



Length measuring sensor with hand

BHA/BHG/BHE-LN Series

- Operating stroke length
BHA-LN, BHG-LN: 5/9/11/15 mm
BHE-LN: 7/10/14/16 mm



* Excluding display



- LCW
- LCR
- LCC
- 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
- LN**
- Hand
- Chuk
- MecHnd/Chuk
- ShkAbs
- FJ
- FK
- SpdContr
- Ending



BHA



BHG



BHE

Hand specifications

● BHA Series

Descriptions	Cross roller parallel hand (double acting)			
	BHA-LN-01CS	BHA-LN-03CS	BHA-LN-04CS	BHA-LN-05CS
Cylinder bore size mm	φ12	φ16	φ20	φ25
Working fluid	Compressed air			
Max. working pressure MPa	0.7 (≈100 psi, 7 bar)			
Min. working pressure MPa	0.1 (≈15 psi, 1 bar)			
Ambient temperature °C	5 (41°F) to 60 (140°F)			
Double jaw stroke mm	5	9	11	15
Port size	M3		M5	
Weight g	140	200	290	460
Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)			

● BHG Series

Descriptions	Cross roller parallel hand (double acting/with rubber cover)			
	BHG-LN-01CS	BHG-LN-03CS	BHG-LN-04CS	BHG-LN-05CS
Cylinder bore size mm	φ12	φ16	φ20	φ25
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)			
Ambient temperature °C	5 (41°F) to 60 (140°F)			
Double jaw stroke mm	5	9	11	15
Port size	M3		M5	
Weight g	170	230	320	490
Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)			

● BHE Series

Descriptions	Centering hand (double acting)			
	BHE-LN-01CS	BHE-LN-03CS	BHE-LN-04CS	BHE-LN-05CS
Cylinder bore size mm	φ12	φ16	φ20	φ25
Working fluid	Compressed air			
Max. working pressure MPa	0.7 (≈100 psi, 7 bar)			
Min. working pressure MPa	0.2 (≈29 psi, 2 bar)			
Ambient temperature °C	5 (41°F) to 60 (140°F)			
Double jaw stroke mm	7	10	14	16
Port size	M3		M5	
Weight g	130	180	300	480
Lubrication	Not required (use turbine oil class 1 ISO VG32 if necessary for lubrication)			

Note: Hand appearance is the same as the standard, but the internal structure differs. (This hand is for length measurement.)

Gripping power performance data is shown below.

- BHA : Page 1502
- BHG : Page 1508
- BHE : Page 1627

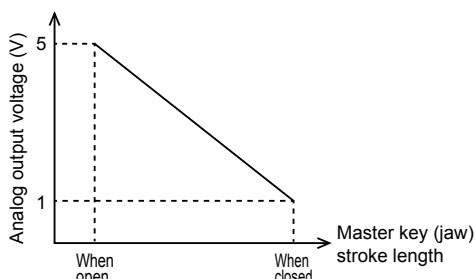
Sensor, amplifier (separated) specifications

Refer to page 1436.

Display section specifications

Refer to page 1437.

Length measuring sensor output characteristics



How to order

● Analog output

BHE - **LN** - **04CS** - **10** **H** **C** **LDS** **DN**

● Switch output

BHE - **LN** - **05CS** - **10** **H** **C** **S12S**

A Drive equipment specifications

B Cylinder bore size

C Compatible sensor (*2)

D Sensor lead wire outlet direction

E Sensor lead wire terminal specifications

F Amplifier unit output and shape

G Display (*3)

⚠ Precautions for model selection

- *1 : Contact CKD for the availability of the φ12 (01CS) and φ16 (03CS) analog output and display.
- *2 : Depending on the drive equipment on the length measurement sensor compatible sensors and amplifiers differ.
- *3 : Two channels can be used for display. Ch1 is allocated by this model display. When using another channel, the display must be ordered separately.
(A)-LN-**(B)**-**(C)****(D)****(E)**LDS
- *4 : When ordering a single model for maintenance:
 - Hand: **(A)**-LN-**(B)**
 - Sensor: LN-**(C)****(D)**
 - Amplifier unit (amplifier separate): LN-**(F)**
 - Amplifier unit with sensor (amplifier installed): LN-**(C)****(V)****(F)**
 - Display: LN-DN
 When placing a discrete order, refer to product specifications sheet or handling precautions attached with the unit for details on setting.

● Discrete cylinder switch model No.

SW - **T** **2** **H** **3**

A Output

B Lead wire outlet direction

C Lead wire length

⚠ Precautions for model selection

For the hand, 1 cylinder switch can be mounted in a separate groove to confirm whether the master key (jaw) is open or closed, regardless of whether analog or switch output is used. Order separately when required.

Code	Content	
A Drive equipment specifications		
BHA	Cross roller parallel hand (double acting)	
BHG	Cross roller parallel hand (double acting/with rubber cover)	
BHE	Centering hand (double acting)	
B Size (cylinder bore size)		
01CS	φ12	*1
03CS	φ16	*1
04CS	φ20	
05CS	φ25	
C Compatible sensor		
05	For 01CS, 03CS	
10	For 04CS, 05CS	
D Sensor lead wire outlet direction		
H	Axial lead wire	
V	Radial lead wire (amplifier installed in V only)	
E Sensor lead wire terminal specifications		
Blank	Without connector (for amplifier installed)	
C	With M8 connector (for amplifier separated)	
F Amplifier unit output and shape		
S1PAH	Amplifier installed/lead wire straight switch 1-point output	
S1PAV	Amplifier installed/lead wire L type switch 1-point output	
S2S	Amplifier separate/switch 2 point output (01CS, 03CS compatible)	
S12S	Amplifier separate/switch 2 point output (04CS, 05CS compatible)	
LS	Amplifier separate/analog output (04CS, 05CS compatible)	
LDS	Amplifier separate/for display (LN-DN) (04CS, 05CS compatible)	
G Display		
DN	Switch output section NPN display (04CS, 05CS compatible)	

Code	Content	
A Output		
2	Proximity 2-wire	
3	Proximity 3-wire	
B Lead wire outlet direction		
H	Axial lead wire	
V	Radial lead wire	
C Lead wire length		
Blank	1 m (standard)	
3	3 m (option)	
5	5 m (option)	

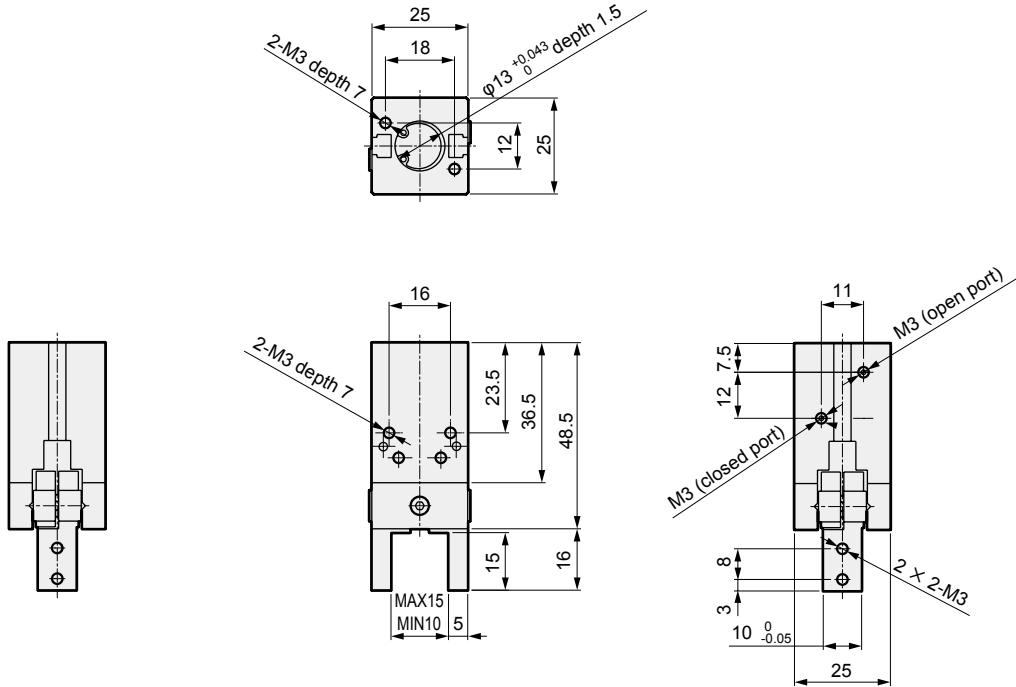
LCW
LCR
LCG
LCX
LCM
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCC2
RCS
PCC
SHC
MCP
GLC
MFC
BBS
RRR
GRC
RV3*
NHS
HR
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

BHA-LN Series

Dimensions

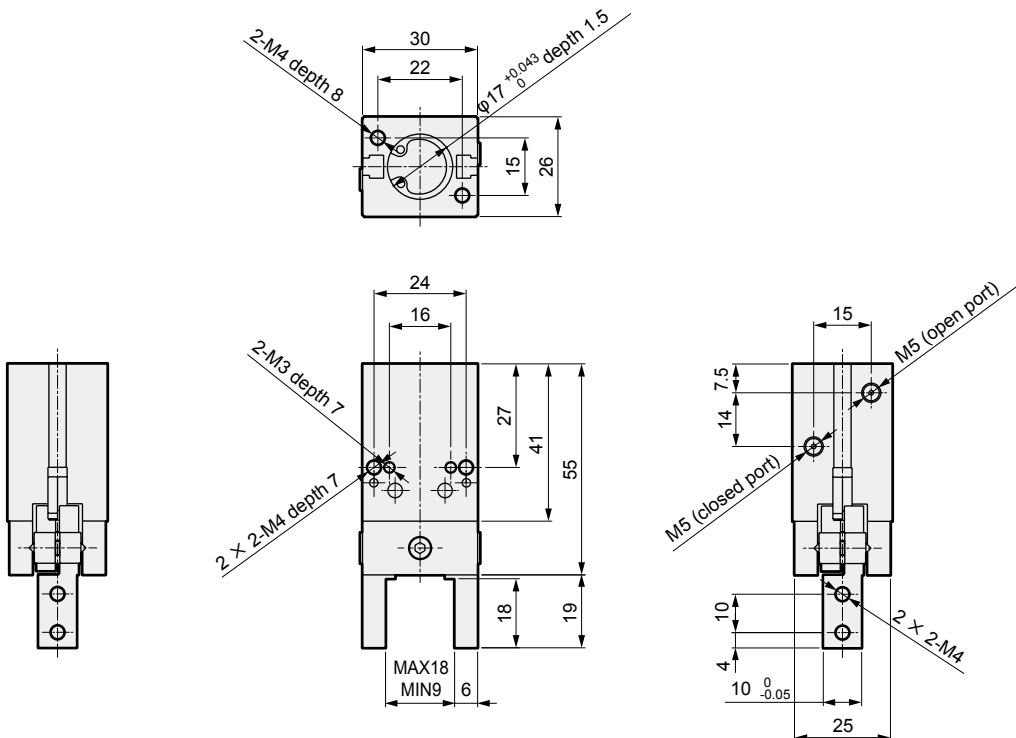
BHA-LN (amplifier separated)

● BHA-LN-01CS



- *1 : Longitudinal direction is 3mm longer than standard products. Other dimensions are the same as standard products.
- *2 : Refer to pages 1438 to 1439 for outline dimensions of the sensor, amplifier (separated), and display.
- *3 : Only the cylinder bore size code 04CS/05CS can be mounted on display or analog output models.

● BHA-LN-03CS

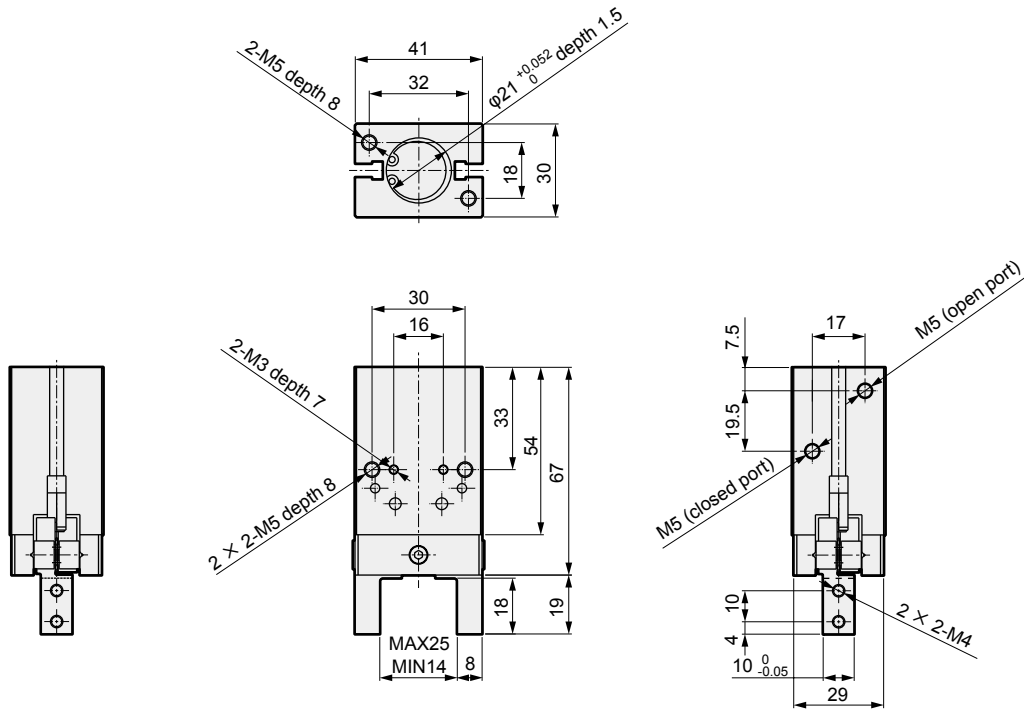


- *1 : Longitudinal direction is 2 mm longer than standard products. Other dimensions are the same as standard products.
- *2 : Refer to pages 1438 to 1439 for outline dimensions of the sensor, amplifier (separated), and display.
- *3 : Only the cylinder bore size code 04CS/05CS can be mounted on display or analog output models.

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
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

Dimensions

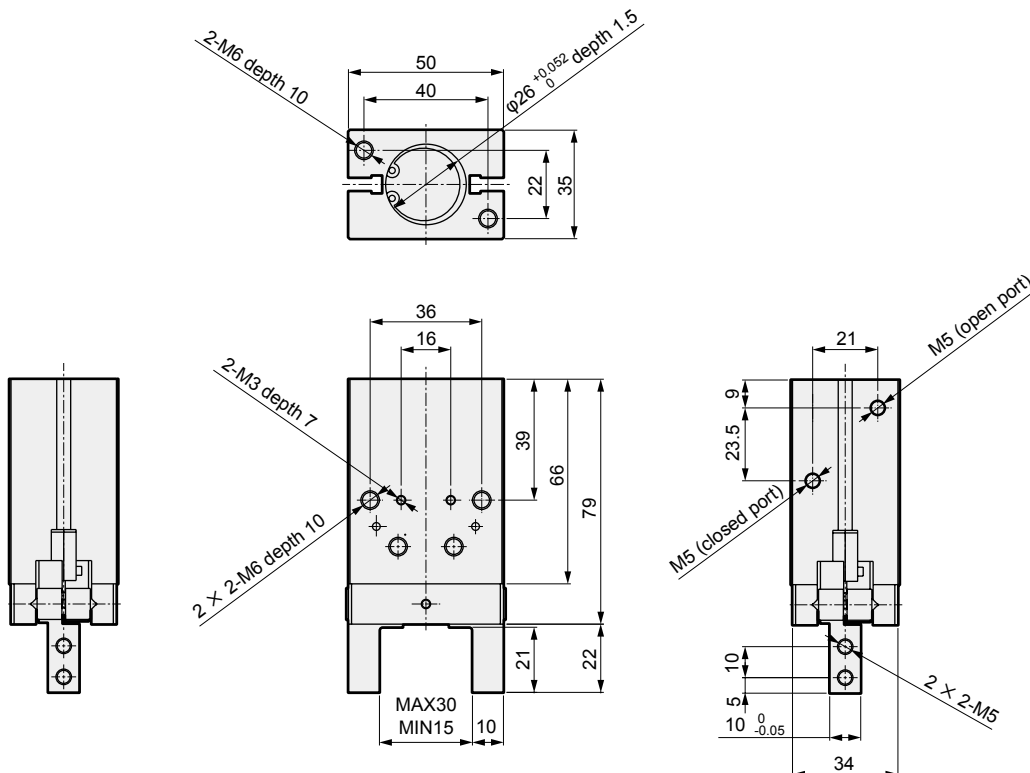
● BHA-LN-04CS



*1 : Longitudinal direction is 5mm longer than standard products. Other dimensions are the same as standard products.

*2 : Refer to pages 1438 to 1439 for outline dimensions of the sensor, amplifier (separated), and display.

● BHA-LN-05CS



*1 : Longitudinal direction is 5mm longer than standard products. Other dimensions are the same as standard products.

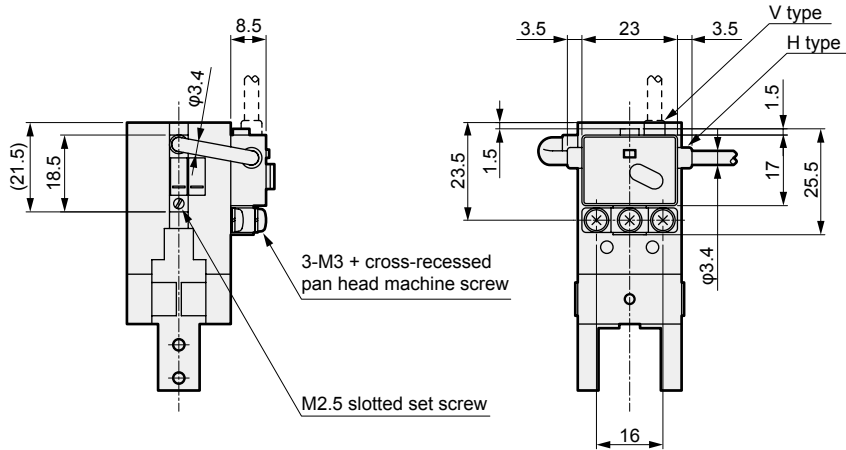
*2 : Refer to pages 1438 to 1439 for outline dimensions of the sensor, amplifier (separated), and display.

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
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

Dimensions

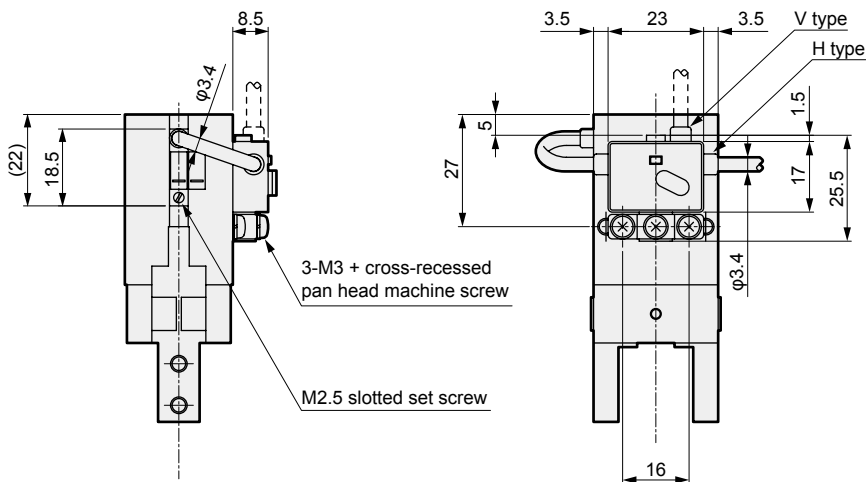
BHA-LN (amplifier with amplifier installed sensor)

● BHA-LN-01CS diagram



- *1 : Refer to the amplifier separated dimensions for details on the hand's outline dimensions.
- *2 : The V sensor lead wire direction is used. H or V can be selected for the output stage lead.

● BHA-LN-03CS diagram

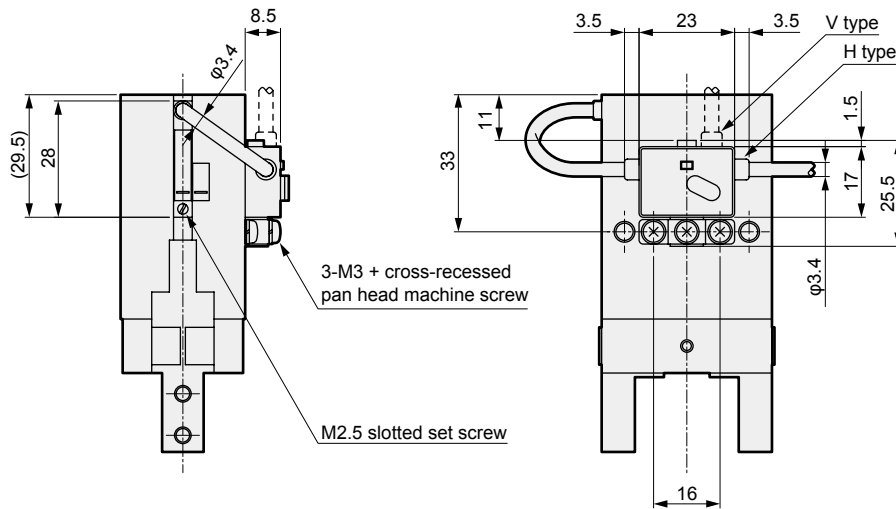


- *1 : Refer to the amplifier separated dimensions for details on the hand's outline dimensions.
- *2 : The V sensor lead wire direction is used. H or V can be selected for the output stage lead.

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
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

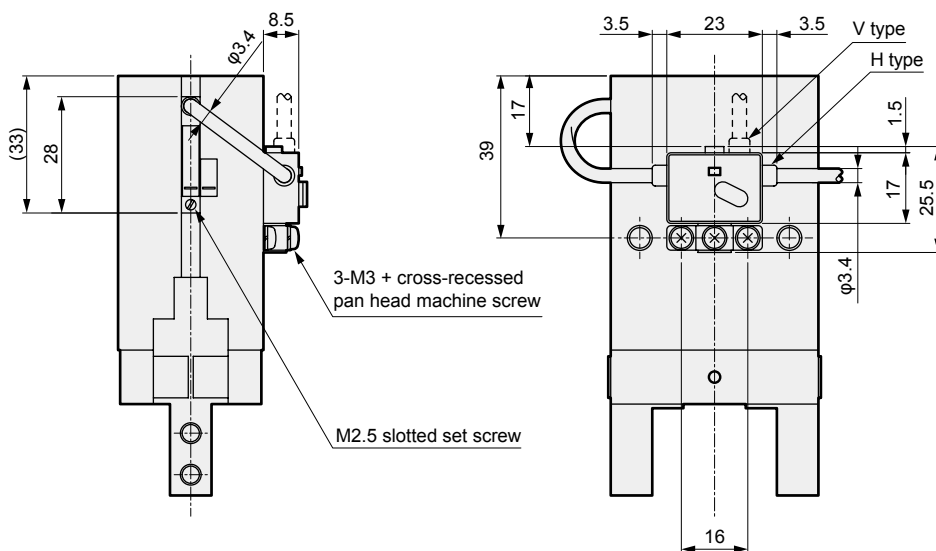
Dimensions

● BHA-LN-04CS diagram



*1 : Refer to the amplifier separated dimensions for details on the hand's outline dimensions.
 *2 : The V sensor lead wire direction is used. H or V can be selected for the output stage lead.

● BHA-LN-05CS diagram



*1 : Refer to the amplifier separated dimensions for details on the hand's outline dimensions.
 *2 : The V sensor lead wire direction is used. H or V can be selected for the output stage lead.

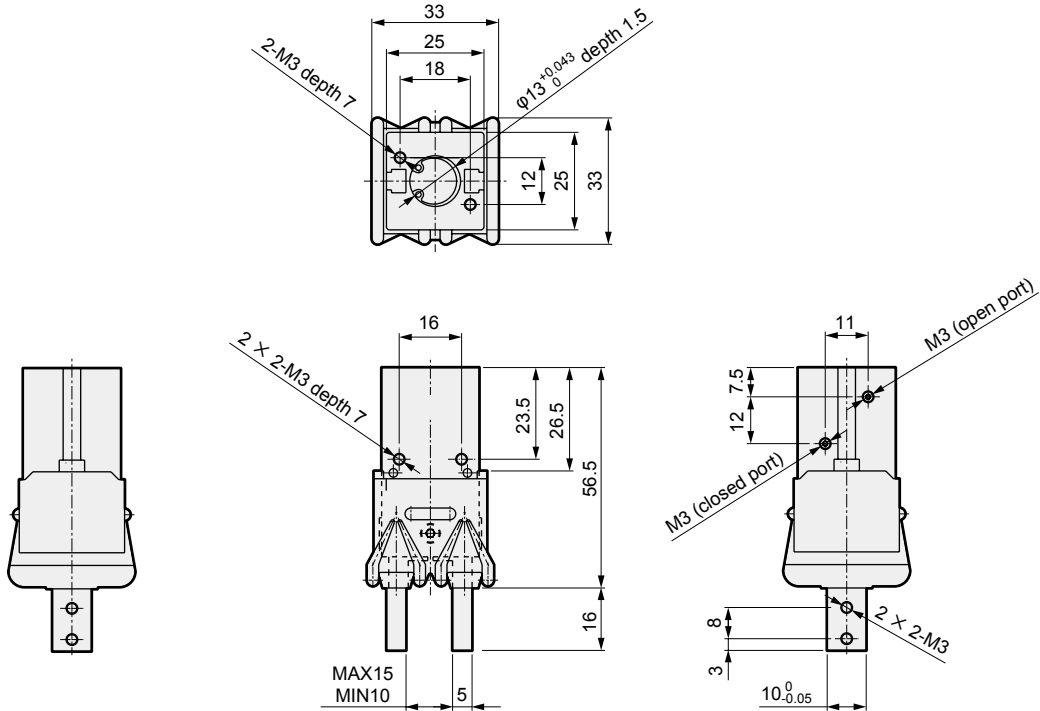
LCW
LCR
LCG
LCX
LCM
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
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RCS
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HR
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

BHG-LN Series

Dimensions

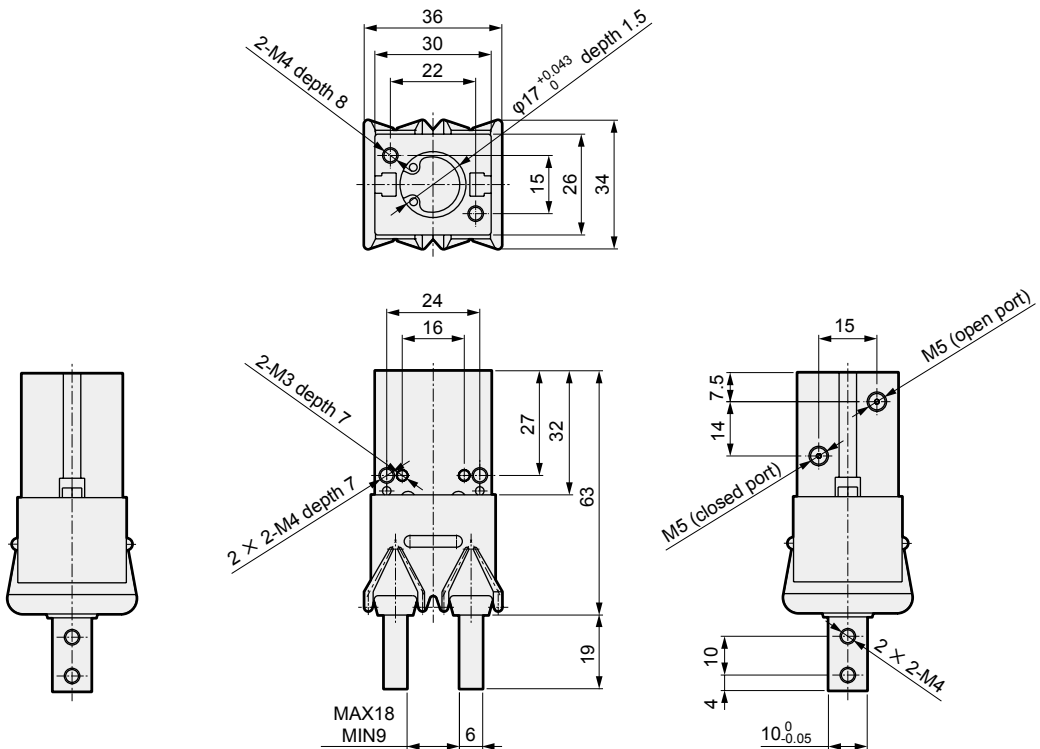
BHG-LN (amplifier separated)

● BHG-LN-01CS



- *1 : Longitudinal direction is 3mm longer than standard products. Other dimensions are the same as standard products.
- *2 : Refer to pages 1438 to 1439 for outline dimensions of the sensor, amplifier (separated), and display.
- *3 : Only the cylinder bore size code 04CS/05CS can be mounted on display or analog output models.

● BHG-LN-03CS

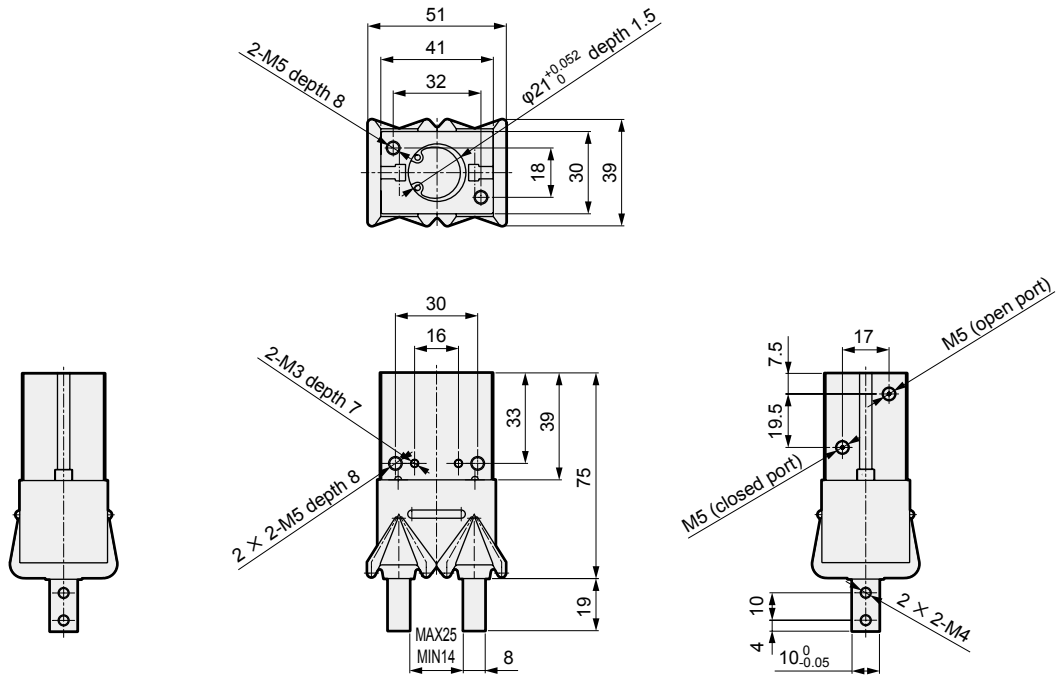


- *1 : Longitudinal direction is 2mm longer than standard products. Other dimensions are the same as standard products.
- *2 : Refer to pages 1438 to 1439 for outline dimensions of the sensor, amplifier (separated), and display.
- *3 : Only the cylinder bore size code 04CS/05CS can be mounted on display or analog output models.

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
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

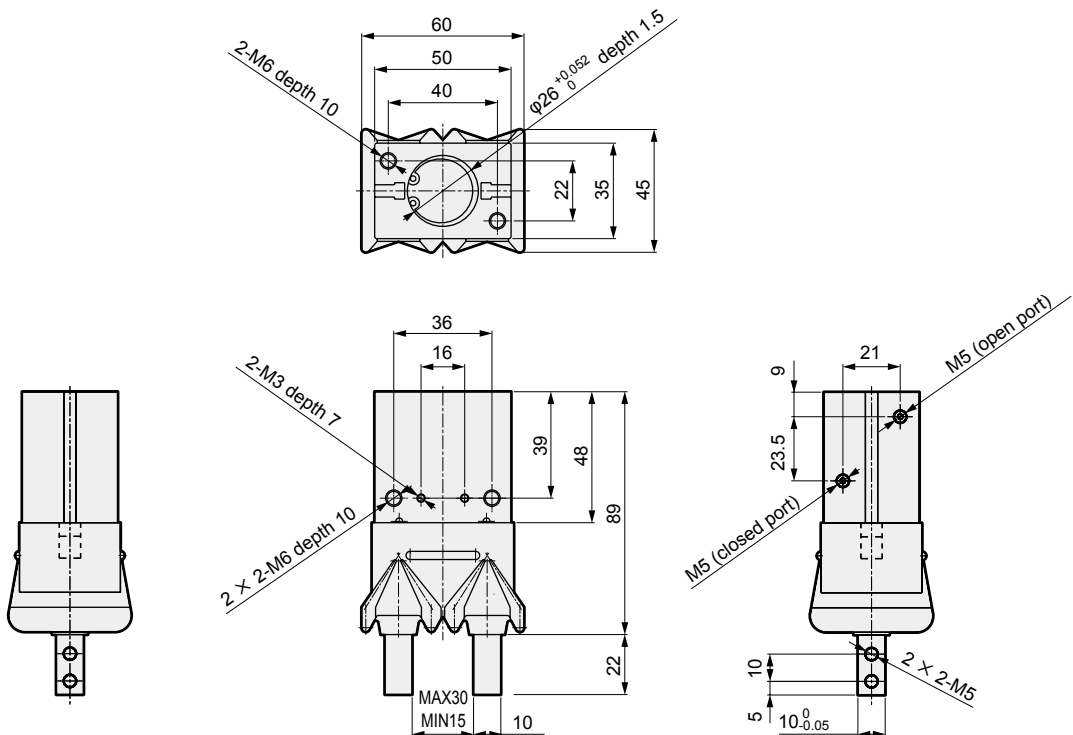
Dimensions

● BHG-LN-04CS



*1 : Longitudinal direction is 5mm longer than standard products. Other dimensions are the same as standard products.
 *2 : Refer to pages 1438 to 1439 for outline dimensions of the sensor, amplifier (separated), and display.

● BHG-LN-05CS



*1 : Longitudinal direction is 5mm longer than standard products. Other dimensions are the same as standard products.
 *2 : Refer to pages 1438 to 1439 for outline dimensions of the sensor, amplifier (separated), and display.

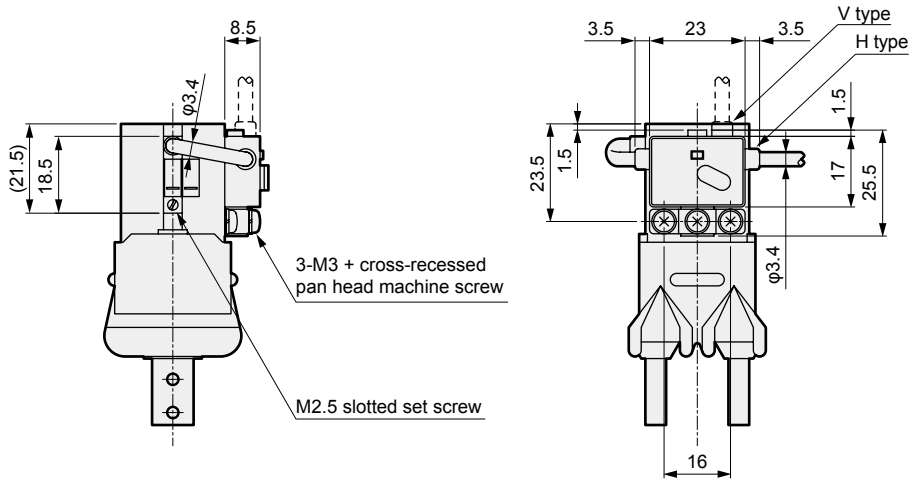
LCW
LCR
LCG
LCX
LCM
STM
STG
STS/STL
STR2
UCA2
ULK*
JSK/M2
JSG
JSC3/JSC4
USSD
UFCD
USC
JSB3
LMB
LML
HCM
HCA
LBC
CAC4
UCAC2
CAC-N
UCAC-N
RCC2
RCS
PCC
SHC
MCP
GLC
MFC
BBS
RRC
GRC
RV3*
NHS
HR
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

BHG-LN Series

Dimensions

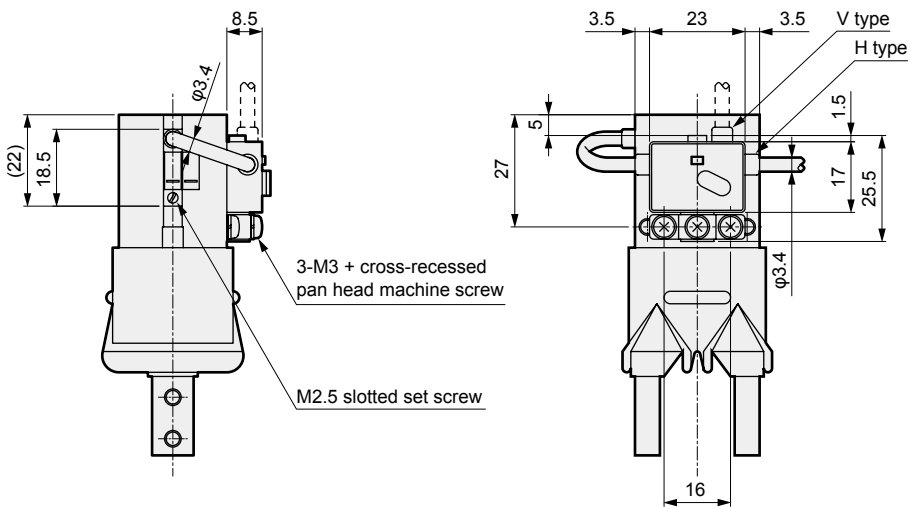
BHG-LN (amplifier with amplifier installed sensor)

● BHG-LN-01CS diagram



- *1 : Refer to the amplifier separated dimensions for details on the hand's outline dimensions.
- *2 : The V sensor lead wire direction is used. H or V can be selected for the output stage lead.

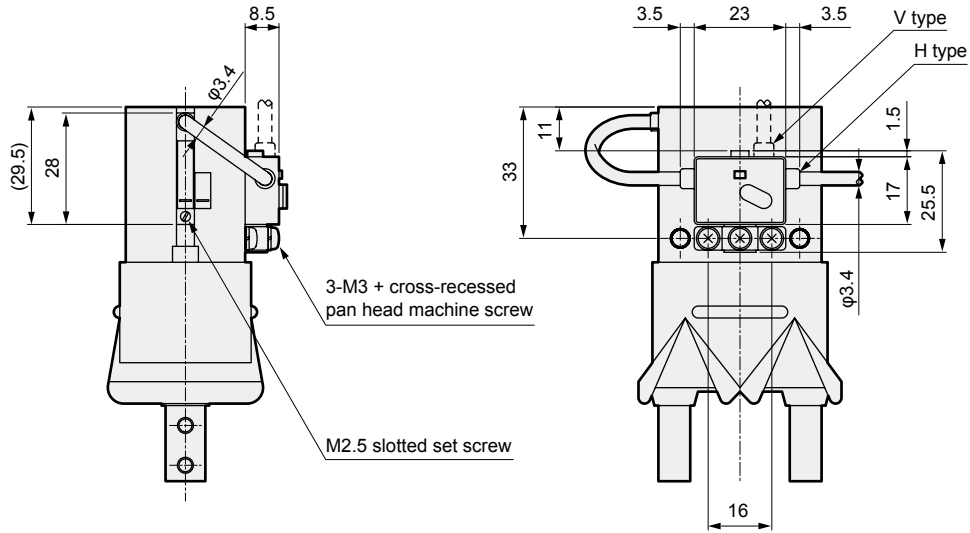
● BHG-LN-03CS diagram



- *1 : Refer to the amplifier separated dimensions for details on the hand's outline dimensions.
- *2 : The V sensor lead wire direction is used. H or V can be selected for the output stage lead.

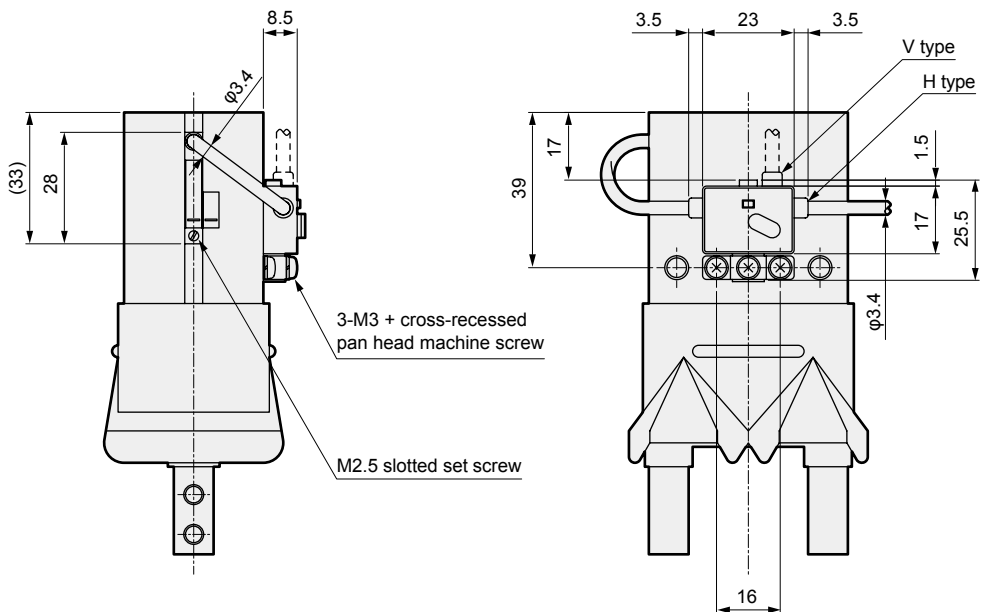
Dimensions

● BHG-LN-04CS diagram



*1 : Refer to the amplifier separated dimensions for details on the hand's outline dimensions.
 *2 : The V sensor lead wire direction is used. H or V can be selected for the output stage lead.

● BHG-LN-05CS diagram



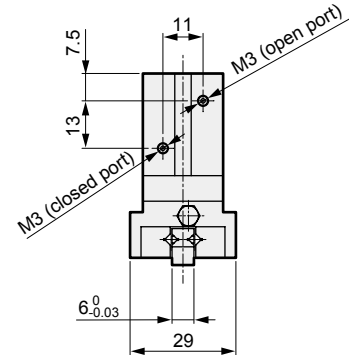
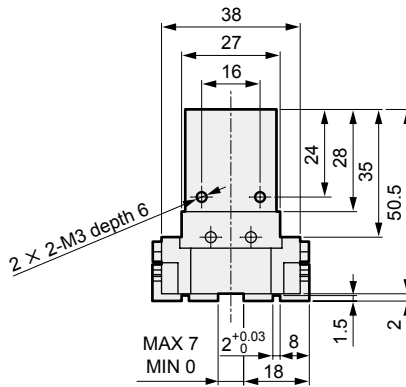
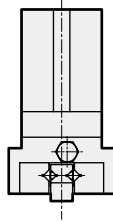
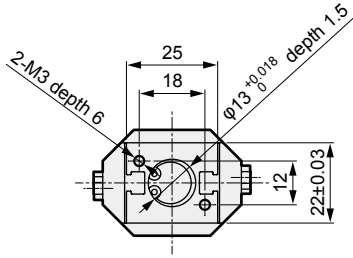
*1 : Refer to the amplifier separated dimensions for details on the hand's outline dimensions.
 *2 : The V sensor lead wire direction is used. H or V can be selected for the output stage lead.

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
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

Dimensions

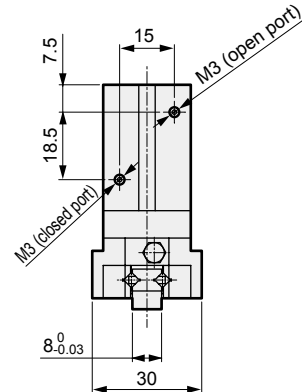
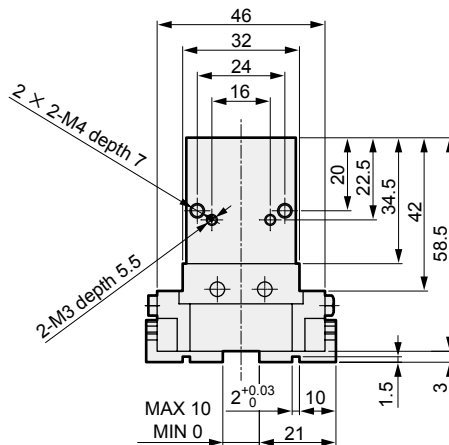
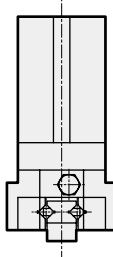
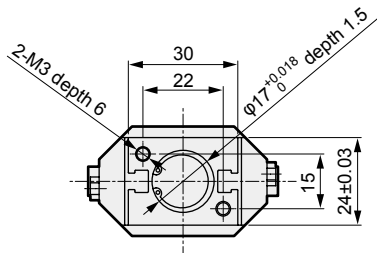
BHE-LN (amplifier separated)

● BHE-LN-01CS



- *1 : Longitudinal direction is 3mm longer than standard products. Other dimensions are the same as standard products.
- *2 : Refer to pages 1438 to 1439 for outline dimensions of the sensor, amplifier (separated), and display.
- *3 : Only the cylinder bore size code 04CS/05CS can be mounted on display or analog output models.

● BHE-LN-03CS

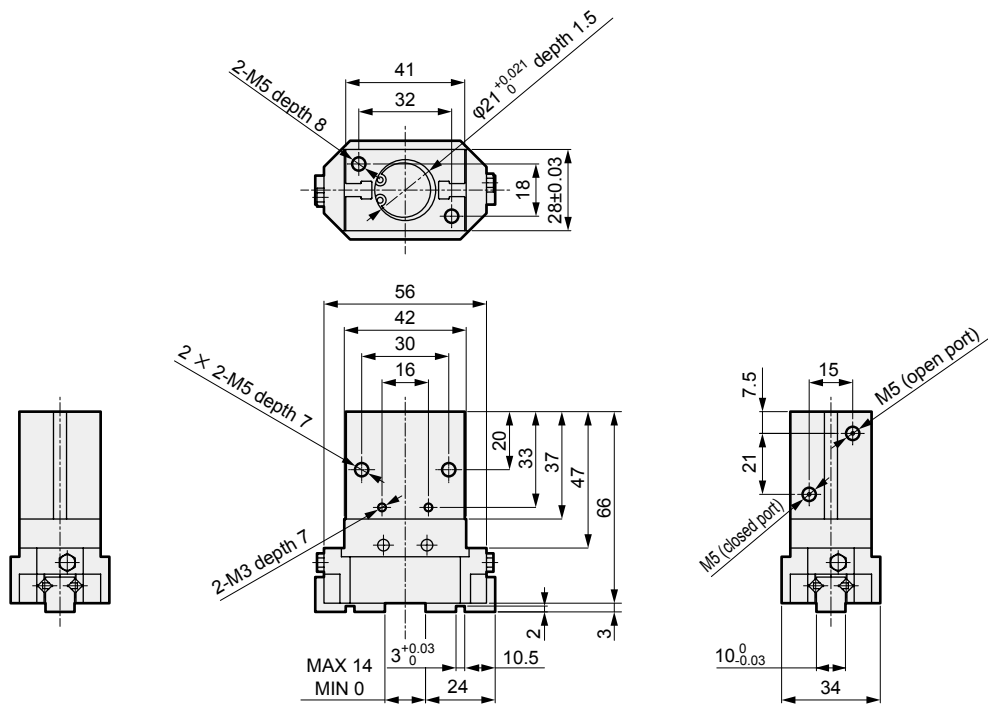


- *1 : Longitudinal direction is 6.5mm longer than standard products. Other dimensions are the same as standard products.
- *2 : Refer to pages 1438 to 1439 for outline dimensions of the sensor, amplifier (separated), and display.
- *3 : Only the cylinder bore size code 04CS/05CS can be mounted on display or analog output models.

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
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

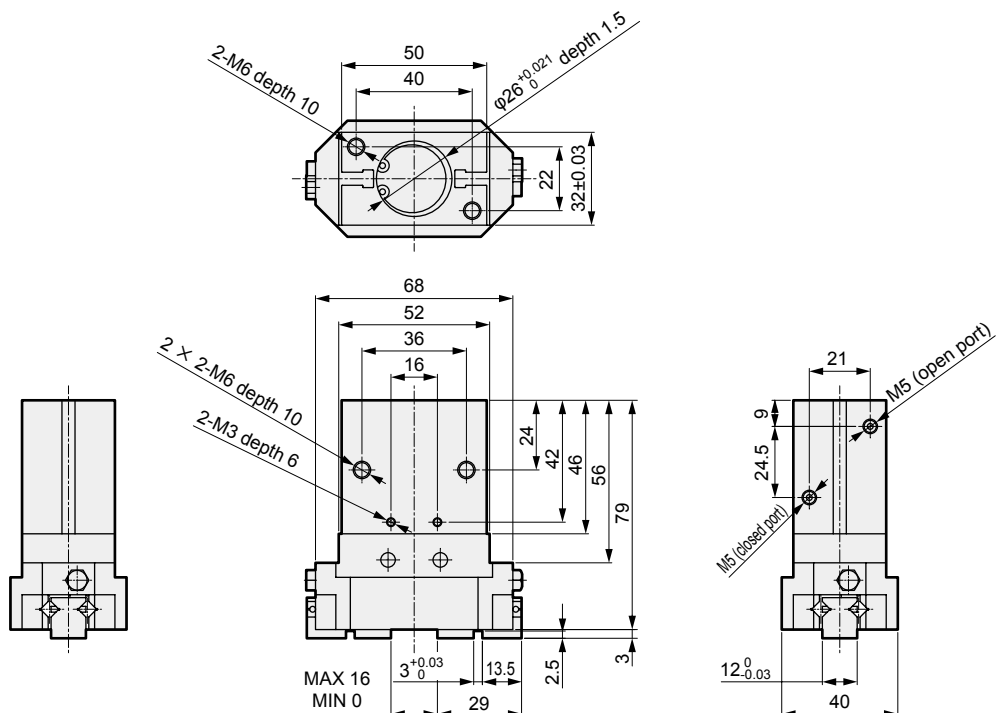
Dimensions

● BHE-LN-04CS



*1 : Longitudinal direction is 5mm longer than standard products. Other dimensions are the same as standard products.
 *2 : Refer to pages 1438 to 1439 for outline dimensions of the sensor, amplifier (separated), and display.

● BHE-LN-05CS



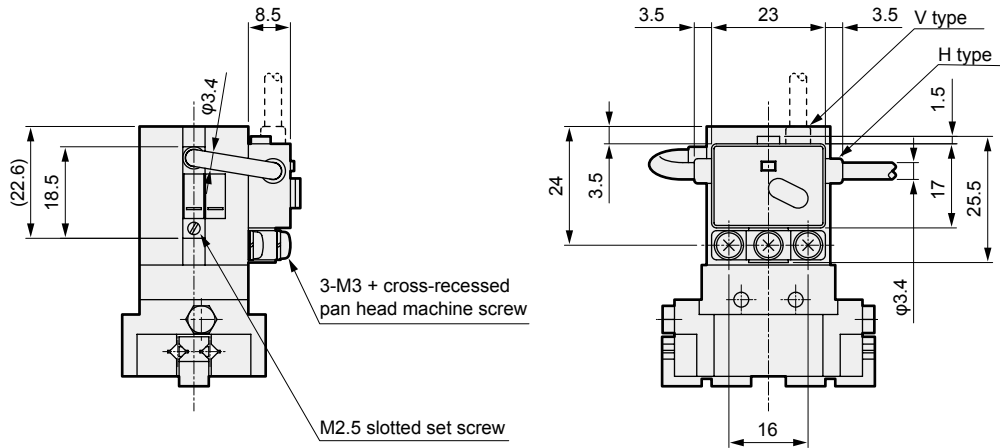
*1 : Longitudinal direction is 5mm longer than standard products. Other dimensions are the same as standard products.
 *2 : Refer to pages 1438 to 1439 for outline dimensions of the sensor, amplifier (separated), and display.

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
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

Dimensions

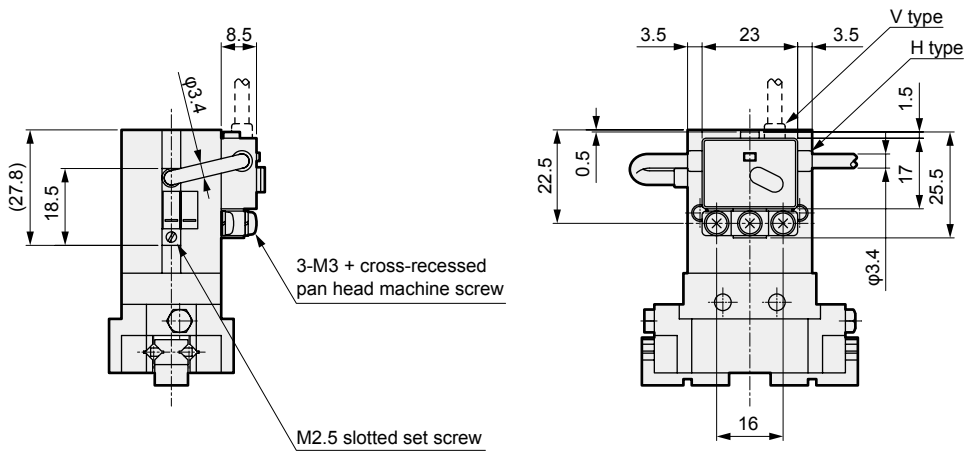
BHE-LN (amplifier with amplifier installed sensor)

● BHE-LN-01CS diagram



- *1 : Refer to the amplifier separated dimensions for details on the hand's outline dimensions.
- *2 : The V sensor lead wire direction is used. H or V can be selected for the output stage lead.

● BHE-LN-03CS diagram

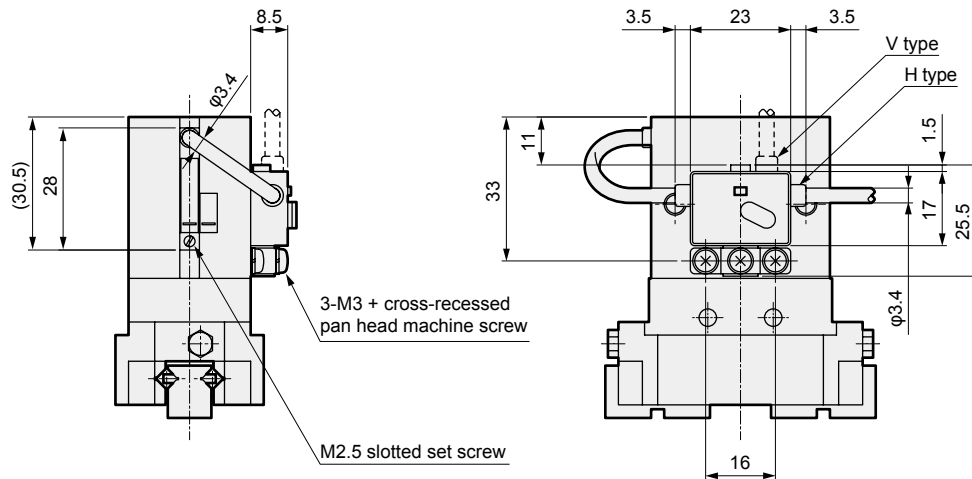


- *1 : Refer to the amplifier separated dimensions for details on the hand's outline dimensions.
- *2 : The V sensor lead wire direction is used. H or V can be selected for the output stage lead.

LCW
LCR
LCC
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
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending

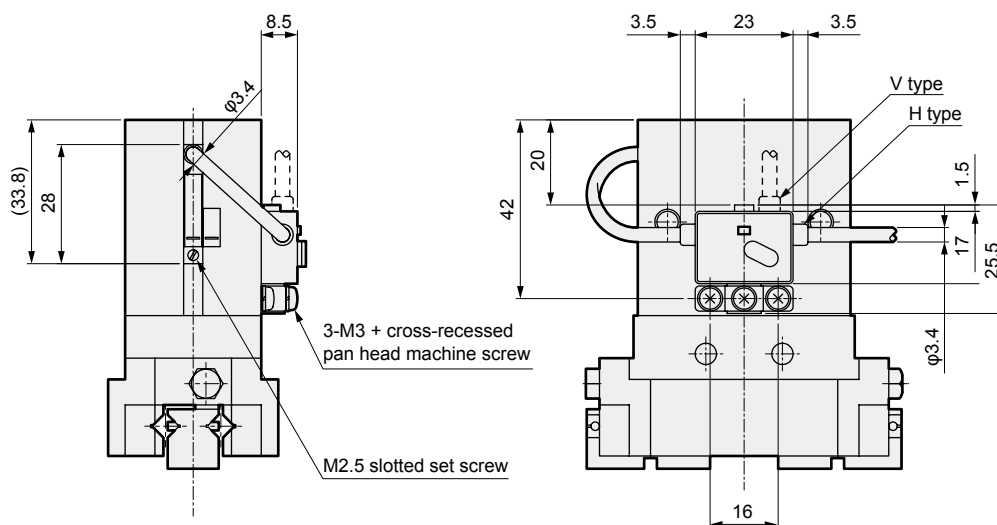
Dimensions

● BHE-LN-04CS diagram



*1 : Refer to the amplifier separated dimensions for details on the hand's outline dimensions.
 *2 : The V sensor lead wire direction is used. H or V can be selected for the output stage lead.

● BHE-LN-05CS diagram



*1 : Refer to the amplifier separated dimensions for details on the hand's outline dimensions.
 *2 : The V sensor lead wire direction is used. H or V can be selected for the output stage lead.

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
LN
Hand
Chuk
MecHnd/Chuk
ShkAbs
FJ
FK
SpdContr
Ending