



# Toggle hand HJL Series

Double acting



## Specifications

| Item  | HJL  |       |      |       |
|---|--|-------|------|-------|
|   | 32CS   | 40CS  | 50CS | 63CS  |
| Size  | 32CS   | 40CS  | 50CS | 63CS  |
| Bore size mm  | ø32  | ø40   | ø50  | ø63   |
| Working fluid                                       | Compressed air   |       |      |       |
| Max. working pressure MPa                           | 0.7 (≈100 psi, 7 bar)  |       |      |       |
| Min. working pressure MPa                           | 0.3 (≈44 psi, 3 bar)   |       |      |       |
| Ambient temperature °C                              | 5 (41°F) to 60 (140°F)   |       |      |       |
| Port size   | M5   | Rc1/8 |      |       |
| Open and close angle °                              | -3 to 28   |       |      |       |
| Rod diameter mm                                     | ø14  | ø16   | ø20  | ø20   |
| Volumetric capacity (reciprocating) cm <sup>3</sup> | 21.9   | 37.0  | 72.3 | 118.4 |
| Repeatability mm                                    | ±0.1   |       |      |       |
| Weight kg   | 0.88   | 1.24  | 2.11 | 3.00  |
| Lubrication   | Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication) |       |      |       |

## Switch specifications

| Item                 | Proximity 2-wire                      | Proximity 3-wire                   |
|----------------------|---------------------------------------|------------------------------------|
|                      | T2H/V                                 | T3H/V                              |
| Applications         | Dedicated for programmable controller | For programmable controller, relay |
| Output method        | -                                     | NPN output                         |
| Power supply voltage | -                                     | 10 to 28 VDC                       |
| Load voltage/current | 10 to 30 VDC, 5 to 20 mA (*1)         | 30 VDC or less, 100 mA or less     |
| Indicator lamp       | LED (Lit when ON)                     |                                    |
| Leakage current      | 1 mA or less                          | 10 µA or less                      |
| Weight               | 1 m:18 g 3 m:49 g 5 m:80 g *3         |                                    |

\*1 : The above max. load current is 20 mA at 25°C.

The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)

\*2 : Refer to Ending Page 1 for detailed switch specifications and dimensions.

\*3 : The weight of switch mounting bracket is 1.5 g.

LCM  
LCR  
LCG  
LCW  
LCX  
STM  
STG  
STS/STL  
STR2  
UCA2  
ULK\*  
JSK/M2  
JSG  
JSC3/JSC4  
USSD  
UFGD  
USC  
UB  
JSB3  
LMB  
LML  
HCM  
HCA  
LBC  
CAC4  
UCAC2  
CAC-N  
UCAC-N  
RCS2  
RCC2  
PCC  
SHC  
MCP  
GLC  
MFC  
BBS  
RRC  
GRC  
RV3\*  
NHS  
HRL  
LN  
Hand  
Chuk  
MecHnd/Chuk  
ShkAbs  
FJ  
FK  
SpdContr  
Ending

LSH-HP  
LSH  
FH100  
BSA2  
BHA/BHG  
LHA  
LHAG  
HAP  
HKP  
HCP  
HGP  
HLF2  
HLA/HLB  
HLAG/HLBG  
HLC  
HLD  
HMF  
HMF-G  
HMFB  
HFP  
FH500  
HBL  
HJL  
HMD  
HDL  
HJD  
BHE

## How to order

Without switch (built-in magnet for switch)

**HJL** - **40CS**

With switch (built-in magnet for switch)

**HJL** - **40CS** - **T2H** - **R**

**A** Size

**B** Switch model No.  
\* indicates the lead wire length.

**C** Switch quantity

[Example of model No.]

**HJL-40CS-T2H-R**

Model : Toggle hand

**A** Size : 12CS

**B** Switch model No.: Proximity T2H switch, lead wire 1 m

**C** Switch quantity : 1 on open side

| Code                      | Description      |         |               |           |           |
|---------------------------|------------------|---------|---------------|-----------|-----------|
| <b>A Size</b>             |                  |         |               |           |           |
| 32CS                      |                  |         |               |           |           |
| 40CS                      |                  |         |               |           |           |
| 50CS                      |                  |         |               |           |           |
| 63CS                      |                  |         |               |           |           |
| <b>B Switch model No.</b> |                  |         |               |           |           |
| Axial lead wire           | Radial lead wire | Contact | Voltage AC DC | Display   | Lead wire |
| T2H*                      | T2V*             | Prox.   |               | ● 1-color | 2-wire    |
| T3H*                      | T3V*             |         |               | ● display | 3-wire    |
| <b>* Lead wire length</b> |                  |         |               |           |           |
| Blank                     | 1 m (standard)   |         |               |           |           |
| 3                         | 3 m (option)     |         |               |           |           |
| 5                         | 5 m (option)     |         |               |           |           |
| <b>C Switch quantity</b>  |                  |         |               |           |           |
| R                         | 1 on open side   |         |               |           |           |
| H                         | 1 on closed side |         |               |           |           |
| D                         | 2                |         |               |           |           |

## How to order switch

● For switch T\*H\*

· Switch body + mounting bracket set

**HJL** - **T2H**

Switch model No.  
(Item **B** above)

· Switch body only

**SW** - **T2H**

Switch model No.  
(Item **B** above)

· Mounting bracket set

**HJL** - **T**

Mounting bracket

● For switch T\*V\*

· Switch body + mounting bracket set

**HJL** - **T2V** - \*

Switch model No.  
(Item **B** above)

· Switch body only

**SW** - **T2V**

Switch model No.  
(Item **B** above)

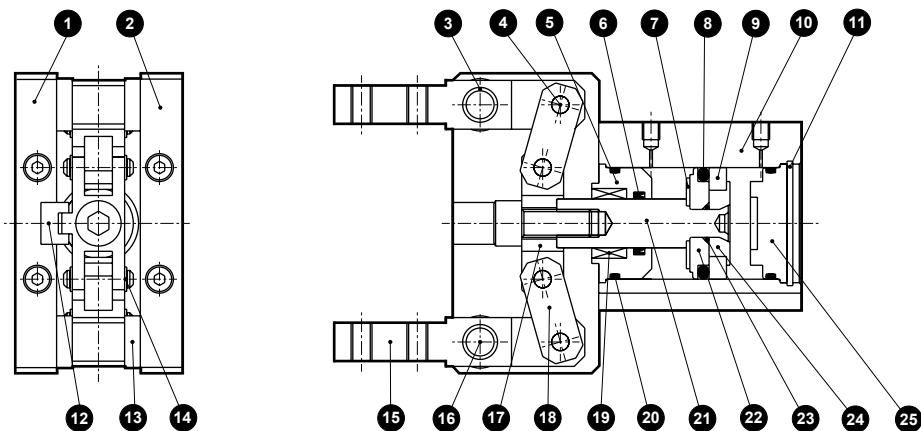
· Mounting bracket set

**HJL** - **TV** - \*

- Select either R (open side) or H (closed side) for sections marked with an asterisk (\*).
- HJL-[50CS, 63CS] can be mounted without a mounting bracket.

|              |
|--------------|
| LCM          |
| LCR          |
| LCG          |
| LCW          |
| LCX          |
| STM          |
| STG          |
| STS/STL      |
| STR2         |
| UCA2         |
| ULK*         |
| JSK/M2       |
| JSG          |
| JSC3/JSC4    |
| USSD         |
| UFCD         |
| USC          |
| UB           |
| JSB3         |
| LMB          |
| LML          |
| HCM          |
| HCA          |
| LBC          |
| CAC4         |
| UCAC2        |
| CAC-N        |
| UCAC-N       |
| RCS2         |
| RCC2         |
| PCC          |
| SHC          |
| MCP          |
| GLC          |
| MFC          |
| BBS          |
| RRC          |
| GRC          |
| RV3*         |
| NHS          |
| HRL          |
| LN           |
| <b>Hand</b>  |
| Chuk         |
| MechHnd/Chuk |
| ShkAbs       |
| FJ           |
| FK           |
| SpdContr     |
| Ending       |
| LSH-HP       |
| LSH          |
| FH100        |
| BSA2         |
| BHA/BHG      |
| LHA          |
| LHAG         |
| HAP          |
| HKP          |
| HCP          |
| HGP          |
| HLF2         |
| HLA/HLB      |
| HLAG/HLBG    |
| HLC          |
| HLD          |
| HMF          |
| HMF-G        |
| HMFB         |
| HFP          |
| FH500        |
| HBL          |
| <b>HJL</b>   |
| HMD          |
| HDL          |
| HJD          |
| BHE          |

## Internal structure and parts list



**Cannot be disassembled**

### Parts list

| No. | Part name        | Material                        | Remarks | No. | Part name        | Material             | Remarks |
|-----|------------------|---------------------------------|---------|-----|------------------|----------------------|---------|
| 1   | Body B           | Aluminum alloy                  |         | 14  | E type snap ring | Carbon steel         |         |
| 2   | Body A           | Aluminum alloy                  |         | 15  | Finger           | Carbon steel         |         |
| 3   | DU dry bearing   | Sintering oil impregnated alloy |         | 16  | Fulcrum axis     | Carbon steel         |         |
| 4   | Operation axis   | Carbon steel                    |         | 17  | Operation plate  | Carbon steel         |         |
| 5   | Rod cover        | Aluminum alloy                  |         | 18  | Link             | Carbon steel         |         |
| 6   | Rod sealant      | Nitrile rubber                  |         | 19  | Die slide bush   | Copper alloy casting |         |
| 7   | Cushion          | Urethane rubber                 |         | 20  | Cylinder sealant | Nitrile rubber       |         |
| 8   | Piston seal      | Nitrile rubber                  |         | 21  | Piston rod       | Stainless steel      |         |
| 9   | Magnet           |                                 |         | 22  | Piston A         | Aluminum alloy       |         |
| 10  | Cylinder         | Aluminum alloy                  |         | 23  | O-ring           | Nitrile rubber       |         |
| 11  | C type snap ring | Stainless steel                 |         | 24  | Piston B         | Aluminum alloy       |         |
| 12  | Guide rail       | Carbon steel                    |         | 25  | Cylinder guard   | Aluminum alloy       |         |
| 13  | Collar           | Carbon steel                    |         |     |                  |                      |         |

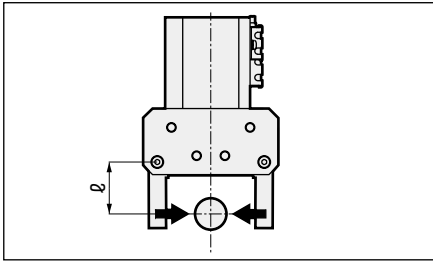
- LCM
- LCR
- LCG
- LCW
- LCX
- STM
- STG
- STS/STL
- STR2
- UCA2
- ULK\*
- JSK/M2
- JSG
- JSC3/JSC4
- USSD
- UFCD
- USC
- UB
- JSB3
- LMB
- LML
- HCM
- HCA
- LBC
- CAC4
- UCAC2
- CAC-N
- UCAC-N
- RCS2
- RCC2
- PCC
- SHC
- MCP
- GLC
- MFC
- BBS
- RRC
- GRC
- RV3\*
- NHS
- HRL
- LN
- Hand**
- Chuk
- MecHnd/Chuk
- ShkAbs
- FJ
- FK
- SpdContr
- Ending

- LSH-HP
- LSH
- FH100
- BSA2
- BHA/BHG
- LHA
- LHAG
- HAP
- HKP
- HCP
- HGP
- HLF2
- HLA/HLB
- HLAG/HLBG
- HLC
- HLD
- HMF
- HMF-G
- HMFB
- HFP
- FH500
- HBL
- HJL**
- HMD
- HDL
- HJD
- BHE

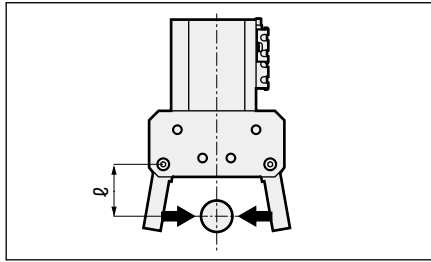
### Gripping power performance data

- Gripping power represents the thrust (per one finger) in the arrow direction shown in the figure.
- The gripping power with finger length L of hand and a supply pressure of 0.3, 0.5 and 0.7 MPa is shown.
- Closed direction (  $\blacksquare \rightarrow$  )  $\longrightarrow$  (shown with continuous line)

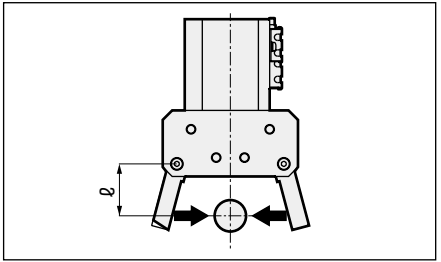
[Parallel]



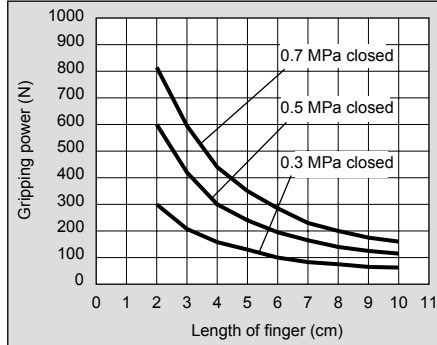
[At 10°]



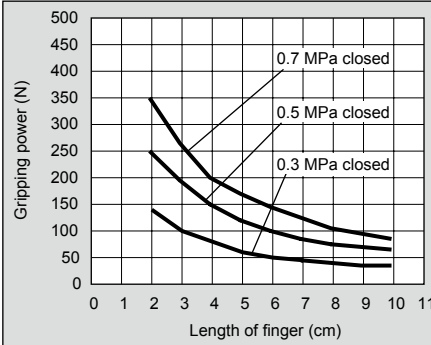
[At 20°]



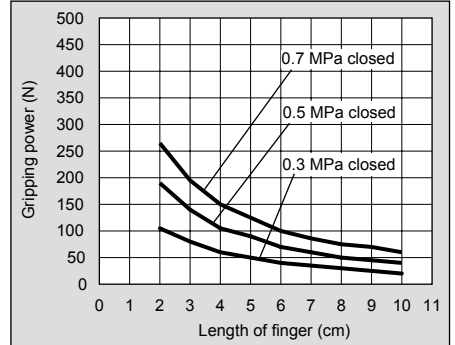
● HJL-32CS



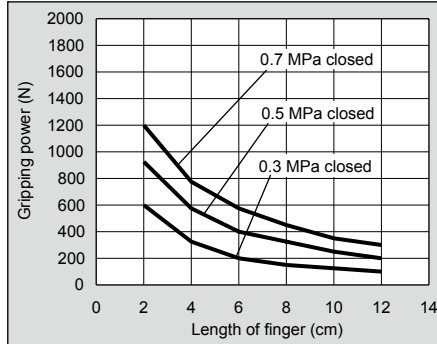
● HJL-32CS



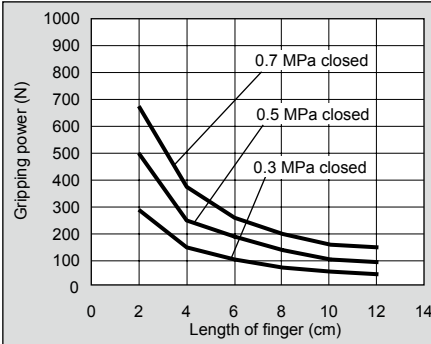
● HJL-32CS



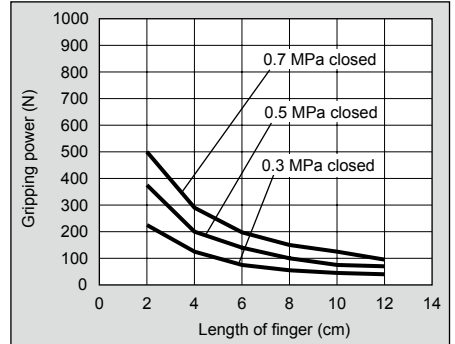
● HJL-40CS



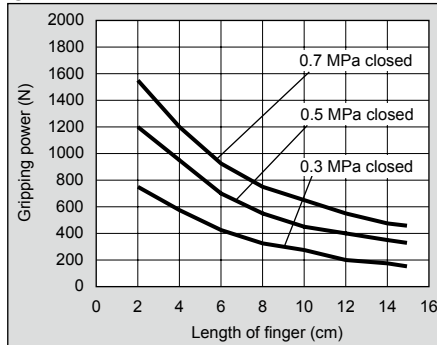
● HJL-40CS



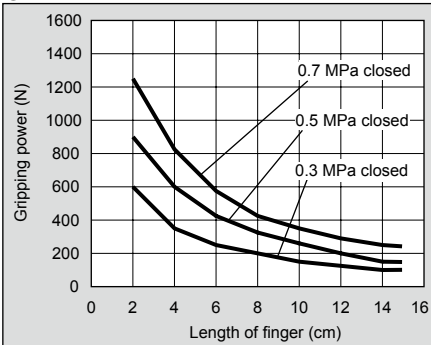
● HJL-40CS



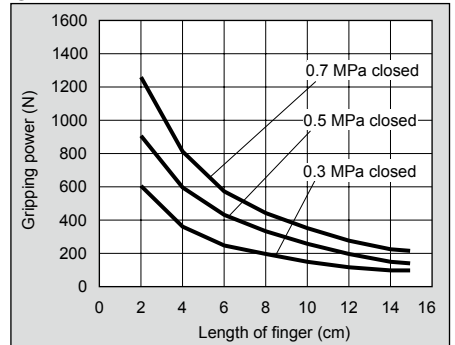
● HJL-50CS



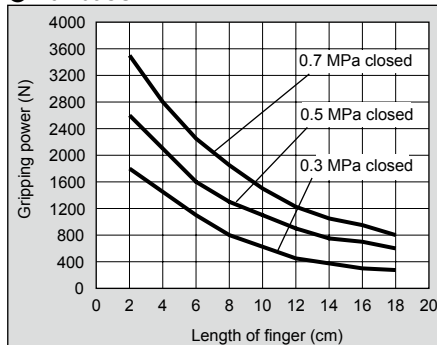
● HJL-50CS



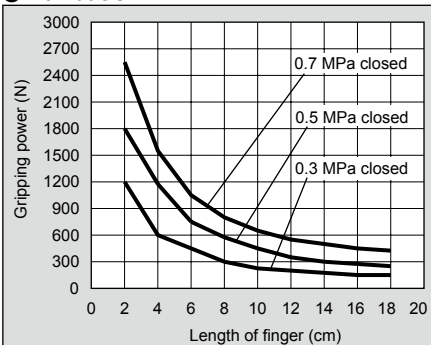
● HJL-50CS



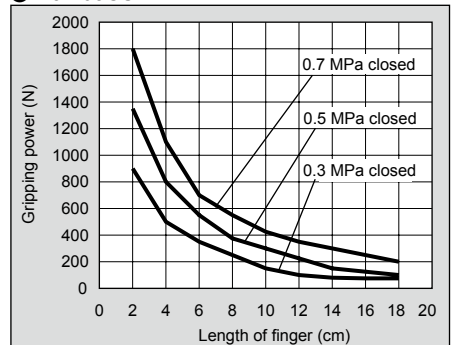
● HJL-63CS



● HJL-63CS



● HJL-63CS



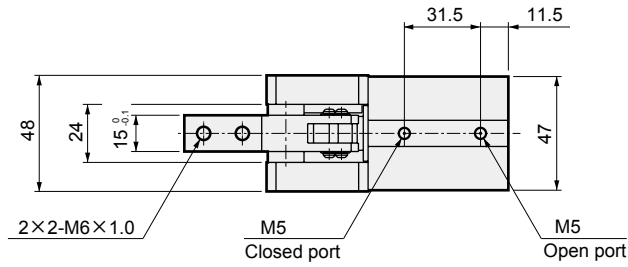
(Note) When making a selection, read the precautions for design and selection on page 1764.

|              |
|--------------|
| LCM          |
| LCR          |
| LCG          |
| LCW          |
| LCX          |
| STM          |
| STG          |
| STS/STL      |
| STR2         |
| UCA2         |
| ULK*         |
| JSK/M2       |
| JSG          |
| JSC3/JSC4    |
| USSD         |
| UFCD         |
| USC          |
| UB           |
| JSB3         |
| LMB          |
| LML          |
| HCM          |
| HCA          |
| LBC          |
| CAC4         |
| UCAC2        |
| CAC-N        |
| UCAC-N       |
| RCS2         |
| RCC2         |
| PCC          |
| SHC          |
| MCP          |
| GLC          |
| MFC          |
| BBS          |
| RRC          |
| GRC          |
| RV3*         |
| NHS          |
| HRL          |
| LN           |
| <b>Hand</b>  |
| Chuk         |
| MechHnd/Chuk |
| ShkAbs       |
| FJ           |
| FK           |
| SpdContr     |
| Ending       |
| LSH-HP       |
| LSH          |
| FH100        |
| BSA2         |
| BHA/BHG      |
| LHA          |
| LHAG         |
| HAP          |
| HKP          |
| HCP          |
| HGP          |
| HLF2         |
| HLA/HLB      |
| HLAG/HLBG    |
| HLC          |
| HLD          |
| HMF          |
| HMF-G        |
| HMFB         |
| HFP          |
| FH500        |
| HBL          |
| <b>HJL</b>   |
| HMD          |
| HDL          |
| HJD          |
| BHE          |

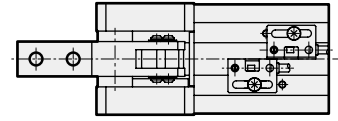
## Dimensions



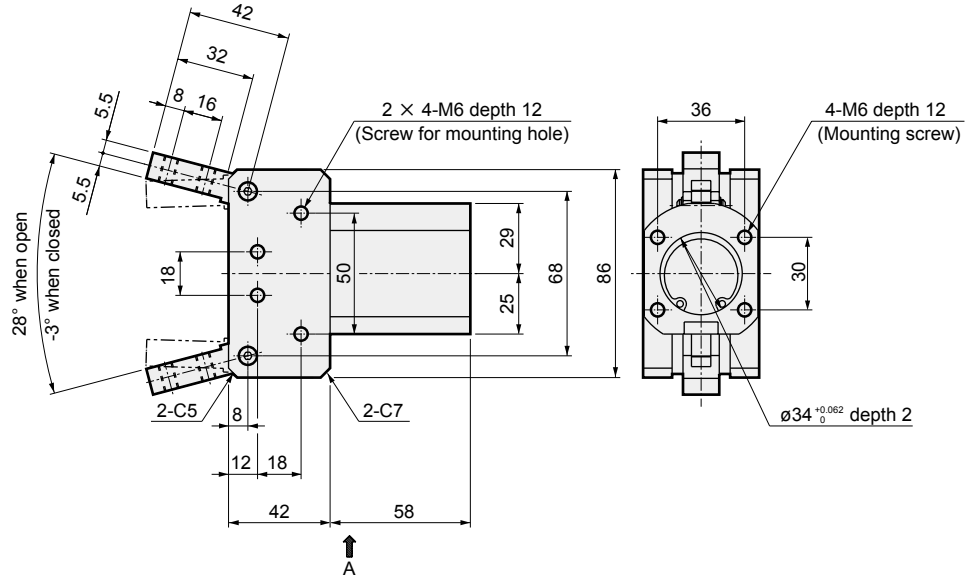
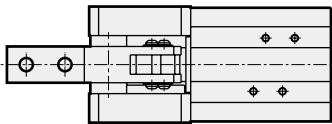
### ● HJL-32CS



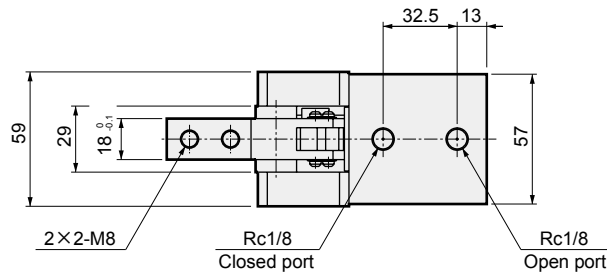
### ● With switch



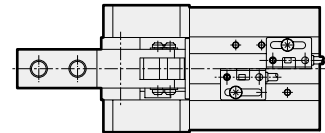
### A section arrow view



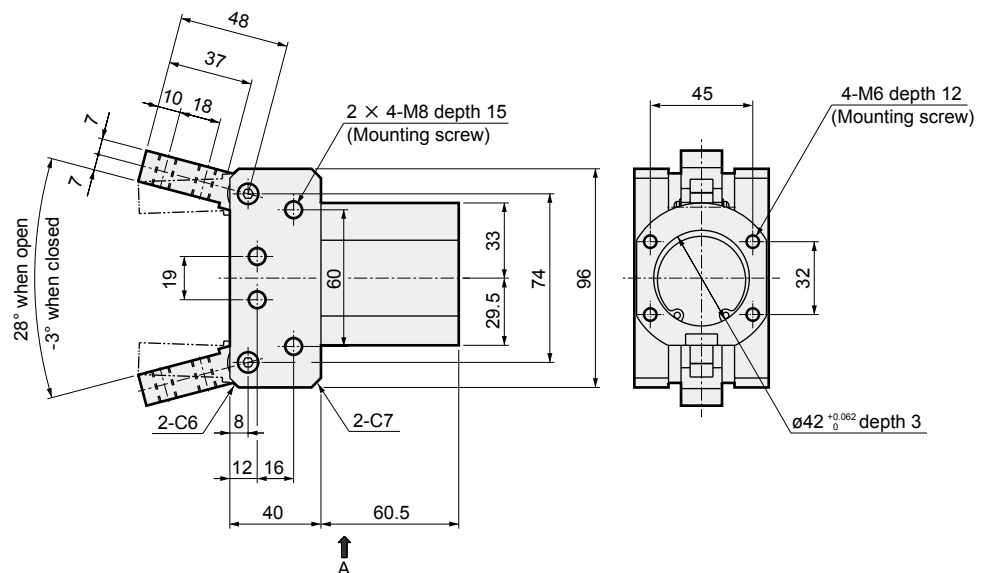
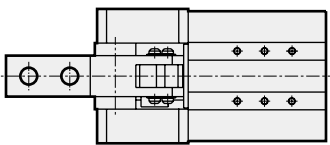
### ● HJL-40CS



### ● With switch



### A section arrow view

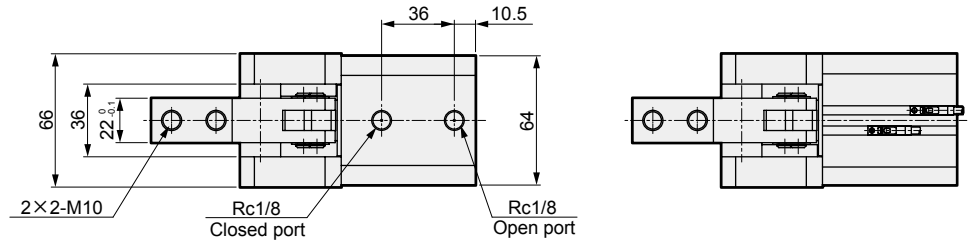


|             |
|-------------|
| LCM         |
| LCR         |
| LCG         |
| LCW         |
| LCX         |
| STM         |
| STG         |
| STS/STL     |
| STR2        |
| UCA2        |
| ULK*        |
| JSK/M2      |
| JSG         |
| JSC3/JSC4   |
| USSD        |
| UFCD        |
| USC         |
| UB          |
| JSB3        |
| LMB         |
| LML         |
| HCM         |
| HCA         |
| LBC         |
| CAC4        |
| UCAC2       |
| CAC-N       |
| UCAC-N      |
| RCS2        |
| RCC2        |
| PCC         |
| SHC         |
| MCP         |
| GLC         |
| MFC         |
| BBS         |
| RRC         |
| GRC         |
| RV3*        |
| NHS         |
| HRL         |
| LN          |
| <b>Hand</b> |
| Chuk        |
| MecHnd/Chuk |
| ShkAbs      |
| FJ          |
| FK          |
| SpdContr    |
| Ending      |
| LSH-HP      |
| LSH         |
| FH100       |
| BSA2        |
| BHA/BHG     |
| LHA         |
| LHAG        |
| HAP         |
| HKP         |
| HCP         |
| HGP         |
| HLF2        |
| HLA/HLB     |
| HLAG/HLBG   |
| HLC         |
| HLD         |
| HMF         |
| HMF-G       |
| HMFB        |
| HFP         |
| FH500       |
| HBL         |
| <b>HJL</b>  |
| HMD         |
| HDL         |
| HJD         |
| BHE         |

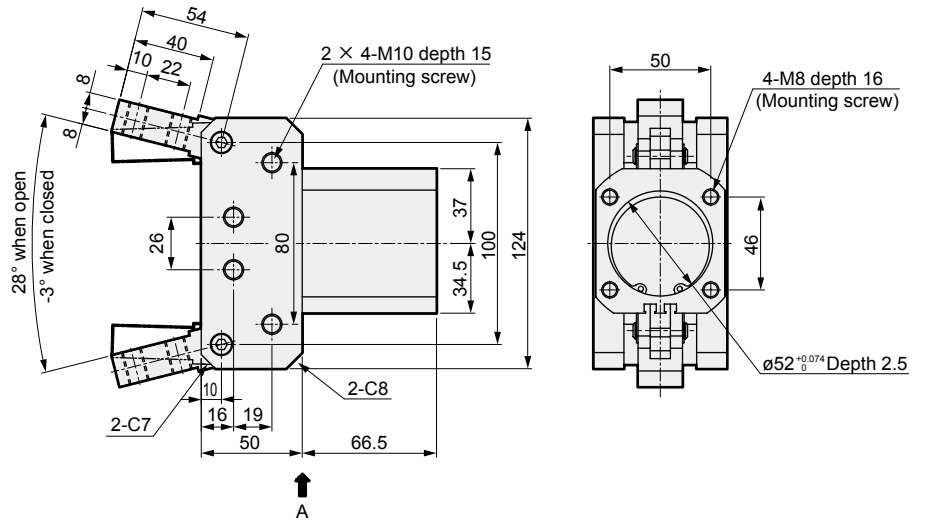
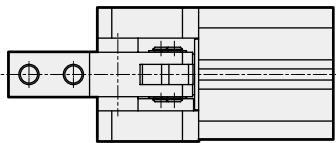
## Dimensions

● HJL-50CS

● With switch

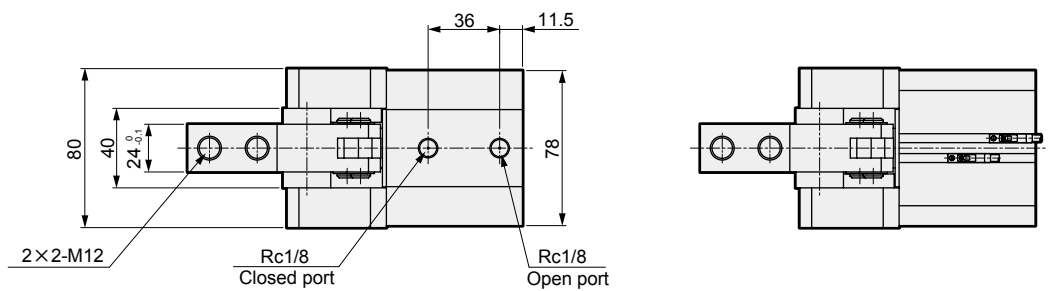


A section arrow view

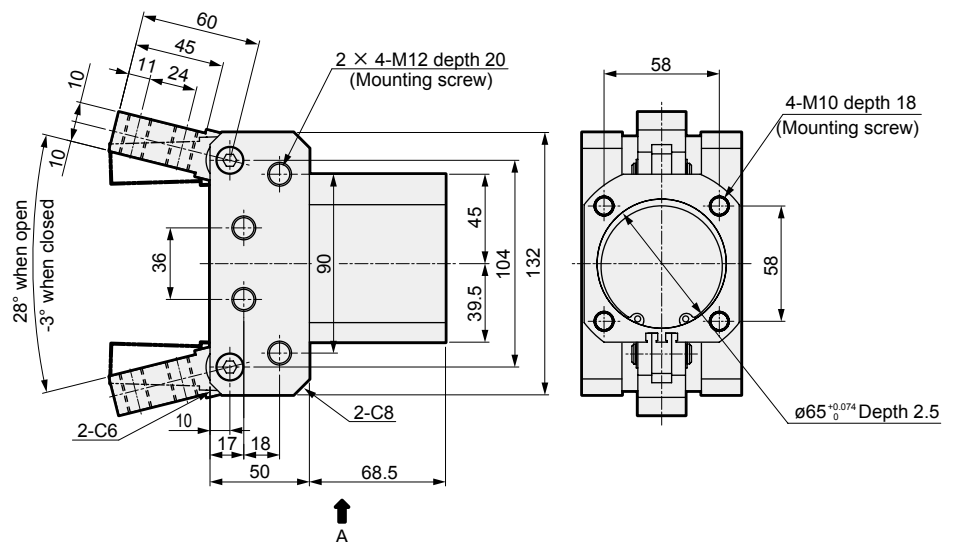
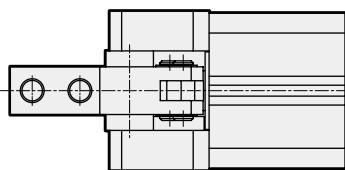


● HJL-63CS

● With switch



A section arrow view



|              |
|--------------|
| LCM          |
| LCR          |
| LCG          |
| LCW          |
| LCX          |
| STM          |
| STG          |
| STS/STL      |
| STR2         |
| UCA2         |
| ULK*         |
| JSK/M2       |
| JSG          |
| JSC3/JSC4    |
| USSD         |
| UFCD         |
| USC          |
| UB           |
| JSB3         |
| LMB          |
| LML          |
| HCM          |
| HCA          |
| LBC          |
| CAC4         |
| UCAC2        |
| CAC-N        |
| UCAC-N       |
| RCS2         |
| RCC2         |
| PCC          |
| SHC          |
| MCP          |
| GLC          |
| MFC          |
| BBS          |
| RRC          |
| GRC          |
| RV3*         |
| NHS          |
| HRL          |
| LN           |
| <b>Hand</b>  |
| Chuk         |
| MechMod/Chuk |
| ShkAbs       |
| FJ           |
| FK           |
| SpdContr     |
| Ending       |
| LSH-HP       |
| LSH          |
| FH100        |
| BSA2         |
| BHA/BHG      |
| LHA          |
| LHAG         |
| HAP          |
| HKP          |
| HCP          |
| HGP          |
| HLF2         |
| HLA/HLB      |
| HLAG/HLBG    |
| HLC          |
| HLD          |
| HMF          |
| HMF-G        |
| HMFB         |
| HFP          |
| FH500        |
| HBL          |
| <b>HJL</b>   |
| HMD          |
| HDL          |
| HJD          |
| BHE          |