

New

Series CGZT three-jaw grippers with T-guide

Single and double acting, magnetic, self-centering
Sizes: 40, 50, 64, 80, 100, 125, 160 mm

SERIES CGZT THREE-JAW GRIPPERS WITH T-GUIDE



The new Series CGZT pneumatic grippers, thanks to the use of a high performing and precise force transmission system, are able to provide high gripping forces, while guaranteeing high repeatability in a compact and light design.

Available in 7 sizes (40, 50, 64, 80, 100, 125 and 160) and three different versions (double acting, single acting NO and single acting NC), allows you to find the best solution for every handling need. They are also available with a part retaining unit. This gripper series results particularly suitable to be combined with anthropomorphic or collaborative robots and gantry systems for applications in Pick and Place units, Material handling and the loading/unloading operations of machine tools.

- » Robust and light
- » 3 self-centering jaws
- » IP40
- » Fixing from the top and from below
- » Supply on the side or on the bottom (even without using tubes)
- » Double position detection
- » Variants available: for use in ATEX zones and for high temperatures
- » In compliance with ROHS directive
- » High positioning repeatability
- » High resistance and reliability to external loads thanks to T-guide
- » Free from Copper, PTFE and Silicone

GENERAL DATA

| | |
|------------------------------|--|
| Type of construction | Three-jaw self-centering gripper with T-guide |
| Operation | Single acting (NO, NC) double acting |
| Sizes | 40, 50, 64, 80, 100, 125, 160 mm |
| Force transmission | Lever |
| Air connections | M3 (40), M5 (50, 64, 80), G1/8 (100, 125, 160) |
| Working pressure | 2 ÷ 8 bar (double acting), 4 ÷ 8 bar (single acting) |
| Working temperature | 5°C ÷ 60°C (standard) - 5°C ÷ 130°C (high temperature version) |
| Store temperature | -10°C ÷ 80°C |
| Maximum use frequency | 5 Hz (40, 50, 64); 3 Hz (80); 2 Hz (100, 125); 1 Hz (160) |
| Repeatability | ≤ 0.02 mm |
| Interchangeability | 0.1 mm |
| Medium | Air in class 7.4.4 according to ISO 8573-1. In case lubricated air is used, we recommend ISOVG32 oil and to never interrupt lubrication. |
| Lubrication | After 10 million cycles, grease the sliding zones using Molykote DX grease. |
| Protection class | IP40 |
| Compatibility | ROHS Directive |
| Certifications | ATEX (II2G Ex h IIC T4 Gb II2D Ex h IIIC T120° Db -20°C ≤ Ta ≤ 70°C). Add EX at the end of the commercial code to order the ATEX version. |
| Materials | Free from Copper, PTFE and Silicone |

NOTE: Pressurize the pneumatic system gradually in order to avoid uncontrolled movements.

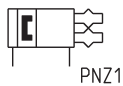
CODING EXAMPLE

| | | | | | | | |
|------|---|-----|---|----|---|---|----|
| CGZT | - | 050 | - | NC | - | W | EX |
|------|---|-----|---|----|---|---|----|

| | | |
|-------------|---|---|
| CGZT | SERIES | |
| 050 | SIZES: 040 = Ø25 050 = Ø33 064 = Ø43 080 = Ø54 100 = Ø76 125 = Ø96 160 = Ø125 | |
| NC | FUNCTIONING: = double acting NO = single acting, normally open NC = single acting, normally closed | PNEUMATIC SYMBOLS PNZ1 PNZ3 PNZ2 |
| W | VERSION: = standard W = high temperatures (130°C) - non magnetic | |
| EX | Add EX to order the certified ATEX version | |

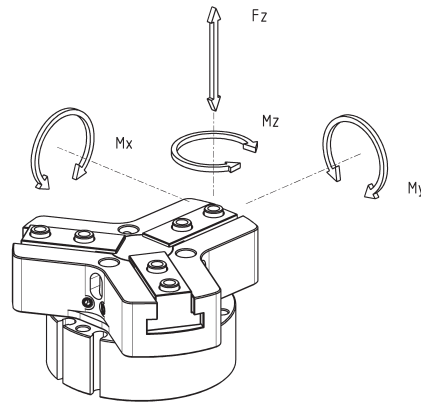
PNEUMATIC SYMBOLS

The pneumatic symbols which have been indicated in the CODING EXAMPLE are shown below.



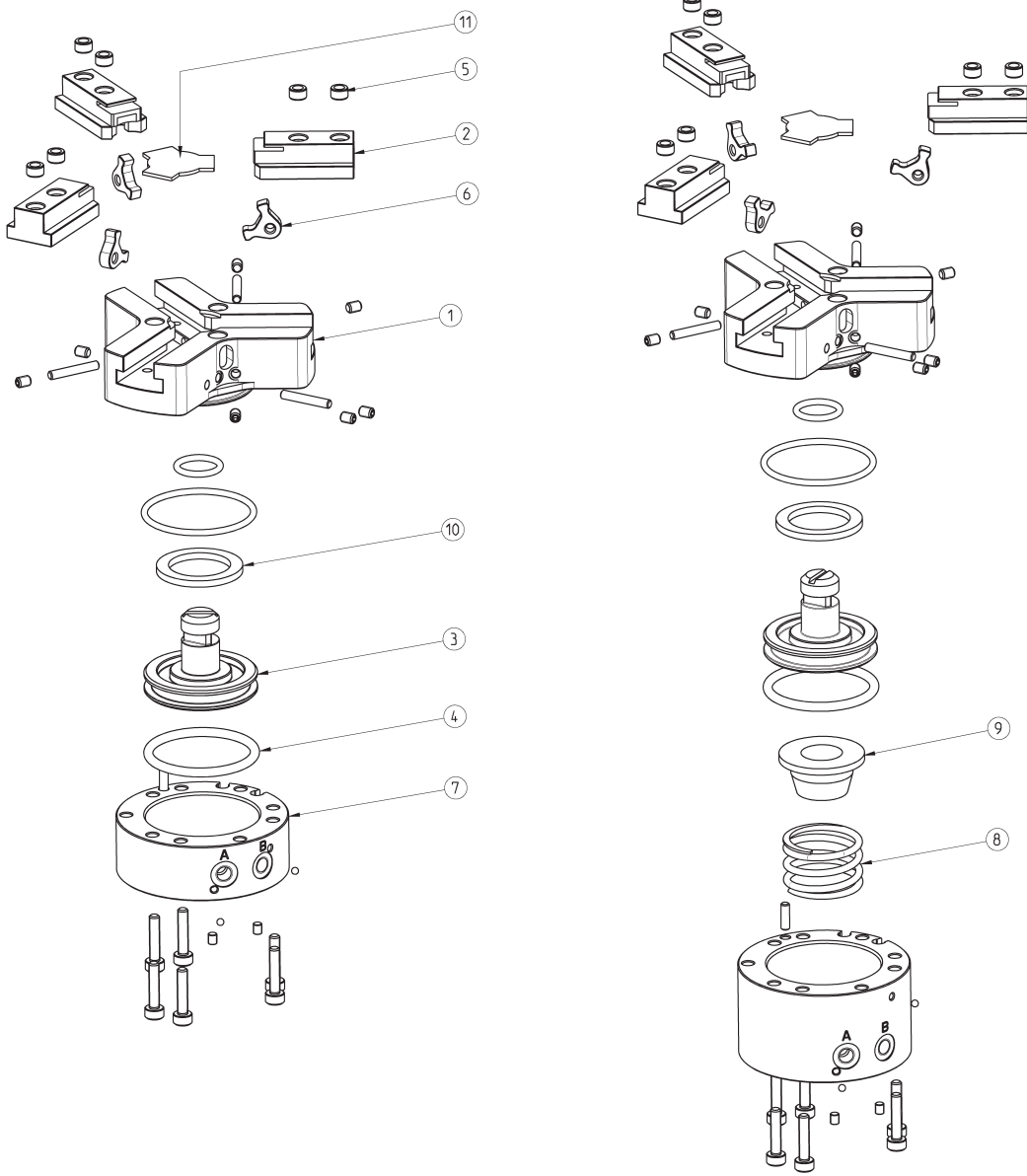
Maximum admissible loads and torques

F_z , M_x , M_y , M_z =
maximum admissible loads and
torques in static conditions



| Mod. | F_z (N) | M_x (Nm) | M_y (Nm) | M_z (Nm) |
|----------|-----------|------------|------------|------------|
| CGZT-040 | 200 | 2.5 | 4 | 2.8 |
| CGZT-050 | 400 | 7 | 7.3 | 7.7 |
| CGZT-064 | 600 | 13 | 14 | 14 |
| CGZT-080 | 1000 | 26 | 27 | 24 |
| CGZT-100 | 1500 | 58 | 65 | 65 |
| CGZT-125 | 2500 | 100 | 120 | 120 |
| CGZT-160 | 4000 | 230 | 250 | 250 |

Series CGPT gripper - construction

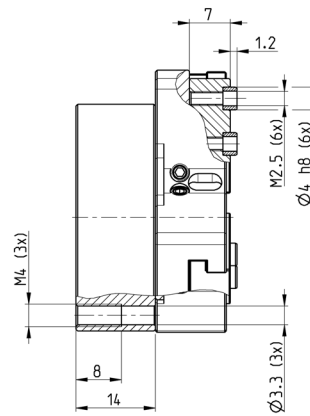
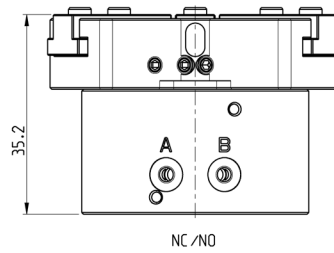
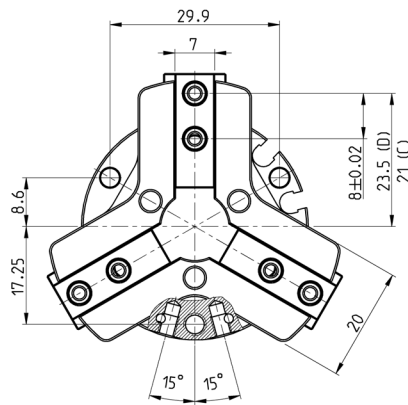
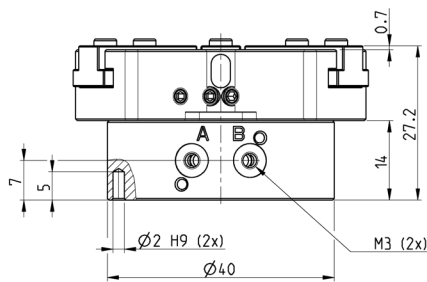
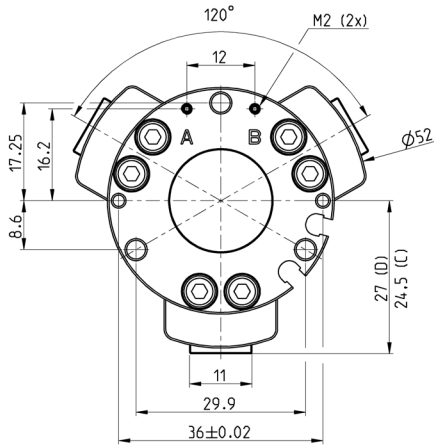


| LIST OF COMPONENTS | |
|----------------------|-----------------|
| PARTS | MATERIALS |
| 1 - Body | Aluminium |
| 2 - Jaw | Stainless steel |
| 3 - Piston | Stainless steel |
| 4 - Seals | HNBR / FKM |
| 5 - Centering bushes | Stainless steel |
| 6 - Levers | Steel |
| 7 - End cover | Aluminium |
| 8 - Spring | Steel |
| 9 - Spring guide | Aluminium |
| 9 - Magnet | Neodymium |
| 10 - Cover | Stainless steel |

CGZT gripper, size 40mm - dimensions



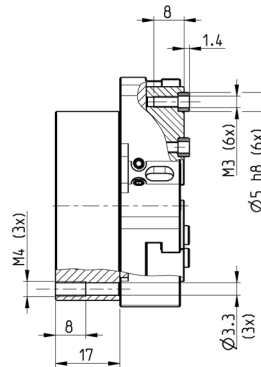
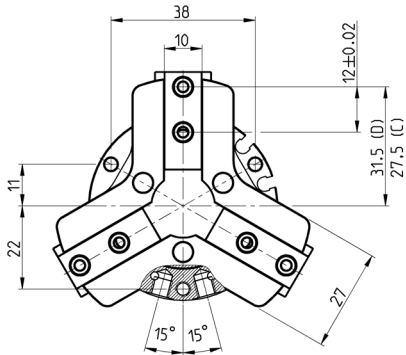
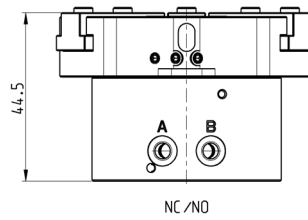
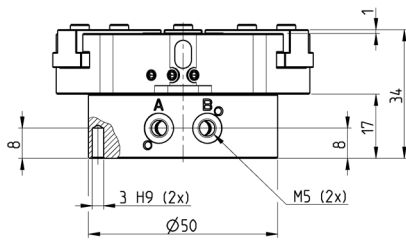
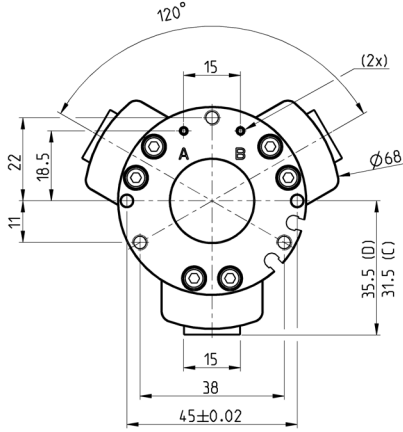
DRAWING LEGEND:
 A = Opening of air connection
 B = Closing of air connection
 C = Closed gripper
 D = Open gripper



SERIES CGZT THREE-JAW GRIPPERS WITH T-GUIDE

| Mod. | Closing gripping force each jaw at 6 bar (N) | Total closing gripping force at 6 bar (N) | Opening gripping force each jaw at 6 bar (N) | Total opening gripping force at 6 bar (N) | Stroke per jaw (mm) | Working pressure (bar) | Working temperature (°C) | Repeatability (mm) | Opening T (ms) | Closing T (ms) | Weight (Kg) |
|-------------|--|---|--|---|---------------------|------------------------|--------------------------|--------------------|----------------|----------------|-------------|
| CGZT-040 | 60 | 181 | 67 | 202 | 2.5 | 2 ÷ 8 | 5 ÷ 60 | ≤ 0.02 | 57 | 63 | 0.114 |
| CGZT-040-NC | 93 | 80 | 33 | 100 | 2.5 | 4 ÷ 8 | 5 ÷ 60 | ≤ 0.02 | 56 | 106 | 0.132 |
| CGZT-040-NO | 27 | 280 | 100 | 300 | 2.5 | 4 ÷ 8 | 5 ÷ 60 | ≤ 0.02 | 79 | 49 | 0.130 |

CGZT gripper, size 50mm - dimensions

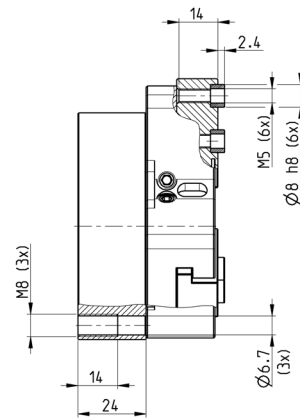
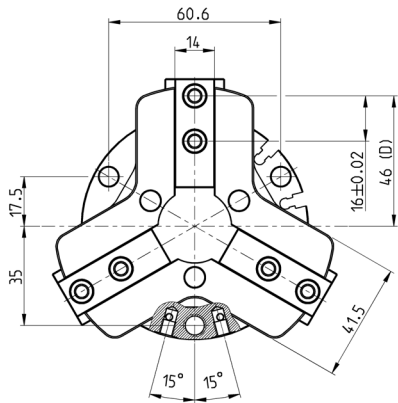
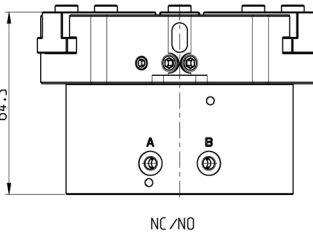
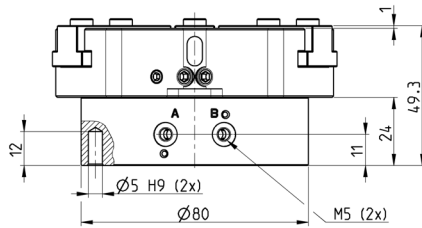
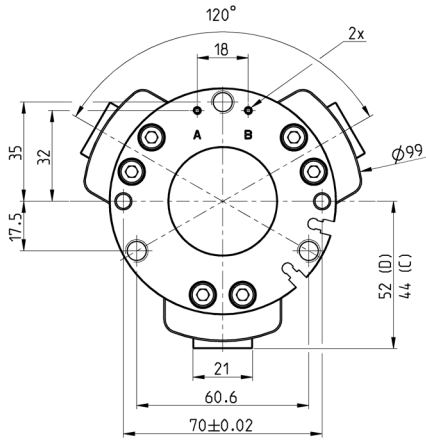


DRAWING LEGEND:
A = Opening of air connection
B = Closing of air connection
C = Closed gripper
D = Open gripper

SERIES CGZT THREE-JAW GRIPPERS WITH T-GUIDE

| Mod. | Closing gripping force each jaw at 6 bar (N) | Total closing gripping force at 6 bar (N) | Opening gripping force each jaw at 6 bar (N) | Total opening gripping force at 6 bar (N) | Stroke per jaw (mm) | Working pressure (bar) | Working temperature (°C) | Repeatability (mm) | Opening T (ms) | Closing T (ms) | Weight (Kg) |
|-------------|--|---|--|---|---------------------|------------------------|--------------------------|--------------------|----------------|----------------|-------------|
| CGZT-050 | 115 | 346 | 130 | 390 | 4 | 2 ÷ 8 | 5 ÷ 60 | ≤ 0.02 | 75 | 85 | 0.240 |
| CGZT-050-NC | 160 | 480 | 83 | 250 | 4 | 4 ÷ 8 | 5 ÷ 60 | ≤ 0.02 | 56 | 151 | 0.280 |
| CGZT-050-NO | 70 | 210 | 173 | 520 | 4 | 4 ÷ 8 | 5 ÷ 60 | ≤ 0.02 | 137 | 55 | 0.275 |

CGZT gripper, size 80mm - dimensions



DRAWING LEGEND:
A = Opening of air connection
B = Closing of air connection
C = Closed gripper
D = Open gripper

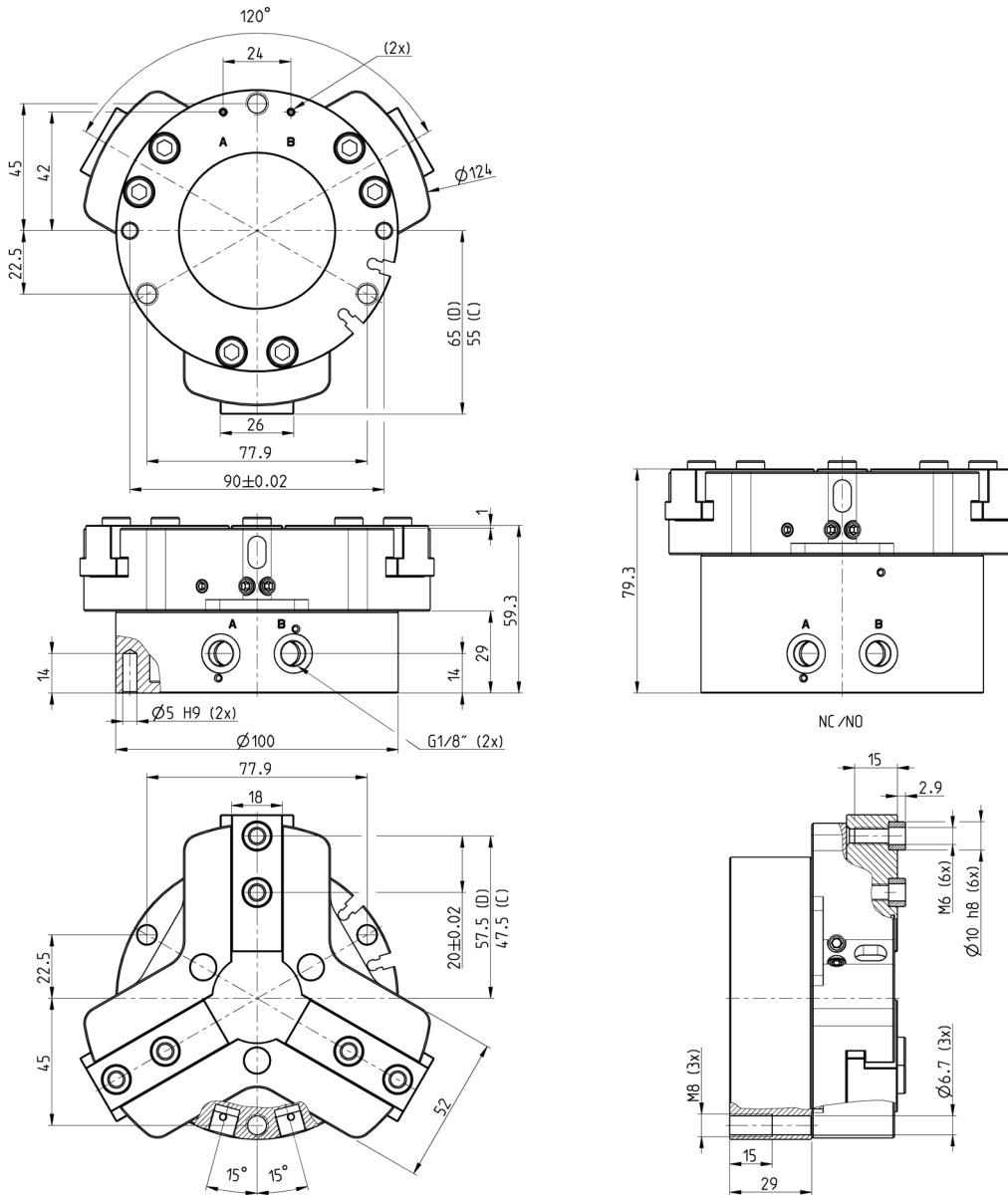
SERIES CGZT THREE-JAW GRIPPERS WITH T-GUIDE

| Mod. | Closing gripping force each jaw at 6 bar (N) | Total closing gripping force at 6 bar (N) | Opening gripping force each jaw at 6 bar (N) | Total opening gripping force at 6 bar (N) | Stroke per jaw (mm) | Working pressure (bar) | Working temperature (°C) | Repeatability (mm) | Opening T (ms) | Closing T (ms) | Weight (Kg) |
|-------------|--|---|--|---|---------------------|------------------------|--------------------------|--------------------|----------------|----------------|-------------|
| CGZT-080 | 327 | 980 | 359 | 1078 | 8 | 2 ÷ 8 | 5 ÷ 60 | ≤ 0.02 | 116 | 133 | 0.796 |
| CGZT-080-NC | 437 | 1310 | 247 | 740 | 8 | 4 ÷ 8 | 5 ÷ 60 | ≤ 0.02 | 88 | 258 | 0.987 |
| CGZT-080-NO | 213 | 640 | 450 | 1350 | 8 | 4 ÷ 8 | 5 ÷ 60 | ≤ 0.02 | 195 | 73 | 0.934 |

CGZT gripper, size 100mm - dimensions



DRAWING LEGEND:
 A = Opening of air connection
 B = Closing of air connection
 C = Closed gripper
 D = Open gripper



SERIES CGZT THREE-JAW GRIPPERS WITH T-GUIDE

| Mod. | Closing gripping force each jaw at 6 bar (N) | Total closing gripping force at 6 bar (N) | Opening gripping force each jaw at 6 bar (N) | Total opening gripping force at 6 bar (N) | Stroke per jaw (mm) | Working pressure (bar) | Working temperature (°C) | Repeatability (mm) | Opening T (ms) | Closing T (ms) | Weight (Kg) |
|--------------------|--|---|--|---|---------------------|------------------------|--------------------------|--------------------|----------------|----------------|-------------|
| CGZT-100 | 677 | 2030 | 722 | 2165 | 10 | 2 ÷ 8 | 5 ÷ 60 | ≤ 0.02 | 135 | 155 | 1.483 |
| CGZT-100-NC | 873 | 2620 | 523 | 1570 | 10 | 4 ÷ 8 | 5 ÷ 60 | ≤ 0.02 | 74 | 254 | 1.790 |
| CGZT-100-ND | 480 | 1440 | 917 | 2750 | 10 | 4 ÷ 8 | 5 ÷ 60 | ≤ 0.02 | 282 | 75 | 1.755 |

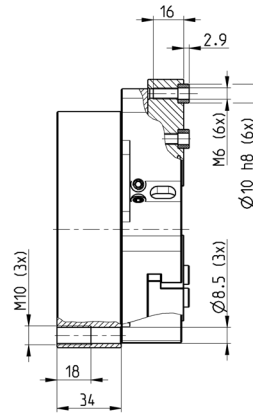
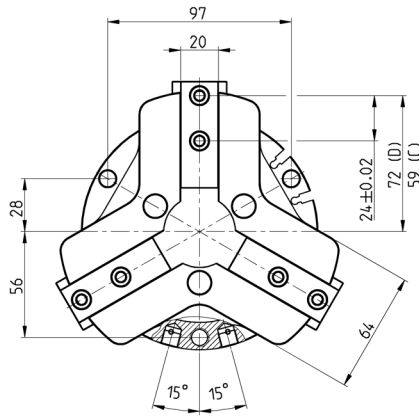
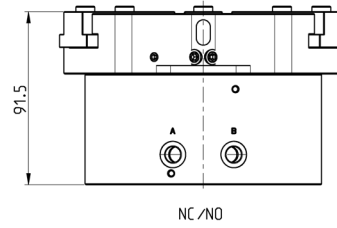
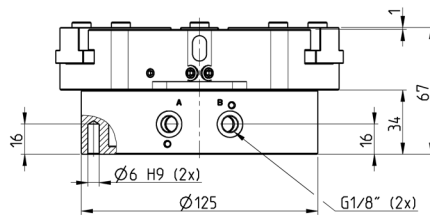
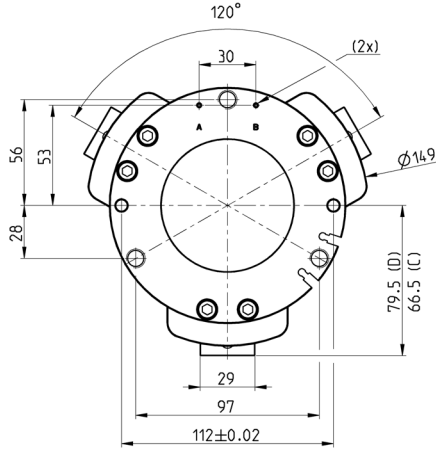
Products designed for industrial applications.
 General terms and conditions for sale are available on www.camozzi.com.

CGZT gripper, size 125mm - dimensions



SERIES CGZT THREE-JAW GRIPPERS WITH T-GUIDE

DRAWING LEGEND:
A = Opening of air connection
B = Closing of air connection
C = Closed gripper
D = Open gripper

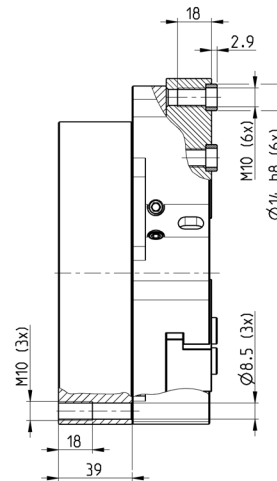
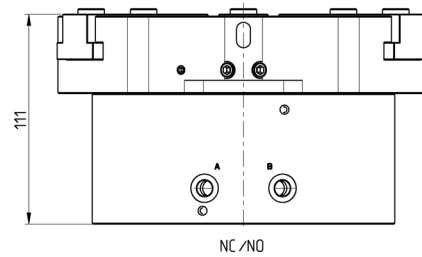
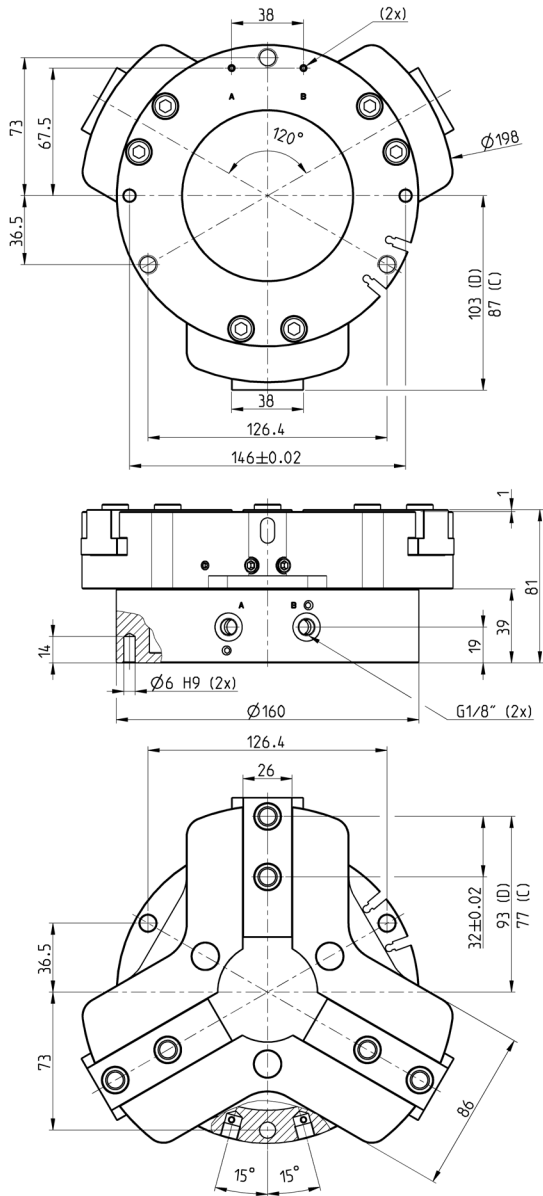


| Mod. | Closing gripping force each jaw at 6 bar (N) | Total closing gripping force at 6 bar (N) | Opening gripping force each jaw at 6 bar (N) | Total opening gripping force at 6 bar (N) | Stroke per jaw (mm) | Working pressure (bar) | Working temperature (°C) | Repeatability (mm) | Opening T (ms) | Closing T (ms) | Weight (Kg) |
|-------------|--|---|--|---|---------------------|------------------------|--------------------------|--------------------|----------------|----------------|-------------|
| CGZT-125 | 1123 | 3370 | 1198 | 3594 | 13 | 2 ÷ 8 | 5 ÷ 60 | ≤ 0.02 | 198 | 227 | 2.220 |
| CGZT-125-NC | 1400 | 4200 | 920 | 2760 | 13 | 4 ÷ 8 | 5 ÷ 60 | ≤ 0.02 | 108 | 349 | 3.005 |
| CGZT-125-NO | 843 | 2530 | 1477 | 4430 | 13 | 4 ÷ 8 | 5 ÷ 60 | ≤ 0.02 | 329 | 119 | 2.752 |

CGZT gripper, size 160mm - dimensions



DRAWING LEGEND:
 A = Opening of air connection
 B = Closing of air connection
 C = Closed gripper
 D = Open gripper

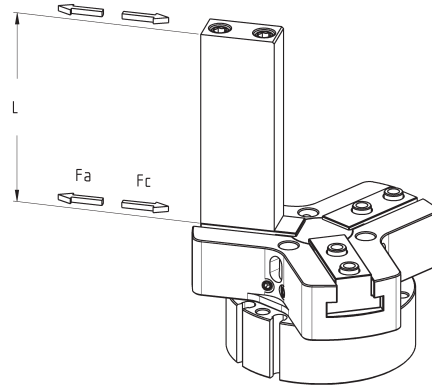
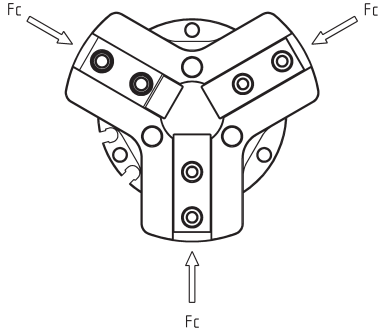


SERIES CGZT THREE-JAW GRIPPERS WITH T-GUIDE

| Mod. | Closing gripping force each jaw at 6 bar (N) | Total closing gripping force at 6 bar (N) | Opening gripping force each jaw at 6 bar (N) | Total opening gripping force at 6 bar (N) | Stroke per jaw (mm) | Working pressure (bar) | Working temperature (°C) | Repeatability (mm) | Opening T (ms) | Closing T (ms) | Weight (Kg) |
|--------------------|--|---|--|---|---------------------|------------------------|--------------------------|--------------------|----------------|----------------|-------------|
| CGZT-160 | 1927 | 5780 | 1767 | 5300 | 16 | 2 ÷ 8 | 5 ÷ 60 | ≤ 0.02 | 239 | 304 | 4.714 |
| CGZT-160-NC | 2150 | 6450 | 1540 | 4620 | 16 | 4 ÷ 8 | 5 ÷ 60 | ≤ 0.02 | 150 | 791 | 6.504 |
| CGZT-160-NO | 1380 | 4140 | 2310 | 6930 | 16 | 4 ÷ 8 | 5 ÷ 60 | ≤ 0.02 | 418 | 129 | 5.851 |

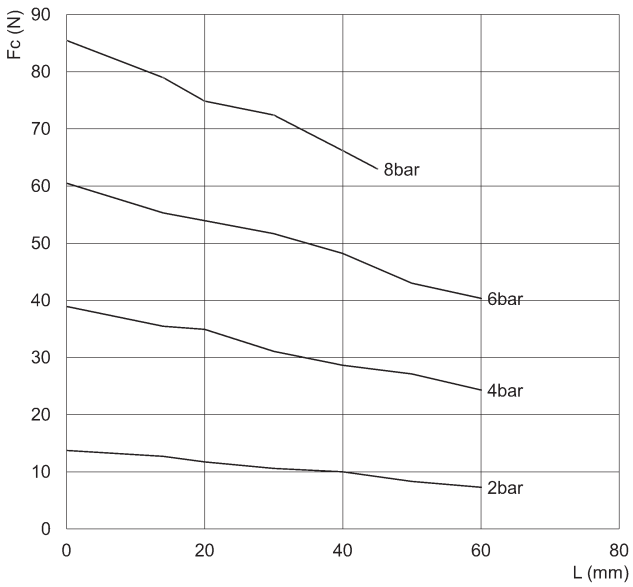
GRIPPING FORCE PER SINGLE JAW

SERIES CGZT THREE-JAW GRIPPERS WITH T-GUIDE



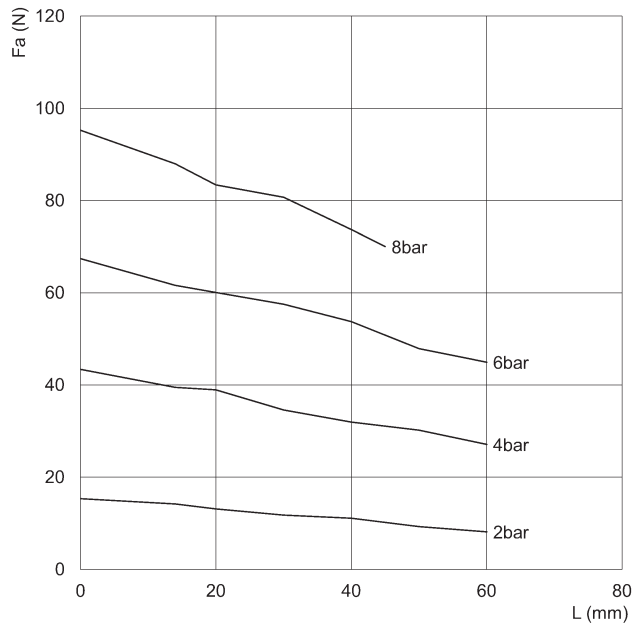
The total gripping force has to be calculated as follows:
 Total $F_c = F_c \times 3$
 Total $F_a = F_a \times 3$

F_c = closing gripping force
 F_a = opening gripping force
 L = gripping point length



CGZT-040

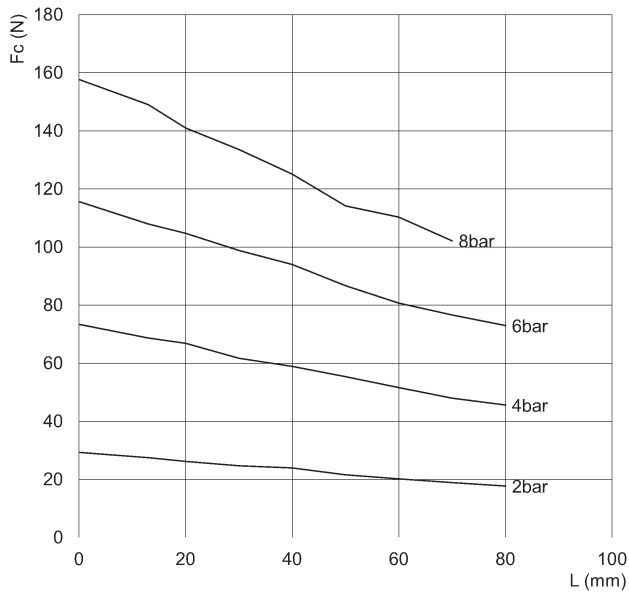
F_c = closing gripping force
 L = gripping point length



CGZT-040

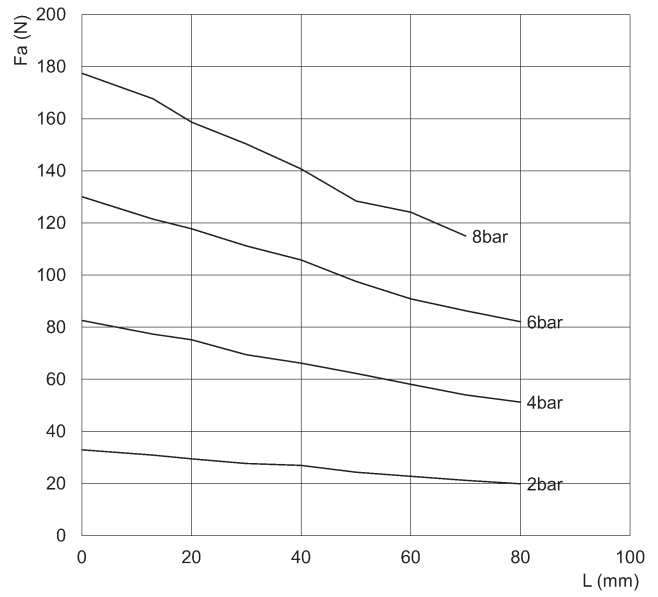
F_a = opening gripping force
 L = gripping point length

GRIPPING FORCE PER SINGLE JAW



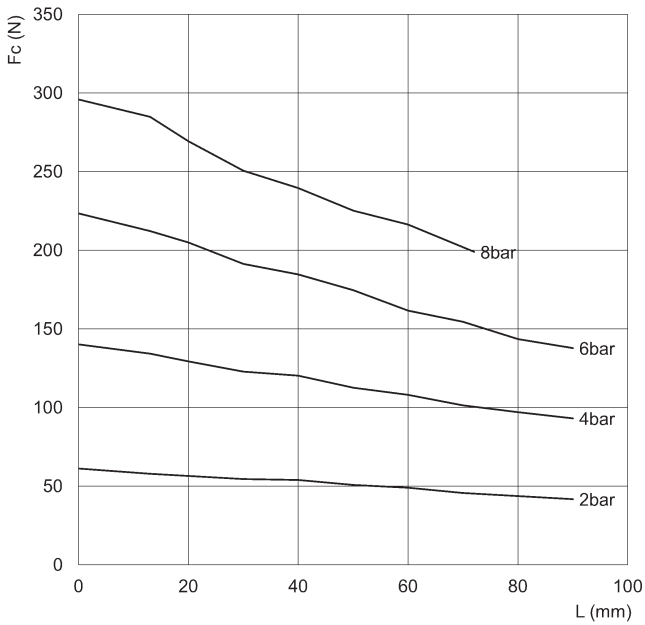
CGZT-050

Fc = closing gripping force
L = gripping point length



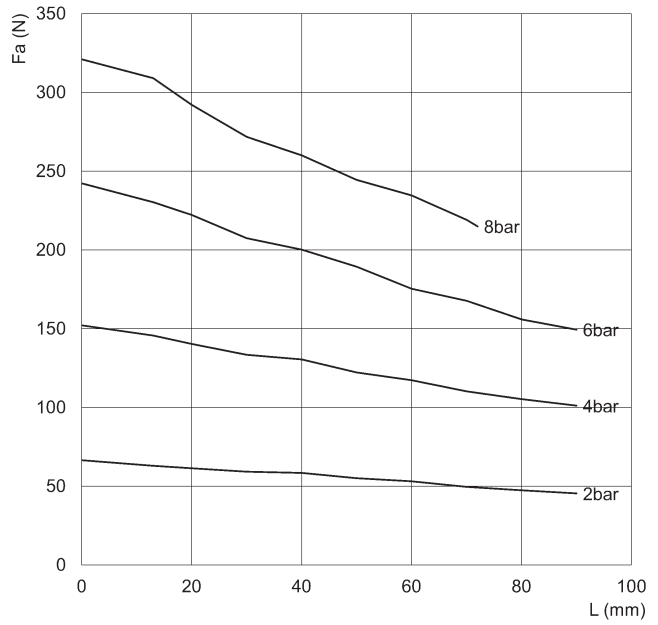
CGZT-050

Fa = opening gripping force
L = gripping point length



CGZT-064

Fc = closing gripping force
L = gripping point length



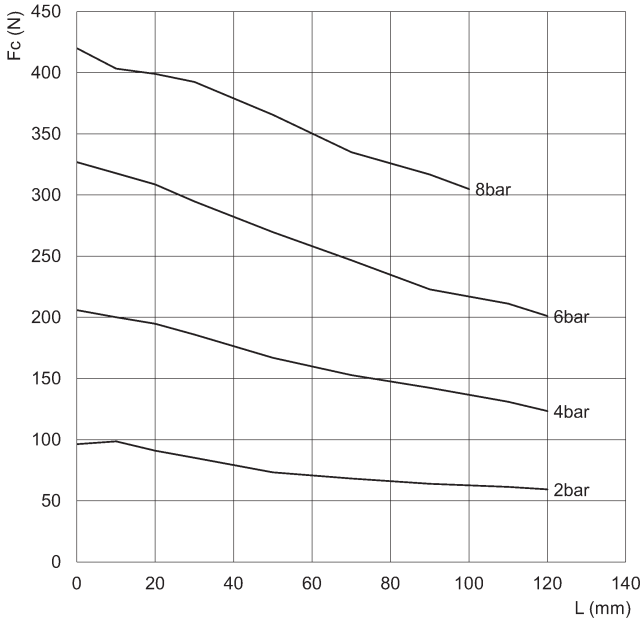
CGZT-064

Fa = opening gripping force
L = gripping point length

SERIES CGZT THREE-JAW GRIPPERS WITH T-GUIDE

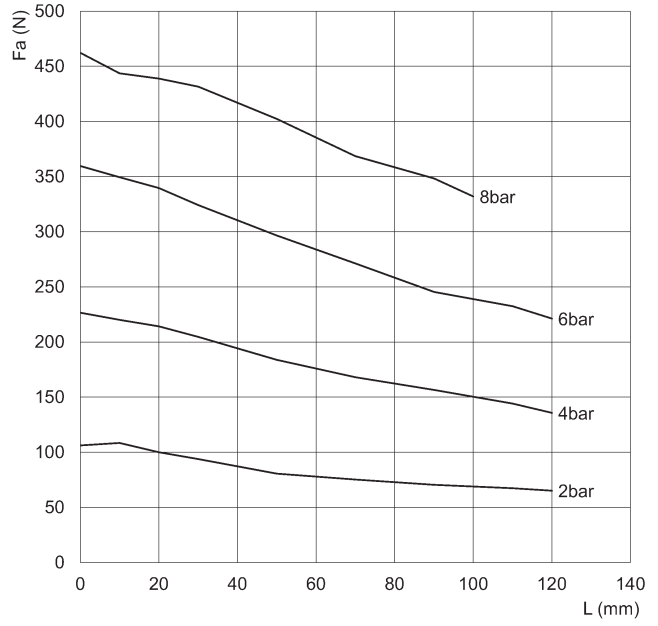
GRIPPING FORCE PER SINGLE JAW

SERIES CGZT THREE-JAW GRIPPERS WITH T-GUIDE



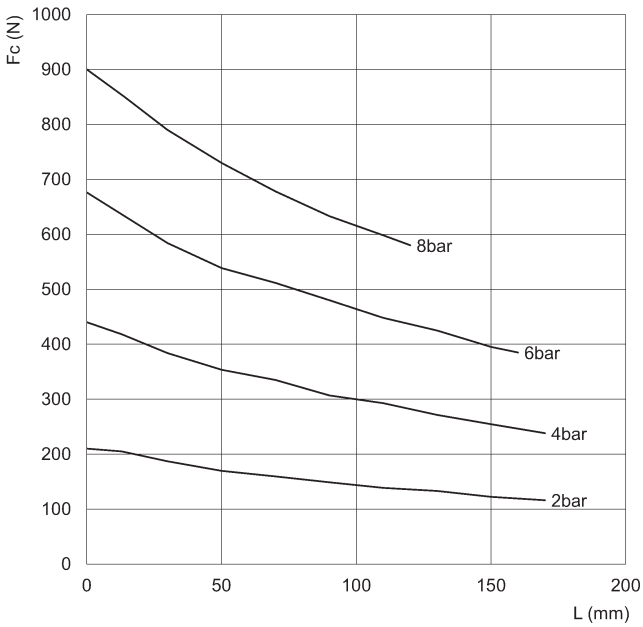
CGZT-080

Fc = closing gripping force
L = gripping point length



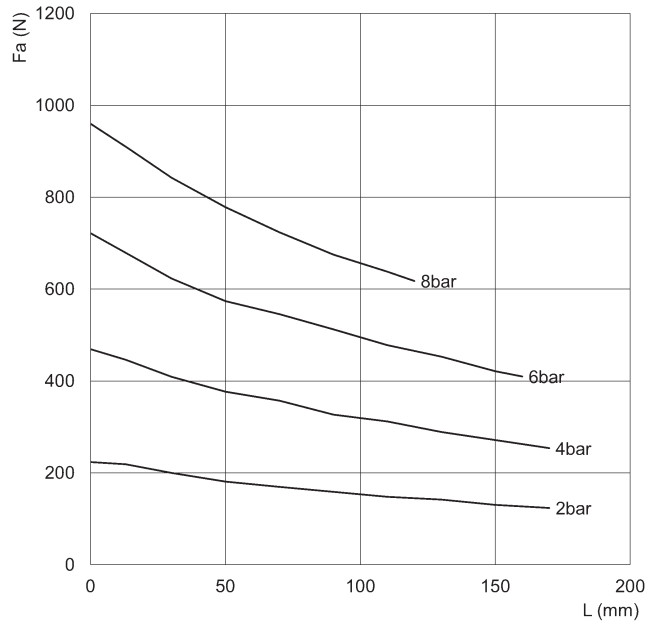
CGZT-080

Fa = opening gripping force
L = gripping point length



CGZT-100

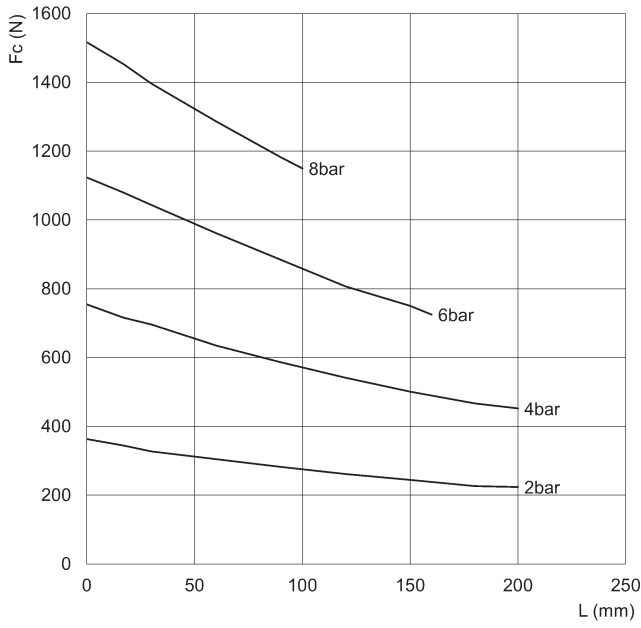
Fc = closing gripping force
L = gripping point length



CGZT-100

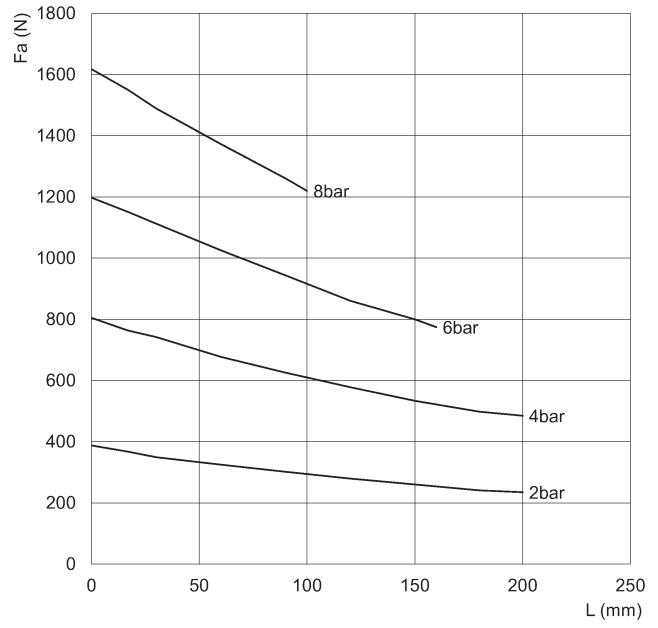
Fa = opening gripping force
L = gripping point length

GRIPPING FORCE PER SINGLE JAW



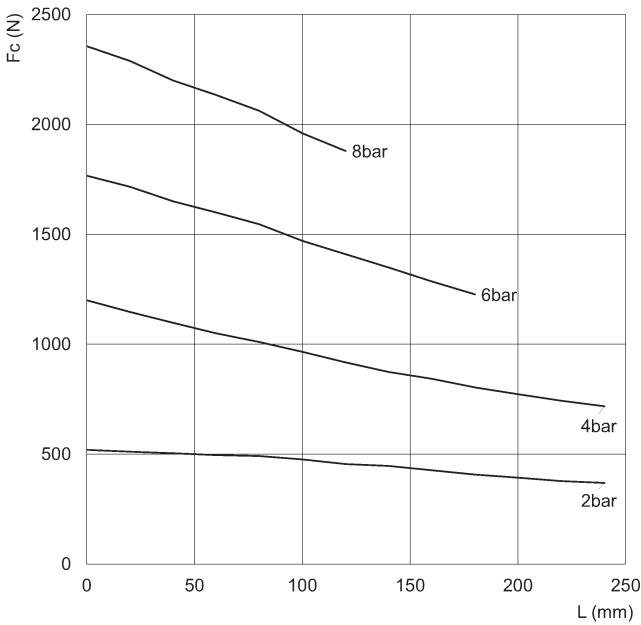
CGZT-125

Fc = closing gripping force
L = gripping point length



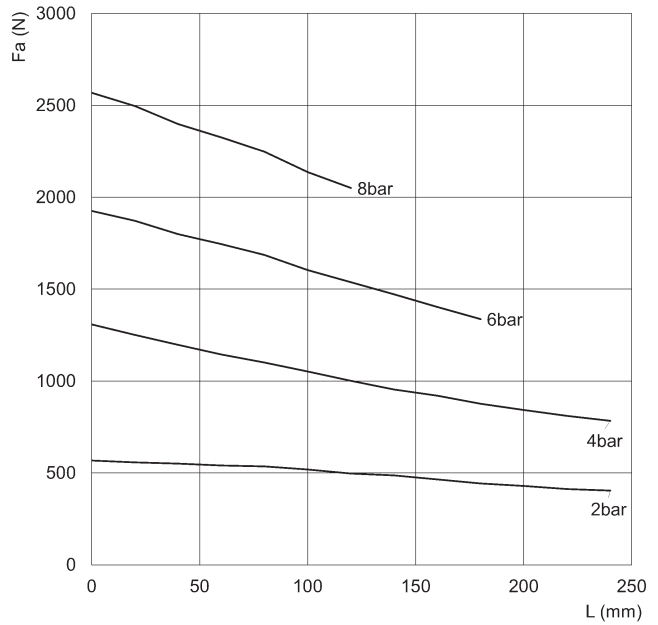
CGZT-125

Fa = opening gripping force
L = gripping point length



CGZT-160

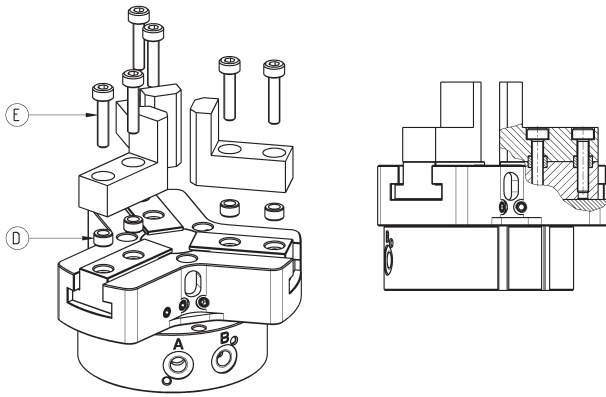
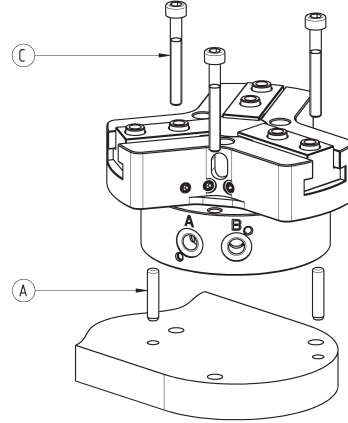
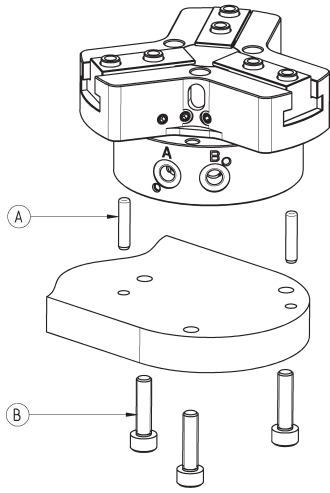
Fc = closing gripping force
L = gripping point length



CGZT-160

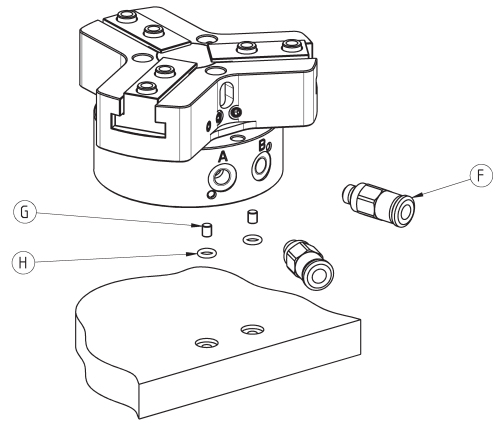
Fa = opening gripping force
L = gripping point length

Examples of mounting



| Mod. | A | B | C | D | E |
|----------|----|-----|----|-----|------|
| CGZT-040 | Ø2 | M4 | M3 | Ø4 | M2.5 |
| CGZT-050 | Ø3 | M4 | M3 | Ø5 | M3 |
| CGZT-064 | Ø4 | M6 | M5 | Ø6 | M4 |
| CGZT-080 | Ø5 | M8 | M6 | Ø8 | M5 |
| CGZT-100 | Ø5 | M8 | M6 | Ø10 | M6 |
| CGZT-125 | Ø6 | M10 | M8 | Ø10 | M6 |
| CGZT-160 | Ø6 | M10 | M8 | Ø14 | M10 |

Air supply ports

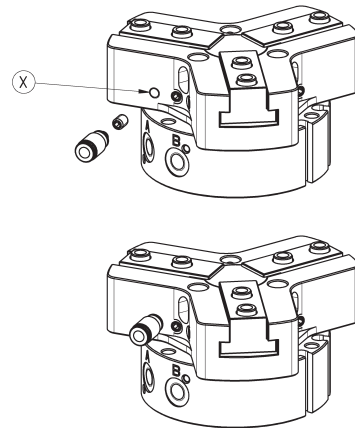


| Mod. | F | G | H |
|----------|------|------|----------|
| CGZT-040 | M3 | M2 | OR 1x2.5 |
| CGZT-050 | M5 | M2.5 | OR 1x3 |
| CGZT-064 | M5 | M3 | OR 1x3.5 |
| CGZT-080 | M5 | M3 | OR 1x3.5 |
| CGZT-100 | G1/8 | M3 | OR 1x3.5 |
| CGZT-125 | G1/8 | M3 | OR 1x3.5 |
| CGZT-160 | G1/8 | M4 | OR 1x4.5 |

Example of use of the pressurization/lubrication hole

Example of use of the lubrication (greasing) or pressurization hole of the zone with moving items

- NOTE 1: grease the sliding zones using Molykote DX grease.
- NOTE 2: supply a pressure of max 1 bar in order to avoid the sudden ejection of grease.

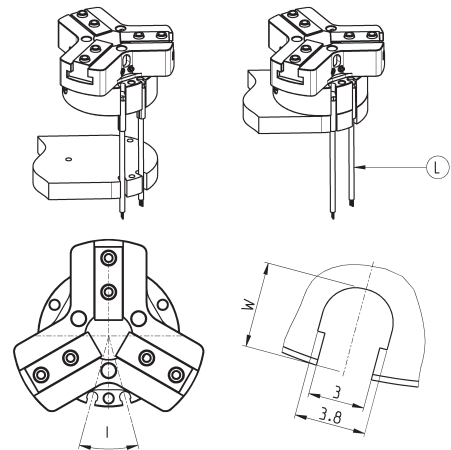


| Mod. | X |
|----------|----|
| CGZT-040 | M3 |
| CGZT-050 | M3 |
| CGZT-064 | M5 |
| CGZT-080 | M5 |
| CGZT-100 | M5 |
| CGZT-125 | M5 |
| CGZT-160 | M5 |

Example of mounting: sensors

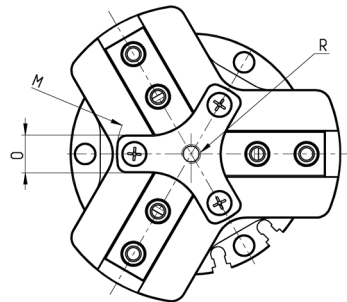
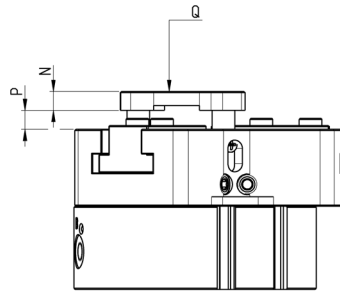
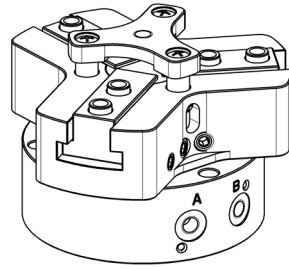
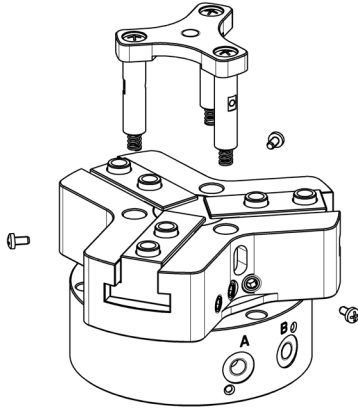
L = sensor Series CSD

In order to position the sensor correctly, a channel must be created in the base.



| Mod. | I | W |
|----------|-----|------|
| CGZT-040 | 32° | 4.5 |
| CGZT-050 | 30° | 4.6 |
| CGZT-064 | 30° | 6.5 |
| CGZT-080 | 32° | 8.7 |
| CGZT-100 | 28° | 9.3 |
| CGZT-125 | 24° | 11.5 |
| CGZT-160 | 20° | 12.5 |

Part retaining unit



| Mod. | M | N | O | P | Q | R |
|------------|-------|-----|------|---------|-------|-----|
| P-CGZT-040 | Ø24 | 3.5 | 6 | 0 ÷ 2.5 | 10 N | M3 |
| P-CGZT-050 | Ø32.5 | 4.5 | 8 | 0 ÷ 3 | 14 N | M4 |
| P-CGZT-064 | Ø39.5 | 5 | 10 | 0 ÷ 5 | 21 N | M5 |
| P-CGZT-080 | Ø49 | 6 | 12.5 | 0 ÷ 5 | 32 N | M6 |
| P-CGZT-100 | Ø59 | 7 | 14 | 0 ÷ 5 | 48 N | M8 |
| P-CGZT-125 | Ø73 | 8 | 18 | 0 ÷ 6 | 85 N | M10 |
| P-CGZT-160 | Ø99 | 9.5 | 25 | 0 ÷ 6 | 185 N | M10 |