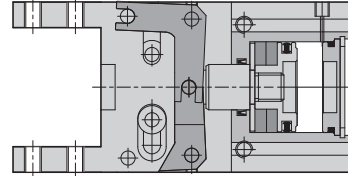


# HDP series - PARALLEL GRIPPER

Operation specification and Ordering expression



## Internal structure

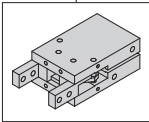
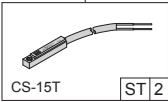
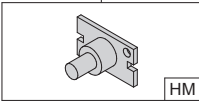
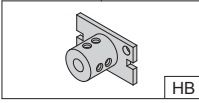


## Specification

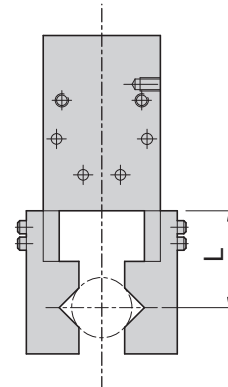
| Item                                 | Model                     | HDP-10                             | HDP-16    | HDP-20 | HDP-25 | HDP-32 |
|--------------------------------------|---------------------------|------------------------------------|-----------|--------|--------|--------|
| Bore size                            |                           | 10                                 | 16        | 20     | 25     | 32     |
| Type of operation                    |                           | Double acting                      |           |        |        |        |
| Fluid                                |                           | Air                                |           |        |        |        |
| Pressure range                       | kgf/cm <sup>2</sup> (kpa) | 1.5 ~ 7 ( 150 ~ 700 )              |           |        |        |        |
| Range of service temperature         | °C                        | 0 ~ 60                             |           |        |        |        |
| Max. operation frequency             | min                       | 180                                |           |        |        |        |
| Lubrication                          | Cylinder                  | Lubrication free                   |           |        |        |        |
|                                      | Lever section             | Required ( Apply Lubricating oil ) |           |        |        |        |
| Theoretical holding force<br>Note1   | Closed side               | 0.8                                | 2.4       | 4.7    | 7.5    | 10     |
|                                      | Opened side               | 0.5                                | 1.8       | 3.5    | 6.0    | 8.5    |
| Length of maximum gripping point (L) | mm                        | 30                                 | 40        | 60     | 70     | 85     |
| Lever open / close angles            | mm                        | 4                                  | 8         | 12     | 14     | 16     |
| Port size                            |                           | M3 X 0.5P                          | M5 X 0.8P |        |        |        |
| Magnet device                        |                           | With magnet                        |           |        |        |        |

Note 1 : P : Pressure = 5 Kgf/cm<sup>2</sup> , L : Gripping point length = 30mm

## How to order

|   |   |   |          |   |
|---|---|---|----------|---|
| <b>HDP</b>  | <b>20</b>   | <b>ST</b>   | <b>2</b> | <b>HM</b>   |
| Model   | Bore size   | Sensor switch   |          | Mounting bracket  |
|  | 10 - Ø10 mm<br>16 - Ø16 mm<br>20 - Ø20 mm<br>25 - Ø25 mm<br>32 - Ø32 mm | <br>CS-15T [ST] 2  |          | <br>HM   |
| <b>HDP :</b><br>Parallel Gripper  |   | None : without sensor<br>[ST] : Sensor code (CS-15T)<br>[SB] : Sensor code (CS-15B)<br>[SG] : Sensor code (CS-5G)<br>[SGN] : Sensor code (CS-5GN)<br>[SGP] : Sensor code (CS-5GP)<br>[2] : Number of sensor<br>1 = 1 PCS<br>2 = 2 PCS |          | None : Without Mounting bracket<br>[HM] : HM type Mounting bracket<br>( please refer to P.21-3.6 )<br><br>HB<br>None : Without Mounting bracket<br>[HB] : HB type Mounting bracket<br>( please refer to P.21-3.6 )<br>※ Note : Ø10 ~ Ø32 use |

## Length of gripping point



**HDS**  
Angular Gripper

**HDM**  
180° Angular Gripper

**HDP**  
Parallel Gripper

**HDK**  
Parallel Gripper

**HDF**  
Parallel Gripper

**HDZ**  
Parallel Gripper

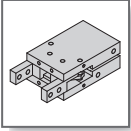
**HDZL**  
Parallel Gripper

**HDW**  
Parallel Gripper

**HDL**  
Gripper

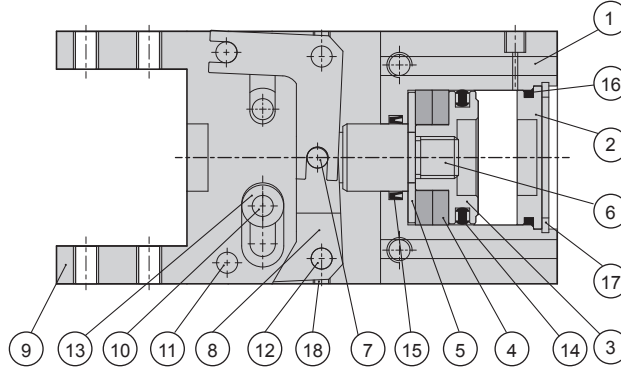
**HDT**  
Gripper

**HDR**  
Three Finger Gripper



# HDP series - PARALLEL GRIPPER

## Components and Material list



### Components and Material list

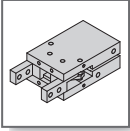
| No. | Item          | Material        | No. | Item             | Material      |
|-----|---------------|-----------------|-----|------------------|---------------|
| 01  | Body          | Aluminum alloy  | 10  | Slide guide pin  | Bearing steel |
| 02  | End cover     | Aluminum alloy  | 11  | Finger pin       | Bearing steel |
| 03  | Piston        | Copper          | 12  | Action lever pin | Bearing steel |
| 04  | Magnet        | Rubber          | 13  | Bearing          | Alloy steel   |
| 05  | Magnet holder | Copper          | 14  | Piston packing   | NBR           |
| 06  | Piston rod    | Stainless steel | 15  | Rod packing      | NBR           |
| 07  | Rod pin       | Bearing steel   | 16  | End cover o-ring | NBR           |
| 08  | Action lever  | Alloy steel     | 17  | Snap ring        | Spring steel  |
| 09  | Claw          | Alloy steel     | 18  | Hexagon screw    | Alloy steel   |

### Packing and O-Ring

| Item         | Piston packing | Rod packing | End cover o-ring |
|--------------|----------------|-------------|------------------|
| Bore size mm | Number         | Number      | Number           |
| Ø10          | COP-10         | DYR-6       | Ø8XØ1.5          |
| Ø16          | COP-16         | DYR-8K      | Ø13.2XØ1.5       |
| Ø20          | COP-20         | DYR-10SK    | Ø17.5XØ1.5       |
| Ø25          | COP-25         | DYR-12      | Ø22XØ1.5         |
| Ø32          | COP-32         | DYR-16      | Ø28.5XØ2.0       |

### Weight

| Model     | weight kg |
|-----------|-----------|
| HDP - 10S | 0.12      |
| HDP - 16S | 0.16      |
| HDP - 20S | 0.55      |
| HDP - 25S | 0.75      |
| HDP - 32S | 1.23      |

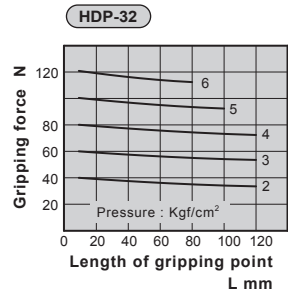
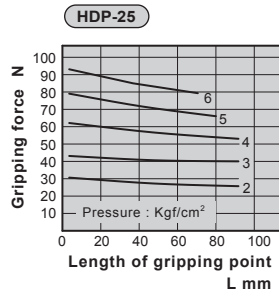
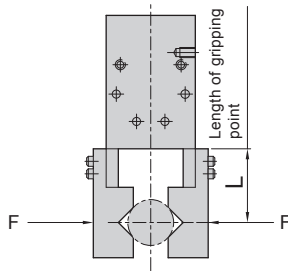
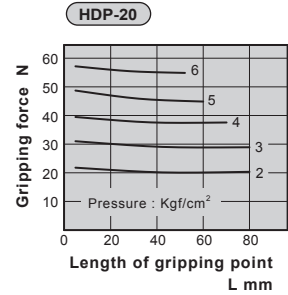
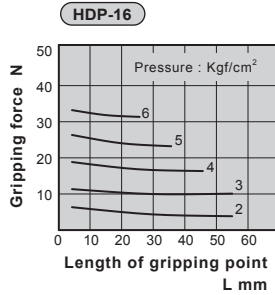
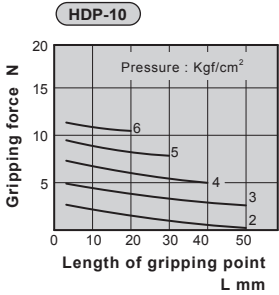


# HDP series - PARALLEL GRIPPER

Gripping force characteristic  
Operating type , Data , and Mounting type



## Gripping force characteristic



## Operating type and Data

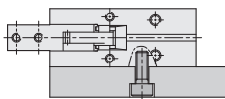
| Operating type | Model    | Bore size (mm) | The smallest operating pressure (Mpa) | Thread port (mm) | Effective gripping force Kgf(N) |            |
|----------------|----------|----------------|---------------------------------------|------------------|---------------------------------|------------|
| Double acting  | HDP - 10 | 10             | 0.22                                  | 4-M3x0.5         | Open                            | 0.5 (4.9)  |
|                |          |                |                                       |                  | Close                           | 0.8 (7.8)  |
|                | HDP - 16 | 16             | 0.1                                   | 4-M3x0.5         | Open                            | 1.8 (17.6) |
|                |          |                |                                       |                  | Close                           | 2.4 (23.5) |
|                | HDP - 20 | 20             | 0.1                                   | 4-M4x0.7         | Open                            | 3.5 (34.3) |
|                |          |                |                                       |                  | Close                           | 4.7 (46)   |
|                | HDP - 25 | 25             | 0.1                                   | 4-M5x0.8         | Open                            | 6.0 (58.8) |
|                |          |                |                                       |                  | Close                           | 7.5 (73.5) |
|                | HDP - 32 | 32             | 0.1                                   | 4-M6x1.0         | Open                            | 8.5 (83.3) |
|                |          |                |                                       |                  | Close                           | 10.0 (98)  |



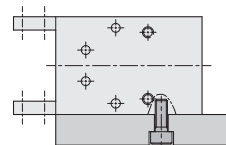
Note : The gripping force is the force of open and close gripper which is in the length of gripping point is 30mm and acting pressure is 0.5Mpa

## Mounting type

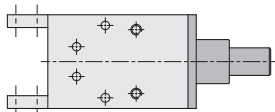
1. Use the thread in the bottom



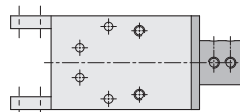
2. Use the thread in the side of body



3. Use HM type Mounting bracket in the bottom



4. Use HB type Mounting bracket in the bottom



Pin hole positioning

Side figure

**HDS**  
Angular Gripper

**HDM**  
180° Angular Gripper

**HDP**  
Parallel Gripper

**HDK**  
Parallel Gripper

**HDF**  
Parallel Gripper

**HDZ**  
Parallel Gripper

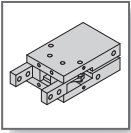
**HDZL**  
Parallel Gripper

**HDW**  
Parallel Gripper

**HDL**  
Gripper

**HDT**  
Gripper

**HDR**  
Three Finger Gripper

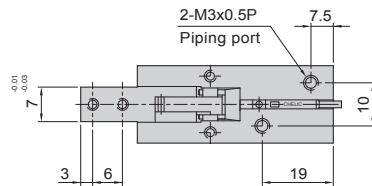
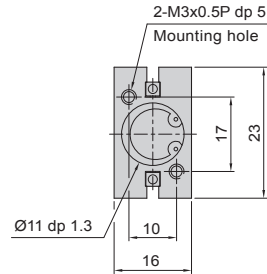
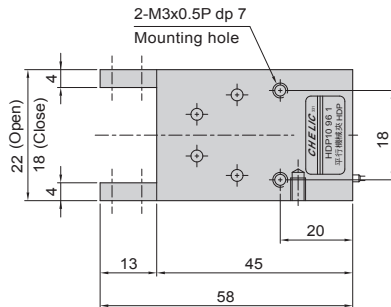
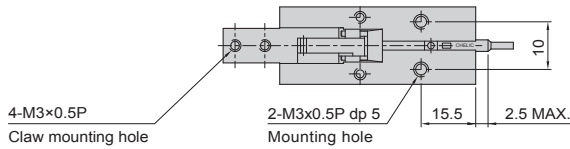


# HDP series - PARALLEL GRIPPER

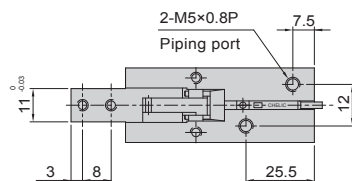
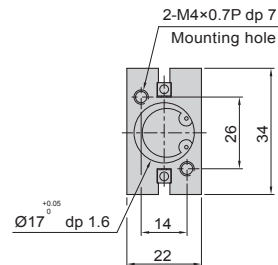
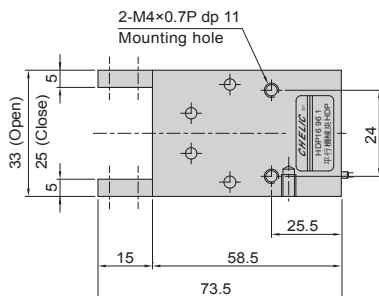
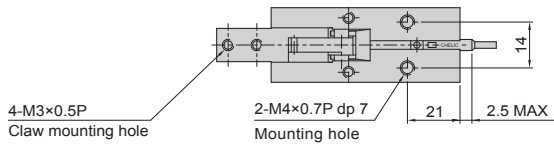
## External dimension

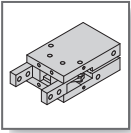


### ► HDP - 10



### ► HDP - 16



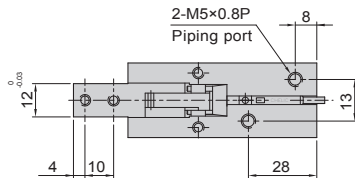
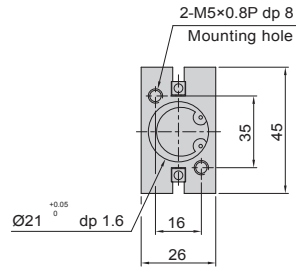
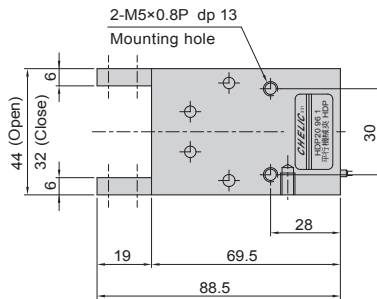
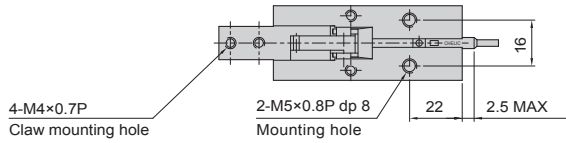


# HDP series - PARALLEL GRIPPER

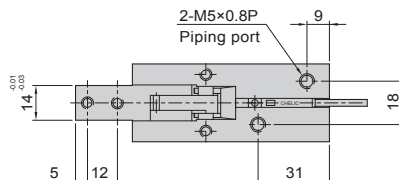
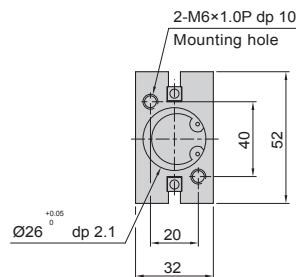
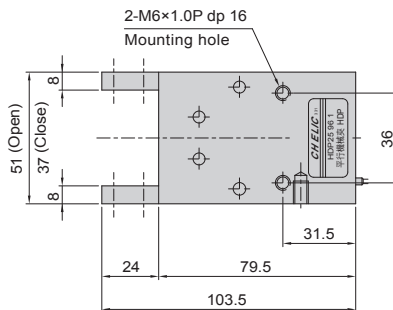
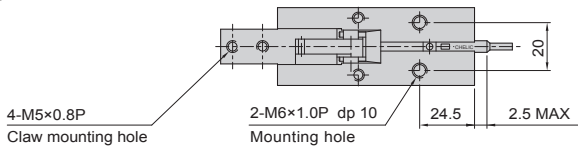
External dimension



## ► HDP - 20



## ► HDP - 25



**HDS**  
Angular  
Gripper

**HDM**  
180° Angular  
Gripper

**HDP**  
Parallel  
Gripper

**HDK**  
Parallel  
Gripper

**HDF**  
Parallel  
Gripper

**HDZ**  
Parallel  
Gripper

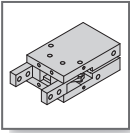
**HDZL**  
Parallel  
Gripper

**HDW**  
Parallel  
Gripper

**HDL**  
Gripper

**HDT**  
Gripper

**HDR**  
Three  
Finger  
Gripper

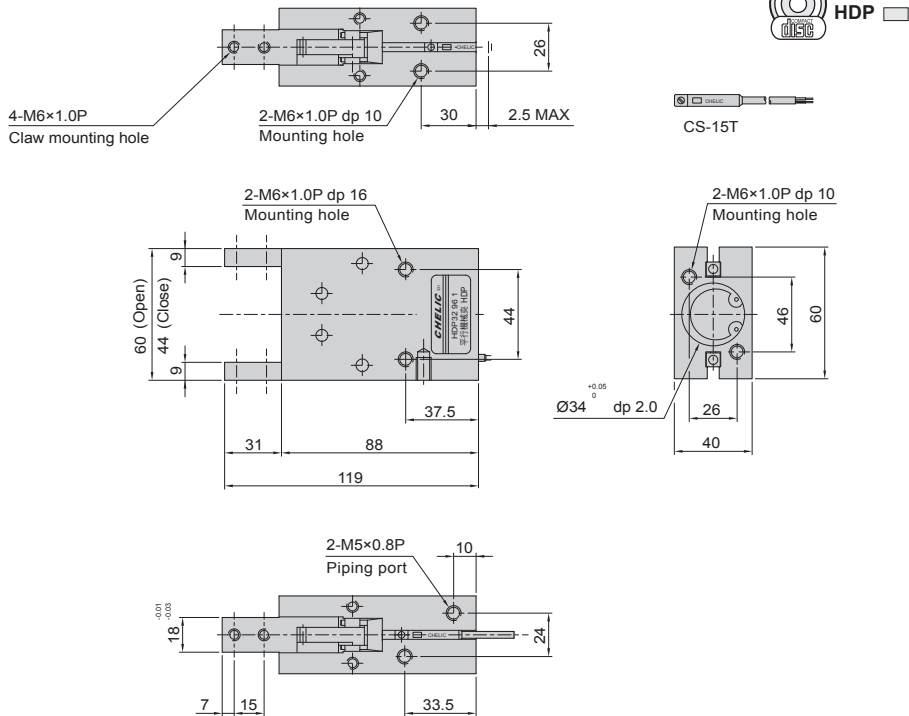


# HDP series - PARALLEL GRIPPER

External dimension – Ø32 , Mounting bracket

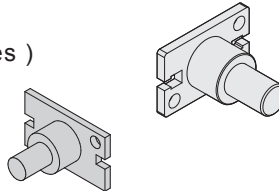


## ► HDP - 32



## ► Mounting bracket

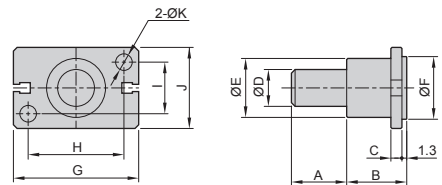
( Suitable for HDS 、 HRS 、 HDP 、 HDK series )



## ► HM type Mounting bracket

( Using in internal mounting )

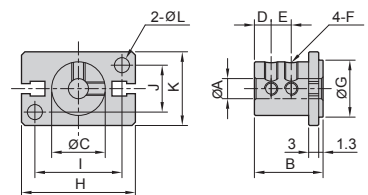
| Symbol Model | A  | B  | C | D  | E  | F  | G  | H  | I  | J  | K   |
|--------------|----|----|---|----|----|----|----|----|----|----|-----|
| HM10         | 10 | 10 | 2 | 8  | 12 | 13 | 27 | 20 | 10 | 16 | 3.5 |
| HM16         | 15 | 15 | 3 | 10 | 16 | 17 | 34 | 26 | 14 | 22 | 4.5 |
| HM20         | 15 | 15 | 3 | 10 | 18 | 21 | 45 | 35 | 16 | 26 | 5.5 |
| HM25         | 25 | 17 | 5 | 14 | 26 | 26 | 52 | 40 | 20 | 32 | 6.5 |
| HM32         | 25 | 20 | 6 | 16 | 30 | 34 | 60 | 46 | 26 | 40 | 6.6 |

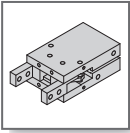


## ► HB type Mounting bracket

( Using in external mounting )

| Symbol Model | A  | B    | C  | D  | E  | F         | G  | H  | I  | J  | K  | L   |
|--------------|----|------|----|----|----|-----------|----|----|----|----|----|-----|
| HB10         | 4  | 15   | 16 | 5  | -  | M3 x 0.5p | 13 | 27 | 20 | 10 | 16 | 3.5 |
| HB16         | 6  | 20.5 | 16 | 5  | 6  | M4 x 0.7p | 17 | 34 | 26 | 14 | 22 | 4.5 |
| HB20         | 8  | 20.5 | 20 | 7  | 7  | M4 x 0.7p | 21 | 45 | 35 | 16 | 26 | 5.5 |
| HB25         | 10 | 30.5 | 25 | 8  | 10 | M4 x 0.7p | 26 | 52 | 40 | 20 | 32 | 6.5 |
| HB32         | 12 | 40.5 | 32 | 10 | 15 | M4 x 0.7p | 34 | 60 | 46 | 26 | 40 | 6.5 |





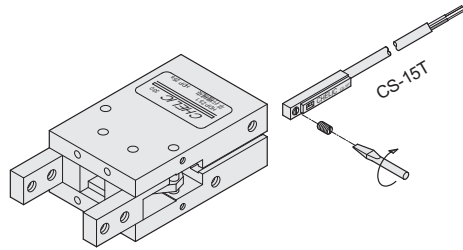
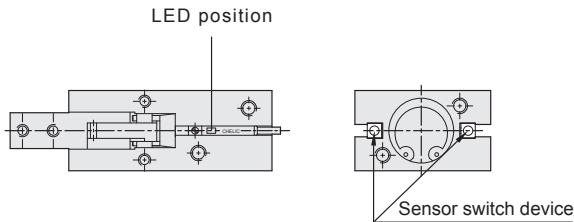
# HDP series - PARALLEL GRIPPER



## How to use and Sensor switch installation

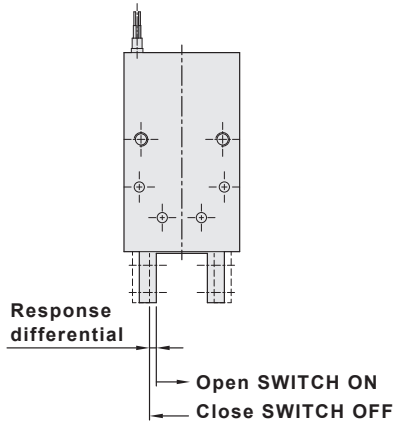
### ▶ HDP Sensor switch installation example

- Sensor switch installation and Position

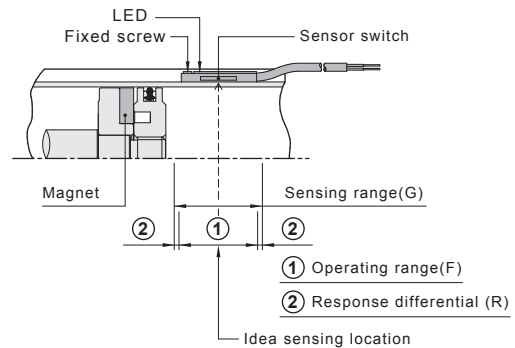


CS-15T  
( Please refer to P.22-1.18 sensor switch standard )

- Response differential and Position adjustable



- Response differential and Position adjustable



### ▶ Sensing range

Sensor switch is fixed on the cylinder body. The magnetic piston head will activate the sensor switch when it enters the operating range. It has 0.5mm differential.

### ▶ Operating range

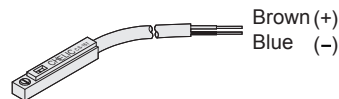
When piston head moves the switch setting and adjustment will be based on the responding range generated by the magnetic field and the switch. (Please refer to the below table)

Unit : mm

| Model     | CS-15T(B)           |                          |
|-----------|---------------------|--------------------------|
| Bore size | Operating range (F) | Response differential(R) |
| 10        | 3                   | 1                        |
| 16        | 5                   | 1                        |
| 20        | 8.5                 | 1                        |
| 25        | 10                  | 1.8                      |
| 32        | 10                  | 2                        |

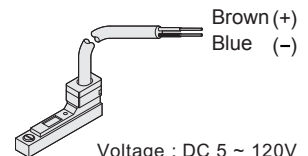
### ▶ Connection type

#### CS-15T



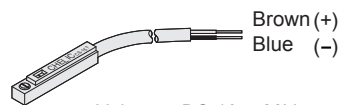
Voltage : DC 5 ~ 120V  
AC 5 ~ 120V

#### CS-15B



Voltage : DC 5 ~ 120V  
AC 5 ~ 120V

#### CS-5G



Voltage : DC 10 ~ 28V

**HDS**  
Angular  
Gripper

**HDM**  
180°Angular  
Gripper

**HDP**  
Parallel  
Gripper

**HDK**  
Parallel  
Gripper

**HDF**  
Parallel  
Gripper

**HDZ**  
Parallel  
Gripper

**HDZL**  
Parallel  
Gripper

**HDW**  
Parallel  
Gripper

**HDL**  
Gripper

**HDT**  
Gripper

**HDR**  
Three  
Finger  
Gripper