

Parallel Gripper

EHPE Series**◆ Long life**

Long life because a bearing is used for the sliding part.

◆ High grip accuracy

Grip accuracy improved thanks to the mechanism improvement.

◆ High grip force

Grip force improved because the cylinder push force is used as the closing force.

◆ Adjustable switch position

2 switches are mountable so you can check opening and closing of the levers. The switch is compact so it does not protrude from the main body side.

◆ Mounting available from 3 directions

You can select the mounting direction freely because 3 faces have a mounting screw.

◆ Mounting adapter is optional

Mounting variation has been further expanded by providing a gripper mounting adapter for each size.

Model Code No.

EHPE - 10 C * HAE - ZE135 A 2

Series Name

Bore Size

- 10:10mm
- 16:16mm
- 20:20mm
- 25:25mm

Action Type

- A : Single Acting Normally Open
- C : Double Acting

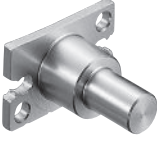
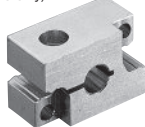
Number of Switches

- 1:1 Switch
- 2:2 Switches

Switch Lead Wire Length



- A:1m
- B:3m

●Gripper Adaptor Type
 No Code: No Gripper Adaptor

HAE	HFE HFE-L : Large Diameter Type (φ16 only)
	

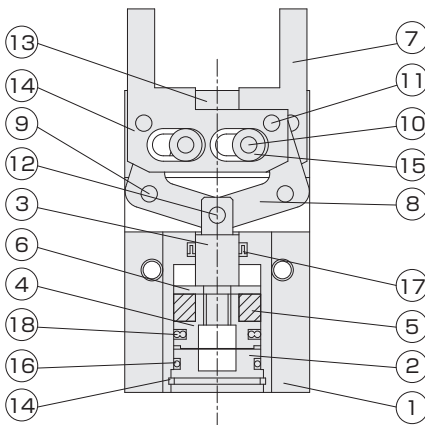
●Detailed specifications→P.277

●Switch Type No Code: No Switch

ZE135	ES13	ZE235	ES23
2 Wire System Solid State Switch, Straight Type		2 Wire System Solid State Switch, L-shaped	
ZE155	ES(P)15	ZE255	ES(P)25
3 Wire System Solid State Switch, Straight Type		3 Wire System Solid State Switch, L-shaped	
			

●Switch details→P.521~528

Internal Structure Diagram



Parts List

NO	Name	Material
1	Main Body	Aluminum Alloy
2	Head Cover	Aluminum Alloy
3	Piston Rod	Stainless Steel
4	Piston	Aluminum Alloy
5	Magnet	Resin
6	Pressure Cover	Aluminum Alloy
7	Lever	Carbon Tool Steel
8	Action Lever	Carbon Steel
9	Fulcrum Pin	Carbon Tool Steel
10	Fulcrum Pin	Carbon Tool Steel
11	Press Fit Pin	Carbon Steel
12	Press Fit Pin	Carbon Steel
13	Slide Plate	Carbon Steel
14	Hole Locating Snap Ring	Hard Steel
15	Ring	Carbon Steel
16	O Ring	NBR
17	Rod Packing	NBR
18	Piston Packing	NBR

Specifications

Fluid	Air
Maximum Operating Pressure [MPa]	0.7
Proof Pressure [MPa]	1.05
Operating Temperature [°C]	0~60 (No Freezing)
Lubrication	Not Required (Required for sliding parts of the machine)
Pipe Bore	M3×0.5(EHPE-10) M5×0.8(EHPE-16, EHPE-20, EHPE-25)
Maximum Operating Cycle [Cycle/min]	180
Repeat Accuracy [mm]	±0.01
Applicable Switch	ZE, ES Type (Solid State Switch)

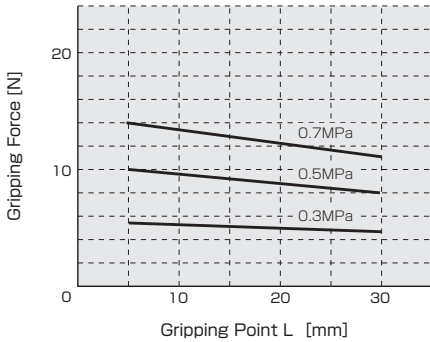
Action Type	Model	Bore Size [mm]	Minimum Operating Pressure [MPa]	Opening/Closing Stroke [mm]	Gripping Force [N]		Outside Dimensions (T x W x L) [mm]	Product Mass [g]
					Close	Open		
Double Acting	EHPE-10C	10	0.15	4	8	5	16×23×44	47
	EHPE-16C	16	0.1	8	24	18	22×34×55.5	120
	EHPE-20C	20	0.1	12	47	35	26×45×66.5	230
	EHPE-25C	25	0.1	14	78	60	32×52×76.5	388
Single Acting Normally Open	EHPE-10A	10	0.35	4	3	2	16×23×44	48
	EHPE-16A	16	0.25	8	13	4	22×34×55.5	121
	EHPE-20A	20	0.25	12	23	7	26×45×66.5	232
	EHPE-25A	25	0.25	14	38	14	32×52×76.5	392

Note) The grip force is measured at the intermediate position of the opening/closing stroke. It is an effective value when the grip point L is 30 mm and the pressure is 0.5 MPa.

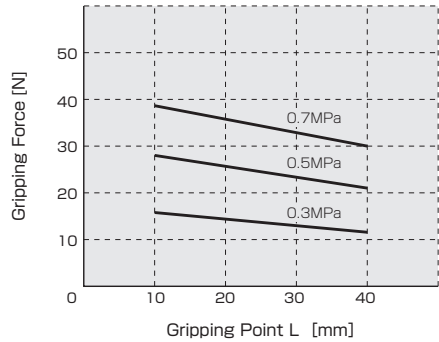
The opening force of the single acting type indicates the spring force.

Effective Gripping Force (Closing Force)

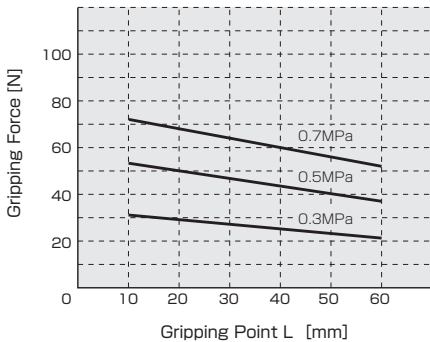
EHPE-10



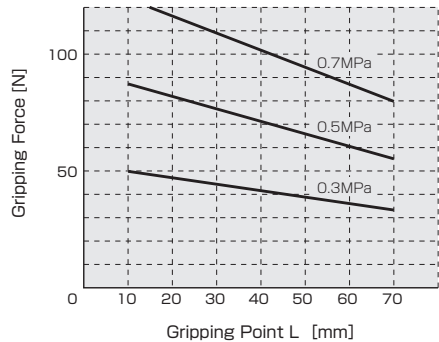
EHPE-16



EHPE-20

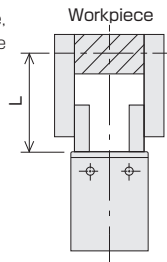


EHPE-25



To calculate the opening force, multiply the closing force value asked in the table by the following value.

- EHPE-10C...0.64
 - EHPE-16C...0.75
 - EHPE-20C...0.75
 - EHPE-25C...0.77
- as a coefficient.

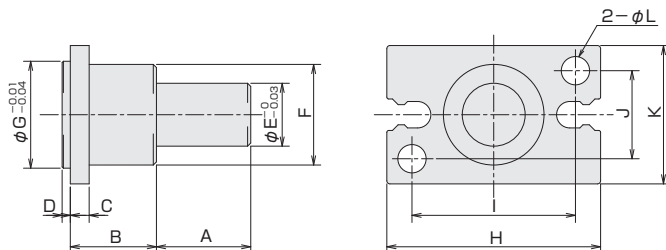


Limitation of grip point L

- EHPE-10C...30mm or less
- EHPE-16C...40mm or less
- EHPE-20C...60mm or less
- EHPE-25C...70mm or less

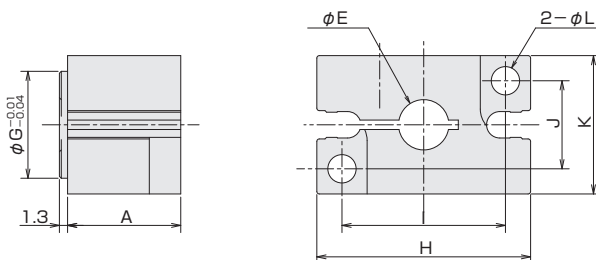
Outline Dimensional Drawing of Gripper Adaptor

HAE Type



Type	Code	A	B	C	D	E	F	G	H	I	J	K	L	Ancillary Bolt (x2)	Product Mass [g] (Including Bolts)
HAE-10		15	15	3	1.3	10	11	11	23	17	10	16	3.4	M3×0.5×8 ^L	11
HAE-16		15	15	3	1.3	10	16	17	34	26	14	22	4.5	M4×0.7×10 ^L	20
HAE-20		15	15	3	1.3	10	18	21	45	35	16	26	5.5	M5×0.8×10 ^L	28
HAE-25		20	17	5	1.3	14	26	26	52	40	20	32	6.6	M6×1×15 ^L	63

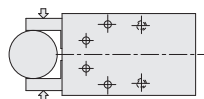
HFE Type



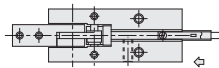
Type	Code	A	E	G	H	I	J	K	L	Ancillary Bolt (x3)		Product Mass [g] (Including Bolts)
										Gripper Mounting (x2)	Adapter Fixing (x1)	
HFE-10		15	6	11	23	17	10	16	3.4	M3×0.5×16 ^L	M3×0.5×12 ^L	14
HFE-16		18	8	17	34	26	14	22	4.5	M4×0.7×20 ^L	M4×0.7×16 ^L	35
HFE-16L		18	10	17	34	26	14	22	4.5	M4×0.7×20 ^L	M4×0.7×16 ^L	33
HFE-20		19	13	21	45	35	16	26	5.5	M5×0.8×20 ^L	M5×0.8×20 ^L	55
HFE-25		22	13	26	52	40	20	32	6.6	M6×1×25 ^L	M6×1×25 ^L	96

Switch Mounting Position Adjustment Method (For Double Acting Type)

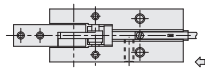
For external gripping



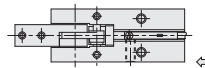
① Check the workpiece external gripping and full close.



② Insert the switch into the switch mounting groove of the main body in the arrow direction.

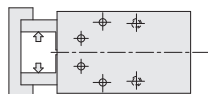


③ The LED lamp lights up by turning on the switch in the arrow direction.

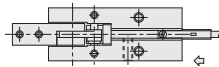


④ Fix the switch by a switch fixing screw at the position where the switch is moved 0.6 mm in the arrow direction from the position where the lamp lights up in [3].

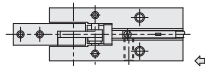
For internal gripping



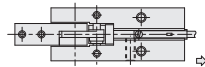
① Check the workpiece internal gripping and full opening.



② Insert the switch into the switch mounting groove of the main body in the arrow direction.



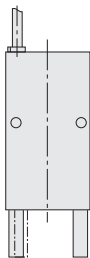
③ The LED lamp lights up by moving the switch in the arrow direction. It goes off by moving it further.



④ Fix the switch at the position that is 0.6 mm moved from the position where the LED lamp lights up when it is returned in the arrow direction (reverse direction) in [3].

① Indicates the position where you need to check if the switch is ON. Mount the switch by adjusting it in the order from ① to ④.

Lever Operation and Switch Characteristics



Response Difference
 → Switch Operation Position (ON)
 ← Switch Return Position (OFF)

1. Opening/Closing Stroke Difference (Opening/Closing Angle Difference)

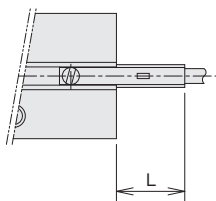
The distance from the position where the one side lever moves and the switch turns on from the position where the lever moves in the reverse direction and the switch turns off is called "response difference".

2. Switch repeat operation position accuracy

Variation of the switch ON/OFF position when the one side lever is moved in a certain direction.

Model	Opening/Closing Stroke Difference [mm]	Operation Position Accuracy [mm]
EHPE-10	0.3	0.2
EHPE-16	0.3	0.2
EHPE-20	0.3	0.2
EHPE-25	0.3	0.2

Switch Protrusion Distance

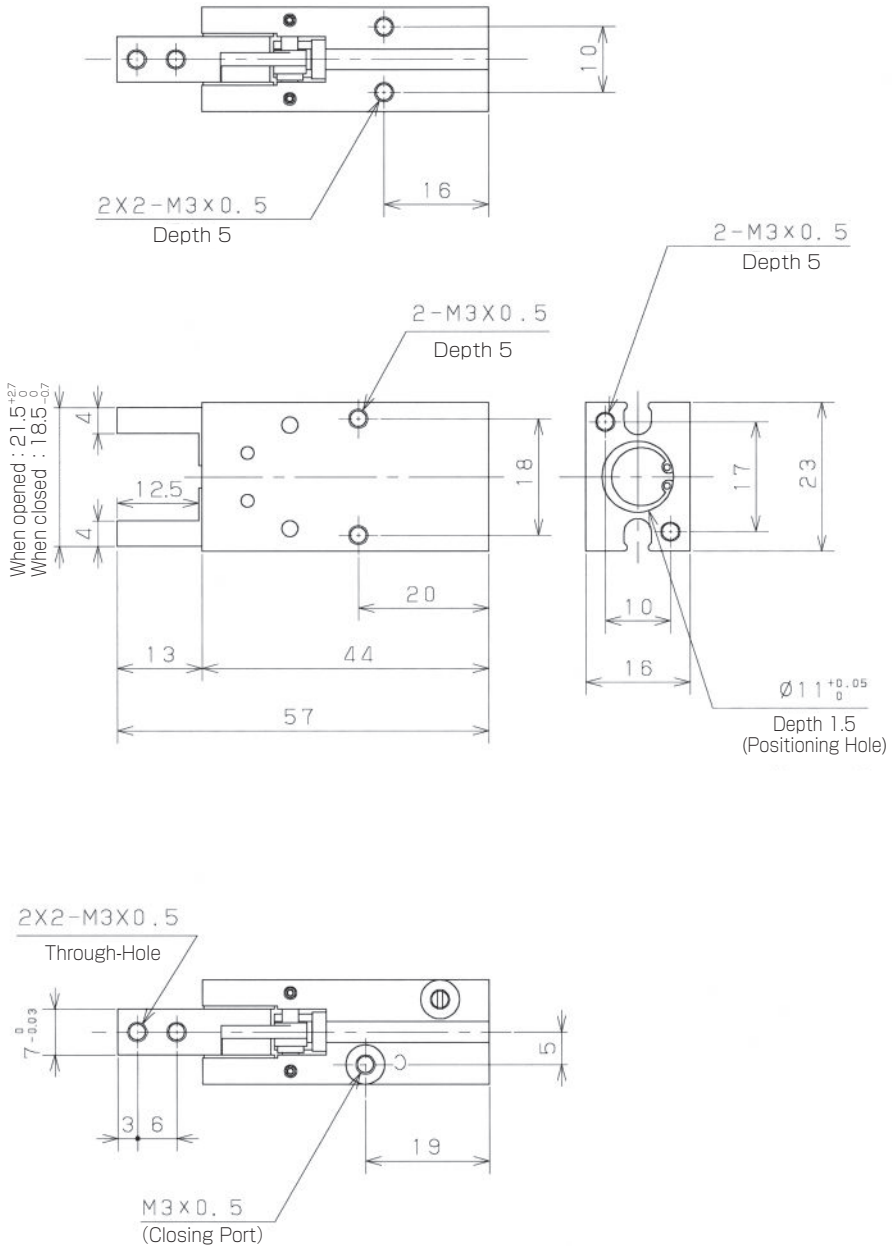


The maximum switch protrusion from the switch body end face (when the levers are full closed) is shown in the table below.

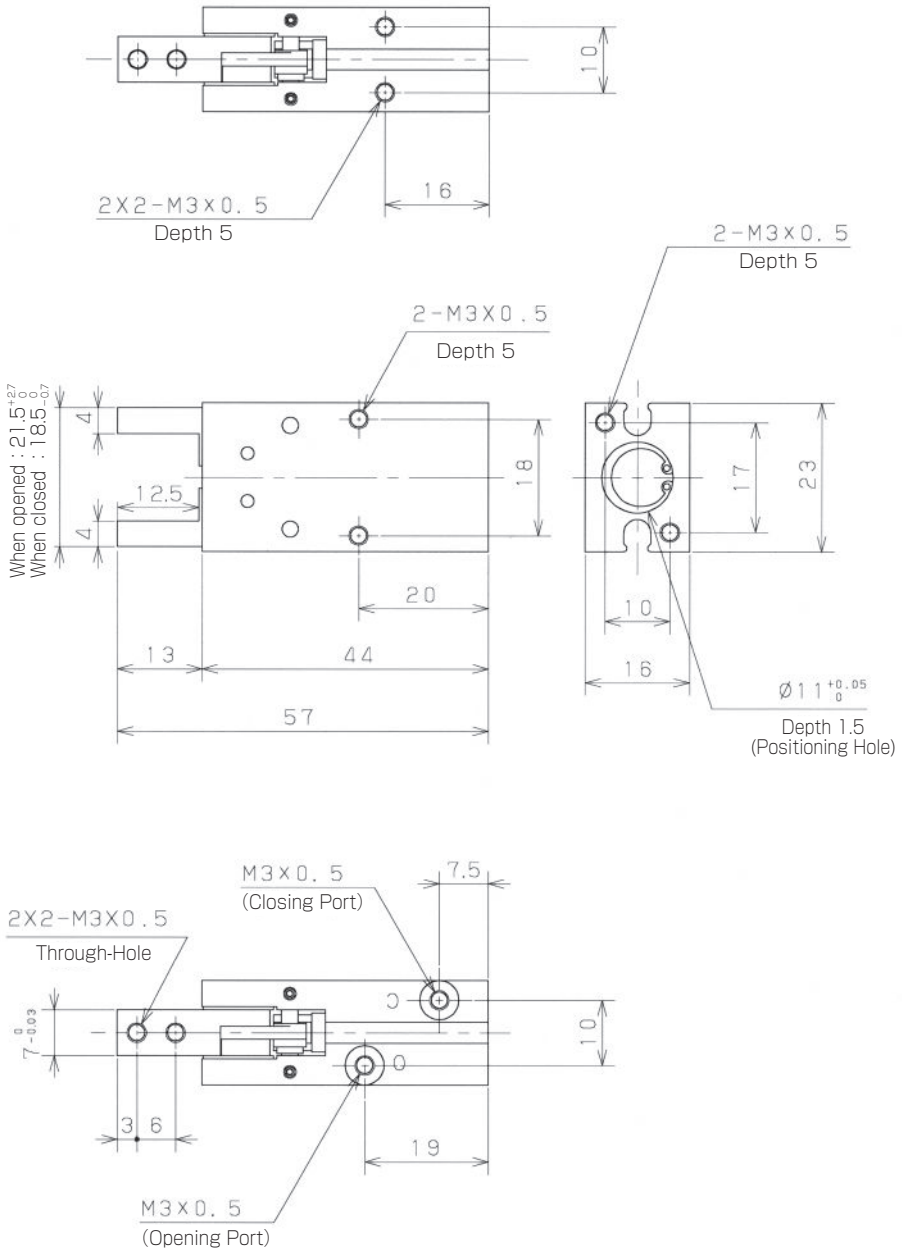
Use these values as a guide for mounting.

Bore Size [mm]	φ10	φ16	φ20	φ25
Maximum Protrusion [mm]	0	0	0	0

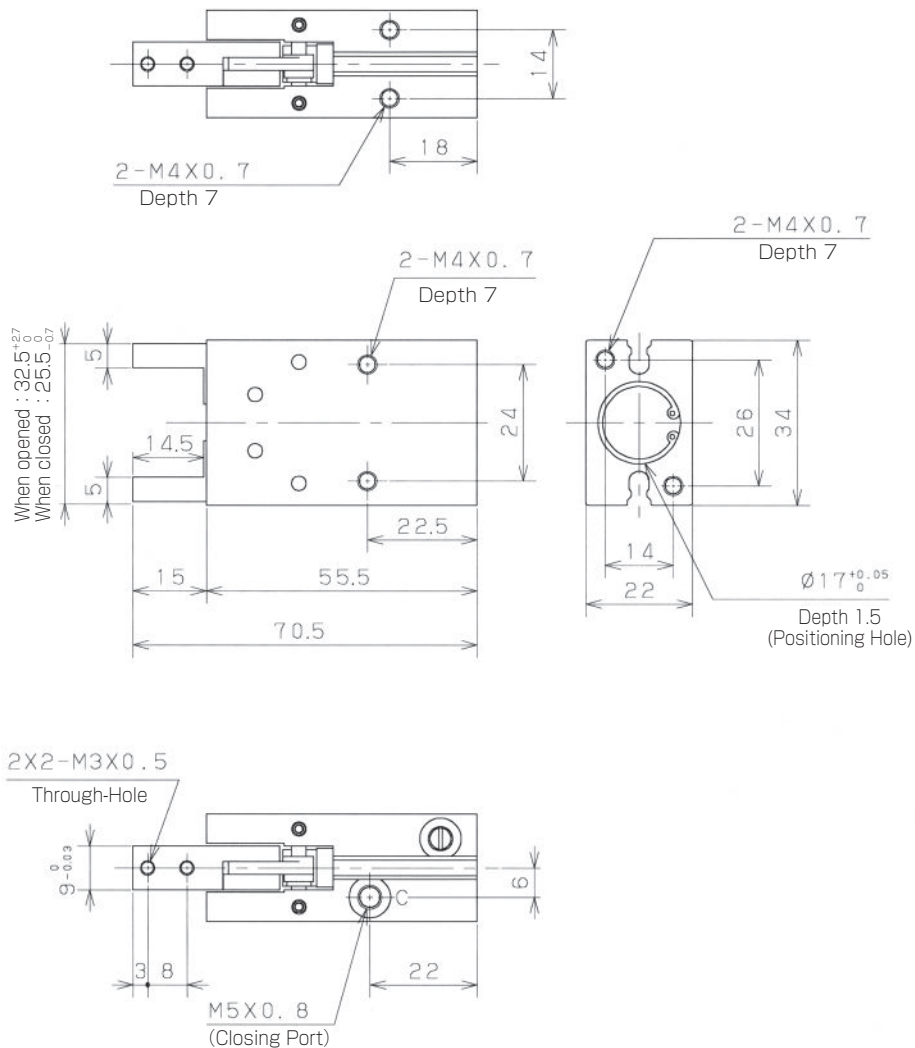
Dimensions **EHPE-10A**



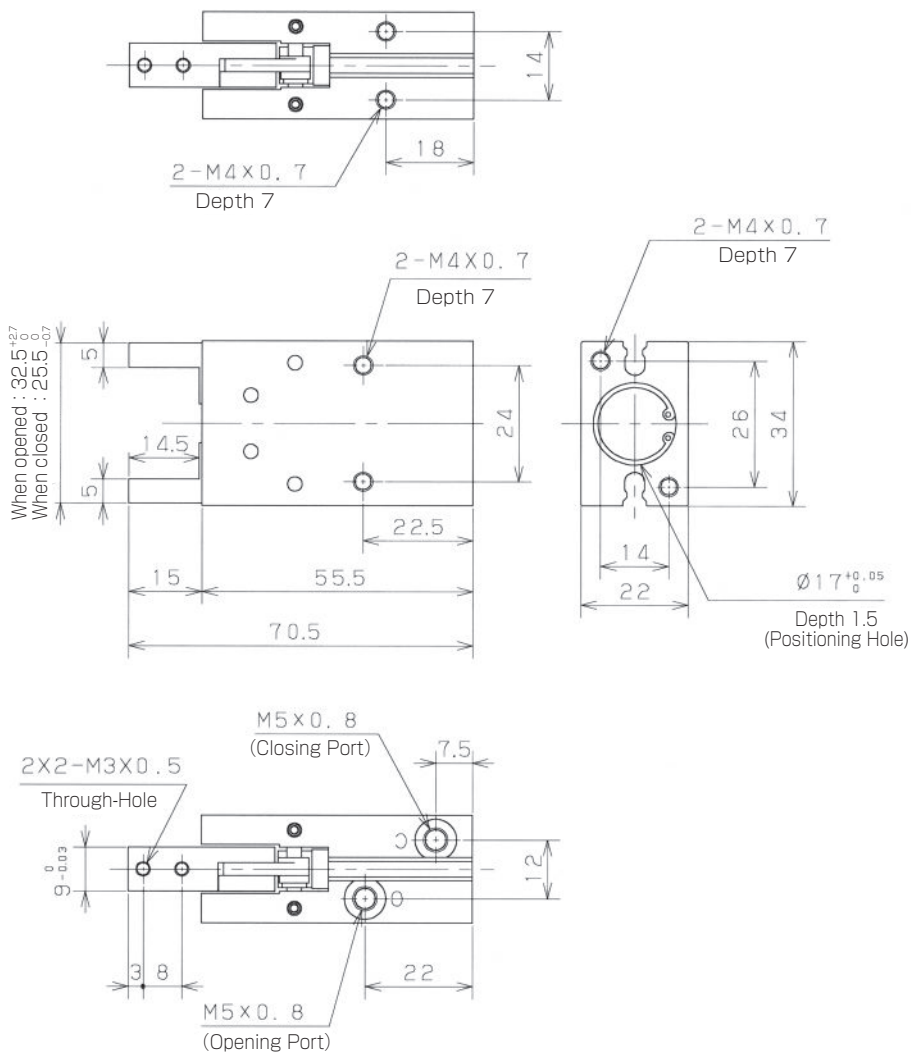
■ Dimensions **EHPE-10C**



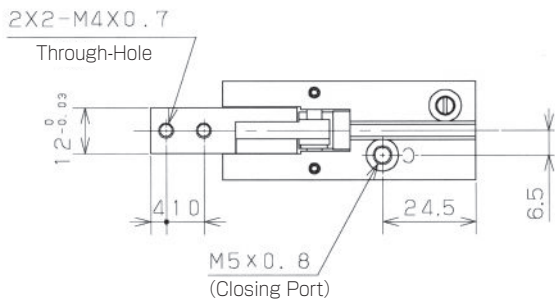
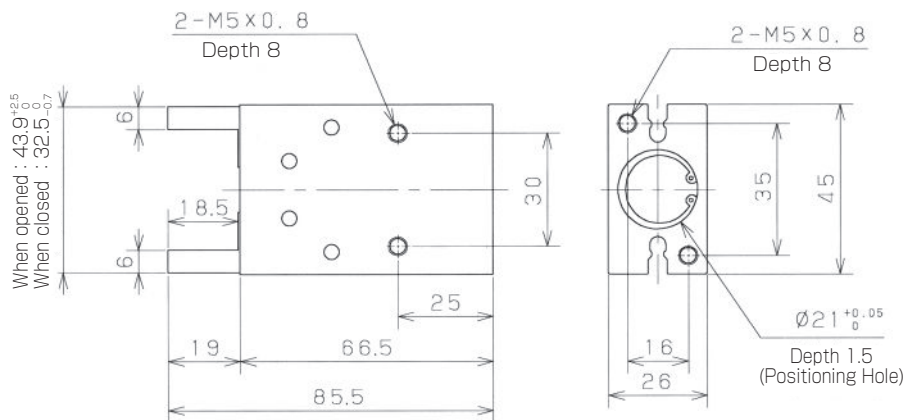
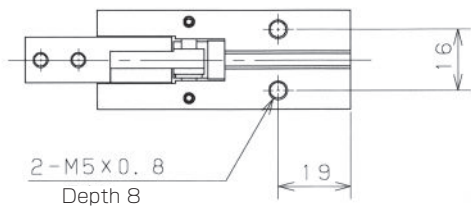
Dimensions **EHPE-16A**



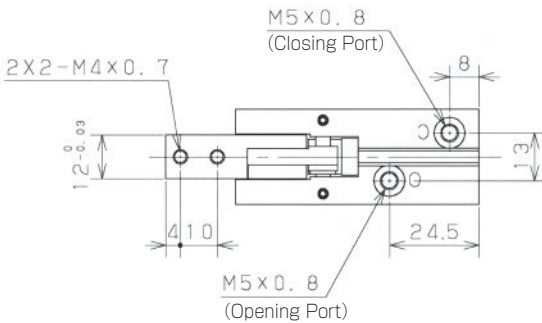
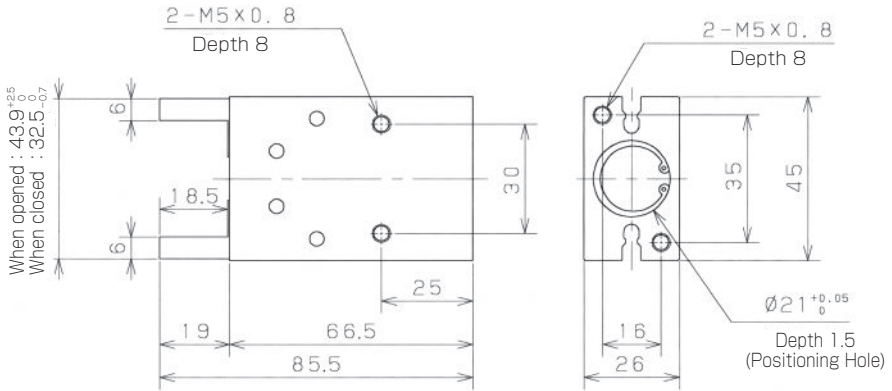
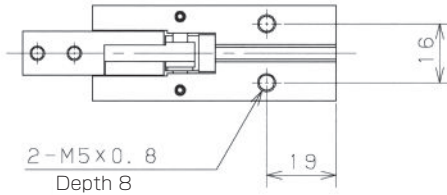
■ Dimensions **EHPE-16C**



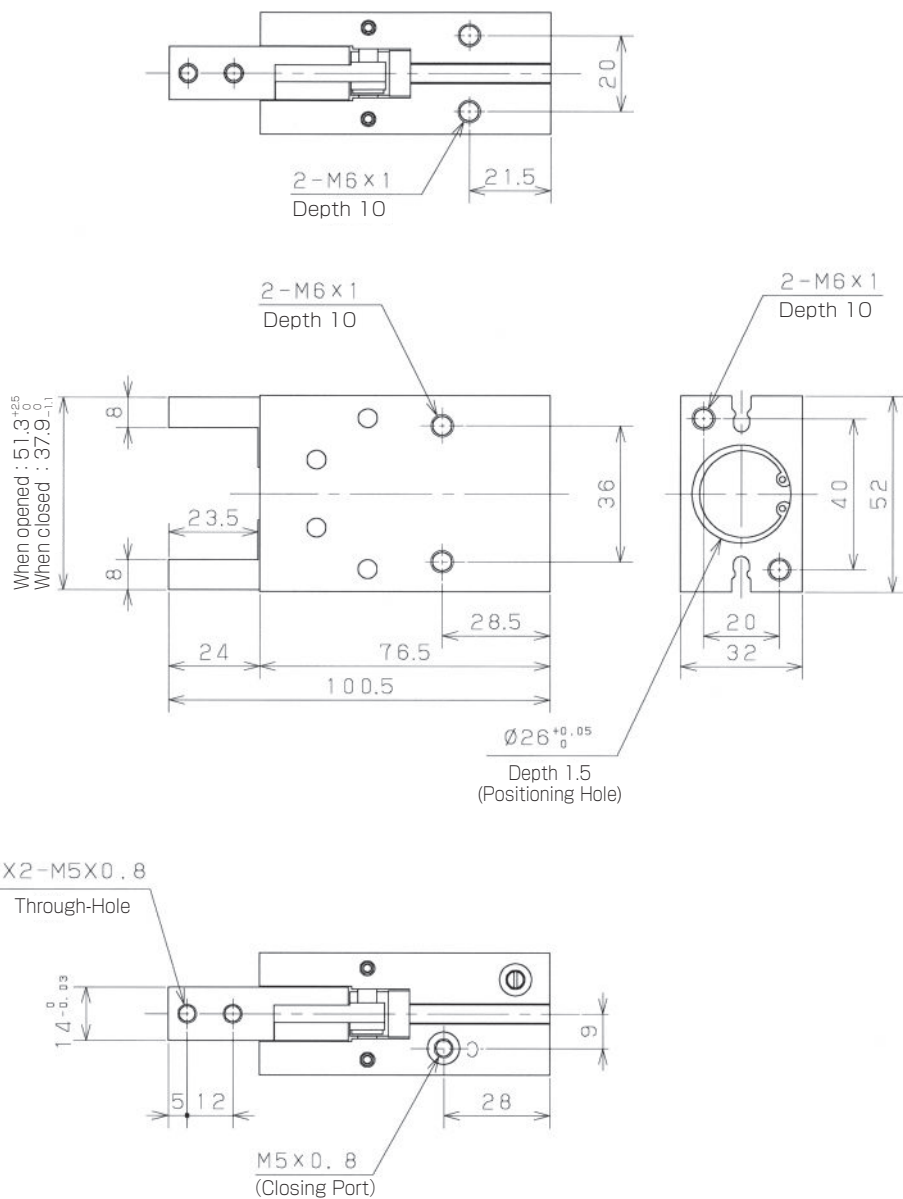
Dimensions **EHPE-20A**



■ Dimensions **EHPE-20C**



Dimensions **EHPE-25A**



Dimensions **EHPE-25C**

