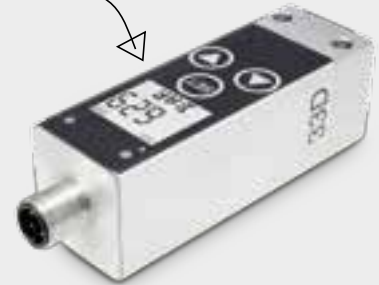


Vacuum

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

User friendly switches



Cups for most applications





Energy efficient



Fast Find Guide

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

● Vacuum Pumps

<p>M/58112 Single stage</p>  <p>EXPRESS Page 131</p>	<p>M/58102 Multi stage</p>  <p>EXPRESS Page 132</p>
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● Vacuum Cups & Bellows

<p>M/58300, M/58400 Ø 6 ... 150 mm</p>  <p>EXPRESS Page 134</p>	<p>Flexible connectors for vacuum cups</p>  <p>Page 136</p>	<p>Level compensators for vacuum cups</p>  <p>Page 136</p>
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● Vacuum Switches

<p>18D Electro-mechanical -1 ... 1 bar</p>  <p>Page 138</p>	<p>51D Electronic -1 ... 1 bar</p>  <p>Page 139</p>	<p>33D Electronic -1 ... 1 bar</p>  <p>Page 140</p>
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● Accessories

<p>Flexible connectors for vacuum cups</p>  <p>Page 136</p>	<p>Level compensators for vacuum cups</p>  <p>Page 136</p>	<p>Vacuum Gauges</p>  <p>Page 136</p>	<p>Silencers</p>  <p>Page 136</p>
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SINGLE STAGE VACUUM PUMPS

M/58112

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

Technical Data

Medium:
Compressed air, filtered and non-lubricated

Operating pressure:
5 bar optimum
8 bar maximum

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

Vacuum:
-0,85 bar maximum (M/58112/09)
-0,90 bar maximum (M/58112/11)

Materials

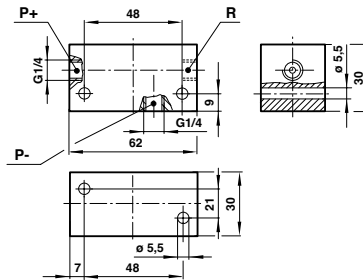
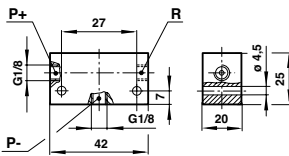
Housing: Anodised aluminium
Nozzles: Brass

EXPRESS



M/58112/09

M/58112/11



● Induced air (NI/min), free air

Model	0 bar	-0,1 bar	-0,2 bar	-0,3 bar	-0,4 bar	-0,5 bar	-0,6 bar	-0,7 bar	-0,8 bar
M/58112/09	28	24	18	14	11	8	5,5	3	1
M/58112/11	55	47	36	28	23	17	12	6	2,5

● Time (sec) for evacuation of 1 litre volume to vacuum

Model	-0,1 bar	-0,2 bar	-0,3 bar	-0,4 bar	-0,5 bar	-0,6 bar	-0,7 bar	-0,8 bar	-0,85 bar	-0,9 bar
M/58112/09	0,27	0,56	0,89	1,44	2,00	2,88	4,31	7,97	14,36	-
M/58112/11	0,15	0,31	0,49	0,72	1,00	1,41	2,08	3,71	5,60	8,11

Note: Values given in the tables are theoretical and apply to an operating pressure of 5 bar.

● Recommended tube dimensions (internal diameter)

Model	Compressed air	Vacuum	Exhaust
M/58112/09	> Ø 3	> Ø 5	> Ø 6
M/58112/11	> Ø 3	> Ø 7	> Ø 9

MULTI STAGE VACUUM PUMPS

M/58102

- Fast response
- Compact, lightweight
- Low sound level
- Compressed air driven
- Simple installation
- Standard and non-return valve types

Technical Data

Medium:
Compressed air, filtered and non-lubricated

Operating pressure:
6 bar maximum

Ambient temperature:
M/58102/10 ... M/58102/30:
-20°C ... +80°C
M/58102/60 ... M/58102/120:
-20°C ... +60°C

Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Vacuum:
-0,87 bar maximum

Materials

M/58102/10 to M/58102/30:
Vacuum chips: ABS with 30% fibreglass,
Sub base: Aluminium
Seals: NBR

M/58102/60 to M/58102/120:
Housing: Aluminium
End caps: ABS
Mountings: Steel
Seals: NBR or PUR

EXPRESS



Models

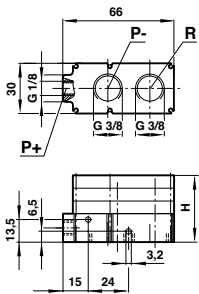
Model	Type	Silencer*	Induced air (NI/min)**	Air consumption (NI/min)**	kg
M/58102/10	Standard	Ported	80	49	0,080
M/58102/20	Standard	Ported	160	98	0,095
M/58102/30	Standard	Ported	240	144	0,110
M/58102/60	Standard	Integral	480	285	0,855
M/58102/90	Standard	Integral	708	471	1,105
M/58102/120	Standard	Integral	910	528	1,150
M/58102/N/10	Non-return valve	Ported	80	49	0,080
M/58102/N/20	Non-return valve	Ported	160	98	0,095
M/58102/N/30	Non-return valve	Ported	240	144	0,110
M/58102/N/60	Non-return valve	Integral	480	285	0,855
M/58102/N/90	Non-return valve	Integral	708	471	1,105
M/58102/N/120	Non-return valve	Integral	910	528	1,150

* For models with ported silencer, use silencer number M/58019 as shown on page 136.

** Values given are theoretical and apply to an operating pressure of 6 bar.

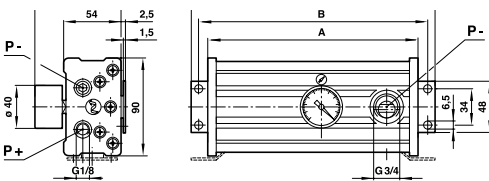
Dimensions

M/58102/10; .../20; .../30



Model	H
M/58102/10	24,5
M/58102/20	32
M/58102/30	39,5

M/58102/60; .../90; .../120



Model	A	B	C
M/58102/60	136	154	168
M/58102/90	196	214	228
M/58102/120	196	214	228

Vacuum gauge supplied with these units.

Vacuum flow performance

Model	Induced air (nl/min), free air								
	0 bar	-0,1 bar	-0,2 bar	-0,3 bar	-0,4 bar	-0,5 bar	-0,6 bar	-0,7 bar	-0,8 bar
M/58102/10	80	55	32	28	25	18	13	5	1,5
M/58102/20	160	110	64	56	50	36	26	10	3
M/58102/30	240	165	96	84	75	54	39	15	4,5
M/58102/60	480	270	182	168	150	108	78	30	9
M/58102/90	708	427	273	252	225	162	117	45	13,5
M/58102/120	910	568	355	336	300	216	156	60	18

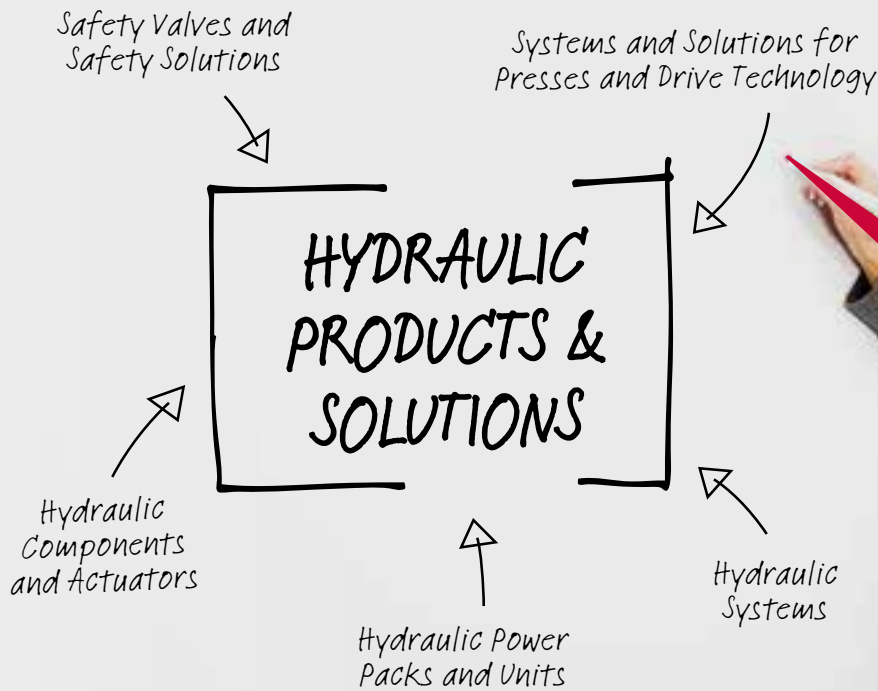
Time (sec) for evaluation of 1 litre volume to vacuum

Model	-0,1 bar	-0,2 bar	-0,3 bar	-0,4 bar	-0,5 bar	-0,6 bar	-0,7 bar	-0,8 bar	-0,85 bar
M/58102/10	0,070	0,200	0,450	0,750	1,150	1,730	2,610	4,130	5,820
M/58102/20	0,035	0,100	0,230	0,370	0,570	0,860	1,320	2,070	2,920
M/58102/30	0,023	0,070	0,150	0,250	0,380	0,580	0,870	1,380	1,940
M/58102/60	0,012	0,034	0,080	0,120	0,190	0,290	0,440	0,690	0,970
M/58102/90	0,007	0,023	0,050	0,080	0,130	0,190	0,290	0,460	0,650
M/58102/120	0,006	0,017	0,040	0,060	0,100	0,150	0,220	0,350	0,490

Note: Values given in the tables are theoretical and apply to an operating pressure of 6 bar.

Recommended tube size (internal diameter)

Model	Compressed air	Vacuum	Exhaust
M/58102/10	> Ø 3	> Ø 7	> Ø 9
M/58102/20	> Ø 3	> Ø 7	> Ø 9
M/58102/30	> Ø 4	> Ø 9	> Ø 9
M/58102/60	> Ø 4	> Ø 19	-
M/58102/90	> Ø 5	> Ø 19	-
M/58102/120	> Ø 5	> Ø 22	-



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IMI Herion Hydraulic products and solutions

Whether it be standard or completely individual, the IMI Herion brand stands for more than 50 years of experience in hydraulic components, products and safety technology. The modular concept of our products and the flexibility of our engineering teams enable us to develop and produce “in-house” individual components cost-effectively and in a short period of time

We offer to our customers tailor-made engineering and quality in five core competence areas:

Safety valves and solutions

- > 3/2 way valves DN10 and 16
Safe depressurizing
EN 692, DIN EN ISO 13849-1 and 13849-2, cat. 4
- > Proportional valves DN 6 and 10
- > Position monitored, SIL capable, ATEX valves

Systems and components for presses and drive technology

- > Hydraulic clutch-brake combinations
- > “Sliptronic” electronic monitoring
- > Press safety valves
- > Fast exhaust devices
- > hydraulic overload safety devices
- > Ram weight compensation

Hydraulic valves and actuators

- > Complete range of standard components from DN 6 to DN 25
- > Pressure valves
- > Flow control valves
- > Check valves
- > DN 3 valves for applications up to 350 bar
- > Proportional valves DN 6 to 25

Hydraulic systems

Hydraulic power packs and units

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Engineering

VACUUM CUPS & BELLOWS

M/58300, M/58400 Ø 6 ... 150 mm

- Flat cups ideal where minimal movement is required for pliable materials
- Bellows cups ideal where level compensation is required

Technical Data

Medium:
Vacuum

Ambient temperature:
-10°C ... +70°C for NBR
-30°C ... +200°C for VMQ cups
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

M/58*/01:**
Cups: NBR
Connection fittings: aluminium

M/58*/02:**
Cups: VMQ
Connection fittings: aluminium

EXPRESS



Material characteristics

	NBR	VMQ
Wear resistance	Good	Fair
Oil resistance	Excellent	Fair
Weather resistance	Good	Excellent
Ozone resistance	Fair	Excellent

Models

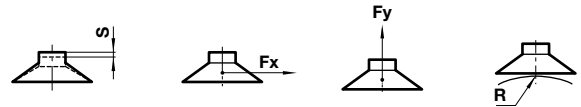
$$F_x = \mu \times F_y$$

Where μ is the frictional coefficient of the material being handled.

An approximate guide:

Plastic: $\mu = 0,4 \dots 0,5$, Steel, oiled: $\mu = 0,1 \dots 0,3$,

Glass: $\mu = 0,3 \dots 0,5$



Flat Cups		Dia. Ø (mm)	Fy -0,2 bar (N)	Fy -0,6 bar (N)	Fy -0,9 bar (N)	Minimum radius of work surface 'R' (mm)	Maximum movement 'S' (mm)	Volume cm ³
Model NBR	Model VMQ							
M/58301/01	M/58301/02	6	0,5	1,5	2,3	5	1,5	0,017
M/58302/01	M/58302/02	8	1	2,5	3,5	7	1,5	0,041
M/58303/01	M/58303/02	10	1,5	4	6	9	2	0,065
M/58304/01	M/58304/02	15	2,7	8	12	12	4	0,330
M/58305/01	M/58305/02	20	5	15,5	23	13	2	0,500
M/58306/01	M/58306/02	25	9	26,5	40	17,5	2,5	0,750
M/58307/01	M/58307/02	30	11	34	51	26	2,5	1,3
M/58308/01	M/58308/02	40	19	57,5	86	37	3,5	3
M/58309/01	M/58309/02	50	30	91	135	41	4	4,2
M/58310/01	M/58310/02	80	86	260	390	100	6	21
M/58311/01	M/58311/02	120	180	540	810	365	6	82
M/58312/01	M/58312/02	150	280	842	1250	380	9	177

Bellows Cups		Dia. Ø (mm)	Fy -0,2 bar (N)	Fy -0,6 bar (N)	Fy -0,9 bar (N)	Minimum radius of work surface 'R' (mm)	Maximum movement 'S' (mm)	Volume cm ³
Model NBR	Model VMQ							
M/58403/01	M/58403/02	10	1,5	3,5	5	3	4	0,225
M/58404/01	M/58404/02	15	3	6	8	5	6	0,75
M/58405/01	M/58405/02	20	6	10	14	8	5	1,4
M/58407/01	M/58407/02	30	12	22	28	15	12	4,75
M/58408/01	M/58408/02	40	22	40	50	30	10	9,25
M/58409/01	M/58409/02	50	34	66	84	40	15	26,25
M/58410/01	M/58410/02	75	75	170	230	70	14	76
M/58411/01	M/58411/02	110	140	350	460	85	36	111
M/58412/01	M/58412/02	150	300	700	900	250	38	260

Note: Theoretical values are given in this table. Always allow a safety factor of > 2.

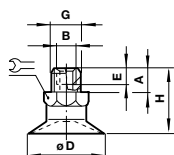
VACUUM CUPS & BELLOWS

M/58300, M/58400 Ø 6 ... 150 mm

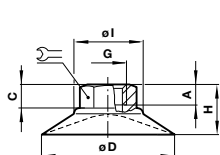
● Dimensions

Flat cups

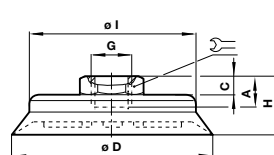
Ø 6 ... 30



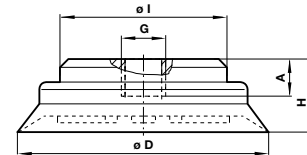
Ø 40 & 50



Ø 80



Ø 120 & 150

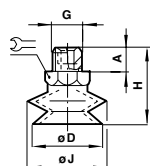


Model	Ø D	A	C	G	H	Ø I	☞
M/58301/*	6	4,5	–	M 5	15	–	8
M/58302/*	8	4,5	–	M 5	16	–	8
M/58303/*	10	4,5	–	M 5	20	–	8
M/58304/*	15	4,5	–	M 5	21	–	8
M/58305/*	20	8	–	G1/8 A	19,5	–	14
M/58306/*	25	8	–	G1/8 A	20	–	14
M/58307/*	30	8	–	G1/8 A	20,5	–	14
M/58308/*	40	6	9	G1/8	23	24	14
M/58309/*	50	6	11	G1/8	26	26	14
M/58310/*	80	13	3,5	G1/8	21,5	53	19
M/58311/*	120	9,5	–	G1/2	34,5	65	–
M/58312/*	150	9,5	–	G1/2	41,5	65	–

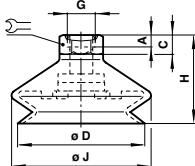
* Material of suction cups: 01 = NBR, 02 = VMQ.

Bellows cups

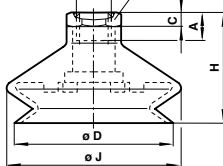
Ø 10 ... 30



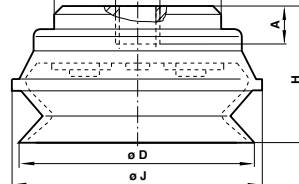
Ø 40 & 50



Ø 75



Ø 110 & 150



Model	Ø	A	C	Ø D	G	H	Ø I	Ø J	☞
M/58403/*	10	5	–	11	M 5	26	–	12	7
M/58404/*	15	5	–	16	M 5	29	–	17	7
M/58405/*	20	7,5	–	22	G1/8 A	30,5	–	24	14
M/58407/*	30	7,5	–	33	G1/8 A	39	–	36	17
M/58408/*	40	6	9	43	G1/8	37	–	46	17
M/58409/*	50	6	9	53	G1/8	43	–	59	17
M/58410/*	75	12	4	78	G1/8	50	–	83	21
M/58411/*	110	9,5	–	110	G1/2	66,5	65	122	–
M/58412/*	150	9,5	–	150	G1/2	85,5	65	167	–

* Material of suction cups: 01 = NBR, 02 = VMQ.

ACCESSORIES

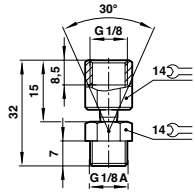
FLEXIBLE CONNECTORS FOR VACUUM CUPS

- For use where a vertical offset motion is involved on curved surfaces
- Simple to install

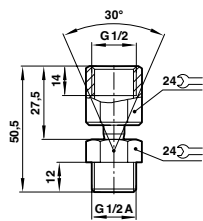


● Dimensions

M/58001



M/58002



● Models

Model	Type	Size
M/58001	Flexible connector	G1/8
M/58002	Flexible connector	G1/2

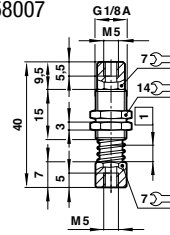
LEVEL COMPENSATORS FOR VACUUM CUPS

- Allows for variations in product positioning
- For use with uneven product forms

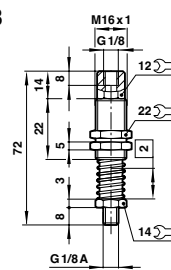


● Dimensions

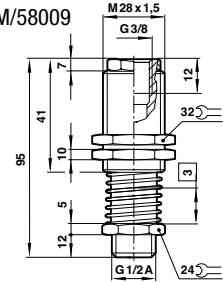
M/58007



M/58008



M/58009



● Models

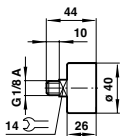
Model	Type	Size
M/58007	Level compensator	M5
M/58008	Level compensator	G1/8
M/58009	Level compensator	G1/2

VACUUM GAUGES

- 0 ... -1 bar calibration
- Accurate vacuum level indication



● Dimensions



● Models

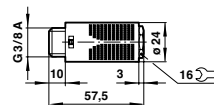
Model	Range
M/58080	0 ... -1 bar

SILENCERS

- Compact
- Optimum air silencing characteristics

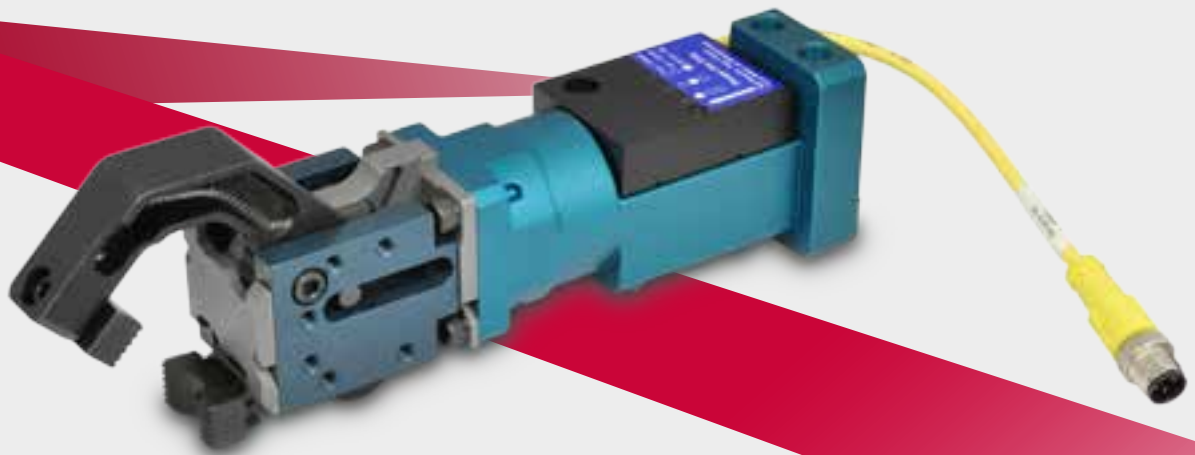


● Dimensions



● Models

Model	Range
M/58019	G3/8



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IMI Precision Engineering has over 20 years' experience in providing automation solutions for highly automated press lines.

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IMI Precision
Engineering

ELECTRO-MECHANICAL VACUUM SWITCH

18D -1 ... 1 bar

- Gold-plated contacts
- High cycle life
- Vibration resistant to 15 g
- Microswitch approved by UL and CSA
- Intrinsically safe operation

Technical Data

Medium:
For filtered, lubricated or non lubricated compressed air and neutral gases

Operation:
Diaphragm

Operating pressure:
-1 ... 1 bar

Over pressure:
80 bar max.

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

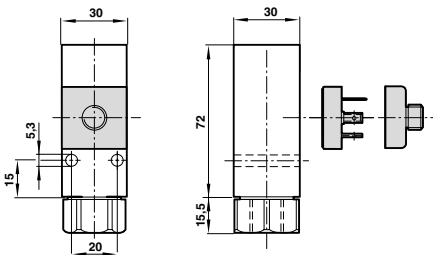
Repeatability:
±3%, of full scale

Materials

Housing: Aluminium (brass)
Sealing: NBR/FPM



● Dimensions



● Models

Accessories

Model	Pressure range (bar)	Fluid connection	Electrical connection	Switching pressure difference (bar)	Max. over pressure (bar)	Connector DIN EN 175301-803	Electrical connector M12 x 1			
							Straight x 2 m long	Straight x 5 m long	90° x 2 m long	
	0880100000000000	-1 ... 0	G1/4	*DIN EN 175301-803 Form A	0,15 ... 0,18	80	0570110000000000	-	-	-
	0880110000000000	-1 ... 1	G1/4	*DIN EN 175301-803 Form A	0,25 ... 0,35	80	0570110000000000	-	-	-
	0880160000000000	-1 ... 0	G1/4	M12 x 1	0,15 ... 0,18	80	-	0523057000000000	0523052000000000	0523058000000000

* DIN plug is supplied as standard.

ELECTRONIC VACUUM SWITCH

51D -1 ... 1 bar

- System pressure (unit bar, psi, Mpa, KPa, kgf/cm², mmHg, InHg or mmH₂O) selectable
- High accuracy and resolution
- Switching status indicated by LED

Technical Data

Medium:
For filtered, lubricated or non lubricated compressed air, neutral and incombustible gases

Ambient temperature:
0°C ... +50°C
Air supply must be dry enough to avoid ice formation at temperatures below +2°C

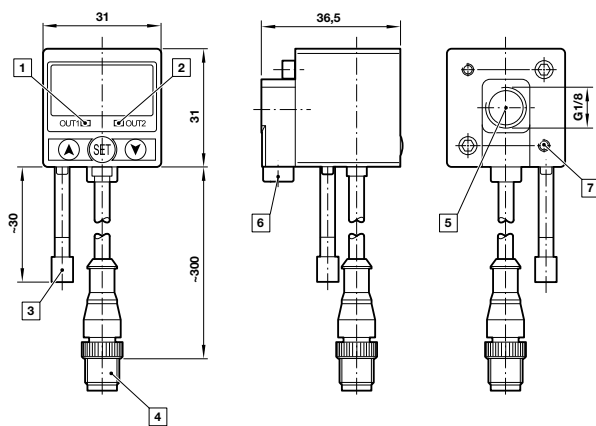
Display:
3 1/2 digit LED

Materials

Body: PC



Dimensions



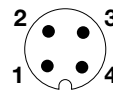
- 1 Switch OUT 1, green LED
- 2 Switch OUT 2, red LED
- 3 Dustproof protector
- 4 Connector M12 x 1
- 5 Inlet port
- 6 Alternative inlet port G1/8 plugged
- 7 Thread for mounting screw

Electrical parameters





Electrical connection:	M12 x 1
Power supply:	12 ... 24 V d.c.
	24 V d.c. (PNP) maximum
	30 V d.c. (NPN) maximum

Electrical connection M12 x 1

PIN-No.	Signal	Cable colour
1	+UB	Brown
2	Out 2	White
3	-	Blue
4	Out 1	Black



Models

Model	Port size	Switching pressure range (bar)	Over pressure* (bar)	Output signal	Mounting bracket (wall mounting)	Mounting bracket (bottom mounting)	Panel mounting kit
	G 1/8	- 1 ... 1	3	2 x PNP			
08608250000000000000	G 1/8	- 1 ... 1	3	2 x NPN	086000000000000000	086000100000000000	086000500000000000

Accessories

* Short-term pressure peaks are not allowed to exceed this limit value during operation. Operative utilization of the limit value is not permitted. The limit value corresponds to the maximum testing pressure.

ELECTRONIC VACUUM SWITCH

33D -1 ... 1 bar

- Display of system pressure and unit (pressure unit programmable)
- Compact and robust design
- Easy programming of set points and additional functions
- Transistor output signals 1 x PNP/2 x PNP/1 x PNP + 4 to 20 mA
- Electronic lock
- Switching status indicated by LED
- Standard M12x1 electrical connection (IP 65)

Technical Data

Medium:

For filtered, lubricated or non lubricated compressed air and neutral gases

Display:

LCD 4 digits illuminated, pressure unit programmable for bar, psi, mpa

Mounting position:

Optional

Operating pressure:

-1 ... 1 bar

Ambient temperature:

-10°C ... 60°C

Air supply must be dry enough to avoid ice formation at temperatures below +2°C

Materials

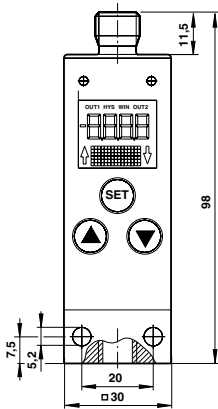
Housing: Aluminium/Stainless steel

Sensor (fluid-affected parts):

Silizium/Aluminium



Dimensions




Electrical parameters

Electrical connection:	M12 x 1
Power supply:	10 ... 32 V d.c. (polarity safe) digital models
	15 ... 32 V d.c. (polarity safe) analogue models

Electrical connection M12 x 1

PIN-No.	Signal	Cable colour
1	+UB	Brown
2	Out 2 (PNP) / analog 4 ... 20 mA	White
3	0 V	Blue
4	Out 1 (PNP)	Black
5	PE	Grey

Models

Model	Pressure range (bar)	Over Pressure (bar)	Fluid connection	Output signal	Electrical connector M12 x 1			
					Straight x 2 m long	Straight x 5 m long	90° x 2 m long	90° x 5 m long
								
0863012000000000	-1 ... 1	10	G1/4	1 x PNP	0523057000000000	0523052000000000	0523058000000000	0523053000000000
0863022000000000	-1 ... 1	10	G1/4	2 x PNP	0523057000000000	0523052000000000	0523058000000000	0523053000000000
0863042000000000	-1 ... 1	10	G1/4	1 x PNP / analog 4 ... 20 mA	0523057000000000	0523052000000000	0523058000000000	0523053000000000
0863016000000000	-1 ... 1	10	Flange	1 x PNP	0523057000000000	0523052000000000	0523058000000000	0523053000000000

Accessories

