Throttle valve, inline installation GRO



Characteristics

At a glance



Bidirectional flow valve for line installation.

- Flow control valve, throttling at both ends
- Inline flow control without non-return function
- Polymer or metal design

Type code

001	Series	
GRO	Needle valve, inline integration	
Y	Y-connectors	

002	Pneumatic connection 1	
G1/8	External thread G1/8	
G1/4	External thread G1/4	
M5	External thread M5	
PK-3	CK connection 3 mm	
QS-3	Push-in connector, 3 mm	
QS-4	Push-in connector, 4 mm	
QS-6	Push-in connector, 6 mm	

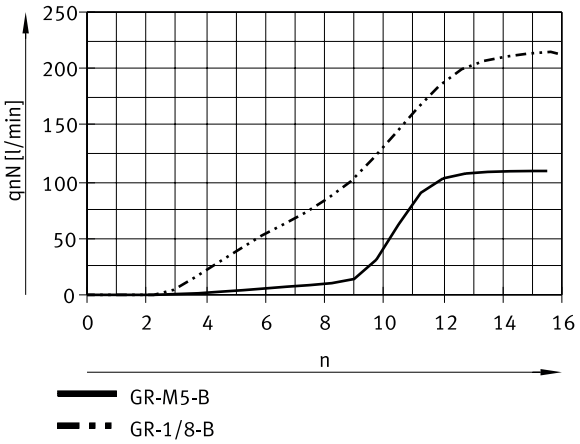
003	Generation	
	Without	
B	Series B	
D	Series D	

Datasheet

Technical data – Internal thread, metal			
Pneumatic connection 1	M5	G1/8	G1/4
Pneumatic connection 2	M5	G1/8	G1/4
Valve function	Flow control function		
Adjusting element	Knurled screw		
Type of mounting	Alternatively: Front panel mounting With through-hole		In-line installation
Mounting position	Any		
Operating pressure	0 ... 10 bar		
Operating medium	Compressed air as per ISO 8573-1:2010 [7:4:4]		
Information on operating and pilot media	Operation with oil lubrication possible (required for further use)		
Standard nominal flow rate in flow control direction	105 l/min	210 l/min	350 l/min
Ambient temperature	-20 ... 60°C		
Temperature of medium	-20 ... 60°C		
Corrosion resistance class (CRC) [1]	0 - No corrosion stress		2 - Moderate corrosion stress
Material of adjusting screw	High-alloy steel		Steel, Galvanized
Housing material	Wrought aluminum alloy		
Nut material	Wrought aluminum alloy		–
Seals material	NBR		
Note on materials	RoHS compliant		
LABS (PWIS) conformity	VDMA24364-B1/B2-L		

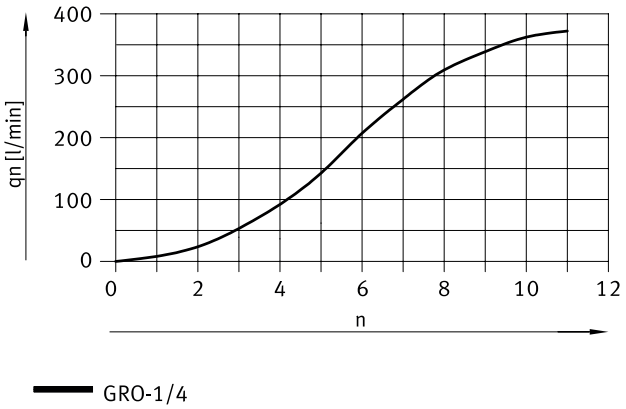
1) Further information, visit www.festo.com/x/topic/kbk

Standard nominal flow rate qnN at 6 → 5 bar as a function of spindle rotations n (GRO-M5-B, GRO-1/8-B)



Datasheet

Standard nominal flow rate qnN at 6 → 5 bar as a function of spindle rotations n (GRO-1/4)



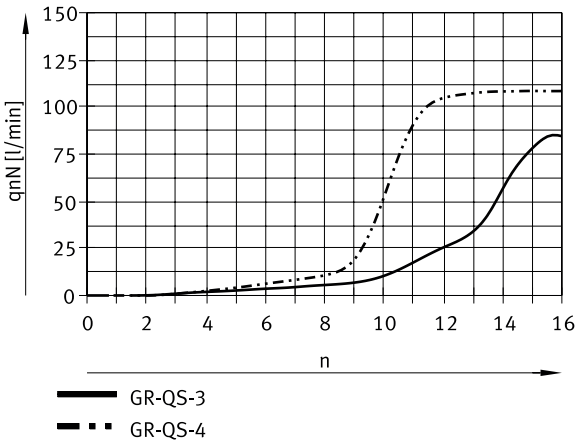
Technical data – Push-in connector QS, polymer

Pneumatic connection 1	QS-3	QS-4	QS-6
Pneumatic connection 2	QS-3	QS-4	QS-6
Valve function	Flow control function		
Adjusting element	Knurled screw		
Type of mounting	Alternatively: Front panel mounting With through-hole With accessories		
Mounting position	Any		
Operating pressure	0 ... 10 bar		
Operating medium	Compressed air as per ISO 8573-1:2010 [7:4:4]		
Information on operating and pilot media	Operation with oil lubrication possible (required for further use)		
Standard nominal flow rate in flow control direction	85 l/min	110 l/min	245 l/min
Ambient temperature	-10 ... 60°C		
Temperature of medium	-10 ... 60°C		
Corrosion resistance class (CRC) [1]	0 - No corrosion stress		
Material of adjusting screw	High-alloy steel		
Housing material	PA-reinforced		
Releasing ring material	POM		
Seals material	NBR		
Note on materials	RoHS compliant		
LABS (PWIS) conformity	VDMA24364-B1/B2-L		

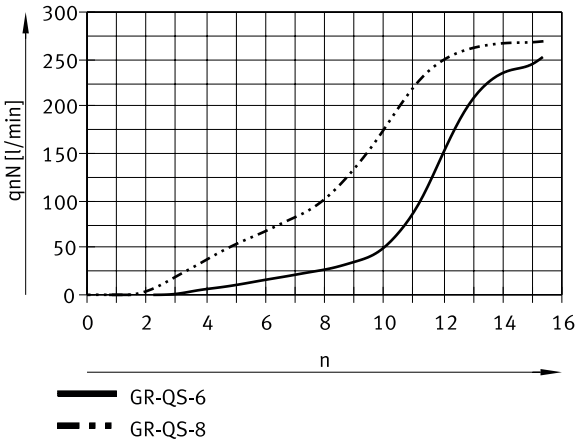
1) Further information, visit www.festo.com/x/topic/kbk

Datasheet

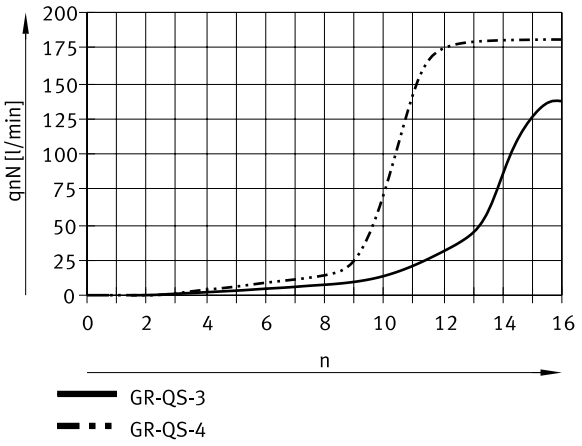
Standard nominal flow rate qnN at 6 → 5 bar as a function of spindle rotations n (GRO-QS-3, GRO-QS-4)



Standard nominal flow rate qnN at 6 → 5 bar as a function of spindle rotations n (GRO-QS-6)

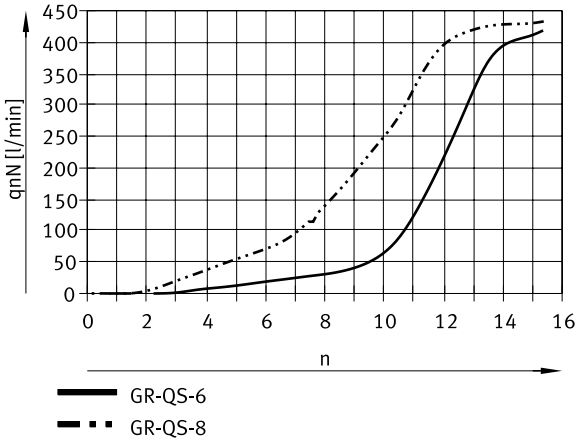


Standard flow rate qn at 6 → 0 bar as a function of spindle rotations n (GRO-QS-3, GRO-QS-4)



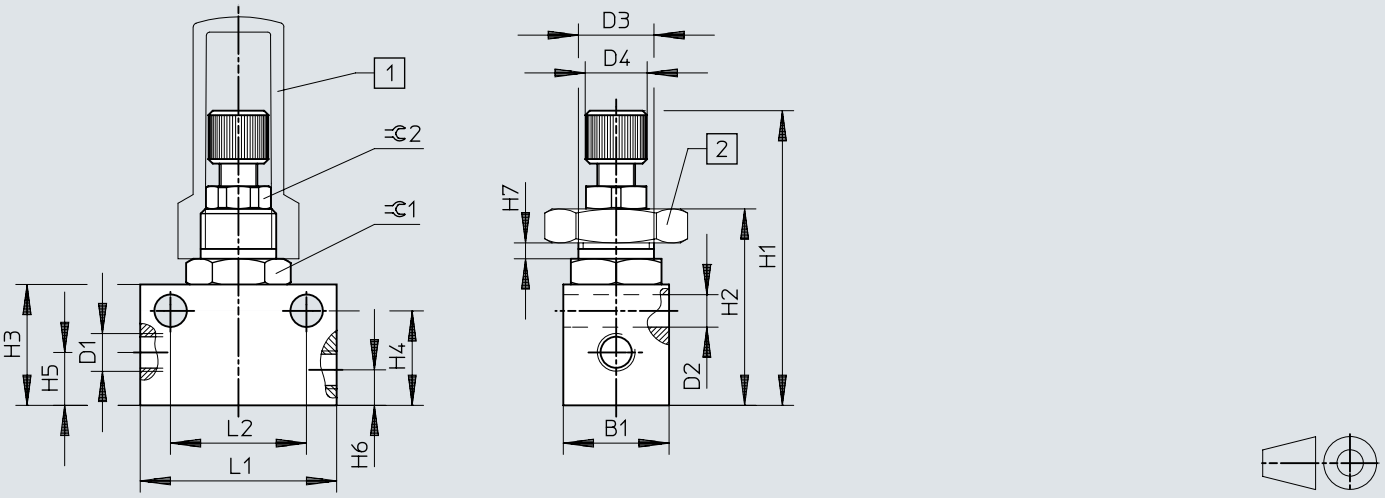
Datasheet

Standard flow rate qn at 6 → 0 bar as a function of spindle rotations n (GRO-QS-6)



Dimensions

Dimensions – GRO-M5-B, GRO-1/8-B Download CAD data www.festo.com

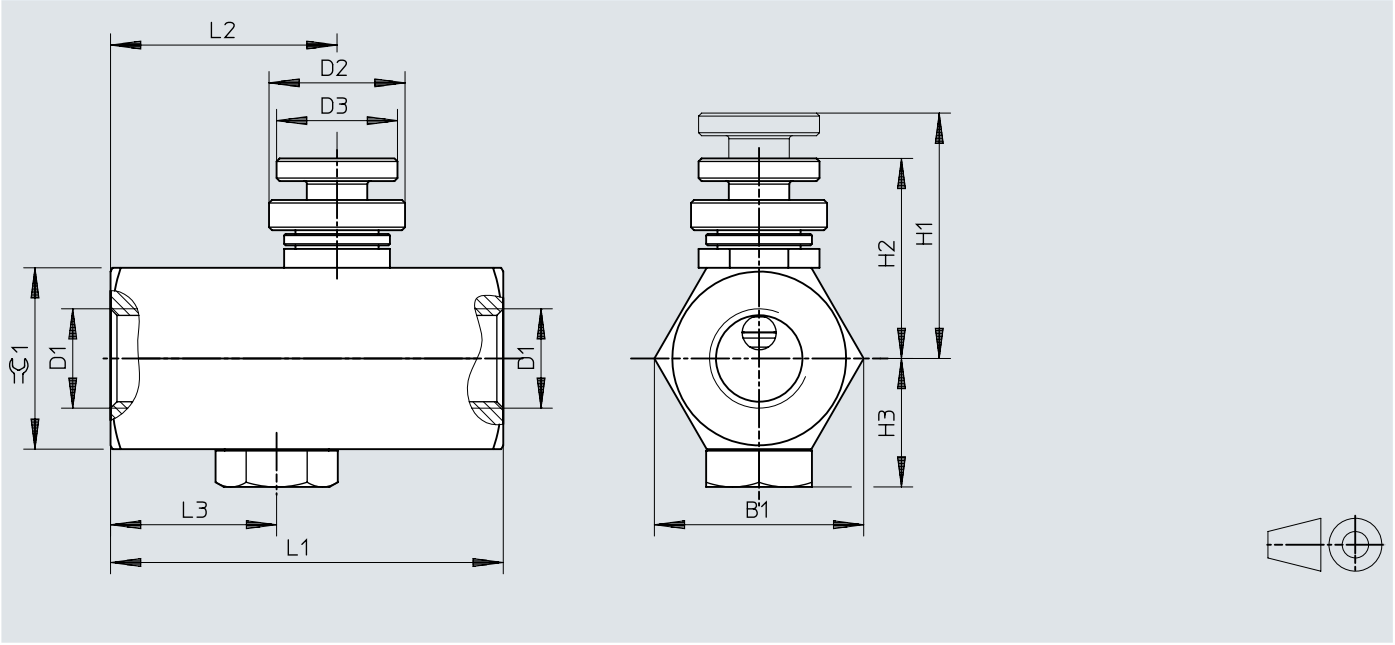


[1] Cover cap GRK
[2] Hex nut GRM

	D1	B1	D2 ø	D3	D4	H1 min.	H1 max.	H2	H3	H4	H5	H6	H7 max.	L1	L2 ±0,1	⊂ 1	⊂ 2
GR-M5-B	M5	14	4,3	M10x1	8	35	41	25,2	16	12,5	7	4,7	2,5	26	18	13	8
GR-1/8-B	G1/8	16	4,3	M12x1	8	40,6	46,5	30,8	22	17,5	9,2	9	3,5	32	24	14	8

Dimensions

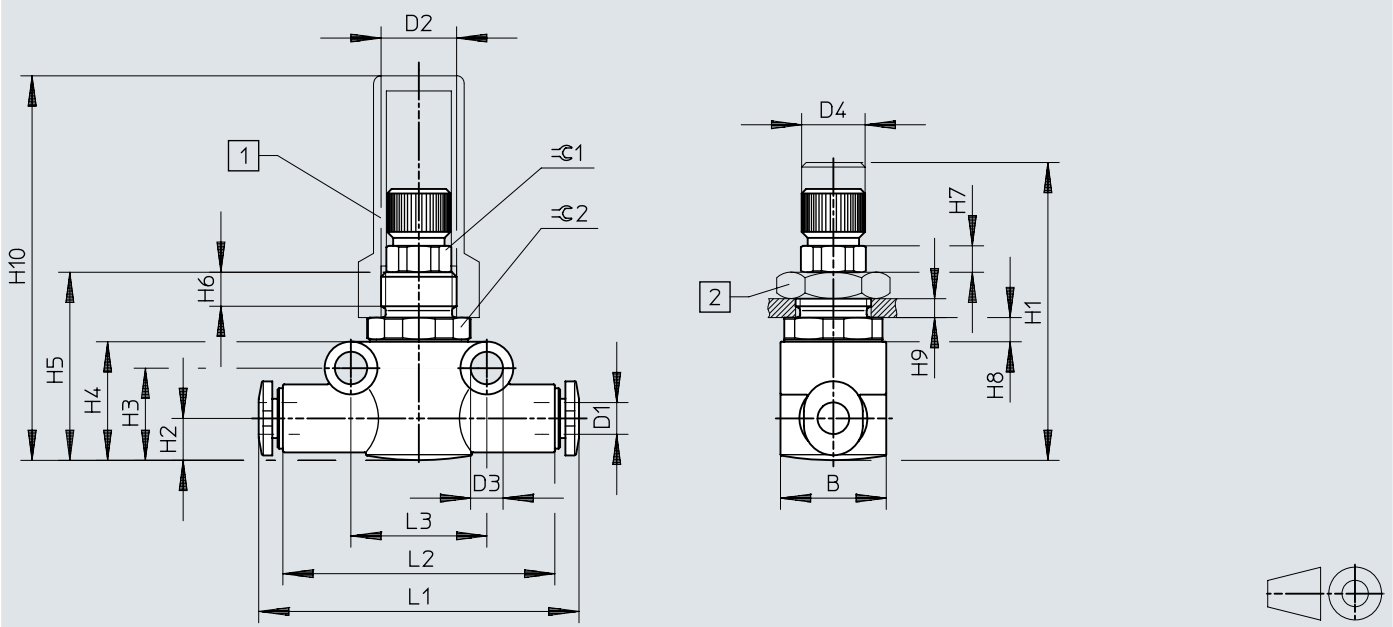
Dimensions – GRO-1/4 Download CAD data www.festo.com



	D1	B1	D2 ø	D3 ø	H1	H2	H3	L1	L2	L3	SW 1
GRO-1/4	G1/4	28	18	16	32,5	26,5	17	52	30	22	24

Dimensions

Dimensions – Knurled screw Download CAD data www.festo.com



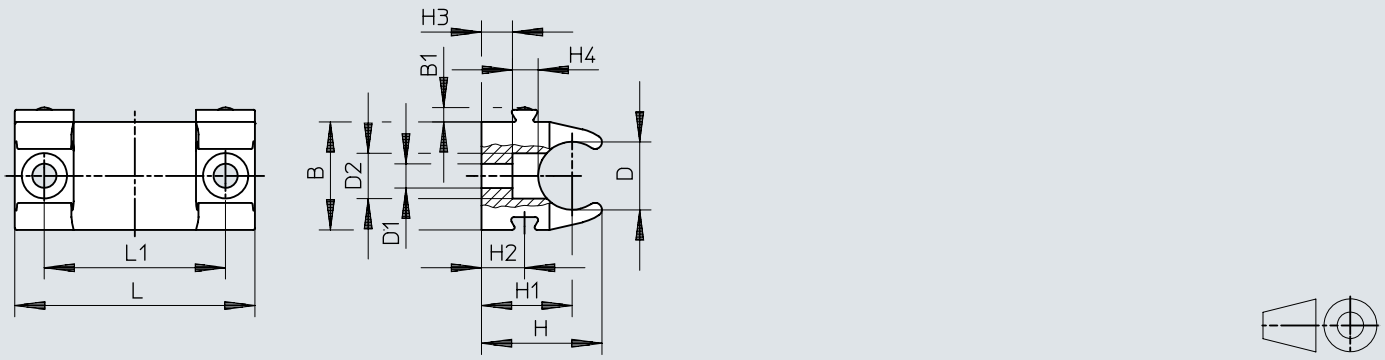
[1] Cover cap GRK
[2] Hex nut GRM

	D1 ø	B	D2	D3 ø	D4 ø	H1 min.	H1 max.	H2	H3	H4
GR-QS-3	3	14	M10x1	4,3 ±0,1	7,9 –0,3	35	41,5	5,55	12,2	15,7
GR-QS-4	4	14	M10x1	4,3 ±0,1	7,9 –0,3	35	41,5	5,55	12,2	15,7
GR-QS-6	6	16	M12x1	4,3 ±0,1	7,9 –0,3	40	46	8,4	17,3	21,3

	H5	H6	H7	H8	H9 max.	H10	L1	L2	L3	⊂ 1	⊂ 2
GR-QS-3	24,9	4,5	3,5	3,2	2,5	50,9	41,8	36	18	8	13
GR-QS-4	24,9			3,2	2,5	50,9	42,4	36	18		13
GR-QS-6	30,1			2,8	3,5	46,1	51,6	43	24		14

Dimensions

Dimensions – Retainer GR-H-QS Download CAD data www.festo.com



	B	B1	D ø	D1 ø	D2 ø	H	H1	H2	H3	H4	L	L1
GR-H-QS-3-4	14,3	1,9	9	3,2	6	16	12	5,7	4,1	3,4	31,8	24
GR-H-QS-6-8	19,8	1,9	14,5	3,2	6	19,2	13	5,7	2,3	3,4	31,8	24

Ordering data

Ordering data – Internal thread, metal

	Pneumatic connection 1	Pneumatic connection 2	Standard nominal flow rate in flow control direction	Product weight	Part no.	Type
	M5	M5	105 l/min	19 g	**151214**	**GRO-M5-B**
	G1/8	G1/8	210 l/min	31 g	**151216**	**GRO-1/8-B**

Ordering data – Internal thread, metal

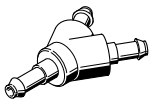
	Pneumatic connection 1	Pneumatic connection 2	Standard nominal flow rate in flow control direction	Product weight	Part no.	Type
	G1/4	G1/4	350 l/min	80 g	**2109**	**GRO-1/4**

Ordering data – Push-in connector QS, polymer

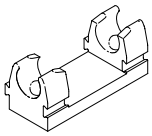
	Pneumatic connection 1	Standard nominal flow rate in flow control direction	Standard nominal flow rate in non-return direction	Product weight	Part no.	Type
	QS-3	85 l/min		12 g	**193971**	**GRO-QS-3**
	QS-4	110 l/min			**193972**	**GRO-QS-4**
	QS-6	245 l/min		22 g	**193973**	**GRO-QS-6**

Accessories

Barbed Y-connector with restrictor Y-PK-3-D

	Pneumatic connection 1	Nominal width	Part no.	Type
	PK-3	2.5 mm	**7456**	**Y-PK-3-D**

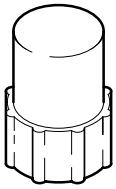
Retainer GR-H-QS

	Description	Type code	Part no.	Type
	for type GRO-QS-6	GR	**195496**	**GR-H-QS-6-8**
	for type GRO-QS-3, GRO-QS-4		**195495**	**GR-H-QS-3-4**

Hex nut GRM

	Description	Type code	Part no.	Type
	for type GRO-M5-B, GRO-QS-3, GRO-QS-4	GRM	**6444**	**GRM-M5**
	for type GRO-1/8-B, GRO-QS-6		**2107**	**GRM-1/8**

Cover cap GRK

	Description	Type code	Part no.	Type
	for type GRO-1/8-B, GRO-QS-6	GRK	**2105**	**GRK-1/8**
	for type GRO-M5-B, GRO-QS-3, GRO-QS-4		**6436**	**GRK-M5**