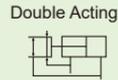




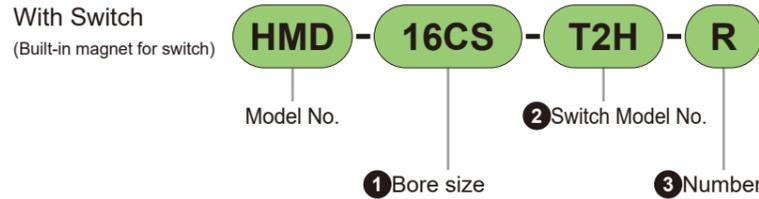
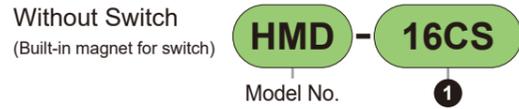
180 Degree Opening/Closing Low Profile Wide Angle Gripper Double Acting

HMD Series

●Opening/closing angle: -4° to 184°



Model No. Notation Method



① Bore Size (mm)

Code	Content
12CS	ø12
16CS	ø16
20CS	ø20
25CS	ø25

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
Solid State	1-Color	3-wire (NPN)	-	30 or less	-	100 or less	T3H □	T3V □
		3-wire (PNP)	-		T3PH □		T3PV □	

*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 T2H③
5 m T2H⑤

*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.

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)

●Design compatible with rechargeable battery manufacturing process



*Please contact us for details.

Switch Single Unit Model No. Notation Method



Specifications

Item	HMD			
	12CS	16CS	20CS	25CS
Size				
Bore size mm	ø12	ø16	ø20	ø25
Actuation method	Double Acting			
Operating Fluid	Compressed Air			
Max. Working Pressure MPa	0.7			
Min. Operating Pressure MPa	0.3			
Ambient Temperature °C	5 to 60			
Port Size	M3		M5	
Opening/closing angle °	-4 to 184			
Rod diameter mm	ø6		ø8	
Internal volume (reciprocating) cm³	2.3	5.8	8.7	19.4
Repeatability mm	±0.2			
Weight kg	0.074	0.13	0.26	0.38
Lubrication	Not required (When lubricating, use turbine oil Class 1 ISO VG32)			

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

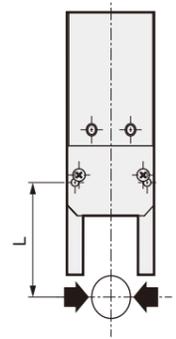
Gripping Force Performance Data

- Gripping force represents the thrust (for one finger) in the direction of the arrow shown in the figure.
- Indicates the gripping force at finger length L of the gripper when the supply pressure is 0.3, 0.5, and 0.7 MPa.

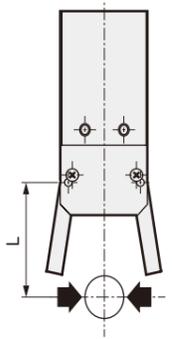
Closing direction (➡) (solid line)

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

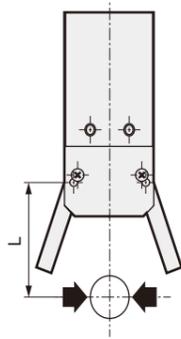
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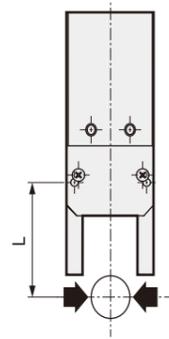
[At 10°]



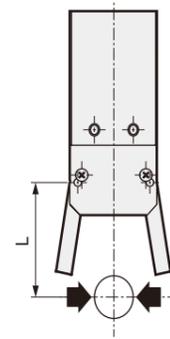
[At 20°]



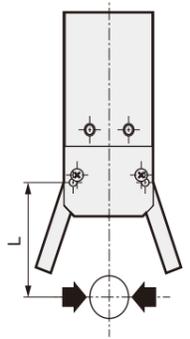
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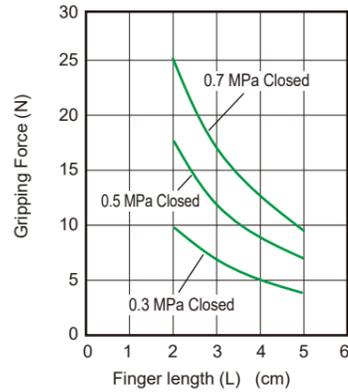
[At 10°]



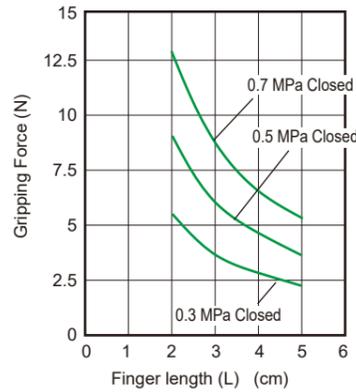
[At 20°]



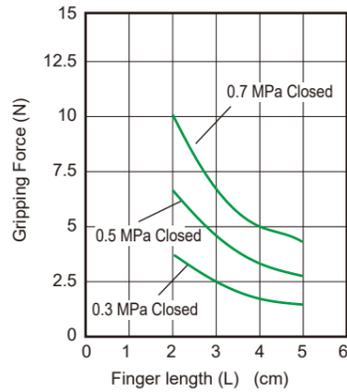
● HMD-12CS



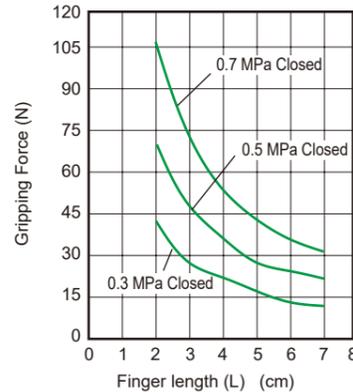
● HMD-12CS



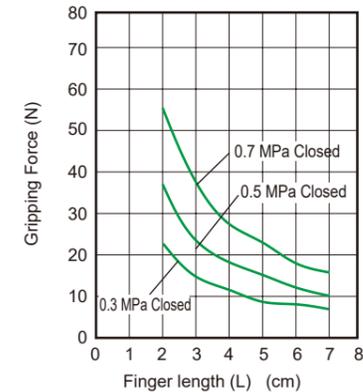
● HMD-12CS



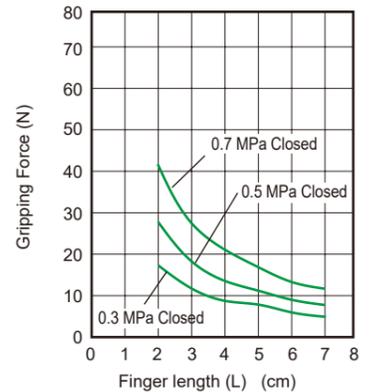
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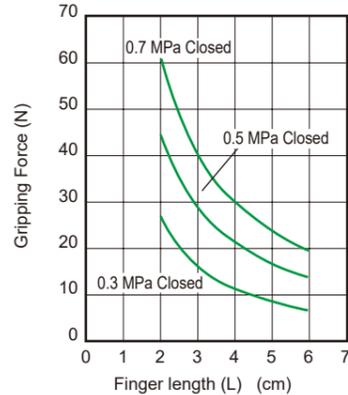
● HMD-20CS



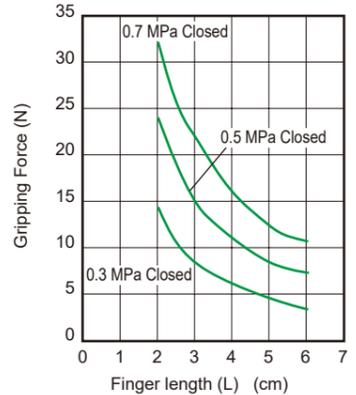
● HMD-20CS



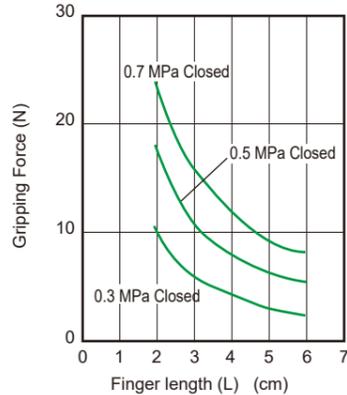
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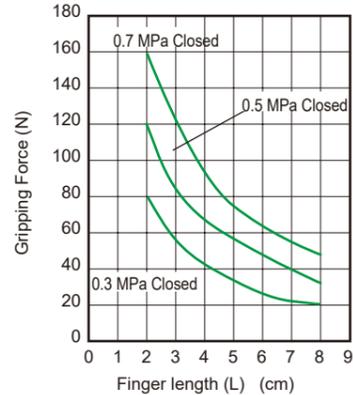
● HMD-16CS



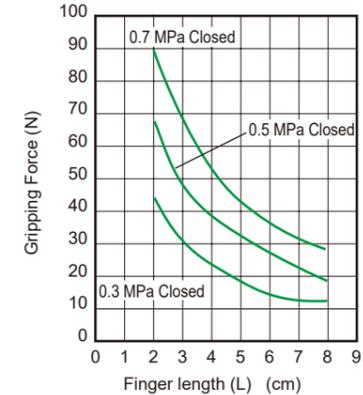
● HMD-16CS



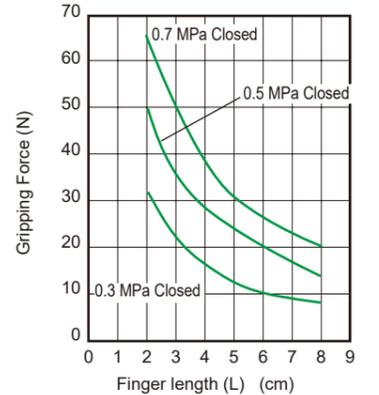
● HMD-25CS



● HMD-25CS



● HMD-25CS



Gripping Force Performance Data

Gripping Force Performance Data

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

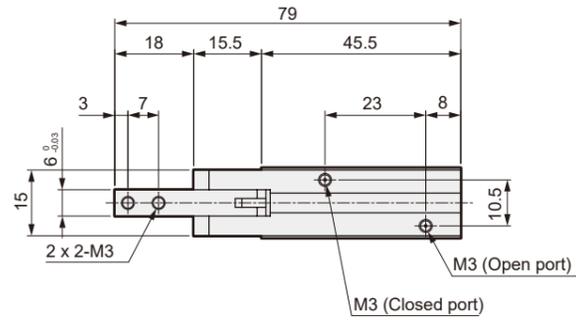
HJD

Cylinder Switch

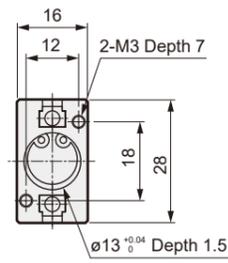
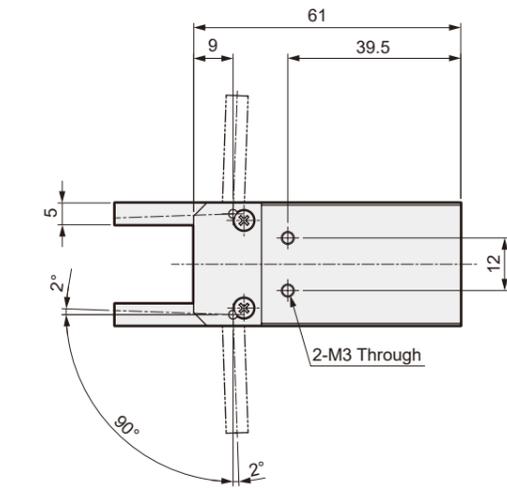
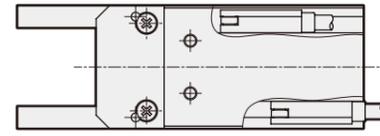
Ending

Outline Dimension Drawing

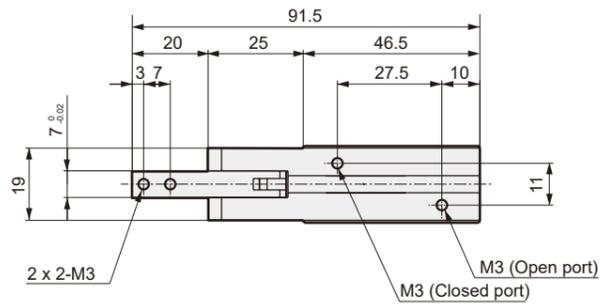
● HMD-12CS



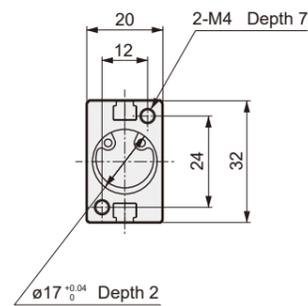
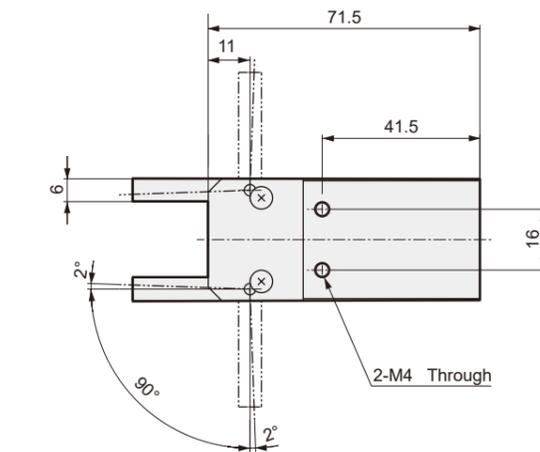
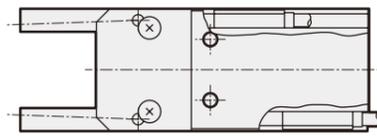
● With Switch



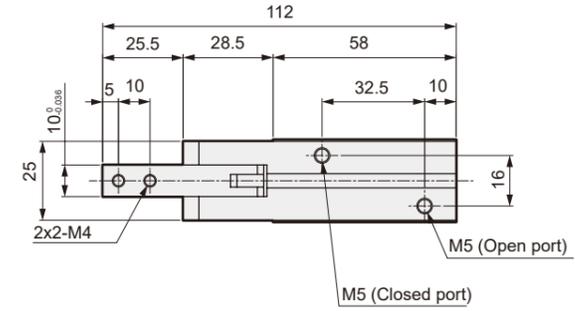
● HMD-16CS



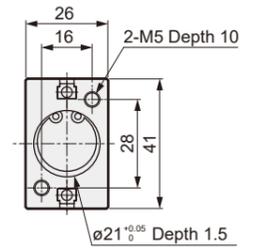
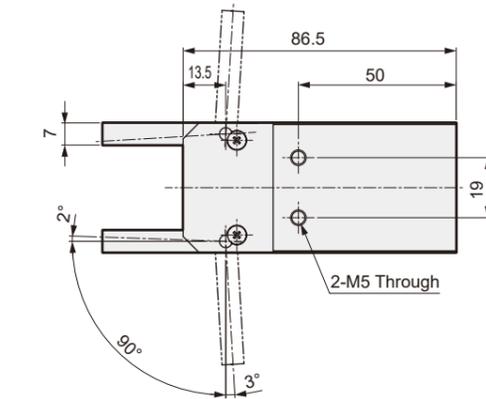
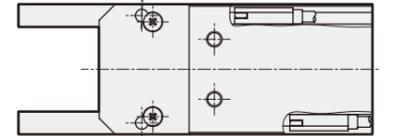
● With Switch



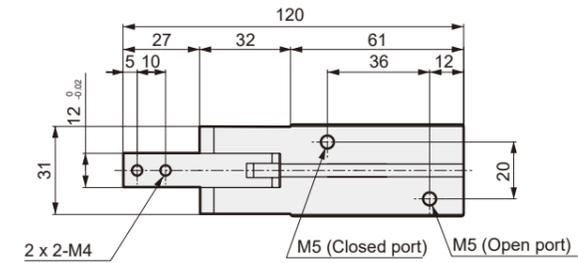
● HMD-20CS



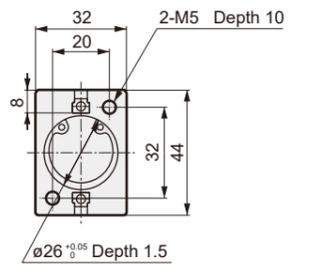
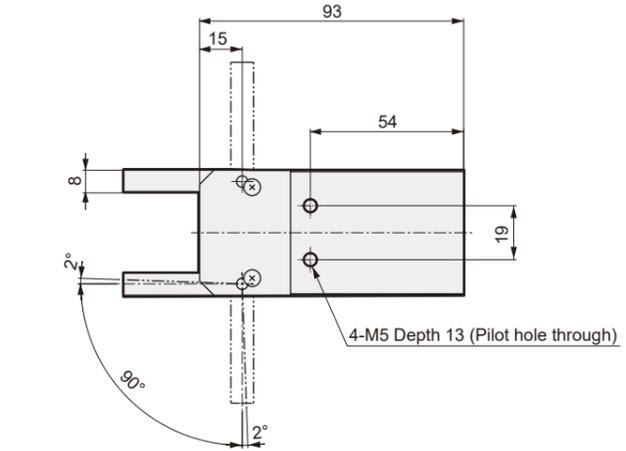
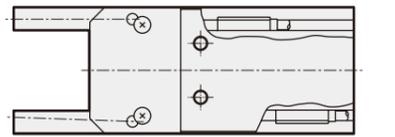
● With Switch



● HMD-25CS



● With Switch



Outline Dimension Drawing

Outline Dimension Drawing

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

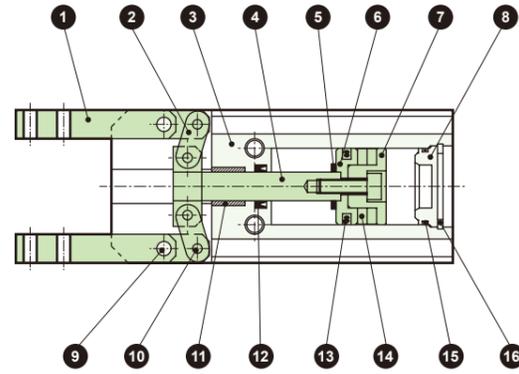
HJD

Cylinder Switch

Ending

Internal Structure Diagram/Material

● HMD-12CS to 25CS



Do not disassemble

Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Finger	Steel		9	Pivot Shaft	Alloy Steel	
2	Link	Steel		10	Operating Shaft	Alloy Steel	
3	Body	Aluminum Alloy		11	Bushing	Oil-Impregnated Bearing Alloy	
4	Piston A	Stainless Steel		12	Rod seal	Nitrile Rubber	
5	Cushion	Urethane Rubber		13	Piston seal	Nitrile Rubber	
6	Piston B	Copper Alloy		14	Magnet		
7	Piston C	Copper Alloy		15	Seal	Nitrile Rubber	
8	Cover	Polyacetal		16	Retaining ring	Stainless Steel	

MEMO

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