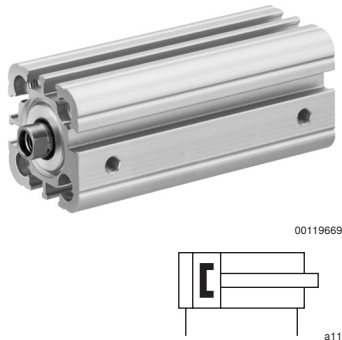


## Piston rod cylinders → Standard cylinders

**Compact cylinder, ISO 21287, Series CCI**

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



|  |   |
|--|---|
| 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 µm                                     |
| Oil content of compressed air          | 0 mg/m <sup>3</sup> - 5 mg/m <sup>3</sup> |
| Pressure for determining piston forces | 6 bar                                     |

|               |                    |
|---------------|--------------------|
| Materials:    |                    |
| Cylinder tube | Aluminum, anodized |
| Piston rod    | Stainless steel    |
| Front cover   | Aluminum           |
| End cover     | Aluminum           |
| Seal          | Polyurethane       |
| 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] | 0.059 | 0.099 | 0.123 | 0.233 | 0.303 |
|                         | +10 mm stroke | [kg] | 0.016 | 0.023 | 0.026 | 0.042 | 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] | 0.448 | 0.689 | 1.114 | 2.153 |
|                         | +10 mm stroke | [kg] | 0.07  | 0.087 | 0.116 | 0.168 |
| Stroke max.             | [mm]          | 300  | 300   | 500   | 500   |       |

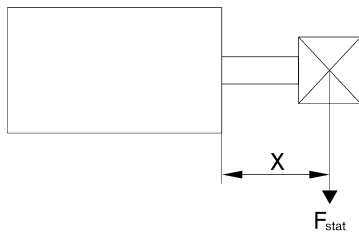
## Piston rod cylinders → Standard cylinders

**Compact cylinder, ISO 21287, Series CCI**

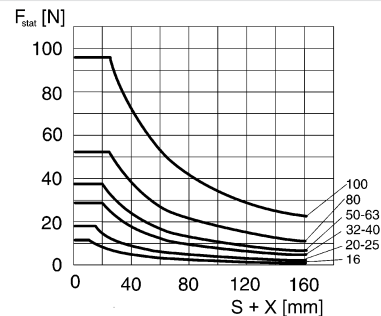
► Ø 16 - 100 mm ► Ports: M5 - G 1/8 ► double-acting ► with magnetic piston ► cushioning: elastic ► piston rod: internal thread ► ATEX optional

| Stroke Ø   | Piston rod thread   | Ports                    | Piston rod Ø      | 16                | 20                | 25                | 32                | 40                |
|--|---------------------|--------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|  |                     |                          |                   | M4<br>M5<br>8     | M6<br>M5<br>10    | M6<br>M5<br>10    | M8<br>G 1/8<br>12 | M8<br>G 1/8<br>12 |
|  | Stroke 5            | <b>R422001002</b>        | <b>R422001003</b> | R422001004        | R422001005        | R422001006        | R422001007        | R422001008        |
|  | 10                  | <b>R422001012</b>        | <b>R422001013</b> | <b>R422001014</b> | <b>R422001015</b> | <b>R422001016</b> | <b>R422001017</b> | <b>R422001018</b> |
|  | 15                  | <b>R422001022</b>        | <b>R422001023</b> | <b>R422001024</b> | <b>R422001025</b> | <b>R422001026</b> | <b>R422001027</b> | <b>R422001028</b> |
|  | 20                  | <b>R422001032</b>        | <b>R422001033</b> | <b>R422001034</b> | <b>R422001035</b> | <b>R422001036</b> | <b>R422001037</b> | <b>R422001038</b> |
|  | 25                  | <b>R422001042</b>        | <b>R422001043</b> | <b>R422001044</b> | <b>R422001045</b> | <b>R422001046</b> | <b>R422001047</b> | <b>R422001048</b> |
|  | 30                  | <b>R422001052</b>        | <b>R422001053</b> | <b>R422001054</b> | <b>R422001055</b> | <b>R422001056</b> | <b>R422001057</b> | <b>R422001058</b> |
|  | 40                  | <b>R422001062</b>        | <b>R422001063</b> | <b>R422001064</b> | <b>R422001065</b> | <b>R422001066</b> | <b>R422001067</b> | <b>R422001068</b> |
|  | 50                  | <b>R422001072</b>        | <b>R422001073</b> | <b>R422001074</b> | <b>R422001075</b> | <b>R422001076</b> | <b>R422001077</b> | <b>R422001078</b> |
|  | 60                  | <b>R422001082</b>        | <b>R422001083</b> | <b>R422001084</b> | <b>R422001085</b> | <b>R422001086</b> | <b>R422001087</b> | <b>R422001088</b> |
|  | 80                  | -                        | -                 | -                 | <b>R422001095</b> | <b>R422001096</b> | <b>R422001097</b> | <b>R422001098</b> |
|  | 100                 | -                        | -                 | -                 | <b>R422001105</b> | <b>R422001106</b> | <b>R422001107</b> | <b>R422001108</b> |
|  | 125                 | -                        | -                 | -                 | <b>R422001115</b> | <b>R422001116</b> | <b>R422001117</b> | <b>R422001118</b> |
|  | 150                 | -                        | -                 | -                 | <b>R422001125</b> | <b>R422001126</b> | <b>R422001127</b> | <b>R422001128</b> |
|  |                     | <b>Piston Ø</b>          | <b>50</b>         | <b>63</b>         | <b>80</b>         | <b>100</b>        |                   |                   |
|  |                     | <b>Piston rod thread</b> | <b>M10</b>        | <b>M10</b>        | <b>M12</b>        | <b>M12</b>        |                   |                   |
|  |                     | <b>Ports</b>             | <b>G 1/8</b>      | <b>G 1/8</b>      | <b>G 1/8</b>      | <b>G 1/8</b>      |                   |                   |
|  | <b>Piston rod Ø</b> | <b>16</b>                | <b>16</b>         | <b>20</b>         | <b>25</b>         |                   |                   |                   |
| Stroke 5   |                     | R422001007               | R422001008        | R422001009        | R422001010        |                   |                   |                   |
| 10   |                     | <b>R422001017</b>        | <b>R422001018</b> | <b>R422001019</b> | R422001020        |                   |                   |                   |
| 15   |                     | <b>R422001027</b>        | <b>R422001028</b> | <b>R422001029</b> | R422001030        |                   |                   |                   |
| 20   |                     | <b>R422001037</b>        | <b>R422001038</b> | <b>R422001039</b> | R422001040        |                   |                   |                   |
| 25   |                     | <b>R422001047</b>        | <b>R422001048</b> | <b>R422001049</b> | R422001050        |                   |                   |                   |
| 30   |                     | <b>R422001057</b>        | <b>R422001058</b> | <b>R422001059</b> | R422001060        |                   |                   |                   |
| 40   |                     | <b>R422001067</b>        | <b>R422001068</b> | <b>R422001069</b> | R422001070        |                   |                   |                   |
| 50   |                     | <b>R422001077</b>        | <b>R422001078</b> | <b>R422001079</b> | R422001080        |                   |                   |                   |
| 60   |                     | <b>R422001087</b>        | <b>R422001088</b> | <b>R422001089</b> | R422001090        |                   |                   |                   |
| 80   |                     | <b>R422001097</b>        | <b>R422001098</b> | <b>R422001099</b> | R422001100        |                   |                   |                   |
| 100  |                     | <b>R422001107</b>        | <b>R422001108</b> | <b>R422001109</b> | R422001110        |                   |                   |                   |
| 125  |                     | <b>R422001117</b>        | <b>R422001118</b> | <b>R422001119</b> | R422001120        |                   |                   |                   |
| 150  |                     | <b>R422001127</b>        | <b>R422001128</b> | <b>R422001129</b> | R422001130        |                   |                   |                   |

## Maximum permissible lateral force, Static



00125743



00119758

F<sub>stat.</sub> = static lateral force

S = stroke

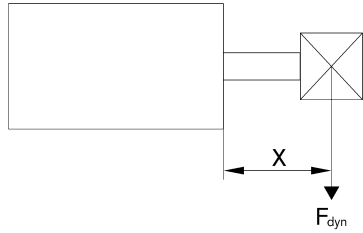
X = spacing between force application point and cylinder cover

Piston rod cylinders → Standard cylinders

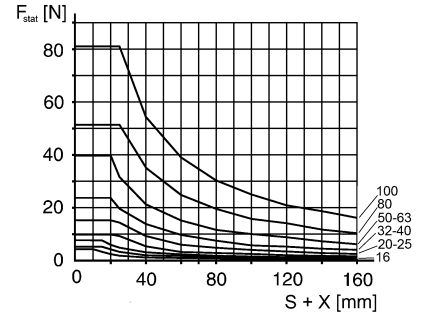
**Compact cylinder, ISO 21287, Series CCI**

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

**Maximum permissible lateral force, Dynamic**



00125744



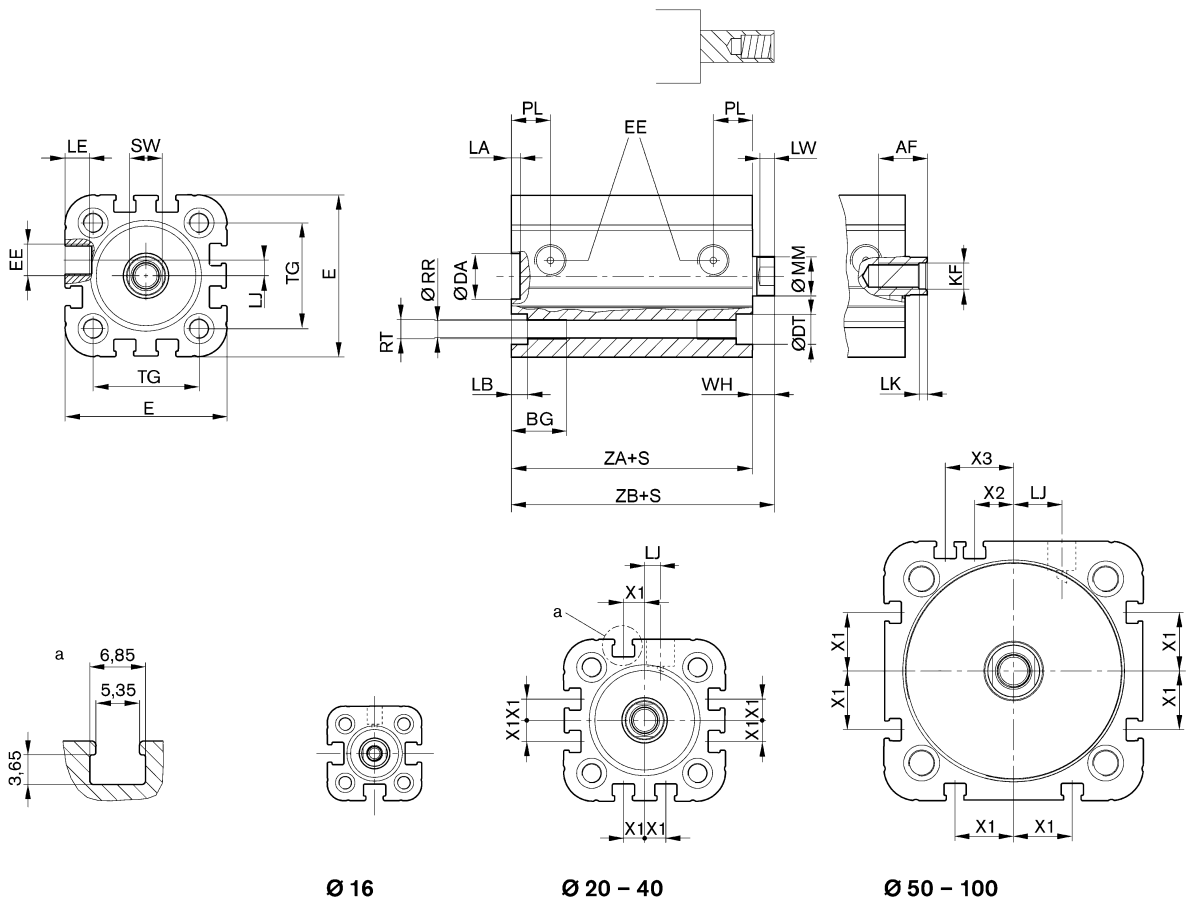
00119760

$F_{dyn}$  = dynamic lateral force

$X$  = spacing between force application point and cylinder cover

$S$  = stroke

**Ø 16 - 100 mm**



$S$  = stroke

00119660

## 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: internal thread ► ATEX optional

| Piston Ø | AF | BG   | DA H11 | DT  | E    | EE    | KF  | LA  | LB  | LE  | LJ   | LK  | LW  |
|----------|----|------|--------|-----|------|-------|-----|-----|-----|-----|------|-----|-----|
| 16       | 10 | 15   | 10     | 6   | 29.3 | M5    | M4  | 2.5 | 3.5 | 4.5 | 0    | 1.6 | 4   |
| 20       | 12 | 15.5 | 12     | 7.5 | 36.3 | M5    | M6  | 2.5 | 4.5 | 4.5 | 4.5  | 2.5 | 4   |
| 25       | 12 | 15.5 | 12     | 8   | 40.3 | M5    | M6  | 2.5 | 4.5 | 4.5 | 4    | 2.5 | 4   |
| 32       | 12 | 17   | 14     | 9.2 | 50   | G 1/8 | M8  | 2.5 | 5   | 7.5 | 4.85 | 2.5 | 4.5 |
| 40       | 12 | 17   | 14     | 9.2 | 58   | G 1/8 | M8  | 2.5 | 5   | 7.5 | 9.85 | 2.5 | 4.5 |
| 50       | 16 | 17   | 18     | 11  | 68.3 | G 1/8 | M10 | 2.5 | 5   | 7.5 | 12   | 3.5 | 6   |
| 63       | 16 | 17   | 18     | 11  | 80   | G 1/8 | M10 | 2.5 | 5   | 7.5 | 14.8 | 3.5 | 6   |
| 80       | 20 | 20   | 23     | 15  | 96   | G 1/8 | M12 | 3   | 5   | 7.5 | 22   | 3.5 | 7   |
| 100      | 20 | 20   | 28     | 15  | 116  | G 1/8 | M12 | 3   | 5   | 7.5 | 27   | 3.5 | 7   |

| 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   |

2) With cylinders with a piston rod extension, dimensions "WH" and "ZB" are increased by the value of the piston rod extension.