

Piloted non return valve HGL

FESTO



Characteristics

At a glance

Stop valve with manual override option.

- Valve function: piloted non-return function
- Screw-in with external thread
- Pneumatically piloted
- Pilot air connection: M5, G1/8, G1/4, G3/8, QS-4
- Manually actuated exhaust possible with separate accessory

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.

Diagrams

Link [hgl](#)



The diagrams shown in this document are also available online. There, it is possible to display precise values.

Type code

001	Series	
HGL	Piloted non return valve	
002	Pneumatic connection 2	
1/8	External thread G1/8	
1/8-NPT	external thread 1/8 NPT	
1/4	External thread G1/4	
1/4-NPT	external thread 1/4 NPT	
3/8	External thread G3/8	
3/8-NPT	external thread 3/8 NPT	
1/2	external thread G1/2	
1/2-NPT	external thread 1/2 NPT	
M5	External thread M5	

003	Pneumatic connection 1	
	Connection size as for connection 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	
	Without	
B	Series B	

Datasheet

General technical data - Push-in connector

Pneumatic connection 1	QS-4	QS-6	QS-8	QS-10	QS-12
Pneumatic connection 2	M5	G1/8	G1/4	G3/8	G1/2
Pilot air port 21	QS-4	M5	G1/8	G1/4	G3/8
Valve function	Unlockable check valve function				
Actuation type	Pneumatic				
Type of mounting	Screw-in, With external thread				
Mounting position	Any				
Nominal tightening torque	1.25 Nm	3.5 Nm	11 Nm	12.5 Nm	14 Nm
Tolerance for nominal tightening torque	±10%				

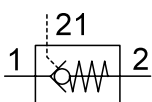
General technical data – Internal thread

Pneumatic connection 1	M5	G1/8	G1/4	G3/8	G1/2
Pneumatic connection 2	M5	G1/8	G1/4	G3/8	G1/2
Pilot air port 21	M5	M5 G1/8	G1/8	G1/4	G3/8
Valve function	Unlockable check valve function				
Actuation type	Pneumatic				
Type of mounting	Screw-in, With external thread				
Mounting position	Any				
Nominal tightening torque	1.25 Nm	3.5 Nm	11 Nm	12.5 Nm	14 Nm
Tolerance for nominal tightening torque	±10%				

General technical data – NPT Threads (not available in all markets)

Pneumatic connection 1	1/8 NPT	1/4 NPT	3/8 NPT	1/2 NPT
Pneumatic connection 2	1/8 NPT	1/4 NPT	3/8 NPT	1/2 NPT
Valve function	Unlockable check valve function			
Type of mounting	Screw-in			

Function



Datasheet

Operating and environmental conditions – Push-in connector

Operating and environmental conditions Push-in connector								
Pneumatic connection 2	M5	G1/8		G1/4		G3/8		G1/2
Pneumatic connection 1	QS-4		QS-6	QS-8	QS-10	QS-8	QS-10	QS-12
Operating pressure	0.05 ... 1 MPa							
Operating pressure	0.5 ... 10 bar							
Operating pressure	7.25 ... 145 psi							
Pilot pressure MPa	0.2 ... 1 MPa					0.1 ... 1 MPa		
Pilot pressure	2 ... 10 bar					1 ... 10 bar		
Pilot pressure psi	29 ... 145 psi					14.5 ... 145 psi		
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 1->2 (6-5)	130 l/min	200 l/min	270 l/min	390 l/min	400 l/min	830 l/min	890 l/min	1,400 l/min
Standard flow rate 1->2 (6-0)	200 l/min	300 l/min	400 l/min	640 l/min	670 l/min	1,200 l/min	1,300 l/min	2,100 l/min
Ambient temperature	-10 ... 60°C							
Temperature of medium	-10 ... 60°C							
Storage temperature	-10 ... 60°C							
Corrosion resistance class (CRC) ¹⁾	2 - Moderate corrosion stress							
Maritime classification ²⁾	See certificate							

1) More information at www.festo.com/x/topic/kbk2) Further information www.festo.com/catalogue/hgl → Support/Downloads.

Operating and environmental conditions – Internal thread

Operating and environmental conditions - Internal thread					
Pneumatic connection 2	M5	G1/8	G1/4	G3/8	G1/2
Operating pressure	0.05 ... 1 MPa				
Operating pressure	0.5 ... 10 bar				
Operating pressure	7.25 ... 145 psi				
Pilot pressure MPa	0.2 ... 1 MPa			0.1 ... 1 MPa	
Pilot pressure	2 ... 10 bar			1 ... 10 bar	
Pilot pressure psi	29 ... 145 psi			14.5 ... 145 psi	
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 1->2 (6-5)	130 l/min	300 l/min	550 l/min	1,100 l/min	1,600 l/min
Standard flow rate 1->2 (6-0)	200 l/min	430 l/min	680 l/min	1,500 l/min	2,100 l/min
Ambient temperature	-10 ... 60°C				
Temperature of medium	-10 ... 60°C				
Storage temperature	-10 ... 60°C				
Corrosion resistance class (CRC) ¹⁾	2 - Moderate corrosion stress				
Maritime classification ²⁾	See certificate				

1) More information at www.festo.com/x/topic/kbk2) Further information www.festo.com/catalogue/hgl → Support/Downloads.

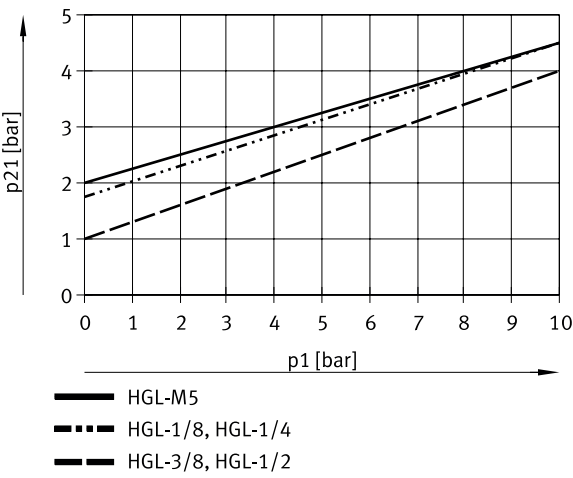
Operating and environmental conditions – NPT threads (not available in all markets)

Pneumatic connection 2	1/8 NPT	1/4 NPT	3/8 NPT	1/2 NPT
Operating pressure	0.03 ... 1 MPa		0.02 ... 1 MPa	
Operating pressure	0.3 ... 10 bar		0.2 ... 10 bar	
Operating pressure	4.35 ... 145 psi		2.9 ... 145 psi	
Pilot pressure MPa	0.2 ... 1 MPa	0.18 ... 1 MPa	0.12 ... 1 MPa	0.1 ... 1 MPa
Pilot pressure	2 ... 10 bar	1.8 ... 10 bar	1.2 ... 10 bar	1 ... 10 bar
Pilot pressure psi	29 ... 145 psi	26.1 ... 145 psi	17.4 ... 145 psi	14.5 ... 145 psi
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)			
Normal nominal flow rate (normalized to DIN 1343)	0 - 260 l/min	0 - 490 l/min	0 - 900 l/min	0 - 1600 l/min
Ambient temperature	-20 ... 80°C			
Temperature of medium	-20 ... 80°C			

Datasheet

Materials	
Swivel joint material	Die-cast zinc
Releasing ring material	POM
Hollow bolt material	Wrought aluminum alloy, Anodized
Material of screwed plug	Galvanized steel
Seals material	NBR
Non-return collar material	NBR
Note on materials	RoHS compliant
LABS (PWIS) conformity	VDMA24364-B2-L
Cleanroom suitability, measured according to ISO 14644-14	Class 4 according to ISO 14644-1

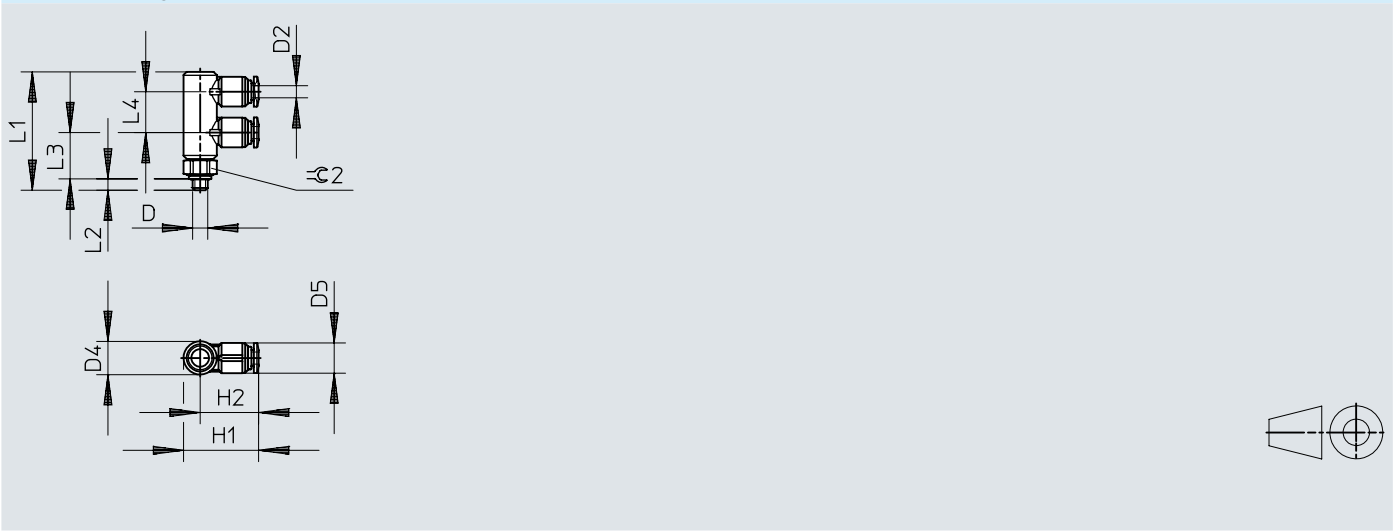
Minimum pilot pressure p21 as a function of operating pressure p1



Dimensions

Dimensions – Plug connector HGL-M5

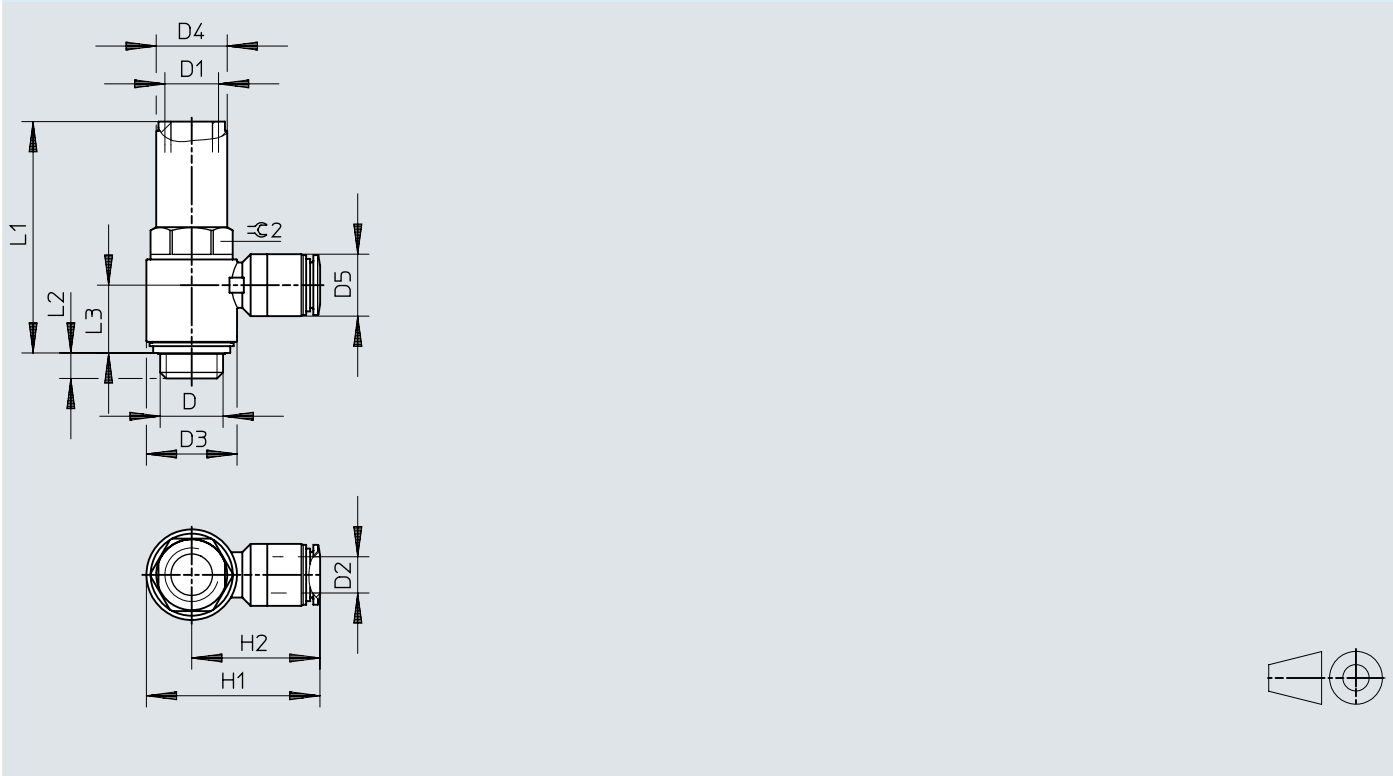
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	D	D2	D4 ø	D5 ø	H1	H2	L1	L2	L3	L4	⌀ 2
HGL-M5-QS-4	M5	4	11	10	24,9	19,4	39	4	15	13,5	10

Dimensions

Dimensions – Push-in connector HGL-1/8, HGL-1/4, HGL-3/8 Download CAD data www.festo.com

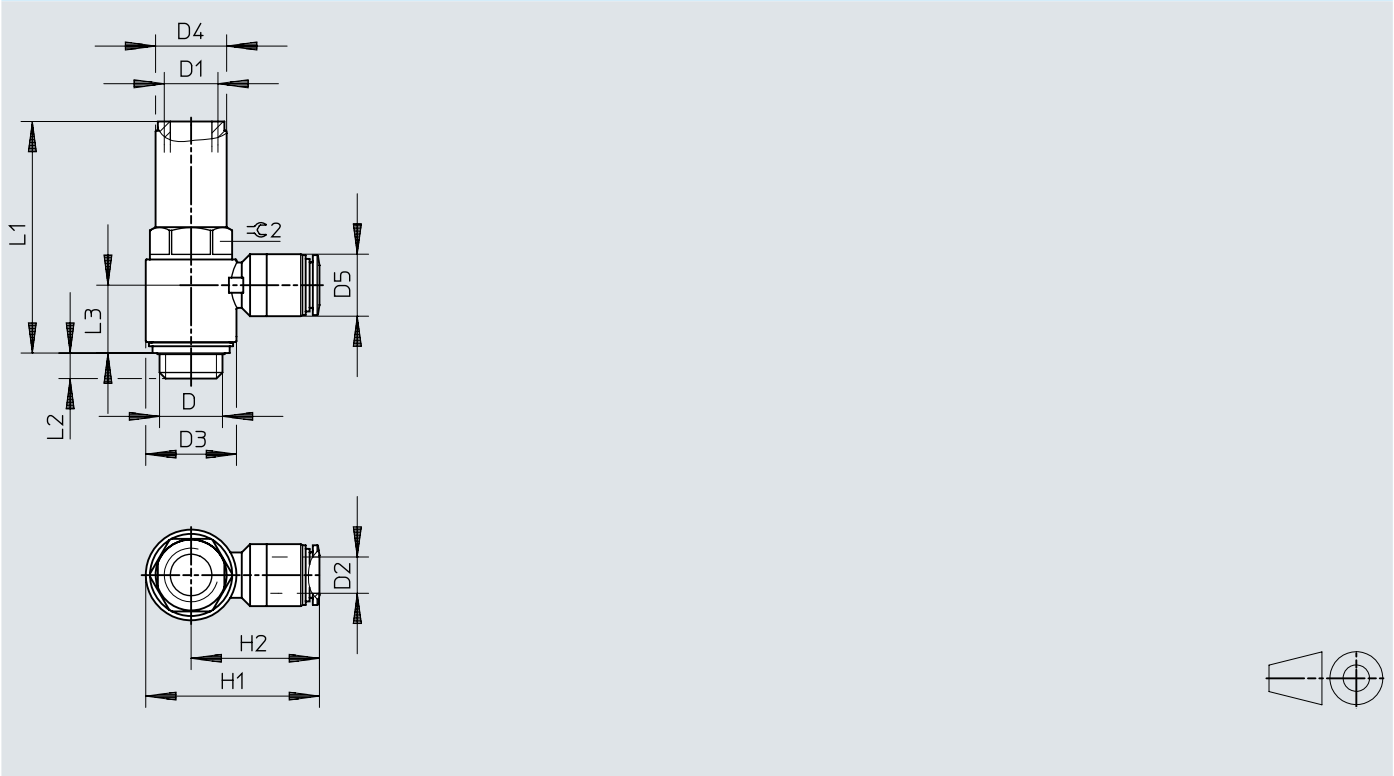


	D	D1	D2	D3 ø	D4 ø	D5 ø	H1	H2	L1	L2	L3	L4	1	2
HGL-1/8-QS-4	G1/8	M5	4	13,8	11,8	10,2	29,4	22,5	42,6	5,4	13,9	37,8	8	12
HGL-1/8-QS-6			6			12,5	32,6	25,7			13,2			
HGL-1/4-QS-8	G1/4	G1/8	8	17,8	16	14,5	39,6	30,7	50,8	6,5	16,6	44,5	12	16
HGL-1/4-QS-10			10			17,5	42	33,1			15,5			
HGL-3/8-QS-8	G3/8	G1/4	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			

Dimensions

Dimensions – Plug connector HGL-1/2

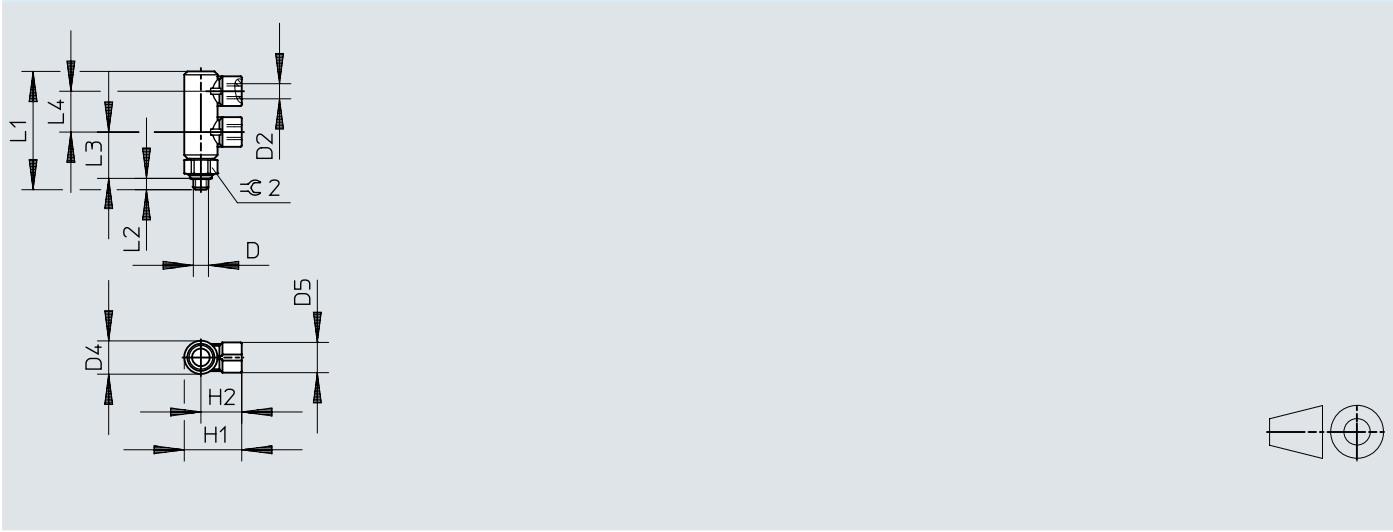
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	D	D1	D2	D3 ø	D4 ø	D5 ø	H1	H2	L1	L2	L3	≈ 24
HGL-1/2-QS-12	G1/2	G3/8	12	27,8	23,5	20,5	55,3	41,4	75,8	8,8	22,4	24

Dimensions

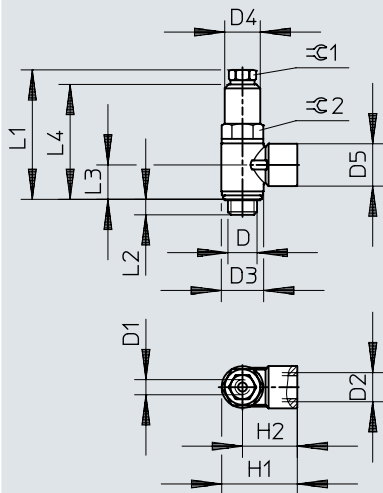
Dimensions – Threaded connection HGL-M5-B Download CAD data www.festo.com



	D	D2	D4 ø	D5 ø	H1	H2	L1	L2	L3	L4	± 2
HGL-M5-B	M5	M5	11	10	19	13,5	39	4	15	13,5	10

Dimensions

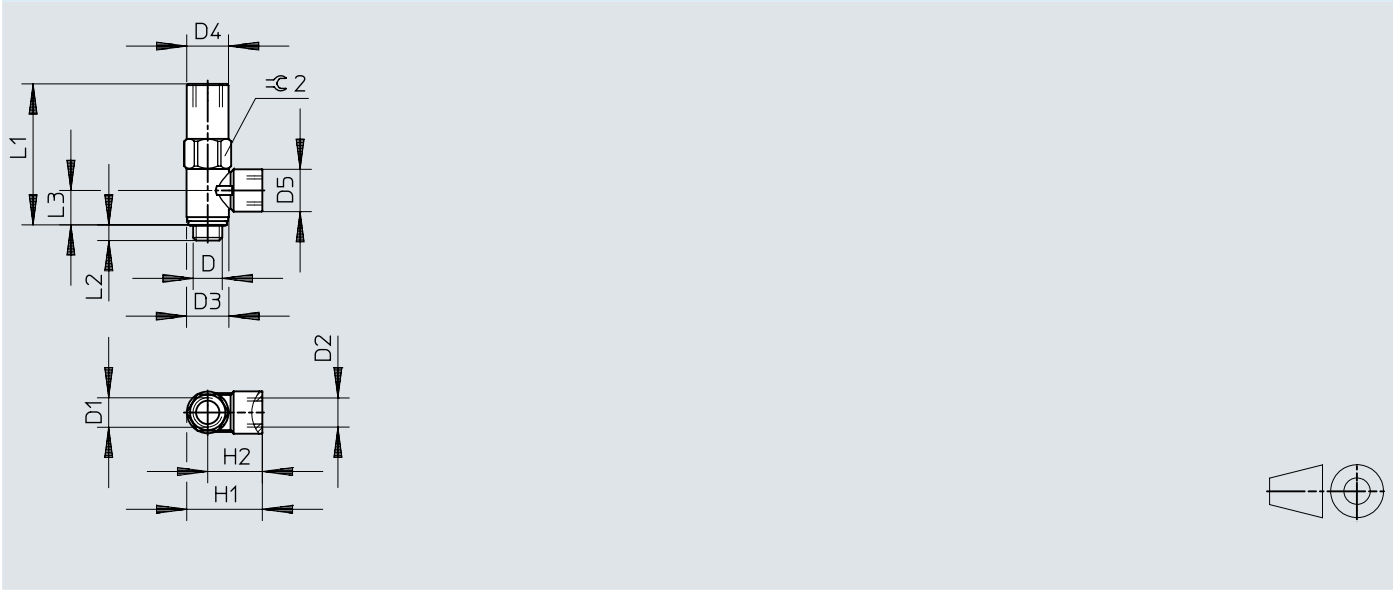
Dimensions – Threaded connection HGL-1/8-B, HGL-1/4-B, HGL-3/8-B

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	D	D1	D2	D3 ø	D4 ø	D5 ø	H1	H2	L1	L2	L3	L4	≅ 1	≅ 2
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-1/4-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

Dimensions

Dimensions – Threaded connection HGL-1/8-1/8-B Download CAD data www.festo.com



	D	D1	D2	D3	D4	D5	H1	H2	L1	L2	L3	≈ 2
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

Dimensions

Dimensions – Threaded connection HGL-1/2-B

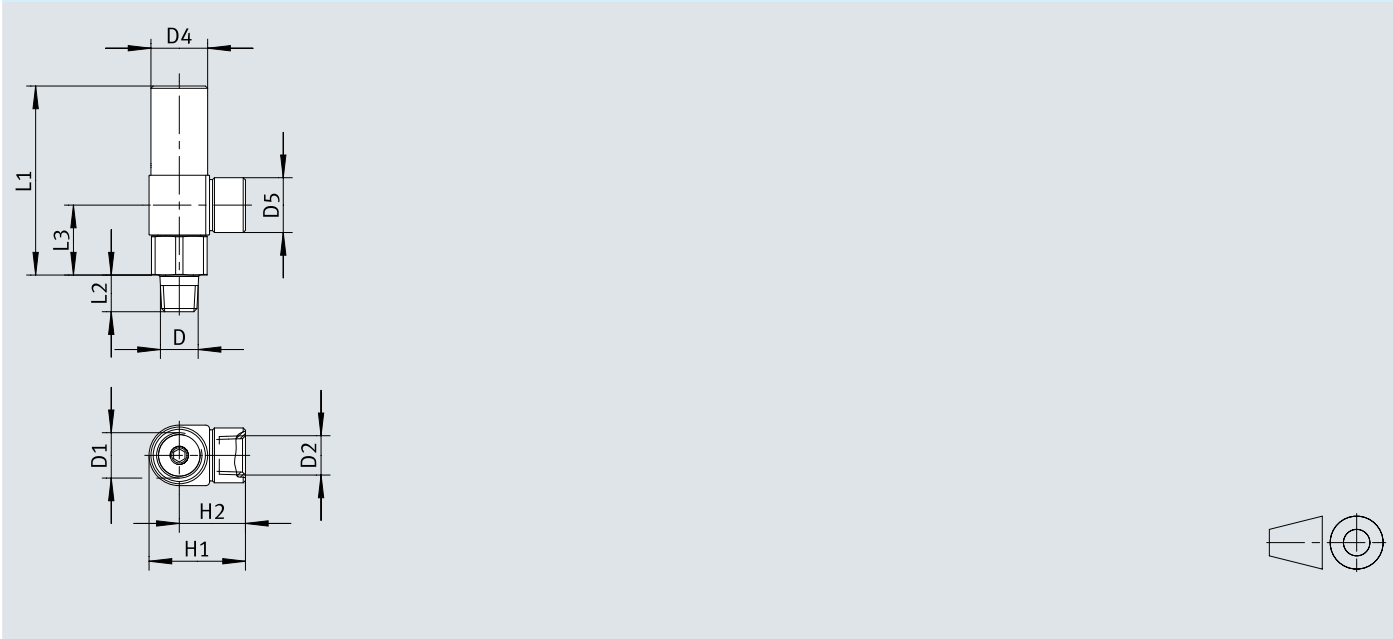
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	D	D1	D2	D3 ø	D4 ø	D5 ø	H1	H2	L1	L2	L3	≅ 2
HGL-1/2-B	G1/2	G3/8	G1/2	30	23,5	25	47,8	32,8	75,8	8,8	17,7	24

Dimensions

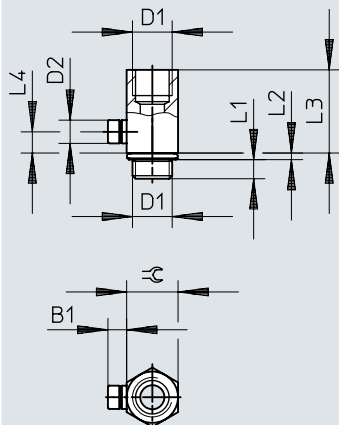
Dimensions – Threaded connection NPT thread Download CAD data www.festo.com



	D	D1	D2	D4 ø	D5 ø	H1 ±0,3	H2 +0,3/-0,1	L1 +1,65/-0,65	L2 ±0,2	L3 +1,65/-0,65
HGL-1/8-NPT	1/8 NPT	10-32 UNF-2A	1/8 NPT	15	14,5	25,5	17,5	50	9,7	18,5
HGL-1/4-NPT	1/4 NPT	1/8 NPT	1/4 NPT	18	19	33	23	59	13,5	21,9
HGL-3/8-NPT	3/8 NPT	1/8 NPT	3/8 NPT	22	23	37,5	25	65	15	24,9
HGL-1/2-NPT	1/2 NPT	1/8 NPT	1/2 NPT	28	29,8	46,5	30,5	83,5	17,6	29,1

Dimensions

Dimensions – Manual override HAB

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	B1	D1	D2 ø	L1	L2	L3	L4	≅
HAB-1/8	6,2	G1/8	7,7	4,7	1,8	19,1	5	13
HAB-1/4	6,2	G1/4	7,7	5,8	2,2	28	7	17
HAB-3/8	6,2	G3/8	7,7	6,05	3,35	28,4	7	19
HAB-1/2	6,2	G1/2	7,7	7,9	2,6	38,5	7	24

Ordering data

Push-in connector HGL – M-thread						
	Pneumatic connection 2	Pilot air port 21	Pneumatic connection 1	Product weight	Part no.	Type
	M5	QS-4	QS-4	21 g	530038	HGL-M5-QS-4

Push-in connector HGL – G-thread						
	Pneumatic connection 2	Pilot air port 21	Pneumatic connection 1	Product weight	Part no.	Type
	G1/8	M5	QS-4	18.4 g	530039	HGL-1/8-QS-4
			QS-6	21.4 g	530040	HGL-1/8-QS-6
	G1/4	G1/8	QS-8	38.7 g	530041	HGL-1/4-QS-8
			QS-10	45 g	530042	HGL-1/4-QS-10
	G3/8	G1/4	QS-8	54.7 g	530043	HGL-3/8-QS-8
			QS-10	60.3 g	530044	HGL-3/8-QS-10
	G1/2	G3/8	QS-12	116.9 g	530045	HGL-1/2-QS-12

Threaded connection HGL – M thread						
	Pneumatic connection 2	Pilot air port 21	Pneumatic connection 1	Product weight	Part no.	Type
	M5	M5	M5	21 g	530029	HGL-M5-B

Threaded connection HGL – G thread						
	Pneumatic connection 2	Pilot air port 21	Pneumatic connection 1	Product weight	Part no.	Type
	G1/8	M5	G1/8	20.8 g	530030	HGL-1/8-B
		G1/8		26.2 g	543253	HGL-1/8-1/8-B
	G1/4		G1/4	41.2 g	530031	HGL-1/4-B
	G3/8	G1/4	G3/8	62.9 g	530032	HGL-3/8-B
	G1/2	G3/8	G1/2	129.4 g	530033	HGL-1/2-B

Threaded connection HGL – NPT thread (not available in all markets)						
	Pneumatic connection 2	Pneumatic connection 1	Part no.	Type		
	1/8 NPT	1/8 NPT	34877	HGL-1/8-NPT		

Ordering data

Threaded connection HGL – NPT thread (not available in all markets)				
	Pneumatic connection 2	Pneumatic connection 1	Part no.	Type
	1/4 NPT	1/4 NPT	34878	HGL-1/4-NPT
	3/8 NPT	3/8 NPT	34879	HGL-3/8-NPT
	1/2 NPT	1/2 NPT	34880	HGL-1/2-NPT

Accessories

Manual override HAB				
	Pneumatic connection 1	Nominal width	Part no.	Type
	G1/8	4.1 mm	184585	HAB-1/8
	G1/4	7 mm	184586	HAB-1/4
	G3/8	11 mm	184587	HAB-3/8
	G1/2	14 mm	184588	HAB-1/2