

Throttle valve, in-line installation GRO

FESTO



Characteristics

At a glance



Bidirectional flow valve for in-line installation.

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

Type code

001	Series	
GRO	Flow control valve, in-line integration	
Y	Y connection technology	

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

003	Generation	
	None	
B	Series B	
D	D series	

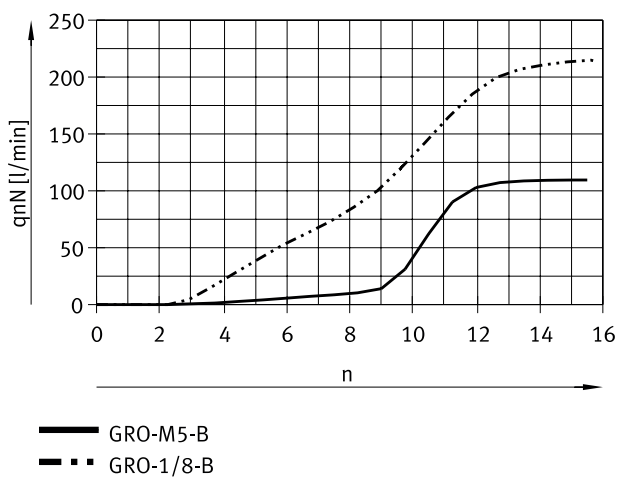
Datasheet

Technical data – Female thread, metal

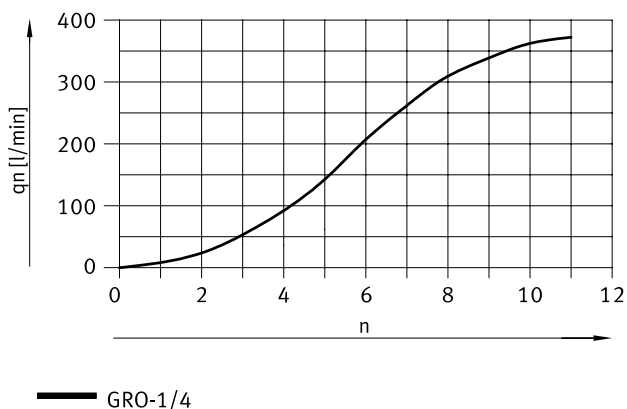
Pneumatic connection, port 1	M5	G1/8	G1/4
Pneumatic connection, port 2	M5	G1/8	G1/4
Valve function	Flow control function		
Adjustment component	Knurled screw		
Type of mounting	Either: Front panel mounting With through-hole		In-line installation
Mounting position	optional		
Operating pressure	0 ... 10 bar		
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]		
Note on operating and pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)		
Ambient temperature	-20 ... 60°C		
Media temperature	-20 ... 60°C		
Corrosion resistance class CRC ¹⁾	0 - No corrosion stress		2 - Moderate corrosion stress
Material adjusting screw	High-alloy steel		Steel, Galvanised
Material housing	Wrought aluminium alloy		
Material nut	Wrought aluminium alloy		-
Material seals	NBR		
Note on materials	RoHS-compliant		
LABS (PWIS) conformity	VDMA24364-B1/B2-L		

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

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



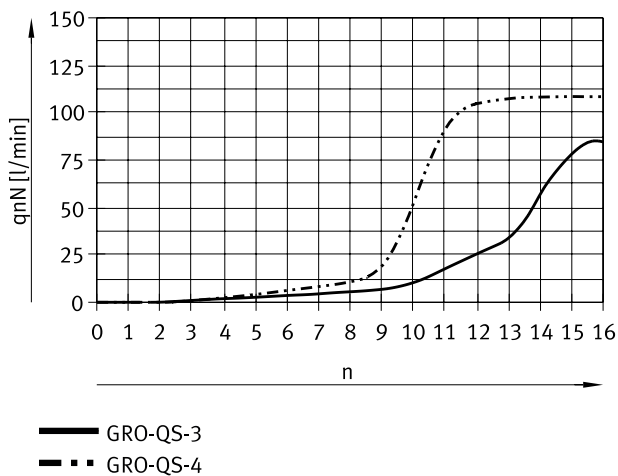
Standard nominal flow rate q_{nN} at 6 → 5 bar as a function of spindle rotations n (GRO-1/4)



Datasheet

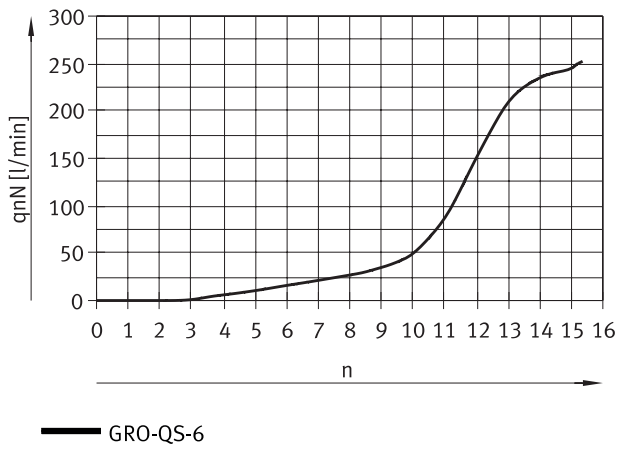
Technical data – Push-in connector QS, polymer			
Pneumatic connection, port 1	QS-3	QS-4	QS-6
Pneumatic connection, port 2	QS-3	QS-4	QS-6
Valve function	Flow control function		
Adjustment component	Knurled screw		
Type of mounting	Either: Front panel mounting With through-hole With accessories		
Mounting position	optional		
Operating pressure	0 ... 10 bar		
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]		
Note on operating and pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)		
Ambient temperature	-10 ... 60°C		
Media temperature	-10 ... 60°C		
Corrosion resistance class CRC ¹⁾	0 - No corrosion stress		
Material adjusting screw	High-alloy steel		
Material housing	PA-reinforced		
Material release ring	POM		
Material seals	NBR		
Note on materials	RoHS-compliant		
LABS (PWIS) conformity	VDMA24364-B1/B2-L		

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

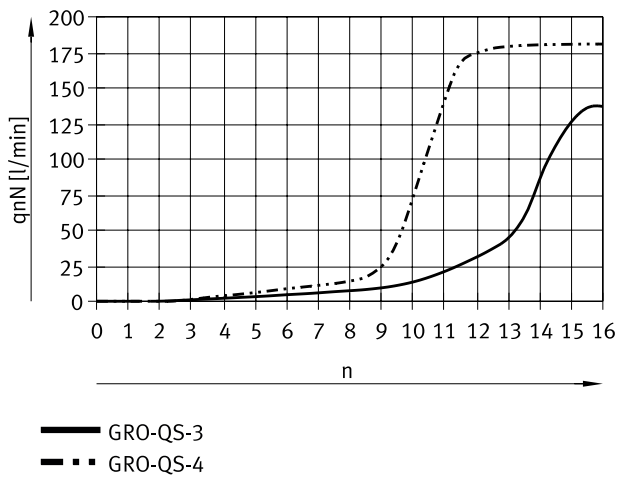
Standard nominal flow rate q_{nN} at 6 → 5 bar as a function of spindle rotations n (GRO-QS-3, GRO-QS-4)


Datasheet

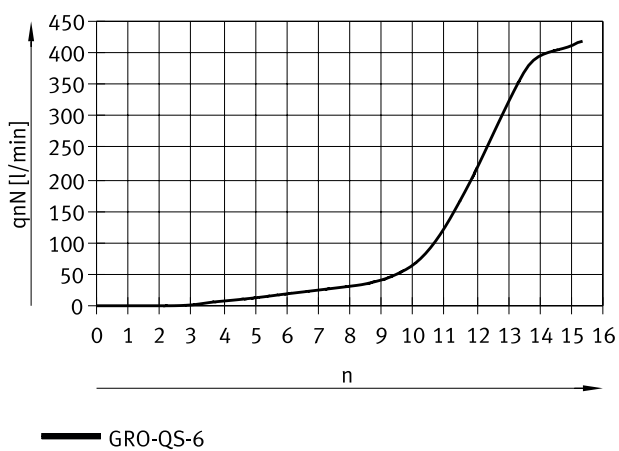
Standard nominal flow rate q_{nN} at 6 → 5 bar as a function of spindle rotations n (GRO-QS-6)



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



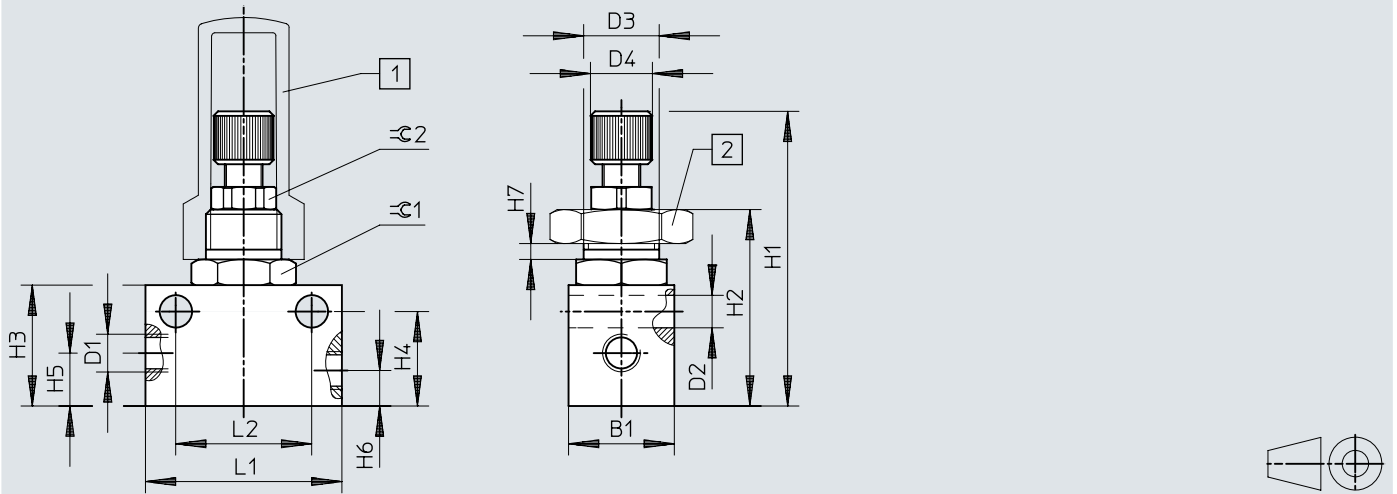
Standard flow rate q_n at 6 → 0 bar as a function of spindle rotations n (GRO-QS-6)



Dimensions

Dimensions – GRO-M5-B, GRO-1/8-B

Download CAD data → www.festo.com



[1] Cover cap GRK

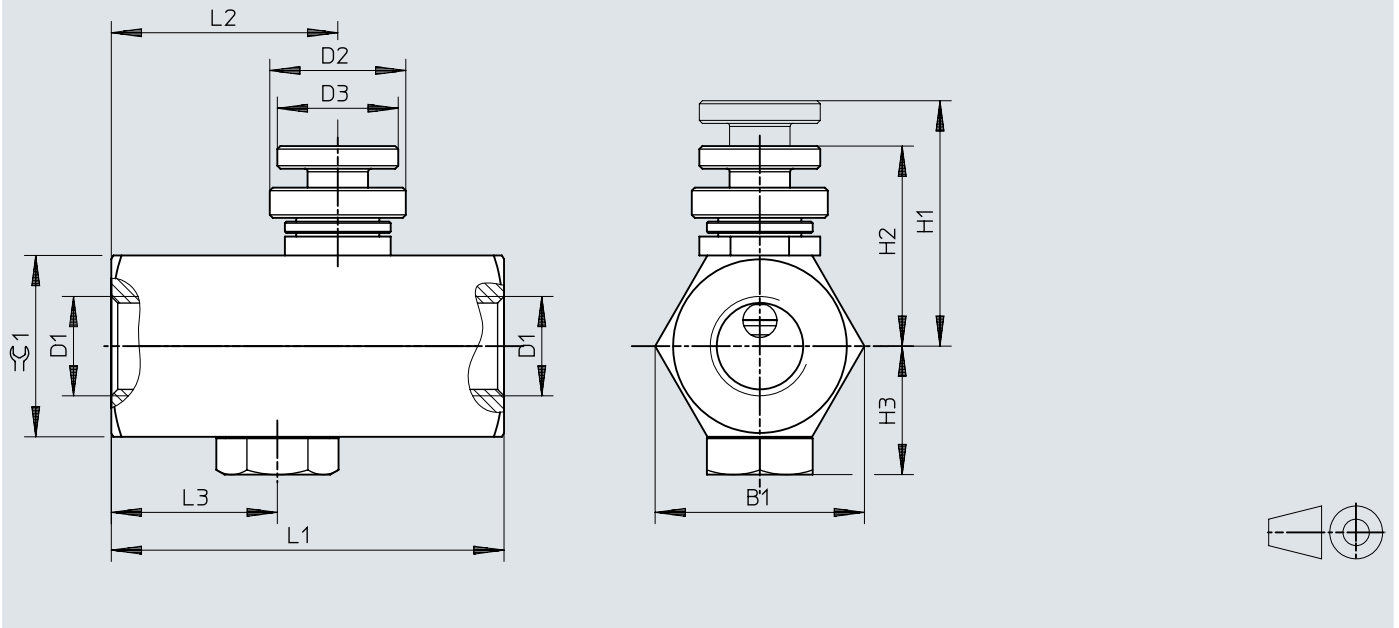
[2] Hex nut GRM

	D1	B1	D2 ∅	D3	D4	H1		H2	H3	H4	H5	H6	H7 max.	L1	L2 ±0,1	≙ 1	≙ 2
						min.	max.										
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

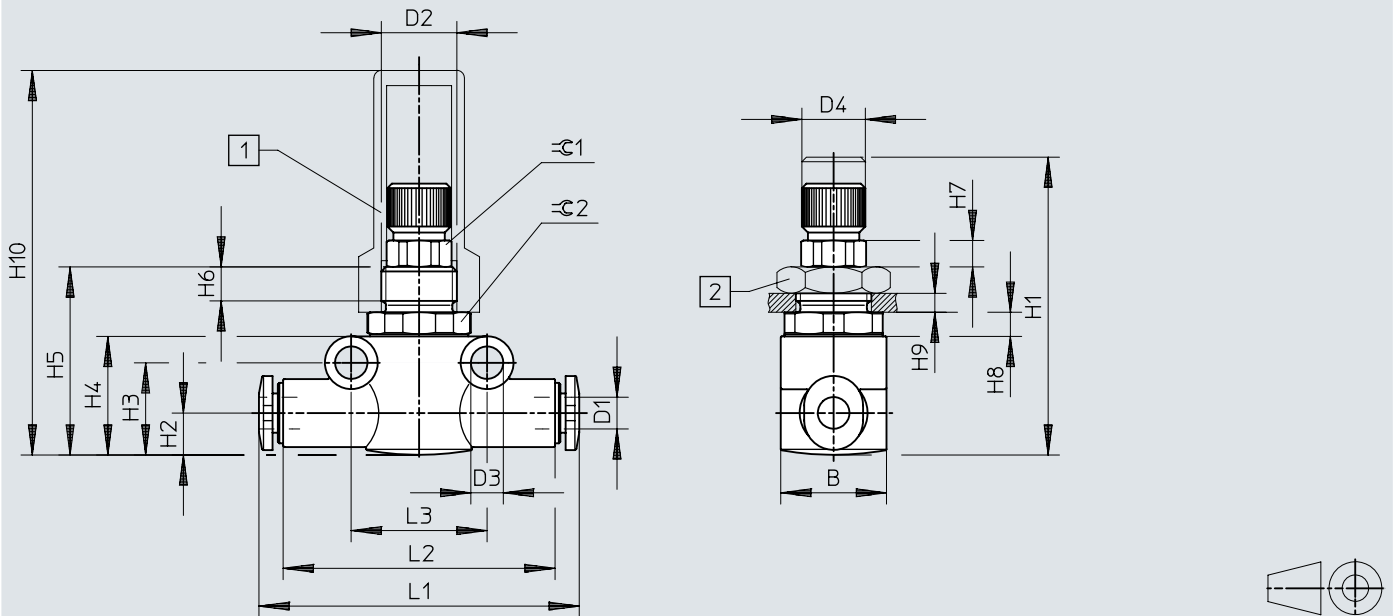


	D1	B1	D2 ∅	D3 ∅	H1	H2	H3	L1	L2	L3	≈∅ 1
GRO-1/4	G1/4	28	18	16	32,5	26,5	17	52	30	22	24

Dimensions

Dimensions – Knurled screw

Download CAD data → www.festo.com



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

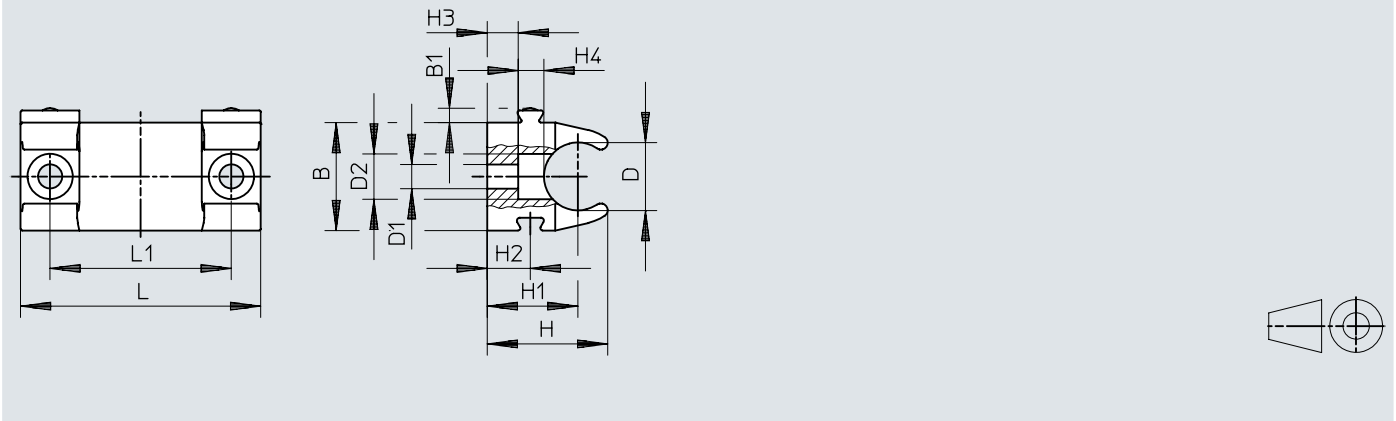
	D1 ∅	B	D2	D3 ∅	D4 ∅	H1		H2	H3	H4
						min.	max.			
GR-QS-3	3	14	M10x1	4,3 ±0,1	7,9 -0,3	35	41,5	5,55	12,2	15,7
GR-QS-4	4	14	M10x1	4,3 ±0,1	7,9 -0,3	35	41,5	5,55	12,2	15,7
GR-QS-6	6	16	M12x1	4,3 ±0,1	7,9 -0,3	40	46	8,4	17,3	21,3

	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 ∅	D1 ∅	D2 ∅	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 – Female thread, metal

	Pneumatic connection, port 1	Pneumatic connection, port 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

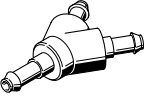
Ordering data – Female thread, metal

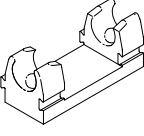
	Pneumatic connection, port 1	Pneumatic connection, port 2	Standard nominal flow rate in flow control direction	Product weight	Part no.	Type
	G1/4	G1/4	350 l/min	80 g	2109	GRO-1/4


Ordering data – Push-in connector QS, polymer

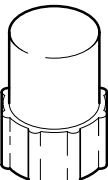
	Pneumatic connection, port 1	Standard nominal flow rate in flow control direction	Standard nominal flow rate in blocked direction	Product weight	Part no.	Type
	QS-3	85 l/min	120 l/min	12 g	193971	GRO-QS-3
	QS-4	110 l/min	165 l/min		193972	GRO-QS-4
	QS-6	245 l/min	430 l/min	22 g	193973	GRO-QS-6

Accessories

Barbed Y-connector with restrictor Y-PK-3-D				
	Pneumatic connection, port 1	Nominal size	Part no.	Type
	PK-3	2.5 mm	7456	Y-PK-3-D

Retainer GR-H-QS				
	Description	Short 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	Short 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	Short 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