

AVENTICS Series SH

The AVENTICS Series GPC is distinguished by high side load capacity and torsion protection. The drive and guide rods are robust and precise with high torque and transverse force absorption.



Technical data

| | |
|------------------------------------|----------------------|
| Industry | Industrial |
| Piston Ø | 20 mm |
| Piston rod Ø | 10 mm |
| Stroke | 75 mm |
| Functional principle | Double-acting |
| Bearing type | ball bearing |
| Magnetic piston | with magnetic piston |
| Cushioning | elastic |
| Min. working pressure | 2 bar |
| Max. working pressure | 10 bar |
| Min. ambient temperature | -10 °C |
| Min. ambient temperature | 14 °F |
| Max. ambient temperature | 70 °C |
| Max. ambient temperature | 158 °F |
| Min. oil content of compressed air | 0 mg/m ³ |
| Max. oil content of compressed air | 5 mg/m ³ |
| Port | M5 |
| Retracting piston force | 148 N |
| Retracting piston force | 33.27 lbf |

Guide cylinders, Series GPC-BV

0822062105

AVENTICS
Series SH

2024-03-18

| | |
|--|----------------|
| Extracting piston force | 198 N |
| Extracting piston force | 44.51 lbf |
| Max. speed | 0.5 m/s |
| Impact energy | 0.15 J |
| Medium | Compressed air |
| Max. particle size | 50 µm |
| Pressure for determining piston forces | 6,3 bar |
| Weight | 0.95 kg |

Material

| | |
|----------------------|----------------------|
| Housing material | Aluminum |
| Surface housing | anodized |
| Seal material | Polyurethane |
| Material front plate | Steel, chrome-plated |
| Surface front plate | galvanized |
| Material guide rods | Steel, chrome-plated |
| Surface guide rods | hardened |
| Bearing material | Steel, chrome-plated |
| Surface bearing | hardened |
| Material piston rod | Stainless Steel |
| Part No. | 0822062105 |

Technical information

Note: Only the Ø10 variants fits to sensor series ST4. The sensor series ST6 and SN3 can be used for all other Ø variants.

The pressure dew point must be at least 15 °C less than ambient and medium temperature and may not exceed 3 °C.

The oil content of compressed air must remain constant during the life cycle.

Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in <https://www.emerson.com/en-us/support>).

Dimensions

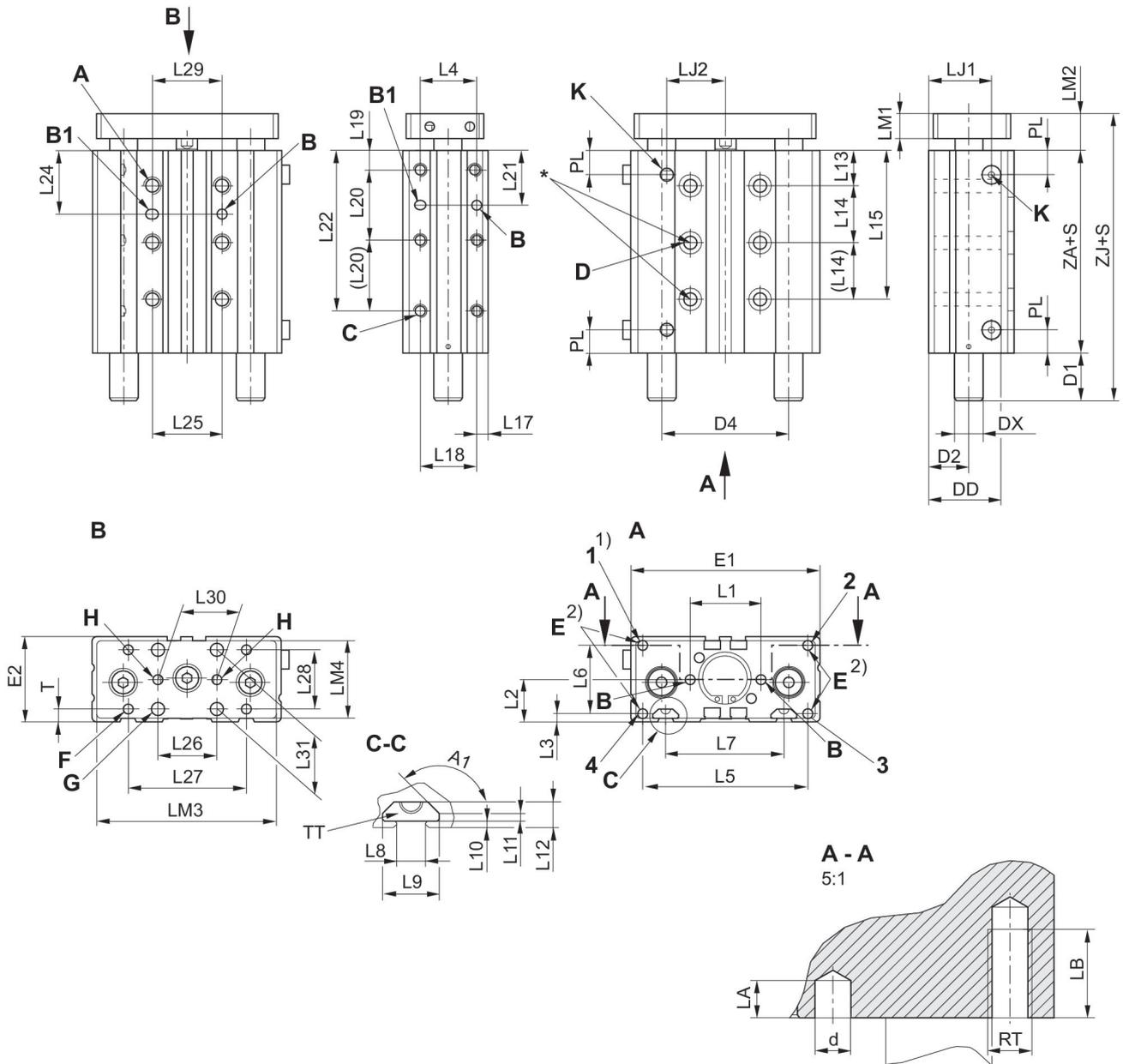
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Ø 10 ... 20



* Suitable for screws according to ISO 4762

1) Only Ø 20 threaded hole

2) M4 mounting hole for GPC-E accessories

1, 2, 3, 4: threaded holes

S = stroke

Note: Only the Ø10 variants fits to sensor series ST4. The sensor series ST6 and SN3 can be used for all other Ø variants.

| Piston Ø | A RTxLB | A1 | B ØdxLA | B1 ØdxDxLA | C RTxLB | D Ø | D1 S=10-30 | D1 S=40-100 | D1 S>100 |
|----------|---------|------|---------|------------|---------|-----|------------|-------------|----------|
| 10 | M4x6 | - | 4H7x4 | 4H7x5x4 | M4x6 | 3.2 | 13.5 | 13.5 | 13.5 |
| 12 | M5x8 | - | 4H7x4 | 4H7x5x4 | M5x8 | 4.2 | 0 | 18.4 | 33.4 |
| 16 | M5x8 | 135° | 4H7x4 | 4H7x5x4 | M5x8 | 4.2 | 0 | 20.8 | 35.8 |
| 20 | M6x10 | 135° | 4H7x4 | 4H7x5x4 | M6x10 | 5.2 | 0 | 20.8 | 35.8 |

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| Piston Ø | D2 | D4 | DD | DX | E RTxLB | E1 | E2 | F Ø 1) | G Ø 2) |
|----------|------|----|------|----|---------|----|------|--------|--------|
| 10 | 7 | – | 17.4 | 6 | M4x8 | 50 | 21 | M4 | – |
| 12 | 14.5 | 40 | 20 | 8 | M5x8 | 58 | 30.5 | M4 | 4.5 |
| 16 | 15.8 | 47 | 28.5 | 10 | M5x8 | 68 | 33 | M4 | 5.5 |
| 20 | 16.5 | 54 | 30.5 | 10 | M5x10 | 80 | 36 | M5 | 5.5 |

| Piston Ø | H Ø 2) | K | L1 | L2 | L3 | L4 | L5 | L6 | L7 |
|----------|--------|----|----------|------|-----|----|----|----|----|
| 10 | – | M5 | 20 ±0,04 | 10.5 | 3 | – | 20 | 15 | – |
| 12 | 4H9 | M5 | 23 ±0,04 | 15 | 4 | 22 | 50 | 22 | – |
| 16 | 4H9 | M5 | 28 ±0,04 | 16.5 | 4 | 25 | 61 | 25 | 43 |
| 20 | 4H9 | M5 | 30 ±0,04 | 18 | 3.5 | 24 | 70 | 29 | 50 |

| Piston Ø | L8 | L9 | L10 | L11 | L12 | L13 | L14 S=10 | L14 S=20 | L14 S>20 |
|----------|------|----|-----|-----|-----|------|----------|----------|----------|
| 10 | – | – | – | – | – | 15 | – | 20 | 20 |
| 12 | – | – | – | – | – | 14.5 | – | 18 | 22 |
| 16 | 6.15 | 12 | 1.5 | 1.5 | 5.5 | 14 | 18 | 25 | 25 |
| 20 | 6.15 | 12 | 1.5 | 1.5 | 5.5 | 15 | 16 | 24 | 24 |

| Piston Ø | L15 S=40 | L15 S>40 | L17 | L18 | L19 | L20 S=10 | L20 S>10 | L21 S=10 | L21 S>10 |
|----------|----------|----------|-----|-----|-----|----------|----------|----------|----------|
| 10 | 55 | 55 | 15 | – | 8 | 20 | 20 | 13 1) | 13 |
| 12 | – | 58.5 | 4 | 22 | 8 | 20 | 20 | 18 | 18 |
| 16 | – | 64 | 4 | 25 | 8 | 18 | 25 | 20.5 | 20.5 |
| 20 | – | 63 | 4.5 | 24 | 8 | 20 | 30 | 18 | 23 |

| Piston Ø | L22 S≤40 | L22 S>40 | L24 S=10 | L24 S>10 | L25 | L26 | L27 | L28 | L29 |
|----------|----------|----------|----------|----------|-----|-----|-----|-----|-----|
| 10 | 48 | 48 | 25 | 25 | 20 | – | 20 | 10 | 20 |
| 12 | – | 48 | 25.5 | 25.5 | 20 | – | 40 | 20 | 20 |
| 16 | – | 58 | 26.5 | 26.5 | 25 | 20 | 40 | 20 | 25 |
| 20 | – | 68 | 23 | 27 | 30 | 25 | 50 | 25 | 30 |

| Piston Ø | L30 | L31 | LJ1 | LJ2 | LM1 | LM2 | LM3 | LM4 | PL |
|----------|----------|-----|------|------|-----|------|-----|-----|-----|
| 10 | – | – | 15.5 | 15 | 5 | 13.5 | 48 | 19 | 8 |
| 12 | – | – | 24.8 | 17.5 | 8 | 12.7 | 55 | 27 | 8.5 |
| 16 | 20 ±0,04 | 22 | 27 | 21 | 8 | 13.5 | 65 | 30 | 8.8 |
| 20 | 25 ±0,04 | 25 | 26.5 | 25 | 10 | 15.5 | 77 | 33 | 10 |

| Piston Ø | T | TT | ZA | ZJ S=10-30 | ZJ S=40-100 | ZJ S>100 |
|----------|-----|----|------|------------|-------------|----------|
| 10 | 5.5 | – | 36 | 63 | 63 | 63 |
| 12 | 5 | – | 34.4 | 47.1 | 65.5 | 80.5 |
| 16 | 6.5 | N6 | 36 | 49.5 | 70.3 | 85.3 |
| 20 | 5.5 | N6 | 36 | 51.5 | 72.3 | 87.3 |

S = stroke
To determine the cylinder length (ZA) for intermediate strokes (i.e. stroke 10 with dia. 40), the next available standard stroke size must be used

1) Through hole with thread
2) through-hole
Two holes C-C 10 mm.

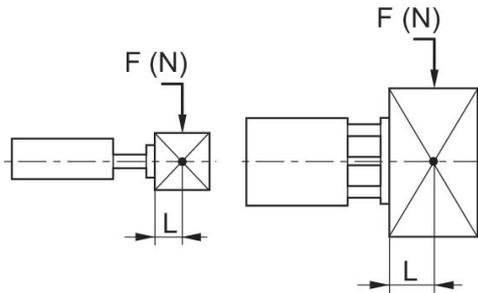
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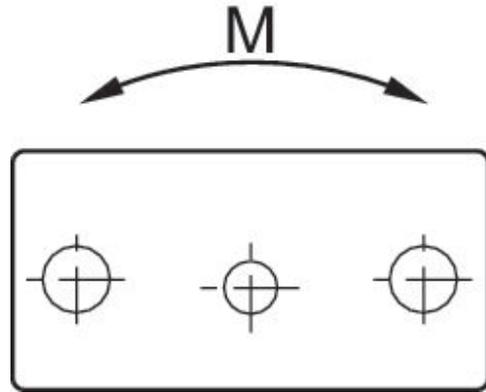
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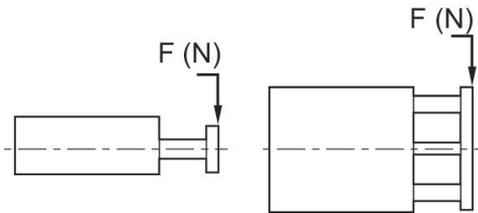
Permissible static side load F [N] at distance L



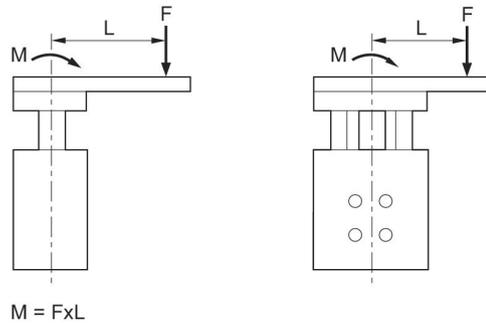
Permissible static moment M [Nm]



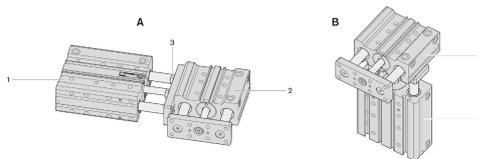
Permissible static side force F [N]



Permissible static moment M [Nm]



GPC combinations



- 1) Cylinder 1
- 2) Cylinder 2
- 3) Screw

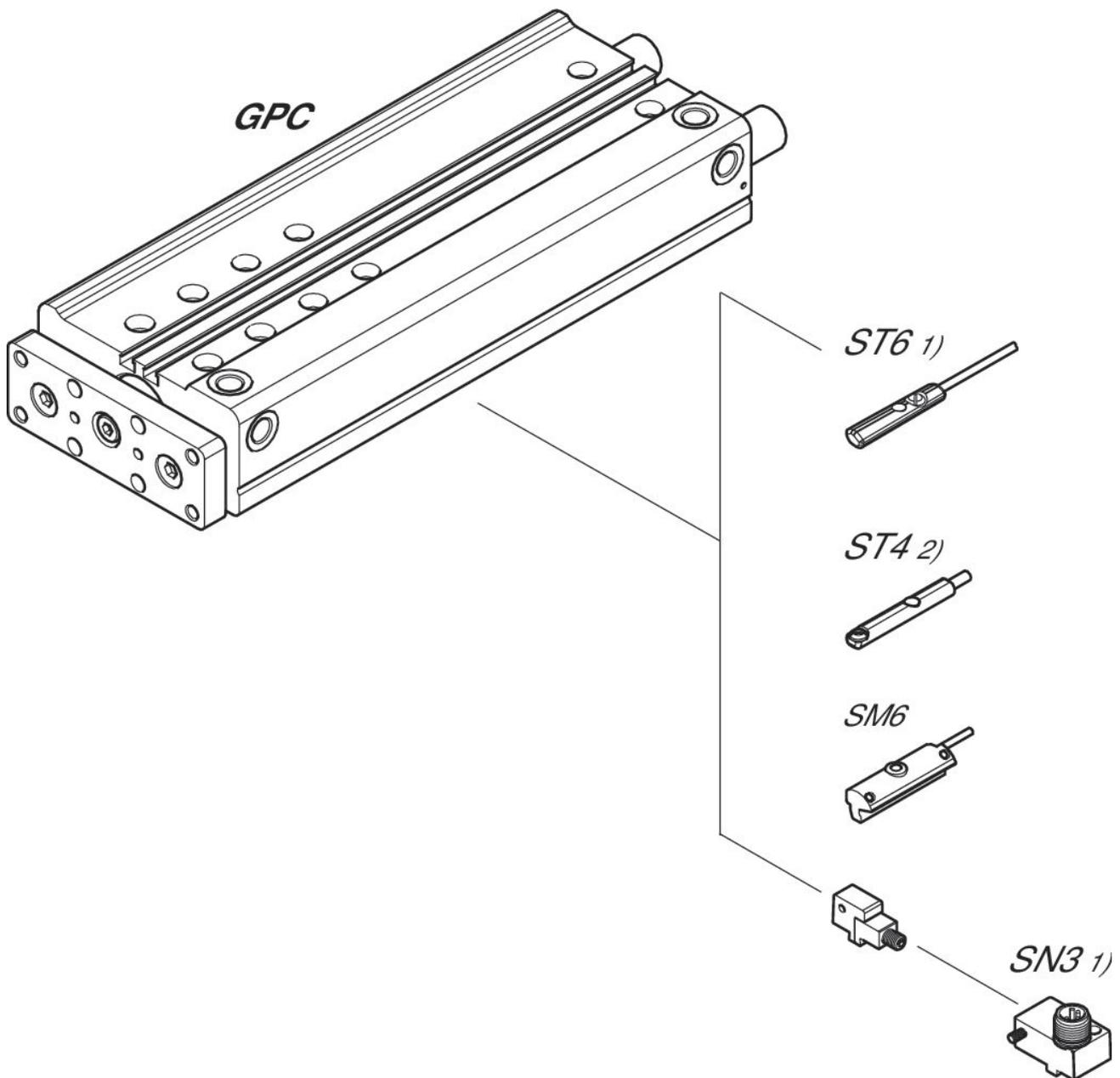
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Overview drawing



1) $\leq \text{Ø}12$ mm (GPC-BV, GPC-E, GPC-TL)

2) Only for $\text{Ø}10$ mm (GPC-BV) and all Ø (GPC-ST)

NOTE: This overview drawing is only for orientation to indicate where the various accessory parts can be fastened to the cylinder. The illustration has been simplified for this purpose. It is thus not possible to derive the dimensions from this overview.