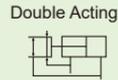




Low Profile Parallel Gripper (Bushing Guide/Bearing Guide) Double Acting Type

HLA, HLB Series

● Operating stroke: HLA 15, 20, 25 mm
HLB 13, 18, 23 mm

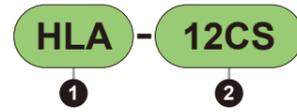


HLA, HLB Series

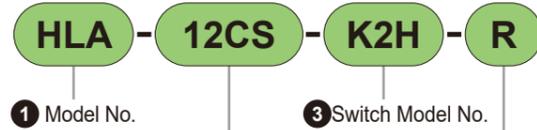
Specifications/Gripping Force Performance Data

Model No. Notation Method

Without Switch
(Built-in magnet for switch)



With Switch
(Built-in magnet for switch)



① Model No. ② Bore size ③ Switch Model No. ④ Number of Switches

① Model No.

Code	Content
HLA	Bushing guide
HLB	Bearing guide

② Bore Size (mm)

Code	Content
12CS	ø12
15CS	ø15
20CS	ø20

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	K2H□	K2V□
		3-wire (NPN)	-	30 or less	-	50 or less	K3H□	K3V□
Reed	1-Color	2-wire	110	12/24	7 to 20	5 to 50	K0H□	K0V□
				5/12/24	20 or less	50 or less	K5H□	K5V□
	Indicator LED None							

*Lead wire length

Code	Content
Blank	1 m (Standard)
3	3 m (Option)
5	5 m (Option)

Example) Lead wire length
1 m K2H ③
3 m K2H ③
5 m K2H ⑤

*1: For "□" in the switch model number, enter the code selected from the "Lead wire length" table.

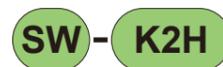
*2: The maximum load current value above, 20 mA, is at 25°C. If the switch operating ambient temperature is higher than 25°C, it will be lower than 20 mA. (At 60°C, it will be 5 to 10 mA.)

*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

Switch Single Unit Model No. Notation Method



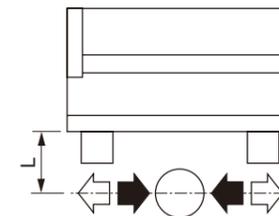
③ Switch Model No.

Specifications

Item	HLA			HLB		
	12CS	15CS	20CS	12CS	15CS	20CS
Size	12CS	15CS	20CS	12CS	15CS	20CS
Bore size mm	ø12	ø15	ø20	ø12	ø15	ø20
Actuation method	Double Acting Type					
Operating Fluid	Compressed Air					
Max. Working Pressure MPa	0.7					
Min. Operating Pressure MPa	0.3			0.1		
Ambient Temperature °C	5 to 60					
Port Size	M5					
Operating stroke mm	15	20	25	13	18	23
Internal volume (reciprocating) cm ³	1.69	3.53	7.85	1.47	3.18	7.22
Repeatability mm	±0.03			±0.01		
Weight kg	0.152	0.276	0.504	0.214	0.402	0.678
Lubrication	Not required (When lubricating, use turbine oil Class 1 ISO VG32)					

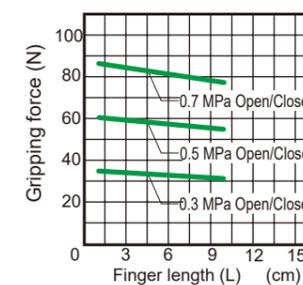
Gripping Force Performance Data

· Gripping force represents the thrust (for one finger) in the direction of the arrow shown in the figure.
· The gripping force in the opening/closing directions with finger length L of hand with a supply pressure of 0.3, 0.5 and 0.7 MPa is shown.
● Opening direction (⇐) Closing direction (⇒) Both (—) (Solid line)

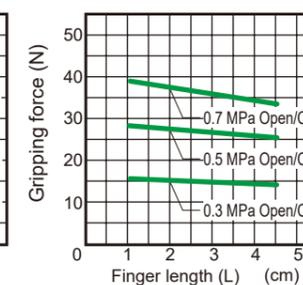


Note: When selecting, check the design and selection precautions on P. 336.

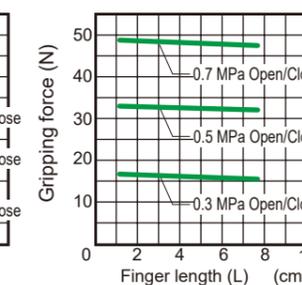
●HLA-20CS



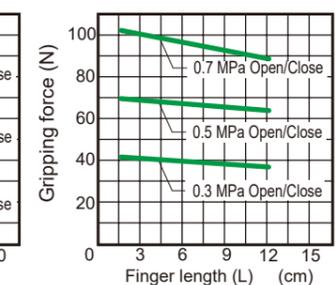
●HLB-12CS



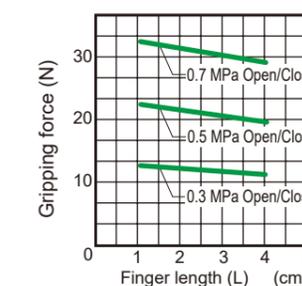
●HLB-15CS



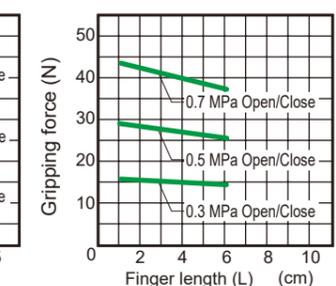
●HLB-20CS



●HLA-12CS



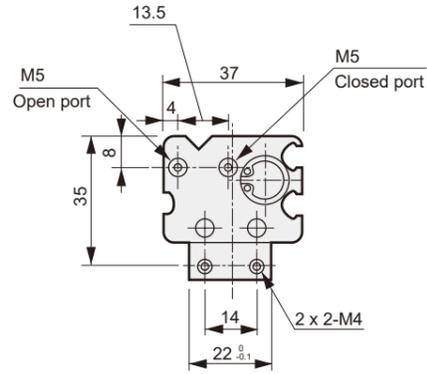
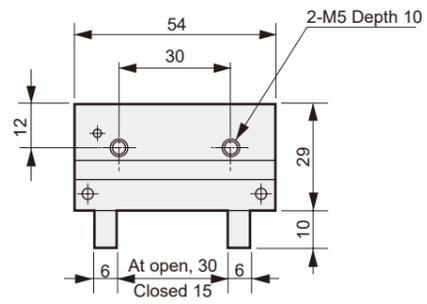
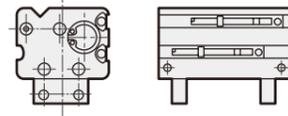
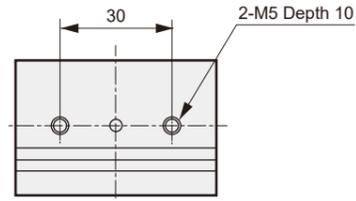
●HLA-15CS



Outline Dimension Drawing

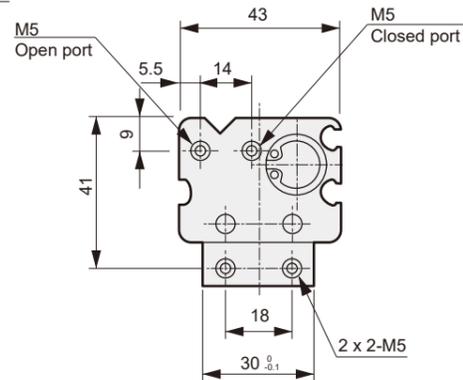
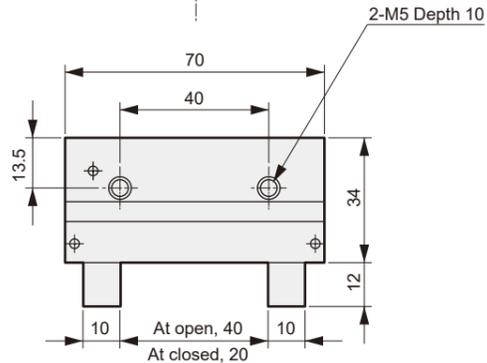
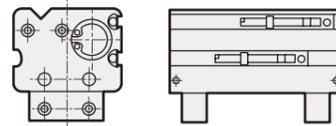
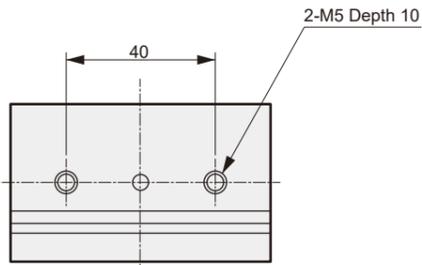
●HLA-12CS Standard

●With Switch



●HLA-15CS Standard

●With Switch

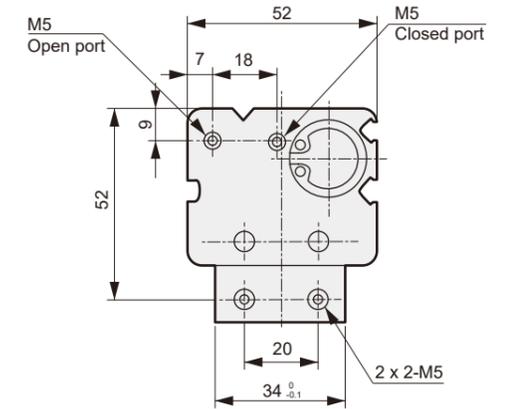
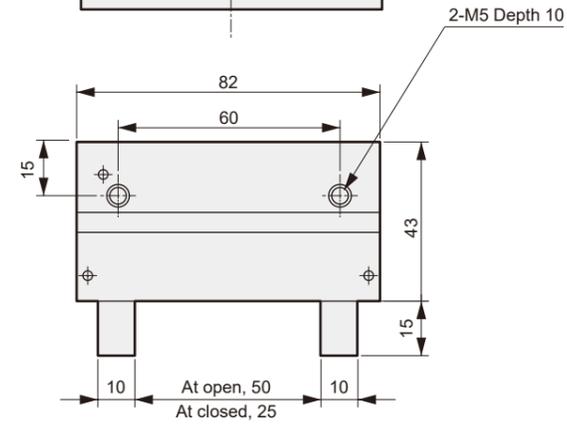
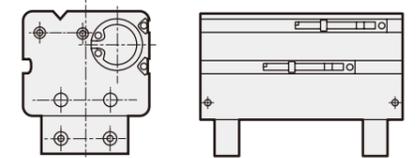
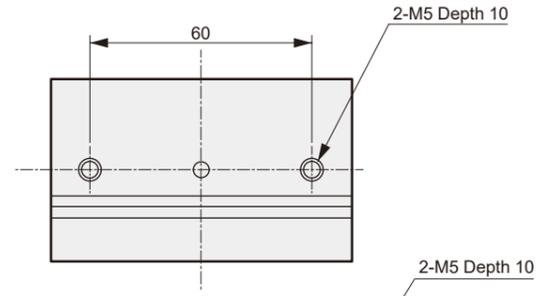


Outline Dimension Drawing

Outline Dimension Drawing

●HLA-20CS Standard

●With Switch



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

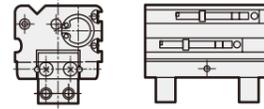
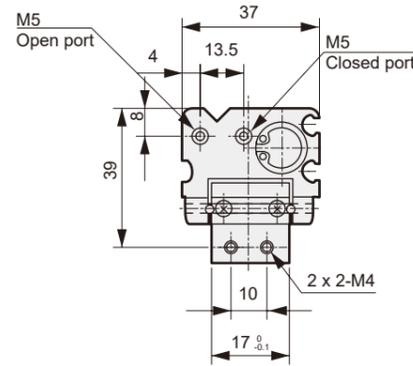
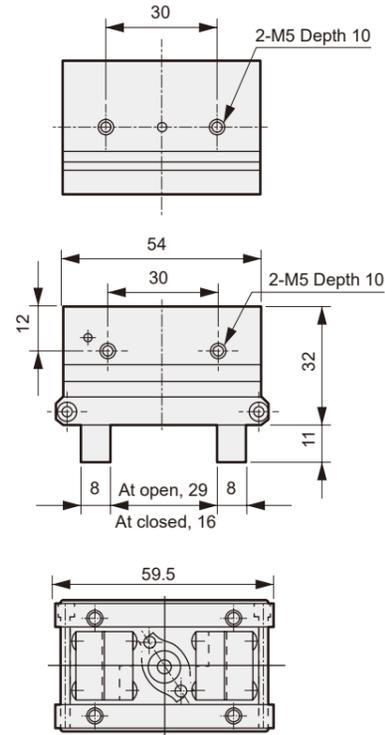
HCP
HGP
LST-HP
HLF2
HLA/HLB
HLAG/HLBG
HLC
HLD
HMC-HP
HMF
HMF-G
HMF-B
HFP
FH500
HBL
HJL
HMD
HDL
HJD

Cylinder Switch
Ending

Outline Dimension Drawing

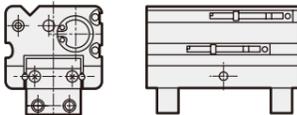
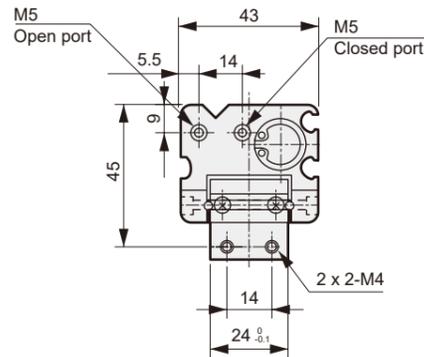
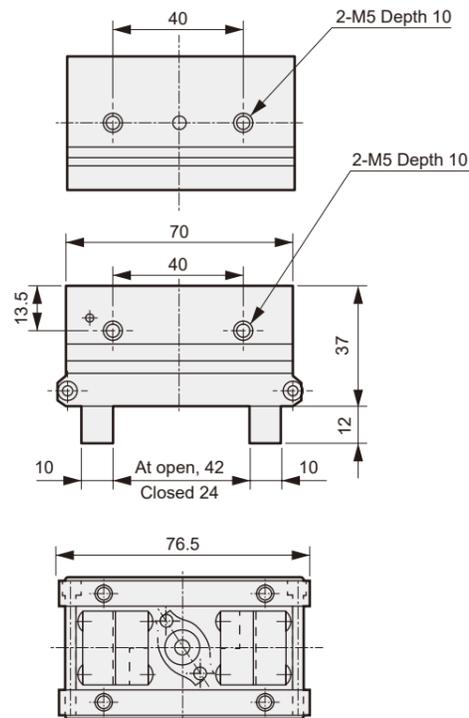
●HLB-12CS Standard

●With Switch



●HLB-15CS Standard

●With Switch

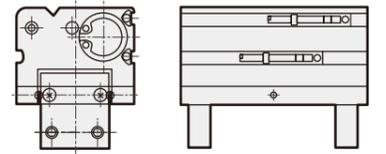
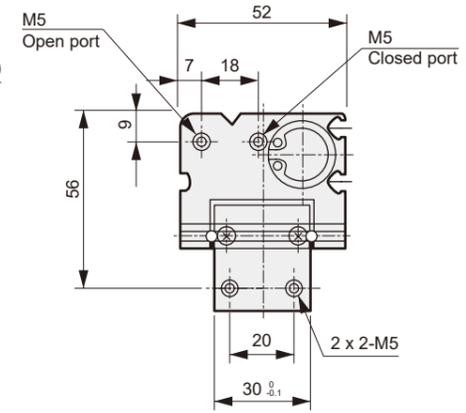
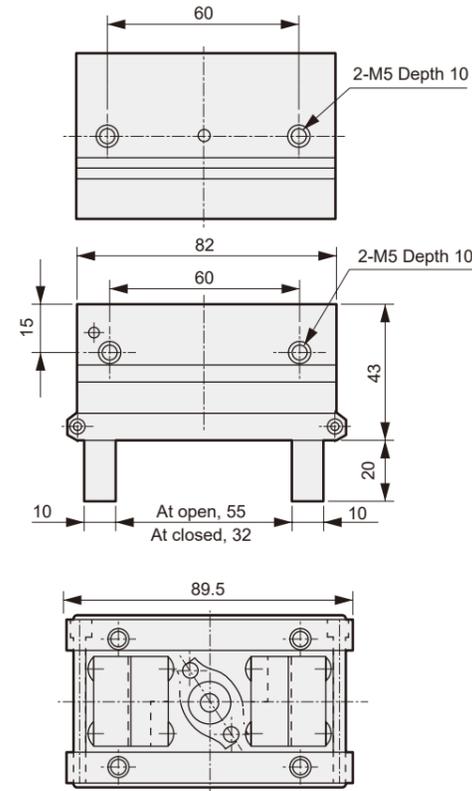


Outline Dimension Drawing

Outline Dimension Drawing

●HLB-20CS Standard

●With Switch



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

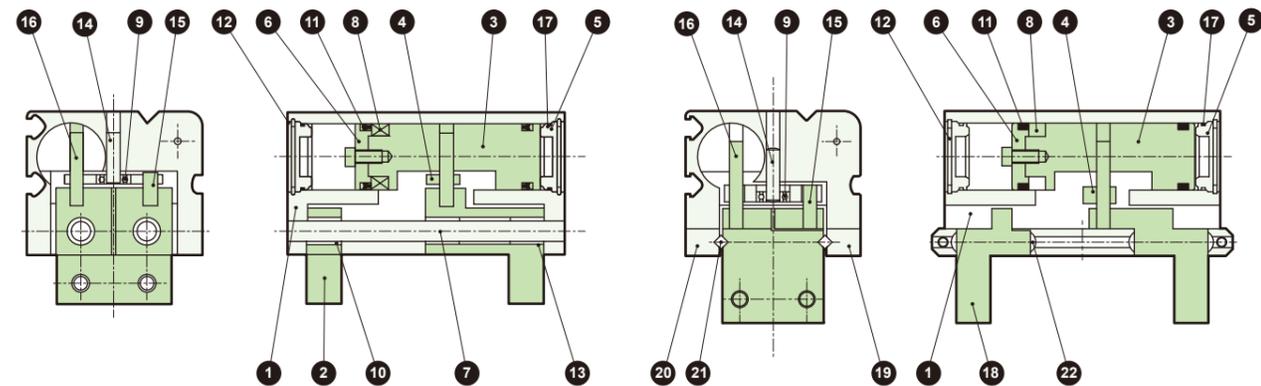
Cylinder
Switch

Ending

Internal Structure Diagram/Material

●HLA-12CS to 20CS

●HLB-12CS to 20CS



Do not disassemble

No.	Part Name	Material	Remarks	No.	Part Name	Material	Remarks
1	Body	Aluminum Alloy		12	Retaining ring	Stainless Steel	
2	Finger	Aluminum Alloy		13	Bushing	Oil-Impregnated Bearing Alloy	
3	Piston	Stainless Steel		14	Parallel Pin	Steel	
4	Cam	Stainless Steel		15	Needle roller A	Alloy Steel	
5	Cover	Polyacetal		16	Needle roller B	Alloy Steel	
6	Magnet retainer	Aluminum Alloy		17	Gasket	Nitrile Rubber	
7	Guide rod	Alloy Steel		18	Finger	Steel	
8	Magnet			19	Bearing guide A	Steel	
9	Bearing	Alloy Steel		20	Bearing guide B	Steel	
10	Bushing			21	Cross Roller	Alloy Steel	
11	Piston Packing	Nitrile Rubber		22	Truss head screw	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)

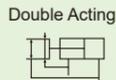
LSH-HP
LSH
FH100
BSA2
BHA
BHG
BHE
LHA
LHAG
HAP-1C
HAP-2 to 4CS
HKP
HCP
HGP
LST-HP
HLF2
HLA/
HLB
HLAG/
HLBG
HLC
HLD
HMC-HP
HMF
HMF-G
HMF-B
HFP
FH500
HBL
HJL
HMD
HDL
HJD
Cylinder
Switch
Ending



Low Profile Parallel Gripper with Rubber Cover (Bushing Guide/Bearing Guide) Double Acting Type

HLAG, HLBG Series

- Operating stroke: HLAG 15, 20, 25 mm
HLBG 13, 18, 23 mm



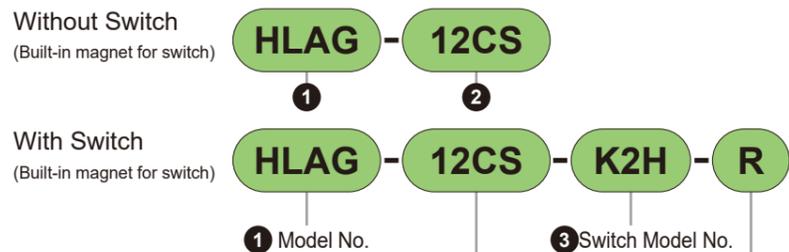
HLAG, HLBG Series

Specifications

Specifications

Item	HLAG-12CS	HLAG-15CS	HLAG-20CS	HLBG-12CS	HLBG-15CS	HLBG-20CS
Bore size mm	ø12	ø15	ø20	ø12	ø15	ø20
Actuation method	Double Acting Type					
Operating Fluid	Compressed Air					
Max. Working Pressure MPa	0.7					
Min. Operating Pressure MPa	0.3			0.2		
Ambient Temperature °C	5 to 60					
Port Size	M5					
Operating stroke mm	15	20	25	13	18	23
Internal volume (reciprocating) cm ³	1.69	3.53	7.85	1.47	3.18	7.22
Repeatability mm	±0.03			±0.01		
Weight kg	0.175	0.305	0.545	0.24	0.42	0.75
Lubrication	Not required (When lubricating, use turbine oil Class 1 ISO VG32)					

Model No. Notation Method



1 Model No.

Code	Content
HLAG	Bushing guide
HLBG	Bearing guide

2 Bore Size (mm)

Code	Content
12CS	ø12
15CS	ø15
20CS	ø20

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
			AC	DC	AC	DC	
Solid State	1-Color	2-wire	-	10 to 30	-	5 to 20 *2	K2H □
		3-wire (NPN)	-	30 or less	-	50 or less	K3H □
Reed	1-Color Indicator LED None	2-wire	110	12/24	7 to 20	5 to 50	K0H □
				5/12/24	20 or less	50 or less	K5H □

*Lead wire length

Code	Content
Blank	1 m (Standard)
3	3 m (Option)
5	5 m (Option)

Example) Lead wire length
1 m K2H
3 m K2H³
5 m K2H⁵

- *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)

- Design compatible with rechargeable battery manufacturing process

HLBG- ... - P4 □

*Please contact us for details.

Switch Single Unit Model No. Notation Method

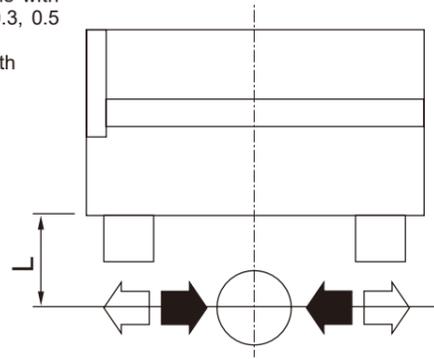


Gripping Force Performance Data

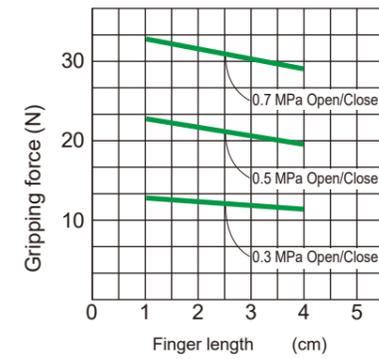
- Gripping force represents the thrust (for one finger) in the direction of the arrow shown in the figure.
- The gripping force in the opening/closing directions with finger length L of hand with a supply pressure of 0.3, 0.5 and 0.7 MPa is shown.

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

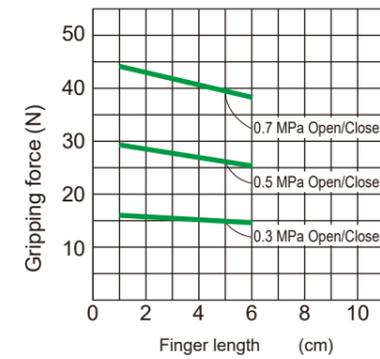
Note) When selecting, check the design and selection precautions on P. 336.



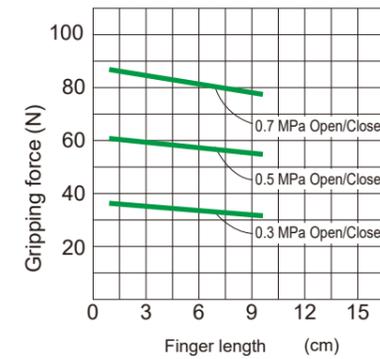
●HLAG-12CS



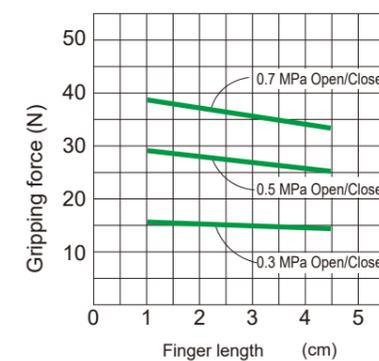
●HLAG-15CS



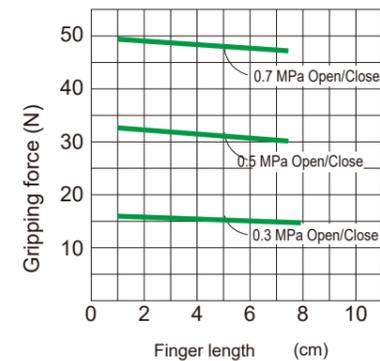
●HLAG-20CS



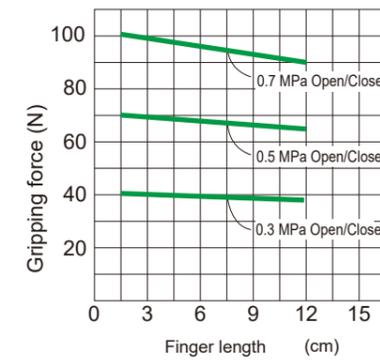
●HLBG-12CS



●HLBG-15CS

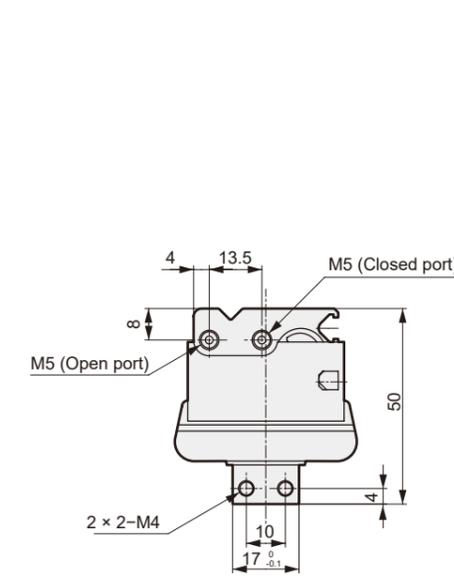


●HLBG-20CS

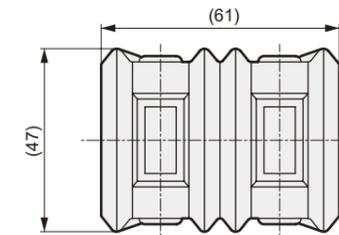
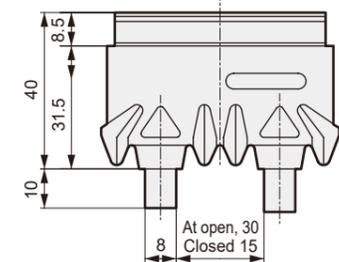
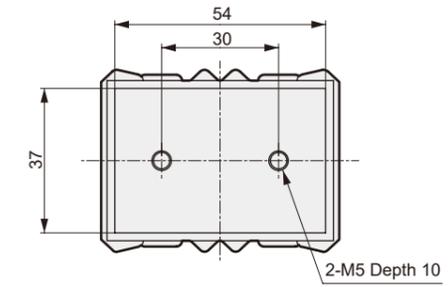


Outline Dimension Drawing

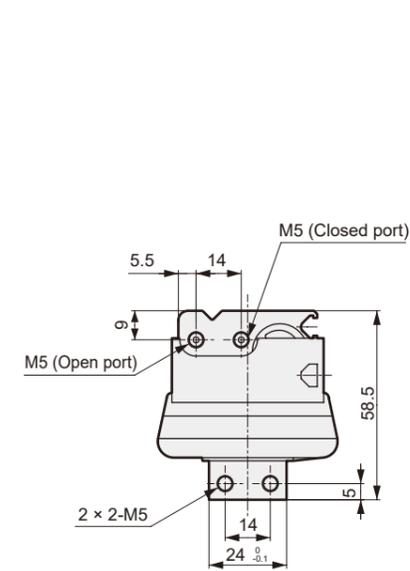
●HLAG-12CS Standard



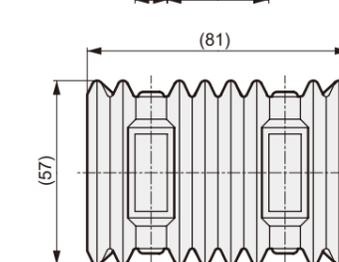
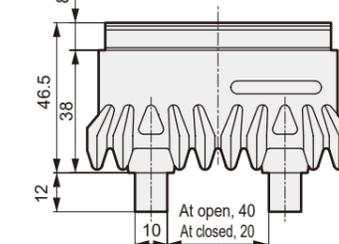
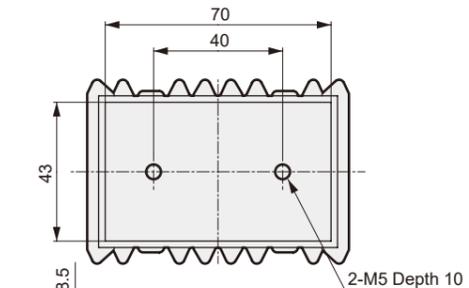
●With Switch



●HLAG-15CS Standard



●With Switch



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

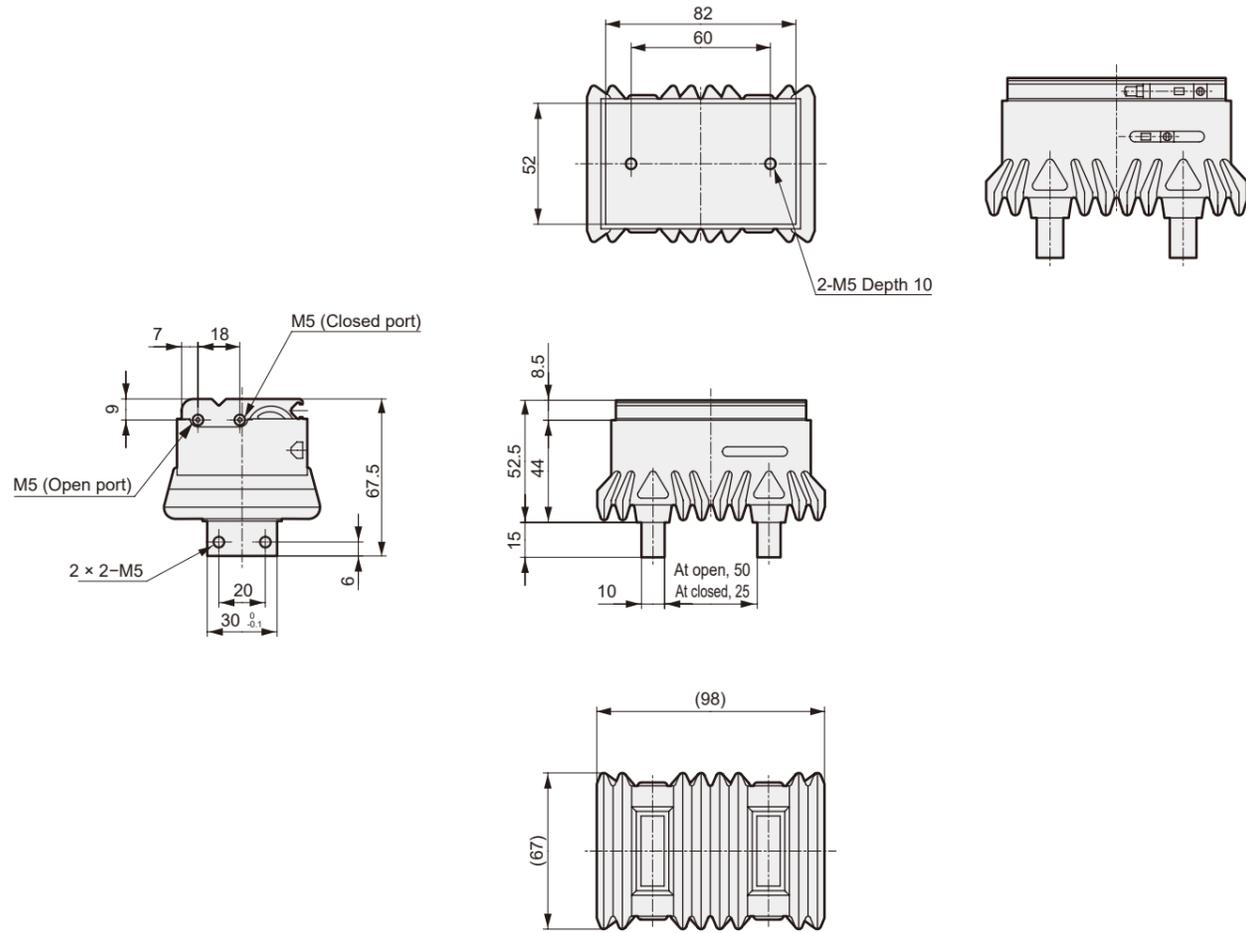
Cylinder Switch

Ending

Outline Dimension Drawing

●HLAG-20CS Standard

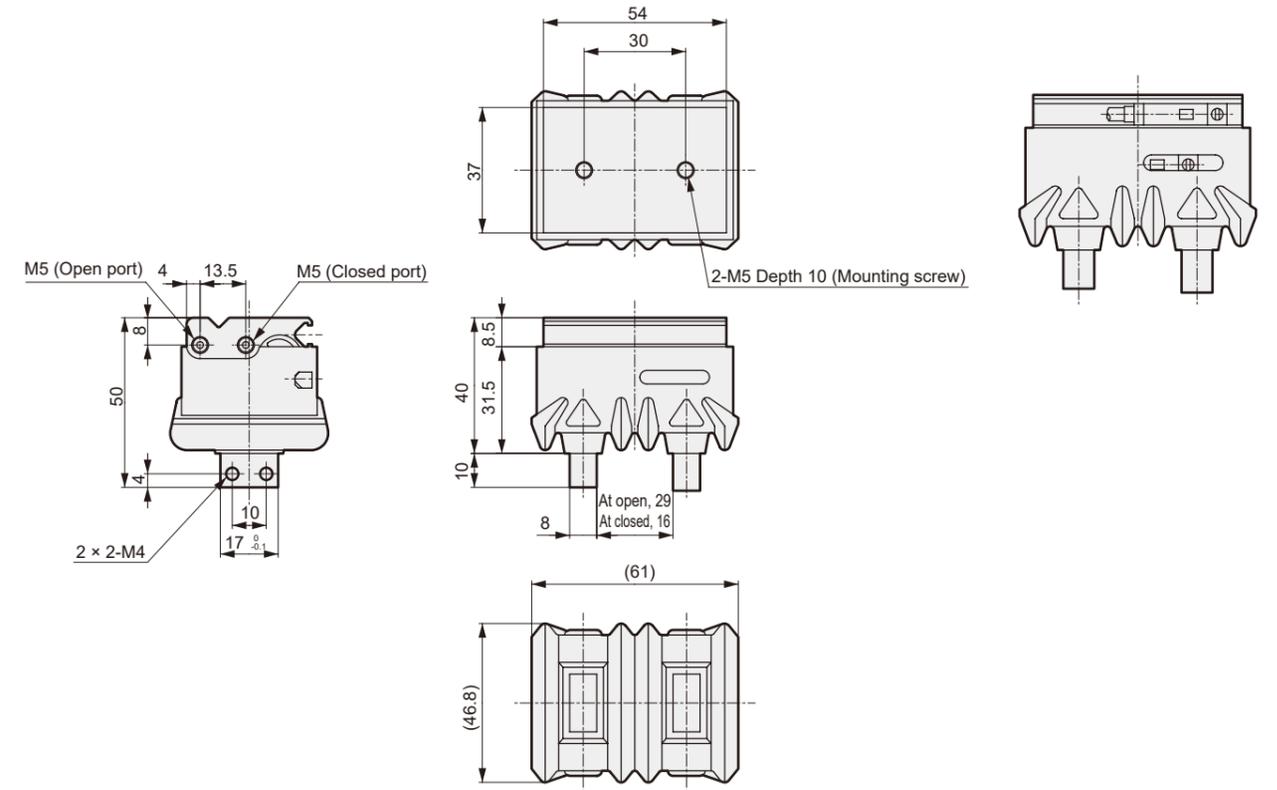
●With Switch



Outline Dimension Drawing

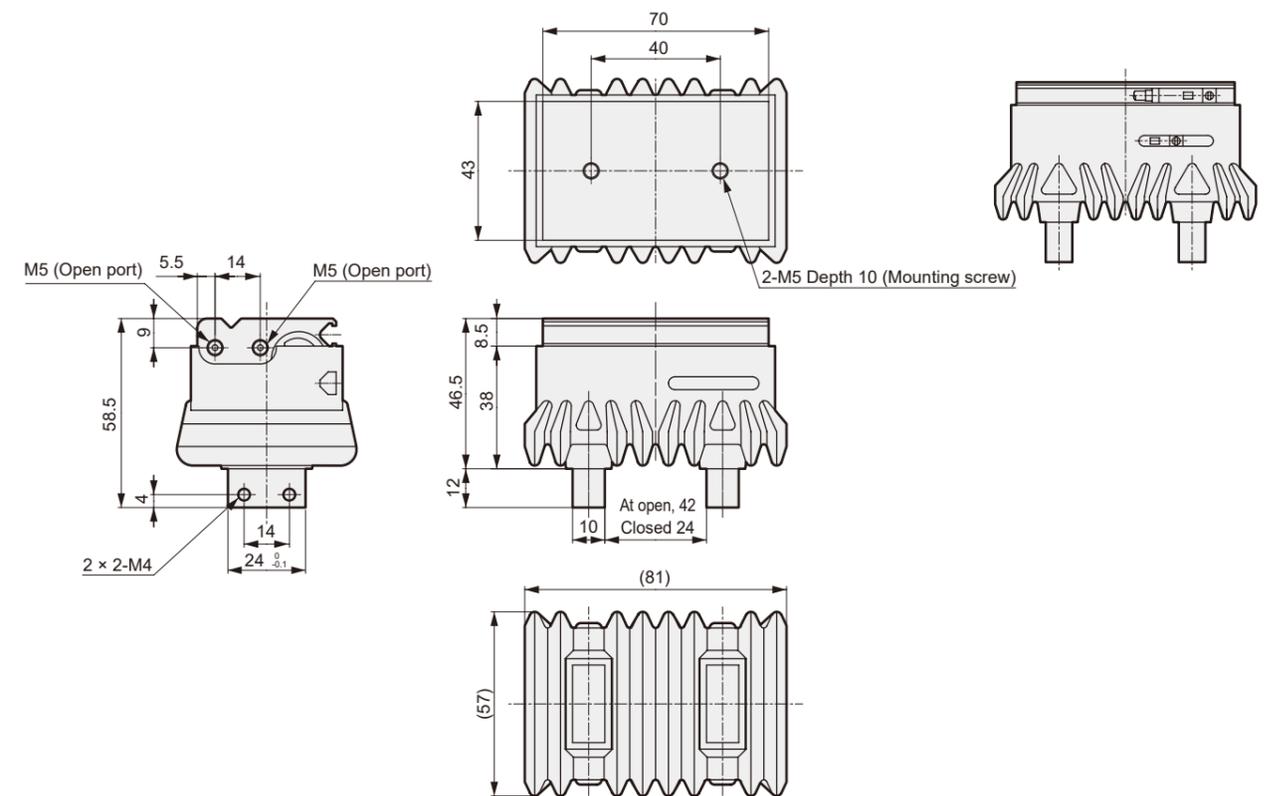
●HLBG-12CS Standard

●With Switch



●HLBG-15CS Standard

●With Switch



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

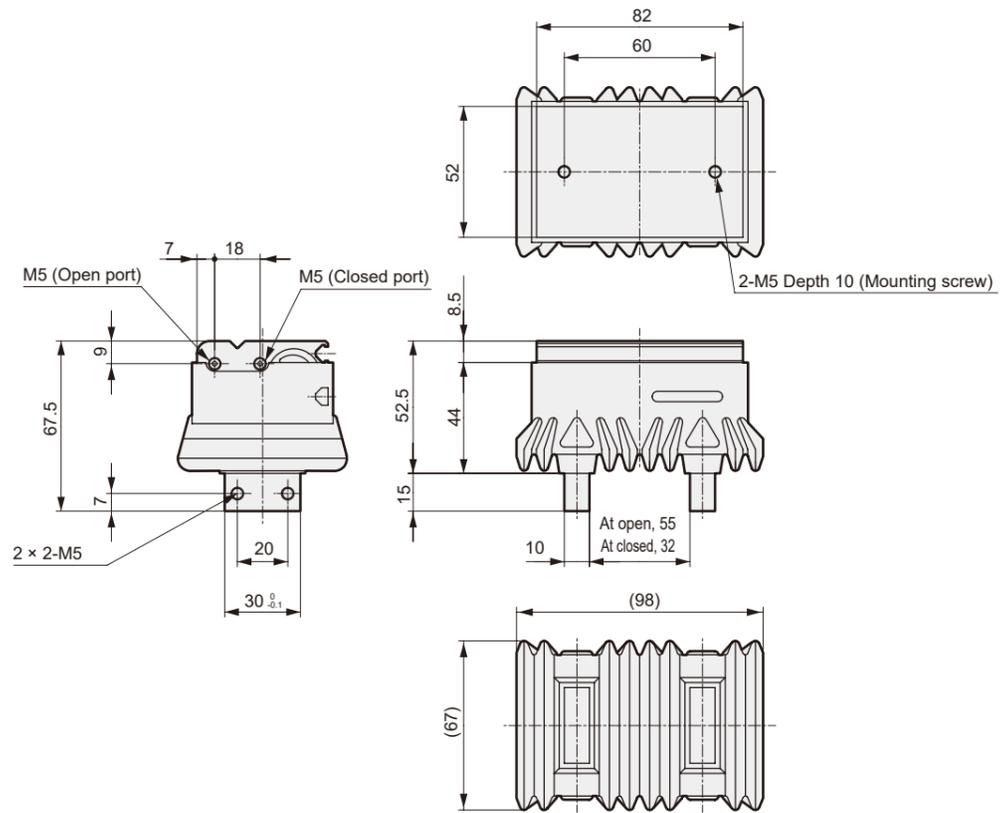
Hand (Gripper)

- 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

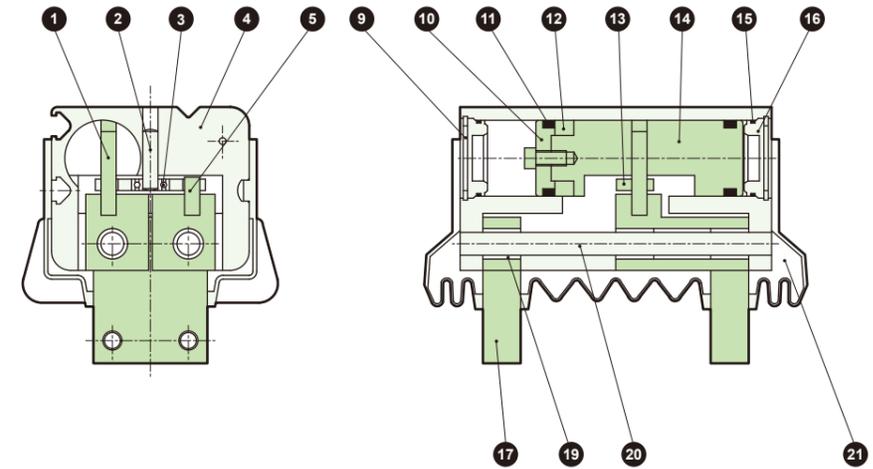
●HLBG-20CS Standard

●With Switch

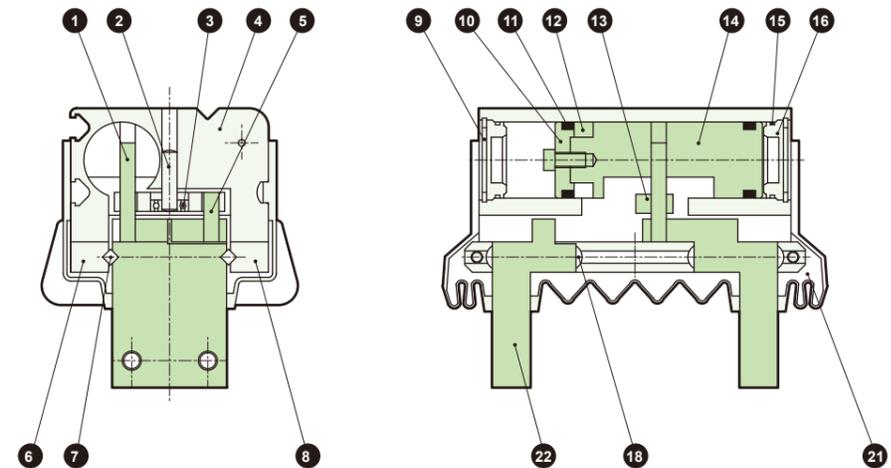


Internal Structure Diagram/Material

●HLAG-12CS to 20CS



●HLBG-12CS to 20CS



Do not disassemble

Part No.	Part Name	Material	Remarks	Part No.	Part Name	Material	Remarks
1	Needle roller B	High carbon chromium bearing steel		12	Magnet		
2	Parallel Pin	Steel		13	Cam	Stainless Steel	
3	Bearing	Alloy Steel		14	Piston	Stainless Steel	
4	Body	Aluminum Alloy		15	Gasket	Nitrile Rubber	
5	Needle roller A	High carbon chromium bearing steel		16	Cover	Resin	
6	Bearing guide B	Steel		17	Finger	Aluminum Alloy	
7	Cross Roller	High carbon chromium bearing steel		18	Truss head screw	Stainless Steel	
8	Bearing guide A	Steel		19	Bushing	Oil-Impregnated Bearing Alloy	
9	Retaining ring	Stainless Steel		20	Guide rod	High carbon chromium bearing steel	
10	Magnet retainer	Aluminum Alloy		21	Rubber Cover	Nitrile Rubber	
11	Piston Packing	Nitrile Rubber		22	Master jaw	Steel	

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HAP-2 to 4CS
HKP
HCP
HGP
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Cylinder Switch
Ending

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Cylinder Switch
Ending