

Features

- Through holes in body enable simple mounting.
- Body manufactured from high tensile, anodised aluminum giving good resistance to corrosion.
- Available with sensors.
- Magnetic as standard.

Order example

MCHG2 – 16 M – □

MODEL

TUBE I.D.
16, 20, 25, 32, 40,
50, 63, 80, 100, 125

M: Magnet
* Magnetic as
standard.

PORT THREAD
Blank: M thread
(only for $\phi 16\sim\phi 63$)
Blank: Rc thread
G: G thread
NPT: NPT thread
(only for $\phi 80\sim\phi 125$)

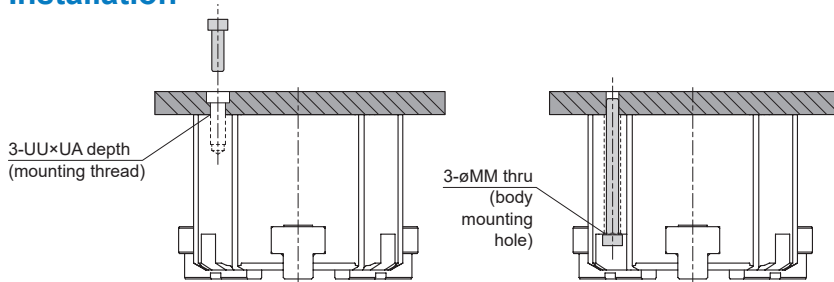
Specification

| Model | MCHG2 | | | | | | | | | | |
|--|-------------------------|--|---------|----------|----------|-----------|---------|---------|----------|----------|-----------|
| Acting type | Double acting | | | | | | | | | | |
| Tube I.D. (mm) | 16 (*2) | 20 | 25 | 32 | 40 | 50 | 63 (*2) | 80 | 100 | 125 | |
| Stroke (mm) | 4 | 4 | 6 | 8 | 8 | 12 | 16 | 20 | 24 | 32 | |
| Port size | M3×0.5 | M5×0.8 | | | | | | Rc1/8 | Rc1/4 | Rc3/8 | |
| Medium | Air | | | | | | | | | | |
| Operating pressure (MPa) | 0.2~0.6 | | | | | 0.1~0.6 | | | | | |
| Ambient temperature | -10~+60°C (No freezing) | | | | | | | | | | |
| Max. operating frequency (c.p.m) | 120 | | | | | 60 | | | 30 | | |
| Lubrication | Not required | | | | | | | | | | |
| Effective gripping force N (lbf) at (0.5 MPa) (*1) | External | 14(3.1) | 25(5.6) | 42(9.4) | 74(16.6) | 118(26.5) | 187(42) | 335(75) | 500(112) | 750(169) | 1270(285) |
| | Internal | 16(3.6) | 28(6.3) | 47(10.6) | 82(18.4) | 130(29) | 204(46) | 359(81) | 525(118) | 780(175) | 1320(297) |
| Sensor switch | 2 wire | RDVE(V): Non-contact (Please refer to page 5-11) | | | | | | | | | |
| | 3 wire | RNFE(V): NPN, RPFE(V): PNP | | | | | | | | | |
| Weight (g) | 80 | 110 | 150 | 240 | 400 | 540 | 1020 | 1880 | 3300 | 6200 | |

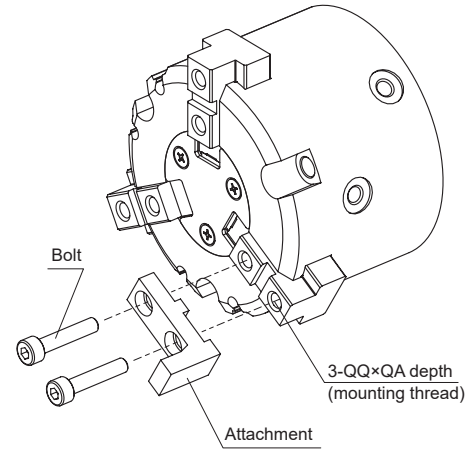
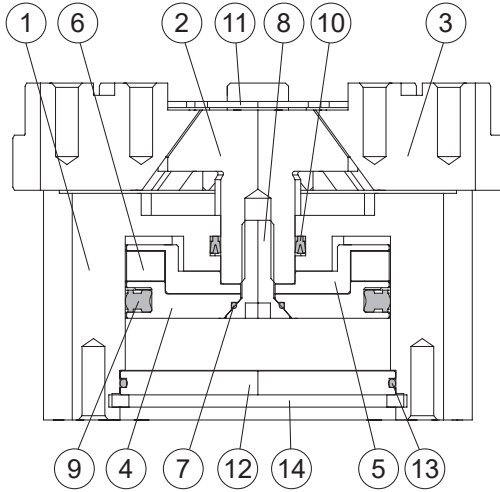
*1. Values for $\phi 16\sim\phi 25$ are with gripping length(L) = 20 mm, for $\phi 32\sim\phi 63$ with gripping length(L) = 30 mm, and for $\phi 80\sim\phi 125$ with gripping length(L) = 50 mm. Refer to "Effective Gripping Force" data for the gripping force at each gripping position.

*2. $\phi 16$, $\phi 63$ are available with 2- finger type (Made to order). Please contact us if other size is needed.

Installation



| Model | MM | UU×UA | Bolt |
|-----------|-----|------------|---------|
| MCHG2-16 | 3.4 | M3×0.5×4.5 | M3×0.5 |
| MCHG2-20 | 3.4 | M3×0.5×6 | M3×0.5 |
| MCHG2-25 | 4.5 | M4×0.7×6 | M4×0.7 |
| MCHG2-32 | 4.5 | M4×0.7×6 | M4×0.7 |
| MCHG2-40 | 5.5 | M5×0.8×7.5 | M5×0.8 |
| MCHG2-50 | 5.5 | M5×0.8×10 | M5×0.8 |
| MCHG2-63 | 6.6 | M6×1.0×9 | M6×1.0 |
| MCHG2-80 | 6.6 | M6×1.0×12 | M6×1.0 |
| MCHG2-100 | 9 | M8×1.25×16 | M8×1.25 |
| MCHG2-125 | 11 | M10×1.5×20 | M10×1.5 |



Material

| No. | Part name | Material | Repair kits (inclusion) |
|-----|----------------|-----------------|-------------------------|
| 1 | Body | Aluminum alloy | |
| 2 | Lever | Carbon steel | |
| 3 | Slider | Carbon steel | |
| 4 | Piston | Aluminum alloy | |
| 5 | Piston-R | Aluminum alloy | |
| 6 | Magnet ring | Magnet material | |
| 7 | O-ring | NBR | ● |
| 8 | Piston bolt | Carbon steel | |
| 9 | Piston packing | NBR | ● |
| 10 | Rod packing | NBR | ● |
| 11 | Table | Stainless steel | |
| 12 | End plate | Aluminum alloy | |
| 13 | O-ring | NBR | ● |
| 14 | Snap ring | Carbon steel | |

Mounting precautions

The tightening torque of slider mounting bolt, please refer to the table below.

| Model | QQ×QA | Bolt | Max. tightening torque (N.m) |
|------------------|------------|---------|------------------------------|
| MCHG2-16 | M3×0.5×5 | M3×0.5 | 0.59 |
| MCHG2-20 | M3×0.5×6 | M3×0.5 | 0.59 |
| MCHG2-25 | M3×0.5×6 | M3×0.5 | 0.59 |
| MCHG2-32 | M4×0.7×8 | M4×0.7 | 1.4 |
| MCHG2-40 | M4×0.7×8 | M4×0.7 | 1.4 |
| MCHG2-50 | M5×0.8×8 | M5×0.8 | 2.8 |
| MCHG2-63 | M5×0.8×8 | M5×0.8 | 2.8 |
| MCHG2-80 | M6×1.0×12 | M6×1.0 | 4.8 |
| MCHG2-100 | M8×1.25×16 | M8×1.25 | 12 |
| MCHG2-125 | M10×1.5×20 | M10×1.5 | 24 |

Order example of repair kits

| Tube I.D. | Repair kits | Tube I.D. | Repair kits |
|-----------|--------------------|-----------|---------------------|
| ø16 | PS-MCHG2-16 | ø63 | PS-MCHG2-63 |
| ø20 | PS-MCHG2-20 | ø80 | PS-MCHG2-80 |
| ø25 | PS-MCHG2-25 | ø100 | PS-MCHG2-100 |
| ø32 | PS-MCHG2-32 | ø125 | PS-MCHG2-125 |
| ø40 | PS-MCHG2-40 | | |
| ø50 | PS-MCHG2-50 | | |

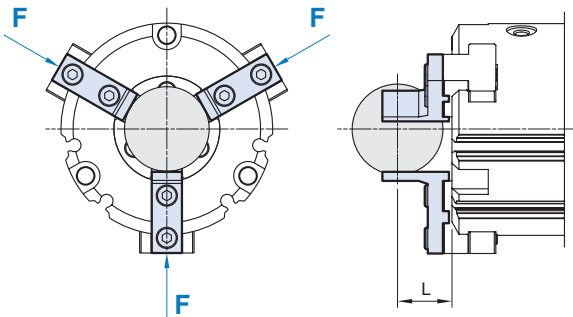
Effective gripping force

* Finger selection please refer to page 3-2.

Indication of effective gripping force.

The effective gripping force shown in the graphs to the right is expressed as F, which is the thrust of one finger, when three fingers and attachments are in full contact with the workpiece as shown in the figure below.

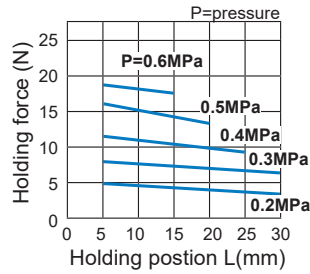
1N=0.102 kgf
1MPa=10.2 kgf/cm²



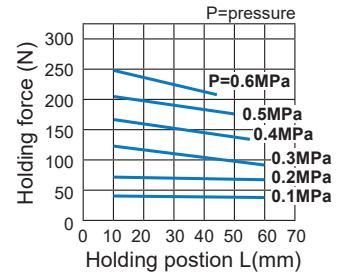
External grip

External gripping force

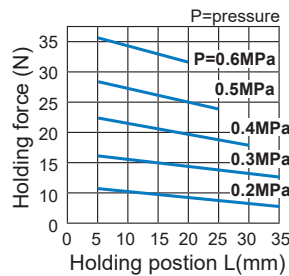
MCHG2-16



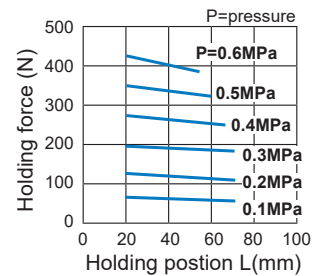
MCHG2-50



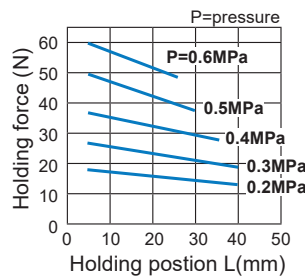
MCHG2-20



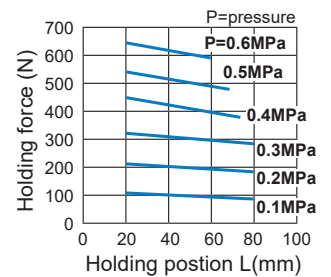
MCHG2-63



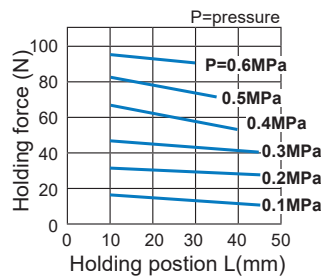
MCHG2-25



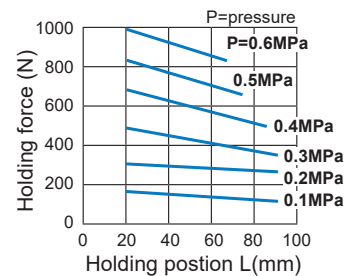
MCHG2-80



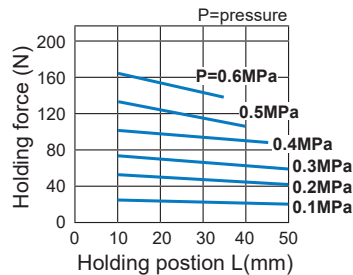
MCHG2-32



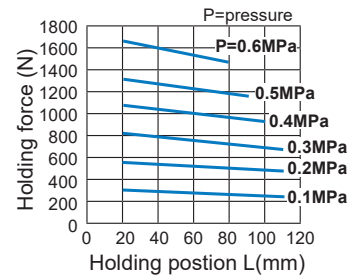
MCHG2-100



MCHG2-40



MCHG2-125



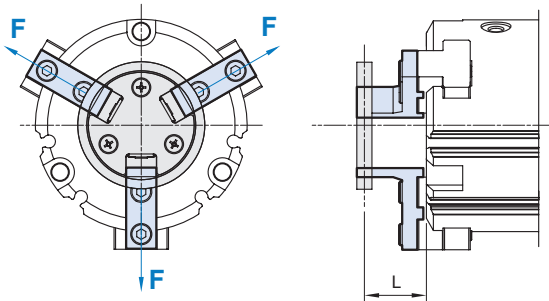
Effective gripping force

* Finger selection please refer to page 3-2.

Indication of effective gripping force.

The effective gripping force shown in the graphs to the right is expressed as F, which is the thrust of one finger, when three fingers and attachments are in full contact with the workpiece as shown in the figure below.

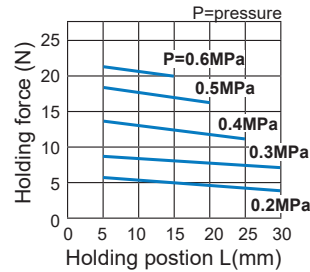
1N=0.102 kgf
1MPa=10.2 kgf/cm²



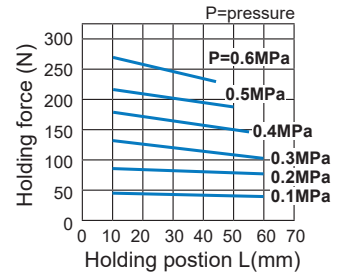
Internal grip

Internal gripping force

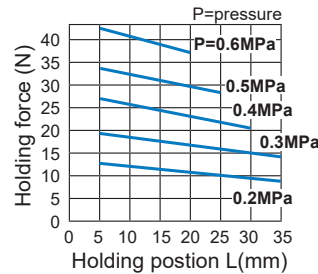
MCHG2-16



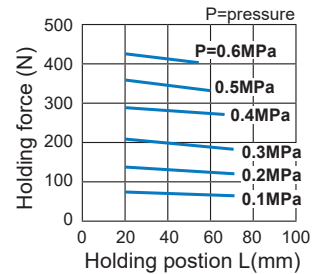
MCHG2-50



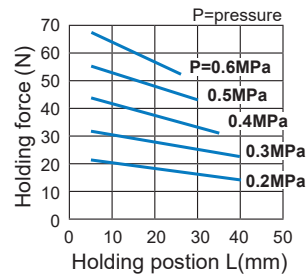
MCHG2-20



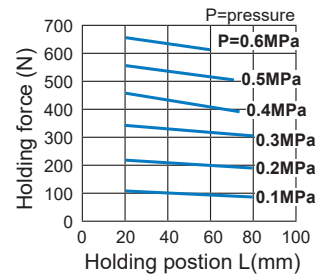
MCHG2-63



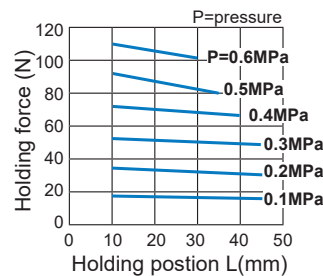
MCHG2-25



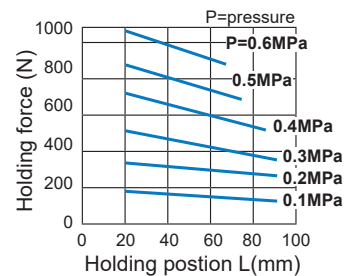
MCHG2-80



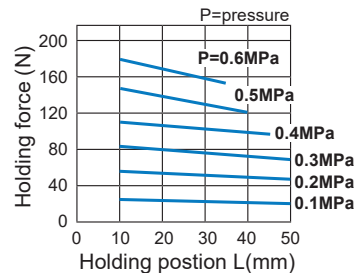
MCHG2-32



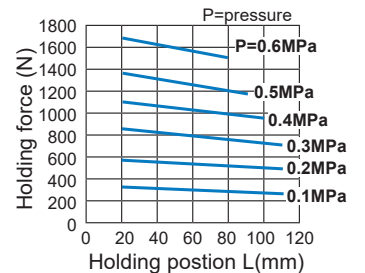
MCHG2-100



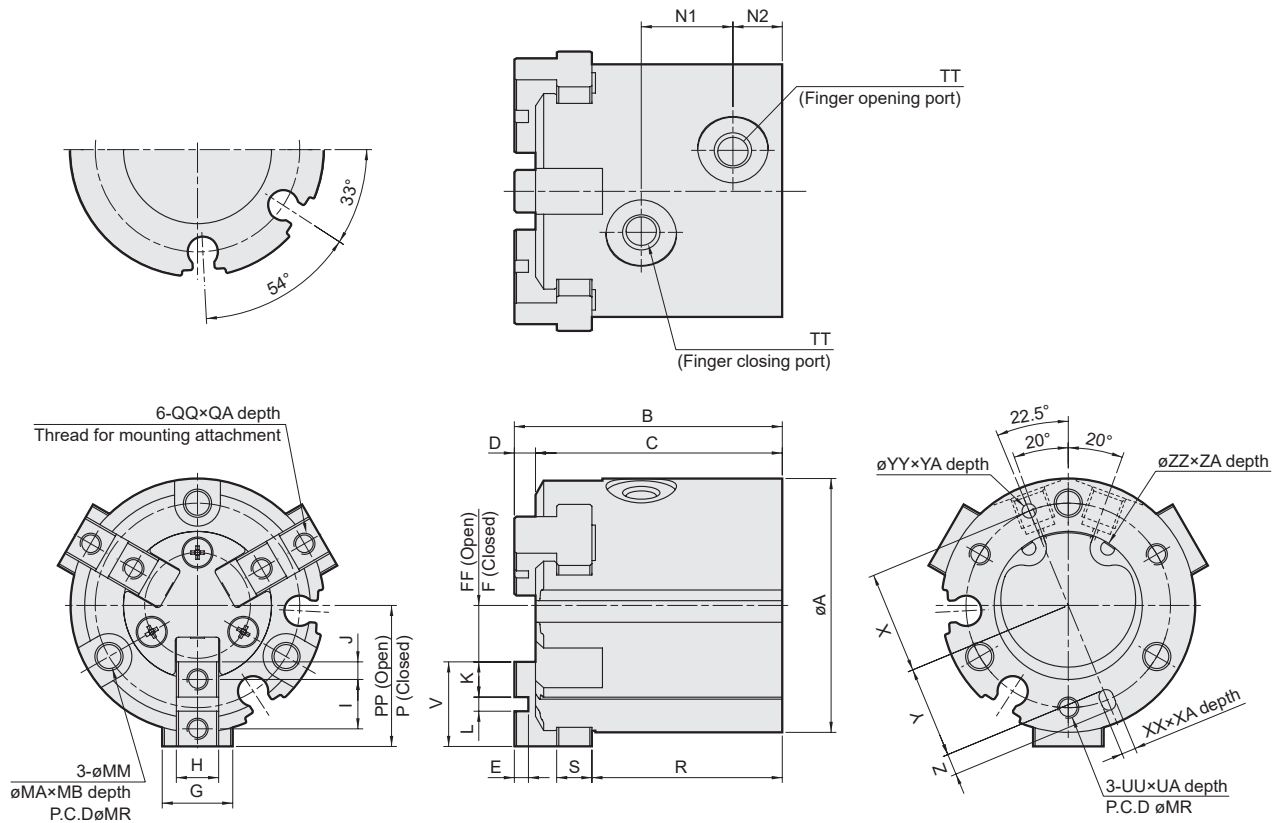
MCHG2-40



MCHG2-125



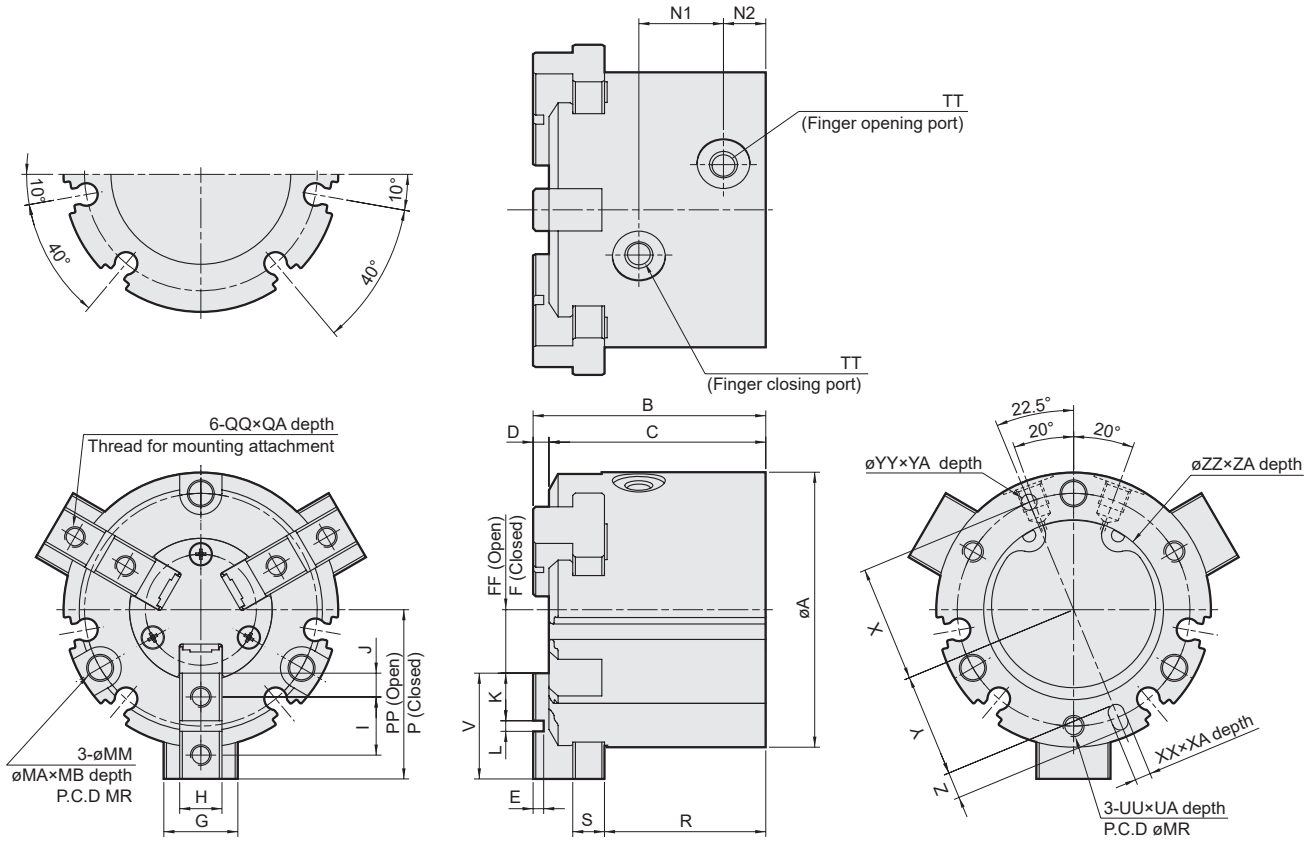
PARALLEL GRIPPER (3-Finger)



| Code Tube I.D. | A | B | C | D | E | F | FF | G | H | I | J | K | L | MA | MB | MM | MR | N1 | N2 | P | PP | QA | QQ | R | S | TT |
|-------------------|----|----|----|---|---|---|----|----|-------------------------------------|---|-----|---|------------------------------------|-----|-----|-----|----|----|----|----|----|----|--------|----|---|--------|
| 16 | 30 | 35 | 32 | 3 | 2 | 5 | 7 | 8 | 5h9 ⁺⁰ _{-0.030} | 6 | 2 | 4 | 2H9 ^{+0.025} ₀ | 6.5 | 8 | 3.4 | 25 | 11 | 7 | 15 | 17 | 5 | M3×0.5 | 25 | 4 | M3×0.5 |
| 20 | 36 | 38 | 35 | 3 | 2 | 6 | 8 | 10 | 6h9 ⁺⁰ _{-0.030} | 7 | 2.5 | 5 | 2H9 ^{+0.025} ₀ | 6.5 | 9.5 | 3.4 | 29 | 13 | 7 | 18 | 20 | 6 | M3×0.5 | 27 | 5 | M5×0.8 |
| 25 | 42 | 40 | 37 | 3 | 2 | 7 | 10 | 12 | 6h9 ⁺⁰ _{-0.030} | 8 | 3 | 6 | 2H9 ^{+0.025} ₀ | 8 | 10 | 4.5 | 34 | 15 | 7 | 21 | 24 | 6 | M3×0.5 | 28 | 5 | M5×0.8 |

| Code Tube I.D. | UA | UU | V | X | XA | XX | Y | YA | YY | Z | ZA | ZZ |
|-------------------|-----|--------|----|------|----|------------------------------------|------|----|------------------------------------|---|-----|-------------------------------------|
| 16 | 4.5 | M3×0.5 | 10 | 12.5 | 2 | 2H9 ^{+0.025} ₀ | 11 | 2 | 2H9 ^{+0.025} ₀ | 3 | 1.5 | 17H9 ^{+0.043} ₀ |
| 20 | 6 | M3×0.5 | 12 | 14.5 | 2 | 2H9 ^{+0.025} ₀ | 13 | 2 | 2H9 ^{+0.025} ₀ | 3 | 1.5 | 21H9 ^{+0.052} ₀ |
| 25 | 6 | M4×0.7 | 14 | 17 | 3 | 3H9 ^{+0.025} ₀ | 14.5 | 3 | 3H9 ^{+0.025} ₀ | 5 | 1.5 | 26H9 ^{+0.052} ₀ |

PARALLEL GRIPPER (3-Finger)



| Code Tube I.D. | A | B | C | D | E | F | FF | G | H | I | J | K | L | MA | MB | MM | MR | N1 | N2 | P | PP | QA | QQ |
|-------------------|-----|-----|-----|---|---|------|------|----|--------------------------------------|----|------|----|--------------------------------------|------|----|-----|-----|------|------|------|------|----|---------|
| 32 | 52 | 44 | 41 | 3 | 2 | 8 | 12 | 14 | 8h9 ⁺⁰ _{-0.036} | 11 | 4.5 | 9 | 2H9 ^{+0.025} ₋₀ | 8 | 9 | 4.5 | 44 | 16 | 8 | 28 | 32 | 8 | M4×0.7 |
| 40 | 62 | 47 | 44 | 3 | 2 | 10 | 14 | 16 | 8h9 ⁺⁰ _{-0.036} | 12 | 4.5 | 9 | 3H9 ^{+0.025} ₋₀ | 9.5 | 9 | 5.5 | 53 | 17 | 9 | 31 | 35 | 8 | M4×0.7 |
| 50 | 70 | 55 | 52 | 3 | 2 | 11 | 17 | 18 | 10h9 ⁺⁰ _{-0.036} | 14 | 5 | 10 | 4H9 ^{+0.030} ₋₀ | 9.5 | 12 | 5.5 | 62 | 20 | 9 | 35 | 41 | 10 | M5×0.8 |
| 63 | 86 | 66 | 62 | 4 | 3 | 15 | 23 | 24 | 12h9 ⁺⁰ _{-0.043} | 17 | 5.5 | 11 | 6H9 ^{+0.030} ₋₀ | 11 | 14 | 6.6 | 76 | 22 | 12 | 43 | 51 | 10 | M5×0.8 |
| 80 | 106 | 82 | 77 | 5 | 4 | 21.5 | 31.5 | 28 | 14h9 ⁺⁰ _{-0.043} | 20 | 6 | 12 | 8H9 ^{+0.036} ₋₀ | 11 | 19 | 6.6 | 95 | 27 | 13.5 | 53.5 | 63.5 | 12 | M6×1.0 |
| 100 | 134 | 96 | 90 | 6 | 4 | 28 | 40 | 34 | 18h9 ⁺⁰ _{-0.043} | 23 | 7.5 | 15 | 8H9 ^{+0.036} ₋₀ | 14 | 21 | 9 | 118 | 30.6 | 18 | 66 | 78 | 16 | M8×1.25 |
| 125 | 166 | 122 | 114 | 8 | 6 | 30 | 46 | 40 | 22h9 ⁺⁰ _{-0.052} | 31 | 10.5 | 21 | 10H9 ^{+0.036} ₋₀ | 17.5 | 34 | 11 | 148 | 38 | 23.5 | 82 | 98 | 20 | M10×1.5 |

| Code Tube I.D. | R | S | TT | UU | UA | V | X | XA | XX | Y | YY | YA | Z | ZA | ZZ |
|-------------------|------|----|--------|---------|-----|----|------|----|--------------------------------------|------|--------------------------------------|----|----|-----|---------------------------------------|
| 32 | 30.5 | 6 | M5×0.8 | M4×0.7 | 6 | 20 | 22 | 3 | 3H9 ^{+0.025} ₋₀ | 19.5 | 3H9 ^{+0.025} ₋₀ | 3 | 5 | 2 | 34H9 ^{+0.062} ₋₀ |
| 40 | 32 | 7 | M5×0.8 | M5×0.8 | 7.5 | 21 | 26.5 | 4 | 4H9 ^{+0.030} ₋₀ | 23.5 | 4H9 ^{+0.030} ₋₀ | 4 | 6 | 2 | 42H9 ^{+0.062} ₋₀ |
| 50 | 37.5 | 9 | M5×0.8 | M5×0.8 | 10 | 24 | 31 | 4 | 4H9 ^{+0.030} ₋₀ | 28 | 4H9 ^{+0.030} ₋₀ | 4 | 6 | 2 | 52H9 ^{+0.074} ₋₀ |
| 63 | 44 | 11 | M5×0.8 | M6×1.0 | 9 | 28 | 38 | 5 | 5H9 ^{+0.030} ₋₀ | 34.5 | 5H9 ^{+0.030} ₋₀ | 5 | 7 | 2.5 | 65H9 ^{+0.074} ₋₀ |
| 80 | 56 | 12 | Rc1/8 | M6×1.0 | 12 | 32 | 47.5 | 6 | 6H9 ^{+0.030} ₋₀ | 43.5 | 6H9 ^{+0.030} ₋₀ | 6 | 8 | 3 | 82H9 ^{+0.087} ₋₀ |
| 100 | 63 | 15 | Rc1/4 | M8×1.25 | 16 | 38 | 59 | 6 | 8H9 ^{+0.036} ₋₀ | 54 | 8H9 ^{+0.036} ₋₀ | 6 | 10 | 4 | 102H9 ^{+0.087} ₋₀ |
| 125 | 84 | 18 | Rc3/8 | M10×1.5 | 20 | 52 | 74 | 8 | 10H9 ^{+0.036} ₋₀ | 68 | 10H9 ^{+0.036} ₋₀ | 8 | 12 | 6 | 130H9 ^{+0.100} ₋₀ |