

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

2024-09-13

R481653444

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	25 mm
Ports	10-32 UNF
Functional principle	Single-acting, retracted without pressure
Cushioning	Elastic cushioning
Magnetic piston	Piston with 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	6.5 N
Extracting piston force	198 N
Min. ambient temperature	-20 °C
Max. ambient temperature	80 °C
Min. working pressure	1.5 bar

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Max. working pressure	10 bar
Impact energy	0.04 J
Weight 0 mm stroke	0.077 kg
Weight +10 mm stroke	0.02 kg
Stroke max.	25 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
Seal material	Nitrile butadiene rubber
Material, front cover	Aluminum
Cylinder tube	Aluminum
End cover	Aluminum
Part No.	R481653444

## Technical information

Please note that this variant does not use a scraper.

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

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

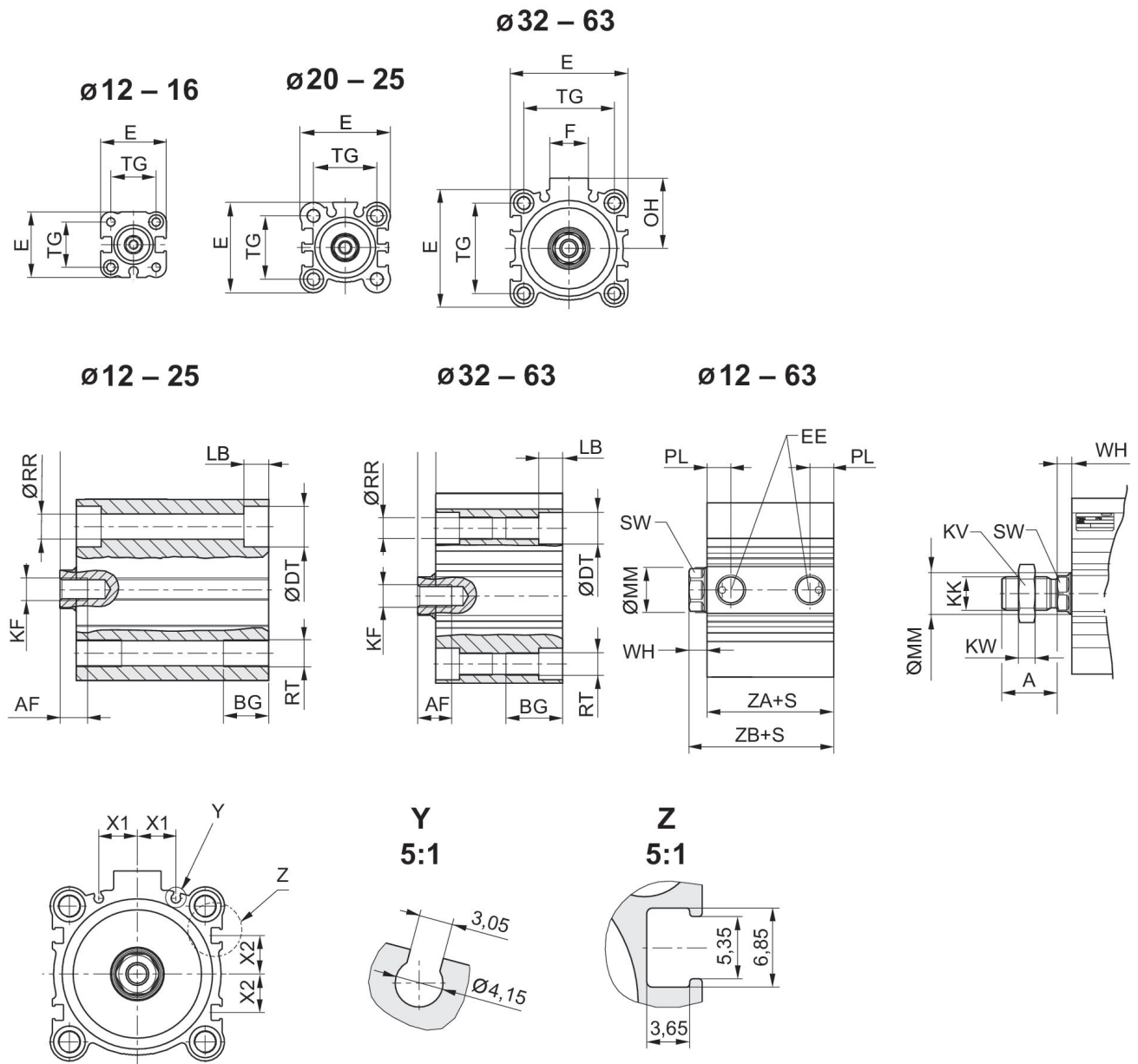
The oil content of compressed air must remain constant during the life cycle.

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	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 UNF
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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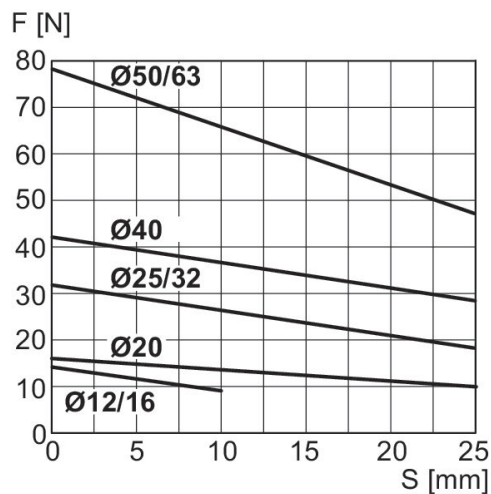
Piston Ø	KV	KW	LB max.	ØMM f8	OH	PL	ØRR	RT	SW
12	8,7	2,8	3,5	6	-	5,5	3,7	8-32 UNC	5
16	8,7	2,8	3,5	8	-	5,5	3,7	8-32 UNC	7
20	9,5	2,8	5,5	10	-	5,5	5,55	1/4-24 UNC	8
25	11,1	4,1	5,5	12	-	5,5	5,55	1/4-24 UNC	10
32	12,7	4,9	5,5	16	27	7,9	5,55	1/4-24 UNC	13
40	14,2	5,7	5,5	16	31	8,2	5,55	1/4-24 UNC	13
50	19	8,2	8	20	39	10,5	7,4	5/16-24 UNC	17
63	19	8,2	10,5	20	45,5	10,6	9,3	7/16-14 UNC	17

Piston Ø	TG	WH 1)	WH 2)	X1	X2	ZA±0,2	ZB±2 1)	ZB±2 2)
12	15,5 ±0,3	3,5 ±1,5	3,5 ±1,5	0	0	28	31,5	31,5
16	20 ±0,3	3,5 ±1,5	3,5 ±1,5	0	0	30,5	34	34
20	25,5 ±0,3	4,5 ±1,5	4,5 ±1,5	5,7	4,275	31,5 3)	36 3)	36 3)
25	28 ±0,3	5 ±1,5	5 ±1,5	6	5	32,5 3)	37,5 3)	37,5 3)
32	34 ±0,3	7 ±2	7 ±2	8,5	7,5	33	40	40
40	40 ±0,3	7 ±2	7 ±2	10,75	11	39,5	46,5	46,5
50	50 ±0,5	8 ±2	7 ±2	14	13	40,5	48,5	47,5
63	60 ±0,5	8 ±2	7 ±2	17	17	46	54	53

1) Internal thread  
2) External thread

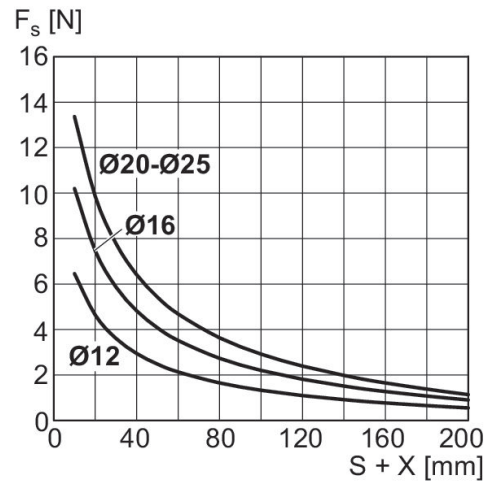
3) For stroke 11-25 mm + 6.5 mm

## Retracting piston force



F = spring return force, s = return stroke

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



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

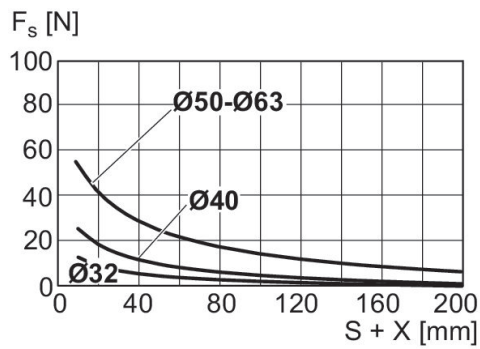
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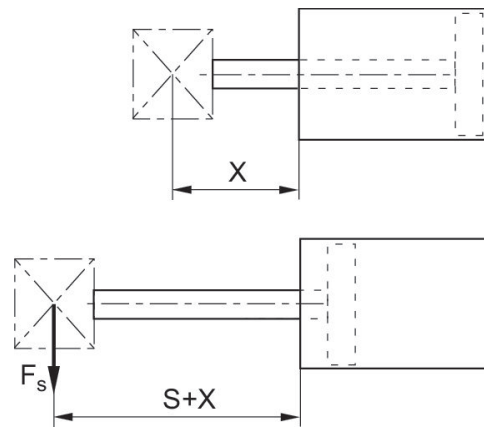
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Maximum admissible lateral force  
Ø 32 ... 63 mm

Maximum admissible lateral force  
Ø 12 ... 25 mm



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



X = distance between force application point and cylinder cover  
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# Short-stroke cylinder, Series SSI, single-acting, with 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.