

Piloted check valve HGL

FESTO



Characteristics

At a glance

Shut-off valve with manual override option.

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

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. These can be used to display precise values.

Type code

| | | |
|------------|---------------------|--|
| 001 | Series | |
| HGL | Piloted check valve | |

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

| | | |
|--------------|------------------------------------|--|
| 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

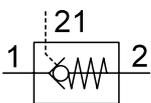
General technical data – Push-in connector HGL

| | | | | | | | |
|---|-----------------------------|--------|-------|---------|-------|---------|-------|
| Pneumatic connection, port 1 | QS-4 | QS-6 | QS-8 | QS-10 | QS-12 | | |
| Pneumatic connection, port 2 | M5 | G1/8 | G1/4 | G3/8 | G1/2 | | |
| Pilot air port 21 | QS-4 | M5 | G1/8 | G1/4 | G1/8 | G1/4 | G3/8 |
| Valve function | Piloted non-return function | | | | | | |
| Type of actuation | Pneumatic | | | | | | |
| Type of mounting | Screw-in, Via male thread | | | | | | |
| Mounting position | optional | | | | | | |
| Nominal torque | 1.25 Nm | 3.5 Nm | 11 Nm | 12.5 Nm | 11 Nm | 12.5 Nm | 14 Nm |
| Tolerance for nominal tightening torque | ± 10% | | | | | | |

General technical data – Female thread HGL

| | | | | | |
|---|-----------------------------|------------|-------|---------|-------|
| Pneumatic connection, port 1 | M5 | G1/8 | G1/4 | G3/8 | G1/2 |
| Pneumatic connection, port 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 | Piloted non-return function | | | | |
| Type of actuation | Pneumatic | | | | |
| Type of mounting | Screw-in, Via male thread | | | | |
| Mounting position | optional | | | | |
| Nominal torque | 1.25 Nm | 3.5 Nm | 11 Nm | 12.5 Nm | 14 Nm |
| Tolerance for nominal tightening torque | ± 10% | | | | |

Function



Operating and environmental conditions – Push-in connector HGL

| | | | | | | | | |
|--|--|-----------|-----------|--------------|-----------|-------------|-------------|-------------|
| Pneumatic connection, port 2 | M5 | G1/8 | G1/4 | G3/8 | G1/2 | | | |
| Pneumatic connection, port 1 | QS-4 | QS-6 | QS-8 | QS-10 | QS-8 | QS-10 | QS-12 | |
| Operating pressure | 0.5 ... 10 bar | | | | | | | |
| Pilot pressure | 2 ... 10 bar | | | 1 ... 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) | | | | | | | |
| 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 | | | | | | | |
| Media temperature | -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 www.festo.com/x/topic/kbk

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

Datasheet

Operating and environmental conditions – Female thread HGL

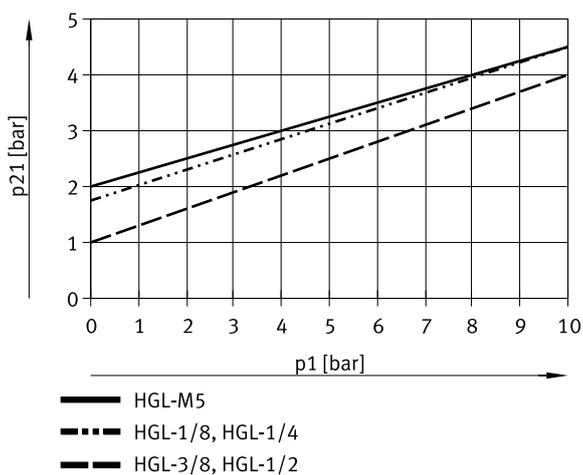
| | | | | | |
|--|--|-----------|-----------|--------------|-------------|
| Pneumatic connection, port 2 | M5 | G1/8 | G1/4 | G3/8 | G1/2 |
| Operating pressure | 0.5 ... 10 bar | | | | |
| Pilot pressure | 2 ... 10 bar | | | 1 ... 10 bar | |
| Operating medium | Compressed air to ISO 8573-1:2010 [7:4:4] | | | | |
| Note on operating and pilot medium | Lubricated operation possible (in which case lubricated operation will always be required) | | | | |
| 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 | | | | |
| Media temperature | -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 www.festo.com/x/topic/kbk

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

Materials

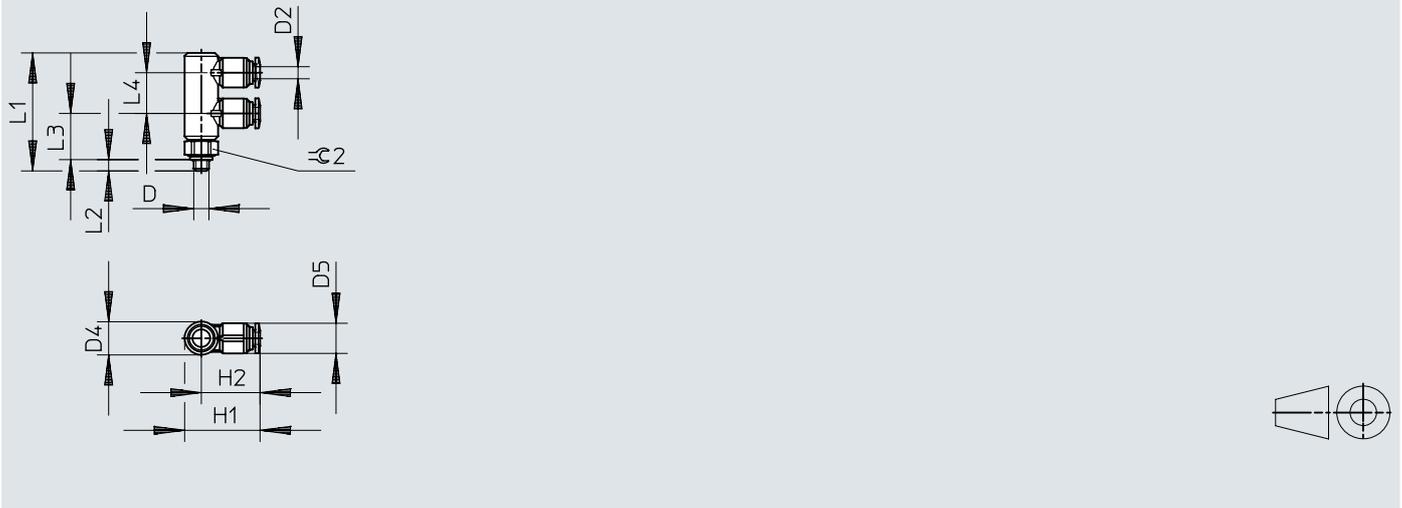
| | |
|---|-----------------------------------|
| Material swivel fitting | Die-cast zinc |
| Material release ring | POM |
| Material hollow bolt | Wrought aluminium alloy, Anodised |
| Material screwed plug | Galvanised steel |
| Material seals | NBR |
| Material non-return collar | NBR |
| Note on 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 – Push-in connector HGL-M5

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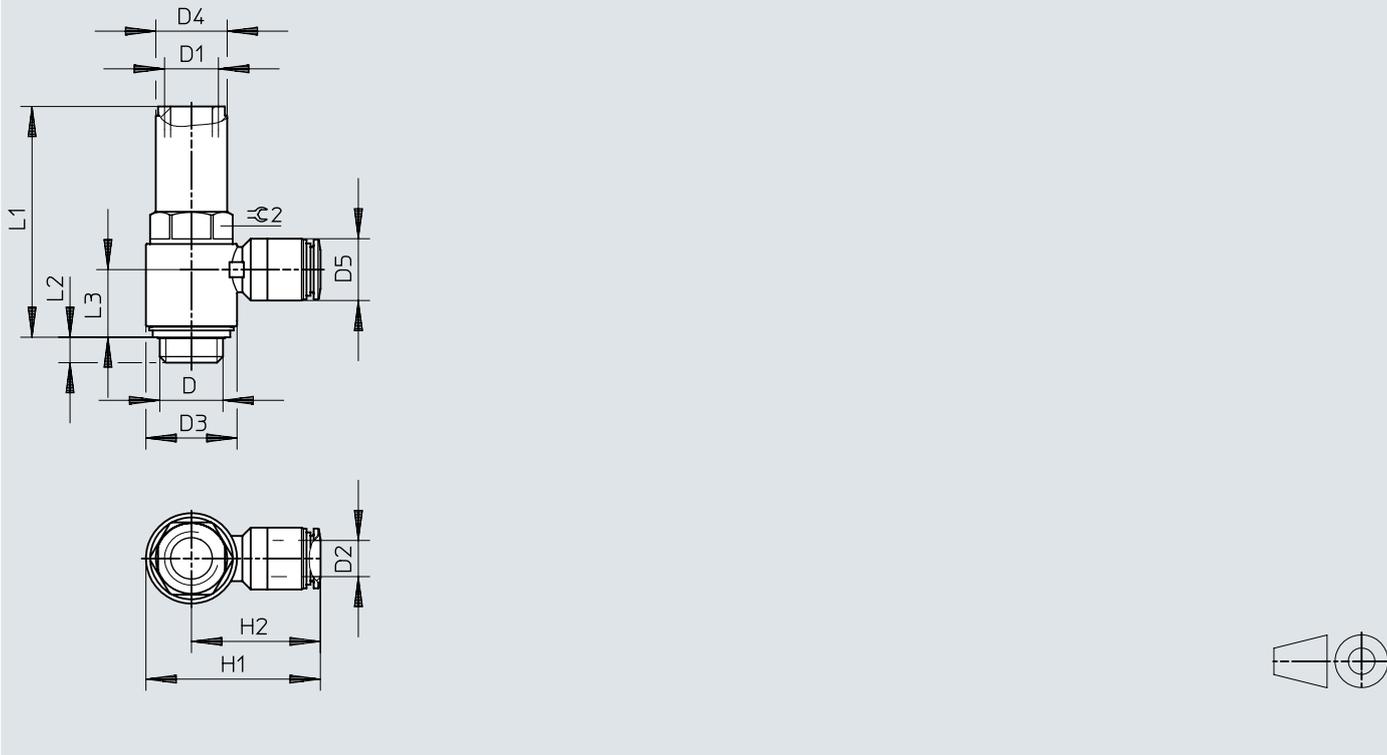


| | D | D2 | D4 | D5 | H1 | H2 | L1 | L2 | L3 | L4 | ±0.2 |
|-------------|----|----|---------|---------|------|------|----|----|----|------|------|
| HGL-M5-QS-4 | M5 | 4 | 11 ∅ | 10 ∅ | 24,9 | 19,4 | 39 | 4 | 15 | 13,5 | 10 |

Dimensions

Dimensions – Push-in connector HGL-1/8, HGL-1/4, HGL-3/8

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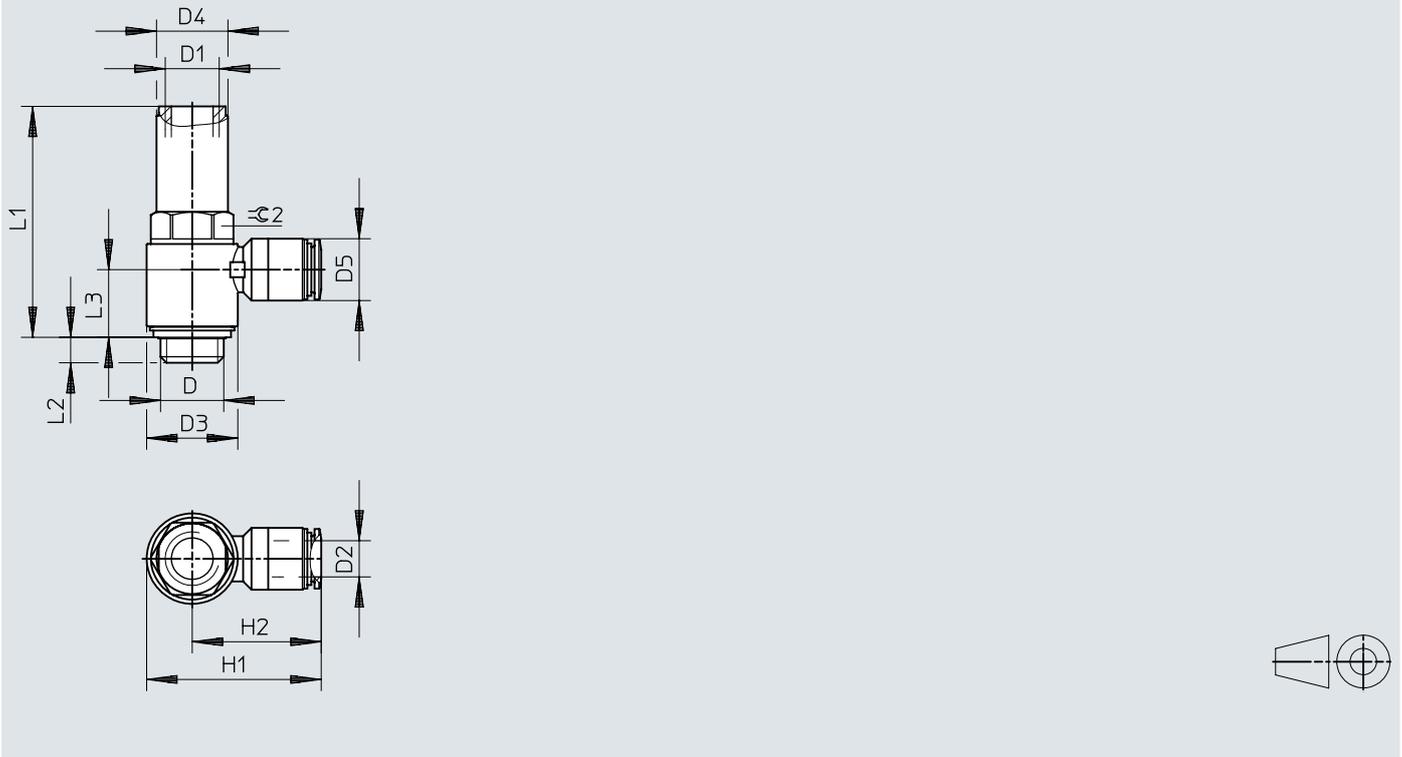


| | D | D1 | D2 | D3 ∅ | D4 ∅ | D5 ∅ | H1 | H2 | L1 | L2 | L3 | L4 | ≅ 1 | ≅ 2 |
|---------------|------|------|----|---------|---------|---------|------|------|------|-----|------|------|-----|-----|
| HGL-1/8-QS-4 | G1/8 | M5 | 4 | 13,8 | 11,8 | 10,2 | 29,4 | 22,5 | 42,6 | 5,4 | 13,9 | 37,8 | 8 | 12 |
| HGL-1/8-QS-6 | | | 6 | | | 12,5 | 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 | 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 | 35,5 | 18,2 | | | | | | |

Dimensions

Dimensions – Push-in connector HGL-1/2

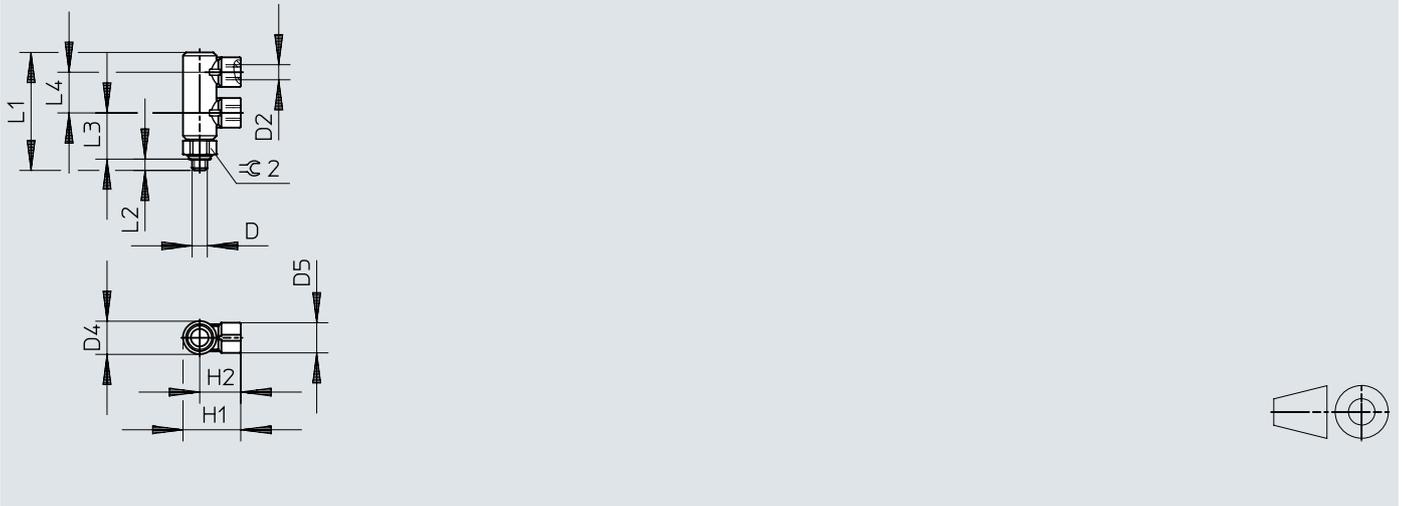
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| | D | D1 | D2 | D3 ∅ | D4 ∅ | D5 ∅ | H1 | H2 | L1 | L2 | L3 | ⊕ 2 |
|---------------|------|------|----|---------|---------|---------|------|------|------|-----|------|-----|
| HGL-1/2-QS-12 | G1/2 | G3/8 | 12 | 27,8 | 23,5 | 20,5 | 55,3 | 41,4 |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

Dimensions

Dimensions – Female thread HGL-M5-B

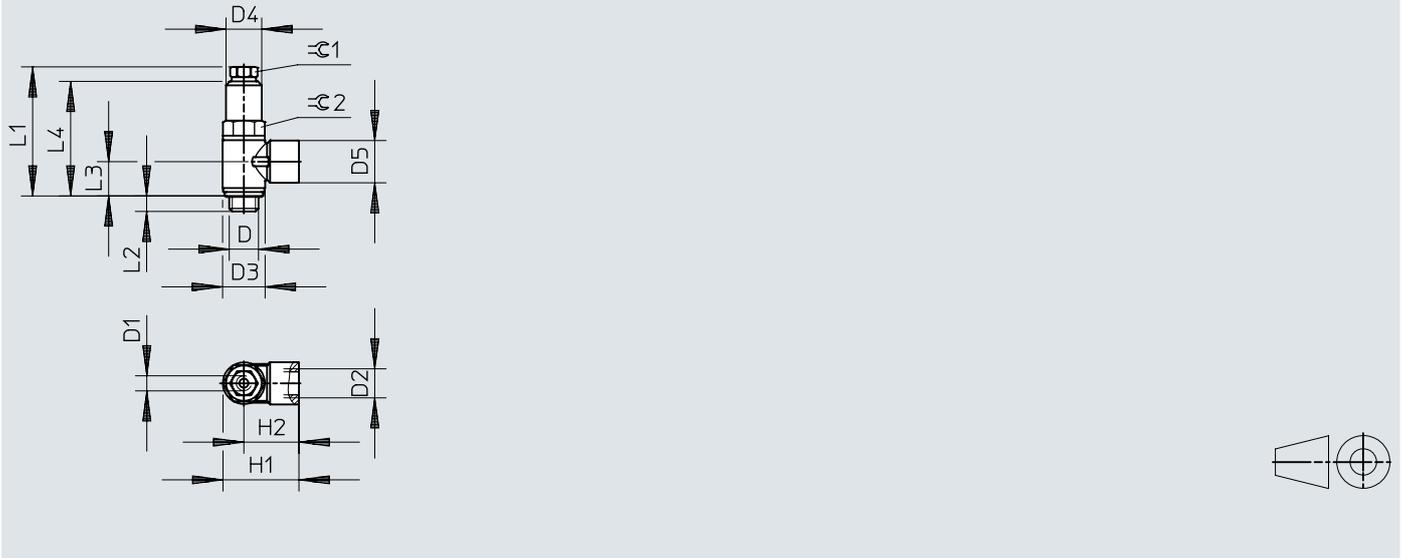
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| | D | D2 | D4 | D5 | H1 | H2 | L1 | L2 | L3 | L4 | ☉ 2 |
|----------|----|----|---------|---------|----|------|----|----|----|------|-----|
| HGL-M5-B | M5 | M5 | 11 ∅ | 10 ∅ | 19 | 13,5 | 39 | 4 | 15 | 13,5 | 10 |

Dimensions

Dimensions – Female thread HGL-1/8-B, HGL-1/4-B, HGL-3/8-B

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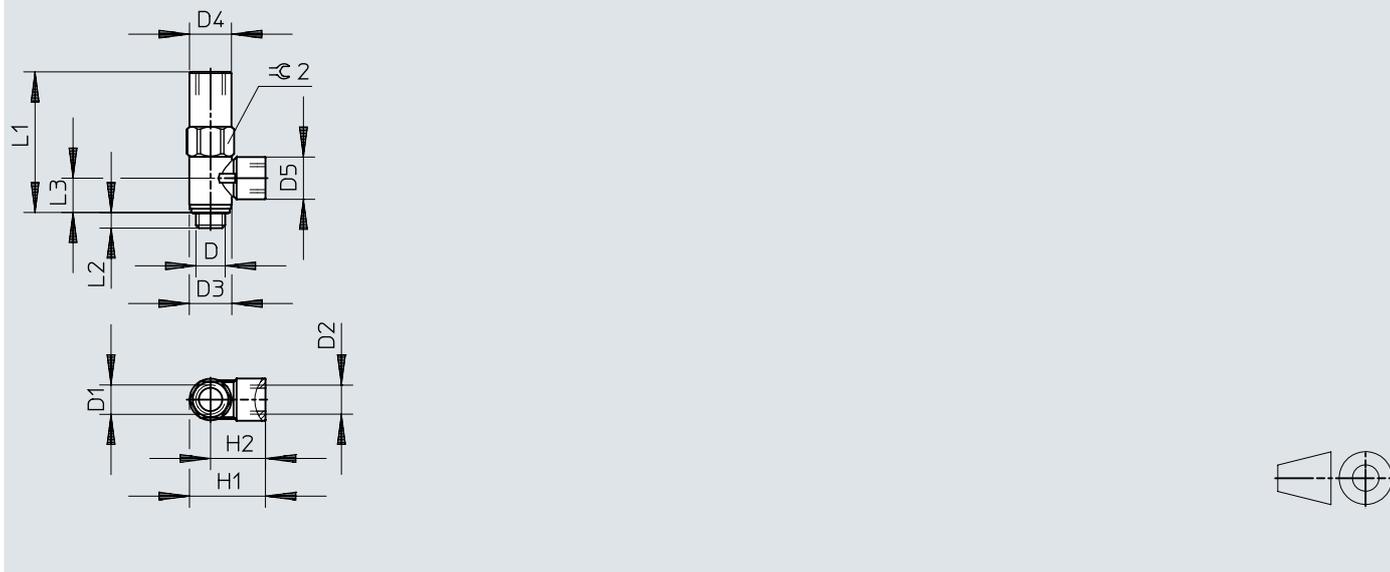


| | D | D1 | D2 | D3 ∅ | D4 ∅ | D5 ∅ | H1 | H2 | L1 | L2 | L3 | L4 | ☞ 1 | ☞ 2 |
|-----------|------|------|------|---------|---------|---------|------|------|------|-----|------|------|-----|-----|
| HGL-1/8-B | G1/8 | M5 | G1/8 | 14 | 11,8 | 14 | 25,1 | 18,1 | 42,6 | 5,4 | 11,2 | 37,8 | 8 | 12 |
| 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 – Female thread HGL-1/8-1/8-B

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| | 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 – Female thread HGL-1/2-B

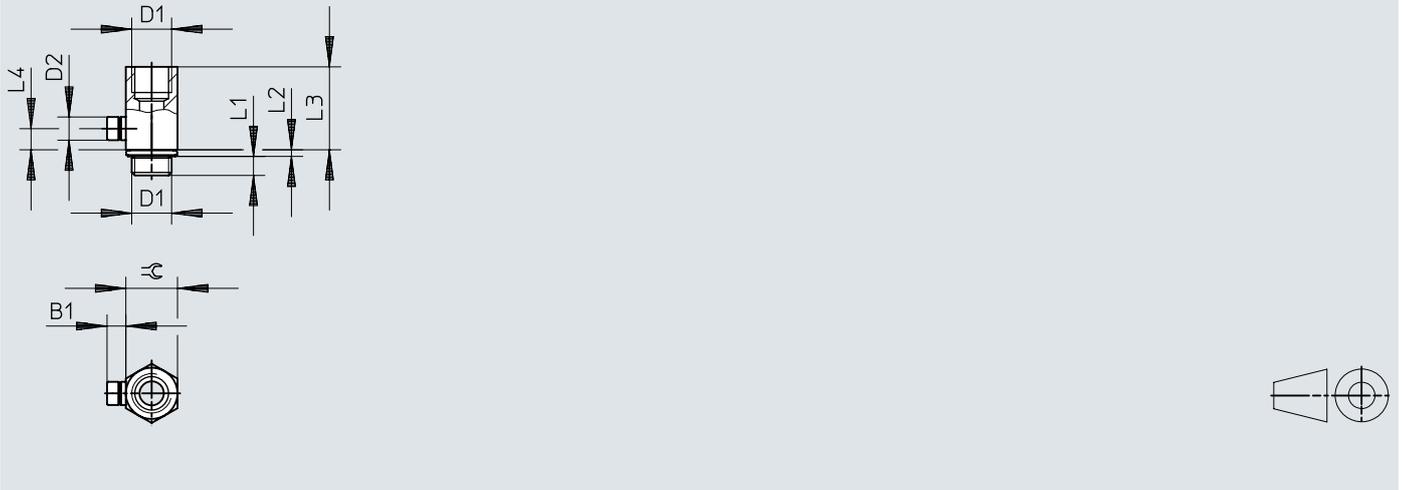
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| | D | D1 | D2 | D3 ∅ | D4 ∅ | D5 ∅ | H1 | H2 | L1 | L2 | L3 | ≅ 2 |
|-----------|------|------|------|---------|---------|---------|------|------|------|-----|------|-----|
| HGL-1/2-B | G1/2 | G3/8 | G1/2 | 30 | 23,5 | 25 | 47,8 | 32,8 | 75,8 |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

Dimensions

Dimensions – Manual override HAB

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| | B1 | D1 | D2 ∅ | 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, port 2 | Pilot air port 21 | Pneumatic connection, port 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, port 2 | Pilot air port 21 | Pneumatic connection, port 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 | |

Female thread HGL – M-thread

| | Pneumatic connection, port 2 | Pilot air port 21 | Pneumatic connection, port 1 | Product weight | Part no. | Type |
|--|------------------------------|-------------------|------------------------------|----------------|----------|----------|
|  | M5 | M5 | M5 | 21 g | 530029 | HGL-M5-B |

Female thread HGL – G-thread

| | Pneumatic connection, port 2 | Pilot air port 21 | Pneumatic connection, port 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 | G1/4 | 41.2 g | 530031 | HGL-1/4-B |
| | G3/8 | | G3/8 | 62.9 g | 530032 | HGL-3/8-B |
| | G1/2 | G3/8 | G1/2 | 129.4 g | 530033 | HGL-1/2-B |

Accessories

| Manual override HAB | | | | |
|---|------------------------------|--------------|---------------|----------------|
| | Pneumatic connection, port 1 | Nominal size | 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 |