

Parallel Mechanical Gripper

HP09F Series (Old Type HP12)

Finger(Long Attachment)Type

Selectable Gripping Force

L: Low
M: Medium
H: High

Through
Mounting Hole

Dust-proof Cover

- ◆NBR
- ◆Silicon
- ◆Fluorine

Positioning Hole

External Force

High Rigidity
High Accuracy

Excellent CENTERING Accuracy

◆ $\pm 0.07\text{mm}$ or less

Use of LINEAR GUIDE

- ◆Withstand load, withstand moment (high rigidity)
- ◆High accuracy (repeat accuracy: $\pm 0.01\text{ mm}$ or less)
- ◆Gripping at a long point and overhang gripping are available.

HP09F Series (Old Type HP12)

Model Code No.

HP09F - 8 - L ※ JN

Series Name

Nominal diameter

8
10
16
20

Dust-proof Cover Type

No Code: No Cover
JN: With NBR Rubber Cover
JS: With Silicon Rubber Cover
JF: With Fluorine Rubber Cover

Gripping Force

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

Dust-proof Cover Set

Model Code No. **JS - 09F 16**

Material

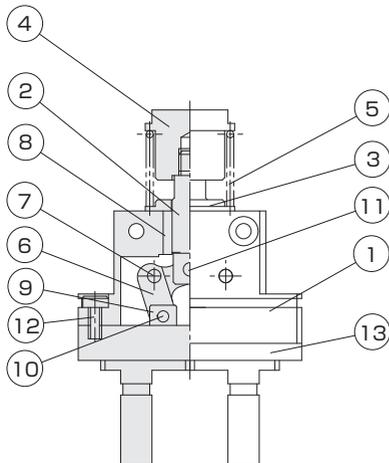
JN: With NBR Rubber Cover
JS: With Silicon Rubber Cover
JF: With Fluorine Rubber Cover

Size

08: For 8
10: For 10
16: For 16
20: For 20

Series Name

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	Action Lever	Carbon Tool Steel
7	Fulcrum Pin	Carbon Tool Steel
8	Metal	Oil-impregnated Sintered Bearing
9	Knuckle	Stainless Steel
10	Roller	Carbon Steel
11	Roller	Carbon Steel
12	Hexagon Socket Head Bolt	Carbon Tool Steel
13	Bearing	Stainless Steel

Specifications

Elastic Body to be Used	Compression spring
Action Type	Single Acting Normally Close (External force drive at opening)
Operating Temperature [°C]	0~120
Lubrication	Required (Sliding parts of the machine)
Maximum Operating Cycle [Cycle/min]	180
Centering Accuracy [mm]	±0.07
Repeat Accuracy [mm]	±0.01
Applicable Switch	Not mountable

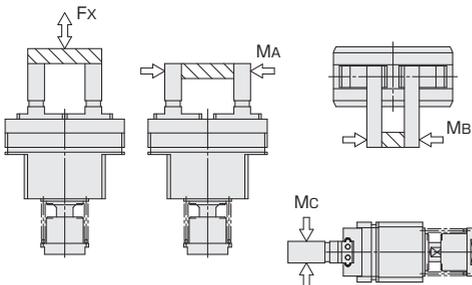
Action Type	Model	Nominal diameter [mm]	Note)3 Opening/ Closing Stroke [mm]	Gripping Force (At Closing) [N]	Note)1 Extrusion Force [N]	Allowable Extrusion Force [N]	Outside Dimensions (T x W x L) [mm]	Note)2 Lever Ratio	Product Mass [g]	
									Without dust-proof cover	With dust-proof cover
Single Acting Normally Close	HP09F-8-L	8	4 (32~6.1)	1.6	7	30	13x20x55.1	1:2	31	JN:32.5, JS:32.5, JF:33
	HP09F-8-M			2.5	10					
	HP09F-8-H			4.3	17					
	HP09F-10-L	10	6.5 (52~8.1)	3.4	14	50	20x36x71.5	1:2	78	JN:82.5, JS:82, JF:84.5
	HP09F-10-M			4.5	20					
	HP09F-10-H			7.2	31					
	HP09F-16-L	16	10 (103~13.6)	4.4	20	130	25x50x79.7	1:2.2	156	JN:162.5, JS:162, JF:165
	HP09F-16-M			6.4	28					
	HP09F-16-H			11.0	43					
	HP09F-20-L	20	14 (133~16.1)	6.5	26	210	32x62x105.3	1:2.2	312	JN:324.5, JS:322, JF:330.5
HP09F-20-M	8.3			37						
HP09F-20-H	12.0			56						

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.

Allowable Load and Allowable Moment



Model	Load and Moment Fx [N]	MA [N·m]	Mb [N·m]	Mc [N·m]
HP09F-8	12	0.04	0.04	0.08
HP09F-10	50	0.4	0.4	0.8
HP09F-16	120	1	1	2
HP09F-20	200	1.5	1.5	3

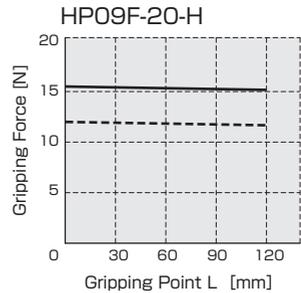
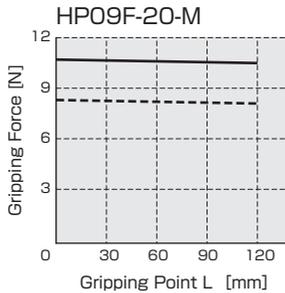
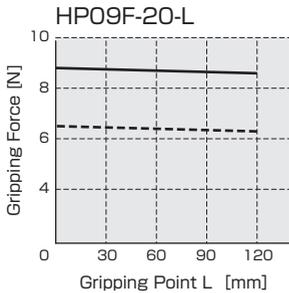
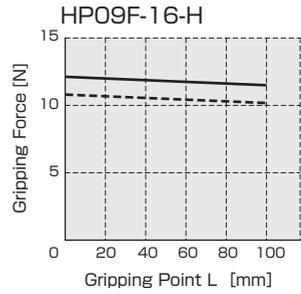
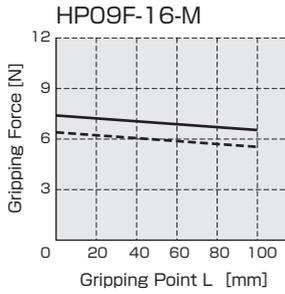
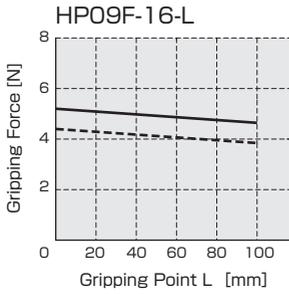
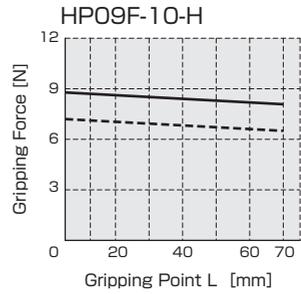
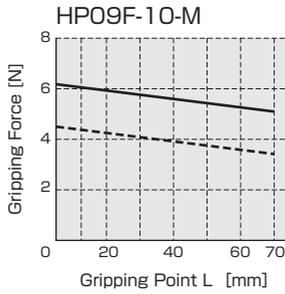
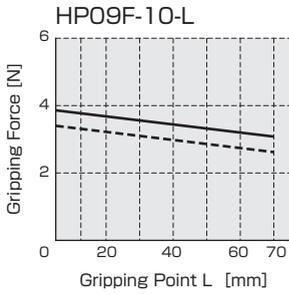
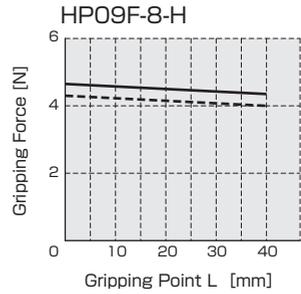
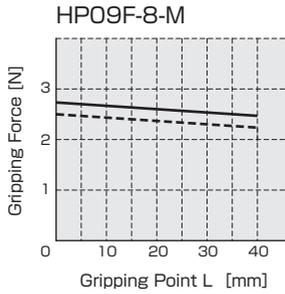
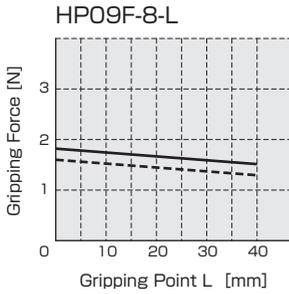
HP09F Series (Old Type HP12)

Effective Gripping Force

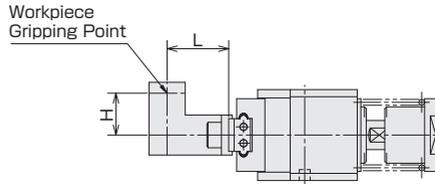
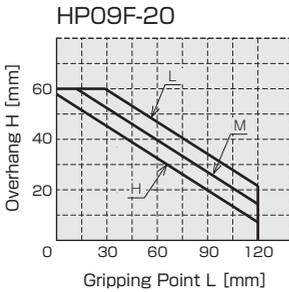
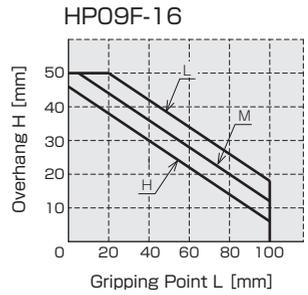
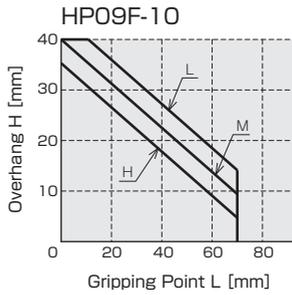
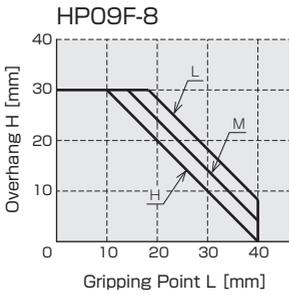
— When the levers are full open
 - - - When the levers are full closed

HP09F Series

Parallel Mechanical Gripper (Finger(Long Attachment)Type)



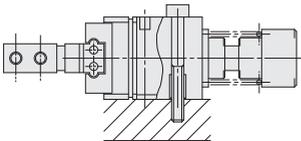
Gripping Point Limit Range



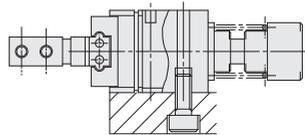
Main Body Mounting Example

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

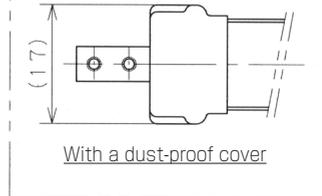
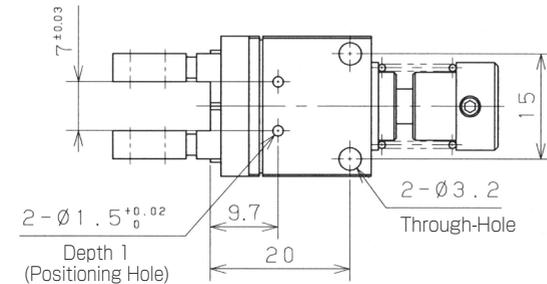
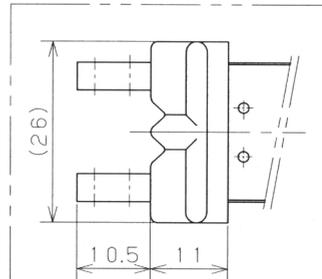
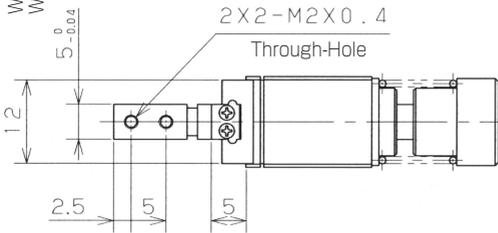
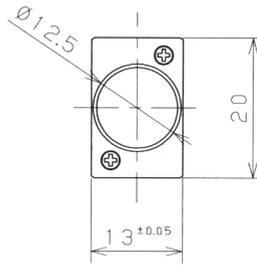
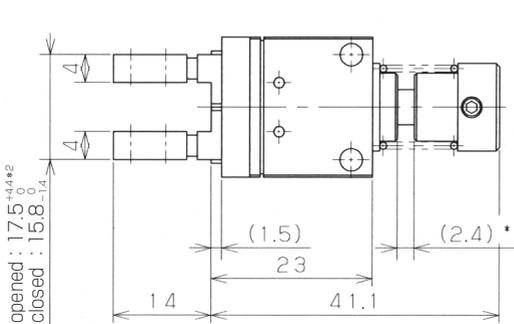
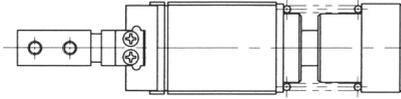
(For $\phi 16$ and $\phi 20$, the bolt head does not protrude from the main body.)



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



Dimensions HP09F-8-□

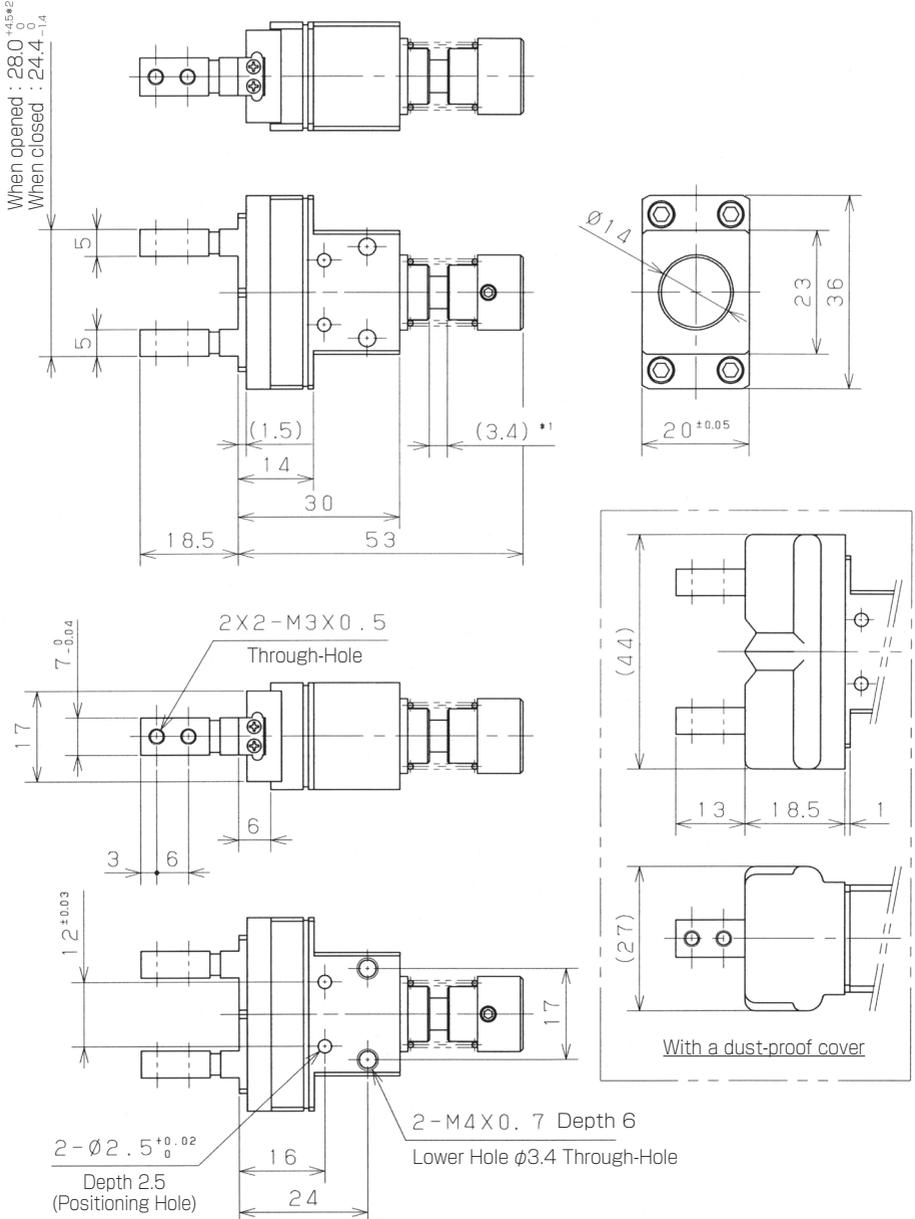


Note) · The allowable extrusion force shall be within the specified range in use.
· Do not hit the cam and the dog against the pressure cover in use.

* 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.

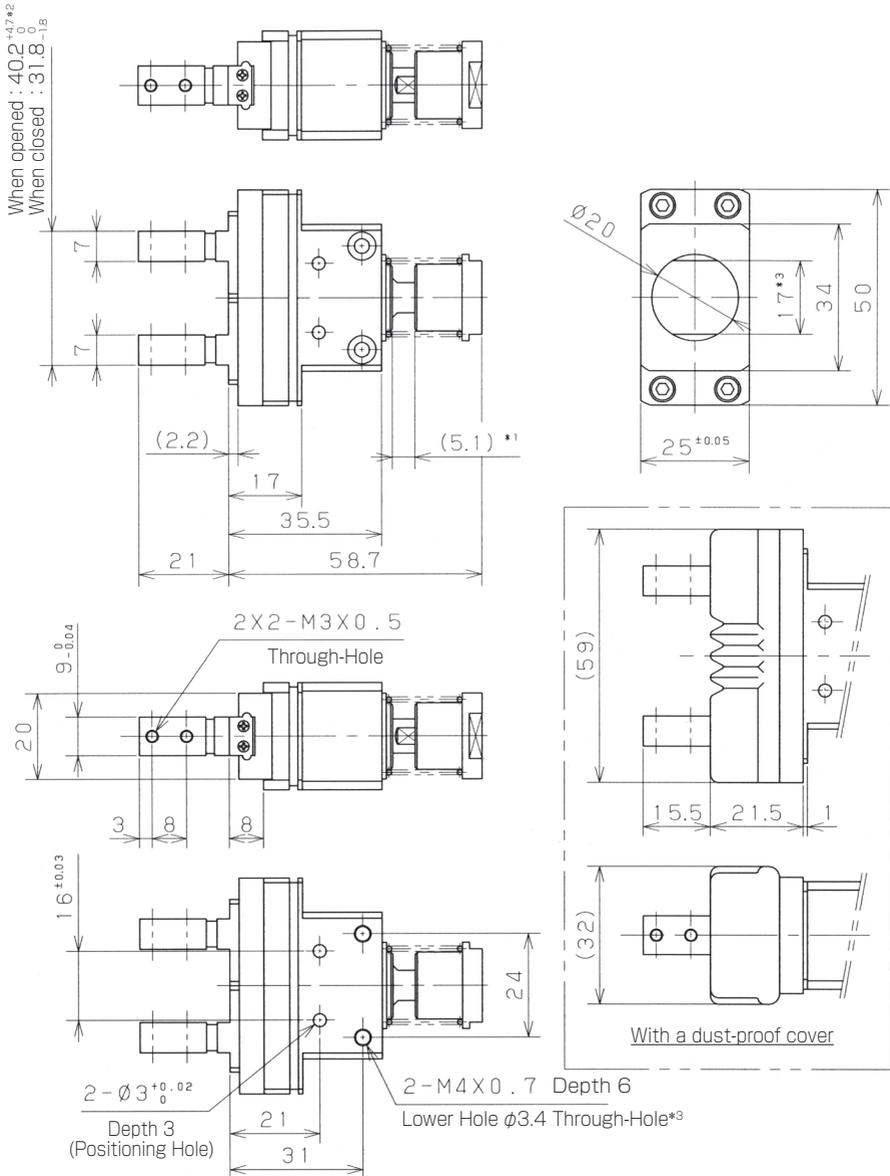
Dimensions HP09F-10-□



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 HP09F-16-□



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

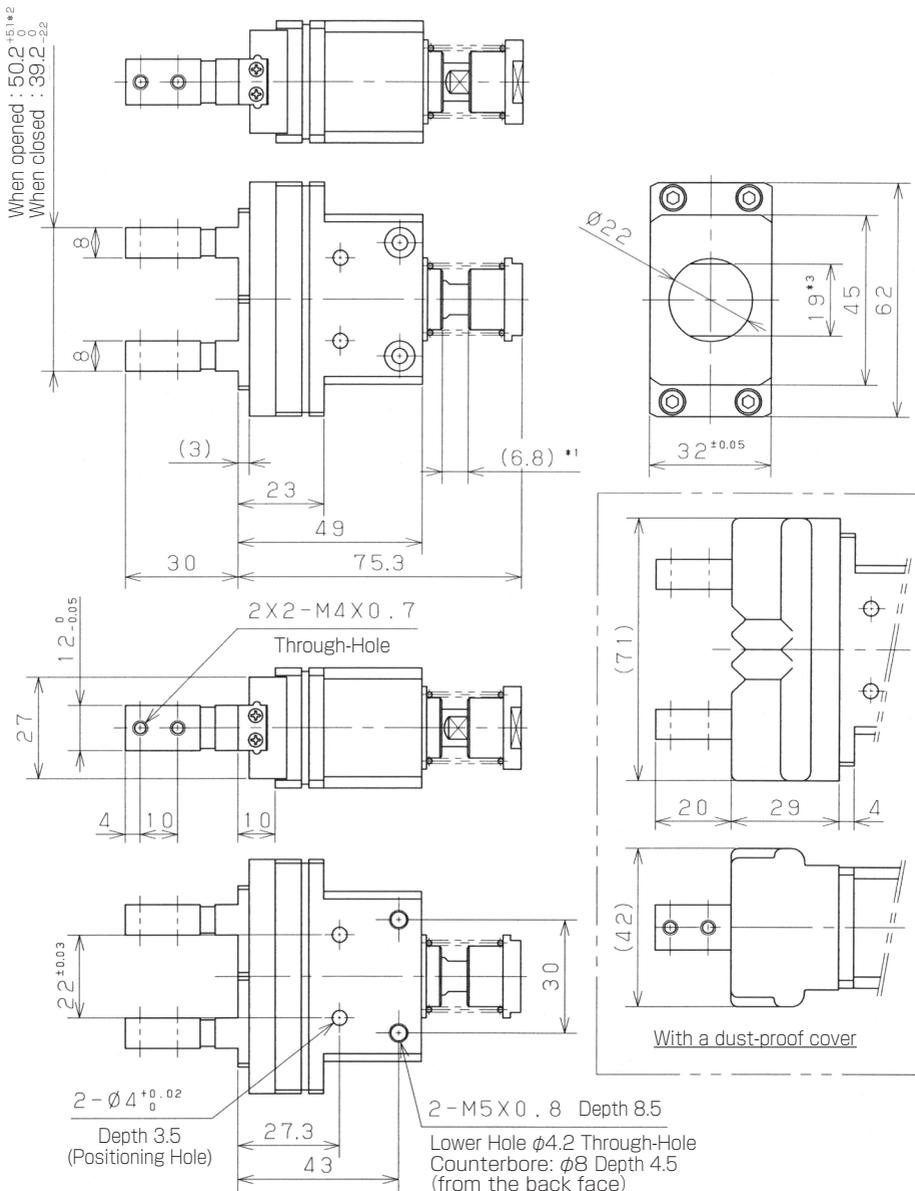
· Do not hit the cam and the dog against the pressure cover in use.

* 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 HP09F-20-□



HP09F Series

Parallel Mechanical Gripper (Finger/Long Attachment) Type

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.