**Piston rod cylinders → Standard cylinders**

# Compact cylinder, ISO 21287, Series CCI

**► Ø 16 - 100 mm ► Ports: M5 - G 1/8 ► double-acting ► with magnetic piston ► cushioning: elastic ► piston rod: external thread ► ATEX optional**



00119670



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| | |
|---|---|
| Standards | ISO 21287 |
| Compressed air connection | internal thread |
| Working pressure min./max. | 1 bar / 10 bar |
| Ambient temperature min./max. | -20°C / +80°C |
| Medium temperature min./max. | -20°C / +80°C |
| Medium | Compressed air |
| Max. particle size | 50 $\mu$m |
| Oil content of compressed air | 0 mg/m³ - 5 mg/m³ |
| Pressure for determining piston forces | 6 bar |

| Materials: | |
|---|---|
| Cylinder tube | Aluminum, anodized |
| Piston rod | Stainless steel |
| Front cover | Aluminum |
| End cover | Aluminum |
| Seal | Polyurethane |
| Nut for cylinder mounting | Steel, galvanized |
| Scraper | Polyurethane |

**Technical Remarks**

- 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 air pressure must remain constant during the life cycle.
- Use only the approved oils from Bosch Rexroth, see chapter „Technical information“.
- ATEX-certified cylinders can be generated in the Internet configurator.
- ATEX ID II 2G2D c T4 T135°C -20°C ≤Ta ≤60°C
- For ATEX-certified cylinders, the temperature range specified in the header does not apply. See the ATEX ID.

| Piston Ø | | [mm] | 16 | 20 | 25 | 32 | 40 |
|---|---|---|---|---|---|---|---|
| Retracting piston force | | [N] | 91 | 137 | 216 | 364 | 560 |
| Extending piston force | | [N] | 106 | 164 | 259 | 422 | 665 |
| Impact energy | | [J] | 0.11 | 0.15 | 0.2 | 0.4 | 0.52 |
| Weight | 0 mm stroke | [kg] | 0.064 | 0.125 | 0.149 | 0.256 | 0.326 |
| | +10 mm stroke | [kg] | 0.016 | 0.023 | 0.026 | 0.043 | 0.052 |
| Stroke max. | | [mm] | 300 | 300 | 300 | 300 | 300 |

| Piston Ø | | [mm] | 50 | 63 | 80 | 100 | |
|---|---|---|---|---|---|---|---|
| Retracting piston force | | [N] | 871 | 1478 | 2397 | 3886 | |
| Extending piston force | | [N] | 1035 | 1647 | 2656 | 4145 | |
| Impact energy | | [J] | 0.64 | 0.75 | 0.75 | 1 | |
| Weight | 0 mm stroke | [kg] | 0.487 | 0.728 | 1.195 | 2.234 | |
| | +10 mm stroke | [kg] | 0.07 | 0.087 | 0.116 | 0.168 | |
| Stroke max. | | [mm] | 300 | 300 | 500 | 500 | |

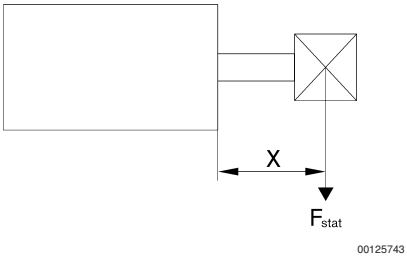
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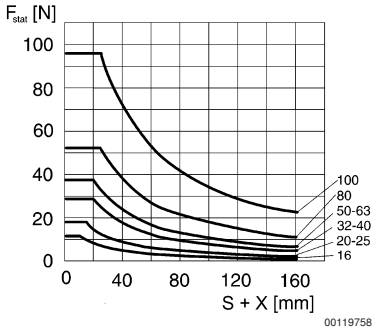
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**► Ø 16 - 100 mm ► Ports: M5 - G 1/8 ► double-acting ► with magnetic piston ► cushioning: elastic ► piston rod: external thread ► ATEX optional**

| | Piston Ø<br>Piston rod thread<br>Ports<br>Piston rod Ø | 16<br>M6x1<br>M5<br>8 | 20<br>M8x1,25<br>M5<br>10 | 25<br>M8x1,25<br>M5<br>10 | 32<br>M10x1,25<br>G 1/8<br>12 | 40<br>M10x1,25<br>G 1/8<br>12 |
|---|---|---|---|---|---|---|
| | Stroke 5 | R422001132 | **R422001133** | **R422001134** | **R422001135** | **R422001136** |
| | 10 | R422001142 | **R422001143** | **R422001144** | **R422001145** | **R422001146** |
| | 15 | **R422001152** | **R422001153** | **R422001154** | **R422001155** | **R422001156** |
| | 20 | R422001162 | **R422001163** | **R422001164** | **R422001165** | **R422001166** |
| | 25 | R422001172 | **R422001173** | **R422001174** | **R422001175** | **R422001176** |
| | 30 | R422001182 | **R422001183** | **R422001184** | **R422001185** | **R422001186** |
| | 40 | R422001192 | **R422001193** | **R422001194** | **R422001195** | **R422001196** |
| | 50 | R422001202 | **R422001203** | **R422001204** | **R422001205** | **R422001206** |
| | 60 | R422001212 | **R422001213** | **R422001214** | **R422001215** | **R422001216** |
| | 80 | - | - | - | **R422001225** | **R422001226** |
| | 100 | - | - | - | **R422001235** | **R422001236** |
| | 125 | - | - | - | **R422001245** | **R422001246** |
| | 150 | - | - | - | **R422001255** | **R422001256** |
|  | **Piston Ø**<br>**Piston rod thread**<br>**Ports**<br>**Piston rod Ø** | **50**<br>**M12x1,25**<br>**G 1/8**<br>**16** | **63**<br>**M12x1,25**<br>**G 1/8**<br>**16** | **80**<br>**M16x1,5**<br>**G 1/8**<br>**20** | **100**<br>**M16x1,5**<br>**G 1/8**<br>**25** | |
| | Stroke 5 | **R422001137** | **R422001138** | R422001139 | R422001140 | |
| | 10 | **R422001147** | **R422001148** | R422001149 | R422001150 | |
| | 15 | **R422001157** | **R422001158** | R422001159 | R422001160 | |
| | 20 | **R422001167** | **R422001168** | R422001169 | R422001170 | |
| | 25 | **R422001177** | **R422001178** | R422001179 | R422001180 | |
| | 30 | **R422001187** | **R422001188** | R422001189 | R422001190 | |
| | 40 | **R422001197** | **R422001198** | R422001199 | R422001200 | |
| | 50 | **R422001207** | **R422001208** | R422001209 | R422001210 | |
| | 60 | **R422001217** | **R422001218** | R422001219 | R422001220 | |
| | 80 | **R422001227** | **R422001228** | R422001229 | R422001230 | |
| | 100 | **R422001237** | **R422001238** | R422001239 | R422001240 | |
| | 125 | **R422001247** | **R422001248** | R422001249 | R422001250 | |
| | 150 | **R422001257** | **R422001258** | R422001259 | R422001260 | |

**Maximum permissible lateral force, Static**



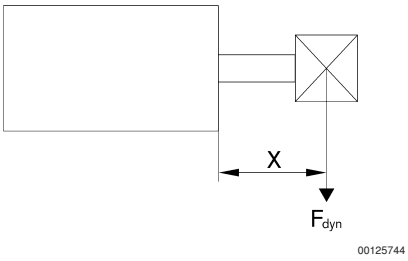

F stat. = static lateral force
X = spacing between force application point and cylinder cover

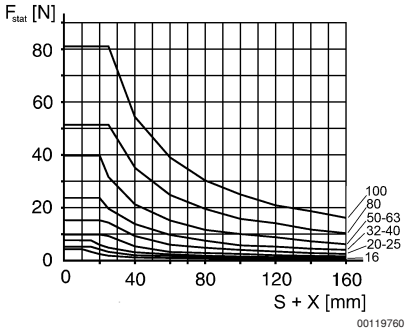
S = stroke

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## Maximum permissible lateral force, Dynamic

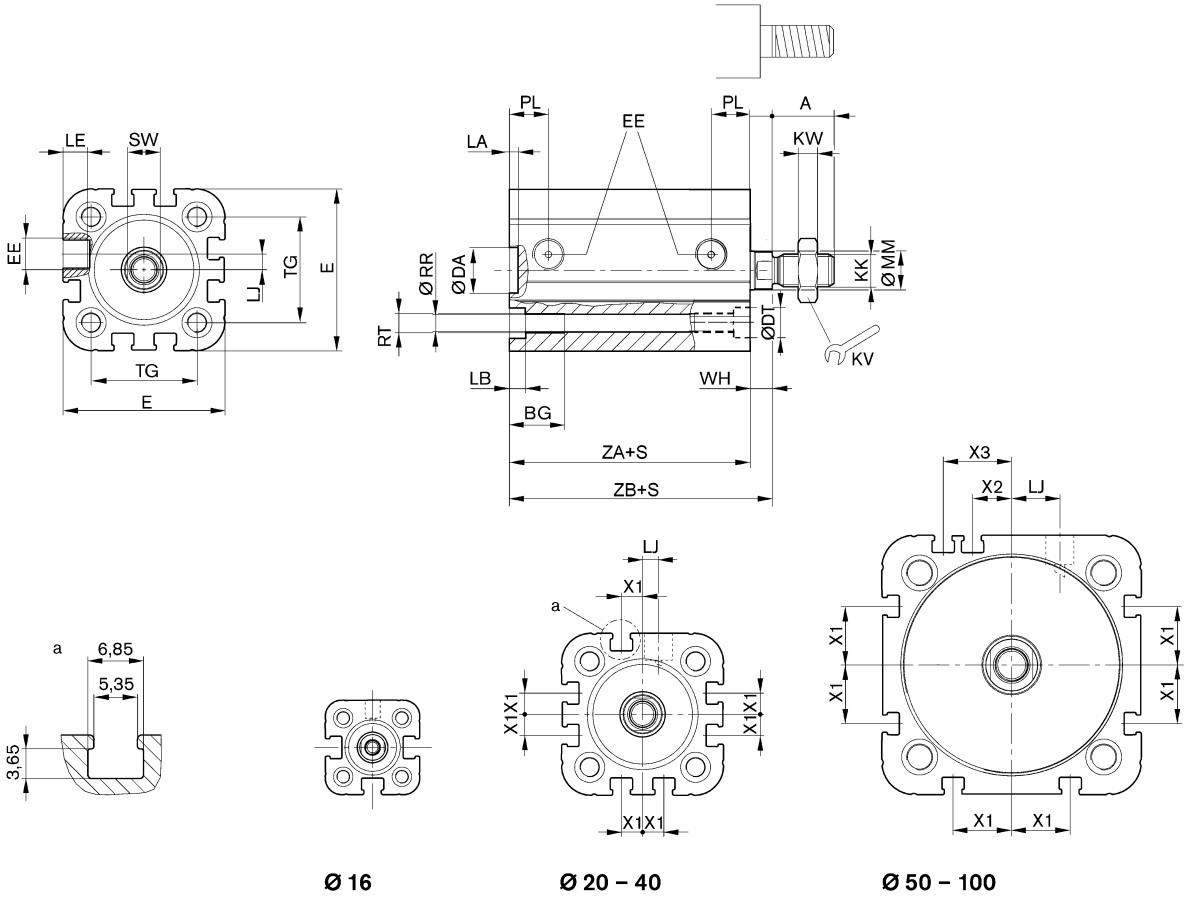



F dyn. = dynamic lateral force
X = spacing between force application point and cylinder cover

S = stroke

## Ø 16 - 100 mm




S = stroke

## Compact cylinder, ISO 21287, Series CCI

**► Ø 16 - 100 mm ► Ports: M5 - G 1/8 ► double-acting ► with magnetic piston ► cushioning: elastic ► piston rod: external thread ► ATEX optional**

| Piston Ø | A 1) | BG | DA H11 | DT | E | EE | KK | KV | KW | LA | LB | LE | LJ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 16 | 12 | 15 | 10 | 6 | 29.3 | M5 | M6x1 | 10 | 3 | 2.5 | 3.5 | 4.5 | – |
| 20 | 16 | 15.5 | 12 | 7.5 | 36.3 | M5 | M8x1,25 | 13 | 4 | 2.5 | 4.5 | 4.5 | 4.5 |
| 25 | 16 | 15.5 | 12 | 8 | 40.3 | M5 | M8x1,25 | 13 | 4 | 2.5 | 4.5 | 4.5 | 4 |
| 32 | 19 | 17 | 14 | 9.2 | 50 | G 1/8 | M10x1,25 | 17 | 5 | 2.5 | 5 | 7.5 | 4.85 |
| 40 | 19 | 17 | 14 | 9.2 | 58 | G 1/8 | M10x1,25 | 17 | 5 | 2.5 | 5 | 7.5 | 9.85 |
| 50 | 22 | 17 | 18 | 11 | 68.3 | G 1/8 | M12x1,25 | 19 | 6 | 2.5 | 5 | 7.5 | 12 |
| 63 | 22 | 17 | 18 | 11 | 80 | G 1/8 | M12x1,25 | 19 | 6 | 2.5 | 5 | 7.5 | 14.8 |
| 80 | 28 | 20 | 23 | 15 | 96 | G 1/8 | M16x1,5 | 24 | 8 | 3 | 5 | 7.5 | 22 |
| 100 | 28 | 20 | 28 | 15 | 116 | G 1/8 | M16x1,5 | 24 | 8 | 3 | 5 | 7.5 | 27 |

| Piston Ø | MM f8 | PL | RR | RT 6H | SW | TG | WH 2) | X1 | X2 | X3 | ZA | ZB 2) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 16 | 8 | 8 | 3.3 | M4 | 7 | 18 | 4,8 ±0,9 | – | – | – | 34,9 ±0,1 | 39,7 ±0,8 |
| 20 | 10 | 11 | 4.2 | M5 | 8 | 22 | 6,3 ±0,9 | 4.2 | – | – | 37,3 ±0,1 | 43,6 ±0,8 |
| 25 | 10 | 11 | 4.2 | M5 | 8 | 26 | 5,6 ±0,9 | 4.5 | – | – | 39 ±0,1 | 44,5 ±0,9 |
| 32 | 12 | 12 | 5.1 | M6 | 10 | 32.5 | 7,4 ±0,9 | 6.5 | – | – | 44 ±0,1 | 51,4 ±1 |
| 40 | 12 | 12 | 5.1 | M6 | 10 | 38 | 7,4 ±0,9 | 11 | – | – | 45 ±0,1 | 52,4 ±1 |
| 50 | 16 | 12 | 6.7 | M8 | 13 | 46.5 | 8,4 ±0,9 | 13 | 4 | 13 | 45,5 ±0,1 | 53,6 ±1 |
| 63 | 16 | 12 | 6.7 | M8 | 13 | 56.5 | 8,5 ±0,9 | 18 | 12 | 21 | 49 ±0,1 | 57,4 ±1 |
| 80 | 20 | 14 | 8.5 | M10 | 16 | 72 | 9,8 ±1 | 18 | 16.5 | 25.5 | 54,7 ±0,1 | 64,4 ±1 |
| 100 | 25 | 16.5 | 8.5 | M10 | 21 | 89 | 9,8 ±1 | 20 | 20 | 29 | 67 ±0,1 | 76,7 ±1 |

1) with cylinders with external thread extension, dimension “A” is increased by the value of the thread extension.
2) With cylinders with a piston rod extension, dimensions “WH” and “ZB” are increased by the value of the piston rod extension.