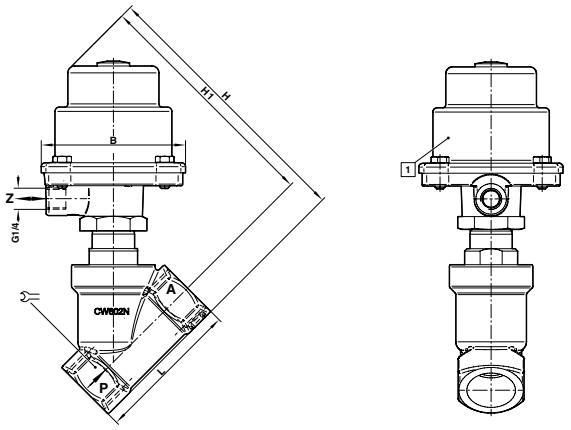
Port size	Orifice (mm)	Series 82180 Model	Operating pressure (bar)	Series 82280 Model	Operating pressure (bar)	Series 82580 Model	Operating pressure (bar)
G1/2	15	8218200.0000.00000	0 … 16	–	–	8258200.0000.xxxxx	0 … 10
G3/4	20	8218300.0000.00000	0 … 10	–	–	8258300.0000.xxxxx	0 … 10
G1	25	8218400.0000.00000	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

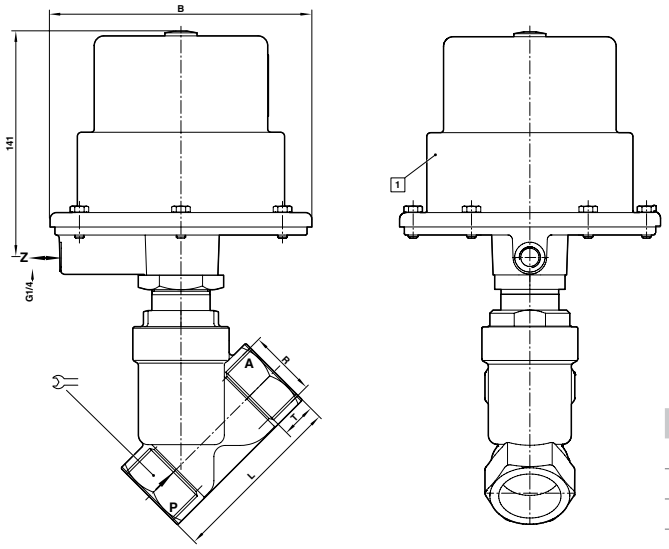
Dimensions

82180 actuator ø 70 mm



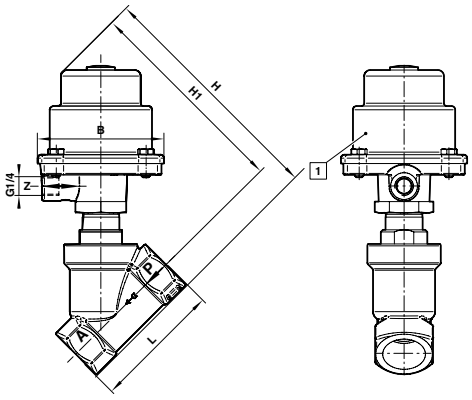
Model	Port size	B	H	H1	L	
8218200.0000.00000	G1/2	89,5	154	140,5	65	27
8218300.0000.00000	G3/4	89,5	160	144	75	32
8218400.0000.00000	G1	89,5	171	150,5	90	41
8218500.0000.00000	G1 1/4	89,5	186	161	110	50
8218600.0000.00000	G1 1/2	89,5	190	162,5	120	55
8218700.0000.00000	G2	89,5	206	171	150	70

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

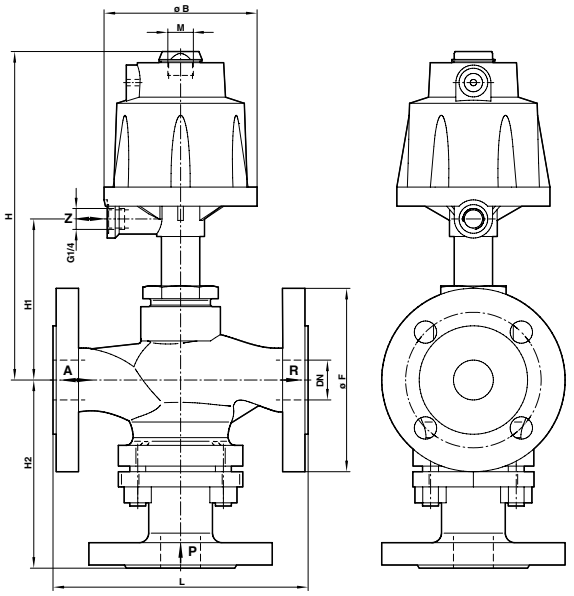
Port size	Orifice (mm)	Series 83240 Model (Flange)	Operating pressure (bar)	Series 83250 Model	Operating pressure (bar)
G1/2	15	8324200.0000.00000	0 … 16	8325200.0000.00000	0 … 16
G3/4	20	8324300.0000.00000	0 … 16	8325300.0000.00000	0 … 16
G1	25	8324400.0000.00000	0 … 10	8325400.0000.00000	0 … 10
G1 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

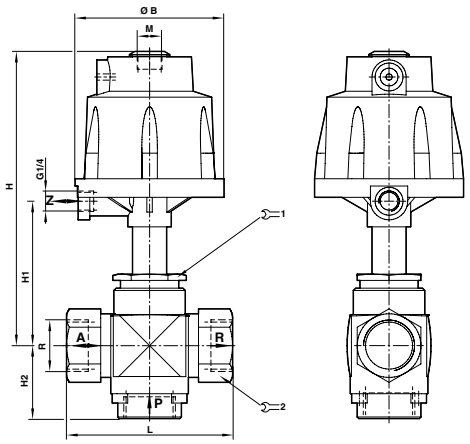
Dimensions

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

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

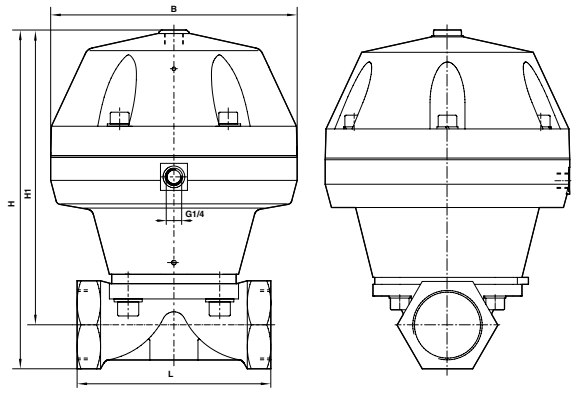
Port size	Orifice (mm)	Series 83350 Model	Operating pressure (bar)	Series 83380 Model (Flange)	Operating pressure (bar)
G1/2	15	8335200.0000.00000	0 … 10	8338200.0000.00000	0 … 10
G3/4	20	8335300.0000.00000	0 … 10	8338300.0000.00000	0 … 10
G1	25	8335400.0000.00000	0 … 10	8338400.0000.00000	0 … 10
G1 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

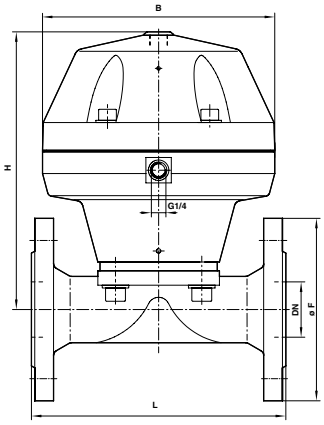
Dimensions

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.

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

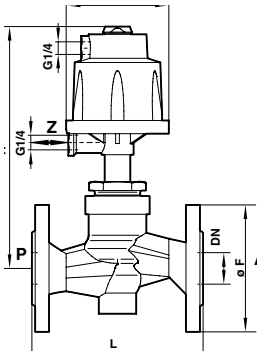
Orifice (mm)	Series 82210 Model	Operating pressure (bar)	Pilot pressure (bar)
15	8221200.0000.00000	0 … 16	5,5 … 10 bar
20	8221300.0000.00000	0 … 16	5,5 … 10 bar
25	8221400.0000.00000	0 … 10	5,5 … 10 bar
32	8221500.0000.00000	0 … 16	4 … 8 bar
40	8221600.0000.00000	0 … 12	4 … 8 bar
50	8221700.0000.00000	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

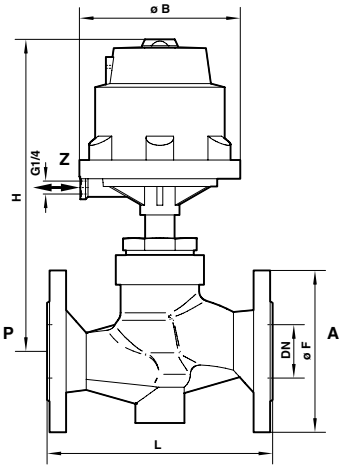
Dimensions

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

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

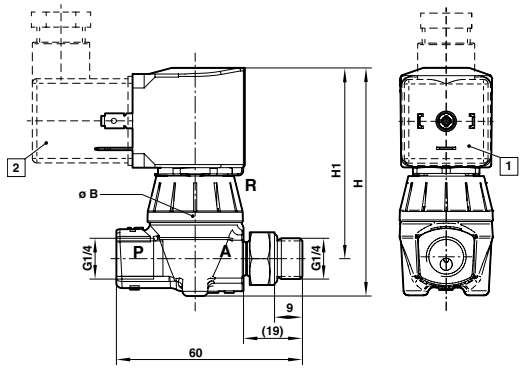
*2) Note: cULus coil only / up to +55°C ambient temperature.
Further versions on request!

Options

- Manual override
- Connection Port P and A female G1/8
- Explosion proofed coils

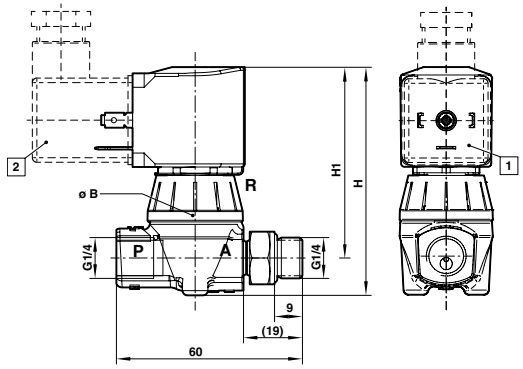
Dimensions

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)

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

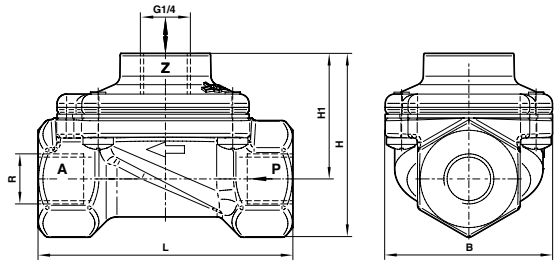
Port size	Orifice (mm)	Series 82160 Model (Flange)	Operating pressure (bar)	Series 82710 Model	Operating pressure (bar)
G1/4	8	8216000.0000.00000	0,2 … 16	8271000.0000.00000	-0,9 … 6
G3/8	10	8216100.0000.00000	0,2 … 16	8271100.0000.00000	-0,9 … 6
G1/2	12	8216200.0000.00000	0,2 … 16	8271200.0000.00000	-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

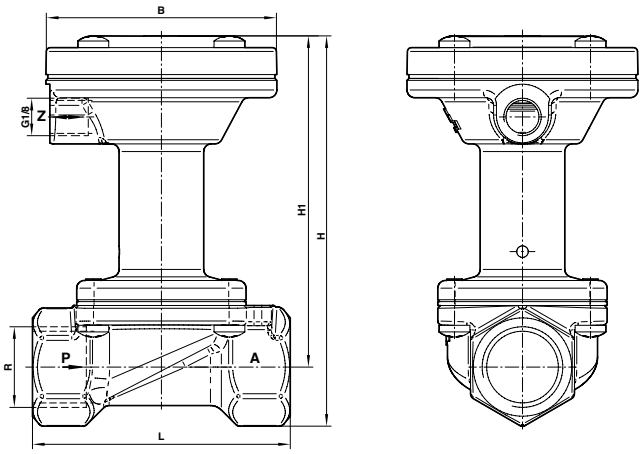
82160



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

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

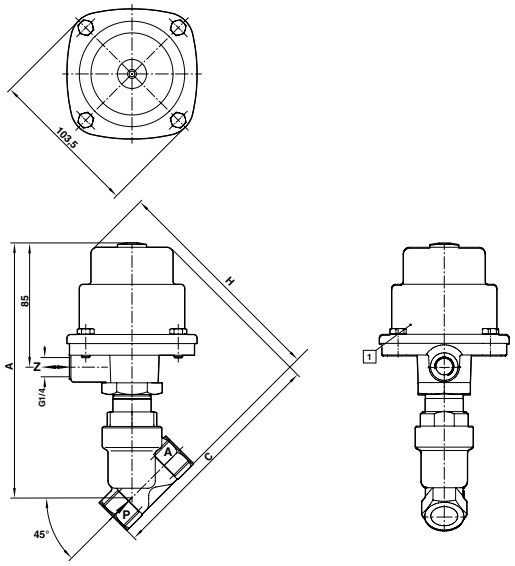
Port size	Orifice (mm)	Series 82380 Model	Operating pressure (bar)	Series 82480 Model	Operating pressure (bar)
G1/2	15	8238200.0000.00000	0 … 16	–	–
G3/4	20	8238300.0000.00000	0 … 10	–	–
G1	25	8238400.0000.00000	0 … 10	–	–
G1 1/4	32	8238500.0000.00000	0 … 7	8248500.0000.00000	0 … 16
G1 1/2	40	8238600.0000.00000	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

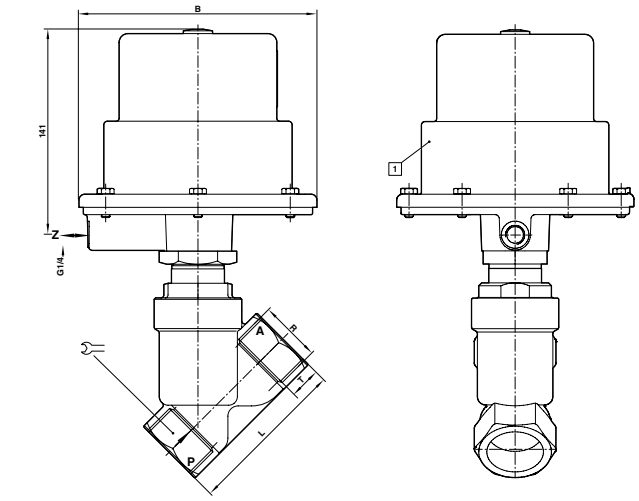
Dimensions

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°

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

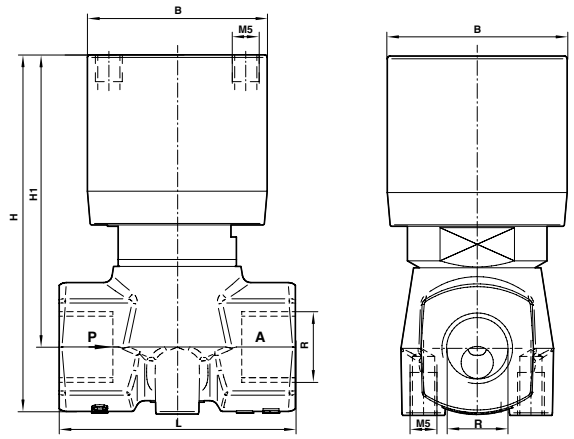
Port size	Orifice (mm)	Series 84180 Model	Operating pressure (bar)	Series 84190 Model	Operating pressure (bar)
G1/8	2	8418800.0000.00000	0 … 25	8419800.0000.00000	0 … 25
G1/4	4	8418020.0000.00000	0 … 25	8419020.0000.00000	0 … 25
G3/8	6	8418140.0000.00000	0 … 20	8419140.0000.00000	0 … 20
G1/2	10	8418260.0000.00000	0 … 8	8419260.0000.00000	0 … 8

Options

- Normally open (NO)
- Seat seal FPM
- Seat seal EPDM
- Double acting
- Higher operating pressure

Dimensions

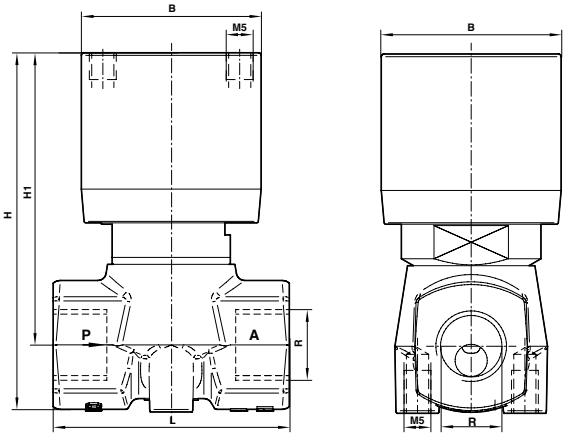
84180



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

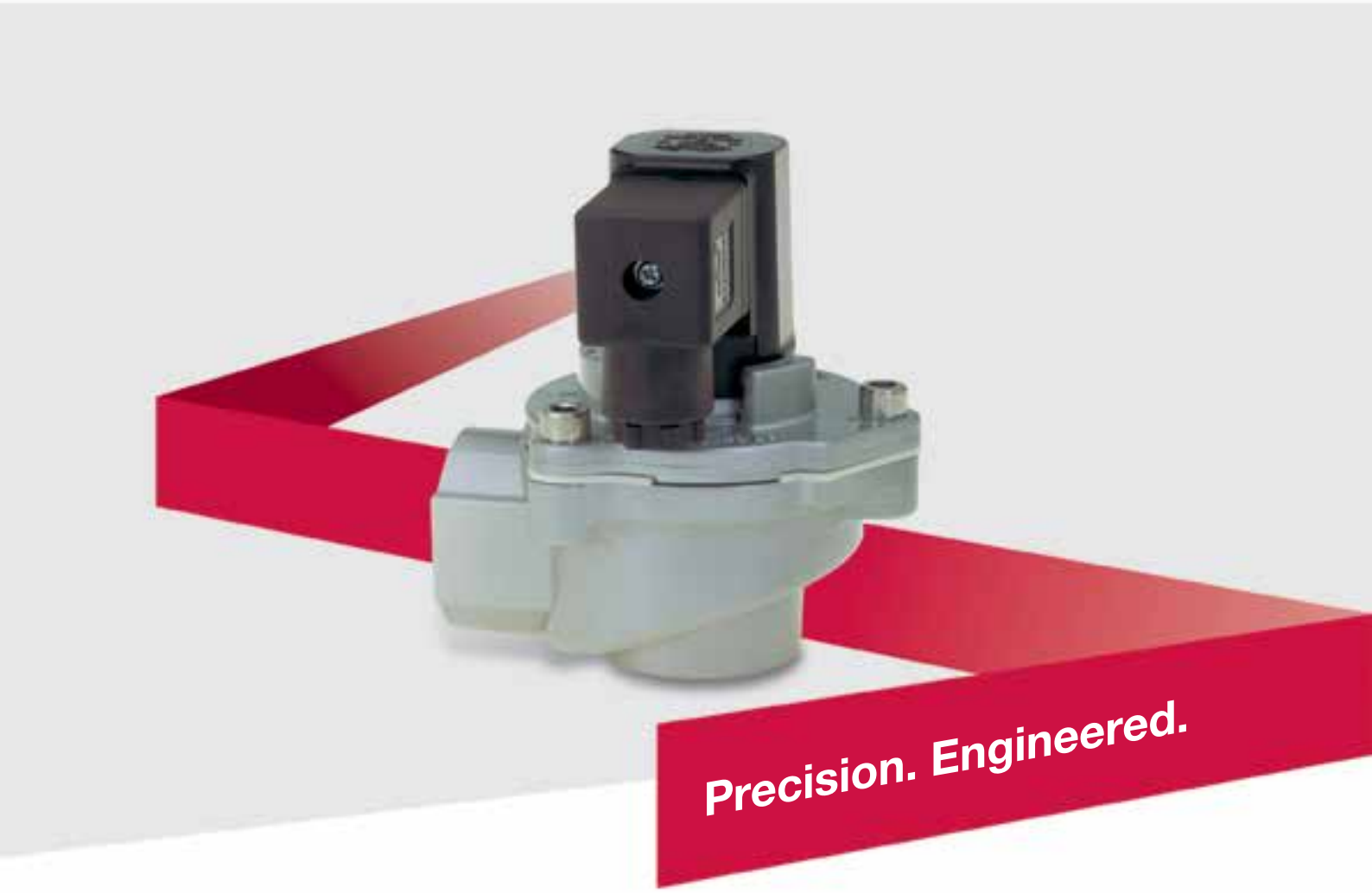
*1) B = max. depth.

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

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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

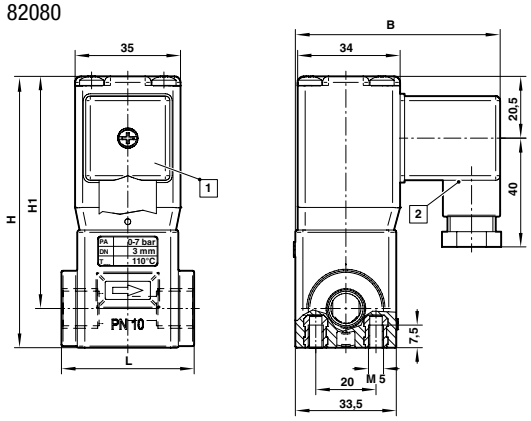
Voltage codes and spare coils

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

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.

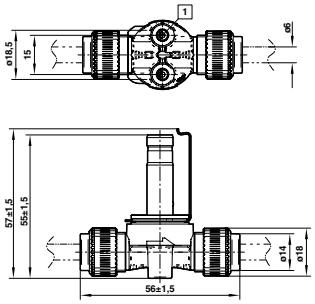
Solenoids

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

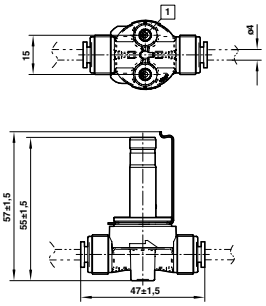
Dimensions

83150

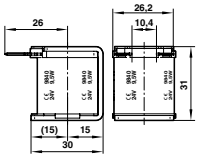
831500x



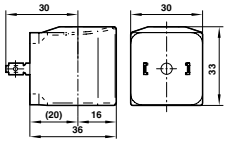
831502x



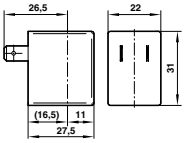
9846.02400



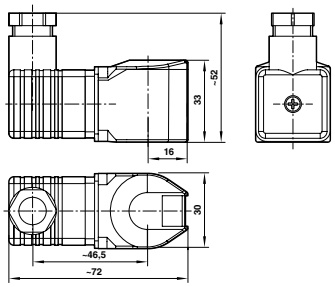
9830.02400



9837.02400

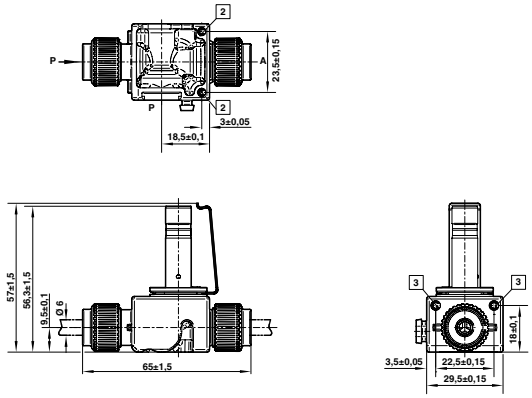


9897.23049

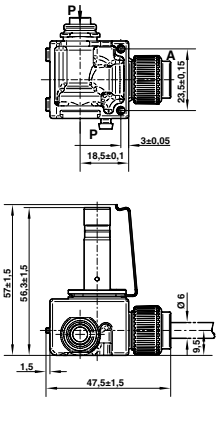


83153

Inlet



Middle



[1] Mounting holes
Ø 3,8 x 9 mm deep

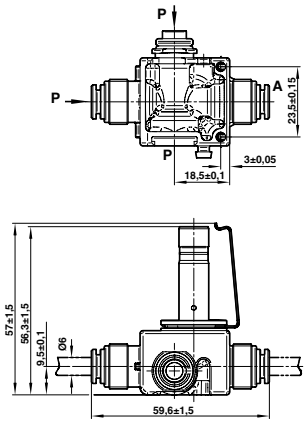
[2] Mounting holes
Ø 2,5 x 11,5 mm deep

[3] Mounting holes
Ø 3,8 x 9 mm deep

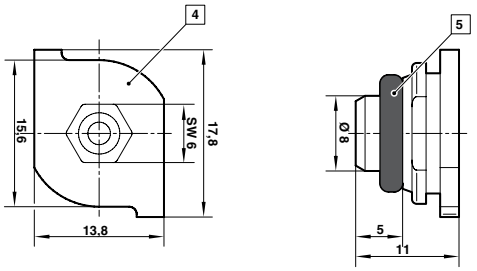
[4] Tubing plug 1702467

[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!

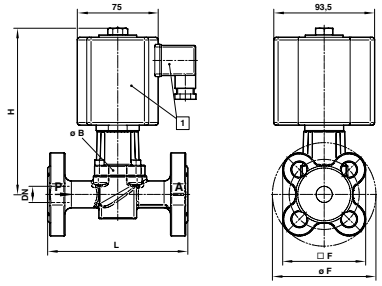
Options

- 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)

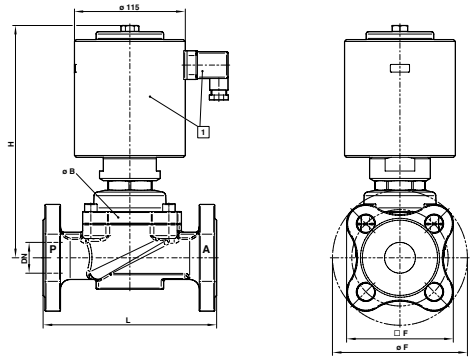
85340 with solenoid 840x



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

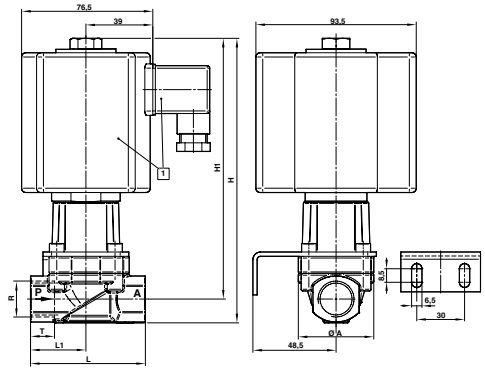
*2) Manifold of stainless steel (1.4408).

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

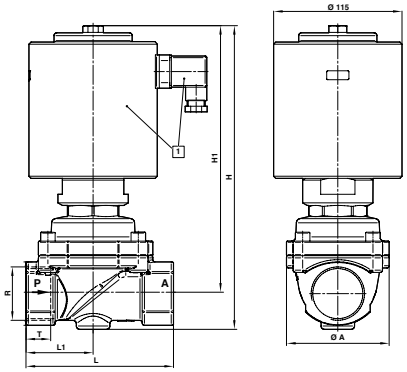
85440 with solenoid 840x



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

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

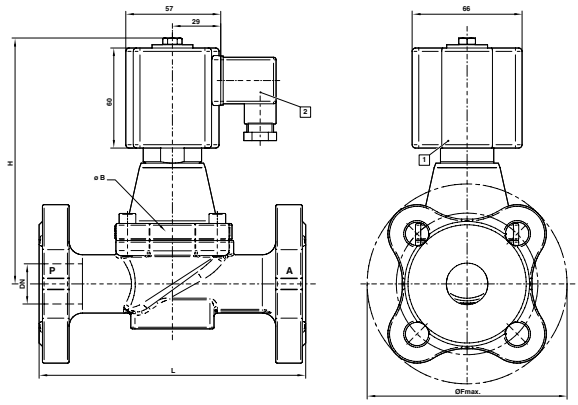
*1) Note: A.c. only with rectifier plug.
Further versions on request!

Options

- Inspection certificate DIN EN 10204 - 3.1

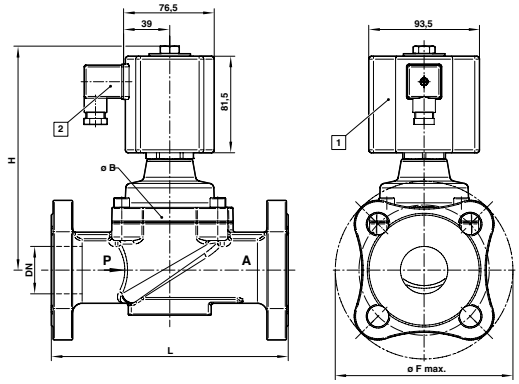
Dimensions

86540 with solenoid 830x



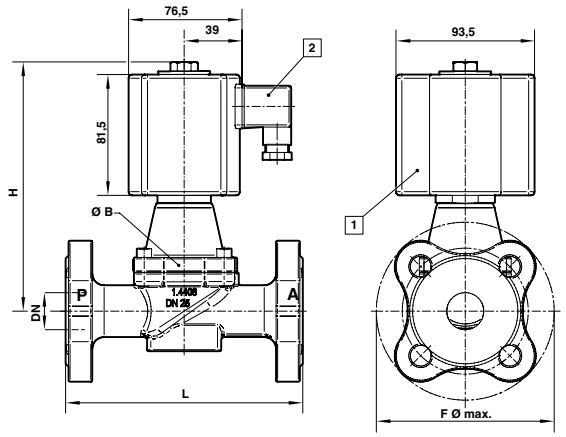
Model	Orifice	ø B	ø F max.	H	L
8654200.830x.xxxxx	15	44	96	142	130
8654300.830x.xxxxx	20	50	110	150	150
8654400.830x.xxxxx	25	62	115	155	160

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!

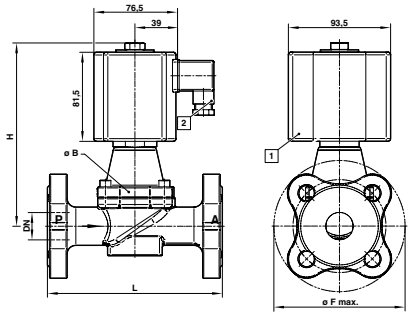
Options

- Inspection certificate DIN EN 10204 - 3.1 (DN 15 … 50)
- Inspection certificate DIN EN 10204 - 3.1 (DN 65 … 100)

Dimensions

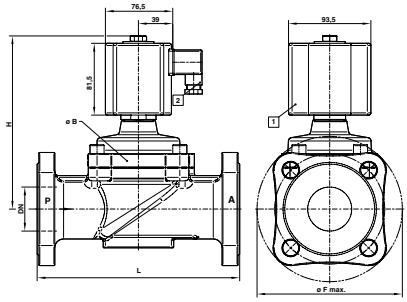
85780 with solenoid 840x

1 Solenoid rotatable 360°
2 Socket turnable 4 x 90°
(Socket included)



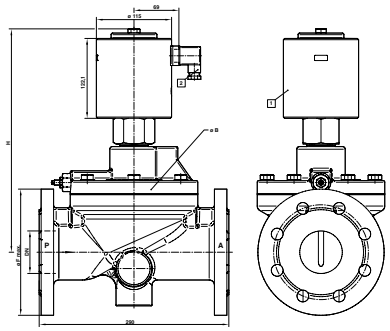
Model	Orifice	ø B	ø F max.	H	L
8578200.840x.xxxxx	15	44	96	154	130
8578300.840x.xxxxx	20	50	110	163	150
8578400.840x.xxxxx	25	62	115	168	160

85780 with solenoid 840x



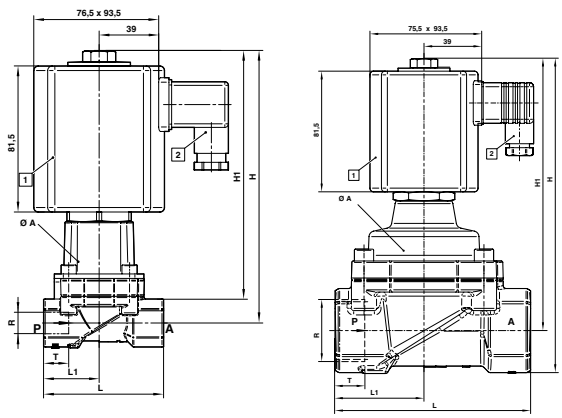
Model	Orifice	ø B	ø F max.	H	L
8578500.840x.xxxxx	32	92	140	184	180
8578600.840x.xxxxx	40	92	150	190	200
8578700.840x.xxxxx	50	109	165	197	230

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!

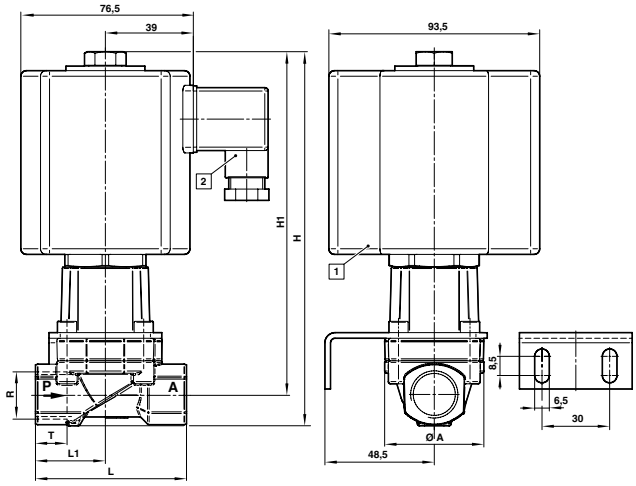
Options

- Normally open (NO)
- Manual override
- Seat seal FPM
- Seat seal PTFE
- Seat seal EPDM
- Max. operating pressure 40 bar
- Position indicator

Dimensions

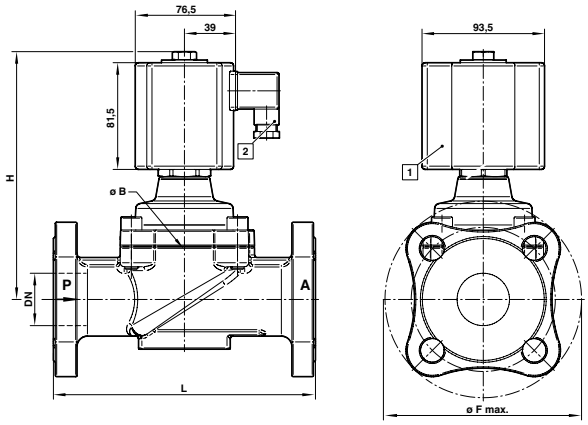
86500 with solenoid 830x

1 Solenoid rotatable 360°
2 Socket turnable 4 x 90°
(Socket included)



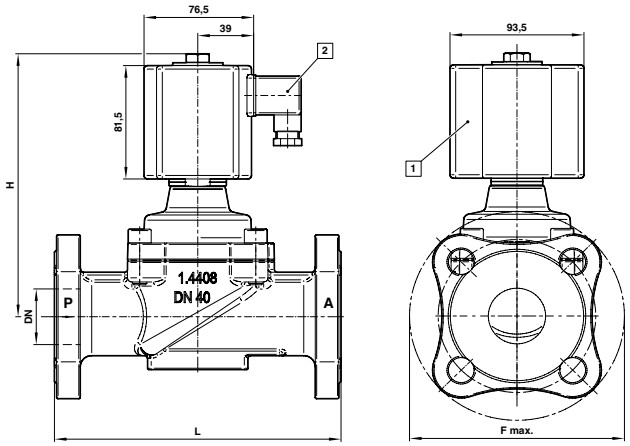
Model	Orifice	ø B	ø F max.	H	L
8650200.830x.xxxxx	15	44	96	134	130
8650300.830x.xxxxx	20	50	110	142	150
8650400.830x.xxxxx	25	62	115	148	160

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.

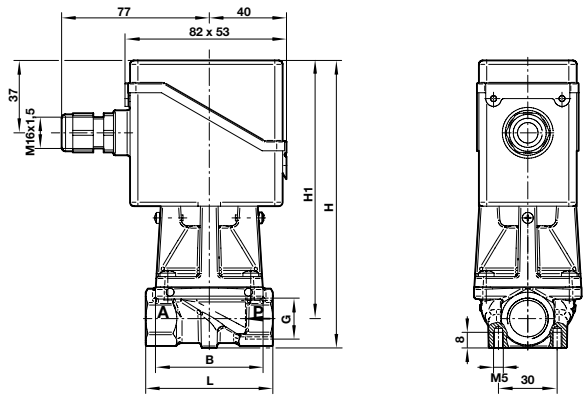
Motor

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.

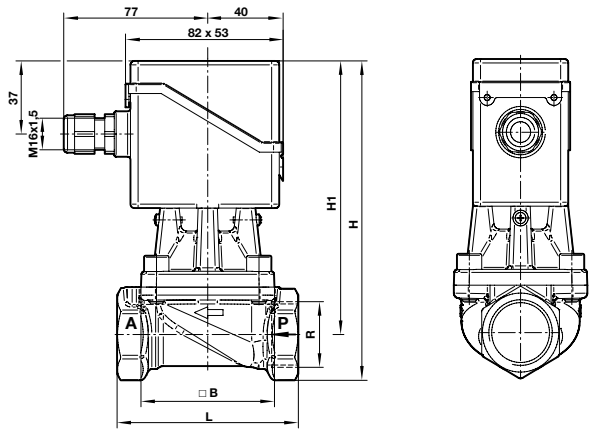
Dimensions

82880 up to G1/2

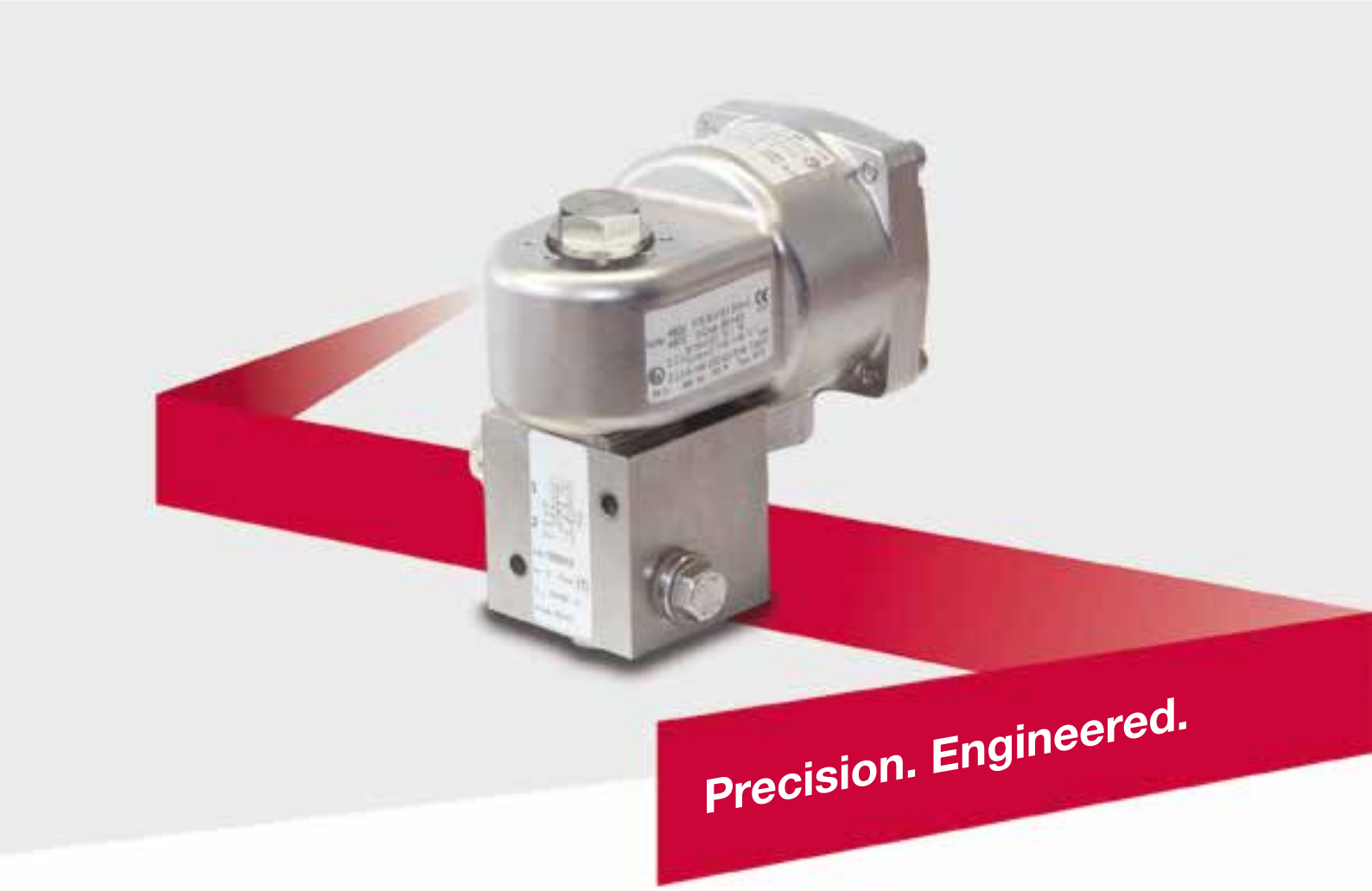


Model	Port size	B	H	H1	L
8288200.96xx.xxxxx	G1/2	55	147	134	65

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

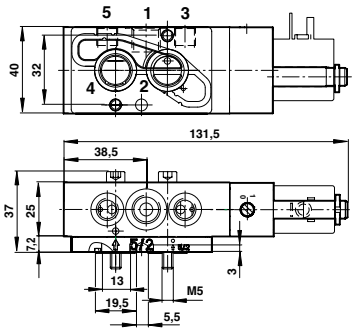
Pilot flange:
Plastic (PBT)

Flange plate:
Aluminium

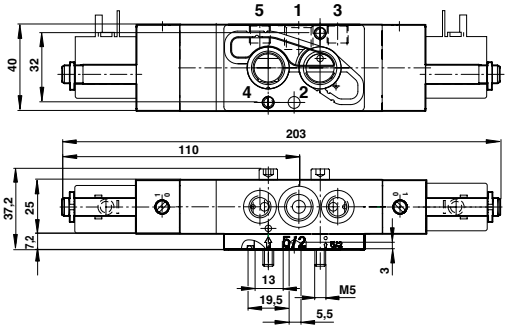
Seals:
NBR

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.

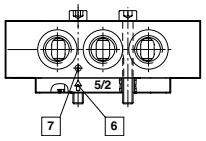
Solenoid details

	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

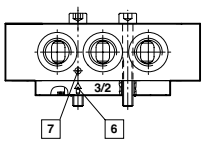
Standard voltages 24 V d.c., 230 V a.c. Other voltages on request. Design acc. to VDE 0580, EN 50014/50028. 100% duty cycle.
2) Valves can be operated with d.c. only. For 230 V a.c. application please use 206 V d.c. coil together with rectifier plug 0663303.
6) Connector not supplied; required connector 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.

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

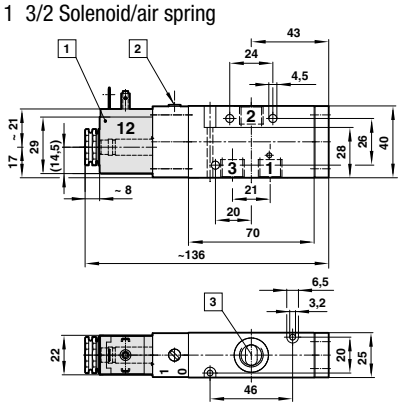
Housing:
Aluminium 3.0615 anodized

Pilot flange:
Plastic (PBT)

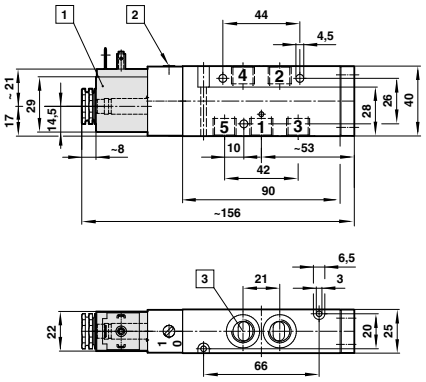
Seals:
NBR

Dimensions

1 3/2 Solenoid/air spring

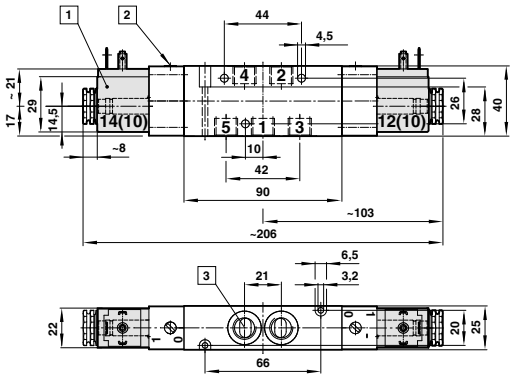


2 5/2 Solenoid/air spring

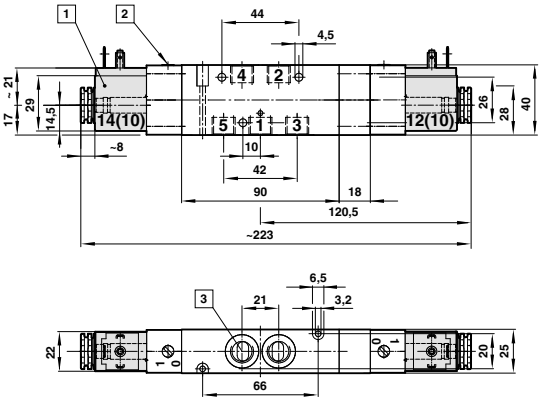


1 Solenoid 90° turnable
2 Manual override
3 Port size G1/4 or 1/4 NPT

3 5/2 Solenoid/solenoid



4 5/3 APB Solenoid/solenoid



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	–	–

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

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

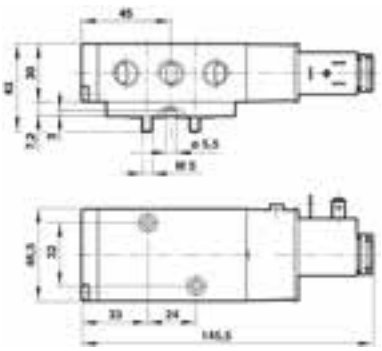
Housing:
Aluminium anodized

Pilot flange:
Plastic (PBT)

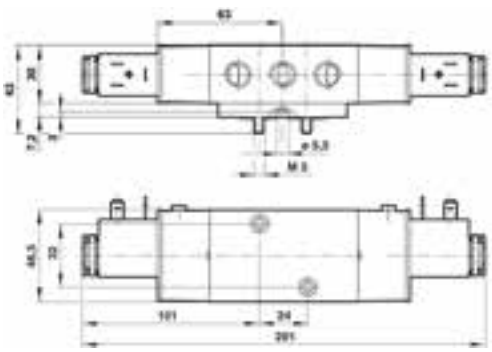
Seals:
NBR

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.

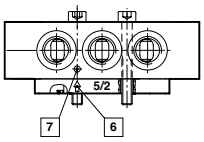
Accessories

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		

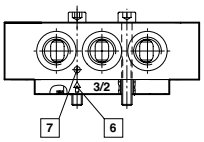
* For indoor use.

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

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

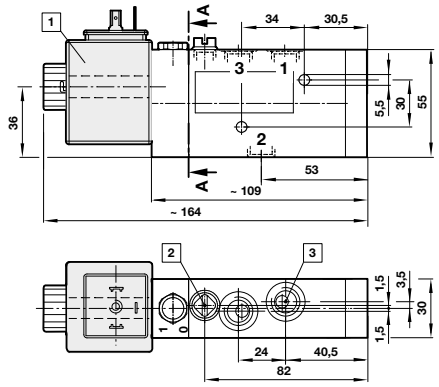
Models – Housing: stainless steel: SNBR -40 … +65C *3)

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

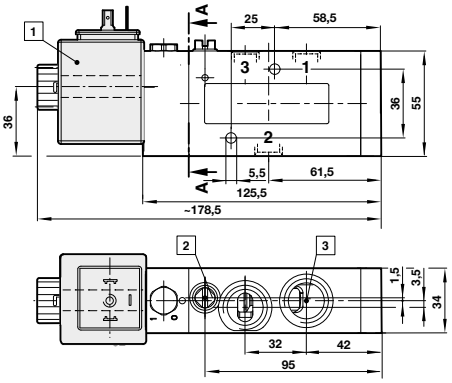
*1) Models shown are without coil. When ordering please indicate solenoid, voltage and current type (frequency).
NOTE:To order one valve you need to add the following information:
- Valve body part number according to the Model column without 000000000.
- Solenoid code according to the table below.
- 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

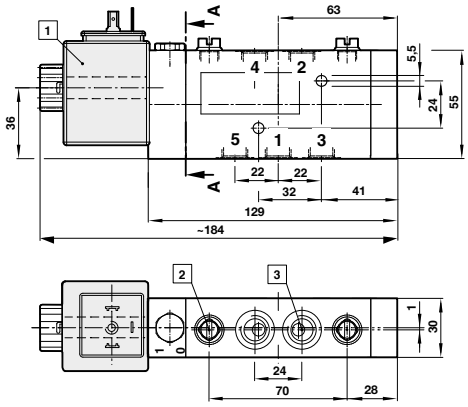
1 - 9713535, 9713735



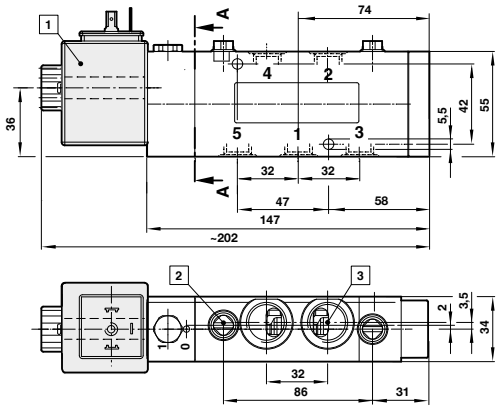
2 - 9713555, 9713755



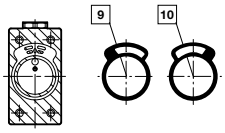
3 - 9710535, 9710735



4 - 9710555, 9710755

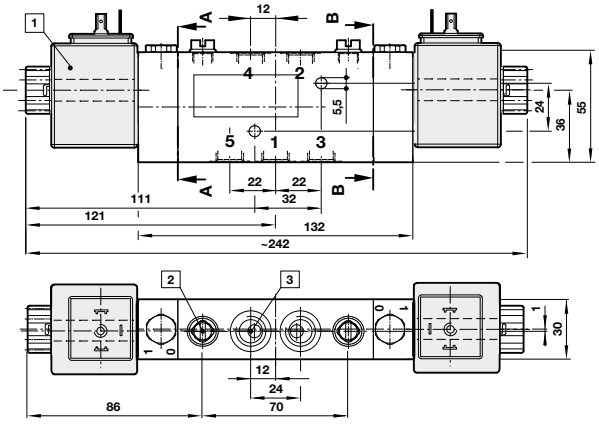


A - A

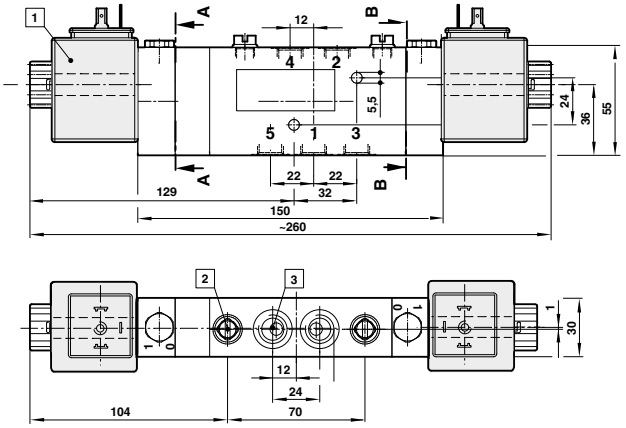


[1] Solenoid
[2] External control pressure connection G1/8
[3] Working port G1/4, G1/2
[9] Position of gasket internal pilot air
[10] Position of gasket external pilot air

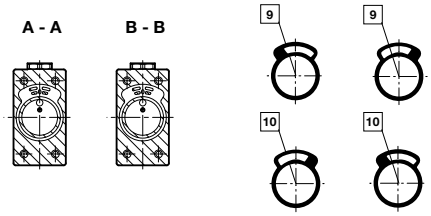
5 - 9711535, 9711735



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.

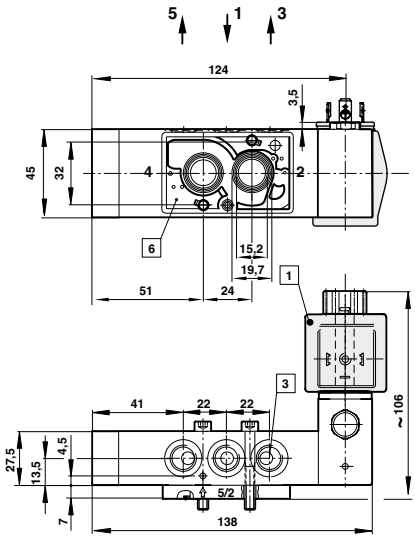
*3) For operation in plants according to IEC 61511/61508 -40°C … +40°C see test certificate (on request).

*4) Flow characteristics conforms to ISO6358 [6 » 5 bar].

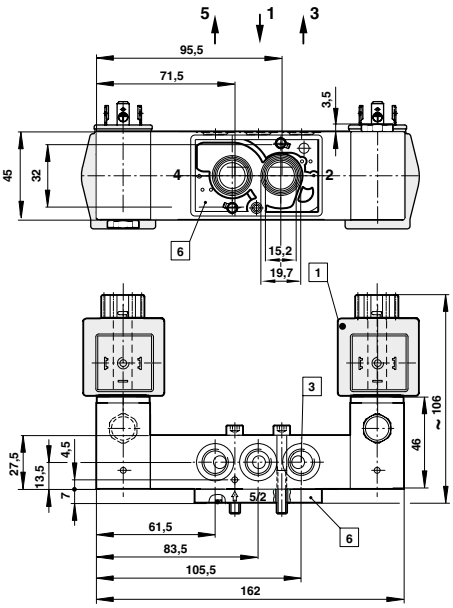
Note for *4): Connecting pipe / Fitting: In order to ensure and a pressure collapse avoid the flow, the supply air cross section shouldwith 1/4: ≥ 8 mm; with 1/2: ≥≥ 10 mm. With smaller cross section the inlet (A1) should more largely, however at least equally large line at the port (A2; A1).

Dimensions

1 - 9710505, 9710705

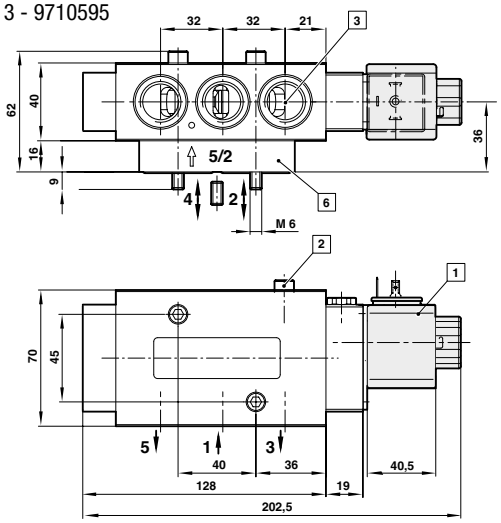


2 - 9711505, 9711705



[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

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)

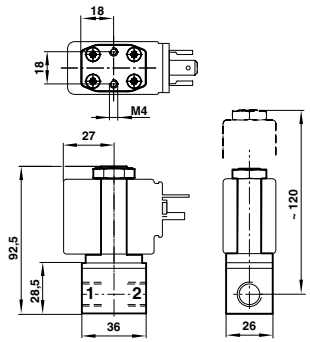
Seals:
NBR
Other see option selector

Inner parts:
Stainless steel 1.4104 (430F), Brass 2.0401 (Ms 58)

EXPRESS

Dimensions

1



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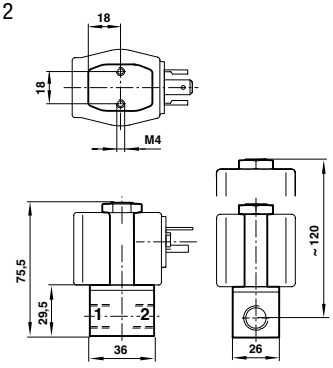

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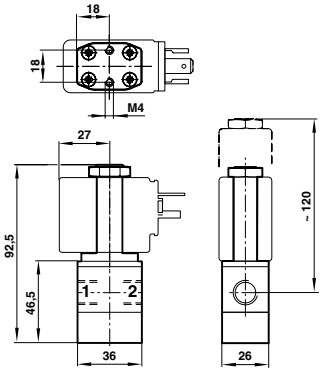


Models

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.

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)

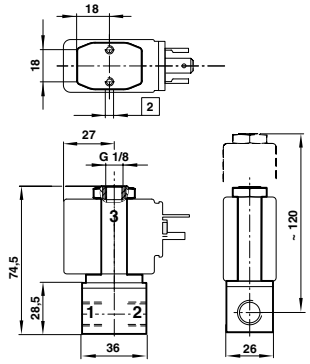
Seals:
NBR
Others see option selector

Inner parts:
Stainless steel 1.4104 (430F), Brass 2.0401 (Ms 58)

EXPRESS

Dimensions

1



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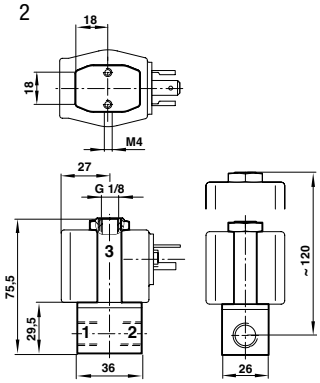
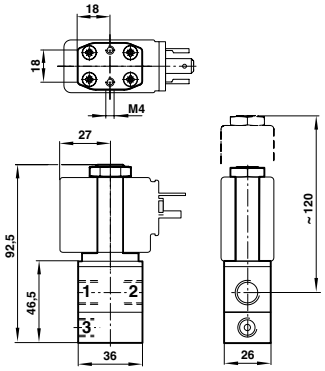


3



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.

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]

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

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

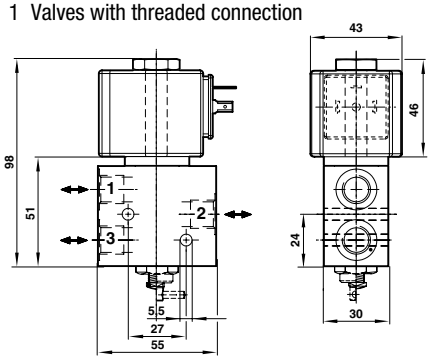
Valve body, trim, coil housing and top cover:
stainless steel 1.4404 (316 L)

O-rings seats & seals:
high NBR

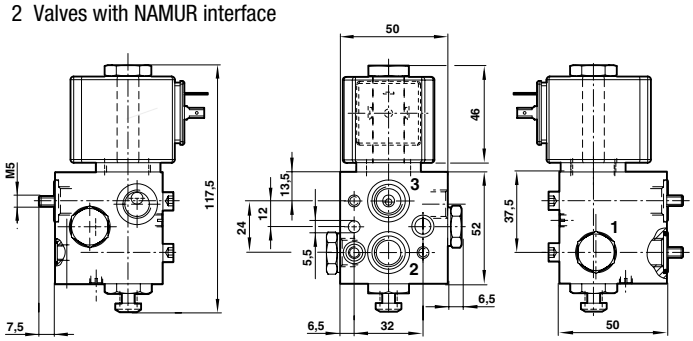
Body:
Aluminium anodized (suitable for high humidity, sulphuric, sodium chloride or ammonia environments), brass 2.0401 (Ms 58) or stainless steel 1.4404 (316 L)

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.							

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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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

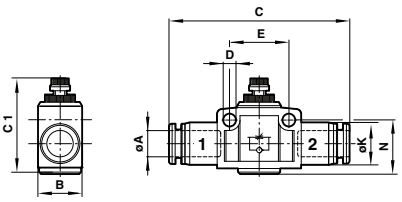
Grab-ring:
Stainless steel

Collar:
Nickel plated brass

EXPRESS

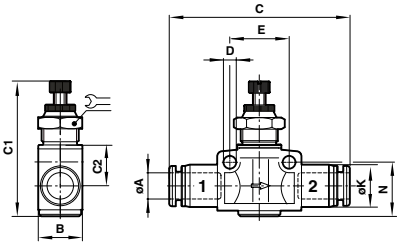
Models – In-line flow control

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



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

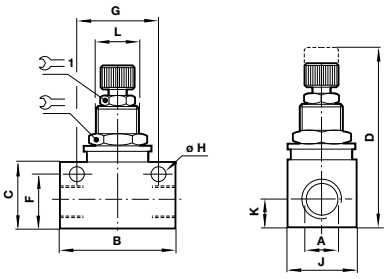
Needle and internal parts:
Brass

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 $dm^3/(s.bar)$.

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

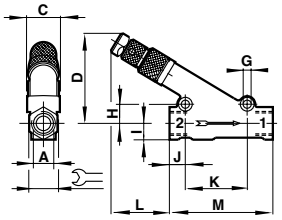
Ambient temperature:
-20°C … +80°C
(Alternative models to 150°C)
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

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

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

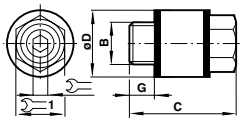
Body and washer:
Nylon

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 $dm^3/(s.bar)$.

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

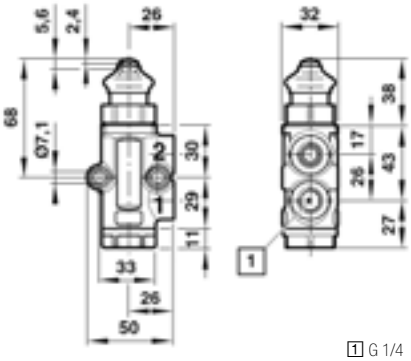
Body, poppet and lever:
Brass

Screws and roller:
Stainless steel

Seals:
NBR

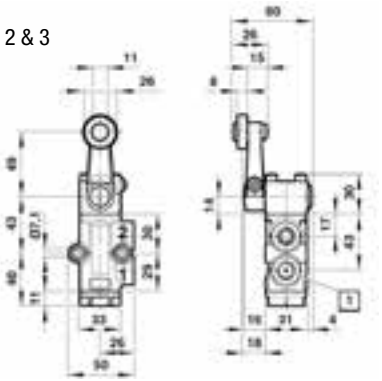
Dimensions

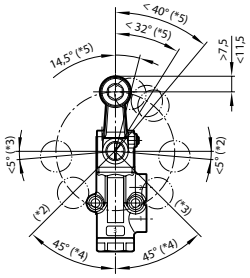
1

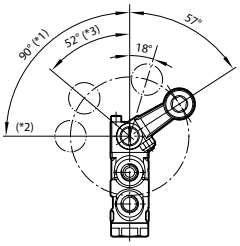


1 G 1/4

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.

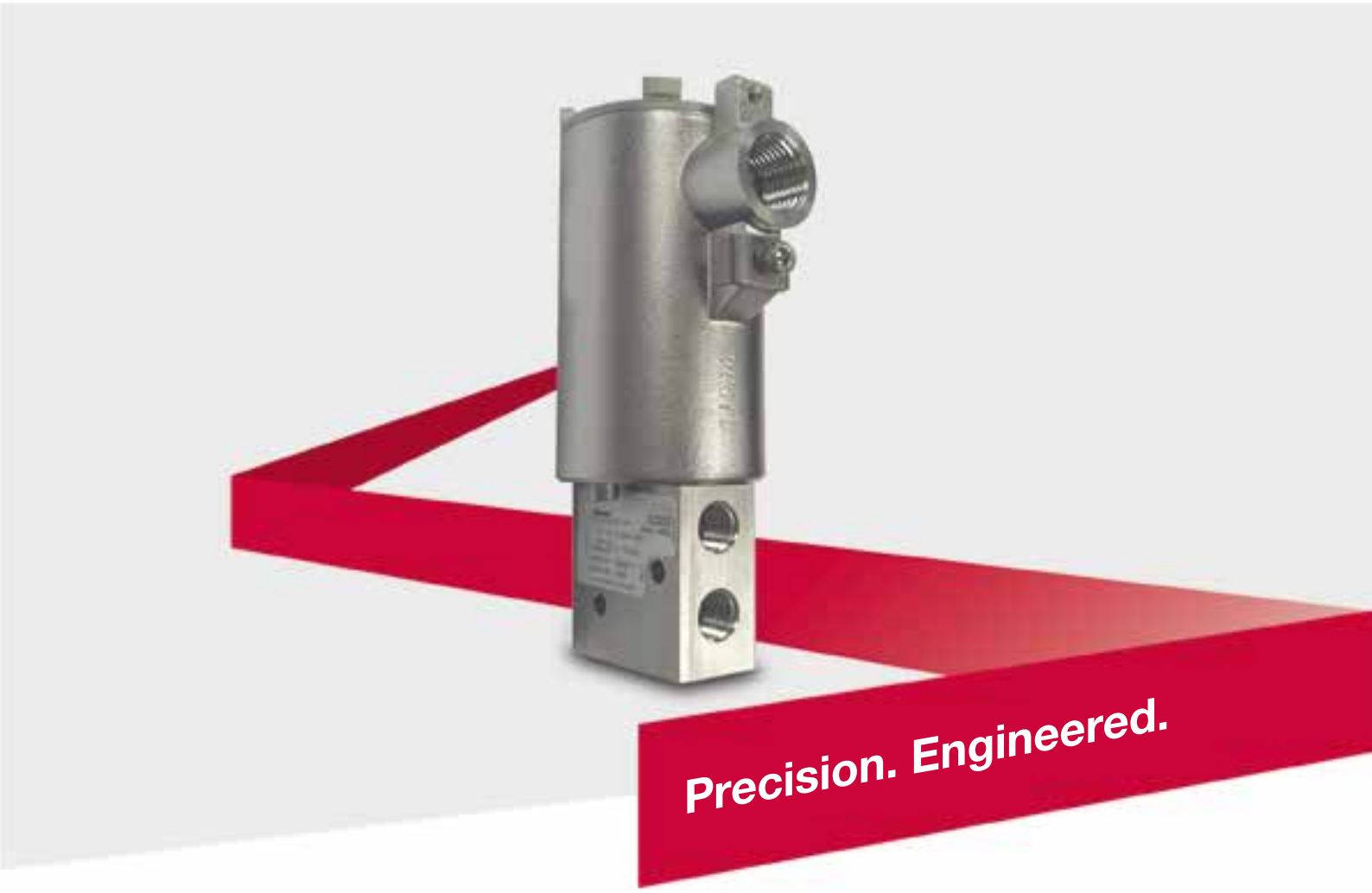
S/1340/48:

- 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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Extremely high quality stainless steel solenoid valves

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IMI Maxseal valves have performed exceptionally well in harsh environments all over the globe for over 50 years and are traditionally associated with offshore oil & gas applications, but are also used onshore, particularly in coastal environments where a fully stainless steel construction is advantageous.

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IMI MAXSEAL®

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

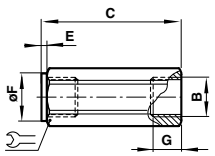
Materials

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

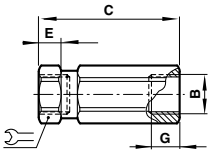
O-ring:
Nitrile rubber

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 $dm^3/(s.bar)$.

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

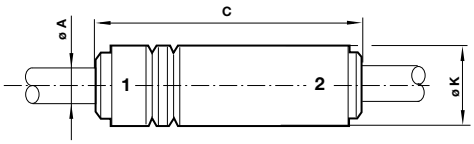
Materials

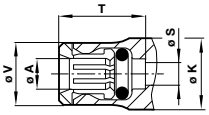
Body:
Aluminium

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.

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

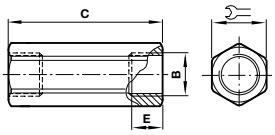
Materials

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

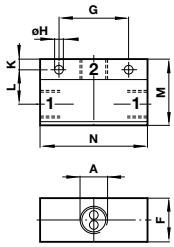
Body:
Zinc alloy

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

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

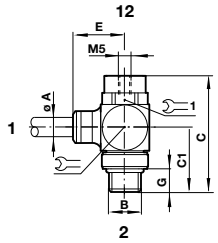
Models – Thread ports only

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

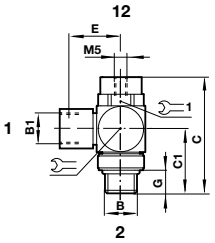
Dimensions

Push-in fitting x BSPP thread



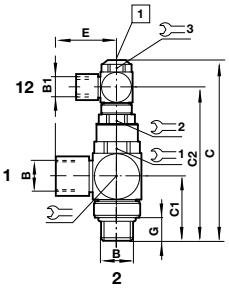
Model	Ø A	B	C	C1	E	G		1
102GA0418	4	G1/8	41	20	22	6	13	16
102GA0618	6	G1/8	41	20	23	6	13	16
102GA0628	6	G1/4	48	26	25	10,5	17	20
102GA0828	8	G1/4	48	26	26	10,5	17	20
102GA0838	8	G3/8	55	29	28	10,8	22	24
102GA1038	10	G3/8	55	29	32,5	10,8	22	24
102GA1248	12	G1/2	65,5	36	39,5	12,8	27	30

BSPP thread x BSPP thread



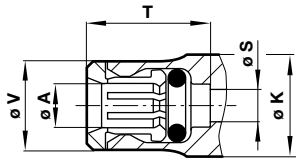
Model	Ø A	B / B1	C	C1	E	G		1
102GA0418	4	G1/8	41	20	22	6	13	16
102GA0618	6	G1/8	41	20	23	6	13	16
102GA0628	6	G1/4	48	26	25	10,5	17	20
102GA0828	8	G1/4	48	26	26	10,5	17	20
102GA0838	8	G3/8	55	29	28	10,8	22	24
102GA1038	10	G3/8	55	29	32,5	10,8	22	24
102GA1248	12	G1/2	65,5	36	39,5	12,8	27	30

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.

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

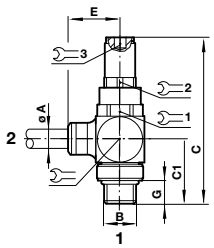
Materials

Body and banjo bolt:
Nickel plated brass

Washer:
NBR and PU

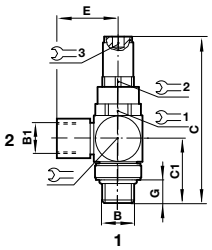
Dimensions

Push-in fitting x BSPP thread



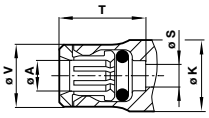
Model	Ø A	B	C	C1	E	G	+1	2+3
102GB0418	4	G1/8	73	20	22	6	13 / 16	11 / 5
102GB0628	6	G1/4	81	26	25	10,5	17 / 20	13 / 5
102GB0828	8	G1/4	81	26	26	10,5	17 / 20	13 / 5
102GB0838	8	G3/8	86	29	28	10,8	22 / 24	17 / 6
102GB1038	10	G3/8	86	29	32,5	10,8	22 / 24	17 / 6

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

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

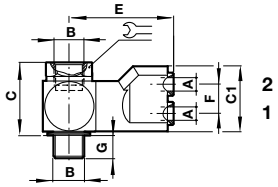
Materials

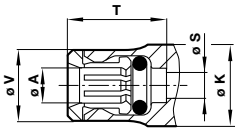
Body:
PA

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

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*)

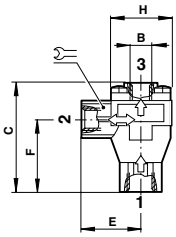
O-ring:
Nitrile

Element:
Porous plastic (S/513, S/514)

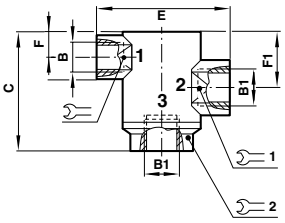
EXPRESS

Dimensions

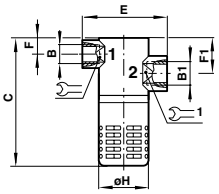
T70



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

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