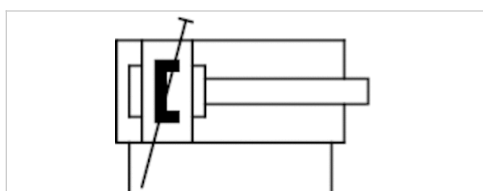


## Mini cylinder, Series CSL-RD

- Version: hygienic design
- Ø 16-25 mm
- Ports M5 G 1/8
- double-acting
- with magnetic piston
- Cushioning Pneumatically non-adjustable
- with integrated rear eye
- Piston rod External thread
- ATEX optional
- suitable for use in food processing



|                                        |                 |
|----------------------------------------|-----------------|
| Standards                              | ISO 6432        |
| Certificates                           | ATEX optional   |
| Compressed air connection              | Internal thread |
| Working pressure min./max.             | 1 ... 10 bar    |
| Ambient temperature min./max.          | -20 ... 80 °C   |
| Medium temperature min./max.           | -20 ... 80 °C   |
| Medium                                 | Compressed air  |
| Max. particle size                     | 50 µm           |
| Oil content of compressed air          | 0 ... 5 mg/m³   |
| Pressure for determining piston forces | 6.3 bar         |

### Technical data

| Piston Ø<br>Piston rod thread<br>Ports<br>Piston rod Ø | 16 mm<br>M6<br>M5<br>6 mm | 20 mm<br>M8<br>G 1/8<br>8 mm | 25 mm<br>M10x1,25<br>G 1/8<br>10 mm |
|--------------------------------------------------------|---------------------------|------------------------------|-------------------------------------|
| Stroke 25                                              | R480651399                | R480651410                   | R480651421                          |
| 50                                                     | R480651400                | R480651411                   | R480651422                          |
| 80                                                     | R480651401                | R480651412                   | R480651423                          |
| 100                                                    | R480651402                | R480651413                   | R480651424                          |
| 125                                                    | R480651403                | R480651414                   | R480651425                          |
| 160                                                    | R480651404                | R480651415                   | R480651426                          |
| 200                                                    | R480651405                | R480651416                   | R480651427                          |
| 250                                                    | R480651406                | R480651417                   | R480651428                          |
| 320                                                    | R480651407                | R480651418                   | R480651429                          |
| 400                                                    | R480651408                | R480651419                   | R480651430                          |
| 500                                                    | R480651409                | R480651420                   | R480651431                          |

## Technical data

| Piston Ø                | 16 mm    | 20 mm    | 25 mm    |
|-------------------------|----------|----------|----------|
| Retracting piston force | 109 N    | 166 N    | 260 N    |
| Extracting piston force | 127 N    | 198 N    | 309 N    |
| Cushioning length       | 11,5 mm  | 13 mm    | 14 mm    |
| Cushioning energy       | 0,75 J   | 1,3 J    | 1,9 J    |
| Impact energy           | 0,14 J   | 0,23 J   | 0,35 J   |
| Weight 0 mm stroke      | 0,034 kg | 0,063 kg | 0,082 kg |
| Weight +10 mm stroke    | 0,002 kg | 0,005 kg | 0,006 kg |
| Stroke max.             | 800 mm   | 1100 mm  | 1300 mm  |

## 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).

Clamping piece for magnetic field sensor necessary

ATEX-certified cylinders with identification II 2G c IIB T4 / II 2D c IP65 T135°C X can be generated in the Internet configurator.

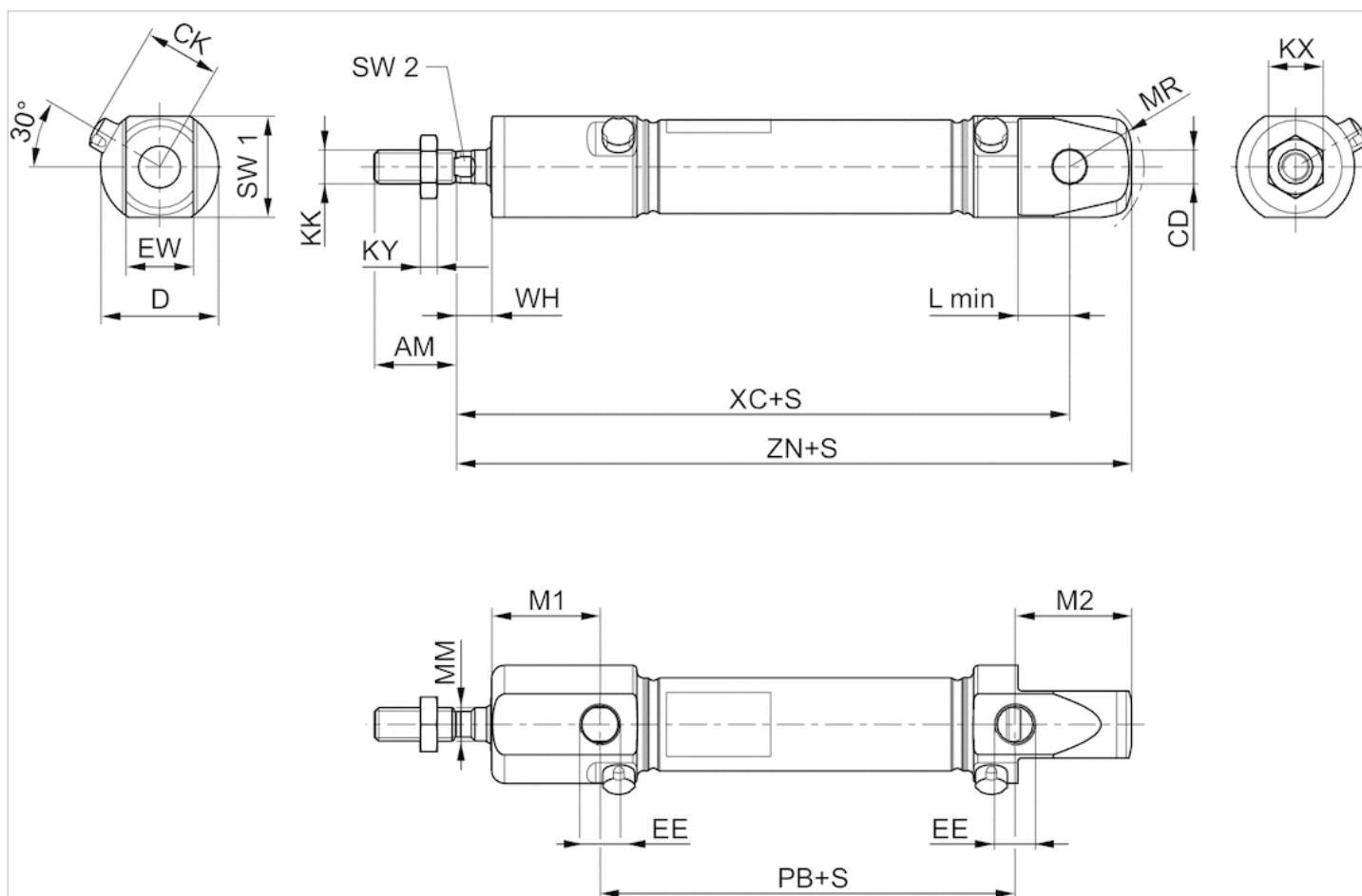
The operating temperature range for ATEX-certified cylinders is - 20 °C ... 50 °C .

## Technical information

| Material                  |                                  |
|---------------------------|----------------------------------|
| Cylinder tube             | Stainless steel, ground          |
| Piston rod                | Stainless steel, ground          |
| Piston                    | Aluminum                         |
| Front cover               | Stainless steel, Electropolished |
| End cover                 | Stainless steel, Electropolished |
| Seal                      | Nitrile butadiene rubber         |
| Nut for cylinder mounting | Stainless steel, ground          |
| Nut for piston rod        | Stainless steel, ground          |
| Scraper                   | Polyurethane (FDA-compliant)     |
| Guide bushing             | Steel                            |

## Dimensions

## Dimensions



S = stroke

## Dimensions

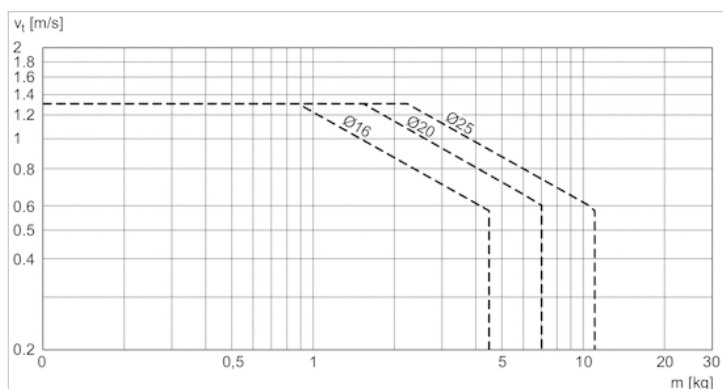
| Piston Ø | AM-2 | CD H9 | CK   | D  | EE        | EW d13 | KK       | KX | KY  | L min | M1   | M2   | MM f8 |
|----------|------|-------|------|----|-----------|--------|----------|----|-----|-------|------|------|-------|
| 16 mm    | 16   | 6     | 14.7 | 22 | M5 t=5    | 12     | M6       | 10 | 3.2 | 9     | 21.2 | 22.7 | 6     |
| 20 mm    | 20   | 8     | 17.9 | 28 | G 1/8 t=8 | 16     | M8       | 13 | 4   | 12    | 25.7 | 27.7 | 8     |
| 25 mm    | 22   | 8     | 20.2 | 33 | G 1/8 t=8 | 16     | M10x1,25 | 17 | 5   | 12    | 28.2 | 29.7 | 10    |

| Piston Ø | MR | PB ±1 | WH ±1,2 | XC ±1 | ZN ± 1 | SW 1 | SW 2 |
|----------|----|-------|---------|-------|--------|------|------|
| 16 mm    | 16 | 43.6  | 7.5     | 82    | 94.7   | 20   | 5    |
| 20 mm    | 18 | 48.6  | 8       | 95    | 109.7  | 24   | 6    |
| 25 mm    | 19 | 51.8  | 9.5     | 104   | 119.7  | 28   | 8    |

## Diagrams

### Cushioning diagram

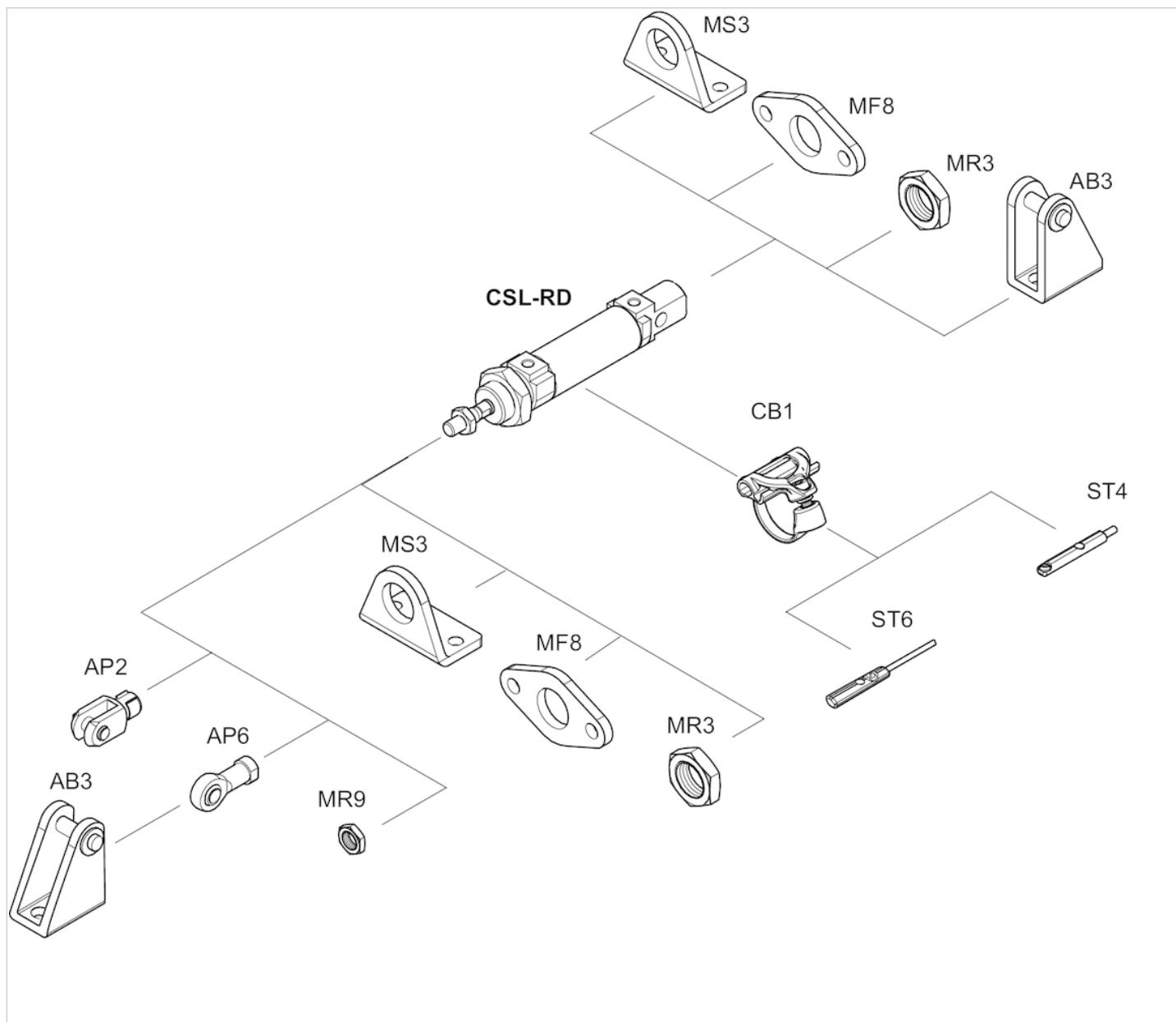


$v_1$  = Piston velocity [m/s]

$m$  = Cushionable mass [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.