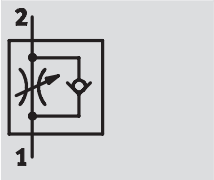
Flow control valves and one-way flow control valves

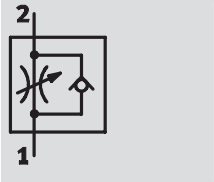
Technical data – Standard flow control valve with QS push-in connector, series D

FESTO

Function



One-way flow control valve
for exhaust air
GRLA/GRXA



One-way flow control valve
for supply air
GRLZ

- Low flow: Precision adjustment for low speed
- QS push-in connector
- Swivel joint rotatable 360° after installation

Variants:
- Adjustment with slotted head or knurled screw
- Swivel joint, elbow outlet
- Swivel joint, parallel outlet

GRL...-QS-...-D | GRL...-QS-...-RS-D | GRXA-...-QS-...D

General technical data

Screw-in thread			M5	G1⁄8	G1⁄4	G3⁄8	G1⁄2
Valve function	GRLA/GRXA		One-way flow control function for exhaust air				
	GRLZ		One-way flow control function for supply air				
Setting component			Slotted heard or knurled screw				
Type of mounting			Can be screwed in				
Assembly position			Any				
Special features	GRLA/GRLZ		Freely rotatable around the screw-in axis after installation				
	GRXA		Swivel joint, freely rotatable			–	–
Max. tightening torque	GRL...-D	[Nm]	1.5	5.5	11	20	40

Operating and environmental conditions

Screw-in thread		M5	G1⁄8	G1⁄4	G3⁄8	G1⁄2
Operating medium		Dried air, lubricated or unlubricated, grade of filtration 40µm				
Operating pressure	[bar]	0.2 ... 10				
Storage temperature	[°C]	–10 ... +40				
Ambient temperature	[°C]	–10 ... +60				
Temperature of medium	[°C]	–10 ... +60				

Weights [g]

Screw-in thread		M5	G1⁄8	G1⁄4	G3⁄8	G1⁄2
	GRL...-D	13	22	42	60	106
	GRXA-...-D	–	16	26	47	–
	GRLA-...-MF-D	–	32	–	–	–
	GRLA-...-RS-D	14	23	30	40	–
	GRLA-...-RS-QS...D	–	24	50	72	124
	GRLA-...-RS-QS...MF-D	–	40	–	–	–

Flow control valves and one-way flow control valves

Technical data – Standard flow control valve with QS push-in connector, series D

Standard nominal flow rate qnN [l/min] at 6 bar ⇢ 5 bar								
Screw-in thread			M5	G1⁄8		G1⁄4	G3⁄8	G1⁄2
One-way flow control function for exhaust air								
Flow rate characteristic			LF	MF	LF	LF	LF	LF
GRLA-/GRXA- ... -D	QS-3	D[1]	0 ... 100	–	0 ... 130	–	–	–
		R[2]	60 ... 100	–	100 ... 130	–	–	–
	QS-4	D	0 ... 100	–	0 ... 160	–	–	–
		R	65 ... 110	–	120 ... 190	–	–	–
	QS-6	D	0 ... 115	0 ... 400	0 ... 185	0 ... 400	0 ... 495	–
		R	70 ... 110	290 ... 420	160 ... 240	290 ... 420	320 ... 495	–
	QS-8	D	–	0 ... 475	0 ... 215	0 ... 475	0 ... 820	–
		R	–	325 ... 500	175 ... 250	325 ... 500	450 ... 850	–
	QS-10	D	–	–	–	0 ... 480	0 ... 900	–
		R	–	–	–	345 ... 500	540 ... 975	–
	QS-12	D	–	–	–	–	–	0 ... 1,580
		R	–	–	–	–	–	925 ... 1,605
One-way flow control function for supply air								
GRLZ-...-D	QS-3	D	0 ... 100	–	0 ... 130	–	–	–
		R	60 ... 100	–	100 ... 130	–	–	–
	QS-4	D	0 ... 100	–	0 ... 160	–	–	–
		R	65 ... 110	–	120 ... 190	–	–	–
	QS-6	D	0 ... 115	–	0 ... 185	–	–	–
		R	70 ... 110	–	160 ... 240	–	–	–
	QS-8	D	–	–	0 ... 215	–	–	–
		R	–	–	175 ... 250	–	–	–

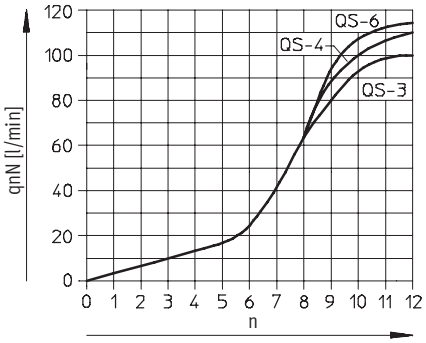
1) D: Flow control direction
2) R: Non-return direction

Standard flow rate qn [l/min] at 6 bar ⇢ 0 bar								
Screw-in thread			M5	G1⁄8		G1⁄4	G3⁄8	G1⁄2
One-way flow control function for exhaust air								
Flow rate characteristic			LF	MF	LF	LF	LF	LF
GRLA-/GRXA- ... -D	QS-3	D[1]	0 ... 145		0 ... 180	–	–	–
		R[2]	150 ... 170		200 ... 220	–	–	–
	QS-4	D	0 ... 165		0 ... 250	–	–	–
		R	140 ... 160		270 ... 300	–	–	–
	QS-6	D	0 ... 185	0 ... 600	0 ... 370	0 ... 600	0 ... 740	–
		R	145 ... 170	570 ... 680	330 ... 390	570 ... 680	840 ... 890	–
	QS-8	D	–	0 ... 720	0 ... 400	0 ... 720	0 ... 1,300	–
		R	–	610 ... 760	330 ... 410	610 ... 760	1,080 ... 1,420	–
	QS-10	D	–		–	0 ... 760	0 ... 1,400	–
		R	–		–	630 ... 790	1,160 ... 1,620	–
	QS-12	D	–		–	–	–	0 ... 2,220
		R	–		–	–	–	1,910 ... 2,500
One-way flow control function for supply air								
GRLZ-...-D	QS-3	D	0 ... 135		0 ... 200	–	–	–
		R	130 ... 160		180 ... 200	–	–	–
	QS-4	D	0 ... 160		0 ... 300	–	–	–
		R	150 ... 180		260 ... 290	–	–	–
	QS-6	D	0 ... 170		0 ... 340	–	–	–
		R	160 ... 200		390 ... 460	–	–	–
	QS-8	D	–		0 ... 370	–	–	–
		R	–		390 ...470	–	–	–

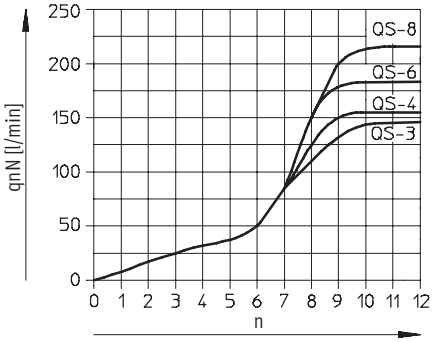
1) D: Flow control direction
2) R: Non-return direction

Standard nominal flow rate qnN [l/min] at 6 bar ⇢ 5 bar as a function of turns of the adjusting screw n

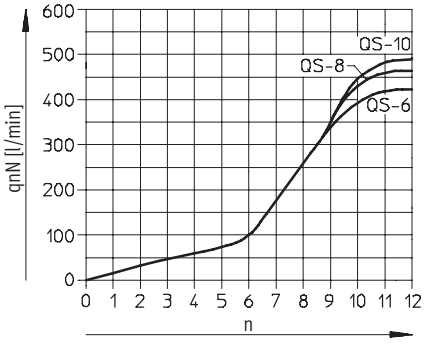
Screw-in thread M5



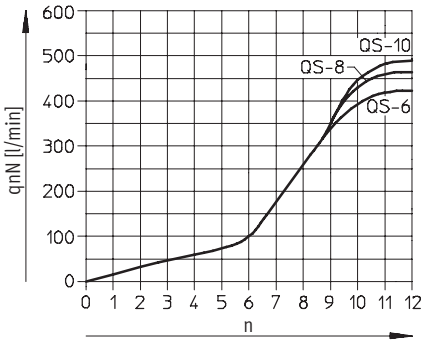
Screw-in thread G⅛



Screw-in thread G⅛ with flow rate MF

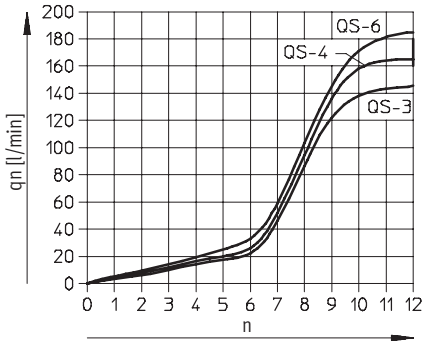


Screw-in thread G¼

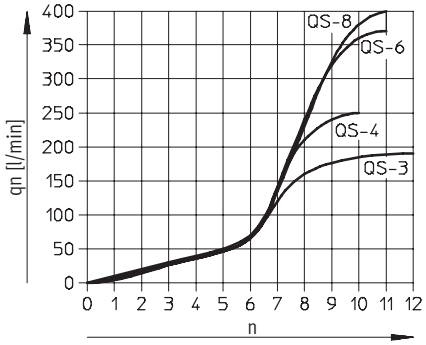


Standard flow rate qn at 6 bar ⇢ 0 bar as a function of turns of the adjusting screw n

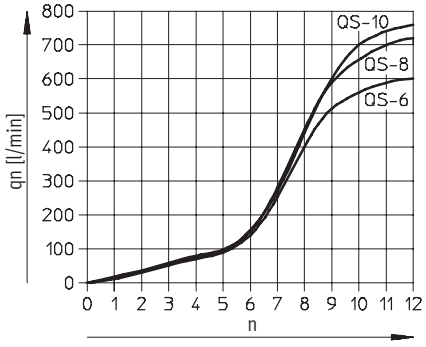
Screw-in thread M5



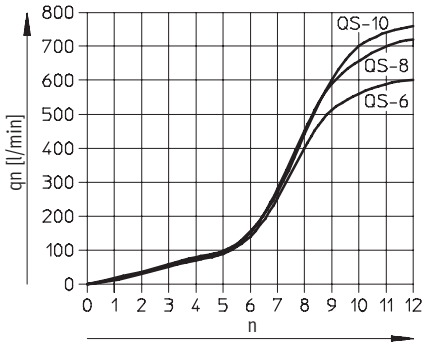
Screw-in thread G⅛



Screw-in thread G⅛ with flow rate MF



Screw-in thread G¼

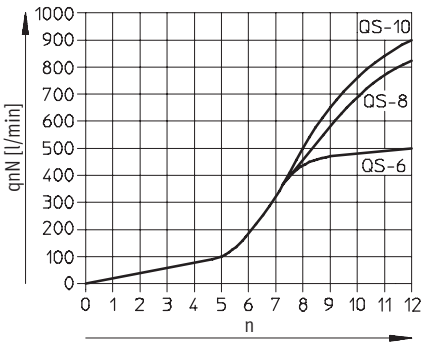


Flow control valves and one-way flow control valves

Technical data – Standard flow control valve with QS push-in connector, series D

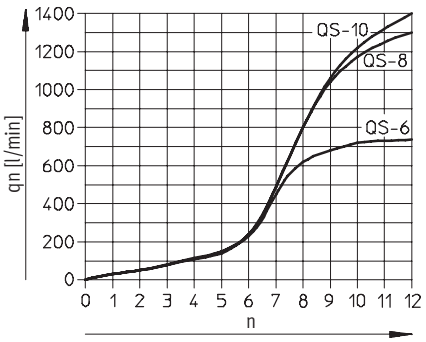
Standard nominal flow rate qnN [l/min] at 6 bar ⇢ 5 bar as a function of turns of the adjusting screw n

Screw-in thread G3/8

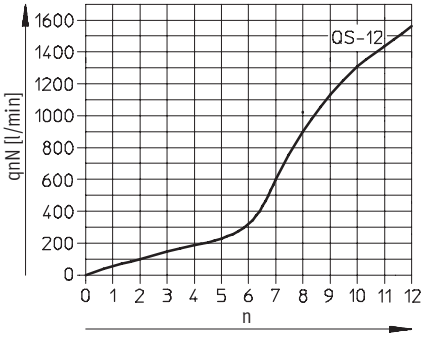


Standard flow rate qn at 6 bar ⇢ 0 bar as a function of turns of the adjusting screw n

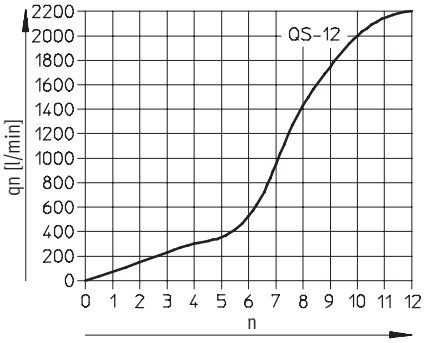
Screw-in thread G3/8



Screw-in thread G1/2

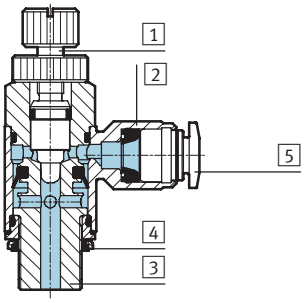


Screw-in thread G1/2



Materials

Sectional view



Flow control valve		
1	Regulating screw	Stainless steel
2	Swivel joint	Die-cast zinc
3	Threaded collar	Wrought aluminium alloy (M5: nickel-plated brass)
4	Seal	Nitrile rubber
5	Release ring	Polyacetal
	Material note	Free of copper, PTFE and silicone