

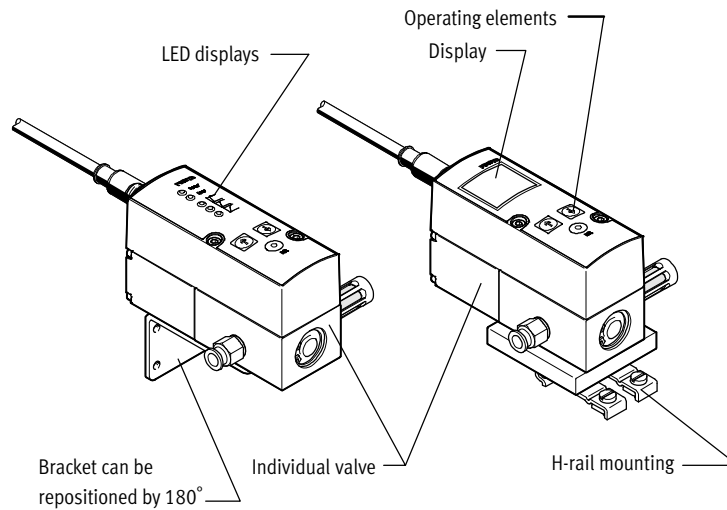
# Proportional pressure regulators VPPM, NPT



# Proportional pressure regulators VPPM, NPT

Key features

FESTO



## 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

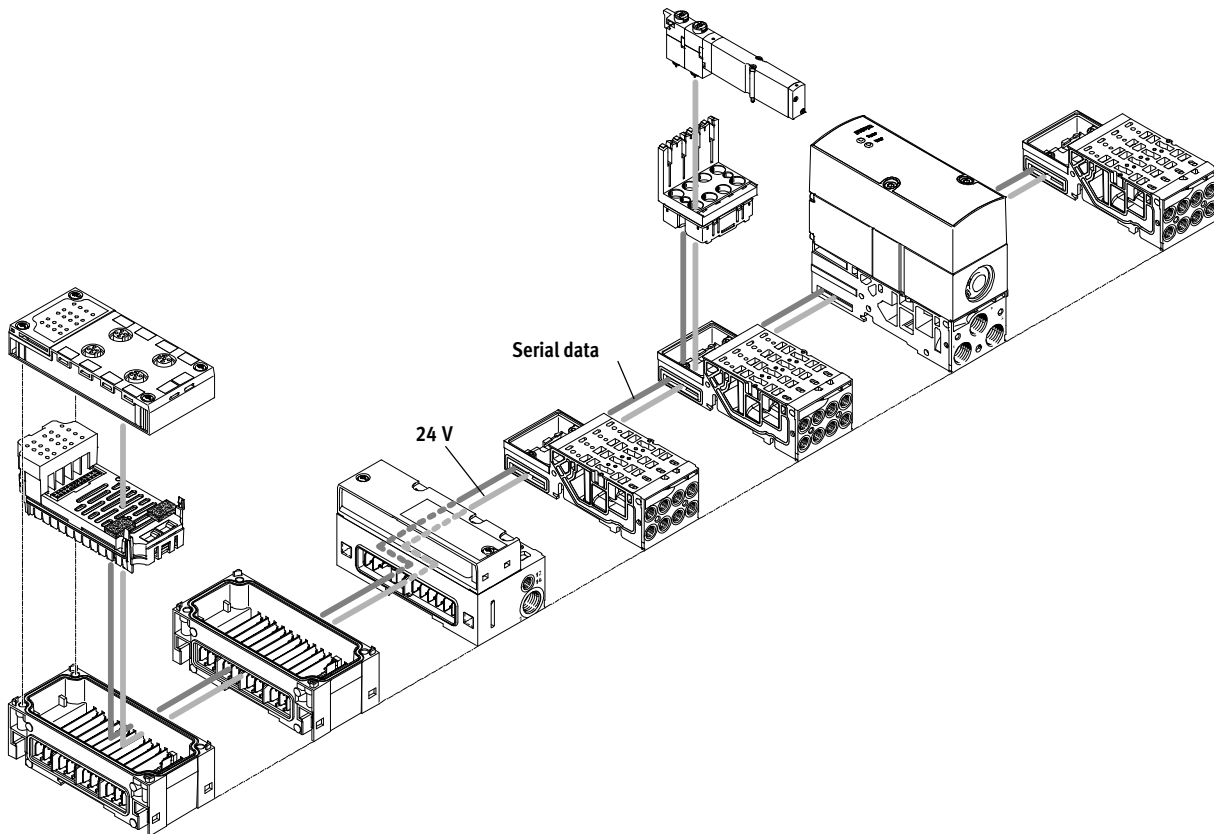
- H-rail mounting
- Individually via mounting bracket
- QS fittings

# Proportional pressure regulators VPPM, NPT

Key features

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## 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

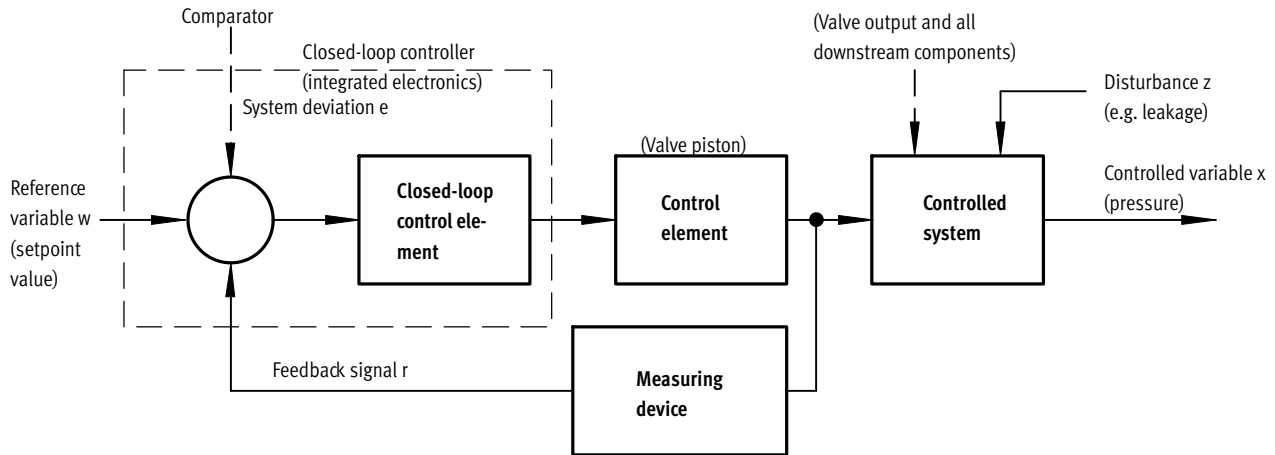
-  - Note

More information on the VPPM valves for type 32 MPA  
 → type 32

# Proportional pressure regulators VPPM, NPT

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

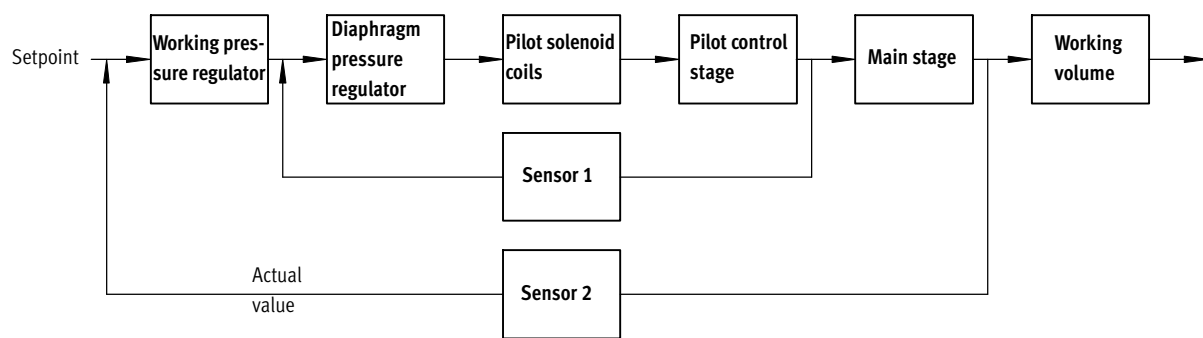
element. The output of the final control element acts on the controlled system. The closed-loop control element thus attempts to compensate for the difference between the reference variable  $w$  and the controlled variable  $x$  by using the final control element.

### 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

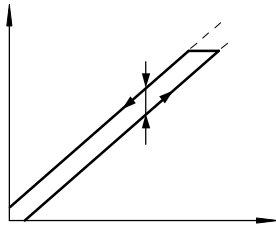
Multi-sensor control significantly improves control precision and dynamic response in comparison with single-acting regulators.

# Proportional pressure regulators VPPM, NPT

Key features

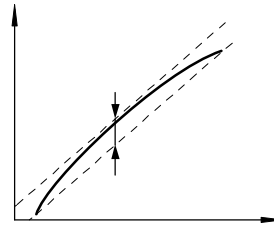
## Terms related to the proportional pressure regulator

### Hysteresis



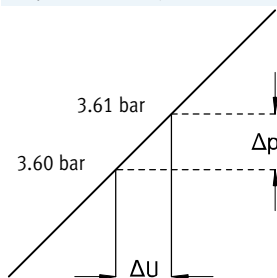
There is always a linear relationship within a certain tolerance between the setpoint value entered and the pressure output. Nevertheless it makes a difference whether the setpoint value is entered as rising or falling. The difference between the maximum deviations is referred to as hysteresis.

### Linearity error



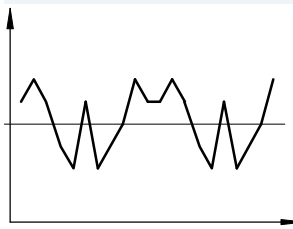
A perfectly linear progression of the control characteristic of the output pressure is theoretical. The maximum percentage deviation from this theoretical control characteristic is referred to as the linearity error. The percentage value refers to the maximum output pressure (full scale).

### Response sensitivity



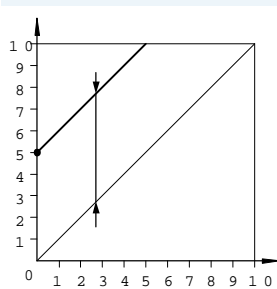
The response sensitivity of the device determines how sensitively one can change, i.e. adjust, a pressure. The smallest setpoint value difference that results in a change in the output pressure is referred to as the response sensitivity. In this case, 0.01 bar.

### Repetition accuracy (reproducibility)



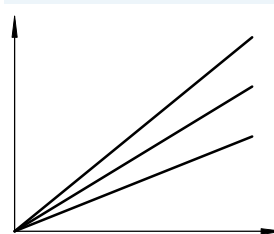
The repetition accuracy is the margin within which the fluid output variables are scattered when the same electrical input signal coming from the same direction is repeatedly adjusted. The repetition accuracy is expressed as a percentage of the maximum fluid output signal.

### Zero offset



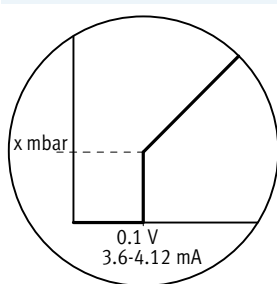
If, for example, a VPPM cannot be vented for safety reasons, the minimum pressure can be increased from the zero point. The smallest setpoint value is then assigned an output pressure of 5 bar, for example, and the largest setpoint value an output pressure of 10 bar. Zero suppression is automatically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

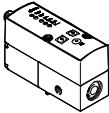
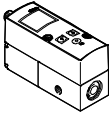
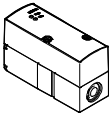
### Zero point suppression



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

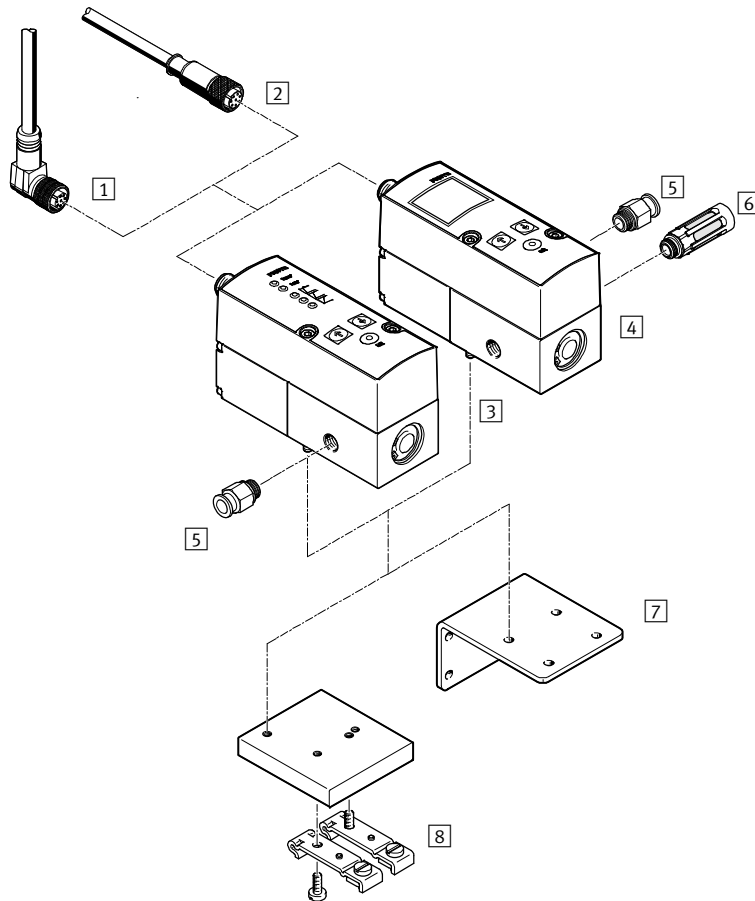
Product range overview

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	<b>LED operator unit (standard)</b>								
		Pilot actuated diaphragm valve	1/8NPT	6/4.5	0 ... 29.4/0 ... 2 0 ... 88.2/0 ... 6 0 ... 147/0 ... 10	■	■	–	12
			1/4 NPT	8/7	0 ... 29.4/0 ... 2 0 ... 88.2/0 ... 6 0 ... 147/0 ... 10	■	■	–	
	<b>LCD operator unit</b>								
		Pilot actuated diaphragm valve	1/8 NPT	6/4.5	0 ... 29.4/0 ... 2 0 ... 88.2/0 ... 6 0 ... 147/0 ... 10	■	■	–	12
			1/4 NPT	8/7	0 ... 29.4/0 ... 2 0 ... 88.2/0 ... 6 0 ... 147/0 ... 10	■	■	–	
			1/2 NPT	12/12	0 ... 88.2/0 ... 6 0 ... 147/0 ... 10	■	■	–	
	<b>LED operator unit, for valve terminal MPA-S</b>								
		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

# Proportional pressure regulators VPPM, NPT

Peripherals overview

## Individual valve VPPM-6L ...



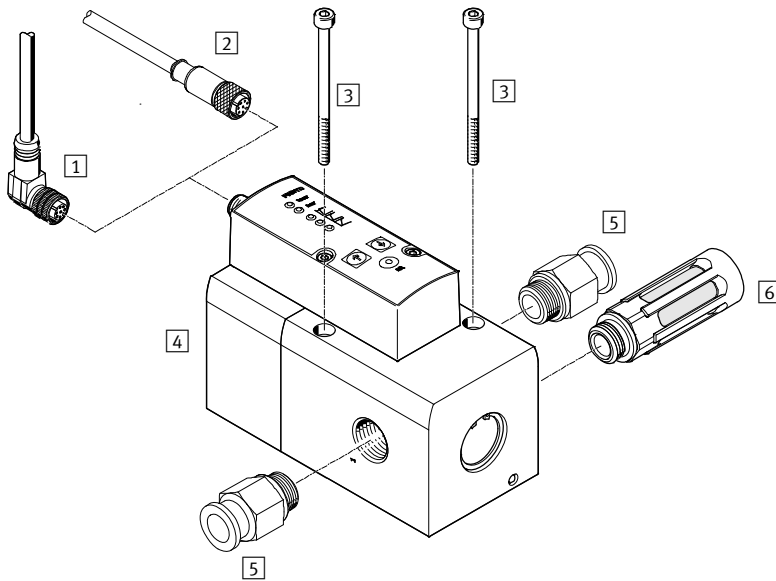
Accessories		Description	→ Page/Internet
1	Angled plug socket with cable NEBU-M12W8-...	–	28
2	Straight plug socket with cable SIM-M12-8GD-...	–	28
3	Proportional pressure regulator VPPM	Operator unit with LED	12
4	Proportional pressure regulator VPPM	Operator unit with LCD	12
5	Push-in fitting QS	For 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

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## Individual valve VPPM-12L ...



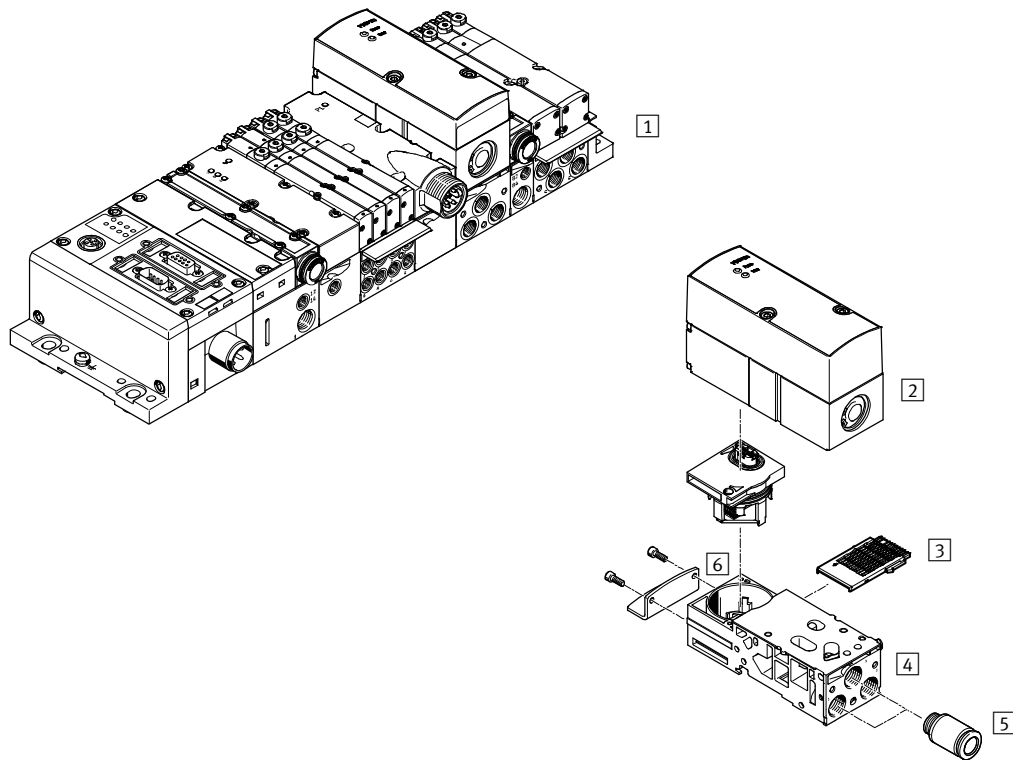
Accessories		
	Description	→ Page/Internet
1	Plug socket with cable, angled NEBU-M12W8-...	40
2	Plug socket with cable, straight SIM-M12-8GD-...	40
3	Fixing screws	-
4	Reguladores de presión proporcionales VPPM	Operator unit with LED or LCD 18
5	Push-in fitting QS	For connecting compressed air tubing with standard outside diameter qs
6	Silencer	For fitting on exhaust ports u



# Proportional pressure regulators VPPM, NPT

System overview

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

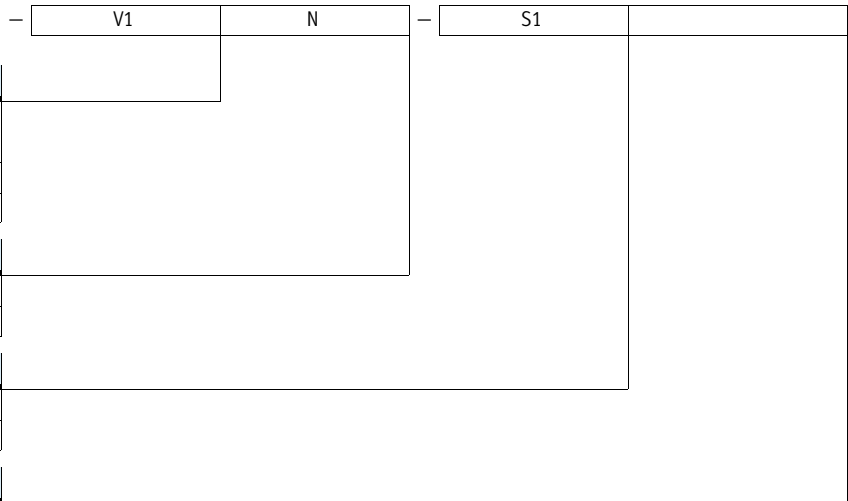
Type codes

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

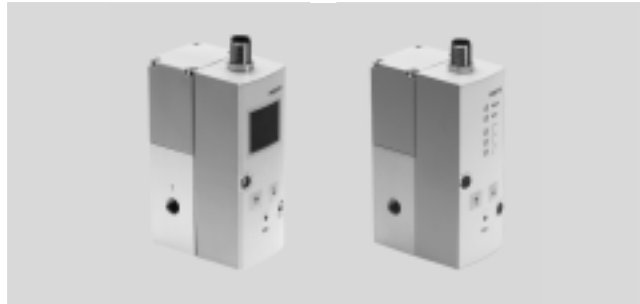
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Technical data

-  - 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			1/8 NPT	1/4 NPT	1/2 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	2050

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		

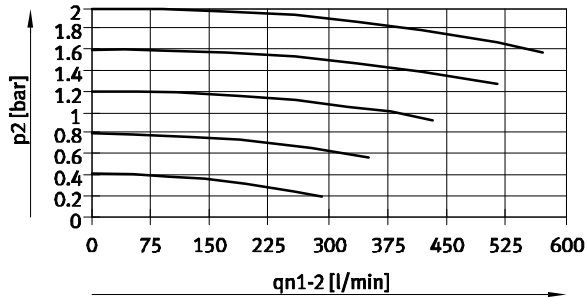
-  - Note  
Output pressure is maintained unregulated if the power supply cable is interrupted.

# Proportional pressure regulators VPPM, NPT

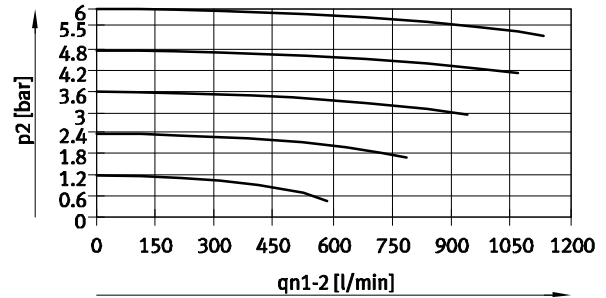
Technical data

## Flow rate $q_{n1}$ from 1 $\rightarrow$ 2 as a function of output pressure $p_2$

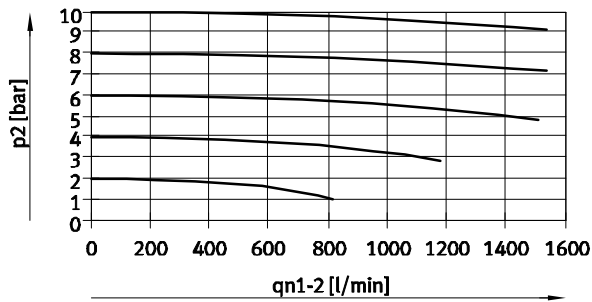
VPPM-6L-...-0L2H-... (29.4 psi/2 bar)



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

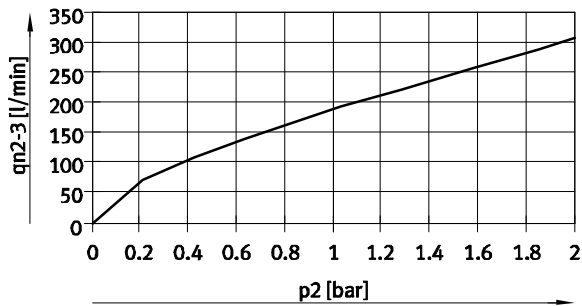


VPPM-6L-...-0L10H-... (147 psi/10 bar)

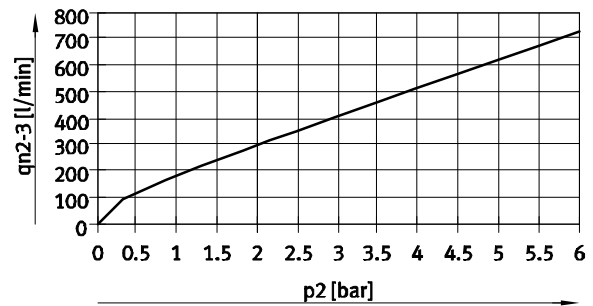


## Flow rate $q_n$ from 2 $\rightarrow$ 3 as a function of output pressure $p_2$

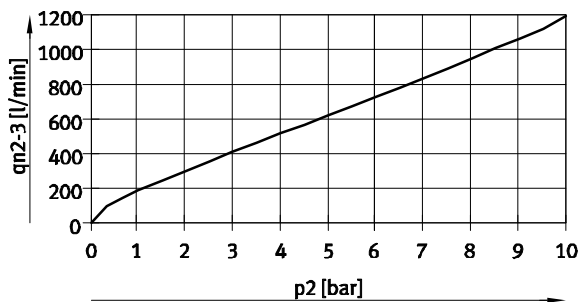
VPPM-6L-...-0L2H-... (29.4 psi/2 bar)



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



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



# Proportional pressure regulators VPPM, NPT

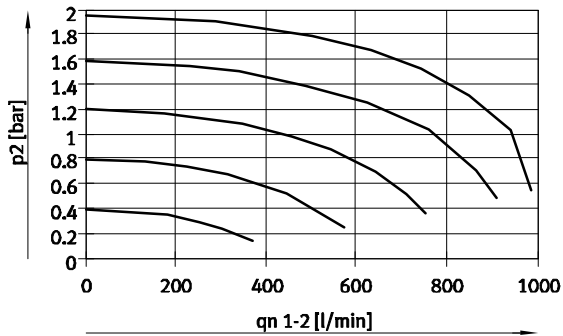
Technical data



## Flow rate $q_n$ from 1 $\rightarrow$ 2 as a function of output pressure $p_2$

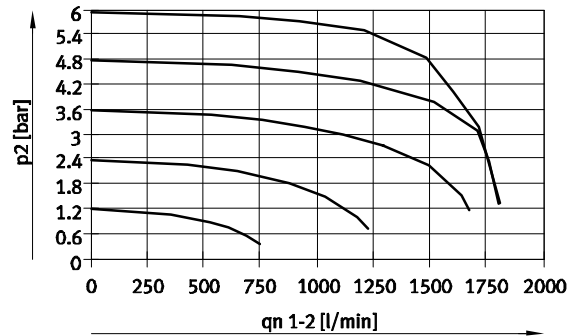
VPPM-8L-...-0L2H-...

(29.4 psi/2 bar)



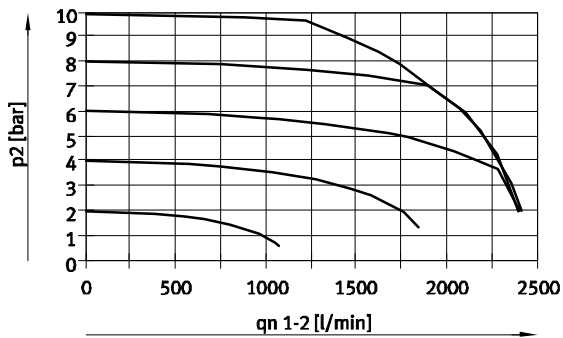
VPPM-8L-...-0L6H-...

(88.2 psi/6 bar)



VPPM-8L-...-0L10H-...

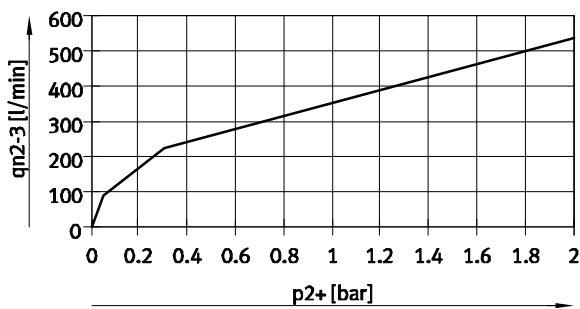
(147 psi/10 bar)



## Flow rate $q_n$ from 2 $\rightarrow$ 3 as a function of output pressure $p_2$

VPPM-8L-...-0L2H-...

(29.4 psi/2 bar)



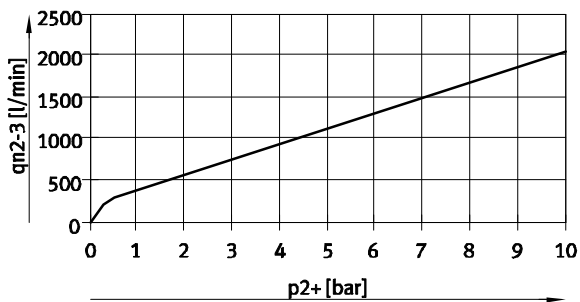
VPPM-8L-...-0L6H-...

(88.2 psi/6 bar)



VPPM-8L-...-0L10H-...

(147 psi/10 bar)

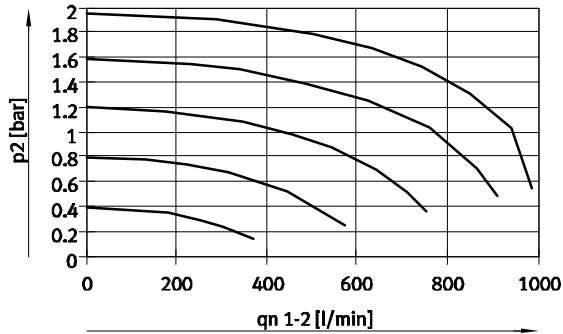


# Proportional pressure regulators VPPM, NPT

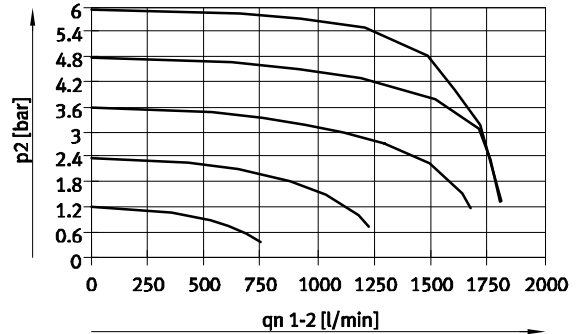
Technical data

## Flow rate $q_n$ from 1 → 2 as a function of output pressure $p_2$

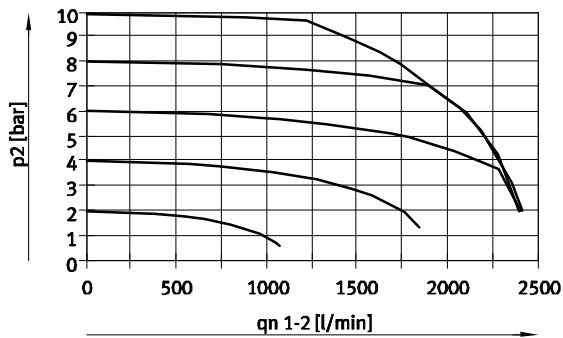
VPPM-8F/8TA-...-0L2H-... (29.4 psi / 2 bar)



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

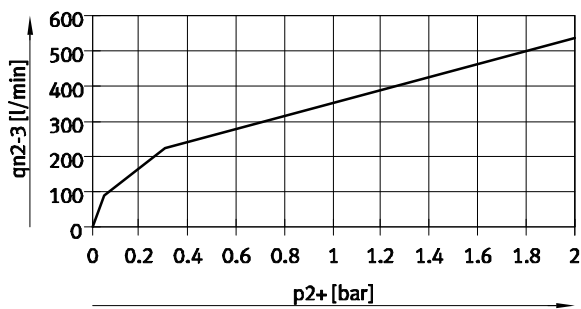


VPPM-8F/8TA-...-0L10H-... (147 psi / 10 bar)



## Flow rate $q_n$ from 2 → 3 as a function of output pressure $p_2$

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)



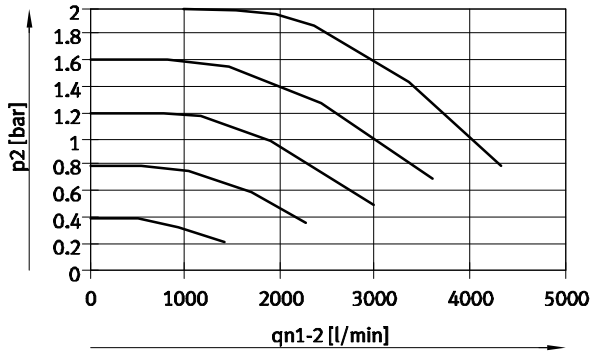
# Proportional pressure regulators VPPM, NPT

Technical data

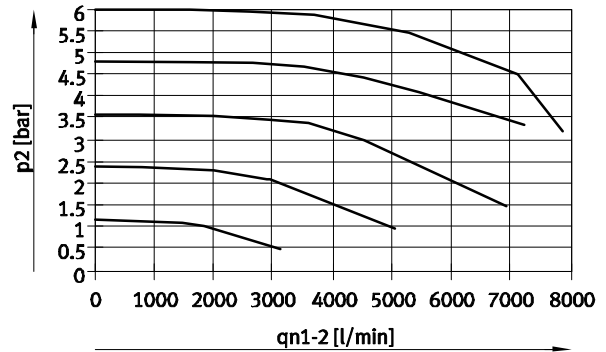


## Flow rate $q_n$ from 1 → 2 as a function of output pressure $p_2$

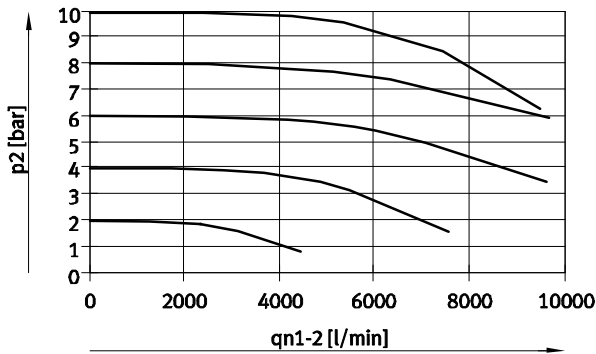
VPPM-12L-...-0L2H-... (4 bar)



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

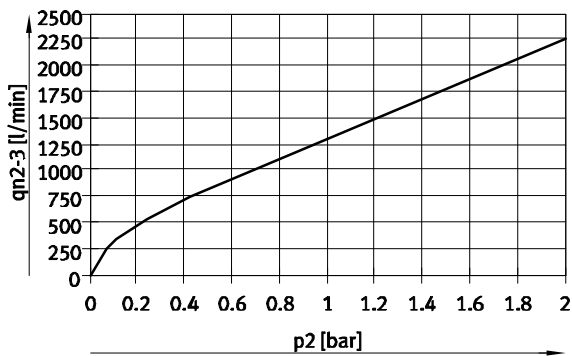


VPPM-12L-...-0L10H-... (11 bar)

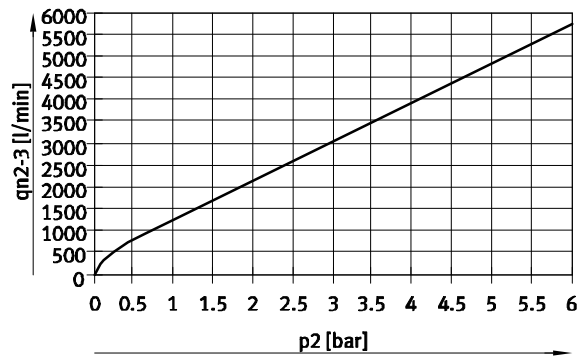


## Flow rate $q_n$ from 2 → 3 as a function of output pressure $p_2$

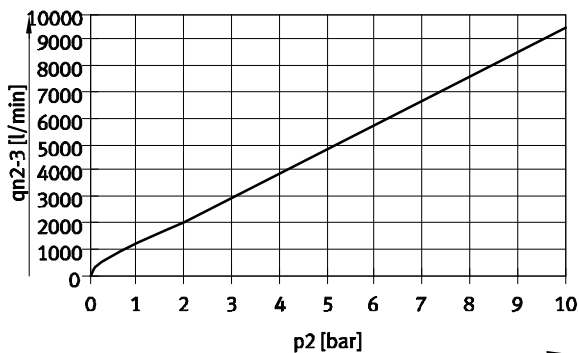
VPPM-12L-...-0L2H-... (4 bar)



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



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





# Proportional pressure regulators VPPM, NPT

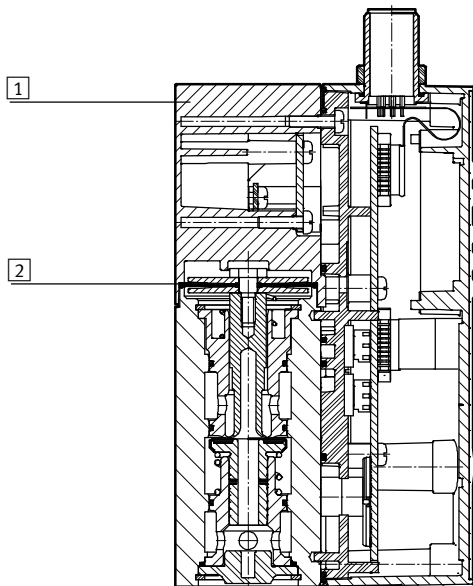
Technical data

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 <sup>1)</sup>	[bar]	2 ... 4	2 ... 8	2... 11
Max. pressure hysteresis	[mbar]	10	30	50
FS (full scale) linearity error	[%]	2		
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 <sup>2)</sup>		
CE mark		To EU EMC Directive (see declaration of conformity) <sup>3)</sup>		
Certification		RCM trademark		
		c UL us - Listed (OL)		

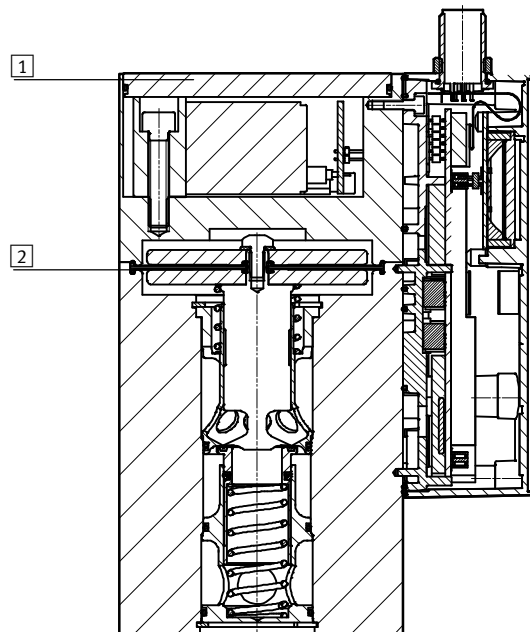
- 1) Supply pressure 1 should always be 1 bar greater than the maximum regulated output pressure.
- 2) Corrosion resistance class CRC 2 to Festo standard FN 940070  
Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.
- 3) For information about the applicability of the component see the manufacturer's EC declaration of conformity at: [www.festo.com/sp](http://www.festo.com/sp) → Certificates.  
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 ...



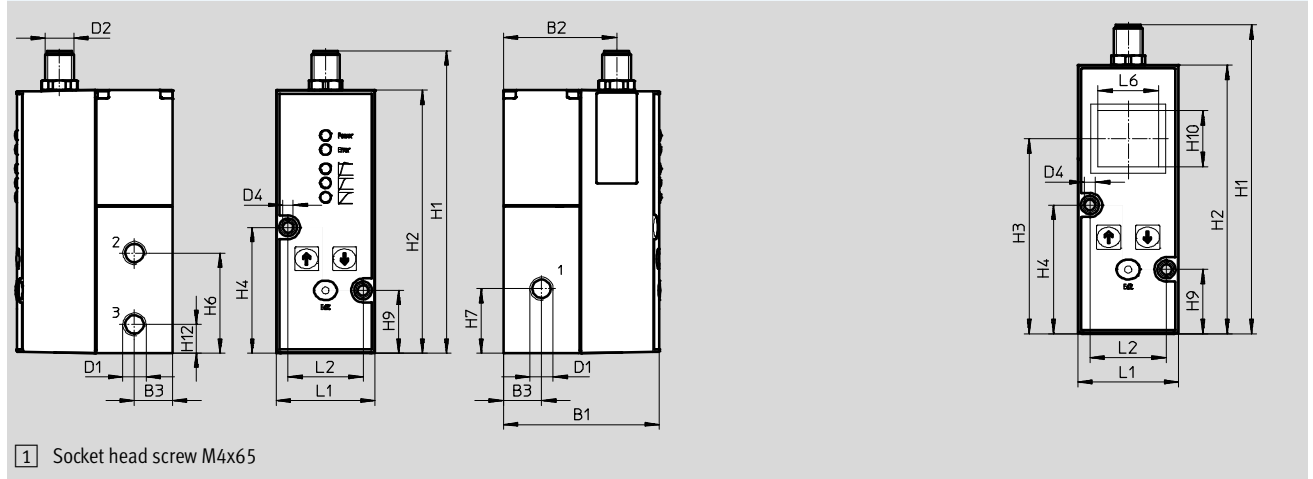
1	Housing	Wrought aluminium alloy
2	Diaphragm	Nitrile rubber

# Proportional pressure regulators VPPM, NPT

Technical data



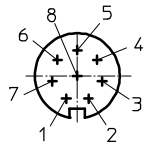
Dimensions Download CAD data → [www.festo.com](http://www.festo.com)  
 VPPM-6L With LCD



Type	B1	B2	B3	D1 Ø	D2 Ø	D4 Ø	H1	H2	H3	H4	H6	H7	H9	H10	H12
VPPM-6L	65.5	47.5	16	1/8NPT	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

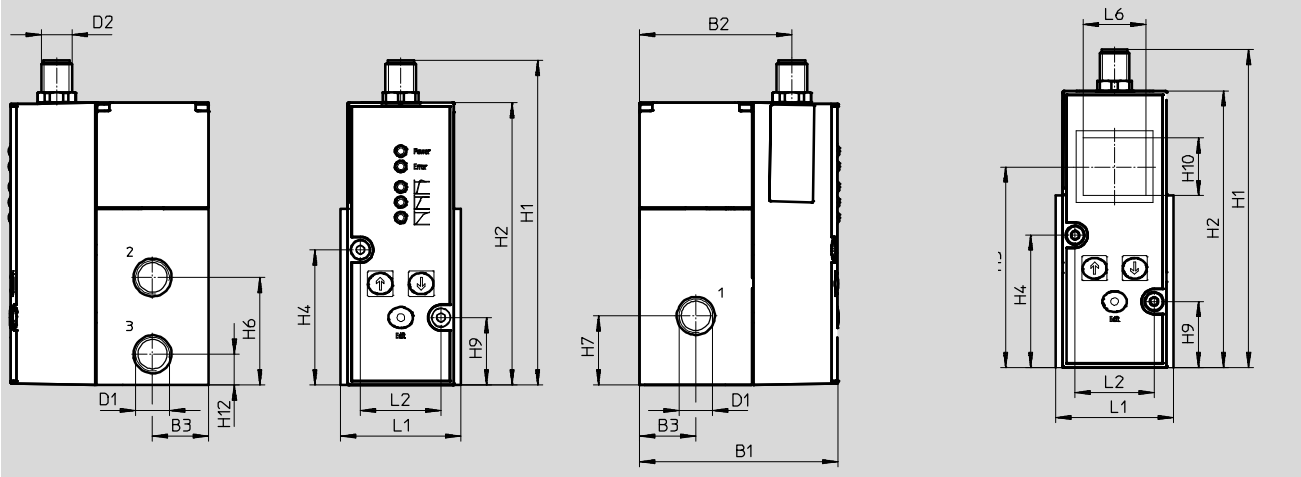
FESTO

## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

VPPM-8L

With LCD



Type	B1	B2	B3	D1 Ø	D2 Ø	H1	H2	H3	H4	H6	H7	H9	H10	H12
VPPM-8L	77.4	59.5	22	1/4 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

# Proportional pressure regulators VPPM, NPT

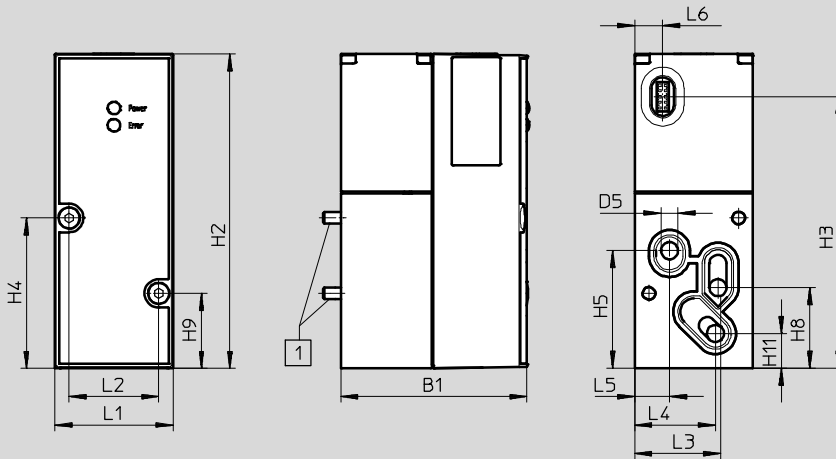
Technical data

FESTO

## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

### VPPM-6TA

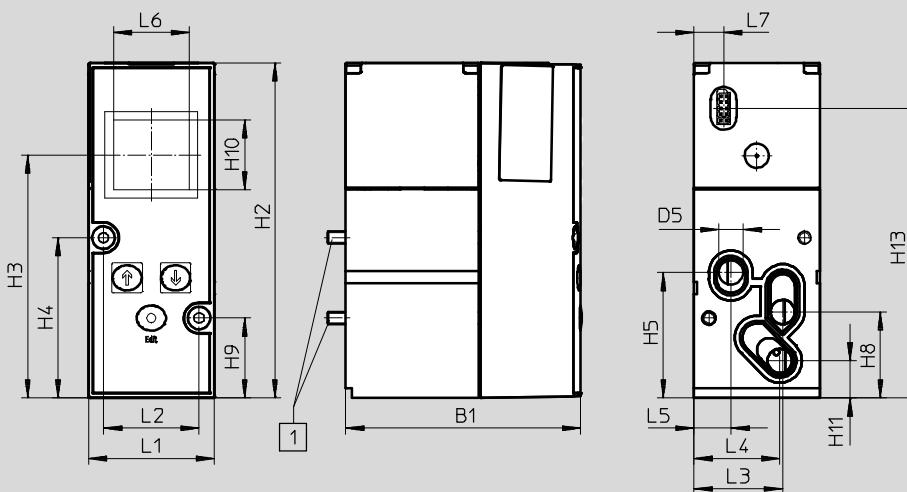


1 Socket head screw M4x55

Type	B1	D5 Ø	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 Ø	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

# Proportional pressure regulators VPPM

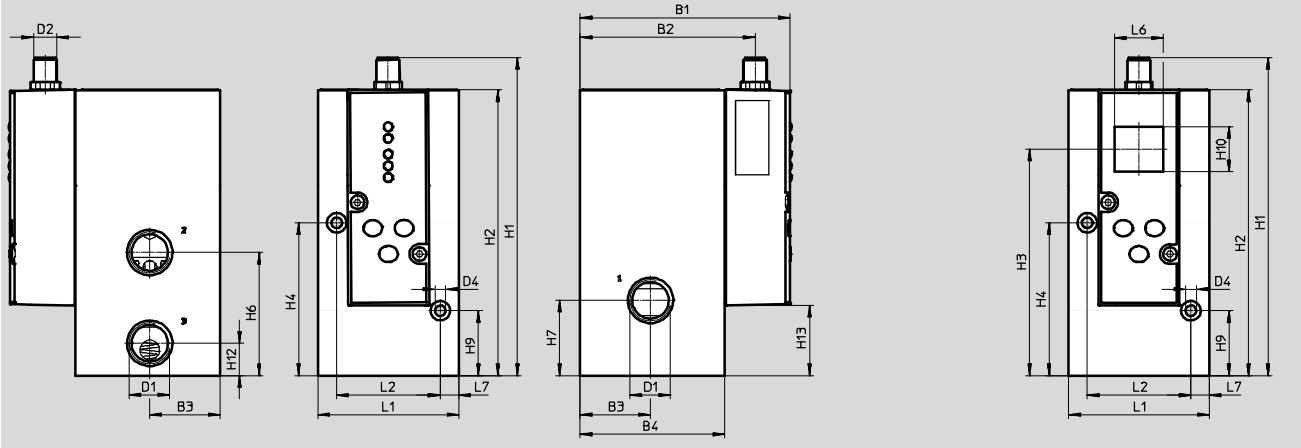
Technical data

FESTO

## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)  
with LCD

VPPM-12L



Type	B1	B2	B3	B4	D1 Ø	D2	D4 Ø	H1	H2	H3	H4	H6	H7	H9	H10	H12	H13
VPPM-12L	107.4	89.5	36	74	1/2 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%	1/8 NPT	0.06 ... 6	542212	VPPM-6L-L-1-N18-OL6H-V1N
			558349	VPPM-6L-L-1-N18-OL6H-V1N-C1
			558343	VPPM-6L-L-1-N18-OL6H-V1P-C1
Overall accuracy 1%	1/8 NPT	0.1 ... 10	558348	VPPM-6L-L-1-N18-OL10H-V1N-S1C1
			558341	VPPM-6L-L-1-N18-OL10H-V1P-S1C1
			558348	VPPM-6L-L-1-N18-OL10H-V1N-S1C1
	1/2 NPT	0.06 ... 6	576680	VPPM-12L-L-1-N12-OL6H-V1P-S1C1
			0.1 ... 10	576681
Current type 4 ... 20 mA				
Overall accuracy 2%	1/8 NPT	0.06 ... 6	558344	VPPM-6L-L-1-N18-OL6H-A4P-C1
		0.1 ... 10	542216	VPPM-6L-L-1-N18-OL10H-A4N
Overall accuracy 1%	1/8 NPT	0.02 ... 2	542208	VPPM-6L-L-1-N18-OL2H-A4N-S1
		0.1 ... 10	558342	VPPM-6L-L-1-N18-OL10H-A4P-S1C1
	1/2 NPT	0.06 ... 6	576682	VPPM-12L-L-1-N12-OL6H-A4P-S1C1
		0.1 ... 10	576683	VPPM-12L-L-1-N12-OL10H-A4P-S1C1
For valve terminal				
Overall accuracy 2%	Via valve terminal	0.02 ... 2	542220	VPPM-6TA-L-1-F-OL2H-N
			572410	VPPM-8TA-L-1-F-OL2H-C1
		0.06 ... 6	542221	VPPM-6TA-L-1-F-OL6H-N
			572411	VPPM-8TA-L-1-F-OL6H-C1
		0.02 ... 10	542222	VPPM-6TA-L-1-F-OL10H-N
			572412	VPPM-8TA-L-1-F-OL10H-C1
Overall accuracy 1%	Via valve terminal	0.02 ... 2	542217	VPPM-6TA-L-1-F-OL2H-N-S1
			572407	VPPM-8TA-L-1-F-OL2H-S1C1
		0.06 ... 6	542218	VPPM-6TA-L-1-F-OL6H-N-S1
			572408	VPPM-8TA-L-1-F-OL6H-S1C1
		0.02 ... 10	542219	VPPM-6TA-L-1-F-OL10H-N-S1
			572409	VPPM-8TA-L-1-F-OL10H-S1C1

# Proportional pressure regulators VPPM, NPT

Ordering data – Modular products

**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
<b>Ordering example</b>						
<b>546953</b>	<b>VPPM</b>	- <b>6</b>	<b>L</b>	- <b>L</b>	- <b>1</b>	- <b>N18</b>

Ordering table		Condi- tions	Code	Enter code
Size	6			
<b>M</b> Module No.	<b>546953</b>			
Design	Modular pressure regulator		<b>VPPM</b>	VPPM
Nominal size	6		<b>-6</b>	
	8		<b>-8</b>	
	12		<b>-12</b>	
Valve type	In-line	<span style="border: 1px solid black; padding: 0 2px;">1</span>	<b>L</b>	
Dynamic response	Low dynamic response (pilot-actuated, soft-sealing)		<b>-L</b>	-L
Valve operating mode	3/2-way valve, normally closed		<b>-1</b>	-1
Connection type	NPT thread 1/8 NPT		<b>-N18</b>	
	NPT thread 1/4 NPT		<b>-N14</b>	
	NPT thread 1/2 NPT		<b>-N12</b>	

1 L Only with connection type N18, N14, N12 (NPT thread 1/8 NPT, 1/4 NPT, 1/2NPT)

**Order code**

546953
VPPM
-
6
-
L
-
1
-

# Proportional pressure regulators VPPM, NPT

Ordering data – Modular products



Mandatory data					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	Condi- tions	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

–    –   –



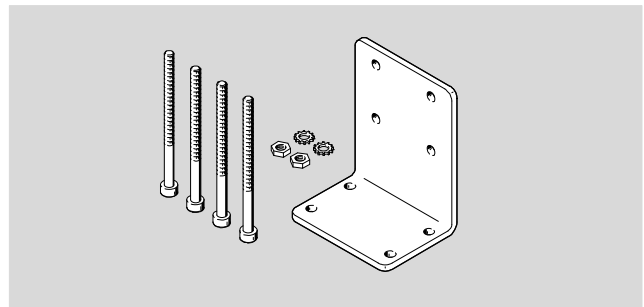
# Proportional pressure regulators VPPM, NPT

Accessories

FESTO

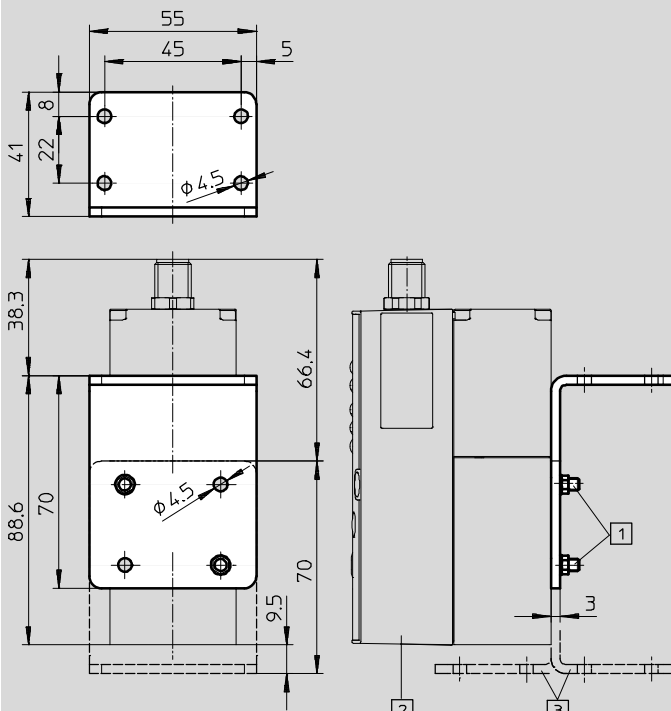
**Bracket**  
**VAME-P1-A**

Material:  
Wrought aluminium alloy, steel



## Dimensions

Download CAD data → [www.festo.com](http://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 <sup>1)</sup>	542251	VAME-P1-A

1) Corrosion resistance class CRC 1 to Festo standard FN 940070

Low corrosion stress. For dry indoor applications or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

-  - Note

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

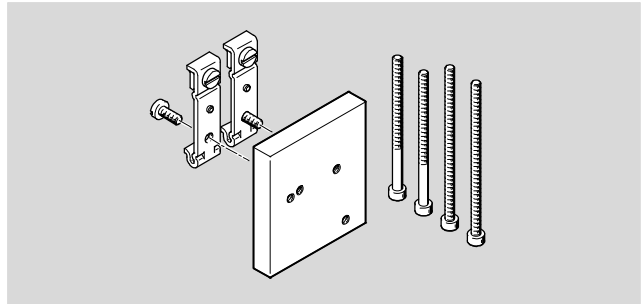
# Proportional pressure regulators VPPM, NPT

Accessories

FESTO

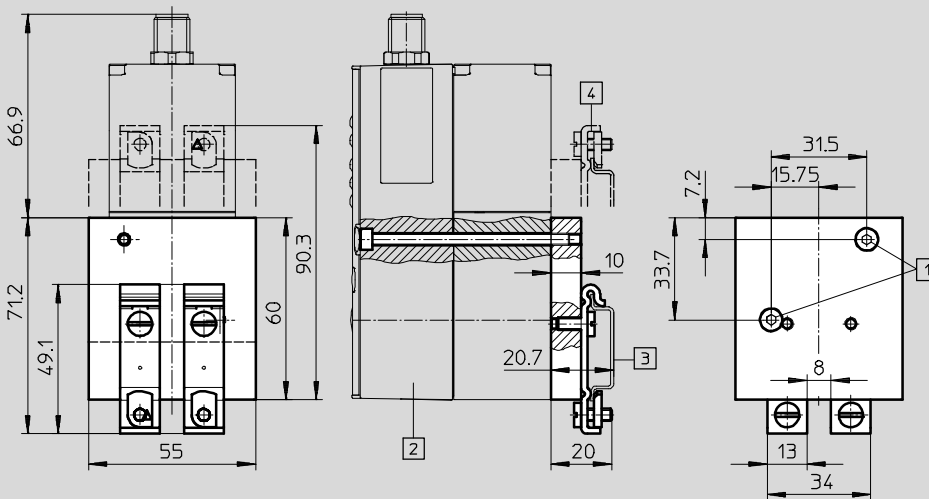
H-rail mounting  
VAME-P1-T

Material:  
Wrought aluminium alloy, steel



## Dimensions

Download CAD data → [www.festo.com](http://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 180° if required

## Ordering data

Weight [g]	CRC	Part No.	Type
150	1 <sup>1)</sup>	542255	VAME-P1-T

1) Corrosion resistance class CRC 1 to Festo standard FN 940070

Low corrosion stress. For dry indoor applications or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

- Note

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

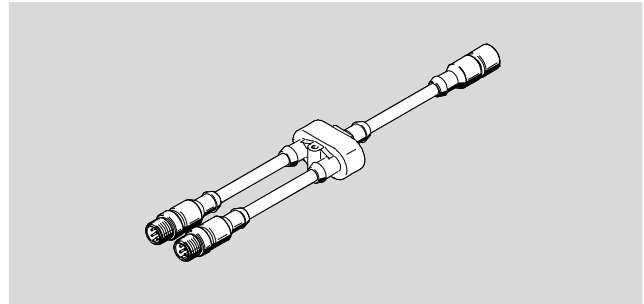
# Proportional pressure regulators VPPM, NPT

Accessories

FESTO

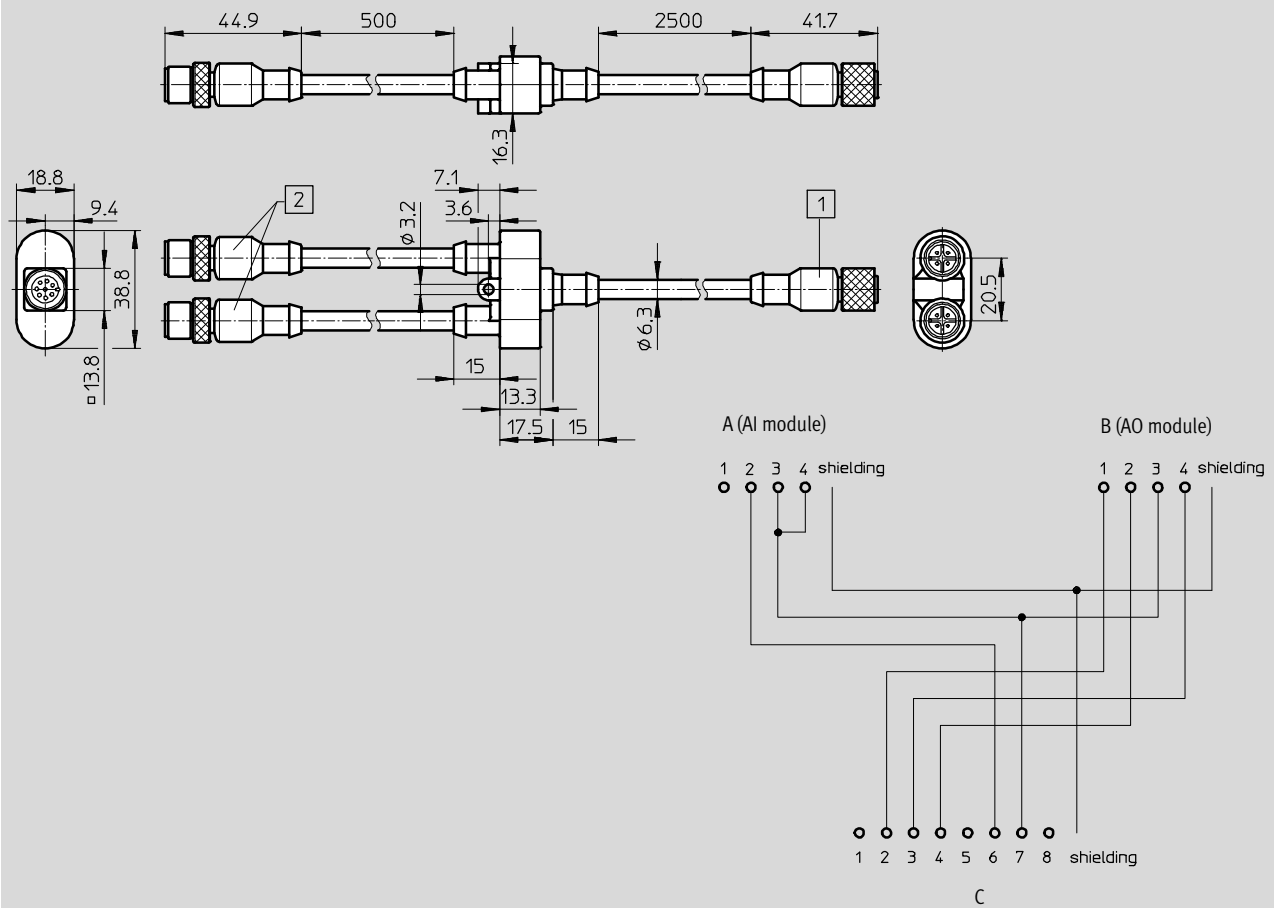
## Connecting cable NEBV-M12G8-KD-3-M12G4

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](http://www.festo.com)



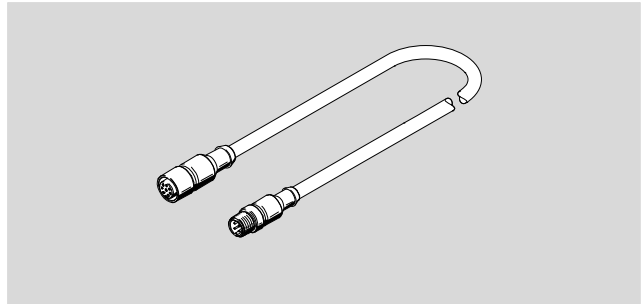
# Proportional pressure regulators VPPM, NPT

Accessories



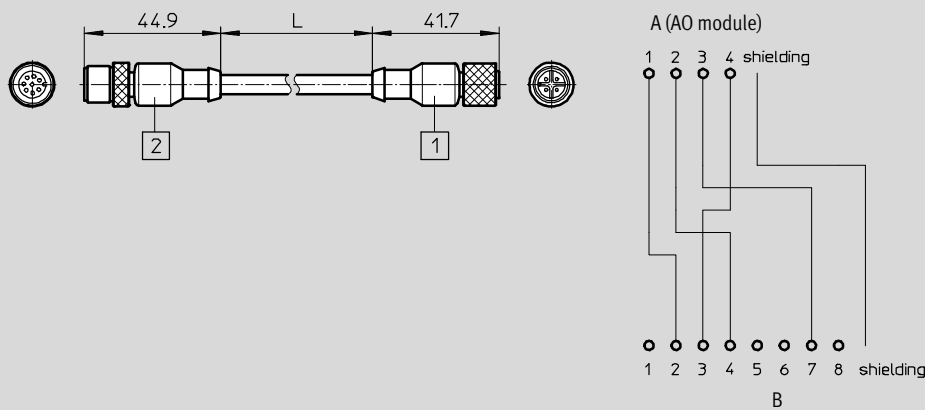
**Connecting cable**  
**NEBV-M12G8-K-5-M12G4**

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](http://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	<b>525616</b> SIM-M12-8GD-2-PU
		5 m	<b>525618</b> SIM-M12-8GD-5-PU
		10 m	<b>570008</b> SIM-M12-8GD-10-PU
	Angled socket, 8-pin, M12	2 m	<b>542256</b> NEBU-M12W8-K-2-N-LE8
		5 m	<b>542257</b> NEBU-M12W8-K-5-N-LE8
		10 m	<b>570007</b> NEBU-M12W8-K-10-N-LE8
	One straight socket, 8-pin, and one straight plug, 4-pin	2 m	<b>553575</b> NEBV-M12G8-K-2-M12G4
		5 m	<b>553576</b> NEBV-M12G8-K-5-M12G4
	One straight socket, 8-pin, and two straight plugs, 4-pin	<b>547888</b>	NEBV-M12G8-KD-3-M12G4
Setpoint module		Technical data → Internet: mpz	
	Setpoint module for generating 6 + 1 analogue voltage signals	<b>546224</b>	MPZ-1-24DC-SGH-6-SW5