

# INSTRUCTION MANUAL LINEAR GUIDE HAND LHA Series

LINEAR GUIDE HAND WITH RUBBER COVER LHAG Series

- Please read this instruction manual carefully before using this product, particularly the section describing safety.
- Retain this instruction manual with the product for further consultation whenever necessary.

# For Safety Use

To use this product safety, basic knowledge of pneumatic equipment, including materials, piping, electrical system and mechanism, is required (to the level pursuant to JIS B 8370 Pneumatic System Rules).

We do not bear any responsibility for accidents caused by any person without such knowledge or arising from improper operation.

Our customers use this product for a very wide range of applications, and we cannot keep track of all of them. Depending on operating conditions, the product may fail to operate to maximum performance, or cause an accident. Thus, before placing an order, examine whether the product meets your applications, requirements, and how to use it.

This product incorporates many functions and mechanisms to ensure safety. However, improper operation could result in an accident. To prevent such accidents, read this operation manual carefully for proper operation.

Observe the cautions on handling described in this manual, as well as the following instructions:

The precautions are ranked as "DANGER", "WARNING" and "CAUTION" in this section.



!\ DANGER: When a dangerous situation may occur if handling is mistaken leading to fatal or serious injuries, or when there is a high degree of emergency to a warning.



When a dangerous situation may occur if handling is ! WARNING: mistaken leading to fatal or serious injuries.



When a dangerous situation may occur if handling is CAUTION: mistaken leading to minor injuries or physical damage.

# **MARNING:**

a) This product is designed and manufactured as a general industrial machine part.

It must be handled by an operator having sufficient knowledge and experience in handling..

b) Use this product in accordance of specifications.

This product must be used within its stated specifications. It must not be modified or machined.

This product is intended for use as a general-purpose industrial device or part. It is not intended for use outdoors or for use under the following conditions or environment.

(Note that this product can be used when CKD is consulted prior to use and the customer consents to CKD product specifications. The customer must provide safety measures to avoid risks in the event of problems.)

- ① Use for special applications including nuclear energy, railway, aircraft, marine vessel, vehicle, medicinal devices, devices or applications coming into contact with beverages or foodstuffs, amusement devices, emergency cutoff circuits, press machines, brake circuits, or safety devices or applications.
- ② Use for applications where life or assets could be adversely affected, and special safety measures are required.
- c) Observe corporate standards and regulations, etc., related to the safety of device design and control, etc.

ISO4414, JIS B 8370 (pneumatic system rules)

J JFPS2008 (principles for pneumatic cylinder selection and use)

Including High Pressure Gas Maintenance Law, Occupational Safety and Sanitation Laws, other safety rules, body standards and regulations, etc.

- d) Do not handle, pipe, or remove devices before confirming safety.
  - ① Inspect and service the machine and devices after confirming safety of the entire system related to this product.
  - 2 Note that there may be hot or charged sections even after operation is stopped.
  - 3 When inspecting or servicing the device, turn off the energy source (air supply or water supply), and turn off power to the facility. Discharge any compressed air from the system, and pay enough attention to possible water leakage and leakage of electricity.
  - When starting or restarting a machine or device that incorporates pneumatic components, make sure that the system safety, such as pop-out prevention measures, is secured.

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# LHA Series Linear Guide Hand

# LHAG Series Linear Guide Hand With Rubber Cover

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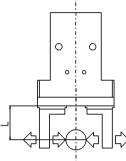
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#### 1. Selection

## 1.1 Gripping power

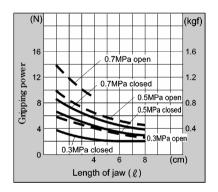
1) The grip is for one master jaw when all master and small jaws contact the work piece as shown below.



- 1) Performance data indicates the gripping power at hand jaw length at a supply pressure of 0.15 to 0.7 MPa.
- 2) To obtain gripping power from performance data, if the distance to the work piece's center of gravity is when manufacturing the small jaw, gripping power F is expressed as follows

When L=L1 F=F1

When L=L2 F=F2 Refer to the drawing below.

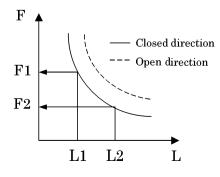


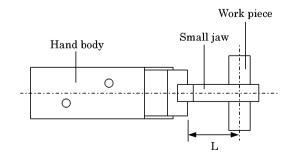
3) When N is used to express the number of jaws as reference for the coefficient for transferring work piece weight W

W:  $(F \times N) = 1:5$ (only gripping)

W:  $(F \times N)=1:10$ (normal transfer)

W:  $(F \times N)=1:20$ (sudden acceleration transfer)





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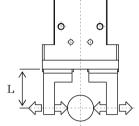
#### 4) Gripping power performance data

#### **LHA Series**

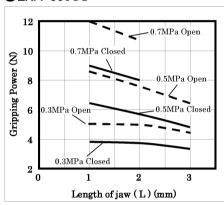
Gripping power that functions to open and closed directions with jaw length L of hand at supply pressure 0.3, 0.5 and 0.7 MPa is shown.

Open direction (⇐) - - - (shown with broken line)
Closed direction (➡) —— (shown with continuous line)

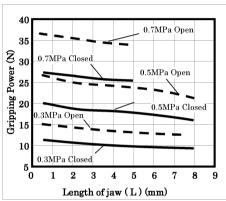
(Note) O type gripping power decreases approximate 20 to 30 % comparing to double acting type to closed direction.
 C type gripping power decreases approximate 10 to 20 % comparing to double acting type to open direction.



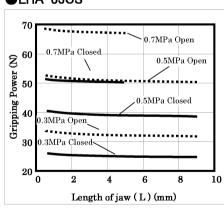
#### ●LHA-006CS



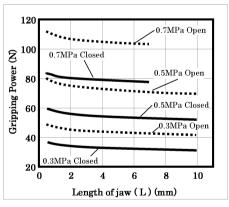
#### ●LHA-01CS



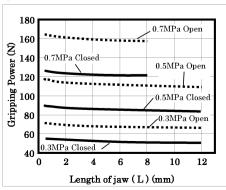
#### ●LHA-03CS



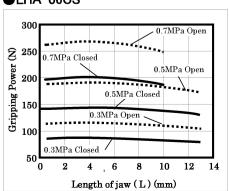
#### ●LHA-04CS



#### ●LHA-05CS



#### ●LHA-06CS





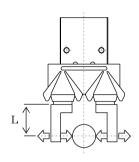
#### LHAG Series

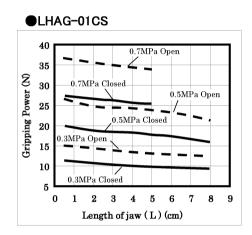
Gripping power that functions to open and closed directions with jaw length L of hand at supply pressure 0.3, 0.5 and 0.7 MPa is shown.

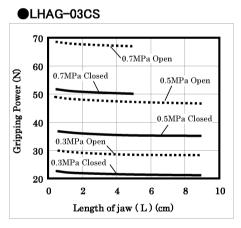
Open direction (⇐) - - - (shown with broken line)
Closed direction (➡) —— (shown with continuous line)

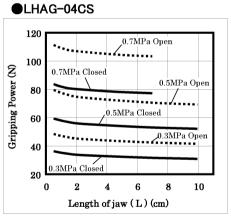
(Note) O type gripping power decreases approximate 20 to 30 % comparing to double acting type to closed direction.

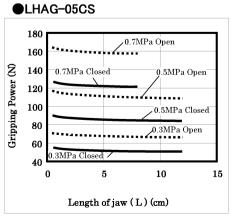
C type gripping power decreases approximate 10 to 20 % comparing to double acting type to open direction.

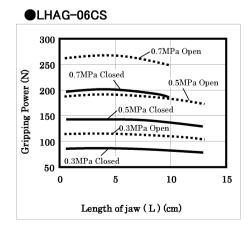










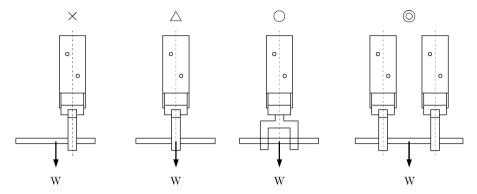


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#### 1.2 Selection

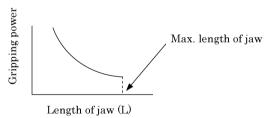
1) When gripping a long object or large work-piece, the center of gravity must be gripped to provide stable prehension. It is also necessary to stabilize prehension by increasing the size or using multiple jaws.



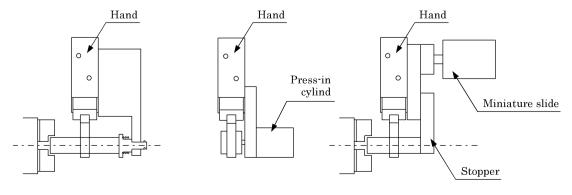
- 2) Select a model that has sufficient power to grip the work-piece weight.
- 3) Select a model that has sufficient opening/closing width for the work-piece size.
- 4) Length and weight
  - a) Use as short and light a small jaw as possible. If the small jaw is long and heavy, inertia increases when opening and closing. This may cause play the master key, and may adversely affect life.
  - b) The small jaw's length must be within performance data.
  - c) The weight of the small jaw affects life, so check that it is within the following value.

W < 1/4H (1 pc.) W: Weight of small jaw

H: Product weight of hand



5) If directly inserting the work-piece into the jig with the hand, consider clearance during design to avoid damaging the hand.





## 2. INSTALLATION

⚠ WARNING:	a) If the moving work piece poses a possible risk to personnel or if fingers could be caught in the master key, etc., install a protective cover, etc.
	b) If circuit pressure drops due to a service interruption or problems in the air source, gripping power drops and the work-piece could drop. Provide position locking measures, etc., so that personnel are not injured or machines damaged.

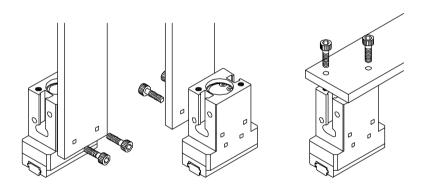
## 2.1 Installations

1) Ambient temperature

The ambient temperature range for this hand is -10 to 60°C.

2) Installing a main body

Body mounting from either one of three sides is available. Select appropriate side to mount it depending up on the application of system.



3) Tightening torque for installing a main body

				(N/m)
	Front and bac	Front and back installation		allation
Model	Bolt size	Tightening torque	Bolt size	Tightening torque
LHA-006CS	M3	0.59	M2	0.30
LHA-01CS	M3	0.59	M3	0.59
LHA-03CS	M4	1.37	M3	0.59
LHA-04CS	M5	2.84	M4	1.37
LHA-05CS	M6	4.81	M5	2.84
LHA-06CS	M8	12.0	M6	4.81
LHAG-01CS	M3	0.59	M3	0.59
LHAG-03CS	M4	1.37	M4	1.37
LHAG-04CS	M5	2.84	M5	2.84
LHAG-05CS	M6	4.81	M6	4.81
LHAG-06CS	M8	12.0	M8	12.0

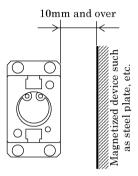
When setting it up in the place where the vibration is generated, apply the bolt the loose stop measures (spring washer, adhesive, etc.) to the bolt.

4) Do not cause dents or scratches that may worsen flatness or perpendicularity on the fixing face or master key.

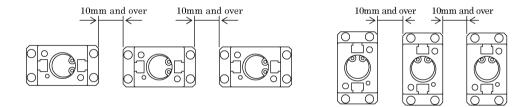
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- 5) If a lateral load or load with a large impact is applied to the master key, play or damage could occur in the master key. Adjust and check that external force is not applied to the master key.
- 6) The cylinder switch could malfunction if there is magnetic substance, such as a steel plate, near the cylinder switch. Keep magnetic substance at least 10mm from the cylinder.

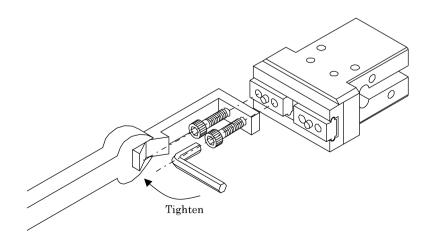


7) The cylinder switch could malfunction if cylinders are installed adjacently. Check that the following distances are provided between cylinders.



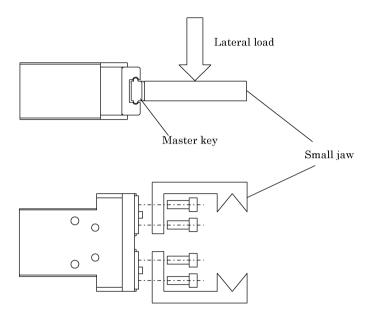
# 2.2 Installing the jaw

1) To prevent any effect onto the hand, support the master key with a wrench, etc., and tighten so that the master key is not twisted.





2) When installing the small jaw, check that a lateral load is not applied to the master key.



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#### 3. MAINTENANCE

- 1) Regularly grease the sliding section of the master key. Periodic replenishment of grease will extend the life of the part.
- 2) Do not dissemble or modify the body.
- 3) Replace rubber cover if scratch and clack occurs. The rubber cover is consumables.
- 4) If the clamp is operated carefully and slowly as possible, accuracy increases. Repeatability also stabilizes.



#### 4. OPEN-CLOSE CONFIRMATION SWITCH

#### 4.1 Features

- 1) Solid state type switch Service life is almost infinite, also Open-close load capacity is large.
- 2) Indicator light
  It makes confirmation of actuation or maintenance inspection easy.
- 3) No restriction regarding its mounting location

  Its relocation is also carried out easily by just loosening fixing screw.

## 4.2 Specifications

Descriptions	T2H-T2V	T3H-T3V		
	Solid state	type switch		
Applications	Programmable controller	Programmable controller, relay		
Power supply voltage	_	DC10V to DC28V		
Load Voltage	DC10V to DC30V	DC30V or less		
Load Current	5 to 20mA (note1)	100mA or less		
Indicator light	LED (ON	lighting)		
Lead wire length (Note1)	Standard 1m (Oil resistant vinyl cabtire cord 2 conductor 0.2mm²)	Standard 1m (Oil resistant vinyl cabtire cord 3 conductor 0.2mm²)		
Ambient temperature	−10 to +60°C			
Current consumption	_	10mA or less with DC24V		
Leakage current	1mA or less	$10\mu\mathrm{A}\mathrm{or}\mathrm{less}$		
Degree of protection	IEC Standards IP67, JIS C0920	(water tight type), oil resistance		
Shock resistance	$980\mathrm{m/s^2}$			
Insulation resistance	$20 \mathrm{M}\Omega$ over with 500VDC megger			
Withstand voltage	No failure impressed at 1000VAC for one minute			
Hysteresis (single jaw)	1.0mm or less			
Product weight	20	)g		

Note1: Maximum load current above: 20mA applies at 25°C. The current will be lower than 20mA if ambient temperature around switch is higher than 25°C. (5 to 10mA at 60°C.)

#### 1) Hysteresis

There is hysteresis to cylinder switch as well as it is to micro switch.

It is a distance between where switch turns ON while piston moves a certain direction and where the said switch turns OFF as piston reverses its stroke.

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## 4.3 Operational Cautions

#### 1) Connection of lead cord

Comply with the color coding specified on the illustrations. Be sure to turn the power off before starting connecting work.

An erroneous wiring or short circuiting of load causes damage to not only switches, but also load side circuit. Wiring work without shutting electricity off may cause damage to the load side circuit.

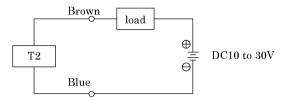


Fig.1 Fundamental circuit Example T2

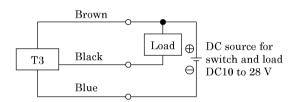


Fig. 2 Fundamental circuit Example (1) (In case the same source of power is used.)

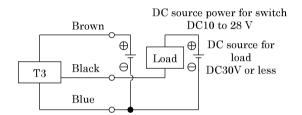


Fig.3 Fundamental circuit Example (2)
(In case individual sources of power are

#### 2) Protection of output circuit

Install some protective circuit as illustrated in Fig. 4 when inducing type load (Relay or solenoid valve) are to be used because those types apt to generate surge current switch off.

Install some protective circuit as illustrated in Fig. 5 when capacitor type load (Capacitor type) are to be used, because these types apt to generate a dash current when turning the switch ON.

Install some protective circuit as illustrated in Fig. 6 or 7 (in case of model T2) and Fig 8 (in case of model T3).

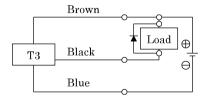
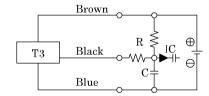


Fig.4 An example of using inducing load together with surge absorptive element (diode). (Hitachi Mfg. made diode V06C or equivalent is recommended.)



Flg.5 An example of using capacitor type load together with current regulating resister R. Comply with the following formula to figure out required R.  $\frac{V}{0.05} = R(\Omega)$ 



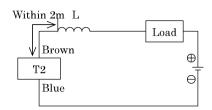


Fig.6 · Choke coil
 L= a couple hundred μ H to a couple mH surpassing high frequency characteristic
 · Install it near by a switch (within 2m).

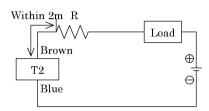
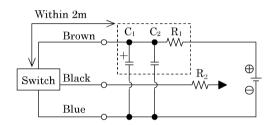


Fig.7 · Dash current restriction resister.
R= As much large resister as the load circuit can afford.
· Install it near by a switch (within 2m).



 $\label{eq:Fig8} Fig8 \cdot \ Electric power noise absorptive circuit. \\ C_1=20 \ to \ 50 \ \mu \ F \quad electrolytic capacitor \\ \ (Withstand voltage \ 50V \ or \ more) \\ C_2=0.01 \ to \ 0.1 \ \mu \ F \quad ceramic capacitor \\ R_1=20 \ to \ 30 \ \Omega$ 

- Dash current restriction resister.  $R_2$ =As much large resister as the load circuit can afford
- · Install it nearby the switch (Within 2m)
- 3) Connection to a programmable controller (Sequencer).

  Type of connection varies depending upon the model of the programmable controller. Refer to the following Fig. 9 to 13 respectively.

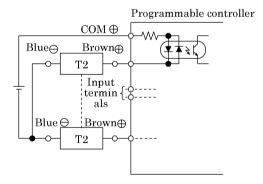


Fig. 9 An example of T2 connection to source input type (an external power source)

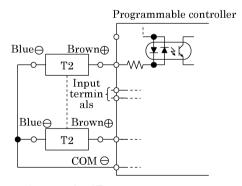


Fig. 10 An example of T2 connection to source input type (an internal power source)



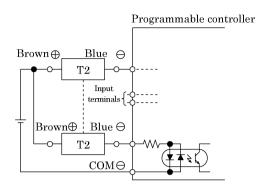


Fig.11 An example of T2 connection to source input type

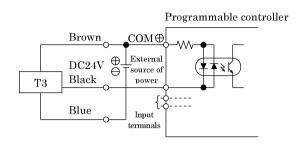


Fig.12 An example of T3 connection to source input type (an internal power source)

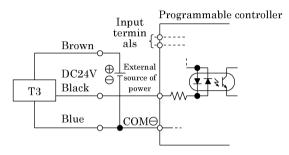


Fig. 13 An example of T3 connection to source input type (an internal power source)

#### 4) Magnetic environment

If surroundings contain a strong magnetic field or large current (large magnet, spot welding machine, etc.), use a strong magnetic field proof switch. When installing the cylinder with switch nearby in parallel, or if a magnetic object is very close to the cylinder, mutual interference may occur and adversely affect detection accuracy.

#### 5) Protection of lead cord

Pay consideration to eliminate repeating bending stress or stretching of lead cord while laying the cord.

To the moving portion, use such cord of flexibility as for building a robot.



#### 6) Parallel connection

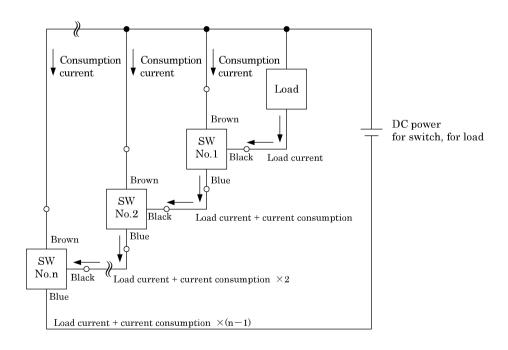
When connecting several T2 switches in parallel, note that leakage current increases in proportion to the number of connected units. Check input specifications of the programmable controller and determine the number of switches to be connected. Note that switch indicator light could dim or may not turn ON.

T3 switch has an extremely small leakage current (10 A or less), so there is no problem in use under normal conditions.

#### 7) Serial connection

When connecting several T2 switches in serial, the switch voltage drop is the total voltage drop of all connected switches. The voltage applied to the load is the voltage obtained by subtracting the voltage drop at switches from the power supply voltage. Check load specifications and determine the number of switches.

When connecting several T3 switches, the switch's voltage drop is the total voltage drop of all connected switches, as with T2 switch. The current that flows to the switch is the total of the connected switch's current consumption and load current, as shown at below. Check load specifications and determine the number of switches to be connected so that the maximum switch load current is not exceeded.

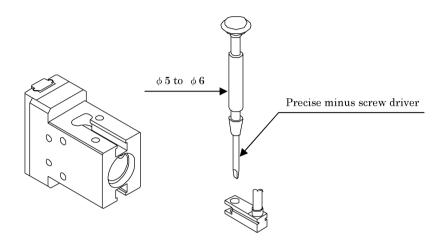


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## 4.4 Switch Adjustment

1) To adjust the Open-close confirmation Switch, side the switch first to find the location where Indicator light turns ON. Keep sliding the switch for further 0.3 to 0.5mm further away, and then fix the switch at that position.



2) When tighten the set screw using a minus headed screw driver with 5 to 6mm grip diameter, 2.4 or smaller end width, and 0.3mm or thinner flat tip screw driver, or.

Tighten with a tightening torque of 10to 20N m.

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#### 5. SPECIFICATION/MODEL CODE

# 5.1 Specification

# 5.1.1 Liner guide hand LHA series

#### 1) Specifications

Descrip	tions	LHA					
Size	006CS	01CS	03CS	04CS	05CS	06CS	
Cylinder bore size	e mm	φ6	$\phi$ 12	φ 16	φ 20	$\phi$ 25	φ 32
Actuation		Double acting / single acting					
Working fluid				Compr	essed air		
Max. working pre	ssure MPa			(	0.7		
Min. working pressure	Double acting	0.15		0.	.1		
MPa	Single acting	0.3					
Ambient tempera	ture °C	5 to 60					
Port size		M3 M5					
Operational stroke	length mm	4	5	9	11	15	20
Rod diameter	mm	$\phi$ 3	$\phi$ 6	φ8	$\phi$ 10	$\phi$ 12	φ 16
Volumetric capacity (reciprocating) cm <sup>3</sup>		0.10	0.32	1.58	2.89	6.32	14.07
Repeatability mm		$\pm 0.01$					
Product weight	$_{ m kg}$	0.04	0.085	0.15	0.36	0.52	0.82
Lubrication		Not	required (who	en lubricating,	use turbine oi	l Class 1 ISO	VG32)

## 2) Switch specifications

2) Switch Specifications					
Descriptions	Solid state 2 wire	Solid state 3 wire	Solid state 2 wire	Solid state 3 wire	
Descriptions	T2H, T2V	Т3Н, Т3V	F2H、F2V	F3H、F3V	
Applications	Programmable controller	Programmable controller, relay	Programmable controller	Programmable controller, relay	
Power supply voltage	_	DC10 to 28V	_	DC10 to 28V	
Load voltage/current	DC10 to 30V, 5 to 20mA(note1)	DC30V or less, 100mA or less	DC10 to 30V, 5 to 20mA	DC30V, 50mA or less	
Indicator light	LED (ON lighting)				
Shock resistance	$980 \mathrm{m/s^2}$				
Lead wire	Standard 1m(Oil resistant vinyl cabtire cable 2-condactor 0.2 mm²)	Standard 1m(Oil resistant vinyl cabtire cable 3-condactor 0.2 mm²)	Standard 1m(Oil resistant vinyl cabtire cable 2-condactor 1.5 mm²)	Standard 1m(Oil resistant vinyl cabtire cable 3-condactor 1.5 mm²)	

Note1: Maximum load current above: 20mA applies at 25°C. The current will be lower than 20mA if ambient temperature around switch is higher than 25°C. (5 to 10mA at 60°C.)

Note1: An enough performance might not be able to be demonstrated if using it by combining the threshold limit value of each specification. Select the model that has sufficient value of each specification.

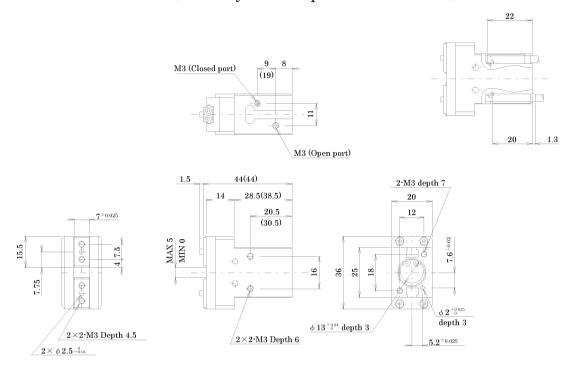
[SM-328421-A] -18-



#### 3) Dimensions

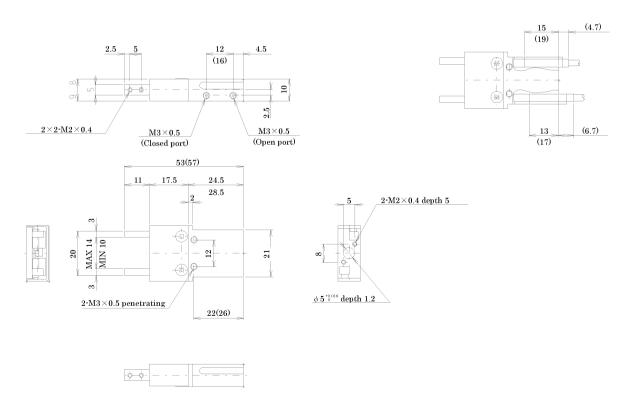
● LHA-006CS standard/O/C Dimension in ( ) for C (normally closed) specifications

## • with switch



■ LHA-01CS standard/O/C Dimension in () for C (normally closed) specifications

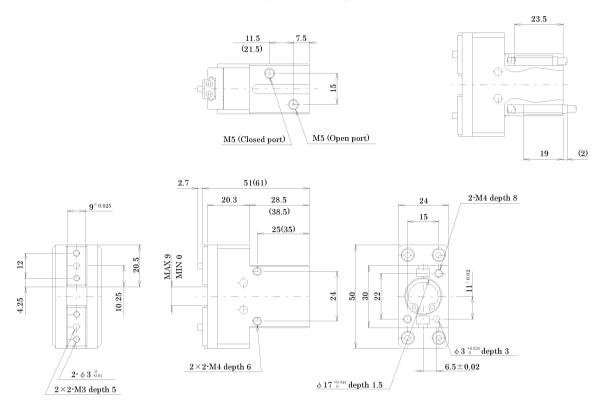
# • with switch





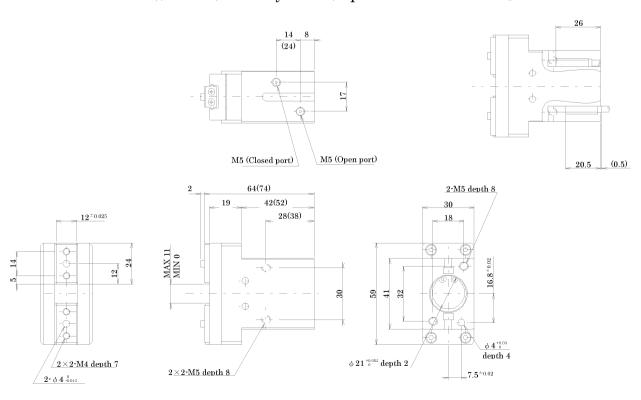
# ● LHA-03CS standard/O/C Dimension in ( ) for C (normally closed) specifications

## • with switch



# ● LHA-04CS standard/O/C Dimension in ( ) for C (normally closed) specifications

# • with switch

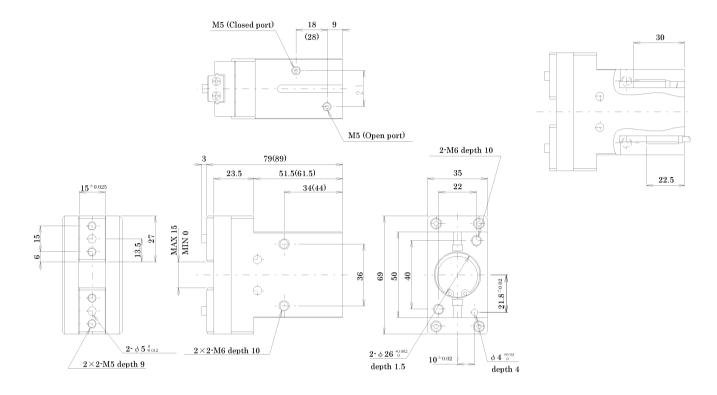


[SM-328421-A] -20-



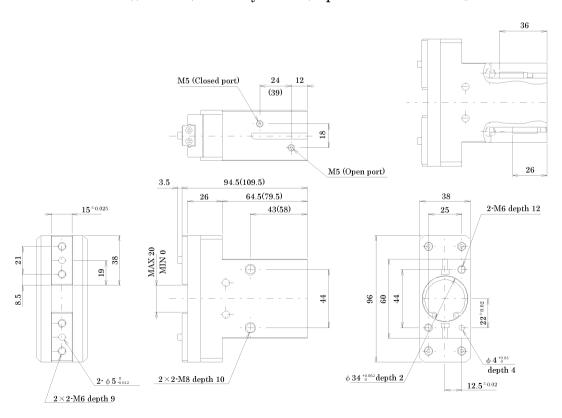
# ●LHA-05CS standard/O/C Dimension in ( ) for C (normally closed) specifications

#### •with switch



#### ●LHA-06CS standard/O/C Dimension in ( ) for C (normally closed) specifications

# •with switch





# 5.1.2 linear guide hand with rubber cover LHAG series

#### 1) Specifications

Descrip				LHAG		
Size		01CS	03CS	04CS	05CS	06CS
Cylinder bore size	mm	φ 12	$\phi$ 16	φ 20	$\phi$ 25	φ 32
Actuation			Dou	ble acting / single	acting	•
Working fluid				Compressed air	r	
Max. working pres	ssure MPa			0.7		
Min. working pressure	Double acting			0.2		
MPa	Single acting	0.3				
Ambient temperat	ture °C	5 to 60				
Port size		M3 M5				
Operational stroke l	ength mm	5	9	11	15	20
Rod diameter	mm	$\phi$ 6	φ8	φ 10	$\phi$ 12	φ 16
Volumetric capacity (reciprocating) cm <sup>3</sup>		0.32	1.58	2.89	6.32	14.07
Repeatability mm		$\pm 0.01$				
Product weight	kg	0.09	0.17	0.37	0.52	0.9
Lubrication		Not required (when lubricating, use turbine oil Class 1 ISO VG32)				

2) Switch specifications

Descriptions	Solid state 2 wire	Solid state 3 wire		
Bescriptions	T2H, T2V	T3H, T3V		
Applications	Programmable controller	Programmable controller, relay		
Power supply voltage	_	DC10 to 28V		
Load voltage/current	DC10 to 30V, 5 to 20mA(note1)	DC30V or less, 100mA or less		
Indicator light	LED (ON	LED (ON lighting)		
Shock resistance	980	$980 \mathrm{m/s^2}$		
Lead wire Standard 1m(Oil resistant vinyl cabtire cable 2-condactor 0.2 mm²)		Standard 1m(Oil resistant vinyl cabtire cable 3-condactor 0.2 mm²)		

Note1: Maximum load current above: 20mA applies at 25°C. The current will be lower than 20mA if ambient temperature around switch is higher than 25°C. (5 to 10mA at 60°C.)

Note2: An enough performance might not be able to be demonstrated if using it by combining the threshold limit value of each specification. Select the model that has sufficient value of each specification.

 $\begin{array}{c} \text{[SM-328421-A]} \\ \end{array} \qquad \qquad -22-$ 

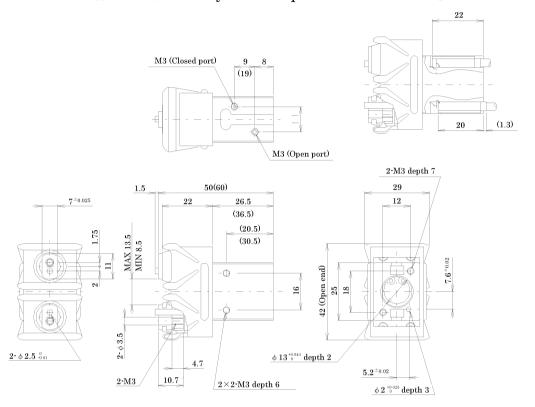


#### **Dimensions**

#### ●LHAG-01CS standard/O/C

Dimension in () for C (normally closed) specifications

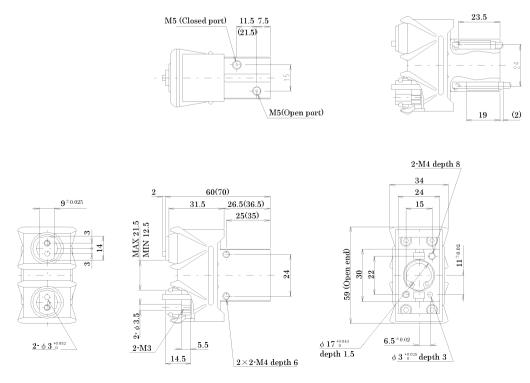
# •with switch



# ●LHAG-03CS standard/O/C

Dimension in () for C (normally closed) specifications

# •with switch

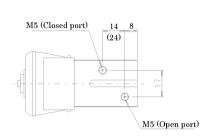


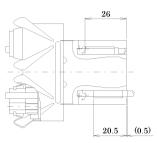


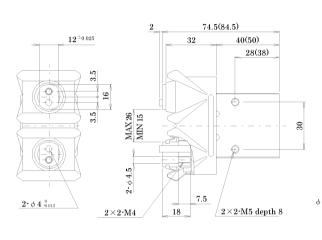
#### ●LHAG-04CS standard/O/C

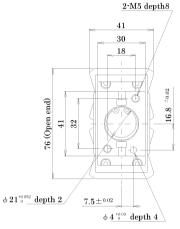
Dimension in () for C (normally closed) specifications

#### •with switch





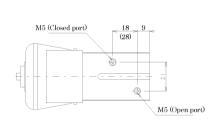


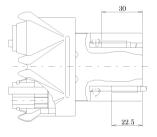


#### ●LHAG-05CS standard/O/C

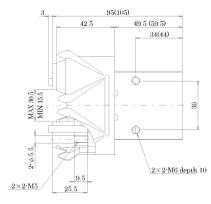
Dimension in () for C (normally closed) specifications

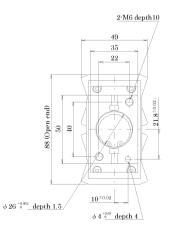
# •with switch







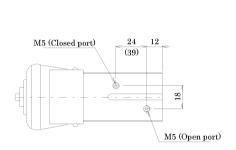




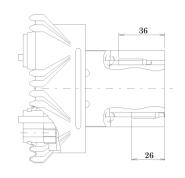


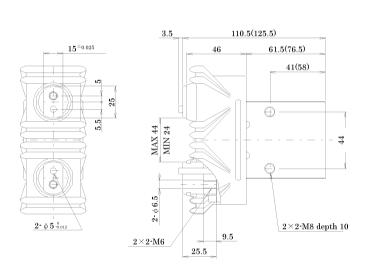
# ●LHAG-06CS standard/O/C Dimension in ( ) for C (normally closed) specifications

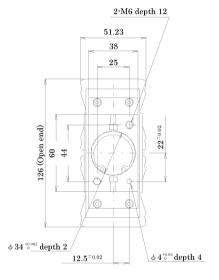
# •with switch



-25-









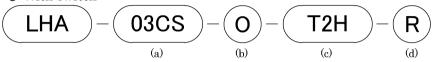
#### 5.2 How to order

#### 5.2.1 LHA Series

• Without switch



• With switch



(a) Size	(b) Option		(c) Switch model No.				
006CS	Blank	Standard (double acting)	Axial	Radial	Switch	Indicator	Lead
01CS	0	Single acting (normally open)	lead type	lead type	type	light	wire
03CS	C	Single acting (normally closed)	F2H※	F2V※			2 wire
04CS			F3H※	F3V※	Solid	1 color	3 wire
05CS			T2H*	T2V*	state	indicator	2 wire
06CS			ТЗНЖ	T3V*			3 wire

"X" indicates lead wire length.

* Lead	wire length	(d) Sw	itch quantity
Blank	1m(standard)	R	One on open side
3	3m(option)	Н	One on closed side
5	5m(option)	D	Two

Note 1: Only the LHA-006CS is provided with the F switch.

Note 2: The 5 m lead cannot be selected for the F switch.

# <Example of model number>

LHA-03CS-O-T2H-R

Model: linear guide hand

(a) Size: 03CS

(b) Option: Single acting, normally open type

(c) Switch model no. : Solid-state T2H switch, lead wire 1m

(d) Switch quantity : One on open side

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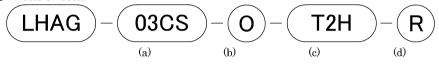


## 5.2.2 LHAG Series

• Without switch



• With switch



(a) Size	(b) Optio	on	(c) Switch model No.				
01CS	Blank	Standard (double acting	Axial	Radial	Switch	Indicator	Lead
03CS	Diank	with nitrile rubber guard)	lead type	lead type	type	light	wire
04CS	О	Single acting (normally open)	T2H <b>※</b>	T2VX	Solid	1 color	2 wire
05CS	C	Single acting (normally closed)	Т3НЖ	T3V※	state	indicator	3 wire
06CS	F	Fluoro rubber guard	"※" indica	ites lead wii	e length.		
	Т	Silicon rubber guard					

፠ Lead v	wire length	(d) Sw	itch quantity
Blank	Blank 1m(standard)		One on open side
3	3m(option)	Н	One on closed side
5	5m(option)	D	Two

# <Example of model number>

LHAG-03CS-O-T2H-R

Model: Linear guide hand with rubber cover

(a) Size: 03CS

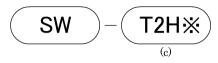
(b) Option: Single acting, normally open type

(c) Switch model no. : Solid-state T2H switch, lead wire 1m

(d) Switch quantity : One on open side



#### 1) How to order switch



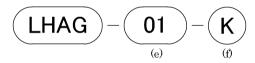
(c) Switch model No.						※ Lead wire length	
Axial	Radial	Switch	Indicator	Lead	Blank	1m(standard)	
lead type	lead type	type	light wi	wire	3	3m(option)	
F2H※	F2V※	Solid state	1 color indicator	2 wire	5	5m(option)	
F3H※	F3V※			3 wire			
T2H**	T2V※			2 wire			
T3H**	T3V※			3 wire			

<sup>&</sup>quot;X" indicates lead wire length.

Note 1: Only the LHA-006CS is provided with the F switch.

Note 2: The 5 m lead cannot be selected for the F switch.

#### 2) How to order rubber cover



(e) Size		(f) Mat	(f) Material		
01	01CS	K	Nitrile rubber		
03	03CS	KF	Fluoro rubber		
04	04CS	KT	Silicon rubber		
05	05CS				
06	06CS				

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