

One-way flow control valves VFOE

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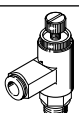
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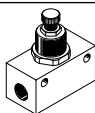
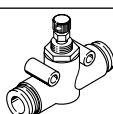
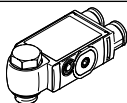
Product range overview – One-way flow control valves

Design	Valve function	Design	Type	Outlet direction of connection	Pneumatic connection 1	Pneumatic connection 2	q _N ¹⁾ [l/min]	Adjusting element	→ Page/ Internet
Standard	Polymer								
	Exhaust air one-way flow control function		VFOE-LE	Elbow outlet	QS-4, QS-6, QS-8	G1/8, R1/8	160 ... 180	Rotary knob with detent	5
			GRLA	Elbow outlet	QS-6, QS-8	G1/8, G1/4, G3/8	520 ... 650	Knurled screw	grla
	Supply air one-way flow control function		VFOE-LS	Elbow outlet	QS-4, QS-6, QS-8	G1/8, R1/8	160 ... 180	Rotary knob with detent	5
	Metal								
	Exhaust air one-way flow control function		GRLA	Elbow outlet	QS-3, QS-4, QS-6, QS-8, QS-10, QS-12	M5, G1/8, G1/4, G3/8, G1/2	100 ... 1580	Slotted head screw	grla
								Knurled screw	
								Slotted head screw	grla
								Knurled screw	grla
	Supply air one-way flow control function		GRLSA	Elbow outlet	QS-6, QS-8	G1/8, G1/4	0 ... 450	Rotary knob with scale, internal hexagon	grlsa
			GRLZ	Elbow outlet	QS-3, QS-4, QS-6, QS-8	M5, G1/8	100 ... 215	Slotted head screw	grlz
								Slotted head screw	
								Knurled screw	grlz
			VFOC-S	Elbow outlet	QS-4, QS-6	Push-in sleeve ²⁾ QS-4, QS-6	0 ... 270	Slotted head screw	vfoc
	Nickel-plated metal								
	Exhaust air one-way flow control function		VFOH-LE	Elbow outlet	QS-4, QS-6, QS-8, QS-10	G1/8, G1/4	180 ... 530	External hex	vfoh

1) Standard nominal flow rate in flow control direction.

2) Only suitable for push-in connector QS.

Product range overview – One-way flow control valves

Design	Valve function	Design	Type	Outlet direction of connection	Pneumatic connection 1	Pneumatic connection 2	q _N ¹⁾ [l/min]	Adjusting element	→ Page/ Internet
Mini	Metal								
	Exhaust air one-way flow control function		GRLA	Elbow outlet	QS-3, QS-4	M3, M5	40 ... 41	Slotted head screw	grla
					M3	M3	0 ... 18	Slotted head screw	grla
	Supply air one-way flow control function		GRLZ	Elbow outlet	QS-3, QS-4	M3, M5	41 ... 48	Slotted head screw	grlz
					M3	M3	0 ... 18	Slotted head screw	grlz
	In-line installation	Metal							
One-way flow control function			GR/GRA	Straight	M3, M5, G1/8, G1/4, G3/8, G1/2, G3/4	M3, M5, G1/8, G1/4, G3/8, G1/2, G3/4	29.5 ... 3300	Knurled screw	gr
Polymer									
One-way flow control function			GR	Straight	QS-3, QS-4, QS-6, QS-8	QS-3, QS-4, QS-6, QS-8	85 ... 265	Knurled screw	gr
Corrosion-resistant	Stainless steel								
	Exhaust air one-way flow control function		CRGRLA	Elbow outlet	M5, G1/8, G1/4, G3/8, G1/2	M5, G1/8, G1/4, G3/8, G1/2	95 ... 2100	Slotted head screw	crgrla
Function combination	Polymer								
	Exhaust air one-way flow control function		VFOF	Elbow outlet	QS-6, QS-8	G1/8, G1/4	240 ... 590	Internal hex	vfof

1) Standard nominal flow rate in flow control direction.

Key features

Which fitting fits which thread?

Metric thread

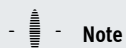
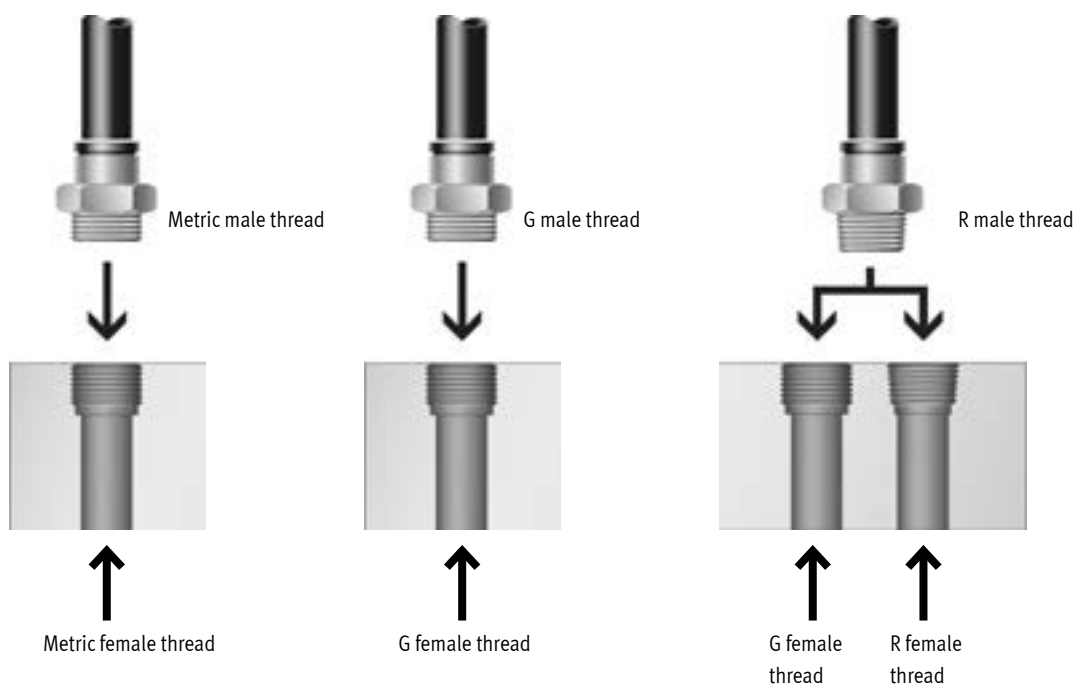
- Threads are comparable with G threads and are fitted as cylindrical metric thread
- The seal is guaranteed by a replaceable sealing ring.

G thread to ISO 228-1

- Shorter thread
- Consistent installation depth
- Replaceable sealing ring
- Sealing on the front
- Can be re-used a number of times thanks to replaceable sealing ring.

R thread to EN 10226-1 and ISO 7/1

- Self-sealing thread
- Sealing via coated threads
- No additional sealing surface required
- Smaller installation dimensions since there is no need for an offset for the sealing surface
- Can be reused up to 5 times
- Remove loose sealant remnants.



Note

Contact between the assembly tool and the housing should be avoided during assembly.



Note

When re-installing the one-way flow control valves with R thread, we recommend additionally using sealing band.

Type codes

001	Series	
VFOE	One-way flow control valve	
002	Design	
L	L-shape	
003	Function	
E	One-way flow control valve for exhaust air	
S	One-way flow control valve for supply air	
004	Adjusting component	
T	Rotary knob with detent	

005	Pneumatic connection 2	
M5	M5	
M7	M7	
G18	G1/8	
G14	G1/4	
G38	G3/8	
G12	G1/2	
R18	R1/8	
R14	R1/4	
R38	R3/8	
R12	R1/2	

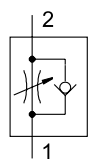
006	Pneumatic connection 1	
Q4	Push-in connector 4 mm	
Q6	Push-in connector 6 mm	
Q8	Push-in connector 8 mm	
Q10	Push-in connector 10 mm	
Q12	Push-in connector 12 mm	

007	Package unit	
	Standard	
P20	20	
P50	50	

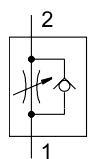
Technical data

One-way flow control function

Exhaust air



Supply air



-  - Flow rate
82 ... 1300 l/min
-  - Temperature range
-10 ... +60°C
-  - Operating pressure
0.02 ... 1 MPa



General technical data – VFOE-LE

Pneumatic connection 2	G1/8	R1/8
Valve function	Exhaust air one-way flow control function	
Pneumatic connection 1	QS-4, QS-6, QS-8	
Actuation type	Manual	
Mounting position	Any	
Adjusting element	Rotary knob with detent, colour: blue	
Type of mounting	Screw-in	
Suitability for re-installation	max.	5
Rotatability	Can be rotated 360° around the screw-in axis after mounting / not permitted for continuous rotation	
Nominal tightening torque	[Nm]	Hand-tight + 1 to 2 revolutions
Max. tightening torque	[Nm]	–
Product weight	[g]	9.5

General technical data – VFOE-LS

Pneumatic connection 2	G1/8	R1/8
Valve function	Supply air one-way flow control function	
Pneumatic connection 1	QS-4, QS-6, QS-8	
Actuation type	Manual	
Mounting position	Any	
Adjusting element	Rotary knob with detent, colour: light blue	
Type of mounting	Screw-in	
Suitability for re-installation	max.	5
Rotatability	Can be rotated 360° around the screw-in axis after mounting / not permitted for continuous rotation	
Nominal tightening torque	[Nm]	Hand-tight + 1 to 2 revolutions
Max. tightening torque	[Nm]	–
Product weight	[g]	9.5

Operating and environmental conditions

Operating pressure for complete temperature range	[MPa]	0.02 ... 1
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]	
Note on the operating/pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)	
Ambient temperature	[°C]	–10 ... +60
Temperature of medium	[°C]	–10 ... +60
Storage temperature	[°C]	–10 ... +40

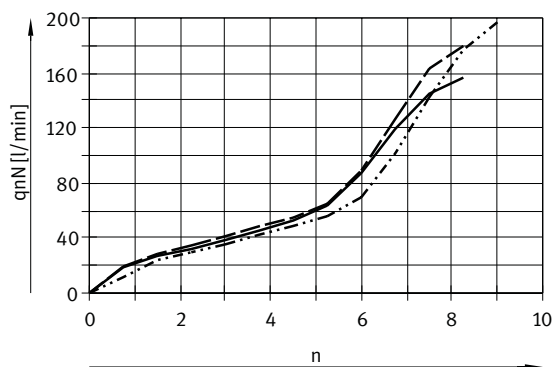
Materials

Housing	PBT
Cover, releasing ring	POM
Threaded bolt	Galvanised steel
Static seals	NBR
Dynamic seals	HNBR
Note on materials	RoHS II-compliant

Technical data

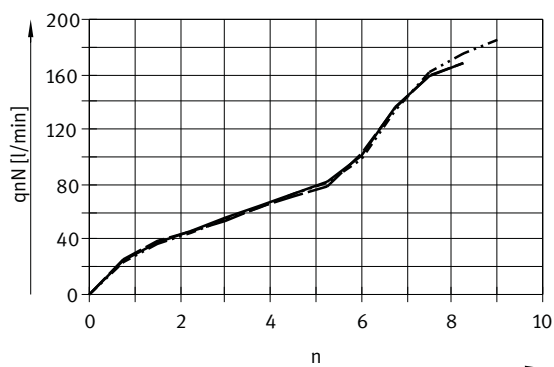
Standard nominal flow rate q_{nN} at 0.6 → 0.5 MPa as a function of spindle rotations n

Threaded connection G1/8, R1/8 (exhaust)



- Push-in connector 4 mm
- Push-in connector 6 mm
- - - Push-in connector 8 mm

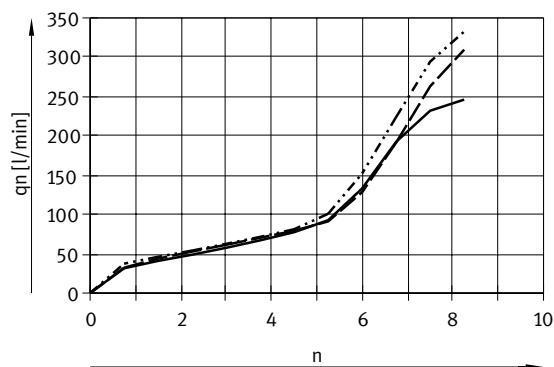
Threaded connection G1/8, R1/8 (supply air)



- Push-in connector 4 mm
- Push-in connector 6 mm
- - - Push-in connector 8 mm

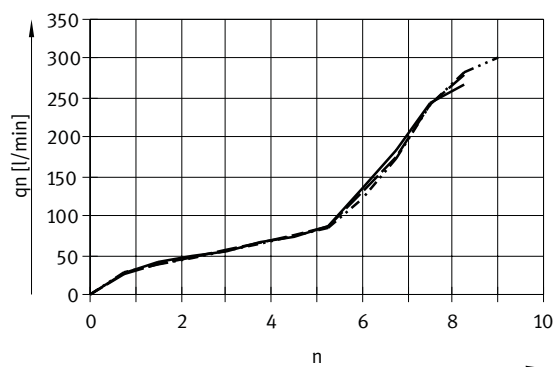
Standard flow rate q_n at 0.6 MPa as a function of spindle rotations n

Threaded connection G1/8, R1/8 (exhaust)



- Push-in connector 4 mm
- Push-in connector 6 mm
- - - Push-in connector 8 mm

Threaded connection G1/8, R1/8 (supply air)



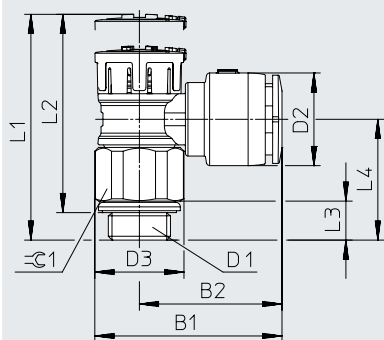
- Push-in connector 4 mm
- Push-in connector 6 mm
- - - Push-in connector 8 mm

Technical data

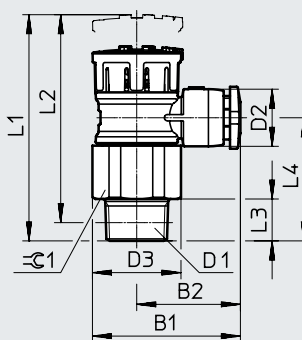
Dimensions

Download CAD data → www.festo.com

VFOE-...-M../G..



VFOE-...-R..



Type	B1	B2	D1	D2 ø	D3 ø	L1		L2		L3	L4	1
						Unlocked	Locked	Unlocked	Locked			
VFOE-LE-T-G18-Q4	23.3	16.3	G1/8	9	14	31.7	30.3	27.4	26	6.1	18.9	13
VFOE-LS-T-G18-Q4												
VFOE-LE-T-G18-Q6	24.4	17.4	G1/8	11	14	31.7	30.3	27.4	26	6.1	18.9	13
VFOE-LS-T-G18-Q6												
VFOE-LE-T-G18-Q8	29.3	22.3	G1/8	14.5	14	31.7	30.3	27.4	26	6.1	18.9	13
VFOE-LS-T-G18-Q8												
VFOE-LE-T-R18-Q4	23.3	16.3	R1/8	9	14	32.2	30.8	29.2	27.8	6.6	19.4	13
VFOE-LS-T-R18-Q4												
VFOE-LE-T-R18-Q6	24.4	17.4	R1/8	11	14	32.2	30.8	29.2	27.8	6.6	19.4	13
VFOE-LS-T-R18-Q6												
VFOE-LE-T-R18-Q8	29.3	22.3	R1/8	14.5	14	32.2	30.8	29.2	27.8	6.6	19.4	13
VFOE-LS-T-R18-Q8												

Technical data

★ Core Range

Ordering data		Standard nominal flow rate qnN At 0.6 MPa → 0.5 MPa		Standard flow rate qn At 0.6 MPa → 0 MPa		Weight	Part No.	Type	PU ¹⁾	
Pneumatic connection		In flow control direction	In non-return direction	In flow control direction	In non-return direction					
2	1	[l/min]	[l/min]	[l/min]	[l/min]	[g]				
Exhaust air one-way flow control function										
G1/8	QS-4	160	90 ... 150	250	240 ... 300	9.5	★ 8068725	VFOE-LE-T-G18-Q4	1	
	QS-6	170	110 ... 200	280	300 ... 360		★ 8068726	VFOE-LE-T-G18-Q6	1	
	QS-8	180	130 ... 200	310	320 ... 390		★ 8095433	VFOE-LE-T-G18-Q6-P50	50	
							★ 8068727	VFOE-LE-T-G18-Q8	1	
R1/8	QS-4	160	90 ... 150	250	240 ... 300	9.5	★ 8068734	VFOE-LE-T-R18-Q4	1	
	QS-6	170	110 ... 200	280	300 ... 360		★ 8068735	VFOE-LE-T-R18-Q6	1	
	QS-8	180	130 ... 200	310	320 ... 390		★ 8068736	VFOE-LE-T-R18-Q8	1	
Supply air one-way flow control function										
G1/8	QS-4	160	90 ... 150	250	240 ... 300	9.5	★ 8068747	VFOE-LS-T-G18-Q4	1	
	QS-6	170	110 ... 200	280	300 ... 360		★ 8068748	VFOE-LS-T-G18-Q6	1	
	QS-8	180	130 ... 200	310	320 ... 390		★ 8068749	VFOE-LS-T-G18-Q8	1	
	R1/8	QS-4	160	90 ... 150	250		240 ... 300	9.5	★ 8068750	VFOE-LS-T-R18-Q4
QS-6		170	110 ... 200	280	300 ... 360	★ 8068751	VFOE-LS-T-R18-Q6		1	
QS-8		180	130 ... 200	310	320 ... 390		★ 8068752		VFOE-LS-T-R18-Q8	1

1) Packaging unit