

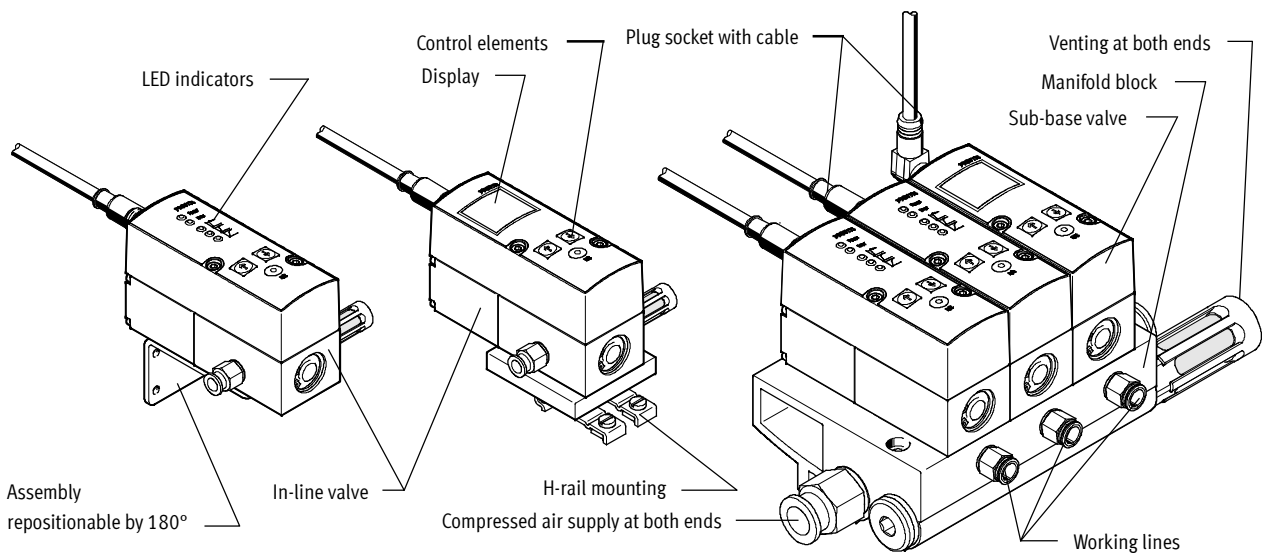
# Proportional pressure regulators VPPM



# Proportional pressure regulators VPPM

General information

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## Innovative

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

## Versatile

- Individual valves (in-line valve)
- Manifold valves (sub-base/flange valve)
- Various user interfaces
  - LED indicators
  - LCD display
  - Adjustment/selection buttons
- A 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 independent output
- Open circuit monitoring
- Pressure is maintained if the controller fails

## Easy to mount

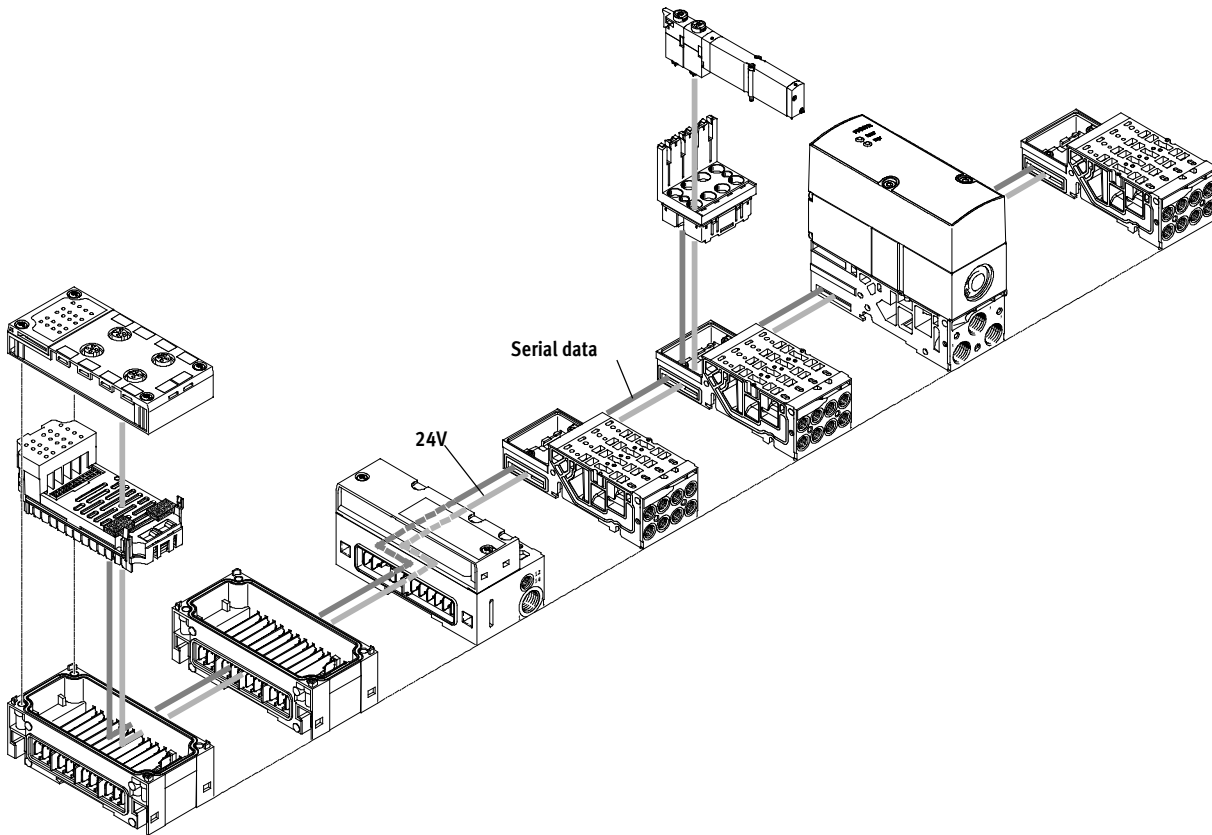
- Manifold block
- H-rail mounting
- Individually via mounting bracket
- QS fittings

# Proportional pressure regulators VPPM

General information

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## VPPM on the valve terminal MPA-S



### Innovative

- Multi-sensor control
- Diagnostics via bus
- Choice of regulation characteristics
- 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

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

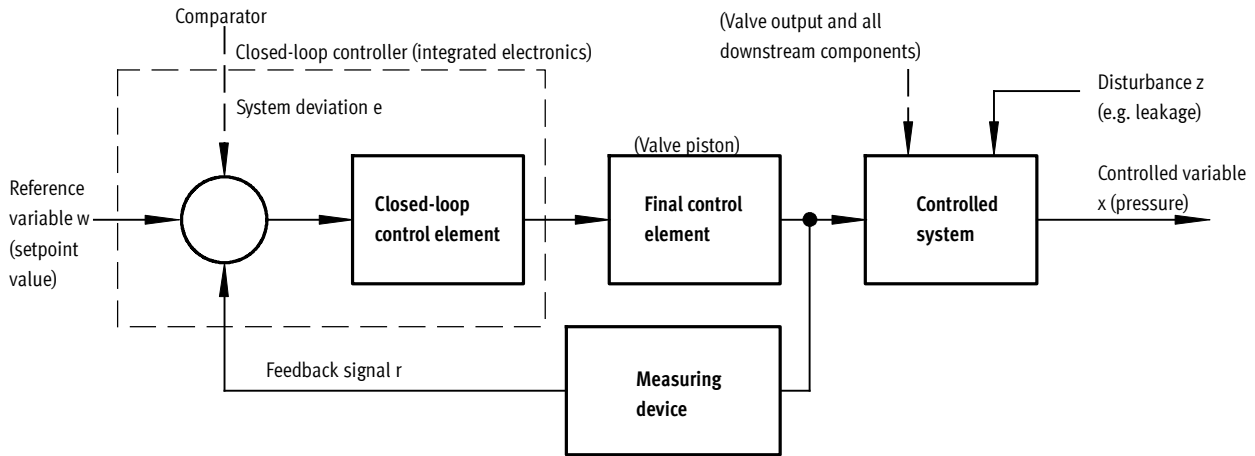
-  - Note

More information on the VPPM valves for MPA-S  
→ [mpas](#)

# Proportional pressure regulators VPPM

General information

## Layout of a control circuit



### Layout

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 controlled variable  $x$  value (actual value, e.g. 3 bar) to the comparator as a feedback signal  $r$ . The closed-loop control element detects the system

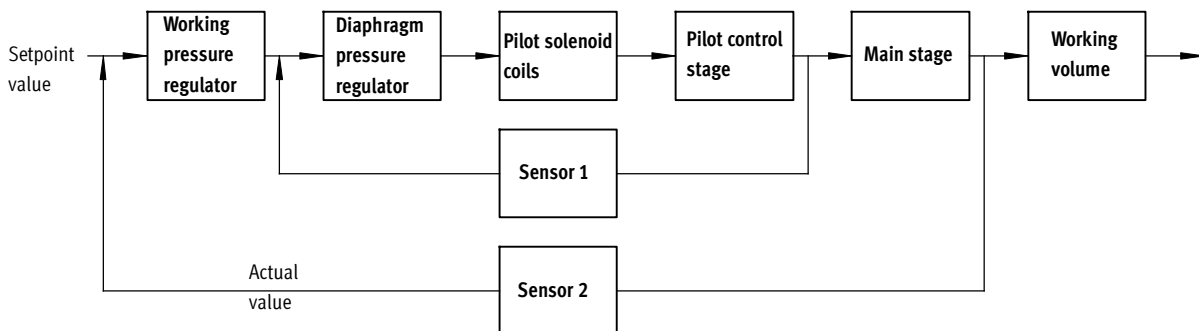
deviation  $e$  and actuates the final control element. The output of the final control element acts on the controlled system. The closed-loop control element thus attempts to compensate for the difference between the reference variable  $w$  and the controlled variable  $x$  by using the final control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

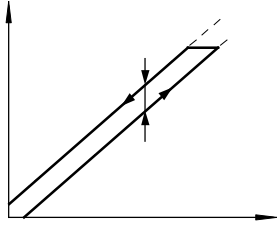
Multi-sensor control significantly improves control precision and dynamic response in comparison with single-acting regulators.

# Proportional pressure regulators VPPM

General information

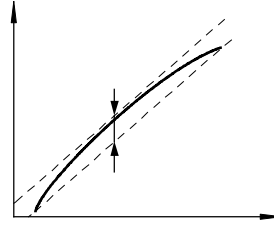
## Terms related to the proportional pressure regulator

### Hysteresis



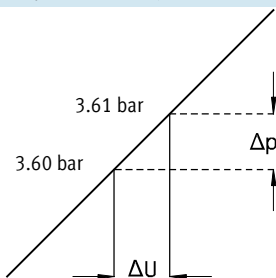
There is always a linear relationship within a certain tolerance between the setpoint value entered and the pressure output. Nevertheless it makes a difference whether the setpoint value is entered as rising or falling. The difference between the maximum deviations is referred to as hysteresis.

### Linearity error



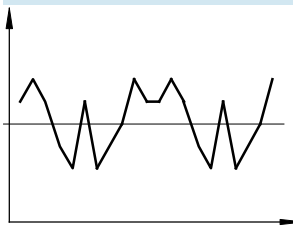
A perfectly linear progression of the control characteristic of the output pressure is theoretical. The maximum percentage deviation from this theoretical control characteristic is referred to as the linearity error. The percentage value refers to the maximum output pressure (full scale).

### Response sensitivity



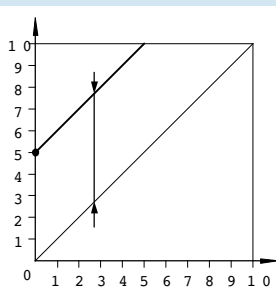
The response sensitivity of the device determines how sensitively one can change, i.e. adjust, a pressure. The smallest setpoint value difference that results in a change in the output pressure is referred to as the response sensitivity. In this case, 0.01 bar.

### Repetition accuracy (reproducibility)



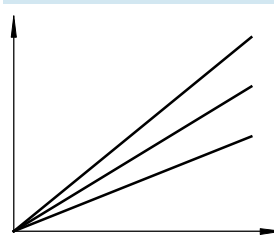
The repetition accuracy is the margin within which the fluid output variables are scattered when the same electrical input signal coming from the same direction is repeatedly adjusted. The repetition accuracy is expressed as a percentage of the maximum fluid output signal.

### Zero offset



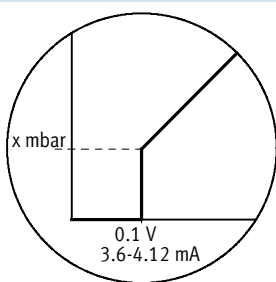
If, for example, a VPPM cannot be vented for safety reasons, the minimum pressure can be increased from the zero point. The smallest setpoint value is then assigned an output pressure of 5 bar, for example, and the largest setpoint value an output pressure of 10 bar. Zero suppression is automatically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

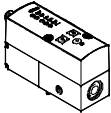
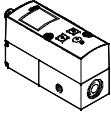
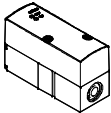
### Zero point suppression



In practice there exists the possibility of 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

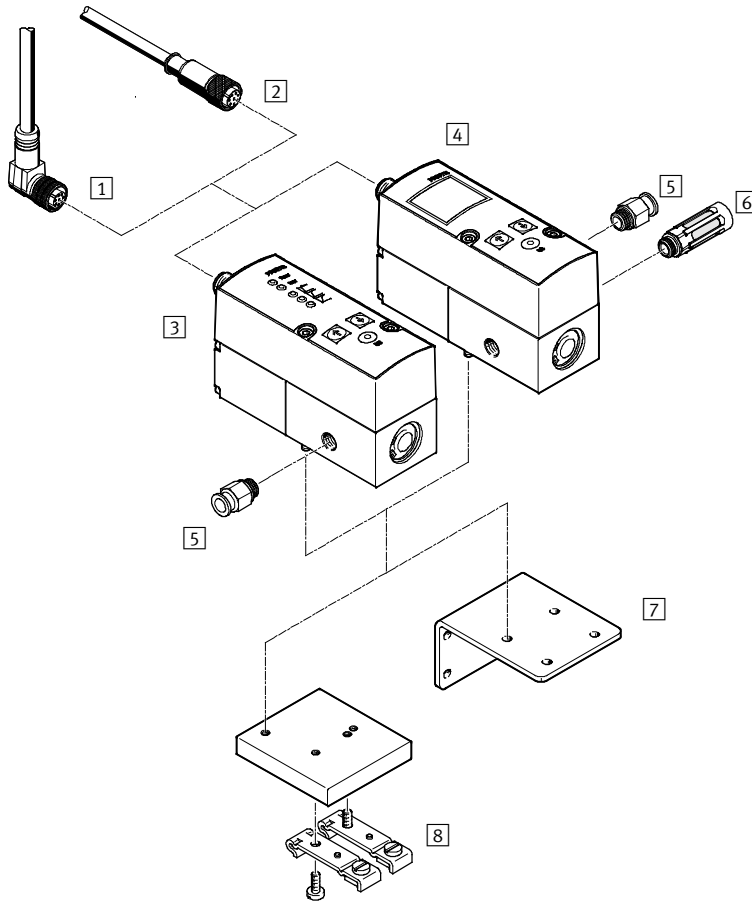
Product range overview

Function	Version	Construc- tional design	Pneumatic connection 1, 2, 3	Nominal diameter pressurise/ exhaust [mm]	Pressure regulation range [bar]	Setpoint value input			→ Page/ Internet
						Voltage type	Current type	Digital	
						0 ... 10 V	4 ... 20 mA	–	
Pressure regulators	<b>With LED</b>								
		Pilot actuated diaphragm valve	G $\frac{1}{8}$	6/4.5	0.02 ... 2 0.06 ... 6 0.1 ... 10	■	■	–	13
			Sub-base	6/4.5	0.02 ... 2 0.06 ... 6 0.1 ... 10	■	■	–	
				8/7	0.02 ... 2 0.06 ... 6 0.1 ... 10	■	■	–	
			G $\frac{1}{4}$	8/7	0.02 ... 2 0.06 ... 6 0.1 ... 10	■	■	–	
			G $\frac{1}{2}$	12/12	0.02 ... 2 0.06 ... 6 0.1 ... 10	■	■	–	
	<b>With LCD</b>								
		Pilot actuated diaphragm valve	G $\frac{1}{8}$	6/4.5	0.02 ... 2 0.06 ... 6 0.1 ... 10	■	■	–	13
			Sub-base	6/4.5	0.02 ... 2 0.06 ... 6 0.1 ... 10	■	■	–	
				8/7	0.02 ... 2 0.06 ... 6 0.1 ... 10	■	■	–	
			G $\frac{1}{4}$	8/7	0.02 ... 2 0.06 ... 6 0.1 ... 10	■	■	–	
			G $\frac{1}{2}$	12/12	0.02 ... 2 0.06 ... 6 0.1 ... 10	■	■	–	
	<b>With LED for valve terminal MPA-S</b>								
		Pilot actuated diaphragm valve	Manifold block MPA	6/4.5, 8/7	0.02 ... 2 0.06 ... 6 0.1 ... 10	–	–	■	mpas

# Proportional pressure regulators VPPM

Peripherals overview

## Individual valve VPPM-6L ... , VPPM-8L ...

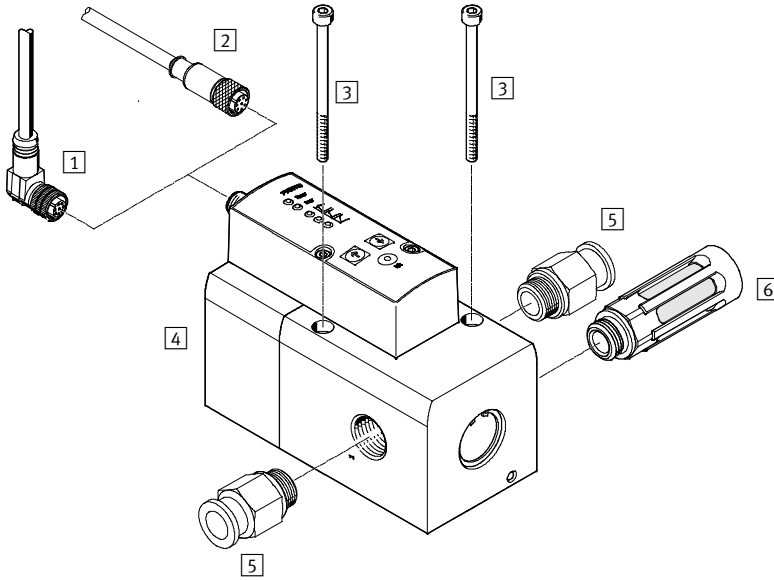


Accessories		Brief description	→ Page/Internet
1	Plug socket with cable, angled NEBU-M12W8-...	–	32
2	Plug socket with cable, straight SIM-M12-8GD-...	–	32
3	Proportional pressure regulator VPPM	Operator unit with LED	13
4	Reguladores de presión proporcionales VPPM	Operator unit with LCD	13
5	Push-in fitting QS	For connecting compressed air tubing with standard outside diameter	qs
6	Silencer	For fitting on exhaust ports	u
7	Mounting bracket VAME-P1-A	For attaching the valve	29
8	H-rail mounting VAME-P1-T	For mounting on a H-rail	27

## Proportional pressure regulators VPPM

Peripherals overview

### Individual valve VPPM-12L ...



Accessories		
	Brief description	→ Page/Internet
1	Plug socket with cable, angled NEBU-M12W8-...	32
2	Plug socket with cable, straight SIM-M12-8GD-...	32
3	Fixing screws	-
4	Reguladores de presión proporcionales VPPM	Operator unit with LED or LCD 13
5	Push-in fitting QS	For connecting compressed air tubing with standard outside diameter qs
6	Silencer	For fitting on exhaust ports u

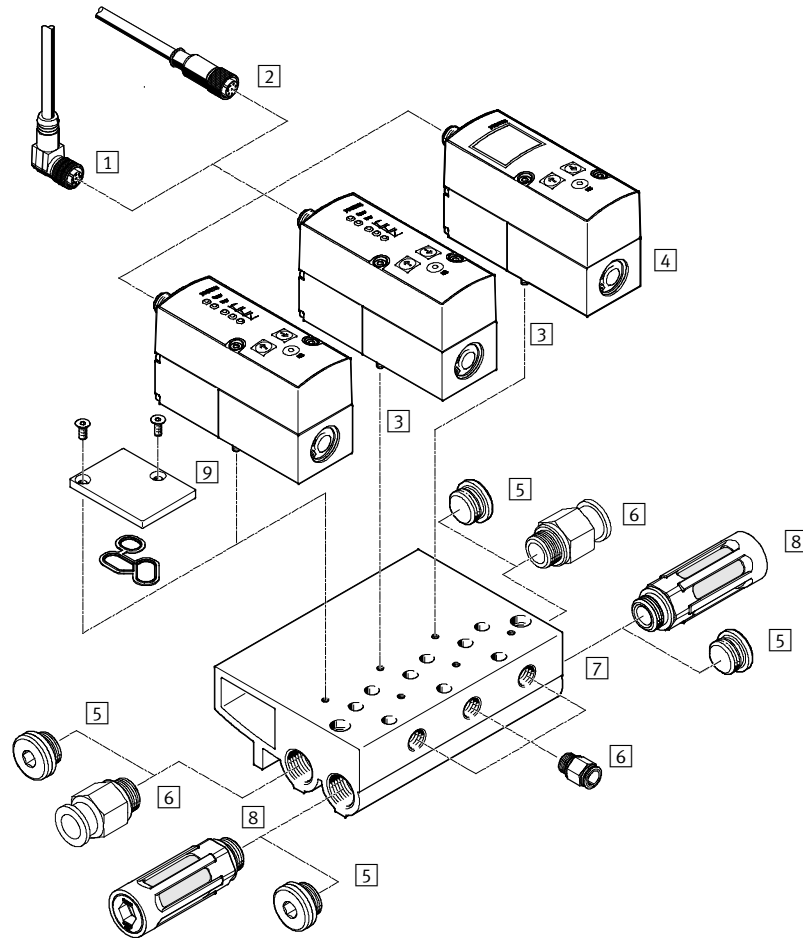


# Proportional pressure regulators VPPM

Peripherals overview

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## Valve manifold with VPPM-6F ... , VPPM-8F ...



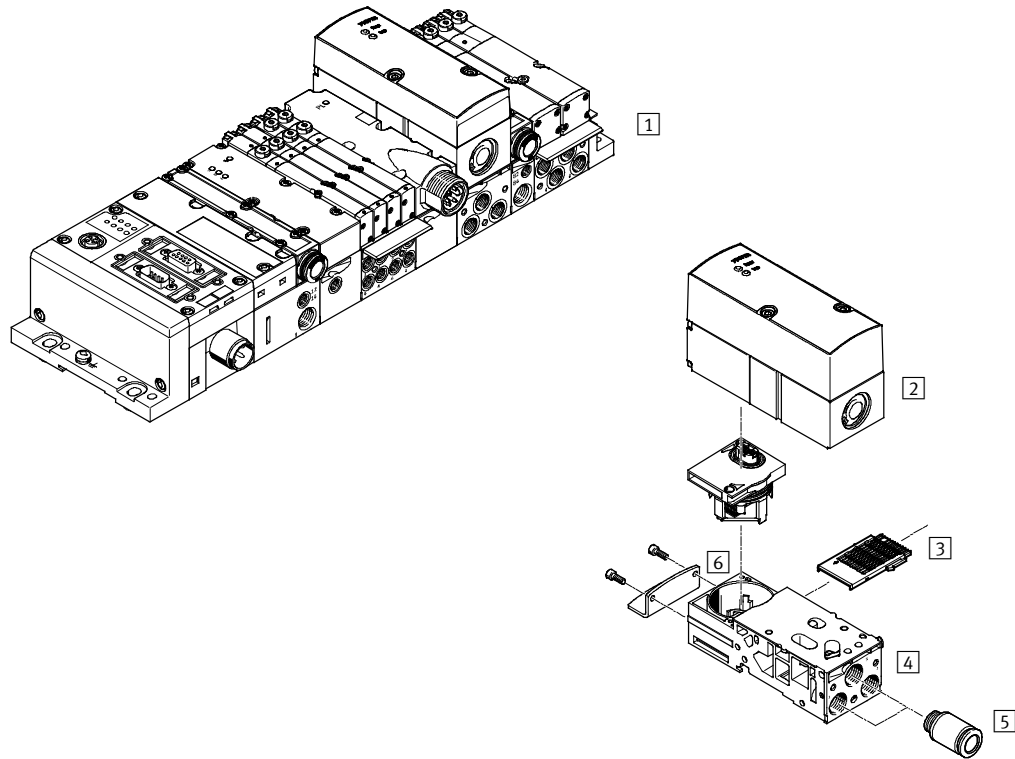
Accessories		
	Brief description	→ Page/Internet
1	Plug socket with cable, angled NEBU-M12W8-...	32
2	Plug socket with cable, straight SIM-M12-8GD-...	32
3	Proportional pressure regulator VPPM	Operator unit with LED 13
4	Proportional pressure regulator VPPM	Operator unit with LCD 13
5	Blanking plug B	– b
6	Push-in fitting QS	For connecting compressed air tubing with standard outside diameter qs
7	Manifold block VABM	– 27
8	Silencer	For fitting on exhaust ports u
9	Blanking plate VABB-P1	For vacant position; seal and countersunk screws included in the scope of delivery 28

# Proportional pressure regulators VPPM

System overview

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



Accessories		
	Brief description	→ Page/Internet
1	Valve terminal MPA-S With fieldbus connection and VPPM	mpas
2	Proportional pressure regulator VPPM For valve terminal MPA-S	mpas
3	Electrical manifold module VMPA1-FB-EV-AB For sub-base of the proportional pressure regulator	mpas
4	Sub-base VMPA-FB-AP-P1 Without electrical manifold module and electrical module	mpas
5	Push-in fitting QS	qs
6	Attachment VMPA-BG	mpas

## Proportional pressure regulators VPPM

Type codes

VPPM		6	L		L	1	G18	0L	6H	1L	6H	
<b>Type</b>												
VPPM	Modular proportional pressure regulator											
<b>Nominal diameter</b>												
6	6 mm											
8	8 mm											
12	12 mm											
<b>Design</b>												
L	In-line valve											
F	Flanged valve											
T	Flanged valve for valve terminal											
<b>Mounting method</b>												
-	Freely mountable											
A	Valve terminal MPA											
G	H-rail											
P	Manifold PR											
<b>Dynamic response class</b>												
L	Low											
<b>Valve function</b>												
1	3/2-way valve, normally closed											
<b>Pneumatic connection</b>												
G18	Thread G $\frac{1}{8}$											
G14	Thread G $\frac{1}{4}$											
G12	Thread G $\frac{1}{2}$											
F	Flange/sub-base											
<b>Lower pressure value of regulation range</b>												
0L	0 bar											
<b>Upper pressure value of regulation range</b>												
2H	2 bar											
6H	6 bar											
10H	10 bar											
<b>Alternative lower pressure value of regulation range</b>												
...L	0 ... 9 bar											
<b>Alternative upper pressure value of regulation range</b>												
...H	0.2 ... 10 bar											

## Proportional pressure regulators VPPM




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Type codes

		V1	N	S1
<b>Setpoint specification for individual valve</b>				
-	For valve terminals / servo pneumatics			
V1	0 ... 10 V			
A4	4 ... 20 mA			
<b>Switching output</b>				
N	Negative switching			
P	Positive switching			
<b>Accuracy</b>				
-	2% (standard)			
S1	1%			
<b>Operator unit</b>				
-	LED (standard)			
C1	With LCD, pressure unit variable			

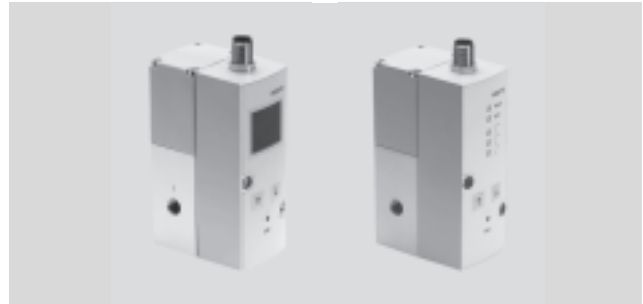
## Proportional pressure regulators VPPM

### Technical data

-  - Flow rate  
380 ... 7,000 l/min
-  - Voltage  
21.6 ... 26.4 V DC
-  - Pressure regulation range  
0.02 ... 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
- NPN or PNP switching output



General technical data			G1/8	G1/4	G1/2	Sub-base	
Constructional design			Pilot actuated diaphragm regulator				
Sealing principle			Soft				
Actuation type			Electric				
Type of control			Pilot actuated via 2/2-way valves				
Type of mounting			Via through-hole, via accessories				
Mounting position			Any				
Nominal diameter	Pressurisation	[mm]	6	8	12	6	8
	Exhaust	[mm]	4.5	7	12	4.5	7
Standard nominal flow rate		[l/min]	→ Graphs				
Product weight		[g]	400	560	2,050	400	560

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	7	12
Signal setpoint input	Voltage	[V DC]	0 ... 10		
	Current	[mA]	4 ... 20		
Protection against short circuit			For all electrical connections		
Protection against polarity reversal			For all electrical connections		
Protection class			IP65		
CE mark (see declaration of conformity) <sup>1)</sup>			To EU EMC Directive		
Certification			C-Tick		
			c UL us - Recognized (OL)	-	-

1) For information about the applicability of the component see the manufacturer's EC declaration of conformity at: [www.festo.com](http://www.festo.com) → Support → 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.

-  - **Note**

If the power supply cable is interrupted, output pressure is maintained unregulated.

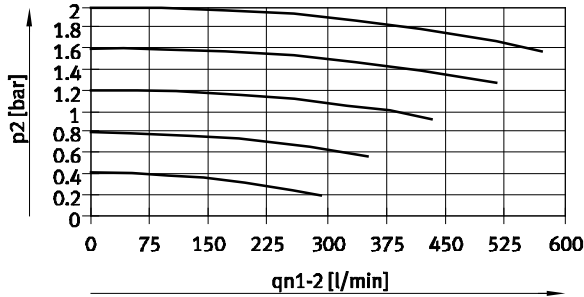
# Proportional pressure regulators VPPM

Technical data

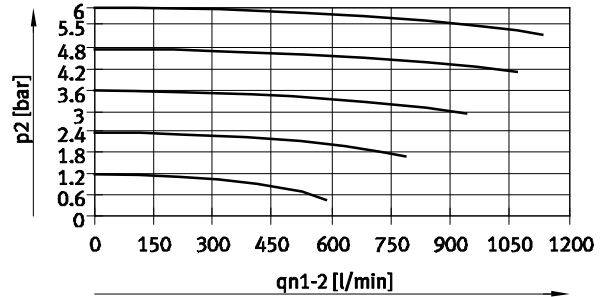
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## Flow rate $q_n$ from 1 → 2 as a function of output pressure $p_2$

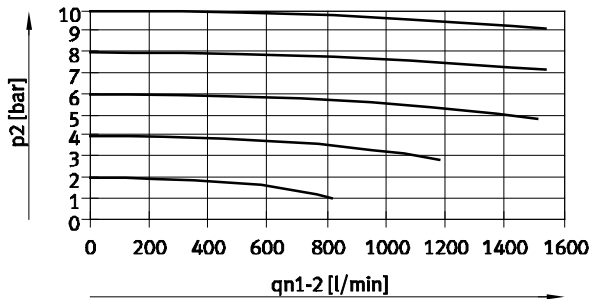
VPPM-6L/F-...-0L2H-... (2 bar)



VPPM-6L/F-...-0L6H-... (6 bar)

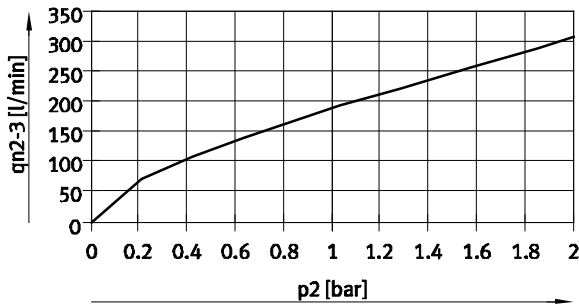


VPPM-6L/F-...-0L10H-... (10 bar)



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

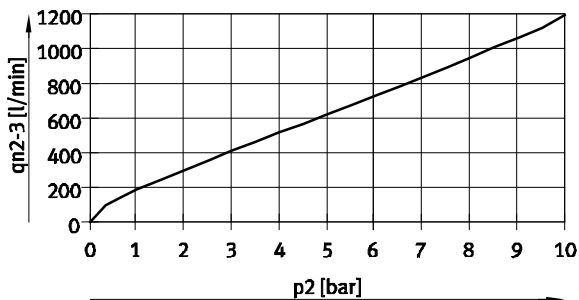
VPPM-6L/F-...-0L2H-... (2 bar)



VPPM-6L/F-...-0L6H-... (6 bar)



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



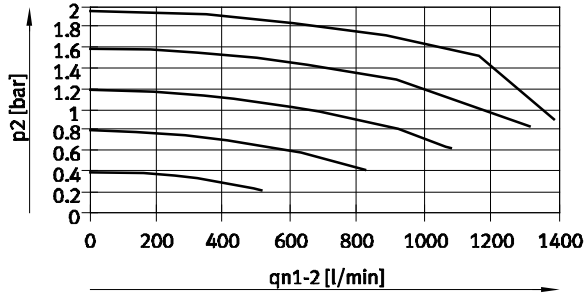
# Proportional pressure regulators VPPM

Technical data

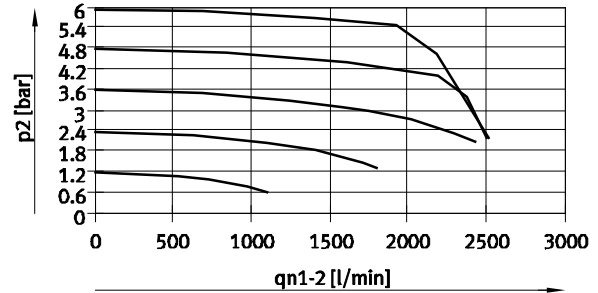
FESTO

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

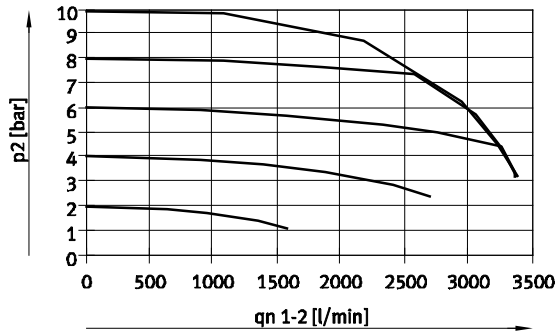
VPPM-8L-...-0L2H-... (2 bar)



VPPM-8L-...-0L6H-... (6 bar)

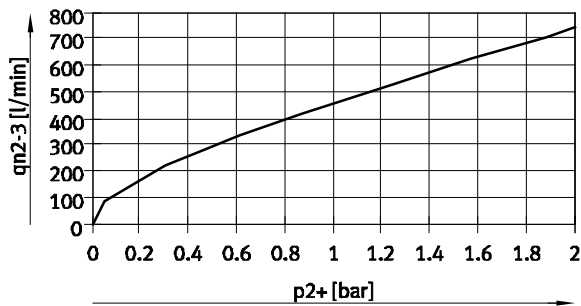


VPPM-8L-...-0L10H-... (10 bar)



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

VPPM-8L-...-0L2H-... (2 bar)



VPPM-8L-...-0L6H-... (6 bar)



VPPM-8L-...-0L10H-... (10 bar)

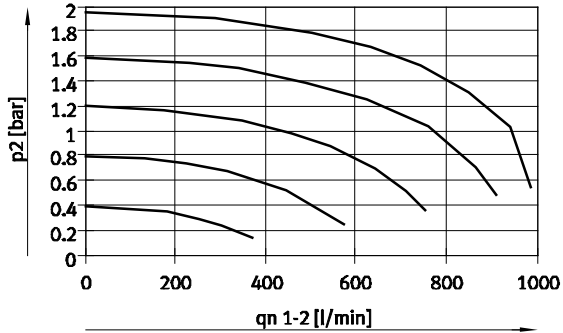


# Proportional pressure regulators VPPM

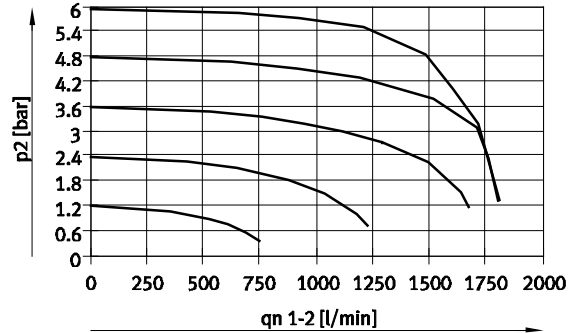
Technical data

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

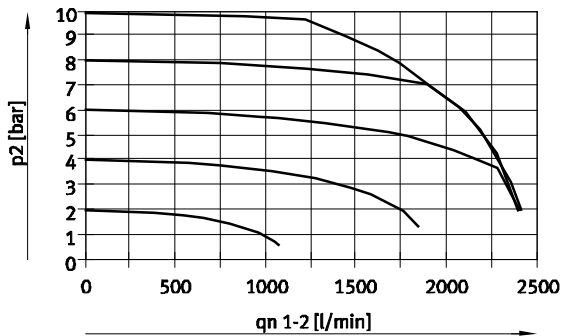
VPPM-8F/8TA-...-0L2H-... (2 bar)



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

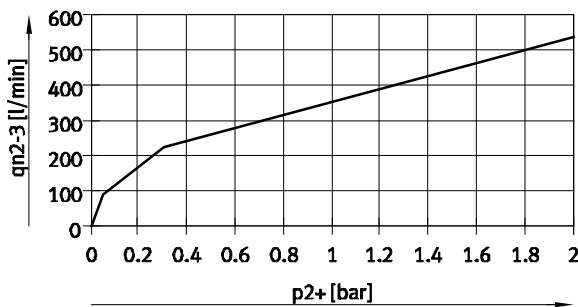


VPPM-8F/8TA-...-0L10H-... (10 bar)

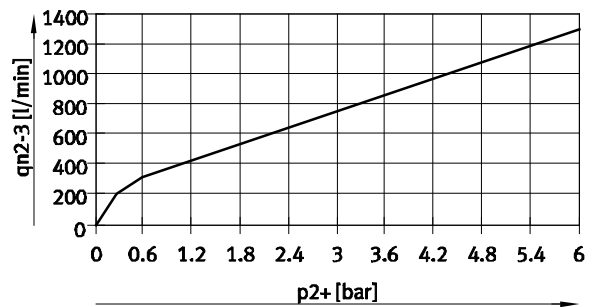


## Flow rate $q_n$ from 2 → 3 as a function of output pressure $p_2$

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



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



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



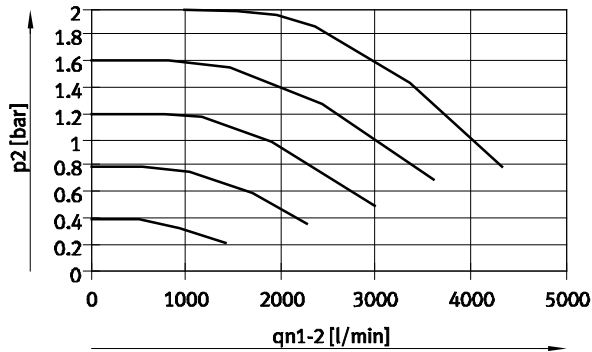


# Proportional pressure regulators VPPM

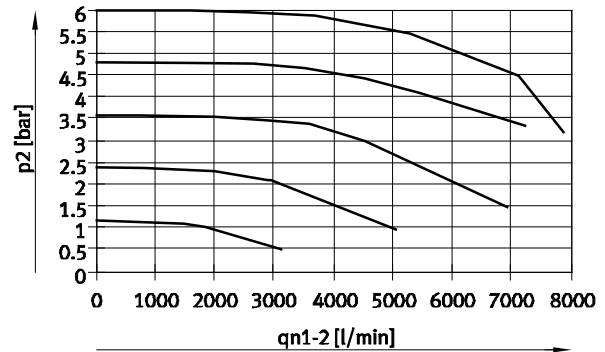
Technical data

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

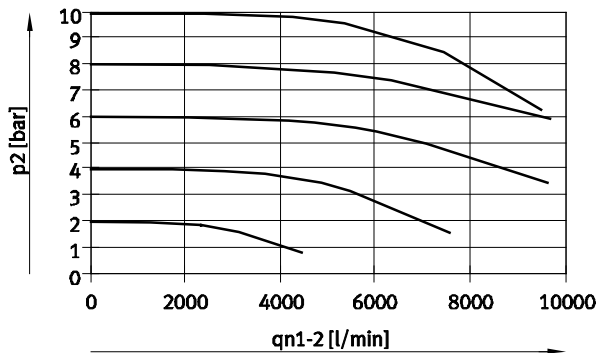
VPPM-12L...-0L2H... (4 bar)



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

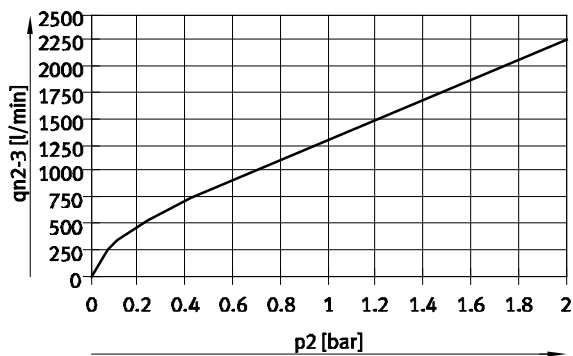


VPPM-12L...-0L10H... (11 bar)



## Flow rate $q_{n2-3}$ from 2 → 3 as a function of output pressure $p_2$

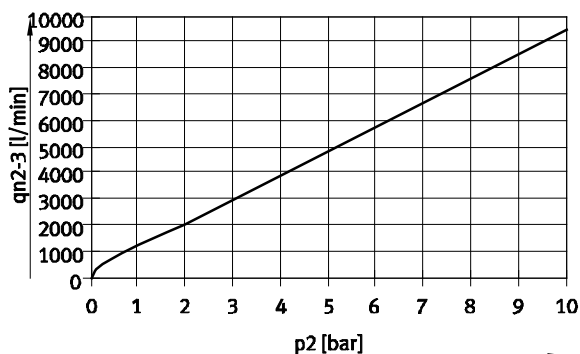
VPPM-12L...-0L2H... (4 bar)



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



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



# Proportional pressure regulators VPPM

Technical data

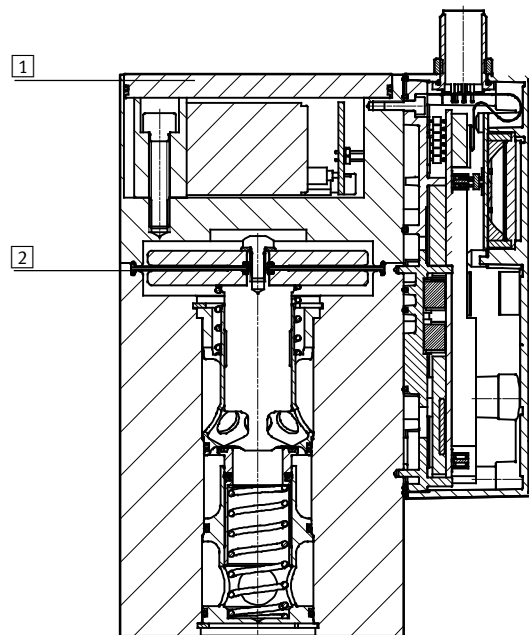
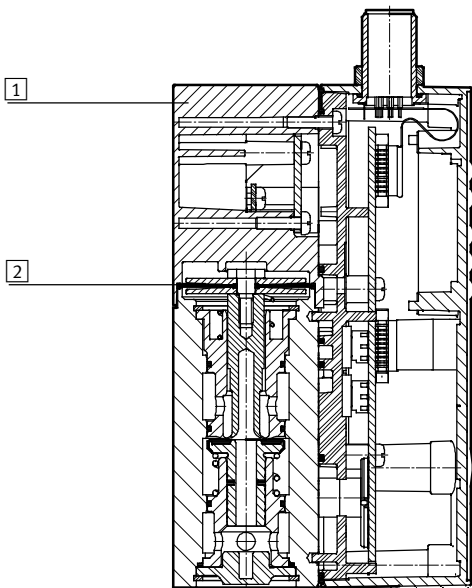
Operating and environmental conditions				
Pressure regulation range	[bar]	0.02 ... 2	0.06 ... 6	0.1 ... 10
Operating medium		Compressed air in accordance with ISO 8573-1:2010 [7:4:4] Inert gases		
Note on operating/pilot medium		Operation with lubricated medium not possible		
Supply pressure 1 <sup>2)</sup>	[bar]	0 ... 4	0 ... 8	0 ... 11
Max. 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	[CRC]	2 <sup>1)</sup>		

- 1) 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.
- 2) Supply pressure 1 should always be 1 bar greater than the maximum regulated output pressure.

## Materials

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

Sectional view VPPM-12 ...



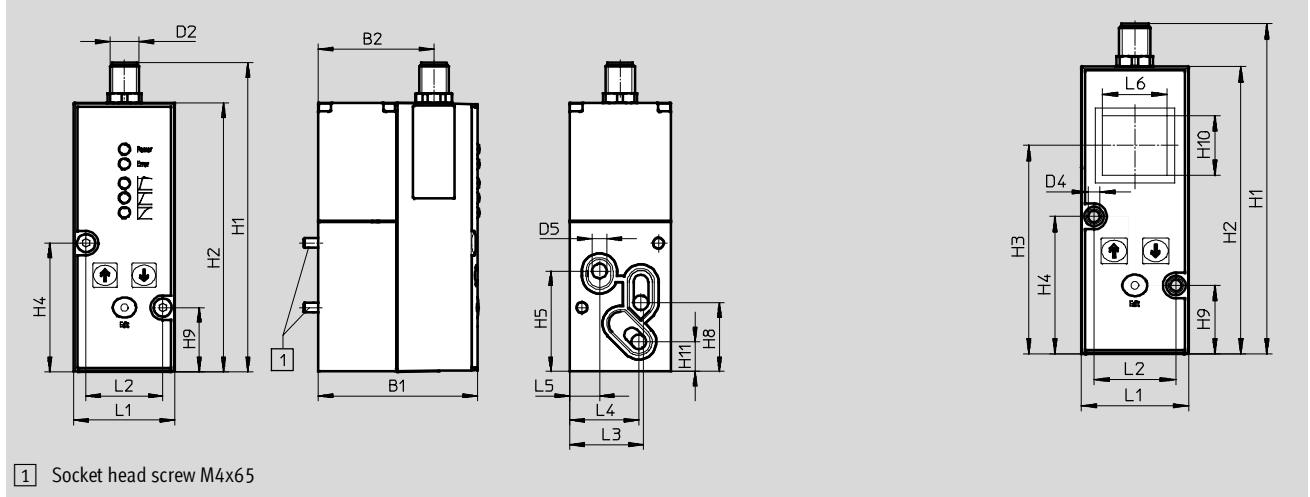
1	Housing	Wrought aluminium alloy
2	Diaphragm	Nitrile rubber

# Proportional pressure regulators VPPM

Technical data

FESTO

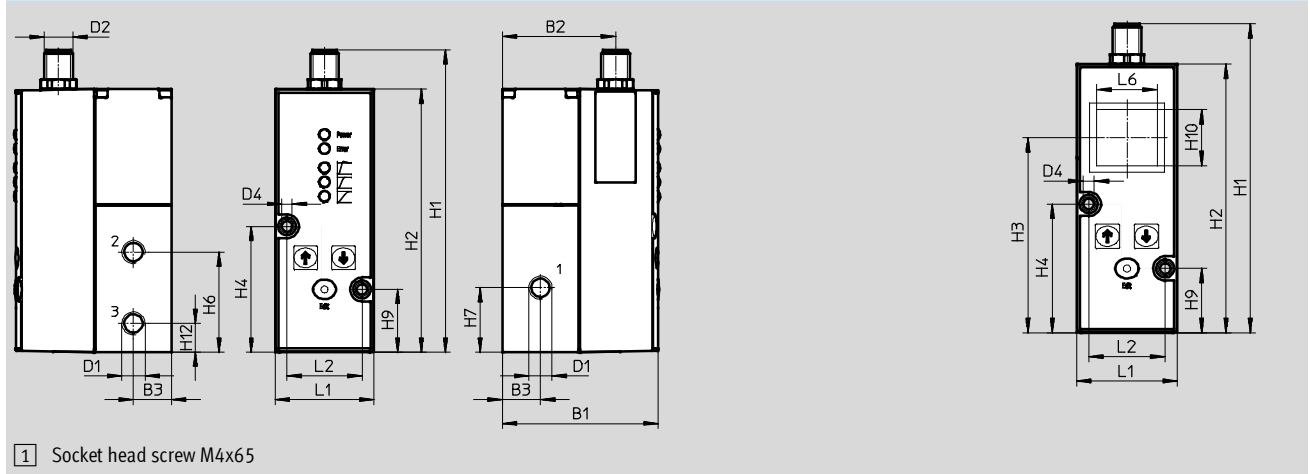
Dimensions Download CAD data → [www.festo.com](http://www.festo.com)  
 VPPM-6F With LCD



Type	B1	B2	B3	D1	D2	D4	D5	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12
VPPM-6F	65.4	47.5	-	-	M12	4.4	6	126.9	110.4	80.1	52.8	41.3	-	-	28.3	26.3	23	12.2	-

Type	L1	L2	L3	L4	L5	L6
VPPM-6F	41.5	31.5	30.3	28.4	12.3	25

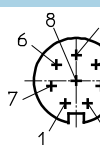
VPPM-6L With LCD



Type	B1	B2	B3	D1	D2	D4	D5	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12
VPPM-6L	65.5	47.5	16	G1/8	M12	4.4	-	126.9	110.4	80.1	52.8	-	42	27	-	26.3	23	-	12

Type	L1	L2	L3	L4	L5	L6
VPPM-6L	41.5	31.5	-	-	-	25

## M12 – Connection allocation



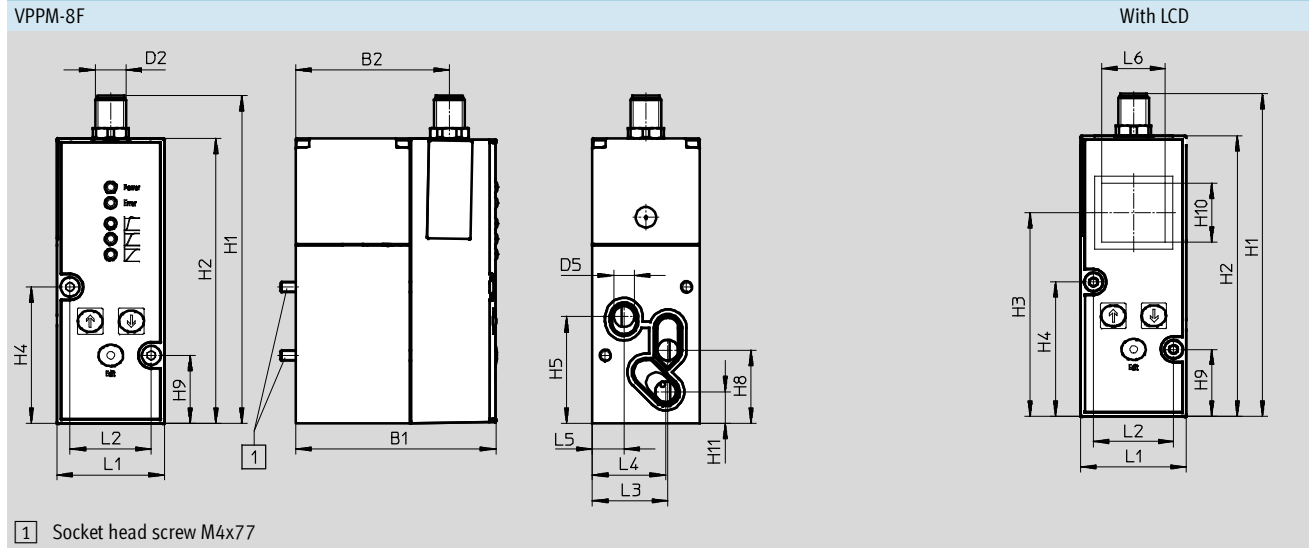
- |                           |                     |                     |
|---------------------------|---------------------|---------------------|
| 1 Digital input D1        | 4 Analogue input W+ | 7 DC 0 V or GND     |
| 2 DC +24 V supply voltage | 5 Digital input D2  | 8 Digital output D3 |
| 3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

# Proportional pressure regulators VPPM

Technical data

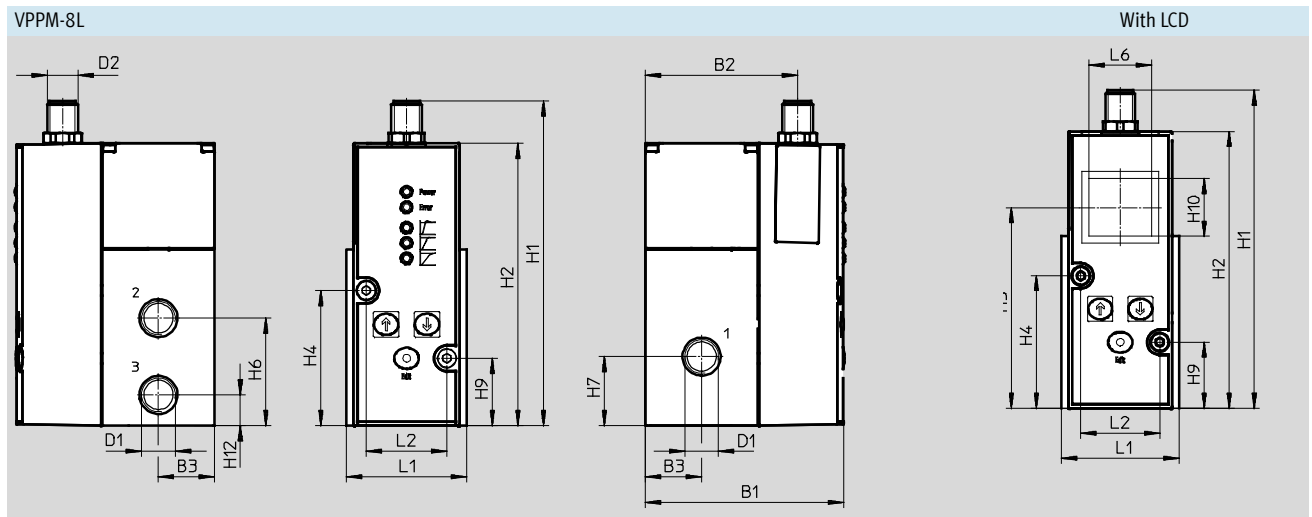
FESTO

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



Type	B1	B2	B3	D1 Ø	D2 Ø	D5 Ø	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	H13
VPPM-8F	77.4	59.5	-	-	M12	8	126.9	110.4	80	52.8	41.3	-	-	28.3	26.3	23	12.2	-	-

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



Type	B1	B2	B3	D1 Ø	D2 Ø	D5 Ø	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	H13
VPPM-8L	77.4	59.5	22	G1/4	M12	-	126.9	110.4	80	52.8	-	42	27	-	26.3	23	-	12	-

Type	L1	L2	L3	L4	L5	L6	L7
VPPM-8L	47	31.5	-	-	-	25	-

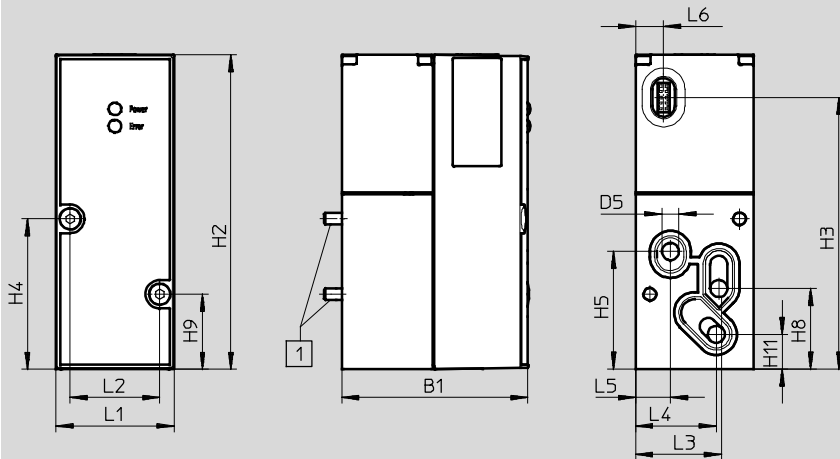
# Proportional pressure regulators VPPM

Technical data

## Dimensions

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

### VPPM-6TA

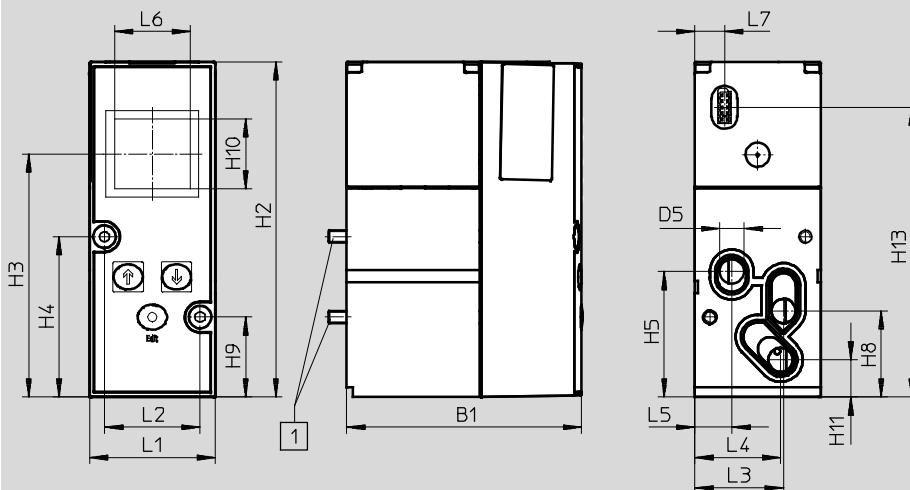


1 Socket head screw M4x55

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

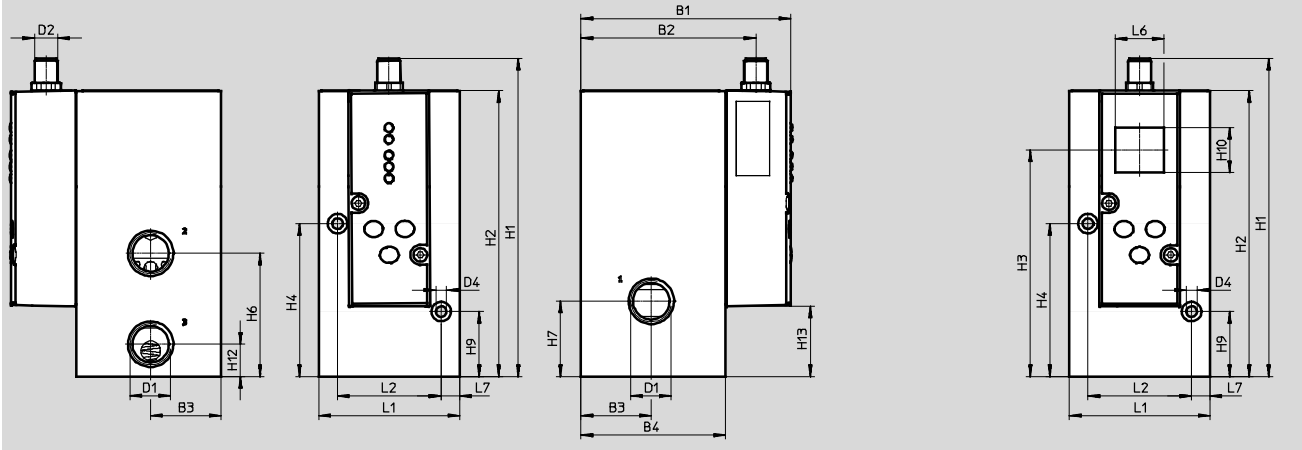
Technical data

**Dimensions**

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

VPPM-12L

with LCD



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	G½	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














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%	G <sup>1</sup> / <sub>8</sub>	0.02 ... 2	542233	VPPM-6L-L-1-G18-0L2H-V1N
		0.06 ... 6	542234	VPPM-6L-L-1-G18-0L6H-V1N
			554043	VPPM-6L-L-1-G18-0L6H-V1P
			558337	VPPM-6L-L-1-G18-0L6H-V1P-C1
		0.1 ... 10	575125	VPPM-6L-L-1-G18-0L10H-V1P-C1
			542235	VPPM-6L-L-1-G18-0L10H-V1N
	554044		VPPM-6L-L-1-G18-0L10H-V1P	
	Sub-base	0.02 ... 2	542245	VPPM-6F-L-1-F-0L2H-V1N
		0.06 ... 6	542246	VPPM-6F-L-1-F-0L6H-V1N
			558339	VPPM-6F-L-1-F-0L6H-V1P-C1
			558347	VPPM-6F-L-1-F-0L6H-V1N-C1
	0.1 ... 10	542247	VPPM-6F-L-1-F-0L10H-V1N	
	G <sup>1</sup> / <sub>4</sub>	0.06 ... 6	571296	VPPM-8L-L-1-G14-0L6H-V1P
	Overall accuracy 1%	G <sup>1</sup> / <sub>8</sub>	0.02 ... 2	542227
0.06 ... 6			542228	VPPM-6L-L-1-G18-0L6H-V1N-S1
			554039	VPPM-6L-L-1-G18-0L6H-V1P-S1
			571448	VPPM-6L-L-1-G18-0L6H-V1N-S1C1
			575121	VPPM-6L-L-1-G18-0L6H-V1P-S1C1
0.1 ... 10			542229	VPPM-6L-L-1-G18-0L10H-V1N-S1
			554040	VPPM-6L-L-1-G18-0L10H-V1P-S1
			558335	VPPM-6L-L-1-G18-0L10H-V1P-S1C1
			558345	VPPM-6L-L-1-G18-0L10H-V1N-S1C1
Sub-base		0.02 ... 2	542239	VPPM-6F-L-1-F-0L2H-V1N-S1
		0.06 ... 6	542240	VPPM-6F-L-1-F-0L6H-V1N-S1
			571286	VPPM-8F-L-1-F-0L6H-V1P-S1
			571287	VPPM-8F-L-1-F-0L6H-V1P-S1C1
0.1 ... 10		542241	VPPM-6F-L-1-F-0L10H-V1N-S1	
G <sup>1</sup> / <sub>4</sub>		0.1 ... 10	571291	VPPM-8L-L-1-G14-0L10H-V1N-S1
			571292	VPPM-8L-L-1-G14-0L10H-V1P-S1
			571293	VPPM-8L-L-1-G14-0L10H-V1P-S1C1
		0.06 ... 6	571294	VPPM-8L-L-1-G14-0L6H-V1N-S1
			571295	VPPM-8L-L-1-G14-0L6H-V1N-S1C1
			571297	VPPM-8L-L-1-G14-0L6H-V1P-S1
			571298	VPPM-8L-L-1-G14-0L6H-V1P-S1C
G <sup>1</sup> / <sub>2</sub>		0.1 ... 10	575235	VPPM-12L-L-1-G12-0L10H-V1N-S1
			575236	VPPM-12L-L-1-G12-0L10H-V1P-S1
			575237	VPPM-12L-L-1-G12-0L10H-V1P-S1C1
		0.06 ... 6	575238	VPPM-12L-L-1-G12-0L6H-V1N-S1
			575239	VPPM-12L-L-1-G12-0L6H-V1N-S1C1
			575240	VPPM-12L-L-1-G12-0L6H-V1P-S1
575241	VPPM-12L-L-1-G12-0L6H-V1P-S1C1			

## Proportional pressure regulators VPPM

**FESTO**

Technical data

Ordering data						
Proportional pressure regulators VPPM	Pneumatic connection 1, 2, 3	Pressure regulation range [bar]	Part No.	Type		
Current type 4 ... 20 mA						
Overall accuracy 2%	G $\frac{1}{8}$	0.02 ... 2	542236	VPPM-6L-L-1-G18-OL2H-A4N		
			542237	VPPM-6L-L-1-G18-OL6H-A4N		
		0.06 ... 6	554045	VPPM-6L-L-1-G18-OL6H-A4P		
			558338	VPPM-6L-L-1-G18-OL6H-A4P-C1		
			542238	VPPM-6L-L-1-G18-OL10H-A4N		
			554046	VPPM-6L-L-1-G18-OL10H-A4P		
	Sub-base	0.02 ... 2	542248	VPPM-6F-L-1-F-OL2H-A4N		
			542249	VPPM-6F-L-1-F-OL6H-A4N		
		0.06 ... 6	558340	VPPM-6F-L-1-F-OL6H-A4P-C1		
			571282	VPPM-8F-L-1-F-OL6H-A4P		
	0.1 ... 10	542250	VPPM-6F-L-1-F-OL10H-A4N			
		571299	VPPM-8L-L-1-G14-OL6H-A4P			
	Overall accuracy 1%	G $\frac{1}{8}$	0.02 ... 2	542230	VPPM-6L-L-1-G18-OL2H-A4N-S1	
				542231	VPPM-6L-L-1-G18-OL6H-A4N-S1	
0.06 ... 6			554041	VPPM-6L-L-1-G18-OL6H-A4P-S1		
			575128	VPPM-6L-L-1-G18-OL6H-A4P-S1C1		
			542232	VPPM-6L-L-1-G18-OL10H-A4N-S1		
			554042	VPPM-6L-L-1-G18-OL10H-A4P-S1		
0.1 ... 10			558336	VPPM-6L-L-1-G18-OL10H-A4P-S1C1		
			Sub-base	0.02 ... 2	542242	VPPM-6F-L-1-F-OL2H-A4N-S1
					542243	VPPM-6F-L-1-F-OL6H-A4N-S1
				0.06 ... 6	571283	VPPM-8F-L-1-F-OL6H-A4P-S1
571284					VPPM-8F-L-1-F-OL6H-A4P-S1C1	
0.1 ... 10			542244	VPPM-6F-L-1-F-OL10H-A4N-S1		
		G $\frac{1}{4}$	0.1 ... 10	571288	VPPM-8L-L-1-G14-OL10H-A4N-S1	
571289				VPPM-8L-L-1-G14-OL10H-A4P-S1		
571290				VPPM-8L-L-1-G14-OL10H-A4P-S1C1		
0.06 ... 6			571302	VPPM-8L-L-1-G14-OL6H-A4N-S1		
			571303	VPPM-8L-L-1-G14-OL6H-A4N-S1C1		
			571300	VPPM-8L-L-1-G14-OL6H-A4P-S1		
571301		VPPM-8L-L-1-G14-OL6H-A4P-S1C1				
G $\frac{1}{2}$		0.1 ... 10	575232	VPPM-12L-L-1-G12-OL10H-A4N-S1		
			575233	VPPM-12L-L-1-G12-OL10H-A4P-S1		
			575234	VPPM-12L-L-1-G12-OL10H-A4P-S1C1		
			0.06 ... 6	575242	VPPM-12L-L-1-G12-OL6H-A4P-S1	
				575243	VPPM-12L-L-1-G12-OL6H-A4P-S1C1	
	575244			VPPM-12L-L-1-G12-OL6H-A4N-S1		
	575245	VPPM-12L-L-1-G12-OL6H-A4N-S1C1				
	For valve terminal					
	Overall accuracy 2%	Via valve terminal	0.02 ... 2	542220	VPPM-6TA-L-1-F-OL2H	
				572410	VPPM-8TA-L-1-F-OL2H-C1	
			0.06 ... 6	542221	VPPM-6TA-L-1-F-OL6H	
				572411	VPPM-8TA-L-1-F-OL6H-C1	
0.02 ... 10			542222	VPPM-6TA-L-1-F-OL10H		
			572412	VPPM-8TA-L-1-F-OL10H-C1		
Overall accuracy 1%	Via valve terminal	0.02 ... 2	542217	VPPM-6TA-L-1-F-OL2H-S1		
			572407	VPPM-8TA-L-1-F-OL2H-S1C1		
		0.06 ... 6	542218	VPPM-6TA-L-1-F-OL6H-S1		
			572408	VPPM-8TA-L-1-F-OL6H-S1C1		
		0.02 ... 10	542219	VPPM-6TA-L-1-F-OL10H-S1		
			572409	VPPM-8TA-L-1-F-OL10H-S1C1		





## Proportional pressure regulators VPPM

Ordering data – Modular products

**FESTO**

**M** Mandatory data →

Module No.	Design	Nominal diameter	Valve type	Dynamic response	Valve mode	Type of connection
543432	VPPM	6	L F T	L	1	G18 F F
543433		8	L F T			G14 F F
543435		12	L			G12
<b>Order example</b>						
<b>543432</b>	<b>VPPM</b>	<b>- 6</b>	<b>F</b>	<b>- L</b>	<b>- 1</b>	<b>- F</b>

Ordering table		Size	6	Condi- tions	Code	Enter code	
<b>M</b>	Module No.	<b>543432</b>					
	Design	Modular pressure regulator			<b>VPPM</b>	VPPM	
	Nominal diameter	6			<b>-6</b>		
		8			<b>-8</b>		
		12			<b>1</b>	<b>-12</b>	
	Valve type	In-line		<b>2</b>	<b>L</b>		
		Flanged valve		<b>3</b>	<b>F</b>		
		Flanged valve for valve terminal		<b>4</b>	<b>T</b>		
	Dynamic response	Low dynamic response (pilot-actuated, soft-sealing)			<b>-L</b>	-L	
	Valve mode	3/2-way valve, normally closed			<b>-1</b>	-1	
	Type of connection	G1/8 thread			<b>-G18</b>		
		G1/4 thread			<b>-G14</b>		
		G1/2 thread				<b>-G12</b>	
		Flange/sub-base				<b>-F</b>	

**1** 12 Only with valve type L (In-Line)

**2** L Only with connection type G18, G14, G12 (G1/8, G1/4, G1/2 thread)

**3** F Only with connection type F (flange/sub-base)

**4** T Only with connection type F (flange/sub-base)

**Order code**

**543432** **VPPM** - **6** - **L** - **1** - **F**

**Proportional pressure regulators VPPM**

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	0.1 ... 10L	0.1 ... 10H	V1 A4	P N	S1	C1
	<b>6.5L</b>	<b>7.1H</b>	<b>A4</b>	<b>P</b>	<b>S1</b>	<b>C1</b>

Ordering table					
Size	6	Conditions	Code	Enter code	
M	Pressure regulation range	0 ... 2 bar		-0L2H	
		0 ... 6 bar		-0L6H	
		0 ... 10 bar		-0L10H	
	Alternative lower pressure regulation range	0.1 ... 10 bar	[4]	-...L	
	Alternative upper pressure regulation range	0.1 ... 10 bar	[5]	...H	
	Setpoint specification	Voltage (standard 0 ... 10 V)		-V1	
		Current (standard 4 ... 20 mA)		-A4	
Switching output	Positive switching		P		
	Negative switching		N		
O	Overall accuracy	1%		-S1	
	Operator unit	With LCD, pressure unit variable		C1	

[4] ...L Not with pressure regulation range (0L2H, 0L6H, 0L10H).  
 Must always be less than alternative upper pressure regulation range H

[5] ...H Not with pressure regulation range (0L2H, 0L6H, 0L10H).  
 Must always be greater than alternative lower pressure regulation range L

Transfer order code

- [ ] - [ ] - [ ] - [ ] - [ ] - [ ]

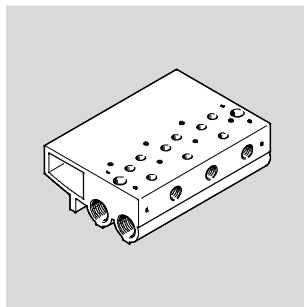
# Proportional pressure regulators VPPM

Accessories



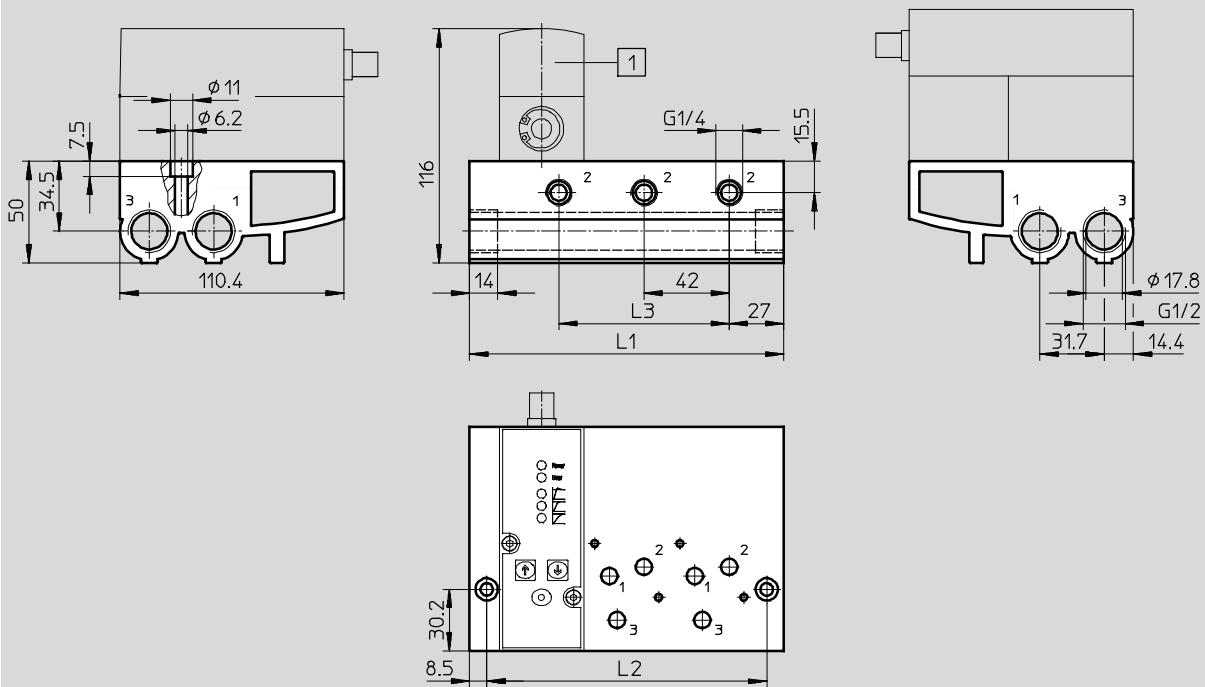
## Sub-base VABM-P1

Material:  
Wrought aluminium alloy



### Dimensions

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



1 Proportional pressure regulator VPPM

Dimensions and ordering data						
Valve positions	L1	L2	L3	Weight [g]	CRC <sup>1)</sup>	Part No. Type
2	113	96	42	900	2	542252 VABM-P1-SF-G18-2-P3
3	155	138	84	1,230	2	542253 VABM-P1-SF-G18-3-P3
4	197	180	126	1,565	2	542254 VABM-P1-SF-G18-4-P3

1) 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.

-  - Note

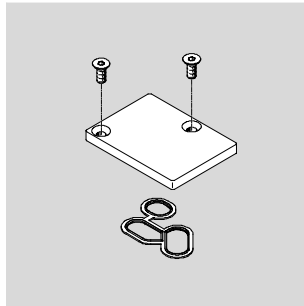
Flanged valves VPPM-6F... and VPPM-8F... must be used in combination with the manifold block VABM-P1-....

# Proportional pressure regulators VPPM

Accessories

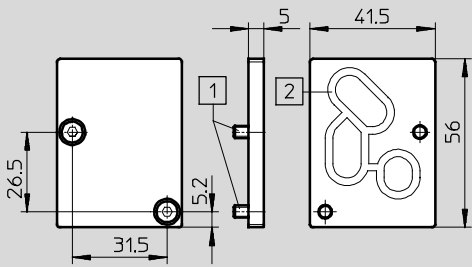
## Blanking plate VABB-P1

Material:  
Wrought aluminium alloy, NBR, steel



### Dimensions

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



- 1 Countersunk screw M4x10
- 2 Seal VMPA- ...

### Ordering data

Weight	CRC	Part No.	Type
[g]			
35	1 <sup>1)</sup>	558350	VABB-P1

1) Corrosion resistance class 1 as per Festo standard 940 070  
Components requiring low corrosion resistance. 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.

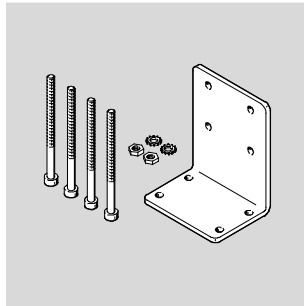
# Proportional pressure regulators VPPM

Accessories

FESTO

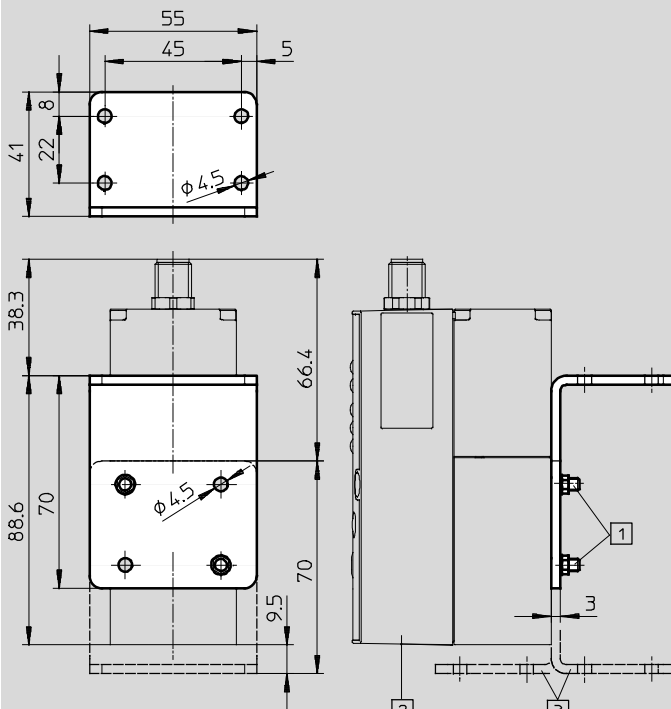
## Mounting bracket VAME-P1-A

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 Mounting 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 1 as per Festo standard 940 070  
Components requiring low corrosion resistance. 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... and VPPM-8L... must be used in combination with the bracket VAME-P1-A.

# Proportional pressure regulators VPPM

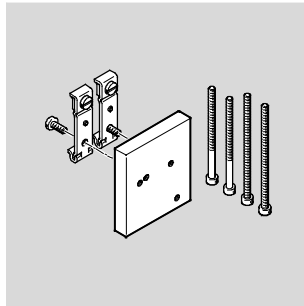
Accessories

FESTO

## H-rail mounting VAME-P1-T

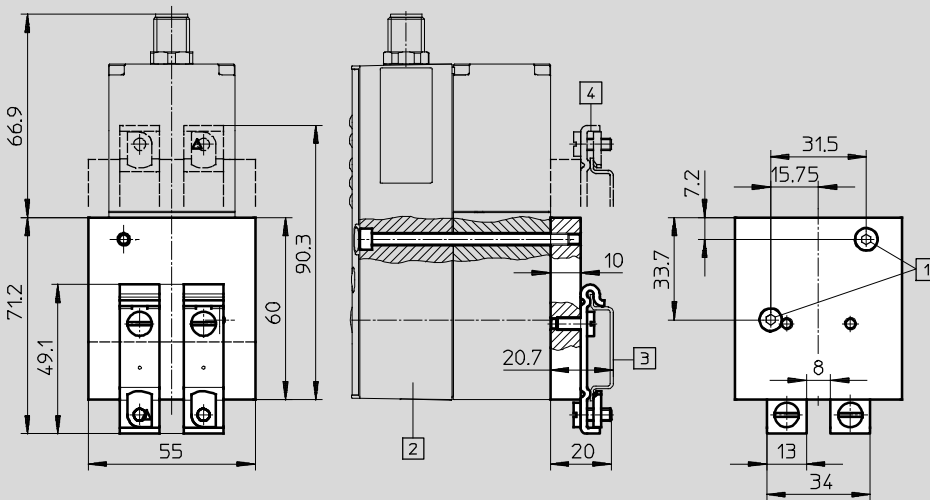
Material:

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 1 as per Festo standard 940 070

Components requiring low corrosion resistance. 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

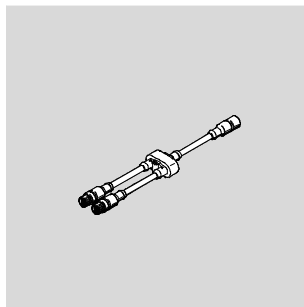
In-line valves VPPM-6L... and VPPM-8L... must be used in combination with the H-rail VAME-P1-T.

# Proportional pressure regulators VPPM

Accessories

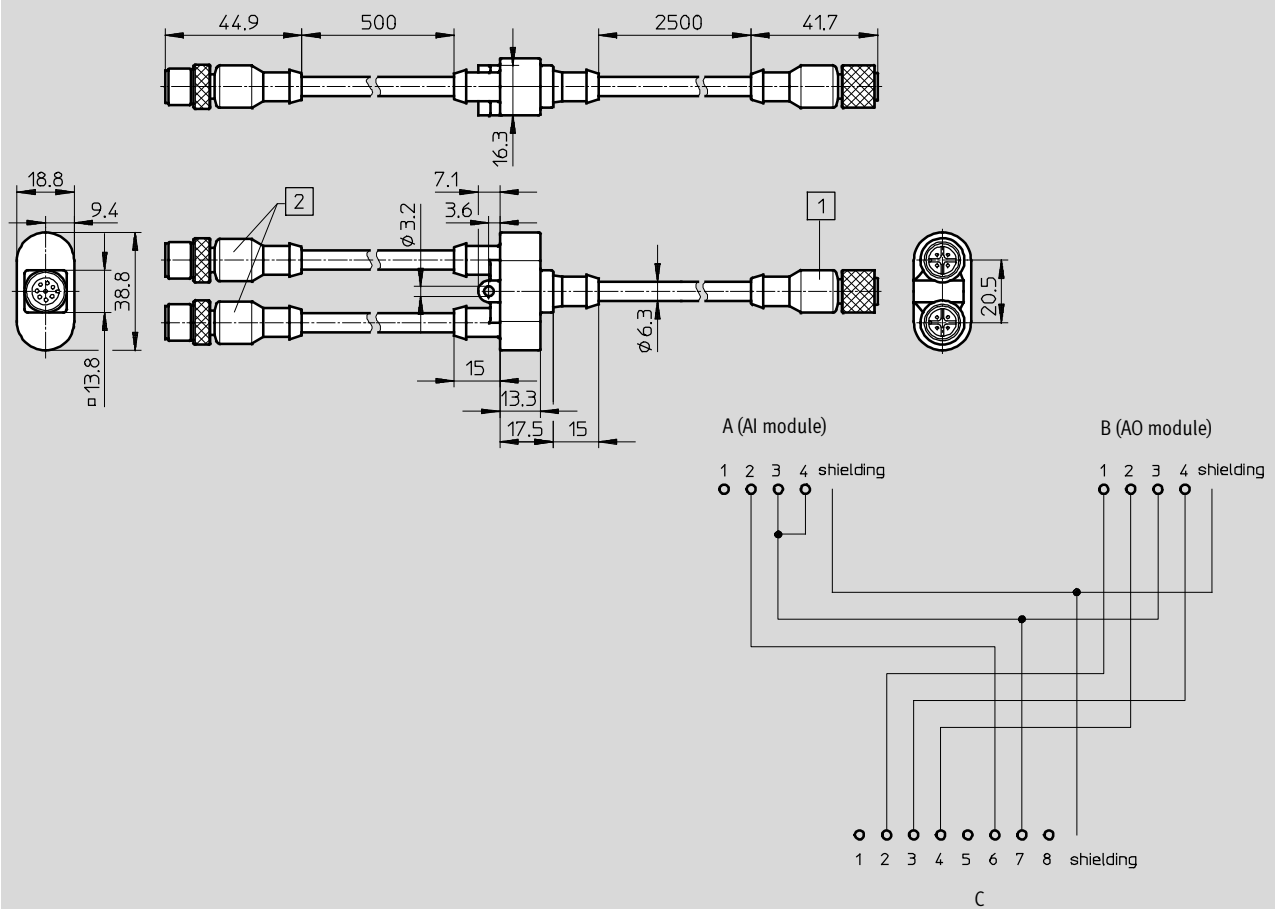
## Plug socket with cable NEBV-M12G8-KD-3-M12G4

For connecting the VPPM with the analogue input and output modules of the controller CPX.



### Dimensions and pin allocation

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



1 Straight socket, 8-pin, to VPPM

2 Straight plug, 4-pin, to CPX modules

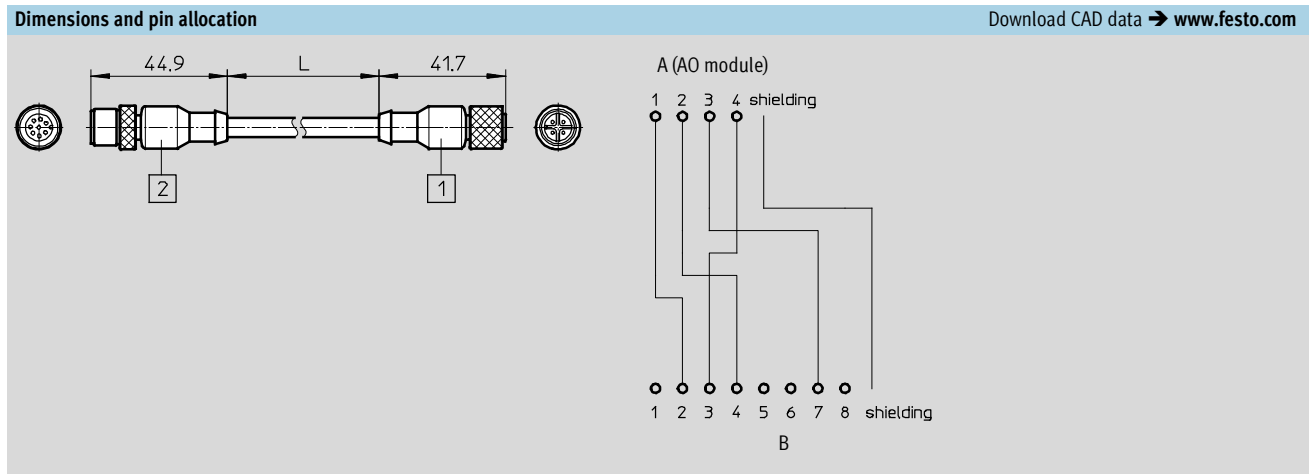
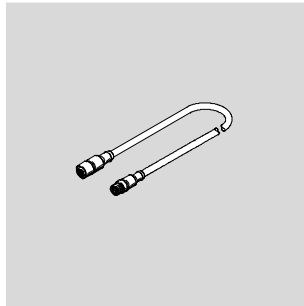
# Proportional pressure regulators VPPM

Accessories



**Plug socket with cable**  
**NEBV-M12G8-K-2-M12G4**  
**NEBV-M12G8-K-5-M12G4**

For connecting the VPPM with the analogue output modules of the controller CPX.



Type	2	1	L1
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	Cable length [m]	Part No.	Type
Plug socket with cable			Technical data → Internet: plug socket with cable	
	Straight socket, 8-pin, M12	2	525616	SIM-M12-8GD-2-PU
		5	525618	SIM-M12-8GD-5-PU
		10	570008	SIM-M12-8GD-10-PU
	Angled socket, 8-pin, M12	2	542256	NEBU-M12W8-K-2-N-LE8
		5	542257	NEBU-M12W8-K-5-N-LE8
		10	570007	NEBU-M12W8-K-10-N-LE8
	One straight socket, 8-pin, and one straight plug, 4-pin	2	553575	NEBV-M12G8-K-2-M12G4
		5	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	
	Generation of 6+1 analogue setpoint values	–	546224	MPZ-1-24DC-SGH-6-SW5