

# Parallel Gripper Multi-acting type

Parallel Gripper for Single-acting Opening/Closing & Double-acting

## ⚠ Safety instructions for this product

Safety instructions, Common safety instructions for each product category and Detailed safety instructions for each product are in the end of this catalog and our website.

## Model Designation (Example)

**CHB12E** - **N** - **(1)** - **(2)** - **(3)**

### (1) Model No.

Code	Type	Body width (mm)	Countermeasure for lateral load	Stroke (mm)
<b>CHB08</b>	Multi-acting	10	N/A	4
<b>CHB08E</b>			E-shaped retaining ring	
<b>CHB12</b>		16.4	N/A	6
<b>CHB12E</b>			E-shaped retaining ring	
<b>CHB18</b>		23.6	N/A	8

### (2) Acting type

Code	<b>N</b>	<b>D</b>
Acting type	Single-acting	Double-acting

### (3) Center port (Options)

Code	<b>No code</b>	<b>C</b>
Center port	No port	With port

## Model Designation of Finger Attachment (Example)

**CHK** - **12**

### (1) Finger Attachment for Parallel Gripper

### (2) Applicable gripper model

Code	<b>08</b>	<b>12</b>	<b>18</b>
Applicable model	CHB08 (E)	CHB12 (E)	CHB18

## Model Designation of Sensor Switch (Example)

**ZE** - **155** - **A**

### (1) Sensor switch

### (2) Sensor switch for Parallel Gripper

Code	<b>135</b>	<b>155</b>	<b>175</b>	<b>235</b>	<b>255</b>	<b>275</b>
Wiring type	2 wires	3 wires		2 wires	3 wires	
		NPN Output	PNP Output		NPN Output	PNP Output
Cable direction	Side			Top		

### (3) Cable length

Code	<b>A</b>	<b>B</b>	<b>G(*)</b>
Cable length (mm)	1000	3000	300 with M8 connector

\*Cable length: 300 mm with M8 connector is only for ZE175□ and ZE275□.

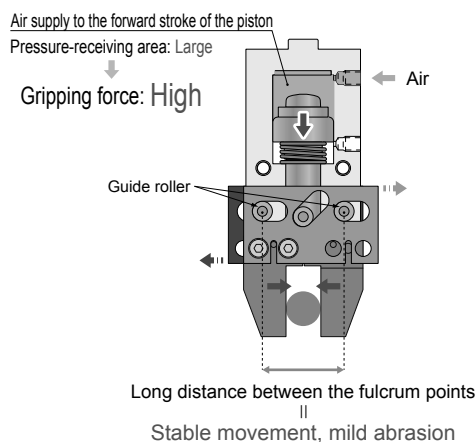
## Characteristics

### High precision and high gripping force.

Piston movement directly drives fingers which in turn allows for fewer moving parts. This simple structure enables high precision. (Repeatability:  $\pm 0.01$  mm)  
Air supply to the forward stroke of the piston generates high gripping force.

### Uniquely Designed Roller Guide System.

The long distance between rollers enables smooth movement and gripping.  
E type (with E-shaped retaining ring) which withstands lateral moment load is provided.



### 4 mm stroke type: ultra thin body.

Ultra thin 10mm width body, incorporating 8mm bore cylinder with high gripping force. Good for narrow pitch multi-station use.

### 6 mm stroke type: short body.

Long travel stroke with short body allows equipment downsizing.

### 8 mm stroke type: super light weight.

About half the weight of the conventional grippers with the same gripping force.

### Attachments and sensor switches: available as option parts.

Sensor switch can be selected from 6 types depending on the application.

## Specifications

Fluid medium	Filtered air (Limited to filtered compressed air)
Operating pressure range	0.3 to 0.5 MPa
Operating temp. range	5 to 50 °C (No freezing)
Lubrication	Not required
Max. operating cycle	Single-acting: 120 cpm, Double-acting: 180 cpm

## Gripping force

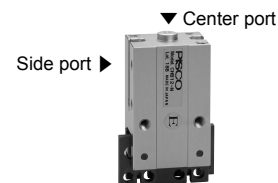
Acting type	Model code	Effective gripping force (N)	
		Force by air	Force by spring
Single-acting	CHB08(E)-N	4.2	1
	CHB12(E)-N	10.4	1.9
	CHB18-N	34	2.5
Double-acting	CHB08(E)-D	4.9	—
	CHB12(E)-D	12.2	—
	CHB18-D	37	—

### Various gripping styles with one body.

Various gripping action: Inside, outside, by air or by spring force.

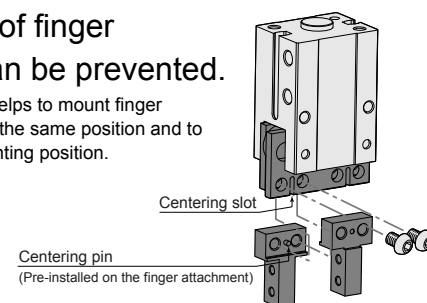
Gripping style			
Outside gripping		Inside gripping	
Gripping by air (Single/Double-acting)	Gripping by spring (Single-acting)	Gripping by air (Single/Double-acting)	Gripping by spring (Single-acting)

Either the center port or the side port can be used as an air supply port.



Mispositioning of finger attachments can be prevented.

Centering slot on finger helps to mount finger attachment repeatedly in the same position and to prevent deviation of mounting position.



## Sensor switch Specifications

Item	Model code	ZE135□	ZE155□	ZE175□	ZE235□	ZE255□	ZE275□
Wiring type		2 wires	3 wires NPN Output	3 wires PNP Output	2 wires	3 wires NPN Output	3 wires PNP Output
Cable direction		Side			Top		
Power voltage		—	4.5 to 28 VDC		—	4.5 to 28 VDC	
Load voltage		10 to 28 VDC	4.5 to 28 VDC		10 to 28 VDC	4.5 to 28 VDC	
Load current		2.5 to 20 mA (at 25°C, 10 mA at 60°C)	40 mA Max.		2.5 to 20 mA (at 25°C, 10 mA at 60°C)	40 mA Max.	
Current consumption		—	8 mA Max. (24 VDC)	10 mA Max. (24 VDC)	—	8 mA Max. (24 VDC)	10 mA Max. (24 VDC)
Internal voltage drop <sup>(*)</sup>		4 V Max.	2 V Max. (0.8 V Max. when load ≤ 10 mA)		4 V Max.	2 V Max. (0.8 V Max. when load ≤ 10 mA)	
Leakage Current		0.7 mA Max. (24 VDC, 25°C)	50 μA Max. (24 VDC)		0.7 mA Max. (24 VDC, 25°C)	50 μA Max. (24 VDC)	
Response time		1 msec Max.					
Insulation resistance		100 MΩ Min. (with 500 VDC megger, between case and wire terminal)					
Withstand voltage		500 VAC (50/60 Hz) 1 min. (between case and wire terminal)					
Impact resistance <sup>(**)</sup>		294.2 m/s <sup>2</sup> (Non-repetitive)					
Vibration resistance <sup>(**)</sup>		88.3 m/s <sup>2</sup> (Peak to peak amplitude 1.5 mm · 10 to 55 Hz)					
Protective structure		IP 67 (IEC standard), JIS C0920 (watertight type)					
Indicator		Red LED indicator turns on at operation					
Cable <sup>(**)</sup>		PCCV0.2SQ 2 wires (Brown, Blue) x ℓ	PCCV0.15SQ 3 wires (Brown, Blue, Black)×ℓ		PCCV0.2SQ 2 wires (Brown, Blue) x ℓ	PCCV0.15SQ 3 wires (Brown, Blue, Black)×ℓ	
Operating temp. range		0 to 60°C					
Storage temp. range		-10 to 70°C					

\*1. Internal voltage drop changes depending on the current load.

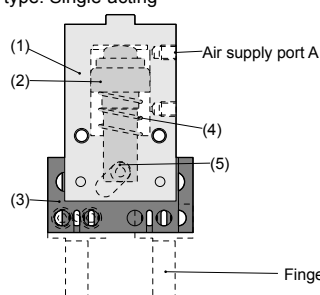
\*2. Manufacturer's test standard

\*3. Cable length ℓ is A: 1000 mm, B: 3000 mm. G: 300 mm with M8 connector is only for ZE175□, ZE275□

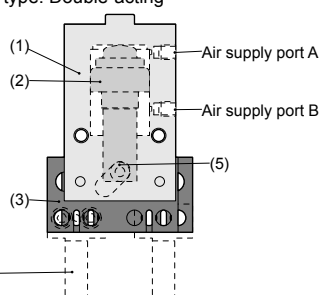
# Parallel Gripper Multi-acting type

## Sectional drawing

■ Acting type: Single-acting



■ Acting type: Double-acting



No.	Parts	Material
(1)	Body	Aluminum
(2)	Piston	Aluminum
(3)	Finger	Iron
(4)	Spring	Spring Steel
(5)	Drive roller	Steel

RoHS2 (2011/65/EU+EU2015/863) compliant

Type	Model code	Type	Model code	Type	Model code
Stroke 4 mm <b>CHB</b>	CHB08(E)-[2] CHB08(E)-[2]-C	Stroke 6 mm <b>CHB</b>	CHB12(E)-[2] CHB12(E)-[2]-C	Stroke 8 mm <b>CHB</b>	CHB18-[2] CHB18-[2]-C
Option parts					
Finger attachment					
Type	Model code	Type	Model code	Type	Model code
For 4 mm stroke <b>CHK</b>	CHK08	For 6 mm stroke <b>CHK</b>	CHK12	For 8 mm stroke <b>CHK</b>	CHK18
Sensor switch				Minimal fitting designated for CHB08(E)	
Type	Model code	Type	Model code	Type	Model code LC-øD-MM
Cable direction: Side <b>ZE</b>	ZE135A ZE135B ZE155A ZE155B ZE175A ZE175B	Cable direction: Top <b>ZE</b>	ZE235A ZE235B ZE255A ZE255B ZE275A ZE275B	Minimal straight <b>LC</b>	LC-0320-M3M LC-0425-M3M
Cable direction: Side, with M8 connector <b>ZE</b>	ZE175G	Cable direction: Top, with M8 connector <b>ZE</b>	ZE275G		



### Notes

\*Please select an acting type code for [2] from Model Designation (Example) on page 782.



CAD data is available  
at PISCO website.



Packaging specifications

1 pc./bag

1 set/bag: Finger attachment