



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



Hand specifications

● BHA Series

Item	Cross roller parallel hand (double acting)			
	BHA-LN-01CS	BHA-LN-03CS	BHA-LN-04CS	BHA-LN-05CS
Cylinder bore size mm	ø12	ø16	ø20	ø25
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 finger 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

Item	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	ø12	ø16	ø20	ø25
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 finger 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

Item	Centering hand (double acting)			
	BHE-LN-01CS	BHE-LN-03CS	BHE-LN-04CS	BHE-LN-05CS
Cylinder bore size mm	ø12	ø16	ø20	ø25
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 finger 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.)

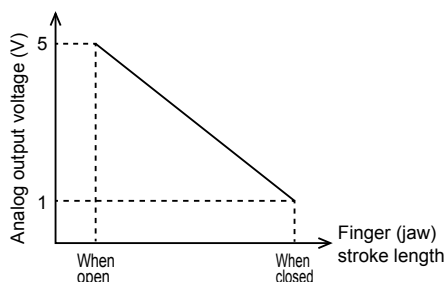
Sensor, amplifier (separated) specifications

Refer to page 1470.

Display section specifications

Refer to page 1471.

Length measuring sensor output characteristics



Gripping power performance data is shown below.

- BHA : Page 1602
- BHG : Page 1608
- BHE : Page 1755

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 (*1)

D Sensor lead wire outlet direction

E Sensor lead wire terminal specifications

F Amplifier unit output and shape

G Display (*2)

⚠ Precautions for model selection

*1 : Depending on the drive equipment on the length measurement sensor compatible sensors and amplifiers differ.

*2 : 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

*3 : 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.

Code	Description
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	ø12
03CS	ø16
04CS	ø20
05CS	ø25
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)

● 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 finger (jaw) is open or closed, regardless of whether analog or switch output is used. Order separately when required.

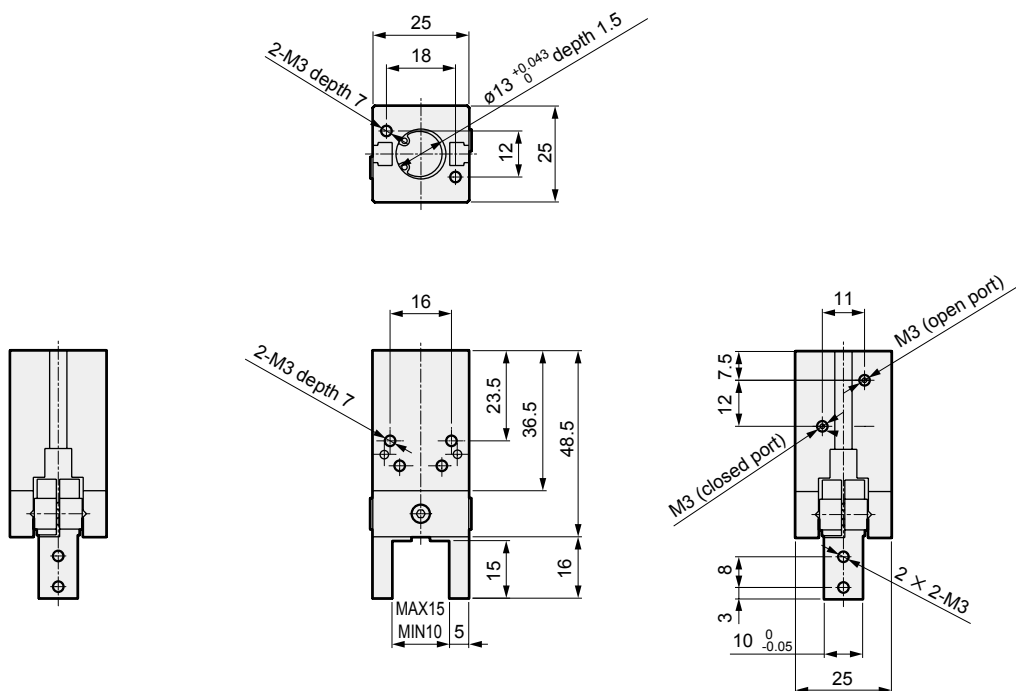
Code	Description
A Output	
2	Proximity 2-wire
3	Proximity 3-wire
B Lead wire outlet direction	
H	Axial lead wire
V	Radial lead wire
C Lead wire length	
Blank	1 m (standard)
3	3 m (option)
5	5 m (option)

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

Dimensions

BHA-LN (amplifier separated)

● BHA-LN-01CS

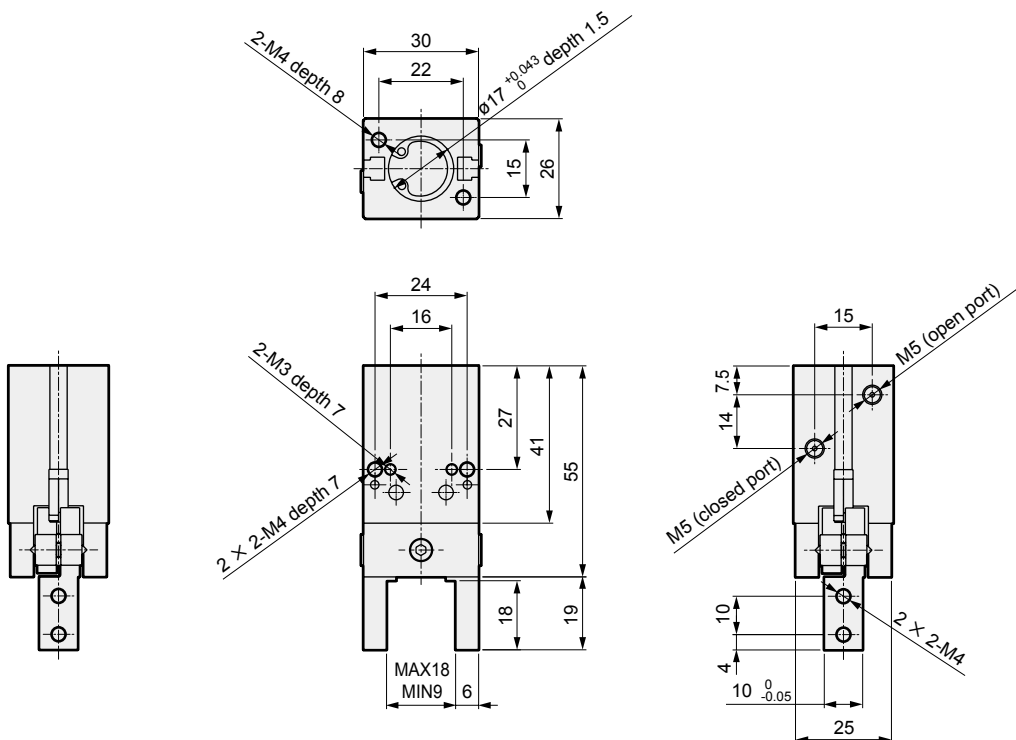


*1 : Longitudinal direction is 3 mm longer than standard products. Other dimensions are the same as standard products.

*2 : Refer to pages 1472 and 1473 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



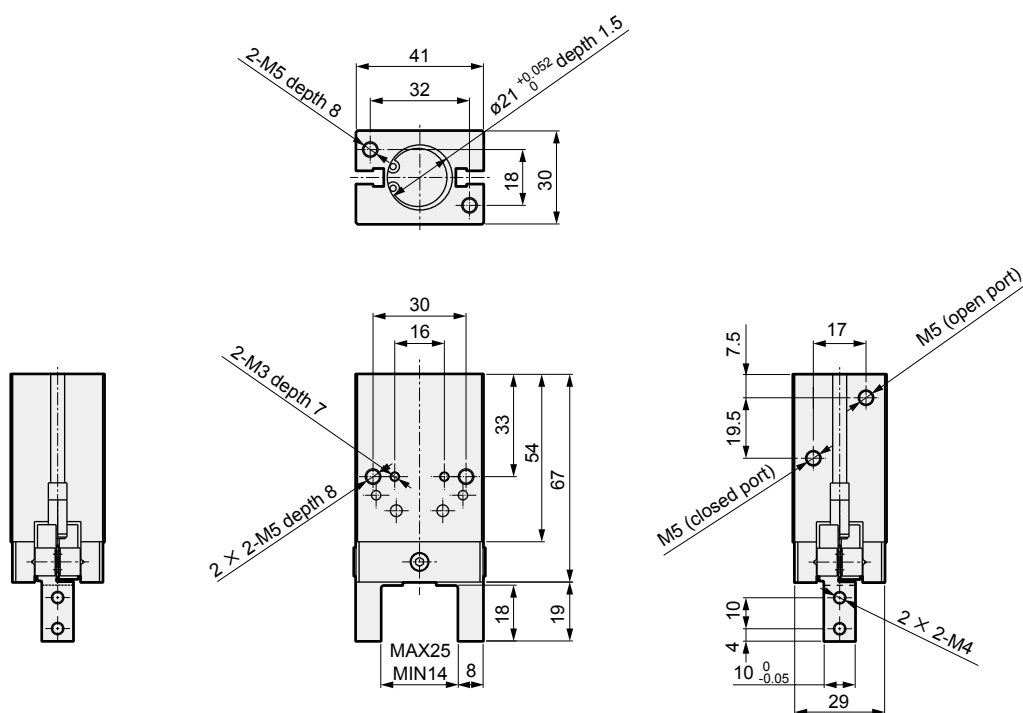
*1 : Longitudinal direction is 2 mm longer than standard products. Other dimensions are the same as standard products.

*2 : Refer to pages 1472 and 1473 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.

Dimensions

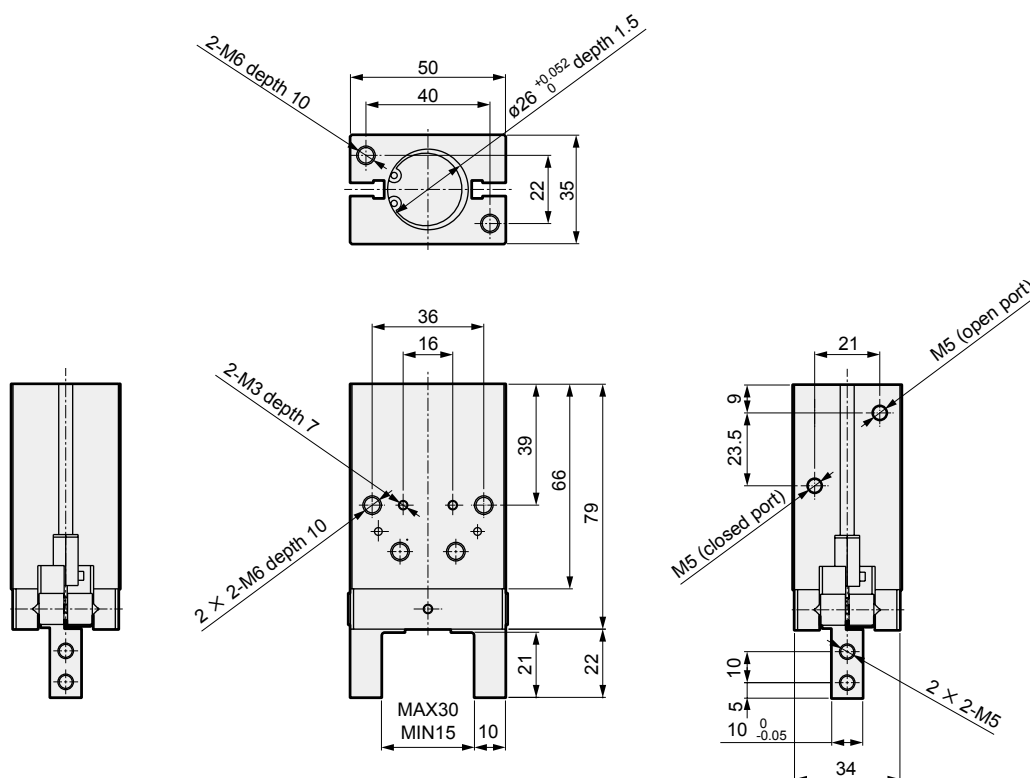
● BHA-LN-04CS



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

*2 : Refer to pages 1472 and 1473 for outline dimensions of the sensor, amplifier (separated), and display.

● BHA-LN-05CS



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

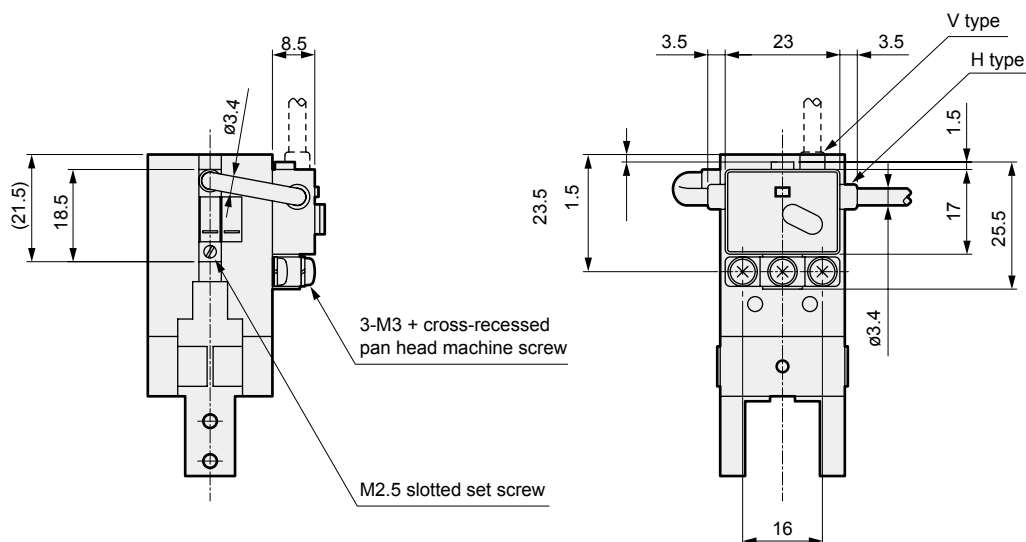
*2 : Refer to pages 1472 and 1473 for outline dimensions of the sensor, amplifier (separated), and display.

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

Dimensions

BHA-LN (amplifier with amplifier installed sensor)

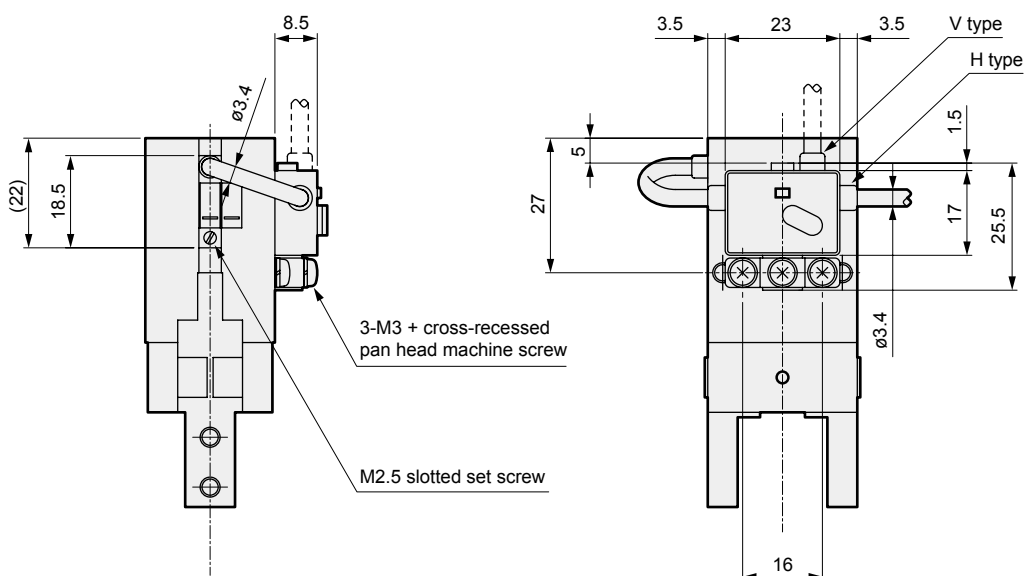
● BHA-LN-01CS diagram



*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

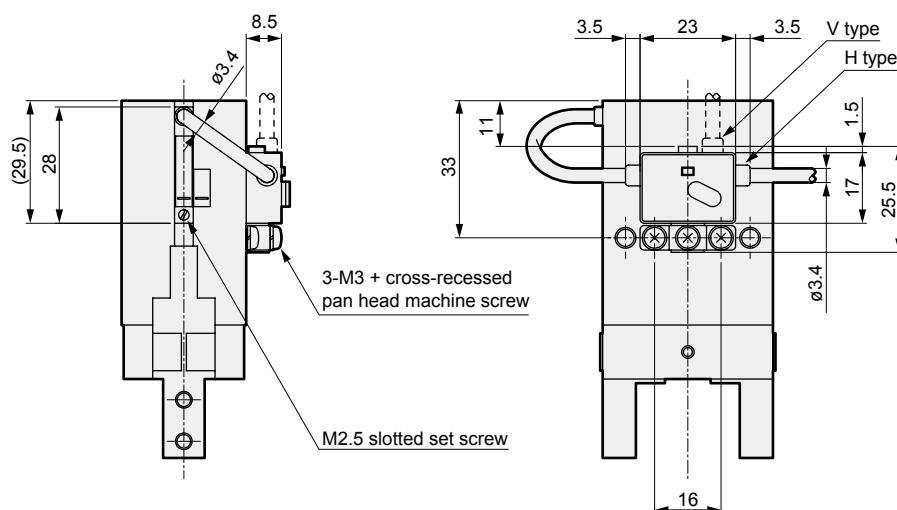


*1 : Refer to the amplifier separated dimensions for details on the hand's outline dimensions.

*2 : The V sensor lead wire direction is used. H or V can be selected for the output stage lead.

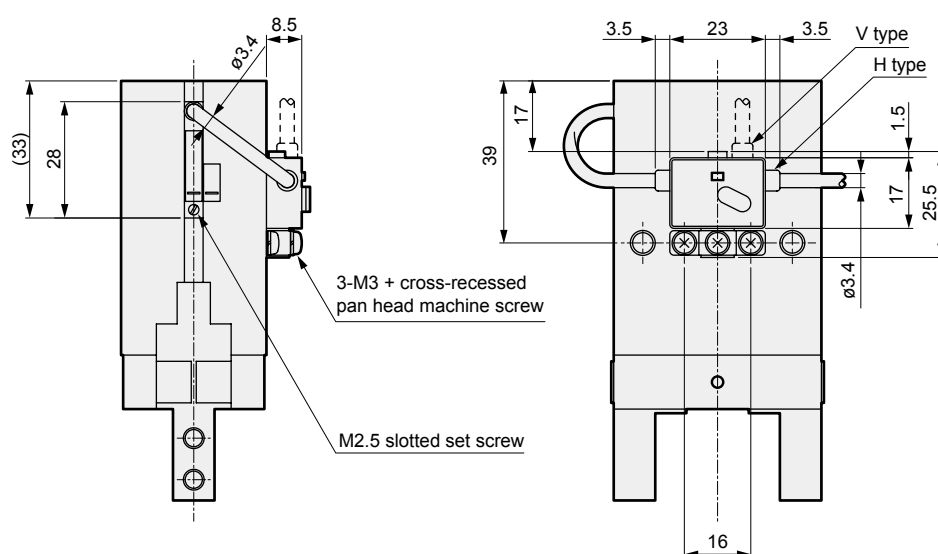
Dimensions

● 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.

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

BHG-LN (amplifier separated)

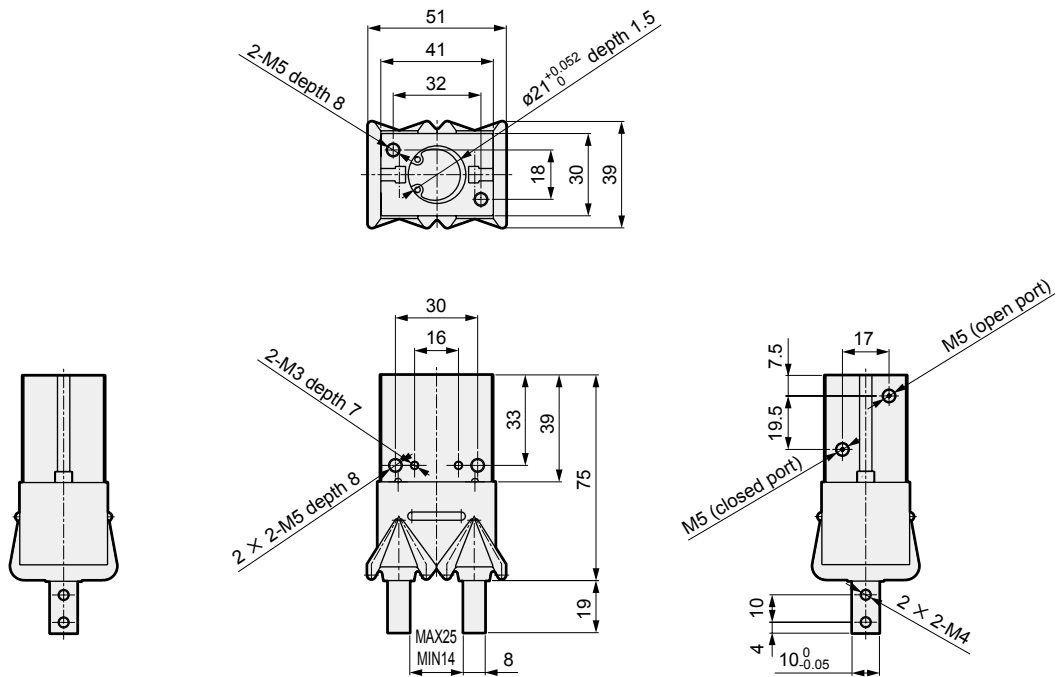
*3 : Only the cylinder bore size code 04CS/05CS can be mounted on display or analog output models.

[illegible]

*3 : Only the cylinder bore size code 04CS/05CS can be mounted on display or analog output models.

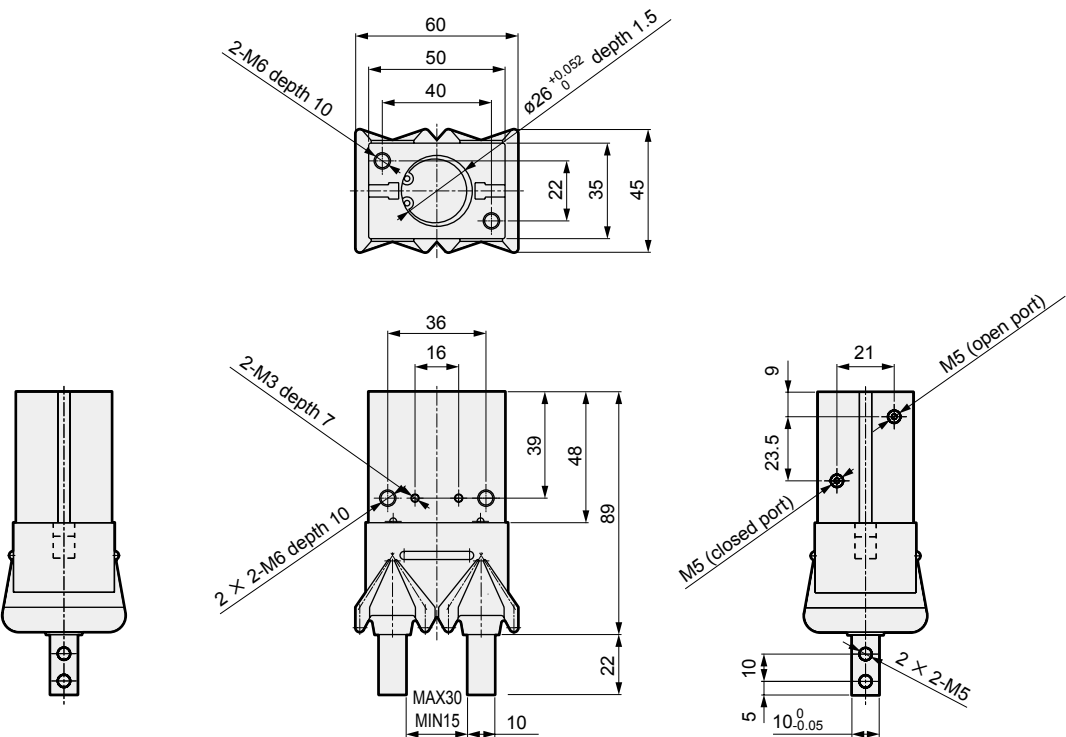
Dimensions

● BHG-LN-04CS



*1 : Longitudinal direction is 5 mm longer than standard products. Other dimensions are the same as standard products.
*2 : Refer to pages 1472 and 1473 for outline dimensions of the sensor, amplifier (separated), and display.

● BHG-LN-05CS



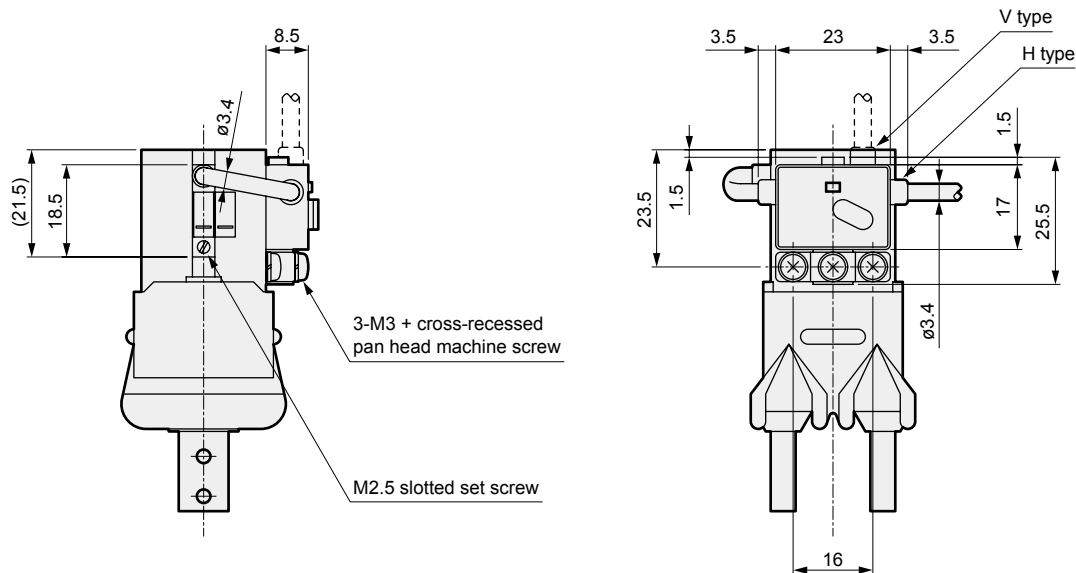
*1 : Longitudinal direction is 5 mm longer than standard products. Other dimensions are the same as standard products.
*2 : Refer to pages 1472 and 1473 for outline dimensions of the sensor, amplifier (separated), and display.

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

Dimensions

BHG-LN (amplifier with amplifier installed sensor)

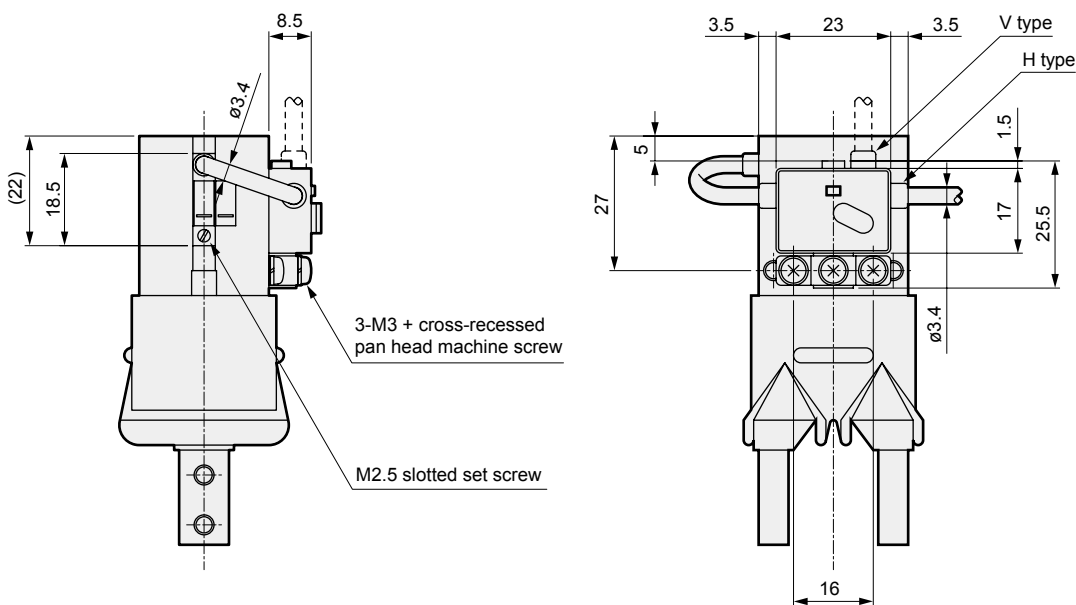
● BHG-LN-01CS diagram



*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

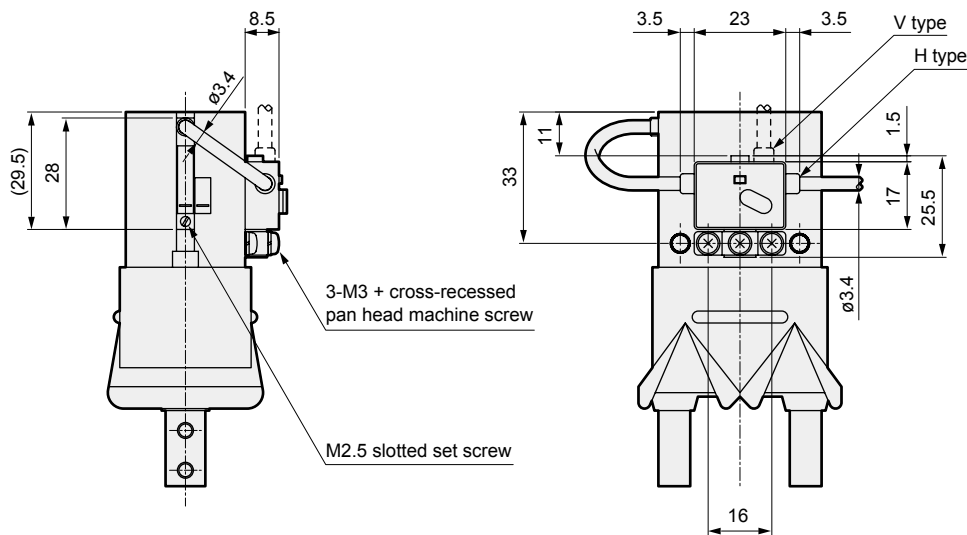


*1 : Refer to the amplifier separated dimensions for details on the hand's outline dimensions.

*2 : The V sensor lead wire direction is used. H or V can be selected for the output stage lead.

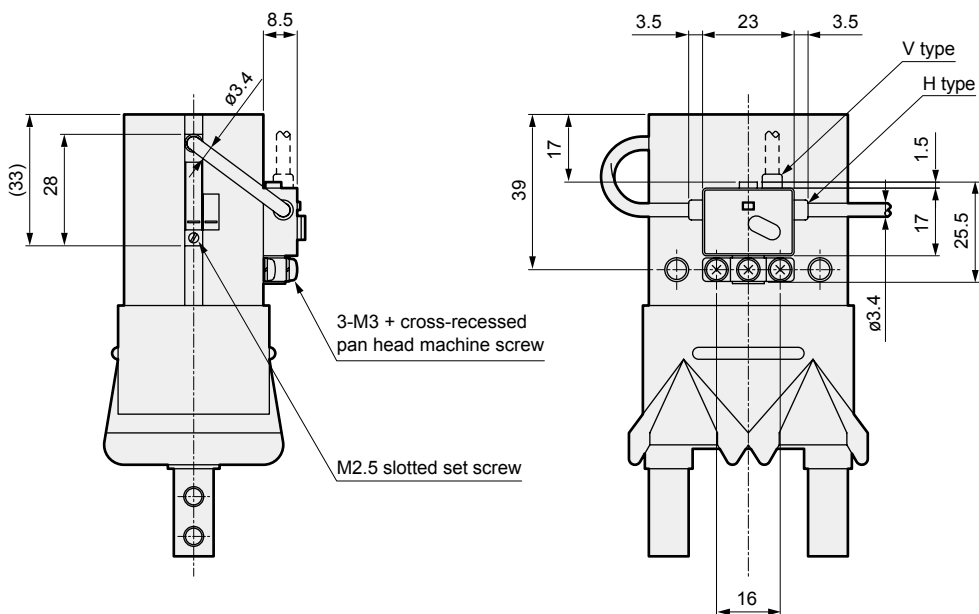
Dimensions

● 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



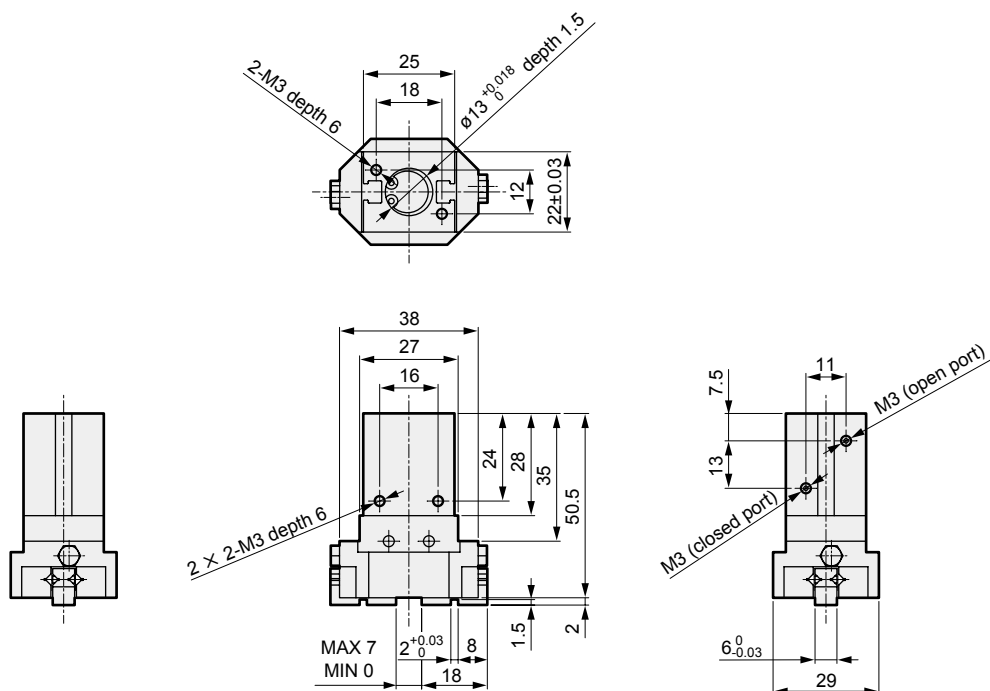
*1 : Refer to the amplifier separated dimensions for details on the hand's outline dimensions.
*2 : The V sensor lead wire direction is used. H or V can be selected for the output stage lead.

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

Dimensions

BHE-LN (amplifier separated)

● BHE-LN-01CS

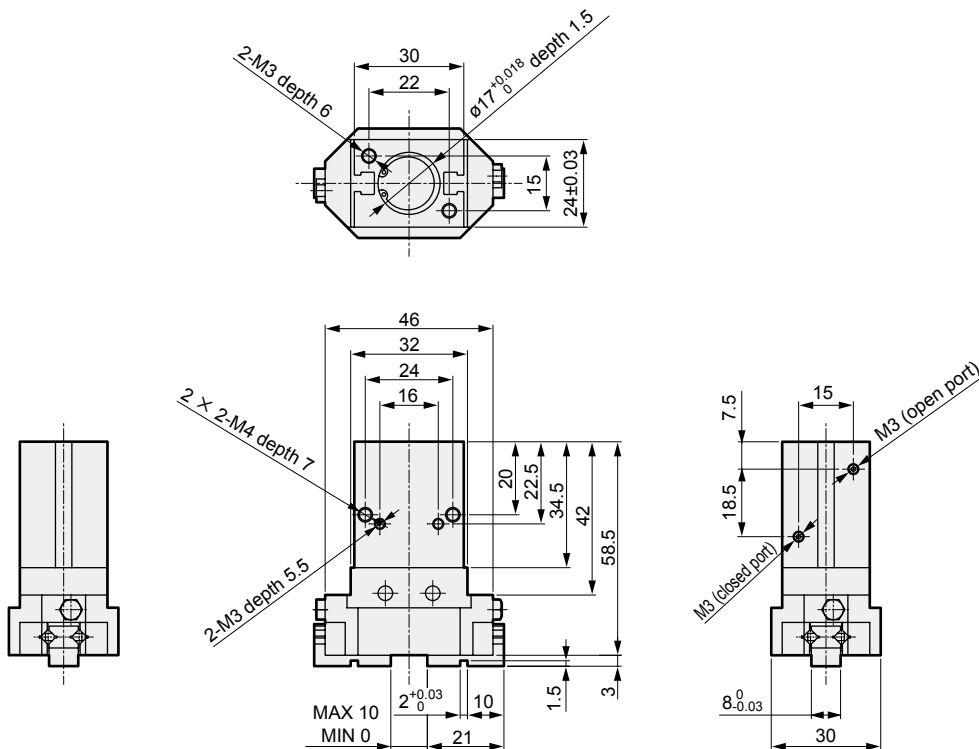


*1 : Longitudinal direction is 3 mm longer than standard products. Other dimensions are the same as standard products.

*2 : Refer to pages 1472 and 1473 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



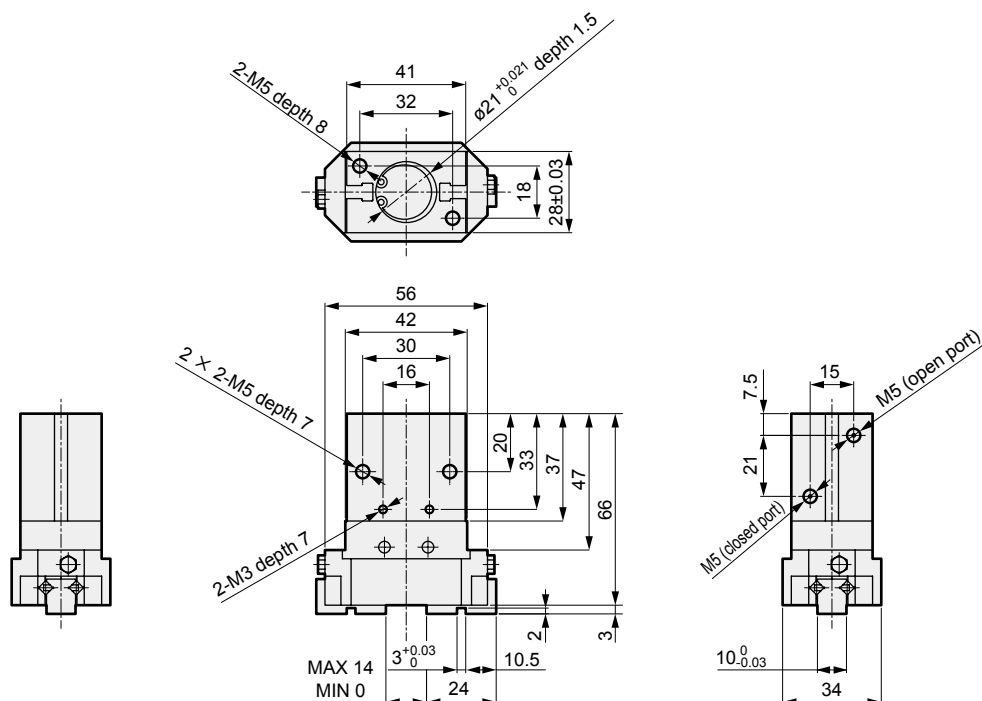
*1 : Longitudinal direction is 6.5 mm longer than standard products. Other dimensions are the same as standard products.

*2 : Refer to pages 1472 and 1473 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.

Dimensions

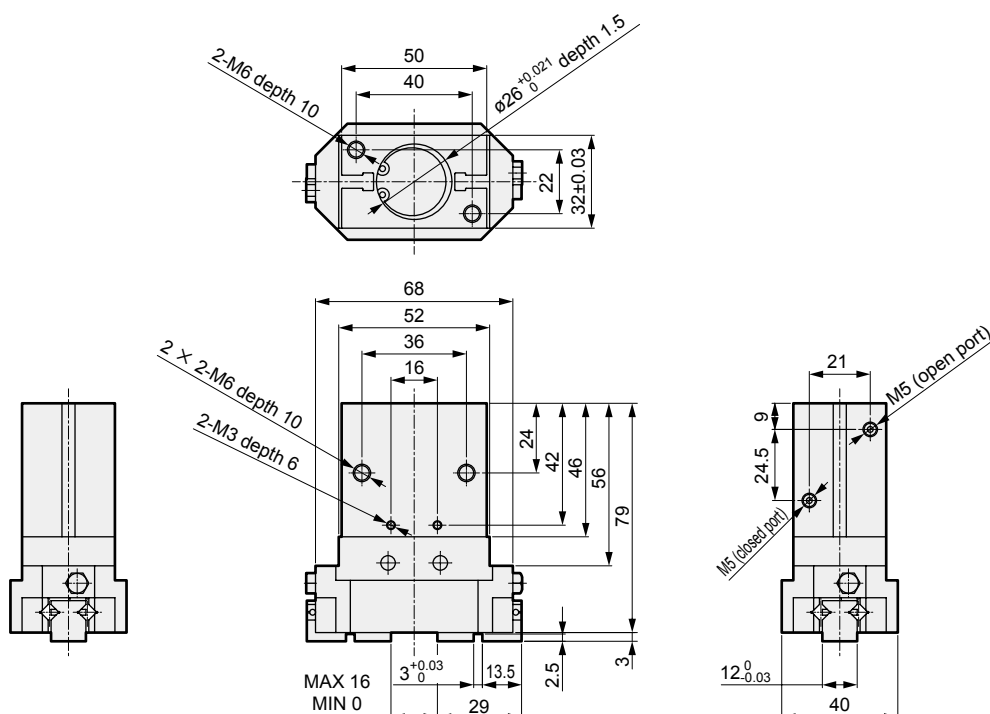
● BHE-LN-04CS



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

*2 : Refer to pages 1472 and 1473 for outline dimensions of the sensor, amplifier (separated), and display.

● BHE-LN-05CS



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

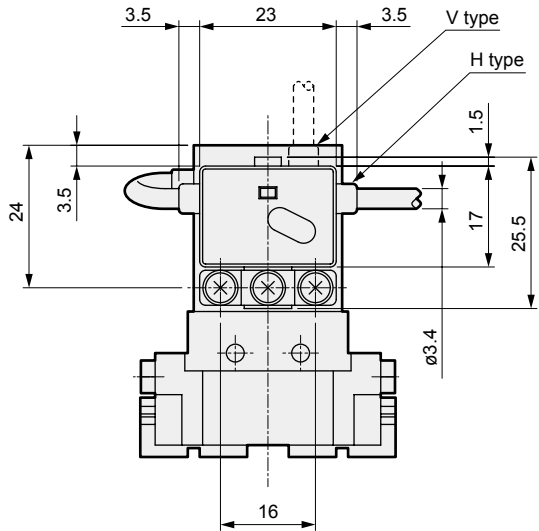
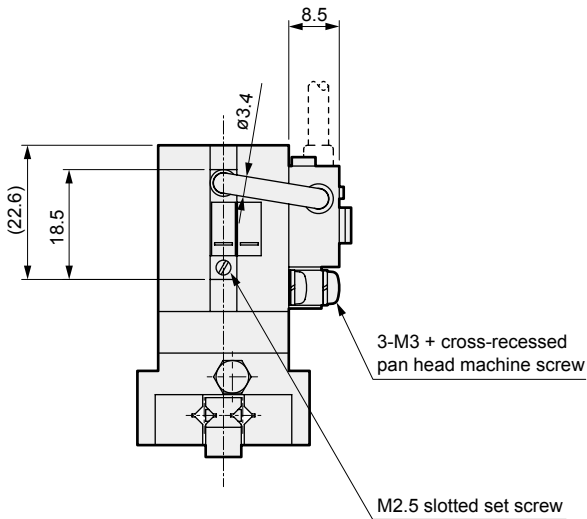
*2 : Refer to pages 1472 and 1473 for outline dimensions of the sensor, amplifier (separated), and display.

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

Dimensions

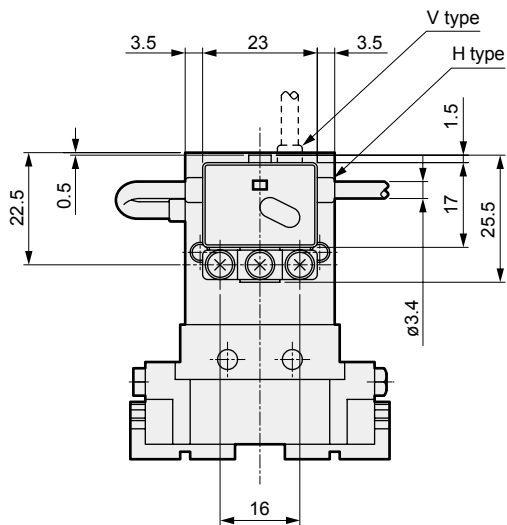
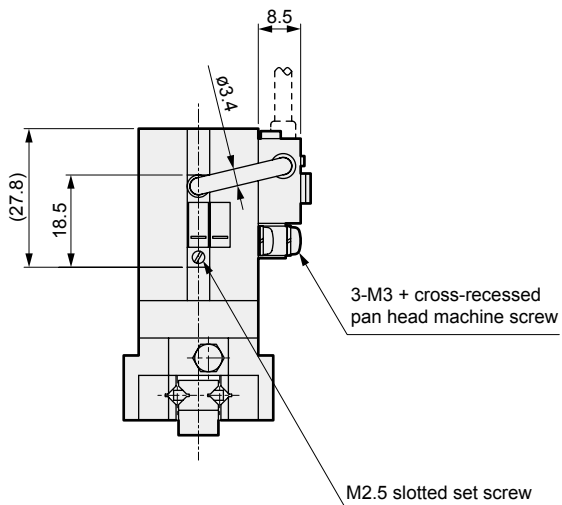
BHE-LN (amplifier with amplifier installed sensor)

● 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.

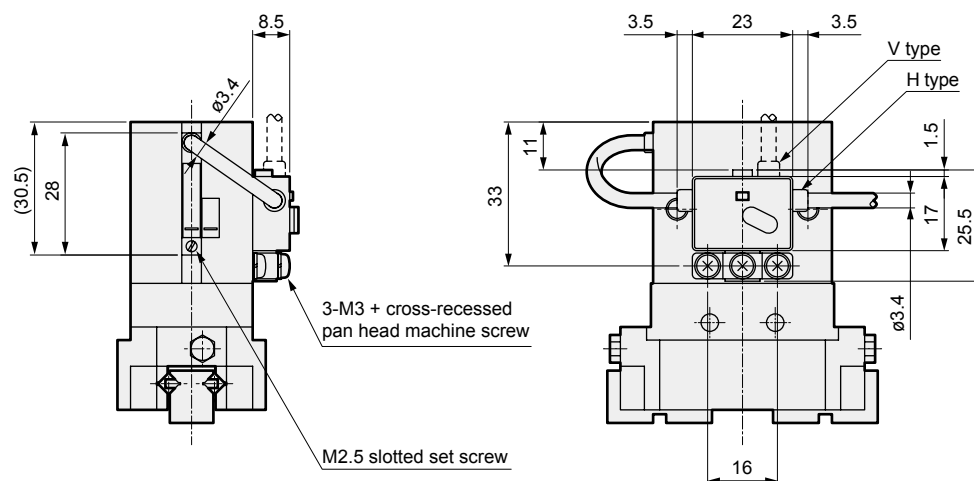
● BHE-LN-03CS diagram



*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.

Dimensions

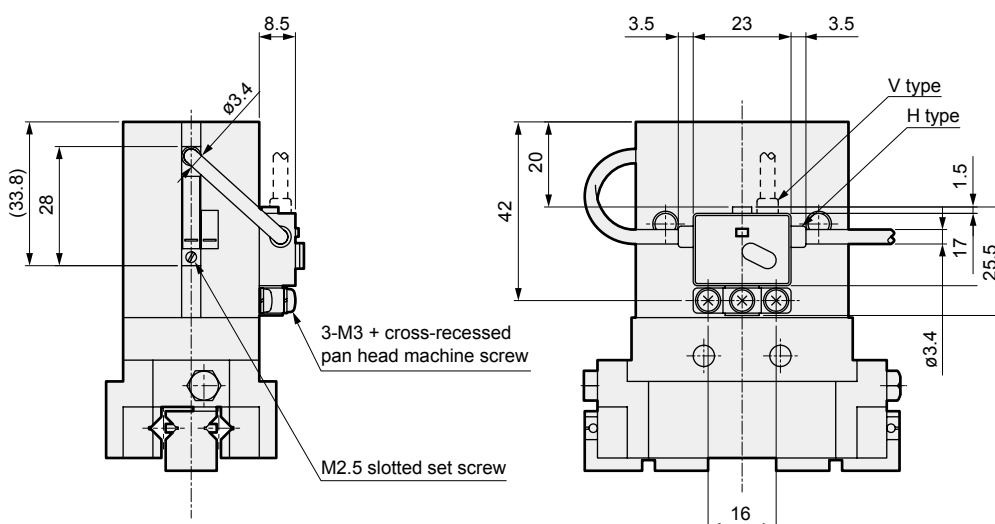
● BHE-LN-04CS diagram



*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.

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