Piloted check valves HGL

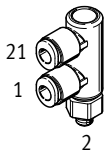
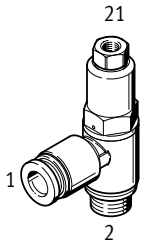
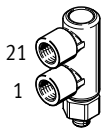
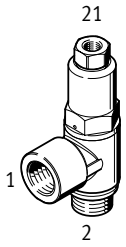
FESTO

★/☆	Festo core product range Covers 80% of your automation tasks	★	Generally ready for shipping ex works in 24 hours In stock at 13 Service Centres worldwide More than 2200 products
Worldwide:	Always in stock	☆	Generally ready for shipping ex works in 5 days Assembled for you at 4 Service Centres worldwide Up to 6 × 10^{12} variants per product family
Superb:	Festo quality at an attractive price		
Easy:	Simplified procurement and warehousing		

Just look for the star!

Product range overview and type codes

Product range overview

Valve function	Design		Pneumatic connection 1	Pneumatic connection 2	Pilot air connection 21	qnN [l/min]	→ Page/ Internet
Piloted non-return function	Push-in connector		QS-4	M5	QS-4	130	4
			QS-4, QS-6, QS-8, QS-10, QS-12	G1/8, G1/4, G3/8, G1/2	M5, G1/8, G1/4, G3/8	200 ... 1400	4
	Female thread		M5	M5	M5	130	7
			M5, G1/8, G1/4, G3/8, G1/2	M5, G1/8, G1/4, G3/8, G1/2	M5, G1/8, G1/4, G3/8	300 ... 1600	7

Type codes

001	Series	
HGL	Piloted check valve	

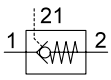
002	Pneumatic connection 2	
M5	Male thread M5	
1/8	Male thread G1/8	
1/4	Male thread G1/4	
3/8	Male thread G3/8	
1/2	Male thread G1/2	

003	Pneumatic connection 1	
	Connection size as for port 1 or 2	
QS-4	Push-in connector 4 mm	
QS-6	Push-in connector 6 mm	
QS-8	Push-in connector 8 mm	
QS-10	Push-in connector 10 mm	
QS-12	Push-in connector 12 mm	

004	Generation	
	None	
B	Series B	

Data sheet – Push-in connector

Function



- Flow rate
  130 ... 1400 l/min
- Temperature range
  –10 ... +60°C
- Operating pressure
  0.05 ... 1 MPa

The piloted check valve is suitable for brief positioning and braking functions in pneumatic drives.
Compressed air flows to and from the drive as long as a control signal is applied to pneumatic connection 21.

If no control signal is applied, the valve shuts off the exhaust air from the drive in flow direction 2 ➔ 1 and the movement of the drive is stopped.

- Proven component suitable for use in safety-related systems
- Swivel joint can be turned after mounting
- Manual exhausting of air trapped in the cylinder with manual override HAB as an accessory ➔ page 10

Note

If used in safety-related applications, additional measures are necessary, e.g. in Europe the standards listed under the EC Machinery Directive must be observed.

Without additional measures in accordance with legally specified minimum requirements, the product is not suitable as a safety-related component in control systems.

General technical data

Pneumatic connection 2		M5	G1/8	G1/4	G3/8	G1/2
Pneumatic connection 1		QS-4	QS-4, QS-6	QS-8, QS-10	QS-8, QS-10	QS-12
Pilot air connection 21		QS-4	M5	G1/8	G1/4	G3/8
Valve function		Piloted non-return function				
Actuation type		Pneumatic				
Type of mounting		Screw-in, via male thread				
Mounting position		Any				
Nominal tightening torque	[Nm]	1.25 ±10%	3.5 ±10%	11 ±10%	12.5 ±10%	14 ±10%

Note: This product conforms to ISO 1179-1 and ISO 228-1.

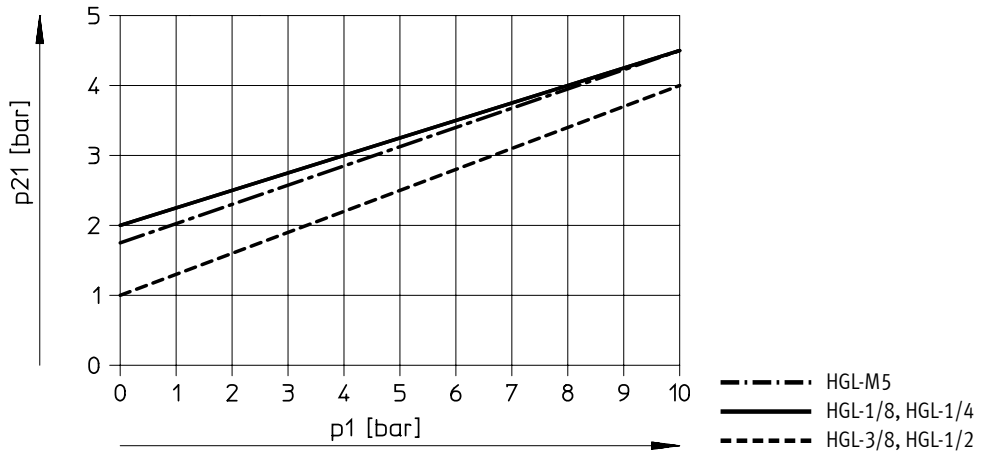
Operating and environmental conditions

Pneumatic connection 2		M5	G1/8	G1/4	G3/8	G1/2
Operating pressure for entire temperature range	[MPa]	0.05 ... 1				
	[bar]	0.5 ... 10				
	[psi]	7.25 ... 145				
Pilot pressure	[MPa]	0.2 ... 1			0.1 ... 1	
	[bar]	2 ... 10			1 ... 10	
	[psi]	29 ... 145			14.5 ... 145	
Operating/pilot 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)				
PWIS conformity		VDMA24364-B2-L				
Ambient temperature	[°C]	–10 ... +60				
Temperature of medium	[°C]	–10 ... +60				
Storage temperature	[°C]	–10 ... +60				
Corrosion resistance class CRC[1]		2				
Maritime classification		See certificate[2]				

1) Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.
2) Additional information is available at www.festo.com/catalogue/... ➔ Support/Downloads.

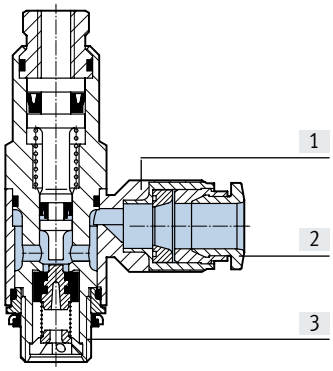
Data sheet – Push-in connector

Minimum pilot pressure p21 as a function of operating pressure p1



Materials

Sectional view

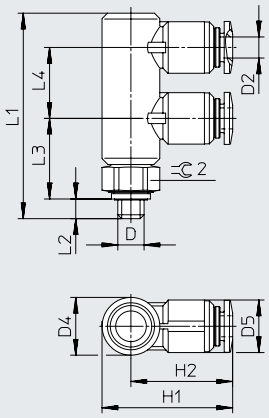


Piloted check valve		
[1]	Swivel joint	Die-cast zinc
[2]	Releasing ring	POM
[3]	Hollow bolt	Anodised wrought aluminium alloy
–	Seals, non-return collar	NBR
Note on materials		RoHS-compliant
		Free of copper and PTFE

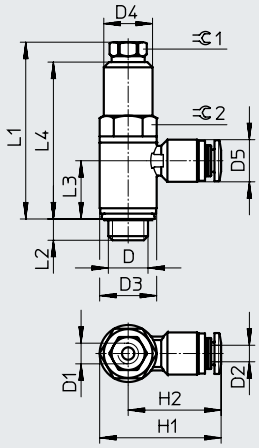
Data sheet – Push-in connector

Dimensions Download CAD data ➔ www.festo.com

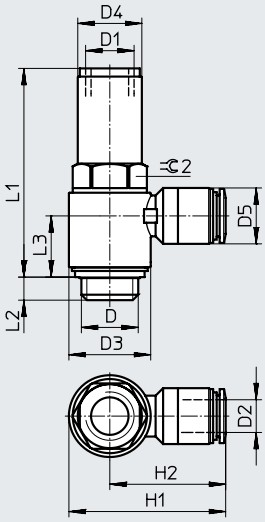
HGL-M5



HGL-1/8, HGL-1/4, HGL-3/8



HGL-1/2

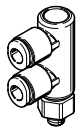
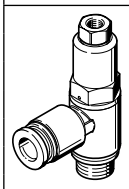


Type	D	D1	D2	D3 ø	D4 ø	D5 ø	H1	H2	L1	L2	L3	L4	=⊂ 1	=⊂ 2
HGL-M5-QS-4	M5	–	4	–	11	10	24.9	19.4	39	4	15	13.5	–	10
HGL-1/8-QS-4	G1/8	M5	4	13.8	11.8	10.2	29.4	22.5	42.6	5.4	13.9	37.8	8	12
HGL-1/8-QS-6			6			12.5	32.6	25.7			13.2			
HGL-1/4-QS-8	G1/4	G1/8	8	17.8	16	14.5	39.6	30.7	50.8	6.5	16.6	44.5	12	16
HGL-1/4-QS-10			10			17.5	42	33.1			15.5			
HGL-3/8-QS-8	G3/8	G1/4	8	22.4	18.8	14.5	44.1	32.9	56.3	7	18.2	49.5	15	19
HGL-3/8-QS-10			10			17.5	46.7	35.5			18.2			
HGL-1/2-QS-12	G1/2	G3/8	12	27.8	23.5	20.5	55.3	41.4	75.8	8.8	22.4	–	–	24

Note: This product conforms to ISO 1179-1 and ISO 228-1.

★ Core product range

Ordering data

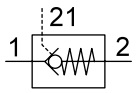
	Pneumatic connection 2	Pneumatic connection 1	Pilot air connection 21	Standard nominal flow rate 1 ➔ 2 from 6 to 5 bar [l/min]	Standard flow rate qn 1 ➔ 2 from 6 to 0 bar [l/min]	Weight [g]	Part no.	Type
	M5	QS-4	QS-4	130	200	21	★ 530038	HGL-M5-QS-4 1)
	G1/8	QS-4	M5	200	300	18.4	★ 530039	HGL-1/8-QS-4 1)
		QS-6	M5	270	400	21.4	★ 530040	HGL-1/8-QS-6 1)
	G1/4	QS-8	G1/8	390	640	38.7	★ 530041	HGL-1/4-QS-8 1)
		QS-10	G1/8	400	670	45	★ 530042	HGL-1/4-QS-10 1)
	G3/8	QS-8	G1/4	830	1200	54.7	★ 530043	HGL-3/8-QS-8 1)
		QS-10	G1/4	890	1300	60.3	★ 530044	HGL-3/8-QS-10 1)
	G1/2	QS-12	G3/8	1400	2100	116.9	★ 530045	HGL-1/2-QS-12 1)

1) Sealing ring for male thread is included in the scope of delivery.

Festo core product range	★	Generally ready for shipping ex works in 24 hours
	☆	Generally ready for shipping ex works in 5 days

Data sheet – Female thread

Function



- Flow rate
  130 ... 1600 l/min
- Temperature range
  –10 ... +60°C
- Operating pressure
  0.05 ... 1 MPa

The piloted check valve is suitable for brief positioning and braking functions in pneumatic drives.
Compressed air flows to and from the drive as long as a control signal is applied to pneumatic connection 21.

If no control signal is applied, the valve shuts off the exhaust air from the drive in flow direction 2 ➔ 1 and the movement of the drive is stopped.

- Proven component suitable for use in safety-related systems
- Swivel joint can be turned after mounting
- Manual exhausting of air trapped in the cylinder with manual override HAB as an accessory ➔ page 10

Note

If used in safety-related applications, additional measures are necessary, e.g. in Europe the standards listed under the EC Machinery Directive must be observed.

Without additional measures in accordance with legally specified minimum requirements, the product is not suitable as a safety-related component in control systems.

General technical data

Pneumatic connection 2		M5	G1/8	G1/4	G3/8	G1/2
Pneumatic connection 1		M5	G1/8	G1/4	G3/8	G1/2
Pilot air connection 21		M5	M5, G1/8	G1/8	G1/4	G3/8
Valve function		Piloted non-return function				
Actuation type		Pneumatic				
Type of mounting		Screw-in, via male thread				
Mounting position		Any				
Nominal tightening torque	[Nm]	1.25 ±10%	3.5 ±10%	11 ±10%	12.5 ±10%	14 ±10%

Note: This product conforms to ISO 1179-1 and ISO 228-1.

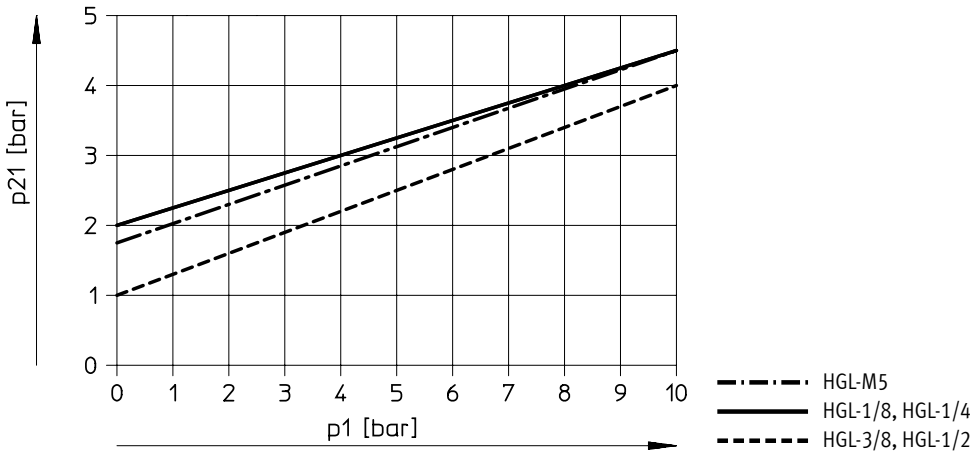
Operating and environmental conditions

Pneumatic connection 2		M5	G1/8	G1/4	G3/8	G1/2
Operating pressure for entire temperature range	[MPa]	0.05 ... 1				
	[bar]	0.5 ... 10				
	[psi]	7.25 ... 145				
Pilot pressure	[MPa]	0.2 ... 1			0.1 ... 1	
	[bar]	2 ... 10			1 ... 10	
	[psi]	29 ... 145			14.5 ... 145	
Operating/pilot 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)				
PWIS conformity		VDMA24364-B2-L				
Ambient temperature	[°C]	–10 ... +60				
Temperature of medium	[°C]	–10 ... +60				
Storage temperature	[°C]	–10 ... +60				
Corrosion resistance class CRC[1]		2				
Maritime classification		See certificate[2]				

1) Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.
2) Additional information is available at www.festo.com/catalogue/... ➔ Support/Downloads.

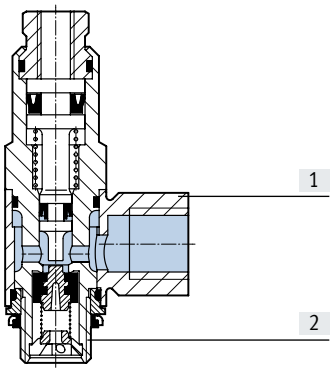
Data sheet – Female thread

Minimum pilot pressure p21 as a function of operating pressure p1



Materials

Sectional view

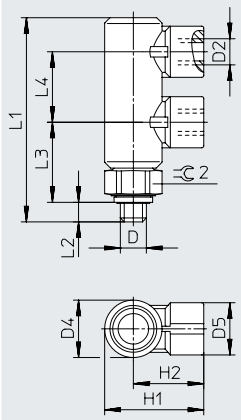


Piloted check valve		
[1]	Swivel joint	Die-cast zinc
[2]	Hollow bolt	Anodised wrought aluminium alloy
–	Seals, non-return collar	NBR
Note on materials		RoHS-compliant
		Free of copper and PTFE

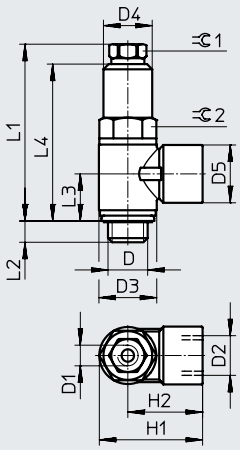
Data sheet – Female thread

Dimensions Download CAD data ➔ www.festo.com

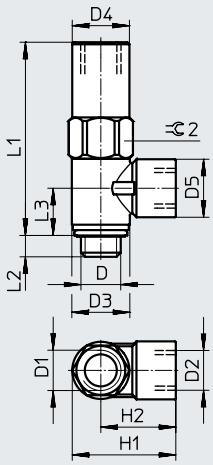
HGL-M5-B



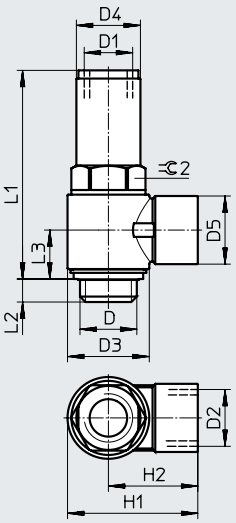
HGL-1/8-B, HGL-1/4-B, HGL-3/8-B



HGL-1/8-1/8-B



HGL-1/2-B

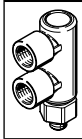
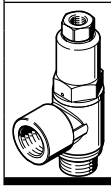


Type	D	D1	D2	D3 ø	D4 ø	D5 ø	H1	H2	L1	L2	L3	L4	1	2
HGL-M5-B	M5	–	M5	–	11	10	19	13.5	39	4	15	13.5	–	10
HGL-1/8-B	G1/8	M5	G1/8	14	11.8	14	25.1	18.1	42.6	5.4	11.2	37.8	8	12
HGL-1/8-1/8-B	G1/8	G1/8	G1/8	14	13.8	14	25.1	18.1	46.7	5.2	11.2	–	–	14
HGL-1/4-B	G1/4	G1/8	G1/4	18	16	17.5	34	25	50.8	6.5	13.5	44.5	12	16
HGL-3/8-B	G3/8	G1/4	G3/8	23.8	18.8	20	39.3	27.4	56.3	7	15.1	49.5	15	19
HGL-1/2-B	G1/2	G3/8	G1/2	30	23.5	25	47.8	32.8	75.8	8.8	17.7	–	–	24

Note: This product conforms to ISO 1179-1 and ISO 228-1.

★ Core product range

Ordering data

	Pneumatic connection 2	Pneumatic connection 1	Pilot air connection 21	Standard nominal flow rate 1 ➔ 2 from 6 to 5 bar [l/min]	Standard flow rate 1 ➔ 2 from 6 to 0 bar [l/min]	Weight [g]	Part no.	Type
	M5	M5	M5	130	200	21	★ **530029**	**HGL-M5-B** [1]
	G1/8	G1/8	M5	300	430	20.8	★ **530030**	**HGL-1/8-B** [1]
			G1/8	300	430	26.2	**543253**	**HGL-1/8-1/8-B** [1]
	G1/4	G1/4	G1/8	550	680	41.2	★ **530031**	**HGL-1/4-B** [1]
	G3/8	G3/8	G1/4	1100	1500	62.9	★ **530032**	**HGL-3/8-B** [1]
	G1/2	G1/2	G3/8	1600	2100	129.4	★ **530033**	**HGL-1/2-B** [1]

1) Sealing ring for male thread is included in the scope of delivery.

Festo core product range	★	Generally ready for shipping ex works in 24 hours
	☆	Generally ready for shipping ex works in 5 days

Accessories

Manual override HAB
For check valve HGL

Material:
Housing: Anodised wrought aluminium alloy

Note on materials:
RoHS-compliant

- In combination with check valve HGL for manual exhausting of air trapped in a cylinder

General technical data

Pneumatic connection 2		G1/8	G1/4	G3/8	G1/2
Pneumatic connection 1		G1/8	G1/4	G3/8	G1/2
Nominal size	[mm]	4.1	7	11	14
Valve function		Exhaust component			
Type of mounting		Screw-in			
Mounting position		Any			
Standard flow rate exhaust 0.6 ➔ 0.5 MPa	[l/min]	165			
Max. tightening torque	[Nm]	8	15	35	45

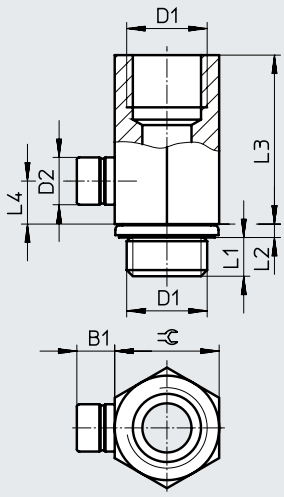
Operating and environmental conditions

Operating pressure	[bar]	0 ... 10
Operating medium		Compressed air to ISO 8573-1:2010 [7:4:4]
PWIS conformity		VDMA24364-B1/B2-L
Note on the operating/pilot medium		Lubricated operation possible (in which case lubricated operation will always be required)
Ambient temperature	[°C]	–20 ... +80
Temperature of medium	[°C]	–20 ... +80
Corrosion resistance class CRC[1)]		2

1) Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

Dimensions

Download CAD data ➔ www.festo.com



Dimensions and ordering data

Connection	B1	D1	D2 Ø	L1	L2	L3	L4	⫧	Part no.	Type
G1/8	6.2	G1/8	7.7	4.7	1.8	19.1	5	13	**184585**	**HAB-1/8**
G1/4	6.2	G1/4	7.7	5.8	2.2	28	7	17	**184586**	**HAB-1/4**
G3/8	6.2	G3/8	7.7	6.05	3.35	28.4	7	19	**184587**	**HAB-3/8**
G1/2	6.2	G1/2	7.7	7.9	2.6	38.5	7	24	**184588**	**HAB-1/2**

Note: This product conforms to ISO 1179-1 and ISO 228-1.