

# Short-stroke cylinder, Series SSI, double-acting, without magnetic piston

2024-09-13

R481653445

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                               | 20 mm                       |
| Stroke                                 | 5 mm                        |
| Ports                                  | 10-32 UNF                   |
| Functional principle                   | Double-acting               |
| Cushioning                             | Elastic cushioning          |
| Magnetic piston                        | Piston without magnet       |
| Environmental requirements             | Industry standard           |
| Piston rod thread - type               | Piston rod: internal thread |
| Piston rod thread                      | 10-32 UNF                   |
| Piston rod                             | single                      |
| Scraper                                | Standard Industry Scraper   |
| Pressure for determining piston forces | 6,3 bar                     |
| Retracting piston force                | 148 N                       |
| Extracting piston force                | 198 N                       |
| Min. ambient temperature               | -20 °C                      |
| Max. ambient temperature               | 80 °C                       |
| Min. working pressure                  | 1 bar                       |

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Max. working pressure 10 bar

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Impact energy 0.08 J

Weight 0 mm stroke 0.052 kg

Weight +10 mm stroke 0.02 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 Nitrile butadiene rubber

Seal material Nitrile butadiene rubber

Material, front cover Brass

Cylinder tube Aluminum

End cover Aluminum

Part No. R481653445

## Technical information

For this variant with external thread, two different external threads with the dimensions indicated below can be selected in the configurator .

Note the selection of fittings for strokes < 10 mm.

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

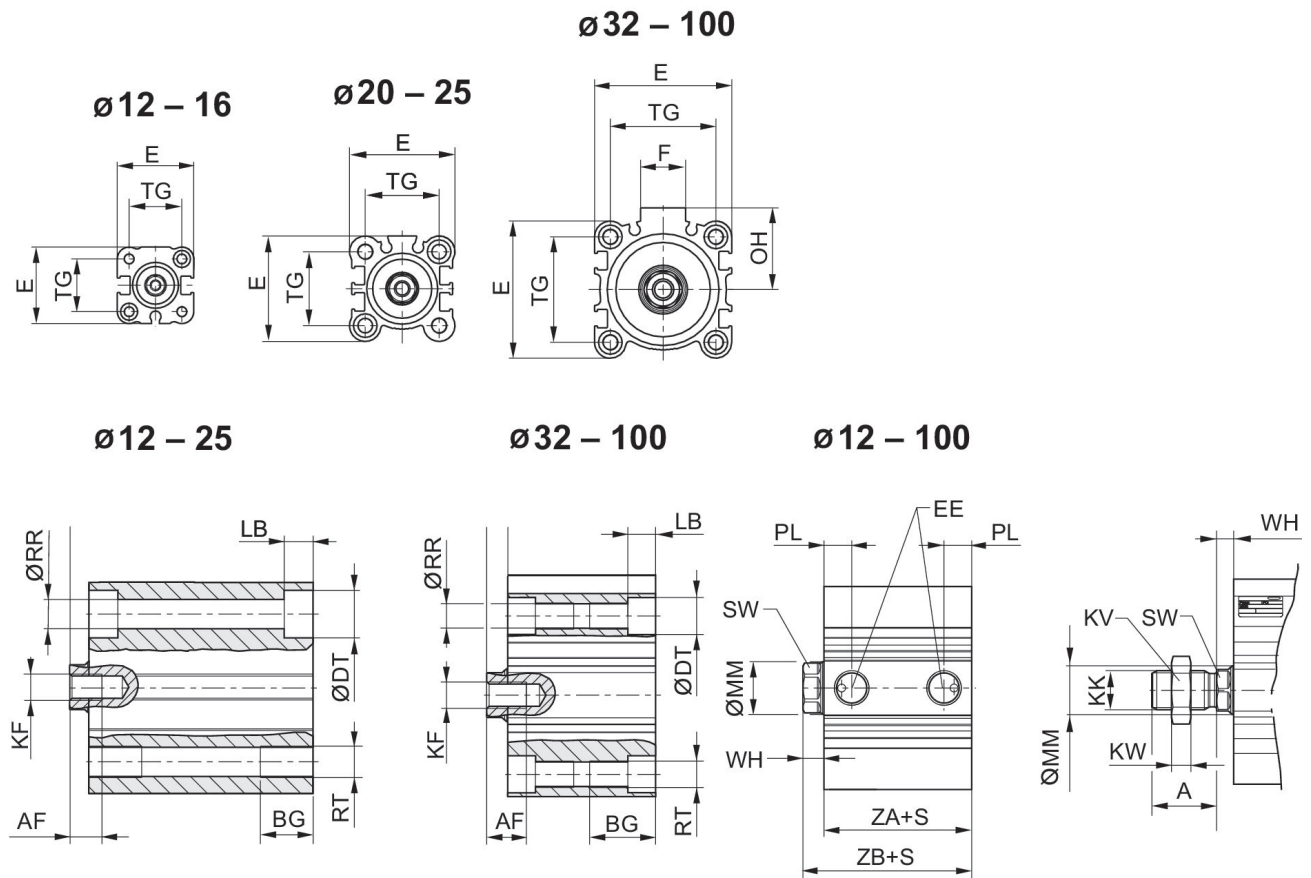
The oil content of compressed air must remain constant during the life cycle.

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

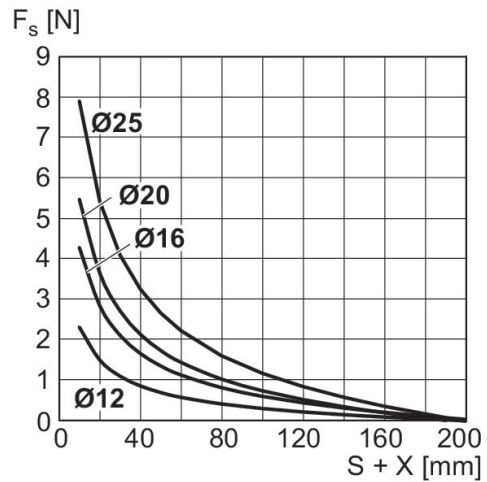
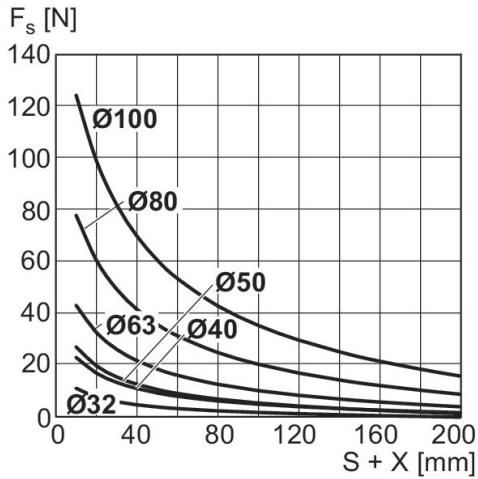
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Maximum admissible lateral force  
 $\varnothing$  32 ... 100 mm

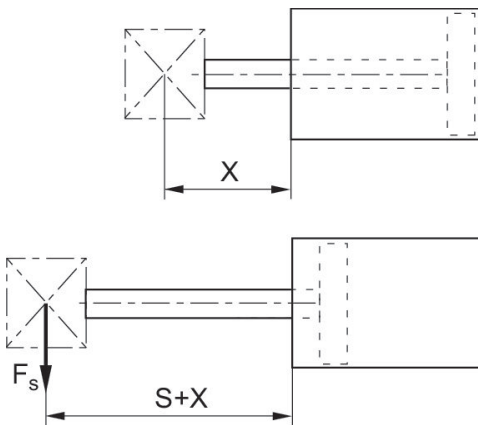
Maximum admissible lateral force  
 $\varnothing$  12 ... 25 mm



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

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Maximum admissible lateral force  
 $\varnothing$  12 ... 25 mm

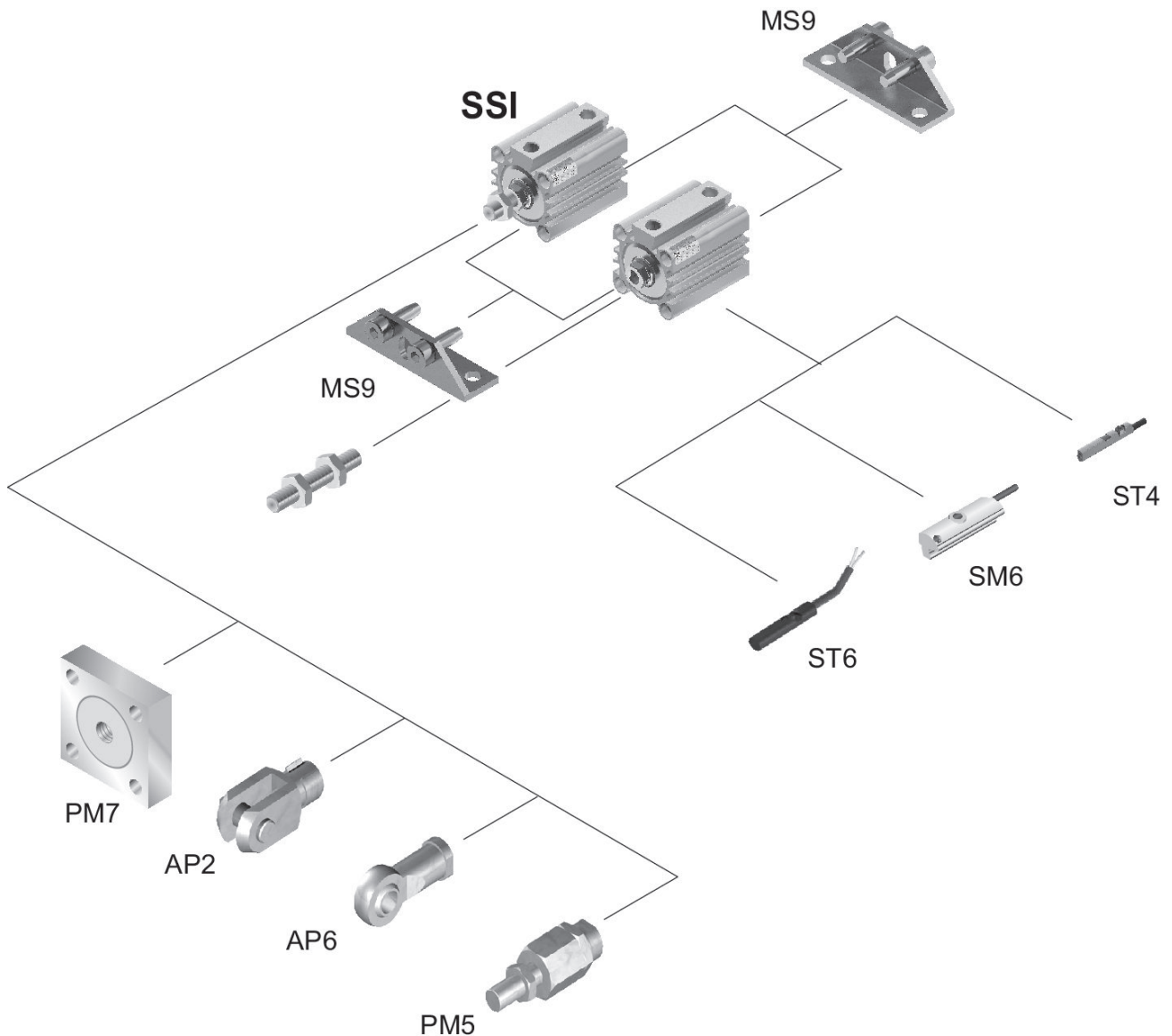


X = distance between force application point and cylinder cover  
 FS = lateral force  
 S = stroke

# Short-stroke cylinder, Series SSI, double-acting, without magnetic piston

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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.

| 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 1) | 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 2) | 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         |
|----------|--------|----|----|------|-----|-----------|----|------------|------------|
| 63       | 26,5   | 15 | 25 | 14   | 77  | 1/4" NPTF | 21 | 1/2-20 UNF | 1/2-20 UNF |
| 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 | ZB±2 1) |
|----------|----------|-----------|-------|-------|-----|------|--------|------|---------|
| 12       | 3,5 ±1,5 | 3,5 ±1,5  | 0     | 0     | 2-4 | 4,5  | 17     | 20,5 | 20,5    |
|          |          |           |       |       | ≥5  | 5,5  |        |      |         |
| 16       | 3,5 ±1,5 | 3,5 ±1,5  | 0     | 0     | ≥2  | 5,5  | 18,5   | 22   | 22      |
| 20       | 4,5 ±1,5 | 4,5 ±1,5  | 5,7   | 4,275 | ≥2  | 5,5  | 19,5   | 24   | 24      |
| 25       | 5 ±1,5   | 5 ±1,5    | 6     | 5     | ≥2  | 5,5  | 22,5   | 27,5 | 27,5    |
| 32       | 7 ±2     | 7 ±2      | 8,5   | 7,5   | 2-5 | 5,5  | 23     | 30   | 30      |
|          |          |           |       |       | ≥6  | 7,9  |        |      |         |
| 40       | 7 ±2     | 7 ±2      | 10,75 | 11    | ≥2  | 8,2  | 29,5   | 36,5 | 36,5    |
| 50       | 8 ±2     | 7 ±2      | 14    | 13    | 2-9 | 8,2  | 30,5   | 38,5 | 37,5    |
|          |          |           |       |       | ≥10 | 10,5 |        |      |         |
| 63       | 8 ±2     | 7 ±2      | 17    | 17    | ≥2  | 10,6 | 36     | 44   | 43      |
| 80       | 10 ±2    | 9,5 ±2    | 23,5  | 21    | ≥2  | 12,5 | 43,5   | 53,5 | 53      |
| 100      | 12 ±2,5  | 10,5 ±2,5 | 31    | 28    | ≥2  | 14   | 53     | 65   | 63,5    |

1) For stroke 2-5, EE = 10-32 UNF

2) For stroke 2-9, EE = 1/8 NPTF

3) Internal thread

4) External thread