

Rack-and-pinion gears, Series TRR

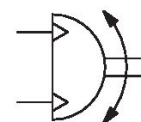
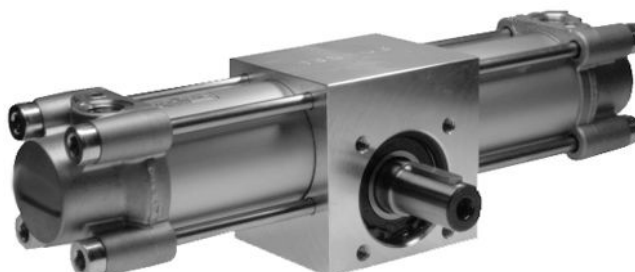
0822934205

AVENTICS
Series TRR
Rotary
actuators

2024-04-05

AVENTICS Series TRR Rotary actuators

The AVENTICS Series TRR is a rotary cylinder based on two ISO cylinders and a rack and pinion gearbox to generate high torques with adjustable angle.



Technical data

| | |
|--|-------------------------|
| Industry | Industrial |
| Diameter | 80 mm |
| Compressed air connection | G 3/8 |
| Magnetic piston | with magnetic piston |
| Rotary compact module version | Double piston with rack |
| Frame size | TRR-80 |
| Axis diameter | 30 mm |
| Theoretical torque at | 6,3 bar |
| Rotation angle tolerance | 0° / +4° |
| Direction of rotation | counterclockwise |
| Max. play (radial) | 0,9 ° |
| Theoretical torque | 54 Nm |
| Cushioning | Pneumatically |
| Cushioning | Non-adjustable |
| Cushioning angle | 56 ° |
| Stroke/10° angle of rotation | 3.9 mm |
| Min. angle of rotation | 0 ° |
| Max. angle of rotation | 180 ° |
| Tolerance in 0° position not under pressure min. | -2 ° |

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|--|---------------------|
| Max. tolerance in 0° position not under pressure | 2 ° |
| Min. working pressure | 2 bar |
| Max. working pressure | 10 bar |
| Min. ambient temperature | -20 °C |
| Max. ambient temperature | 80 °C |
| Min. medium temperature | -20 °C |
| Max. medium temperature | 80 °C |
| Medium | Compressed air |
| Min. oil content of compressed air | 0 mg/m ³ |
| Max. oil content of compressed air | 1 mg/m ³ |
| Max. particle size | 5 µm |
| Weight | 12.4 kg |

Material

| | |
|----------------------|----------------------|
| Housing material | Aluminum |
| Material front cover | Die-cast aluminum |
| Seal material | Polyurethane |
| Material axis | Steel, chrome-plated |
| Part No. | 0822934205 |

Technical information

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

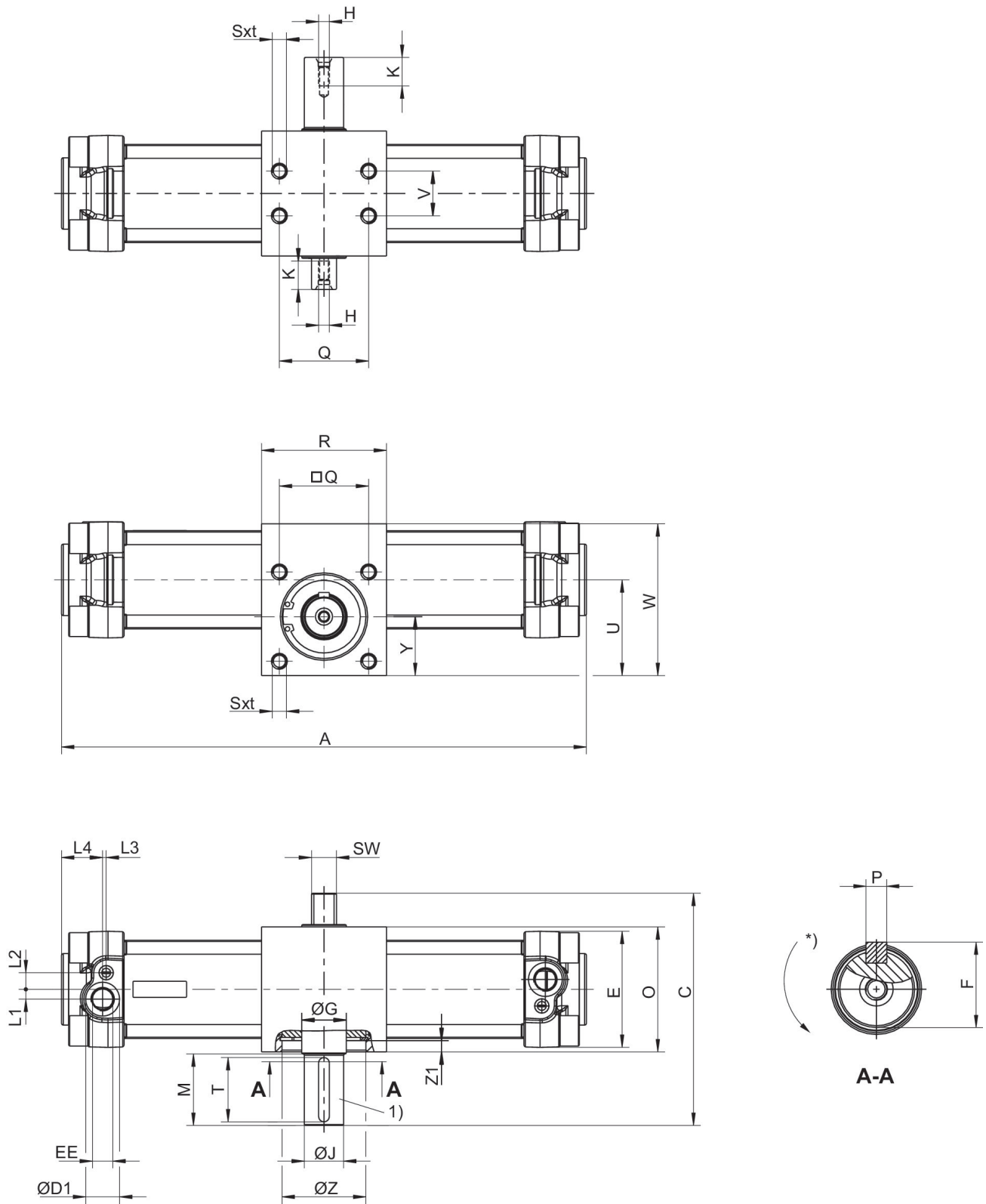
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Dimensions



1) Parallel key and slot dimensions according to DIN 6885

* Direction of rotation

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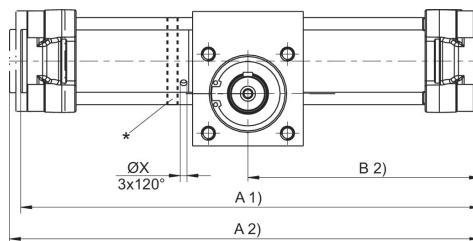
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| Frame size | Ø | C | ØD1 | E | EE | F | ØG | H | ØJ k6 |
|------------|-----|-------|-----|-----|-------|------|----|---------|-------|
| TRR-32 | 32 | 103.5 | 15 | 47 | G 1/8 | 16 | 17 | M5x12,5 | 14 |
| TRR-40 | 40 | 110 | 19 | 53 | G 1/4 | 19 | 20 | M5x12,5 | 17 |
| TRR-50 | 50 | 130 | 19 | 65 | G 1/4 | 24.5 | 25 | M6x16 | 22 |
| TRR-63 | 63 | 142.5 | 23 | 75 | G 3/8 | 28 | 30 | M8x19 | 25 |
| TRR-80 | 80 | 175 | 23 | 95 | G 3/8 | 33 | 35 | M8x19 | 30 |
| TRR-100 | 100 | 190 | 27 | 115 | G 1/2 | 38 | 40 | M10x22 | 35 |

| Frame size | L1 | L2 | L3 | L4 | M | O | P | Q | R |
|------------|-----|------|-----|----|----|-----|-------|----|-----|
| TRR-32 | 5 | 7.5 | 4.2 | 20 | 30 | 55 | 5x25 | 33 | 63 |
| TRR-40 | 5.5 | 9.5 | 5.2 | 24 | 30 | 60 | 5x25 | 40 | 70 |
| TRR-50 | 5.5 | 9.3 | 2 | 23 | 40 | 70 | 6x36 | 50 | 70 |
| TRR-63 | 9 | 11.7 | 2 | 28 | 40 | 80 | 8x36 | 60 | 80 |
| TRR-80 | 8 | 15 | 2.5 | 28 | 50 | 100 | 8x45 | 80 | 106 |
| TRR-100 | 12 | 14 | 4 | 29 | 50 | 114 | 10x45 | 80 | 125 |

| Frame size | Sxt | SW | U | V | W | Y | ØZ H7 | Z1 |
|------------|--------|----|------|----|-----|------|-------|------|
| TRR-32 | M6x9 | 11 | 40.7 | 18 | 63 | 25 | 35 | 4 |
| TRR-40 | M6x9 | 13 | 43.5 | 22 | 70 | 26.5 | 42 | 4.25 |
| TRR-50 | M8x12 | 14 | 53.5 | 25 | 85 | 33 | 47 | 6.25 |
| TRR-63 | M8x12 | 17 | 65 | 35 | 105 | 40 | 55 | 7 |
| TRR-80 | M10x15 | 22 | 84.5 | 50 | 135 | 53 | 62 | 9.5 |
| TRR-100 | M10x15 | 22 | 91.5 | 60 | 150 | 53 | 80 | 16.5 |

Rotation angle setting



* Rotation angle setting via rotation of the setting ring. The nuts of the tie rod must be loosened and tightened with the torque Ma. 0-position: parallel key on top (piston stop on the right).

Tightening torque TRR-50, TRR-63: 9-10 Nm Tightening torque TRR-80, TRR-100: 18-20 Nm
1) Min.
2) Max.

Adjustable angle of rotation

| Frame size | Ø | A 1) 90° | A 1) 180° | A 1) 360° | A 2) 90° | A 2) 180° | A 2) 360° | B 2) 90° | B 2) 180° |
|------------|-----|----------|-----------|-----------|----------|-----------|-----------|----------|-----------|
| TRR-50 | 50 | 292 | 339 | 434 | 299 | 345 | 440 | 150 | 173 |
| TRR-63 | 63 | 337 | 400 | 525 | 344 | 407 | 533 | 173 | 204 |
| TRR-80 | 80 | 388 | 458 | 600 | 399 | 470 | 611 | 200 | 235 |
| TRR-100 | 100 | 440 | 533 | 722 | 451 | 544 | 733 | 226 | 273 |

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| Frame size | B 2) 360° | ØX |
|------------|-----------|-----|
| TRR-50 | 220 | 4.2 |
| TRR-63 | 267 | 4.2 |
| TRR-80 | 306 | 4.2 |
| TRR-100 | 366 | 4.2 |

1) Min.

2) Max.

Non-adjustable angle of rotation

| Frame size | Ø | A 2) 90° | A 2) 180° | A 2) 360° | B 2) 90° | B 2) 180° | B 2) 360° | ØX |
|------------|-----|----------|-----------|-----------|----------|-----------|-----------|----|
| TRR-32 | 32 | 251 | 285 | 357 | 126 | 143 | 179 | – |
| TRR-40 | 40 | 265 | 304 | 383 | 133 | 152 | 192 | – |
| TRR-50 | 50 | 295 | 342 | 436 | 148 | 171 | 218 | – |
| TRR-63 | 63 | 338 | 401 | 527 | 169 | 200 | 264 | – |
| TRR-80 | 80 | 390 | 460 | 602 | 195 | 230 | 301 | – |
| TRR-100 | 100 | 440 | 536 | 724 | 220 | 268 | 362 | – |

2) Max.