

One-way flow control valve VFOF

FESTO



Characteristics

At a glance

The one-way flow control valve VFOF-LE-BAH is a valve with a combination of exhaust air one-way flow control function and piloted non-return function with manual exhaust.

- High flow rate
- Can be rotated horizontally through 360° when mounted
- Can be operated from the side

Diagrams

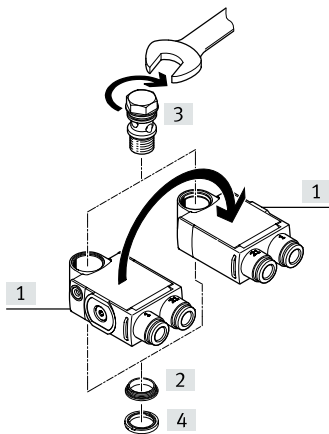
Further information → [vfof](#)



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

Design

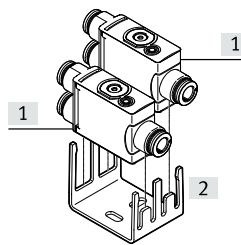
[L] L-shape



Universal actuation direction possible by converting the housing [1]:

- Press thrust ring [2] into the housing for a positive fit
- Insert hollow bolt [3] into the opening
- Slide sealing ring OK [4] over the thread of the hollow bolt

[C] Inline



Additional function 1

[B] Piloted non-return function

The piloted non-return function can be used for a brief intermediate stop. If there is a control signal, the exhaust air flow control is effective. If there is no control signal, the valve shuts off the exhaust air of the drive and the drive stops briefly.

Additional function 2

[A] Exhaust function, manual

A pneumatic drive can be manually exhausted by actuating the integrated manual exhaust function.

Adjusting component

[H] Integrated hex

The exhaust air one-way flow control function can be adjusted via a hexagon socket.

Type code

001	Series
VFOF	One-way flow control valve, flat design
002	Design
C	Inline
L	L-shape
003	Function
E	One-way flow control valve for exhaust air
004	Additional function 1
B	Piloted non-return function
005	Additional function 2
A	Exhaust function, manual

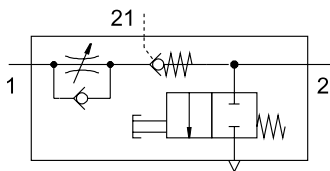
006	Adjusting component
H	Integrated hex
007	Pneumatic connection
G18	G1/8
G14	G1/4
Q4	Push-in connector 4 mm
Q6	Push-in connector 6 mm
008	Pneumatic connection 1
Q4	Push-in connector 4 mm
Q6	Push-in connector 6 mm
Q8	Push-in connector 8 mm

Datasheet

General technical data

Design	Inline		L-shape		
Pneumatic connection, port 1	QS-4	QS-6	QS-4	QS-6	QS-8
Pneumatic connection, port 2	QS-4	QS-6	G1/8		G1/4
Pilot air port 21	QS-4	QS-6	QS-4	QS-6	QS-8
Valve function	Exhaust air one-way flow control function				
Adjustment component	–		Internal hexagon		
Type of actuation	Manual				
Type act., cont. n.-r. func.	Pneumatic				
Manual exhaust function	Non-detenting				
Type of mounting	–		Screw-in		
Mounting position	optional				
Switching time off	9 ms				11 ms
Switching time on	6 ms				8 ms
Nominal torque	–		3 ... 6 Nm	6 Nm	10 Nm
Tolerance for nominal tightening torque	–		± 20%		
Permissible actuation moment, regulating screw	1 Nm				
Rotatability	–		360°/no continuous swivelling permissible		

Function



Datasheet

Operating and environmental conditions					
Design	Inline		L-shape		
Pneumatic connection, port 1	QS-4	QS-6	QS-4	QS-6	QS-8
Pneumatic connection, port 2	QS-4	QS-6	G1/8		G1/4
Operating pressure	10 bar		0.2 ... 10 bar		
Operating pressure complete temperature range	0.2 ... 10 bar				
Pilot pressure	2 ... 10 bar				
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]				
Note on operating and pilot medium	Lubricated operation possible		Lubricated operation possible (in which case lubricated operation will always be required)		
Ambient temperature	-10 ... 60°C				
Media temperature	-10 ... 60°C				
Storage temperature	-20 ... 70°C		-		
Standard nominal flow rate in flow control direction	120 l/min	240 l/min		590 l/min	
Standard nominal flow rate in blocked direction	210 l/min	400 ... 460 l/min	120 ... 220 l/min		310 ... 540 l/min
Standard nominal flow rate in non-return direction actuated	125 l/min	150 ... 230 l/min		315 ... 540 l/min	
Standard nominal flow rate in non-return direction non-actuated	115 l/min	120 ... 220 l/min		310 ... 540 l/min	
Standard flow rate in flow control direction 0.6->0 MPa (6->0 bar, 87->0 psi)	200 l/min	420 l/min		940 l/min	
Standard flow rate in non-return direction 0.6->0 MPa (6->0 bar, 87->0 psi) actuated	210 l/min	400 ... 460 l/min		830 ... 1,000 l/min	
Standard flow rate in non-return direction 0.6->0 MPa (6->0 bar, 87->0 psi) non-actuated	210 l/min	400 ... 460 l/min		840 ... 1,000 l/min	
Corrosion resistance class CRC ¹⁾	2 - Moderate corrosion stress				

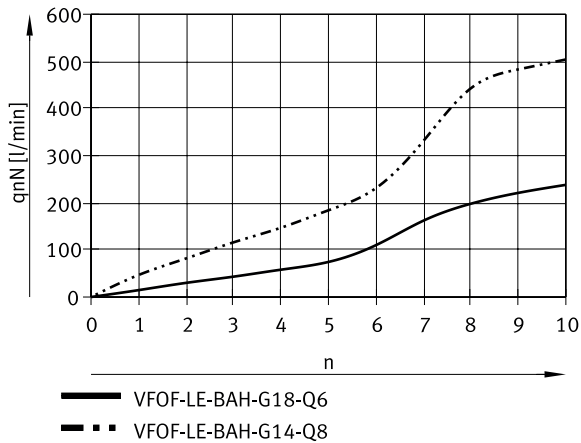
1) More information www.festo.com/x/topic/crc

Pneumatic connection, port 1	QS-4		QS-6		QS-8
Pneumatic connection, port 2	G1/8	QS-4	G1/8	QS-6	G1/4
Product weight	29.2 g	25.1 g	28.6 g	24.6 g	73.9 g

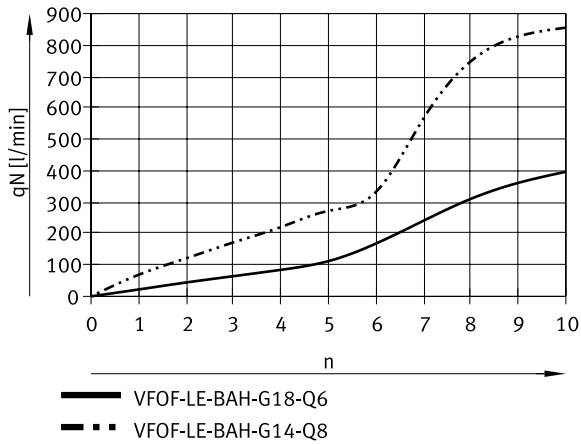
Materials	
Material covering	ES-BE
Material cover	PBT
Material seals	NBR
Material hollow bolt	Wrought aluminium alloy
Material sleeve	Wrought aluminium alloy
Material release ring	POM
Material adjusting screw	Brass
Note on materials	RoHS-compliant
LABS (PWIS) conformity	VDMA24364-B1/B2-L

Datasheet

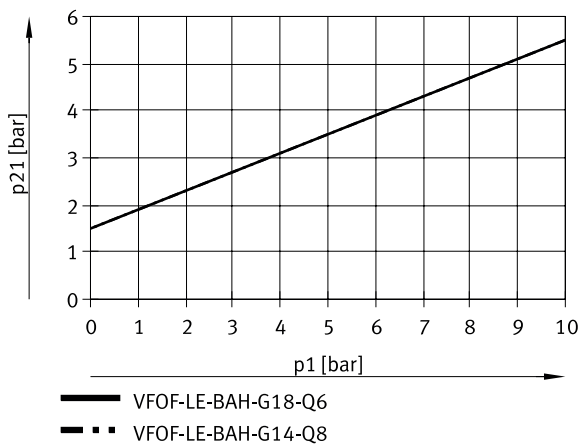
Standard nominal flow rate q_{nN} in flow control direction at 6 → 5 bar as a function of spindle rotations n



Standard flow rate q_n in flow control direction at 6 → 0 bar as a function of spindle rotations n



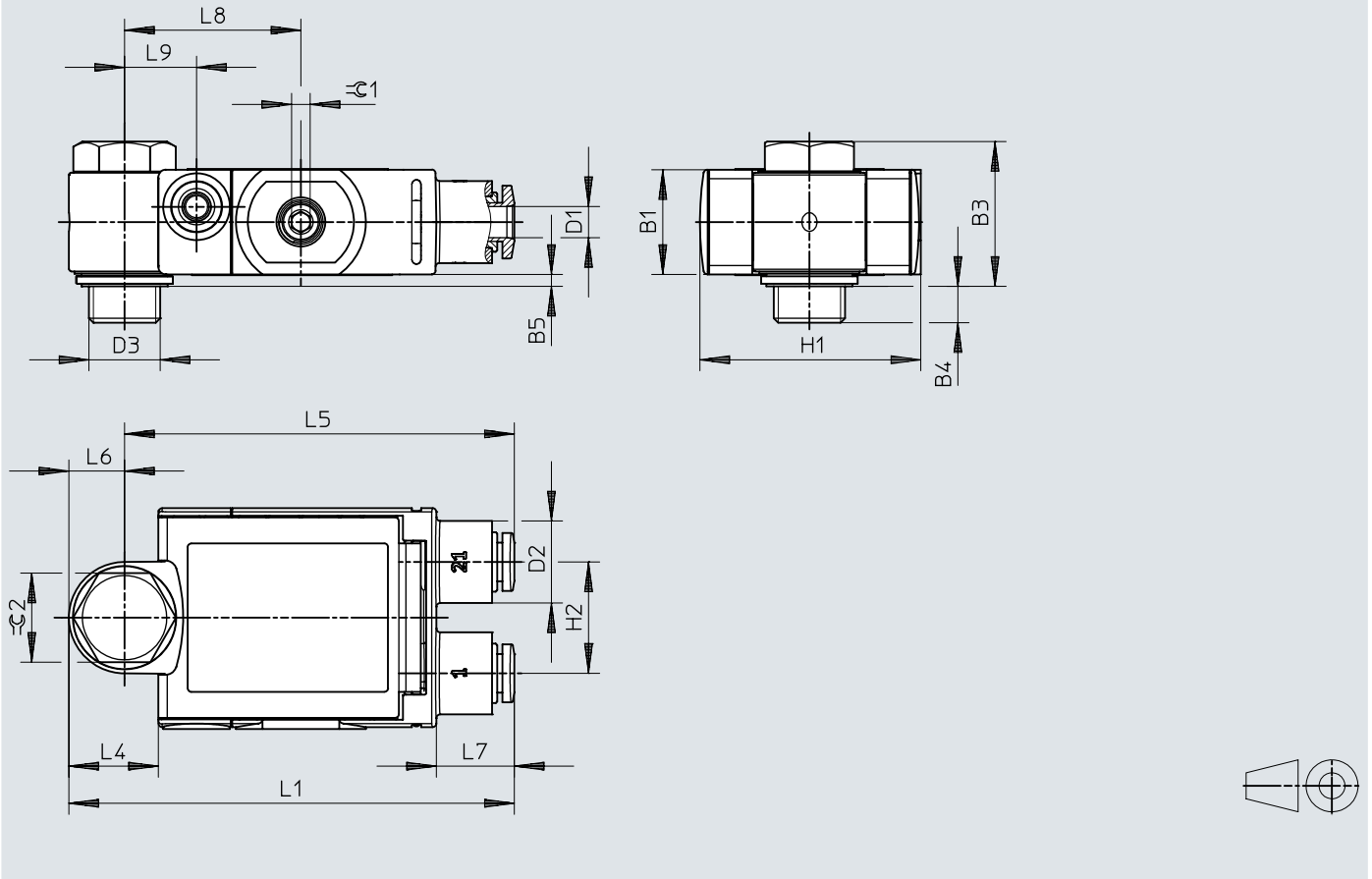
Minimum pilot pressure p_{21} as a function of operating pressure p_1



Dimensions

Dimensions – VFOF (L-shape)

Download CAD data → www.festo.com

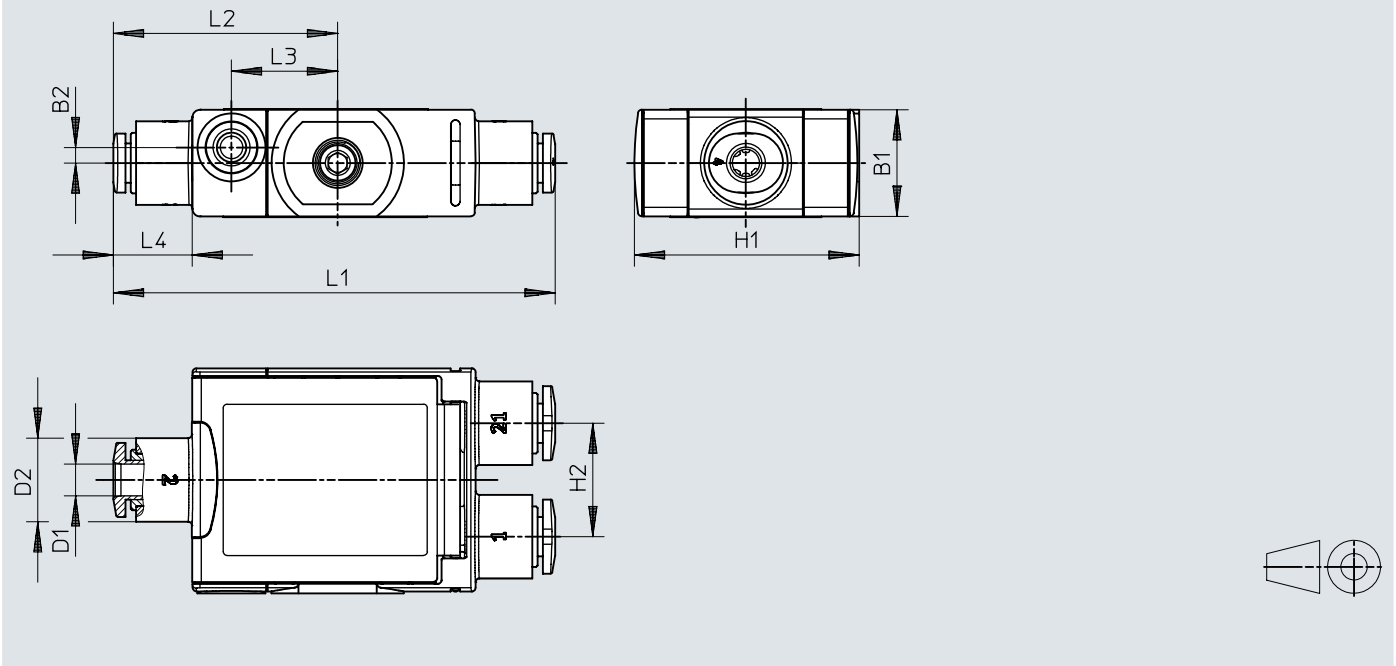


Typ	B1	B2	B4	B5	D1 ∅	D2 ∅	D3	H1	H2	L1	L4	L5	L6	L7	L8	L9	⊙1	⊙2
VFOF-LE-...-G18-Q4	14,1	19,5	4,9	1,6	4,2	11	G1/8	29,8	15	60	12	52,4	7,5	11	23,8	9,7	2,5	12
VFOF-LE-...-G18-Q6	14,1	19,4	5	1,5	6,2	11	G1/8	29,8	15	60,3	12,1	52,8	7,5	10,8	23,8	9,7	2,5	12
VFOF-LE-...-G14-Q8	21	28,2	5,6	2	8,2	15,5	G1/4	39,5	20,5	76,8	15,4	66,8	10	13,8	30	11,1	2,5	15

Dimensions

Dimensions – VFOF (inline)

Download CAD data → www.festo.com

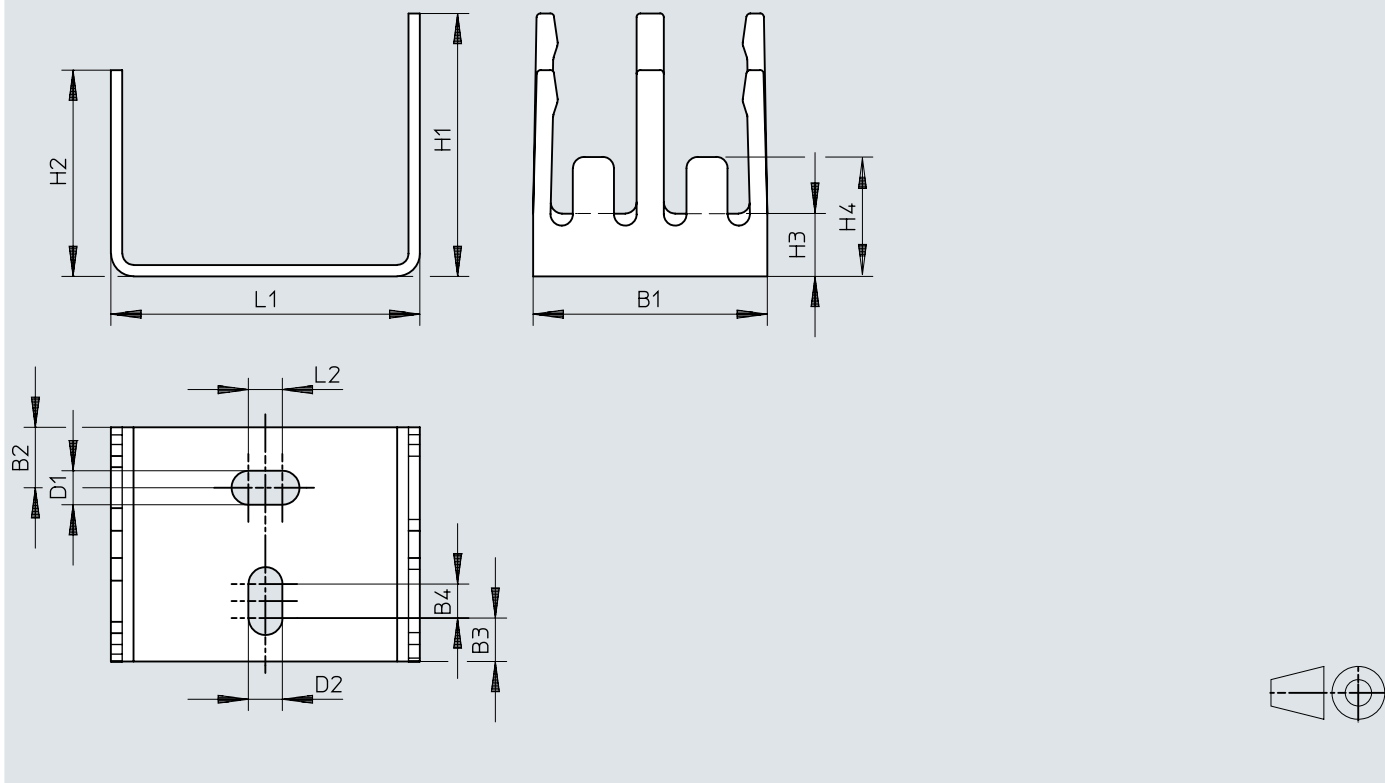


Typ	B1	B2	D1 ∅	D2 ∅	H1	H2	L1	L2	L3	L4
VFOF-CE...-Q4-Q4	14,1	2	4	11	29,8	15	58,4	29,7	~14	10,5
VFOF-CE...-Q6-Q6	14,1	2	6	11	29,8	15	59	29,9	~14	10,8

Dimensions


Dimensions – Retainer VAME (for VFOF inline)


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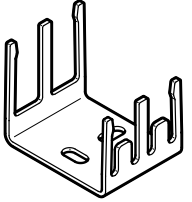
Typ	B1	B2	B3	B4	D1	D2	H1	H2	H3	H4	L1	L2
VAME-F13-Q-2	31	8	5,8	4,5	4,5	4,5	35	27,3	8,3	15,8	41	4,5

Ordering data

Ordering data						
	Pneumatic connection, port 1	Pneumatic connection, port 2	Standard nominal flow rate in flow control direction	Standard nominal flow rate in blocked direction	Part no.	Type
	QS-4	G1/8	240 l/min	120 ... 220 l/min	8193269	VFOF-LE-BAH-G18-Q4
	QS-6				8001459	VFOF-LE-BAH-G18-Q6
	QS-8	G1/4	590 l/min	310 ... 540 l/min	1927030	VFOF-LE-BAH-G14-Q8

Ordering data (Inline)						
	Pneumatic connection, port 1	Pneumatic connection, port 2	Standard nominal flow rate in flow control direction	Standard nominal flow rate in blocked direction	Part no.	Type
	QS-4	QS-4	120 l/min	210 l/min	8193268	VFOF-CE-BAH-Q4-Q4
	QS-6	QS-6	240 l/min	400 ... 460 l/min	8193267	VFOF-CE-BAH-Q6-Q6

Accessories

Retainer VAME (for Inline)				
	Short type code	Product weight	Part no.	Type
	VAME	23.8 g	8193273	VAME-F13-Q-2