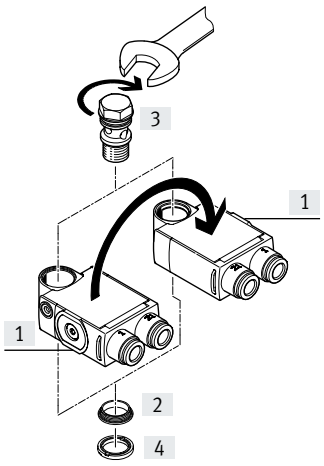
One-way flow control valves VFOF

FESTO

Key features and product range overview

Key features

- Minimal height
- High flow rate
- Can be rotated horizontally by 360° in assembled state
- Universal actuation direction [1] by converting the housing
- More functionality – Function combinations

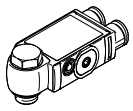


Note

When assembling the individual components, please note the following sequence as follows:

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

Product range overview

Function	Valve function	Version	Type	Pneumatic connection 1	Pneumatic connection 2	qnN[1] [l/min]	Adjusting element	→ Page/ Internet
One-way flow control valves	**Function combination**							
	Exhaust air one-way flow control function		VFOF	QS-6, QS-8	G1/8, G1/4	240 ... 590	Internal hex	3

1) Standard nominal flow rate in flow control direction.

Type codes

001	Series	
VFOF	One-way flow control valve, flat design	

002	Design	
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	

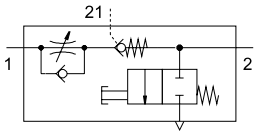
006	Adjusting component	
H	Integrated hex	

007	Pneumatic connection	
G14	G1/4	
G18	G1/8	

008	Pneumatic connection 1	
Q6	Push-in connector 6 mm	
Q8	Push-in connector 8 mm	

Datasheet

One-way flow control function
Exhaust air



- Standard nominal flow rate
  240 ... 590 l/min
- Temperature range
  –10 ... +60°C
- Operating pressure
  0.2 ... 10 bar

The one-way flow control valve VFOF-LE-BAH is a valve with a function combination consisting of an exhaust air one-way flow control function and a piloted non-return function with manual exhaust function.
The exhaust air one-way flow control function is used for manually adjusting the speed at which the piston rod of a pneumatic drive advances/retracts.
The flow control function is realised by an adjustable annular gap in the housing. This gap can be increased or decreased by turning the adjusting screw with internal hex.
The piloted non-return function can be used for a temporary intermediate stop. If a control signal is applied, the exhaust air flow control takes effect.
If no control signal is applied, the valve shuts off the exhaust air from the drive and the drive stops temporarily.
By actuating the integrated manual exhaust function, it is possible to manually exhaust the pneumatic drive.

General technical data				
Valve function			Exhaust air one-way flow control function	
Pneumatic connection 2			G1/8	G1/4
Pneumatic connection 1			QS-6	QS-8
Pilot air port 21			QS-6	QS-8
Adjusting element			Internal hex	
Actuation type			Manual	
Actuation type, piloted non-return function			Pneumatic	
Manual exhaust function			Non-detenting	
Type of mounting			Screw-in	
Mounting position			Any	
Switching time	Off	[ms]	9	11
	On	[ms]	6	8
Nominal tightening torque		[Nm]	6 ±20%	10 ±20%
Permissible actuation torque for adjusting screw		[Nm]	1	
Rotatability		[°]	360 (continuous rotation not permitted)	

Operating and environmental conditions		
Operating pressure	[bar]	0.2 ... 10
Pilot pressure	[bar]	2 ... 10
Operating medium/control medium		Compressed air to ISO 8573-1:2010 [7:4:4]
Note on the operating/pilot medium		Lubricated operation possible (in which case lubrication will always be required)
Ambient temperature	[°C]	–10 ... +60
Temperature of medium	[°C]	–10 ... +60
Storage temperature	[°C]	–20 ... +70
Corrosion resistance class CRC[1)]		2 - Moderate corrosion stress

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

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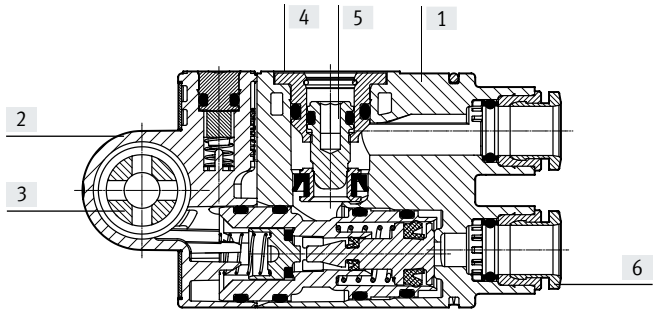
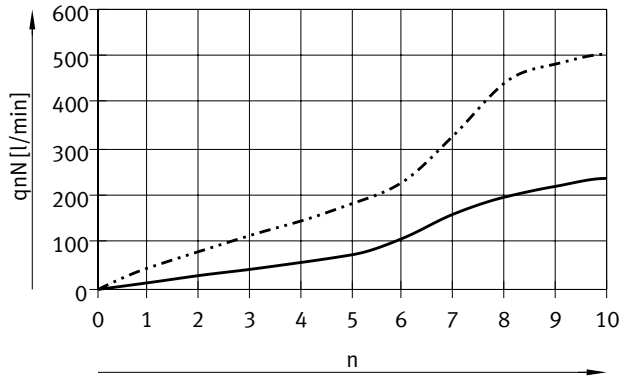
Materials

Sectional view



One-way flow control valve		
[1]	Housing	PBT
[2]	Cover	PBT
[3]	Hollow bolt	Wrought aluminium alloy
[4]	Sleeve	Wrought aluminium alloy
[5]	Adjusting screw	Brass
[6]	Releasing ring	POM
–	Covering	ES-BE
–	Seals	NBR
Note on materials		RoHS-compliant
LABS (PWIS) conformity		VDMA24364-B1/B2-L

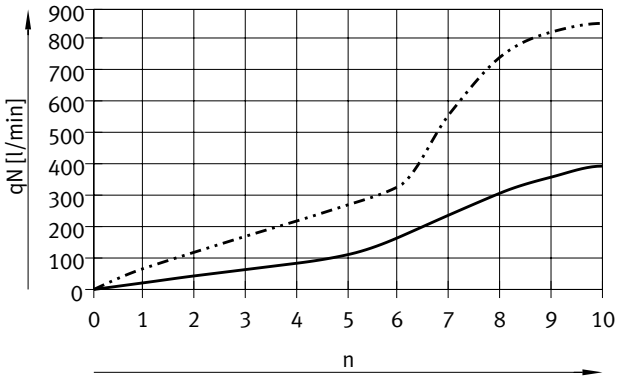
Standard nominal flow rate qnN in flow control direction at 6 > 5 bar as a function of turns of the adjusting screw n



VFOF-...-G18-Q6
VFOF-...-G14-Q8

Flow rate value tolerance: ±20%

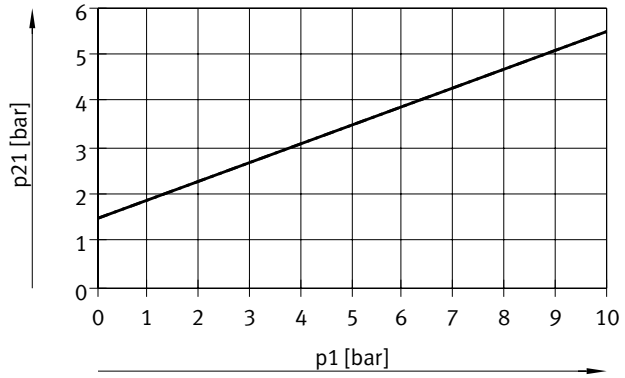
Standard flow rate qn in flow control direction at 6 > 0 bar as a function of turns of the adjusting screw n



VFOF-...-G18-Q6
VFOF-...-G14-Q8

Flow rate value tolerance: ±20%

Minimum pilot pressure p21 as a function of operating pressure p1



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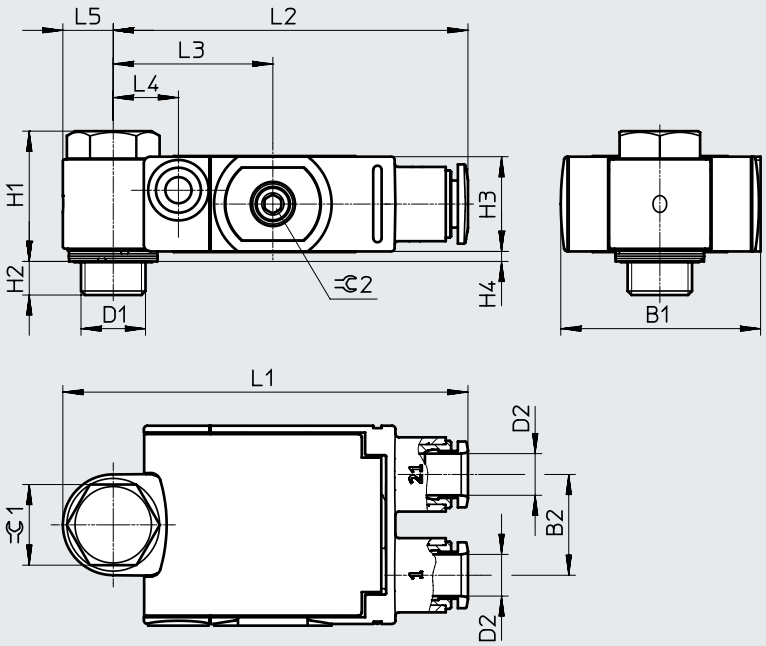
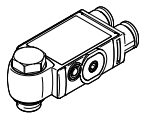
Dimensions Download CAD data ➔ www.festo.com



Type	Connection D1	Tubing O.D. D2	B1	B2	H1	H2	H3	H4	L1	L2	L3	L4	L5	⊂ 1	⊂ 2
VFOF-...-G18-Q6	**G1/8**	QS-6	29.5	15	19.4	5	14.1	1.5	60.3	52.8	23.8	9.7	7.5	12	2.5
VFOF-...-G14-Q8	**G1/4**	QS-8	39.5	20.5	28.2	5.6	21	2	76.8	66.8	30	11.1	10	15	2.5

Ordering data – Exhaust air one-way flow control function

	Pneumatic connection		Pilot air port	Standard nominal flow rate qnN at 6 bar ➔ 5 bar		Standard flow rate qn at 6 bar ➔ 0 bar		Weight	Part no.	Type
				In flow control direction	In non-return direction	In flow control direction	In non-return direction			
	2	1	21	[l/min]	[l/min]	[l/min]	[l/min]	[g]		
	G1/8	QS-6	QS-6	240	150 ... 230 120 ... 220[1)]	420	400 ... 460 400 ... 460[1)]	28.6	**8001459**	**VFOF-LE-BAH-G18-Q6**
	G1/4	QS-8	QS-8	590	315 ... 540 310 ... 540[1)]	940	830 ... 1000 840 ... 1000[1)]	73.9	**1927030**	**VFOF-LE-BAH-G14-Q8**

1) Unactuated