



Feather hand (mini-parallel hand) Double acting/single acting

FH100 Series

● Operating stroke length: 8, 11, 14, 18, 20 mm

Double acting



Single acting (normally open)



Specifications

Descriptions	FH100									
	FH110-D	FH112-D	FH116-D	FH120-D	FH125-D	FH110-0	FH112-0	FH116-0	FH120-0	FH125-0
Actuation	Double acting					Single acting				
Working fluid	Compressed air									
Max. working pressure MPa	0.7 (≈100 psi, 7 bar)									
Min. working pressure MPa	0.15 (≈22 psi, 1.5 bar)					0.25 (≈36 psi, 2.5 bar)				
Proof pressure MPa	1.05 (≈150 psi, 10.5 bar)									
Ambient temperature °C	5 (41°F) to 60 (140°F)									
Port size	M3×0.5		M5×0.8			M3×0.5		M5×0.8		
Operating stroke length mm	8	11	15	18	20	8	11	15	18	20
Weight g	51	71	124	176	284	51	71	124	177	286
Repeatability (initial value) mm	±0.03									
Max. operating frequency times/second	3									
Cushion	Open side rubber cushion									
Option	Proximity switch (2-wire/3-wire) * Closed side speed controller									

* Integrated speed controller is available only for double acting.

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

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

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- LCX
- LCM
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- STR2
- UCA2
- ULK*
- JSK/M2
- JSG
- JSC3/JSC4
- USSD
- UFCD
- USC
- JSB3
- LMB
- LML
- HCM
- HCA
- LBC
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- UCAC2
- CAC-N
- UCAC-N
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- PCC
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- MCP
- GLC
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- 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)

FH1 - **10** - **D** - **Y1** - **B**

With switch (built-in magnet for switch)

FH1 - **10** - **D** - **Y1** - **T2H** - **R** - **B**

A Bore size

B Option

C Small jaw
*1

D Switch model No.
*2

* indicates the lead wire length.

E Switch quantity

F End mount
*3

⚠ Precautions for model No. selection

- *1 : Refer to pages 1634 to 1635 for the dimensions and compatible model of the small jaw. When ordered as an option, two are attached at shipment.
- *2 : Switches other than **D** Switch model No. are also available. (Custom order) Refer to Ending Page 1 for details.
- *3 : When with end mount (model No. B), select switch with radial lead wire (model No. T*V). The end mount is attached at delivery.

Code	Content					
A Bore size						
10	φ10					
12	φ12					
16	φ16					
20	φ20					
25	φ25					
B Option						
D	Standard (double acting)					
O	Single acting (normally open)					
Z	Double acting integrated speed controller					
C Small jaw						
Blank	Without small jaw					
Y1	With small jaw (Material S50C)					
Y2	With small jaw (Material MC nylon)					
D Switch model No.						
Axial lead wire	Radial lead wire	Proximity Contact	Voltage		Display	Lead wire
			AC	DC		
T2H*	T2V*			●	1-color display	2-wire
T3H*	T3V*		●	3-wire display	3-wire	
* Lead wire length						
Blank	1 m (standard)					
3	3 m (option)					
5	5 m (option)					
E Switch quantity						
R	1 on right (port) side open position					
D	2					
F End mount						
Blank	Without end mount					
B	With end mount					

[Example of model No.]

FH112-ZY1-T2V-D-B

Model: Feather hand (mini-parallel hand)

- A** Bore size : φ12
- B** Option : Double acting integrated speed controller
- C** Small jaw : With small jaw (Material S50C)
- D** Switch model No. : Proximity T2V switch, lead wire 1 m
- E** Switch quantity : 2
- F** End mount : With end mount

How to order end mount

FH - **B** - **10**

Code	Content
A Bore size	
10	φ10
12	φ12
16	φ16
20	φ20
25	φ25

How to order switch

SW - **T2H**

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

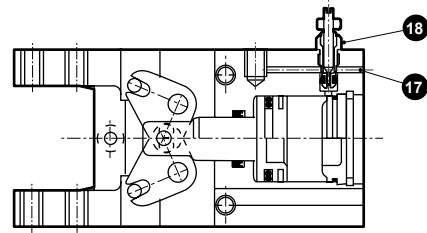
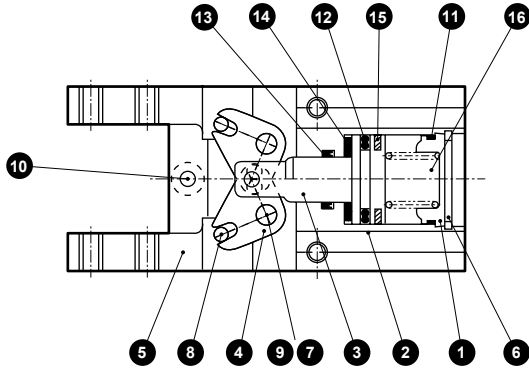
LCW
LCR
LCG
LCX
LCM
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCC2
RCS
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HR
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Hand
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FJ
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BHE

FH100 Series

Internal structure and parts list

● Standard (double acting)/O (normally open)

● With speed controller



Cannot be disassembled

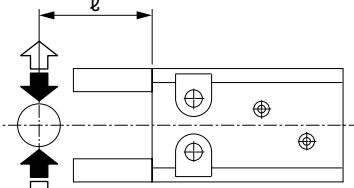
Standard (double acting) does not contain a 16 spring.

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Cylinder guard	Acetal resin		10	Hexagon socket head cap screw	Alloy steel	
2	Body	Aluminum alloy	Lubrication alumite treatment	11	Cylinder gasket	Nitrile rubber	
3	Piston	Stainless steel		12	Piston packing	Nitrile rubber	
4	Arm	Stainless steel	Heat treatment	13	Rod packing	Nitrile rubber	
5	Master key	Stainless steel		14	Cushion	Urethane rubber	
6	Snap ring	Stainless steel		15	Magnet		Nickeling
7	Fulcrum axis	Alloy steel	Heat treatment	16	Spring	Stainless steel	
8	Operation shaft	Alloy steel	Heat treatment	17	Steel ball	Stainless steel	
9	Hexagon socket set screw	Stainless steel		18	Flow control valve assembly		

Gripping power performance data

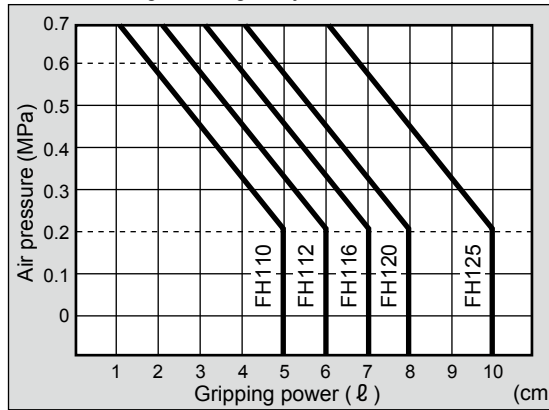
The gripping power in the opening/closing directions with jaw length L of hand with a supply pressure of 0.15 to 0.7 MPa is shown.

- Open direction (←) ----- (shown with broken line)
- Closed direction (→) ----- (shown with continuous line)

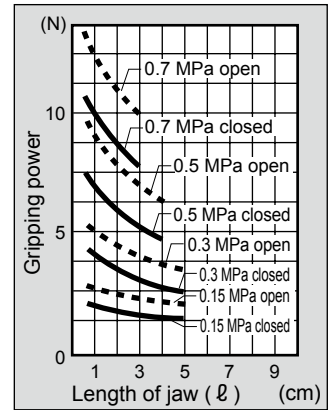


(Note) Single acting closed side gripping power is decreased by 25 to 30% compared to the double acting.

Restriction range for length of jaw L

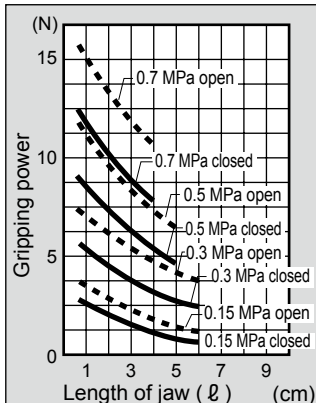


● FH110

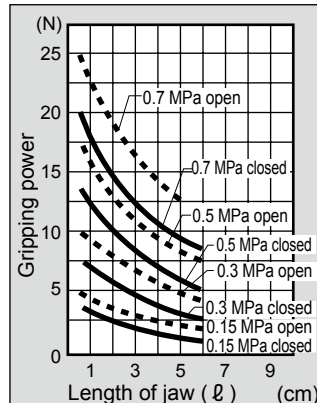


When making a selection, read the precautions for design and selection on page 1636.

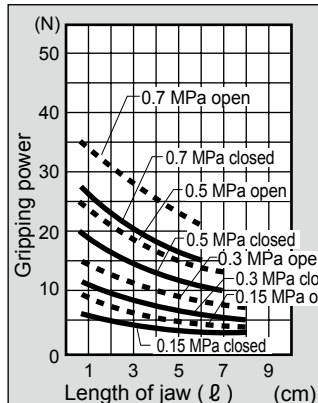
● FH112



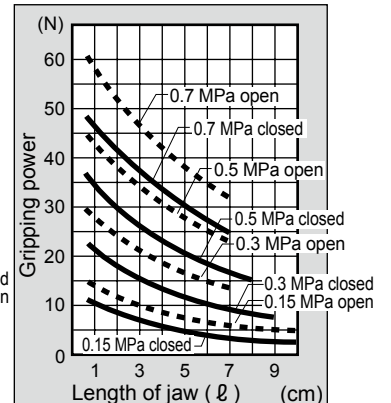
● FH116



● FH120



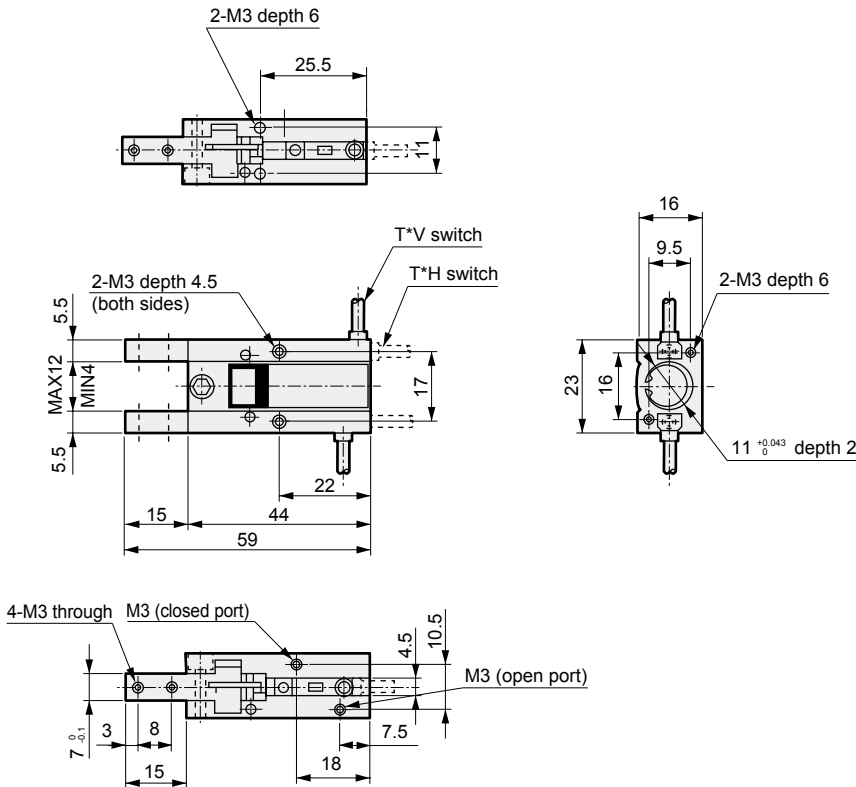
● FH125



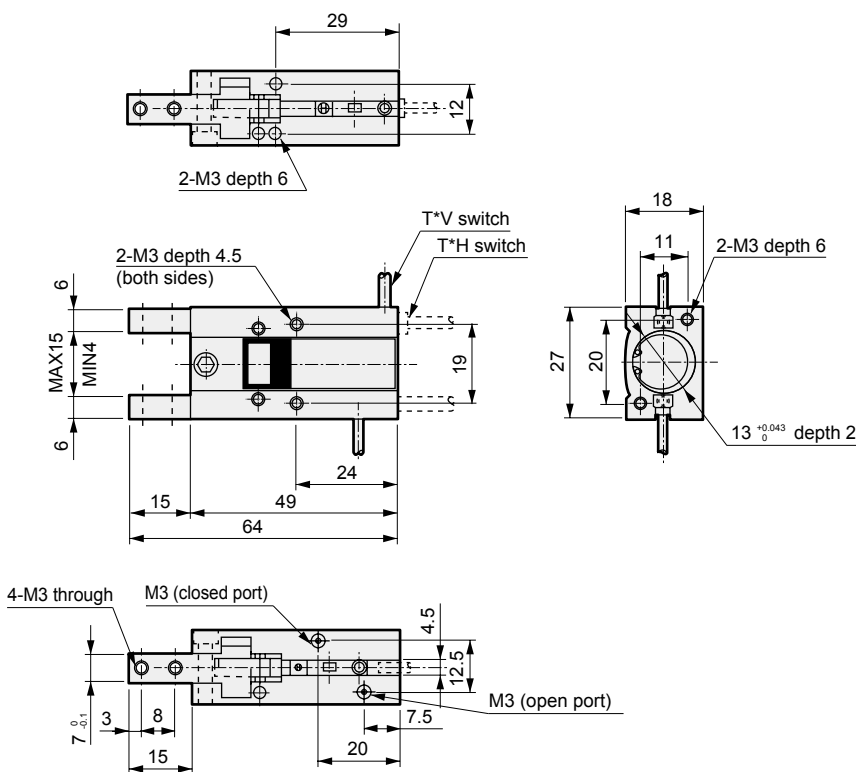
Dimensions



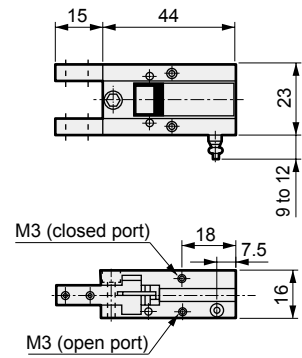
● FH110-D/FH110-O



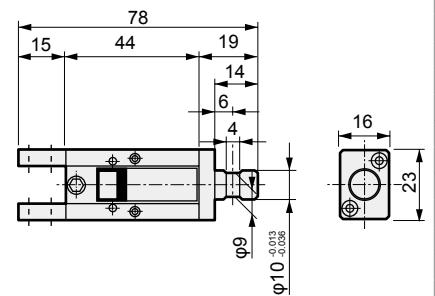
● FH112-D/FH112-O



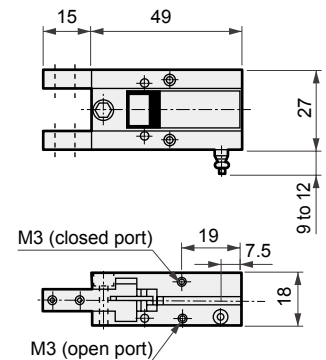
● With speed controller (FH110-Z)



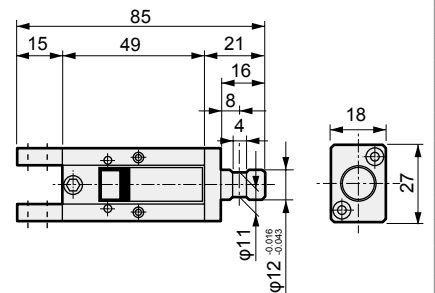
● With end mount



● With speed controller (FH112-Z)



● With end mount



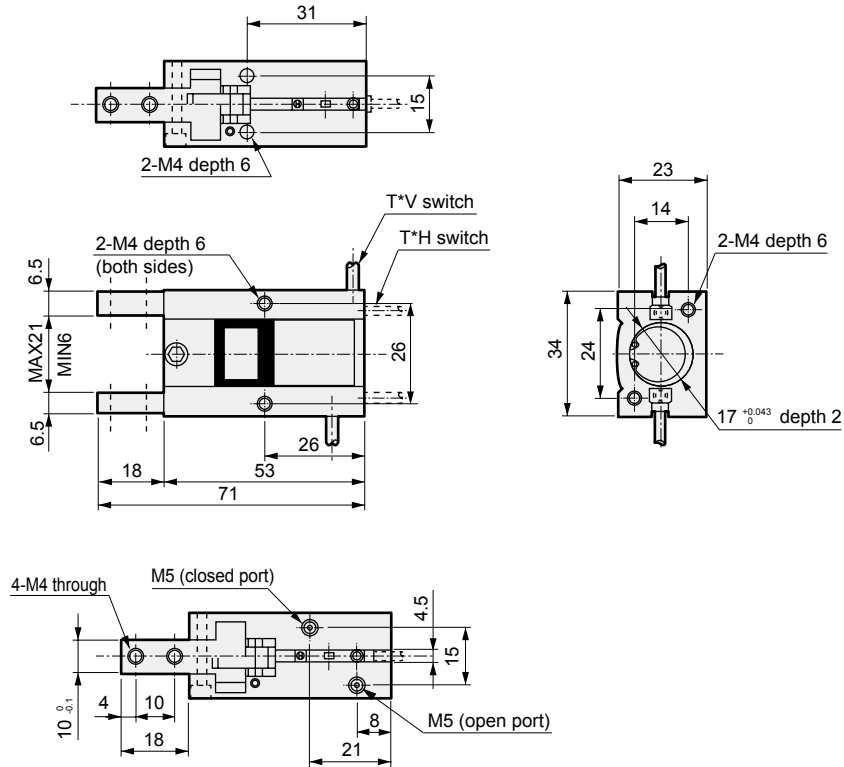
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UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
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UCAC2
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SHC
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GLC
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GRC
RV3*
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MecHnd/Chuk
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FH100 Series

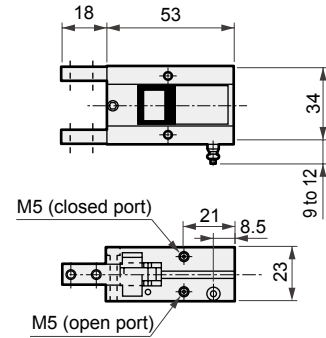
Dimensions



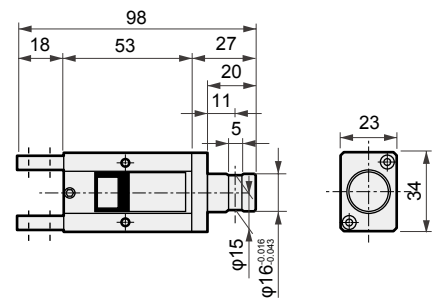
● FH116-D/FH116-O



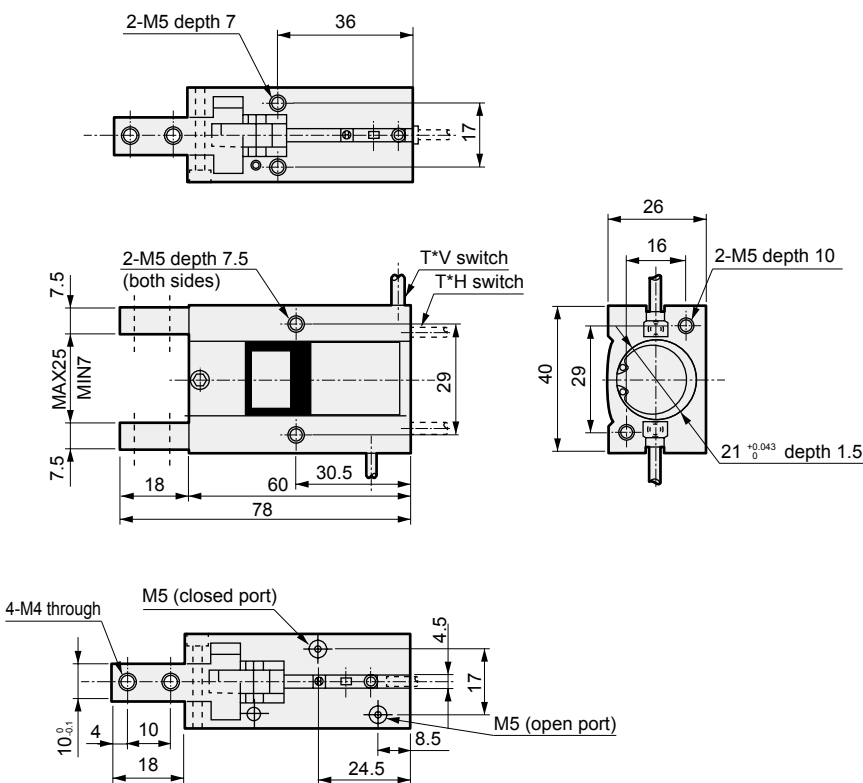
● With speed controller (FH116-Z)



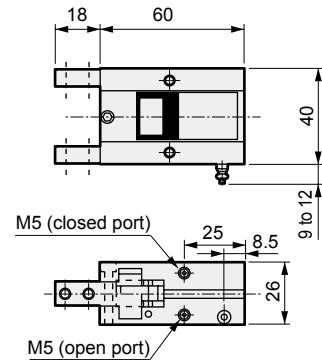
● With end mount



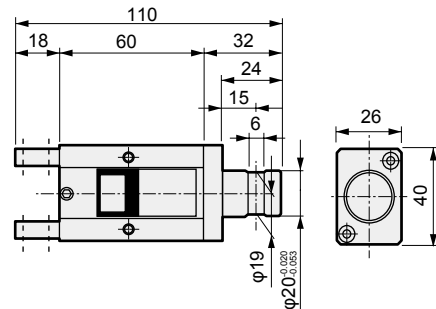
● FH120-D/FH120-O



● With speed controller (FH120-Z)



● With end mount

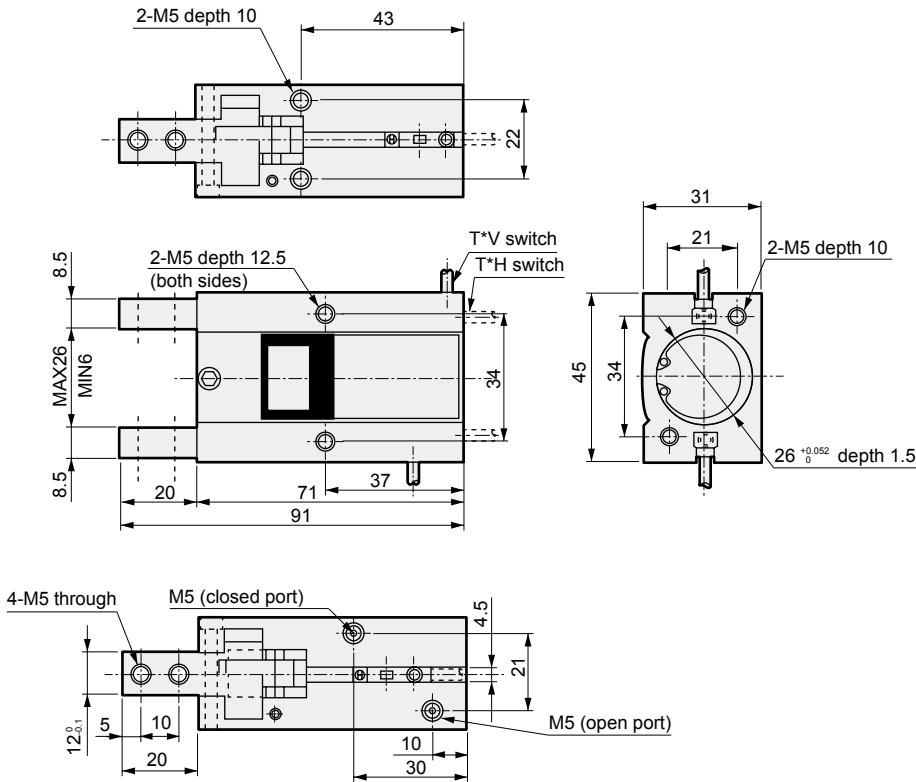


- LCW
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- RRC
- GRC
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- Hand**
- Chuk
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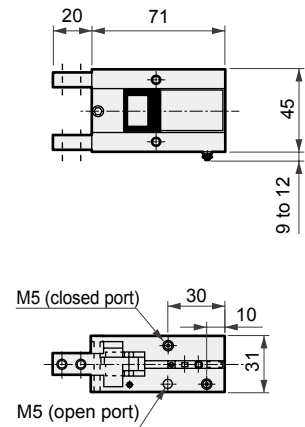
Dimensions



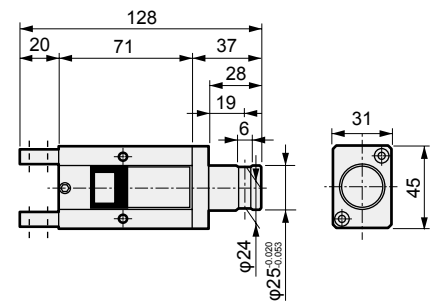
● FH125-D/FH125-O



● With speed controller (FH125-Z)



● With end mount



LCW
LCR
LCG
LCX
LCM
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
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