



Ultra Low Profile Parallel Gripper

HLD Series

● Operating stroke: 12, 16, 20, 30 mm



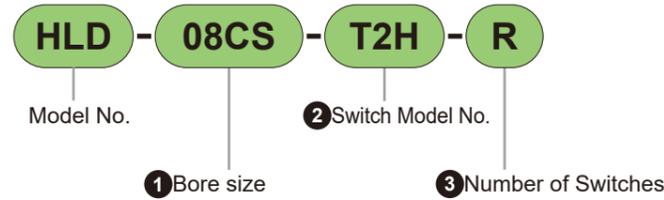
HLD Series

Specifications/Gripping Force Performance Data

Specifications

| Item | HLD | | | |
|---|---|---------|---------|---------|
| | 08CS | 12CS | 16CS | 20CS |
| Size | | | | |
| Bore size mm | ø8 x 4 | ø12 x 4 | ø16 x 4 | ø20 x 4 |
| Operating Fluid | Compressed Air | | | |
| Max. Working Pressure MPa | 0.7 | | | |
| Min. Operating Pressure MPa | 0.2 | | | |
| Ambient Temperature °C | 5 to 60 | | | |
| Port Size | M3 | | M5 | |
| Operating Stroke mm | 12 | 16 | 20 | 30 |
| Internal volume (reciprocating) cm ³ | 3.2 | 7.8 | 19.8 | 43.3 |
| Repeatability mm | ±0.01 | | | |
| Weight kg | 0.23 | 0.29 | 0.62 | 1.05 |
| Lubrication | Not required (When lubricating, use turbine oil Class 1 ISO VG32) | | | |

Model No. Notation Method



1 Bore Size (mm)

| Code | Content |
|------|---------|
| 08CS | ø8 |
| 12CS | ø12 |
| 16CS | ø16 |
| 20CS | ø20 |

2 Switch Model No.

For switch details, please refer to P. 573.
Switches are included with the product and shipped.

| Contact | Indicator LED Special Function | Wiring (Output) | Load Voltage (V) | | Load Current (mA) | | Lead wire *1 | |
|-------------|--------------------------------|-----------------|------------------|------------|-------------------|-------------|--------------|---------|
| | | | AC | DC | AC | DC | Straight | L-shape |
| Solid State | 1-Color | 2-wire | - | 10 to 30 | - | 5 to 20 *2 | T2H□ | T2V□ |
| | 1-Color Flexible Lead Wire | 2-wire | - | 10 to 30 | - | 5 to 20 *2 | T2HR3 | T2VR3 |
| | 1-Color | 3-wire (NPN) | - | 30 or less | - | 100 or less | T3H□ | T3V□ |
| | | 3-wire (PNP) | - | | | | T3PH□ | T3PV□ |

*1: For "□" in the switch model number, enter the code selected from the "Lead wire length" table.
*2: The maximum load current value above, 20 mA, is at 25°C. If the switch operating ambient temperature is higher than 25°C, it will be lower than 20 mA. (At 60°C, it will be 5 to 10 mA.)
*3: Switches other than the model numbers listed above are also available. (Custom Product) For details, see P. 573.

*Lead wire length

| Code | Content |
|-------|----------------|
| Blank | 1 m (Standard) |
| 3 | 3 m (Option) |
| 5 | 5 m (Option) |

Example) Lead wire length
1 m T2H□
3 m T2H□3
5 m T2H□5

3 Number of Switches

| Code | Content |
|------|--------------------------|
| R | With 1 pc. on Open Side |
| H | With 1 pc. on Close Side |
| D | With 2 pcs |

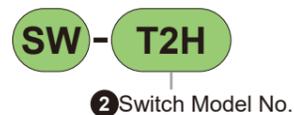
Rechargeable Battery Compatible Specification (Catalog No. CC-1226AA)

● Structure usable in secondary battery manufacturing processes

HLD- - P4□

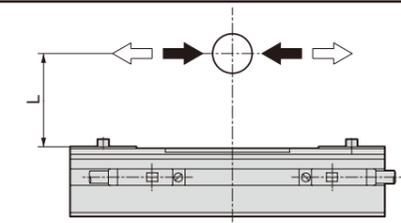
*Please contact us for details.

Switch Single Unit Model No. Notation Method



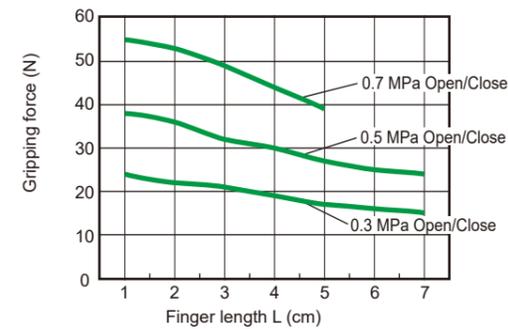
Gripping Force Performance Data

- Gripping force represents the thrust (for one finger) in the direction of the arrow shown in the figure.
- This represents the gripping force at the gripper's finger length L when the supply pressure is 0.3, 0.5, and 0.7 MPa.
- Opening direction (◀) Closing direction (▶) Both (Solid line)

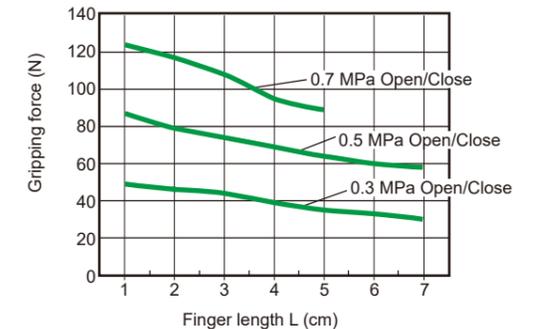


Note) When selecting, check the design and selection precautions on P. 336.

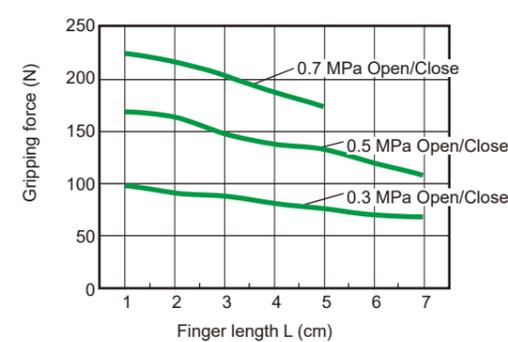
●HLD-08CS



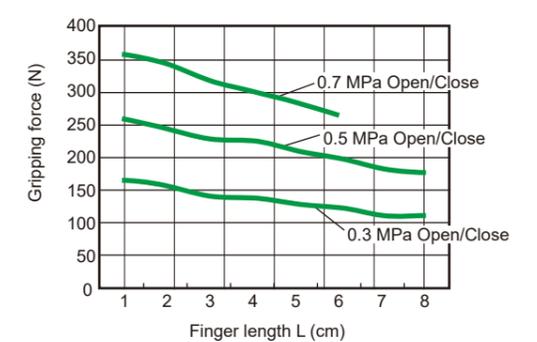
●HLD-12CS



●HLD-16CS



●HLD-20CS



LSH-HP
LSH
FH100
BSA2
BHA
BHG
BHE
LHA
LHAG

HAP-1C
HAP-2 to 4CS
HKP
HCP
HGP
LST-HP
HLF2
HLA/HLB
HLAG/HLBG

HLC

HLD

HMC-HP

HMF

HMF-G

HMFB

HFP

FH500

HBL

HJL

HMD

HDL

HJD

Cylinder Switch

Ending

Hand (Gripper)

LSH-HP
LSH
FH100
BSA2
BHA
BHG
BHE
LHA
LHAG

HAP-1C
HAP-2 to 4CS
HKP
HCP
HGP
LST-HP
HLF2
HLA/HLB
HLAG/HLBG

HLC

HLD

HMC-HP

HMF

HMF-G

HMFB

HFP

FH500

HBL

HJL

HMD

HDL

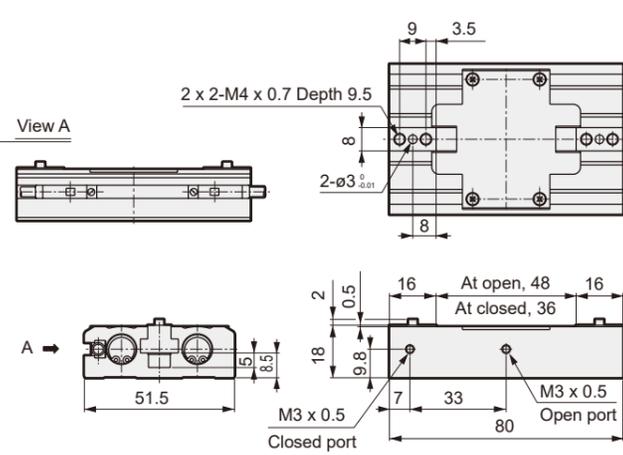
HJD

Cylinder Switch

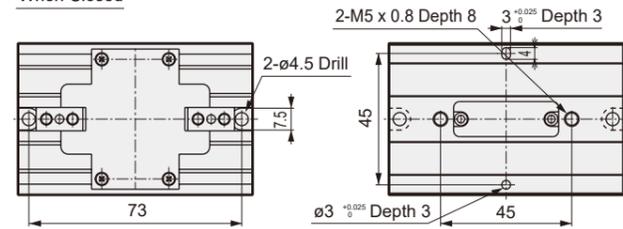
Ending

Outline Dimension Drawing

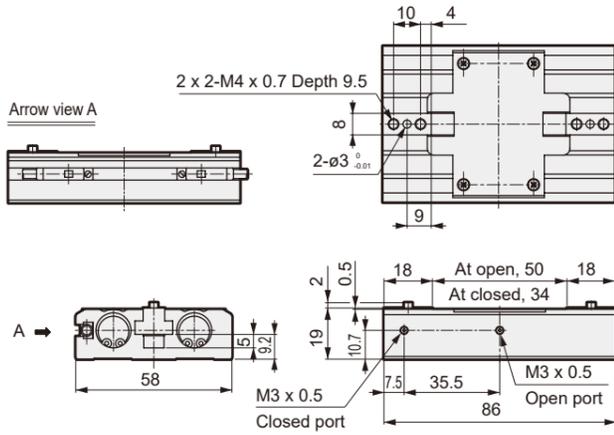
● HLD-08CS



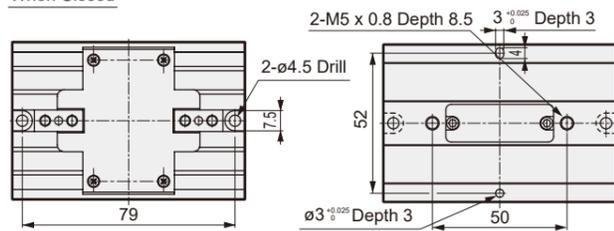
When Closed



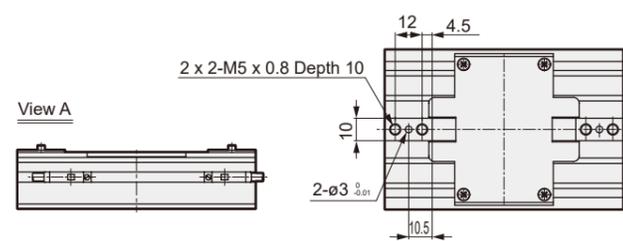
● HLD-12CS



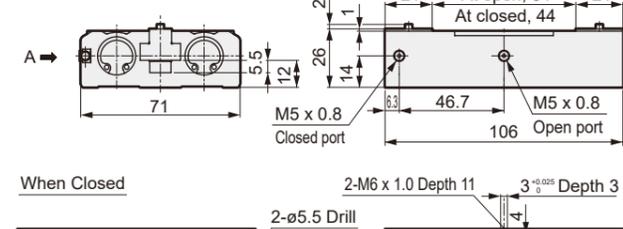
When Closed



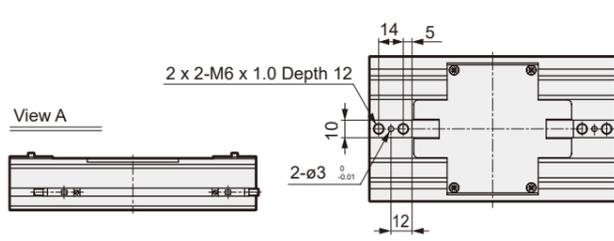
● HLD-16CS



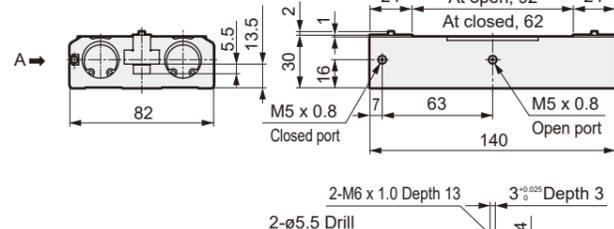
When Closed



● HLD-20CS

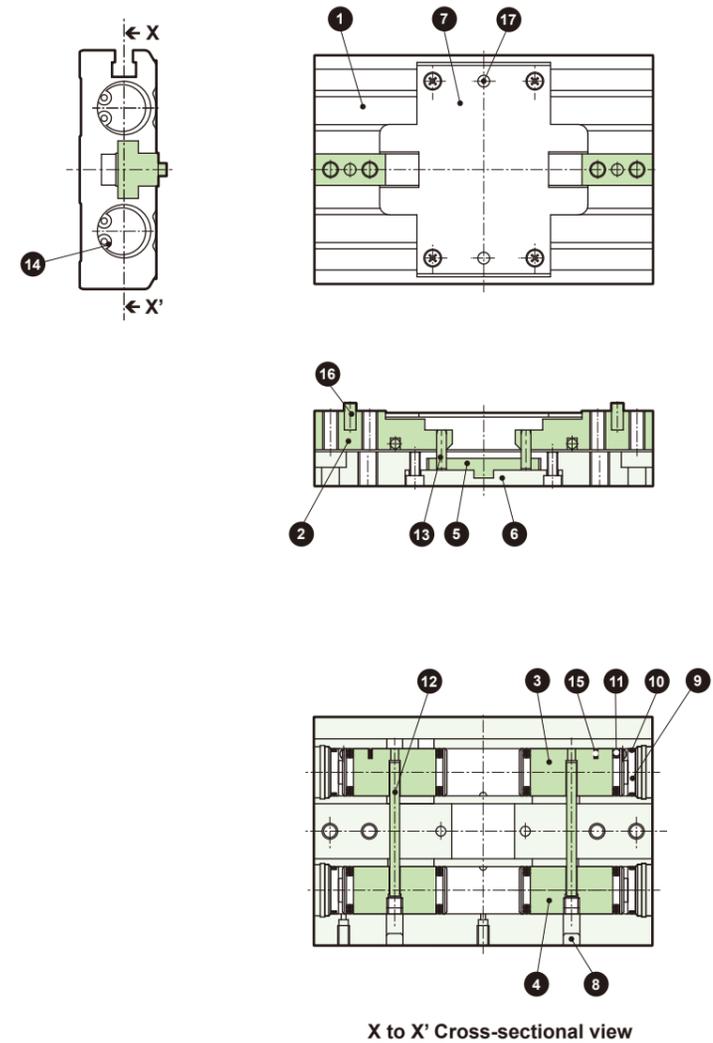


When Closed



Internal Structure Diagram/Material

Internal Structure Diagram/Material



X to X' Cross-sectional view

Do not disassemble

| Part No. | Part Name | Material | Part No. | Part Name | Material |
|----------|-------------|-----------------|----------|-----------------------|-----------------|
| 1 | Body | Aluminum Alloy | 10 | Seal | Nitrile Rubber |
| 2 | Finger | Steel | 11 | Piston seal | Nitrile Rubber |
| 3 | Piston 1 | Aluminum Alloy | 12 | Actuating shaft A | Alloy Steel |
| 4 | Piston 2 | Aluminum Alloy | 13 | Actuating shaft B | Alloy Steel |
| 5 | Cam | Steel | 14 | C-type retaining ring | Stainless Steel |
| 6 | Guide block | Aluminum Alloy | 15 | Magnet | |
| 7 | Top cover | Stainless Steel | 16 | Positioning pin 1 | Alloy Steel |
| 8 | Cap | Aluminum Alloy | 17 | Positioning pin 2 | Alloy Steel |
| 9 | Cover | Aluminum Alloy | | | |

Hand (Gripper)
LSH-HP
LSH
FH100
BSA2
BHA
BHG
BHE
LHA
LHAG
HAP-1C
HAP-2 to 4CS
HKP
HCP
HGP
LST-HP
HLF2
HLA/HLB
HLAG/HLBG
HLC
HLD
HMC-HP
HMF
HMF-G
HMF-B
HFP
FH500
HBL
HJL
HMD
HDL
HJD
Cylinder Switch
Ending

Hand (Gripper)
LSH-HP
LSH
FH100
BSA2
BHA
BHG
BHE
LHA
LHAG
HAP-1C
HAP-2 to 4CS
HKP
HCP
HGP
LST-HP
HLF2
HLA/HLB
HLAG/HLBG
HLC
HLD
HMC-HP
HMF
HMF-G
HMF-B
HFP
FH500
HBL
HJL
HMD
HDL
HJD
Cylinder Switch
Ending