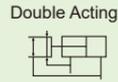




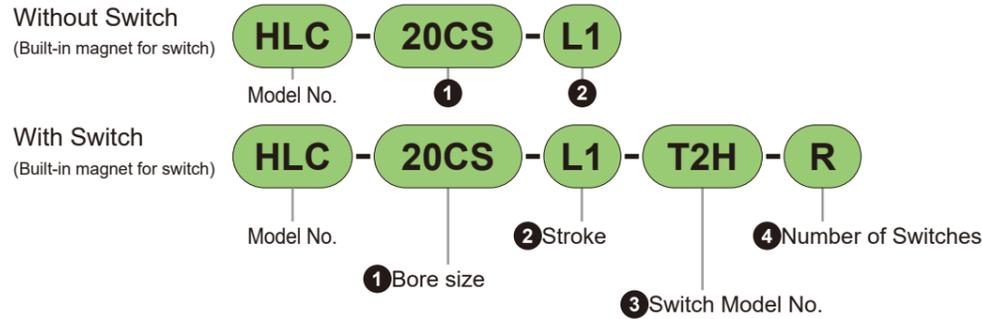
Low Profile Long Stroke Parallel Gripper Double Acting (Standard/Long stroke 1)

# HLC Series

- Operating stroke: Standard Type 20, 30, 40, 50, 60, 70  
Long stroke 1 60, 80, 100, 120, 140



## Model No. Notation Method



### 1 Bore Size (mm)

Code	Content
08CS	ø8
12CS	ø12
16CS	ø16
20CS	ø20
25CS	ø25
30CS	ø30

### 2 Stroke

Code	Content	Stroke (mm)					
		ø8	ø12	ø16	ø20	ø25	ø30
Blank	Standard	20	30	40	50	60	70
L1	Long stroke 1		60	80	100	120	140

### 3 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 Note 2	T2HR3	T2VR3
	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 T2H<sup>3</sup>  
5 m T2H<sup>5</sup>

\*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.

### 4 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)

- Structure usable in rechargeable battery manufacturing processes

**HLC - ... - P4□**

\*Please contact us for details.

## Switch Single Unit Model No. Notation Method



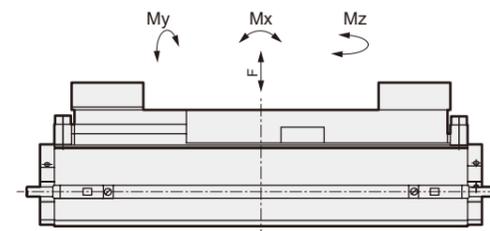
## Specifications

Item	HLC												
	08CS		12CS			16CS		20CS		25CS		30CS	
Size	Blank	Blank	L1	Blank	L1	Blank	L1	Blank	L1	Blank	L1	Blank	L1
Bore size mm	ø8 x 2	ø12 x 2			ø16 x 2		ø20 x 2		ø25 x 2		ø30 x 2		
Operating Fluid	Compressed Air												
Max. Working Pressure MPa	0.7												
Min. Operating Pressure MPa	0.2												
Ambient Temperature °C	5 to 60												
Port Size	M3						M5						
Operating Stroke mm	20	30	60	40	80	50	100	60	120	70	140		
Internal volume (reciprocating) cm <sup>3</sup>	2.0	6.8	13.6	16.1	32.2	31.4	62.8	58.9	117.8	99	198		
Repeatability mm	±0.01						±0.03						
Weight kg	0.14	0.29	0.44	0.71	0.85	1.03	1.4	1.62	2.23	2.74	3.69		
Lubrication	Not required (When lubricating, use turbine oil Class 1 ISO VG32)												

## Allowable Load and Allowable Moment

Allowable Load and Allowable Moment	F [N]	Mx [N·m]	Mz [N·m]	My [N·m]
HLC-08CS	102	10	8.5	1.6
HLC-12CS	151	11.9	8.2	4.68
HLC-12CS-L1	151	11.9	8.2	4.68
HLC-16CS	325	27.5	25.6	7.96
HLC-16CS-L1	325	27.5	25.6	10.6
HLC-20CS	306	29.9	27	10.6
HLC-20CS-L1	306	29.9	27	11.2
HLC-25CS	423	105.1	96.4	19.7
HLC-25CS-L1	423	105.1	96.4	19.7
HLC-30CS	694	109.3	116.5	33.3
HLC-30CS-L1	694	109.3	116.5	43.1

Note) The above values are static loads and moments.

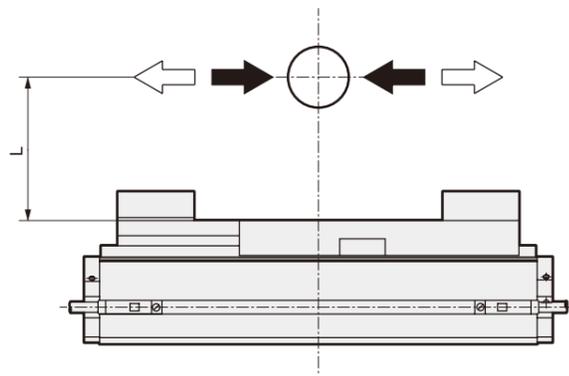


## Gripping Force Performance Data

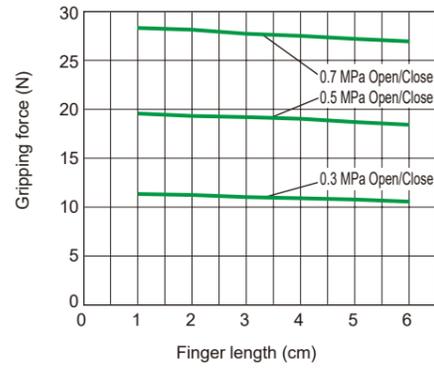
- Gripping force represents the thrust (for one finger) in the direction of the arrow shown in the figure.
- This represents the gripping force at the gripper's finger length L when the supply pressure is 0.3, 0.5, and 0.7 MPa.

● Opening direction (◀) Closing direction (▶) Both (Solid line)

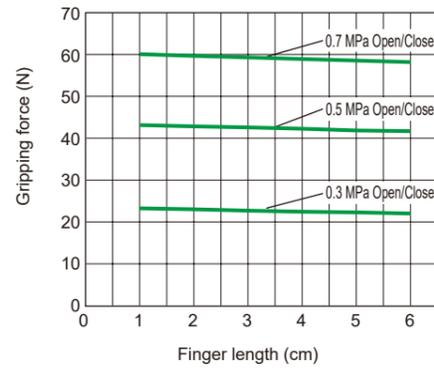
Note) When selecting, check the design and selection precautions on P. 336.



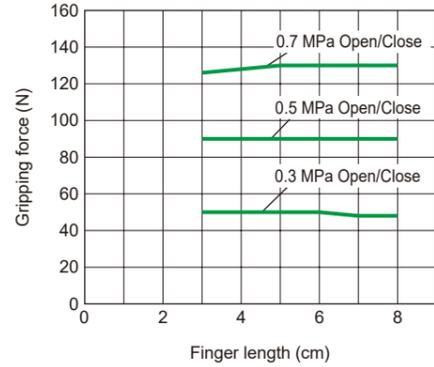
### ●HLC-08CS



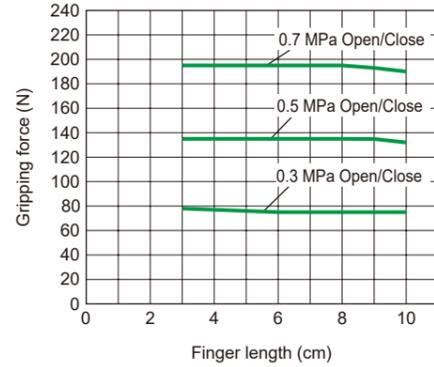
### ●HLC-12CS



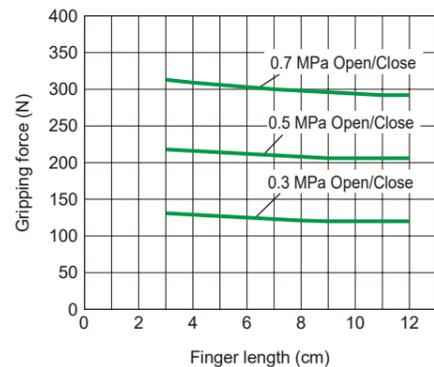
### ●HLC-16CS



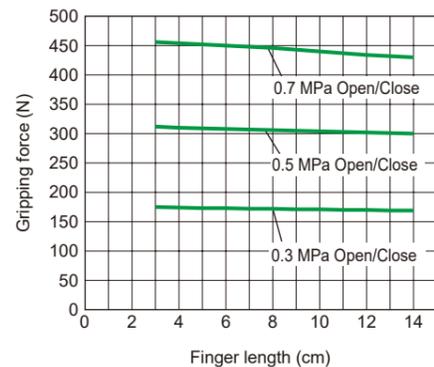
### ●HLC-20CS



### ●HLC-25CS



### ●HLC-30CS



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

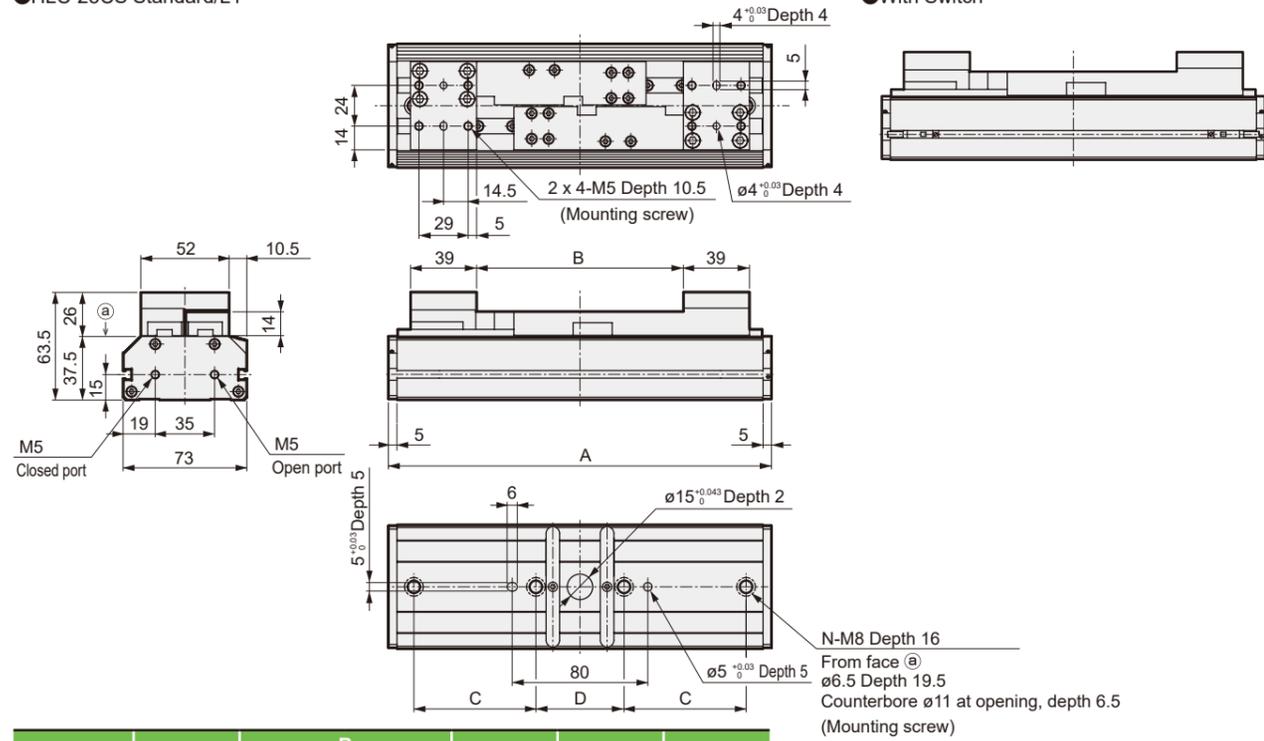
HMF-B  
HFP  
FH500  
HBL  
HJL  
HMD  
HDL  
HJD

Cylinder Switch  
Ending



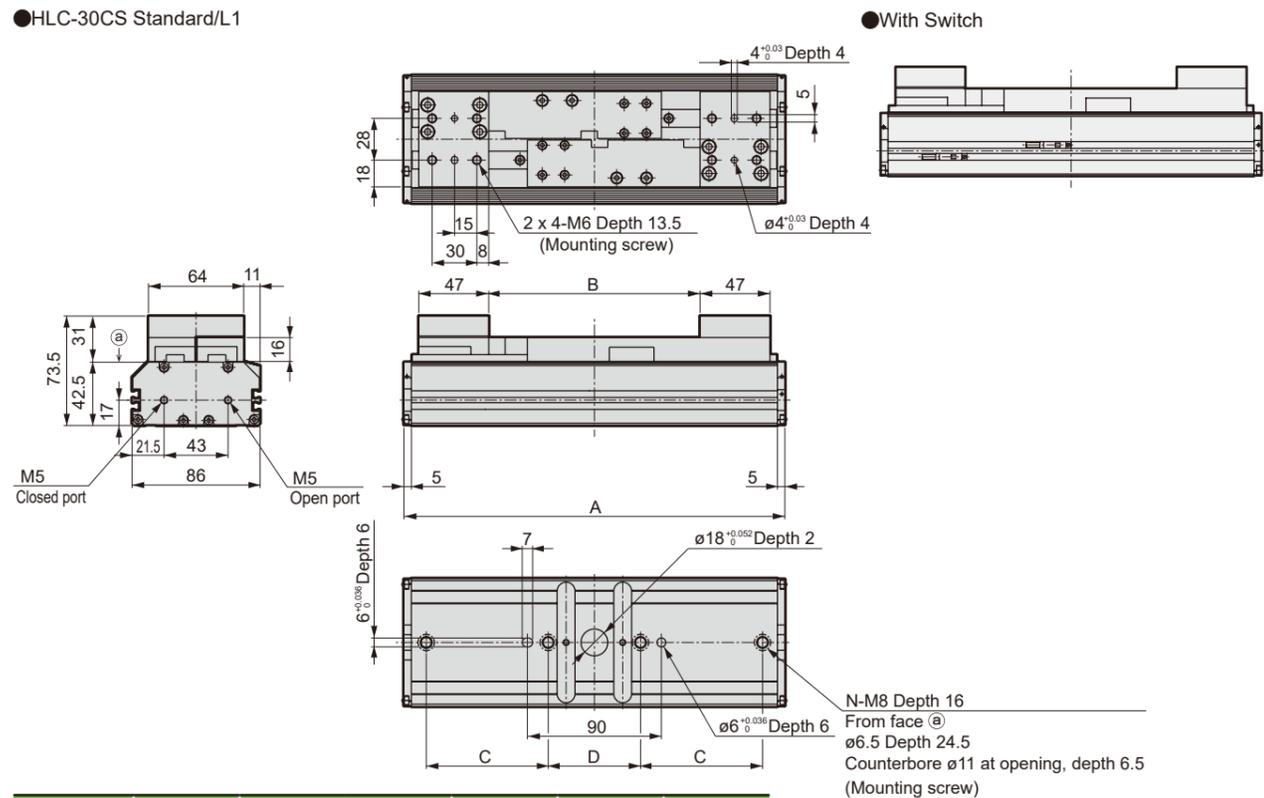
Outline Dimension Drawing

●HLC-25CS Standard/L1



Code	A	B		C	D	N
		When Open	When Closed			
Standard	152	62	2	0	122	2
L1	226	122	2	72	52	4

●HLC-30CS Standard/L1

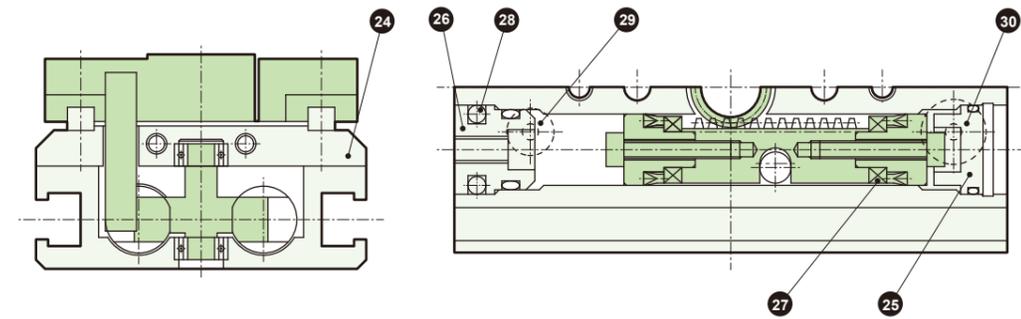


Code	A	B		C	D	N
		When Open	When Closed			
Standard	174	72	2	0	144	2
L1	256	142	2	82	62	4

Internal Structure Diagram/Material

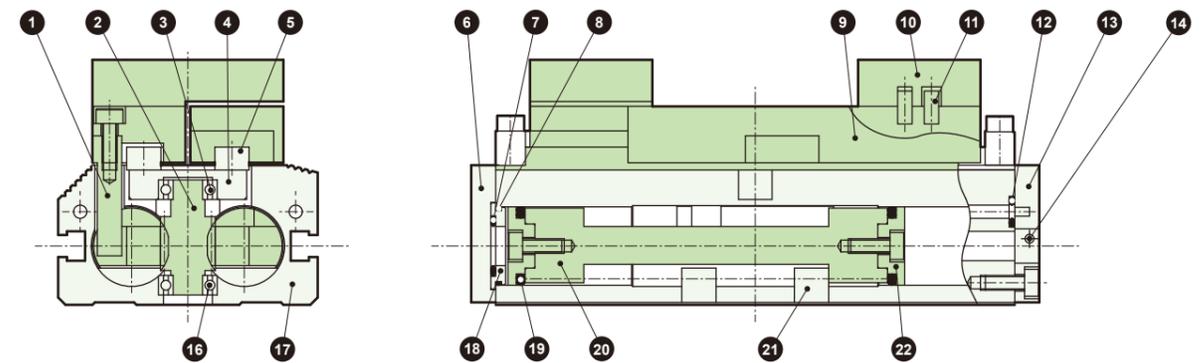
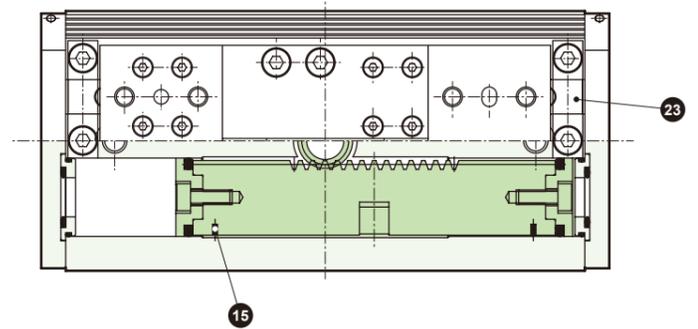
Internal Structure Diagram/Material

●HLC-08CS (Standard)



●HLC-12CS to 30CS (Standard)

●HLC-12CS to 30CS-L1



**Do not disassemble**

Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Rack joint	Steel		17	Body	Aluminum Alloy	
2	Pinion	Stainless Steel		18	Cover 1	Aluminum Alloy	
3	Bearing			19	Piston seal	Nitrile Rubber	
4	Bearing retainer	Aluminum Alloy	12CS to 30CS only	20	Rack	Stainless Steel	
5	Linear Guide			21	Key	16CS to 25CS: Carbon steel 30CS: Stainless Steel	16CS to 30CS only
6	Side plate 2	Aluminum Alloy	12CS to 30CS only	22	Piston	Polyacetal	
7	Seal 1	Nitrile Rubber		23	Reinforcement plate	Stainless Steel	16CS, 20CS only
8	Seal 2	Nitrile Rubber		24	Linear guide mounting base	Aluminum Alloy	
9	LM plate	Aluminum Alloy		25	Cover 2	Polyacetal	
10	Finger	Aluminum Alloy		26	Cover 3	Aluminum Alloy	
11	Positioning pin			27	Magnet		
12	Gasket 1	Nitrile Rubber		28	Anti-rotation pin	Stainless Steel	
13	Side plate 1	Aluminum Alloy	12CS to 30CS only	29	Gasket 2	Nitrile Rubber	
14	Steel ball	Stainless Steel		30	Gasket 3	Nitrile Rubber	
15	Magnet						
16	Bearing		20CS only				