

# Thin wide angle hand HMD Series

● Open/close angle:  $-4^{\circ}$  to  $184^{\circ}$   
Double acting



## Specifications

Descriptions	HMD	
Size	16CS	25CS
Bore size mm	$\phi 16$	$\phi 25$
Actuation	Double acting	
Working fluid	Compressed air	
Max. working pressure MPa	0.7 ( $\approx 100$ psi, 7 bar)	
Min. working pressure MPa	0.3 ( $\approx 44$ psi, 3 bar)	
Ambient temperature $^{\circ}\text{C}$	5 ( $41^{\circ}\text{F}$ ) to 60 ( $140^{\circ}\text{F}$ )	
Port size	M3	M5
Open and close angle $^{\circ}$	-4 to 184	
Rod diameter mm	$\phi 6$	$\phi 8$
Volumetric capacity (reciprocating) $\text{cm}^3$	5.8	19.4
Repeatability mm	$\pm 0.2$	
Weight kg	0.13	0.38
Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)	

## Switch specifications

Descriptions	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 $\mu\text{A}$ or less
Weight	1 m:18 g 3 m:49 g 5 m:80 g	

\*1 : The above max. load current is 20 mA at  $25^{\circ}\text{C}$ .

The current is lower than 20 mA if the operating ambient temperature around the switch is higher than  $25^{\circ}\text{C}$ . (5 to 10 mA at  $60^{\circ}\text{C}$ )

\*2 : Refer to Ending Page 1 for other switch specifications.

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

### How to order

Without switch (built-in magnet for switch)

**HMD** - **16CS**

With switch (built-in magnet for switch)

**HMD** - **16CS** - **T2H** - **R**

Model No.

**A** Size

**B** Switch model No.

\* indicates the lead wire length.

**C** Switch quantity

Code	Content					
<b>A Size</b>						
16CS						
25CS						
<b>B Switch model No.</b>						
Axial lead wire	Radial lead wire	Contact	Voltage		Display	Lead wire
			AC	DC		
T2H*	T2V*	Proximity		●	1-color display	2-wire
T3H*	T3V*			●		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					

[Example of model No.]

**HMD-16CS-T2H-R**

Model : Thin wide angle hand

**A** Size : 16CS

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

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

### How to order switch

**SW** - **T2H\***

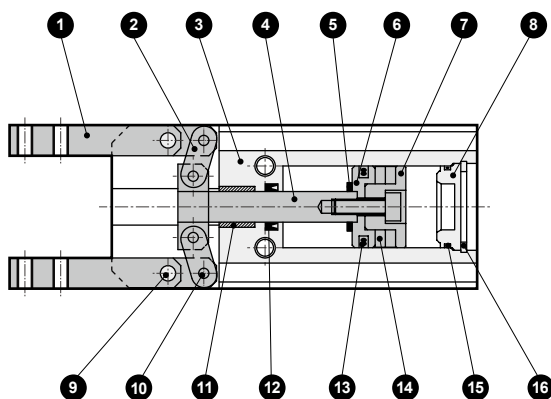
Switch model No.  
(Item **B** above)

Specifications for rechargeable battery (Catalog No. CC-1226A)

**HMD** - ... - **P4\*** ● Design compatible with rechargeable battery manufacturing process.

\* Contact CKD for details.

### Internal structure and parts list



**Cannot be disassembled**

No.	Part name	Material	Remarks
1	Master key	Steel	
2	Link	Steel	
3	Body	Aluminum alloy	
4	Piston A	Stainless steel	
5	Cushion	Urethane rubber	
6	Piston B	Copper alloy	
7	Piston C	Copper alloy	
8	Cylinder guard	Acetal resin	
9	Fulcrum axis	Alloy steel	
10	Operation shaft	Alloy steel	
11	Bush	Sintering oil impregnated alloy	
12	Rod sealant	Nitrile rubber	
13	Piston seal	Nitrile rubber	
14	Magnet		
15	Cylinder sealant	Nitrile rubber	
16	Snap ring	Stainless steel	

LCW  
LCR  
LCG  
LCX  
LCM  
STM  
STG  
STS/STL  
STR2  
UCA2  
ULK\*  
JSK/M2  
JSG  
JSC3/JSC4  
USSD  
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USC  
JSB3  
LMB  
LML  
HCM  
HCA  
LBC  
CAC4  
UCAC2  
CAC-N  
UCAC-N  
RCC2  
RCS  
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MecHnd/Chuk  
ShkAbs  
FJ  
FK  
SpdContr

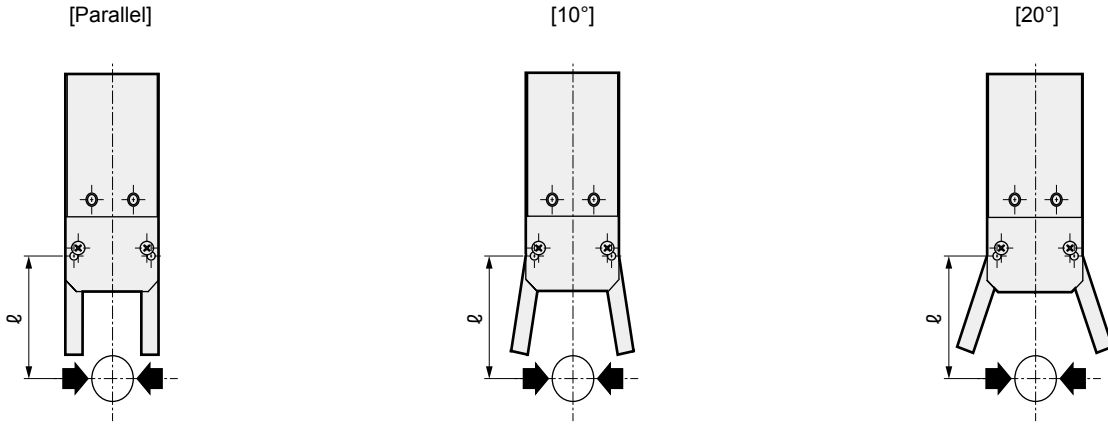
Ending

LSH  
FH100  
HAP  
BSA2  
BHA/BHG  
LHA  
LHAG  
HKP  
HLA/HLB  
HLAG/HLBG  
HLD  
HCP  
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BHE

## Gripping power performance data

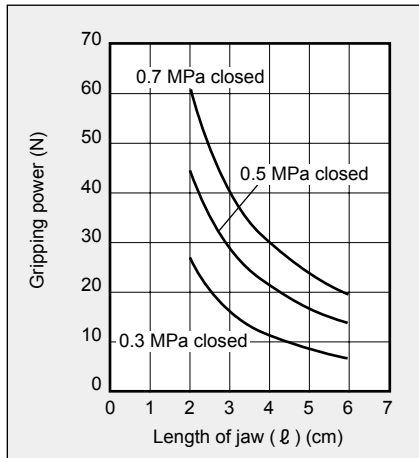
The gripping power with jaw length L of hand and a supply pressure of 0.3, 0.5 and 0.7 MPa is shown.

• Closed direction (→) (shown with continuous line)

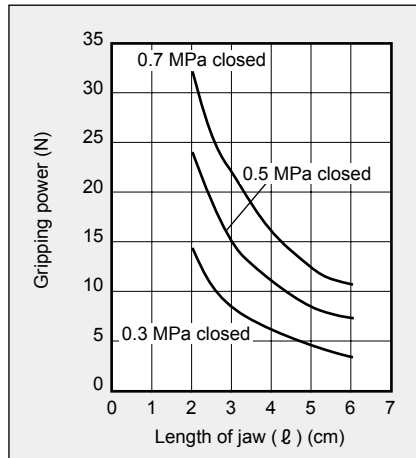


(Note) When making a selection, read the precautions for design and selection on page 1636.

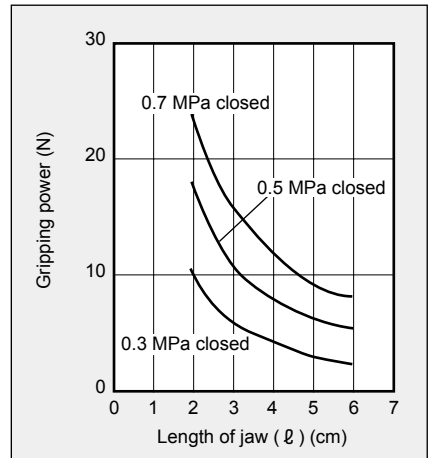
● HMD-16CS



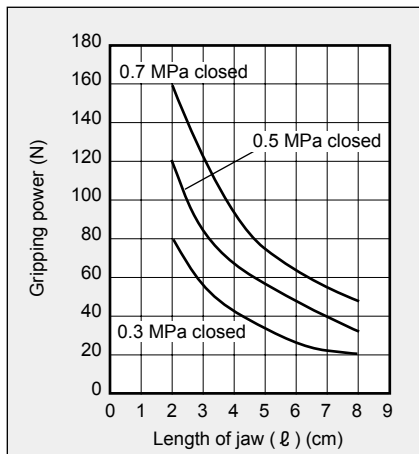
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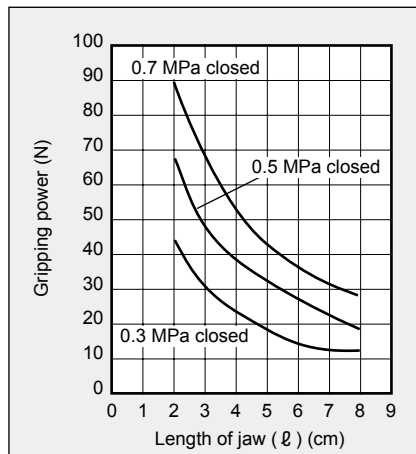
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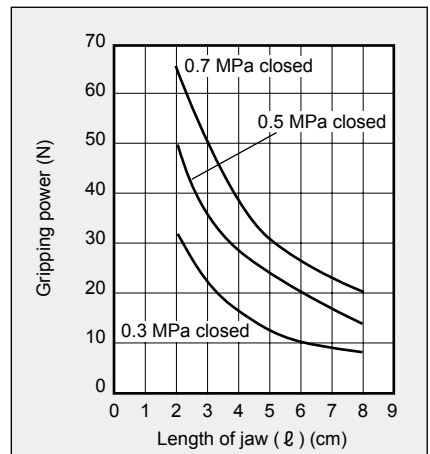
● HMD-25CS



● HMD-25CS



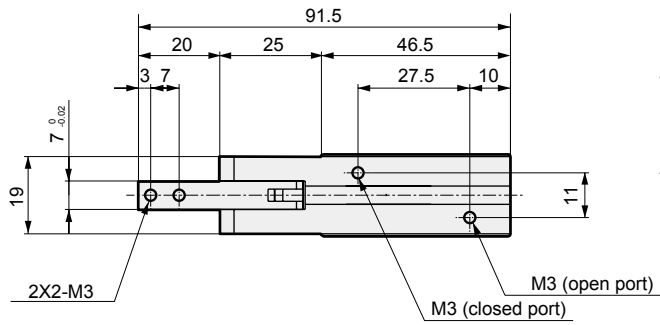
● HMD-25CS



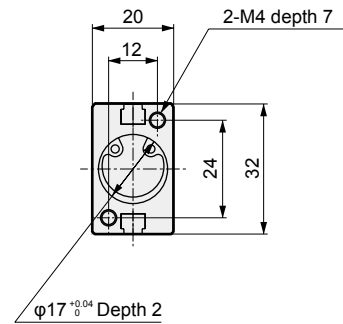
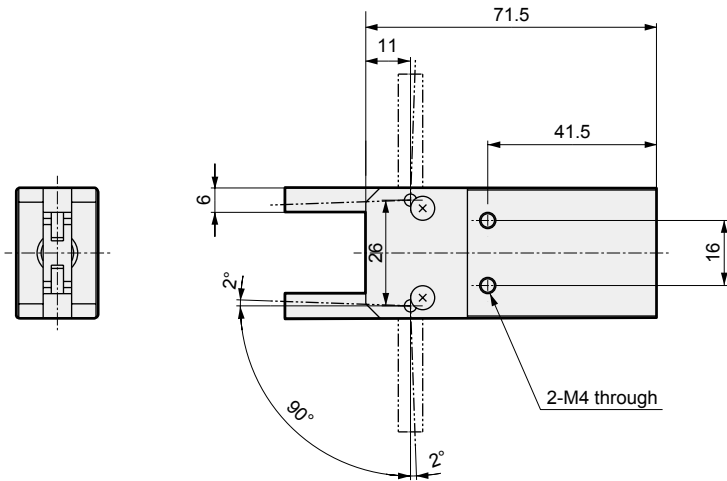
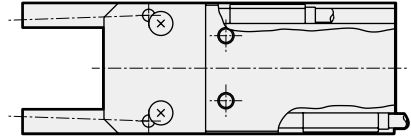
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## Dimensions

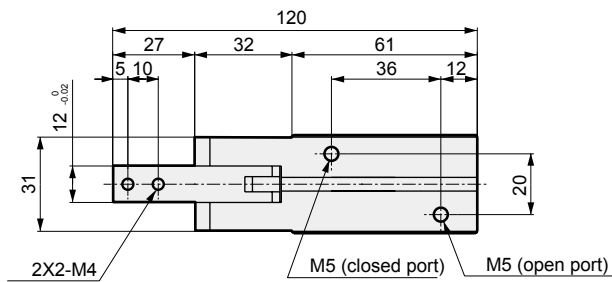
### ● HMD-16CS



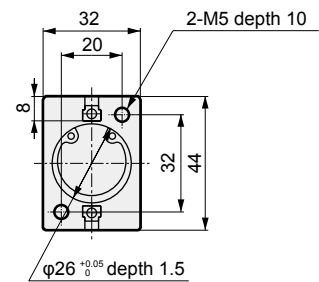
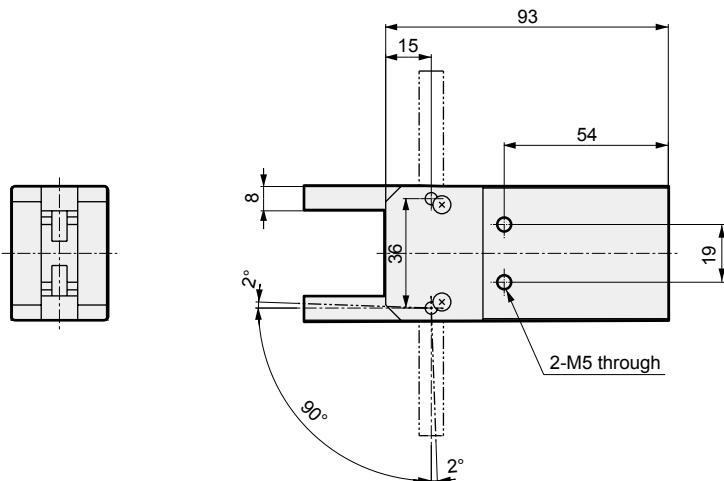
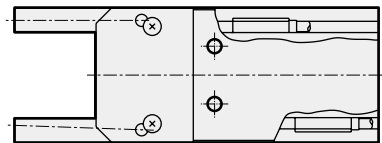
### ● With switch



### ● HMD-25CS



### ● With switch



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