

Feather hand (min-fulcrum hand) Double acting/single acting

FH500 Series

- Open and close angle: 20° at open, -5° at closed



RRC
GRC
RV3*
NHS
HR
LN
FH100
HAP
BSA2
BHA/
BHG
LHA
LHAG
HKP
HLA/
HLB
HLAG/
HLBG
HEP
HCP
HMF
HMF B
HFP
HLC
HGP
FH500
HBL
HDL
HMD
HJL
BHE
CKG
CK
CKA
CKS
CKF
CKJ
CKL2
CKL2
*-HC
CKH2
CKLB2
NCK/
SCK/FCK
FJ
FK
Ending

Specifications

Descriptions	FH500							
	FH510-D	FH512-D	FH516-D	FH520-D	FH510-O	FH512-O	FH516-O	FH520-O
Actuation	Double acting				Single acting			
Working fluid	Compressed air							
Max. working pressure MPa	0.7							
Min. working pressure MPa	0.15				0.25			
Withstanding pressure MPa	1.05							
Ambient temperature °C	5 to 60							
Port size	M3		M5		M3		M5	
Open and close angle Degree	20° at open -5° at closed							
Product weight g	43	53	92	135	43	53	92	136
Repeatability (default) mm	±0.03							
Max. cycle rate cycle/sec.	3							
Cushion	Open side rubber cushion							
Option	Proximity switch (2 wire/3 wire) * Closed side speed control valve, end mount							

* Integrated speed control valve is available only for double acting type.

Switch specifications

Descriptions	Proximity 2 wire	Proximity 3 wire
	T2H/V	T3H/V
Applications	Programmable controller	Programmable controller, relay
Output method	-	NPN output
Power voltage	-	10 to 28 VDC
Load voltage/current	10 to 30 VDC, 5 to 20 mA (Note 1)	30 VDC or less, 100mA or less
Light	LED (ON lighting)	
Leakage current	1mA or less	10μA or less

Note 1: Max. load current above: 20 mA at 25°C. The current will be lower than 20mA if ambient temperature around switch is higher than 25°C. (5 to 10mA with 60°C)

How to order

Without switch



With switch



A Bore size

B Option

C Small jaw
Note 1

D Switch model no.
Note 2
* Indicates lead wire length.

E Switch quantity

F End mount
Note 3

⚠ Note on model no. selection

Note 1: Refer to pages 412 to 413 for the dimensions and applicable model of the small jaw. When ordered as an option, two are included on delivery.

Note 2: Switches other than (D) switch model no. are available. (Custom order) Refer to Ending 1 for details.

Note 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.

Symbol	Descriptions			
A Bore size				
10	φ10			
12	φ12			
16	φ16			
20	φ20			
B Option				
D	Double acting			
O	Single acting (normally open)			
Z	Double acting integrated flow control valve			
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	Contact	Indicator	Lead wire
T2H*	T2V*	Proximity	1 color indicator type	2-wire
T3H*	T3V*			3-wire
*Lead wire length				
Blank	1m (standard)			
3	3m (option)			
5	5m (option)			
E Switch quantity				
R	One on open side			
H	One on closed side			
D	Two			
F End mount				
Blank	Without end mount			
B	With end mount			

<Example of model number>

FH512-DY1-T2V-R-B

Model: Feather hand (min-fulcrum hand)

- A** Bore size : φ12
- B** Option : Double acting
- C** Small jaw : Small jaw material (S50C)
- D** Switch model no. : Proximity T2V switch, lead wire 1m
- E** Switch quantity : One on right (port) side open position
- F** End mount : With end mount

How to order end mount



Symbol	Descriptions
A Bore size	
10	φ 10
12	φ 12
16	φ 16
20	φ 20

How to order switch



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

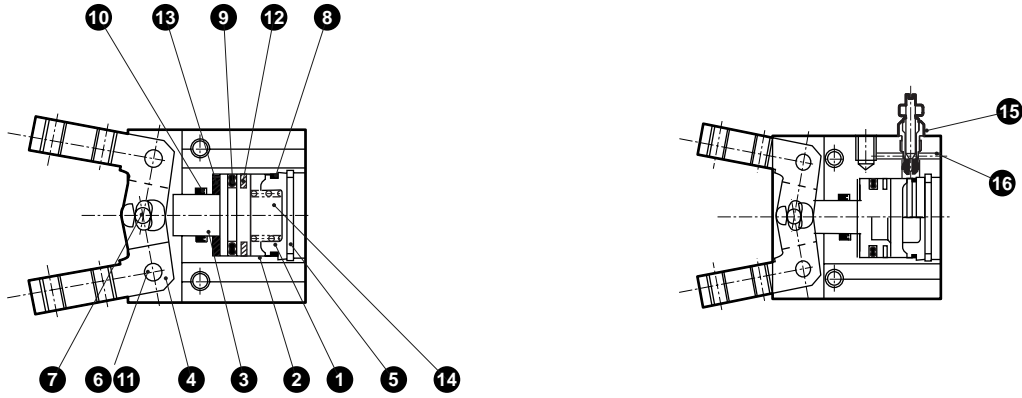
RRC
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CKL2
CKL2 *-HC
CKH2
CKLB2
NCK/ SCK/FCK
FJ
FK
Ending

Feather hand (min-fulcrum hand)
Hand

Internal structure and parts list

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

● Speed control valve



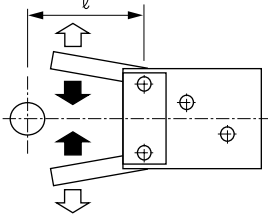
Spring of 14 is not contained in standard (double acting) type.

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

Gripping power performance data

Gripping power that functions to open and closed directions with jaw length ℓ of hand at supply pressure 0.15 to 0.7 MPa is shown.

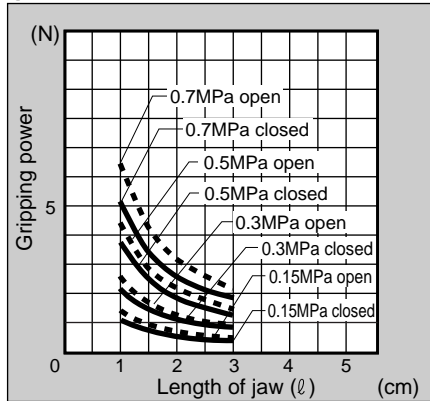
- Open direction (◁) - - - - (shown with broken line)
- Closed direction (▶) - - - - (shown with continuous line)



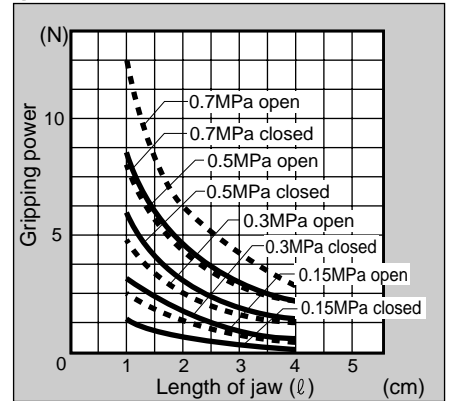
(Note) Closed side gripping power of single acting type decreases 25 to 30 % comparing to double acting type.

Grip performance data indicates the grip for one jaw. Since two jaws are used, double the grip in the graph when making a selection.

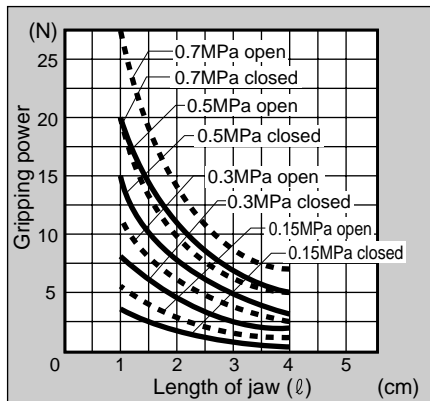
● FH510



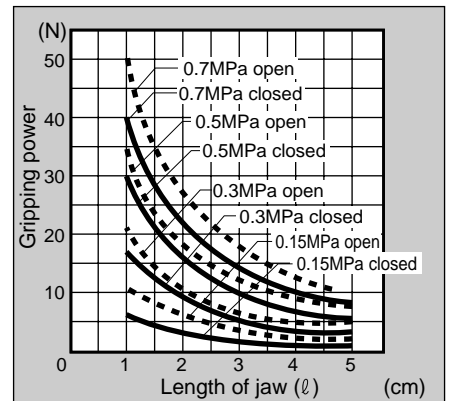
● FH512



● FH516



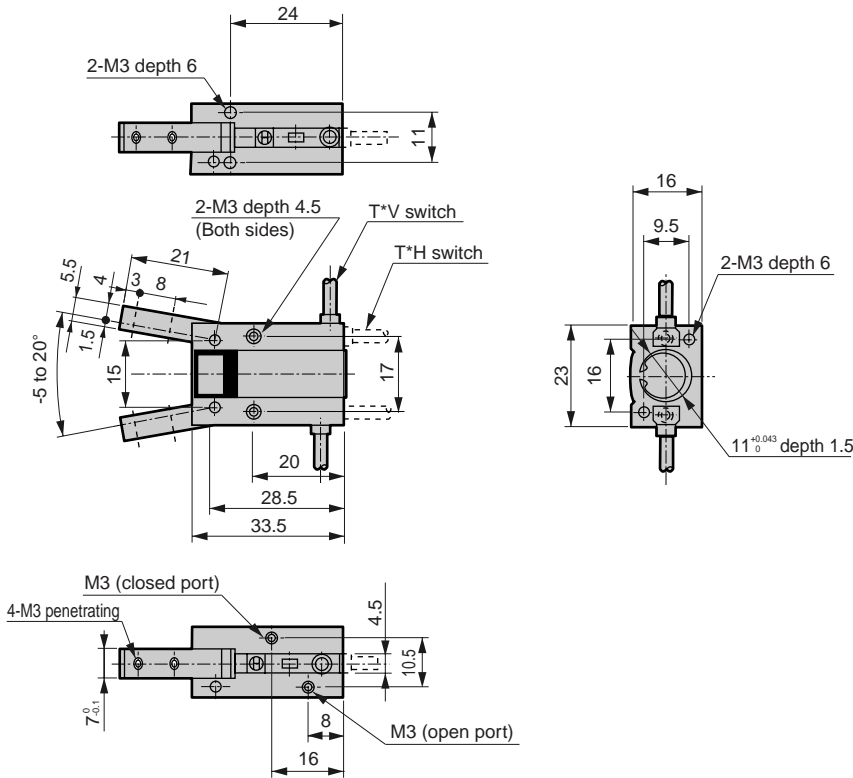
● FH520



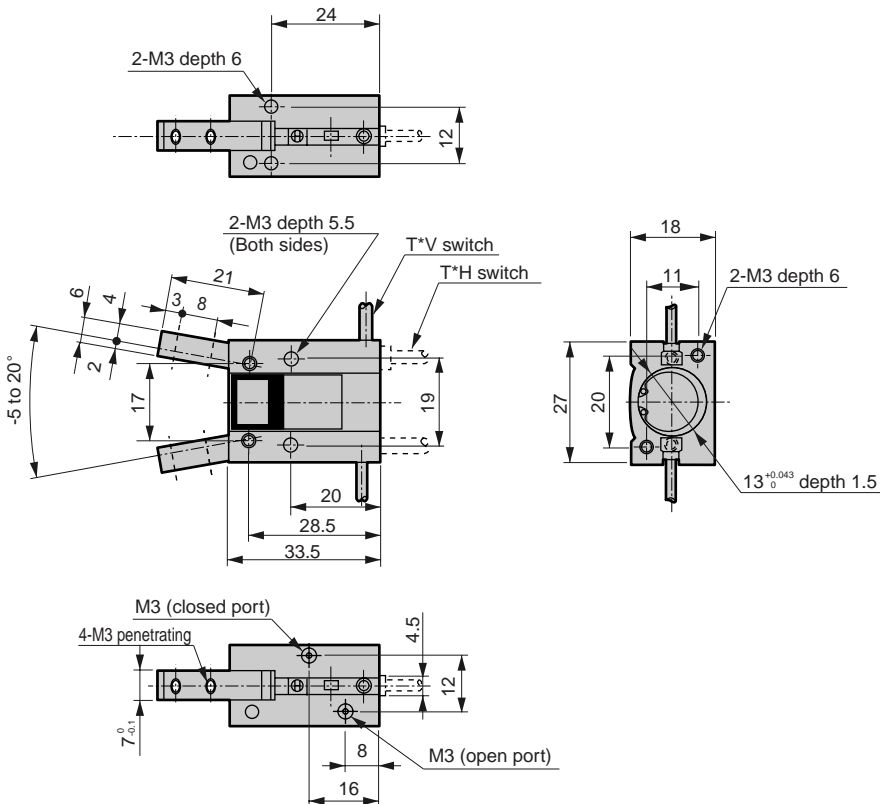
Dimensions



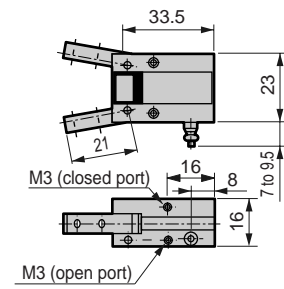
● FH510-D/FH510-O



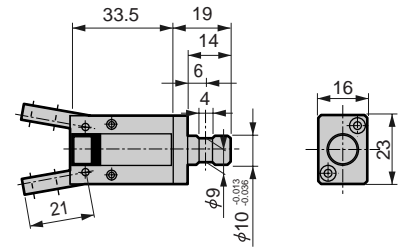
● FH512-D/FH512-O



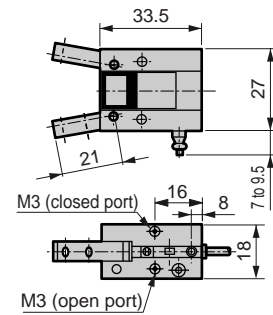
● Speed control valve (FH510-Z)



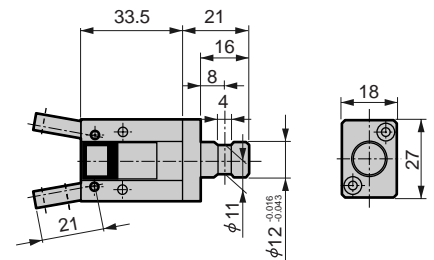
● With end mount



● Flow control valve (FH512-Z)



● With end mount



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CKL2 *-HC
CKH2
CKLB2
NCK/SCK/FCK
FJ
FK
Ending

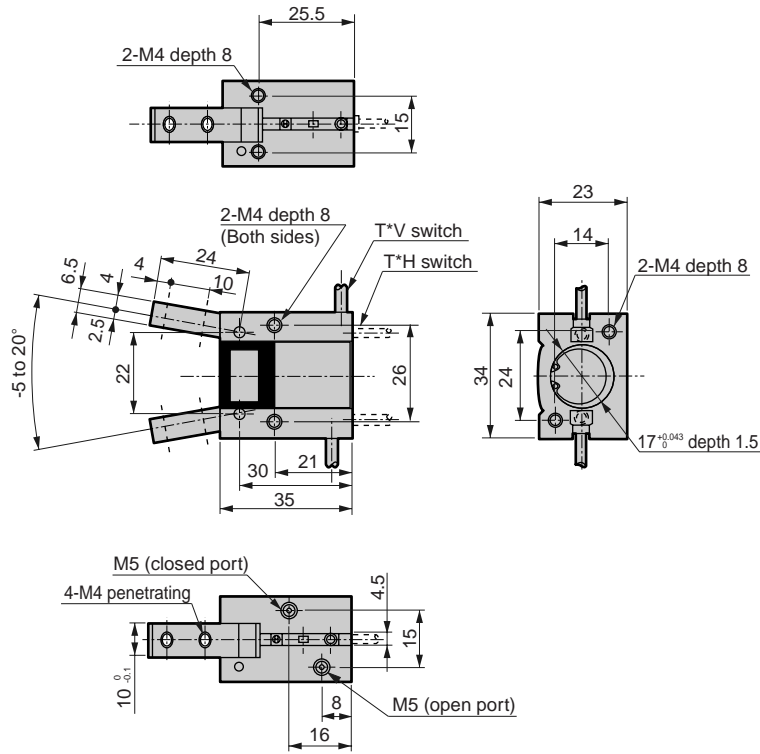
Feather hand (min-fulcrum hand)
Hand

Dimensions

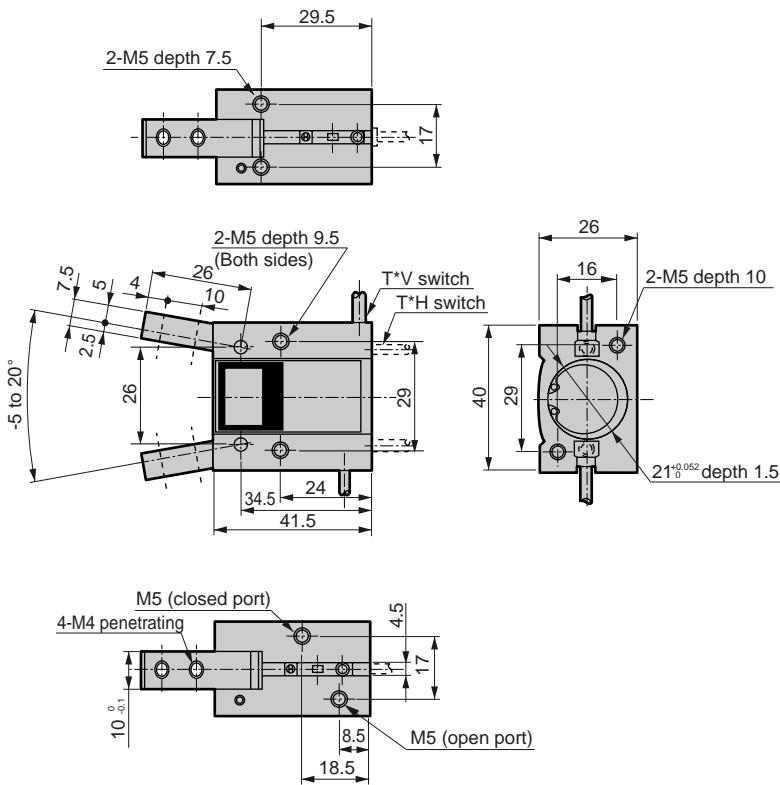


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HJL
BHE
CKG
CK
CKA
CKS
CKF
CKJ
CKL2
CKL2 -*-HC
CKH2
CKLB2
NCK/ SCK/FCK
FJ
FK
Ending

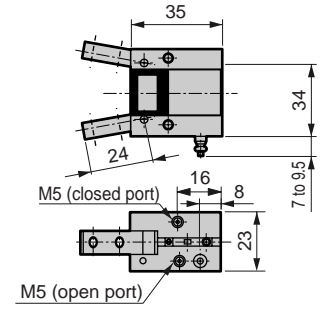
● FH516-D/FH516-O



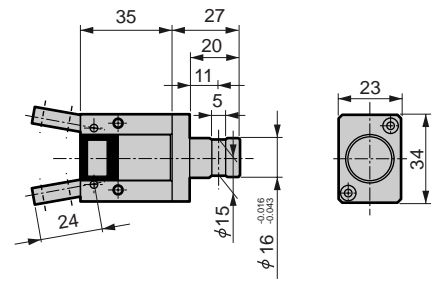
● FH520-D/FH520-O



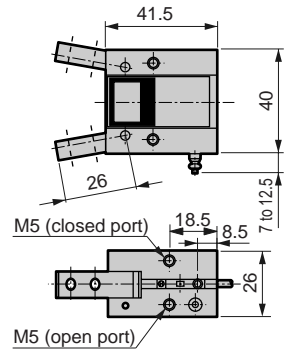
● Flow control valve (FH516-Z)



● With end mount



● Flow control valve (FH520-Z)



● With end mount

