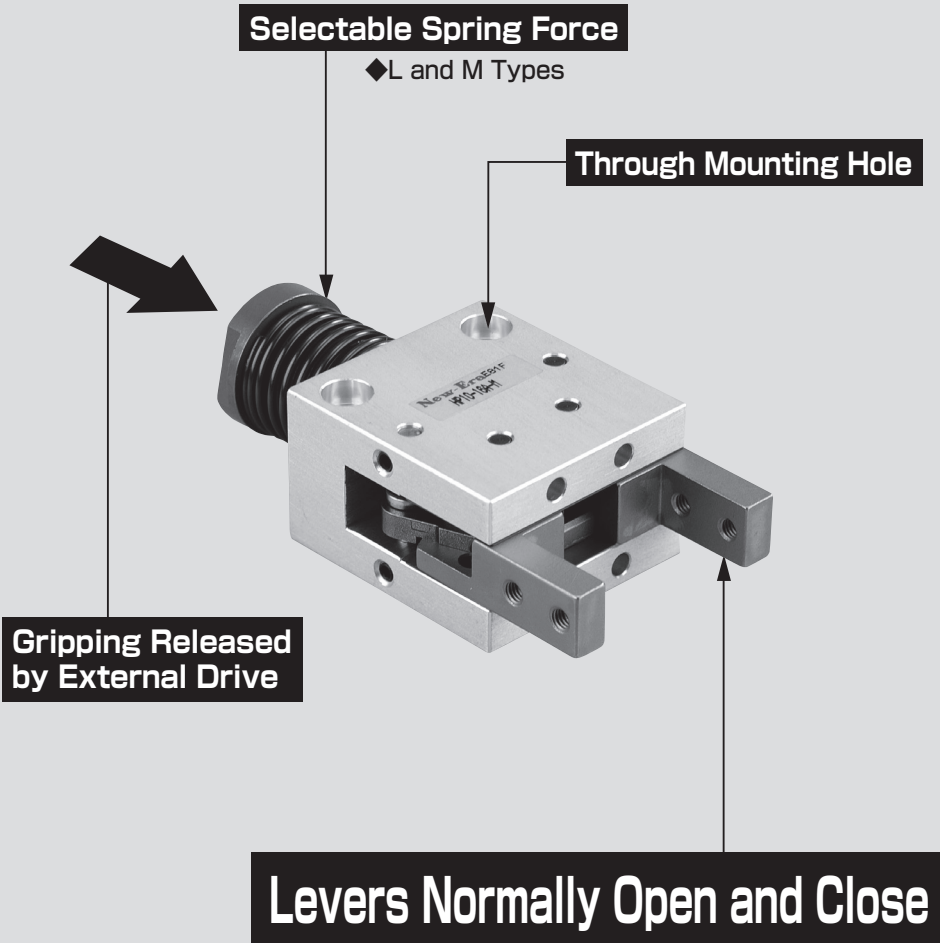


Air Piping Not Required

(Normally Open Type and Close Type)



Model Code No.

HP10 - 10 A - L

Series Name

Nominal diameter

- 10
- 16
- 20

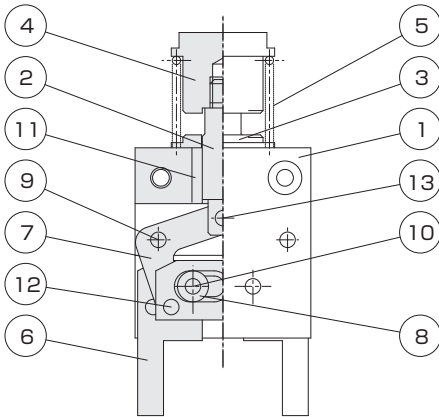
Gripping Force

- L: Low
 - M: Medium
- ※Please feel free to consult us about the grip forces (spring forces) other than the ones specified on the left.

Action Type

- A : Single Acting Normally Open
- B : Single Acting Normally Close

Internal Structure Diagram



Parts List

NO	Name	Material
1	Main Body	Aluminum Alloy
2	Piston Rod	Stainless Steel
3	Pressure Cover	Aluminum Alloy
4	Pressure Cover	Carbon Tool Steel
5	Spring	Spring Steel
6	Lever	Carbon Tool Steel
7	Action Lever	Carbon Tool Steel
8	Ring	Carbon Tool Steel
9	Fulcrum Pin	Carbon Tool Steel
10	Fulcrum Pin	Carbon Tool Steel
11	Metal	Oil-impregnated Sintered Bearing
12	Press Fit Pin	Carbon Tool Steel
13	Press Fit Pin	Carbon Steel

Specifications

Elastic Body to be Used	Compression spring
Operating Temperature [°C]	0~120
Lubrication	Required (Sliding parts of the machine)
Maximum Operating Cycle [Cycle/min]	120
Repeat Accuracy [mm]	±0.01
Applicable Switch	Not mountable

Action Type	Model	Nominal diameter [mm]	Opening/Closing Stroke [mm] ^{Note)3}	Gripping Force [N]		Note)1 Extrusion Force [N]	Allowable Extrusion Force [N]	Product Mass [g]	Outside Dimensions (T x W x L) [mm]	Note)2 Lever Ratio
				Open	Close					
Single Acting Normally Open	HP10-10A-L	10	4 (4~5.7)	3.4	—	23.5	50	60	16×23×51.3	1:2
	HP10-10A-M			4.5	—	32.3				
Single Acting Normally Close	HP10-10B-L			—	3.4	23.5				
	HP10-10B-M			—	4.5	32.3				
Single Acting Normally Open	HP10-16A-L	16	8 (8~9.7)	4.4	—	32.3	130	135	22×34×59.1	1:2.2
	HP10-16A-M			6.4	—	47				
Single Acting Normally Close	HP10-16B-L			—	4.4	32.3				
	HP10-16B-M			—	6.4	47				
Single Acting Normally Open	HP10-20A-L	20	12 (12~13.9)	6.5	—	47	210	245	26×45×75.8	1:2.2
	HP10-20A-M			8.3	—	58.8				
Single Acting Normally Close	HP10-20B-L			—	6.5	47				
	HP10-20B-M			—	8.3	58.8				

Note 1): Extrusion force is an external force required to open the levers completely by overwhelming the spring force in the closing direction.

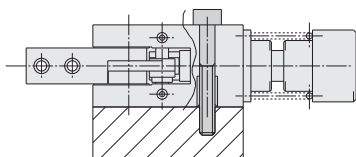
Note 2): The lever ratio is the "Extruded Distance (how much the rear rod is extruded) and the "Lever Opening Distance (Lever Opening Distance at that time) (both sides) expressed in "Extruded Distance: Lever Opening Distance".

Note 3): The opening/closing stroke is a reference value. Values in the parentheses are measured values.

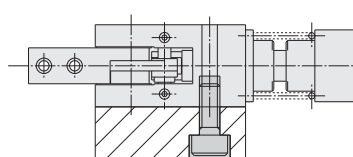
Main Body Mounting Example

1 When the through-hole of the main body is used

(For $\phi 16$ and $\phi 20$, the bolt head does not protrude from the main body.)



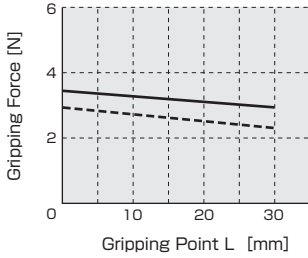
2 When the mounting screw on the back side of the through-hole is used



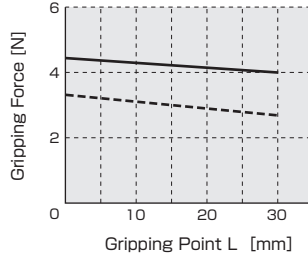
Effective Gripping Force

— When the levers are full open
 - - - - When the levers are full closed

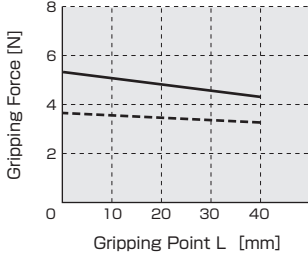
HP10-10-L



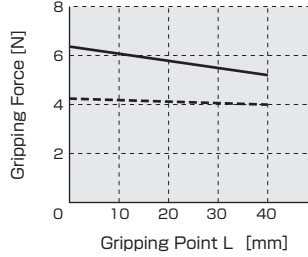
HP10-10-M



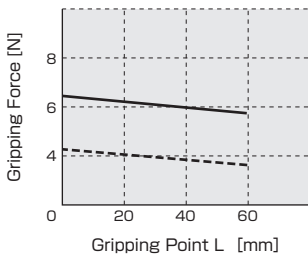
HP10-16-L



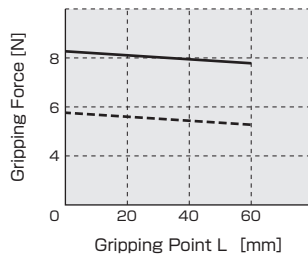
HP10-16-M



HP10-20-L

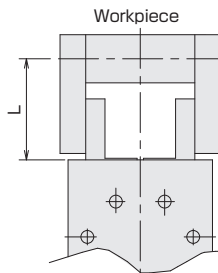


HP10-20-M

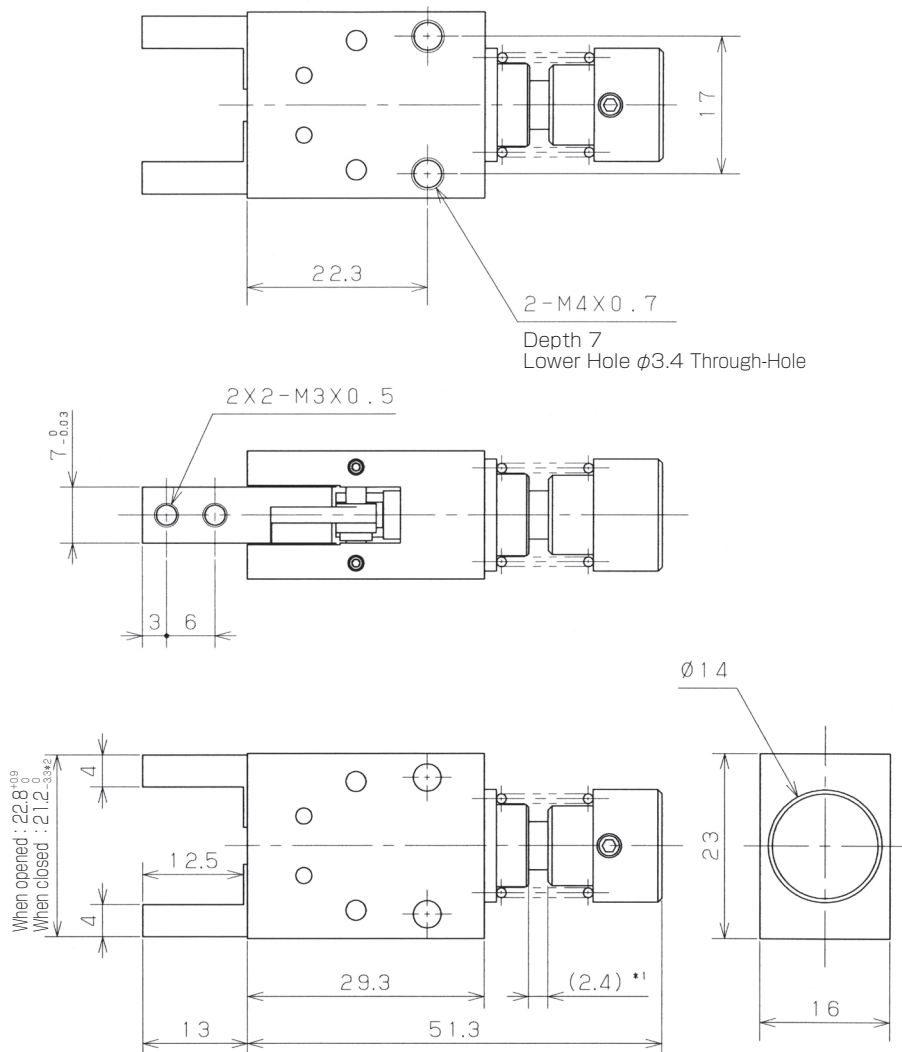


Gripping Point Limit Range

HP10-10...30mm or less
 HP10-16...40mm or less
 HP10-20...60mm or less



Dimensions HP10-10A-□



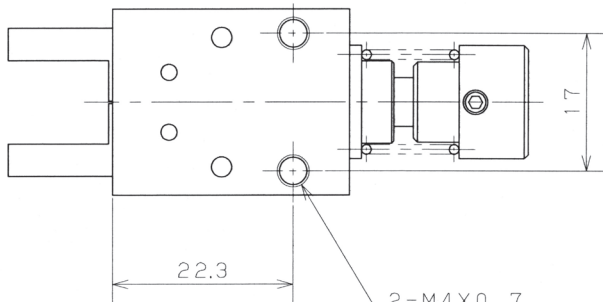
Note) · The allowable extrusion force shall be within the specified range in use.
 · Do not hit the cam and the dog against the pressure cover in use.

- * 1) This dimension allows extrusion. See "Lever Ratio" for the lever opening distance for the extrusion distance.
- * 2) This is a dimension at the maximum extrusion.

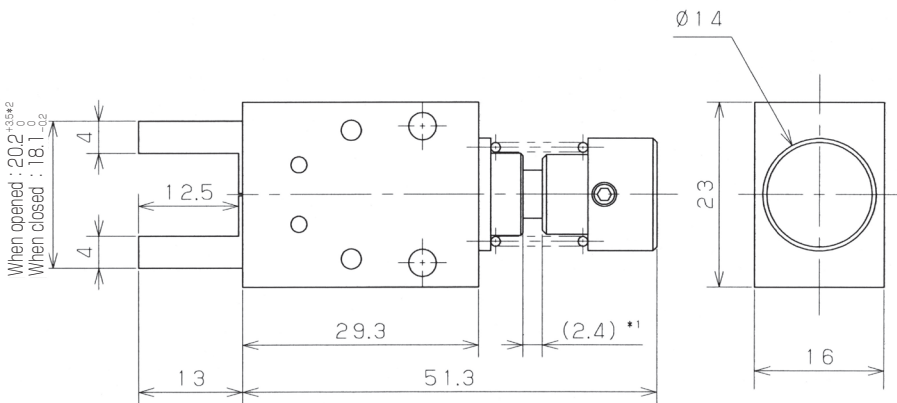
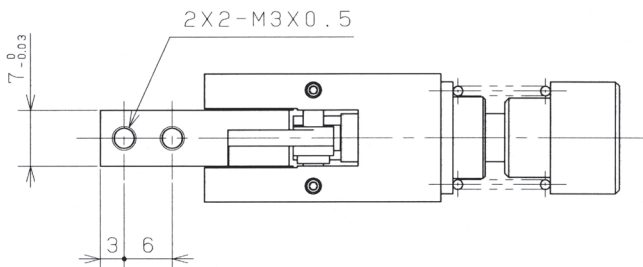
Dimensions HP10-10B-□

HP10 Series

Parallel Mechanical Gripper



2-M4 X 0.7
Depth 7
Lower Hole $\phi 3.4$ Through-Hole



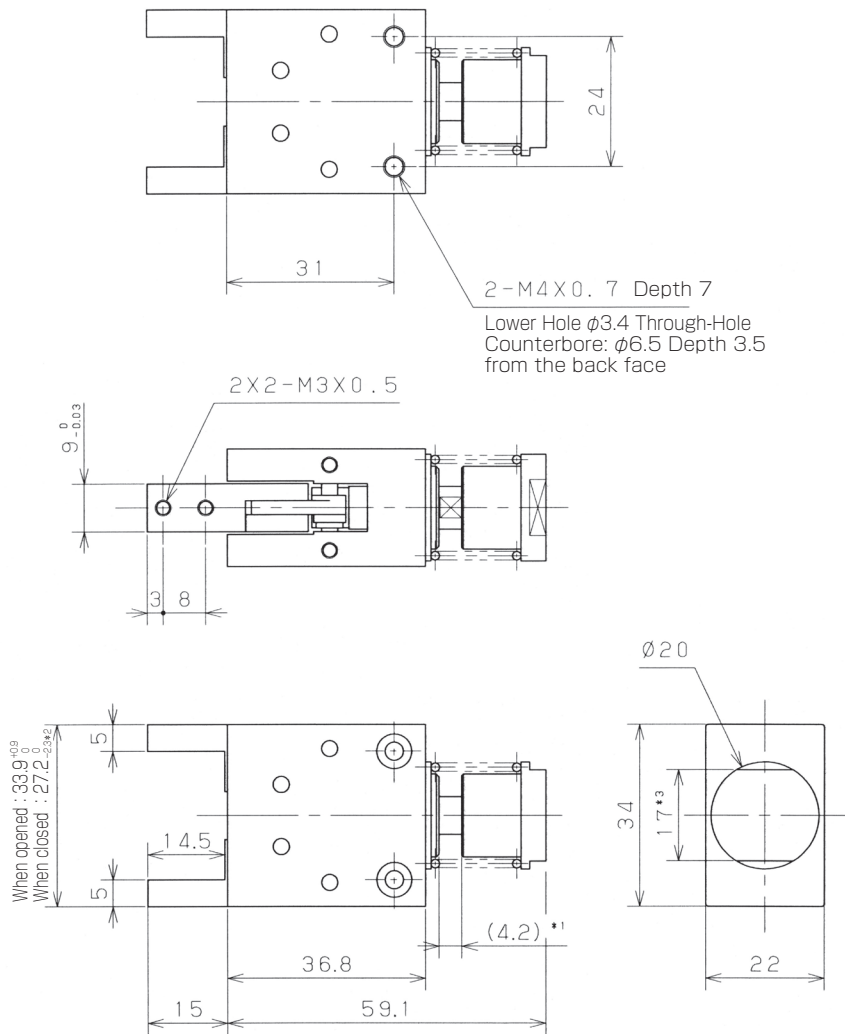
Note) · The allowable extrusion force shall be within the specified range in use.

· Do not hit the cam and the dog against the pressure cover in use.

* 1) This dimension allows extrusion. See "Lever Ratio" for the lever opening distance for the extrusion distance.

* 2) This is a dimension at the maximum extrusion.

Dimensions HP10-16A-□



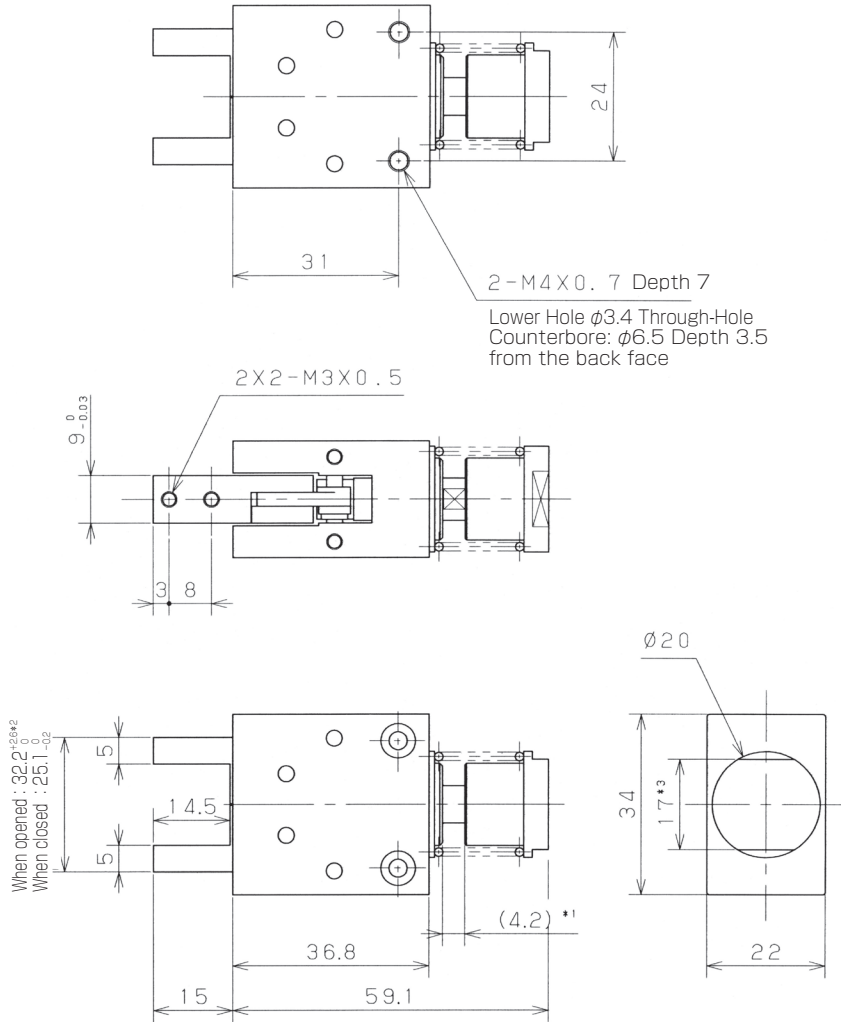
Note) · The allowable extrusion force shall be within the specified range in use.
· Do not hit the cam and the dog against the pressure cover in use.

- * 1) This dimension allows extrusion. See "Lever Ratio" for the lever opening distance for the extrusion distance.
- * 2) This is a dimension at the maximum extrusion.
- * 3) This is used for rod tightening, so it is different from the actual position.

Dimensions HP10-16B-□

HP10 Series

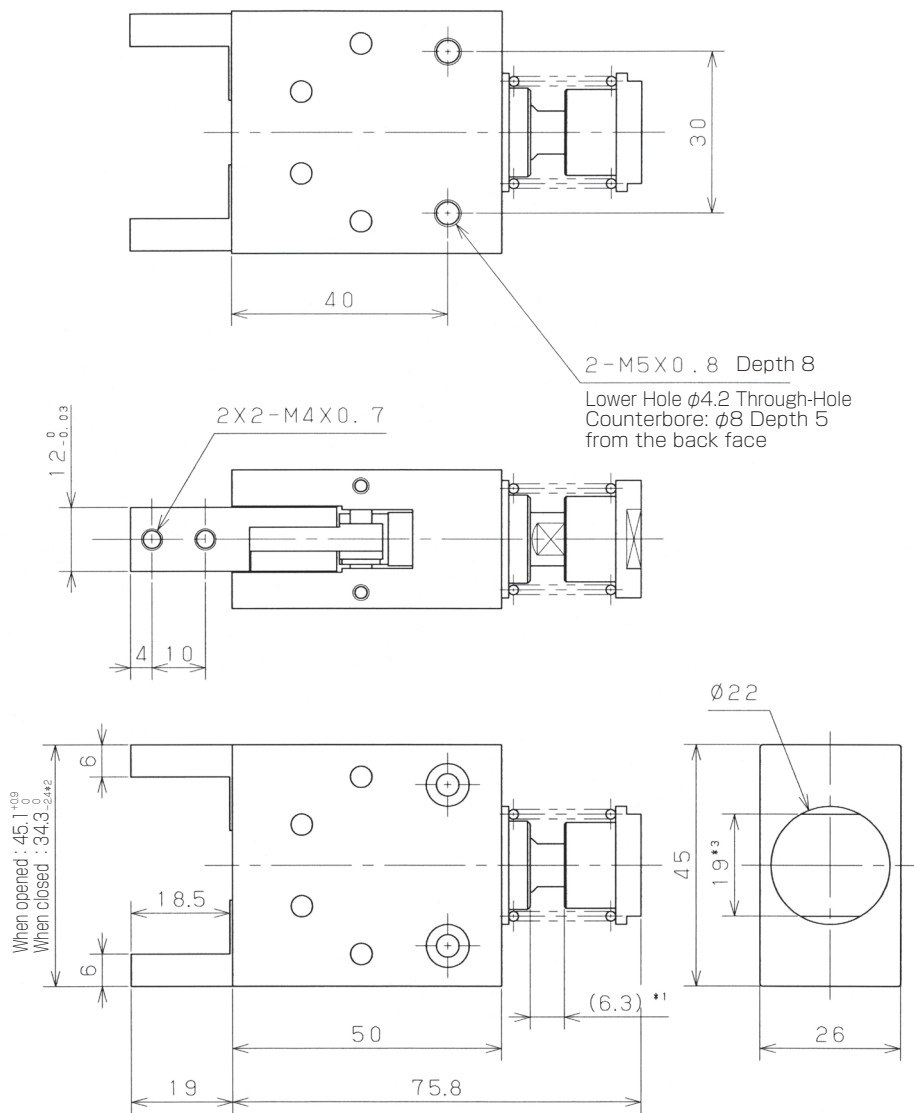
Parallel Mechanical Gripper



Note) · The allowable extrusion force shall be within the specified range in use.
· Do not hit the cam and the dog against the pressure cover in use.

- * 1) This dimension allows extrusion. See "Lever Ratio" for the lever opening distance for the extrusion distance.
- * 2) This is a dimension at the maximum extrusion.
- * 3) This is used for rod tightening, so it is different from the actual position.

Dimensions HP10-20A-□



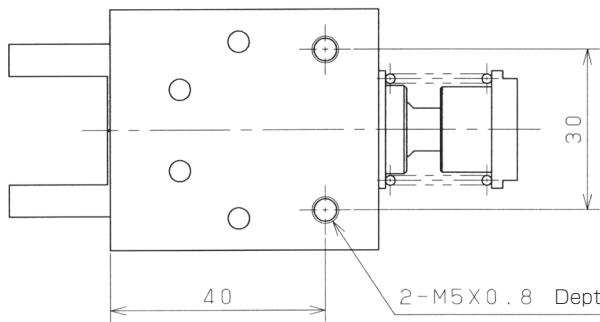
Note) · The allowable extrusion force shall be within the specified range in use.
 · Do not hit the cam and the dog against the pressure cover in use.

- * 1) This dimension allows extrusion. See "Lever Ratio" for the lever opening distance for the extrusion distance.
- * 2) This is a dimension at the maximum extrusion.
- * 3) This is used for rod tightening, so it is different from the actual position.

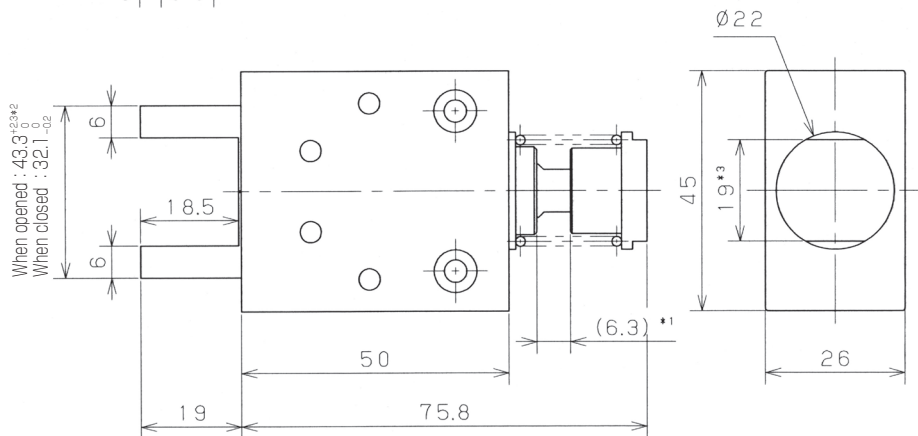
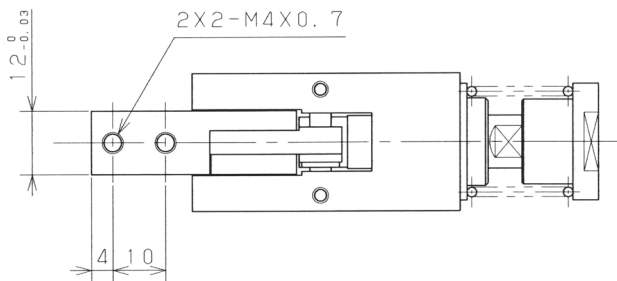
Dimensions HP10-20B-□

HP10 Series

Parallel Mechanical Gripper



Lower Hole $\phi 4.2$ Through-Hole
Counterbore: $\phi 8$ Depth 5
from the back face



Note) · The allowable extrusion force shall be within the specified range in use.
· Do not hit the cam and the dog against the pressure cover in use.

- * 1) This dimension allows extrusion. See "Lever Ratio" for the lever opening distance for the extrusion distance.
- * 2) This is a dimension at the maximum extrusion.
- * 3) This is used for rod tightening, so it is different from the actual position.