

# LHA Series Linear Guide Hand

## Gripper Designed to Achieve High Durability for Use in High-Speed Applications



LHA-03AS

### Key Features

- Integral linear guide used for high rigidity, high accuracy, and long service life
- Supporting long external finger
- Extra-smooth sliding (option)
- Centering accuracy  $\pm 0.05\text{mm}$  (option)
- Rubber cover (option)
- L1 series (long stroke type) available

### How To Order

Standard ----- **LHA-01AS**

Option ----- **LHA - 01AS1 - L1 - ET3S2 - NO** ----- LHA-01AS-L1-NO (single acting to open) with 2 of ET3 non-contact reed switches

Model	
Symbol	Name
LHA	Normal
LHA-□□-L1	Long Stroke Type

Size	
Symbol	
006AS <sup>*3</sup>	
01AS	01AS1 <sup>*4</sup>
03AS	03AS1 <sup>*4</sup>
04AS	04AS1 <sup>*4</sup>
05AS	05AS1 <sup>*4</sup>
06AS	06AS1 <sup>*4</sup>

- \*1 06AS only
- \*2 Switch only for 006AS
- \*3 L1 option not available
- \*4 Available only for LHA-L1
- \*5 Available except 006AS, 05AS1, and 06AS1

Stroke	
Symbol	Name
No Symbol	Normal
L1	Long Stroke Type

Sensor, Quantity	
Symbol	Name
ET3	Non-Contact 3-Lead
ET3L	Non-Contact 3-Lead
ET2	Non-Contact 2-Lead
ET2L	Non-Contact 2-Lead
E24	Contact 2-Lead
E24L	Contact 2-Lead
E25	Contact 2-Lead
E25L	Contact 2-Lead
E18	Non-Contact 3-Lead
E18L	Non-Contact 3-Lead
E19	Non-Contact 2-Lead
E19L	Non-Contact 2-Lead
S1	1 Sensor
S2	2 Sensors

For sensor detail ▶277P

Option	
Symbol	Name
NO	Normally Open
NC	Normally Closed
U	Extra-Smooth Sliding
K	Self-Centering
G	Rubber Cover
GT	Heat (Silicon Rubber) Cover
GH	Oil (Fluororubber) Cover

For option detail ▶36P

### Specification

Model	LHA-006	LHA-01		LHA-03		LHA-04		LHA-05		LHA-06	
	For Layout Drawing ▶39P	For Layout Drawing ▶40P	For Layout Drawing ▶41P	For Layout Drawing ▶42P	For Layout Drawing ▶43P	For Layout Drawing ▶44P	AS (Standard)	AS (Standard)	AS (Standard)	AS (Standard)	AS (Standard)
Working Pressure	Pneumatic: 0.1 to 0.7 MPa (0.3 to 0.7 MPa for NO & NC types)										
Lubrication	Not Required or Turbine Oil Class 1 (ISOVG32)										
Ambient Temperature (°C)	5 to 60										
Total Jaw Stroke (mm)	4	5	10	9	18	11	22	15	30	20	40
Cylinder Diameter (mm)	dia.6	dia.12		dia.16		dia.20		dia.25		dia.32	
Rod Diameter (mm)	dia.3	dia.6		dia.8		dia.10		dia.12		dia.16	
Internal Volume [Reciprocation] (cm <sup>3</sup> /time)	0.10	0.32	0.64	1.58	3.16	2.89	5.78	6.32	12.6	14.07	28.1
Repeatability (mm)	±0.01										
Weight (kg)	0.04	0.085	0.094	0.15	0.19	0.36	0.37	0.52	0.62	0.82	0.97

# LHA-006AS/01AS/01AS1-L1/03AS/03AS1-L1/04AS/04AS1-L1 05AS/05AS1-L1/06AS/06AS1-L1

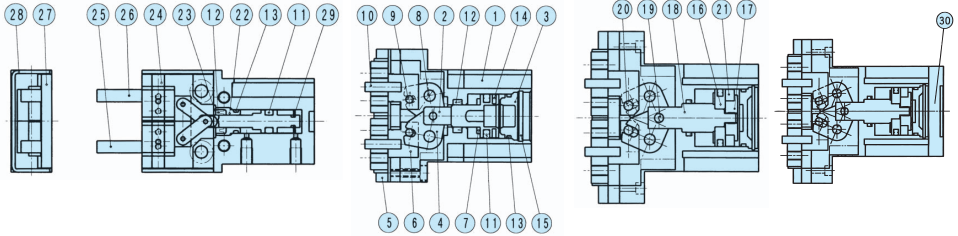
## Internal Structure / Parts & Seals

■LHA-006AS

■LHA-01 to 05AS (1)

■LHA-06AS (1)

■LHA-□□AS-K



### Parts List

No.	Name	Material	No.	Name	Material	No.	Name	Material
1	Body	Aluminum	11	Piston Seal		21	Magnet	
2	Piston	Stainless Steel	12	Rod Seal		22	Piston Guide	Stainless Steel
3	Cylinder Cover	Resin	13	Cylinder Seal		23	Piston Guide Holder	Stainless Steel
4	Arm	*	14	Half Moon shape Magnet		24	Linear Guide	
5	Linear Guide		15	C-Type Snap Ring	Stainless Steel	25	Master(Base) Jaw A	Stainless Steel
6	Master Plate	Stainless Steel	16	Piston A	Aluminum	26	Master(Base) Jaw B	Stainless Steel
7	Cushion	Urethane Sheet	17	Piston B	Stainless Steel	27	Guide Plate	Stainless Steel
8	Fulcrum Shaft	Carbon Steel	18	Piston Rod	Stainless Steel	28	Cover	Stainless Steel
9	Operating Shaft	Carbon Steel	19	Operating Shaft A	Carbon Steel	29	E-type Snap Ring	Stainless Steel
10	Locating Pin	Carbon Steel	20	Operating Shaft B	Carbon Steel	30	End-Mount	Aluminum

\*Stainless Steel for 006AS and 01AS through 05AS and Carbon Steel for 06AS

### Seals List

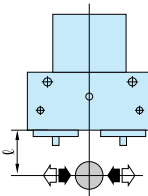
No.	LHA-006AS	LHA-01AS (1)	LHA-03AS (1)	LHA-04AS (1)	LHA-05AS (1)	LHA-06AS (1)
11	PWP-6	PSD-12	PSD-16	PSD-20	PSD-25	PSD-32
12	MYA-3	MYA-6	MYA-8	MYA-10	MYA-12	MYA-16
13	dia.4×dia.1	dia.10×dia.1	dia.14×dia.1	dia.18×dia.1	dia.22.3×dia.1.02	S-29

## Performance Data

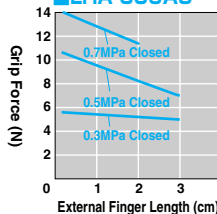
### Grip Force

The graph shows grip force in opening and closing with effective external finger lengths  $\ell$  from gripper cover surface under different air pressure (MPa)

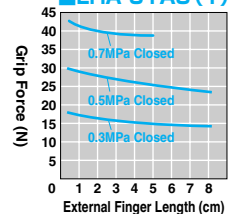
Open (←) ---  
Closed (→) —



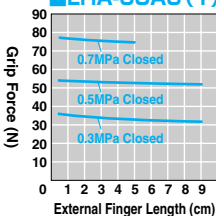
### LHA-006AS



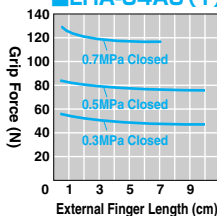
### LHA-01AS (1)



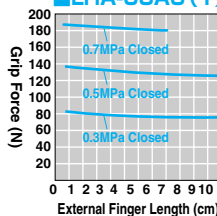
### LHA-03AS (1)



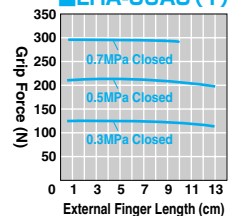
### LHA-04AS (1)



### LHA-05AS (1)



### LHA-06AS (1)



\*Grip force in opening is 1.3 times higher than that in closing

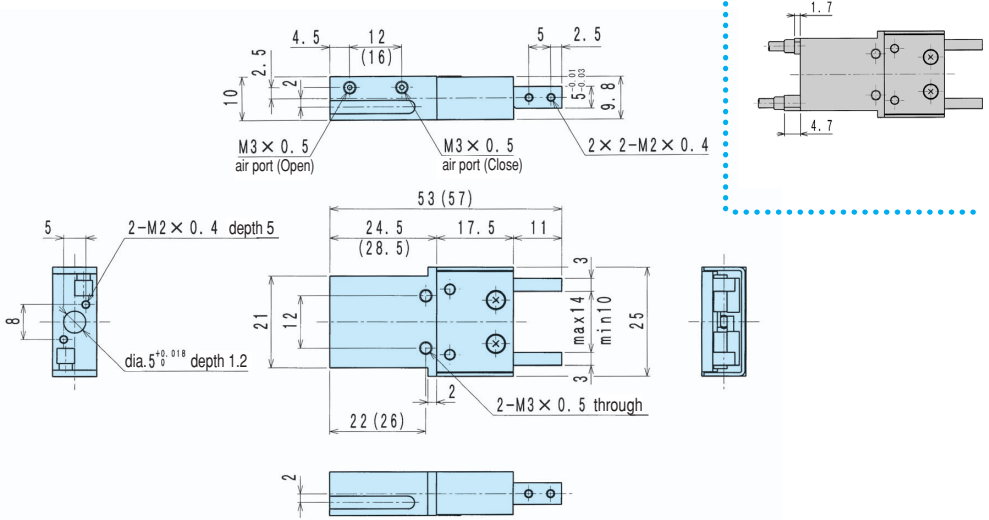
## Layout Drawing

### ■ LHA-006AS (Optimal Grip Force 5N to 11N)

LHA-006AS Standard • NO • NC

\*Values inside ( ) are for NO (Normally Open) and NC (Normally Closed) type

LHA-006AS-E□S□



Hand  
(2-law)



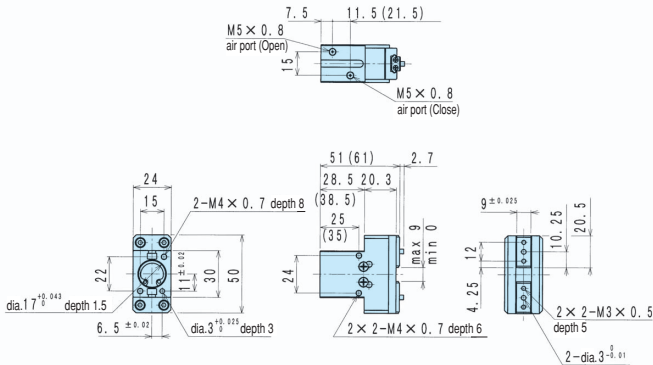
# LHA Series Linear Guide Hand

## Layout Drawing

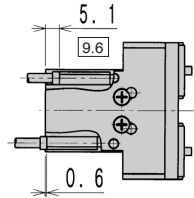
### ■ LHA-03AS (Optimal Grip Force 30N to 50N)

#### LHA-03AS Standard • NO • NC

\*Values inside ( ) are for NC (Normally Closed) type



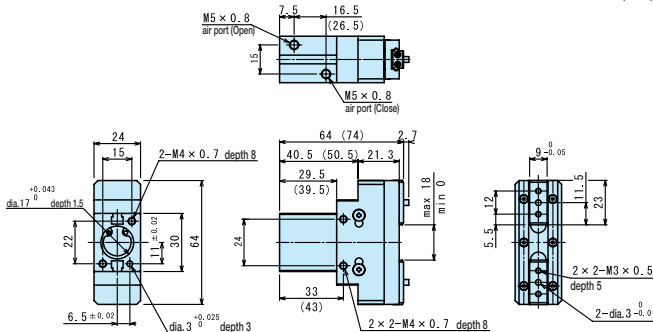
#### LHA-03AS-E□S□



Values inside □ are for LHA-03AS1-L1

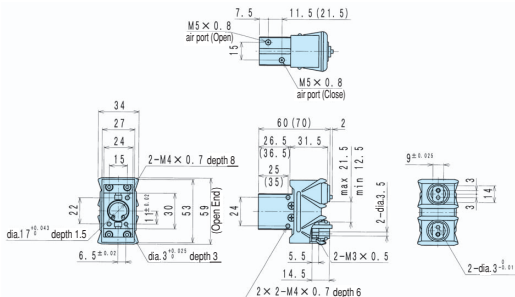
#### LHA-03AS1-L1 Standard • NO • NC

\*Values inside ( ) are for NC (Normally Closed) type

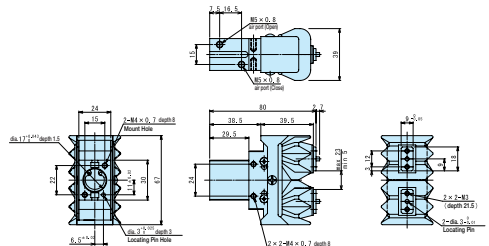


#### LHA-03AS-G Standard • NO • NC

\*Values inside ( ) are for NC (Normally Closed) type



#### LHA-03AS1-L1-G



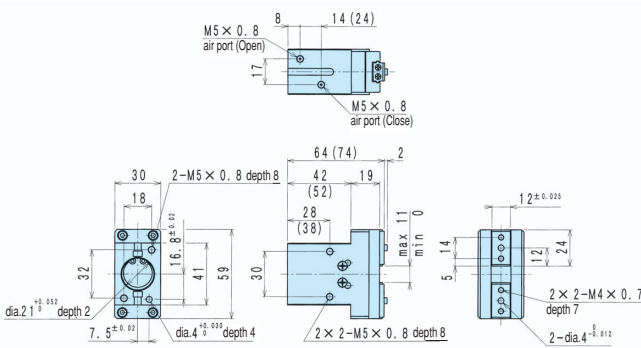
# LHA-006AS/01AS/01AS1-L1/03AS/03AS1-L1/04AS/04AS1-L1 05AS/05AS1-L1/06AS/06AS1-L1

For CAD data, please go to **▶518P**

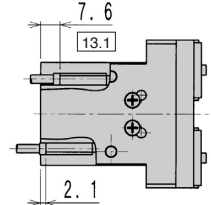
## ■LHA-04AS (Optimal Grip Force 40N to 80N)

### LHA-04AS Standard • NO • NC

\*Values inside ( ) are for NC (Normally Closed) type



### LHA-04AS-E □ □

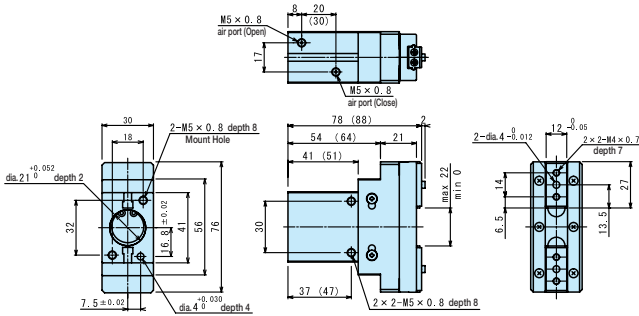


Values inside □ are for LHA-04AS1-L1

Hand  
(2-Jaw)

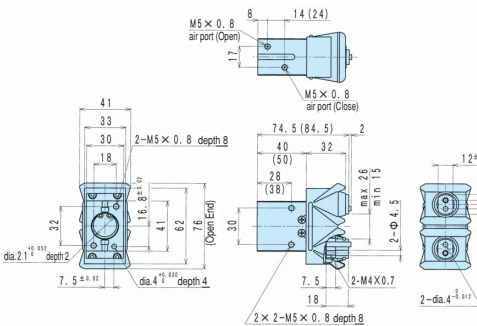
### LHA-04AS1-L1 Standard • NO • NC

\*Values inside ( ) are for NC (Normally Closed) type

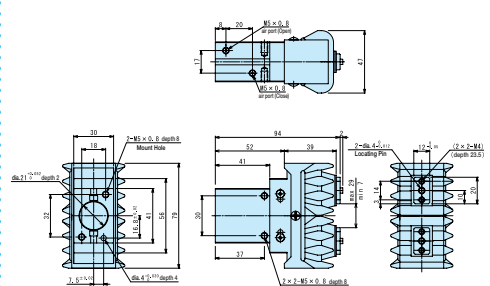


### LHA-04AS-G Standard • NO • NC

\*Values inside ( ) are for NC (Normally Closed) type



### LHA-04AS1-L1-G

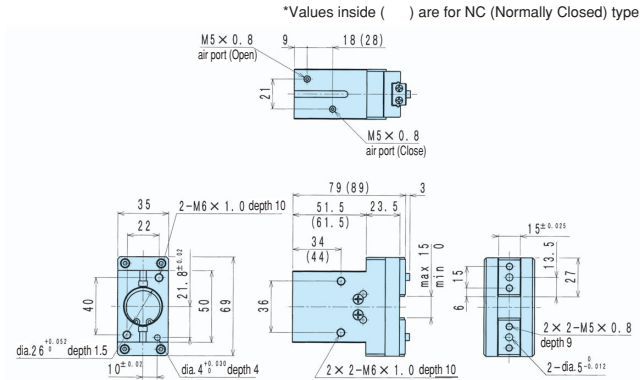


# LHA Series Linear Guide Hand

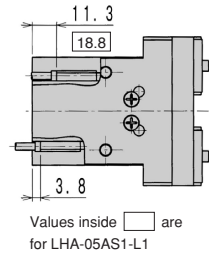
## Layout Drawing

### ■ LHA-05AS (Optimal Grip Force 80N to 150N)

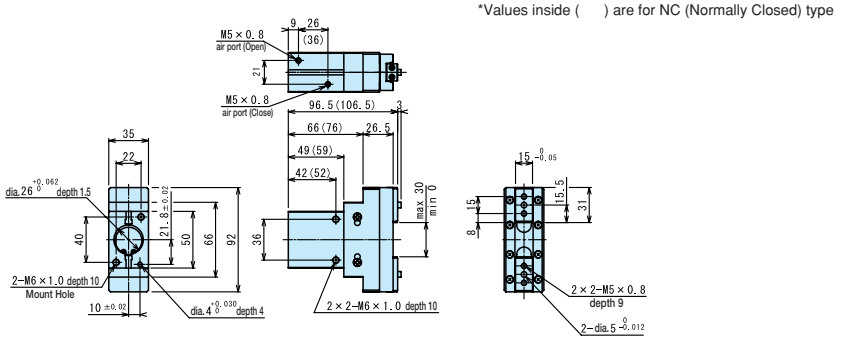
#### LHA-05AS Standard • NO • NC



#### LHA-05AS-E□S□

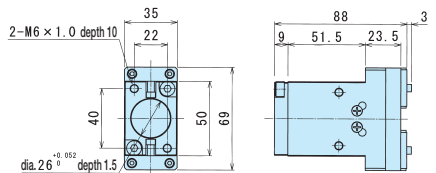
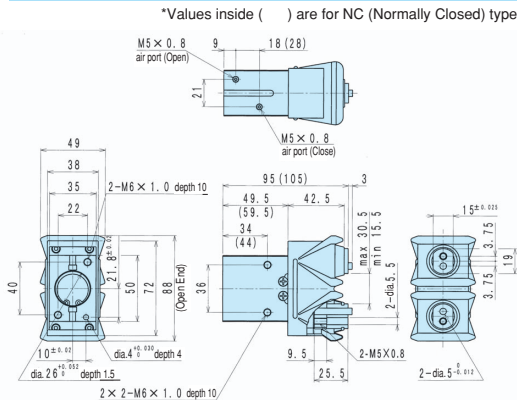


#### LHA-05AS1-L1 Standard • NO • NC



#### LHA-05AS-G Standard • NO • NC

#### LHA-05AS-K Standard



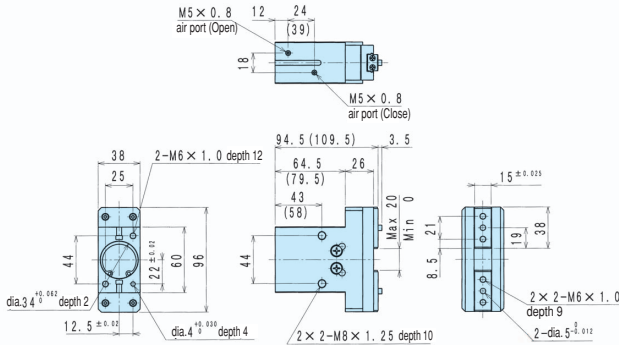
# LHA-006AS/01AS/01AS1-L1/03AS/03AS1-L1/04AS/04AS1-L1 05AS/05AS1-L1/06AS/06AS1-L1

For CAD data, please go to **▶518P**

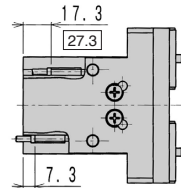
## LHA-06AS (Optimal Grip Force 100N to 250N)

### LHA-06AS Standard • NO • NC

\*Values inside ( ) are for NO (Normally Open) and NC (Normally Closed) type



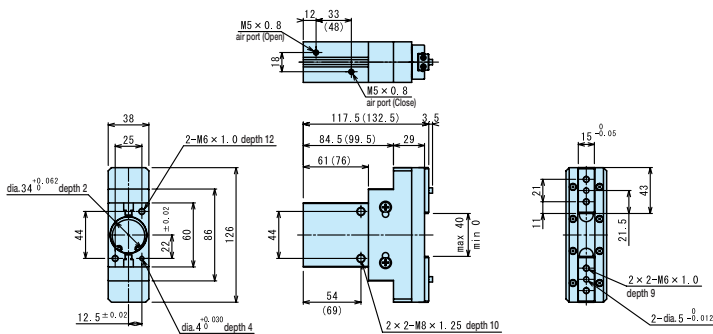
### LHA-06AS-E□S□



Values inside □ are for LHA-06AS1-L1

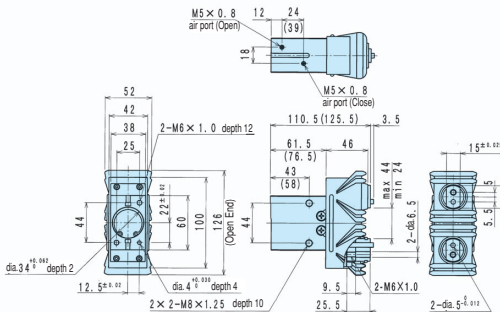
### LHA-06AS1-L1 Standard • NO • NC

\*Values inside ( ) are for NO (Normally Open) and NC (Normally Closed) type



### LHA-06AS-G Standard • NO • NC

\*Values inside ( ) are for NO (Normally Open) and NC (Normally Closed) type



### LHA-06AS-K Standard

