

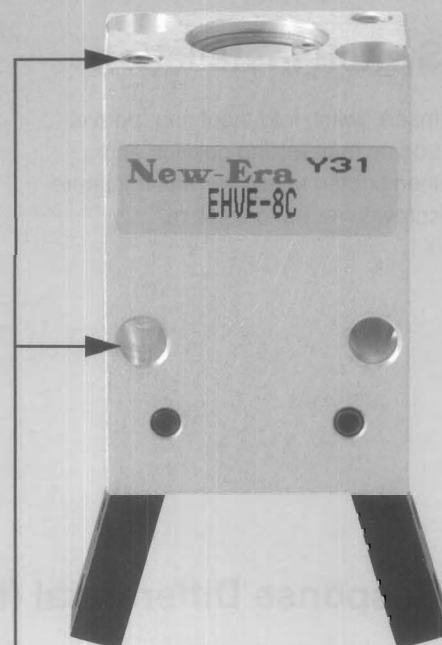
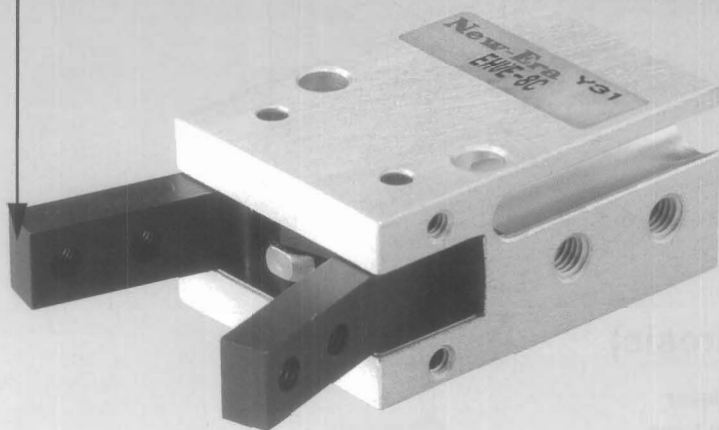
EHVE Series

Compact Angular Gripper

Compact Size & Light

Longer life

- ◆ Levers:
chromium molybdenum steel
- ◆ Major parts:
hardened steel



3-Way Installation available

- ◆ Mounting Holes with Threads
- ◆ Mounting Adapters available
(Option)

ZE/ES type Sensor Switch

(Sensor switch is an option)

- ◆ detecting Levers OPEN
- ◆ detecting Levers CLOSED
- ◆ mounting into groove on groove
- ◆ no protruding over gripper body

EHVE Series

EHVE

■ Model Code No.

EHVE - 10 C ※ HAE - ZE135 A 2

Series Name

Normal Size (Bore Size)

- 8 : 8mm
- 10 : 10mm
- 16 : 16mm
- 20 : 20mm
- 25 : 25mm

Action Type

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

Number of Switch

- 1 : 1 Switch
- 2 : 2 Switches

Switch Lead Wire

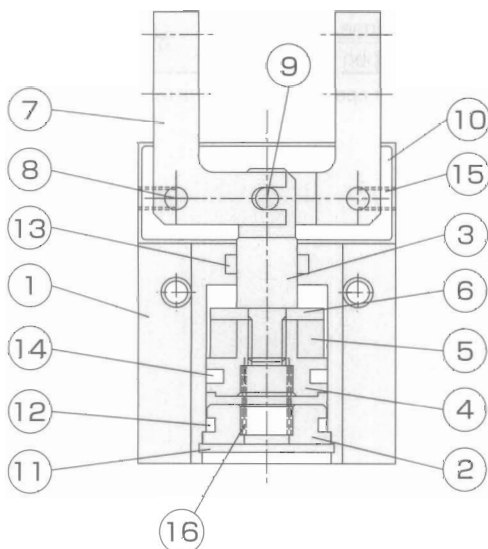
- A : 1m
- B : 3m

(Option)

● Mounting Adapter for Gripper
Blank : without Adapter
HAE : HAE type
HFE : HFE type
HFE-L : HFE-L type (EHVE-16 only)

● Sensor Switch
Blank : without Switch
Straight type
ES13, ZE135 : Solid state type, 2 wire
ES15, ESP15, ZE155 : Solid state type, 3 wire
L-shaped type
ES23, ZE235 : Solid state type, 2 wire
ES25, ESP25, ZE255 : Solid state type, 3 wire

■ Internal Structure



Parts List

No.	Name	Material
1	Main Body	Aluminium Alloy
2	Head Cover	Aluminium Alloy
3	Piston Rod	Stainless Steel
4	Piston	Aluminium Alloy
5	Magnet	Plastic Magnet
6	Magnet Holder	Aluminium Alloy
7	Lever	Carbon Tool Steel
8	Fulcrum Pin	Carbon Tool Steel
9	Press-in Pin	Carbon Steel
10	Slide Plate	Carbon Steel
11	Snap Ring	Hard Steel
12	O-ring	NBR
13	Rod Packing	NBR
14	Piston Packing	NBR
15	Set Screw	Soft Steel
16	Spring	Piano Wire

No.16 : only for Single Acting Type.

Specifications

Action Type	A: Single Acting (Normally Open), C: Double Acting	
Working Fluid	Air	
Maximum Operating Pressure [MPa]	0.7	
Operating Pressure [MPa]	0.2~0.7	
Proof Pressure [MPa]	1.05	
Levers Opening Angle [degree.]	In all 30 to -10	
Operating Ambient Temperature [°C]	0 to 60	
Lubrication	Not required (need for Levers sliding portion only)	
Max.Operating Cycle [cycles per min.]	180	
Maximum Mechanical Life [million cycles]	3	
Air port	M3×0.5 (EHVE-8, EHVE-10) M5×0.8 (EHVE-16, EHVE-20, EHVE-25)	
Available Switch type	ZE, ES type (Solid state type)	

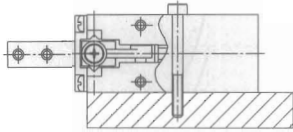
Action type	Model	Nominal Size [mm]	Minimum Operating Pressure [MPa]	Thread Holes on Levers [mm]	Effective Gripping Force [N]		External Dimensions (Thick×Width×Length) [mm]	Weight [g]
					Close	Open		
Double Acting	EHVE-8C	8	0.22	4-M2.5×0.45	Close	1.6	13×20×29	23
					Open	2.6		
	EHVE-10C	10	0.1	4-M3×0.5	Close	2.5	16×23×36	40
					Open	3.8		
	EHVE-16C	16	0.1	4-M3×0.5	Close	12.8	22×34×42.5	96
					Open	17.0		
	EHVE-20C	20	0.1	4-M4×0.7	Close	24.0	26×45×50	180
					Open	32.0		
	EHVE-25C	25	0.1	4-M5×0.8	Close	48.0	32×52×58	313
					Open	62.0		
Single Acting	EHVE-8A	8	0.36	4-M2.5×0.45	Close	1.0	13×20×29	23
					Open	0.6		
	EHVE-10A	10	0.3	4-M3×0.5	Close	1.4	16×23×36	40
					Open	1.0		
	EHVE-16A	16	0.2	4-M3×0.5	Close	10.0	22×34×42.5	96
					Open	2.8		
	EHVE-20A	20	0.2	4-M4×0.7	Close	18.0	26×45×50	182
					Open	6.0		
	EHVE-25A	25	0.2	4-M5×0.8	Close	38.0	32×52×58	317
					Open	10.0		

Note: Effective Gripping Force (N) is the value at gripping point of (*30 mm) in length under operating pressure of 0.5MPa.
(*25 mm for EHVE-8A, EHVE-8C)

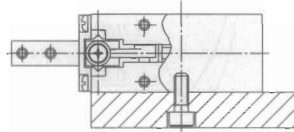
Installation Examples

1. Using Through Holes of Body

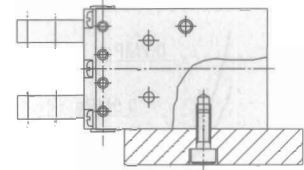
(only for EHVE-8)



2. Using Thread Holes at Bottom

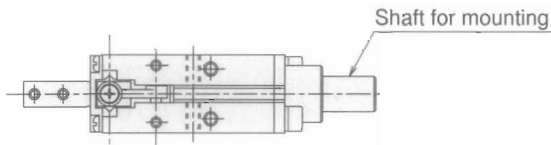


3. Using Thread Holes at Body Shoulders

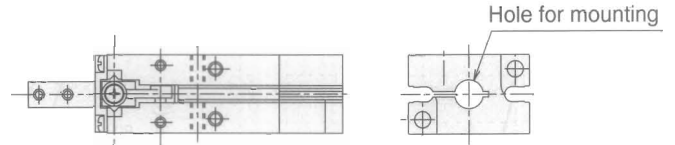


4. Using HAE type mounting adapter at Bottom

(except EHVE-8)



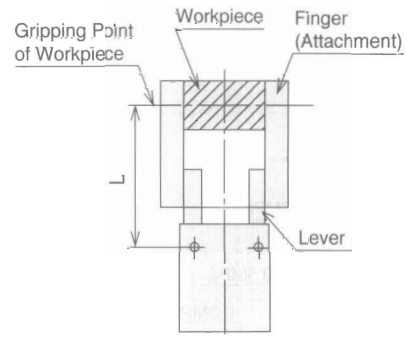
5. Using Mounting Adapter at Bottom



Effective Gripping Force

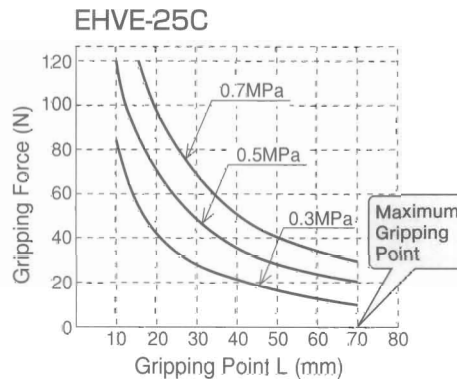
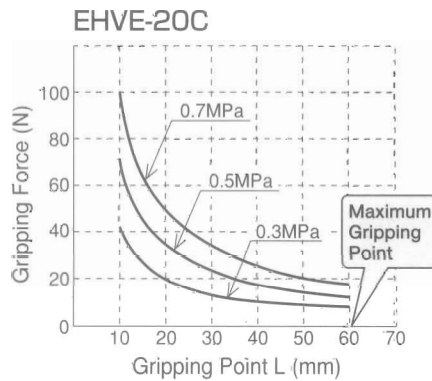
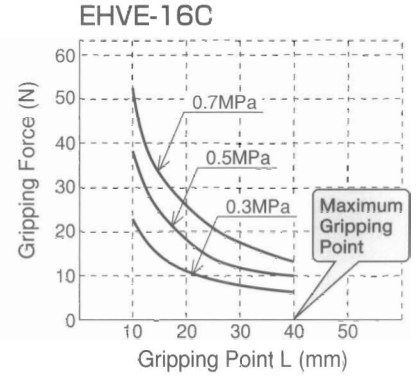
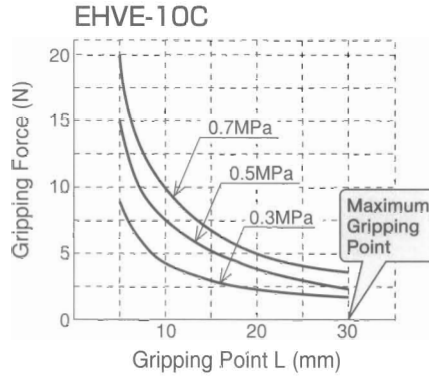
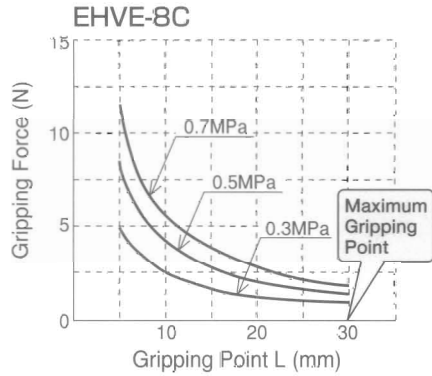
NOTE:

1. When gripping a workpiece, the mass of workpiece should be within the range between 5 to 10% of the following Effective Gripping Force.
2. When moving a workpiece with gripping it, the mass of workpiece should be within the range between 2 to 4% of the following Effective Gripping Force.
3. The necessary gripping force depends on the material (surface) of workpiece, shape of fingers and moving speed and direction (horizontally or vertically) of gripper.
Therefore, please take your operational condition into consideration.

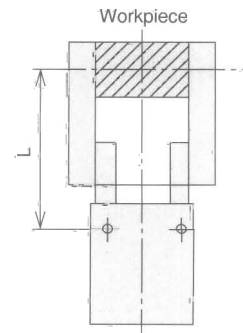
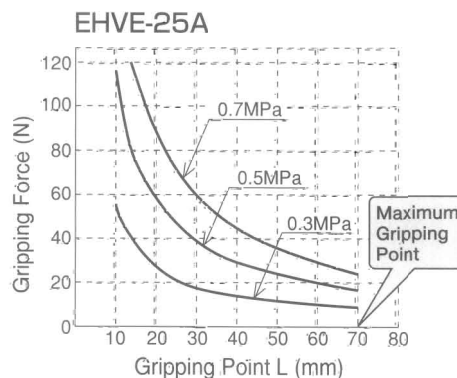
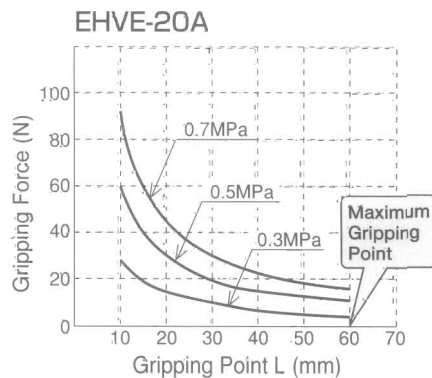
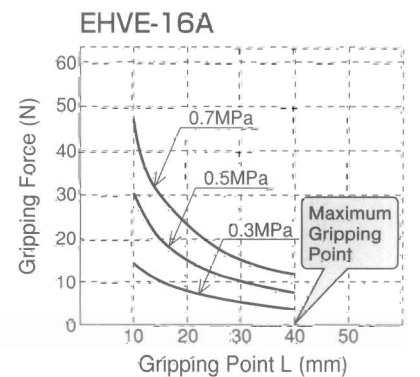
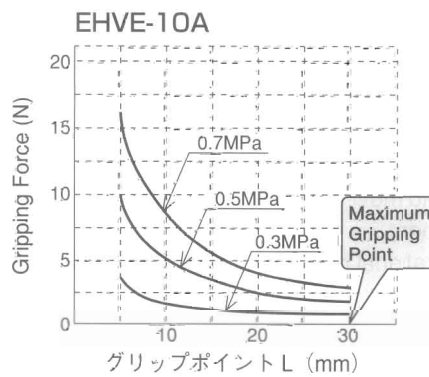
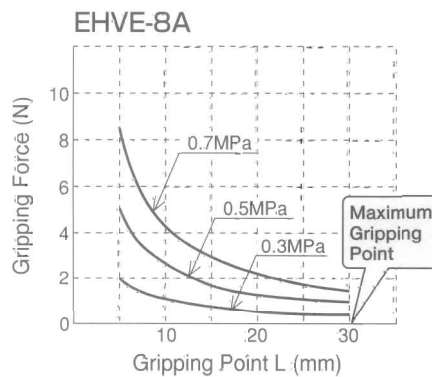


Effective Gripping Force (Closing Force)

〈Double Acting Type〉



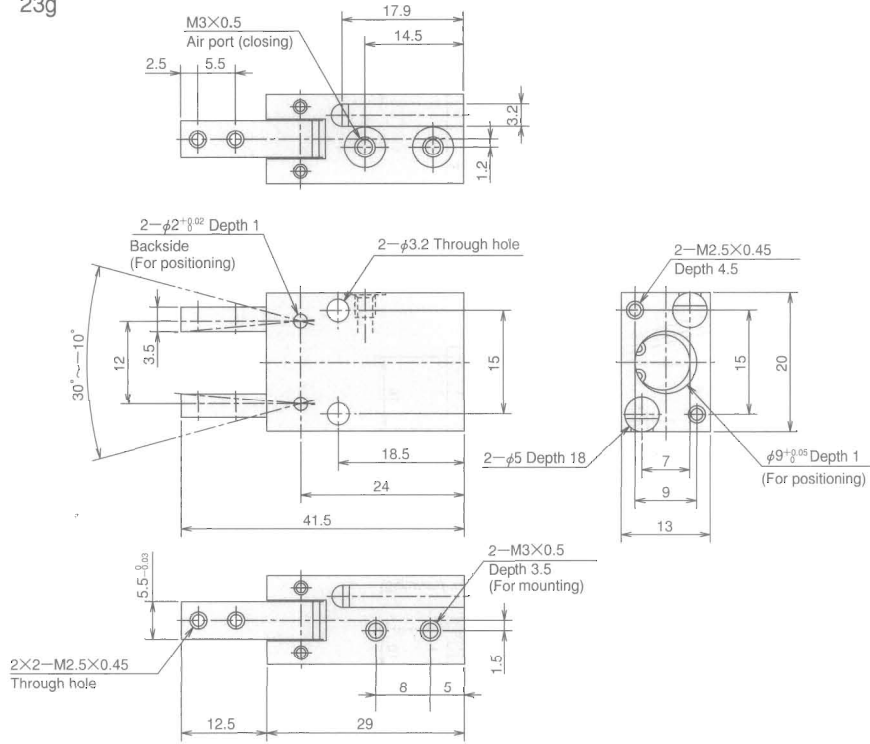
〈Single Acting Type〉



Unit : mm

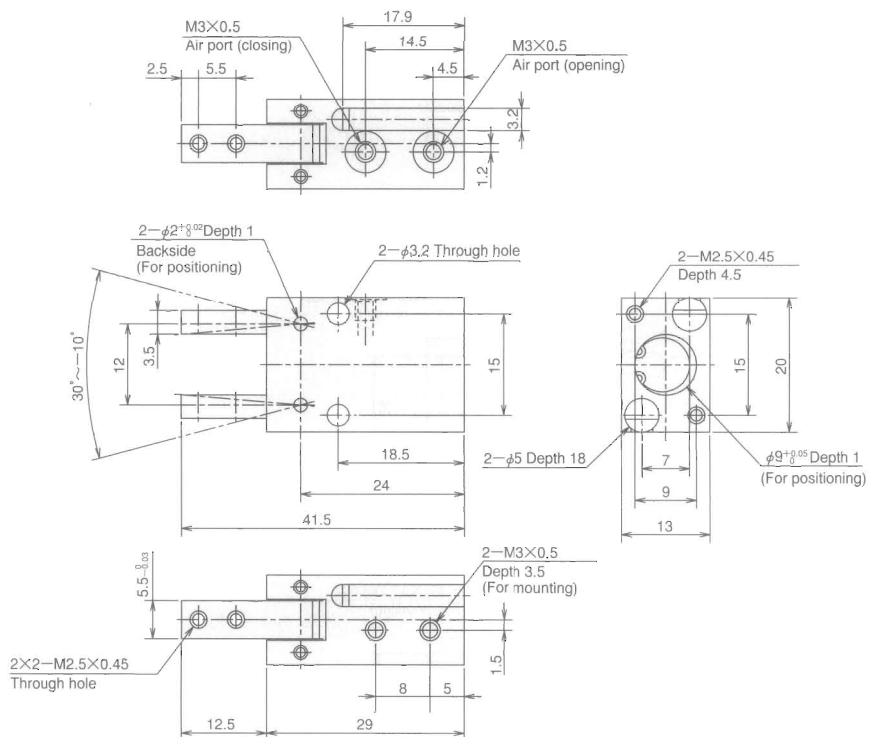
■ Dimensions

Weight
EHVE-8A 23g



Weight
EHVE-8C 23g

Unit : mm



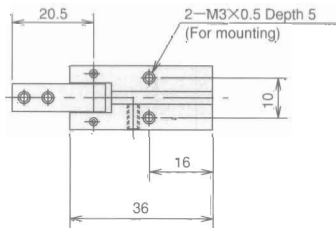
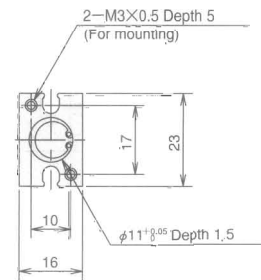
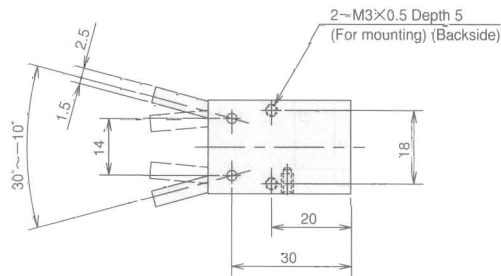
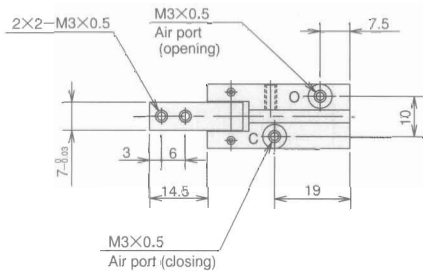
EHVE Series

EHVE

Dimensions

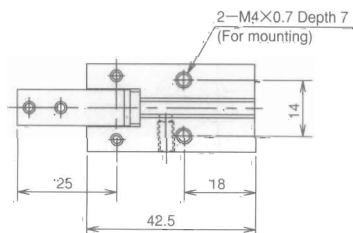
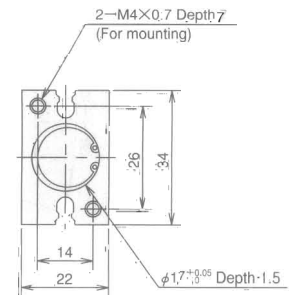
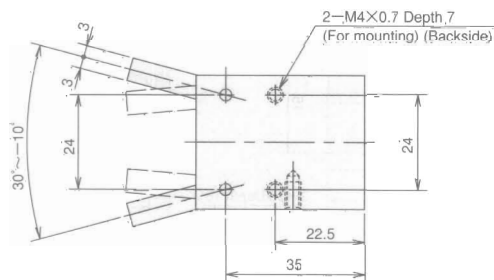
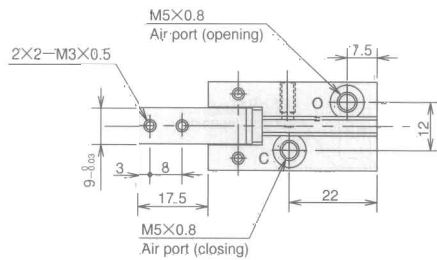
Unit : mm

Weight
EHVE-10A 40g
EHVE-10C 40g



Weight
EHVE-16A 96g
EHVE-16C 96g

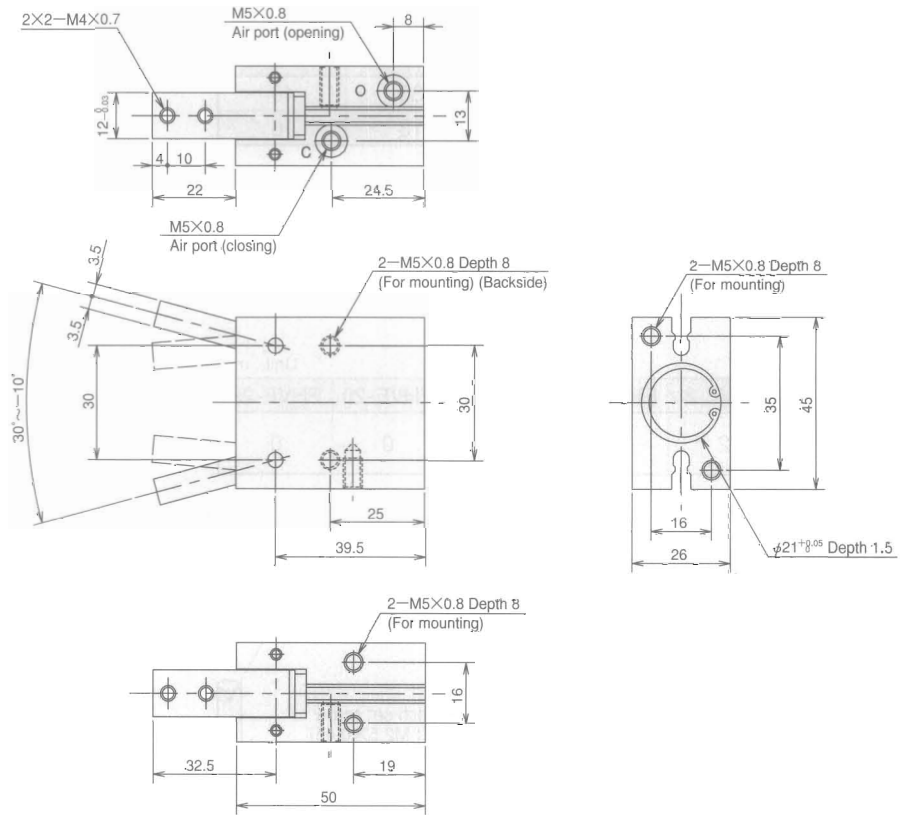
Unit : mm



Unit : mm

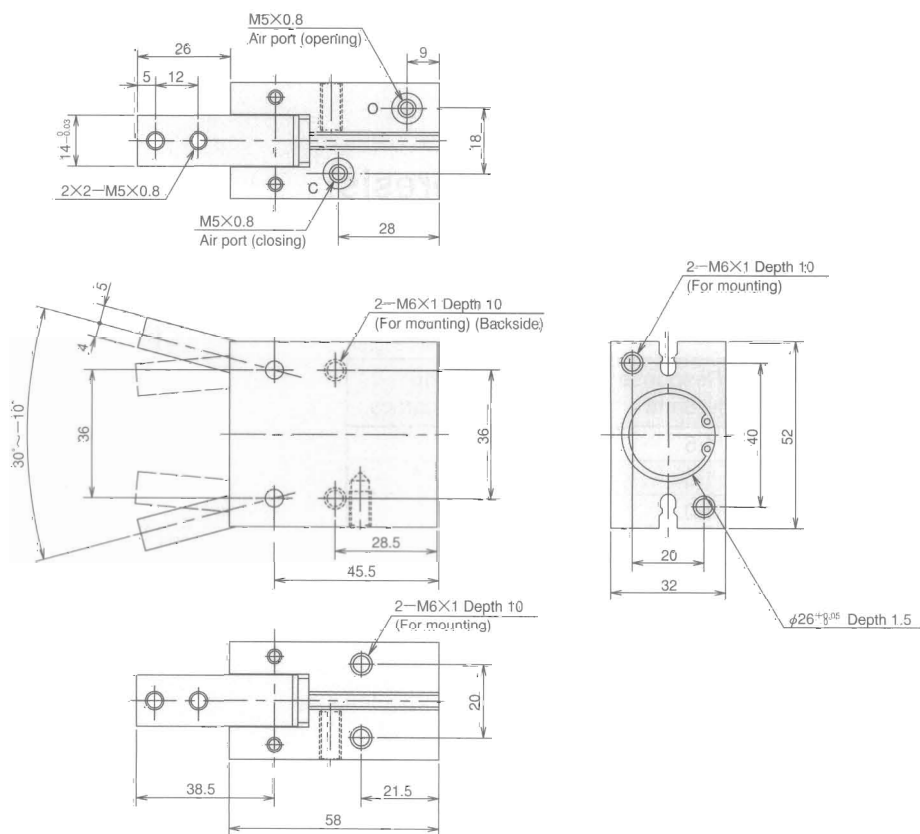
■ Dimensions

Weight
EHVE-20A 182g
EHVE-20C 180g



Weight
EHVE-25A 317g
EHVE-25C 313g

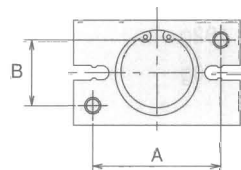
Unit : mm



■ Dimensions of Groove for Sensor Switch

Unit : mm

	EHVE-8	EHVE-10	EHVE-16	EHVE-20	EHVE-25
A	15	17	26	35	40
B	3	8	11	13	16

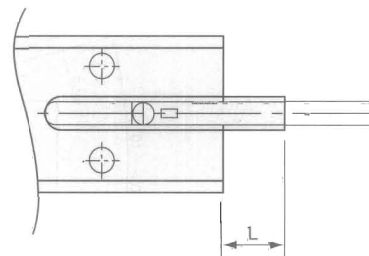


■ Protruding Length of Switch

Refer to protruding length of switch body from EHVE body at the levers closed or opened fully.

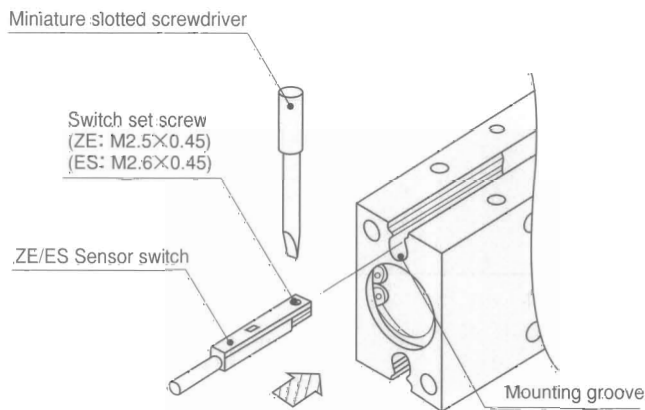
Unit : mm

	EHVE-8	EHVE-10	EHVE-16	EHVE-20	EHVE-25
Max. protruding Length "L"	2	0	0	0	0



■ Switch Installation

Insert switch into mounting groove. Locate in detecting position and then tighten set screw with miniature screwdriver up to 0.1N·m.



■ Response Differential (Hysteresis)

This shows the stroke from the location where the lever moves and turns the switch ON to where the switch turns OFF in the opposite direction.

Unit : degree

	Max. Response Differential	Operating Position Accuracy
EHVE-8	1.5	1.0
EHVE-10	1.5	1.0
EHVE-16	1.0	0.6
EHVE-20	1.0	0.5
EHVE-25	0.8	0.5

