



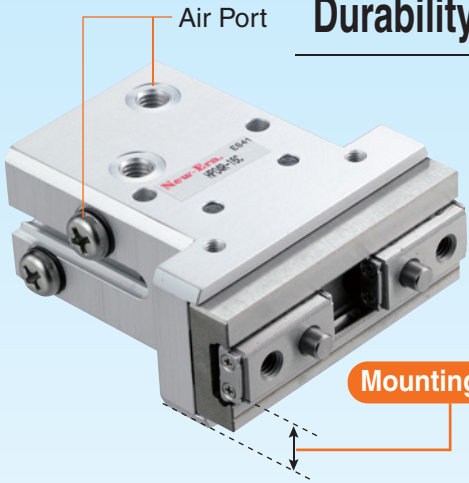
*New-Era*®

# HP04R Series

## Linear Guide Gripper **Renewed**

Product Series Expanded! ( $\phi 25$ ,  $\phi 40$ )

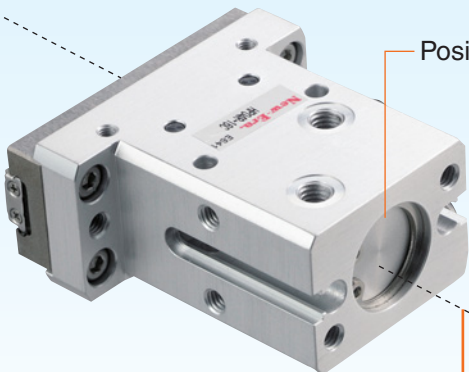
Durability **2 Times** Increased!



Air Port

Mounting Accuracy  $\pm 0.05$

Repeat Gripping Accuracy  $\pm 0.01$



Positioning Hole

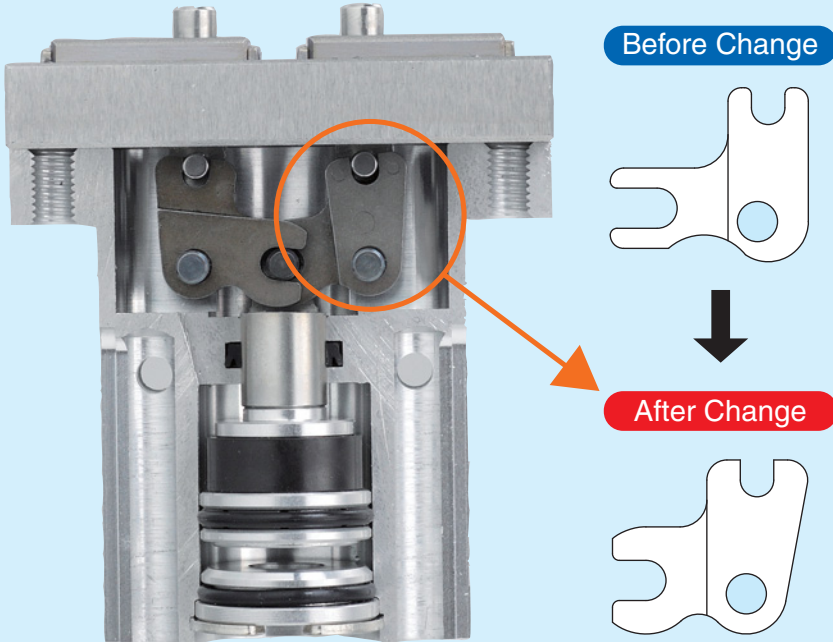
Centering Accuracy  $\pm 0.07$

Positioning Hole

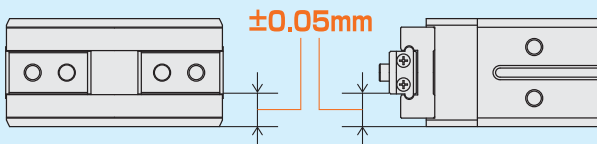
Thickness Tolerance  $\pm 0.05$

- By strengthening the action lever, durability is increased **twice**.

※According to our investigation



- It is easier to operate by **setting the mounting accuracy** between the main body and the guide.



- **$\phi 25$  and  $40$**  are added in the product series  $\phi 8$ , 10, 16, 20, 32 and 50.

## Model Code No.

# HP04R - 10 C ※ HAE - ZE135 A 2

Series Name

Bore Size

8 : 8mm  
 10 : 10mm  
 16 : 16mm  
 20 : 20mm  
 25 : 25mm  
 32 : 32mm  
 40 : 40mm  
 50 : 50mm

Action Type

A : Single Acting Normally Open  
 C : Double Acting  
 Only Double Acting Type for  $\phi 32 \sim \phi 50$

Number of Switches

1:1 Switches  
 2:2 Switches

Switch Lead Wire Length

A : 1m  
 B : 3m

● Gripper Adaptor Type No Code: No Gripper Adaptor

HAE ( $\phi 8$  to 20 Only)

HFE ( $\phi 10$  to 20 only)  
 HFE-L: Large Diameter Type ( $\phi 16$  Only)

● Switch Type No Code: No Switch

ZE135

2 Wire System Solid State Switch, Straight Type

ZE235

2 Wire System Solid State Switch, L-shaped

ZE155

3 Wire System Solid State Switch, Straight Type

ZE255

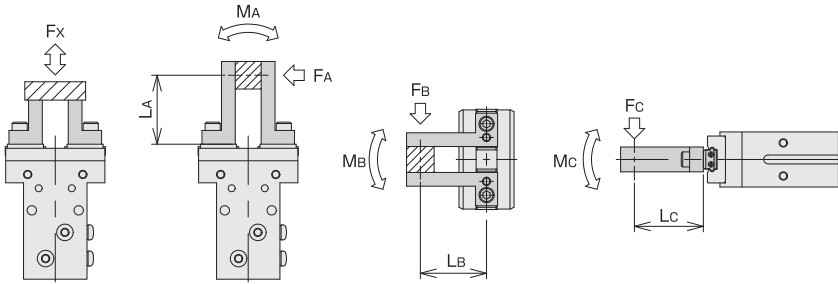
3 Wire System Solid State Switch, L-shaped

## Specifications

Item \ Model	HP04R-8	HP04R-10	HP04R-16	HP04R-20	HP04R-25	HP04R-32	HP04R-40	HP04R-50
Action Type	A: Single Acting Normally Open C: Double Acting	A: Single Acting Normally Open C: Double Acting	A: Single Acting Normally Open C: Double Acting	A: Single Acting Normally Open C: Double Acting	A: Single Acting Normally Open C: Double Acting	C: Double Acting	C: Double Acting	C: Double Acting
Bore Size [mm]	$\phi 8$	$\phi 10$	$\phi 16$	$\phi 20$	$\phi 25$	$\phi 32$	$\phi 40$	$\phi 50$
Opening/Closing Stroke [mm]	4	6.5	10	14	18	22	30	35.4
Minimum Operating Pressure [MPa]	A: 0.4 C: 0.2	A: 0.35 C: 0.2	A: 0.25 C: 0.1		A: 0.25 C: 0.1	0.1		
Maximum Operating Pressure [MPa]	0.7							
Pipe Bore	M3				M5			Rc1/8
Maximum Operating Cycle	180			150			120	
Operating Temperature Range [°C]	0~60 (No Freezing)							
Lubrication	Not Required							
Effective Gripping Force [N] <small>(Note)</small>	A: Close 4.5, Open 1.6 C: Close 6.5, Open 10	A: Close 7.2, Open 2.8 C: Close 10, Open 16	A: Close 23, Open 5.3 C: Close 29, Open 38	A: Close 40, Open 7.5 C: Close 49, Open 66	A: Close 68, Open 13 C: Close 82, Open 103	Close: 158 Open: 175	Close: 258 Open: 300	Close: 418 Open: 480
Repeat Grip Accuracy [mm]	±0.01							
Centering Accuracy [mm]	±0.07							
Product Mass [g]	A: 23 C: 22	A: 81 C: 80	A: 160 C: 159	A: 330 C: 329	A: 522 C: 520	664	1390	1850
Allowable Load Mass [g] <small>The center of gravity should be located at a position less than half of the maximum gripping point.</small>	15	75	150	200	400	500		

Note) It is an effective value when the gripping point L is 30 mm and the pressure is 0.5 MPa.

## ■ Allowable Load and Allowable Moment



Model	Load and Moment Fx [N]	MA [N·m]	MB [N·m]	Mc [N·m]
HPO4R-8	12	0.04	0.04	0.08
HPO4R-10	50	0.4	0.4	0.8
HPO4R-16	120	1	1	2
HPO4R-20	200	1.5	1.5	3
HPO4R-25	350	3	3	6
HPO4R-32	350	3	3	6
HPO4R-40	600	5.5	6	10
HPO4R-50	600	5.5	6	10

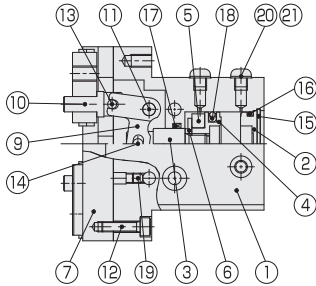
$$MA = FA \times LA$$

$$MB = FB \times LB$$

$$Mc = Fc \times Lc$$

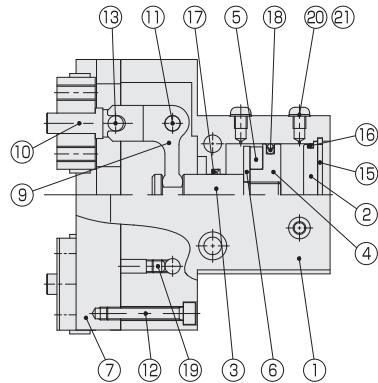
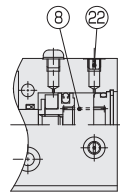
## ■ Internal Structure Drawing

### HPO4R-25



### HPO4R-40

#### Single Acting



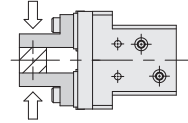
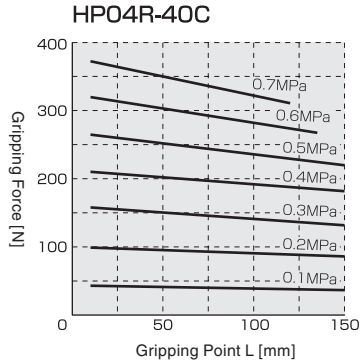
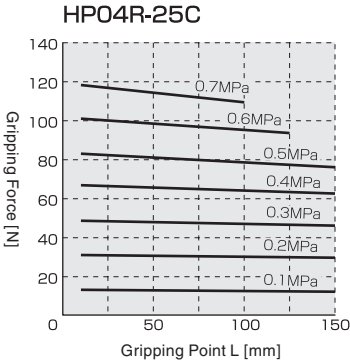
### Parts List

No.	Name	Material	No.	Name	Material	No.	Name	Material
1	Main Body	Aluminum Alloy	9	Action Lever	Aluminum Alloy	15	Hole Locating Snap Ring	Steel
2	Head Cover	Aluminum Alloy	10	Knuckle	Aluminum Alloy	16	O Ring	NBR
3	Piston Rod	Stainless Steel	11	Fulcrum Pin	Stainless Steel	17	Rod Packing	NBR
4	Piston	Aluminum Alloy	12	Hexagon Socket Head Bolt	φ25: Stainless Steel φ40: Steel	18	Piston Packing	NBR
5	Magnet	Magnetic body	13	Knuckle Pin	φ25: Steel φ40: Stainless Steel	19	Hexagon Socket Head Bolt	Steel
6	Pressure Cover	Aluminum Alloy				20	Plug	Stainless Steel
7	Linear Guide	Steel	14	Rod Pin	Steel	21	Gasket	Steel, NBR
8	Spring	Piano Wire				22	Plug for Single Acting	Brass (Nickel Plating)

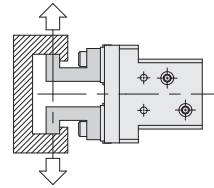
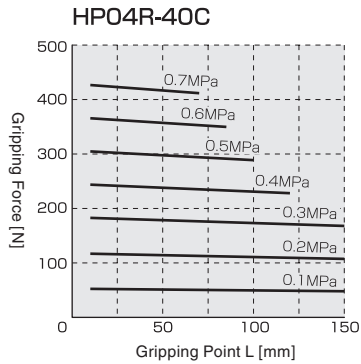
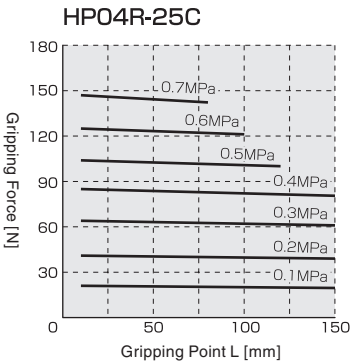
※Refer to the general catalog except for φ25 and φ40.

## Effective Gripping Force

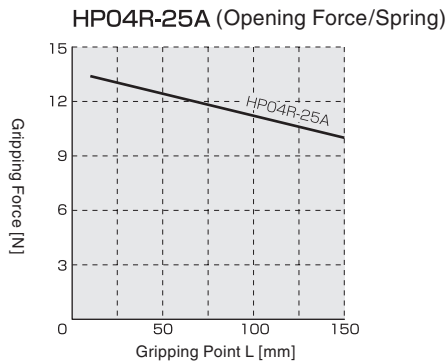
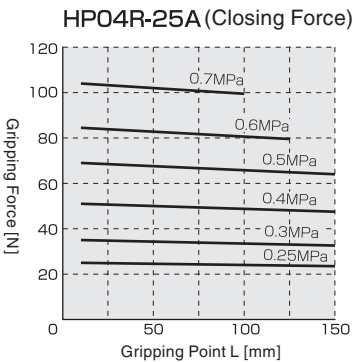
### Closing Force (Double Acting)/External Gripping



### Opening Force (Double Acting)/Internal Gripping



### Single Acting

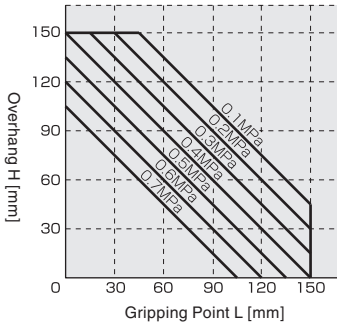


※Refer to the general catalog except for  $\phi 25$  and  $\phi 40$ .

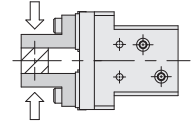
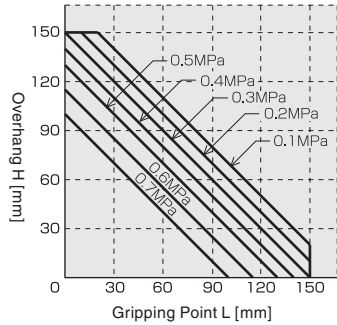
## Gripping Point Limit Range

### External Gripping

HP04R-25

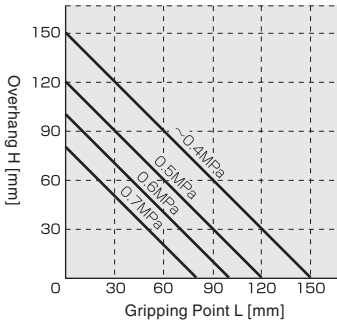


HP04R-40

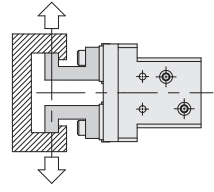
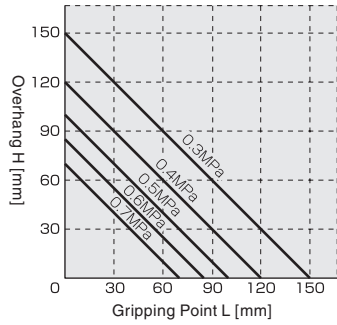


### Internal Gripping

HP04R-25



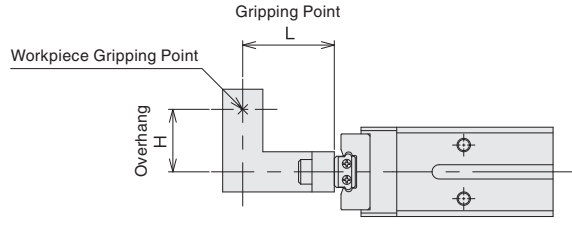
HP04R-40



## Gripping Limit Range

Ensure that the gripping point (the position where the workpiece is gripped) L and overhang H are within the "Gripping Point Limit Range".

If they exceed the limit range, an excessive moment will be applied to the guide part, causing backlash and a bad influence on the life and accuracy.

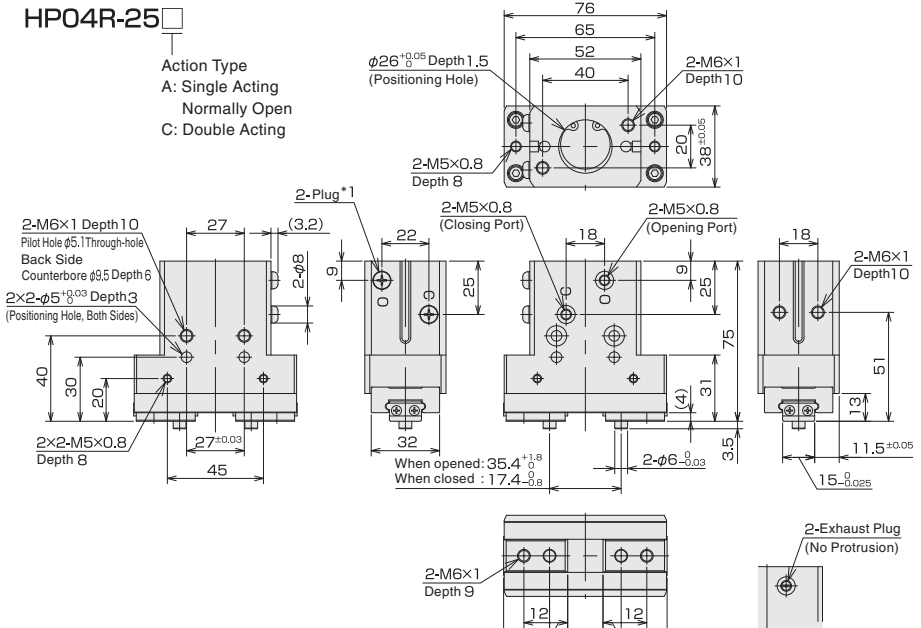


※Refer to the general catalog except for  $\phi 25$  and  $\phi 40$ .

# Dimensions

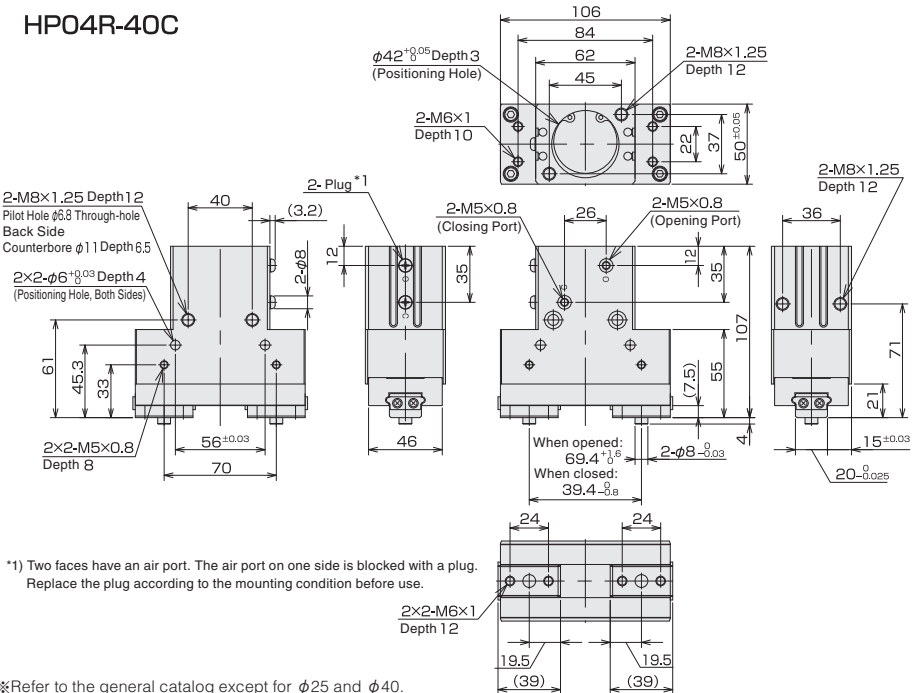
## HPO4R-25

Action Type  
 A: Single Acting  
 Normally Open  
 C: Double Acting



\*1) Two faces have an air port. The air port on one side is blocked with a plug. Replace the plug according to the mounting condition before use.

## HPO4R-40C



\*1) Two faces have an air port. The air port on one side is blocked with a plug. Replace the plug according to the mounting condition before use.

※Refer to the general catalog except for φ25 and φ40.

## List of Renewed Models

Type	Action Type	Before Change	After Change
Standard Type	Single Acting Normally Open	HP04-8A	<b>HP04R-8A</b>
		HP04-10A	<b>HP04R-10A</b>
		HP04-16A	<b>HP04R-16A</b>
		HP04-20A	<b>HP04R-20A</b>
	Double Acting	HP04-8C	<b>HP04R-8C</b>
		HP04-10C	<b>HP04R-10C</b>
		HP04-16C	<b>HP04R-16C</b>
		HP04-20C	<b>HP04R-20C</b>
		HP04-32C	<b>HP04R-25C</b>
		HP04-50C	<b>HP04R-32C</b> <b>HP04R-40C</b> <b>HP04R-50C</b>
Finger Type	Single Acting Normally Open	HP04F-8A	<b>HP04FR-8A</b>
		HP04F-10A	<b>HP04FR-10A</b>
		HP04F-16A	<b>HP04FR-16A</b>
		HP04F-20A	<b>HP04FR-20A</b>
	Double Acting	HP04F-8C	<b>HP04FR-8C</b>
		HP04F-10C	<b>HP04FR-10C</b>
		HP04F-16C	<b>HP04FR-16C</b>
		HP04F-20C	<b>HP04FR-20C</b>
Long Stroke Type	Double Acting	HP04L-8C	<b>HP04L-8C</b>
		HP04L-10C	<b>HP04L-10C</b>
		HP04L-16C	<b>HP04L-16C</b>
		HP04L-20C	<b>HP04L-20C</b>
With Valve	Double Acting	HP04V-10	<b>HP04VR-10</b>
		HP04V-16	<b>HP04VR-16</b>
		HP04V-20	<b>HP04VR-20</b>
Clean Type	Double Acting	HP04N-8C	<b>HP04NR-8C</b>
		HP04N-10C	<b>HP04NR-10C</b>
		HP04N-16C	<b>HP04NR-16C</b>
		HP04N-20C	<b>HP04NR-20C</b>
Clean Type Long Stroke Type	Double Acting	HP04NL-8C	<b>HP04NL-8C</b>
		HP04NL-10C	<b>HP04NL-10C</b>
		HP04NL-16C	<b>HP04NL-16C</b>
		HP04NL-20C	<b>HP04NL-20C</b>
Clean Type Finger Type	Double Acting	HP04NF-8C	<b>HP04NFR-8C</b>
		HP04NF-10C	<b>HP04NFR-10C</b>
		HP04NF-16C	<b>HP04NFR-16C</b>
		HP04NF-20C	<b>HP04NFR-20C</b>
Detachable Type	Double Acting	HP04D-10C	<b>HP04DR-10C</b>
		HP04D-16C	<b>HP04DR-16C</b>
		HP04D-20C	<b>HP04DR-20C</b>
	Main Body Assy	DB-HP04D-10C	<b>DB-HP04DR-10C</b>
		DB-HP04D-16C	<b>DB-HP04DR-16C</b>
Detachable Type Long Stroke Type	Double Acting	HP04DL-10C	<b>HP04DL-10C</b>
		HP04DL-16C	<b>HP04DL-16C</b>
		HP04DL-20C	<b>HP04DL-20C</b>
	Main Body Assy	DB-HP04DL-10C	<b>DB-HP04DL-10C</b>
		DB-HP04DL-16C	<b>DB-HP04DL-16C</b>
		DB-HP04DL-20C	<b>DB-HP04DL-20C</b>
Detachable Type Finger Type	Double Acting	HP04DF-10C	<b>HP04DFR-10C</b>
		HP04DF-16C	<b>HP04DFR-16C</b>
		HP04DF-20C	<b>HP04DFR-20C</b>
	Main Body Assy	DB-HP04DF-10C	<b>DB-HP04DFR-10C</b>
		DB-HP04DF-16C	<b>DB-HP04DFR-16C</b>
		DB-HP04DF-20C	<b>DB-HP04DFR-20C</b>

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