


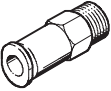
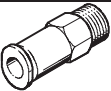
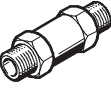


- **Non-return valves with or without pneumatic pilot signal**
- **With push-in connector at one or both ends for pipe O.D. of 4 ... 12 mm**
- **With connecting thread at one or both ends, M5 ... R $\frac{1}{2}$  or M5 ... G $\frac{3}{4}$**
- **Wide choice of variants**

# Non-return valves

Product range overview

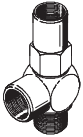
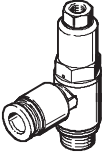
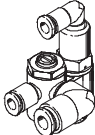



Function	Version	Type	Description	Port 1 Thread	Port 2 for tubing $\varnothing$ [mm]					Free of copper and PTFE	→ Page	
					4	6	8	10	12			
Non-return valves	QS push-in connector <sup>1)</sup> at both ends											
		H	–	–	■	■	■	■	■	■	2 / 5.1-6	
	With connecting thread and QS push-in connector <sup>1)</sup>											
	Flow direction: thread $\rightarrow$ push-in connector											
		HA	With thread and sealing ring and QS push-in connector	M5	■	–	–	–	–	–	–	2 / 5.1-6
				R $\frac{1}{8}$	■	■	■	–	–	–		
				R $\frac{1}{4}$	–	■	■	–	–	–		
				R $\frac{3}{8}$	–	–	–	■	■	–		
	Flow direction: push-in connector $\rightarrow$ thread											
		HB	With thread and sealing ring and QS push-in connector	M5	■	–	–	–	–	–	–	2 / 5.1-6
R $\frac{1}{8}$				■	■	■	–	–	–			
R $\frac{1}{4}$				–	■	■	–	–	–			
R $\frac{3}{8}$				–	–	–	■	■	–			
Connecting thread at both ends												
	H	With thread and sealing rings	M5 <sup>2)</sup>	–					–	2 / 5.1-9		
			G $\frac{1}{8}$ <sup>3)</sup>	–					–			
			G $\frac{1}{4}$ <sup>4)</sup>	–					–			
			G $\frac{3}{8}$ <sup>4)</sup>	–					–			
			G $\frac{1}{2}$ <sup>4)</sup>	–					–			
			G $\frac{3}{4}$ <sup>4)</sup>	–					–			

- 1) For standard O.D. plastic tubing
- 2) 2 female thread
- 3) 1 male thread, 1 female thread
- 4) 2 male thread

## Non-return valves

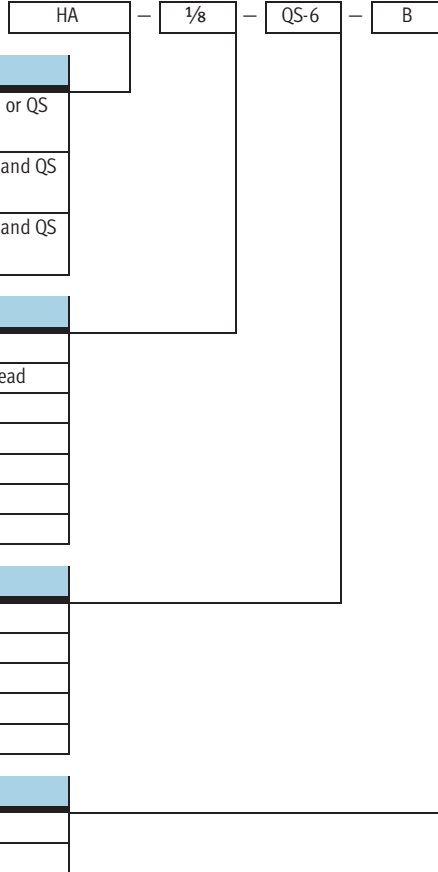
Product range overview

Function	Version	Type	Description	Port 1	Port 2					→ Page
				Thread	for tubing ∅ [mm]					
					4	6	8	10	12	
Non-return valves, piloted		HGL-B	With thread and sealing ring	M5	-					2 / 5.1-12
				G1/8						
				G1/4						
				G3/8						
				G1/2						
		HGL-QS	With thread, sealing ring and QS push-in connector	M5	■	-	-	-	-	2 / 5.1-15
				G1/8	■	■	-	-	-	
				G1/4	-	-	■	■	-	
				G3/8	-	-	■	■	-	
				G1/2	-	-	-	-	■	
Functional combination with one-way flow control function and piloted non-return valve.		GRXA-HG	With thread, sealing ring and QS push-in connector	G1/8	■	■	-	-	2 / 5.6-17	
				G1/4	-	■	■	-		-
Manual override for exhaust air		HAB	With thread	G1/8	-					2 / 5.1-21
				G1/4						
				G3/8						
				G1/2						

# Non-return valves

Type codes

## Type codes – Non-return valves



# Non-return valves

Type codes

## Type codes – Piloted non-return valves, threaded connection

		HGL	–	3/8	–	B
<b>Type</b>						
HGL	Non-return valve, piloted					
<b>Screw-in and connecting thread</b>						
M5	Metric thread M5					
1/8	G1/8 thread					
1/8÷1/8	G1/8 thread, pilot port G1/8					
1/4	G1/4 thread					
3/8	G3/8 thread					
1/2	G1/2 thread					
<b>Generation</b>						
B	B series					

## Type codes – Piloted non-return valves, QS connection

		HGL	–	3/8	–	QS-8
<b>Type</b>						
HGL	Non-return valve, piloted					
<b>Screw-in and connecting thread</b>						
M5	Metric thread M5					
1/8	G1/8 thread					
1/4	G1/4 thread					
3/8	G3/8 thread					
1/2	G1/2 thread					
<b>Push-in connector</b>						
QS-4	4 mm					
QS-6	6 mm					
QS-8	8 mm					
QS-10	10 mm					
QS-12	12 mm					

## Type code – Functional combination with one-way flow control valve and piloted non-return valve

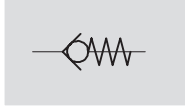
		GRXA-HG	–	1/4	–	QS-6
<b>Type</b>						
GRXA-HG	GRXA: One-way flow control valve HG: Non-return valve, piloted					
<b>Screw-in and connecting thread</b>						
1/8	G1/8 thread					
1/4	G1/4 thread					
<b>Push-in connector</b>						
QS-4	4 mm					
QS-6	6 mm					
QS-8	8 mm					

# Non-return valves H-QS/HA/HB

Technical data



Function



- Non-return valves without pneumatic pilot signal
- QS push-in connector at one or both ends

Flow rate  
140 ... 1720 l/min



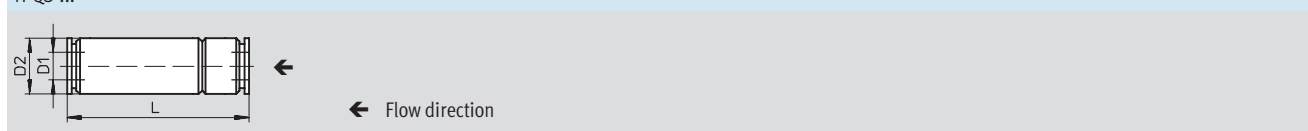
General technical data	
Valve function	Non-return function
Type of mounting	QS push-in connector, both ends In-line installation QS push-in connector, one end Can be screwed in

Operating and environmental conditions	
Operating medium	Filtered compressed air, lubricated or unlubricated.
Ambient temperature	0 ... +60 °C
Temperature of medium	0 ... +60 °C

Materials	
Housing	QS push-in connector, both ends Aluminium, black anodized; Brass, nickel-plated QS push-in connector, one end Brass, nickel-plated
Seals	Nitrile rubber
Material note	Free of copper and PTFE → Ordering data

Technical data – QS push-in connector at both ends						
Tubing O.D.	[mm]	4	6	8	10	12
Nominal size	[mm]	3.2	5	7	8.5	11
Standard nominal flow rate	[l/min]	140	280	680	1,480	1,720
Weight	[g]	5	10	20	62	68
Operating pressure	[bar]	-1 ... +10				

Dimensions – QS push-in connector, both ends Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)



Tubing O.D. D1	D2 ∅	L
4	9	34.8
6	12	38.8
8	15	54.9
10	25	73.4
12	25	78.6

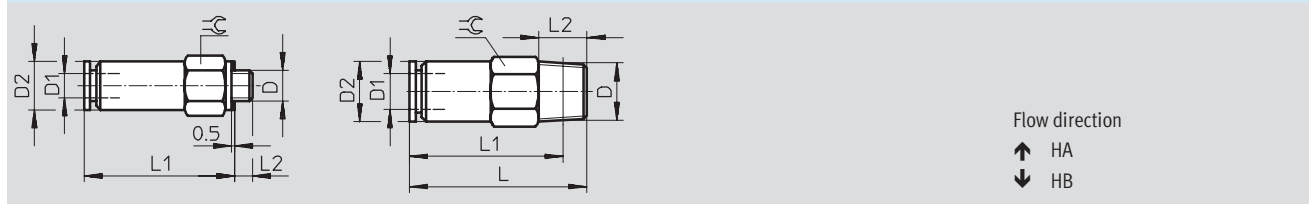
# Non-return valves H-QS/HA/HB

Technical data

Technical data – Connecting thread and QS push-in connector									
Connecting thread	M5	R1/8			R1/4		R3/8		R1/2
Tubing O.D. [mm]	4	4	6	8	6	8	10	12	12
Nominal size [mm]	2.4	3.2	5	5	5	7	8.5	11	11
Standard nominal flow rate [l/min]	150	140	310	330	300	670	1,740	1,880	2,230
Weight [g]	7.2	9.5	9.5	20	20	22	46	49	68.5
Operating pressure [bar]	-0.75 ... +10								

**Dimensions – Connecting thread and QS push-in connector** Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)

HA-M5-QS-...                      HA-...-QS-...  
 HB-M5-QS-...                      HB-...-QS-...

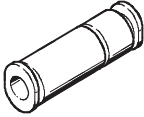
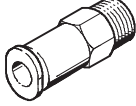
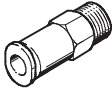


Connecting thread D	Tubing O.D. D1	D2 ∅	L	L1	L2	≅
M5	4	8	–	25.4	3	8
R1/8	4	9	24.5	20.5	8	10
	6	10	29.5	25.3	8	10
	8	13.5	35.5	31.5	8	14
R1/4	6	12	29.3	23.3	11	14
	8	13.5	39.2	33.2	11	14
R3/8	10	25	61.7	55.4	12	24
	12	25	64.3	58	12	24
R1/2	12	28	70.8	62.6	15	27

# Non-return valves H-QS/HA/HB

Technical data



Ordering data						
	Description	Connecting thread	For tubing O.D. [mm]	Part No.	Type	
<b>Non-return valves with QS push-in connector for standard O.D. plastic tubing</b>						
	QS push-in connector, both ends	-	4	153 462	H-QS-4 <sup>1)</sup>	
			6	153 463	H-QS-6 <sup>1)</sup>	
			8	153 464	H-QS-8 <sup>1)</sup>	
			10	153 465	H-QS-10 <sup>1)</sup>	
			12	153 466	H-QS-12 <sup>1)</sup>	
Flow direction: thread → push-in connector						
	With metric thread and sealing ring and QS push-in connector	M5	4	153 444	HA-M5-QS-4	
			With PTFE-coated pipe thread and QS push-in connector		R1/8	4
				6	153 448	HA-1/8-QS-6
				8	153 452	HA-1/8-QS-8
			R1/4	6	153 450	HA-1/4-QS-6
				8	153 454	HA-1/4-QS-8
			R3/8	10	153 456	HA-3/8-QS-10
				12	153 458	HA-3/8-QS-12
			R1/2	12	153 460	HA-1/2-QS-12
	Flow direction: push-in connector → thread					
	With metric thread and sealing ring and QS push-in connector	M5	4	153 445	HB-M5-QS-4	
			With PTFE-coated pipe thread and QS push-in connector		R1/8	4
				6	153 449	HB-1/8-QS-6
				8	153 453	HB-1/8-QS-8
			R1/4	6	153 451	HB-1/4-QS-6
				8	153 455	HB-1/4-QS-8
			R3/8	10	153 457	HB-3/8-QS-10
				12	153 459	HB-3/8-QS-12
			R1/2	12	153 461	HB-1/2-QS-12

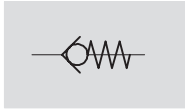
1) Free of copper and PTFE



# Non-return valves H

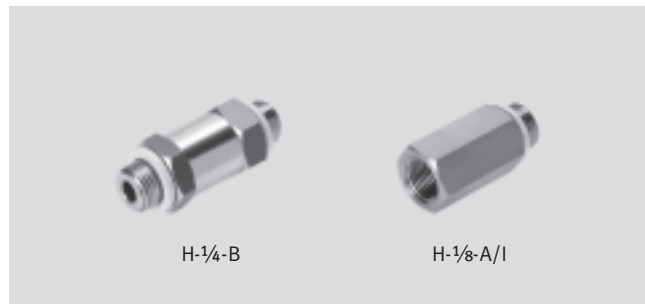
Technical data

Function



Flow rate  
115 ... 5,900 l/min

- Non-return valves
- Connecting thread at both ends



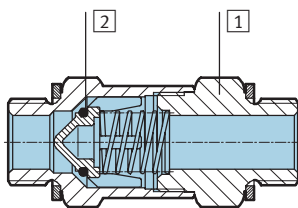
General technical data						
Pneumatic connection	M5	G1/8	G1/4	G3/8	G1/2	G3/4
Valve function	Non-return function					
Type of mounting	Can be screwed in					
Max. tightening torque [Nm]	-	-	11	20	40	60

Operating and environmental conditions						
Pneumatic connection	M5	G1/8	G1/4	G3/8	G1/2	G3/4
Operating medium	Filtered compressed air, lubricated or unlubricated					
Storage temperature [°C]	-	-	-10 ... +60 °C			
Ambient temperature [°C]	-10 ... +60 °C					
Temperature of medium [°C]	-10 ... +60 °C					
Corrosion resistance class CRC	-	-	2 <sup>1)</sup>			

1) Corrosion resistance class 2 according to Festo standard 940 070  
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

## Materials

Sectional view



Non-return valve M5, G1/8		
1	Housing	Brass, nickel-plated
2	Seals	Nitrile rubber

Non-return valve G1/4, G3/8, G1/2, G3/4		
1	Housing	Wrought aluminium alloy, anodised
2	Seals	Nitrile rubber
-		Free of copper and PTFE

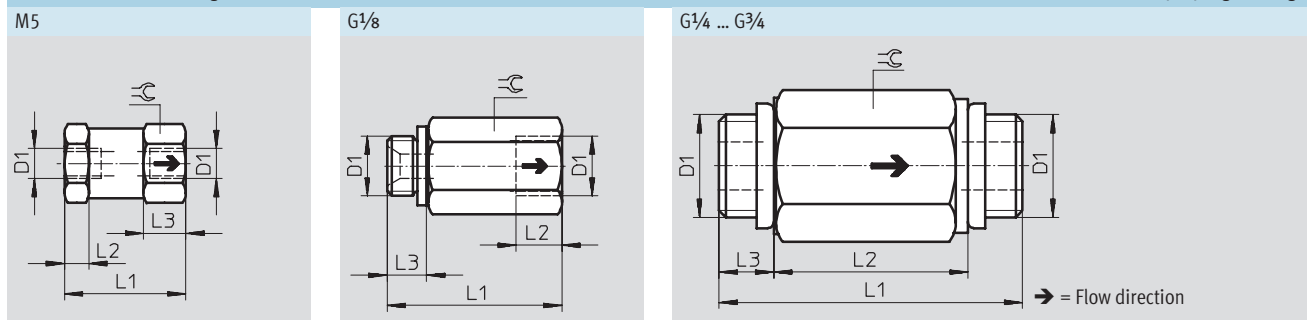
# Non-return valves H

Technical data



Technical data – Connecting thread at both ends						
Connecting thread	M5	G $\frac{1}{8}$	G $\frac{1}{4}$	G $\frac{3}{8}$	G $\frac{1}{2}$	G $\frac{3}{4}$
Standard nominal flow rate [l/min]	115	280	1,000	2,000	5,500	5,900
Weight [g]	15	21	25.4	34	58.3	101
Operating pressure [bar]	0.4 ... 8		0.4 ... 12			

## Dimensions – Connecting thread at both ends Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)



Connecting thread D1	L1	L2	L3	≙
M5	20	4	7	11
G $\frac{1}{8}$	28.5	7.5	6.5	14
G $\frac{1}{4}$	48	32	8	19
G $\frac{3}{8}$	50	32	9	22
G $\frac{1}{2}$	65	44	10.5	27
G $\frac{3}{4}$	74	50	12	32

## Ordering data

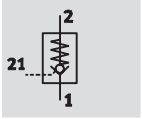
	Description	Connecting thread	Part No.	Type
Non-return valves, with connecting thread at both ends				
	Metric thread at both ends and 2 sealing rings	M5 <sup>1)</sup>	3 671	H-M5
	With pipe thread at both ends and 2 sealing rings	G $\frac{1}{8}$ <sup>2)</sup>	3 324	H- $\frac{1}{8}$ -A/I
		G $\frac{1}{4}$ <sup>3)</sup>	11 689	H- $\frac{1}{4}$ -B
		G $\frac{3}{8}$ <sup>3)</sup>	11 690	H- $\frac{3}{8}$ -B
		G $\frac{1}{2}$ <sup>3)</sup>	11 691	H- $\frac{1}{2}$ -B
G $\frac{3}{4}$ <sup>3)</sup>	11 692	H- $\frac{3}{4}$ -B		

- 1) 2 female threads
- 2) 1 male thread, 1 female thread
- 3) 2 male threads


## Non-return valves HGL-B, piloted

Technical data



Function





- Pneumatic piloted non-return valve


 Flow rate  
130 ... 1,600 l/min



General technical data								
Pneumatic connection	M5		G1/8	G1/8		G1/4	G3/8	G1/2
Valve function	Piloted non-return function							
Type of mounting	Screw in via male thread							
Max. tightening torque [Nm]	1.5	5.5	5.5	11	20	40		
Actuation type	Pneumatic							
Pilot air connection 21	M5	M5	G1/8	G1/8	G1/4	G3/8		
Standard nominal flow rate 1 → 2 [l/min]	130	300	300	550	1,100	1,600		
Weight [g]	21	20.8	26.2	41.2	62.9	129.4		

Operating and environmental conditions								
Pneumatic connection	M5		G1/8	G1/8		G1/4	G3/8	G1/2
Operating medium	Dried air, lubricated or unlubricated							
Operating pressure [bar]	0.5 ... 10							
Pilot pressure [bar]	2 ... 10					1 ... 10		
Storage temperature [°C]	-10 ... +60							
Ambient temperature [°C]	-10 ... +60							
Temperature of medium [°C]	-10 ... +60							
Corrosion resistance class CRC	2 <sup>1)</sup>							

1) Corrosion resistance class 2 according to Festo standard 940 070  
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

 Note

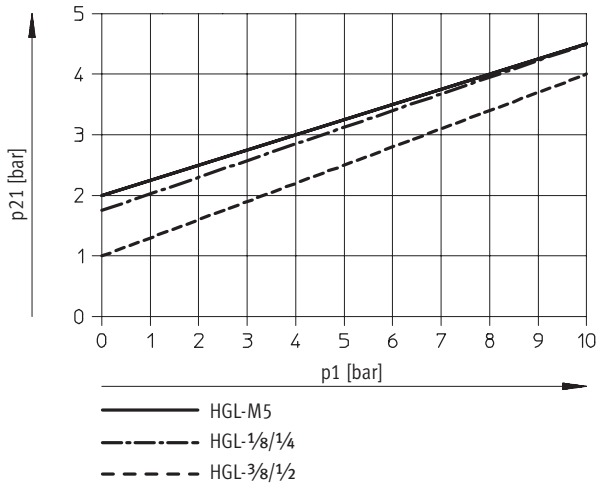
In safety-relevant applications the HGL product family and all of its design variants must ONLY be used in combination with additional measures according to EN 954-1.

A supplementary risk analysis by the user/designer is essential. The instructions and notices on the enclosed product leaflets must be observed.

## Non-return valves HGL-B, piloted

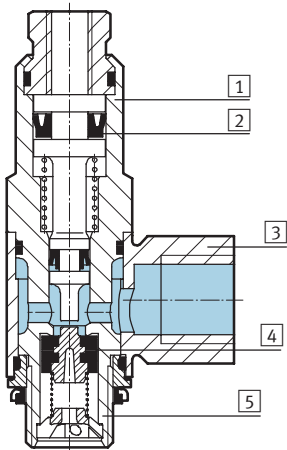
Technical data

### Minimum pilot pressure as a function of operating pressure



### Materials

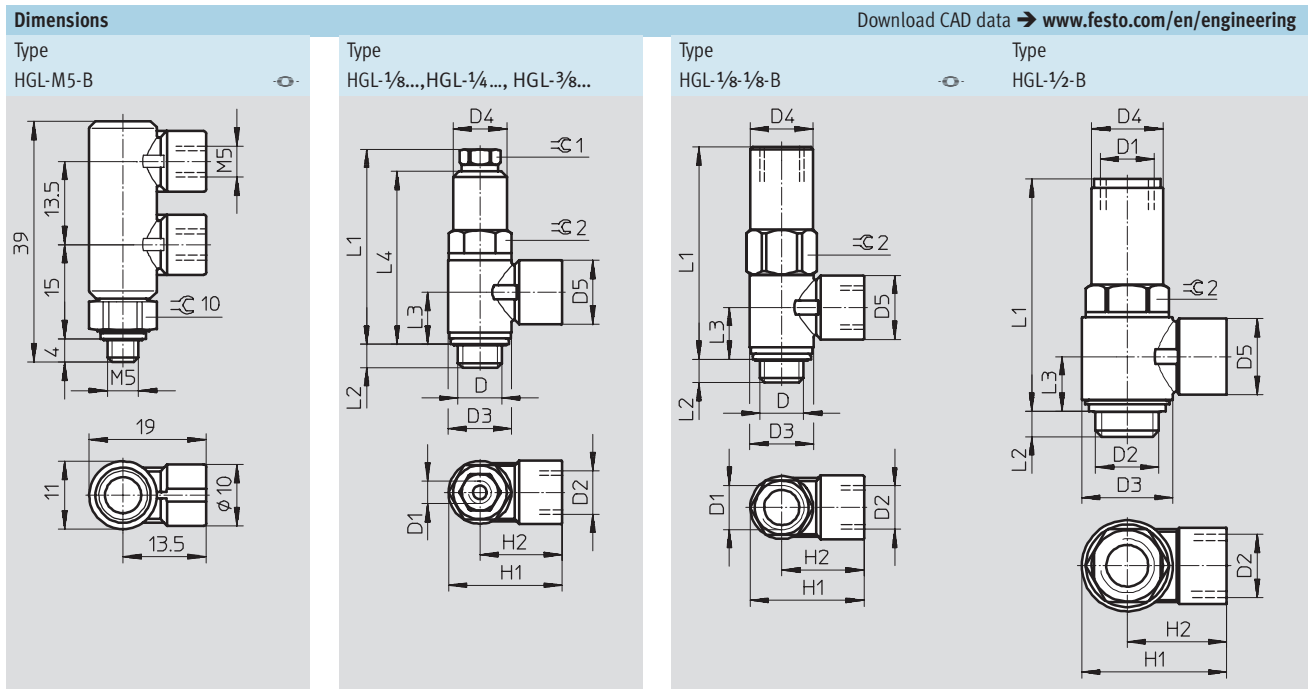
Sectional view



Non-return valve, piloted		
1	Body	Wrought aluminium alloy, anodised
2	Seals	Nitrile rubber
3	Rotatable connection	Die-cast zinc
4	Non-return collar	Nitrile rubber
5	Hollow bolt	Wrought aluminium alloy, anodised
-		Free of copper and PTFE

# Non-return valves HGL-B, piloted

Technical data



Pneumatic connection D	D1	D2	D3 Ø	D4 Ø	D5 Ø	H1	H2	L1	L2	L3	L4	∅ 1	∅ 2
G <sup>1</sup> / <sub>8</sub>	M5	G <sup>1</sup> / <sub>8</sub>	14	11.8	14	25.1	18.1	42.6	5.4	11.2	37.8	8	12
G <sup>1</sup> / <sub>8</sub>	G <sup>1</sup> / <sub>8</sub>	G <sup>1</sup> / <sub>8</sub>	14	13.8	14	25.1	18.1	46.7	5.2	11.2	-	-	14
G <sup>1</sup> / <sub>4</sub>	G <sup>1</sup> / <sub>8</sub>	G <sup>1</sup> / <sub>4</sub>	18	16	17.5	34	25	50.8	6.5	13.5	44.6	12	16
G <sup>3</sup> / <sub>8</sub>	G <sup>1</sup> / <sub>4</sub>	G <sup>3</sup> / <sub>8</sub>	23.8	18.8	20	39.3	27.4	56.3	7	15.1	49.6	15	19
G <sup>1</sup> / <sub>2</sub>	G <sup>3</sup> / <sub>8</sub>	G <sup>1</sup> / <sub>2</sub>	30	23.5	25	47.8	32.8	75.8	8.8	17.7	-	-	24

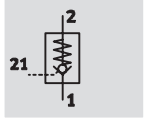
Ordering data			
Non-return valve, piloted	Pneumatic connection	Pilot port	Part No. Type
	M5	M5	530 029 HGL-M5-B
	G <sup>1</sup> / <sub>8</sub>	M5	530 030 HGL- <sup>1</sup> / <sub>8</sub> -B
	G <sup>1</sup> / <sub>8</sub>	G <sup>1</sup> / <sub>8</sub>	543 253 HGL- <sup>1</sup> / <sub>8</sub> - <sup>1</sup> / <sub>8</sub> -B
	G <sup>1</sup> / <sub>4</sub>	G <sup>1</sup> / <sub>8</sub>	530 031 HGL- <sup>1</sup> / <sub>4</sub> -B
	G <sup>3</sup> / <sub>8</sub>	G <sup>1</sup> / <sub>4</sub>	530 032 HGL- <sup>3</sup> / <sub>8</sub> -B
	G <sup>1</sup> / <sub>2</sub>	G <sup>3</sup> / <sub>8</sub>	530 033 HGL- <sup>1</sup> / <sub>2</sub> -B

## Non-return valves HGL-QS, piloted

Technical data

Function

- Pneumatic piloted non-return valve



Flow rate  
130 ... 1,600 l/min



General technical data						
Pneumatic connection 2	M5	G $\frac{1}{8}$	G $\frac{1}{4}$	G $\frac{3}{8}$	G $\frac{1}{2}$	
Valve function	Piloted non-return function					
Type of mounting	Screw in via male thread					
Max. tightening torque [Nm]	1.5	5.5	11	20	40	
Actuation type	Pneumatic					
Pneumatic connection 1 for tubing O.D. [mm]	4	4, 6	8, 10	8, 10	12	
Pilot air connection 21	M5	M5	G $\frac{1}{8}$	G $\frac{1}{4}$	G $\frac{3}{8}$	
Standard nominal flow rate 1 → 2 [l/min]	130	300	550	1,100	1,600	
Weight [g]	21	18.4/21.4	38.7/45	54.7/60.3	116.9	

Operating and environmental conditions						
Pneumatic connection	M5	G $\frac{1}{8}$	G $\frac{1}{4}$	G $\frac{3}{8}$	G $\frac{1}{2}$	
Operating medium	Dried air, lubricated or unlubricated					
Operating pressure [bar]	0.5 ... 10					
Pilot pressure [bar]	2 ... 10			1 ... 10		
Storage temperature [°C]	-10 ... +60					
Ambient temperature [°C]	-10 ... +60					
Temperature of medium [°C]	-10 ... +60					
Corrosion resistance class CRC	2 <sup>1)</sup>					

1) Corrosion resistance class 2 according to Festo standard 940 070  
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Note

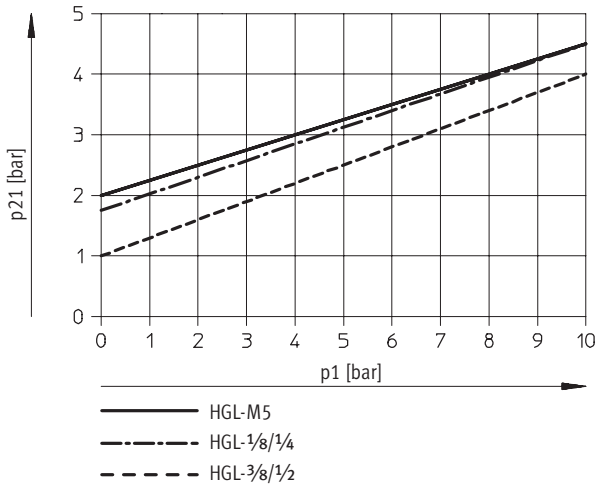
In safety-relevant applications the HGL product family and all of its design variants must ONLY be used in combination with additional measures according to EN 954-1.

A supplementary risk analysis by the user/designer is essential. The instructions and notices on the enclosed product leaflets must be observed.

## Non-return valves HGL-QS, piloted

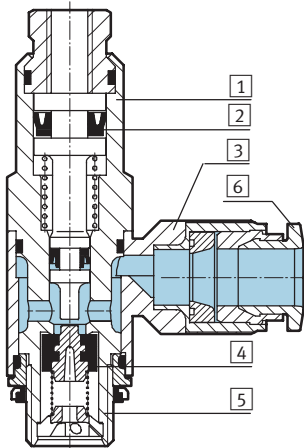
Technical data

### Minimum pilot pressure as a function of operating pressure



### Materials

Sectional view



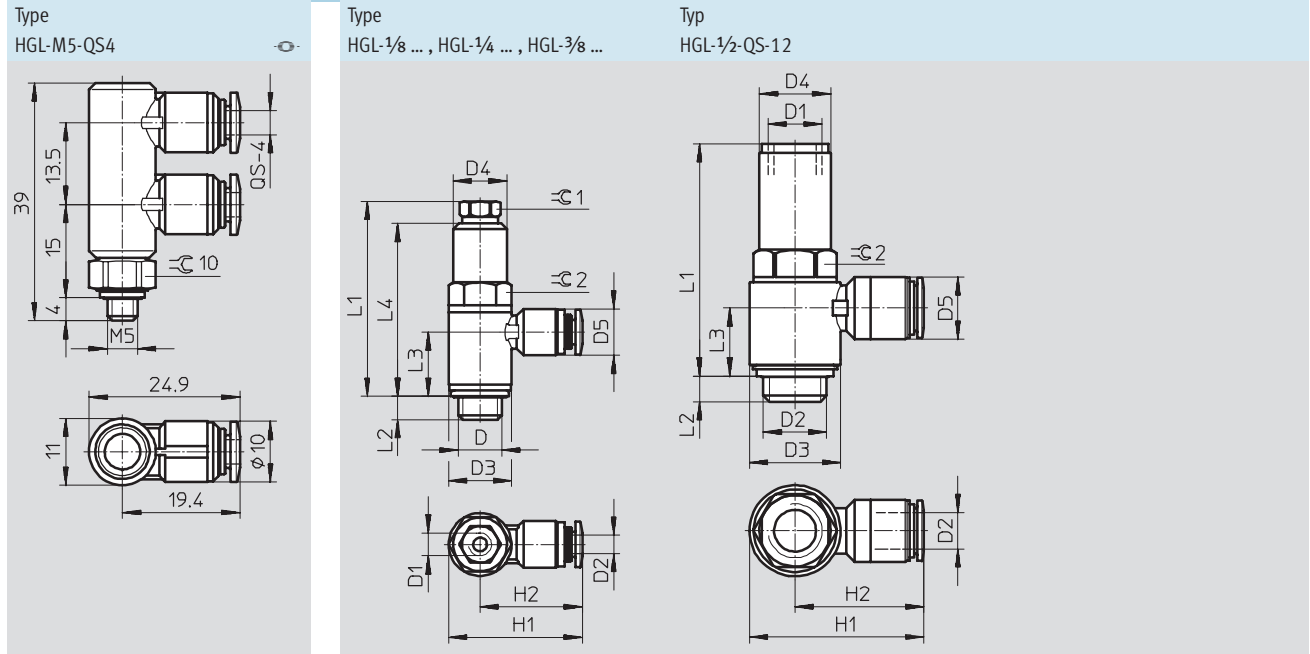
#### Non-return valve, piloted

1	Body	Wrought aluminium alloy, anodised
2	Seals	Nitrile rubber
3	Rotatable connection	Die-cast zinc
4	Non-return collar	Nitrile rubber
5	Hollow bolt	Wrought aluminium alloy, anodised
6	Release ring	Polyacetate
-		Free of copper and PTFE

## Non-return valves HGL-QS, piloted

Technical data

Dimensions Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)



Pneumatic connection D	D1	D2	D3 ∅	D4 ∅	D5 ∅	H1	H2	L1	L2	L3	L4	≙ 1	≙ 2
G <sup>1</sup> / <sub>8</sub>	M5	QS-4	13.8	11.8	10.2	29.4	22.5	42.6	5.4	13.9	37.8	8	12
		QS-6			12.5	32.6	25.7						
G <sup>1</sup> / <sub>4</sub>	G <sup>1</sup> / <sub>8</sub>	QS-8	17.8	16	14.5	39.6	30.7	50.8	6.5	16.6	44.6	12	16
		QS-10			17.5	42	33.1						
G <sup>3</sup> / <sub>8</sub>	G <sup>1</sup> / <sub>4</sub>	QS-8	22.4	18.8	14.5	44.1	32.9	56.3	7	18.2	49.6	15	19
		QS-10			17.5	46.7	35.5						
G <sup>1</sup> / <sub>2</sub>	G <sup>3</sup> / <sub>8</sub>	QS-12	27.8	23.5	20.5	55.3	41.4	75.8	8.8	22.4	-	-	24

Ordering data					
Non-return valve, piloted	Pneumatic connection	For tubing O.D.	Pilot port	Part No.	Type
		[mm]			
	M5	4	M5	530 038	HGL-M5-QS4
	G <sup>1</sup> / <sub>8</sub>	4	M5	530 039	HGL- <sup>1</sup> / <sub>8</sub> -QS-4
	G <sup>1</sup> / <sub>8</sub>	6	M5	530 040	HGL- <sup>1</sup> / <sub>8</sub> -QS-6
	G <sup>1</sup> / <sub>4</sub>	8	G <sup>1</sup> / <sub>8</sub>	530 041	HGL- <sup>1</sup> / <sub>4</sub> -QS-8
	G <sup>1</sup> / <sub>4</sub>	10	G <sup>1</sup> / <sub>8</sub>	530 042	HGL- <sup>1</sup> / <sub>4</sub> -QS-10
	G <sup>3</sup> / <sub>8</sub>	8	G <sup>1</sup> / <sub>4</sub>	530 043	HGL- <sup>3</sup> / <sub>8</sub> -QS-8
	G <sup>3</sup> / <sub>8</sub>	10	G <sup>1</sup> / <sub>4</sub>	530 044	HGL- <sup>3</sup> / <sub>8</sub> -QS-10
	G <sup>1</sup> / <sub>2</sub>	12	G <sup>3</sup> / <sub>8</sub>	530 045	HGL- <sup>1</sup> / <sub>2</sub> -QS-12

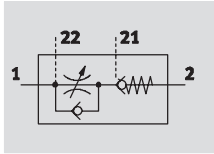


# Functional combination GRXA-HG

Data sheet

FESTO

Function



Functional combination with one-way flow control valve and piloted non-return valve

- Holding function and speed setting in one housing
- QS push-in fittings
- Adjustment via slotted head screw
- Additional pilot port 1 for interlinking with a second unit at port 21




Flow, non-return and regulating valves  
Non-return valves

5.1

General technical data		
Screw-in thread	G1/8	G1/4
Valve function	One-way flow control function for exhaust air and additional piloted non-return valve	
Setting component	Slotted head screw	
QS push-in fittings for tubing O.D. [mm]	4; 6	6; 8
Type of mounting	Screw in via male thread	
Assembly position	Any	
Max. tightening torque [Nm]	5.5	11

Operating and environmental conditions		
Screw-in thread	G1/8	G1/4
Operating medium / pilot medium	Dried air, lubricated or unlubricated, grade of filtration 40 µm	
Operating pressure [bar]	0.5 ... 10	
Pilot pressure [bar]	2 ... 10	
Storage temperature [°C]	-10 ... +40	
Ambient temperature [°C]	-10 ... +60	
Temperature of medium [°C]	-10 ... +60	

Weights		
Screw-in thread / push-in fitting	G1/8	G1/4
[g]	27	58

 Note

The GRXA-HG product family and all of its design variants must ONLY be used in safety-relevant applications in combination with additional measures detailed in EN 954-1.

A supplementary risk analysis by the user/designer is essential. The instructions and notices on the enclosed product leaflets must be observed.

# Functional combination

Data sheet



## 5.1

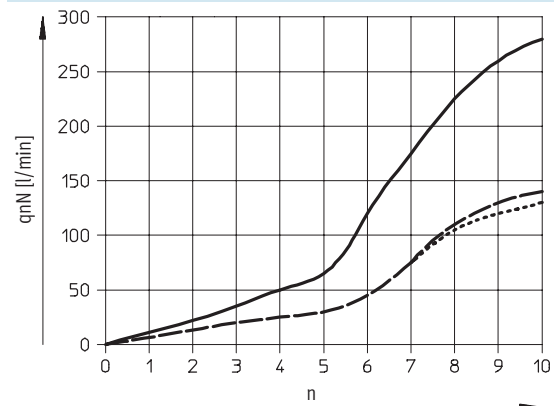
Standard nominal flow rate $q_{nN}$ [l/min] at 6 bar $\rightarrow$ 5 bar				
Screw-in thread		$G\frac{1}{8}$	$G\frac{1}{4}$	
One-way flow control function for exhaust air and piloted non-return valve				
GRXA-HG	QS-4	D <sup>1)</sup>	130	–
		R <sup>2)</sup>	100 ... 140	–
		B <sup>3)</sup>	100 ... 140	–
	QS-6	D	140	280
		R	115 ... 165	200 ... 260
		B	120 ... 160	180 ... 140
	QS-8	D	–	280
		R	–	200 ... 280
		B	–	190 ... 260

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

Standard flow rate $q_n$ [l/min] at 6 bar $\rightarrow$ 0 bar				
Screw-in thread		$G\frac{1}{8}$	$G\frac{1}{4}$	
One-way flow control function for exhaust air and piloted non-return valve				
GRXA-HG	QS-4	D <sup>1)</sup>	210	–
		R <sup>2)</sup>	230 ... 260	–
		B <sup>3)</sup>	220 ... 250	–
	QS-6	D	280	430
		R	270 ... 300	430 ... 490
		B	260 ... 300	410 ... 470
	QS-8	D	–	470
		R	–	460 ... 520
		B	–	440 ... 500

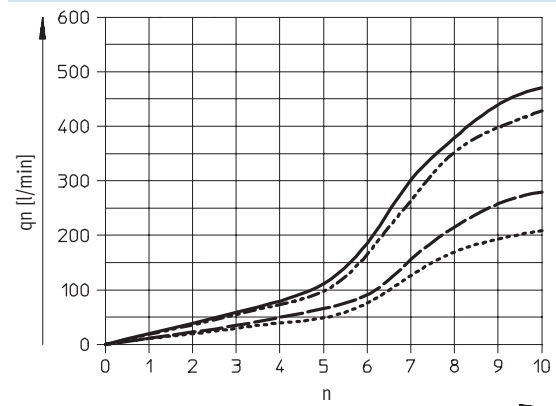
- 1) D: Flow control direction
- 2) R: Non-return direction
- 3) B: Non-return direction actuated

**Standard nominal flow rate  $q_{nN}$  at 6 bar  $\rightarrow$  5 bar as a function of turns of the adjusting screw  $n$**   
One-way flow control valve



- GRXA-HG-1/4-QS-8
- - GRXA-HG-1/4-QS-6
- ..... GRXA-HG-1/8-QS-6
- · - · GRXA-HG-1/8-QS-4

**Standard flow rate  $q_n$  at 6 bar  $\rightarrow$  0 bar as a function of turns of the adjusting screw  $n$**   
One-way flow control valve



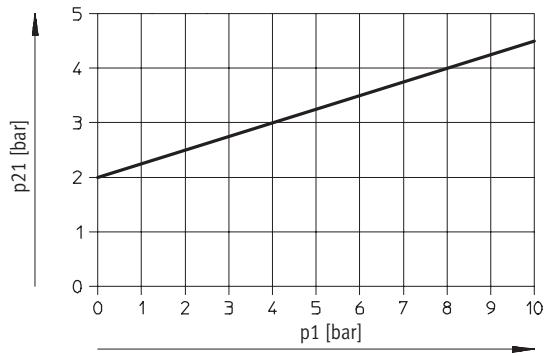
- GRXA-HG-1/4-QS-8
- - GRXA-HG-1/4-QS-6
- ..... GRXA-HG-1/8-QS-6
- · - · GRXA-HG-1/8-QS-4

# Functional combination

Data sheet

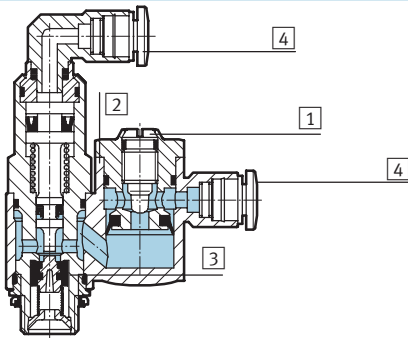
## Minimum pilot pressure as a function of operating pressure

Non-return valve, piloted



## Materials

Sectional view



### Functional combination

1	Adjusting screw	Stainless steel
2	Rotatable connection	Die-cast zinc
3	Seal	Nitrile rubber
4	Release ring	Polyacetate

# Functional combination

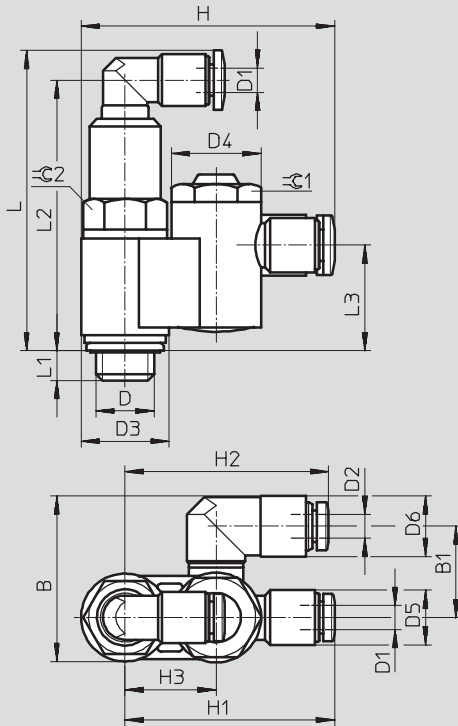
Data sheet



## Dimensions

Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)

Rotatable connection, elbow outlet, slotted head screw



Pneumatic connection D	B	B1	D1 ∅	D2 ∅	D3	D4 ∅	D5 ∅	D6	H	H1	H2	H3	L	L1	L2	L3	≈C 1	≈C 2
G <sup>1</sup> / <sub>8</sub>	27.3	15	4	4	14.5	14.8	9	10	41.8	34.5	33.5	15	49.5	4.9	44.6	17.4	13	12
	30.8	17.3	6					12.5			34.5							
G <sup>1</sup> / <sub>4</sub>	35.3	19.5	6	4	19	19	9	12.5	52.2	42.7	40.5	21	56.3	5.6	51.4	21.1	17	16
	39.5	21.5	8					17			48.7							

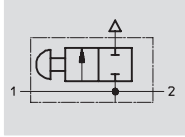
## Ordering data

Design	Screw-in thread	For tubing Outside	Part No.	Type
		[mm]		
	G <sup>1</sup> / <sub>8</sub>	4	525 667	GRXA-HG- <sup>1</sup> / <sub>8</sub> -QS-4
		6	525 668	GRXA-HG- <sup>1</sup> / <sub>8</sub> -QS-6
	G <sup>1</sup> / <sub>4</sub>	6	525 669	GRXA-HG- <sup>1</sup> / <sub>4</sub> -QS-6
		8	525 670	GRXA-HG- <sup>1</sup> / <sub>4</sub> -QS-8

# Non-return valves HGL, piloted

Technical data – Manual override HAB

## Function



Flow rate  
165 l/min

- The manual override module HAB can be used to manually exhaust air locked in the cylinder.

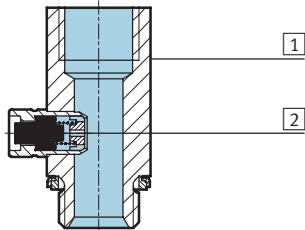


General technical data					
Pneumatic connection		G1/8	G1/4	G3/8	G1/2
Type of mounting		Can be screwed in			
Nominal size 1 > 2	[mm]	4.1	7	11	14
Exhaust flow rate	[l/min]	165			
Actuating force	[N]	16			
Tightening torque	[Nm]	4	11	40	50

Operating and environmental conditions					
Pneumatic connection		G1/8	G1/4	G3/8	G1/2
Operating medium		Filtered compressed air, lubricated or unlubricated			
Operating pressure range	[bar]	0 ... 10			
Temperature range	[°C]	-20 ... +80			

## Materials

### Sectional view



Manual override		
1	Housing	Aluminium
2	Seals	Nitrile rubber

# Non-return valves HGL, piloted

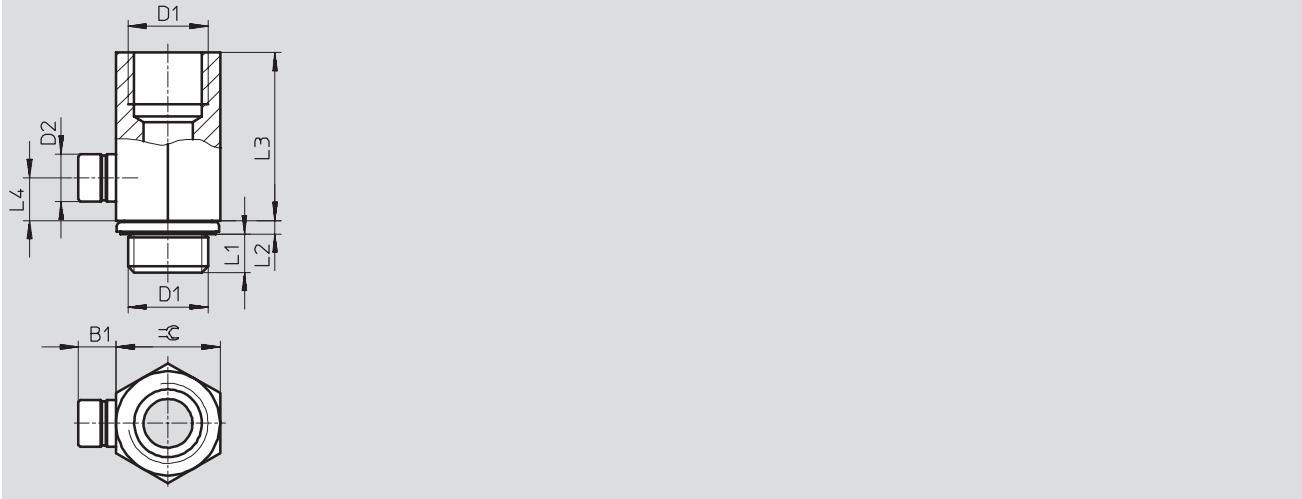
Technical data – Manual override HAB



Flow, non-return and regulating valves  
Non-return valves

## 5.1

Dimensions Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)



Pneumatic connection D1	B1	D2 Ø	L1	L2	L3	L4	≈G
G1/8	6.2	7.6	4.7	1.8	19.1	5	13
G1/4	6.2	7.6	6.3	2.2	27.5	7	17
G3/8	6.2	7.6	7.5	3	27.3	7	22
G1/2	6.2	7.6	10.9	2.6	32	7	24

Ordering data			
Manual override	Pneumatic connection	Part No.	Type
	G1/8	<b>184 585</b>	HAB-1/8
	G1/4	<b>184 586</b>	HAB-1/4
	G3/8	<b>184 587</b>	HAB-3/8
	G1/2	<b>184 588</b>	HAB-1/2