

## 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

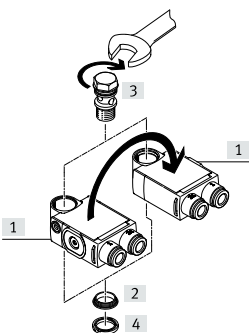
Link [vfof](#)



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

### Design

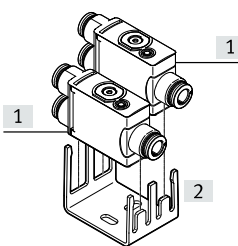
#### [L] L-shape



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



Two housings [1] are compact to mount with retainer VAME [2].

### 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

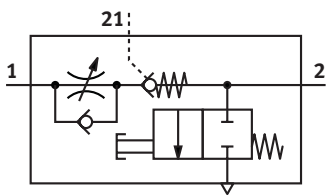
006	Adjusting component
H	Integrated hex
007	Pneumatic connection
G18	G1/8
G14	G1/4
Q4	Push-in connector 4 mm
Q6	Push-in connector 6 mm
008	Pneumatic connection 1
Q4	Push-in connector 4 mm
Q6	Push-in connector 6 mm
Q8	Push-in connector 8 mm

## 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 <sup>1)</sup>	2 - Moderate corrosion stress				

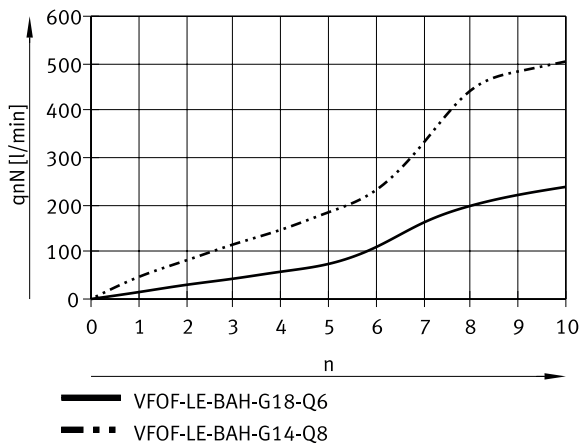
1) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

Product weight					
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

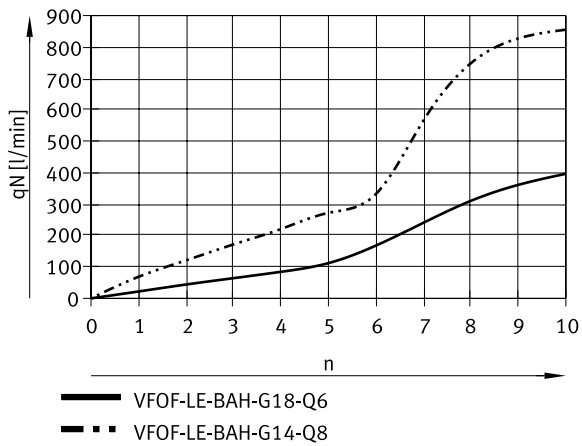
Materials	
Material covering	ES-BE
Material cover	PBT
Material seals	NBR
Material hollow bolt	Wrought aluminium alloy
Material sleeve	Wrought aluminium alloy
Material release ring	POM
Material adjusting screw	Brass
Note on materials	RoHS-compliant
LABS (PWIS) conformity	VDMA24364-B1/B2-L

Datasheet

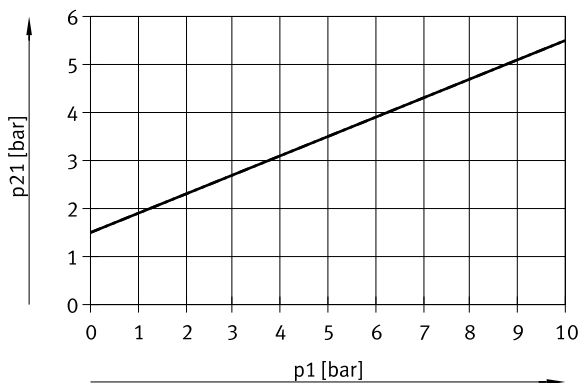
Standard nominal flow rate  $q_{nN}$  in flow control direction at 6 → 5 bar as a function of spindle rotations  $n$



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



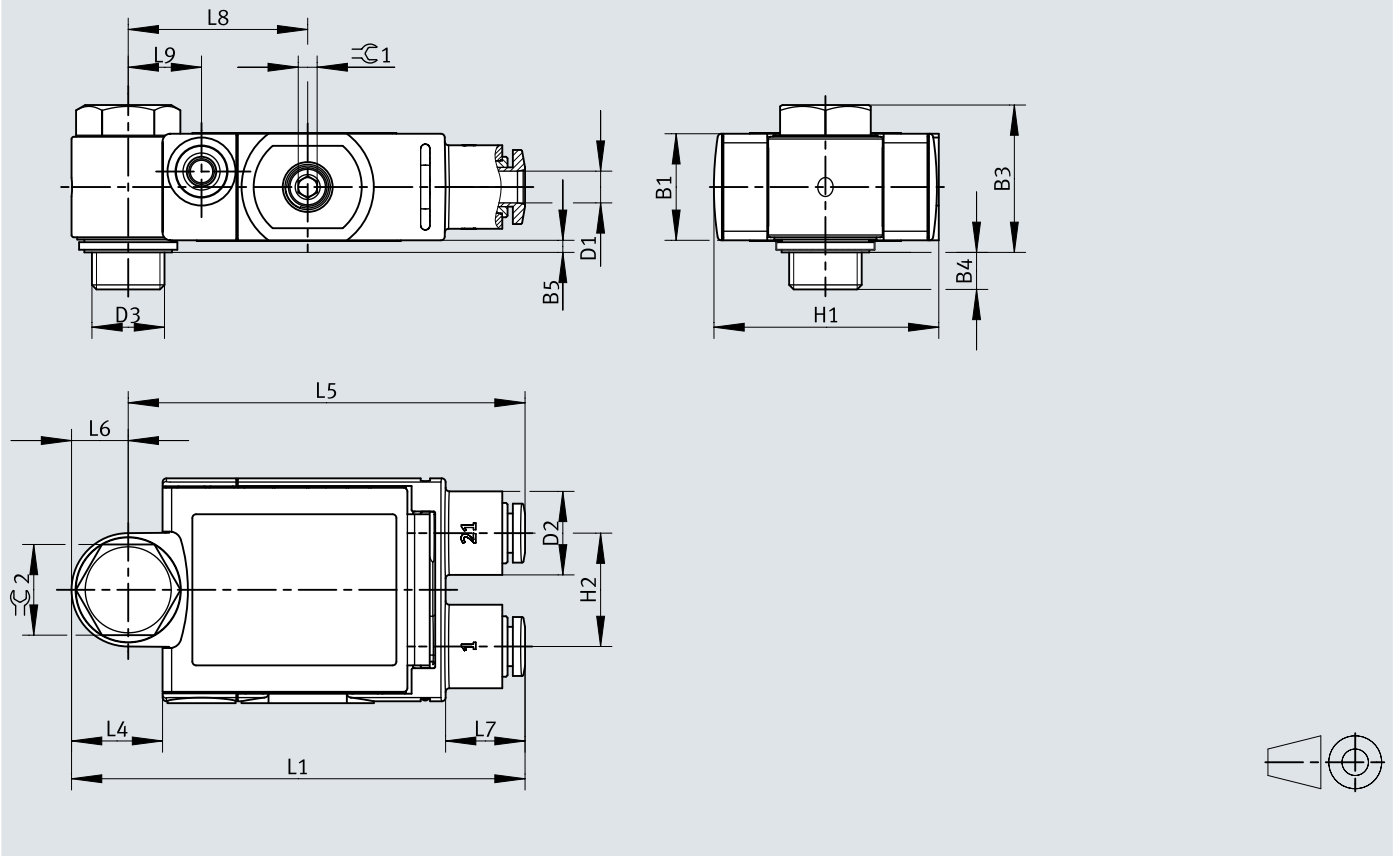
Minimum pilot pressure  $p_{21}$  as a function of operating pressure  $p_1$



## Dimensions

### Dimensions – VFOF (L-shape)

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

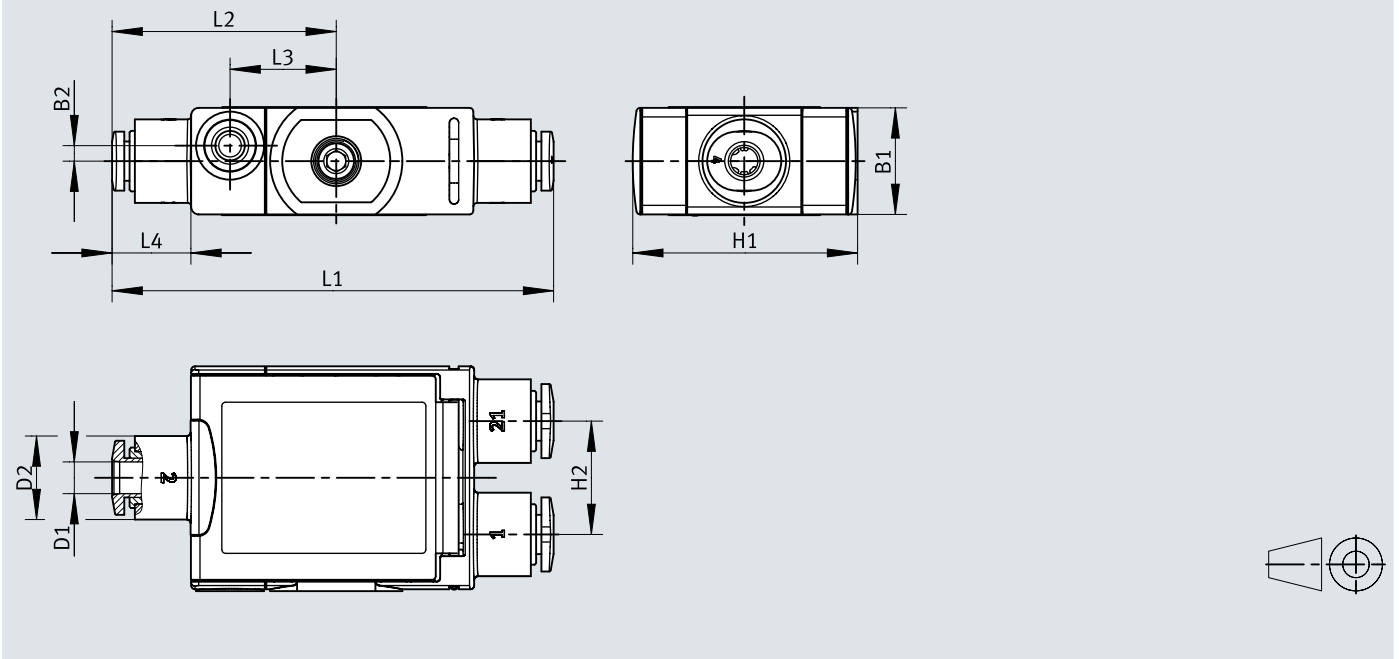


Typ	B1	B2	B4	B5	D1 ø	D2 ø	D3	H1	H2	L1	L4	L5	L6	L7	L8	L9	≈C 1	≈C 2
VFOF-LE-BAH-G18-Q4	14,1	19,5	4,9	1,6	4,2	11	G1/8	29,8	15	59,9	12	52,4	7,5	11	23,8	9,7	2,5	12
VFOF-LE-BAH-G18-Q6	14,1	19,4	5	1,5	6,2	11	G1/8	29,8	15	60,1	12,1	52,6	7,5	10,6	23,8	9,7	2,5	12
VFOF-LE-BAH-G14-Q8	21	28,2	5,6	2	8,2	15,5	G1/4	39,5	20,5	74,3	15,4	64,3	10	11,3	30	11,1	2,5	15

## Dimensions

### Dimensions – VFOF (inline)

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



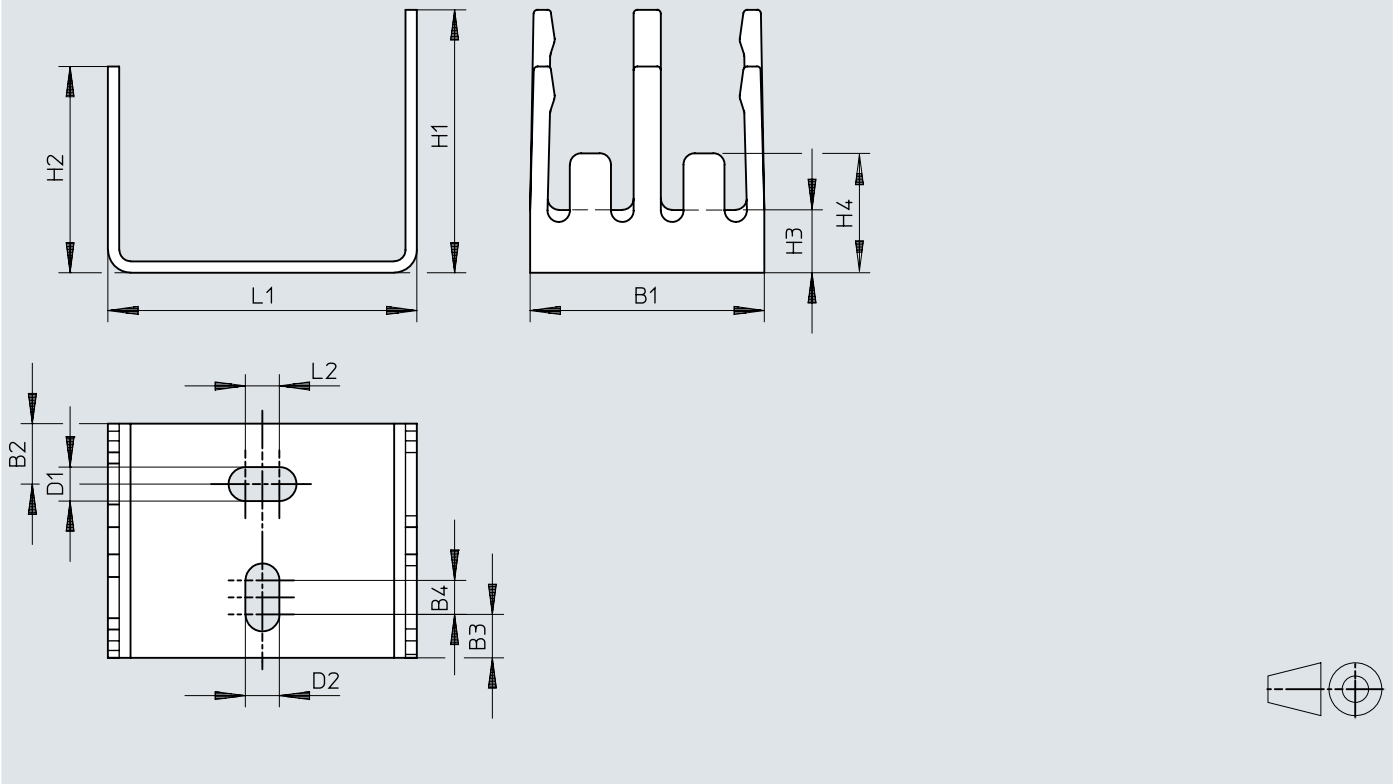
Typ	B1	B2	D1 ∅	D2 ∅	H1	H2	L1	L2	L3	L4
VBNF-CE-BAH-Q4-Q4	14,1	2	4	11	29,8	15	59,4	31,3	~14	12,1
VBNF-CE-BAH-Q6-Q6	14,1	2	6	11	29,8	15	60,3	31,5	~14	12,3



## Dimensions


### Dimensions – Retainer VAME (for VFOF inline)


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




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	<b>8193269</b>	<b>VFOF-LE-BAH-G18-Q4</b>
	QS-6				<b>8001459</b>	<b>VFOF-LE-BAH-G18-Q6</b>
	QS-8	G1/4	590 l/min	310 ... 540 l/min	<b>1927030</b>	<b>VFOF-LE-BAH-G14-Q8</b>

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	<b>8193268</b>	<b>VFOF-CE-BAH-Q4-Q4</b>
	QS-6	QS-6	240 l/min	400 ... 460 l/min	<b>8193267</b>	<b>VFOF-CE-BAH-Q6-Q6</b>

## Accessories

Retainer VAME (for Inline)				
	Short type code	Product weight	Part no.	Type
	VAME	23.55 g	<b>8193273</b>	VAME-F13-Q-2