

Proportional pressure regulators VEAB

FESTO



Proportional pressure regulators VEAB

Key features

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Innovative

- Silent operation
- Very low energy consumption
- Very precise
- Short switching times
- Piezo technology

Versatile

- In-line valves
- Sub-base valves
- Simple electrical and pneumatic interfaces
- Choice of different setpoint specifications
 - Current input
 - Voltage input

Reliable

- Integrated pressure sensor with separate output
- Diagnostics
 - Operating voltage: over- and undervoltage
 - Setpoint value: falling below and exceeding
- Consistent pressure control performance with long-term stability
- Durable

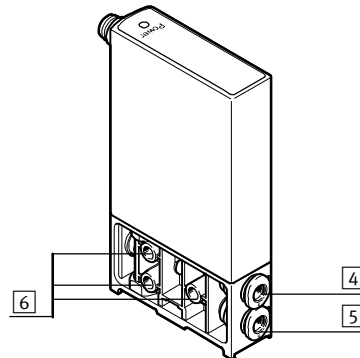
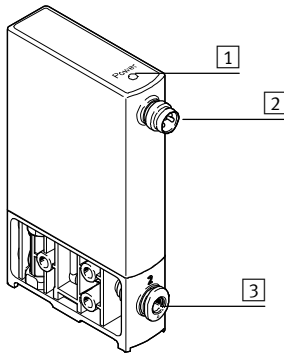
Easy to install

- Mounting the in-line valve via three lateral through-holes
- Mounting the in-line valve on an H-rail

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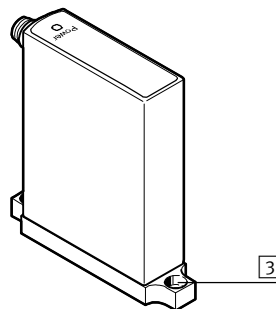
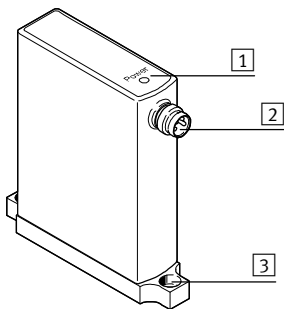
Key features

In-line valve



- 1 Power LED (green), fault LED (red)
- 2 Electrical connection, plug connector M8
- 3 Port 2, supply air
- 4 Port 1, compressed air
- 5 Port 3, exhaust air
- 6 Through-holes for fastening the valve

Sub-base valve

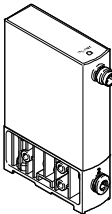
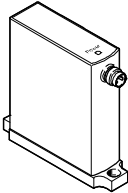


- 1 Power LED (green), fault LED (red)
- 2 Electrical connection, plug connector M8
- 3 Through-holes for fastening the valve to the sub-base

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Product range overview

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Version	Valve function	Pneumatic connection 1, 2, 3	Pressure regulation range [bar]	Setpoint value input		→ Page	
				Voltage type	Current type		
				0 ... 10 V	4 ... 20 mA		
Pressure regulating valve	In-line valve						
		3-way proportional pressure regulator	QS-4	-1 ... 0.005 0.001 ... 0.2 0.005 ... 1 0.01 ... 2 0.03 ... 6	■	■	6
	Sub-base valve						
		3-way proportional pressure regulator	Flange	-1 ... 0.005 0.001 ... 0.2 0.005 ... 1 0.01 ... 2 0.03 ... 6	■	■	6

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Type codes

VEAB – L – 26 – D9 – Q4 – V1 – 1 – R1

Type

VEAB	Proportional pressure regulator
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Valve type

L	In-line valve
B	Sub-base valve

Valve function

26	3-way proportional pressure regulator
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Pressure range

D14	–1 ... 0.005 bar
D12	0.001 ... 0.2 bar
D7	0.005 ... 1 bar
D2	0.01 ... 2 bar
D9	0.03 ... 6 bar

Pneumatic connection

F	Flange/sub-base
Q4	Push-in connector 4 mm

Setpoint input

V1	Voltage type 0 ... 10 V
A4	Current type 4 ... 20 mA

Operating voltage

1	24 V DC
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Electrical connection

R1	Plug connector, M8x1, 4-pin
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Technical data

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 Flow rate
5 ... 20 l/min

 Voltage
24 V DC

 Pressure regulation range
–1 ... 0.005 bar
0.001 ... 0.2 bar
0.005 ... 1 bar
0.01 ... 2 bar
0.03 ... 6 bar



General technical data		
Type	VEAB-L	VEAB-B
Valve type	In-line valve	Sub-base valve
Valve function	3-way proportional pressure regulator	
Dimensions W x L x H [mm]	18 x 60.5 x 85	18 x 67 x 66
Standard nominal flow rate	→ Page 8	
Pneumatic connection 1, 2, 3	QS-4	Flange
Sealing principle	Soft	
Actuation type	Electrical with piezo element	
Display type	LED	
Type of control	Direct	
Type of reset	Mechanical spring	
Type of mounting	Via through-hole, via accessories	
Mounting position	Any	
Product weight [g]	70	

Electrical data		
Electrical connection	Plug connector M8x1, 4-pin, to EN 60947-5-2	
Nominal operating voltage [V DC]	24	
Operating voltage range [V DC]	19 ... 29	
Residual ripple [%]	10	
Max. electrical power consumption [W]	1	
Setpoint input signal	Voltage [V DC]	0 ... 10
	Current [mA]	4 ... 20
Accuracy of analogue output [%]	2	
Short circuit protection	For all electrical connections	
Reverse polarity protection	For all electrical connections	
Degree of protection	IP65	

 **Note**

Safety position, VEAB:
If the electrical power supply fails, the output pressure is maintained in unregulated form and may rise or fall – valve closed.

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Technical data

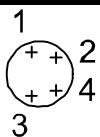
Operating and environmental conditions						
Pressure regulation range	[bar]	–1 ... 0.005	0.001 ... 0.2	0.005 ... 1	0.01 ... 2	0.03 ... 6
Operating medium		Compressed air to ISO 8573-1:2010 [7:4:4]				
		Inert gases				
Note on operating/pilot medium		Lubricated operation not possible				
Inlet pressure at port 1 ¹⁾	[bar]	–1	0 ... 1	0 ... 3	0 ... 4	0 ... 6.5
FS (full scale) hysteresis	[%]	0.25	0.5	0.25		
FS (full scale) linearity error	[%]	± 0.5	± 0.8	± 0.5		
FS (full scale) repetition accuracy	[%]	± 0.4				
FS (full scale) accuracy of analogue output	[%]	2				
Temperature coefficient	[%/K]	0.05				
Ambient temperature	[°C]	0 ... 50				
Temperature of medium	[°C]	5 ... 50				
Storage temperature	[°C]	–20 ... 70				
Corrosion resistance class CRC ²⁾		2				
CE marking (see declaration of conformity)		To EU EMC Directive				
Certification		RCM compliance mark				

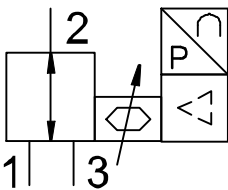
1) Inlet pressure 1 should always be 1 bar greater than the maximum regulated outlet pressure.

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.

Materials	
Seals	NBR
Housing	PA reinforced
Note on materials	RoHS compliant

Pin allocation		
	Pin	Function
	1	+24 V DC supply voltage
	2	+ Setpoint value
	3	GND
	4	+ Actual value

Function		
	A built-in pressure sensor records the pressure at the working port and compares this value with the setpoint value.	If there are deviations, the pressure is automatically adjusted.

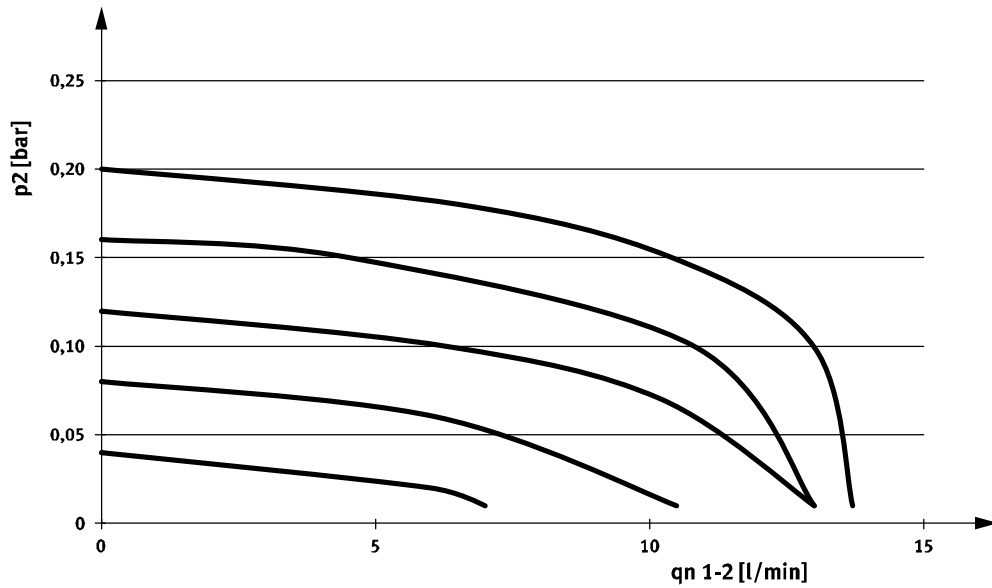
Proportional pressure regulators VEAB

Technical data

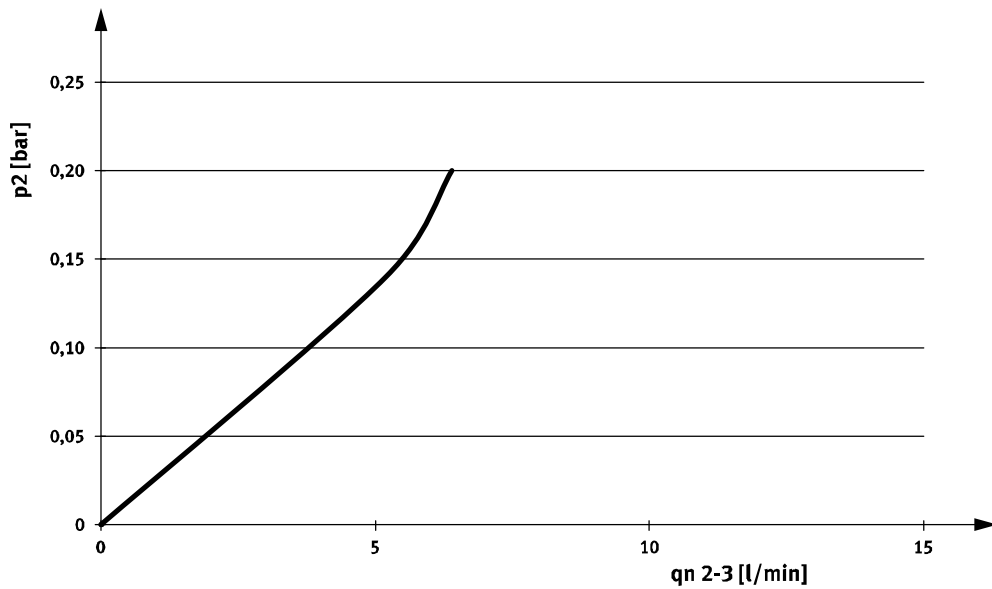
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VEAB-...-D12-..., pressure regulation range 0.001 ... 0.2

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



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

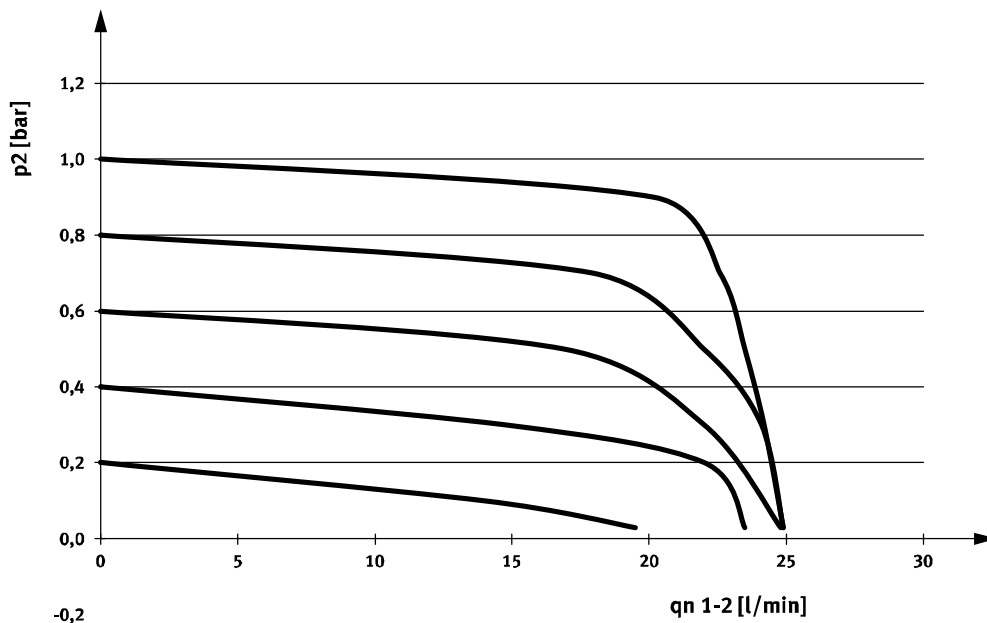


Proportional pressure regulators VEAB

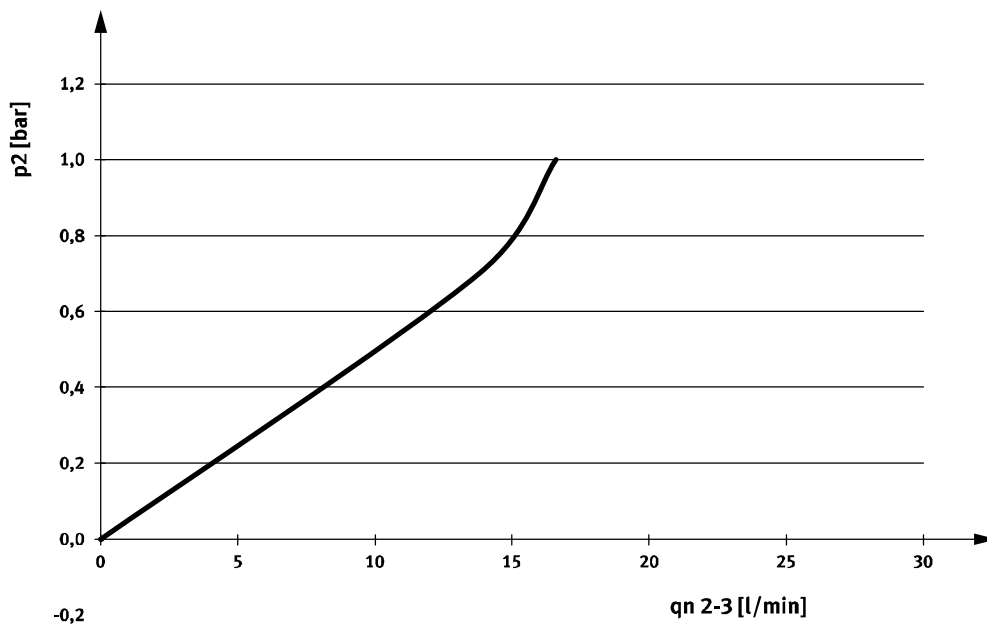
Technical data

VEAB-...-D7-..., pressure regulation range 0.005 ... 1

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



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



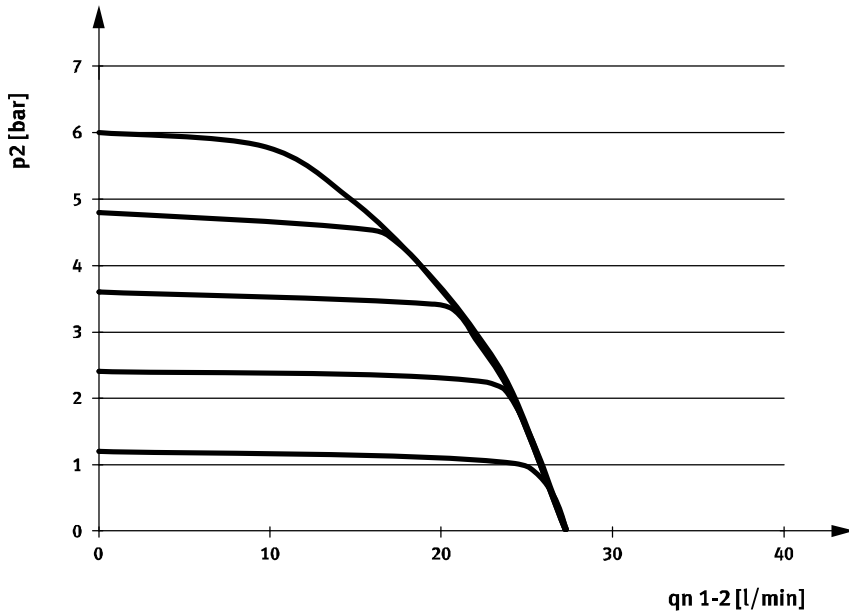
Proportional pressure regulators VEAB

Technical data

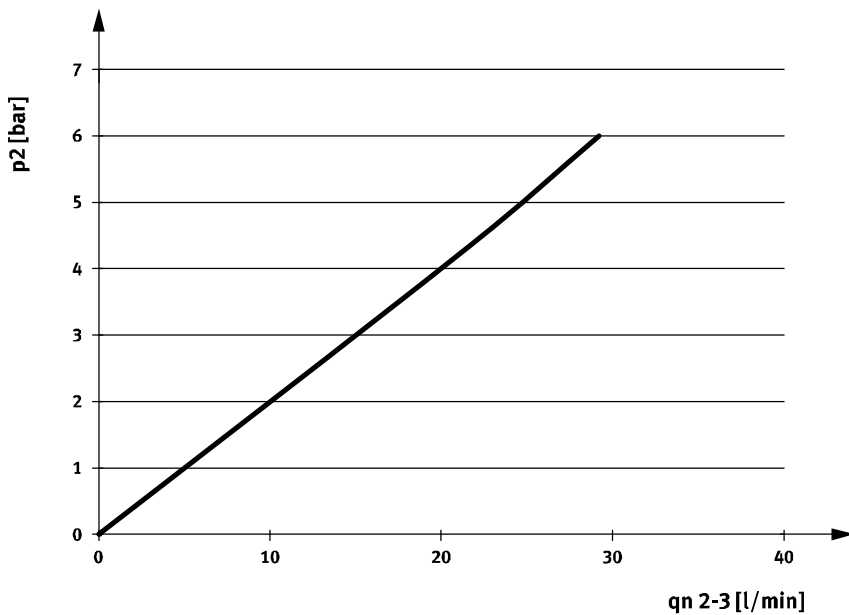
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VEAB-...-D9-..., pressure regulation range 0.03 ... 6

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



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



Proportional pressure regulators VEAB

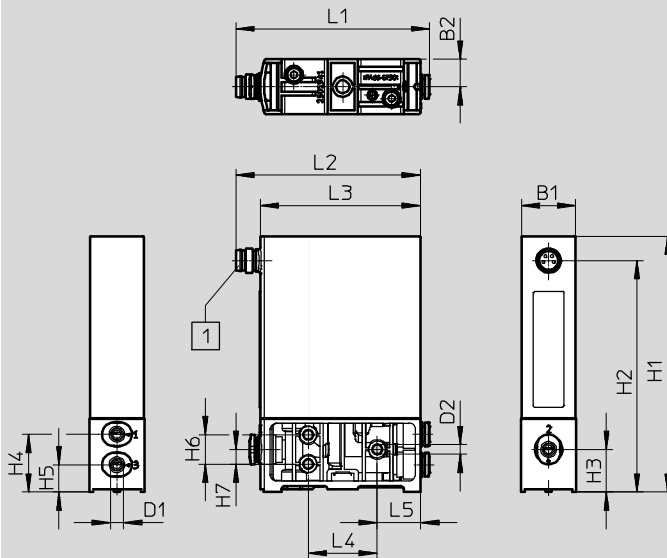
Technical data

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Dimensions

Download CAD data → www.festo.com

In-line valve



1 Plug connector M8x1, 4-pin

Type	B1	B2	D1 Ø	D2 Ø	H1	H2	H3	H4	H5	H6	H7
VEAB-L	18	9	4	3.2	85	76	14	19	9.5	9.6	4.8

Type	L1	L2	L3	L4	L5
VVEAB-L	64	60.5	52.5	22.6	14.2

Proportional pressure regulators VEAB

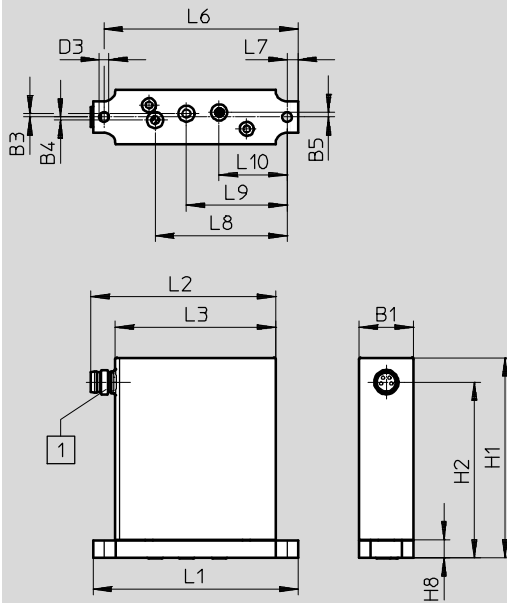
Technical data

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Dimensions

Download CAD data → www.festo.com

Sub-base valve



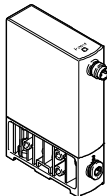
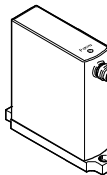
1 Plug connector M8x1, 4-pin

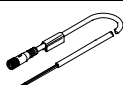
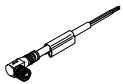
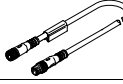
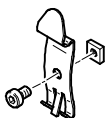
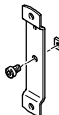
Type	B1	B3	B4	B5	D3 Ø	H1	H2	H8
VEAB-B	18	1.1	1	1.5	3.2	66	58	6

Type	L1	L2	L3	L6	L7	L8	L9	L10
VEAB-B	67.2	60.5	52.5	64	3.5	43.3	33	22.3

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Accessories

Ordering data				
		Pressure regulation range [bar]	Part No.	Type
In-line valve				
	Voltage type, 0 ... 10 V	-1 ... 0.005	8046307	VEAB-L-26-D14-Q4-V1-1R1
		0.001 ... 0.2	8046301	VEAB-L-26-D12-Q4-V1-1R1
		0.005 ... 1	8046303	VEAB-L-26-D7-Q4-V1-1R1
		0.01 ... 2	8046305	VEAB-L-26-D2-Q4-V1-1R1
		0.03 ... 6	8046299	VEAB-L-26-D9-Q4-V1-1R1
	Current type, 4 ... 20 mA	-1 ... 0.005	8046308	VEAB-L-26-D14-Q4-A4-1R1
		0.001 ... 0.2	8046302	VEAB-L-26-D12-Q4-A4-1R1
		0.005 ... 1	8046304	VEAB-L-26-D7-Q4-A4-1R1
		0.01 ... 2	8046306	VEAB-L-26-D2-Q4-A4-1R1
		0.03 ... 6	8046300	VEAB-L-26-D9-Q4-A4-1R1
Sub-base valve				
	Voltage type, 0 ... 10 V	-1 ... 0.005	8046271	VEAB-B-26-D14-F-V1-1R1
		0.001 ... 0.2	8046265	VEAB-B-26-D12-F-V1-1R1
		0.005 ... 1	8046267	VEAB-B-26-D7-F-V1-1R1
		0.01 ... 2	8046269	VEAB-B-26-D2-F-V1-1R1
		0.03 ... 6	8046263	VEAB-B-26-D9-F-V1-1R1
	Current type, 4 ... 20 mA	-1 ... 0.005	8046272	VEAB-B-26-D14-F-A4-1R1
		0.001 ... 0.2	8046266	VEAB-B-26-D12-F-A4-1R1
		0.005 ... 1	8046268	VEAB-B-26-D7-F-A4-1R1
		0.01 ... 2	8046270	VEAB-B-26-D2-F-A4-1R1
		0.03 ... 6	8046264	VEAB-B-26-D9-F-A4-1R1

Ordering data				
Description		Part No.	Type	
Connecting cable				
	Straight socket, M8x1, 4-pin Open end, 4-wire	2.5 m	541342	NEBU-M8G4-K-2.5-LE4
		5 m	541343	NEBU-M8G4-K-5-LE4
	Angled socket, M8x1, 4-pin Open end, 4-wire	2.5 m	541344	NEBU-M8W4-K-2.5-LE4
		5 m	541345	NEBU-M8W4-K-5-LE4
	Straight socket, M8x1, 4-pin Straight plug connector, M8x1, 4-pin	2.5 m	554035	NEBU-M8G4-K-2.5-M8G4
H-rail mounting				
	For mounting the in-line valve on the H-rail	4054652	VAME-P7-T	
Mounting plate				
	For in-line valve	4054656	VAME-P7-Y	