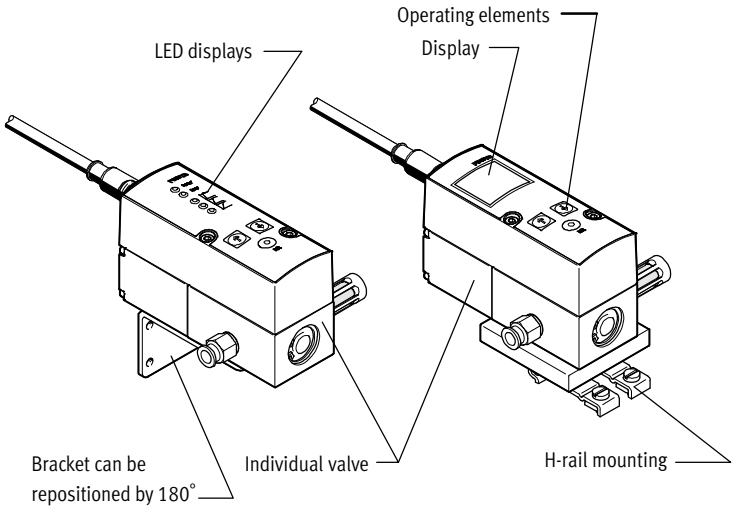
Proportional pressure regulators VPPM, NPT

FESTO

Proportional pressure regulators VPPM, NPT

Key features



Innovative

- Multi-sensor control (cascade control)
- Diagnostics
- Choice of regulation characteristic
- Temperature compensated
- High dynamic response
- High repetition accuracy
- Modular product system

Versatile

- Individual valves (in-line valve)
- Various user interfaces
  - LED displays
  - LCD display
  - Adjustment/selection buttons
- Choice of valves with different pressure ranges
- Pressure range can be modified on the valve
- Choice of different setpoint specifications
  - Current input
  - Voltage input

Reliable

- Integrated pressure sensor with separate output
- Cable break monitoring
- Pressure is maintained if the controller fails

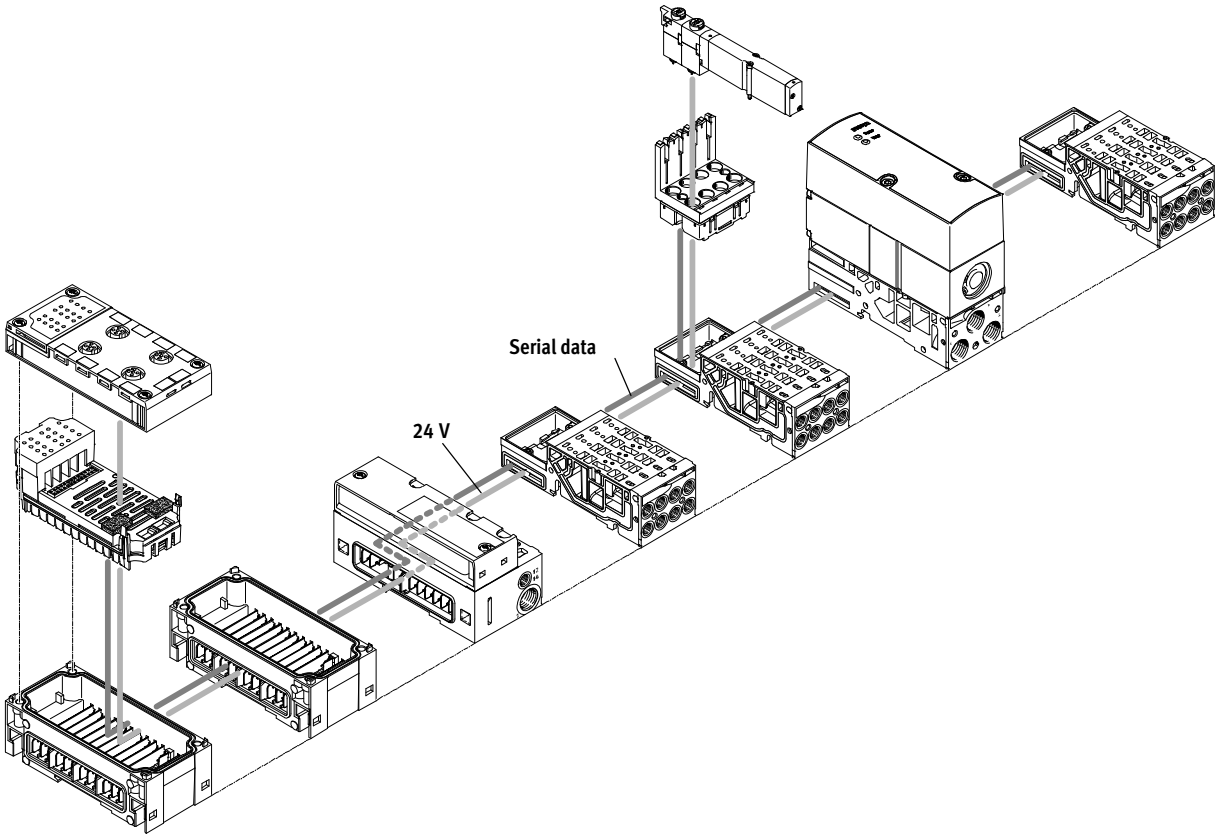
Easy to mount

- H-rail mounting
- Individually via mounting bracket
- QS fittings

Proportional pressure regulators VPPM, NPT

Key features

VPPM on the valve terminal type 32 MPA



Innovative

- Multi-sensor control
- Diagnostics via the bus
- Choice of regulation characteristic
- High dynamic response
- 2 accuracy levels

Versatile

- For all common protocols
- As an individual pressure regulator
- As a pressure zone regulator
- Choice of 3 valves with different pressure ranges
- 3 pressure ranges (presets) can be set via the bus
- Internal or external compressed air supply possible

Reliable

- Long service life
- LED display for the operating status
- Pressure is maintained if the supply voltage fails
- Fast troubleshooting thanks to LEDs on the valves and diagnostics via fieldbus
- Ease of servicing through replaceable valves

Easy to mount

- Easy replacement of the valves
- Tested units
- Easy extension of the valve terminal

Note

More information on the VPPM valves for type 32 MPA

➔ type 32

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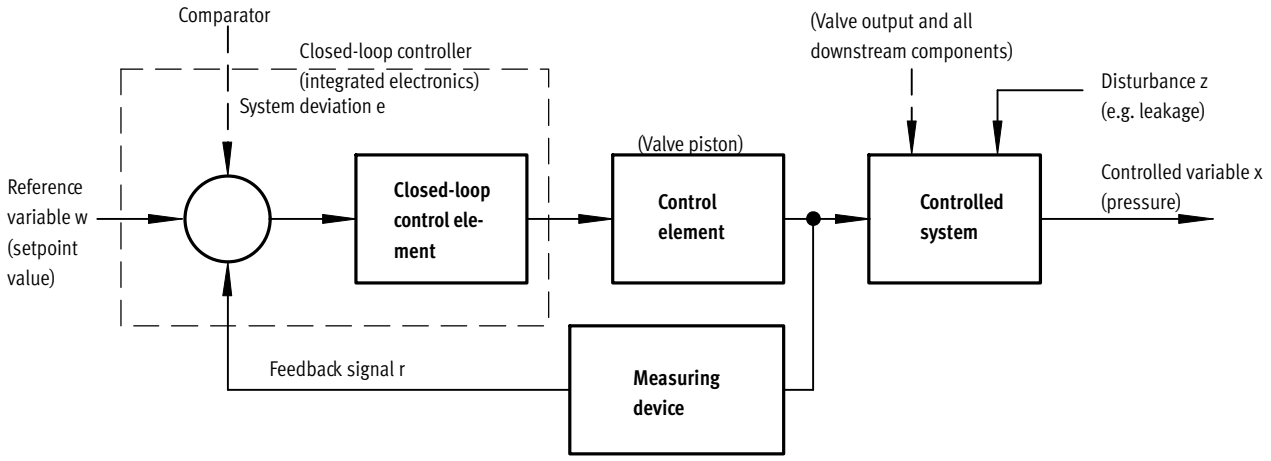
Key features

Layout of a control circuit



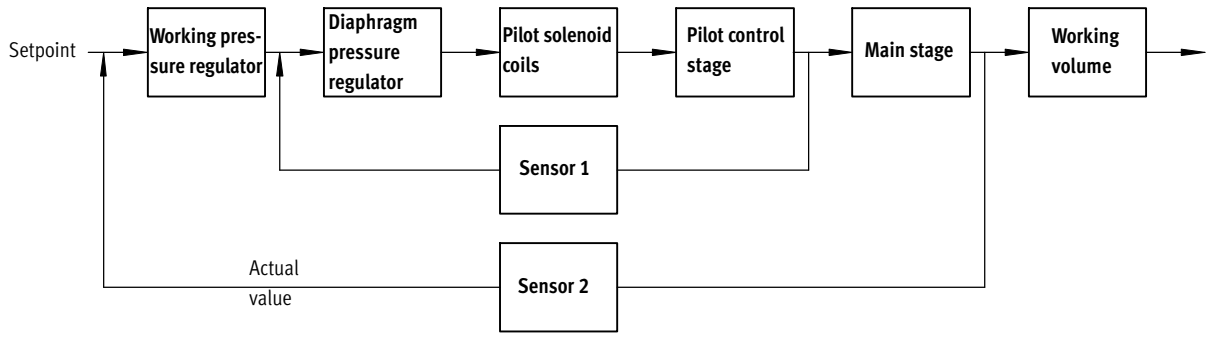
Setup

The figure shows a closed-loop control circuit. The reference variable w (setpoint value, e.g. 5 volts or 8 mA) initially acts on a comparator. The measuring device sends the value of the controlled variable x (actual value, e.g. 3 bar) to the comparator as a feedback signal r. The closed-loop control element detects the system deviation e and actuates the final control element. The output of the final control element acts on the controlled system. The closed-loop control element thus attempts to compensate for the difference between the reference variable w and the controlled variable x by using the final control element.

Method of operation

This process runs continuously so changes in the reference variable are always detected. However, a system deviation will also appear if the reference variable is constant but the controlled variable changes. This happens when the flow through the valve changes in response to a switching action, a cylinder movement or a change in load. The disturbance variable z will also cause a system deviation. An example of this is when the pressure drops in the air supply. The disturbance variable z acts on the controlled variable x unintentionally. In all cases, the regulator attempts to readjust the controlled variable x to the reference variable w.

Multi-sensor control (cascade control) of the VPPM



Cascade control

Unlike conventional direct-acting regulators, with multi-sensor control several control circuits are nested inside each other. The overall controlled system is divided into smaller sub-controlled circuits that are easier to control for the specific task.

Control precision

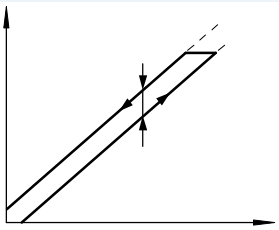
Multi-sensor control significantly improves control precision and dynamic response in comparison with single-acting regulators.

Proportional pressure regulators VPPM, NPT

Key features

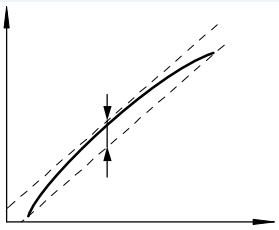
Terms related to the proportional pressure regulator

Hysteresis



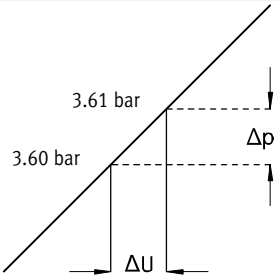
There is always a linear relationship within a certain tolerance between the setpoint value entered and the pressure output. Nevertheless it makes a difference whether the setpoint value is entered as rising or falling. The difference between the maximum deviations is referred to as hysteresis.

Linearity error



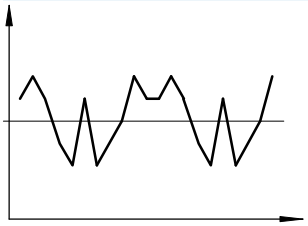
A perfectly linear progression of the control characteristic of the output pressure is theoretical. The maximum percentage deviation from this theoretical control characteristic is referred to as the linearity error. The percentage value refers to the maximum output pressure (full scale).

Response sensitivity



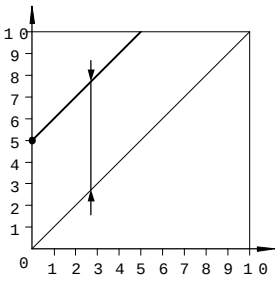
The response sensitivity of the device determines how sensitively one can change, i.e. adjust, a pressure.
The smallest setpoint value difference that results in a change in the output pressure is referred to as the response sensitivity.
In this case, 0.01 bar.

Repetition accuracy (reproducibility)



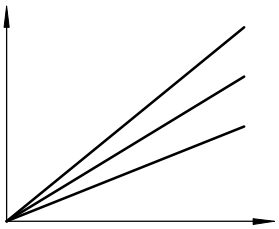
The repetition accuracy is the margin within which the fluid output variables are scattered when the same electrical input signal coming from the same direction is repeatedly adjusted. The repetition accuracy is expressed as a percentage of the maximum fluid output signal.

Zero offset



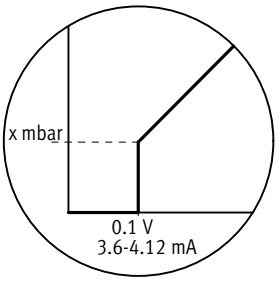
If, for example, a VPPM cannot be vented for safety reasons, the minimum pressure can be increased from the zero point. The smallest setpoint value is then assigned an output pressure of 5 bar, for example, and the largest setpoint value an output pressure of 10 bar. Zero suppression is automatically switched off if zero offsetting is used.

Pressure range adaptation



In the delivery condition, 100% setpoint value equals 100% fluid output signal. Pressure range adaptation or adjustment enables the fluid output variable to be matched to the setpoint value.

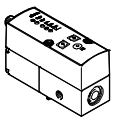
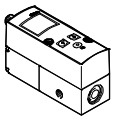
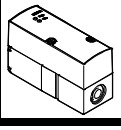
Zero point suppression



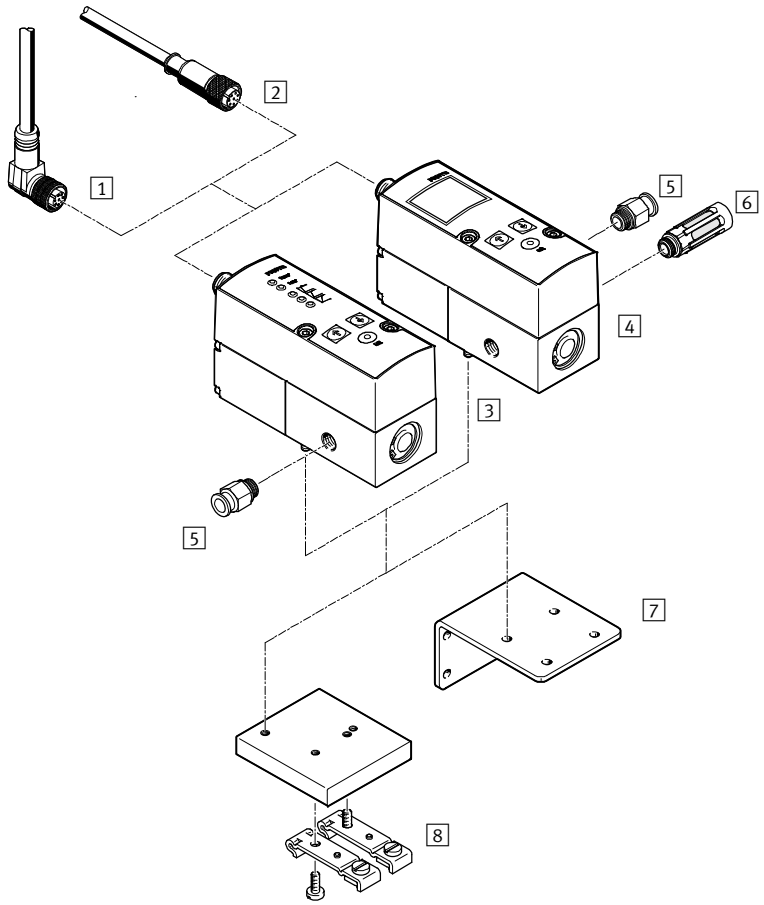
In practice it is possible that there is residual voltage or residual current at the setpoint input of the VPPM via the setpoint generator.
Zero point suppression is used so that the valve is reliably vented at a setpoint value of zero.

Proportional pressure regulators VPPM, NPT

Product range overview

Function	Version	Design	Pneumatic connection 1, 2, 3	Nominal size pressurise/ exhaust [mm]	Pressure regulation range [psi]	Setpoint value input			➔ Page/ Internet
						Voltage type 0 ... 10 V	Current type 4 ... 20 mA	Digital –	
Pressure regulators	**LED operator unit (standard)**								
		Pilot actuated diaphragm valve	⅛ NPT	6/4.5	0 ... 29.4/0 ... 2 0 ... 88.2/0 ... 6 0 ... 147/0 ... 10	■	■	–	12
			¼ NPT	8/7	0 ... 29.4/0 ... 2 0 ... 88.2/0 ... 6 0 ... 147/0 ... 10	■	■	–	
	LCD operator unit								
		Pilot actuated diaphragm valve	⅛ NPT	6/4.5	0 ... 29.4/0 ... 2 0 ... 88.2/0 ... 6 0 ... 147/0 ... 10	■	■	–	12
			¼ NPT	8/7	0 ... 29.4/0 ... 2 0 ... 88.2/0 ... 6 0 ... 147/0 ... 10	■	■	–	
			½ NPT	12/12	0 ... 88.2/0 ... 6 0 ... 147/0 ... 10	■	■	–	
	LED operator unit, for valve terminal MPA-S								
		Pilot actuated diaphragm valve	Sub-base MPA	6/4.5, 8/7	0 ... 29.4/0 ... 2 0 ... 88.2/0 ... 6 0 ... 147/0 ... 10	–	–	■	mpas

Individual valve VPPM-6L ...

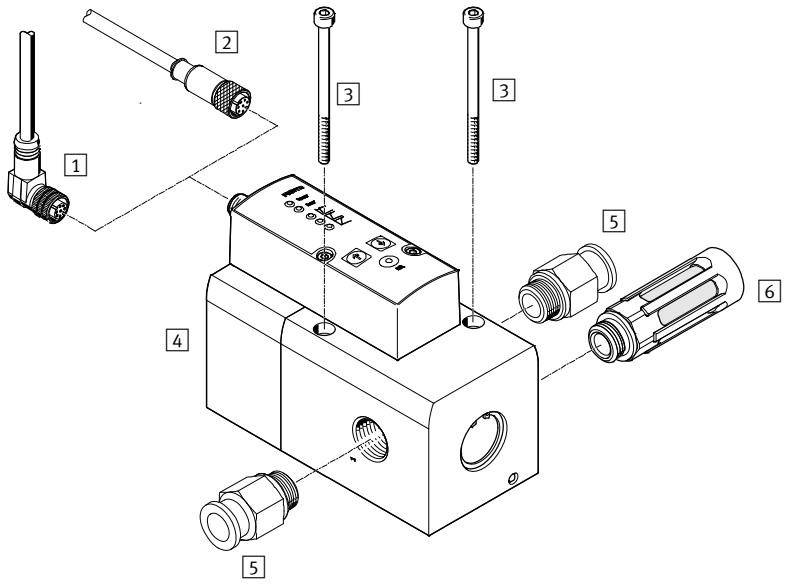


Accessories			
		Description	➔ Page/Internet
1	Angled plug socket with cable NEBU-M12W8-...	–	28
2	Straight plug socket with cable SIM-M12-8GD-...	–	28
3	Proportional pressure regulator VPPM	Operator unit with LED	12
4	Proportional pressure regulator VPPM	Operator unit with LCD	12
5	Push-in fitting QS	For connecting compressed air tubing with standard O.D.	qs
6	Silencer	For fitting in exhaust ports	u
7	Bracket VAME-P1-A	For mounting the valve	25
8	H-rail mounting VAME-P1-T	For mounting on a H-rail	26

Proportional pressure regulators VPPM, NPT

Peripherals overview

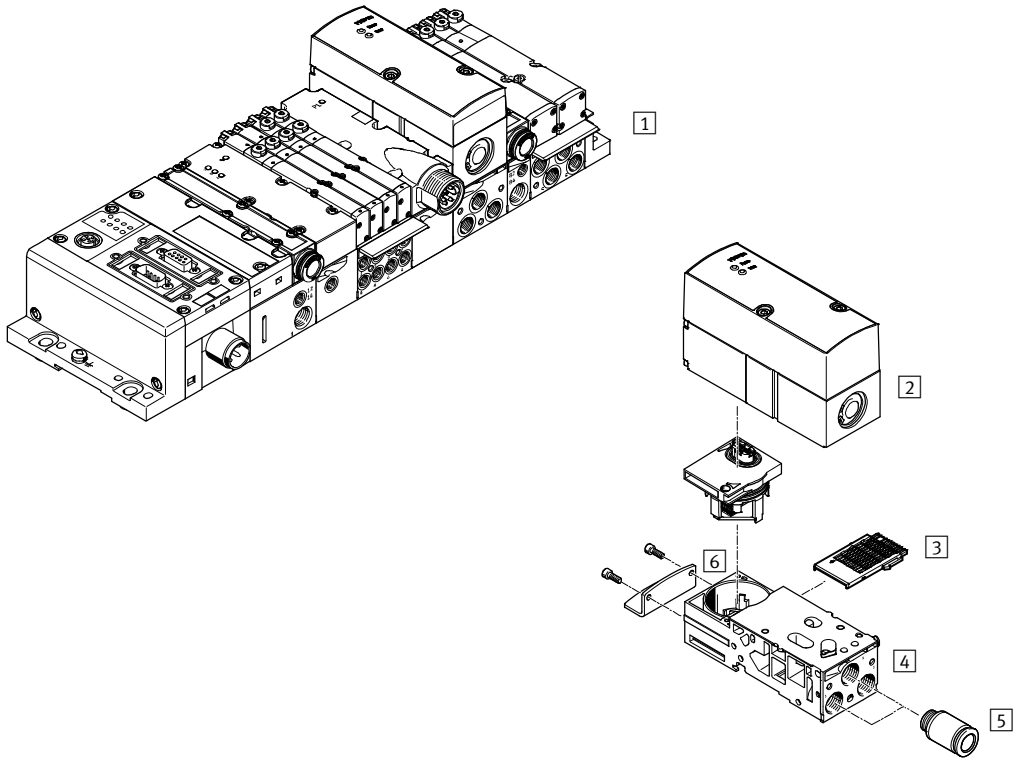
Individual valve VPPM-12L ...



Accessories

		Description	➔ Page/Internet
1	Plug socket with cable, angled NEBU-M12W8-...	–	38
2	Plug socket with cable, straight SIM-M12-8GD-...	–	38
3	Fixing screws	–	–
4	Reguladores de presión proporcionales VPPM	Operator unit with LED or LCD	14
5	Push-in fitting QS	For connecting compressed air tubing with standard outside diameter	qs
6	Silencer	For fitting on exhaust ports	u

VPPM-6TA … , VPPM-8TA … for valve terminal MPA-S



Accessories			
		Description	**➔ Page/Internet**
1	Valve terminal type 32 MPA	With fieldbus connection and VPPM	mpas
2	Proportional pressure regulator VPPM	For valve terminal type 32 MPA-S	mpas
3	Electrical interlinking module VMPA1-FB-EV-AB	For sub-base of the proportional pressure regulator	mpas
4	Sub-base VMPA-FB-AP-P1	Without electrical interlinking module and without electrical module	mpas
5	Push-in fitting QS	–	qs
6	Mounting attachment VMPA-BG	–	mpas

Proportional pressure regulators VPPM, NPT

Type codes

VPPM	–	6	L		–	L	–	1	–	N18	–	0L	6H	–	1L	–	6H

Type	
VPPM	Modular proportional pressure regulator

Nominal size	
6	6 mm
8	8 mm
12	12 mm

Design	
L	In-line valve
F	Flanged valve
T	Flanged valve for valve terminal

Mounting method	
–	Freely mountable
A	Valve terminal MPA
G	H-rail
P	Manifold PR

Dynamic response class	
L	Low

Valve function	
1	3/2-way solenoid valve, normally closed

Pneumatic connection	
N18	Thread 1⁄8NPT
N14	Thread 1⁄4NPT
N12	Thread 1⁄2NPT

Lower pressure value of regulation range	
0L	0 bar

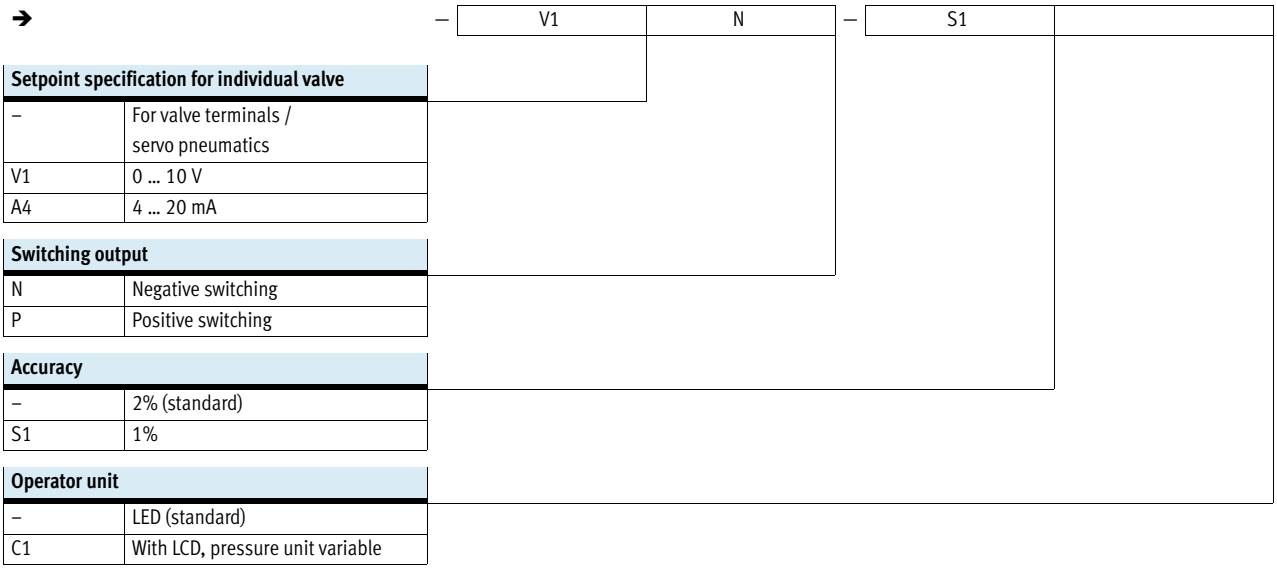
Upper pressure value of regulation range	
2H	2 bar
6H	6 bar
10H	10 bar

Alternative lower pressure value of regulation range	
... L	0 - 9 bar

Alternative upper pressure value of regulation range	
... H	0.2 - 10 bar

Proportional pressure regulators VPPM, NPT

Type codes



Setpoint specification for individual valve	
–	For valve terminals / servo pneumatics
V1	0 … 10 V
A4	4 … 20 mA

Switching output	
N	Negative switching
P	Positive switching

Accuracy	
–	2% (standard)
S1	1%

Operator unit	
–	LED (standard)
C1	With LCD, pressure unit variable

Proportional pressure regulators VPPM, NPT

Technical data

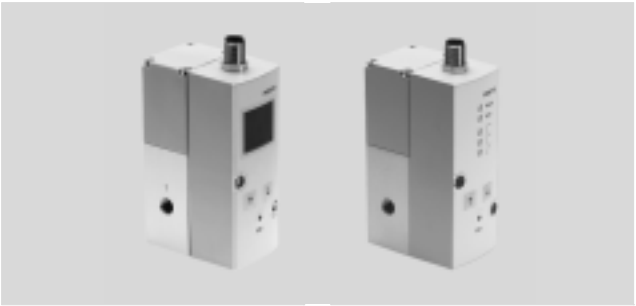
FESTO

Flow rate
380 ... 7,000 l/min

Voltage
21.6 ... 26.4 V DC

Pressure regulation range
0 ... 147 psi
0 ... 10 bar

Variants
- Setpoint input as analogue voltage signal 0 ... 10 V
- Setpoint input as analogue current signal 4 ... 20 mA
- LED version
- With LCD display (... C1)
- NPN (N) or PNP (P) switching output



General technical data					
			⅛ NPT	¼ NPT	½ NPT
Valve function			3-way proportional pressure regulator		
Design			Piloted diaphragm regulator		
Sealing principle			Soft		
Actuation type			Electric		
Type of control			Piloted		
Type of reset			Mechanical spring		
Type of mounting			Via through-hole, via accessories		
Mounting position			Any		
Nominal size	Pressurisation	[mm]	6	8	12
	Exhaust	[mm]	4.5	7	12
Standard nominal flow rate		[l/min]	➔ Graphs		
Product weight		[g]	400	500	2,050

Electrical data					
			VPPM-6	VPPM-8	VPPM-12
Electrical connection			Plug, round design, 8-pin, M12		
Operating voltage range		[V DC]	24 ± 10% = 21.6 ... 26.4		
Residual ripple		[%]	10		
Duty cycle		[%]	100		
Max. electrical power consumption		[W]	7		12
Setpoint input signal	Voltage	[V DC]	0 ... 10		
	Current	[mA]	4 ... 20		
Protection against short circuit			For all electrical connections		
Reverse polarity protection			For all electrical connections		
Protection class			IP65		

Note

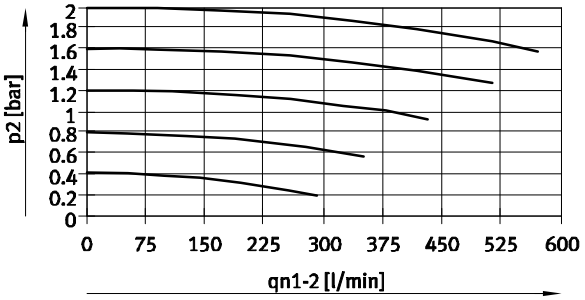
Output pressure is maintained unregulated if the power supply cable is interrupted.

Proportional pressure regulators VPPM, NPT

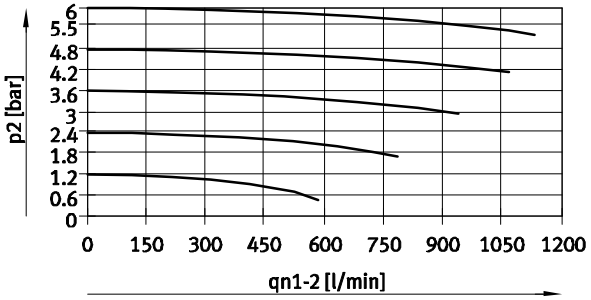
Technical data

Flow rate qn from 1 ⇢ 2 as a function of output pressure p2

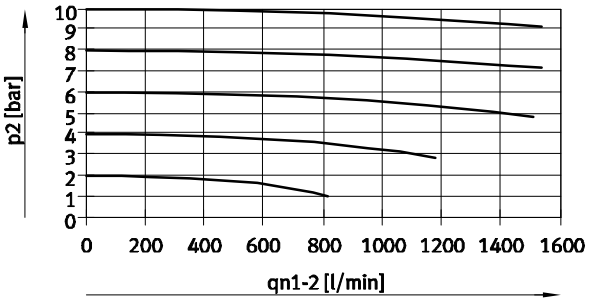
VPPM-6L-...-0L2H-... (29.4 psi/2 bar)



VPPM-6L-...-0L6H-... (88.2 psi/6 bar)

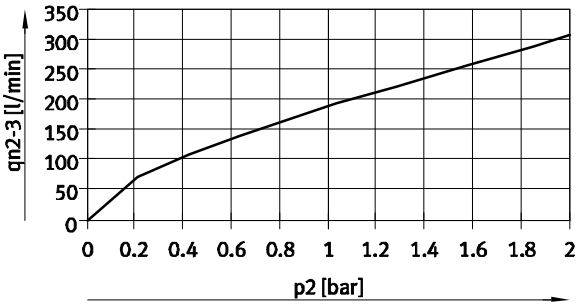


VPPM-6L-...-0L10H-... (147 psi/10 bar)

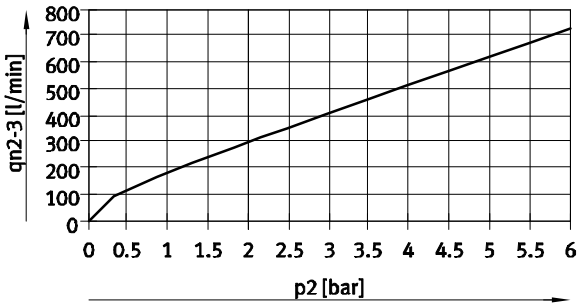


Flow rate qn from 2 ⇢ 3 as a function of output pressure p2

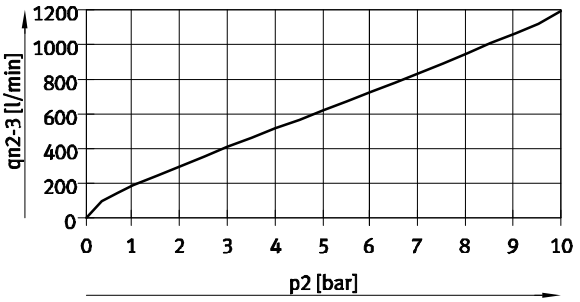
VPPM-6L-...-0L2H-... (29.4 psi/2 bar)



VPPM-6L-...-0L6H-... (88.2 psi/6 bar)



VPPM-6L-...-0L10H-... (147 psi/10 bar)

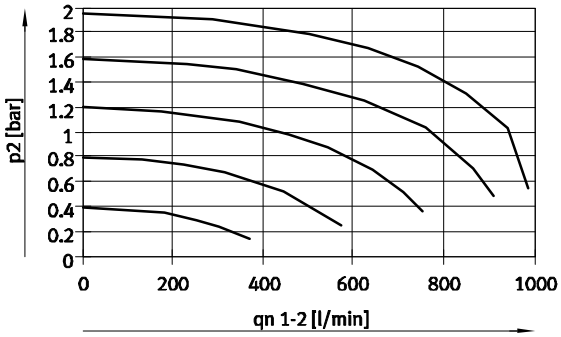


Proportional pressure regulators VPPM, NPT

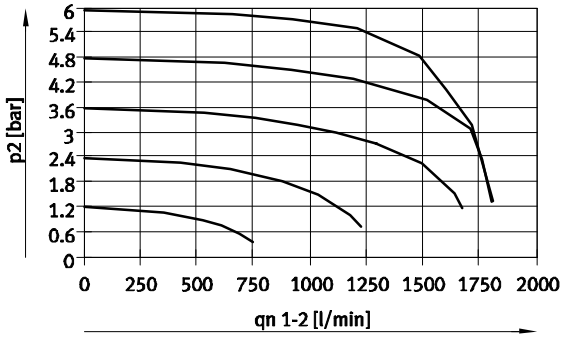
Technical data

Flow rate qn from 1 ⇢ 2 as a function of output pressure p2

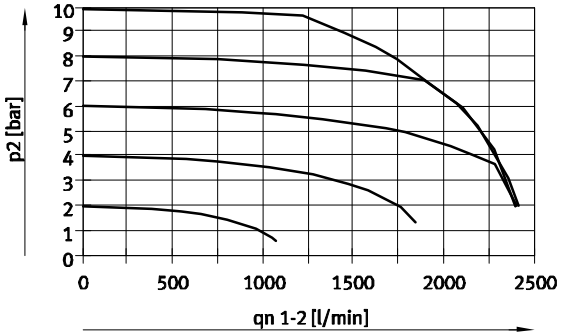
VPPM-8L-...-0L2H-... (29.4 psi/2 bar)



VPPM-8L-...-0L6H-... (88.2 psi/6 bar)

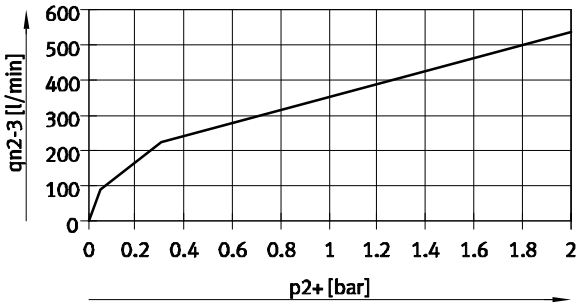


VPPM-8L-...-0L10H-... (147 psi/10 bar)

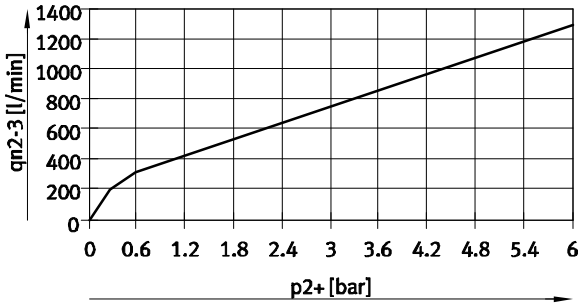


Flow rate qn from 2 ⇢ 3 as a function of output pressure p2

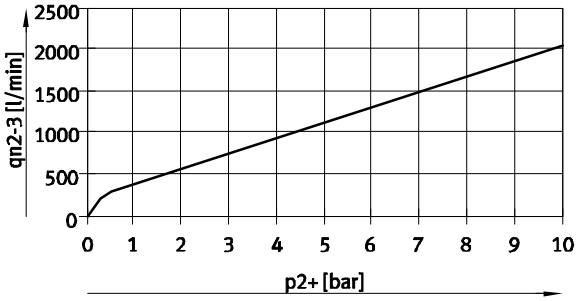
VPPM-8L-...-0L2H-... (29.4 psi/2 bar)



VPPM-8L-...-0L6H-... (88.2 psi/6 bar)

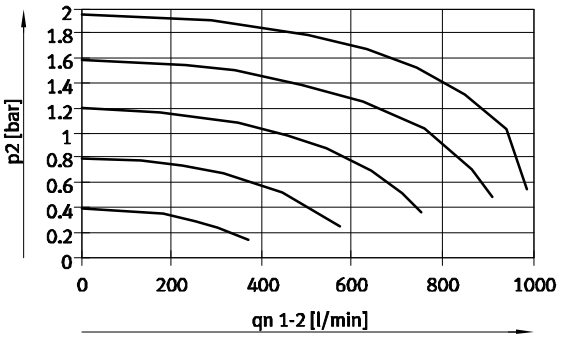


VPPM-8L-...-0L10H-... (147 psi/10 bar)

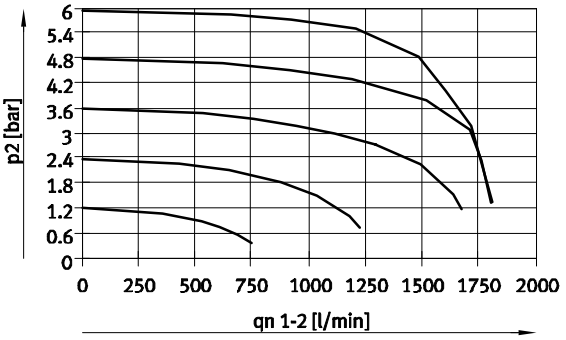


Flow rate qn from 1 ⟶ 2 as a function of output pressure p2

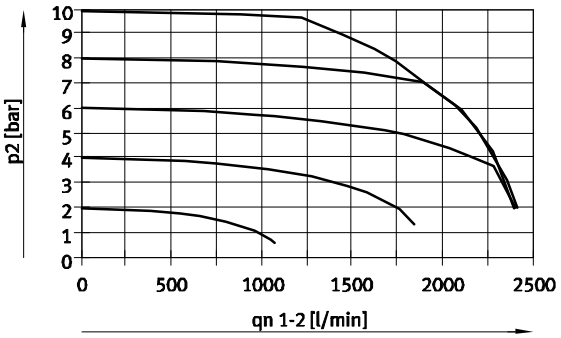
VPPM-8F/8TA-...-0L2H-... (29.4 psi / 2 bar)



VPPM-8F/8TA-...-0L6H-... (88.2 psi / 6 bar)



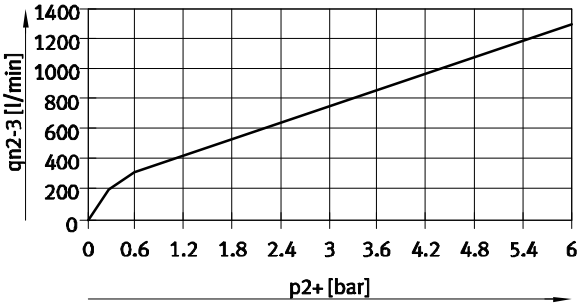
VPPM-8F/8TA-...-0L10H-... (147 psi / 10 bar)



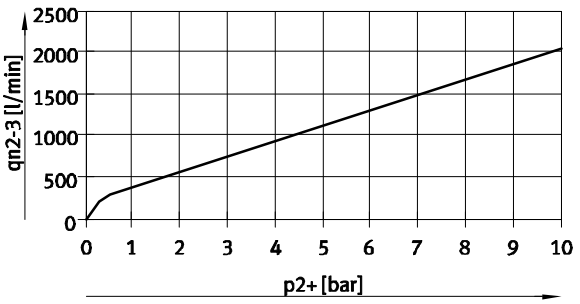
Flow rate qn from 2 ⟶ 3 as a function of output pressure p2

VPPM-8F/8TA-...-0L2H-... (29.4 psi / 2 bar)

VPPM-8F/8TA-...-0L6H-... (88.2 psi / 6 bar)



VPPM-8F/8TA-...-0L10H-... (147 psi / 10 bar)

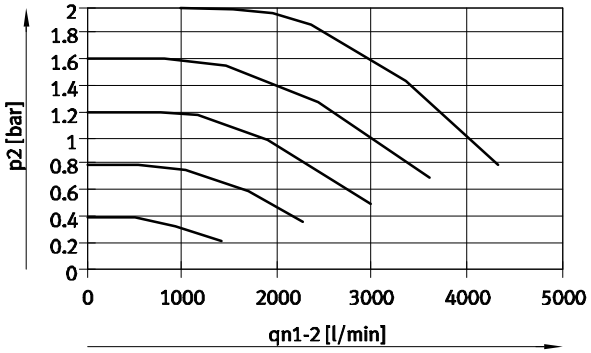


Proportional pressure regulators VPPM, NPT

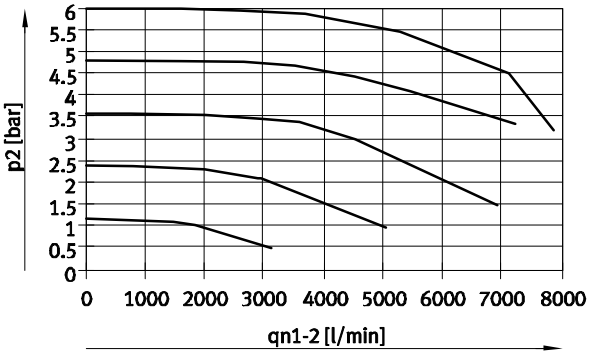
Technical data

Flow rate qn from 1 ⟶ 2 as a function of output pressure p2

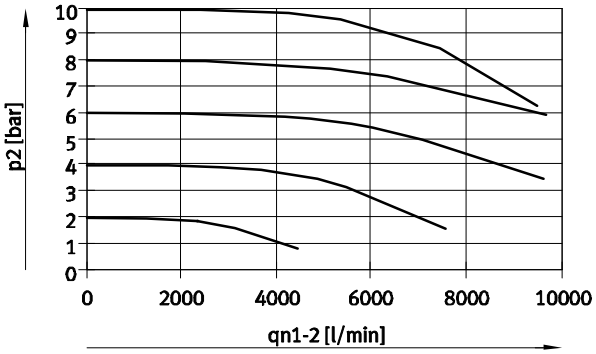
VPPM-12L-...-0L2H-... (4 bar)



VPPM-12L-...-0L6H-... (8 bar)

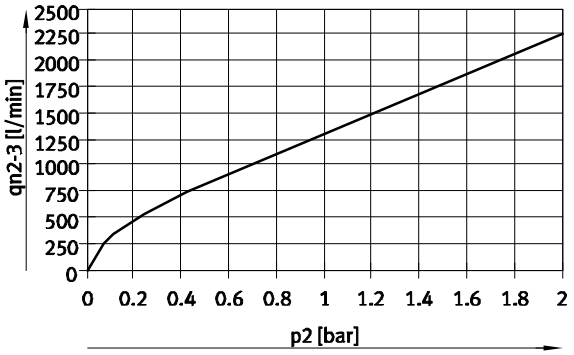


VPPM-12L-...-0L10H-... (11 bar)

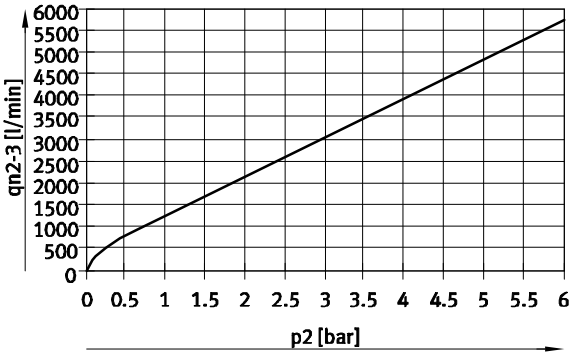


Flow rate qn from 2 ⟶ 3 as a function of output pressure p2

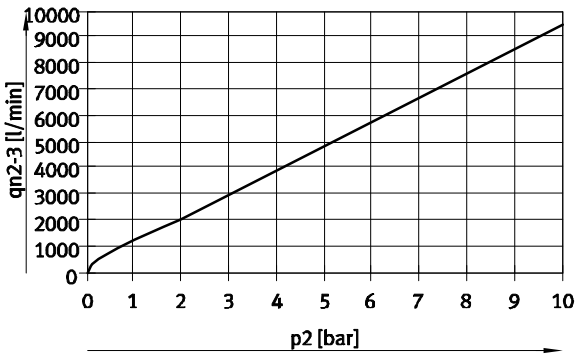
VPPM-12L...-0L2H-... (4 bar)



VPPM-12L-...-0L6H-... (8 bar)



VPPM-12L-...-0L10H-... (11 bar)



Proportional pressure regulators VPPM, NPT

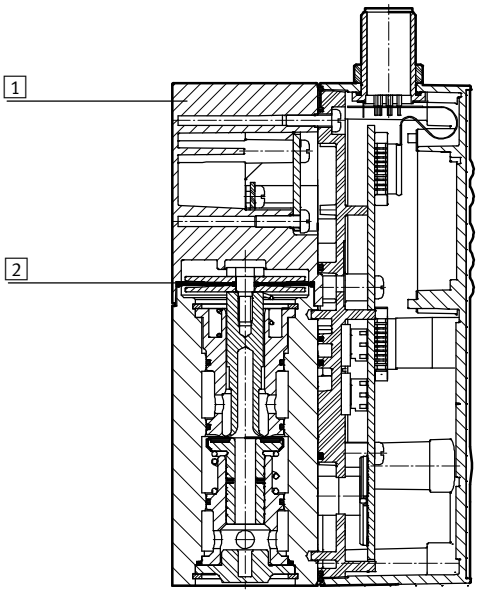
Technical data

Operating and environmental conditions				
Pressure regulation range	[psi]	0 ... 29.4	0 ... 88.2	0 ... 147
	[bar]	0.02 ... 2	0.06 ... 6	0.1 ... 10
Operating medium		Compressed air in accordance with ISO 8573-1:2010 [7:4:4]		
		Inert gases		
Note on operating/pilot medium		Operation with lubricated medium not possible		
Supply pressure 1[1]	[bar]	2 ... 4	2 ... 8	2... 11
Max. pressure hysteresis	[mbar]	10	30	50
FS (full scale) linearity error	[%]	± 0.5		
FS (full scale) repetition accuracy	[%]	0.5		
Temperature coefficient	[%/K]	0.04		
Ambient temperature, operator unit LED (standard)	[°C]	0 ... 60		
Ambient temperature, operator unit with LCD	[°C]	0 ... 50		
Temperature of medium	[°C]	10 ... 50		
Note on materials		RoHS-compliant		
Corrosion resistance class	[CRC]	2[2]		
CE mark		To EU EMC Directive (see declaration of conformity)[3]		
Certification		RCM trademark		
		c UL us - Listed (OL)		

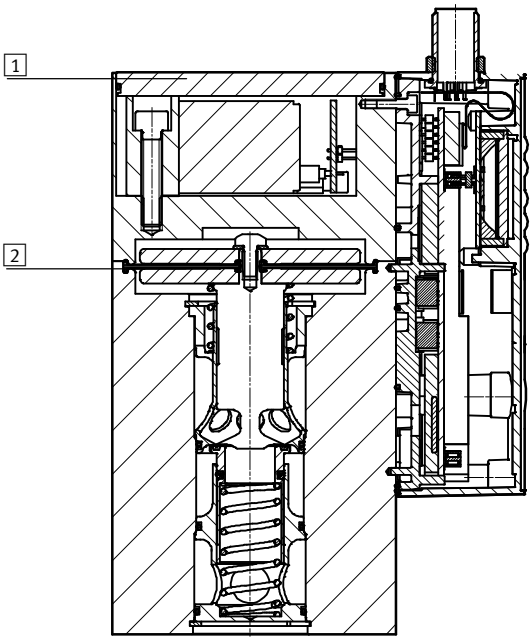
1) Supply pressure 1 should always be 1 bar greater than the maximum regulated output pressure.
2) Corrosion resistance class 2 as per Festo standard 940 070
Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.
3) For information about the applicability of the component see the manufacturer's EC declaration of conformity at: www.festo.com/sp ➔ User documentation.
If the component is subject to restrictions on usage in residential, office or commercial environments or small businesses, further measures to reduce the emitted interference may be necessary.

Materials

Sectional view VPPM-6 ..., VPPM-8 ...



Sectional view VPPM-12 ...



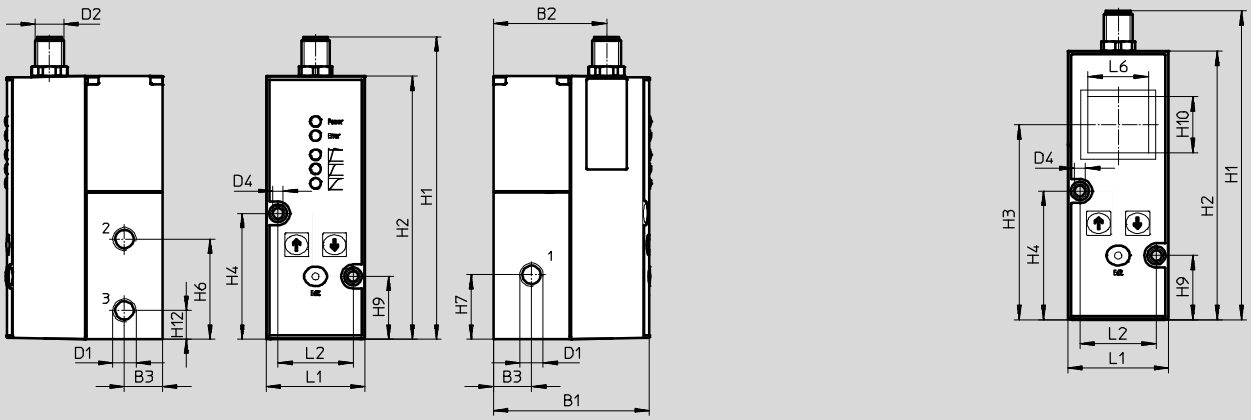
1	Housing	Wrought aluminium alloy
2	Diaphragm	Nitrile rubber

Proportional pressure regulators VPPM, NPT

Technical data

Dimensions Download CAD data ➔ **www.festo.com**

VPPM-6L With LCD

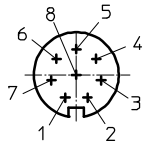


[1] Socket head screw M4x65

Type	B1	B2	B3	D1 ∅	D2 ∅	D4 ∅	H1	H2	H3	H4	H6	H7	H9	H10	H12
VPPM-6L	65.5	47.5	16	⅛ NPT	M12	4.4	126.9	110.4	80.1	52.8	42	27	26.3	23	12

Type	L1	L2	L6
VPPM-6L	41.5	31.5	25

M12 – Pin allocation



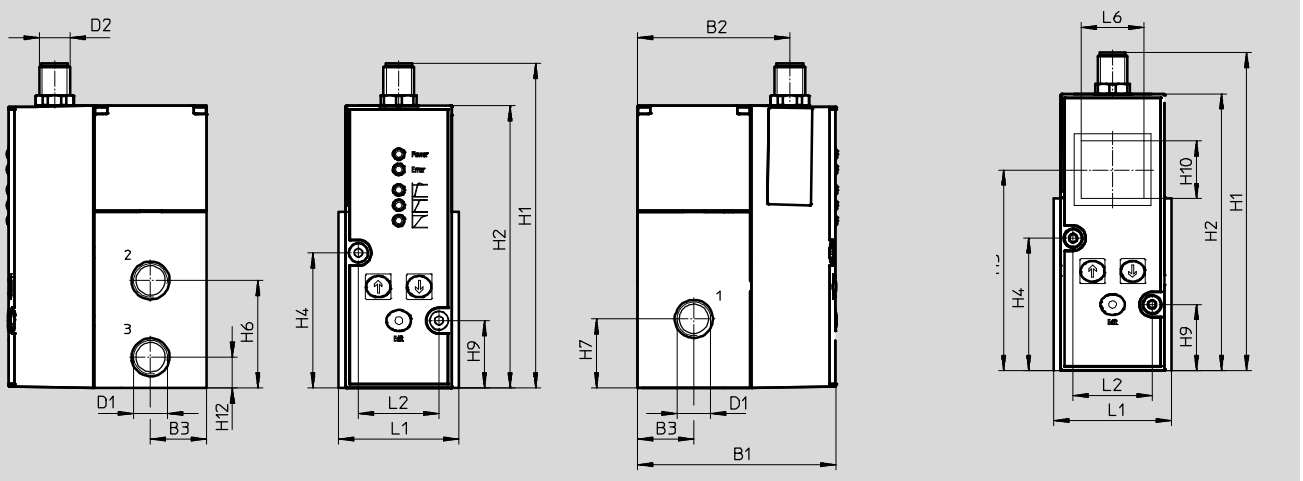
1	Digital input D1	4	Analogue input W+	7	0 V DC or GND
2	+24 V DC supply voltage	5	Digital input D2	8	Digital output D3
3	Analogue input W–	6	Analogue output X		

Proportional pressure regulators VPPM, NPT

Technical data

Dimensions Download CAD data ➔ **www.festo.com**

VPPM-8L With LCD

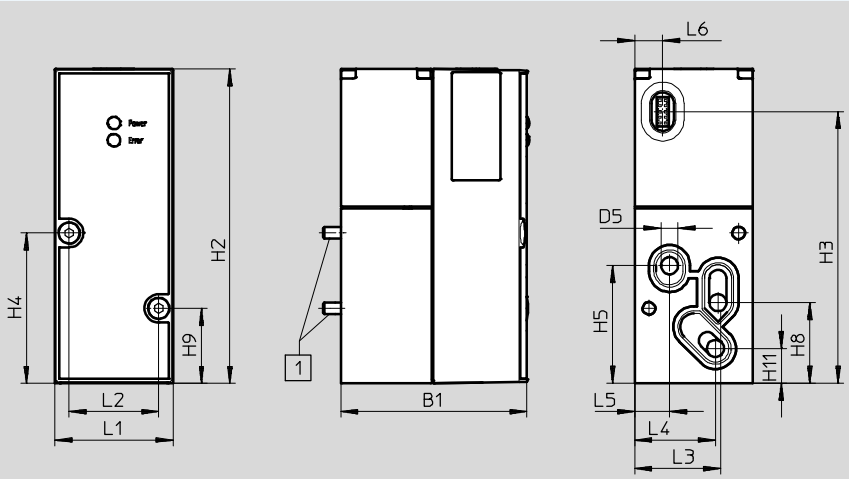


Type	B1	B2	B3	D1 ∅	D2 ∅	H1	H2	H3	H4	H6	H7	H9	H10	H12
VPPM-8L	77.4	59.5	22	¼ NPT	M12	126.9	110.4	80	52.8	42	27	26.3	23	12

Type	L1	L2	L6
VPPM-8L	47	31.5	25

Dimensions Download CAD data ➔ **www.festo.com**

VPPM-6TA

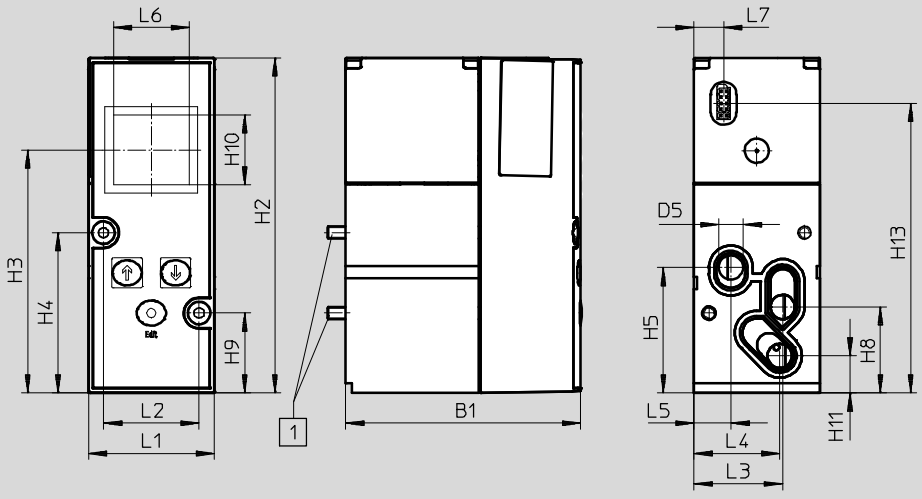


1 Socket head screw M4x55

Type	B1	D5 ∅	H2	H3	H4	H5	H8	H9	H11
VPPM-6TA	55.1	6	110.4	95.5	52.8	41.3	28.3	26.3	12.2

Type	L1	L2	L3	L4	L5	L6
VPPM-6TA	41.5	31.5	30.3	28.4	12.3	9.9

VPPM-8TA with LCD



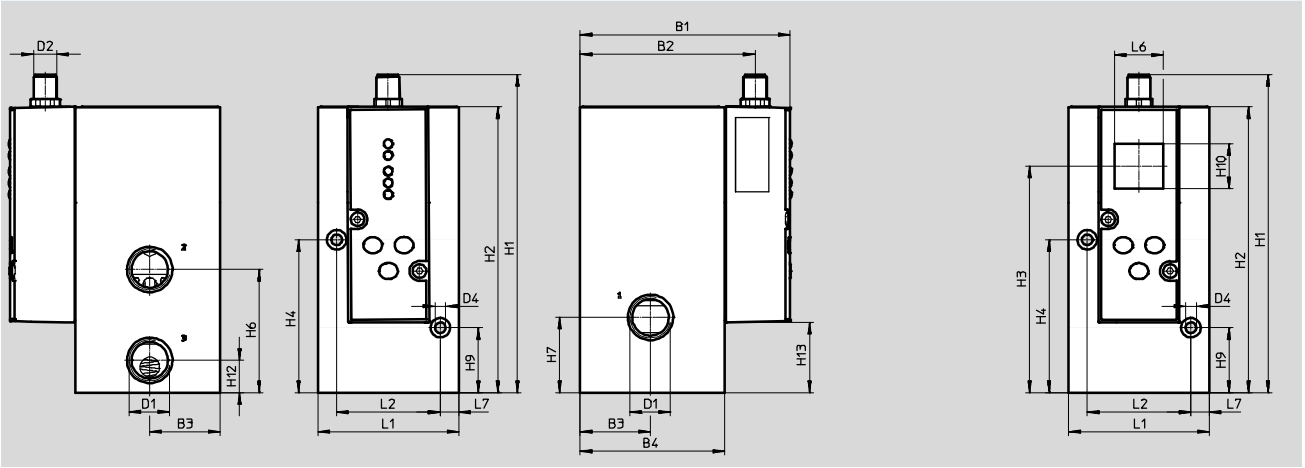
1 Socket head screw M4x77

Type	B1	B2	B3	D1	D2	D5 ∅	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	H13
VPPM-8TA	77.4	–	–	–	–	8	–	110.4	80	52.8	41.3	–	–	28.3	26.3	23	12.2	–	95.5

Type	L1	L2	L3	L4	L5	L6	L7
VPPM-8TA	41.5	31.5	29.3	28.4	12.3	25	9.9

Dimensions Download CAD data ➔ **www.festo.com**

VPPM-12L with LCD



Type	B1	B2	B3	B4	D1 ∅	D2	D4 ∅	H1	H2	H3	H4	H6	H7	H9	H10	H12	H13
VPPM-12L	107.4	89.5	36	74	½ NPT	M12	5.5	162.8	146.3	116	78.2	63	38.5	33.2	23	16.5	35.9

Type	L1	L2	L6	L7
VPPM-12L	72	53	25	9.5

Proportional pressure regulators VPPM, NPT

Technical data

Ordering data				
Proportional pressure regulators VPPM	Pneumatic connection 1, 2, 3	Pressure regulation range [bar]	Part No.	Type
Voltage type 0 ... 10 V				
Overall accuracy 2%	⅛ NPT	0.06 ... 6	**542212**	**VPPM-6L-L-1-N18-0L6H-V1N**
			558349	**VPPM-6L-L-1-N18-0L6H-V1N-C1**
			558343	**VPPM-6L-L-1-N18-0L6H-V1P-C1**
Overall accuracy 1%	⅛ NPT	0.1 ... 10	**558348**	**VPPM-6L-L-1-N18-0L10H-V1N-S1C1**
			558341	**VPPM-6L-L-1-N18-0L10H-V1P-S1C1**
			558348	**VPPM-6L-L-1-N18-0L10H-V1N-S1C1**
	½ NPT	0.06 ... 6	**576680**	**VPPM-12L-L-1-N12-0L6H-V1P-S1C1**
		0.1 ... 10	**576681**	**VPPM-12L-L-1-N12-0L10H-V1P-S1C1**
Current type 4 ... 20 mA				
Overall accuracy 2%	⅛ NPT	0.06 ... 6	**558344**	**VPPM-6L-L-1-N18-0L6H-A4P-C1**
		0.1 ... 10	**542216**	**VPPM-6L-L-1-N18-0L10H-A4N**
Overall accuracy 1%	⅛ NPT	0.02 ... 2	**542208**	**VPPM-6L-L-1-N18-0L2H-A4N-S1**
		0.1 ... 10	**558342**	**VPPM-6L-L-1-N18-0L10H-A4P-S1C1**
	½ NPT	0.06 ... 6	**576682**	**VPPM-12L-L-1-N12-0L6H-A4P-S1C1**
		0.1 ... 10	**576683**	**VPPM-12L-L-1-N12-0L10H-A4P-S1C1**
For valve terminal				
Overall accuracy 2%	Via valve terminal	0.02 ... 2	**542220**	**VPPM-6TA-L-1-F-0L2H-N**
			572410	**VPPM-8TA-L-1-F-0L2H-C1**
		0.06 ... 6	**542221**	**VPPM-6TA-L-1-F-0L6H-N**
			572411	**VPPM-8TA-L-1-F-0L6H-C1**
		0.02 ... 10	**542222**	**VPPM-6TA-L-1-F-0L10H-N**
			572412	**VPPM-8TA-L-1-F-0L10H-C1**
Overall accuracy 1%	Via valve terminal	0.02 ... 2	**542217**	**VPPM-6TA-L-1-F-0L2H-N-S1**
			572407	**VPPM-8TA-L-1-F-0L2H-S1C1**
		0.06 ... 6	**542218**	**VPPM-6TA-L-1-F-0L6H-N-S1**
			572408	**VPPM-8TA-L-1-F-0L6H-S1C1**
		0.02 ... 10	**542219**	**VPPM-6TA-L-1-F-0L10H-N-S1**
			572409	**VPPM-8TA-L-1-F-0L10H-S1C1**

Proportional pressure regulators VPPM, NPT

Ordering data – Modular products

FESTO

[M] **Mandatory data** ➔

Module No.	Design	Nominal size	Valve type	Dynamic response	Valve operating mode	Connection type
546953	VPPM (NPT)	6	L	L	1	N18
546954		8	L			N14
546956		12	L			N12
Ordering example						
546953	**VPPM**	**–** **6**	**L**	**–** **L**	**–** **1**	**–** **N18**

Ordering table

Size		6	Condi-tions	Code		Enter code
[M]	Module No.	**546953**				
	Design	Modular pressure regulator		**VPPM**		VPPM
	Nominal size	6		**-6**		
		8		**-8**		
		12		**-12**		
	Valve type	In-line	[1]	**L**		
	Dynamic response	Low dynamic response (pilot-actuated, soft-sealing)		**-L**		-L
	Valve operating mode	3/2-way valve, normally closed		**-1**		-1
	Connection type	NPT thread 1⁄8 NPT		**-N18**		
↓		NPT thread 1⁄4 NPT		**-N14**		
		NPT thread 1⁄2 NPT		**-N12**		

[1] **L** Only with connection type N18, N14, N12 (NPT thread 1⁄8 NPT, 1⁄4 NPT, 1⁄2 NPT)

Order code

546953	**VPPM**	**–**	**6**		**–**	**L**	**–**	**1**	**–**	

Proportional pressure regulators VPPM, NPT

Ordering data – Modular products

FESTO

➔ M **Mandatory data** | O **Options**

	Pressure regulation range	Alternative lower pressure regulation range	Alternative upper pressure regulation range		Setpoint specification	Switching output		Overall accuracy	Operator unit
	0L2H 0L6H 0L10H	–	–		V1 A4	P N		S1	C1
–		**6.5L**	**7.1H**	–	**A4**	**P**	–	**S1**	**C1**

Ordering table

Size		6	Conditions	Code	Enter code
↓ M	Pressure regulation range	0 … 29.4 psi		**-0L2H**	
		0 … 88.2 psi		**-0L6H**	
		0 … 147 psi		**-0L10H**	
	Alternative lower pressure regulation range	–	2	**-…L**	
	Alternative upper pressure regulation range	–	3	**…H**	
	Setpoint specification	Voltage (standard 0 … 10 V)		**-V1**	
		Current (standard 4 … 20 mA)		**-A4**	
	Switching output	PNP switching		**P**	
		NPN switching		**N**	
O	Overall accuracy	1%		**-S1**	
	Operator unit	With LCD, pressure unit variable		**C1**	

2 **…L** Not with pressure regulation range (0L2H, 0L6H, 0L10H).
Must always be less than alternative upper pressure regulation range H

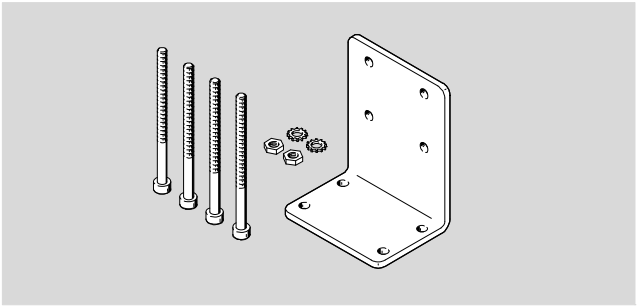
3 **…H** Not with pressure regulation range (0L2H, 0L6H, 0L10H).
Must always be greater than alternative lower pressure regulation range L

Transfer order code

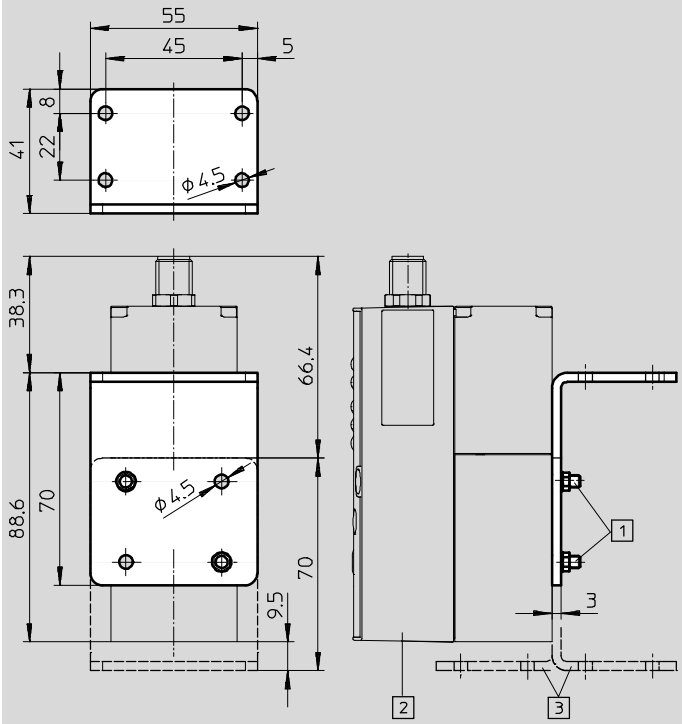
–				–			–		

Bracket
VAME-P1-A

Material:
Wrought aluminium alloy, steel



Dimensions Download CAD data ➔ **www.festo.com**



1 Socket head screw M4

2 Proportional pressure regulator VPPM

3 Bracket can be reversed if required

Ordering data

Weight [g]	CRC	Part No.	Type
71	1[1)]	**542251**	**VAME-P1-A**

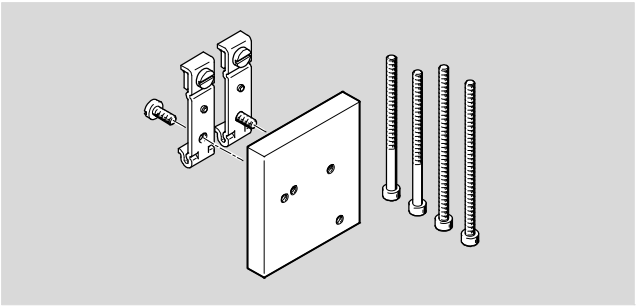
1) Corrosion resistance class 1 according to Festo standard 940 070
Components subject to low corrosion stress. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

Note

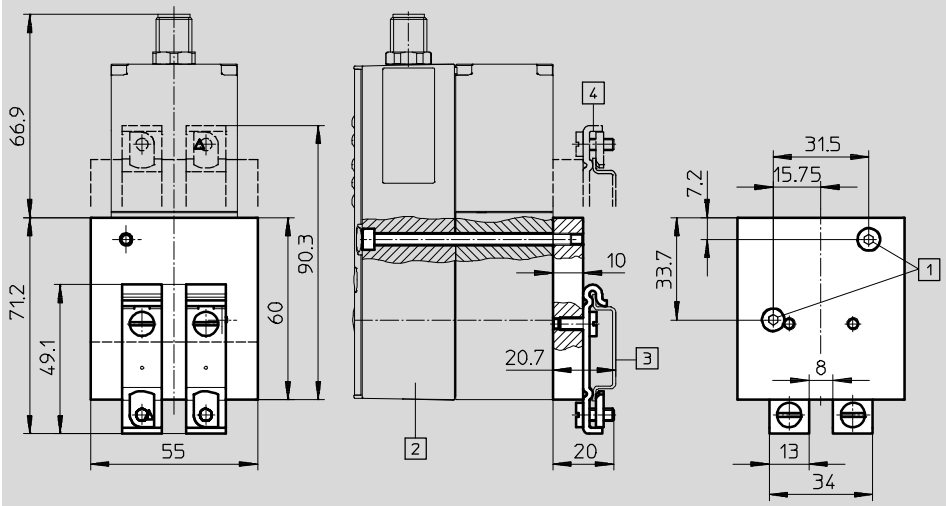
In-line valves VPPM-6L-... must be used in combination with the bracket VAME-P1-A.

H-rail mounting
VAME-P1-T

Material:
Wrought aluminium alloy, steel



Dimensions Download CAD data ➔ **www.festo.com**



1 Socket head screw M4

2 Proportional pressure regulator VPPM

3 H-rail NRH

4 H-rail mounting can be rotated by 180º if required

Ordering data

Weight [g]	CRC	Part No.	Type
150	1[1)]	**542255**	**VAME-P1-T**

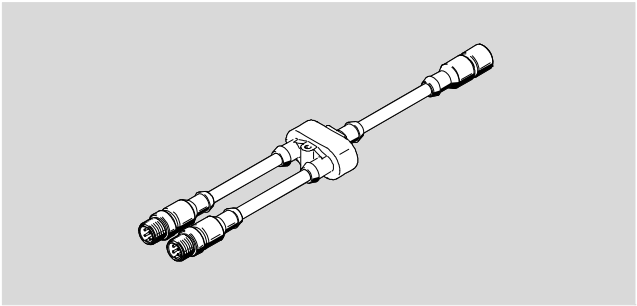
1) Corrosion resistance class 1 according to Festo standard 940 070
Components subject to low corrosion stress. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

- Note

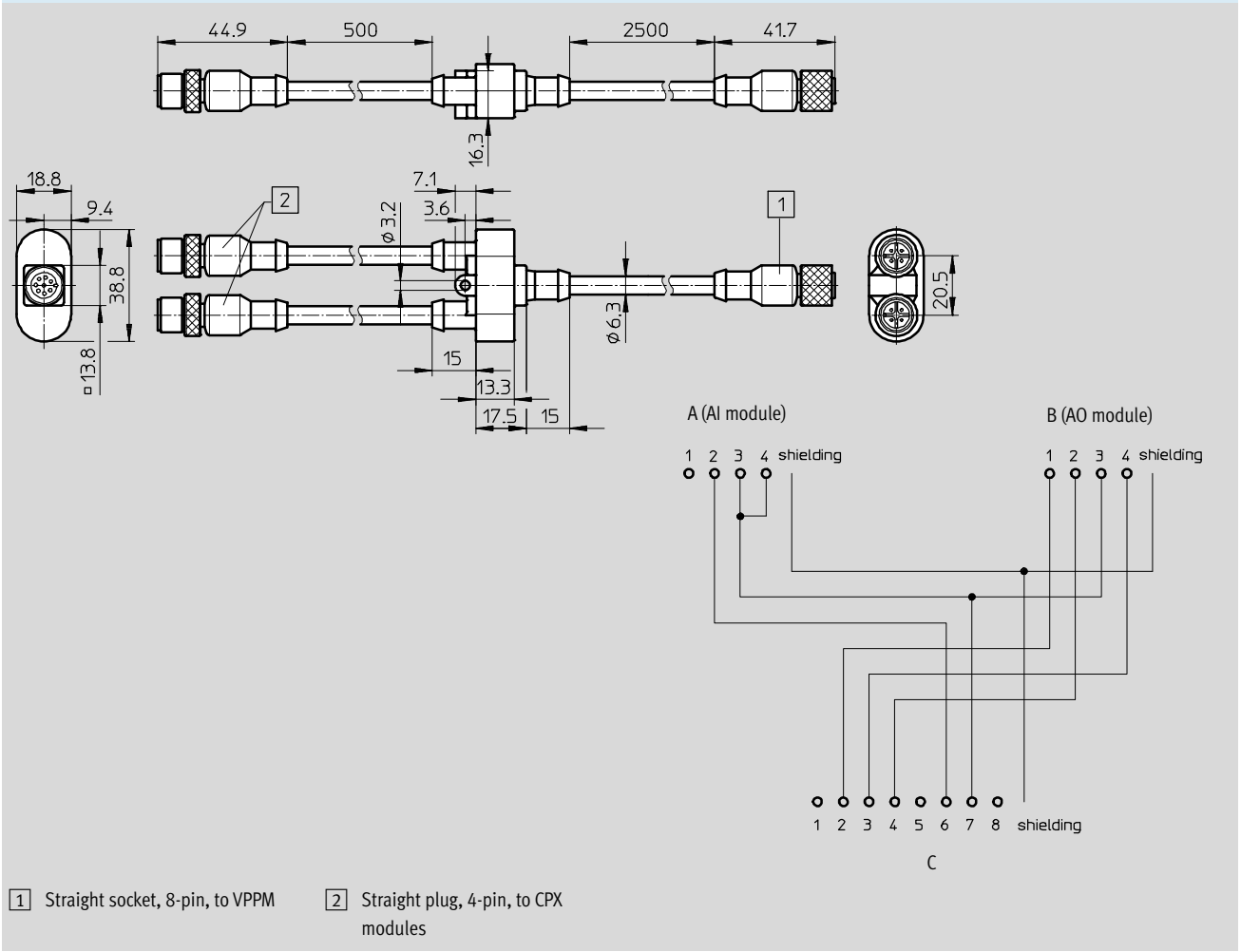
In-line valves VPPM-6L-... must be used in combination with the H-rail VAME-P1-T.

Connecting cable
NEBV-M12G8-KD-3-M12G4

For connecting the proportional pressure regulator VPPM to the analogue input and output modules of the CPX terminal.



Dimensions and pin allocation Download CAD data ➔ **www.festo.com**

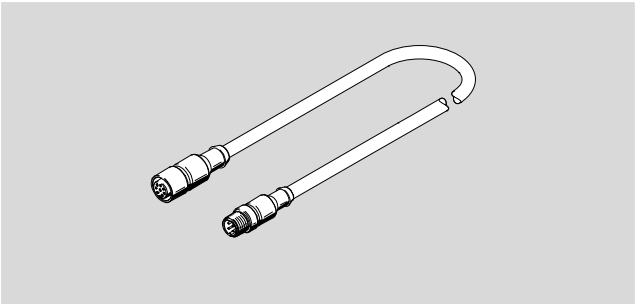


1 Straight socket, 8-pin, to VPPM

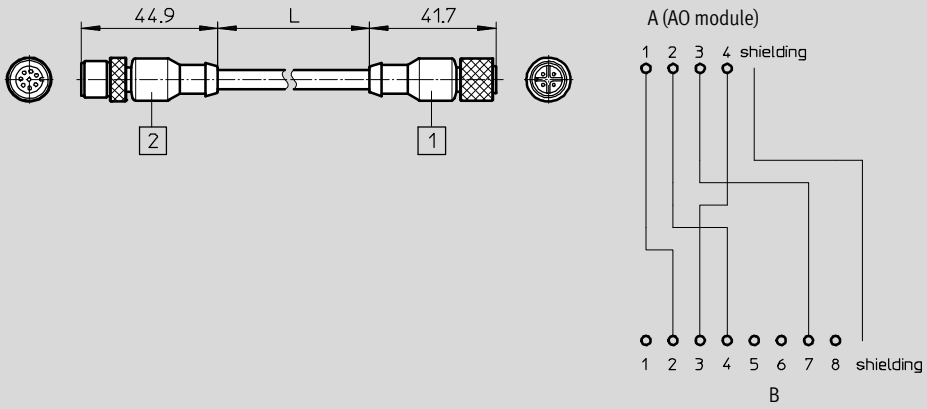
2 Straight plug, 4-pin, to CPX modules

Connecting cable
NEBV-M12G8-K-5-M12G4

For connecting the proportional pressure regulator VPPM to the analogue output modules of the CPX terminal.

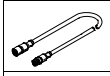
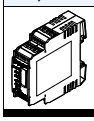


Dimensions and pin allocation Download CAD data ➔ **www.festo.com**



Type	2	1	L
NEBV-M12G8-K-2-M12G4	Straight socket, M12, 8-pin, to VPPM	Straight plug, M12, 4-pin, to CPX module	2 m
NEBV-M12G8-K-5-M12G4			5 m

Ordering data

	Description		Part No.	Type
Connecting cable				Technical data ➔ Internet: plug socket with cable
	Straight socket, 8-pin, M12	2 m	**525616**	**SIM-M12-8GD-2-PU**
		5 m	**525618**	**SIM-M12-8GD-5-PU**
		10 m	**570008**	**SIM-M12-8GD-10-PU**
	Angled socket, 8-pin, M12	2 m	**542256**	**NEBU-M12W8-K-2-N-LE8**
		5 m	**542257**	**NEBU-M12W8-K-5-N-LE8**
		10 m	**570007**	**NEBU-M12W8-K-10-N-LE8**
	One straight socket, 8-pin, and one straight plug, 4-pin	2 m	**553575**	**NEBV-M12G8-K-2-M12G4**
		5 m	**553576**	**NEBV-M12G8-K-5-M12G4**
	One straight socket, 8-pin, and two straight plugs, 4-pin		**547888**	**NEBV-M12G8-KD-3-M12G4**
Setpoint module				Technical data ➔ Internet: mpz
	Setpoint module for generating 6 + 1 analogue voltage signals		**546224**	**MPZ-1-24DC-SGH-6-SW5**