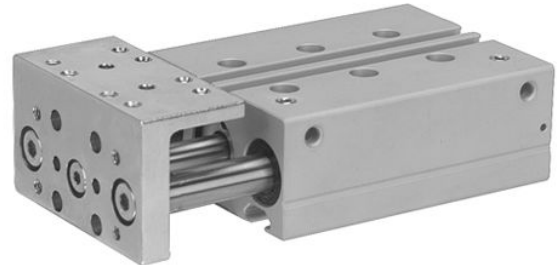


AVENTICS Series SH

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 | 12 mm |
| Piston rod Ø | 6 mm |
| Stroke | 40 mm |
| Functional principle | Double-acting |
| Bearing type | ball bearing |
| Magnetic piston | with magnetic piston |
| Cushioning | elastic |
| Min. working pressure | 2 bar |
| Max. working pressure | 8 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 | 53 N |
| Retracting piston force | 11.91 lbf |

Guide cylinders, Series GPC-TL

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| | |
|--|----------------|
| Extracting piston force | 71 N |
| Extracting piston force | 15.96 lbf |
| Max. speed | 0.5 m/s |
| Impact energy | 0.1 J |
| Medium | Compressed air |
| Max. particle size | 50 µm |
| Pressure for determining piston forces | 6,3 bar |
| Weight | 0.43 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. | 0822060703 |

Technical information

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>).

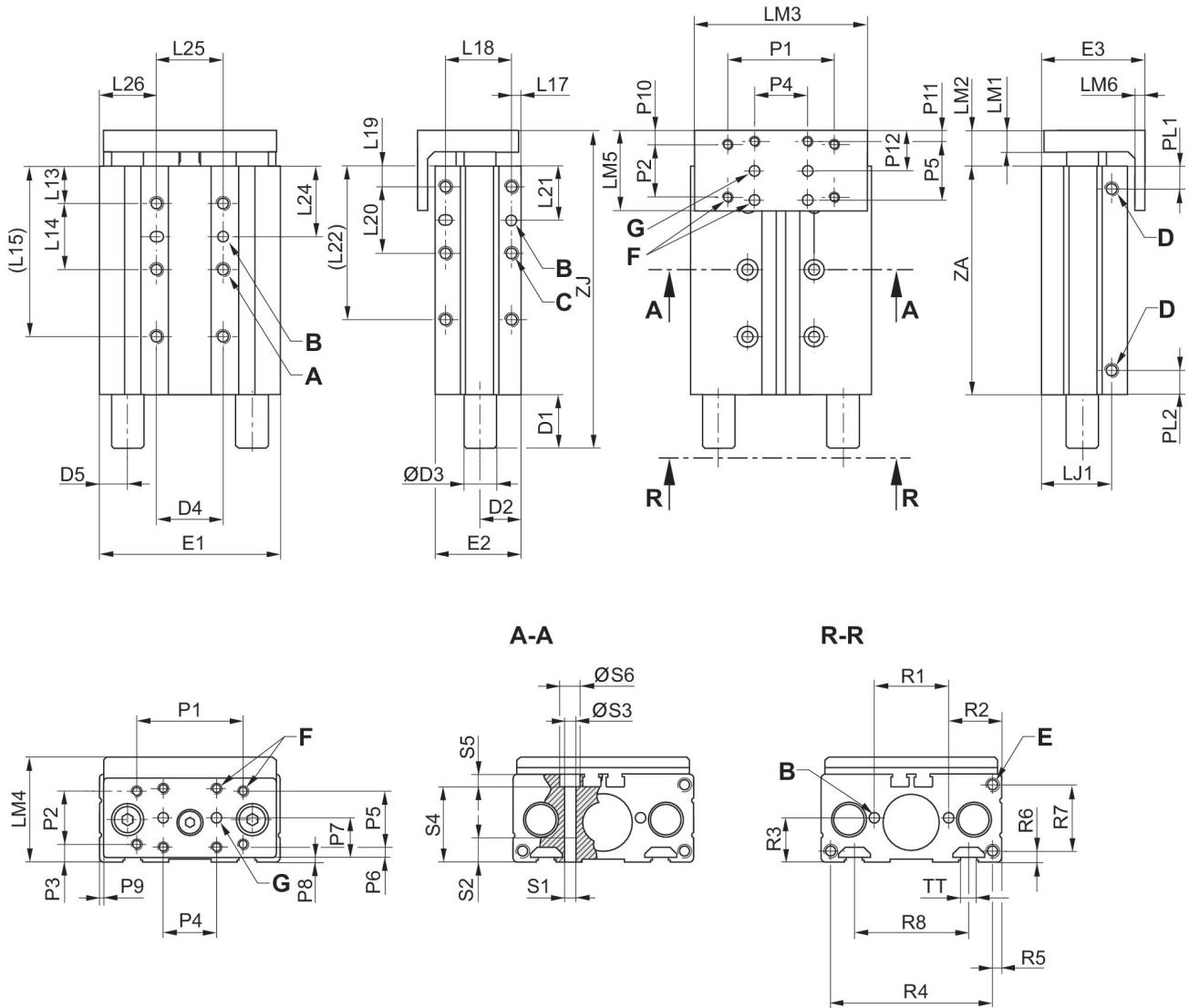
Guide cylinders, Series GPC-TL

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Dimensions



| Piston Ø | A 1) | B 1) | C 1) | D | D1 | D2 | D3 | D4 | D5 |
|----------|-------|--------|-------|----|----|------|----|----|------|
| 12 | M5x8 | 4 H7x4 | M5x8 | M5 | 19 | 14.5 | 8 | 40 | 9 |
| 16 | M5x8 | 4 H7x4 | M5x8 | M5 | 21 | 15.8 | 10 | 47 | 10.5 |
| 20 | M6x10 | 4 H7x4 | M6x10 | M5 | 21 | 16.5 | 10 | 54 | 13 |

| Piston Ø | E 1) | E1 | E2 | E3 | F | G | L13 | L14 S=10 | L14 S=20 |
|----------|-------|----|------|------|----|------|------|----------|----------|
| 12 | M5x8 | 58 | 30.5 | 36.5 | M4 | 4 H9 | 14.5 | - | 18 |
| 16 | M5x8 | 68 | 33 | 39.5 | M4 | 4 H9 | 14 | 18 | 25 |
| 20 | M5x10 | 80 | 36 | 43.5 | M5 | 4 H9 | 15 | 16 | 24 |

| Piston Ø | L14 S>20 | L15 S=50-150 | L17 | L18 | L19 | L20 S=10 | L20 S=20-150 | L21 S=10 | L21 S>10 |
|----------|----------|--------------|-----|-----|-----|----------|--------------|----------|----------|
| 12 | 22 | 58.5 | 4 | 22 | 8 | 20 | 20 | 18 | 18 |
| 16 | 25 | 64 | 4 | 25 | 8 | 18 | 25 | 20.5 | 20.5 |

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| Piston Ø | L14 S>20 | L15 S=50-150 | L17 | L18 | L19 | L20 S=10 | L20 S=20-150 | L21 S=10 | L21 S>10 |
|----------|----------|--------------|-----|-----|-----|----------|--------------|----------|----------|
| 20 | 24 | 63 | 4.5 | 24 | 8 | 20 | 30 | 18 | 23 |

| Piston Ø | L22 S=50-150 | L24 S=10 | L24 S>10 | L25 | L26 | LJ1 | LM1 | LM2 | LM3 |
|----------|--------------|----------|----------|-----|------|------|-----|------|-----|
| 12 | 48 | 25.5 | 25.5 | 20 | 19 | 24.8 | 8 | 12.7 | 55 |
| 16 | 58 | 26.5 | 26.5 | 25 | 21.5 | 27 | 8 | 13.5 | 65 |
| 20 | 68 | 23 | 27 | 30 | 25 | 26.5 | 10 | 15.5 | 77 |

| Piston Ø | LM4 | LM5 | LM6 | P1 | P2 | P3 | P4 | P5 | P6 |
|----------|-----|-----|-----|----|----|-----|----|----|-----|
| 12 | 35 | 28 | 4 | 40 | 20 | 3.5 | 20 | 20 | 3.5 |
| 16 | 38 | 30 | 4 | 40 | 20 | 5 | 20 | 22 | 4 |
| 20 | 42 | 35 | 5 | 50 | 25 | 4 | 25 | 25 | 4 |

| Piston Ø | P7 | P8 | P9 | P10 | P11 | P12 | PL1 | PL2 | R1±0,04 |
|----------|------|-----|-----|-----|-----|------|-----|-----|---------|
| 12 | 13.5 | 1.5 | 1.5 | 4 | 4 | 14 | 8.5 | 8.5 | 23 |
| 16 | 15 | 1.5 | 1.5 | 5 | 4 | 15 | 8.8 | 8.8 | 28 |
| 20 | 16.5 | 1.5 | 1.5 | 5 | 5 | 17.5 | 10 | 10 | 30 |

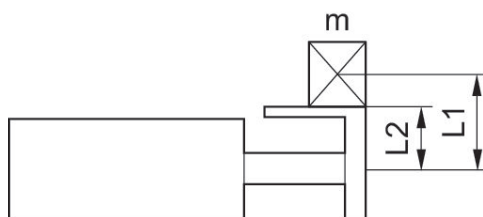
| Piston Ø | R2 | R3 | R4 | R5 | R6 | R7 | R8 | S1 | S2 |
|----------|------|------|----|-----|-----|----|----|----|----|
| 12 | 17.5 | 15 | 50 | 4 | 4 | 22 | - | M5 | 8 |
| 16 | 20 | 16.5 | 61 | 3.5 | 4 | 25 | 43 | M5 | 8 |
| 20 | 25 | 18 | 70 | 5 | 3.5 | 29 | 50 | M6 | 10 |

| Piston Ø | S3 | S4 | S5 | S6 | TT | ZA | ZJ S=10-30 | ZJ S>30 |
|----------|-----|------|------|-----|----|------|------------|---------|
| 12 | 4.2 | 20 | 10.2 | 7.6 | - | 34.4 | 47.1 | 65.5 |
| 16 | 4.2 | 28.5 | 4.6 | 7.6 | N6 | 36 | 49.5 | 70.3 |
| 20 | 5.2 | 30.5 | 5.5 | 9.5 | N6 | 36 | 51.5 | 72.3 |

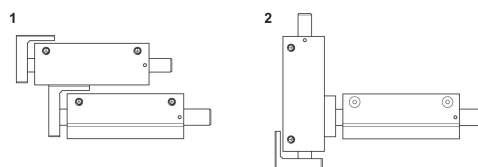
S = stroke

1) Dimension x depth

Permissible dynamic load m [kg]

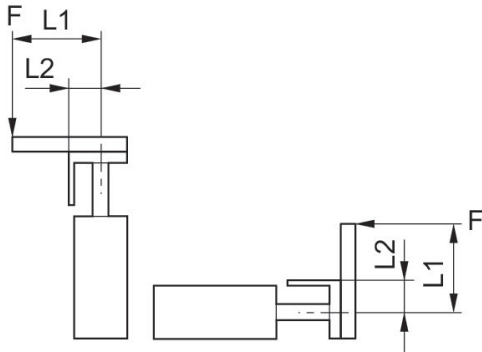


GPC combinations

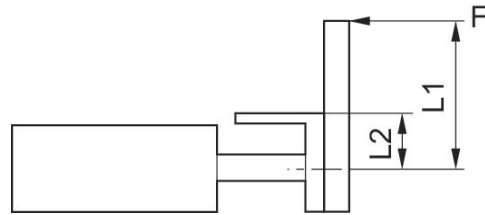


The GPC-TL can be directly mounted on the front plate of next bigger standard GPC in radial direction, and on next bigger GPC-TL in axial direction.

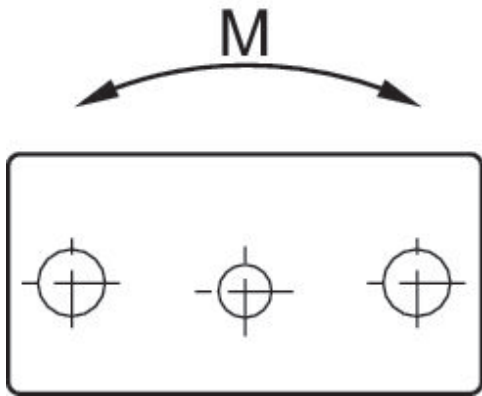
Permissible lever arm length L_1 at 6 bar with dynamic load



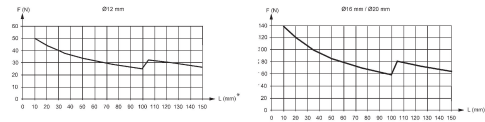
Permissible lever arm length L_1 at 6 bar with static load



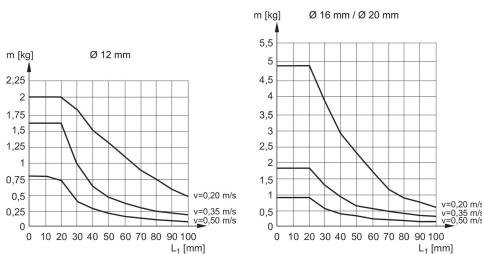
Permissible static moment M [Nm]



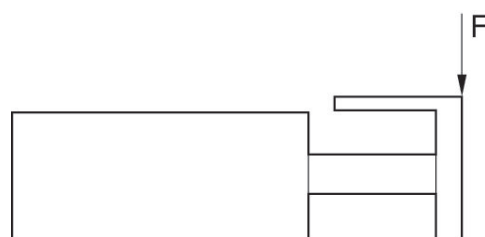
Permissible static side force F [N]



Permissible dynamic load m [kg]



Permissible static side force F [N]



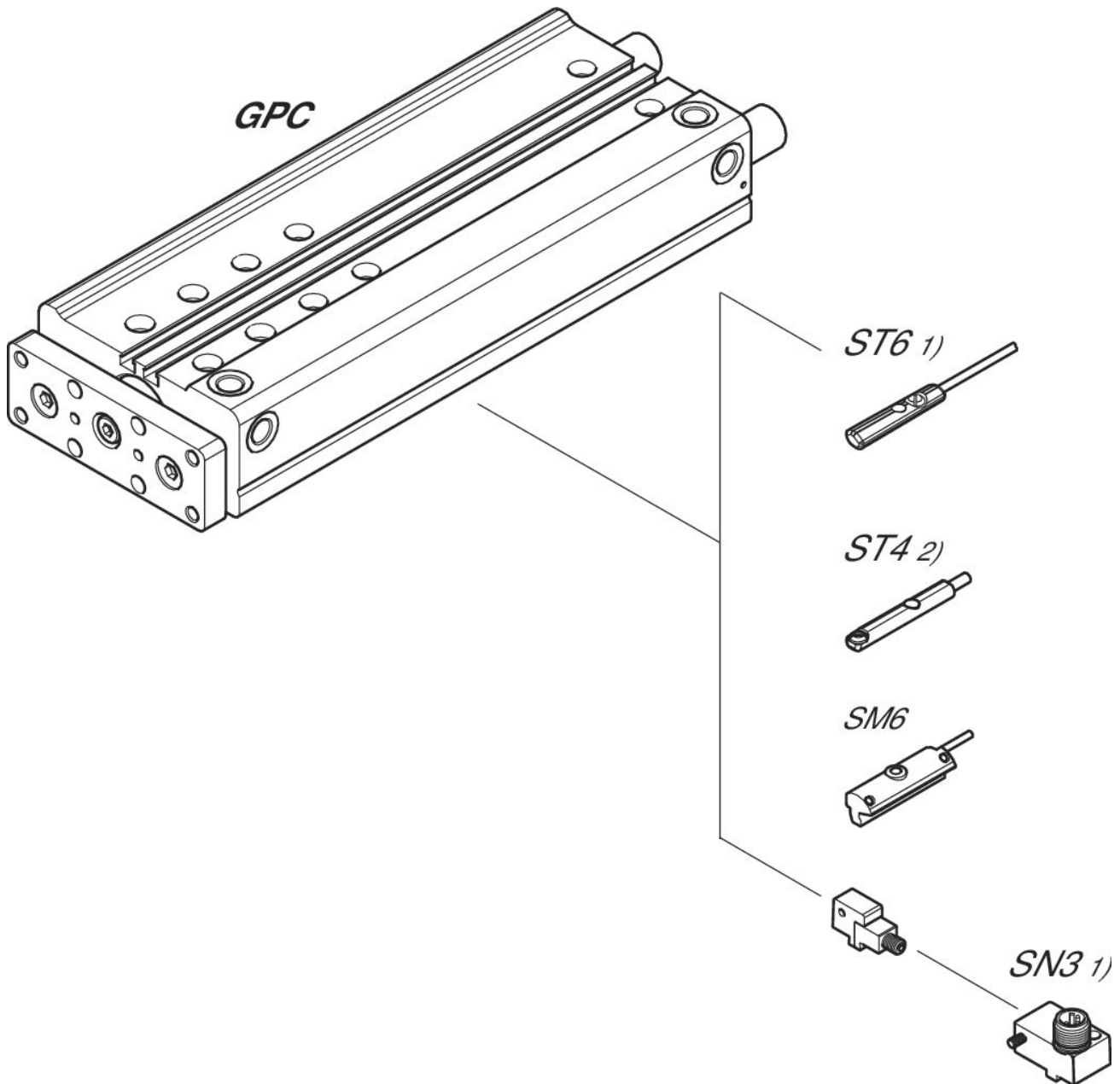
Guide cylinders, Series GPC-TL

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Overview drawing



1) $\leq \varnothing 12$ mm (GPC-BV, GPC-E, GPC-TL)

2) Only for $\varnothing 10$ mm (GPC-BV) and all \varnothing (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.