

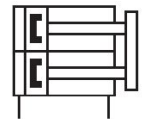
Double piston cylinder, Series TWC

R402000813

AVENTICS
Series TWC
Double
piston
cylinders

AVENTICS Series TWC Double piston cylinders

The AVENTICS Series TWC is a compact and powerful cylinder with its double piston offering also an high non-rotating accuracy.



Technical data

| | |
|--|----------------------|
| Industry | Industrial |
| Piston Ø | 16 mm |
| Stroke | 80 mm |
| Port | M5 |
| Functional principle | Double-acting |
| Magnetic piston | with magnetic piston |
| Medium | Compressed air |
| Max. particle size | 5 µm |
| Pressure for determining piston forces | 6,3 bar |
| Cushioning | elastic |
| Min. ambient temperature | 0 °C |
| Max. ambient temperature | 60 °C |
| Min. oil content of compressed air | 0 mg/m ³ |
| Max. oil content of compressed air | 1 mg/m ³ |
| Min. working pressure | 1.5 bar |
| Max. working pressure | 7 bar |
| Retracting piston force | 189 N |
| Extracting piston force | 253 N |
| Max. speed | 0.5 m/s |

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| | |
|-------------------------------|----------|
| Max. retracted stroke setting | -5 mm |
| Max. cushioning energy | 0.11 J |
| Weight 10 mm stroke | 0.26 kg |
| Weight +10 mm stroke | 0.027 kg |
| Max. play (radial) | 0.6 ° |

Material

| | |
|------------------------|--------------------------------|
| Material, front cover | Steel, chrome-plated |
| Surface front cover | nickel-plated |
| Material of rear cover | Polyoxymethylene |
| Housing material | Aluminum |
| Surface housing | anodized |
| Material piston rod | Steel, chrome-plated |
| Surface piston rod | hardened |
| Material front plate | Steel, chrome-plated |
| Surface front plate | galvanized |
| Seal material | Acrylonitrile butadiene rubber |
| Material guide bushing | Aluminum |
| Surface guide bushing | anodized |
| Part No. | R402000813 |

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.

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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piston



1) Compressed air connection
T1 = depth of thread

| Piston Ø | D1 | T1 | Ø D2 | Ø D3 | T2 | D4 | D5 | Ø D6 | H1 |
|----------|------|----|------|------|------|-------|------|------|----|
| 6 | | | | | | | | | |
| 10 | 2xM3 | 4 | 3,4 | 6 | 5 | M5 | 2xM3 | 6 | 16 |
| 16 | 2xM4 | 5 | 4,5 | 8 | 5,5 | M5 | 2xM4 | 8 | 20 |
| 20 | 2xM4 | 5 | 4,5 | 8 | 5,5 | M5 | 2xM4 | 10 | 24 |
| 25 | 2xM5 | 6 | 4,5 | 9 | 6 | M5 | 2xM4 | 12 | 29 |
| 32 | 2xM8 | 10 | 5,5 | 9,5 | 10,5 | G 1/8 | 2xM6 | 16 | 38 |

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Double
piston
cylinder

| Piston Ø | H3 | L1 ±0,8 1) | L2±0,2 S=10 2) | L2±0,2 S=20 2) | L2±0,2 S=30 2) | L2±0,2 S=40 2) | L2±0,2 S=50 2) | L2±0,2 S=60 2) | L2±0,2 S=70 2) |
|----------|----|------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 6 | | | | | | | | | |
| 10 | 17 | 68 | 66 | 76 | 86 | 96 | 106 | 116 | 126 |
| 16 | 21 | 78 | 73 | 83 | 93 | 103 | 113 | 123 | 133 |
| 20 | 25 | 88 | 78 | 88 | 98 | 108 | 118 | 128 | 138 |
| 25 | 30 | 91 | 82 | 92 | 102 | 112 | 122 | 132 | 142 |
| 32 | 40 | 118 | 98 | 108 | 118 | 128 | 138 | 148 | 158 |

| Piston Ø | L2±0,2 S=80 2) | L2±0,2 S=90 2) | L2±0,2 S=100 2) | L3 | L4 | L5 | L6 | L7 ±0,2 1) | L8 ±0,2 S=10 2) |
|----------|-------------------|-------------------|--------------------|----|----|----|----|------------|--------------------|
| 6 | | | | | | | | | |
| 10 | | | | 5 | 1 | 6 | 15 | 25 | 25 |
| 16 | 143 | 153 | 163 | 8 | 1 | 6 | 15 | 30 | 40 |
| 20 | 148 | 158 | 168 | 10 | 1 | 9 | 15 | 30 | 45 |
| 25 | 152 | 162 | 172 | 10 | 1 | 8 | 15 | 40 | 50 |
| 32 | 168 | 178 | 188 | 17 | 1 | 12 | 17 | 45 | 55 |

| Piston Ø | L8 ±0,2 S=20 2) | L8 ±0,2 S=30 2) | L8 ±0,2 S=40 2) | L8 ±0,2 S=50 2) | L8 ±0,2 S=60 2) | L8 ±0,2 S=70 2) | L8 ±0,2 S=80 2) | L8 ±0,2 S=90 2) | L8 ±0,2 S=100 2) |
|----------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------------|
| 6 | | | | | | | | | |
| 10 | 40 | 45 | 50 | 55 | 60 | 65 | | | |
| 16 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
| 20 | 45 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 |
| 25 | 50 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
| 32 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | 95 | 100 |

| Piston Ø | L9 | L10 | W1 | W2 ±0,2 | W3 | W4 ±0,2 | W5 | W6 | W7 |
|----------|----|-----|----|---------|----|---------|------|------|----|
| 6 | | | | | | | | | |
| 10 | 32 | 10 | 41 | 26 | 18 | 34 | 5 | 14 | 42 |
| 16 | 32 | 10 | 53 | 34 | 24 | 47 | 5.7 | 18.5 | 54 |
| 20 | 35 | 12 | 61 | 44 | 28 | 55 | 6.8 | 20 | 62 |
| 25 | 40 | 12 | 72 | 56 | 34 | 66 | 8.3 | 22.5 | 73 |
| 32 | 46 | 15 | 94 | 72 | 42 | 83 | 10.1 | 34 | 96 |

| Piston Ø | W8 ±0,2 |
|----------|---------|
| 6 | |
| 10 | 34 |
| 16 | 47 |
| 20 | 55 |
| 25 | 66 |
| 32 | 83 |

S = stroke
1) + Stroke

2) Dimensions for corresponding stroke

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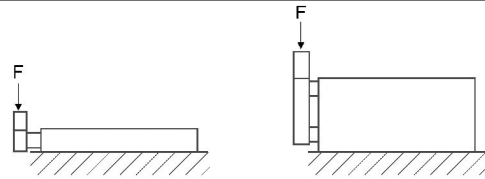
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Ø 10 ... 16

Max. transverse force F depending on the stroke length



Ø 20 ... 32

Maximum permissible moving mass depending on the impact speed

