

Air gripper(parallel style)



HFZ Series



Specification

| Bore size (mm) | | 6 | 10 | 16 | 20 | 25 | 32 | 40 |
|--------------------|---------------|--|------------------------------------|-------|---------------|----|-----------|----|
| Acting type | | Double acting | | | Single acting | | | |
| Fluid | | Air(to be filtered by 40 μ m filter element) | | | | | | |
| Operating pressure | Double acting | Φ6, Φ10 | 0.2~0.7MPa(28~100psi)(2.0~7.0bar) | | | | | |
| | Others | | 0.1~0.7MPa(15~100psi)(1.0~7.0bar) | | | | | |
| | Single acting | Φ6, Φ10 | 0.35~0.7MPa(50~100psi)(3.5~7.0bar) | | | | | |
| | Others | | 0.25~0.7MPa(36~100psi)(2.5~7.0bar) | | | | | |
| Temperature °C | | -20~70 | | | | | | |
| Lubrication | | Not required | | | | | | |
| Repeatability mm | | ± 0.01 | | | | | ± 0.02 | |
| Max. frequency | | 180(c.p.m) | | | | | 60(c.p.m) | |
| Sensor switches ① | | DS1-H | CS1-G | DS1-G | | | | |
| Port size | | M3 × 0.5 | | | M5 × 0.8 | | | |

① Sensor switch should be ordered additionally, please refer to P419-442 for detail of sensor switch.

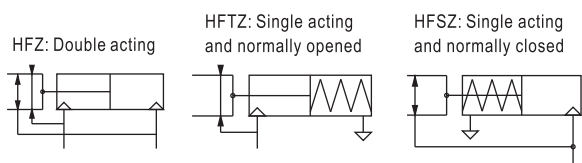
Ordering code

HFZ 20 □

| Model | Finger type |
|---|--------------------------------------|
| HFZ: Air finger(Double acting) | Blank:Standard |
| HFSZ: Air finger(Single acting and normally closed) | R:Narrow type |
| HFTZ: Air finger(Single acting and normally opened) | B:Side mounting type |
| | W:Side mounting and narrow type |
| | N:Thru.hole mounting type |
| | M:Thru.hole mounting and narrow type |
| | F:Bottom mounting type |

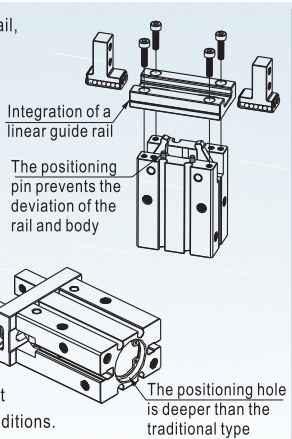
| Bore size |
|-----------|
| 6: Φ6mm |
| 10: Φ10mm |
| 16: Φ16mm |
| 20: Φ20mm |
| 25: Φ25mm |
| 32: Φ32mm |
| 40: Φ40mm |

Symbol



Product feature

1. Integrated design of linear guide rail, high rigidity and high precision.
2. A positioning pin is attached to the bottom of the linear guide rail, which can prevent the deviation of the positioning rail and body.
3. The hole of the body is deeper, which can improve the precision and the consistency of repeated dismounting and positioning.
4. According to the actual using requirements of customers, the initial position of clamping jaw can be customized to meet the different needs under different working conditions.



HFZ

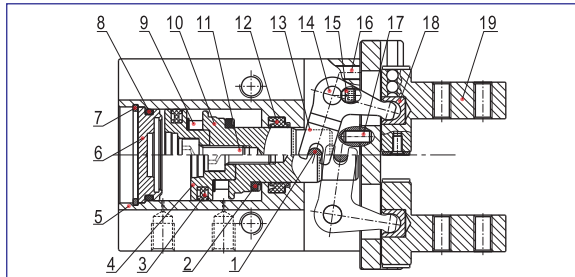
① Φ6, Φ32, Φ40 bore size don't R, W, M type. Add) HFZ series are all attached with magnet.



Air gripper(parallel style)

HFZ Series

Inner structure and material of major parts



| NO. | Item | Material |
|-----|---|--------------------------------------|
| 1 | Pin | Stainless steel |
| 2 | Bumper | TPU |
| 3 | Piston seal | NBR |
| 4 | Piston | Aluminum alloy/Stainless steel |
| 5 | Body | Aluminum alloy |
| 6 | Back cover | Aluminum alloy |
| 7 | C clip | Spring steel |
| 8 | O-ring | NBR |
| 9 | Magnet | Sintered metal(Neodymium-iron-boron) |
| 10 | Piston rod | Aluminum alloy/Stainless steel |
| 11 | Screw | Carbon steel |
| 12 | Rod packing | NBR |
| 13 | Curved bar | Stainless steel |
| 14 | Pin | Stainless steel |
| 15 | Countersink screw | Carbon steel |
| 16 | Hexagon screw | Carbon steel |
| 17 | Pin | Stainless steel |
| 18 | Guide sleeve | Stainless steel |
| 19 | Assembly of clamping jaw and guide rail | Stainless steel |

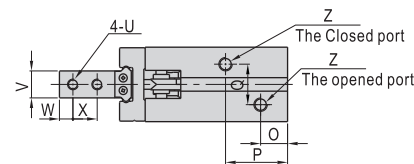
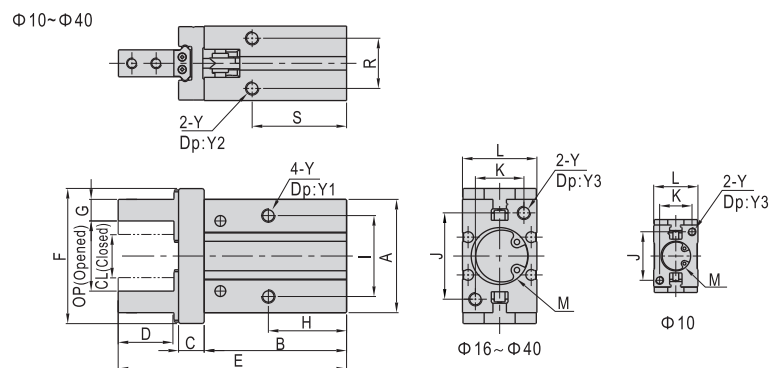
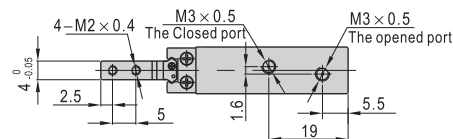
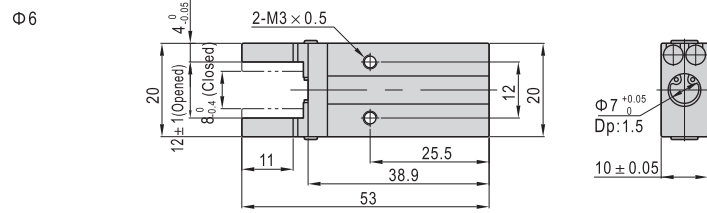
Gripping force and stroke

| Acting | Model | Gripping force per finger Effective valve(N) | | Opening/Closing stroke (Both sides)(mm) | Weight (g) | | |
|---------------|-----------------|--|----------|---|------------|--------|------|
| | | External | Internal | | F Type | Others | |
| Double acting | HFZ6 | 3.3 | 6.1 | 4 | 24 | 25 | |
| | HFZ10 | 11 | 17 | 4 | 56 | 56 | |
| | HFZ16 | 34 | 45 | 6 | 124 | 124 | |
| | HFZ20 | 45 | 68 | 10 | 236 | 236 | |
| | HFZ25 | 69 | 102 | 14 | 418 | 428 | |
| | HFZ32 | 160 | 195 | 22 | 750 | 729 | |
| Single acting | Normally opened | HFZ40 | 255 | 320 | 30 | 1340 | 1268 |
| | | HFTZ6 | 1.9 | - | 4 | 25 | 26 |
| | | HFTZ10 | 7 | - | 4 | 57 | 57 |
| | | HFTZ16 | 27 | - | 6 | 125 | 125 |
| | | HFTZ20 | 35 | - | 10 | 238 | 238 |
| | | HFTZ25 | 55 | - | 14 | 420 | 430 |
| | Normally closed | HFTZ32 | 133 | - | 22 | 799 | 778 |
| | | HFTZ40 | 220 | - | 30 | 1437 | 1365 |
| | | HFSZ6 | - | 3.7 | 4 | 25 | 26 |
| | | HFSZ11 | - | 13 | 4 | 57 | 57 |
| | | HFSZ16 | - | 38 | 6 | 125 | 125 |
| | | HFSZ20 | - | 59 | 10 | 238 | 238 |
| HFSZ25 | - | 87 | 14 | 420 | 430 | | |
| HFSZ32 | - | 163 | 22 | 799 | 778 | | |
| HFSZ40 | - | 270 | 30 | 1437 | 1365 | | |

Note) The gripping force in the above table is in the working pressure of 0.5MPa, and with a gripping point of L=20mm.
Add) Please refer to page 381 for the definition of "L".

Dimensions

Standard type



| Model\Item | A | B | C | D | E | F | G | H | I | J |
|------------|------|--------|-----|----|----------|-----|------------------------------------|--------|----|----|
| HFZ10 | 23 | 37.6 | 6 | 12 | 57 | 29 | 4 ⁰ / _{-0.05} | 23 | 16 | 18 |
| HFZ16 | 30.6 | 42.5 | 7.5 | 15 | 67.3 | 38 | 5 ⁰ / _{-0.05} | 24.5 | 24 | 22 |
| HFZ20 | 42 | 52.8 | 9.5 | 20 | 84.7 | 50 | 8 ⁰ / _{-0.05} | 29 | 30 | 32 |
| HFZ25 | 52 | 63.6 | 11 | 25 | 102.7 | 63 | 10 ⁰ / _{-0.05} | 30 | 36 | 40 |
| HFZ32 | 60 | 67(76) | 12 | 29 | 113(122) | 97 | 12 ⁰ / _{-0.05} | 40(49) | 46 | 46 |
| HFZ40 | 72 | 83(96) | 15 | 36 | 139(152) | 119 | 14 ⁰ / _{-0.05} | 49(62) | 56 | 56 |

| Model\Item | K | L | M | O | P | Q | R | S | U | W | |
|------------|----|------|----------------------|--------|-----|--------|----|------|--------|-------------|---|
| HFZ10 | 12 | 16.4 | Φ11 ^{+0.05} | Dp:2 | 7.5 | 19 | 10 | 11.4 | 27 | M2.5 × 0.45 | 3 |
| HFZ16 | 15 | 23.6 | Φ17 ^{+0.05} | Dp:2 | 7.5 | 19 | 13 | 16 | 30 | M3 × 0.5 | 4 |
| HFZ20 | 18 | 27.6 | Φ21 ^{+0.05} | Dp:3 | 9.7 | 23 | 15 | 18.6 | 35 | M4 × 0.7 | 5 |
| HFZ25 | 22 | 33.6 | Φ26 ^{+0.05} | Dp:3.5 | 10 | 23.8 | 20 | 22 | 36.5 | M5 × 0.8 | 6 |
| HFZ32 | 26 | 40 | Φ34 ^{+0.05} | Dp:4 | 11 | 31(40) | 24 | 26 | 48(57) | M6 × 1.0 | 7 |
| HFZ40 | 32 | 48 | Φ42 ^{+0.05} | Dp:4 | 12 | 38(50) | 28 | 32 | 58(71) | M8 × 1.25 | 9 |

| Model\Item | V | X | Y | Y1 | Y2 | Y3 | Z | OP | CL |
|------------|------------------------------------|-----|-----------|-----|-----|----|----------|-------------------------------------|-------------------------------------|
| HFZ10 | 5 ⁰ / _{-0.05} | 5.7 | M3 × 0.5 | 5.5 | 6 | 6 | M3 × 0.5 | 15.2 ⁺² / ₀ | 11.2 ⁰ / _{-0.7} |
| HFZ16 | 8 ⁰ / _{-0.05} | 7 | M4 × 0.7 | 8 | 4.5 | 8 | M5 × 0.8 | 20.9 ⁺² / ₀ | 14.9 ⁰ / _{-0.7} |
| HFZ20 | 10 ⁰ / _{-0.05} | 9 | M5 × 0.8 | 10 | 8 | 10 | M5 × 0.8 | 26.3 ⁺² / ₀ | 16.3 ⁰ / _{-0.7} |
| HFZ25 | 12 ⁰ / _{-0.05} | 12 | M6 × 1.0 | 12 | 10 | 12 | M5 × 0.8 | 33.3 ^{+2.5} / ₀ | 19.3 ⁰ / _{-0.8} |
| HFZ32 | 15 ⁰ / _{-0.05} | 14 | M6 × 1.0 | 13 | 10 | 13 | M5 × 0.8 | 48 ^{+2.5} / ₀ | 26 ⁰ / _{-0.5} |
| HFZ40 | 18 ⁰ / _{-0.05} | 17 | M8 × 1.25 | 16 | 13 | 17 | M5 × 0.8 | 60 ^{+2.5} / ₀ | 30 ⁰ / _{-0.5} |

Note) The values in "()" in the above table are single acting type sizes.



HFZ

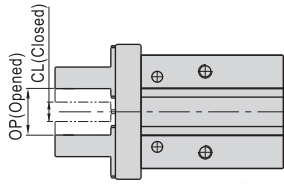
Air gripper(parallel style)



HFZ Series

Narrow type(R type)

Φ10~Φ25

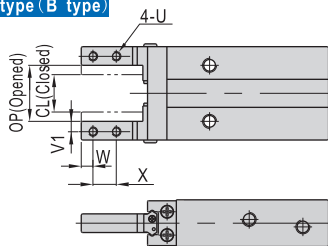


| Model\Item | OP | CL |
|------------|-----------------------------------|----------------------------------|
| HFZ10-R | 9.7 ⁺² ₀ | 5.7 ⁰ _{-0.4} |
| HFZ16-R | 12.6 ⁺² ₀ | 6.6 ⁰ _{-0.4} |
| HFZ20-R | 17.2 ⁺² ₀ | 7.2 ⁰ _{-0.4} |
| HFZ25-R | 22.8 ^{+2.5} ₀ | 8.8 ⁰ _{-0.4} |

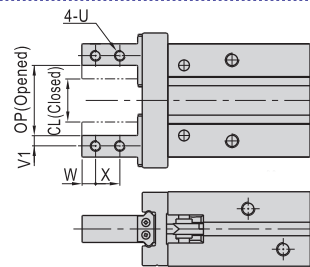
Note) The other dimensions are the same as standard type.

Side mounting type(B type)

Φ6



Φ10~Φ40

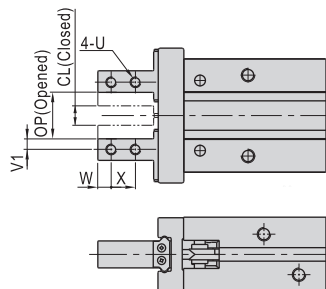


| Model\Item | U | V1 | W | X | OP | CL |
|------------|-------------|-----|-----|-----|-----------------------------------|-----------------------------------|
| HFZ6-B | M2 × 0.4 | 2 | 2.5 | 5 | 12 ± 1 | 8.0 ⁰ _{-0.4} |
| HFZ10-B | M2.5 × 0.45 | 2 | 3 | 5.7 | 15.2 ⁺² ₀ | 11.2 ⁰ _{-0.7} |
| HFZ16-B | M3 × 0.5 | 2.5 | 4 | 7 | 20.9 ⁺² ₀ | 14.9 ⁰ _{-0.7} |
| HFZ20-B | M4 × 0.7 | 4 | 5 | 9 | 26.3 ⁺² ₀ | 16.3 ⁰ _{-0.7} |
| HFZ25-B | M5 × 0.8 | 5 | 6 | 12 | 33.3 ^{+2.5} ₀ | 19.3 ⁰ _{-0.8} |
| HFZ32-B | M6 × 1.0 | 6 | 7 | 14 | 48 ^{+2.5} ₀ | 26 ⁰ _{-0.5} |
| HFZ40-B | M8 × 1.25 | 7 | 9 | 17 | 60 ^{+2.5} ₀ | 30 ⁰ _{-0.5} |

Note) The other dimensions are the same as standard type.

Side mounting and narrow type(W type)

Φ10~Φ25

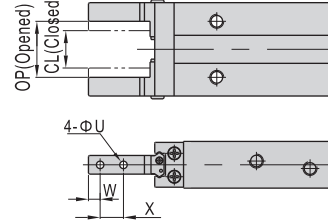


| Model\Item | U | V1 | W | X | OP | CL |
|------------|-------------|-----|---|-----|-----------------------------------|----------------------------------|
| HFZ10-W | M2.5 × 0.45 | 2 | 3 | 5.7 | 9.7 ⁺² ₀ | 5.7 ⁰ _{-0.4} |
| HFZ16-W | M3 × 0.5 | 2.5 | 4 | 7 | 12.6 ⁺² ₀ | 6.6 ⁰ _{-0.4} |
| HFZ20-W | M4 × 0.7 | 4 | 5 | 9 | 17.2 ⁺² ₀ | 7.2 ⁰ _{-0.4} |
| HFZ25-W | M5 × 0.8 | 5 | 6 | 12 | 22.8 ^{+2.5} ₀ | 8.8 ⁰ _{-0.4} |

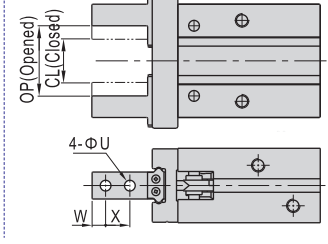
Note) The other dimensions are the same as standard type.

Thru. hole mounting type(N type)

Φ6



Φ10~Φ40



| Model\Item | U | W | X | OP | CL |
|------------|-----|-----|-----|-----------------------------------|-----------------------------------|
| HFZ6-N | 2.4 | 2.5 | 5 | 12 ± 1 | 8.0 ⁰ _{-0.4} |
| HFZ10-N | 2.9 | 3 | 5.7 | 15.2 ⁺² ₀ | 11.2 ⁰ _{-0.7} |
| HFZ16-N | 3.3 | 4 | 7 | 20.9 ⁺² ₀ | 14.9 ⁰ _{-0.7} |
| HFZ20-N | 4.5 | 5 | 9 | 26.3 ⁺² ₀ | 16.3 ⁰ _{-0.7} |
| HFZ25-N | 5.5 | 6 | 12 | 33.3 ^{+2.5} ₀ | 19.3 ⁰ _{-0.8} |
| HFZ32-N | 6.6 | 7 | 14 | 48 ^{+2.5} ₀ | 26 ⁰ _{-0.5} |
| HFZ40-N | 9 | 9 | 17 | 60 ^{+2.5} ₀ | 30 ⁰ _{-0.5} |

Note) The other dimensions are the same as standard type.

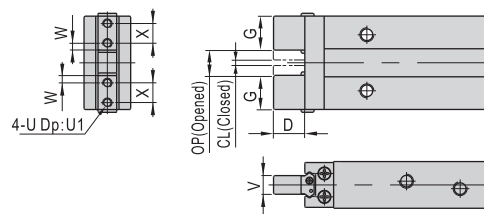
Thru. hole mounting and narrow type(M type)

| Model\Item | U | W | X | OP | CL |
|------------|-----|---|-----|-----------------------------------|----------------------------------|
| HFZ10-M | 2.9 | 3 | 5.7 | 9.7 ⁺² ₀ | 5.7 ⁰ _{-0.4} |
| HFZ16-M | 3.3 | 4 | 7 | 12.6 ⁺² ₀ | 6.6 ⁰ _{-0.4} |
| HFZ20-M | 4.5 | 5 | 9 | 17.2 ⁺² ₀ | 7.2 ⁰ _{-0.4} |
| HFZ25-M | 5.5 | 6 | 12 | 22.8 ^{+2.5} ₀ | 8.8 ⁰ _{-0.4} |

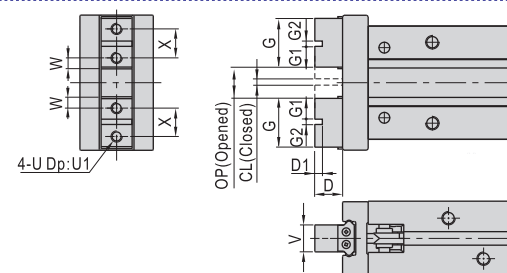
Note) The other dimensions are the same as standard type.

Bottom mounting type(F type)

Φ6



Φ10~Φ40



| Model\Item | D | D1 | G | G1 | G2 | U | U1 |
|------------|------|-----|------|------|--------------------------------------|-------------|----|
| HFZ6-F | 7.2 | - | 7.5 | - | - | M2 × 0.4 | 3 |
| HFZ10-F | 5.2 | 2 | 10.9 | 4.45 | 2H9 ^{+0.025} ₀ | M2.5 × 0.45 | 4 |
| HFZ16-F | 8.3 | 2.5 | 14.1 | 5.8 | 2.5H9 ^{+0.025} ₀ | M3 × 0.5 | 6 |
| HFZ20-F | 10.5 | 3 | 17.9 | 7.45 | 3H9 ^{+0.025} ₀ | M4 × 0.7 | 8 |
| HFZ25-F | 13.1 | 4 | 21.8 | 8.9 | 4H9 ^{+0.030} ₀ | M5 × 0.8 | 10 |
| HFZ32-F | 18 | 5 | 34.6 | 14.8 | 5H9 ^{+0.030} ₀ | M6 × 1.0 | 12 |
| HFZ40-F | 22 | 6 | 41.4 | 17.7 | 6H9 ^{+0.030} ₀ | M8 × 1.25 | 16 |

| Model\Item | OP | CL | V | W | X |
|------------|-----------------------------------|----------------------------------|----------------------------------|------|-----|
| HFZ6-F | 5 ^{+1.2} _{-0.8} | 1 ^{+0.2} ₀ | 4 ⁰ _{-0.05} | 2 | 3.5 |
| HFZ10-F | 5.4 ^{+2.2} ₀ | 1.4 ⁰ _{-0.2} | 5 ⁰ _{-0.05} | 2.45 | 6 |
| HFZ16-F | 7.4 ^{+2.2} ₀ | 1.4 ⁰ _{-0.2} | 8 ⁰ _{-0.05} | 3.05 | 8 |
| HFZ20-F | 11.6 ^{+2.3} ₀ | 1.4 ⁰ _{-0.2} | 10 ⁰ _{-0.05} | 3.95 | 10 |
| HFZ25-F | 16 ^{+2.5} ₀ | 1.8 ⁰ _{-0.2} | 12 ⁰ _{-0.05} | 4.9 | 12 |
| HFZ32-F | 25 ^{+2.7} ₀ | 3 ⁰ _{-0.2} | 15 ⁰ _{-0.05} | 7.3 | 20 |
| HFZ40-F | 33 ^{+2.9} ₀ | 3 ⁰ _{-0.2} | 18 ⁰ _{-0.05} | 8.7 | 24 |

Note) The other dimensions are the same as standard type.



HFZ



Air gripper(parallel style)

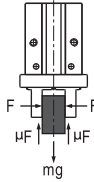


HFZ Series

How to select product

Please select pneumatic finger according to the following steps:
 The selection of the effective gripping force → the confirmation of the gripping point
 → the confirmation of the external force put on the gripping jaw.

1. The selection of the gripping force



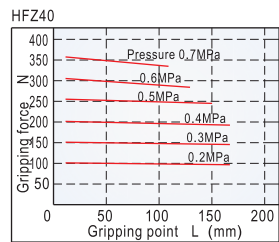
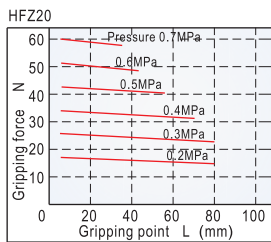
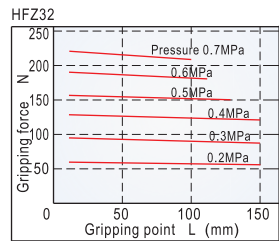
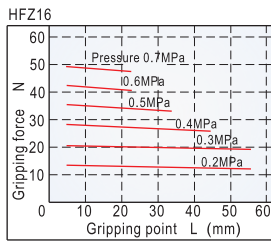
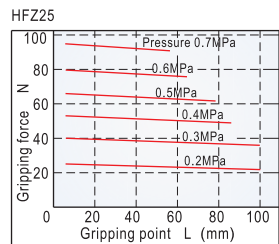
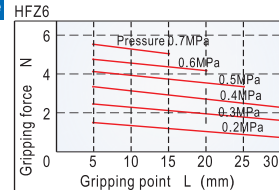
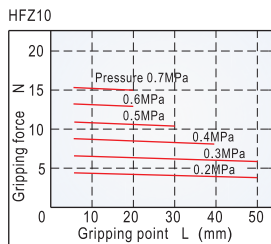
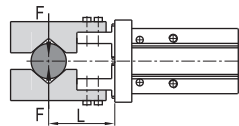
The gripping work-pieces shown above, on the impact condition of ordinary handling state, taking safety coefficient a=4, have a gripping force that is more than 10-20 times of the mass of the gripped objects.

| | |
|---|---|
| $\mu = 0.2$ | $\mu = 0.1$ |
| $F = \frac{mg}{2 \times 0.2} \times 4$ | $F = \frac{mg}{2 \times 0.1} \times 4$ |
| $= 10 \times mg$ | $= 20 \times mg$ |
| 10 times of the mass of the gripped objects | 20 times of the mass of the gripped objects |

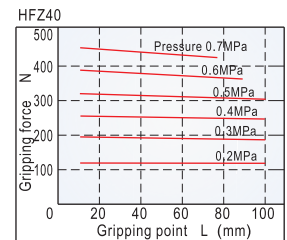
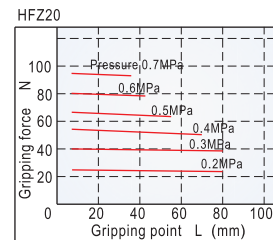
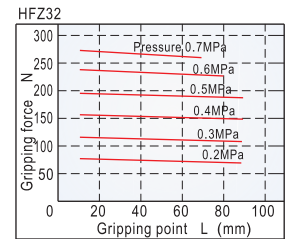
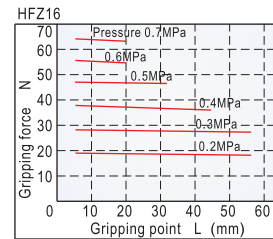
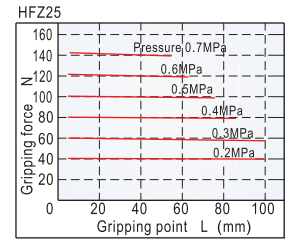
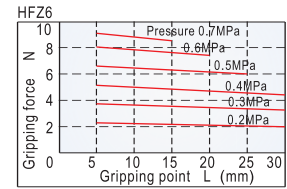
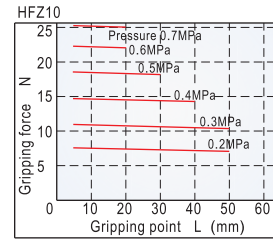
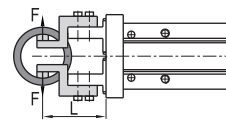
Note) If the friction coefficient $\mu > 0.2$, for safety, please also select clamping force according to the principle of 10~20 times of the mass of the clamped objects. As for large acceleration and shock, it requires for greater safety coefficient.

1.1) The actual gripping force must be within the effective gripping forces of different pneumatic fingers specifications shown in the below chart.

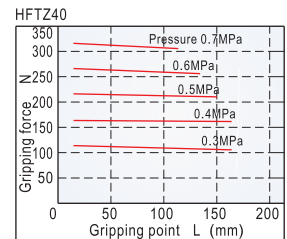
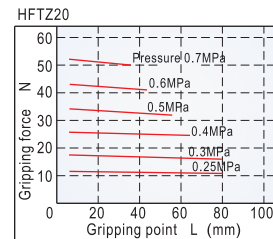
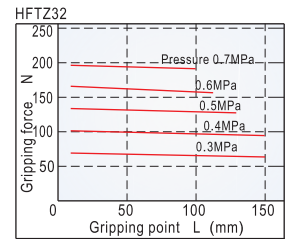
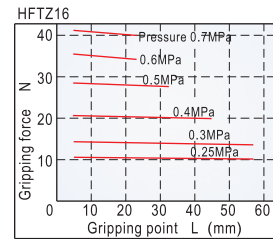
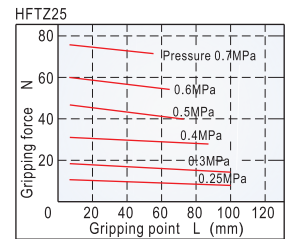
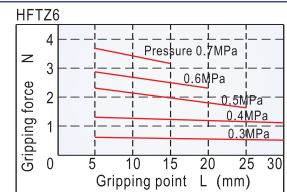
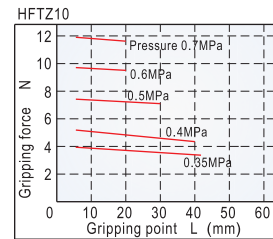
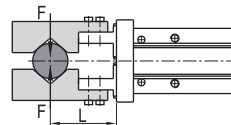
Double acting type closed gripping force



Double acting type opened gripping force



Single acting normally opened gripping force



HFZ

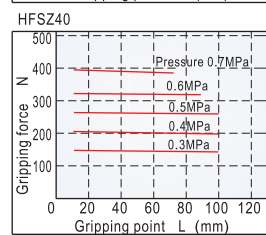
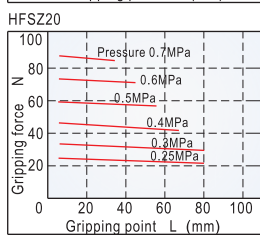
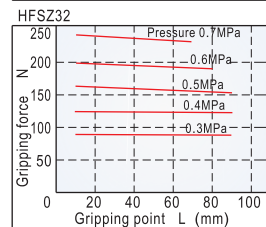
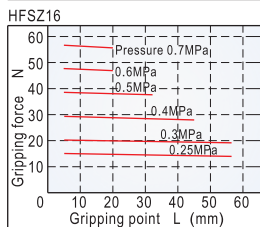
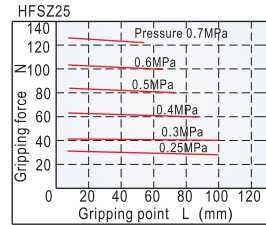
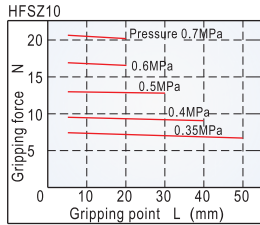
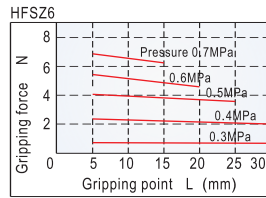
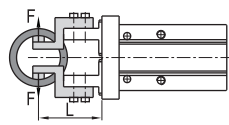


Air gripper(parallel style)

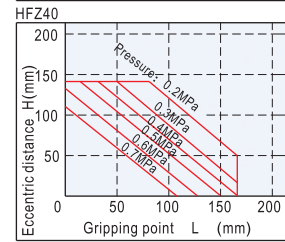
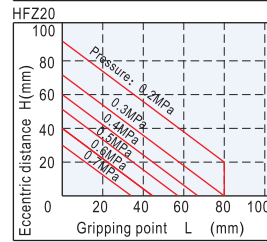
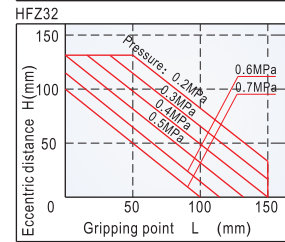
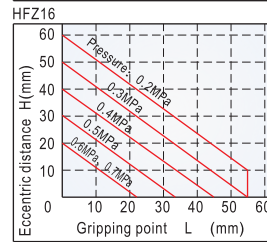
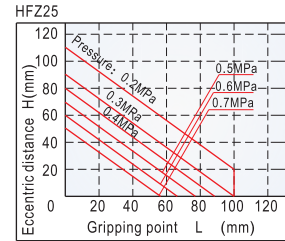
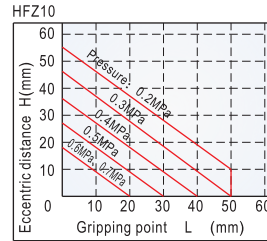
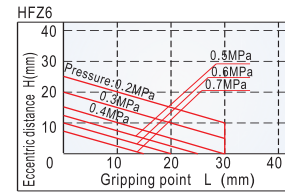
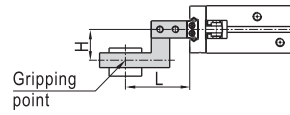


HFZ Series

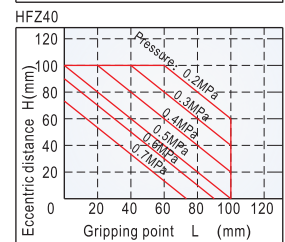
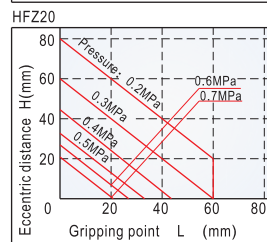
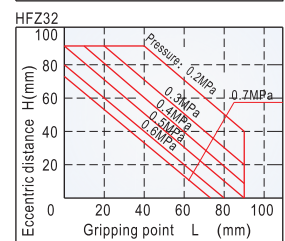
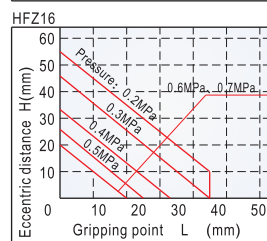
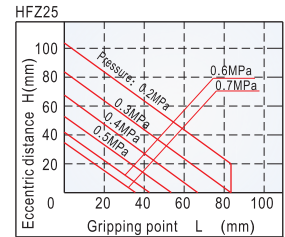
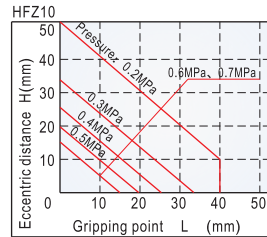
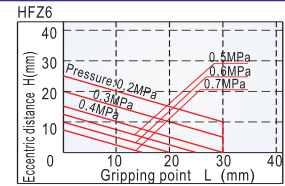
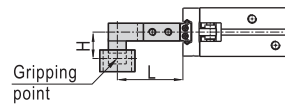
Single acting normally closed clamping force



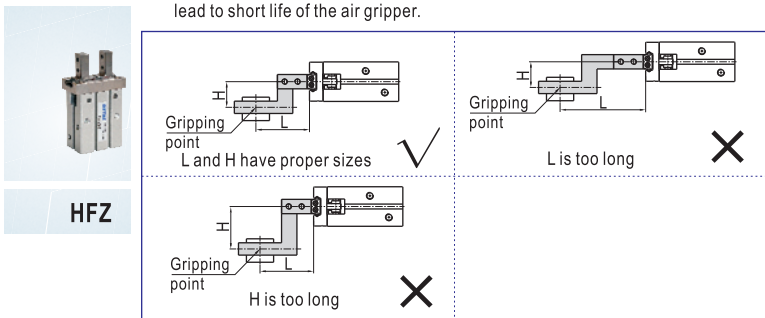
The range of the closed gripping points



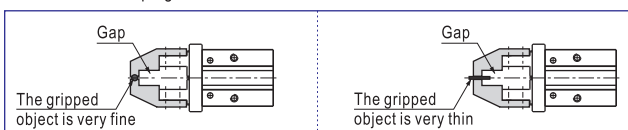
The range of the opened clamping point



2. The selection of the gripping point
- 2.1) Please select the gripping point within the limited field shown below.
Over the limits, gripping jaws would be subjected to excessive torque loads, and lead to short life of the air gripper.



- 2.2) In the allowable range of gripping point, it is better to design for short and light fittings. If the fittings are long and heavy, the inertia force when the finger is open and close will become larger, and the performance of gripping jaw will be degraded, at the same time it will affect the life.
- 2.3) When the gripped object is very fine and thin, you have to equip with gap between fittings. If not, there will be unstable clamp, resulting in a position offset and adverse clamping and so on.



Air gripper(parallel style)

HFZ Series

3. The confirmation of the external force put on the gripping jaw.

| Bore size | The allowed vertical loads Fv(N) | Max. permissible torque (Nm) | | |
|-----------|----------------------------------|------------------------------|------|------|
| | | Mp | My | Mr |
| 6 | 10 | 0.04 | 0.04 | 0.08 |
| 10 | 58 | 0.26 | 0.26 | 0.53 |
| 16 | 98 | 0.68 | 0.68 | 1.36 |
| 20 | 147 | 1.32 | 1.32 | 2.65 |
| 25 | 255 | 1.94 | 1.94 | 3.88 |
| 32 | 343 | 3 | 3 | 6 |
| 40 | 490 | 4.5 | 4.5 | 9 |

Note) The loads and torque values of said are all static values.

| The calculation of allowable forces when moment loads work | Examples of calculation |
|---|---|
| Allowable load(N) $= \frac{M(\text{Maximum permissible moment})(\text{N.m})}{L \times 10^{-3}}$ Unit conversion constant | In the guide rail of HFZ16, the external force of the pitching moment static loads put on the point of L=30mm is f=10 N, $\text{Allowable load } F = \frac{0.68}{30 \times 10^{-3}} = 22.7(\text{N})$ Actual load f=10(N)<22.7(N) To meet the using requirements |

Installation and application

- Due to the abrupt changes, the circuit pressure is low, which will lead to the decrease of the gripping force and falling of the work-pieces. In order to avoid the harm to the human body and damage to the equipment, anti-dropping device must be equipped.
- Don't use the air gripper under strong external force and impact force.
- Please contact with us when the single acting type clamps only with the spring force.
- When install and fix the air gripper, avoid falling down, collision and damage.
- When fixing the gripping jaw parts, don't twist the gripping jaw.
- There are several kinds of installation method, and the locking torque of fastening screw must be within the prescribed torque range shown in the below chart. If the locking torque is too large, it will cause the dysfunctional. If the locking torque is too small, it will cause the position deviation and fall.

Tail installation type

| Bore size | The bolts type | Max. locking moment (Nm) | Max. screwed depth (mm) | The aperture of the positioning bore(mm) | The depth of the positioning bore(mm) |
|-----------|----------------|--------------------------|-------------------------|--|---------------------------------------|
| 10 | M3 × 0.5 | 0.88 | 6 | Φ 11 ^{+0.05} ₀ | 2 |
| 16 | M4 × 0.7 | 2.1 | 8 | Φ 17 ^{+0.05} ₀ | 2 |
| 20 | M5 × 0.8 | 4.3 | 10 | Φ 21 ^{+0.05} ₀ | 3 |
| 25 | M6 × 1.0 | 7.3 | 12 | Φ 26 ^{+0.05} ₀ | 3.5 |
| 32 | M6 × 1.0 | 7.9 | 13 | Φ 34 ^{+0.05} ₀ | 4 |
| 40 | M8 × 1.25 | 17.7 | 17 | Φ 42 ^{+0.05} ₀ | 4 |

The installation of the front threaded hole

| Bore size | The bolts type | Max. locking moment (Nm) | Max. screwed depth (mm) |
|-----------|----------------|--------------------------|-------------------------|
| 6 | M3 × 0.5 | 0.88 | 10 |
| 10 | M3 × 0.5 | 0.69 | 5 |
| 16 | M4 × 0.7 | 2.1 | 8 |
| 20 | M5 × 0.8 | 4.3 | 10 |
| 25 | M6 × 1.0 | 7.3 | 12 |
| 32 | M6 × 1.0 | 7.9 | 13 |
| 40 | M8 × 1.25 | 17.7 | 16 |

The installation of the front through hole

| Bore size | The bolts type | Max. locking moment (Nm) | Max. screwed depth (mm) |
|-----------|----------------|--------------------------|-------------------------|
| 6 | M2.5 × 0.45 | 0.49 | - |
| 10 | M2.5 × 0.45 | 0.49 | 5 |
| 16 | M3 × 0.5 | 0.88 | 8 |
| 20 | M4 × 0.7 | 2.1 | 10 |
| 25 | M5 × 0.8 | 4.3 | 12 |
| 32 | M5 × 0.8 | 4.3 | 13 |
| 40 | M6 × 1.0 | 7.3 | 16 |

Surface installation type

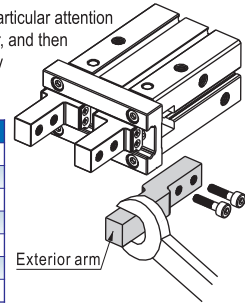
| Bore size | The bolts type | Max. locking moment (Nm) | Max. screwed depth (mm) |
|-----------|----------------|--------------------------|-------------------------|
| 10 | M3 × 0.5 | 0.9 | 6 |
| 16 | M4 × 0.7 | 1.6 | 4.5 |
| 20 | M5 × 0.8 | 3.3 | 8 |
| 25 | M6 × 1.0 | 5.9 | 10 |
| 32 | M6 × 1.0 | 5.9 | 10 |
| 40 | M8 × 1.25 | 13.7 | 13 |

7. The installation method of the gripping jaw fittings

When install the gripping jaw fittings, you have to pay particular attention that you can only hold the gripping jaw by using spanner, and then lock the screws with allen wrench. Never clamp the body directly and then lock the screws, otherwise the parts will be easily damaged.

Bore size The bolts type Max. locking moment (Nm)

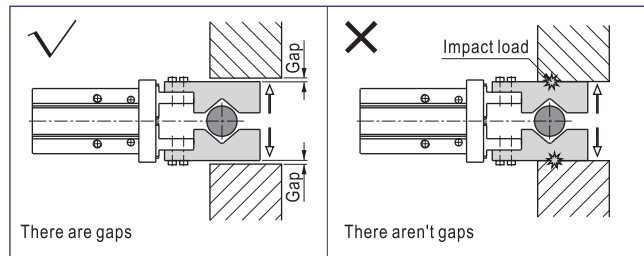
| | | |
|----|-------------|------|
| 6 | M2 × 0.4 | 0.15 |
| 10 | M2.5 × 0.45 | 0.31 |
| 16 | M3 × 0.5 | 0.59 |
| 20 | M4 × 0.7 | 1.4 |
| 25 | M5 × 0.8 | 2.8 |
| 32 | M6 × 1.0 | 4.9 |
| 40 | M8 × 1.25 | 11.8 |



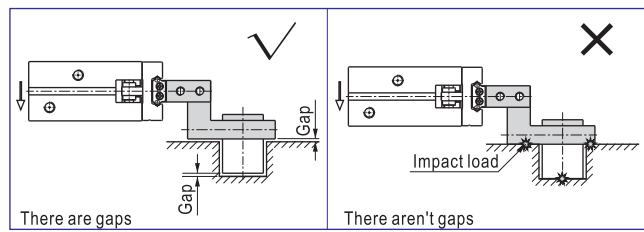
8. Confirm that there is no external forces exerted on the gripping jaw.

Transverse load acts on the gripping jaw, which will cause impact load and leads to the shaking and damage of gripping jaw. Equip with gaps so that the air gripper will not crash into work-pieces and accessories at the end of its trip.

8.1) The end of stroke under the open state of air gripper

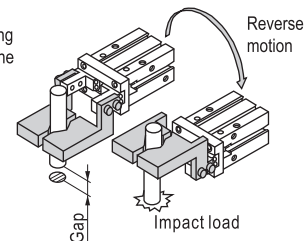


8.2) The end of stroke under the move state of air gripper

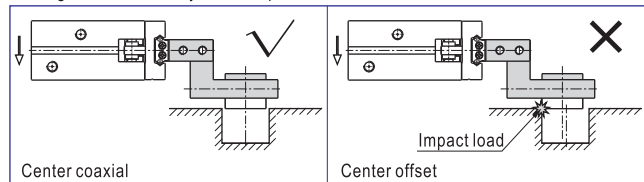


8.3) Reverse motion state

When reverse motion state, the gripping point must be precision, otherwise in the reverse motion state the air gripper maybe impact with ambience and will cause impact load .



9. When the work-pieces are inserted, the center line should be coaxial, no offset, in case there are external force generated on gripping jaw. When testing, it is specially required that the manual operation should be reduced, the pressure should be used to run it at a low speed, and guarantee the safety and no impact.



10. Please use the flow control valve to adjust the opening and closing speed of gripping jaw if too fast.

11. People can not enter the movement path of air gripper and articles can not be placed on the path too.

12. Before removing the air gripper, please confirm that it is out of working state, and then discharge of compressed air.



HFZ