

Proportional-pressure regulator VEAA

FESTO



Characteristics

At a glance

Innovative:

- Silent operation
- Very low power consumption
- Extremely precise
- Integrated piezo technology

Flexible:

- In-line valves
- Sub-base valves
- Simple electrical and pneumatic interfaces
- Choice of different setpoint specifications: current input; voltage input

Operationally safe:

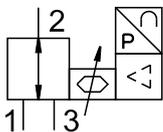
- Integrated pressure sensor with separate output
- Operating voltage diagnostics: overvoltage and undervoltage; setpoint value: not reached and exceeded
- Stable pressure control behaviour with long-term stability

Easy to assemble:

- Mounting the in-line valve via three lateral through-holes
- H-rail mounting
- Mounting the in-line valve on the mounting plate
- Mounting the sub-base valve using the sub-base

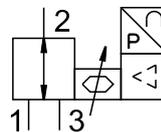
Directional control valve type

[B] Sub-base valve



An integrated pressure sensor records the pressure at the working port and compares this value with the setpoint value. The pressure is automatically readjusted in the event of deviations.

[L] In-line valve



An integrated pressure sensor records the pressure at the working port and compares this value with the setpoint value. The pressure is automatically readjusted in the event of deviations.

Diagrams

[Link](#) [veaa](#)



The diagrams shown in this document are also available online. These can be used to display precise values.

Type code

001	Series	
VEAA	Proportional pressure regulator	
002	Directional control valve type	
L	In-line valve	
B	Sub-base valve	
003	Valve function	
3	3/3-way valve, normally closed	
004	Pressure range [bar]	
D2	0 ... 2	
D9	0 ... 6	
D11	0 ... 10	

005	Pneumatic connection	
F	Flange/sub-base	
Q4	Push-in connector 4 mm	
006	Setpoint input for individual valves	
A4	4 ... 20 mA	
V1	0 ... 10 V	
V2	0 ... 5 V	
007	Nominal operating voltage	
1	24 V DC	
008	Electrical connection	
R1	Individual connector M8, 4-pin	

Datasheet

General technical data

Standard nominal flow rate (standardised to DIN 1343)	13 l/min	7 l/min	10 l/min
Valve function	3-way proportional pressure regulator		
Dimensions (W x L x H)	15 x 54.5 x 85 mm, 15 x 61 x 66 mm		
Pneumatic connection, port 1	Flange, QS-4		
Pneumatic connection, port 2	Flange, QS-4		
Pneumatic connection, port 3	Flange, QS-4		
Sealing principle	Soft		
Type of actuation	Electric		
Display type	LED		
Type of piloting	Direct		
Type of reset	Mechanical spring		
Type of mounting	Either:, With through-hole, With accessories		
Mounting position	optional		
Product weight	55 g		

Electrical data

Electrical connection ¹⁾	4-pin, M8x1, Plugs, To EN 60947-5-2
Nominal operating voltage DC	24 V
Operational voltage range DC	19 ... 29 V
Residual ripple	10%
Max. electrical power consumption	1 W
Setpoint value	4 - 20 mA 0 - 5 V 0 - 10 V
Signal range analogue output	0 - 10 V 1 - 5 V 4 - 20 mA
Accuracy analogue output in ± %FS	2 %FS
Short circuit current rating	For all electrical connections
Reverse polarity protection	For all electrical connections
Degree of protection	IP65

1) Note on fail-safe position VEAA/VEAB: if the electrical power supply fails, the output pressure remains unregulated and may rise or fall – valve blocked.

Datasheet

Operating and environmental conditions

Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4] Inert gases
Note on operating and pilot medium	Lubricated operation not possible
Inlet pressure 1	0 ... 1.1 MPa
Inlet pressure 1	0 ... 11 bar
Hysteresis	0.25 %FS
Linearity	0.5 %FS
Reproducibility	0.4 %FS
Total accuracy	0.75% FS
Temperature coefficient	0.05 %/K
Ambient temperature	0 ... 50°C
Media temperature	5 ... 50°C
Storage temperature	-20 ... 70°C
Corrosion resistance class CRC ¹⁾	2 - Moderate corrosion stress
CE mark (see declaration of conformity) ²⁾	To EU EMC Directive In accordance with EU RoHS Directive
UKCA marking (see declaration of conformity) ³⁾	To UK instructions for EMC To UK RoHS instructions
Approval	RCM trademark

1) More information www.festo.com/x/topic/crc

2) For information about the area of use, see the declaration of conformity at: www.festo.com/catalogue/...d/Support/Downloads.

If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary.

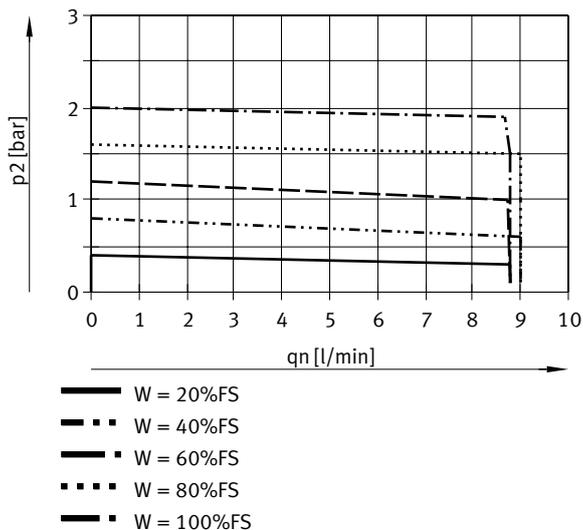
3) For information about the area of use, see the declaration of conformity at: www.festo.com/catalogue/...d/Support/Downloads.

If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary.

Materials

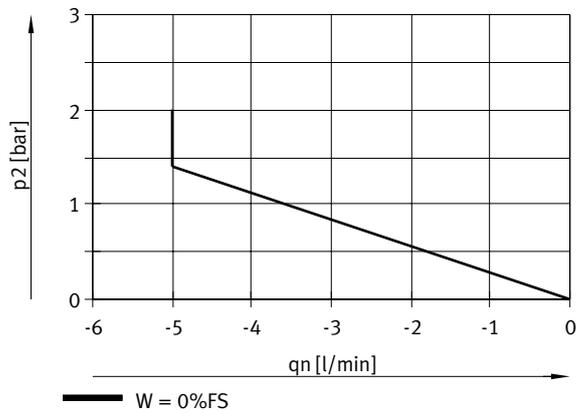
Material seals	NBR
Material housing	PA-reinforced
Note on materials	RoHS-compliant
LABS (PWIS) conformity	VDMA24364 zone III

VEAA-...-D2-..., output pressure 2 (pressure regulation range) 0.01 ... , flow rate qn from 1 -> 2 depending on output pressure p2

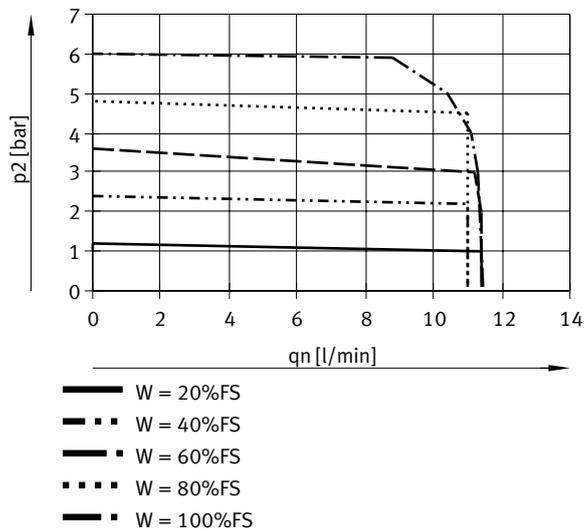


Datasheet

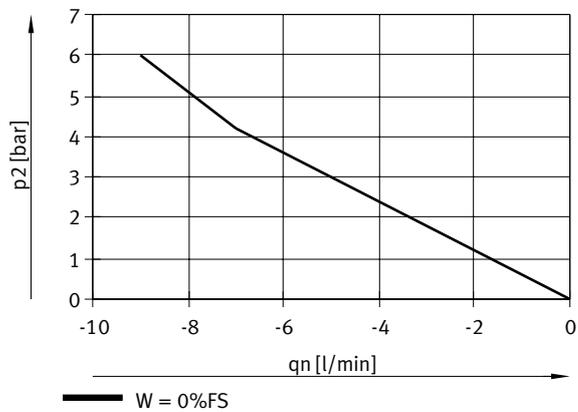
VEAA-...-D2-..., output pressure 2 (pressure regulation range) 0.01 ... , flow rate q_n from 2 -> 3 depending on output pressure p_2



VEAA-...-D9-..., output pressure 2 (pressure regulation range) 0.03 ... 6, flow rate q_n from 1 -> 2 depending on output pressure p_2

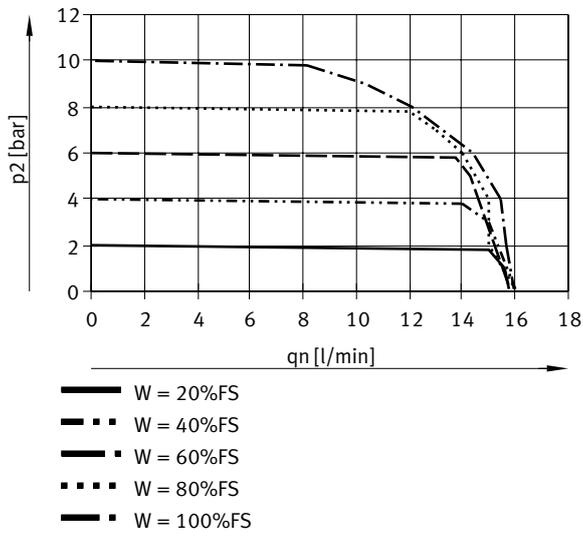


VEAA-...-D9-..., output pressure 2 (pressure regulation range) 0.03 ... 6, flow rate q_n from 2 -> 3 depending on output pressure p_2

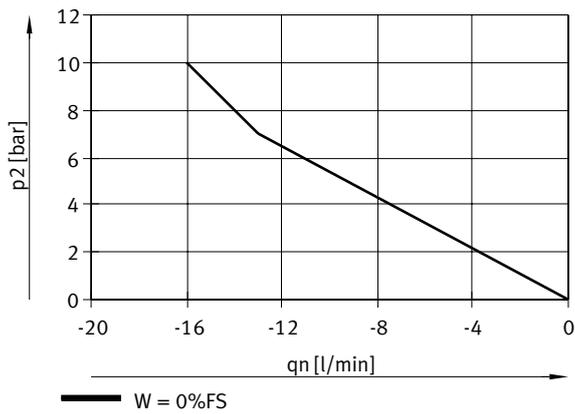


Datasheet

VEAA-...-D11-..., output pressure 2 (pressure regulation range) ... 10, flow rate q_n from 1->2 depending on output pressure p_2



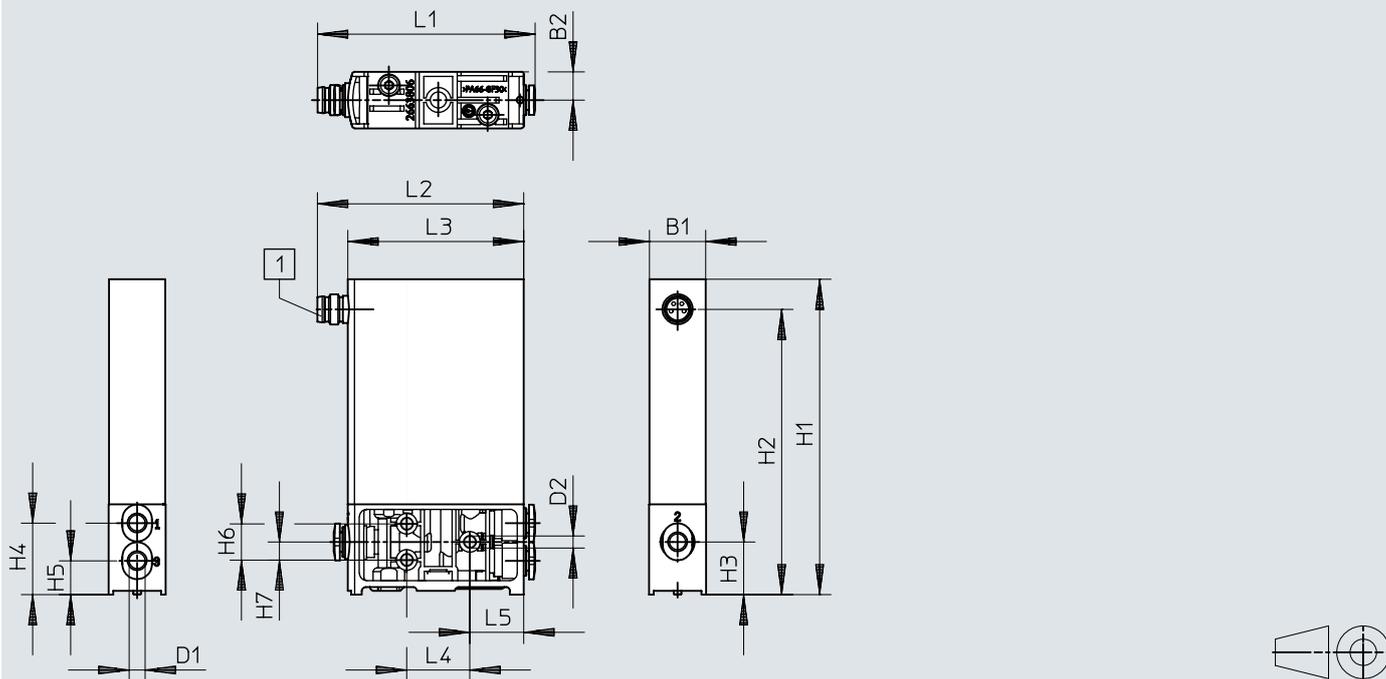
VEAA-...-D11-..., output pressure 2 (pressure regulation range) ... 10, flow rate q_n from 2->3 depending on output pressure p_2



Dimensions

Dimensions – In-line valve

Download CAD data www.festo.com

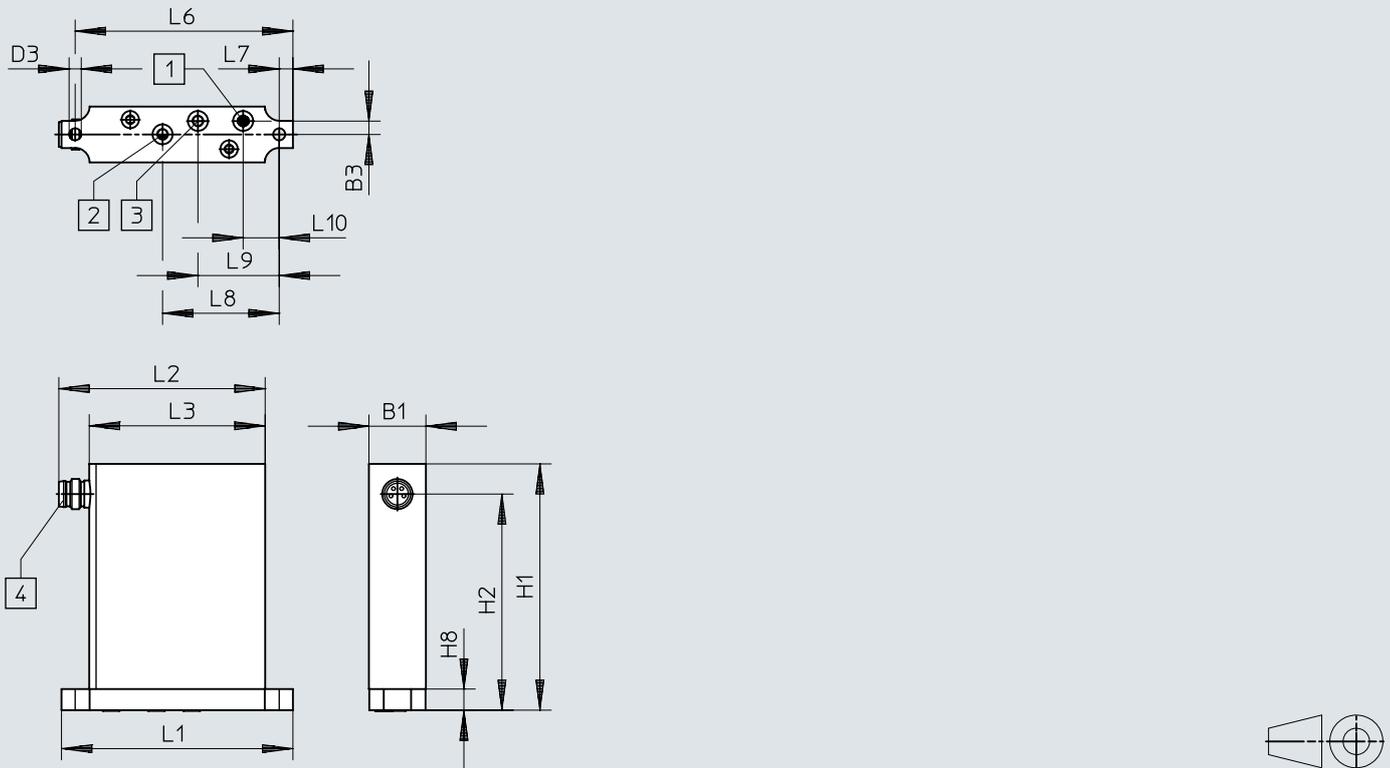


[1] Plug M8x1, 4-pin

	B1	B2	D1	D2	H1	H2	H3	H4	H5	H6	H7
VEAA-L	15	9	∅ 4	∅ 3,2	85	76	14	19	9,5	9,6	4,8
	L1		L2		L3		L4		L5		
VEAA-L	58		54,5		46,5		16,6		14,2		

Dimensions

Dimensions – Sub-base valve

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- [1] Port 1, compressed air
- [2] Port 2, working air
- [3] Port 3, exhaust air
- [4] Plug M8x1, 4-pin

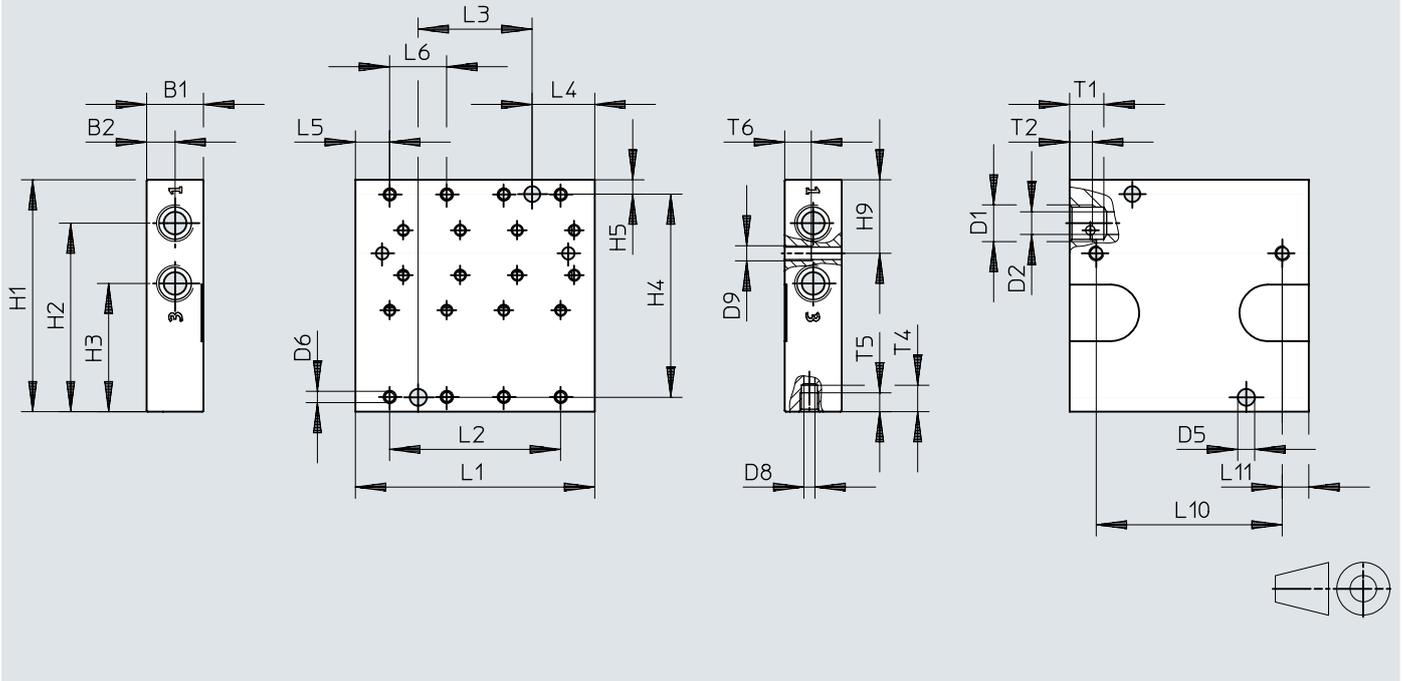
	B1	B3	D3 ∅	H1	H2	H8
VEAA-B	15	3,6	3,2	66	58	6

	L1	L2	L3	L6	L7	L8	L9	L10
VEAA-B	61	54,5	46,5	57,3	3,6	30,7	21,4	9,5

Dimensions

Dimensions – Manifold rail, connection direction on the side

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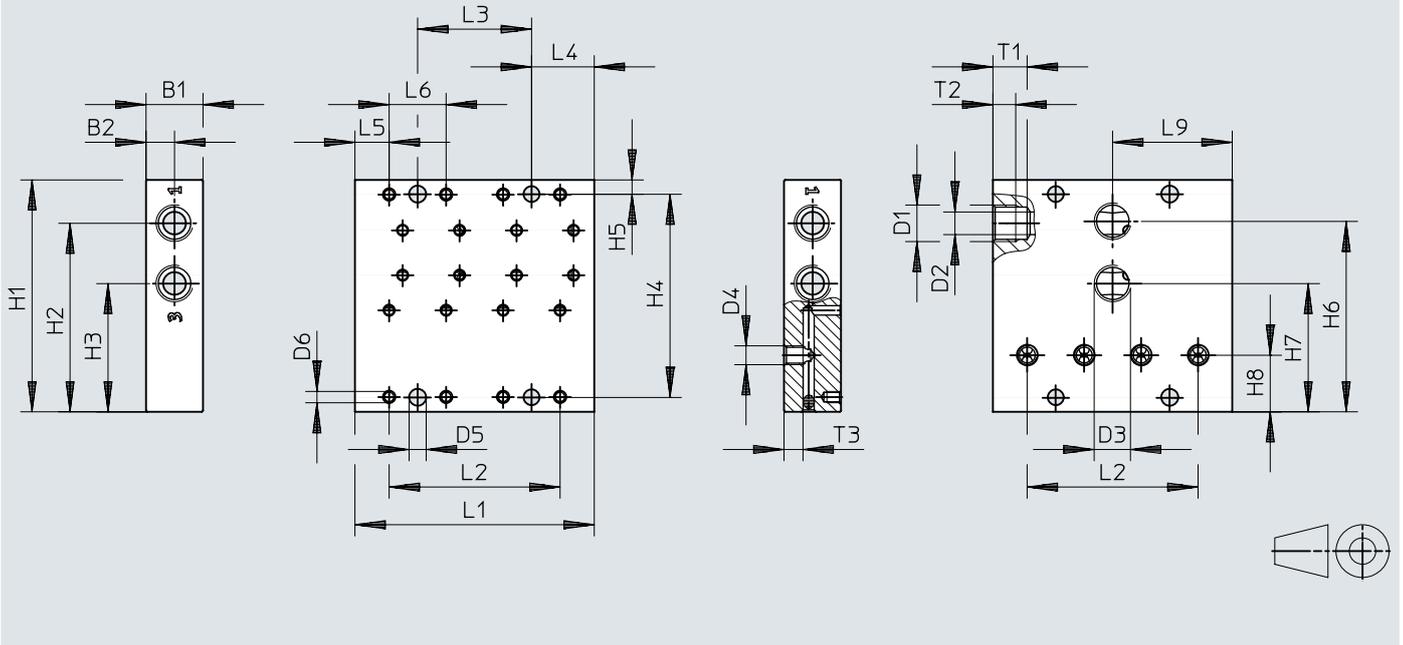
	B1	B2	B3	D1	D2 ø	D5 ø	D6	D7	D8 ø	D9	H1	H2	H3	H4	H5	H9
VABM-P6-15M-G18-M5-4	15	7,5	8,5	G1/8	6	4,5	M3	M5	2,9	M4	61,5	50	34	53,9	3,8	19,5
VABM-P6-15M-G18-M5-6																
VABM-P6-15M-G18-M5-8																

	L1	L2	L3	L4	L5	L6	L10	L11	T1	T2	T4	T5	T6
VABM-P6-15M-G18-M5-4	63	45	30	16,5	9	15	49	7	9	6	7	5	7
VABM-P6-15M-G18-M5-6	93	75	60				79						
VABM-P6-15M-G18-M5-8	123	105	90				130						

Dimensions

Dimensions – Manifold rail, connection direction underneath

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	B1	B2	B3	D1	D2 ∅	D3	D4	D5 ∅	D6	D7 ∅	H1	H2	H3	H4	H5	H6
VABM-P6-15MB-G18-M5-4	15	7,5	8,5	G1/8	6	G1/8	M5	4,5	M3	2,9	61,5	50	34	53,9	3,8	50,5
VABM-P6-15MB-G18-M5-6																
VABM-P6-15MB-G18-M5-8																

	H7	H8	L1	L2	L3	L4	L5	L6	L9	T1	T2	T3
VABM-P6-15MB-G18-M5-4	34	15	63	45	30	16,5	9	15	31,5	9	6	5
VABM-P6-15MB-G18-M5-6			93	75	60							
VABM-P6-15MB-G18-M5-8			123	105	90							

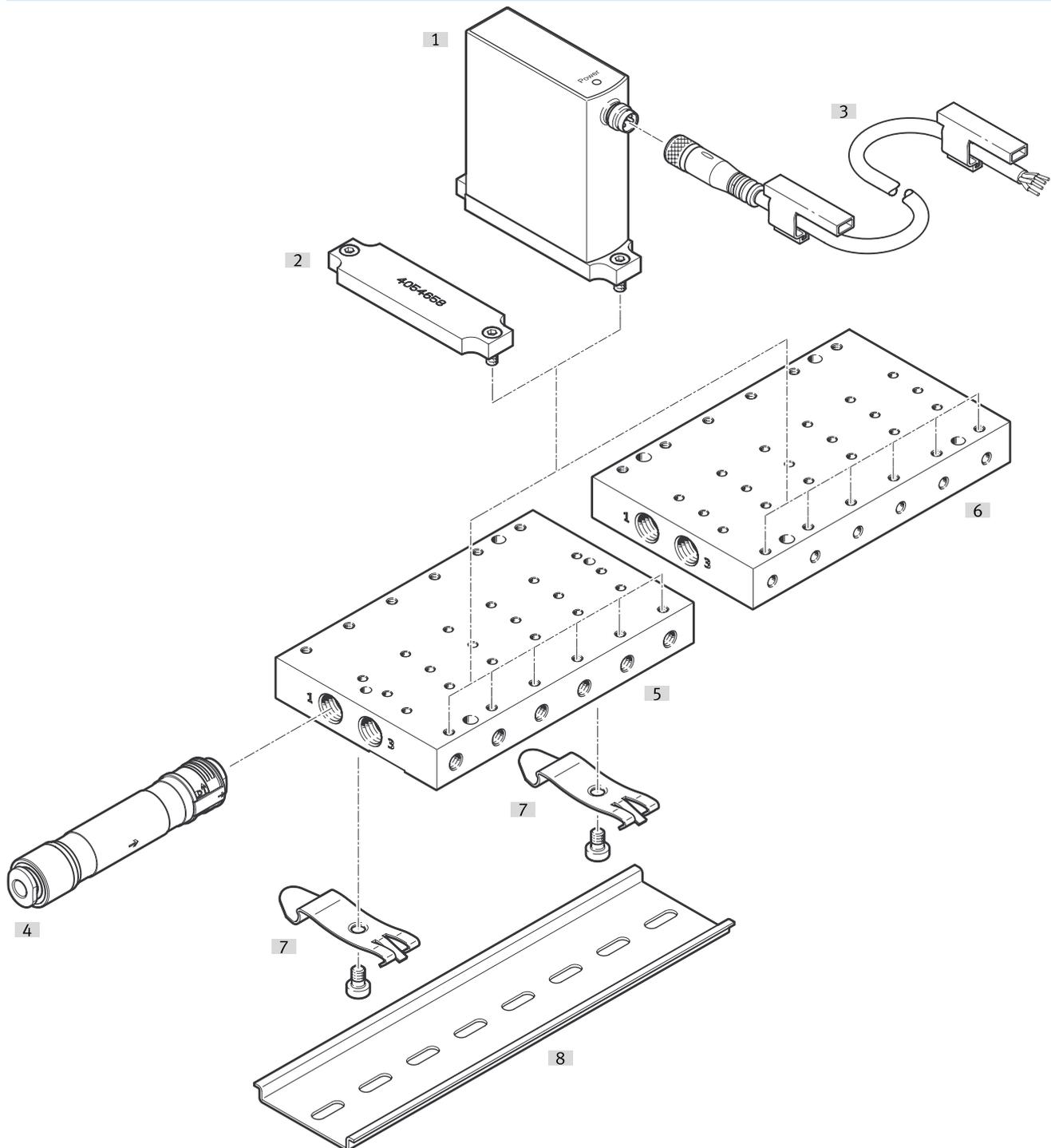
Ordering data

In-line valve				
	Setpoint value	Output pressure 2	Part no.	Type
	4 - 20 mA	0.001 ... 0.2 MPa	8046902	VEAA-L-3-D2-Q4-A4-1R1
		0.003 ... 0.6 MPa	8046904	VEAA-L-3-D9-Q4-A4-1R1
		0.005 ... 1 MPa	8046906	VEAA-L-3-D11-Q4-A4-1R1
	0 - 5 V	0.001 ... 0.2 MPa	8153645	VEAA-L-3-D2-Q4-V2-1R1
		0.003 ... 0.6 MPa	8153646	VEAA-L-3-D9-Q4-V2-1R1
		0.005 ... 1 MPa	8126196	VEAA-L-3-D11-Q4-V2-1R1
	0 - 10 V	0.001 ... 0.2 MPa	8046901	VEAA-L-3-D2-Q4-V1-1R1
		0.003 ... 0.6 MPa	8046903	VEAA-L-3-D9-Q4-V1-1R1
		0.005 ... 1 MPa	8046905	VEAA-L-3-D11-Q4-V1-1R1

Sub-base valve				
	Setpoint value	Output pressure 2	Part no.	Type
	4 - 20 mA	0.001 ... 0.2 MPa	8046893	VEAA-B-3-D2-F-A4-1R1
		0.003 ... 0.6 MPa	8046895	VEAA-B-3-D9-F-A4-1R1
		0.005 ... 1 MPa	8046897	VEAA-B-3-D11-F-A4-1R1
	0 - 5 V	0.001 ... 0.2 MPa	8153642	VEAA-B-3-D2-F-V2-1R1
		0.003 ... 0.6 MPa	8153643	VEAA-B-3-D9-F-V2-1R1
		0.005 ... 1 MPa	8153644	VEAA-B-3-D11-F-V2-1R1
	0 - 10 V	0.001 ... 0.2 MPa	8046892	VEAA-B-3-D2-F-V1-1R1
		0.003 ... 0.6 MPa	8046894	VEAA-B-3-D9-F-V1-1R1
		0.005 ... 1 MPa	8046896	VEAA-B-3-D11-F-V1-1R1

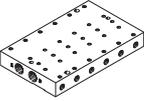
Peripherals

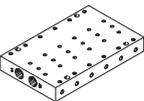
Valve manifold assembly VEAA

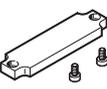


Accessories		→ Link
Type/order code	Description	
[1] Proportional-pressure regulator VEAA	–	veaa
[2] Cover plate VABB	–	14
[3] Connecting cable	–	14
[4] Inline filter OAFA	OAFA-C...-E...	15
[5] Manifold rail VABM-P6-15MB	Connection direction underneath, for wall mounting and control cabinet installation	14
[6] Manifold rail VABM-P6-15M	Connection direction at the side, for control cabinet installation	14
[7] H-rail mounting VAME	For mounting the H-rail	14
[8] H-rail NRH352000	For control cabinet installation	14

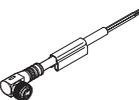
Accessories

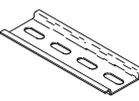
Manifold rail, connection direction on the side			
	Max. number of valve positions	Part no.	Type
	4	8083543	VABM-P6-15M-G18-M5-4
	6	8083545	VABM-P6-15M-G18-M5-6
	8	8083547	VABM-P6-15M-G18-M5-8

Manifold rail, connection direction underneath			
	Max. number of valve positions	Part no.	Type
	4	8083544	VABM-P6-15MB-G18-M5-4
	6	8083546	VABM-P6-15MB-G18-M5-6
	8	8083548	VABM-P6-15MB-G18-M5-8

Cover plate, incl. screws (2 pieces) and O-ring (3 pieces pre-assembled)			
	Product weight	Part no.	Type
	15 g	4054657	VABB-P6-M

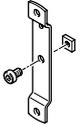
Connecting cable, straight socket, open end						
	Electrical connection 1, connector system	Electrical connection 2, connector system	Electrical connection 2, number of connections/cores	Cable length	Part no.	Type
	M8x1, A-coded, to EN 61076-2-104	Open end	4	2.5 m	8078227	NEBA-M8G4-U-2.5-N-LE4
				5 m	8078228	NEBA-M8G4-U-5-N-LE4

Connecting cable, angled socket, open end						
	Electrical connection 1, connector system	Electrical connection 2, connector system	Electrical connection 2, number of connections/cores	Cable length	Part no.	Type
	M8x1, A-coded, to EN 61076-2-104	Open end	4	2.5 m	8078233	NEBA-M8W4-U-2.5-N-LE4
				5 m	8078234	NEBA-M8W4-U-5-N-LE4

H-rail acc. to EN 60715, 35 x 7.5 (WxH), for control cabinet installation			
	LABS (PWIS) conformity	Part no.	Type
	VDMA24364-B2-L	35430	NRH-35-2000

H-rail mounting for H-rail NRH-35-2000				
	Material H-rail mounting	LABS (PWIS) conformity	Part no.	Type
	Steel	VDMA24364-B2-L	4054652	VAME-P7-T

Accessories

Mounting plate for in-line valve				
	Material mounting plate	LABS (PWIS) conformity	Part no.	Type
	Anodised aluminium	VDMA24364-B2-L	4054655	VAME-P6-Y

Inline filter					
	Pneumatic connection	Nominal size	Product weight	Part no.	Type
	For tubing O.D. 4 mm	4 mm	5.4 g	8212637	OAF A-C-Q4-E-F
				8212638	OAF A-C-Q4-E-E
	For tubing O.D. 6 mm	6 mm	11 g	8212640	OAF A-C-Q6-E-F
				8212641	OAF A-C-Q6-E-E