

## AVENTICS Series TRB Tie rod cylinders (ISO 15552)

The AVENTICS Series TRB (ISO 15552) cylinders are among the most frequently implemented in industries where heavy duty cylinders are required, such as wood and aluminium, steel and automotive, heavy-duty machinery and mining to name just a few.

- Available in piston diameters from 32 mm to 125 mm
- Advanced pneumatic cushioning
- Additional elastic damping elements
- Wide range of scraper modules available
- With the modular system you can change the scraper on the cylinder at any time and considerably decrease service intervals
- Wide range of variants and accessories available in the configurator



## Technical data

|                                        |                                 |
|----------------------------------------|---------------------------------|
| Industry                               | Industrial                      |
| Standards                              | ISO 15552                       |
| Piston Ø                               | 80 mm                           |
| Stroke                                 | 100 mm                          |
| Ports                                  | G 3/8                           |
| Functional principle                   | Double-acting                   |
| Cushioning                             | Pneumatic adjustable cushioning |
| Magnetic piston                        | With magnet                     |
| Environmental requirements             | Industry standard               |
| Piston rod thread - type               | External thread                 |
| Piston rod thread                      | M20x1,5                         |
| Piston rod                             | single                          |
| Cylinder special features              | Bellows                         |
| Scraper                                | Standard Industry Scraper       |
| Pressure for determining piston forces | 6,3 bar                         |
| Retracting piston force                | 2855 N                          |
| Extracting piston force                | 3165 N                          |
| Min. ambient temperature               | -20 °C                          |
| Max. ambient temperature               | 80 °C                           |

# Tie rod cylinder ISO 15552, Series TRB

R481602175

series TRB

2026-07-19

|                                    |                     |
|------------------------------------|---------------------|
| Min. working pressure              | 1.5 bar             |
| Max. working pressure              | 10 bar              |
| Max. speed                         | 0.7 m/s             |
| Cushioning length                  | 19.5 mm             |
| Cushioning energy                  | 54 J                |
| Stroke max.                        | 1000 mm             |
| Medium                             | Compressed air      |
| Min. medium temperature            | -20 °C              |
| Max. medium temperature            | 80 °C               |
| Max. particle size                 | 50 µm               |
| Min. oil content of compressed air | 0 mg/m <sup>3</sup> |
| Max. oil content of compressed air | 5 mg/m <sup>3</sup> |

## Material

|                       |                             |
|-----------------------|-----------------------------|
| Piston rod            | Stainless Steel             |
| Scraper material      | Polyurethane                |
| Material tie-rod      | Galvanized Steel            |
| Seal material         | Polyurethane                |
| Material, front cover | Die-cast aluminum           |
| Cylinder tube         | Aluminum                    |
| End cover             | Die-cast aluminum           |
| Nut for piston rod    | Steel, chrome-plated        |
| Bellow                | Carboxylated nitrile rubber |
| Part No.              | R481602175                  |

## Technical information

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

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

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## Dimensions



S = stroke

|            | A  | Ø B | KK       | L8  | AF | F  |
|------------|----|-----|----------|-----|----|----|
| R481602131 | 22 | 42  | M10x1.25 | 94  | 34 | 12 |
| R481602139 | 24 | 42  | M12x1.25 | 105 | 39 | 15 |
| R481602150 | 32 | 64  | M16x1,5  | 106 | 47 | 15 |
| R481602161 | 32 | 64  | M16x1,5  | 121 | 47 | 15 |
| R481602172 | 40 | 64  | M20x1,5  | 128 | 57 | 17 |
| R481602183 | 40 | 64  | M20x1,5  | 138 | 57 | 17 |
| R481602194 | 54 | 94  | M27x2    | 160 | 71 | 17 |

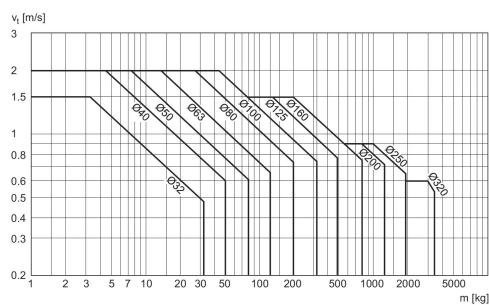
## Stroke-dependent dimensions

| Piston Ø | S=0-75 M | S=0-75 ZJ | S=0-75 ZM | S=76-150 M | S=76-150 ZJ | S=76-150 ZM | S=151-250 M | S=151-250 ZJ | S=151-250 ZM | S=251-5000 M |
|----------|----------|-----------|-----------|------------|-------------|-------------|-------------|--------------|--------------|--------------|
| 32       | 81       | 153       | 212       | 107        | 179         | 264         | 127         | 199          | 304          | –            |
| 40       | 138      | 219       | 333       | 138        | 219         | 333         | 138         | 219          | 333          | 218          |
| 50       | 153      | 227       | 348       | 153        | 227         | 348         | 153         | 227          | 348          | 233          |
| 63       | 153      | 242       | 363       | 153        | 242         | 363         | 153         | 242          | 363          | 233          |
| 80       | 170      | 258       | 388       | 170        | 258         | 388         | 170         | 258          | 388          | 250          |
| 100      | 160      | 258       | 378       | 160        | 258         | 378         | 160         | 258          | 378          | 220          |
| 125      | 188      | 294       | 418       | 188        | 294         | 428         | 188         | 294          | 428          | 248          |

| Piston Ø | S=251-500 ZJ | S=251-500 ZM | S=501-750 M | S=501-750 ZJ | S=501-750 ZM | S=751-1000 M | S=751-1000 ZJ | S=751-1000 ZM |
|----------|--------------|--------------|-------------|--------------|--------------|--------------|---------------|---------------|
| 32       | –            | –            | –           | –            | –            | –            | –             | –             |
| 40       | 299          | 493          | –           | –            | –            | –            | –             | –             |
| 50       | 307          | 508          | 313         | 387          | 668          | –            | –             | –             |
| 63       | 322          | 523          | 313         | 402          | 683          | 394          | 483           | 845           |
| 80       | 338          | 548          | 330         | 418          | 708          | 411          | 499           | 870           |
| 100      | 318          | 498          | 280         | 378          | 618          | 340          | 438           | 738           |
| 125      | 354          | 548          | 308         | 414          | 668          | 368          | 474           | 788           |

S = stroke

## Cushioning diagram



$v_1$  = Piston velocity [m/s]  $m$  = Cushionable mass [kg]