



Centering hand

BHE Series

● Operating stroke: 7, 10, 14, 16, 22 mm

Double acting



Specifications

Item	BHE-01CS	BHE-03CS	BHE-04CS	BHE-05CS	BHE-06CS
Bore size mm	ø12	ø16	ø20	ø25	ø32
Working fluid	Compressed air				
Max. working pressure MPa	0.7				
Min. working pressure MPa	0.2				
Ambient temperature °C	5 to 60				
Port size	M3			M5	
Operating stroke mm	7	10	14	16	22
Rod diameter mm	ø6	ø8	ø10	ø12	ø16
Repeatability mm	±0.01				
Centering precision mm	±0.05 (*1) (*2)				
Weight kg	0.108	0.154	0.260	0.438	1.040
Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)				

*1: Centering precision is the hand end mounting part spigot center reference.

*2: The initial value is listed.

Switch specifications

Item	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 20mA (*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 detailed switch specifications and dimensions.

*3: The BHE uses a crossover roller, and the smoothness of operation may vary depending on the working status. Basic performance is not affected, but if the change in smoothness of operation does not suit the usage method, consider LHA with linear guide (ball guide).

* The BHE-LN Series with length measuring function (length measuring sensor) is also available. Refer to page 1465 for details.

LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
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Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending
LSH-HP
LSH
FH100
BSA2
BHA/BHG
LHA
LHAG
HAP
HKP
HCP
HGP
HLF2
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HLAG/HLBG
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FH500
HBL
HJL
HMD
HDL
HJD
BHE

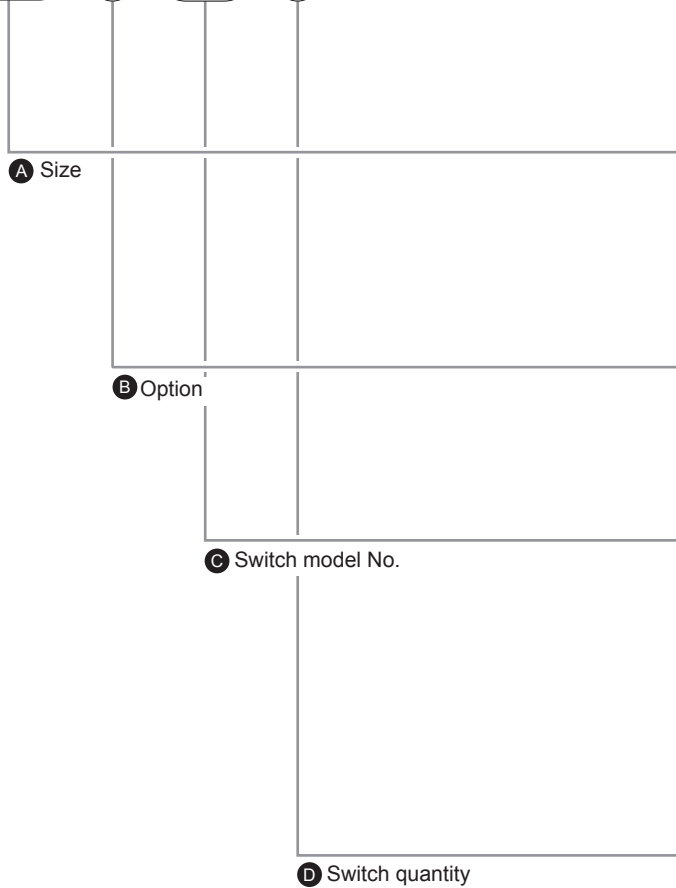
How to order

Without switch (built-in magnet for switch)

BHE - **03CS** - **D**

With switch (built-in magnet for switch)

BHE - **03CS** - **D** - **T2H** - **R**



Code	Description					
A Size						
01CS						
03CS						
04CS						
05CS						
06CS						
B Option						
Blank	Standard					
D	Open stroke adjustment mechanism					
E	Close stroke adjustment mechanism					
DE	Open and close stroke adjustment mechanism					
C Switch model No.						
Straight lead wire	L-shaped lead wire	Proximity Contact	Voltage		Indicator	Lead wire
			AC	DC		
T2H*	T2V*		●	1-color	2-wire	
T3H*	T3V*		●	LED	3-wire	
* Lead wire length						
Blank		1 m (standard)				
3		3 m (option)				
5		5 m (option)				
D Switch quantity						
R		1 on open side				
H		1 on closed side				
D		2				

[Example of model No.]

BHE-03CS-D-T2H-R

- A** Size : 03CS
- B** Option : Open stroke adjustment mechanism
- C** Switch model No.: Proximity T2H switch, lead wire 1 m
- D** Switch quantity : 1 on open side

How to order switch

SW - **T2H**

Switch model No.
(Item C above)

Specifications for rechargeable battery (Catalog No. CC-1226A)

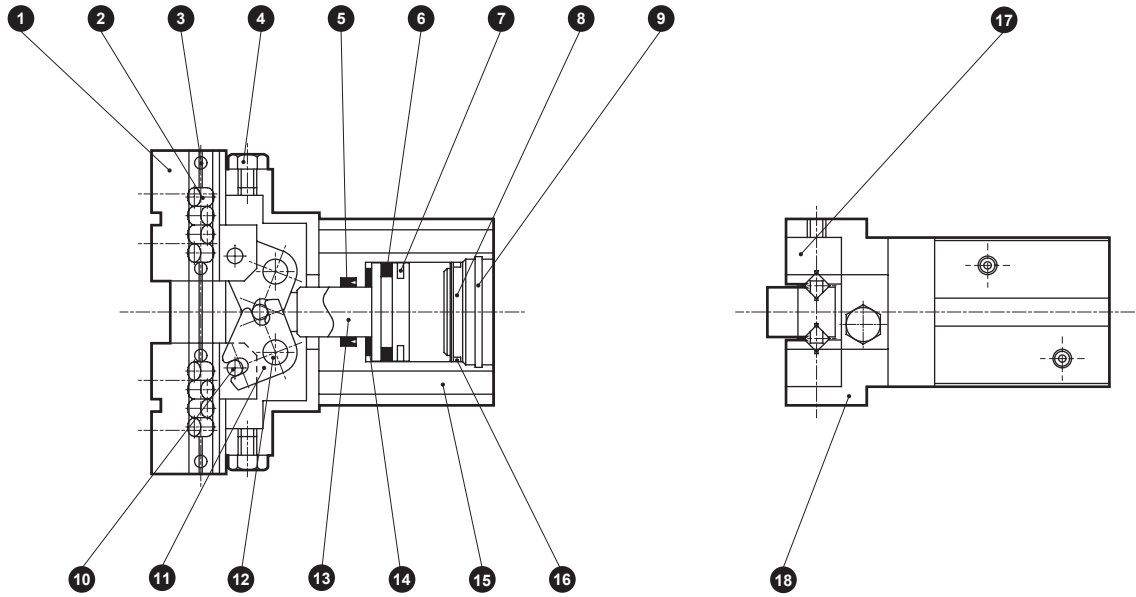
BHE - ... - **P4*** ● Design compatible with rechargeable battery manufacturing process.

* Contact CKD for details.

LCM
LCR
LCG
LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending
LSH-HP
LSH
FH100
BSA2
BHA/BHG
LHA
LHAG
HAP
HKP
HCP
HGP
HLF2
HLA/HLB
HLA/HLBG
HLC
HLD
HMF
HMF-G
HMFB
HFP
FH500
HBL
HJL
HMD
HDL
HJD
BHE

Internal structure and parts list

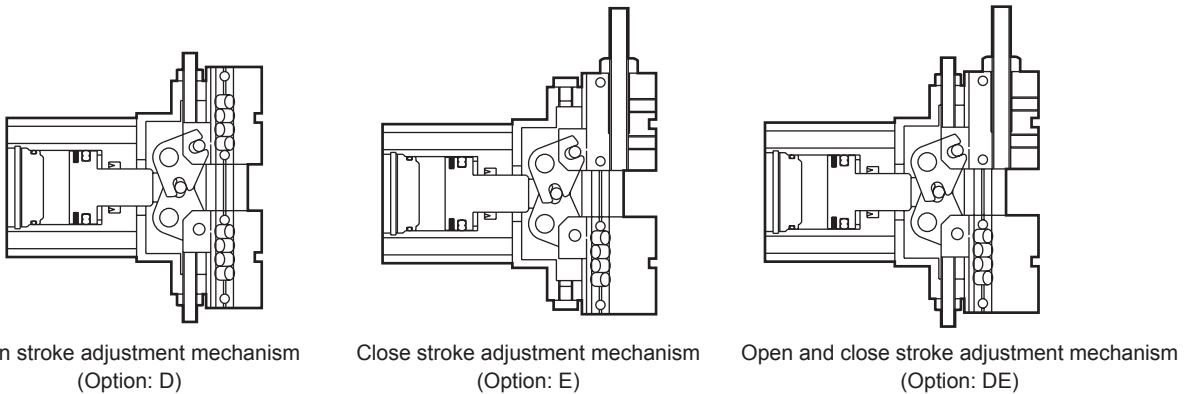
● BHE-01CS to 06CS



Cannot be disassembled

No.	Part name	Material	Remarks	No.	Part name	Material	Remarks
1	Finger	Stainless steel		10	Operation shaft	High carbon chrome bearing steel	
2	Cross roller	High carbon chrome bearing steel		11	Arm	Stainless steel	
3	Spring pin	Stainless steel		12	Fulcrum axis	High carbon chrome bearing steel	
4	Plug	Copper alloy		13	Piston	Stainless steel	
5	Rod packing	Nitrile rubber		14	Cushion	Urethane rubber	
6	Piston packing	Nitrile rubber		15	Cylinder	Aluminum alloy	
7	Magnet			16	Cylinder gasket	Nitrile rubber	
8	Cylinder guard	Resin		17	Bearing guide	Stainless steel	
9	Snap ring	Stainless steel		18	Body	Aluminum alloy	

Option internal structure



Open stroke adjustment mechanism
(Option: D)

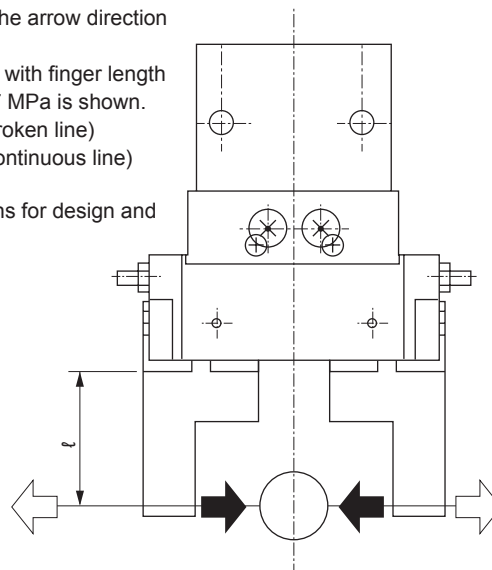
Close stroke adjustment mechanism
(Option: E)

Open and close stroke adjustment mechanism
(Option: DE)

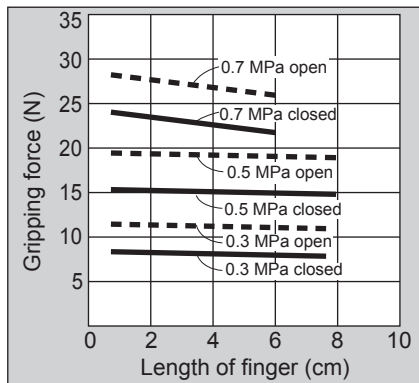
Gripping force performance data

- Gripping force represents the thrust (per finger) in the arrow direction 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.
 - Open direction (◁) - - - - (shown with broken line)
 - Closed direction (▶) ——— (shown with continuous line)

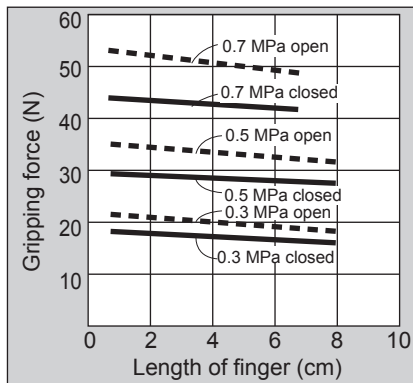
(Note) When making a selection, read the precautions for design and selection on page 1764.



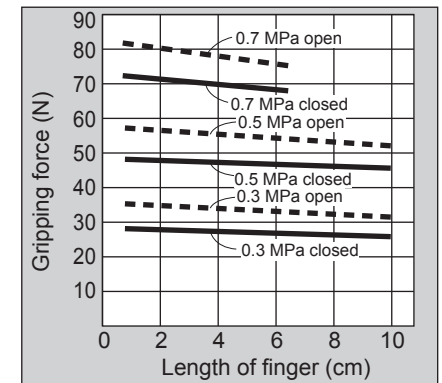
● BHE-01CS



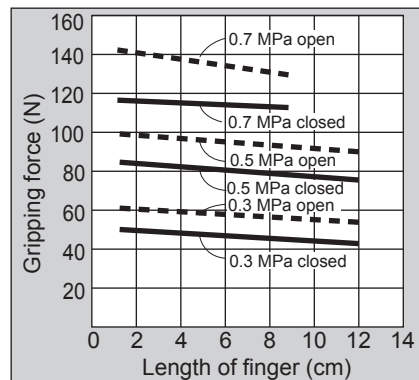
● BHE-03CS



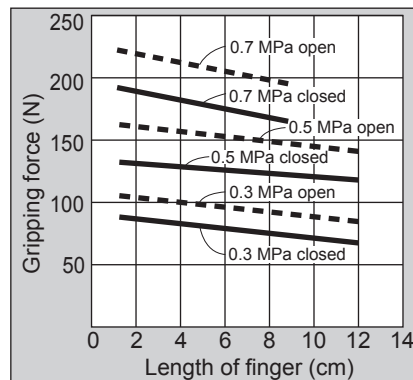
● BHE-04CS



● BHE-05CS



● BHE-06CS

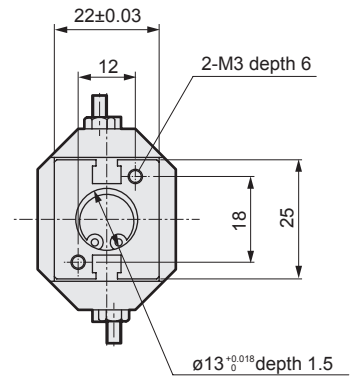
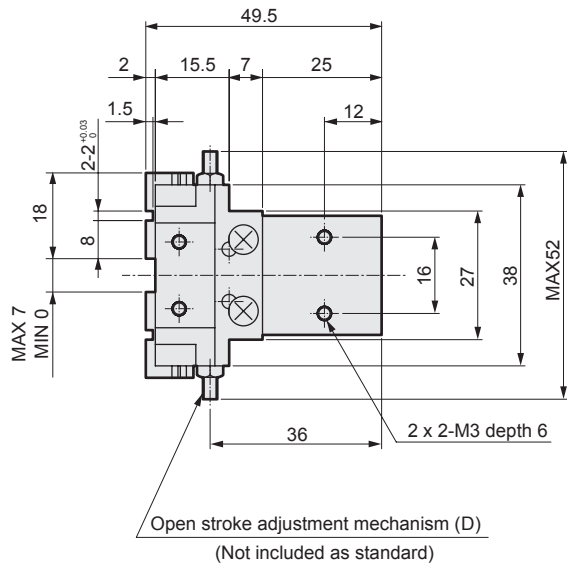
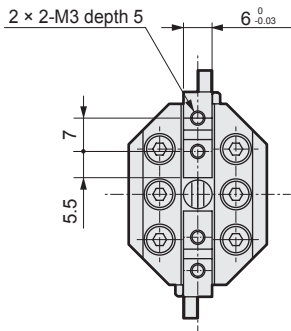
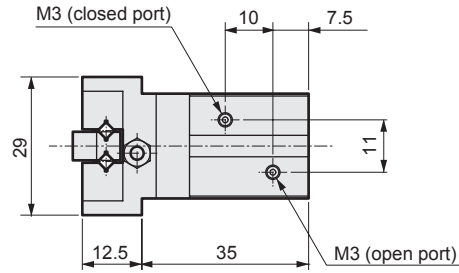


LCM
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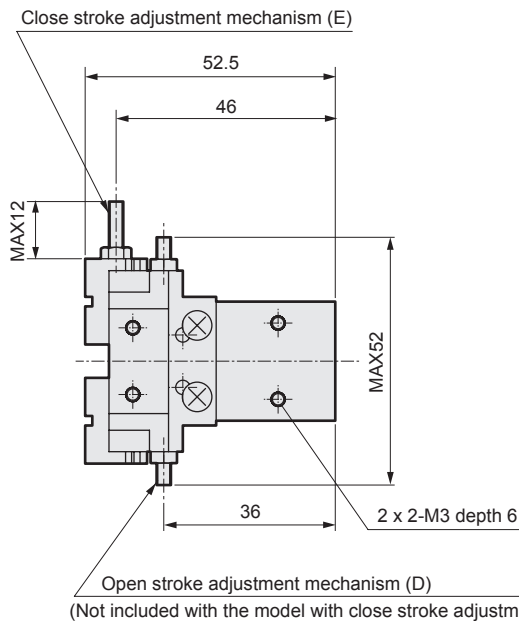
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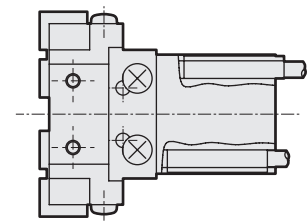
- BHE-01CS (Standard)
- BHE-01CS-D (Open stroke adjustment mechanism)



- BHE-01CS-E (Close stroke adjustment mechanism)
- BHE-01CS-DE (Open and close stroke adjustment mechanism)



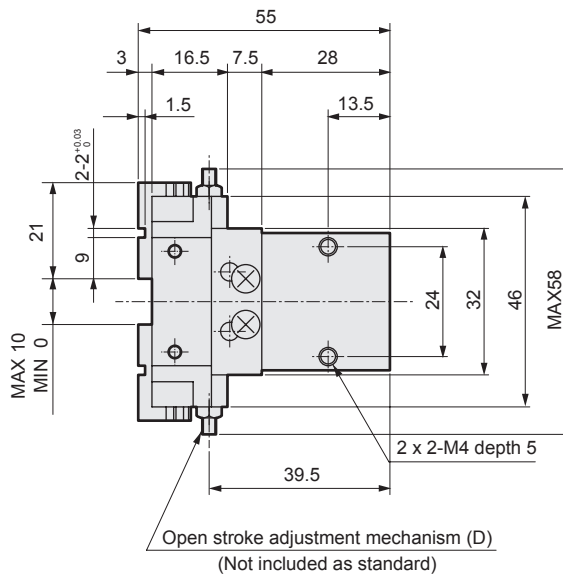
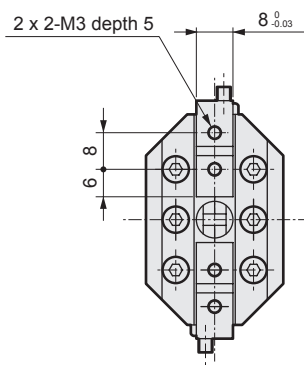
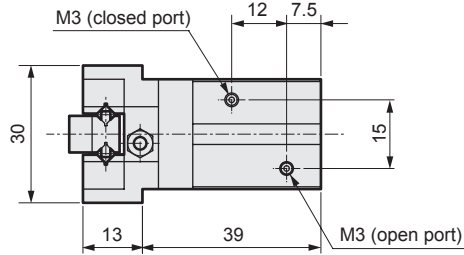
● With switch



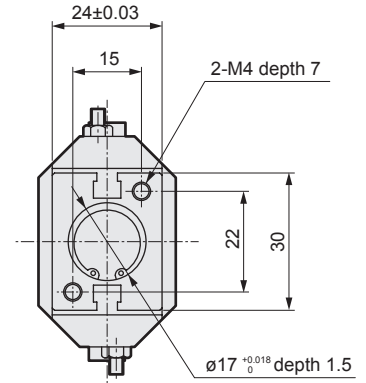
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ULK*
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JSG
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CAC4
UCAC2
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UCAC-N
RCS2
RCC2
PCC
SHC
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GLC
MFC
BBS
RRC
GRC
RV3*
NHS
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BHE

Dimensions

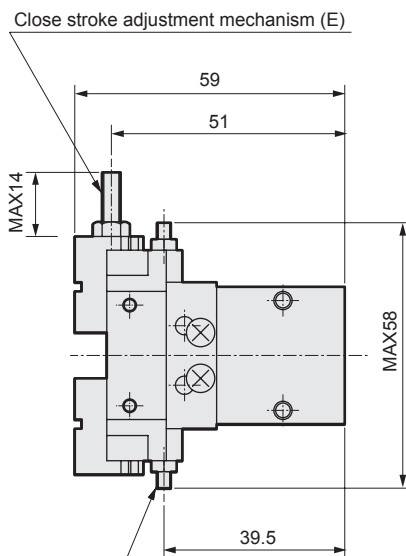
- BHE-03CS (Standard)
- BHE-03CS-D (Open stroke adjustment mechanism)



- With switch

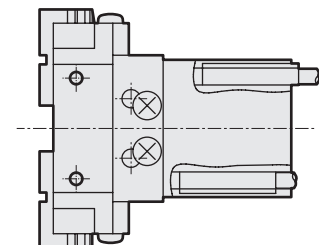


- BHE-03CS-E (Close stroke adjustment mechanism)
- BHE-03CS-DE (Open and close stroke adjustment mechanism)



Open stroke adjustment mechanism (D)
(Not included with the model with close stroke adjustment mechanism only.)

- With switch

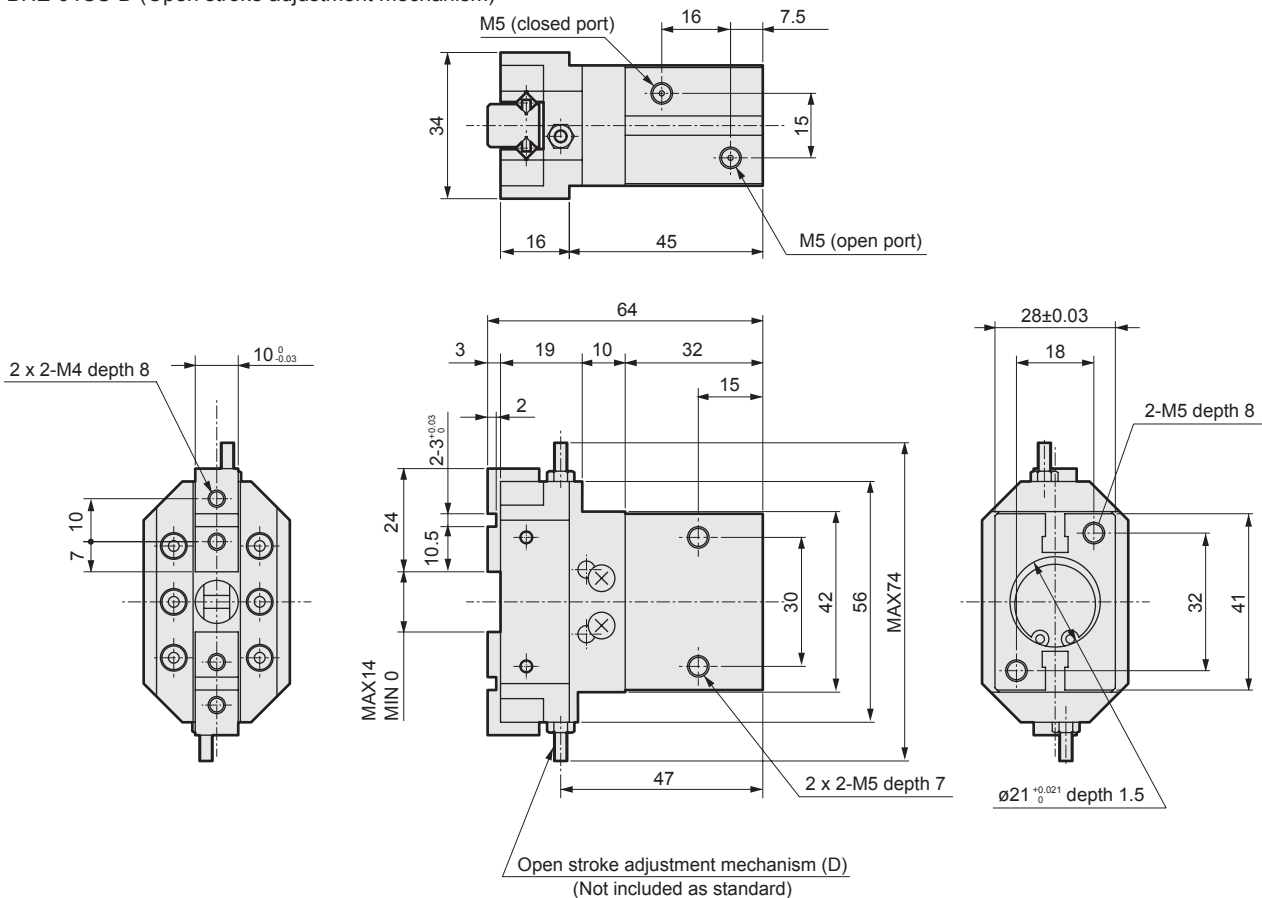


LCM
LCR
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STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
UB
JSB3
LMB
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HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCS2
RCC2
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HRL
LN
Hand
Chuk
MechHand/Chuk
ShkAbs
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FK
SpdContr
Ending
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BHA/BHG
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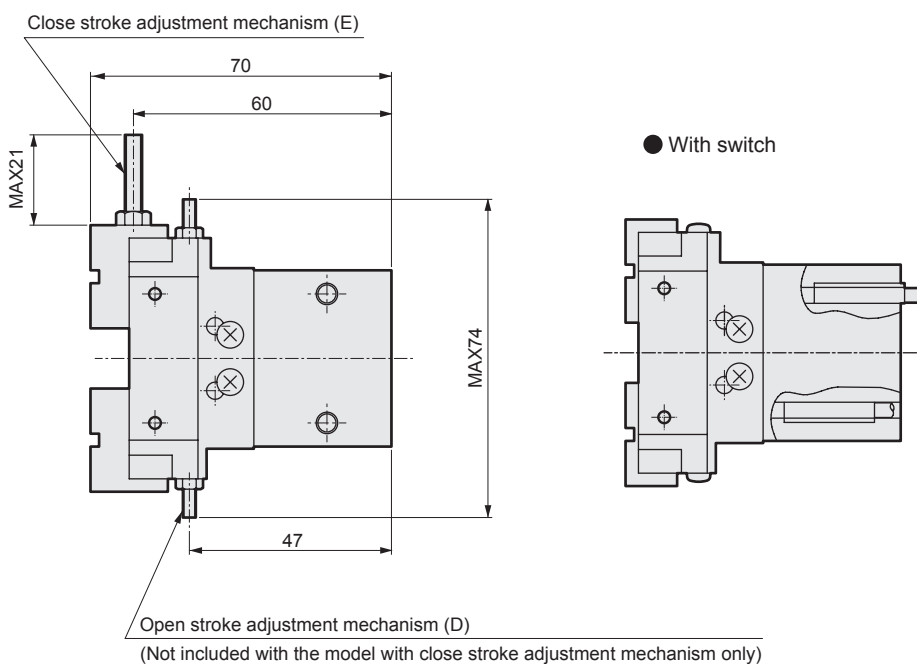
Dimensions



- BHE-04CS (Standard)
- BHE-04CS-D (Open stroke adjustment mechanism)



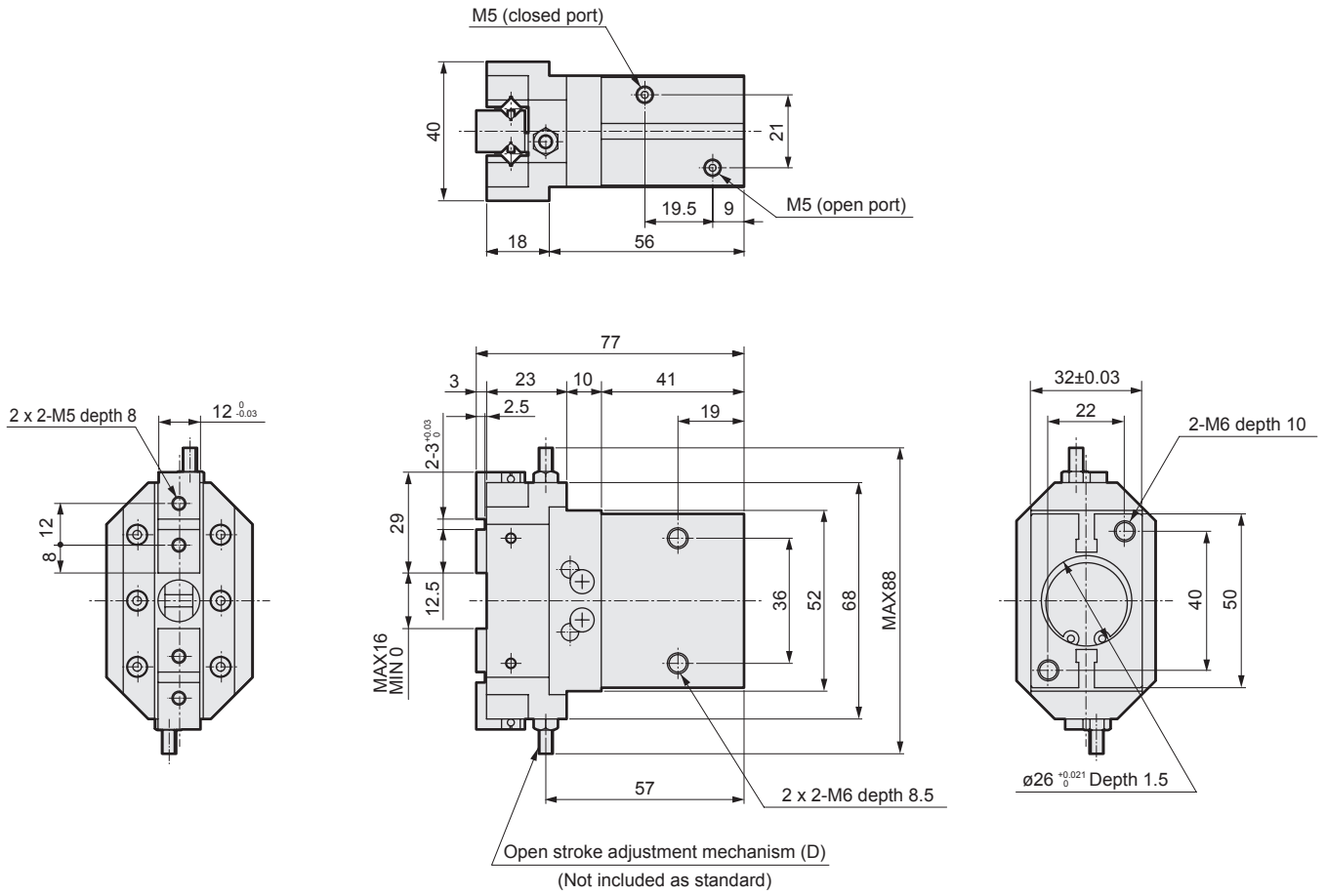
- BHE-04CS-E (Close stroke adjustment mechanism)
- BHE-04CS-DE (Open and close stroke adjustment mechanism)



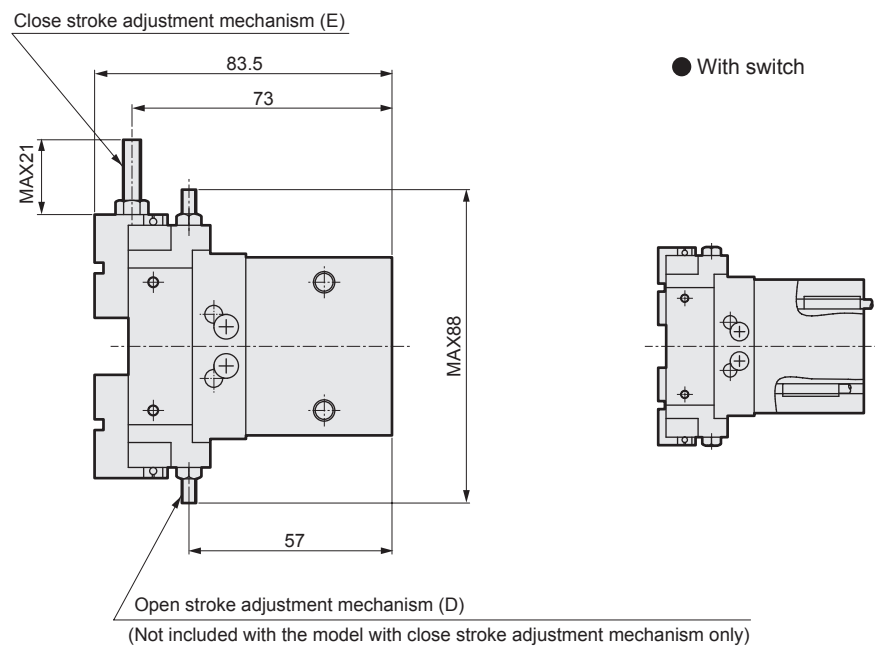
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UCA2
ULK*
JSK/M2
JSG
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USSD
UFCD
USC
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HMF-G
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HDL
HJD
BHE

Dimensions

- BHE-05CS (Standard)
- BHE-05CS-D (Open stroke adjustment mechanism)



- BHE-05CS-E (Close stroke adjustment mechanism)
- BHE-05CS-DE (Open and close stroke adjustment mechanism)

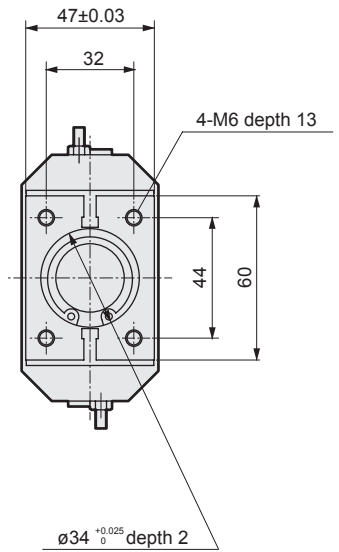
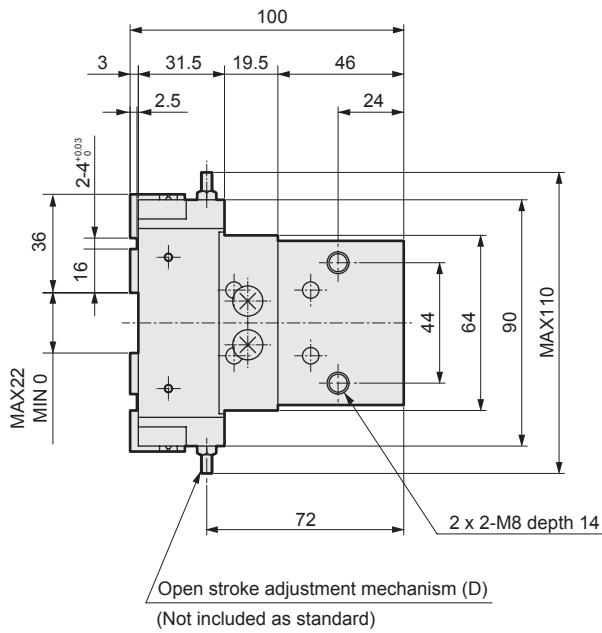
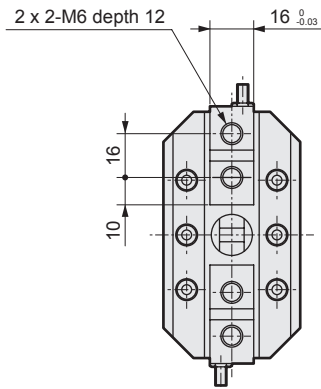
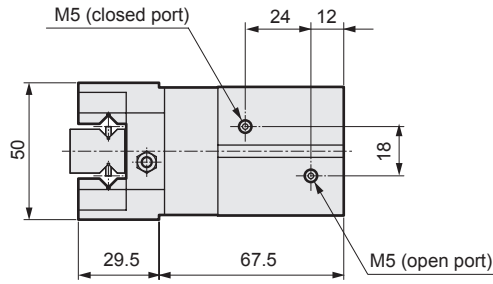


LCM
LCR
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STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
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JSC3/JSC4
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CAC-N
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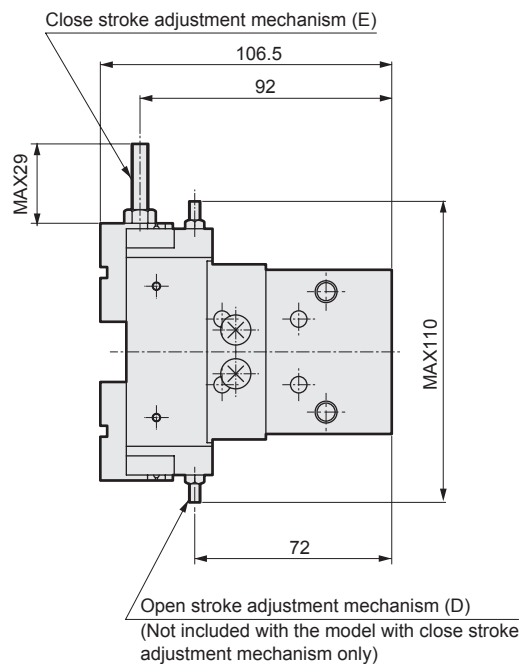
Dimensions



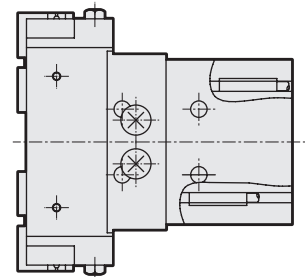
- BHE-06CS (Standard)
- BHE-06CS-D (Open stroke adjustment mechanism)



- BHE-06CS-E (Close stroke adjustment mechanism)
- BHE-06CS-DE (Open and close stroke adjustment mechanism)



● With switch



LCM
LCR
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LCW
LCX
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
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JSB3
LMB
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HCM
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CAC4
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