

# Short-stroke cylinder, Series SSI, Double-acting, with magnetic piston

2024-09-13

R481653562

The AVENTICS Series SSI are short stroke cylinders in accordance with the latest ISO standard 15524. The cylinders are compact and up to 30% lighter than comparable cylinders thanks to weight optimized profiles. In addition, they provide a high degree of flexibility in sensor assembly and extremely effective elastic cushioning.



## Technical data

|  |                             |
|--|-----------------------------|
| Industry                               | Industrial                  |
| Standards                              | ISO 15524                   |
| Piston Ø                               | 80 mm                       |
| Stroke                                 | 25 mm                       |
| Ports                                  | 3/8" NPTF                   |
| Functional principle                   | Double-acting               |
| Cushioning                             | Elastic cushioning          |
| Magnetic piston                        | Piston with magnet          |
| Environmental requirements             | Industry standard           |
| Piston rod thread - type               | Piston rod: internal thread |
| Piston rod thread                      | 5/8-18 UNF                  |
| Piston rod                             | single                      |
| Scraper                                | Standard Industry Scraper   |
| Pressure for determining piston forces | 6,3 bar                     |
| Retracting piston force                | 2857 N                      |
| Extracting piston force                | 3167 N                      |
| Min. ambient temperature               | -20 °C                      |
| Max. ambient temperature               | 80 °C                       |
| Min. working pressure                  | 0.6 bar                     |

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|                                    |                     |
|------------------------------------|---------------------|
| Max. working pressure              | 10 bar              |
| Impact energy                      | 0.43 J              |
| Weight 0 mm stroke                 | 1.09 kg             |
| Weight +10 mm stroke               | 0.122 kg            |
| Stroke max.                        | 150 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    |
| Seal material         | Polyurethane    |
| Material, front cover | Aluminum        |
| Cylinder tube         | Aluminum        |
| End cover             | Aluminum        |
| Part No.              | R481653562      |

## Technical information

Use our Internet configurator to order variants with an external thread.

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

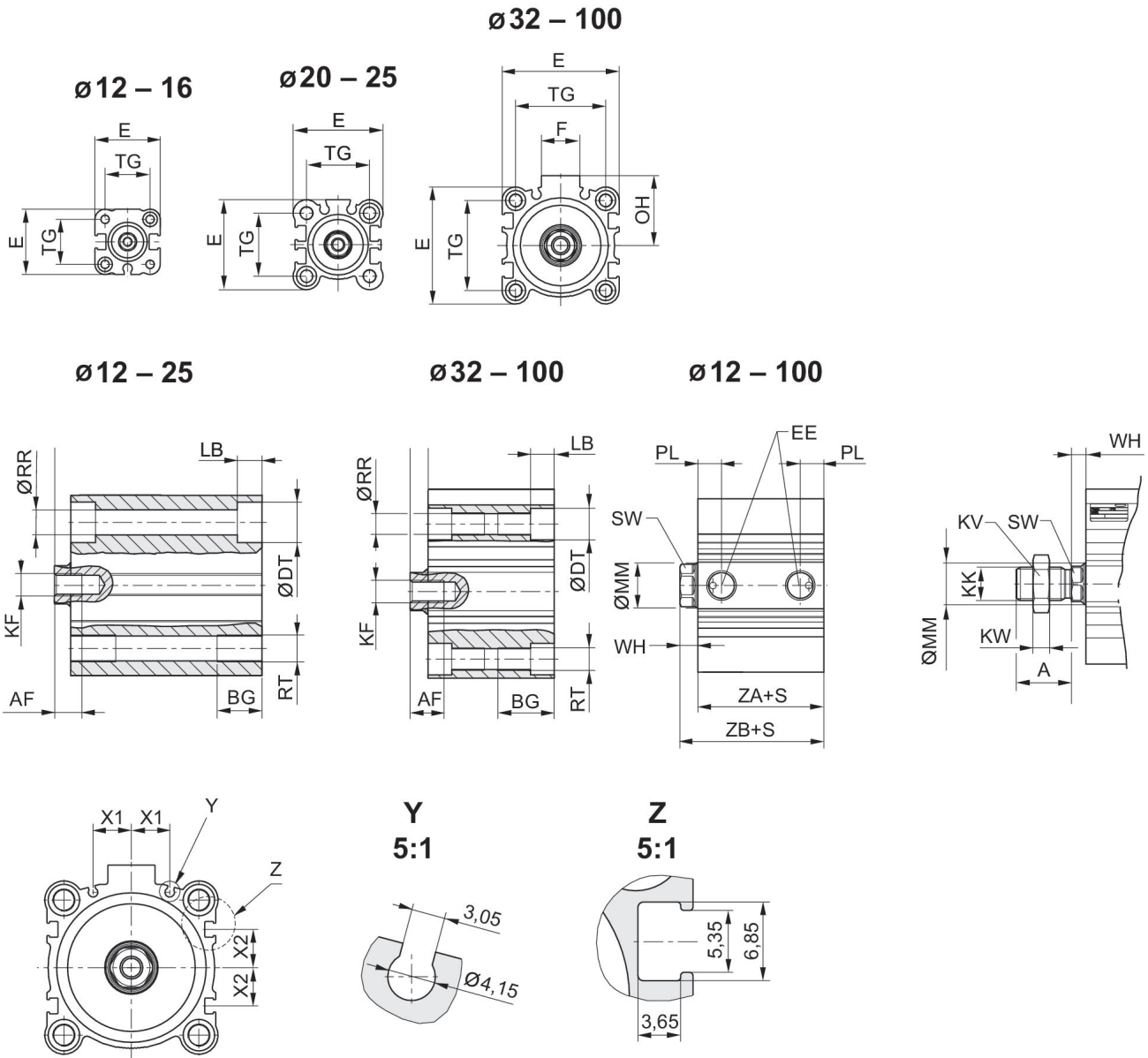
The oil content of compressed air must remain constant during the life cycle.

Use only the approved oils from AVENTICS. Further information can be found in the "Technical information" document (available in <https://www.emerson.com/en-us/support>).

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Dimensions



S = stroke

| Piston Ø | A ±0.3 | AF | BG | ØDT | E  | EE        | F  | KF          | KK          |
|----------|--------|----|----|-----|----|-----------|----|-------------|-------------|
| 12       | 10,5   | 6  | 7  | 6,5 | 25 | 10-32 UNF | -  | 6-32 UNC    | 8-32 UNC    |
| 16       | 12     | 8  | 7  | 6,5 | 29 | 10-32 UNF | -  | 8-32 UNC    | 8-32 UNC    |
| 20       | 14     | 7  | 10 | 9   | 36 | 10-32 UNF | -  | 10-32 UNF   | 10-32 UNC   |
| 25       | 17,5   | 12 | 10 | 9   | 40 | 10-32 UNF | -  | 1/4-28 UNF  | 1/4-28 UNF  |
| 32       | 21,5   | 13 | 16 | 9   | 45 | 1/8" NPTF | 17 | 5/16-24 UNF | 5/16-24 UNF |
| 40       | 21,5   | 13 | 16 | 9   | 52 | 1/8" NPTF | 17 | 3/8-24 UNF  | 3/8-24 UNF  |
| 50       | 26,5   | 15 | 20 | 11  | 64 | 1/4" NPTF | 21 | 1/2-20 UNF  | 1/2-20 UNF  |
| 63       | 26,5   | 15 | 25 | 14  | 77 | 1/4" NPTF | 21 | 1/2-20 UNF  | 1/2-20 UNF  |

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| Piston Ø | A ±0.3 | AF | BG | ØDT  | E   | EE        | F  | KF         | KK         |
|----------|--------|----|----|------|-----|-----------|----|------------|------------|
| 80       | 34     | 21 | 30 | 17,5 | 98  | 3/8" NPTF | 26 | 5/8-18 UNF | 5/8-18 UNF |
| 100      | 33     | 27 | 30 | 17,5 | 117 | 3/8" NPTF | 26 | 3/4-16 UNF | 3/4-16 UNF |

| Piston Ø | KV   | KW   | LB max. | ØMM f8 | OH   | ØRR  | RT          | SW | TG        |
|----------|------|------|---------|--------|------|------|-------------|----|-----------|
| 12       | 8,7  | 2,8  | 3,5     | 6      | -    | 3,7  | 8-32 UNC    | 5  | 15,5 ±0,3 |
| 16       | 8,7  | 2,8  | 3,5     | 8      | -    | 3,7  | 8-32 UNC    | 7  | 20 ±0,3   |
| 20       | 9,5  | 2,8  | 5,5     | 10     | -    | 5,55 | 1/4-20 UNC  | 8  | 25,5 ±0,3 |
| 25       | 11,1 | 4,1  | 5,5     | 12     | -    | 5,55 | 1/4-20 UNC  | 10 | 28 ±0,3   |
| 32       | 12,7 | 4,9  | 5,5     | 16     | 27   | 5,55 | 1/4-20 UNC  | 13 | 34 ±0,3   |
| 40       | 14,2 | 5,7  | 5,5     | 16     | 31   | 5,55 | 1/4-20 UNC  | 13 | 40 ±0,3   |
| 50       | 19   | 8,2  | 8       | 20     | 39   | 7,4  | 5/16-24 UNF | 17 | 50 ±0,5   |
| 63       | 19   | 8,2  | 10,5    | 20     | 45,5 | 9,3  | 7/16-14 UNC | 17 | 60 ±0,5   |
| 80       | 23,9 | 9,8  | 13,5    | 25     | 59   | 11,2 | 1/2-13 UNC  | 22 | 77 ±0,5   |
| 100      | 28,4 | 11,3 | 13,5    | 32     | 65   | 11,2 | 1/2-13 UNC  | 27 | 94 ±0,5   |

| Piston Ø | WH 3)    | WH 4)     | X1    | X2    | S  | PL   | ZA±0,2 | ZB±2 1) | ZB±2 2) |
|----------|----------|-----------|-------|-------|----|------|--------|---------|---------|
| 12       | 3,5 ±1,5 | 3,5 ±1,5  | 0     | 0     | ≥2 | 5,5  | 28     | 31,5    | 31,5    |
| 16       | 3,5 ±1,5 | 3,5 ±1,5  | 0     | 0     | ≥2 | 5,5  | 30,5   | 34      | 34      |
| 20       | 4,5 ±1,5 | 4,5 ±1,5  | 5,7   | 4,275 | ≥2 | 5,5  | 31,5   | 36      | 36      |
| 25       | 5 ±1,5   | 5 ±1,5    | 6     | 5     | ≥2 | 5,5  | 32,5   | 37,5    | 37,5    |
| 32       | 7 ±2     | 7 ±2      | 8,5   | 7,5   | ≥2 | 7,9  | 33     | 40      | 40      |
| 40       | 7 ±2     | 7 ±2      | 10,75 | 11    | ≥2 | 8,2  | 39,5   | 46,5    | 46,5    |
| 50       | 8 ±2     | 7 ±2      | 14    | 13    | ≥2 | 10,5 | 40,5   | 48,5    | 47,5    |
| 63       | 8 ±2     | 7 ±2      | 17    | 17    | ≥2 | 10,6 | 46     | 54      | 53      |
| 80       | 10 ±2    | 9,5 ±2    | 23,5  | 21    | ≥2 | 12,5 | 53,5   | 63,5    | 63      |
| 100      | 12 ±2,5  | 10,5 ±2,5 | 31    | 28    | ≥2 | 14   | 63     | 75      | 73,5    |

1) Internal thread

**Maximum admissible lateral force**  
Ø 32 ... 100 mm



X = distance between force application point and cylinder cover  
FS = lateral force  
S = stroke

2) External thread

**Maximum admissible lateral force**  
Ø 12 ... 25 mm



X = distance between force application point and cylinder cover  
FS = lateral force  
S = stroke

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Maximum admissible lateral force

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Ø 12 ... 25 mm



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X = distance between force application point and cylinder cover

F<sub>s</sub> = lateral force

S = stroke

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Overview drawing



Use our Internet configurator to order variants with an external thread.

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.