

Piloted check valves HGL

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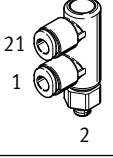
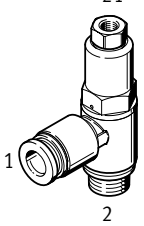
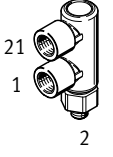
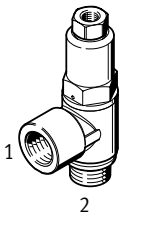
Worldwide: Quickest delivery – wherever, whenever
Simply good: Expected high Festo quality
Fast: Easy and fast to select

With the Festo Core Range, we have selected the most important products and functions from our broad product catalogue, and added the quickest delivery.

The Core Range offers you the best value for your automation tasks.

Just look
for the
star!

Product range overview

Valve function	Version		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

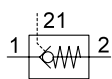
002	Pneumatic connection 2
M5	Male thread M5
1/8	Male thread G1/8
1/4	Male thread G1/4
3/8	Male thread G3/8
1/2	Male thread G1/2

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

Datasheet – 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 drive stops moving.

- Tried and tested component, suitable for use in safety-related systems
- Swivel connection can be turned after mounting
- Manual exhausting of air trapped in the cylinder with manual override HAB as an accessory → page 10

Note

Additional measures are required for use in safety-related applications; in Europe, for example, 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

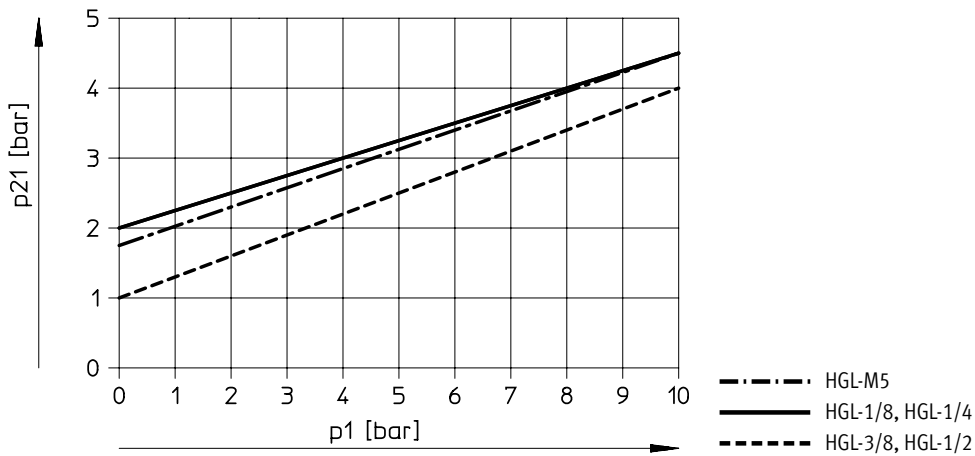
Pneumatic connection 2	M5	G1/8	G1/4	G3/8	G1/2
Operating pressure for full temperature range	[MPa]	0.05 ... 1			
	[bar]	0.5 ... 10			
	[psi]	7.25 ... 145			
Pilot pressure	[MPa]	0.2 ... 1		0.1 ... 1	
	[bar]	2 ... 10		1 ... 10	
	[psi]	29 ... 145		14.5 ... 145	
Operating medium/control medium	Compressed air to ISO 8573-1:2010 [7:4:4]				
Note on the operating/pilot medium	Lubricated operation possible (in which case lubrication will always be required)				
LABS (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 - Moderate corrosion stress				
Maritime classification	See certificate ²⁾				

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

2) More information www.festo.com/catalogue/hgl → Support/Downloads.

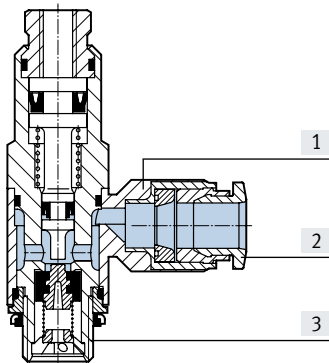
Datasheet – Push-in connector

Minimum pilot pressure p21 as a function of operating pressure p1



Materials

Sectional view

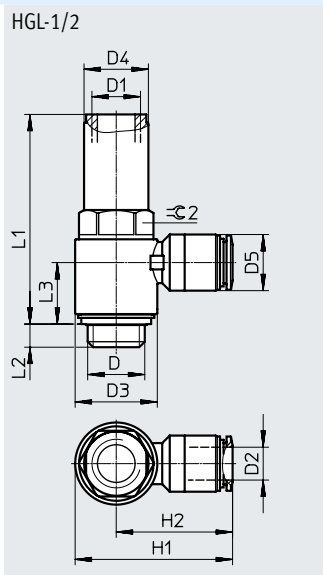
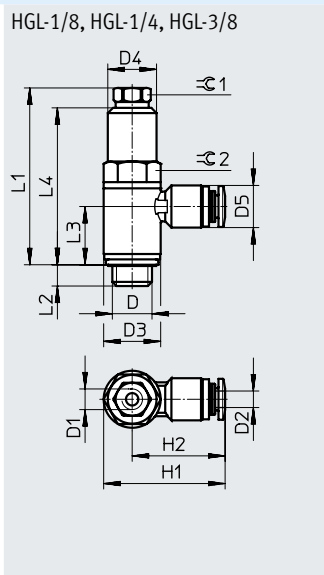
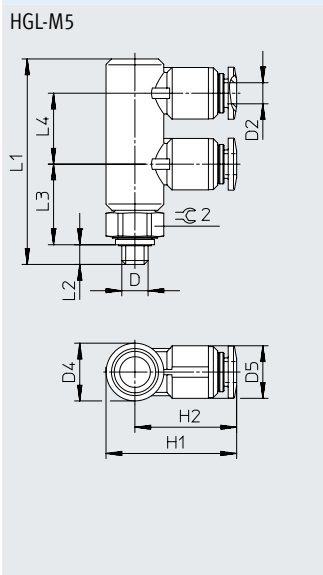


Piloted check valve	
[1] Swivel connection	Die-cast zinc
[2] Release ring	POM
[3] Hollow bolt	Anodised wrought aluminium alloy
– Seals, non-return collar	NBR
Note on materials	RoHS-compliant
LABS (PWIS) conformity	VDMA24364-B2-L
Cleanroom class	Class 4 to ISO 14644-1

Datasheet – Push-in connector

Dimensions

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Type	D	D1	D2	D3 ∅	D4 ∅	D5 ∅	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					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					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					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 Range

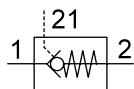
Ordering data

	Pneumatic connection		Pilot air connection	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
	2	1	21					
	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.

Datasheet – 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 drive stops moving.

- Tried and tested component, suitable for use in safety-related systems
- Swivel connection can be turned after mounting
- Manual exhausting of air trapped in the cylinder with manual override HAB as an accessory → page 10

Note

Additional measures are required for use in safety-related applications; in Europe, for example, 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.

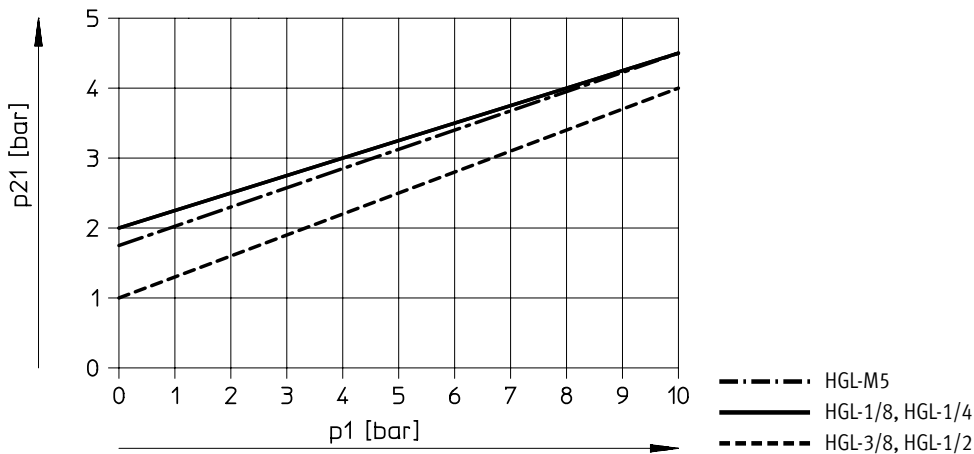
Operating and environmental conditions						
Pneumatic connection 2		M5	G1/8	G1/4	G3/8	G1/2
Operating pressure for full temperature range	[MPa]	0.05 ... 1				
	[bar]	0.5 ... 10				
	[psi]	7.25 ... 145				
Pilot pressure	[MPa]	0.2 ... 1			0.1 ... 1	
	[bar]	2 ... 10			1 ... 10	
	[psi]	29 ... 145			14.5 ... 145	
Operating medium/control medium		Compressed air to ISO 8573-1:2010 [7:4:4]				
Note on the operating/pilot medium		Lubricated operation possible (in which case lubrication will always be required)				
LABS (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 - Moderate corrosion stress				
Maritime classification		See certificate ²⁾				

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

2) More information www.festo.com/catalogue/hgl → Support/Downloads.

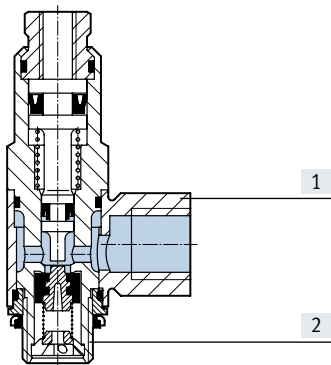
Datasheet – Female thread

Minimum pilot pressure p₂₁ as a function of operating pressure p₁



Materials

Sectional view

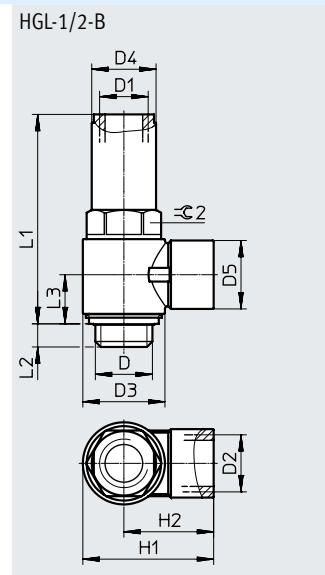
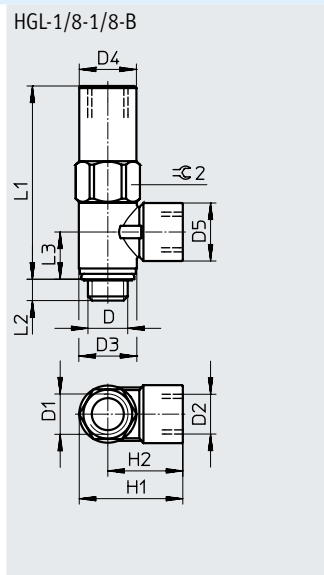
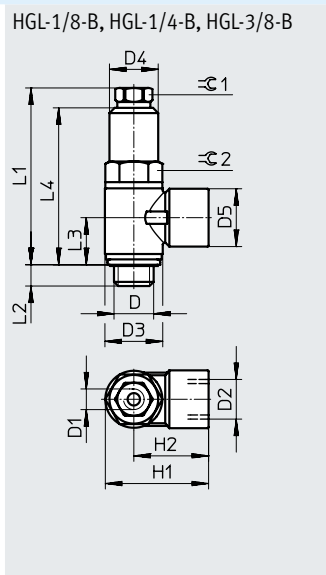
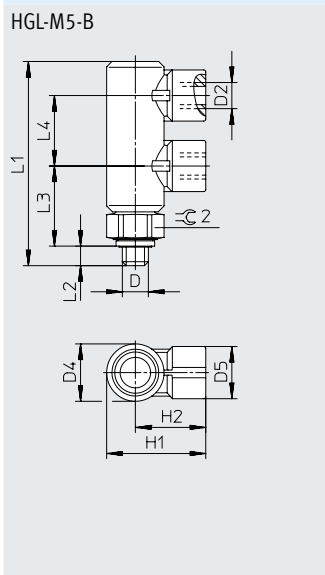


Piloted check valve	
[1] Swivel connection	Die-cast zinc
[2] Hollow bolt	Anodised wrought aluminium alloy
– Seals, non-return collar	NBR
Note on materials	RoHS-compliant
LABS (PWIS) conformity	VDMA24364-B2-L
Cleanroom class	Class 4 to ISO 14644-1

Datasheet – Female thread

Dimensions

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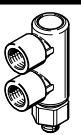
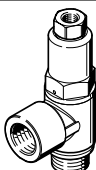


Type	D	D1	D2	D3	D4	D5	H1	H2	L1	L2	L3	L4	∅ 1	∅ 2
HGL-M5-B	M5	–	M5	–	11	10	19	13.5	39	4	15	13.5	–	10
HGL-1/8-B	G1/8	M5	G1/8	14	11.8	14	25.1	18.1	42.6	5.4	11.2	37.8	8	12
HGL-1/8-1/8-B	G1/8	G1/8	G1/8	14	13.8	14	25.1	18.1	46.7	5.2	11.2	–	–	14
HGL-1/4-B	G1/4	G1/8	G1/4	18	16	17.5	34	25	50.8	6.5	13.5	44.5	12	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 Range

Ordering data

	Pneumatic connection		Pilot air connection	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
	2	1						
	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.

Accessories

Manual override HAB

For check valve HGL

Used in conjunction with a check valve HGL for manually exhausting an air volume trapped in the cylinder.



Material:

Housing: Anodised wrought aluminium alloy

Note on materials:

RoHS-compliant

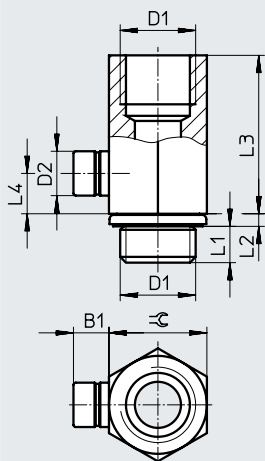
General technical data				
Pneumatic connection 2	G1/8	G1/4	G3/8	G1/2
Pneumatic connection 1	G1/8	G1/4	G3/8	G1/2
Nominal width [mm]	4.1	7	11	14
Valve function	Exhaust component			
Type of mounting	Screw-in			
Mounting position	Any			
Standard exhaust flow rate 0.6 → 0.5 MPa [l/min]	165			
Max. tightening 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]
LABS (PWIS) conformity	VDMA24364-B1/B2-L
Note on the operating/pilot medium	Lubricated operation possible (in which case lubrication will always be required)
Ambient temperature [°C]	-20 ... +80
Temperature of medium [°C]	-20 ... +80
Corrosion resistance class CRC ¹⁾	2 - Moderate corrosion stress

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

Dimensions

Download CAD data → www.festo.com



Dimensions and ordering data										
Connection	B1	D1	D2 ∅	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.