

Series KHZ



AVENTICS™ Series KHZ

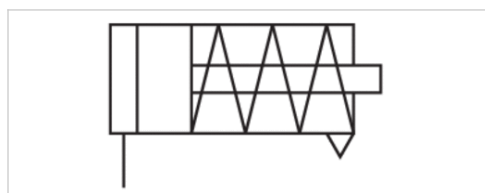


Short-stroke cylinder, Series KHZ

- Ø 8-100 mm
- Ports M5 G 1/8 G 1/4
- Single-acting, retracted without pressure
- Cushioning elastic
- Piston rod Internal thread



| | |
|--|---------------------------|
| Compressed air connection | Internal thread |
| Ambient temperature min./max. | -25 ... 80 °C |
| Medium temperature min./max. | -25 ... 80 °C |
| Medium | Compressed air |
| Max. particle size | 50 µm |
| Oil content of compressed air | 0 ... 5 mg/m ³ |
| Pressure for determining piston forces | 6.3 bar |
| Weight | See table below |



Technical data

| Piston Ø Piston rod thread Ports | 8 mm M5 | 12 mm M5 | 16 mm M5 M5 | 20 mm M5 M5 | 25 mm M5 G 1/8 | 32 mm M6 G 1/8 |
|--|------------|-------------|-------------------|-------------------|----------------------|----------------------|
| Stroke 4 | 0822406001 | 0822406020 | 0822406310 | 0822406320 | - | - |
| 5 | - | - | - | - | 0822406330 | 0822406340 |
| 10 | - | 0822406021 | 0822406311 | 0822406321 | 0822406331 | 0822406341 |
| 25 | - | - | 0822406312 | 0822406322 | 0822406332 | 0822406342 |

| Piston Ø Piston rod thread Ports | 40 mm M6 G 1/8 | 50 mm M8 G 1/8 | 63 mm M8 G 1/8 | 80 mm M10 G 1/4 | 100 mm M12 G 1/4 |
|--|----------------------|----------------------|----------------------|-----------------------|------------------------|
| Stroke 4 | - | - | - | - | - |
| 5 | 0822406350 | - | - | - | - |
| 10 | 0822406351 | 0822406361 | 0822406371 | - | - |
| 25 | 0822406352 | 0822406362 | 0822406372 | R402005783 | R402005840 |

Technical data

| Piston Ø | 8 mm | 12 mm | 16 mm | 20 mm |
|----------------------------|--------------|----------------|----------------|----------------|
| Retracting piston force | 2.8 N | 6.8 N | 8 N | 6.5 N |
| Extracting piston force | 32 N | 71 N | 127 N | 198 N |
| Working pressure min./max. | 2 ... 10 bar | 1.7 ... 10 bar | 1.5 ... 10 bar | 1.5 ... 10 bar |
| Material, front cover | Brass | Brass | Brass | Brass |

| Piston Ø | 25 mm | 32 mm | 40 mm | 50 mm |
|----------------------------|----------------|----------------|----------------|--------------|
| Retracting piston force | 15.5 N | 18.5 N | 26 N | 39 N |
| Extracting piston force | 309 N | 507 N | 792 N | 1237 N |
| Working pressure min./max. | 1.5 ... 10 bar | 1.3 ... 10 bar | 1.3 ... 10 bar | 1 ... 10 bar |
| Material, front cover | Brass | Aluminum | Aluminum | Aluminum |

| Piston Ø | 63 mm | 80 mm | 100 mm |
|----------------------------|--------------|--------------|--------------|
| Retracting piston force | 48 N | 54 N | 95 N |
| Extracting piston force | 1964 N | 3167 N | 4948 N |
| Working pressure min./max. | 1 ... 10 bar | 1 ... 10 bar | 1 ... 10 bar |
| Material, front cover | Aluminum | Aluminum | Aluminum |

Technical information

The pressure dew point must be at least 15 °C under 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 the MediaCentre).

Other versions can be ordered from AVENTICS sales offices.

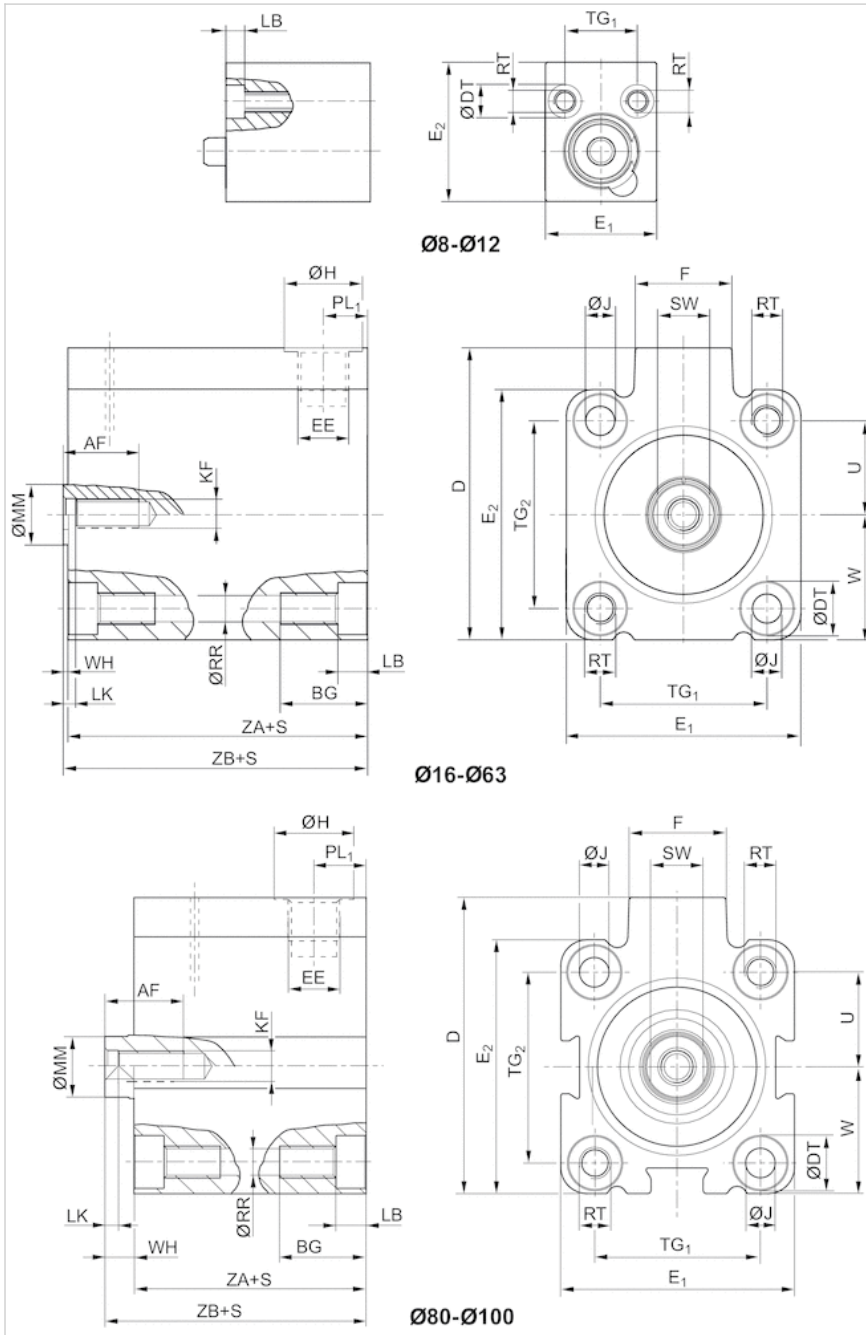
For 0822406310 piston material: Polyurethane

Technical information

| Material | |
|---------------|--------------------|
| Cylinder tube | Aluminum, anodized |
| Piston rod | Stainless steel |
| Piston | Nitrile rubber |
| Front cover | Brass Aluminum |
| End cover | Aluminum |

Dimensions

Dimensions



S = stroke

Dimensions

| Piston Ø | Part No. | S | AF +1 | BG min. | D JS15 | ØDT H13 | E1 JS15 | E2 JS15 | EE | F | ØH |
|------------|----------|----|-------|---------|--------|---------|---------|---------|------|------|----|
| 0822406001 | 8 mm | 4 | – | 8 | – | 6 | 18 | 20 | M5 | – | 8 |
| 0822406020 | 12 mm | 4 | – | 9 | – | 6 | 20 | 25 | M5 | – | 8 |
| 0822406021 | 12 mm | 10 | – | 9 | – | 6 | 20 | 25 | M5 | – | 8 |
| 0822406310 | 16 mm | 4 | 10 | 12.4 | 33 | 6 | 28 | 28 | M5 | 11.5 | 8 |
| 0822406311 | 16 mm | 10 | 10 | 12.4 | 33 | 6 | 28 | 28 | M5 | 11.5 | 8 |
| 0822406312 | 16 mm | 25 | 10 | 17.5 | 33 | 6 | 28 | 28 | M5 | 11.5 | 8 |
| 0822406320 | 20 mm | 4 | 9 | 13.6 | 37 | 7.5 | 32 | 32 | M5 | 11 | 8 |
| 0822406321 | 20 mm | 10 | 10 | 13.6 | 37 | 7.5 | 32 | 32 | M5 | 11 | 8 |
| 0822406322 | 20 mm | 25 | 10 | 13.6 | 37 | 7.5 | 32 | 32 | M5 | 11 | 8 |
| 0822406330 | 25 mm | 5 | 10 | 13.6 | 47.5 | 8 | 37 | 39 | G1/8 | 17.5 | 15 |
| 0822406331 | 25 mm | 10 | 10 | 13.6 | 47.5 | 8 | 37 | 39 | G1/8 | 17.5 | 15 |
| 0822406332 | 25 mm | 25 | 10 | 13.6 | 47.5 | 8 | 37 | 39 | G1/8 | 17.5 | 15 |
| 0822406340 | 32 mm | 5 | 14.5 | 16.7 | 56 | 10 | 45 | 48 | G1/8 | 18.5 | 15 |
| 0822406341 | 32 mm | 10 | 14.5 | 16.7 | 56 | 10 | 45 | 48 | G1/8 | 18.5 | 15 |
| 0822406342 | 32 mm | 25 | 14.5 | 16.7 | 56 | 10 | 45 | 48 | G1/8 | 18.5 | 15 |
| 0822406350 | 40 mm | 5 | 13 | 16.7 | 62.5 | 10 | 54.5 | 54.5 | G1/8 | 18.5 | 15 |
| 0822406351 | 40 mm | 10 | 14.5 | 16.7 | 62.5 | 10 | 54.5 | 54.5 | G1/8 | 18.5 | 15 |
| 0822406352 | 40 mm | 25 | 14.5 | 16.7 | 62.5 | 10 | 54.5 | 54.5 | G1/8 | 18.5 | 15 |
| 0822406361 | 50 mm | 10 | 15.5 | 19.8 | 72 | 11 | 64 | 64 | G1/8 | 18 | 15 |
| 0822406362 | 50 mm | 25 | 15.5 | 19.8 | 72 | 11 | 64 | 64 | G1/8 | 18 | 15 |
| 0822406371 | 63 mm | 10 | 18 | 25 | 88 | 15 | 80 | 80 | G1/8 | 23 | 15 |
| 0822406372 | 63 mm | 25 | 18 | 25 | 88 | 15 | 80 | 80 | G1/8 | 23 | 15 |
| R402005783 | 80 mm | 25 | 18 | 25 | 110 | 15 | 100 | 100 | G1/4 | 27 | 19 |
| R402005840 | 100 mm | 25 | 20 | 30 | 132 | 17.5 | 124 | 124 | G1/4 | 28 | 19 |

| Piston Ø | ØJ H14 | KF | LB +0,4 | LK +0,5 | ØMM f8 | PL1 | ØRR | RT | SW -0,3 | TG1 | TG2 |
|------------|--------|----|---------|---------|--------|-----|------|----|---------|----------|----------|
| 0822406001 | – | – | 3.4 | – | 4 | 5 | 3.3 | M4 | – | 11 ±0,2 | – |
| 0822406020 | – | – | 3.4 | – | 5 | 5 | 3.3 | M4 | – | 13 ±0,2 | – |
| 0822406021 | – | – | 3.4 | – | 5 | 5 | 3.3 | M4 | – | 13 ±0,2 | – |
| 0822406310 | 3.55 | M5 | 3.4 | 2 | 8 | 5 | 3.3 | M4 | 7 | 20 ±0,2 | 20 ±0,2 |
| 0822406311 | 3.55 | M5 | 3.4 | 2 | 8 | 5 | 3.3 | M4 | 7 | 20 ±0,2 | 20 ±0,2 |
| 0822406312 | 3.55 | M5 | 8.5 | 2 | 8 | 5 | 3.3 | M4 | 7 | 20 ±0,2 | 20 ±0,2 |
| 0822406320 | 4.55 | M5 | 4.6 | 2 | 10 | 5 | 4.2 | M5 | 8 | 22 ±0,2 | 22 ±0,2 |
| 0822406321 | 4.55 | M5 | 4.6 | 2 | 10 | 5 | 4.2 | M5 | 8 | 22 ±0,2 | 22 ±0,2 |
| 0822406322 | 4.55 | M5 | 4.6 | 2 | 10 | 5 | 4.2 | M5 | 8 | 22 ±0,2 | 22 ±0,2 |
| 0822406330 | 4.55 | M5 | 4.6 | 2 | 10 | 8.5 | 4.2 | M5 | 8 | 26 ±0,25 | 28 ±0,25 |
| 0822406331 | 4.55 | M5 | 4.6 | 2 | 10 | 8.5 | 4.2 | M5 | 8 | 26 ±0,25 | 28 ±0,25 |
| 0822406332 | 4.55 | M5 | 4.6 | 2 | 10 | 8.5 | 4.2 | M5 | 8 | 26 ±0,25 | 28 ±0,25 |
| 0822406340 | 5.5 | M6 | 5.7 | 2.5 | 12 | 8.5 | 5.05 | M6 | 10 | 32 ±0,25 | 36 ±0,25 |
| 0822406341 | 5.5 | M6 | 5.7 | 2.5 | 12 | 8.5 | 5.05 | M6 | 10 | 32 ±0,25 | 36 ±0,25 |
| 0822406342 | 5.5 | M6 | 5.7 | 2.5 | 12 | 8.5 | 5.05 | M6 | 10 | 32 ±0,25 | 36 ±0,25 |
| 0822406350 | 5.5 | M6 | 5.7 | 2.5 | 12 | 8.5 | 5.05 | M6 | 10 | 40 ±0,25 | 40 ±0,25 |
| 0822406351 | 5.5 | M6 | 5.7 | 2.5 | 12 | 8.5 | 5.05 | M6 | 10 | 40 ±0,25 | 40 ±0,25 |
| 0822406352 | 5.5 | M6 | 5.7 | 2.5 | 12 | 8.5 | 5.05 | M6 | 10 | 40 ±0,25 | 40 ±0,25 |
| 0822406361 | 7.3 | M8 | 6.8 | 3.5 | 16 | 8.5 | 6.8 | M8 | 13 | 50 ±0,25 | 50 ±0,25 |
| 0822406362 | 7.3 | M8 | 6.8 | 3.5 | 16 | 8.5 | 6.8 | M8 | 13 | 50 ±0,25 | 50 ±0,25 |

| Piston Ø | ØJ H14 | KF | LB +0,4 | LK +0,5 | ØMM f8 | PL1 | ØRR | RT | SW -0,3 | TG1 | TG2 |
|------------|--------|-----|---------|---------|--------|-----|------|-----|---------|----------|----------|
| 0822406371 | 9.2 | M8 | 9 | 3.5 | 16 | 8.5 | 8.5 | M10 | 13 | 62 ±0,25 | 62 ±0,25 |
| 0822406372 | 9.2 | M8 | 9 | 3.5 | 16 | 8.5 | 8.5 | M10 | 13 | 62 ±0,25 | 62 ±0,25 |
| R402005783 | 9.2 | M10 | 9 | 4 | 20 | 12 | 8.5 | M10 | 17 | 82 ±0,3 | 82 ±0,3 |
| R402005840 | 11 | M12 | 11 | 4 | 25 | 12 | 10.2 | M12 | 22 | 103 ±0,3 | 103 ±0,3 |

| Piston Ø | U | W | WH | ZA ±0,2 | ZB ±0,8 |
|------------|------|-----------|----|---------|---------|
| 0822406001 | 8 | 6,5 ±0,2 | 1 | 12 | 13 |
| 0822406020 | 9 | 9 ±0,2 | 1 | 12 | 13 |
| 0822406021 | 9 | 9 ±0,2 | 4 | 16 | 20 |
| 0822406310 | 10 | 14 ±0,2 | 1 | 20 | 21 |
| 0822406311 | 10 | 14 ±0,2 | 1 | 22 | 23 |
| 0822406312 | 10 | 14 ±0,2 | 1 | 28 | 29 |
| 0822406320 | 11 | 16 ±0,2 | 1 | 16 | 17 |
| 0822406321 | 11 | 16 ±0,2 | 1 | 22 | 23 |
| 0822406322 | 11 | 16 ±0,2 | 1 | 28 | 29 |
| 0822406330 | 14 | 19,5 ±0,2 | 1 | 21 | 22 |
| 0822406331 | 14 | 19,5 ±0,2 | 1 | 22 | 23 |
| 0822406332 | 14 | 19,5 ±0,2 | 1 | 30 | 31 |
| 0822406340 | 18 | 24 ±0,2 | 1 | 21 | 22 |
| 0822406341 | 18 | 24 ±0,2 | 1 | 22 | 23 |
| 0822406342 | 18 | 24 ±0,2 | 1 | 32.5 | 33.5 |
| 0822406350 | 20 | 27,3 ±0,2 | 1 | 21 | 22 |
| 0822406351 | 20 | 27,3 ±0,2 | 1 | 21 | 22 |
| 0822406352 | 20 | 27,3 ±0,2 | 1 | 32.5 | 33.5 |
| 0822406361 | 25 | 32 ±0,2 | 1 | 20 | 21 |
| 0822406362 | 25 | 32 ±0,2 | 1 | 32.5 | 33.5 |
| 0822406371 | 31 | 40 ±0,2 | 1 | 25 | 26 |
| 0822406372 | 31 | 40 ±0,2 | 2 | 35.5 | 37.5 |
| R402005783 | 41 | 50 ±0,3 | 1 | 42 | 43 |
| R402005840 | 51.5 | 62 ±0,3 | 1 | 49.5 | 50.5 |

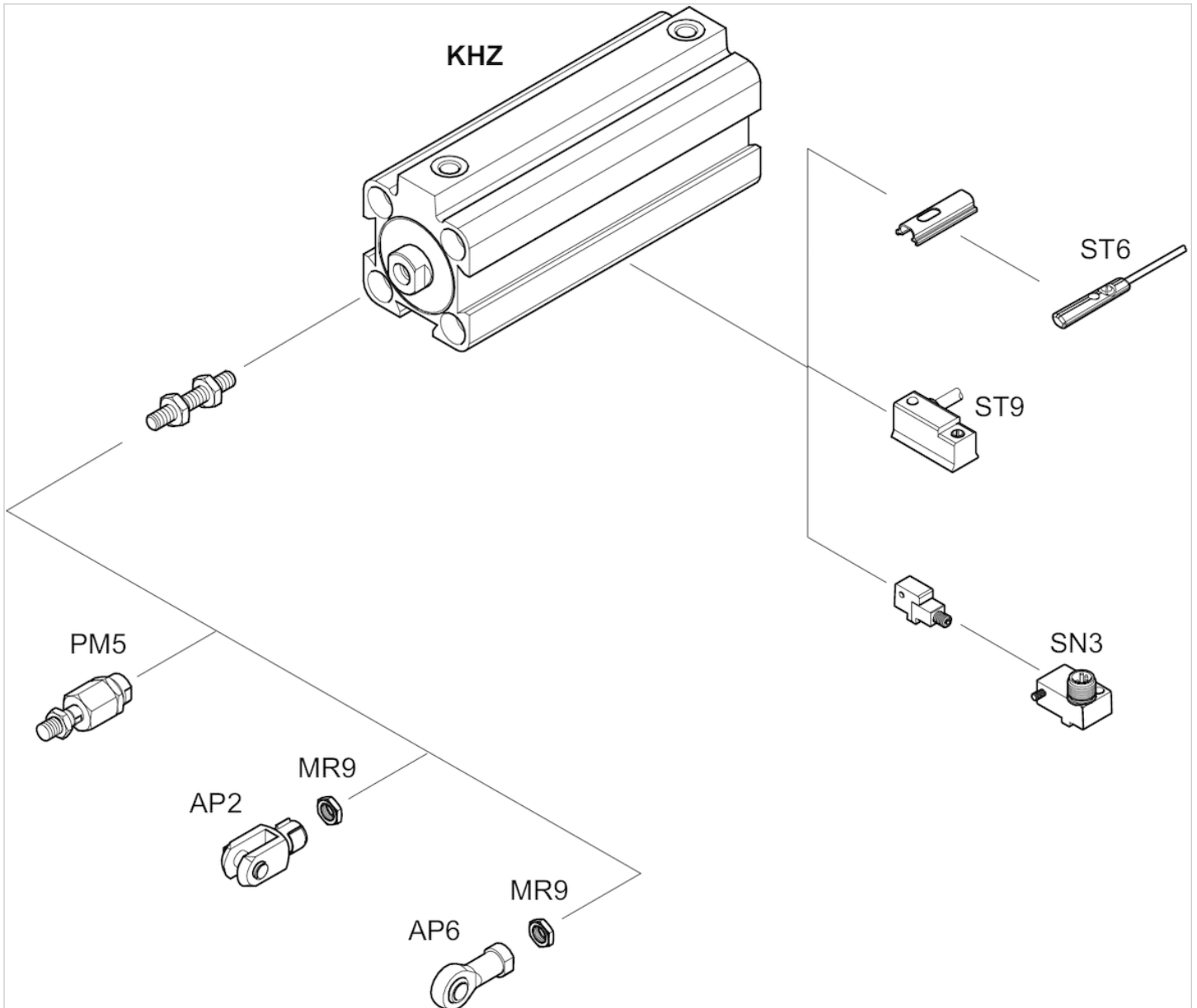
Dimensions

| Piston Ø | S | Weight kg |
|----------|----|-----------|
| 8 mm | 4 | 0.017 kg |
| 12 mm | 4 | 0.024 kg |
| 12 mm | 10 | 0.034 kg |
| 16 mm | 4 | 0.057 kg |
| 16 mm | 10 | 0.075 kg |
| 16 mm | 25 | 0.114 kg |
| 20 mm | 4 | 0.061 kg |
| 20 mm | 10 | 0.09 kg |
| 20 mm | 25 | 0.147 kg |
| 25 mm | 5 | 0.11 kg |
| 25 mm | 10 | 0.132 kg |
| 25 mm | 25 | 0.218 kg |
| 32 mm | 5 | 0.135 kg |
| 32 mm | 10 | 0.163 kg |
| 32 mm | 25 | 0.296 kg |

| Piston Ø | S | Weight kg |
|----------|----|-----------|
| 40 mm | 5 | 0.225 kg |
| 40 mm | 10 | 0.21 kg |
| 40 mm | 25 | 0.378 kg |
| 50 mm | 10 | 0.268 kg |
| 50 mm | 25 | 0.492 kg |
| 63 mm | 10 | 0.458 kg |
| 63 mm | 25 | 0.75 kg |
| 80 mm | 25 | 1.29 kg |
| 100 mm | 25 | 2.3 kg |

Accessories overview

Overview drawing



NOTE:

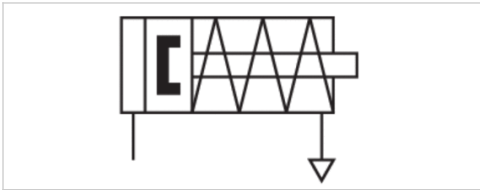
This overview drawing is only for orientation to indicate where the various accessory parts can be fastened to the cylinder. The illustration has been simplified for this purpose. It is thus not possible to derive the dimensions from this overview.

Short-stroke cylinder, Series KHZ

- Ø 12-100 mm
- Ports M5 G 1/8 G 1/4
- Single-acting, retracted without pressure
- with magnetic piston
- Cushioning elastic
- Piston rod Internal thread



| | |
|--|---------------------------|
| Compressed air connection | Internal thread |
| Ambient temperature min./max. | -25 ... 80 °C |
| Medium temperature min./max. | -25 ... 80 °C |
| Medium | Compressed air |
| Max. particle size | 50 µm |
| Oil content of compressed air | 0 ... 5 mg/m ³ |
| Pressure for determining piston forces | 6.3 bar |
| Weight | See table below |



Technical data

| Piston Ø Piston rod thread Ports | 12 mm M3 M5 | 16 mm M5 M5 | 20 mm M5 M5 | 25 mm M5 G 1/8 | 32 mm M6 G 1/8 | 40 mm M6 G 1/8 |
|--|-------------------|-------------------|-------------------|----------------------|----------------------|----------------------|
| Stroke 4 | 0822406400 | 0822406410 | 0822406420 | - | - | - |
| 5 | - | - | - | 0822406430 | 0822406440 | 0822406450 |
| 10 | 0822406401 | 0822406411 | 0822406421 | 0822406431 | 0822406441 | 0822406451 |
| 25 | - | 0822406412 | 0822406422 | 0822406432 | 0822406442 | 0822406452 |

| Piston Ø Piston rod thread Ports | 50 mm M8 G 1/8 | 63 mm M8 G 1/8 | 80 mm M10 G 1/4 | 100 mm M12 G 1/4 |
|--|----------------------|----------------------|-----------------------|------------------------|
| Stroke 4 | - | - | - | - |
| 5 | - | - | - | - |
| 10 | 0822406461 | 0822406471 | 0822406481 | 0822406491 |
| 25 | 0822406462 | 0822406472 | 0822406482 | 0822406492 |

Other versions can be ordered from AVENTICS sales offices.

Technical data

| Piston Ø | 12 mm | 16 mm | 20 mm | 25 mm |
|----------------------------|----------------|----------------|----------------|----------------|
| Retracting piston force | 6.8 N | 8 N | 6.5 N | 15.5 N |
| Extracting piston force | 71 N | 127 N | 198 N | 309 N |
| Working pressure min./max. | 1.7 ... 10 bar | 1.5 ... 10 bar | 1.5 ... 10 bar | 1.5 ... 10 bar |
| Material, front cover | Brass | Brass | Brass | Brass |

| Piston Ø | 32 mm | 40 mm | 50 mm | 63 mm |
|----------------------------|----------------|----------------|--------------|--------------|
| Retracting piston force | 18.5 N | 26 N | 39 N | 48 N |
| Extracting piston force | 507 N | 792 N | 1237 N | 1964 N |
| Working pressure min./max. | 1.3 ... 10 bar | 1.3 ... 10 bar | 1 ... 10 bar | 1 ... 10 bar |
| Material, front cover | Aluminum | Aluminum | Aluminum | Aluminum |

| Piston Ø | 80 mm | 100 mm |
|----------------------------|--------------|--------------|
| Retracting piston force | 63.5 N | 95.5 N |
| Extracting piston force | 3267 N | 4948 N |
| Working pressure min./max. | 1 ... 10 bar | 1 ... 10 bar |
| Material, front cover | Aluminum | Aluminum |

Technical information

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

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

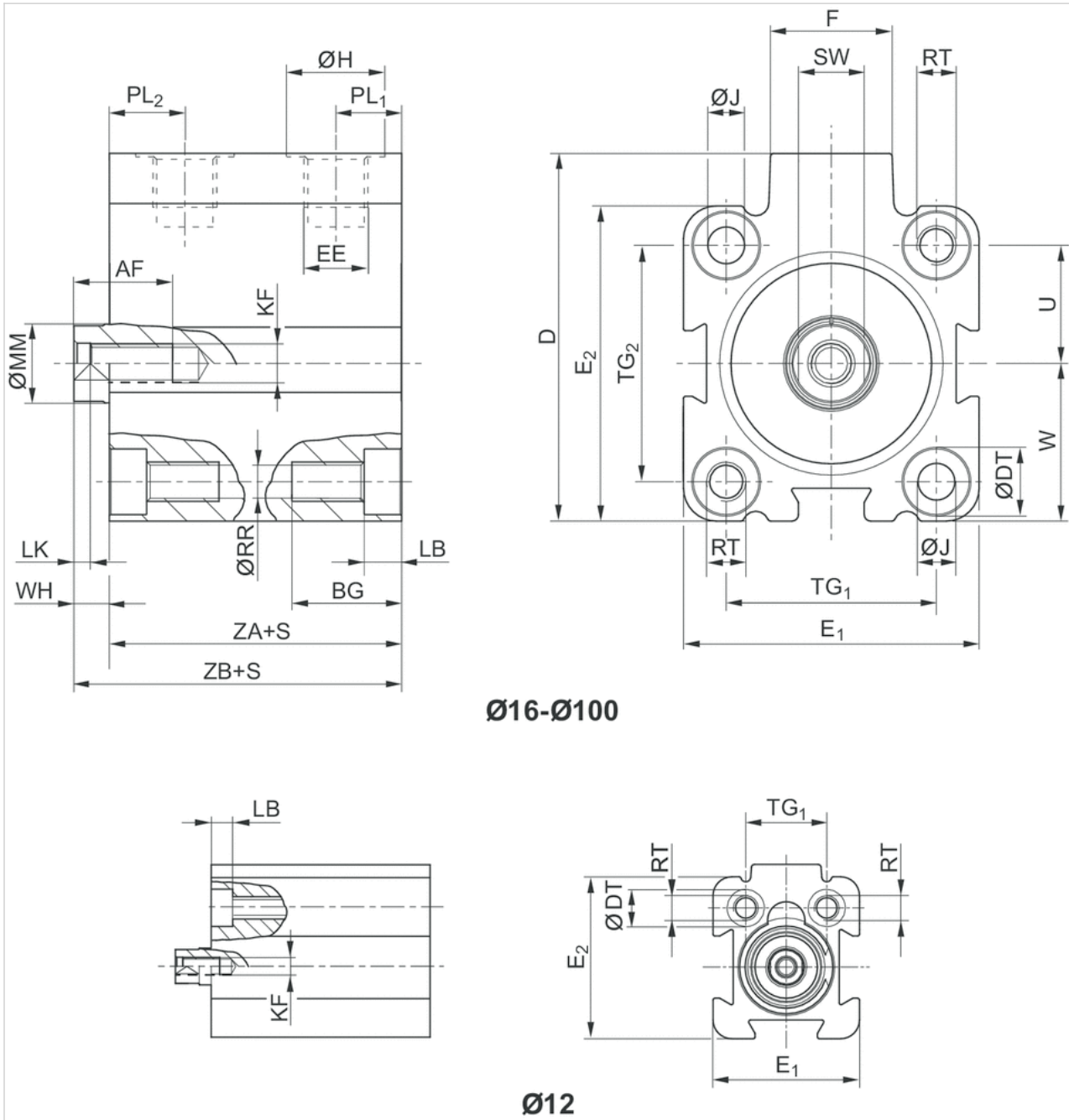
Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in the MediaCentre).

Technical information

| Material | |
|---------------|--------------------|
| Cylinder tube | Aluminum, anodized |
| Piston rod | Stainless steel |
| Piston | Nitrile rubber |
| Front cover | Brass Aluminum |
| End cover | Aluminum |

Dimensions

Dimensions



Ø16-Ø100

Ø12

S = stroke

Dimensions

| Piston Ø | Part No. | S | AF +1 | BG min. | D JS15 | ØDT H13 | E1 JS15 | E2 JS15 | EE | F | ØH |
|------------|----------|----|-------|---------|--------|---------|---------|---------|-------|------|----|
| 0822406400 | 12 mm | 4 | 8 | 12.4 | 28 | 6 | 23.5 | 26 | M 5 | 11 | 8 |
| 0822406401 | 12 mm | 10 | 8 | 12.4 | 28 | 6 | 23.5 | 26 | M 5 | 11 | 8 |
| 0822406410 | 16 mm | 4 | 10 | 12.4 | 33 | 6 | 28 | 28 | M 5 | 11.5 | 8 |
| 0822406411 | 16 mm | 10 | 10 | 12.4 | 33 | 6 | 28 | 28 | M 5 | 11.5 | 8 |
| 0822406412 | 16 mm | 25 | 10 | 17.5 | 33 | 6 | 28 | 28 | M 5 | 11.5 | 8 |
| 0822406420 | 20 mm | 4 | 10 | 13.6 | 37 | 7.5 | 32 | 32 | M 5 | 11 | 8 |
| 0822406421 | 20 mm | 10 | 10 | 13.6 | 37 | 7.5 | 32 | 32 | M 5 | 11 | 8 |
| 0822406422 | 20 mm | 25 | 10 | 13.6 | 37 | 7.5 | 32 | 32 | M 5 | 11 | 8 |
| 0822406430 | 25 mm | 5 | 10 | 13.6 | 47.5 | 8 | 37 | 39 | G 1/8 | 17.5 | 15 |
| 0822406431 | 25 mm | 10 | 10 | 13.6 | 47.5 | 8 | 37 | 39 | G 1/8 | 17.5 | 15 |
| 0822406432 | 25 mm | 25 | 10 | 13.6 | 47.5 | 8 | 37 | 39 | G 1/8 | 17.5 | 15 |
| 0822406440 | 32 mm | 5 | 15 | 16.7 | 56 | 10 | 45 | 48 | G 1/8 | 18.5 | 15 |
| 0822406441 | 32 mm | 10 | 15 | 16.7 | 56 | 10 | 45 | 48 | G 1/8 | 18.5 | 15 |
| 0822406442 | 32 mm | 25 | 15 | 16.7 | 56 | 10 | 45 | 48 | G 1/8 | 18.5 | 15 |
| 0822406450 | 40 mm | 5 | 15 | 16.7 | 62.5 | 10 | 54.5 | 54.5 | G 1/8 | 18.5 | 15 |
| 0822406451 | 40 mm | 10 | 15 | 16.7 | 62.5 | 10 | 54.5 | 54.5 | G 1/8 | 18.5 | 15 |
| 0822406452 | 40 mm | 25 | 15 | 16.7 | 62.5 | 10 | 54.5 | 54.5 | G 1/8 | 18.5 | 15 |
| 0822406461 | 50 mm | 10 | 18 | 19.8 | 73 | 11 | 66 | 66 | G 1/8 | 18 | 15 |
| 0822406462 | 50 mm | 25 | 18 | 19.8 | 73 | 11 | 66 | 66 | G 1/8 | 18 | 15 |
| 0822406471 | 63 mm | 10 | 18 | 25 | 88 | 15 | 80 | 80 | G 1/8 | 23 | 15 |
| 0822406472 | 63 mm | 25 | 18 | 25 | 88 | 15 | 80 | 80 | G 1/8 | 23 | 15 |
| 0822406481 | 80 mm | 10 | 18 | 25 | 110 | 15 | 100 | 100 | G 1/4 | 27 | 19 |
| 0822406482 | 80 mm | 25 | 18 | 25 | 110 | 15 | 100 | 100 | G 1/4 | 27 | 19 |
| 0822406491 | 100 mm | 10 | 20 | 30 | 132 | 17.5 | 124 | 124 | G 1/4 | 28 | 19 |
| 0822406492 | 100 mm | 25 | 20 | 30 | 132 | 17.5 | 124 | 124 | G 1/4 | 28 | 19 |

| Piston Ø | ØJ H14 | KF | LB +0,4 | LK +0,5 | ØMM f8 | PL1 | PL2 | ØRR | RT | SW -0,3 | TG1 |
|------------|--------|-----|---------|---------|--------|-----|------|------|-----|---------|----------|
| 0822406400 | – | M 3 | 3.4 | 2 | 6 | 6 | 10.5 | 3.3 | M 4 | 5 | 13 ±0,2 |
| 0822406401 | – | M 3 | 3.4 | 2 | 6 | 6 | 10.5 | 3.3 | M 4 | 5 | 13 ±0,2 |
| 0822406410 | 3.55 | M 5 | 3.4 | 2 | 8 | 6.5 | 12.5 | 3.3 | M 4 | 7 | 20 ±0,2 |
| 0822406411 | 3.55 | M 5 | 3.4 | 2 | 8 | 6.5 | 12.5 | 3.3 | M 4 | 7 | 20 ±0,2 |
| 0822406412 | 3.55 | M 5 | 8.5 | 2 | 8 | 6.5 | 12.5 | 3.3 | M 4 | 7 | 20 ±0,2 |
| 0822406420 | 4.55 | M 5 | 4.6 | 2 | 10 | 6.5 | 12 | 4.2 | M 5 | 8 | 22 ±0,2 |
| 0822406421 | 4.55 | M 5 | 4.6 | 2 | 10 | 6.5 | 12 | 4.2 | M 5 | 8 | 22 ±0,2 |
| 0822406422 | 4.55 | M 5 | 4.6 | 2 | 10 | 6.5 | 12 | 4.2 | M 5 | 8 | 22 ±0,2 |
| 0822406430 | 4.55 | M 5 | 4.6 | 2 | 10 | 9.5 | 11.5 | 4.2 | M 5 | 8 | 26 ±0,25 |
| 0822406431 | 4.55 | M 5 | 4.6 | 2 | 10 | 9.5 | 11.5 | 4.2 | M 5 | 8 | 26 ±0,25 |
| 0822406432 | 4.55 | M 5 | 4.6 | 2 | 10 | 9.5 | 11.5 | 4.2 | M 5 | 8 | 26 ±0,25 |
| 0822406440 | 5.5 | M 6 | 5.7 | 2.5 | 12 | 10 | 11.5 | 5.05 | M 6 | 10 | 32 ±0,25 |
| 0822406441 | 5.5 | M 6 | 5.7 | 2.5 | 12 | 10 | 11.5 | 5.05 | M 6 | 10 | 32 ±0,25 |
| 0822406442 | 5.5 | M 6 | 5.7 | 2.5 | 12 | 10 | 11.5 | 5.05 | M 6 | 10 | 32 ±0,25 |
| 0822406450 | 5.5 | M 6 | 5.7 | 2.5 | 12 | 10 | 13.5 | 5.05 | M 6 | 10 | 40 ±0,25 |
| 0822406451 | 5.5 | M 6 | 5.7 | 2.5 | 12 | 10 | 13.5 | 5.05 | M 6 | 10 | 40 ±0,25 |
| 0822406452 | 5.5 | M 6 | 5.7 | 2.5 | 12 | 10 | 13.5 | 5.05 | M 6 | 10 | 40 ±0,25 |
| 0822406461 | 7.3 | M 8 | 6.8 | 3.5 | 16 | 10 | 14 | 6.8 | M 8 | 13 | 50 ±0,25 |
| 0822406462 | 7.3 | M 8 | 6.8 | 3.5 | 16 | 10 | 14 | 6.8 | M 8 | 13 | 50 ±0,25 |

| Piston Ø | ØJ H14 | KF | LB +0,4 | LK +0,5 | ØMM f8 | PL1 | PL2 | ØRR | RT | SW -0,3 | TG1 |
|------------|--------|------|---------|---------|--------|------|------|------|------|---------|----------|
| 0822406471 | 9.2 | M 8 | 9 | 3.5 | 16 | 11.5 | 14 | 8.5 | M 10 | 13 | 62 ±0,25 |
| 0822406472 | 9.2 | M 8 | 9 | 3.5 | 16 | 11.5 | 14 | 8.5 | M 10 | 13 | 62 ±0,25 |
| 0822406481 | 9.2 | M 10 | 9 | 4 | 20 | 12 | 18 | 8.5 | M 10 | 17 | 82 ±0,3 |
| 0822406482 | 9.2 | M 10 | 9 | 4 | 20 | 12 | 18 | 8.5 | M 10 | 17 | 82 ±0,3 |
| 0822406491 | 11 | M 12 | 11 | 4 | 25 | 12 | 20.5 | 10.2 | M 12 | 22 | 103 ±0,3 |
| 0822406492 | 11 | M 12 | 11 | 4 | 25 | 12 | 20.5 | 10.2 | M 12 | 22 | 103 ±0,3 |

| Piston Ø | TG2 ±0,2 | U | W | WH | ZA ±0,2 | ZB ±0,8 |
|------------|----------|------|-----------|-----|---------|---------|
| 0822406400 | – | 9.5 | 11,5 ±0,2 | 4.5 | 30.5 | 35 |
| 0822406401 | – | 9.5 | 11,5 ±0,2 | 4.5 | 30.5 | 35 |
| 0822406410 | 20 ±0,2 | 10 | 14 ±0,2 | 3 | 32 | 35 |
| 0822406411 | 20 ±0,2 | 10 | 14 ±0,2 | 3 | 32 | 35 |
| 0822406412 | 20 ±0,2 | 10 | 14 ±0,2 | 4 | 38 | 42 |
| 0822406420 | 22 ±0,2 | 11 | 16 ±0,2 | 4.5 | 32 | 36.5 |
| 0822406421 | 22 ±0,2 | 11 | 16 ±0,2 | 4.5 | 32 | 36.5 |
| 0822406422 | 22 ±0,2 | 11 | 16 ±0,2 | 4.5 | 38 | 42.5 |
| 0822406430 | 28 ±0,25 | 14 | 19,5 ±0,2 | 5 | 39 | 44 |
| 0822406431 | 28 ±0,25 | 14 | 19,5 ±0,2 | 5 | 39 | 44 |
| 0822406432 | 28 ±0,25 | 14 | 19,5 ±0,2 | 5 | 39 | 44 |
| 0822406440 | 36 ±0,25 | 18 | 24 ±0,2 | 5.5 | 39.5 | 45 |
| 0822406441 | 36 ±0,25 | 18 | 24 ±0,2 | 5.5 | 39.5 | 45 |
| 0822406442 | 36 ±0,25 | 18 | 24 ±0,2 | 5.5 | 39.5 | 45 |
| 0822406450 | 40 ±0,25 | 20 | 27,3 ±0,2 | 7 | 39.5 | 46.5 |
| 0822406451 | 40 ±0,25 | 20 | 27,3 ±0,2 | 7 | 39.5 | 46.5 |
| 0822406452 | 40 ±0,25 | 20 | 27,3 ±0,2 | 7 | 39.5 | 46.5 |
| 0822406461 | 50 ±0,25 | 25 | 33 ±0,2 | 7.5 | 39.5 | 47 |
| 0822406462 | 50 ±0,25 | 25 | 33 ±0,2 | 7.5 | 39.5 | 47 |
| 0822406471 | 62 ±0,25 | 31 | 40 ±0,2 | 6.5 | 42 | 48.5 |
| 0822406472 | 62 ±0,25 | 31 | 40 ±0,2 | 6.5 | 42 | 48.5 |
| 0822406481 | 82 ±0,3 | 41 | 50 ±0,3 | 8 | 46 | 54 |
| 0822406482 | 82 ±0,3 | 41 | 50 ±0,3 | 8 | 46 | 54 |
| 0822406491 | 103 ±0,3 | 51.5 | 62 ±0,3 | 10 | 56 | 66 |
| 0822406492 | 103 ±0,3 | 51.5 | 62 ±0,3 | 10 | 56 | 66 |

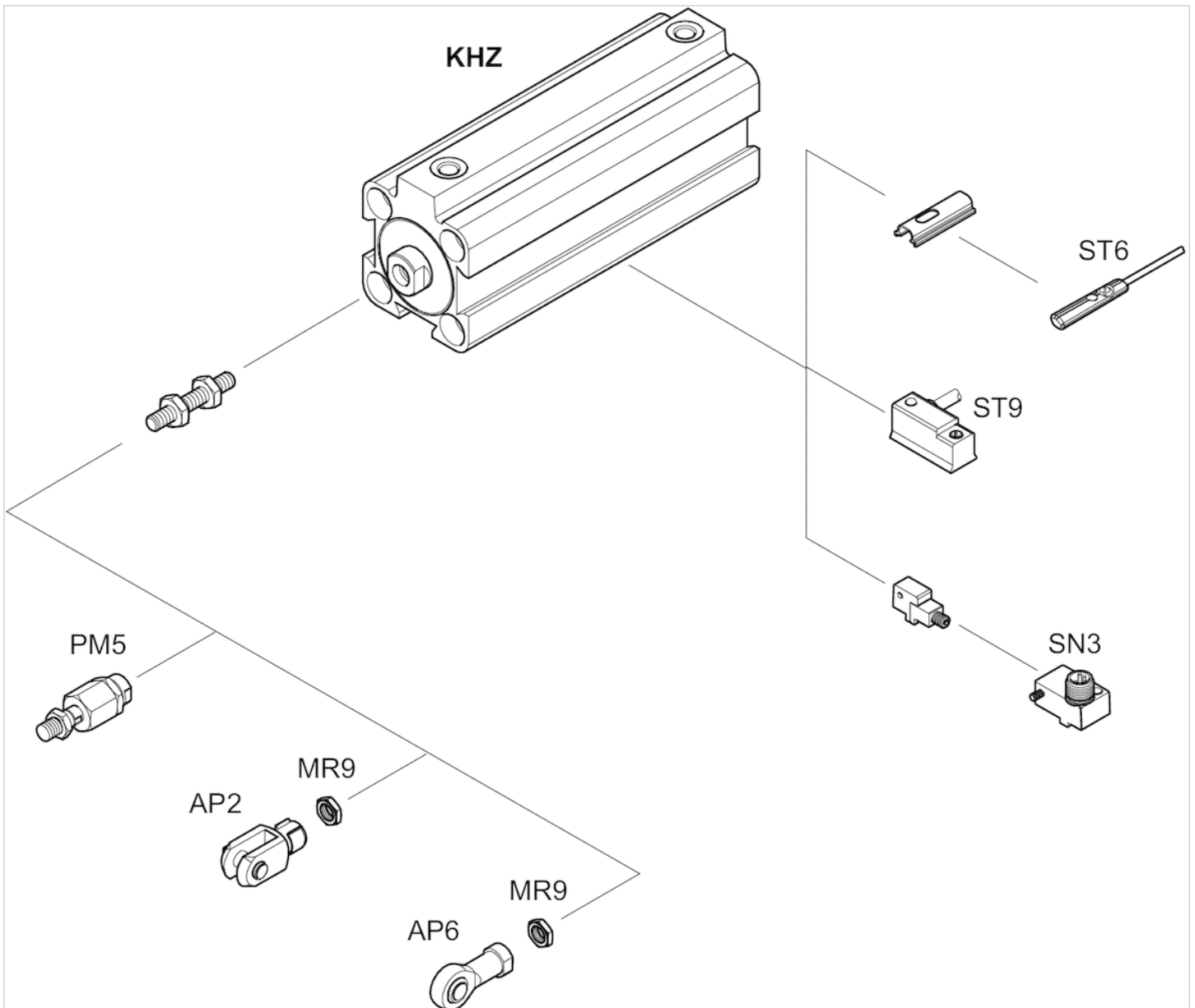
Weight [kg]

| Piston Ø | Stroke | Weight kg |
|----------|--------|-----------|
| 12 mm | 4 | 0.051 kg |
| 16 mm | 10 | 0.075 kg |
| 16 mm | 25 | 0.085 kg |
| 20 mm | 4 | 0.095 kg |
| 20 mm | 10 | 0.095 kg |
| 20 mm | 25 | 0.105 kg |
| 25 mm | 5 | 0.175 kg |
| 25 mm | 10 | 0.175 kg |
| 25 mm | 25 | 0.175 kg |
| 32 mm | 5 | 0.226 kg |
| 32 mm | 10 | 0.226 kg |
| 32 mm | 25 | 0.226 kg |

| Piston Ø | Stroke | Weight kg |
|----------|--------|-----------|
| 40 mm | 5 | 0.318 kg |
| 40 mm | 10 | 0.318 kg |
| 40 mm | 25 | 0.318 kg |
| 50 mm | 10 | 0.49 kg |
| 50 mm | 25 | 0.49 kg |
| 63 mm | 10 | 0.732 kg |
| 63 mm | 25 | 0.732 kg |
| 80 mm | 10 | 1.29 kg |
| 80 mm | 25 | 1.29 kg |
| 100 mm | 10 | 2.3 kg |
| 100 mm | 25 | 2.3 kg |

Accessories overview

Overview drawing



NOTE:

This overview drawing is only for orientation to indicate where the various accessory parts can be fastened to the cylinder. The

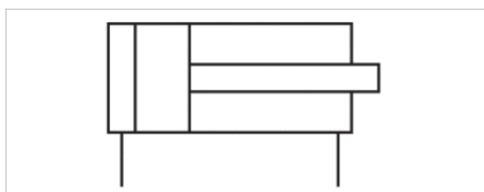
illustration has been simplified for this purpose. It is thus not possible to derive the dimensions from this overview.

Short-stroke cylinder, Series KHZ

- Ø 12-100 mm
- Ports M5 G 1/8 G 1/4
- double-acting
- Cushioning elastic
- Piston rod External thread Internal thread



| | |
|--|---------------------------|
| Ambient temperature min./max. | -25 ... 80 °C |
| Medium temperature min./max. | -25 ... 80 °C |
| Medium | Compressed air |
| Max. particle size | 50 µm |
| Oil content of compressed air | 0 ... 5 mg/m ³ |
| Pressure for determining piston forces | 6.3 bar |



Technical data

| Piston Ø Piston rod thread Ports | 12 mm M5 M5 | 16 mm M5 M5 | 20 mm M5 M5 | 25 mm M5 G 1/8 | 32 mm M6 G 1/8 | 40 mm M6 G 1/8 |
|--|-------------------|-------------------|-------------------|----------------------|----------------------|----------------------|
| Stroke 5 | 0822010500 | 0822010510 | 0822010520 | 0822010530 | 0822010540 | 0822010550 |
| 10 | 0822010501 | 0822010511 | 0822010521 | 0822010531 | 0822010541 | 0822010551 |
| 15 | 0822010502 | 0822010512 | 0822010522 | 0822010532 | 0822010542 | 0822010552 |
| 20 | 0822010503 | 0822010513 | 0822010523 | 0822010533 | 0822010543 | 0822010553 |
| 25 | 0822010504 | 0822010514 | 0822010524 | 0822010534 | 0822010544 | 0822010554 |
| 30 | 0822010505 | 0822010515 | 0822010525 | 0822010535 | 0822010545 | 0822010555 |
| 40 | 0822010506 | 0822010516 | 0822010526 | 0822010536 | 0822010546 | 0822010556 |
| 50 | - | - | 0822010527 | 0822010537 | 0822010547 | 0822010557 |

| Piston Ø Piston rod thread Ports | 50 mm M8 G 1/8 | 63 mm M8 G 1/8 | 80 mm M10 G 1/4 | 100 mm M12 G 1/4 |
|--|----------------------|----------------------|-----------------------|------------------------|
| Stroke 5 | - | 0822010570 | - | - |
| 10 | 0822010561 | 0822010571 | R402005784 | - |
| 15 | 0822010562 | 0822010572 | - | - |
| 20 | 0822010563 | 0822010573 | - | - |
| 25 | 0822010564 | 0822010574 | R402005787 | R402005833 |
| 30 | 0822010565 | 0822010575 | - | - |

| Piston Ø Piston rod thread Ports | 50 mm M8 G 1/8 | 63 mm M8 G 1/8 | 80 mm M10 G 1/4 | 100 mm M12 G 1/4 |
|--|----------------------|----------------------|-----------------------|------------------------|
| 40 | 0822010566 | 0822010576 | - | - |
| 50 | 0822010567 | 0822010577 | R402005790 | R402005836 |

Technical data

| Piston Ø | 12 mm | 16 mm | 20 mm | 25 mm |
|----------------------------|--------------|--------------|--------------|--------------|
| Retracting piston force | 53 N | 95 N | 148 N | 260 N |
| Extracting piston force | 71 N | 127 N | 198 N | 309 N |
| Impact energy | 0.03 J | 0.06 J | 0.08 J | 0.1 J |
| Weight 0 mm stroke | 0.036 kg | 0.063 kg | 0.082 kg | 0.164 kg |
| Weight +10 mm stroke | 0.013 kg | 0.016 kg | 0.021 kg | 0.03 kg |
| Working pressure min./max. | 1 ... 10 bar | 1 ... 10 bar | 1 ... 10 bar | 1 ... 10 bar |
| Material, front cover | Brass | Brass | Brass | Brass |

| Piston Ø | 32 mm | 40 mm | 50 mm | 63 mm |
|----------------------------|----------------|----------------|----------------|----------------|
| Retracting piston force | 435 N | 720 N | 1110 N | 1837 N |
| Extracting piston force | 507 N | 792 N | 1237 N | 1964 N |
| Impact energy | 0.16 J | 0.24 J | 0.32 J | 0.38 J |
| Weight 0 mm stroke | 0.195 kg | 0.285 kg | 0.388 kg | 0.636 kg |
| Weight +10 mm stroke | 0.042 kg | 0.052 kg | 0.074 kg | 0.096 kg |
| Working pressure min./max. | 0.6 ... 10 bar | 0.6 ... 10 bar | 0.6 ... 10 bar | 0.6 ... 10 bar |
| Material, front cover | Aluminum | Aluminum | Aluminum | Aluminum |

| Piston Ø | 80 mm | 100 mm |
|----------------------------|----------------|----------------|
| Retracting piston force | 2857 N | 4939 N |
| Extracting piston force | 3167 N | 4948 N |
| Impact energy | 0.38 J | 0.5 J |
| Weight 0 mm stroke | 1.22 kg | 2.38 kg |
| Weight +10 mm stroke | 0.149 kg | 0.218 kg |
| Working pressure min./max. | 0.6 ... 10 bar | 0.6 ... 10 bar |
| Material, front cover | Aluminum | Aluminum |

Technical information

The pressure dew point must be at least 15 °C under 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 the MediaCentre).

Other versions can be ordered from AVENTICS sales offices.

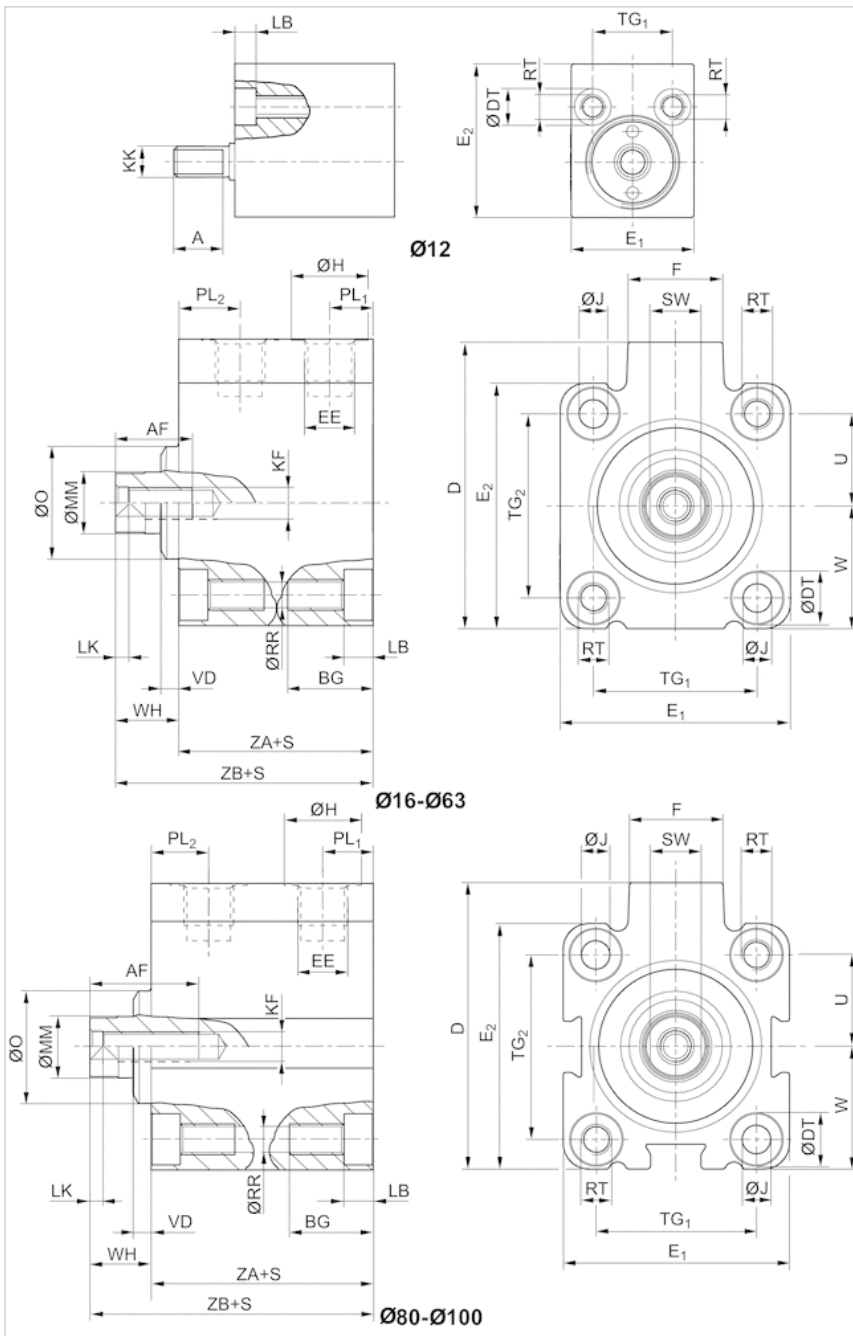
Technical information

| Material | |
|---------------|--------------------|
| Cylinder tube | Aluminum, anodized |
| Piston rod | Stainless steel |

| Material | |
|-------------|----------------|
| Piston | Nitrile rubber |
| Front cover | Brass Aluminum |
| End cover | Aluminum |
| Scraper | Polyurethane |

Dimensions

Dimensions



S = stroke

Dimensions

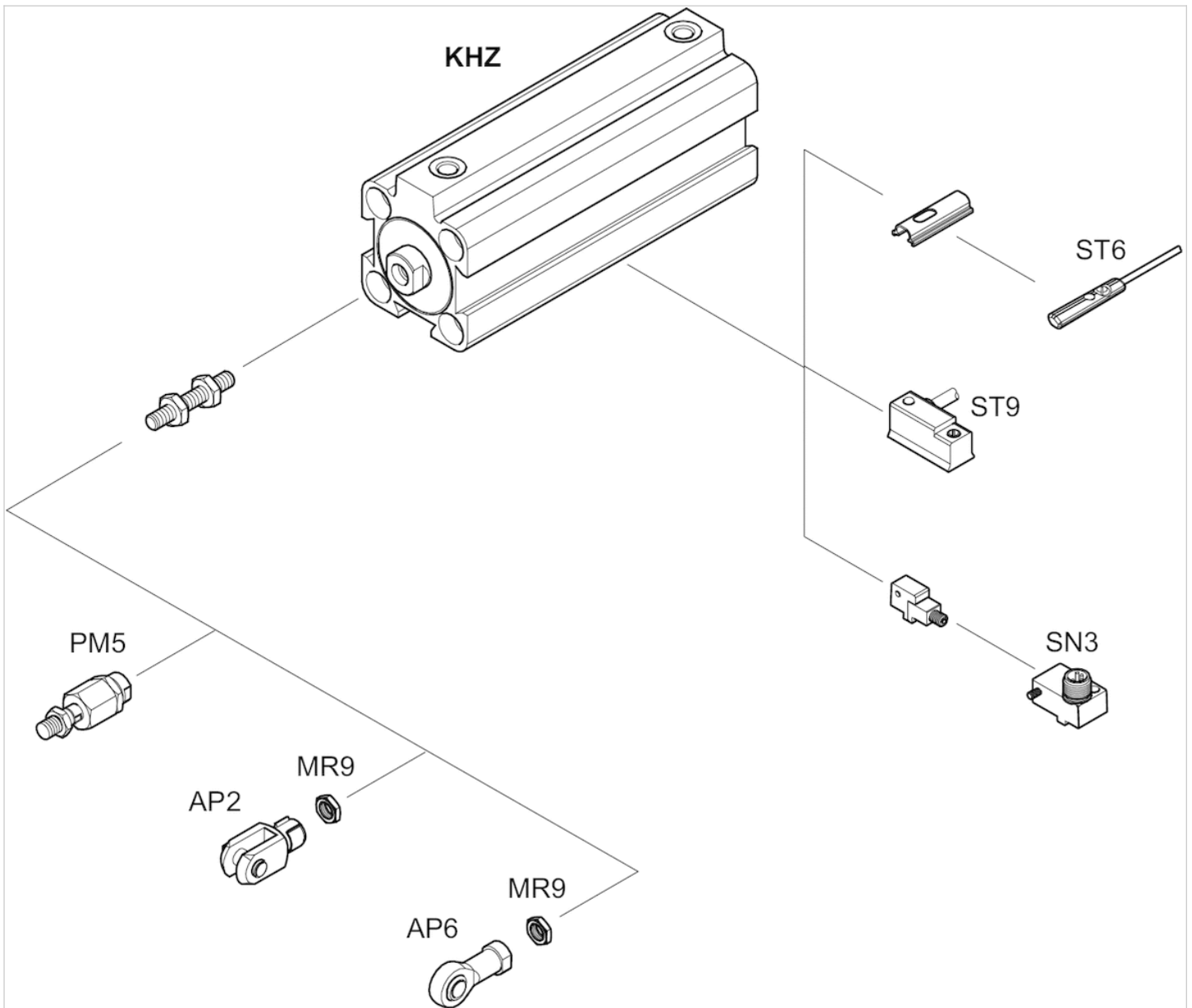
| Piston Ø | Stroke | A | AF +1 | BG min. | D JS15 | ØDT H13 | E1 JS15 | E2 JS15 | EE | F | ØH | ØJ |
|----------|---------|---|-------|---------|--------|---------|---------|---------|-------|------|----|------|
| 12 mm | 5 - 20 | 8 | – | 12.4 | – | 6 | 20 | 25 | M 5 | – | 8 | – |
| 12 mm | 25 - 40 | 8 | – | 17.5 | – | 6 | 20 | 25 | M 5 | – | 8 | – |
| 16 mm | 5 - 15 | – | 10 | 12.4 | 33 | 6 | 28 | 28 | M 5 | 11.5 | 8 | 3.55 |
| 16 mm | 20 - 40 | – | 10 | 17.5 | 33 | 6 | 28 | 28 | M 5 | 11.5 | 8 | 3.55 |
| 20 mm | 5 - 50 | – | 10 | 13.6 | 37 | 7.5 | 32 | 32 | M 5 | 11 | 8 | 4.55 |
| 25 mm | 5 - 50 | – | 10 | 13.6 | 47.5 | 8 | 37 | 39 | G 1/8 | 17.5 | 15 | 4.55 |
| 32 mm | 5 - 50 | – | 15 | 16.7 | 56 | 10 | 45 | 48 | G 1/8 | 18.5 | 15 | 5.5 |
| 40 mm | 5 - 50 | – | 15 | 16.7 | 62.5 | 10 | 54.5 | 54.5 | G 1/8 | 18.5 | 15 | 5.5 |
| 50 mm | 10 - 50 | – | 18 | 19.8 | 72 | 11 | 64 | 64 | G 1/8 | 18 | 15 | 7.3 |
| 63 mm | 5 - 50 | – | 18 | 25 | 88 | 15 | 80 | 80 | G 1/8 | 23 | 15 | 9.2 |
| 80 mm | 10 - 50 | – | 18 | 25 | 110 | 15 | 100 | 100 | G 1/4 | 27 | 19 | 9.2 |
| 100 mm | 25 - 50 | – | 20 | 30 | 132 | 17.5 | 124 | 124 | G 1/4 | 28 | 19 | 11 |

| Piston Ø | KF | KK | LB +0,4 | LK +0,5 | ØMM f8 | ØO | PL1 | PL2 | ØRR | RT | SW -0,3 | TG1 |
|----------|-----|-----|---------|---------|--------|----|------|------|------|-----|---------|----------|
| 12 mm | – | M 5 | 3.4 | – | 6 | – | 6 | 9.5 | 3.3 | M4 | – | 13 ±0,2 |
| 12 mm | – | M 5 | 8.5 | – | 6 | – | 6 | 9.5 | 3.3 | M4 | – | 13 ±0,2 |
| 16 mm | M5 | – | 3.4 | 2 | 8 | – | 6 | 11.3 | 3.3 | M4 | 7 | 20 ±0,2 |
| 16 mm | M5 | – | 8.5 | 2 | 8 | – | 6 | 11.3 | 3.3 | M4 | 7 | 20 ±0,2 |
| 20 mm | M5 | – | 4.6 | 2 | 10 | – | 5 | 8 | 4.2 | M5 | 8 | 22 ±0,2 |
| 25 mm | M5 | – | 4.6 | 2 | 10 | 20 | 9 | 11 | 4.2 | M5 | 8 | 26 ±0,25 |
| 32 mm | M6 | – | 5.7 | 2.5 | 12 | 22 | 8.5 | 12 | 5.05 | M6 | 10 | 32 ±0,25 |
| 40 mm | M6 | – | 5.7 | 2.5 | 12 | 30 | 9 | 11 | 5.05 | M6 | 10 | 40 ±0,25 |
| 50 mm | M8 | – | 6.8 | 3.5 | 16 | 35 | 8.5 | 11 | 6.8 | M8 | 13 | 50 ±0,25 |
| 63 mm | M8 | – | 9 | 3.5 | 16 | 35 | 8.5 | 12.5 | 8.5 | M10 | 13 | 62 ±0,25 |
| 80 mm | M10 | – | 9 | 4 | 20 | 46 | 13 | 16 | 8.8 | M10 | 17 | 82 ±0,3 |
| 100 mm | M12 | – | 11 | 4 | 25 | 56 | 15.5 | 15.5 | 10.2 | M12 | 22 | 103 ±0,3 |

| Piston Ø | TG2 | U | W | VD -1 | WH | ZA ±0,2 | ZB ±0,8 |
|----------|----------|------|-----------|-------|------|---------|---------|
| 12 mm | – | 9 | 9 ±0,2 | – | – | 21 | 31 |
| 12 mm | – | 9 | 9 ±0,2 | – | – | 21 | 31 |
| 16 mm | 20 ±0,2 | 10 | 14 ±0,2 | – | 6 | 25 | 31 |
| 16 mm | 20 ±0,2 | 10 | 14 ±0,2 | – | 6 | 25 | 31 |
| 20 mm | 22 ±0,2 | 11 | 16 ±0,2 | – | 9.5 | 24.5 | 34 |
| 25 mm | 28 ±0,25 | 14 | 19,5 ±0,2 | 3.5 | 11.5 | 31 | 42.5 |
| 32 mm | 36 ±0,25 | 18 | 24 ±0,2 | 3.5 | 12.5 | 33 | 45.5 |
| 40 mm | 40 ±0,25 | 20 | 27,3 ±0,2 | 4.5 | 15 | 33 | 48 |
| 50 mm | 50 ±0,25 | 25 | 32 ±0,2 | 6 | 17 | 32.5 | 49.5 |
| 63 mm | 62 ±0,25 | 31 | 40 ±0,2 | 6.5 | 17 | 35.5 | 52.5 |
| 80 mm | 82 ±0,3 | 41 | 50 ±0,3 | 8.5 | 18 | 42 | 60 |
| 100 mm | 103 ±0,3 | 51.5 | 62 ±0,3 | 7 | 20 | 49.5 | 69.5 |

Accessories overview

Overview drawing



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.

Short-stroke cylinder, Series KHZ

- Ø 12-100 mm
- Ports M5 G 1/8 G 1/4
- double-acting
- with magnetic piston
- Cushioning elastic
- Piston rod Internal thread



| | |
|--|---------------------------|
| Compressed air connection | Internal thread |
| Ambient temperature min./max. | -25 ... 80 °C |
| Medium temperature min./max. | -25 ... 80 °C |
| Medium | Compressed air |
| Max. particle size | 50 µm |
| Oil content of compressed air | 0 ... 5 mg/m ³ |
| Pressure for determining piston forces | 6.3 bar |



Technical data

| Piston Ø Piston rod thread Ports | 12 mm M3 M5 | 16 mm M5 M5 | 20 mm M5 M5 | 25 mm M5 G 1/8 | 32 mm M6 G 1/8 | 40 mm M6 G 1/8 |
|--|-------------------|-------------------|-------------------|----------------------|----------------------|----------------------|
| Stroke 5 | 0822010600 | 0822010610 | 0822010620 | 0822010630 | 0822010640 | 0822010650 |
| 10 | 0822010601 | 0822010611 | 0822010621 | 0822010631 | 0822010641 | 0822010651 |
| 15 | 0822010602 | 0822010612 | 0822010622 | 0822010632 | 0822010642 | 0822010652 |
| 20 | 0822010603 | 0822010613 | 0822010623 | 0822010633 | 0822010643 | 0822010653 |
| 25 | 0822010604 | 0822010614 | 0822010624 | 0822010634 | 0822010644 | 0822010654 |
| 30 | 0822010605 | 0822010615 | 0822010625 | 0822010635 | 0822010645 | 0822010655 |
| 40 | 0822010606 | 0822010616 | 0822010626 | 0822010636 | 0822010646 | 0822010656 |
| 50 | - | - | 0822010627 | 0822010637 | 0822010647 | 0822010657 |
| 80 | - | - | - | - | 0822010648 | 0822010658 |
| 100 | - | - | - | - | 0822010649 | 0822010659 |

| Piston Ø Piston rod thread Ports | 50 mm M8 G 1/8 | 63 mm M8 G 1/8 | 80 mm M10 G 1/4 | 100 mm M12 G 1/4 |
|--|----------------------|----------------------|-----------------------|------------------------|
| Stroke 5 | - | - | - | - |
| 10 | 0822010661 | 0822010671 | 0822010681 | 0822010691 |
| 15 | 0822010662 | 0822010672 | R402005794 | - |

| Piston Ø Piston rod thread Ports | 50 mm M8 G 1/8 | 63 mm M8 G 1/8 | 80 mm M10 G 1/4 | 100 mm M12 G 1/4 |
|--|----------------------|----------------------|-----------------------|------------------------|
| 20 | 0822010663 | 0822010673 | - | - |
| 25 | 0822010664 | 0822010674 | 0822010684 | 0822010694 |
| 30 | 0822010665 | 0822010675 | - | - |
| 40 | 0822010666 | 0822010676 | R402005797 | R402005844 |
| 50 | 0822010667 | 0822010677 | 0822010687 | 0822010697 |
| 80 | 0822010668 | 0822010678 | 0822010688 | 0822010698 |
| 100 | 0822010669 | 0822010679 | 0822010689 | 0822010699 |

Technical data

| Piston Ø | 12 mm | 16 mm | 20 mm | 25 mm |
|----------------------------|--------------|--------------|--------------|--------------|
| Retracting piston force | 53 N | 95 N | 148 N | 260 N |
| Extracting piston force | 71 N | 127 N | 198 N | 309 N |
| Impact energy | 0.03 J | 0.06 J | 0.08 J | 0.1 J |
| Weight 0 mm stroke | 0.05 kg | 0.065 kg | 0.092 kg | 0.178 kg |
| Weight +10 mm stroke | 0.013 kg | 0.016 kg | 0.021 kg | 0.03 kg |
| Working pressure min./max. | 1 ... 10 bar | 1 ... 10 bar | 1 ... 10 bar | 1 ... 10 bar |
| Material, front cover | Brass | Brass | Brass | Brass |

| Piston Ø | 32 mm | 40 mm | 50 mm | 63 mm |
|----------------------------|----------------|----------------|----------------|----------------|
| Retracting piston force | 435 N | 720 N | 1110 N | 1837 N |
| Extracting piston force | 507 N | 792 N | 1237 N | 1964 N |
| Impact energy | 0.16 J | 0.24 J | 0.32 J | 0.38 J |
| Weight 0 mm stroke | 0.195 kg | 0.285 kg | 0.388 kg | 0.636 kg |
| Weight +10 mm stroke | 0.042 kg | 0.052 kg | 0.074 kg | 0.096 kg |
| Working pressure min./max. | 0.6 ... 10 bar | 0.6 ... 10 bar | 0.6 ... 10 bar | 0.6 ... 10 bar |
| Material, front cover | Aluminum | Aluminum | Aluminum | Aluminum |

| Piston Ø | 80 mm | 100 mm |
|----------------------------|----------------|----------------|
| Retracting piston force | 2857 N | 4639 N |
| Extracting piston force | 3167 N | 4948 N |
| Impact energy | 0.38 J | 0.5 J |
| Weight 0 mm stroke | 1.22 kg | 2.38 kg |
| Weight +10 mm stroke | 0.149 kg | 0.218 kg |
| Working pressure min./max. | 0.6 ... 10 bar | 0.6 ... 10 bar |
| Material, front cover | Aluminum | Aluminum |

Technical information

The pressure dew point must be at least 15 °C under 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 the MediaCentre).

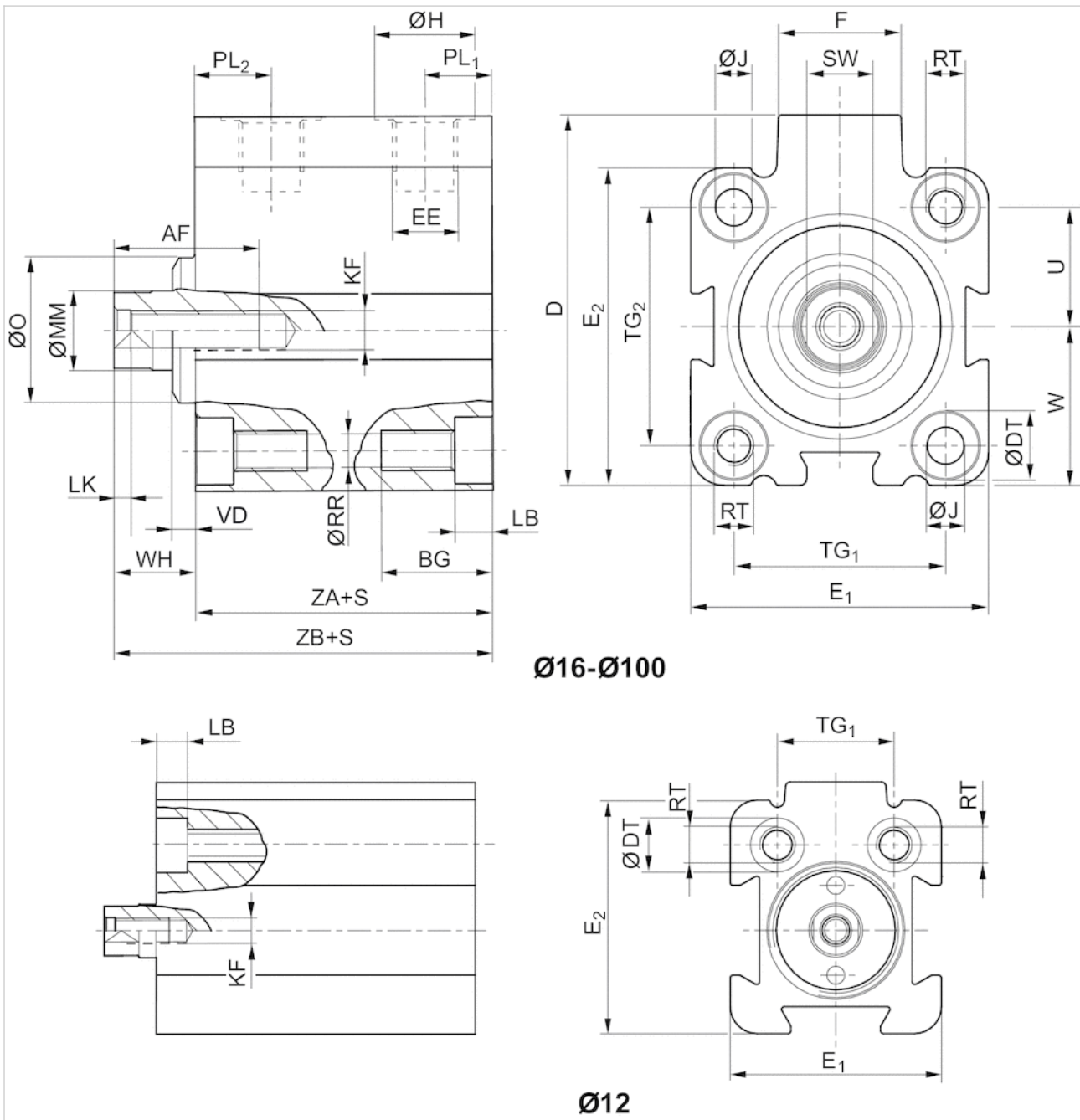
Other versions can be ordered from AVENTICS sales offices.

Technical information

| Material | |
|---------------|--------------------|
| Cylinder tube | Aluminum, anodized |
| Piston rod | Stainless steel |
| Piston | Nitrile rubber |
| Front cover | Brass Aluminum |
| End cover | Aluminum |
| Scraper | Polyurethane |

Dimensions

Dimensions



S = stroke

Dimensions

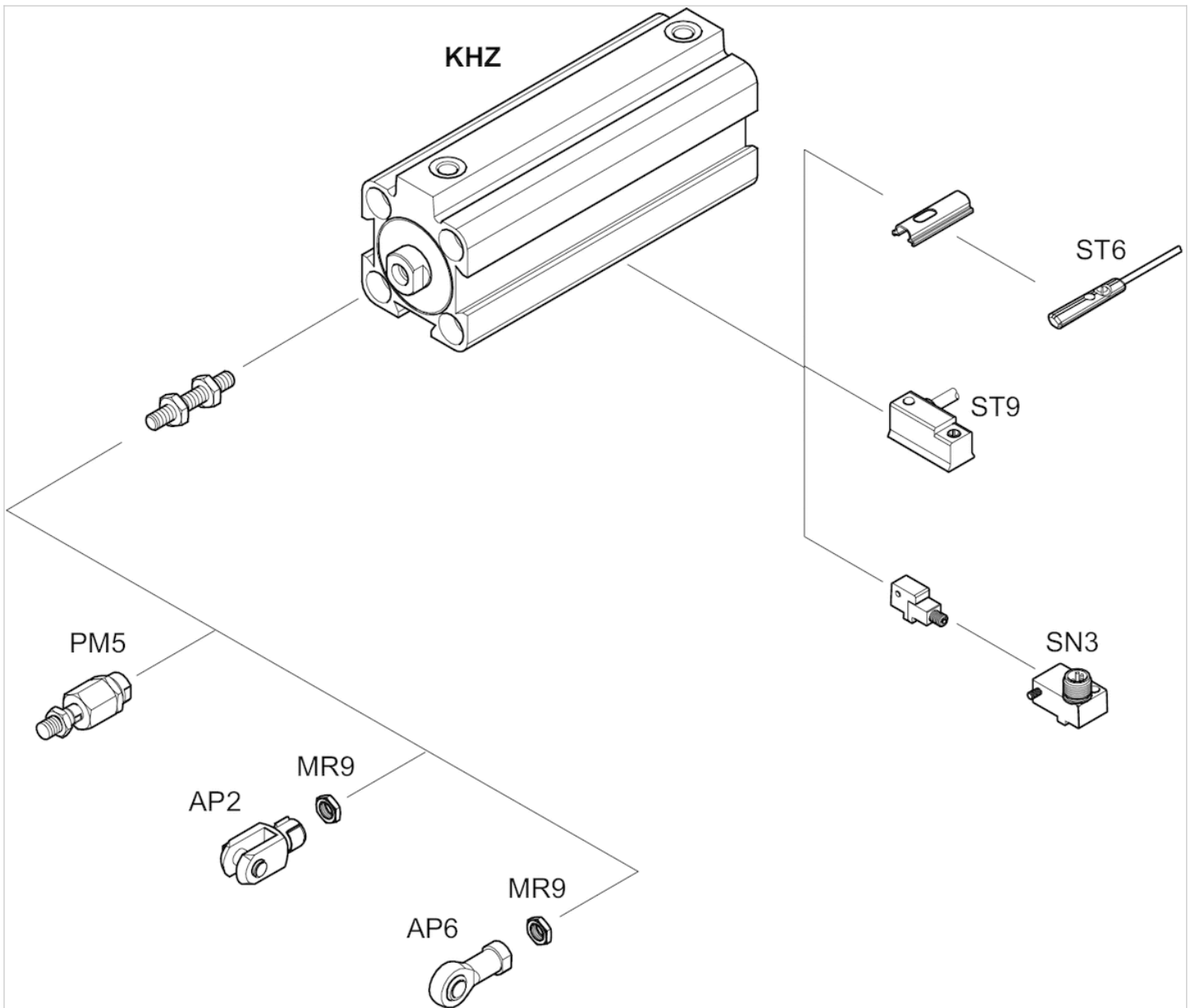
| Piston Ø | Stroke | AF +1 | BG min. | D JS15 | ØDT H13 | E1 JS15 | E2 JS15 | EE | F | ØH | ØJ |
|----------|----------|-------|---------|--------|---------|---------|---------|-------|------|----|------|
| 12 mm | 5 - 10 | 8 | 12.4 | 28 | 6 | 23.5 | 26 | M 5 | 11 | 8 | 3.3 |
| 16 mm | 5 - 10 | 10 | 12.4 | 33 | 6 | 28 | 28 | M 5 | 11.5 | 8 | 3.55 |
| 20 mm | 5 - 10 | 10 | 13.6 | 37 | 7.5 | 32 | 32 | M 5 | 11 | 8 | 4.55 |
| 25 mm | 5 - 50 | 10 | 13.6 | 47.5 | 8 | 37 | 39 | G 1/8 | 17.5 | 15 | 4.55 |
| 32 mm | 5 - 100 | 15 | 16.7 | 56 | 10 | 45 | 48 | G 1/8 | 18.5 | 15 | 5.5 |
| 40 mm | 5 - 100 | 15 | 16.7 | 62.5 | 10 | 54.5 | 54 | G 1/8 | 18.5 | 15 | 5.5 |
| 50 mm | 10 - 100 | 18 | 19.8 | 73 | 11 | 66 | 66 | G 1/8 | 18 | 15 | 7.3 |
| 63 mm | 10 - 100 | 18 | 25 | 88 | 15 | 80 | 80 | G 1/8 | 23 | 15 | 9.2 |
| 80 mm | 10 - 100 | 18 | 25 | 110 | 15 | 100 | 100 | G 1/4 | 27 | 19 | 9.2 |
| 100 mm | 10 - 100 | 20 | 30 | 132 | 17.5 | 124 | 124 | G 1/4 | 28 | 19 | 11 |

| Piston Ø | KF | LB +0,4 | LK +0,5 | ØMM f8 | ØO | PL1 | PL2 | ØRR | RT | SW -0,3 | TG1 | TG2 |
|----------|-----|---------|---------|--------|----|------|------|------|-----|---------|----------|----------|
| 12 mm | M3 | 3.4 | 2 | 6 | - | 6 | 10.5 | 3.3 | M4 | 5 | 13 ±0,2 | - |
| 16 mm | M5 | 3.4 | 2 | 8 | - | 6.5 | 11.3 | 3.3 | M4 | 7 | 20 ±0,2 | 20 ±0,2 |
| 20 mm | M5 | 4.6 | 2 | 10 | - | 6.5 | 10 | 4.2 | M5 | 8 | 22 ±0,2 | 22 ±0,2 |
| 25 mm | M5 | 4.6 | 2 | 10 | 20 | 9.5 | 11.5 | 4.2 | M5 | 8 | 26 ±0,25 | 28 ±0,25 |
| 32 mm | M6 | 5.7 | 2.5 | 12 | 22 | 8.5 | 15 | 5.05 | M6 | 10 | 32 ±0,25 | 36 ±0,25 |
| 40 mm | M6 | 5.7 | 2.5 | 12 | 30 | 10 | 13.5 | 5.05 | M6 | 10 | 40 ±0,25 | 40 ±0,25 |
| 50 mm | M8 | 6.8 | 3.5 | 16 | 35 | 10 | 14 | 6.8 | M8 | 13 | 50 ±0,25 | 50 ±0,25 |
| 63 mm | M8 | 9 | 3.5 | 16 | 35 | 11.5 | 14 | 8.5 | M10 | 13 | 62 ±0,25 | 62 ±0,25 |
| 80 mm | M10 | 9 | 4 | 20 | 46 | 12 | 15.5 | 8.5 | M10 | 17 | 82 ±0,3 | 82 ±0,3 |
| 100 mm | M12 | 11 | 4 | 25 | 56 | 12 | 18.5 | 10.2 | M12 | 22 | 103 ±0,3 | 103 ±0,3 |

| Piston Ø | U | W | VD -1 | WH | ZA ±0,2 | ZB ±0,8 |
|----------|------|-----------|-------|------|---------|---------|
| 12 mm | 9.5 | 11,5 ±0,2 | - | 5.5 | 30.5 | 36 |
| 16 mm | 10 | 14 ±0,2 | - | 4.5 | 32 | 36.5 |
| 20 mm | 11 | 16 ±0,2 | - | 4.5 | 32 | 36.5 |
| 25 mm | 14 | 19,5 ±0,2 | 3.5 | 9.5 | 39 | 48.5 |
| 32 mm | 18 | 24 ±0,2 | 3.5 | 11 | 39.5 | 50.5 |
| 40 mm | 20 | 27,3 ±0,2 | 4.5 | 13.5 | 39.5 | 53 |
| 50 mm | 25 | 33 ±0,2 | 6 | 13.5 | 39.5 | 53 |
| 63 mm | 31 | 40 ±0,2 | 6.5 | 15.5 | 42 | 57.5 |
| 80 mm | 41 | 50 ±0,3 | 8.5 | 18 | 46 | 64 |
| 100 mm | 51.5 | 62 ±0,3 | 7 | 20 | 56 | 76 |

Accessories overview

Overview drawing

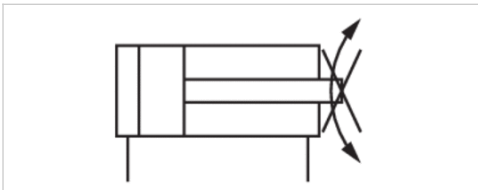


NOTE:

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.

Short-stroke cylinder, Series KHZ

- Ø 20-63 mm
- Ports M5 G 1/8
- double-acting
- Cushioning elastic
- Piston rod Internal thread
- Piston rod non-rotating



| | |
|--|---------------------------|
| Compressed air connection | Internal thread |
| Ambient temperature min./max. | -25 ... 80 °C |
| Medium temperature min./max. | -25 ... 80 °C |
| Medium | Compressed air |
| Max. particle size | 50 µm |
| Oil content of compressed air | 0 ... 5 mg/m ³ |
| Pressure for determining piston forces | 6.3 bar |

Technical data

| Piston Ø | 20 mm | 25 mm | 32 mm | 40 mm | 50 mm | 63 mm |
|-----------|------------|------------|------------|------------|------------|------------|
| Stroke 10 | 0822010721 | 0822010731 | 0822010741 | 0822010751 | 0822010761 | 0822010771 |
| 15 | 0822010722 | 0822010732 | 0822010742 | 0822010752 | 0822010762 | 0822010772 |
| 20 | 0822010723 | 0822010733 | 0822010743 | 0822010753 | 0822010763 | 0822010773 |
| 25 | 0822010724 | 0822010734 | 0822010744 | 0822010754 | 0822010764 | 0822010774 |
| 30 | 0822010725 | 0822010735 | 0822010745 | 0822010755 | 0822010765 | 0822010775 |
| 40 | 0822010726 | 0822010736 | 0822010746 | 0822010756 | 0822010766 | 0822010776 |
| 50 | 0822010727 | 0822010737 | 0822010747 | 0822010757 | 0822010767 | 0822010777 |

Technical data

| Piston Ø | 20 mm | 25 mm | 32 mm | 40 mm |
|----------------------------|--------------|--------------|----------------|----------------|
| Retracting piston force | 148 N | 260 N | 435 N | 720 N |
| Extracting piston force | 198 N | 309 N | 507 N | 792 N |
| Impact energy | 0.08 J | 0.1 J | 0.16 J | 0.24 J |
| Weight 0 mm stroke | 0.092 kg | 0.178 kg | 0.195 kg | 0.285 kg |
| Weight +10 mm stroke | 0.024 kg | 0.034 kg | 0.05 kg | 0.06 kg |
| Working pressure min./max. | 1 ... 10 bar | 1 ... 10 bar | 0.6 ... 10 bar | 0.6 ... 10 bar |
| Material, front cover | Brass | Brass | Aluminum | Aluminum |

| Piston Ø | 50 mm | 63 mm |
|----------------------------|----------------|----------------|
| Retracting piston force | 1110 N | 1837 N |
| Extracting piston force | 1237 N | 1964 N |
| Impact energy | 0.32 J | 0.38 J |
| Weight 0 mm stroke | 0.388 kg | 0.636 kg |
| Weight +10 mm stroke | 0.086 kg | 0.114 kg |
| Working pressure min./max. | 0.6 ... 10 bar | 0.6 ... 10 bar |
| Material, front cover | Aluminum | Aluminum |

Technical information

The pressure dew point must be at least 15 °C under 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 the MediaCentre).

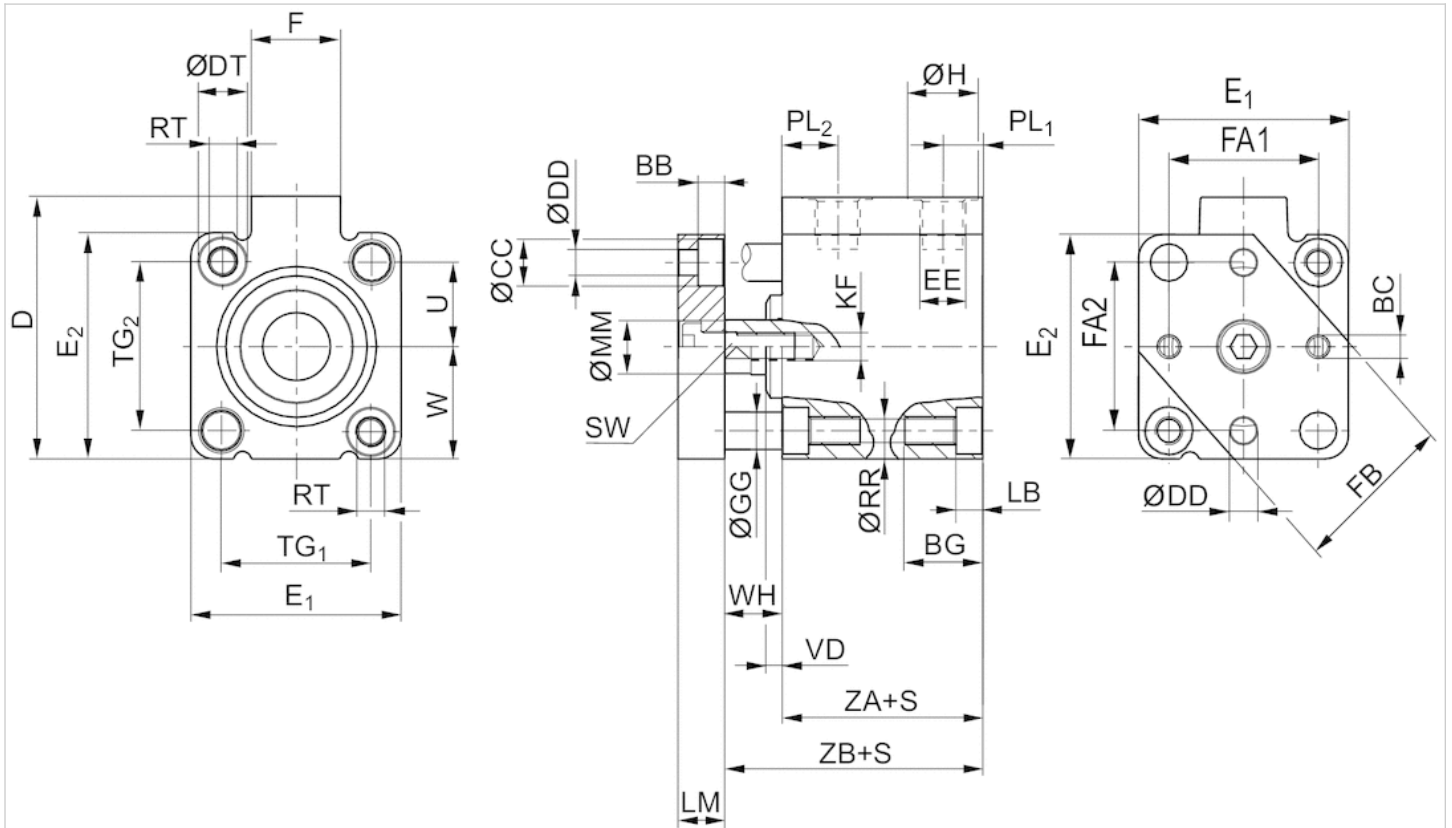
Other versions can be ordered from AVENTICS sales offices.

Technical information

| Material | |
|---------------|--------------------|
| Cylinder tube | Aluminum, anodized |
| Piston rod | Stainless steel |
| Piston | Nitrile rubber |
| Front cover | Brass Aluminum |
| End cover | Aluminum |
| Scraper | Polyurethane |

Dimensions

Dimensions



Dimensions

| Piston Ø | Stroke | BB | BC | BG min. | ØCC | D JS15 | ØDD | ØDT H13 | E1 JS15 | E2 JS15 | EE | F |
|----------|---------|-----|-----|---------|-----|--------|-----|---------|---------|---------|-------|------|
| 20 mm | 10 - 50 | 5 | M 4 | 13.6 | 7.5 | 37 | 4.5 | 7.5 | 32 | 32 | M 5 | 11 |
| 25 mm | 10 - 50 | 5 | M 4 | 13.6 | 8 | 47.5 | 4.5 | 8 | 37 | 39 | G 1/8 | 17,5 |
| 32 mm | 10 - 50 | 5,7 | M 5 | 16.7 | 10 | 56 | 5.5 | 10 | 45 | 48 | G 1/8 | 18.5 |
| 40 mm | 10 - 50 | 5,7 | M 5 | 16.7 | 10 | 62.5 | 5.5 | 10 | 54.5 | 54.5 | G 1/8 | 18.5 |
| 50 mm | 10 - 50 | 6,8 | M 6 | 19.8 | 11 | 72 | 6.5 | 11 | 64 | 64 | G 1/8 | 18 |
| 63 mm | 10 - 50 | 9 | M 6 | 25 | 14 | 88 | 9 | 15 | 80 | 80 | G 1/8 | 23 |

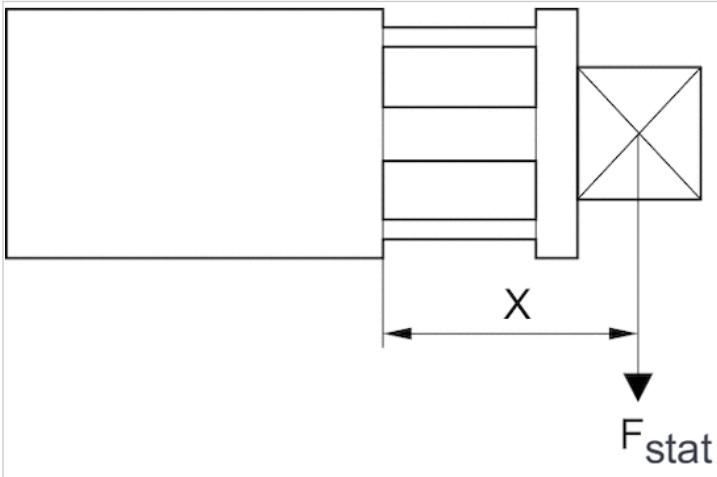
| Piston Ø | FB | ØGG -0,005/-0,025 | ØH | KF | LB +0,4 | LM | ØMM f8 | PL1 | PL2 | ØRR | RT | SW -0,3 |
|----------|----|-------------------|----|-----|---------|----|--------|-----|------|------|------|---------|
| 20 mm | 25 | 5 | 8 | M 5 | 4.6 | 8 | 10 | 5 | 8 | 4.2 | M 5 | 8 |
| 25 mm | 30 | 6 | 15 | M 5 | 4.6 | 8 | 10 | 9 | 11 | 4.2 | M 5 | 8 |
| 32 mm | 35 | 8 | 15 | M 6 | 5.7 | 10 | 12 | 8.5 | 12 | 5.05 | M 6 | 10 |
| 40 mm | 40 | 8 | 15 | M 6 | 5.7 | 10 | 12 | 9 | 11 | 5.05 | M 6 | 10 |
| 50 mm | 50 | 10 | 15 | M 8 | 6.8 | 12 | 16 | 8,5 | 11 | 6.8 | M 8 | 13 |
| 63 mm | 60 | 12 | 15 | M 8 | 9 | 12 | 16 | 8,5 | 12,5 | 8.5 | M 10 | 13 |

| Piston Ø | TG1 | TG2 | U | W | VD -1 | WH | FA1 ±0,1 | FA2 ±0,1 | ZA ±0,2 | ZB ±0,8 |
|----------|----------|----------|----|-----------|-------|------|----------|----------|---------|---------|
| 20 mm | 22 ±0,2 | 22 ±0,2 | 11 | 16 ±0,2 | - | 9,5 | 22 | 22 | 24.5 | 34 |
| 25 mm | 26 ±0,25 | 28 ±0,25 | 14 | 19,5 ±0,2 | 3.5 | 11,5 | 26 | 28 | 31 | 42.5 |
| 32 mm | 32 ±0,25 | 36 ±0,25 | 18 | 24 ±0,2 | 3.5 | 12,5 | 32 | 36 | 33 | 45.5 |
| 40 mm | 40 ±0,25 | 40 ±0,25 | 20 | 27,3 ±0,2 | 4.5 | 15 | 40 | 40 | 33 | 48 |
| 50 mm | 50 ±0,25 | 50 ±0,25 | 25 | 32 ±0,2 | 6 | 17 | 50 | 50 | 32.5 | 49.5 |

| Piston Ø | TG1 | TG2 | U | W | VD -1 | WH | FA1 ±0,1 | FA2 ±0,1 | ZA ±0,2 | ZB ±0,8 |
|----------|----------|----------|----|---------|-------|----|----------|----------|---------|---------|
| 63 mm | 62 ±0,25 | 62 ±0,25 | 31 | 40 ±0,2 | 6.5 | 17 | 62 | 62 | 35.5 | 52.5 |

Diagrams

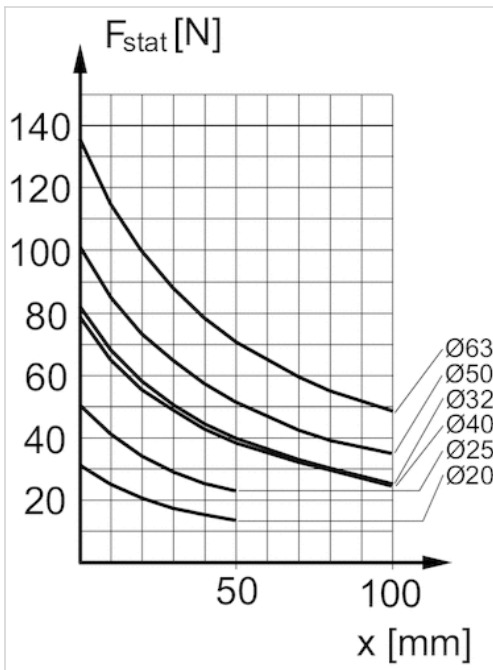
Maximum admissible lateral force, static



F_{stat} = static lateral force

X = distance between force application point and cylinder cover

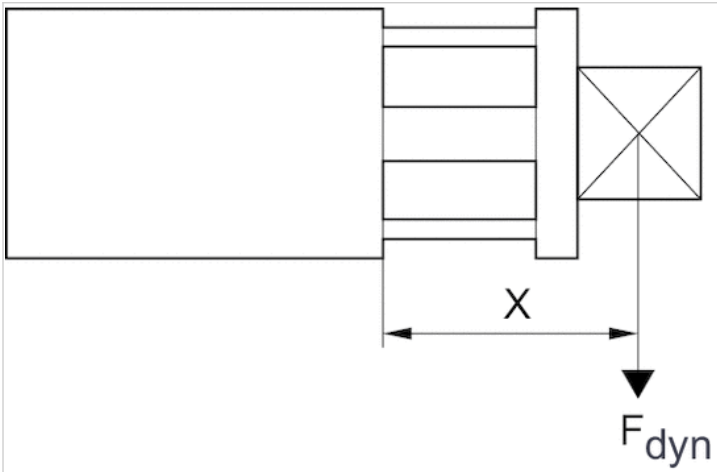
Maximum admissible lateral force, static



F_{stat} = static lateral force

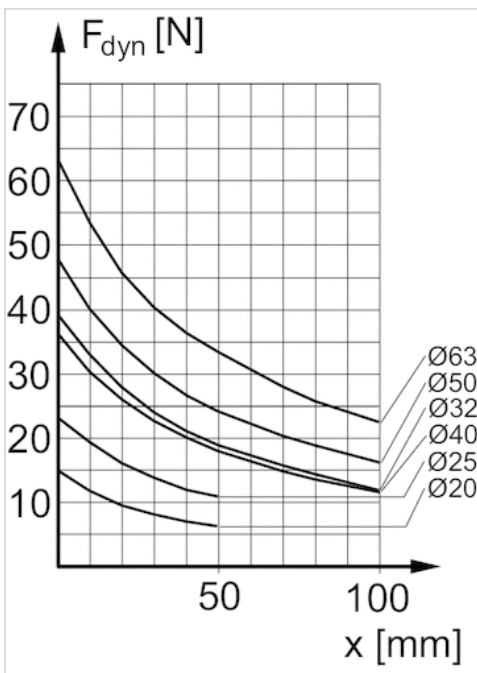
X = distance between force application point and cylinder cover

Maximum admissible lateral force, dynamic



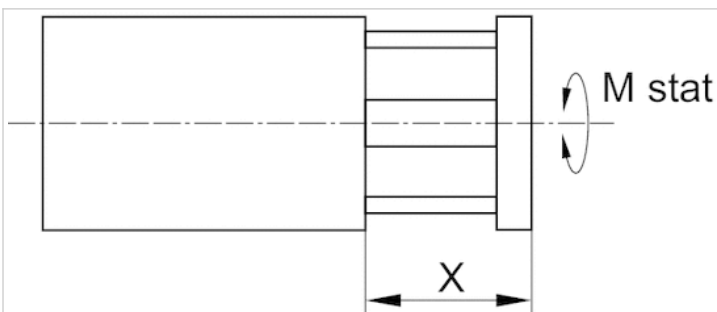
F_{dyn} = dynamic lateral force
 X = distance between force application point and cylinder cover

Maximum admissible lateral force, dynamic

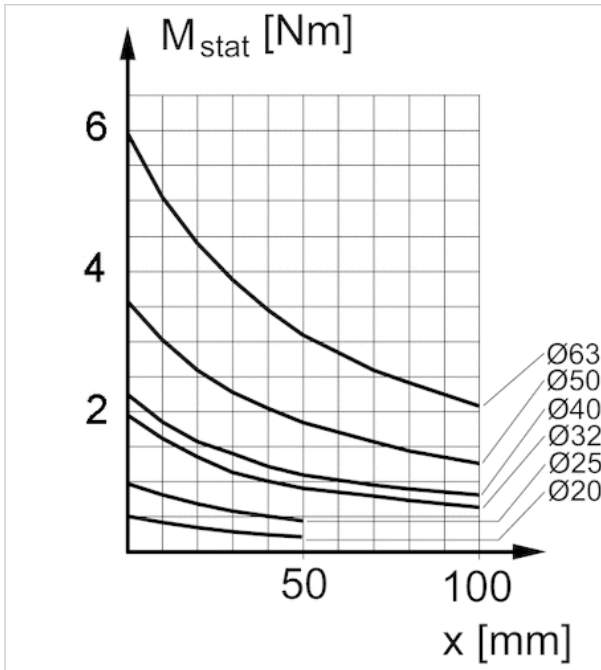


F_{dyn} = dynamic lateral force
 X = distance between force application point and cylinder cover

Max. permissible torque, static

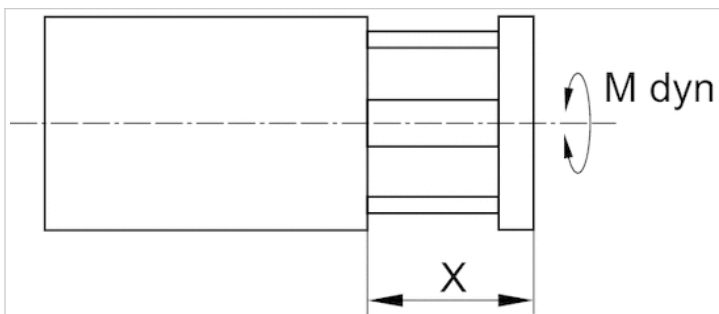


Max. permissible torque, static

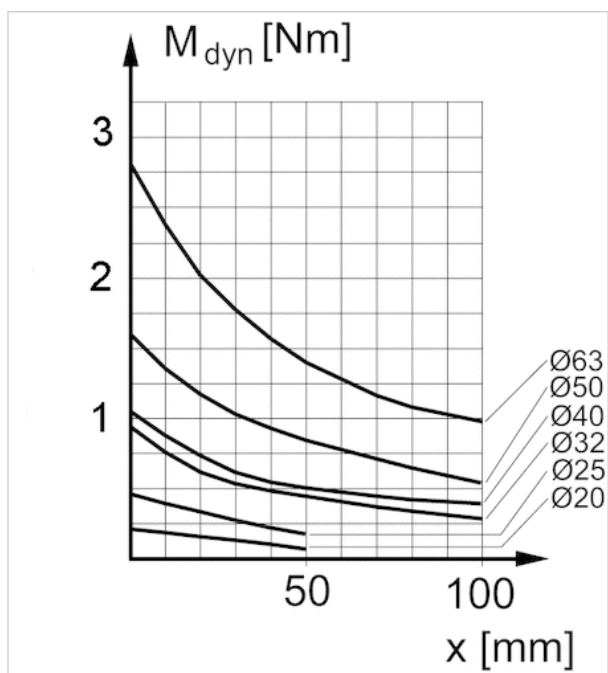


X = distance between force application point and cylinder cover

Max. permissible torque, dynamic



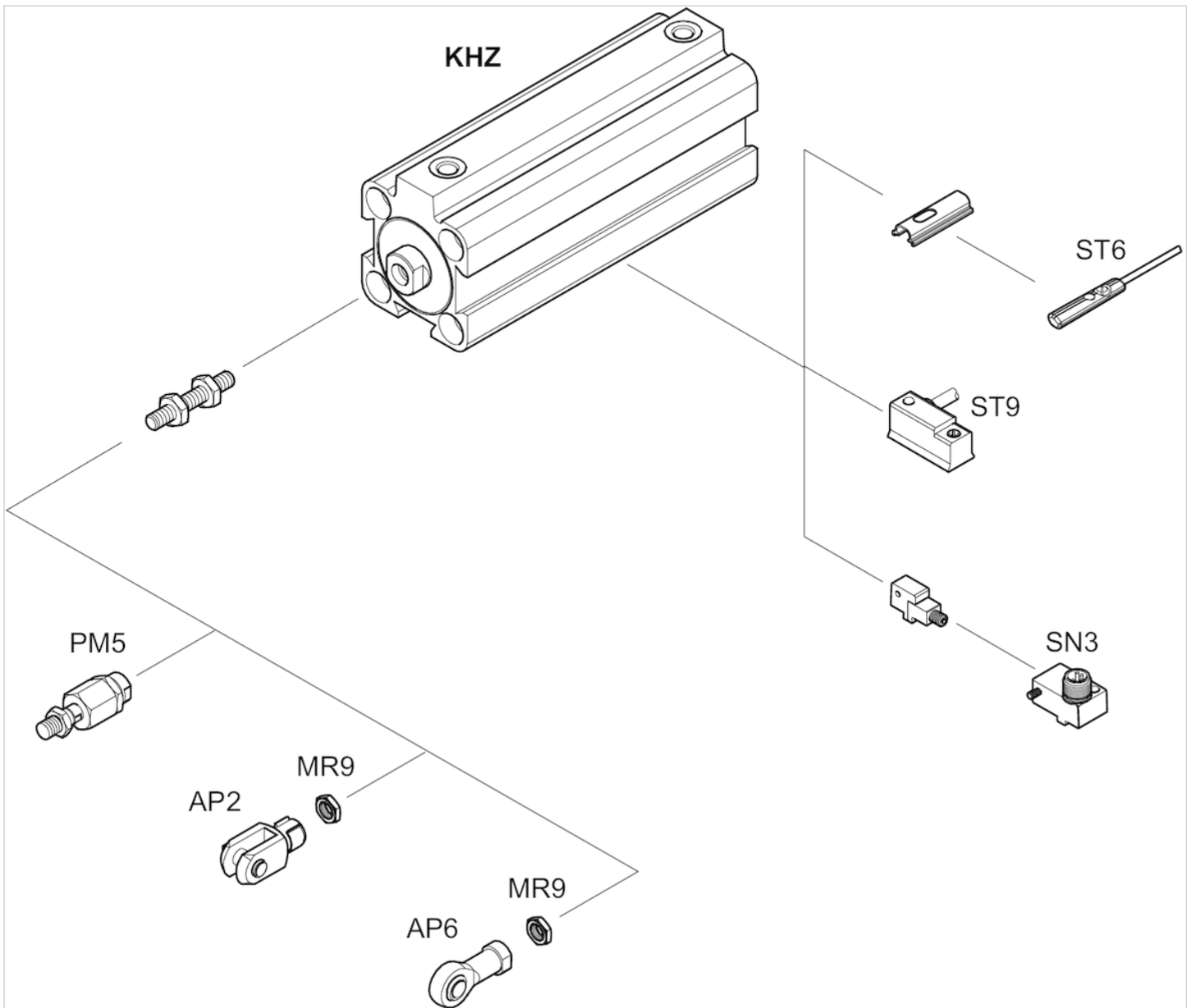
Max. permissible torque, Dynamic



X = distance between force application point and cylinder cover

Accessories overview

Overview drawing



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.

Short-stroke cylinder, Series KHZ

- Ø 16-100 mm
- Ports M5 G 1/8 G 1/4
- double-acting
- with magnetic piston
- Cushioning elastic
- Piston rod Internal thread
- Piston rod non-rotating



| | |
|--|---------------------------|
| Compressed air connection | Internal thread |
| Ambient temperature min./max. | -25 ... 80 °C |
| Medium temperature min./max. | -25 ... 80 °C |
| Medium | Compressed air |
| Max. particle size | 50 µm |
| Oil content of compressed air | 0 ... 5 mg/m ³ |
| Pressure for determining piston forces | 6.3 bar |



Technical data

| Piston Ø | 16 mm | 20 mm | 25 mm | 32 mm | 40 mm | 50 mm | 63 mm |
|-----------|------------|------------|------------|------------|------------|------------|------------|
| Stroke 10 | 0822010811 | 0822010821 | 0822010831 | 0822010841 | 0822010851 | 0822010861 | 0822010871 |
| 15 | 0822010812 | 0822010822 | 0822010832 | 0822010842 | 0822010852 | 0822010862 | 0822010872 |
| 20 | 0822010813 | 0822010823 | 0822010833 | 0822010843 | 0822010853 | 0822010863 | 0822010873 |
| 25 | 0822010814 | 0822010824 | 0822010834 | 0822010844 | 0822010854 | 0822010864 | 0822010874 |
| 30 | 0822010815 | 0822010825 | 0822010835 | 0822010845 | 0822010855 | 0822010865 | 0822010875 |
| 40 | 0822010816 | 0822010826 | 0822010836 | 0822010846 | 0822010856 | 0822010866 | 0822010876 |
| 50 | 0822010817 | 0822010827 | 0822010837 | 0822010847 | 0822010857 | 0822010867 | 0822010877 |
| 80 | - | - | - | 0822010848 | 0822010858 | 0822010868 | 0822010878 |
| 100 | - | - | - | 0822010849 | 0822010859 | 0822010869 | 0822010879 |

| Piston Ø | 80 mm | 100 mm |
|-----------|------------|------------|
| Stroke 10 | 0822010881 | 0822010891 |
| 15 | - | - |
| 20 | - | - |
| 25 | 0822010884 | 0822010894 |
| 30 | - | - |

| Piston Ø | 80 mm | 100 mm |
|----------|------------|------------|
| 40 | - | - |
| 50 | 0822010887 | 0822010897 |
| 80 | 0822010888 | 0822010898 |
| 100 | 0822010889 | 0822010899 |

Technical data

| Piston Ø | 16 mm | 20 mm | 25 mm | 32 mm |
|----------------------------|--------------|--------------|--------------|----------------|
| Retracting piston force | 95 N | 148 N | 260 N | 435 N |
| Extracting piston force | 127 N | 198 N | 309 N | 507 N |
| Impact energy | 0.06 J | 0.08 J | 0.1 J | 0.16 J |
| Weight 0 mm stroke | 0.084 kg | 0.092 kg | 0.178 kg | 0.195 kg |
| Weight +10 mm stroke | 0.018 kg | 0.024 kg | 0.034 kg | 0.05 kg |
| Working pressure min./max. | 1 ... 10 bar | 1 ... 10 bar | 1 ... 10 bar | 0.6 ... 10 bar |
| Material, front cover | Brass | Brass | Brass | Aluminum |

| Piston Ø | 40 mm | 50 mm | 63 mm | 80 mm |
|----------------------------|----------------|----------------|----------------|----------------|
| Retracting piston force | 720 N | 1110 N | 1766 N | 2857 N |
| Extracting piston force | 792 N | 1237 N | 1964 N | 3167 N |
| Impact energy | 0.24 J | 0.32 J | 0.38 J | 0.38 J |
| Weight 0 mm stroke | 0.285 kg | 0.388 kg | 0.636 kg | 1.22 kg |
| Weight +10 mm stroke | 0.06 kg | 0.086 kg | 0.114 kg | 0.167 kg |
| Working pressure min./max. | 0.6 ... 10 bar | 0.6 ... 10 bar | 0.6 ... 10 bar | 0.6 ... 10 bar |
| Material, front cover | Aluminum | Aluminum | Aluminum | Aluminum |

| Piston Ø | 100 mm |
|----------------------------|----------------|
| Retracting piston force | 4639 N |
| Extracting piston force | 4948 N |
| Impact energy | 0.5 J |
| Weight 0 mm stroke | 2.38 kg |
| Weight +10 mm stroke | 0.242 kg |
| Working pressure min./max. | 0.6 ... 10 bar |
| Material, front cover | Aluminum |

Technical information

The pressure dew point must be at least 15 °C under 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 the MediaCentre).

Other versions can be ordered from AVENTICS sales offices.

Technical information

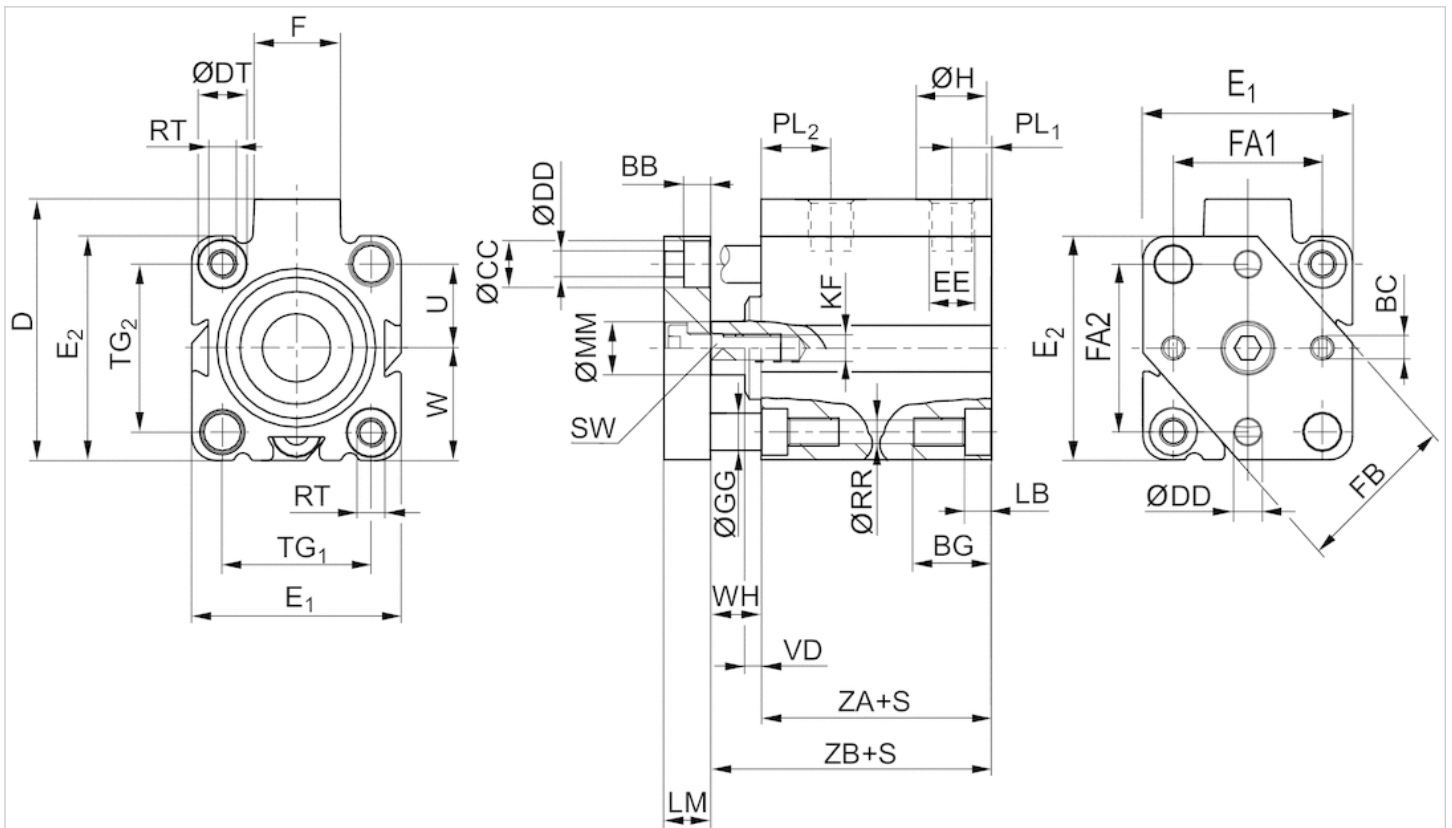
Material

| | |
|---------------|--------------------|
| Cylinder tube | Aluminum, anodized |
| Piston rod | Stainless steel |

| Material | |
|-------------|----------------|
| Piston | Nitrile rubber |
| Front cover | Brass Aluminum |
| End cover | Aluminum |
| Scraper | Polyurethane |

Dimensions

Dimensions



Dimensions

| Piston \varnothing | Stroke | BB | BC | BG min. | $\varnothing CC$ | D | $\varnothing DD$ | $\varnothing DT$ | E1 |
|----------------------|---------------------|-----|----|---------|------------------|------|------------------|------------------|------|
| | | | | | | JS15 | | H13 | JS15 |
| 16 mm | 10 | 3.5 | M3 | 12.4 | 6 | 33 | 3.5 | 6 | 28 |
| 20 mm | 10 | 5 | M4 | 13.6 | 7.5 | 37 | 4.5 | 7.5 | 32 |
| 25 mm | 10 - 50 | 5 | M4 | 13.6 | 8 | 47.5 | 4.5 | 8 | 37 |
| 32 mm | 10 - 100 | 5.7 | M5 | 16.7 | 10 | 56 | 5.5 | 10 | 45 |
| 40 mm | 10 - 100 | 5.7 | M5 | 16.7 | 10 | 62.5 | 5.5 | 10 | 54.5 |
| 50 mm | 10 - 100 | 6.8 | M6 | 19.8 | 11 | 73 | 6.5 | 11 | 66 |
| 63 mm | 10 - 100 | 9 | M6 | 25 | 14 | 88 | 9 | 15 | 80 |
| 80 mm | 10/25/50 /80/100 | 9 | M8 | 25 | 14 | 110 | 9 | 15 | 100 |
| 100 mm | 10/25/50 /80/100 | 9 | M8 | 30 | 14 | 132 | 9 | 17.5 | 124 |

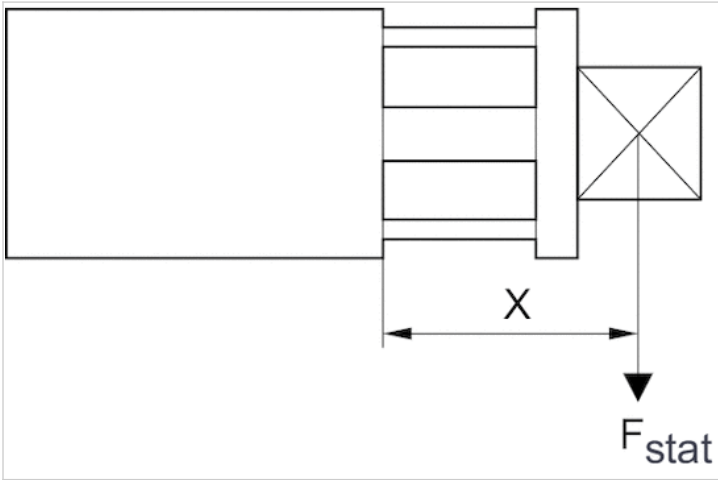
| Piston Ø | E2 JS15 | EE | F | FB | ØGG -0,005/-0,025 | ØH | KF | LB +0,4 | LM |
|----------|------------|-------|------|----|----------------------|----|------|------------|----|
| 16 mm | 28 | M5 | 11.5 | 20 | 4 | 8 | M 5 | 3.4 | 6 |
| 20 mm | 32 | M5 | 11 | 25 | 5 | 8 | M 5 | 4.6 | 8 |
| 25 mm | 39 | G 1/8 | 17.5 | 30 | 6 | 15 | M 5 | 4.6 | 8 |
| 32 mm | 48 | G 1/8 | 18.5 | 35 | 8 | 15 | M 6 | 5.7 | 10 |
| 40 mm | 54.5 | G 1/8 | 18.5 | 40 | 8 | 15 | M 6 | 5.7 | 10 |
| 50 mm | 66 | G 1/8 | 18 | 50 | 10 | 15 | M 8 | 6.8 | 12 |
| 63 mm | 80 | G 1/8 | 23 | 60 | 12 | 15 | M 8 | 9 | 12 |
| 80 mm | 100 | G 1/4 | 27 | 75 | 12 | 19 | M 10 | 9 | 15 |
| 100 mm | 124 | G 1/4 | 28 | 90 | 14 | 19 | M 12 | 11 | 15 |

| Piston Ø | ØMM f8 | PL1 | PL2 | ØRR | RT | SW -0,3 | TG1 | TG2 | U | VD -1 |
|----------|-----------|------|------|------|-----|------------|----------|----------|------|----------|
| 16 mm | 8 | 6.5 | 11.3 | 3.3 | M4 | 7 | 20 ±0,2 | 20 ±0,2 | 10 | - |
| 20 mm | 10 | 6.5 | 10 | 4.2 | M5 | 8 | 22 ±0,2 | 22 ±0,2 | 11 | - |
| 25 mm | 10 | 9.5 | 11.5 | 4.2 | M5 | 8 | 26 ±0,25 | 28 ±0,25 | 14 | 3.5 |
| 32 mm | 12 | 8.5 | 15 | 5.05 | M6 | 10 | 32 ±0,25 | 36 ±0,25 | 18 | 3.5 |
| 40 mm | 12 | 10 | 13.5 | 5.05 | M6 | 10 | 40 ±0,25 | 40 ±0,25 | 20 | 4.5 |
| 50 mm | 16 | 10 | 14 | 6.8 | M8 | 13 | 50 ±0,25 | 50 ±0,25 | 25 | 6 |
| 63 mm | 16 | 11.5 | 14 | 8.5 | M10 | 13 | 62 ±0,25 | 62 ±0,25 | 31 | 6.5 |
| 80 mm | 20 | 12 | 15.5 | 8.5 | M10 | 17 | 82 ±0,3 | 82 ±0,3 | 41 | 8.5 |
| 100 mm | 25 | 12 | 18.5 | 10.2 | M12 | 22 | 103 ±0,3 | 103 ±0,3 | 51.5 | 7 |

| Piston Ø | W | WH | FA1 ±0,1 | FA2 ±0,1 | ZA ±0,2 | ZB ±0,8 |
|----------|-----------|------|-------------|-------------|------------|------------|
| 16 mm | 14 ±0,2 | 4.5 | 20 | 20 | 32 | 36.5 |
| 20 mm | 16 ±0,2 | 4.5 | 22 | 22 | 32 | 36.5 |
| 25 mm | 19,5 ±0,2 | 9.5 | 26 | 28 | 39 | 48.5 |
| 32 mm | 24 ±0,2 | 11 | 32 | 36 | 39.5 | 50.5 |
| 40 mm | 27,3 ±0,2 | 13.5 | 40 | 40 | 39.5 | 53 |
| 50 mm | 33 ±0,2 | 13.5 | 50 | 50 | 39.5 | 53 |
| 63 mm | 40 ±0,2 | 15.5 | 62 | 62 | 42 | 57.5 |
| 80 mm | 50 ±0,3 | 18 | 82 | 82 | 46 | 64 |
| 100 mm | 62 ±0,3 | 20 | 103 | 103 | 56 | 76 |

Diagrams

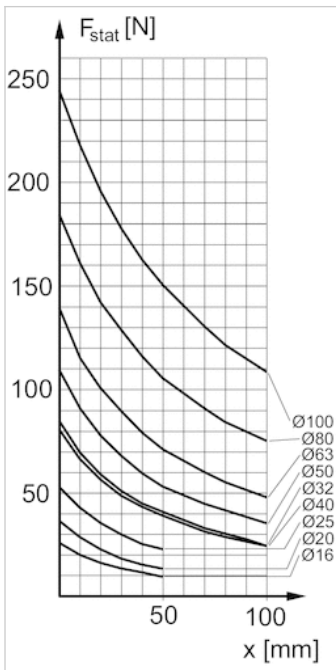
Maximum admissible lateral force, static



F_{stat} = static lateral force

X = distance between force application point and cylinder cover

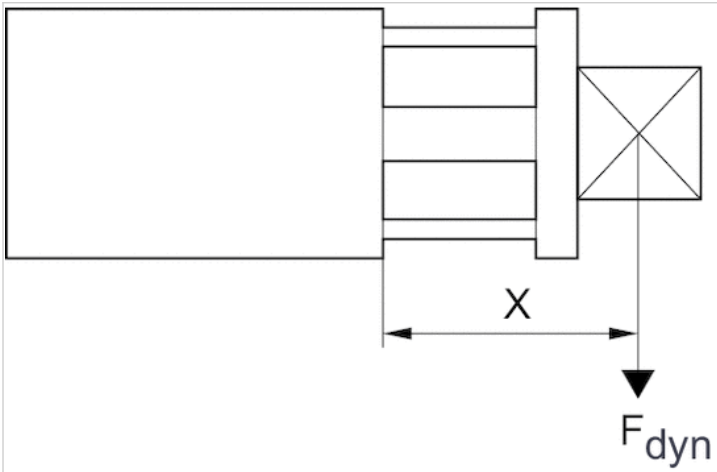
Maximum admissible lateral force, static



F_{stat} = static lateral force

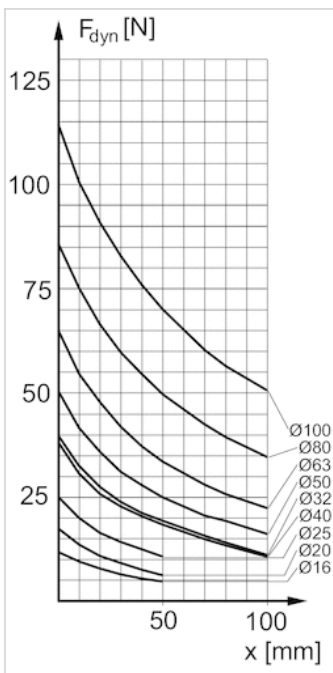
X = distance between force application point and cylinder cover

Maximum admissible lateral force, dynamic



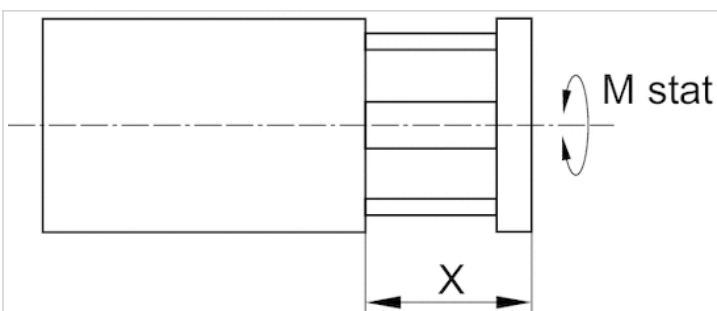
F_{dyn} = dynamic lateral force
 X = distance between force application point and cylinder cover

Maximum admissible lateral force, dynamic

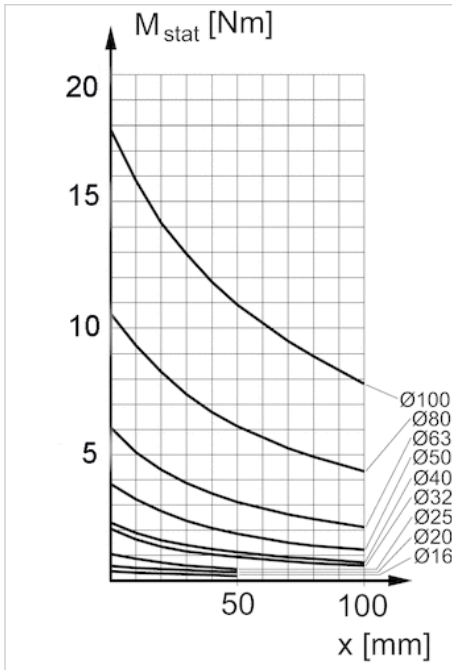


F_{dyn} = dynamic lateral force
 X = distance between force application point and cylinder cover

Max. permissible torque, static

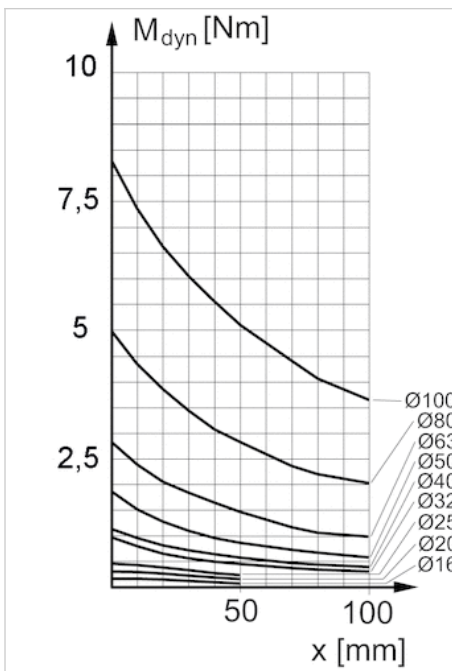


Max. permissible torque, static



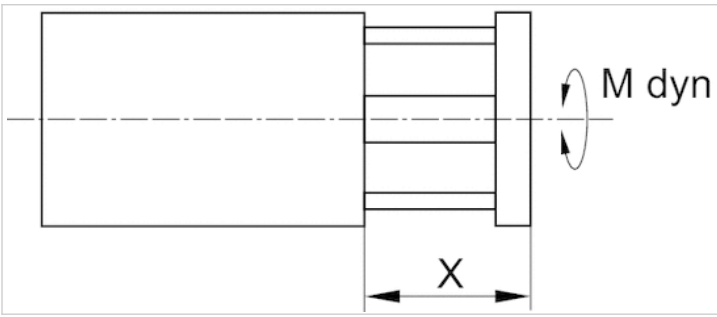
X = distance between force application point and cylinder cover

M = max. permissible torque, dynamic



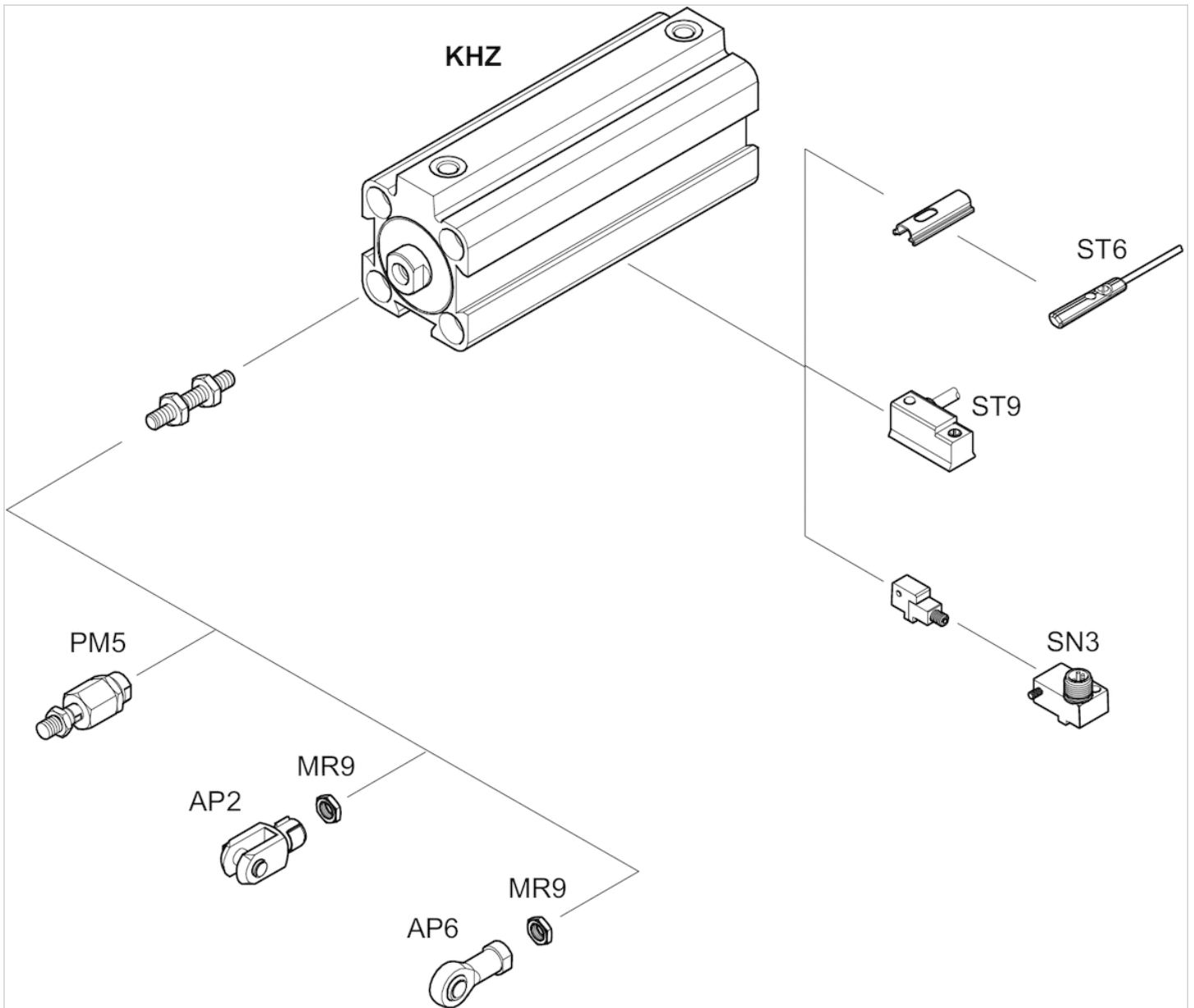
X = distance between force application point and cylinder cover

Max. permissible torque, dynamic



Accessories overview

Overview drawing



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.

Piston rod nut MR9



Weight

See table below

Technical data

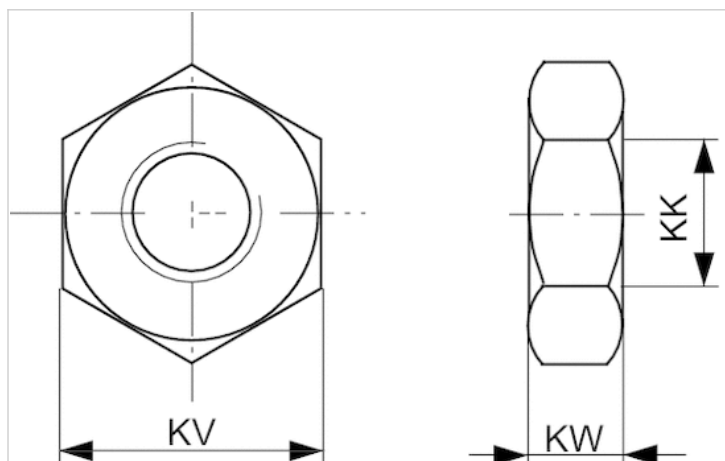
| Part No. | Suitable piston rod thread | Weight |
|------------|----------------------------|----------|
| 1823300033 | M6 | 0.004 kg |
| 1823300034 | M8 | 0.005 kg |
| 8103040224 | M10 | 0.011 kg |
| 1823A00020 | M10x1,25 | 0.01 kg |

Technical information

Material

| |
|------------|
| Steel |
| galvanized |

Dimensions



Dimensions

| Part No. | KK | KV | KW |
|------------|-----|----|-----|
| 1823300033 | M6 | 10 | 3.2 |
| 1823300034 | M8 | 13 | 4 |
| 8103040224 | M10 | 17 | 8 |

Rod clevis AP2, Series CM2

- to mount on cylinder PRA, TRB, CCI, MNI, ICM, KPZ, KHZ, 167, CVI, RPC, RDC, ITS



Weight

See table below

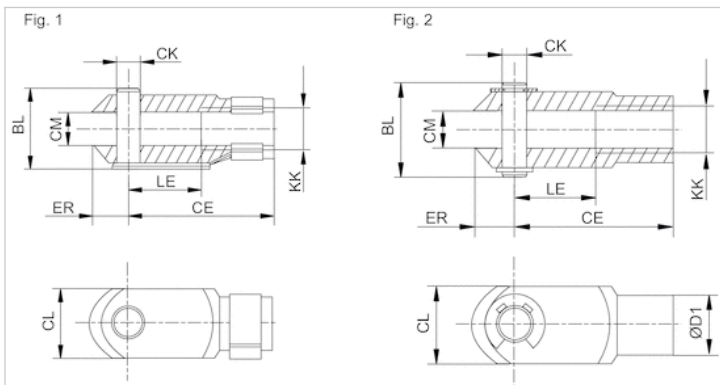
Technical data

| Part No. | Suitable piston rod thread | for | Weight | Fig. |
|------------|----------------------------|-----------------|---------|--------|
| 1822122009 | M6 | CCI MNI ICM KHZ | 0.02 kg | Fig. 1 |
| 1822122010 | M8 | CCI MNI ICM KHZ | 0.05 kg | Fig. 1 |
| 8958000122 | M10 | RPC KHZ | 0.1 kg | Fig. 1 |

Technical information

| Material | |
|----------|------------|
| | Steel |
| | galvanized |

Dimensions



Dimensions

| Part No. | KK | BL | CE | ØCK e11 | CL | CM | ØD1 | ER | LE | Fig. |
|------------|-----|------|----|---------|----|----|-----|----|----|--------|
| 1822122009 | M6 | 16 | 24 | 6 | 12 | 6 | 10 | 7 | 12 | Fig. 1 |
| 1822122010 | M8 | 21,5 | 32 | 8 | 16 | 8 | 14 | 10 | 16 | Fig. 1 |
| 8958000122 | M10 | 26 | 40 | 10 | 20 | 10 | 18 | 12 | 20 | Fig. 1 |

Ball eye rod end AP6, series CM2

- with flange, to mount on cylinder PRA, TRB, CCI, SSI, MNI, RPC, KPZ, 167, CVI, RDC, 102, ITS



Weight

See table below

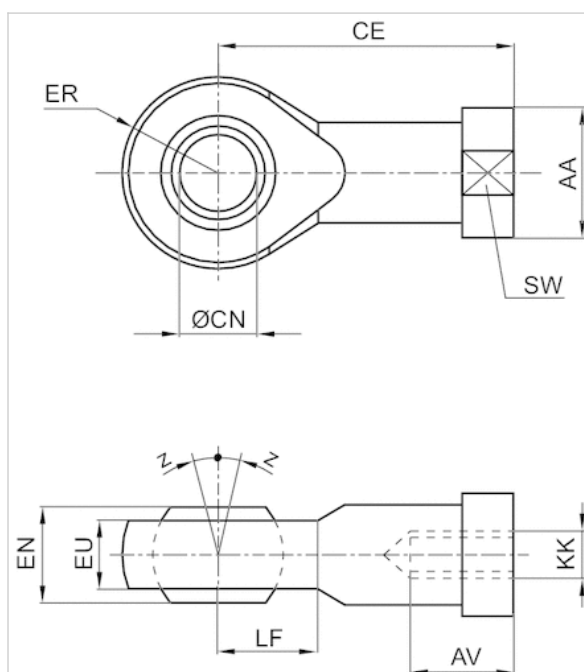
Technical data

| Part No. | Suitable piston rod thread | for | Swivel bearing \varnothing | Weight |
|------------|----------------------------|-----------------|------------------------------|---------|
| 1822124001 | M6 | MNI CCI SSI | 152.4 mm | 0.03 kg |
| 1822124002 | M8 | MNI CCI SSI KPZ | 203.2 mm | 0.05 kg |

Technical information

| Material | |
|----------|------------|
| | Steel |
| | galvanized |

Dimensions



Dimensions

| Part No. | KK | AA | AV min. | CE | Ø CN H7 | EN -0,1 | ER | EU max. | LF | SW | Z [°] max. |
|------------|----|----|---------|----|---------|---------|----|---------|----|----|------------|
| 1822124001 | M6 | 13 | 9 | 30 | 6 | 9 | 10 | 7.5 | 10 | 11 | 4 |
| 1822124002 | M8 | 16 | 12 | 36 | 8 | 12 | 12 | 9.5 | 12 | 14 | 4 |

Compensating coupling PM5, series CM2

- to mount on cylinder PRA, TRB, CCL-IS/-IC, CCI, SSI, MNI, KPZ, KHZ, 167, CVI, RPC, RDC, ITS, spherical



Weight

See table below

Technical data

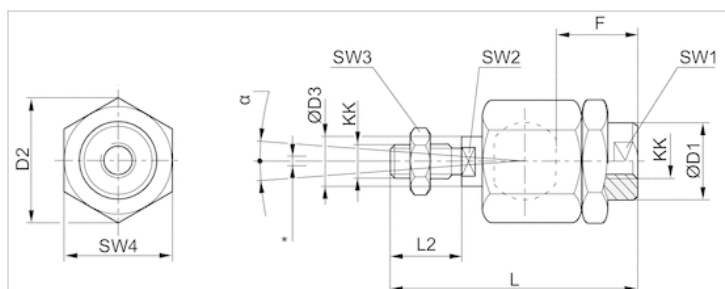
| Part No. | Suitable piston rod thread | for |
|------------|----------------------------|---|
| R412007860 | M5 | - |
| R412026140 | M6x1 | CCL-IC CCI MNI |
| R412026141 | M8x1,25 | CCL-IC CCI MNI |
| R412026142 | M10x1,25 | PRA TRB CCL-IS CCL-IC CCI SSI KPZ 167 CVI RPC |

| Part No. | Weight |
|------------|---------|
| R412007860 | 0.02 kg |
| R412026140 | 0.02 kg |
| R412026141 | 0.05 kg |
| R412026142 | 0.21 kg |

Technical information

| Material |
|------------|
| Steel |
| galvanized |

Dimensions



* Radial joint

Dimensions

| Part No. | KK | $\varnothing D1$ | $D2$ | $\varnothing D3$ | F | $L \pm 2$ | $L2$ | SW1 | SW2 | SW3 | SW4 | α [°] | 1) | 2) |
|------------|----------|------------------|------|------------------|-----|-----------|------|-----|-----|-----|-----|--------------|----------|-------|
| R412007860 | M5 | 8.5 | 14.8 | 6 | 12 | 38.5 | 13.5 | 7 | 5 | 8 | 13 | 8 | 0.05-0.2 | 0-0,5 |
| R412026140 | M6x1 | 8.5 | 14.5 | 6 | 11 | 36.5 | 11 | 7 | 5 | 10 | 13 | 6 | 0.05-0.5 | 0-1,5 |
| R412026141 | M8x1,25 | 12.5 | 19 | 8 | 21 | 58 | 21 | 11 | 7 | 13 | 17 | 8 | 0.05-0.5 | 0-1,5 |
| R412026142 | M10x1,25 | 22 | 32 | 14 | 23 | 74.5 | 23 | 19 | 12 | 17 | 30 | 8 | 0.05-0.5 | 0-2 |

1) Axial play

2) Radial play

Piston rod extension, series CM2



Weight

See table below

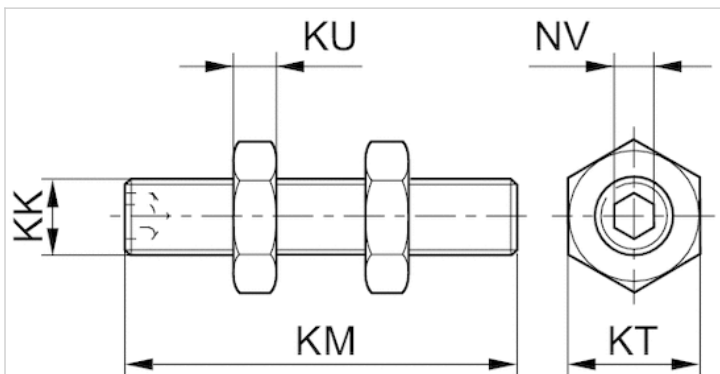
Technical data

| Part No. | Suitable piston rod thread | Weight |
|------------|----------------------------|----------|
| 2701412000 | M3 | 0.01 kg |
| 2701420000 | M5 | 0.015 kg |
| 2701432000 | M6 | 0.02 kg |
| 2701450000 | M8 | 0.03 kg |
| 2701463000 | M10 | 0.05 kg |

Technical information

| Material |
|-----------------|
| Stainless steel |

Dimensions



Dimensions

| Part No. | KK | KM | KT | KU | NV |
|------------|-----|----|-----|-----|-----|
| 2701412000 | M3 | 20 | 5.5 | 1.8 | 1.5 |
| 2701420000 | M5 | 25 | 8 | 2.7 | 2.5 |
| 2701432000 | M6 | 30 | 10 | 3.2 | 3 |
| 2701450000 | M8 | 35 | 13 | 4 | 4 |
| 2701463000 | M10 | 40 | 16 | 5 | 5 |

Sensor, Series ST6

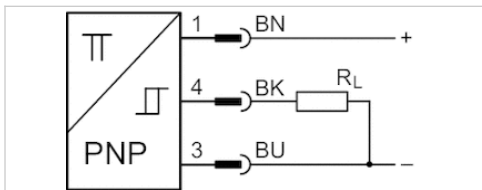
- 6 mm T-slot
- with cable
- open cable ends, 3-pin
- ATEX
- UL certification, ATEX
- electronic PNP
- Direct mounting for series PRA, PRE, CCI, KPZ, SSI, GPC, CVI
- Indirect mounting for series TRB, ITS, CCL-IS, MNI, CSL-RD, RPC, ICS-D2, ICM, KHZ, TRR



Certificates

- ATEX class G
- ATEX class D
- Ambient temperature min./max.
- Protection class
- Switching point precision
- Quiescent current (without load)
- Min./max. DC operating voltage
- Switching logic
- LED status display
- Vibration resistance
- Shock resistance
- Cable length L

- ATEX CE declaration of conformity cULus
- RoHS
- II 3G Ex nA IIC T4 Gc X
- II 3D Ex tc IIIC T135°C Dc X
- 20 ... 50 °C
- IP67
- ±0,1 mT
- 10 mA
- 10 ... 30 V DC
- NO (make contact)
- Yellow
- 10 - 55 Hz, 1 mm
- 30 g / 11 ms
- 3 5 m



Technical data

| Part No. | for | Type of contact | Cable length L |
|------------|-----------------------------------|-----------------|----------------|
| R412022854 | PRA, PRE, CCI, KPZ, SSI, GPC, CVI | electronic PNP | 3 m |
| R412022856 | PRA, PRE, CCI, KPZ, SSI, GPC, CVI | electronic PNP | 5 m |

| Part No. | Voltage drop U at I _{max} | DC switching current, max. |
|------------|------------------------------------|----------------------------|
| R412022854 | ≤ 2,5 V | 0.1 A |
| R412022856 | ≤ 2,5 V | 0.1 A |

| Part No. | Max. switching frequency |
|------------|--------------------------|
| R412022854 | 1000 Hz |
| R412022856 | 1000 Hz |

| Part No. | Version |
|------------|---|
| R412022854 | short circuit resistant Protected against polarity reversal |

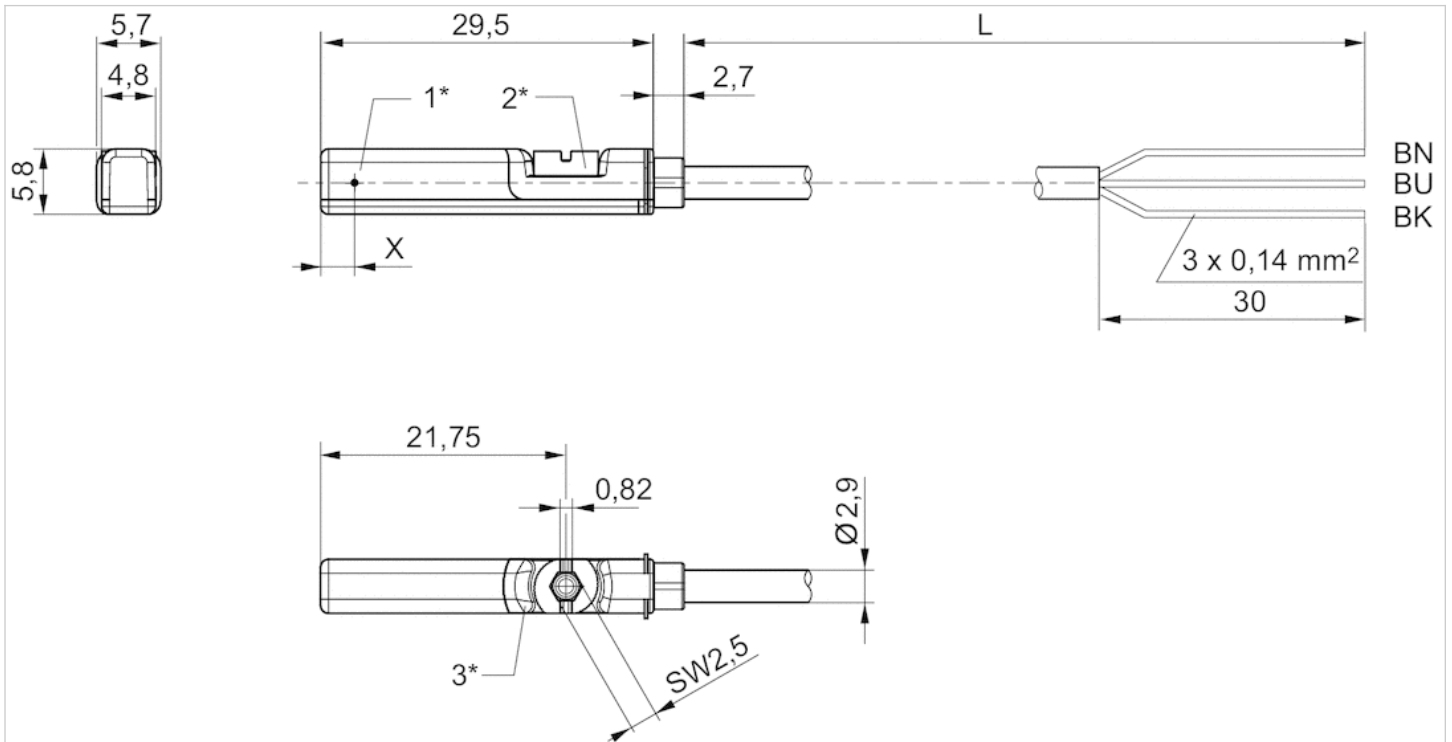
| Part No. | Version |
|------------|---|
| R412022856 | short circuit resistant Protected against polarity reversal |

Technical information

| Material | |
|---------------|-----------------|
| Housing | Polyamide |
| Cable sheath | Polyurethane |
| Locking screw | Stainless steel |

Dimensions

Fig. 2



1* = switching point 2* = locking screw 3* = LED window, transparent

L = cable length

BN = brown, BK = black, BU = blue

X = electronic: 11.6 mm











Sensor, Series ST6

- 6 mm T-slot
- with cable
- open cable ends, 2-pin open cable ends, 3-pin
- UL certification
- Reed electronic PNP electronic NPN
- Direct mounting for series PRA, PRE, CCI, KPZ, SSI, GPC, CVI
- Indirect mounting for series TRB, ITS, CCL-IS, MNI, CSL-RD, RPC, ICS-D2, ICM, KHZ, TRR



| | |
|----------------------------------|-------------------|
| Ambient temperature min./max. | -30 ... 80 °C |
| Protection class | IP65, IP67, IP69K |
| Switching point precision | ±0,1 mT |
| Nominal current, actuated state | 30 mA |
| Quiescent current (without load) | 8 mA |
| Min./max. DC operating voltage | See table below |
| Min./max. AC operating voltage | See table below |
| Hysteresis | ≥ 0,2 mT |
| Switching logic | NO (make contact) |
| LED status display | Yellow |
| Vibration resistance | 10 - 55 Hz, 1 mm |
| Shock resistance | 30 g / 11 ms |
| Cable length L | 3 5 10 m |

Technical data

| Part No. | | for | Type of contact |
|------------|---|-----------------------------------|-----------------|
| R412022866 |  | PRA, PRE, CCI, KPZ, SSI, GPC, CVI | Reed |
| R412027170 |  | PRA, PRE, CCI, KPZ, SSI, GPC, CVI | Reed |
| R412022869 |  | PRA, PRE, CCI, KPZ, SSI, GPC, CVI | Reed |
| R412022870 |  | PRA, PRE, CCI, KPZ, SSI, GPC, CVI | Reed |
| R412022871 |  | PRA, PRE, CCI, KPZ, SSI, GPC, CVI | Reed |
| R412022853 |  | PRA, PRE, CCI, KPZ, SSI, GPC, CVI | electronic PNP |
| R412022855 |  | PRA, PRE, CCI, KPZ, SSI, GPC, CVI | electronic PNP |
| R412022857 |  | PRA, PRE, CCI, KPZ, SSI, GPC, CVI | electronic PNP |
| R412022849 |  | PRA, PRE, CCI, KPZ, SSI, GPC, CVI | electronic NPN |
| R412022850 |  | PRA, PRE, CCI, KPZ, SSI, GPC, CVI | electronic NPN |

| Part No. | Cable length L | Min./max. DC operating voltage | Min./max. AC operating voltage |
|------------|-------------------|--------------------------------|--------------------------------|
| R412022866 | 3 m | 10 ... 230 V DC | 10 ... 230 V AC |
| R412027170 | 5 m | 10 ... 230 V DC | 10 ... 230 V AC |
| R412022869 | 3 m | 10 ... 30 V DC | 10 ... 30 V AC |
| R412022870 | 5 m | 10 ... 30 V DC | 10 ... 30 V AC |
| R412022871 | 10 m | 10 ... 30 V DC | 10 ... 30 V AC |
| R412022853 | 3 m | 10 ... 30 V DC | - |
| R412022855 | 5 m | 10 ... 30 V DC | - |
| R412022857 | 10 m | 10 ... 30 V DC | - |
| R412022849 | 3 m | 10 ... 30 V DC | - |
| R412022850 | 5 m | 10 ... 30 V DC | - |

| Part No. | Voltage drop U at I _{max} | DC switching current, max. |
|------------|------------------------------------|----------------------------|
| R412022866 | ≤ 3,5 V | 0.13 A |
| R412027170 | ≤ 3,5 V | 0.13 A |
| R412022869 | I*Rs | 0.3 A |
| R412022870 | ≤ 0,1 V | 0.3 A |
| R412022871 | I*Rs | 0.3 A |
| R412022853 | ≤ 2,5 V | 0.13 A |
| R412022855 | ≤ 2,5 V | 0.13 A |
| R412022857 | ≤ 2,5 V | 0.13 A |
| R412022849 | ≤ 2,5 V | 0.13 A |
| R412022850 | ≤ 2,5 V | 0.13 A |

| Part No. | AC switching current, max. | Switching capacity |
|------------|----------------------------|------------------------|
| R412022866 | 0.13 A | Reed, 2-pin: max. 10 W |
| R412027170 | 0.13 A | Reed, 2-pin: max. 10 W |
| R412022869 | 0.5 A | Reed, 3-pin: max. 6 W |
| R412022870 | 0.5 A | Reed, 3-pin: max. 6 W |
| R412022871 | 0.5 A | Reed, 3-pin: max. 6 W |

| Part No. | AC switching current, max. | Switching capacity |
|------------|----------------------------|--------------------|
| R412022853 | - | - |
| R412022855 | - | - |
| R412022857 | - | - |
| R412022849 | - | - |
| R412022850 | - | - |

| Part No. | Max. switching frequency | Operating current, not switched |
|------------|--------------------------|---------------------------------|
| R412022866 | 400 Hz | - |
| R412027170 | 400 Hz | - |
| R412022869 | 400 Hz | - |
| R412022870 | 400 Hz | - |
| R412022871 | 400 Hz | - |
| R412022853 | 1000 Hz | 8 mA |
| R412022855 | 1000 Hz | 8 mA |
| R412022857 | 1000 Hz | 8 mA |
| R412022849 | 1000 Hz | 8 mA |
| R412022850 | 1000 Hz | 8 mA |

| Part No. | Operating current, switched |
|------------|-----------------------------|
| R412022866 | - |
| R412027170 | - |
| R412022869 | - |
| R412022870 | - |
| R412022871 | - |
| R412022853 | 30 mA |
| R412022855 | 30 mA |
| R412022857 | 30 mA |
| R412022849 | 30 mA |
| R412022850 | 30 mA |

| Part No. | Version | Fig. | |
|------------|---|--------|----|
| R412022866 | Protected against polarity reversal | Fig. 1 | 1) |
| R412027170 | Protected against polarity reversal | Fig. 1 | 1) |
| R412022869 | Protected against polarity reversal | Fig. 2 | 2) |
| R412022870 | Protected against polarity reversal | Fig. 2 | 2) |
| R412022871 | Protected against polarity reversal | Fig. 2 | 2) |
| R412022853 | short circuit resistant Protected against polarity reversal | Fig. 2 | 3) |
| R412022855 | short circuit resistant Protected against polarity reversal | Fig. 2 | 3) |
| R412022857 | short circuit resistant Protected against polarity reversal | Fig. 2 | 3) |
| R412022849 | short circuit resistant Protected against polarity reversal | Fig. 2 | 3) |
| R412022850 | short circuit resistant Protected against polarity reversal | Fig. 2 | 3) |

1) open cable ends, 2-pin, The product of operating voltage and continuous current must not exceed the maximum switching capacity.

2) open cable ends, 3-pin, The product of operating voltage and continuous current must not exceed the maximum switching capacity.

3) open cable ends, 3-pin

Technical information

No cULus certification for 230 V variant.

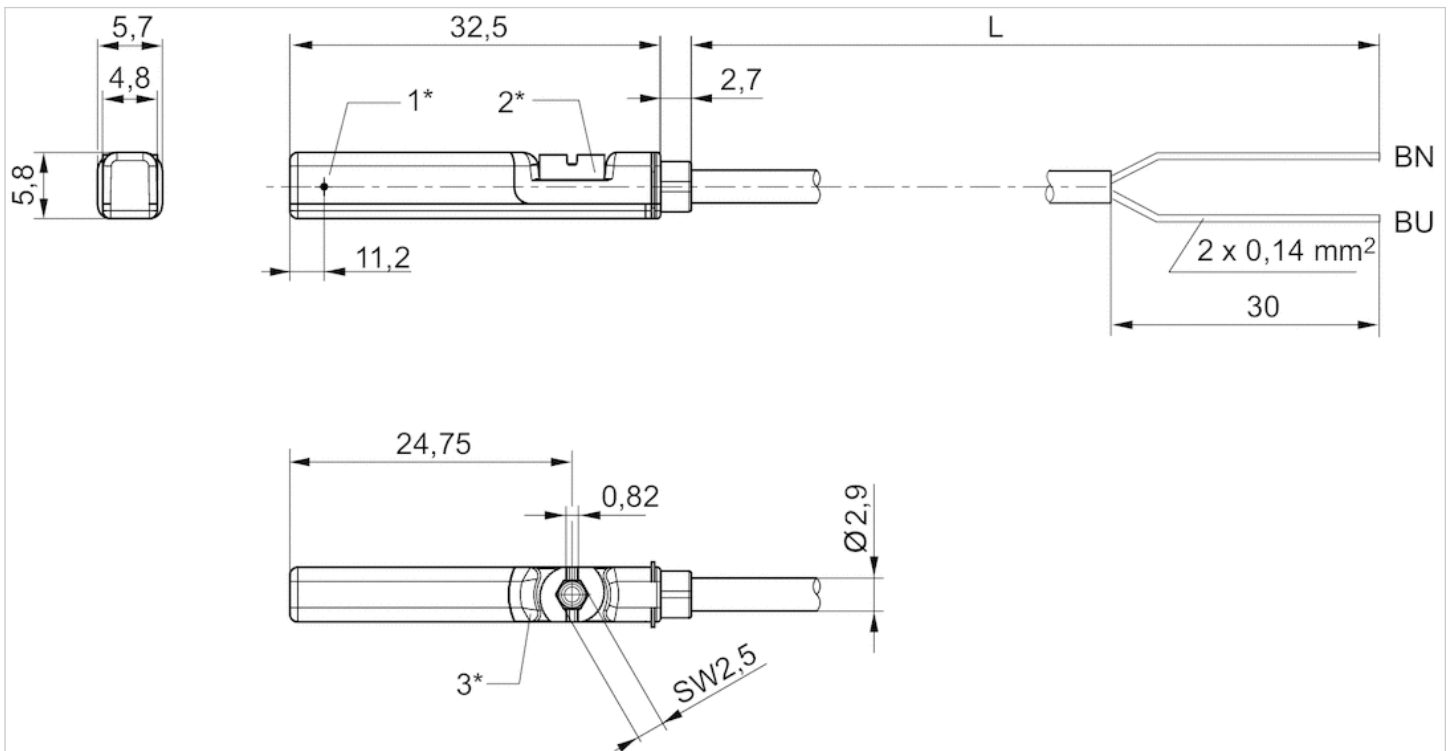
Technical information

Material

| | |
|---------------|-----------------|
| Housing | Polyamide |
| Cable sheath | Polyurethane |
| Locking screw | Stainless steel |

Dimensions

Fig. 1

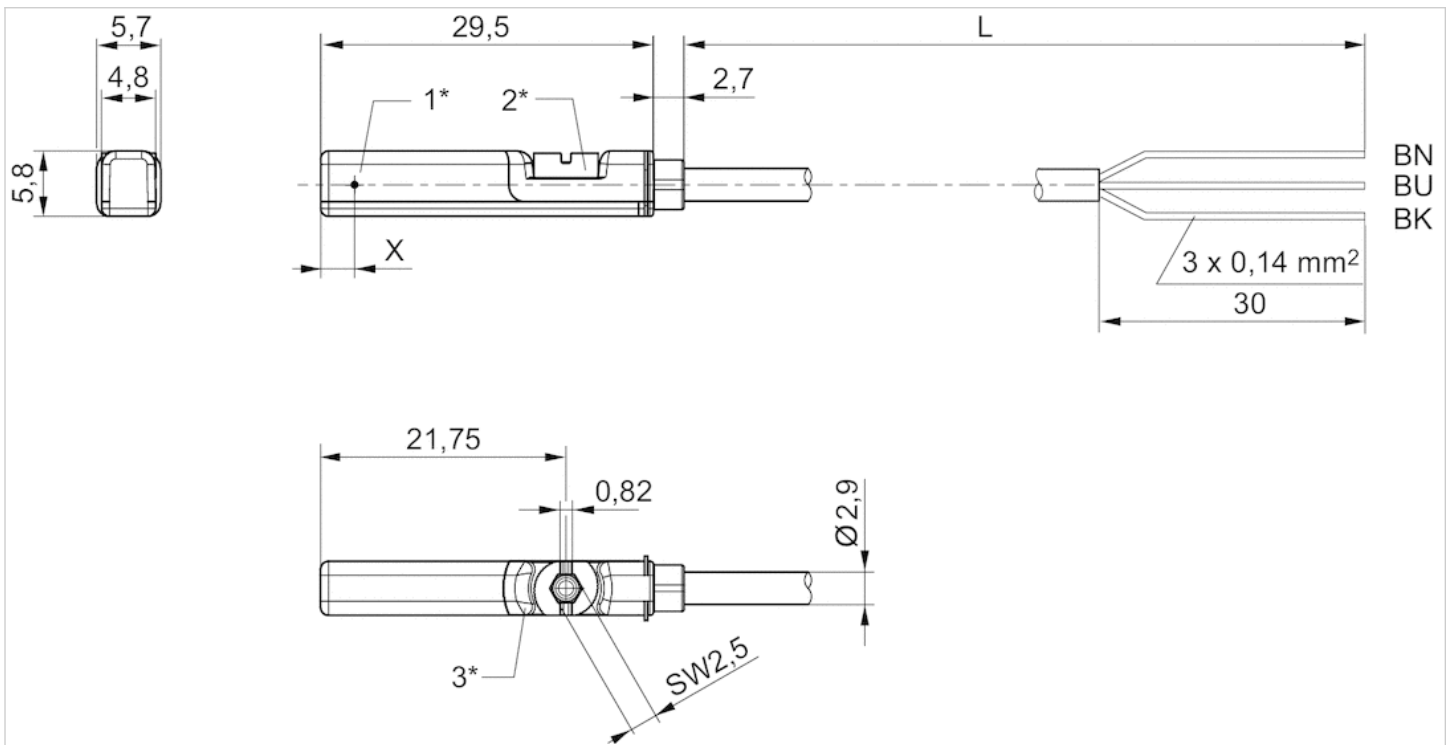


1* = switching point 2* = locking screw 3* = LED window, transparent

L = cable length

BN=brown, BU=blue

Fig. 2



1* = switching point 2* = locking screw 3* = LED window, transparent
 L = cable length
 BN = brown, BK = black, BU = blue
 X = electronic: 11.6 mm






Sensor, Series ST6

- 6 mm T-slot
- with cable
- Plug, M8, 3-pin Plug, M8, 2-pin
- UL certification
- Reed electronic PNP electronic NPN
- Direct mounting for series PRA, PRE, CCI, KPZ, SSI, GPC, CVI
- Indirect mounting for series TRB, ITS, CCL-IS, MNI, CSL-RD, RPC, ICS-D2, ICM, KHZ, TRR



| | |
|----------------------------------|---|
| Certificates | CE declaration of conformity cULus RoHS |
| Ambient temperature min./max. | -30 ... 80 °C |
| Protection class | IP65, IP67 |
| Switching point precision | ±0,1 mT |
| Nominal current, actuated state | 30 mA |
| Quiescent current (without load) | 8 mA |
| Min./max. DC operating voltage | 10 ... 30 V DC |
| Min./max. AC operating voltage | See table below |
| Hysteresis | ≥ 0,2 mT |
| Switching logic | NO (make contact) |
| LED status display | Yellow |
| Vibration resistance | 10 - 55 Hz, 1 mm |
| Shock resistance | 30 g / 11 ms |
| Cable length L | 0.3 m |

Technical data

| Part No. | | for | Type of contact |
|------------|---|-----------------------------------|-----------------|
| R412022868 |  | PRA, PRE, CCI, KPZ, SSI, GPC, CVI | Reed |
| R412027172 |  | PRA, PRE, CCI, KPZ, SSI, GPC, CVI | Reed |
| R412022872 |  | PRA, PRE, CCI, KPZ, SSI, GPC, CVI | Reed |
| R412022858 |  | PRA, PRE, CCI, KPZ, SSI, GPC, CVI | electronic PNP |
| R412022851 |  | PRA, PRE, CCI, KPZ, SSI, GPC, CVI | electronic NPN |

| Part No. | Cable length L | Min./max. AC operating voltage | Voltage drop U at I _{max} |
|------------|----------------|--------------------------------|------------------------------------|
| R412022868 | 0.3 m | 10 ... 30 V AC | ≤ 3,5 V |
| R412027172 | 0.3 m | 10 ... 30 V AC | ≤ 3,5 V |
| R412022872 | 0.3 m | 10 ... 30 V AC | ≤ 0,1 V |
| R412022858 | 0.3 m | - | ≤ 2,5 V |
| R412022851 | 0.3 m | - | ≤ 2,5 V |

| Part No. | DC switching current, max. | AC switching current, max. |
|------------|----------------------------|----------------------------|
| R412022868 | 0.13 A | 0.13 A |
| R412027172 | 0.13 A | 0.13 A |
| R412022872 | 0.3 A | 0.5 A |
| R412022858 | 0.13 A | - |

| Part No. | DC switching current, max. | AC switching current, max. |
|------------|----------------------------|----------------------------|
| R412022851 | 0.13 A | - |

| Part No. | Switching capacity | Max. switching frequency |
|------------|------------------------|--------------------------|
| R412022868 | Reed, 2-pin: max. 10 W | 400 Hz |
| R412027172 | Reed, 2-pin: max. 10 W | 400 Hz |
| R412022872 | Reed, 3-pin: max. 6 W | 400 Hz |
| R412022858 | - | 1000 Hz |
| R412022851 | - | 1000 Hz |

| Part No. | Operating current, not switched | Operating current, switched |
|------------|---------------------------------|-----------------------------|
| R412022868 | - | - |
| R412027172 | - | - |
| R412022872 | - | - |
| R412022858 | 8 mA | 30 mA |
| R412022851 | 8 mA | 30 mA |

| Part No. | Version | |
|------------|---|----|
| R412022868 | Protected against polarity reversal | 1) |
| R412027172 | Protected against polarity reversal | 1) |
| R412022872 | Protected against polarity reversal | 1) |
| R412022858 | short circuit resistant Protected against polarity reversal | - |
| R412022851 | short circuit resistant Protected against polarity reversal | - |

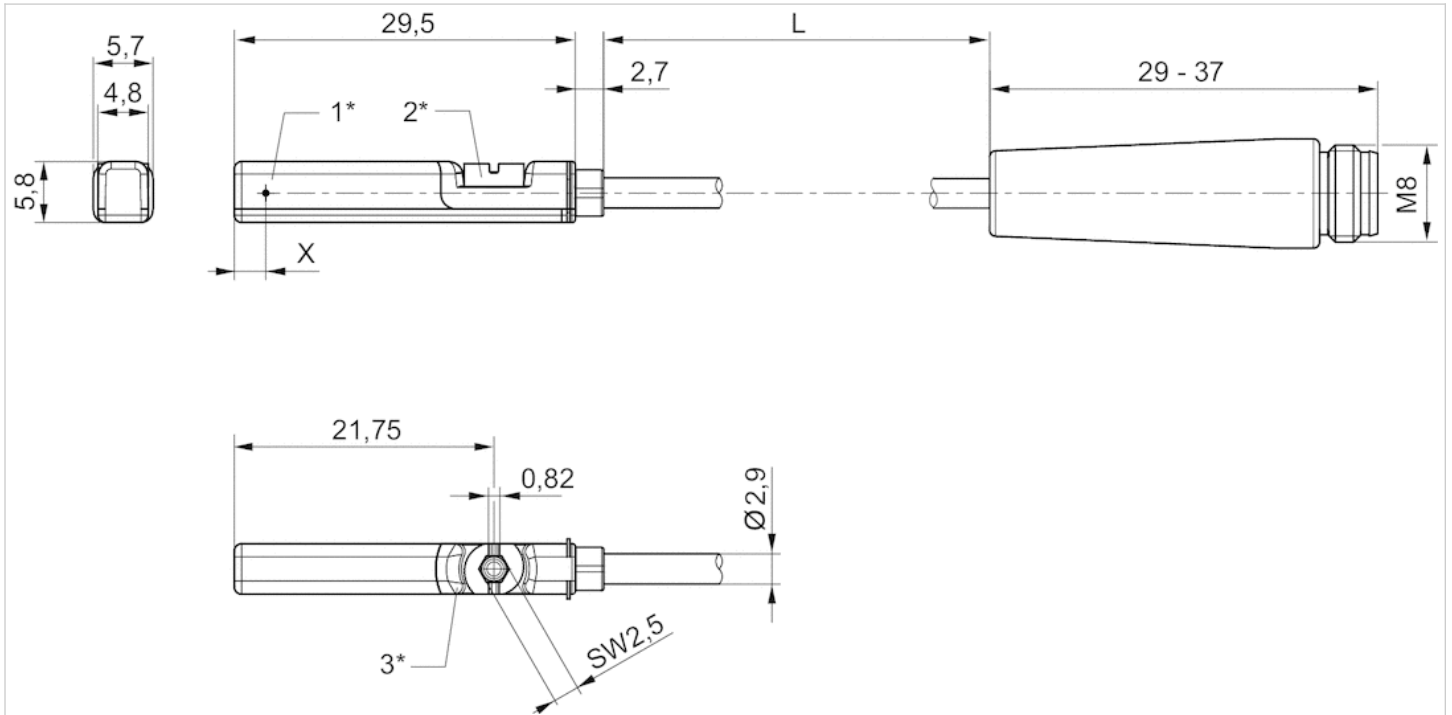
1) The product of operating voltage and continuous current must not exceed the maximum switching capacity.

Technical information

| Material | |
|---------------|-----------------|
| Housing | Polyamide |
| Cable sheath | Polyurethane |
| Locking screw | Stainless steel |

Dimensions

Dimensions



1* = switching point 2* = locking screw 3* = LED window, transparent

L = cable length

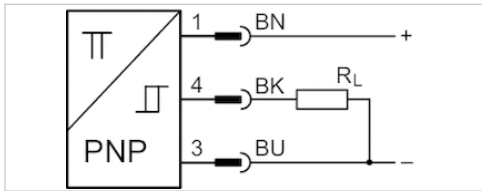
X = electronic: 11,6 mm, Reed: 8,3 mm

Sensor, Series ST6

- 6 mm T-slot
- with cable
- Plug, M12, 3-pin, with knurled screw
- ATEX
- UL certification, ATEX
- electronic PNP
- Direct mounting for series PRA, PRE, CCI, KPZ, SSI, GPC, CVI
- Indirect mounting for series TRB, ITS, CCL-IS, MNI, CSL-RD, RPC, ICS-D2, ICM, KHZ, TRR



| | |
|----------------------------------|---|
| Certificates | ATEX CE declaration of conformity cULus RoHS |
| ATEX class G | II 3G Ex nA IIC T4 Gc X |
| ATEX class D | II 3D Ex tc IIIC T135°C Dc X |
| Ambient temperature min./max. | -20 ... 50 °C |
| Protection class | IP67 |
| Switching point precision | ±0,1 mT |
| Quiescent current (without load) | 10 mA |
| Min./max. DC operating voltage | 10 ... 30 V DC |
| Switching logic | NO (make contact) |
| LED status display | Yellow Yellow |
| Vibration resistance | 10 - 55 Hz, 1 mm |
| Shock resistance | 30 g / 11 ms |
| Cable length L | 0.3 m |



Technical data

| Part No. | for | Type of contact | Cable length L |
|------------|-----------------------------------|-----------------|----------------|
| R412022864 | PRA, PRE, CCI, KPZ, SSI, GPC, CVI | electronic PNP | 0.3 m |

| Part No. | Voltage drop U at I _{max} | DC switching current, max. |
|------------|------------------------------------|----------------------------|
| R412022864 | ≤ 2,5 V | 0.1 A |

| Part No. | Max. switching frequency |
|------------|--------------------------|
| R412022864 | 1000 Hz |

| Part No. | Version |
|------------|---|
| R412022864 | short circuit resistant Protected against polarity reversal |

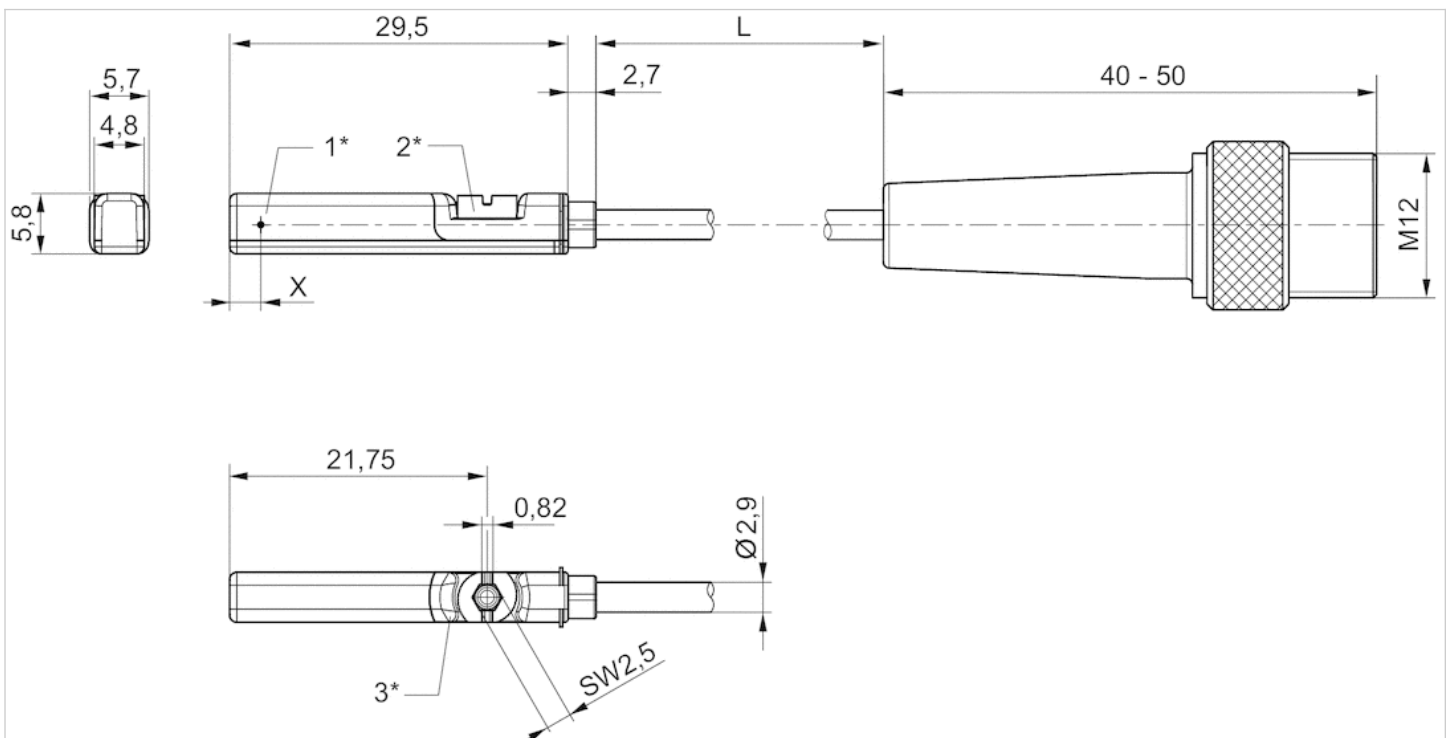
Technical information

Material

| | |
|---------------|-----------------|
| Housing | Polyamide |
| Cable sheath | Polyurethane |
| Locking screw | Stainless steel |

Dimensions

Dimensions



1* = switching point 2* = locking screw 3* = LED window, transparent

L = cable length

X = PNP: 11,6 mm, reed: 8,3 mm

Pin assignments

Pin assignments



| Pin | 1 | 3 | 4 |
|------------|-----|-----|-------|
| Allocation | (+) | (-) | (OUT) |







Sensor, Series ST6

- 6 mm T-slot
- with cable
- Plug, M12, 2-pin, with knurled screw Plug, M12, 4-pin, with knurled screw
- UL certification
- Reed electronic PNP
- Direct mounting for series PRA, PRE, CCI, KPZ, SSI, GPC, CVI
- Indirect mounting for series TRB, ITS, CCL-IS, MNI, CSL-RD, RPC, ICS-D2, ICM, KHZ, TRR



| | |
|----------------------------------|---|
| Certificates | CE declaration of conformity cULus RoHS |
| Ambient temperature min./max. | -30 ... 80 °C |
| Protection class | See table below |
| Switching point precision | ±0,1 mT |
| Nominal current, actuated state | 30 mA |
| Quiescent current (without load) | 8 mA |
| Min./max. DC operating voltage | 10 ... 30 V DC |
| Min./max. AC operating voltage | See table below |
| Hysteresis | ≥ 0,2 mT |
| Switching logic | NO (make contact) |
| LED status display | Yellow |
| Vibration resistance | 10 - 55 Hz, 1 mm |
| Shock resistance | 30 g / 11 ms |
| Cable length L | 0.3 0.1 3 5 m |

Technical data

| Part No. | | for | Type of contact |
|------------|---|-----------------------------------|-----------------|
| R412027171 |  | PRA, PRE, CCI, KPZ, SSI, GPC, CVI | Reed |
| R412022876 |  | PRA, PRE, CCI, KPZ, SSI, GPC, CVI | Reed |
| R412022879 |  | PRA, PRE, CCI, KPZ, SSI, GPC, CVI | electronic PNP |
| R412022863 |  | PRA, PRE, CCI, KPZ, SSI, GPC, CVI | electronic PNP |
| R412022877 |  | PRA, PRE, CCI, KPZ, SSI, GPC, CVI | electronic PNP |
| R412022878 |  | PRA, PRE, CCI, KPZ, SSI, GPC, CVI | electronic PNP |

| Part No. | Cable length L | Min./max. AC operating voltage | Voltage drop U at I _{max} |
|------------|----------------|--------------------------------|------------------------------------|
| R412027171 | 0.3 m | 10 ... 30 V AC | ≤ 3,5 V |
| R412022876 | 0.3 m | 10 ... 30 V AC | ≤ 0,1 V |
| R412022879 | 0.1 m | - | ≤ 2,5 V |
| R412022863 | 0.3 m | - | ≤ 2,5 V |
| R412022877 | 3 m | - | ≤ 2,5 V |
| R412022878 | 5 m | - | ≤ 2,5 V |

| Part No. | DC switching current, max. | AC switching current, max. |
|------------|----------------------------|----------------------------|
| R412027171 | 0.13 A | 0.13 A |
| R412022876 | 0.3 A | 0.5 A |

| Part No. | DC switching current, max. | AC switching current, max. |
|------------|----------------------------|----------------------------|
| R412022879 | 0.13 A | - |
| R412022863 | 0.13 A | - |
| R412022877 | 0.13 A | - |
| R412022878 | 0.13 A | - |

| Part No. | Switching capacity | Max. switching frequency |
|------------|------------------------|--------------------------|
| R412027171 | Reed, 2-pin: max. 10 W | 400 Hz |
| R412022876 | Reed, 3-pin: max. 6 W | 400 Hz |
| R412022879 | - | 1000 Hz |
| R412022863 | - | 1000 Hz |
| R412022877 | - | 1000 Hz |
| R412022878 | - | 1000 Hz |

| Part No. | Operating current, not switched | Operating current, switched | Protection class |
|------------|---------------------------------|-----------------------------|-------------------|
| R412027171 | - | - | IP65, IP67 |
| R412022876 | - | - | IP65, IP67 |
| R412022879 | 8 mA | 30 mA | IP65, IP67 |
| R412022863 | 8 mA | 30 mA | IP65, IP67, IP69K |
| R412022877 | 8 mA | 30 mA | IP65, IP67 |
| R412022878 | 8 mA | 30 mA | IP65, IP67 |

| Part No. | Version | |
|------------|---|----|
| R412027171 | Protected against polarity reversal | 1) |
| R412022876 | Protected against polarity reversal | 1) |
| R412022879 | short circuit resistant Protected against polarity reversal | - |
| R412022863 | short circuit resistant Protected against polarity reversal | - |
| R412022877 | short circuit resistant Protected against polarity reversal | - |
| R412022878 | short circuit resistant Protected against polarity reversal | - |

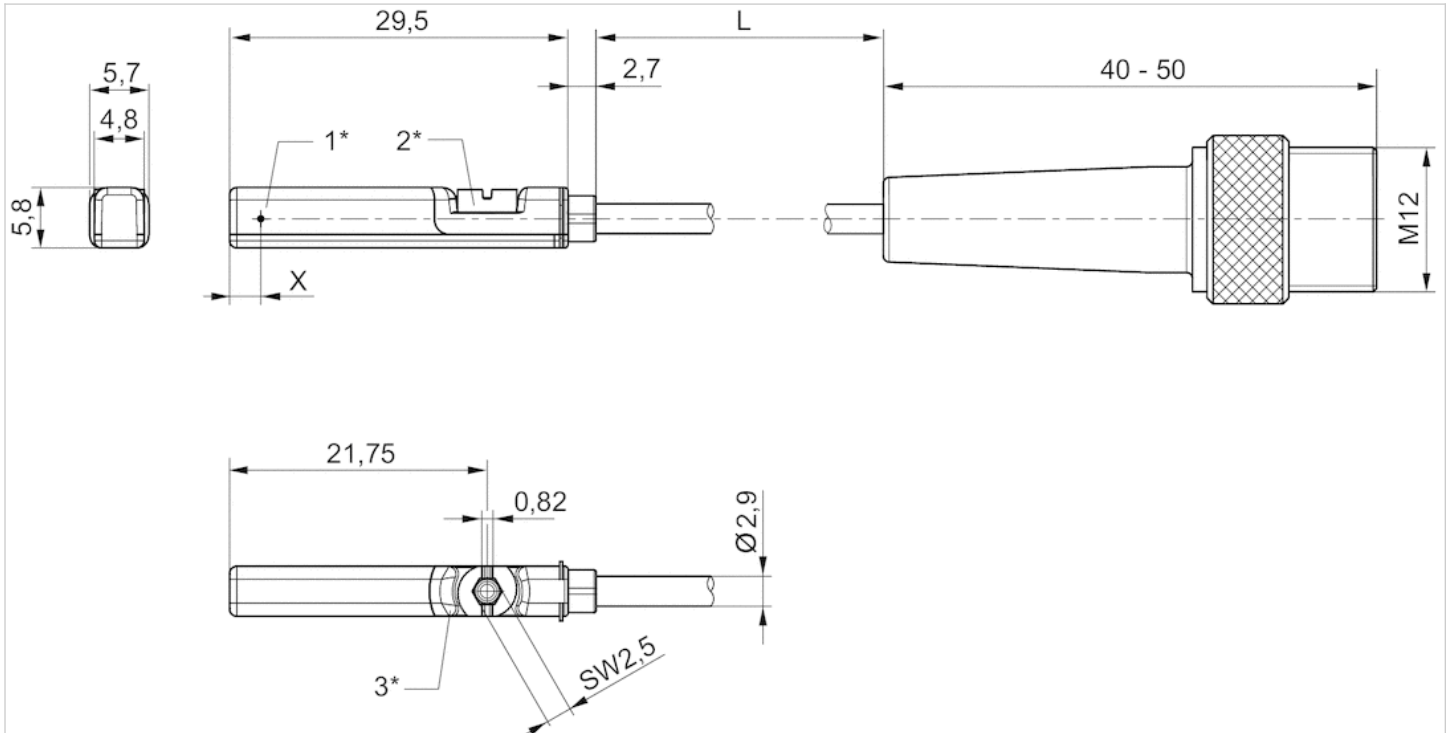
1) The product of operating voltage and continuous current must not exceed the maximum switching capacity.

Technical information

| Material | |
|---------------|-----------------|
| Housing | Polyamide |
| Cable sheath | Polyurethane |
| Locking screw | Stainless steel |

Dimensions

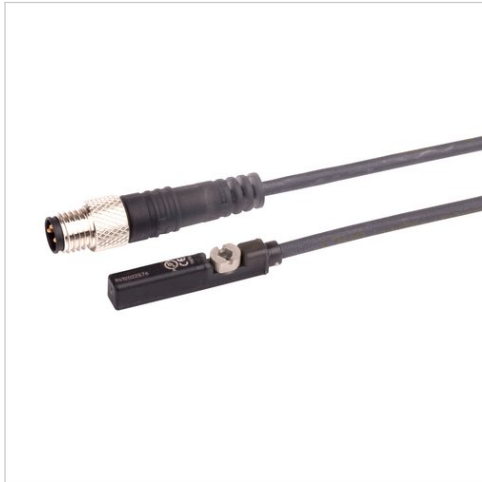
Dimensions



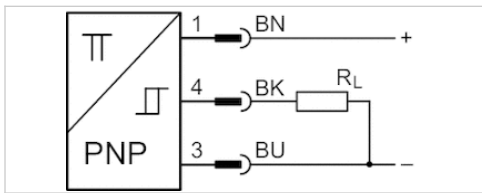
1* = switching point 2* = locking screw 3* = LED window, transparent
L = cable length
X = PNP: 11,6 mm, reed: 8,3 mm

Sensor, Series ST6

- 6 mm T-slot
- with cable
- Plug, M8, 3-pin, with knurled screw
- ATEX
- UL certification, ATEX
- electronic PNP
- Direct mounting for series PRA, PRE, CCI, KPZ, SSI, GPC, CVI
- Indirect mounting for series TRB, ITS, CCL-IS, MNI, CSL-RD, RPC, ICS-D2, ICM, KHZ, TRR



| | |
|----------------------------------|---|
| Certificates | ATEX CE declaration of conformity cULus RoHS |
| ATEX class G | II 3G Ex nA IIC T4 Gc X |
| ATEX class D | II 3D Ex tc IIIC T135°C Dc X |
| Ambient temperature min./max. | -20 ... 50 °C |
| Protection class | IP65, IP67 |
| Switching point precision | ±0,1 mT |
| Quiescent current (without load) | 10 mA |
| Min./max. DC operating voltage | 10 ... 30 V DC |
| Switching logic | NO (make contact) |
| LED status display | Yellow Yellow |
| Vibration resistance | 10 - 55 Hz, 1 mm |
| Shock resistance | 30 g / 11 ms |
| Cable length L | 0.3 m |



Technical data

| Part No. | for | Type of contact | Cable length L |
|------------|-----------------------------------|-----------------|----------------|
| R412022860 | PRA, PRE, CCI, KPZ, SSI, GPC, CVI | electronic PNP | 0.3 m |

| Part No. | Voltage drop U at I _{max} | DC switching current, max. |
|------------|------------------------------------|----------------------------|
| R412022860 | ≤ 2,5 V | 0.1 A |

| Part No. | Max. switching frequency |
|------------|--------------------------|
| R412022860 | 1000 Hz |

| Part No. | Version |
|------------|---|
| R412022860 | short circuit resistant Protected against polarity reversal |

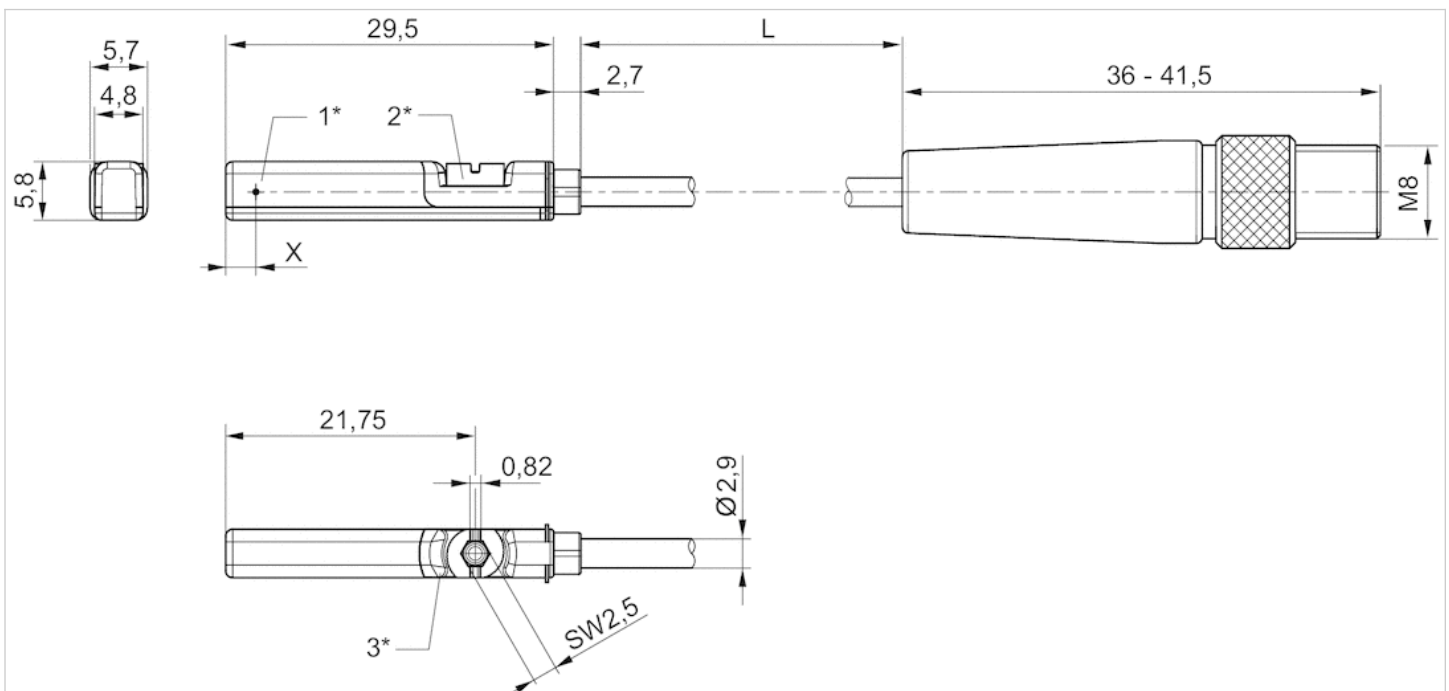
Technical information

Material

| | |
|---------------|-----------------|
| Housing | Polyamide |
| Cable sheath | Polyurethane |
| Locking screw | Stainless steel |

Dimensions

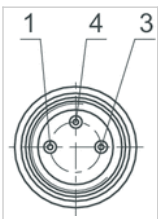
Dimensions



1* = switching point 2* = locking screw 3* = LED window, transparent
 L = cable length
 X = electronic: 11,6 mm, Reed: 8,3 mm

Pin assignments

Pin assignments



| Pin | 1 | 3 | 4 |
|------------|-----|-----|-------|
| Allocation | (+) | (-) | (OUT) |








Sensor, Series ST6

- 6 mm T-slot
- with cable
- Plug, M8, 3-pin, with knurled screw
- UL certification
- Reed electronic PNP electronic NPN
- Direct mounting for series PRA, PRE, CCI, KPZ, SSI, GPC, CVI
- Indirect mounting for series TRB, ITS, CCL-IS, MNI, CSL-RD, RPC, ICS-D2, ICM, KHZ, TRR



| | |
|----------------------------------|---|
| Certificates | CE declaration of conformity cULus RoHS |
| Ambient temperature min./max. | -30 ... 80 °C |
| Protection class | IP65, IP67 |
| Switching point precision | ±0,1 mT |
| Nominal current, actuated state | 30 mA |
| Quiescent current (without load) | 8 mA |
| Min./max. DC operating voltage | 10 ... 30 V DC |
| Min./max. AC operating voltage | See table below |
| Hysteresis | ≥ 0,2 mT |
| Switching logic | NO (make contact) |
| Switching capacity | Reed, 3-pin: max. 6 W |
| LED status display | Yellow |
| Vibration resistance | 10 - 55 Hz, 1 mm |
| Shock resistance | 30 g / 11 ms |
| Cable length L | 0.3 0.5 m |

Technical data

| Part No. | | for | Type of contact |
|------------|---|-----------------------------------|-----------------|
| R412022873 |  | PRA, PRE, CCI, KPZ, SSI, GPC, CVI | Reed |
| R412022875 |  | PRA, PRE, CCI, KPZ, SSI, GPC, CVI | Reed |
| R412022874 |  | PRA, PRE, CCI, KPZ, SSI, GPC, CVI | Reed |
| R412022859 |  | PRA, PRE, CCI, KPZ, SSI, GPC, CVI | electronic PNP |
| R412022862 |  | PRA, PRE, CCI, KPZ, SSI, GPC, CVI | electronic PNP |
| R412022861 |  | PRA, PRE, CCI, KPZ, SSI, GPC, CVI | electronic PNP |
| R412022852 |  | PRA, PRE, CCI, KPZ, SSI, GPC, CVI | electronic NPN |

| Part No. | Cable sheath | Cable length L | Min./max. AC operating voltage |
|------------|--------------------|----------------|--------------------------------|
| R412022873 | Polyurethane | 0.3 m | 10 ... 30 V AC |
| R412022875 | Polyvinyl chloride | 0.3 m | 10 ... 30 V AC |
| R412022874 | Polyurethane | 0.5 m | 10 ... 30 V AC |
| R412022859 | Polyurethane | 0.3 m | - |
| R412022862 | Polyvinyl chloride | 0.3 m | - |
| R412022861 | Polyurethane | 0.5 m | - |
| R412022852 | Polyurethane | 0.3 m | - |

| Part No. | Voltage drop U at I _{max} | DC switching current, max. |
|------------|------------------------------------|----------------------------|
| R412022873 | I*Rs | 0.3 A |
| R412022875 | I*Rs | 0.3 A |
| R412022874 | I*Rs | 0.3 A |
| R412022859 | ≤ 2,5 V | 0.13 A |
| R412022862 | ≤ 2,5 V | 0.13 A |
| R412022861 | ≤ 2,5 V | 0.13 A |
| R412022852 | ≤ 2,5 V | 0.13 A |

| Part No. | AC switching current, max. | Max. switching frequency |
|------------|----------------------------|--------------------------|
| R412022873 | 0.5 A | 400 Hz |
| R412022875 | 0.5 A | 400 Hz |
| R412022874 | 0.5 A | 400 Hz |
| R412022859 | - | 1000 Hz |
| R412022862 | - | 1000 Hz |
| R412022861 | - | 1000 Hz |
| R412022852 | - | 1000 Hz |

| Part No. | Operating current, not switched | Operating current, switched |
|------------|---------------------------------|-----------------------------|
| R412022873 | - | - |
| R412022875 | - | - |
| R412022874 | - | - |
| R412022859 | 8 mA | 30 mA |
| R412022862 | 8 mA | 30 mA |
| R412022861 | 8 mA | 30 mA |
| R412022852 | 8 mA | 30 mA |

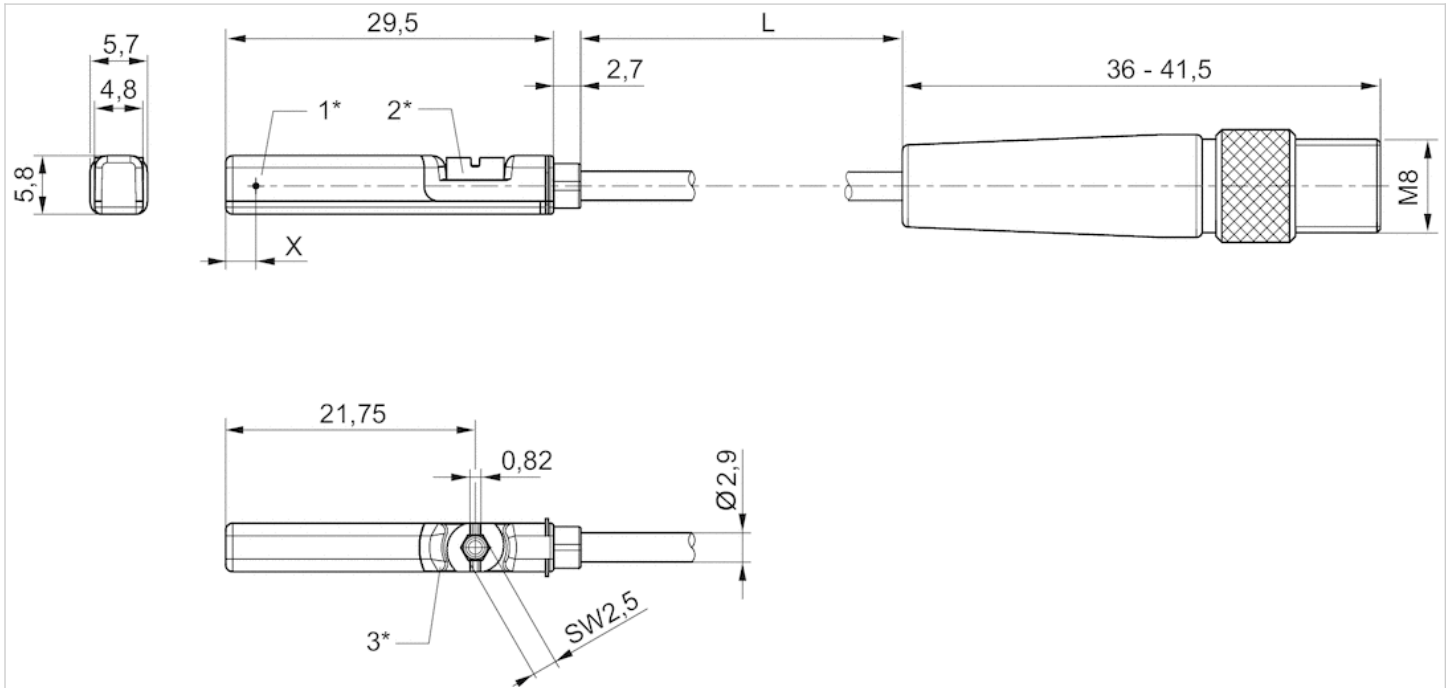
| Part No. | Version |
|------------|---|
| R412022873 | Protected against polarity reversal |
| R412022875 | Protected against polarity reversal |
| R412022874 | Protected against polarity reversal |
| R412022859 | short circuit resistant Protected against polarity reversal |
| R412022862 | short circuit resistant Protected against polarity reversal |
| R412022861 | short circuit resistant Protected against polarity reversal |
| R412022852 | short circuit resistant Protected against polarity reversal |

Technical information

| Material | |
|---------------|---------------------------------|
| Housing | Polyamide |
| Cable sheath | Polyurethane Polyvinyl chloride |
| Locking screw | Stainless steel |

Dimensions

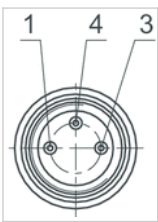
Dimensions



1* = switching point 2* = locking screw 3* = LED window, transparent
 L = cable length
 X = electronic: 11,6 mm, Reed: 8,3 mm

Pin assignments

Pin assignments



| Pin | 1 | 3 | 4 |
|------------|-----|-----|-------|
| Allocation | (+) | (-) | (OUT) |










Sensor, Series ST9

- 9 mm groove
- with cable
- without wire end ferrule, tin-plated, 2-pin without wire end ferrule, tin-plated, 3-pin
- With stretched impulse
- With stretched impulse
- Reed electronic PNP
- Direct mounting for series KHZ



| | |
|----------------------------------|-----------------------|
| Ambient temperature min./max. | See table below |
| Protection class | IP67, IP65 |
| Switching point precision | ±0,1 mT |
| Nominal current, actuated state | 7 mA |
| Quiescent current (without load) | 3 mA |
| Min./max. DC operating voltage | See table below |
| Min./max. AC operating voltage | See table below |
| LED status display | See table below |
| Vibration resistance | 60 g (50 ... 2000 Hz) |
| Shock resistance | 100 g / 11 ms |
| Cable length L | 3.5 m |

Technical data

| Part No. | | for | Type of contact | Cable sheath | Cable length L |
|------------|---|-----|-----------------|--------------------|-------------------|
| 0830100320 |  | KHZ | Reed | Polyvinyl chloride | 3 m |
| 0830100380 |  | KHZ | Reed | Polyvinyl chloride | 3 m |
| 0830100381 |  | KHZ | Reed | Polyvinyl chloride | 5 m |
| 0830100382 |  | KHZ | Reed | Polyurethane | 3 m |
| 0830100390 |  | KHZ | Reed | Polyurethane | 3 m |
| 0830100396 |  | KHZ | Reed | Polyurethane | 5 m |
| 0830100385 |  | KHZ | electronic PNP | Polyvinyl chloride | 3 m |
| 0830100386 |  | KHZ | electronic PNP | Polyvinyl chloride | 5 m |
| 0830100387 |  | KHZ | electronic PNP | Polyurethane | 3 m |

| Part No. | Min./max. DC operating voltage | Min./max. AC operating voltage |
|------------|--------------------------------|--------------------------------|
| 0830100320 | 0 ... 24 V DC | 0 ... 24 V AC |
| 0830100380 | 12 ... 24 V DC | 12 ... 24 V AC |
| 0830100381 | 12 ... 24 V DC | 12 ... 24 V AC |
| 0830100382 | 12 ... 24 V DC | 12 ... 24 V AC |
| 0830100390 | 12 ... 24 V DC | 12 ... 24 V AC |
| 0830100396 | 12 ... 24 V DC | 12 ... 24 V AC |
| 0830100385 | 12 ... 36 V DC | - |
| 0830100386 | 12 ... 36 V DC | - |
| 0830100387 | 12 ... 36 V DC | - |

| Part No. | Voltage drop U at I _{max} | DC switching current, max. |
|------------|------------------------------------|----------------------------|
| 0830100320 | I*Rs | 0.13 A |
| 0830100380 | 2,1 V + I*Rs | 0.13 A |
| 0830100381 | 2,1 V + I*Rs | 0.13 A |
| 0830100382 | 2,1 V + I*Rs | 0.13 A |
| 0830100390 | I*Rs | 0.13 A |
| 0830100396 | I*Rs | 0.13 A |
| 0830100385 | ≤ 2,0 V | 0.2 A |
| 0830100386 | ≤ 2,0 V | 0.2 A |
| 0830100387 | ≤ 2,0 V | 0.2 A |

| Part No. | AC switching current, max. | Ambient temperature min./max. | Switching capacity |
|------------|----------------------------|-------------------------------|--------------------|
| 0830100320 | 0.2 A | -20 ... 80 °C | 3 W / 5 VA |
| 0830100380 | 0.2 A | -20 ... 80 °C | 3 W / 5 VA |
| 0830100381 | 0.2 A | -20 ... 80 °C | 3 W / 5 VA |
| 0830100382 | 0.2 A | -20 ... 80 °C | 3 W / 5 VA |
| 0830100390 | 0.2 A | -20 ... 80 °C | 3 W / 5 VA |
| 0830100396 | 0.2 A | -20 ... 80 °C | 3 W / 5 VA |
| 0830100385 | - | -10 ... 70 °C | - |
| 0830100386 | - | -10 ... 70 °C | - |

| Part No. | AC switching current, max. | Ambient temperature min./max. | Switching capacity |
|------------|----------------------------|-------------------------------|--------------------|
| 0830100387 | - | -10 ... 70 °C | - |

| Part No. | Protective resistor for reed | Max. switching frequency |
|------------|------------------------------|--------------------------|
| 0830100320 | 1,3 Ω | - |
| 0830100380 | 1,3 Ω | - |
| 0830100381 | 1,3 Ω | - |
| 0830100382 | 1,3 Ω | - |
| 0830100390 | 1,3 Ω | - |
| 0830100396 | 1,3 Ω | - |
| 0830100385 | - | 2000 Hz |
| 0830100386 | - | 2000 Hz |
| 0830100387 | - | 2000 Hz |

| Part No. | Operating current, not switched | Operating current, switched | LED status display |
|------------|---------------------------------|-----------------------------|--------------------|
| 0830100320 | - | - | - |
| 0830100380 | - | - | Yellow |
| 0830100381 | - | - | Yellow |
| 0830100382 | - | - | Yellow |
| 0830100390 | - | - | Yellow |
| 0830100396 | - | - | Yellow |
| 0830100385 | 3 mA | 7 mA | Yellow |
| 0830100386 | 3 mA | 7 mA | Yellow |
| 0830100387 | 3 mA | 7 mA | Yellow |

| Part No. | Version |
|------------|---|
| 0830100320 | Protected against polarity reversal |
| 0830100380 | Protected against polarity reversal |
| 0830100381 | Protected against polarity reversal |
| 0830100382 | Protected against polarity reversal |
| 0830100390 | Protected against polarity reversal |
| 0830100396 | Protected against polarity reversal |
| 0830100385 | short circuit resistant Protected against polarity reversal |
| 0830100386 | short circuit resistant Protected against polarity reversal |
| 0830100387 | short circuit resistant Protected against polarity reversal |

| Part No. | Switch signal | |
|------------|------------------------|----|
| 0830100320 | - | 1) |
| 0830100380 | - | 1) |
| 0830100381 | - | 1) |
| 0830100382 | - | 1) |
| 0830100390 | - | 2) |
| 0830100396 | - | 2) |
| 0830100385 | With stretched impulse | 2) |

| Part No. | Switch signal | |
|------------|------------------------|----|
| 0830100386 | With stretched impulse | 2) |
| 0830100387 | With stretched impulse | 2) |

1) without wire end ferrule, tin-plated, 2-pin

2) without wire end ferrule, tin-plated, 3-pin

Technical information

If reed sensors are used, we recommend using a short-circuit protective device (SCPD).

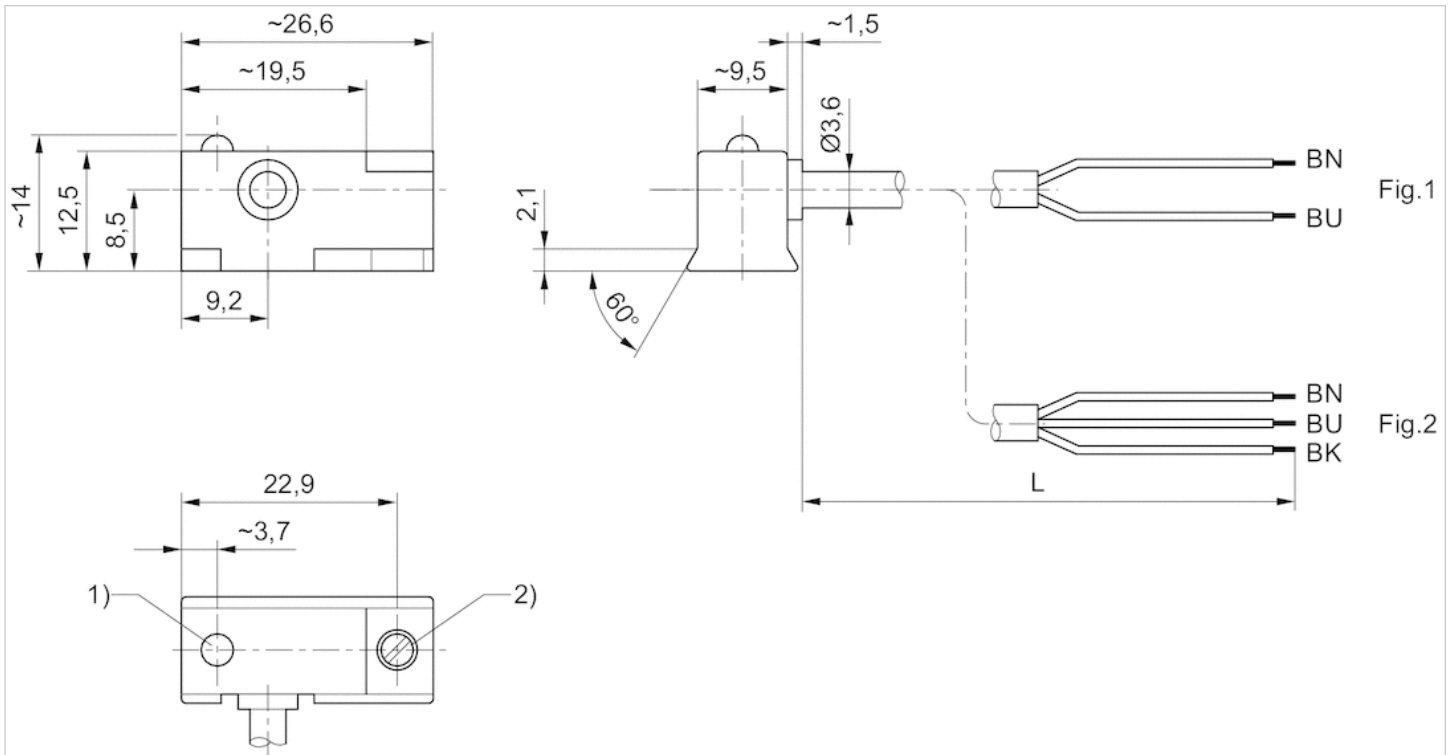
Technical information

Material

| | |
|--------------|---------------------------------|
| Housing | epoxy resin |
| Cable sheath | Polyvinyl chloride Polyurethane |

Dimensions

Dimensions



1) LED

2) Clamping screw

L = cable length

BN = brown

BK = black

BU = blue



Sensor, Series ST9

- 9 mm groove
- Plug, M8, 3-pin
- Reed electronic PNP
- Direct mounting for series KHZ



| | |
|----------------------------------|-----------------------|
| Ambient temperature min./max. | See table below |
| Protection class | IP67, IP65 |
| Switching point precision | ±0,1 mT |
| Nominal current, actuated state | 7 mA |
| Quiescent current (without load) | 3 mA |
| Min./max. DC operating voltage | See table below |
| Min./max. AC operating voltage | See table below |
| LED status display | See table below |
| Vibration resistance | 60 g (50 ... 2000 Hz) |
| Shock resistance | 100 g / 11 ms |

Technical data

| Part No. | | for | Type of contact | Min./max. DC operating voltage |
|------------|---|-----|-----------------|--------------------------------|
| 0830100486 |  | KHZ | Reed | 10 ... 30 V DC |
| 0830100487 |  | KHZ | electronic PNP | 12 ... 36 V DC |

| Part No. | Min./max. AC operating voltage | Voltage drop U at I _{max} |
|------------|--------------------------------|------------------------------------|
| 0830100486 | 10 ... 30 V AC | I*Rs |
| 0830100487 | - | ≤ 2,0 V |

| Part No. | DC switching current, max. | AC switching current, max. |
|------------|----------------------------|----------------------------|
| 0830100486 | 0.13 A | 0.2 A |
| 0830100487 | 0.2 A | - |

| Part No. | Ambient temperature min./max. | Switching capacity | Protective resistor for reed |
|------------|-------------------------------|--------------------|------------------------------|
| 0830100486 | -20 ... 80 °C | 3 W / 5 VA | 27 Ω |
| 0830100487 | -10 ... 70 °C | - | - |

| Part No. | Max. switching frequency | Operating current, not switched | LED status display |
|------------|--------------------------|---------------------------------|--------------------|
| 0830100486 | - | - | Yellow |
| 0830100487 | 2000 Hz | 3 mA | Yellow Yellow |

| Part No. | Version |
|------------|---|
| 0830100486 | Protected against polarity reversal |
| 0830100487 | Protected against polarity reversal short circuit resistant |

Technical information

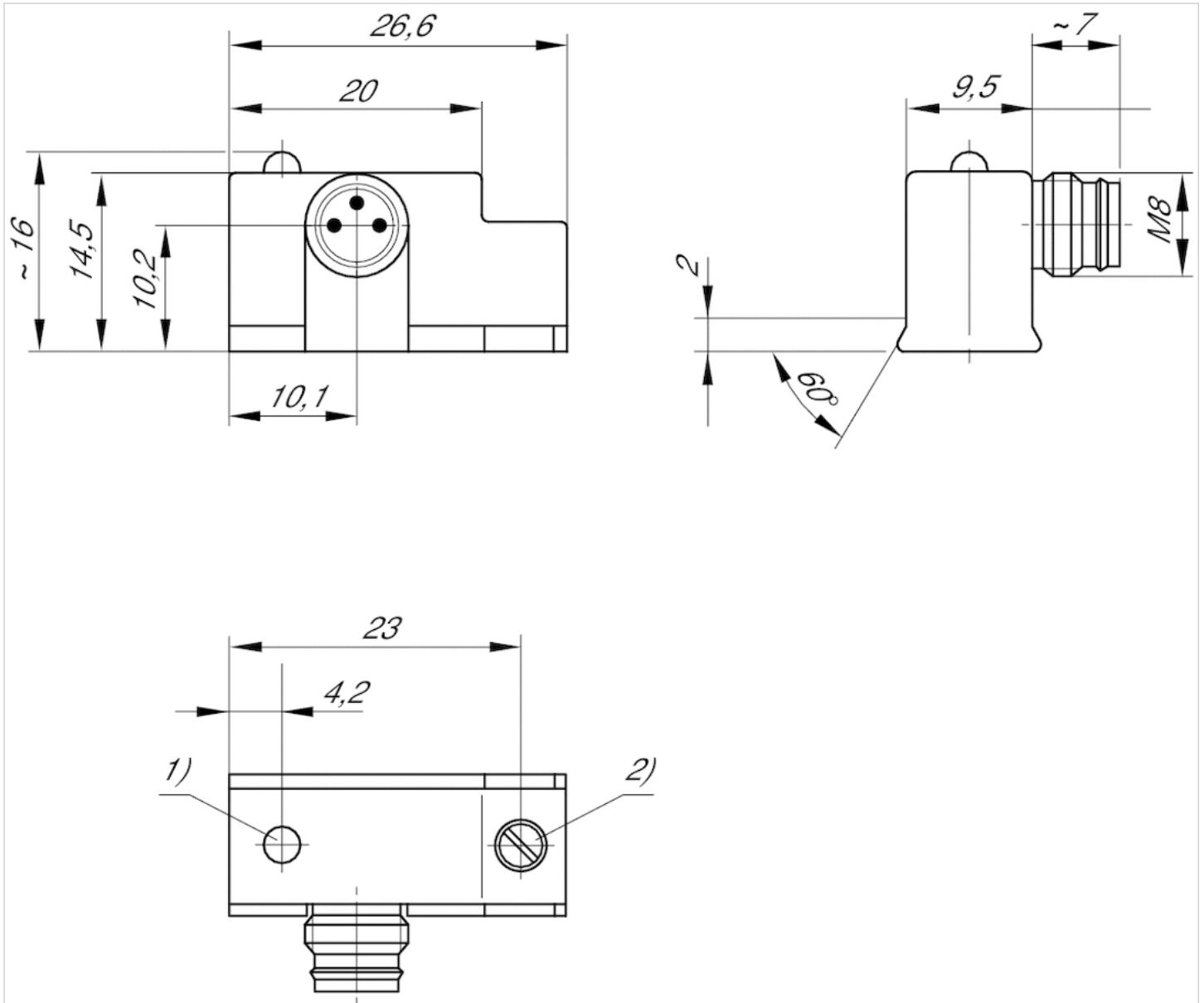
If reed sensors are used, we recommend using a short-circuit protective device (SCPD).

Technical information

| Material | |
|----------|-----------|
| Housing | Polyamide |

Dimensions

Dimensions



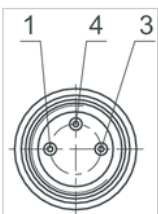
1) LED

2) Clamping screw

M8: combination plug can be combined with valve plug connectors Ø6.5 mm and M8.

Pin assignments

Pin assignments



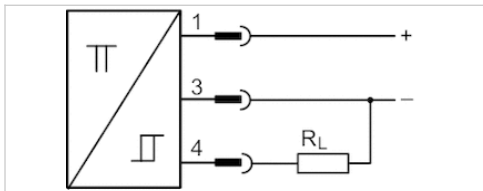
| | | | |
|------------|-----|-----|-------|
| Pin | 1 | 3 | 4 |
| Allocation | (+) | (-) | (OUT) |

Sensor, Series SN3

- welding-proof
- Plug, M12, 3-pin
- welding-proof
- electronic PNP
- Indirect mounting for series PRA, PRE, CCI, KPZ, KHZ, FLT, GPC, CVI



| | |
|----------------------------------|---------------|
| Ambient temperature min./max. | -25 ... 70 °C |
| Protection class | IP67, IP65 |
| Switching point precision | ±0,1 mT |
| Nominal current, actuated state | ≤ 10 mA |
| Quiescent current (without load) | ≤ 5 mA |
| Min./max. DC operating voltage | 10 V DC |
| LED status display | Yellow |
| Vibration resistance | 55 Hz, 1 mm |
| Shock resistance | 30 g / 11 ms |



Technical data

| Part No. | Type of contact | Voltage drop U at I _{max} | DC switching current, max. |
|------------|-----------------|------------------------------------|----------------------------|
| 0830100438 | electronic PNP | ≤ 1,8 V | 0.2 A |

| Part No. | Max. switching frequency |
|------------|--------------------------|
| 0830100438 | 20 Hz |

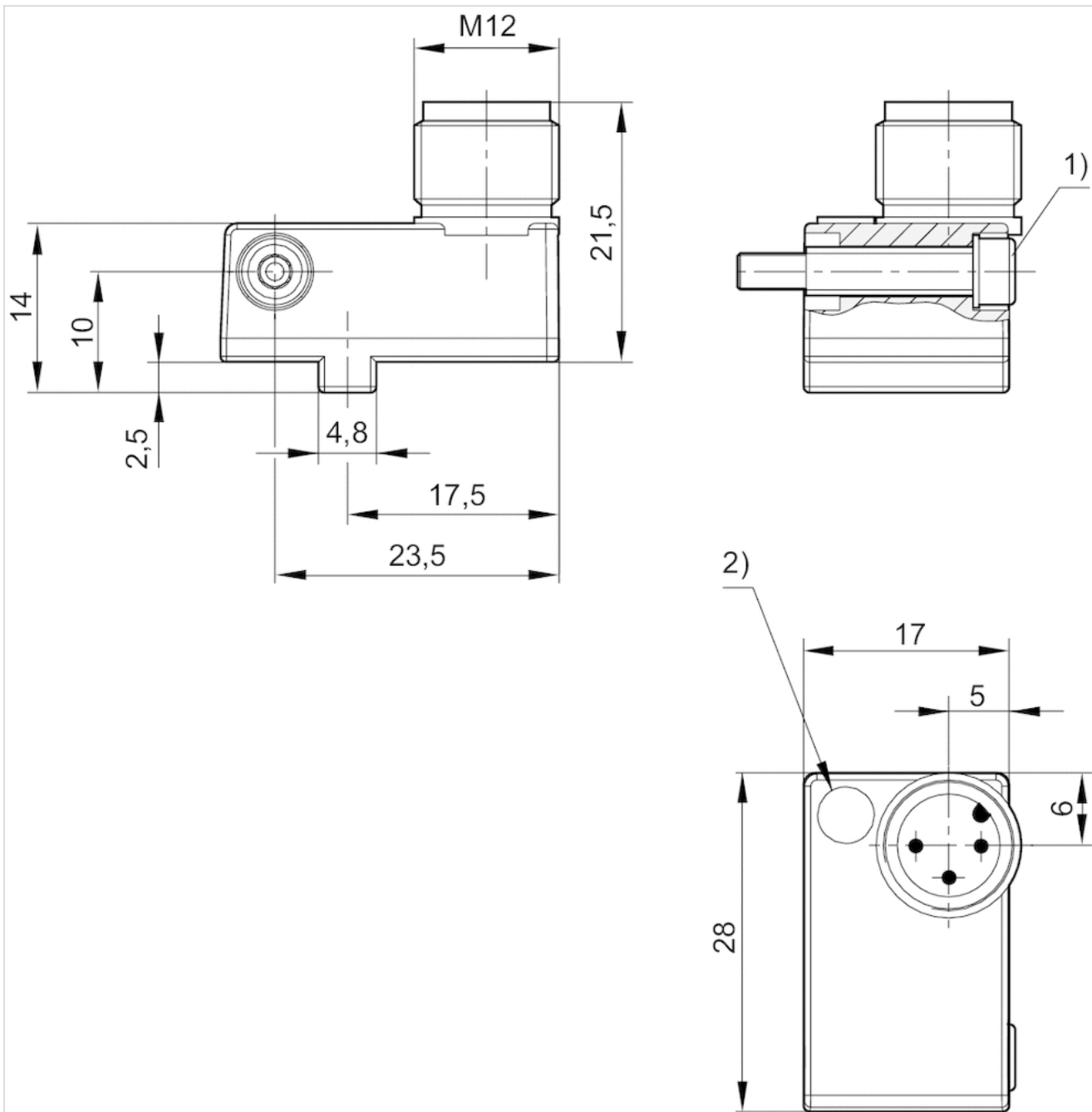
| Part No. | Version | welding-proof |
|------------|---|---------------|
| 0830100438 | short circuit resistant Protected against polarity reversal | welding-proof |

Technical information

| Material | |
|----------|-----------|
| Housing | Polyamide |

Dimensions

Dimensions



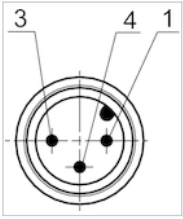
1) Clamping screw

2) LED

Pin assignments: 1 = (+), 3 = (-), 4 = (OUT), EN 60947-5-2:1998

Pin assignments

Pin assignments



| Pin | 1 | 3 | 4 |
|-------------------|-----|-----|-------|
| Allocation | (+) | (-) | (OUT) |
| EN 60947-5-2:1998 | | | |

Sensor mounting, Series CB1

- for series SN3

- to mount on cylinder PRA, KPZ, GPC, CCI, KHZ



Weight

0.007 kg

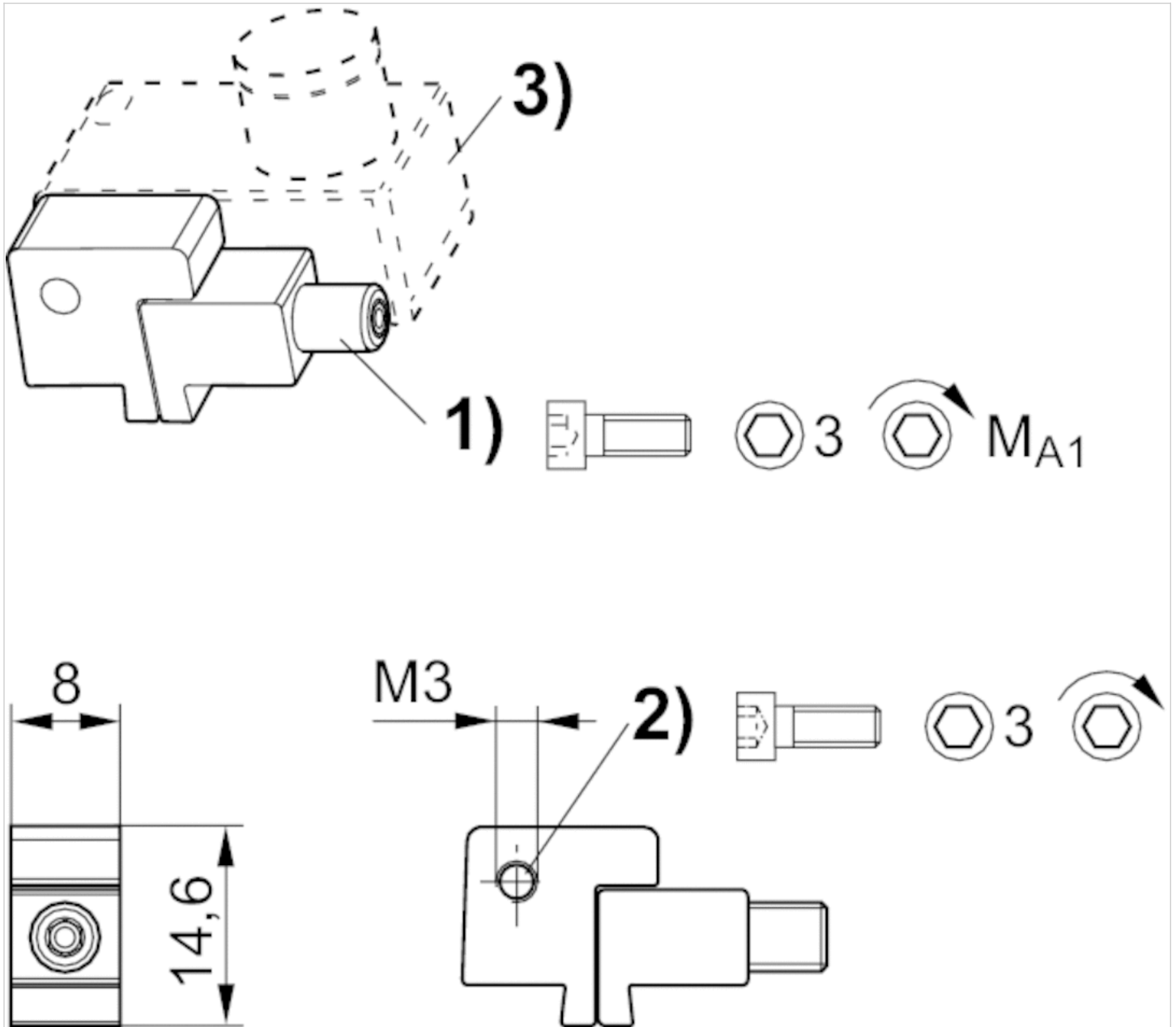
Technical data

| Part No. | for series |
|------------|------------|
| 1827020386 | SN3 |

Technical information

| Material |
|----------|
| Aluminum |

Dimensions



1) Clamping screw 2) Mounting screw for sensor 3) Sensor

Dimensions

| Part No. | 1) | MA1 [Nm] |
|------------|-------|----------|
| 1827020386 | M3x25 | 1,8 +0,4 |

Sensor mounting, Series CB1

- for series ST6

- to mount on cylinder KHZ



Weight

0.034 kg

Technical data

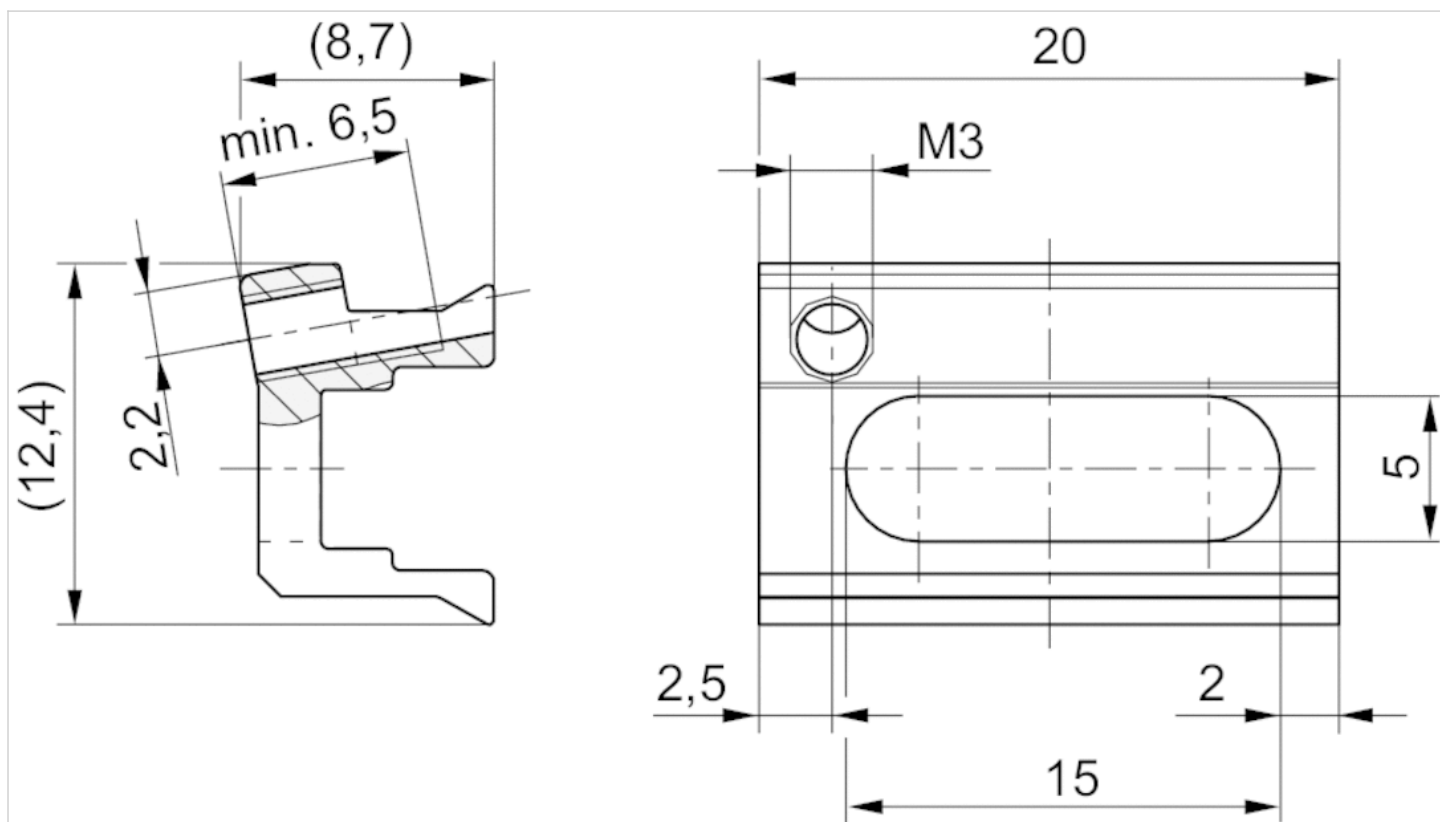
| Part No. | for series |
|------------|------------|
| R422100250 | ST6 |

Scope of delivery: incl. threaded pin

Technical information

| Material |
|--------------------|
| Aluminum, anodized |

Dimensions



Dimensions

| |
|------------|
| Part No. |
| R422100250 |

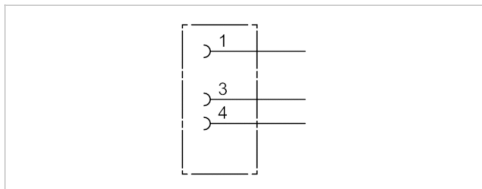
Scope of delivery: incl. threaded pin

Round plug connector, Series CON-RD

- Socket, M8x1, 3-pin, A-coded, angled, 90°
- UL (Underwriters Laboratories)
- unshielded



| | |
|-------------------------------|---------------|
| Connection type | Soldering |
| Ambient temperature min./max. | -40 ... 85 °C |
| Operational voltage | 48 V AC/DC |
| Protection class | IP67 |
| Weight | 0.01 kg |



Technical data

| Part No. | Max. current | Contact assignment | suitable cable-Ø min./max |
|------------|--------------|--------------------|---------------------------|
| 1834484174 | 4 A | 3 | 3.5 / 5 mm |

Technical information

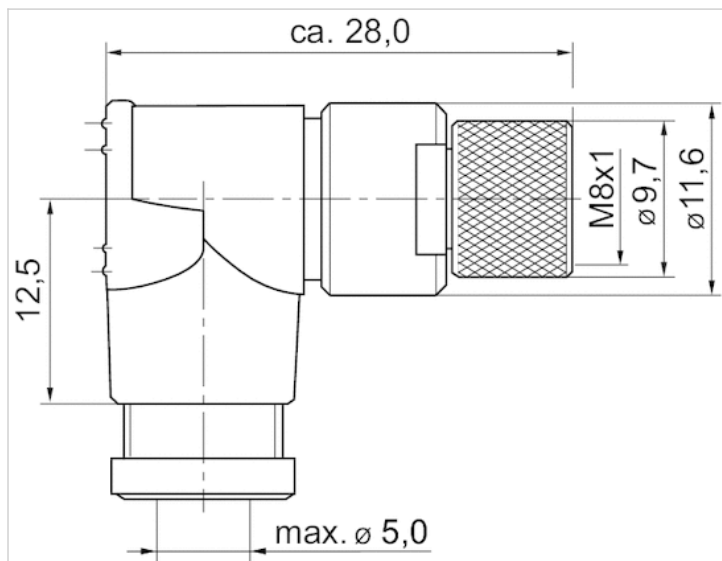
The specified protection class is only valid in assembled and tested state.

Technical information

| Material | |
|----------|-----------|
| Housing | Polyamide |

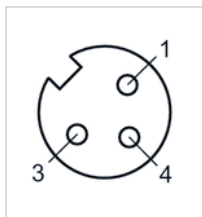
Dimensions

Dimensions



Pin assignments

Pin assignment, socket

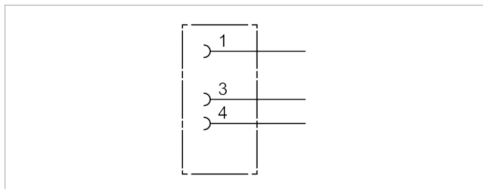


Round plug connector, Series CON-RD

- Socket, M8x1, 3-pin, A-coded, straight, 180°
- UL (Underwriters Laboratories)
- unshielded



| | |
|-------------------------------|---------------|
| Connection type | Soldering |
| Ambient temperature min./max. | -25 ... 80 °C |
| Operational voltage | 48 V AC/DC |
| Protection class | IP67 |
| Weight | 0.009 kg |



Technical data

| Part No. | Max. current | suitable cable-Ø min./max |
|------------|--------------|---------------------------|
| 1834484173 | 4 A | 3.5 / 5 mm |

Technical information

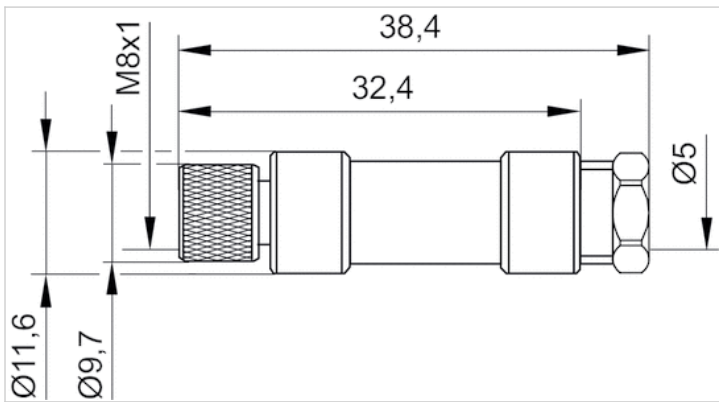
The specified protection class is only valid in assembled and tested state.

Technical information

| Material | |
|----------|-----------|
| Housing | Polyamide |

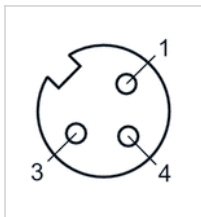
Dimensions

Dimensions



Pin assignments

Pin assignment, socket

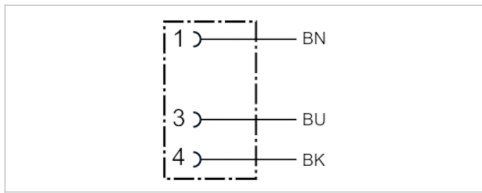


Round plug connector, Series CON-RD

- Socket M8x1 3-pin A-coded straight 180°
- open cable ends
- with cable
- UL (Underwriters Laboratories)
- unshielded



| | |
|-------------------------------|----------------------|
| Ambient temperature min./max. | -25 ... 85 °C |
| Operational voltage | 48 V AC/DC |
| Protection class | IP67 |
| Wire cross-section | 0.24 mm ² |
| Weight | See table below |



Technical data

| Part No. | Max. current | Number of wires | Cable-Ø | Cable length | Certification | Weight |
|------------|--------------|-----------------|---------|--------------|--------------------------------|----------|
| 1834484166 | 4 A | 3 | 4.5 mm | 3 m | UL (Underwriters Laboratories) | 0.087 kg |
| 1834484168 | 4 A | 3 | 4.5 mm | 5 m | UL (Underwriters Laboratories) | 0.141 kg |
| 1834484247 | 4 A | 3 | 4.5 mm | 10 m | UL (Underwriters Laboratories) | 0.277 kg |

Technical information

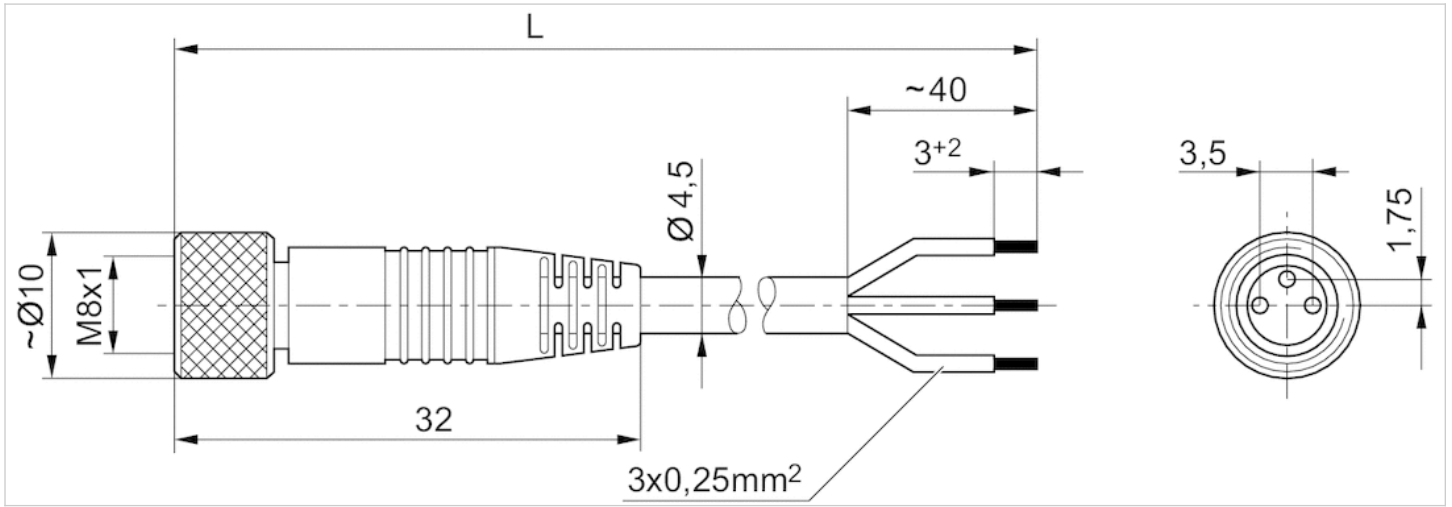
The specified protection class is only valid in assembled and tested state.

Technical information

| Material | |
|--------------|--------------|
| Housing | Polyurethane |
| Cable sheath | Polyurethane |

Dimensions

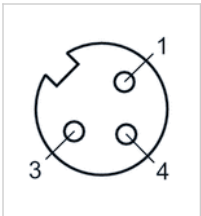
Dimensions



L = length

Pin assignments

Pin assignment, socket



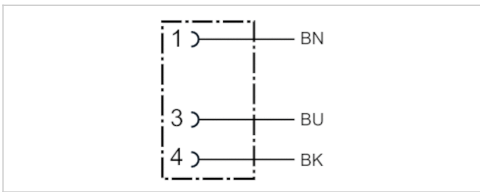
- (1) BN=brown
- (3) BU=blue
- (4) BK=black

Round plug connector, Series CON-RD

- Socket M8x1 3-pin A-coded angled 90°
- open cable ends
- with cable
- unshielded



| | |
|-------------------------------|----------------------|
| Ambient temperature min./max. | -40 ... 85 °C |
| Operational voltage | 48 V AC/DC |
| Protection class | IP67 |
| Wire cross-section | 0.24 mm ² |
| Weight | See table below |



Technical data

| Part No. | Max. current | Number of wires | Cable-Ø | Cable length | Weight |
|------------|--------------|-----------------|---------|--------------|----------|
| 1834484167 | 4 A | 3 | 4.5 mm | 3 m | 0.087 kg |
| 1834484169 | 4 A | 3 | 4.5 mm | 5 m | 0.139 kg |
| 1834484248 | 4 A | 3 | 4.5 mm | 10 m | 0.279 kg |

Technical information

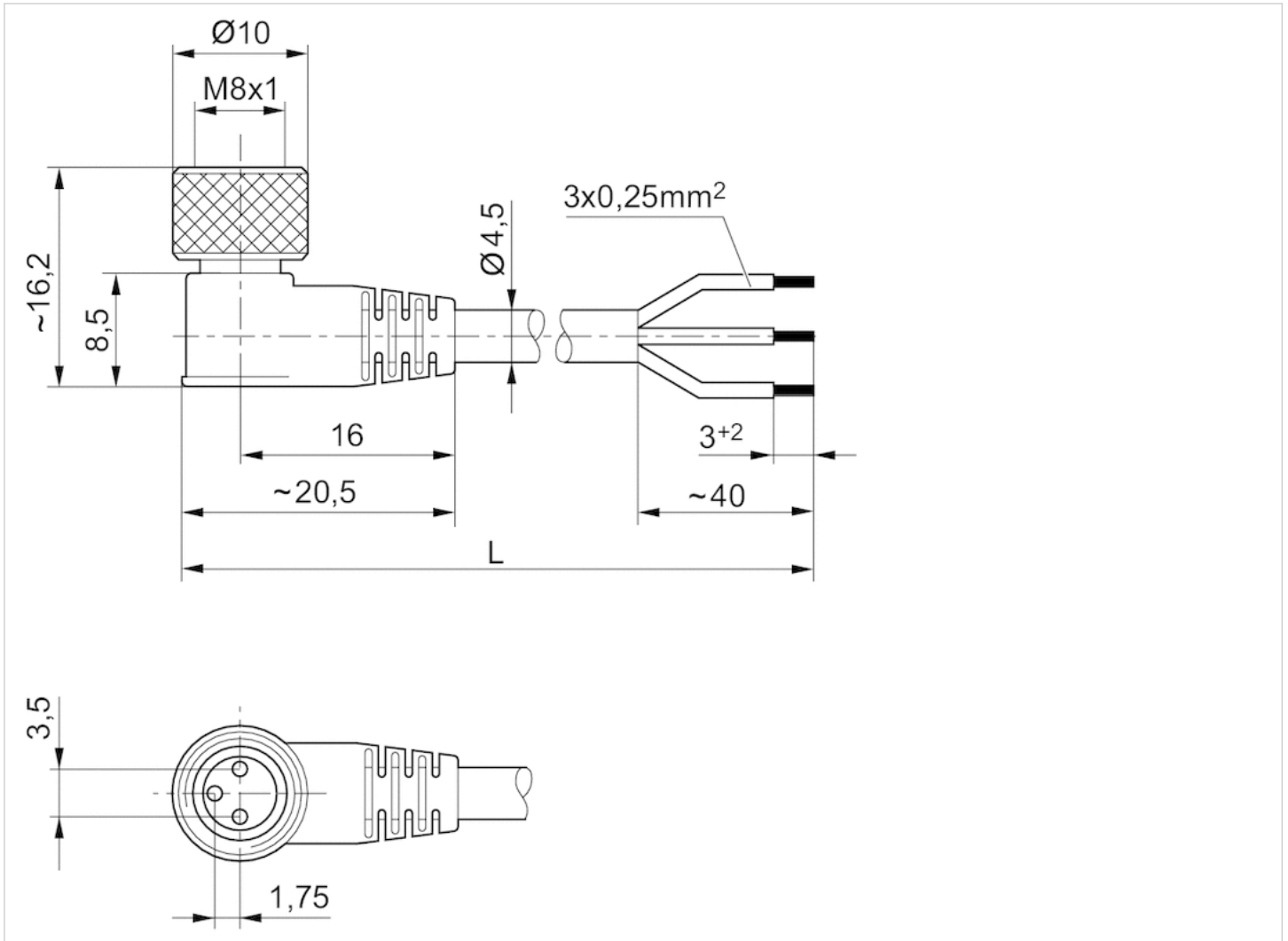
The specified protection class is only valid in assembled and tested state.

Technical information

| Material | |
|--------------|--------------|
| Housing | Polyurethane |
| Cable sheath | Polyurethane |

Dimensions

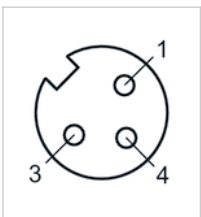
Dimensions



L = length

Pin assignments

Pin assignment, socket



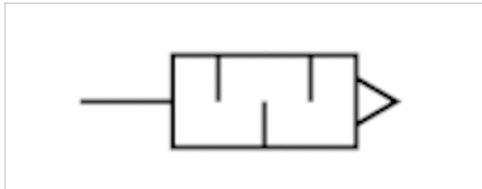
- (1) BN=brown
- (3) BU=blue
- (4) BK=black

Silencers, series SI1

- M5
- Sintered bronze



| | |
|-------------------------------|---|
| Working pressure min./max. | 0 ... 10 bar |
| Ambient temperature min./max. | -25 ... 80 °C |
| Medium | Compressed air |
| Sound pressure level | 72 dB |
| Weight | 0.004 kg |
| Comment | Flow characteristic curves can be found under "Diagrams". |



Technical data

| Part No. | Compressed air connection | Flow | Delivery unit |
|------------|---------------------------|-----------|---------------|
| | | Qn | |
| 1827000006 | M5 | 398 l/min | 10 piece |

Weight per piece

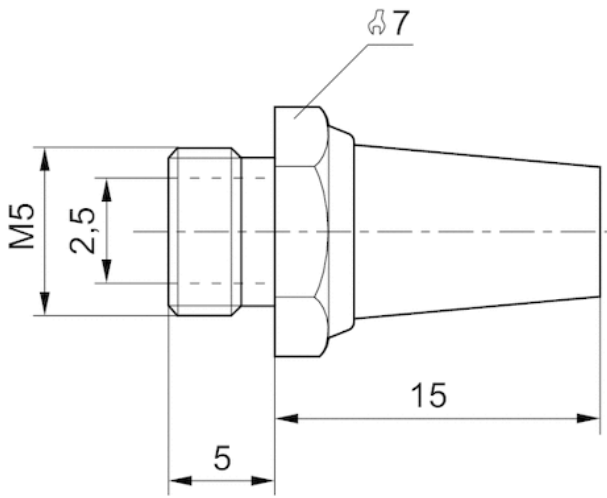
Nominal flow Qn at p1 = 6 bar (absolute) freely discharged. Sound pressure level measured at 6 bar against atmosphere at 1 m distance.

Technical information

| Material | |
|----------|-----------------|
| Silencer | Sintered bronze |
| Thread | Brass |

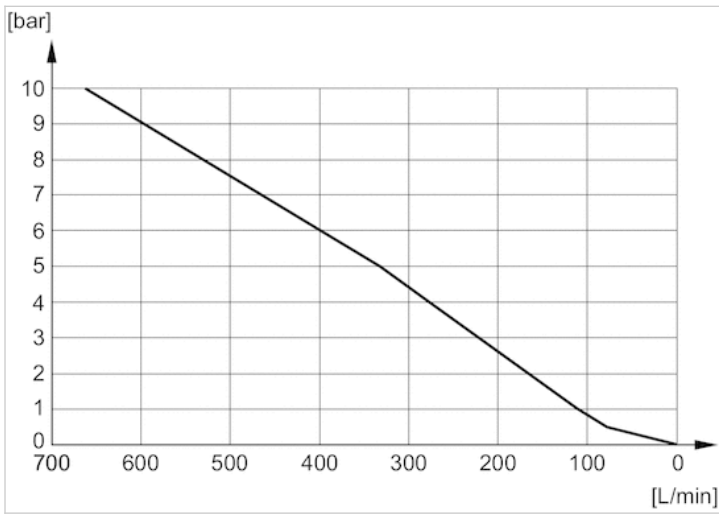
Dimensions

Dimensions in mm



Diagrams

Flow diagram, 1827000006

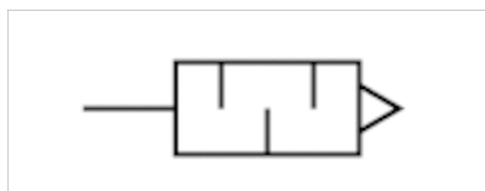


Silencers, series SI1

- G 1/8
- Sintered bronze



| | |
|-------------------------------|---|
| Working pressure min./max. | 0 ... 10 bar |
| Ambient temperature min./max. | -25 ... 80 °C |
| Medium | Compressed air |
| Sound pressure level | 75 dB |
| Weight | 0.01 kg |
| Comment | Flow characteristic curves can be found under "Diagrams". |



Technical data

| Part No. | Compressed air connection | Flow | Delivery unit |
|------------|---------------------------|------------|---------------|
| | | Qn | |
| 1827000000 | G 1/8 | 1623 l/min | 10 piece |

Weight per piece

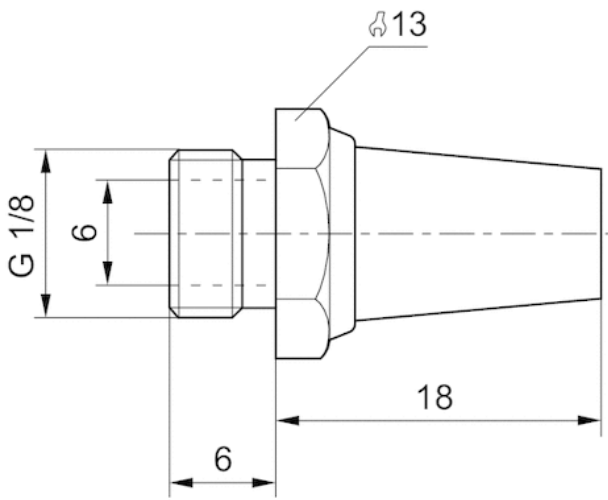
Nominal flow Qn at p1 = 6 bar (absolute) freely discharged. Sound pressure level measured at 6 bar against atmosphere at 1 m distance.

Technical information

| Material | |
|----------|-----------------|
| Silencer | Sintered bronze |
| Thread | Brass |

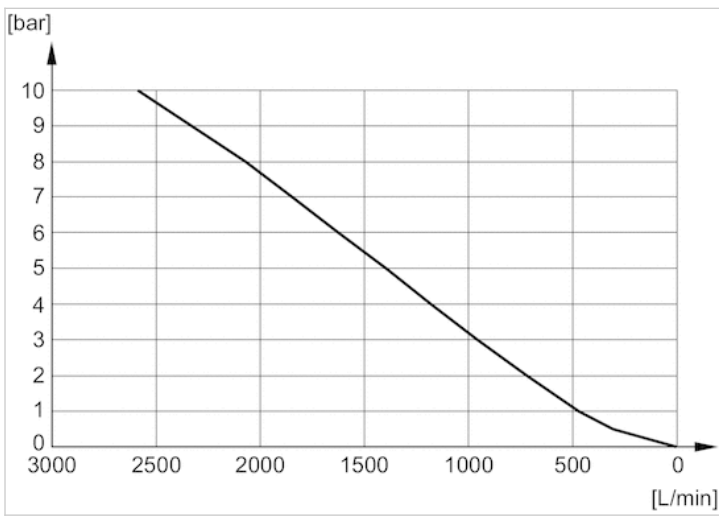
Dimensions

Dimensions in mm



Diagrams

Flow diagram, 1827000000

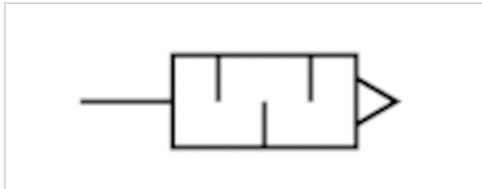


Silencers, series SI1

- G 1/4
- Sintered bronze



| | |
|-------------------------------|---|
| Working pressure min./max. | 0 ... 10 bar |
| Ambient temperature min./max. | -25 ... 80 °C |
| Medium | Compressed air |
| Sound pressure level | 79 dB |
| Weight | 0.02 kg |
| Comment | Flow characteristic curves can be found under "Diagrams". |



Technical data

| Part No. | Compressed air connection | Flow | Delivery unit |
|------------|---------------------------|------------|---------------|
| | | Qn | |
| 1827000001 | G 1/4 | 3390 l/min | 10 piece |

Weight per piece

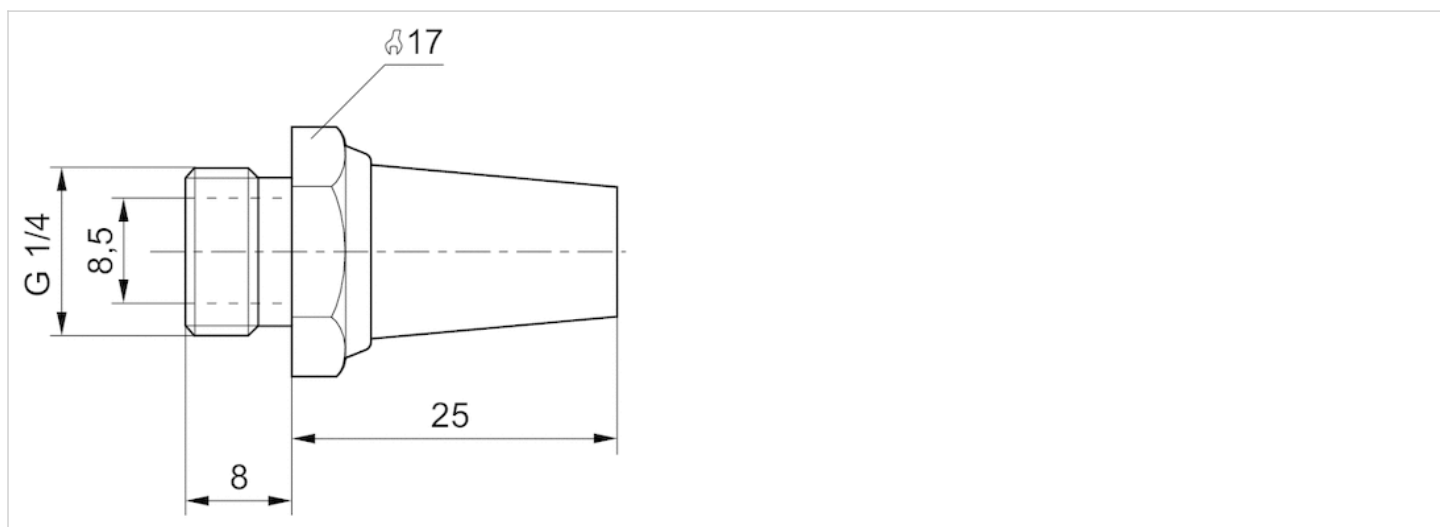
Nominal flow Qn at p1 = 6 bar (absolute) freely discharged. Sound pressure level measured at 6 bar against atmosphere at 1 m distance.

Technical information

| Material | |
|----------|-----------------|
| Silencer | Sintered bronze |
| Thread | Brass |

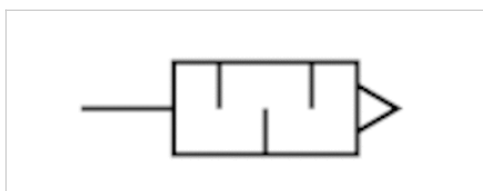
Dimensions

Dimensions in mm



Silencers, series SI1

- M5 G 1/8 G 1/4
- Sintered bronze



| | |
|-------------------------------|---|
| Working pressure min./max. | 0 ... 10 bar |
| Ambient temperature min./max. | -25 ... 80 °C |
| Medium | Compressed air |
| Sound pressure level | See table below |
| Weight | See table below |
| Comment | Flow characteristic curves can be found under "Diagrams". |

Technical data

| Part No. | Compressed air connection | Sound pressure level | Flow | Delivery unit | Weight |
|------------|---------------------------|----------------------|------------|---------------|----------|
| | | | Qn | | |
| 1827000032 | M5 | 79 dB | 252 l/min | 10 piece | 0.005 kg |
| 1827000031 | G 1/8 | 85 dB | 700 l/min | 10 piece | 0.001 kg |
| 1827000033 | G 1/4 | 88 dB | 1116 l/min | 10 piece | 0.01 kg |

Weight per piece

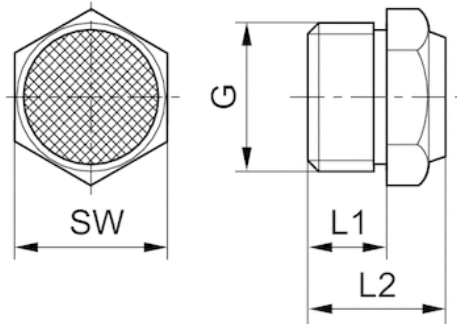
Nominal flow Qn at p1 = 6 bar (absolute) freely discharged. Sound pressure level measured at 6 bar against atmosphere at 1 m distance.

Technical information

| Material | |
|----------|-----------------|
| Silencer | Sintered bronze |
| Thread | Brass |

Dimensions

Dimensions



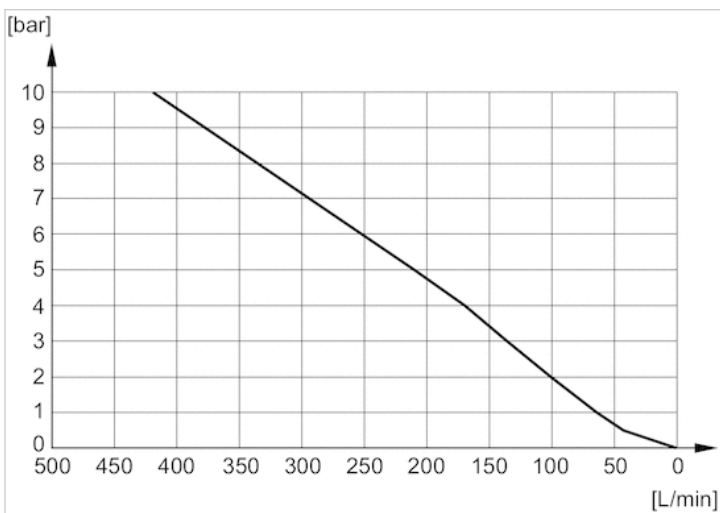
Dimensions

| Part No. | Port G | L1 | L2 | SW |
|------------|--------|----|------|----|
| 1827000032 | M5 | 5 | 10.3 | 7 |
| 1827000031 | G 1/8 | 6 | 11.5 | 13 |
| 1827000033 | G 1/4 | 8 | 13.5 | 17 |

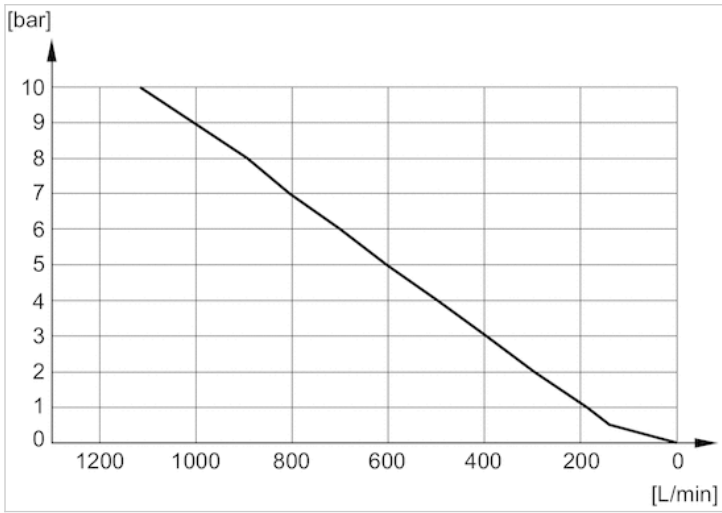
Sound pressure level measured at 6 bar at 1 m distance

Diagrams

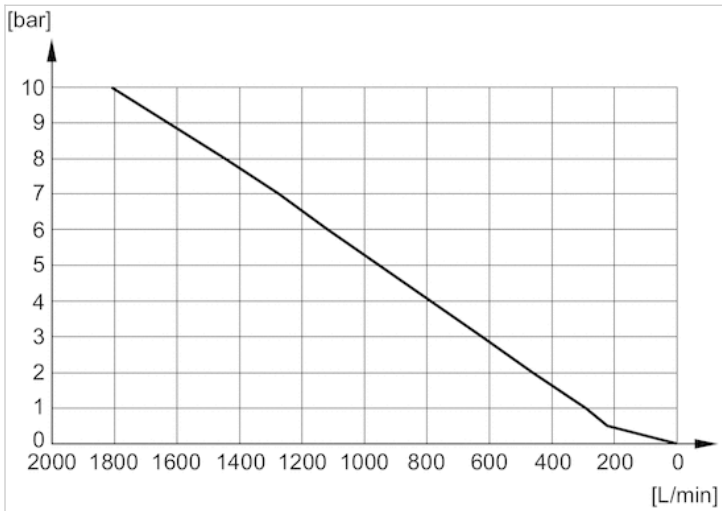
Flow diagram, 1827000032



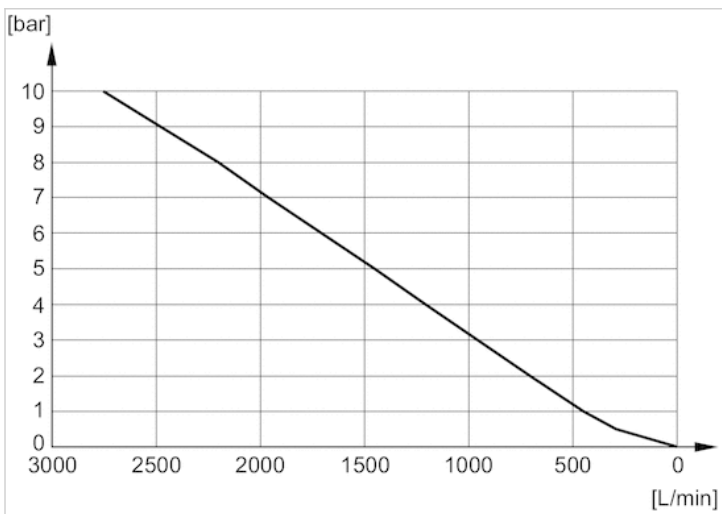
Flow diagram, 1827000031



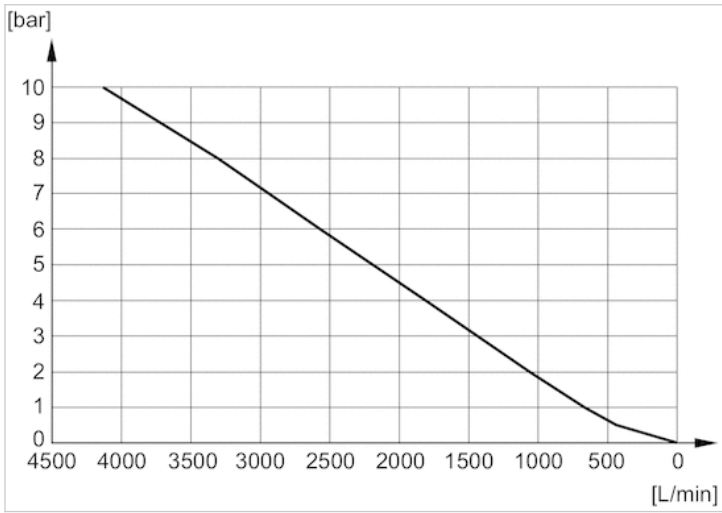
Flow diagram, 1827000033



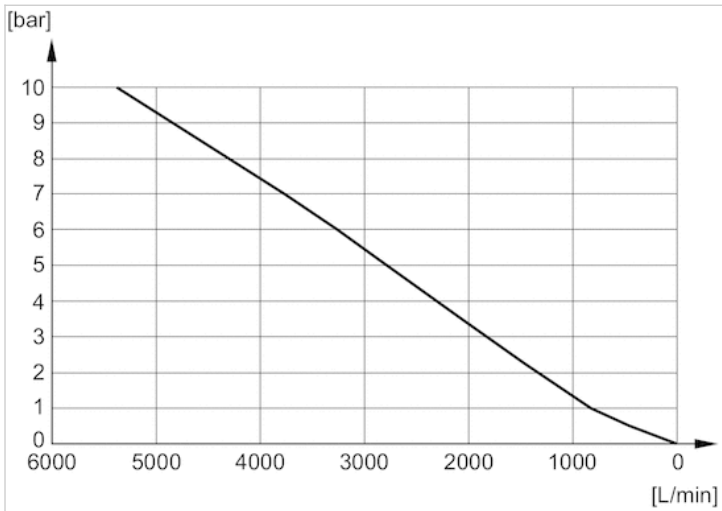
Flow diagram, 1827000034



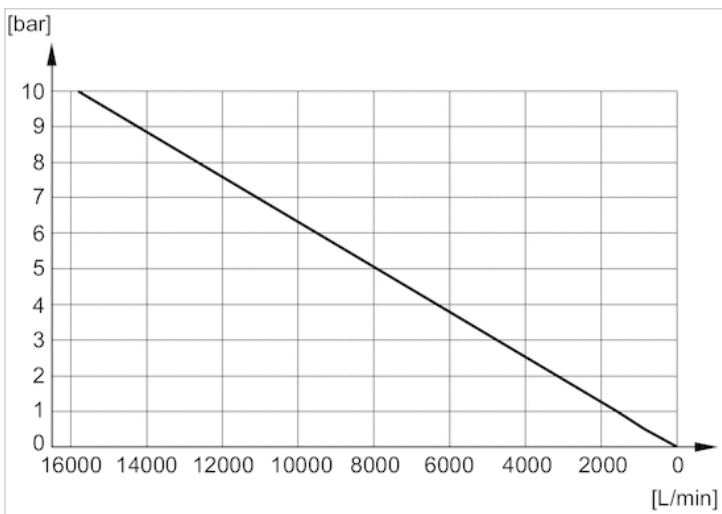
Flow diagram, 1827000035



Flow diagram, 8145003400



Flow diagram, 8145001000



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