

Low-profile long stroke hand Double acting

## LST-HP1 Series

Operating stroke length: Short stroke: 8, 12, 16, 20mm

Middle stroke: 16, 24, 32, 40mm Long stroke: 32, 48, 64, 80mm





Double acting

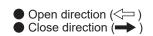


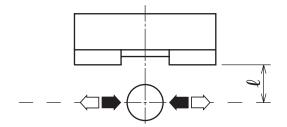
### Specifications

Item	LST-08		LST-12			LST-16			LST-20			
item	Α	В	С	Α	В	С	Α	В	С	Α	В	С
Bore size mm	ø8 x 2		ø12 x 2		ø16 x 2		ø20 x 2					
Actuation				Double acting								
Working fluid	Working fluid		Compressed air									
Max. working pressure MPa	0.7											
Min. working pressure MPa	0.15											
Ambient temperature °C			-10 to 60 (no freezing)									
Port size	M3 M5											
Operating stroke length mm	8	16	32	12	24	48	16	32	64	20	40	80
Repeatability mm	mm			±0.03						,		
Weight kg	0.09	0.12	0.16	0.19	0.24	0.34	0.42	0.54	0.79	0.78	1.03	1.49
Lubrication	Not required											

### Gripping power

·Gripping power is the thrust (one finger) in the direction of the arrow shown in the figure.





Unit: N

Bore size (mm)	Double acting
ø8	19
ø12	48
ø16	90
ø20	141

<sup>\*</sup> At supply pressure of 0.5 MPa,  $\ell$  = 15 mm, value at stroke center



### Switch specifications

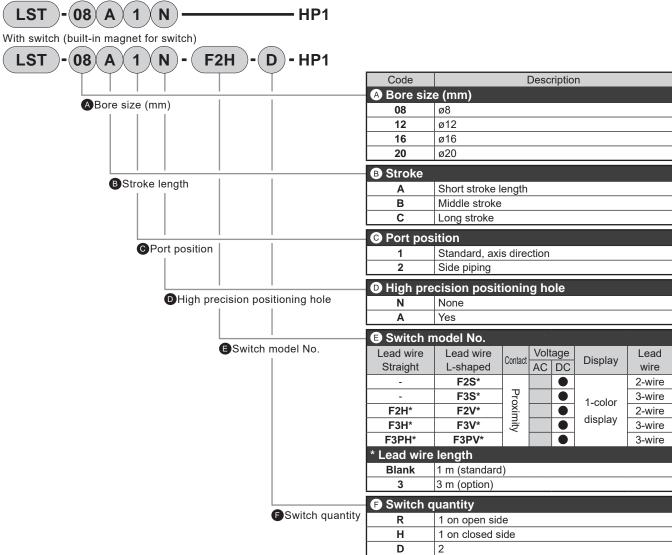
### Switch specifications

ltom	Proximity 2-wire	Proximity 3-wire	Proximity 2-wire	Proximity 3-wire			
Item	F2S	F3S	F2H·F2V	F3H·F3V	F3PH·F3PV		
Applications	For dedicated programmable controller	For programmable controller, relay	For dedicated programmable controller	For programmabl	e controller, relay		
Output method - NPN output		NPN output	-	NPN output	PNP output		
Power supply voltage	-	10 to 28 VDC	-	10 to 28 VDC	4.5 to 28 VDC		
Load voltage/ current	10 to 30 VDC 5 to 20mA	30 VDC or less 50 mA or less	10 to 30 VDC 5 to 20mA		or less or less		
Display lamp	Red LED (L	it when ON)	Yellow LED (Lit when ON)				
Leakage current	1 mA or less 10 μA or less		1 mA or less	10 µA or less			
Shock resistance	980m/s²						
Weight g	1 m: 10 3 m: 29						

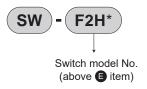
<sup>\*1:</sup> The F type switch uses a bend-resistant lead wire as standard.

#### How to order





#### How to order switch



#### [Example of model No.]

### LST-16B2A-F2H3-D-HP1

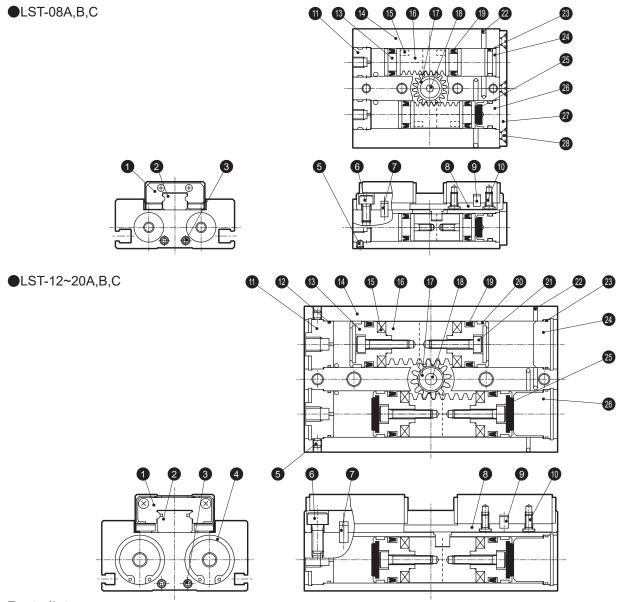
Model: Low-profile long stroke hand ABore size (mm) :ø16

**B**Stroke : Middle stroke ©Port position : Side piping DHigh precision positioning hole: Yes

Switch model No. : Proximity F2H, lead wire 3 m

**B**Switch quantity

### Internal structure diagram and parts list



#### Parts list

Part number	Part name	Material	Remarks	Part number	Part name	Material	Remarks
1	Finger	Stainless steel		15	Magnet	-	
2	Linear guide	Stainless steel		16	Rack	Stainless steel	
3	Hexagon socket set screw	Stainless steel		17	Pinion	Steel alloy	
4	Round R type snap ring	Steel	ø12	18	Pin	Stainless steel	
4	C-snap ring	Steel	ø16~20	19	Piston packing	Nitrile rubber	
5	Hexagon socket set screw	Stainless steel		20	Wear ring	Acetal resin	Excluding ø8A, B
6	Hexagon socket head cap screw	Stainless steel		21	Hexagon socket head cap screw	Stainless steel	
7	Pin	Stainless steel		22	Steel ball	Stainless steel	
8	Rack joint	Stainless steel		23	O-ring	Nitrile rubber	
9	Pin	Stainless steel		24	Cover 1	Aluminum alloy	Chromate
10	Pan head machine screw	Stainless steel		25	Cushion rubber	Urethane rubber	
11	Port cover	Aluminum alloy	Chromate	26	Cover 2	Aluminum alloy	Chromate
12	O-ring	Nitrile rubber		27	Cover 3	Stainless steel	ø8 only
13	Piston	Aluminum alloy	ø8 is stainless steel	28	Cross-recessed flat head machine screw	Stainless steel	ø8 only
14	Body	Aluminum allov	Hard alumite				

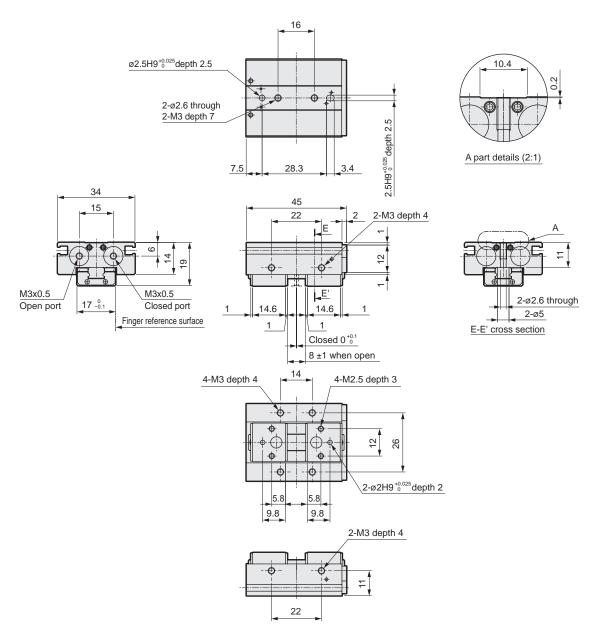
### Consumable parts list

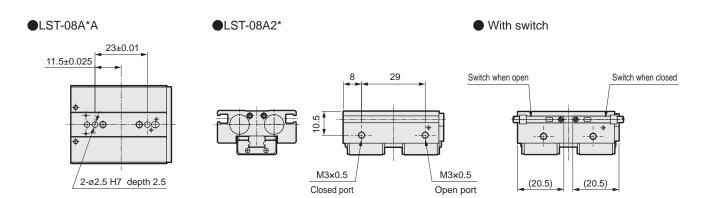
Bore size	Kit No.	Consumable parts No.
ø8	LST-08K-HP1	
ø12	LST-12K-HP1	12 (19 (20 (23 (25
ø16	LST-16K-HP1	
ø20	LST-20K-HP1	

## Dimensions (bore size: Ø8, short stroke)



#### ●LST-08A1N

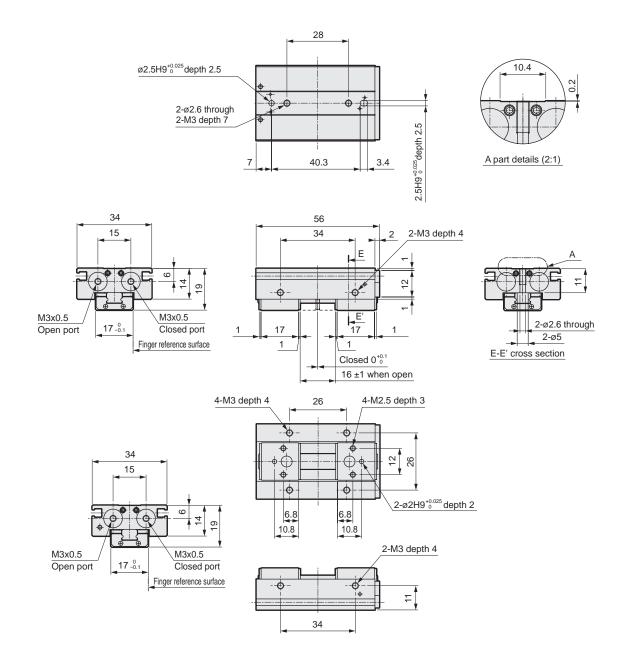


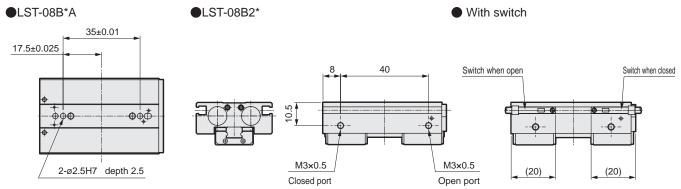


## Dimensions (bore size: Ø8, middle stroke)



#### ●LST-08B1N

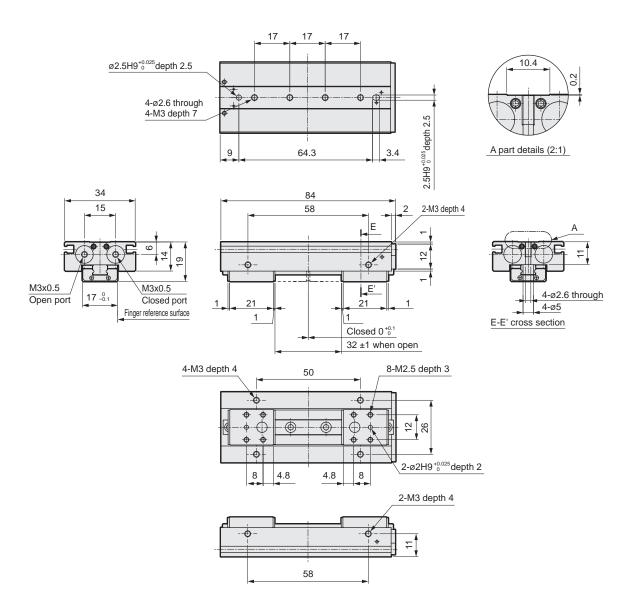




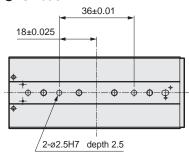
### Dimensions (bore size: Ø8, long stroke)



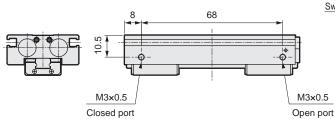
#### ●LST-08C1N



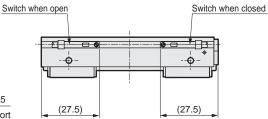
#### ●LST-08C\*A



### ●LST-08C2\*

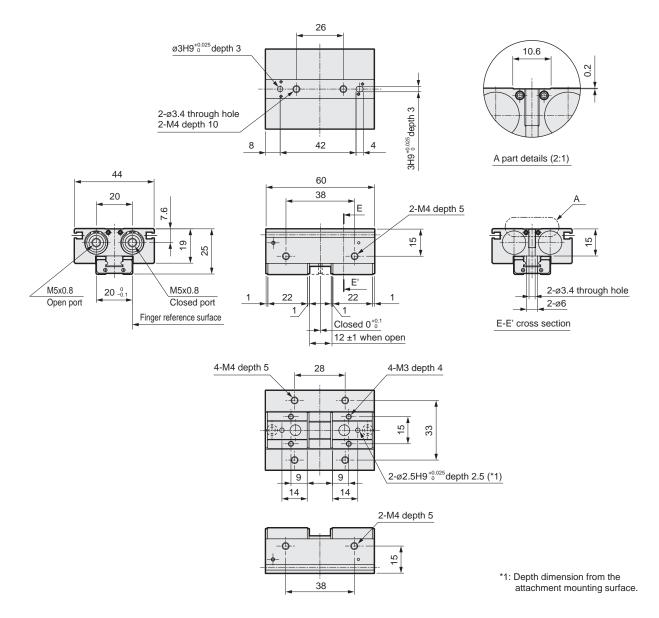


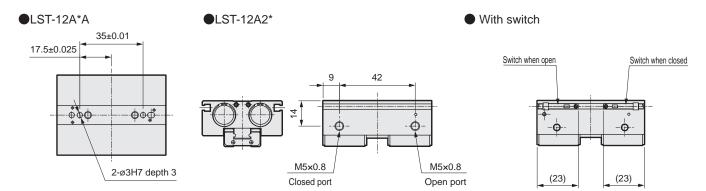






#### ●LST-12A1N

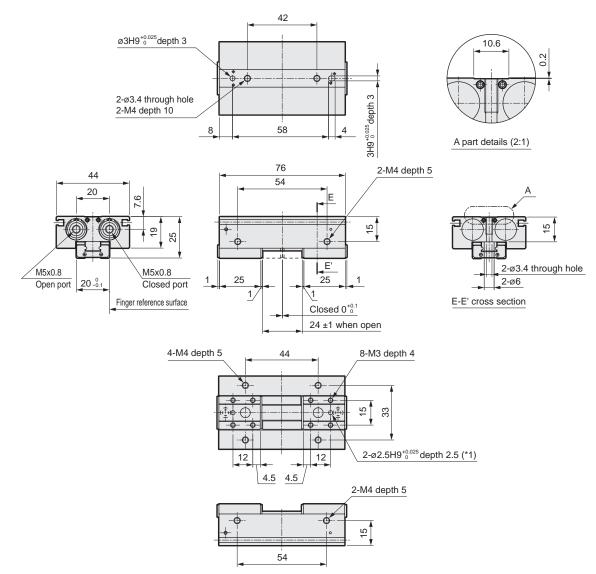




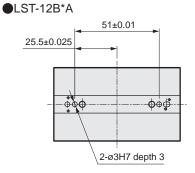
### Dimensions (bore size: ø12, middle stroke)

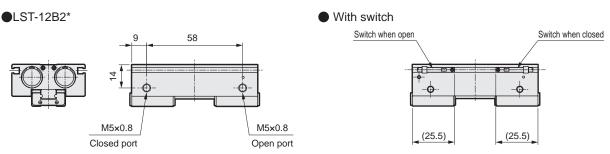


#### ●LST-12B1N



\*1: Depth dimension from the attachment mounting surface.

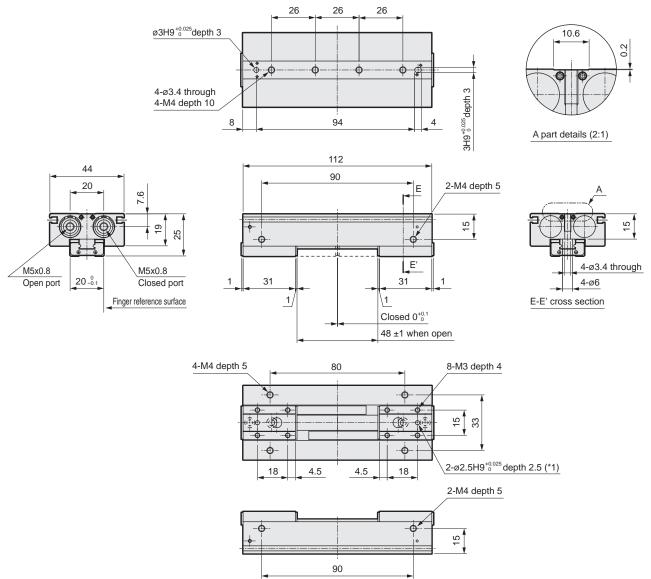




## Dimensions (bore size: ø12, long stroke)

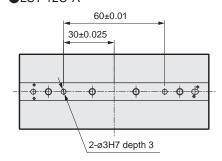


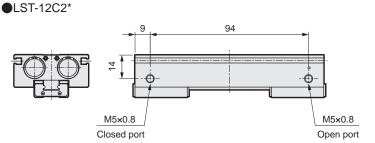
#### ●LST-12C1N

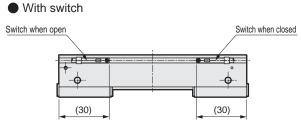


#### ●LST-12C\*A

\*1: Depth dimension from the attachment mounting surface.



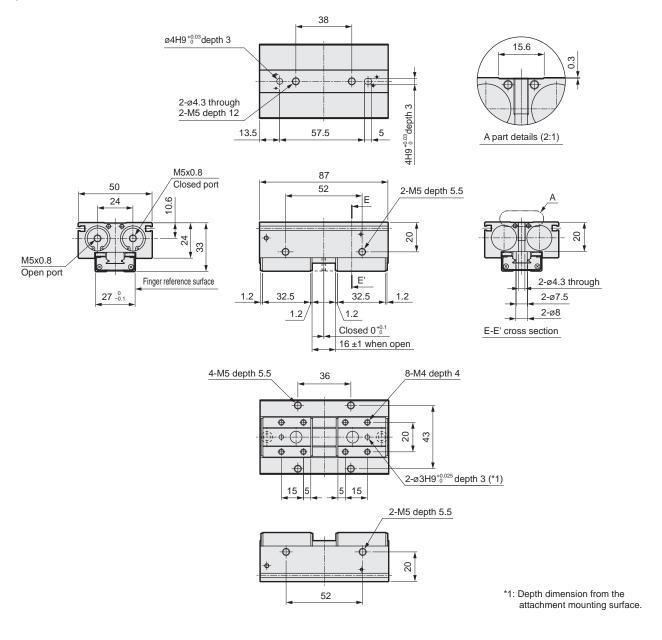


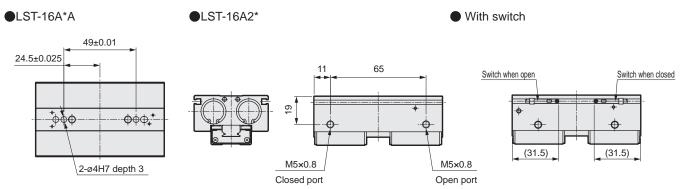


## Dimensions (bore size: ø16, short stroke)



#### ●LST-16A1N

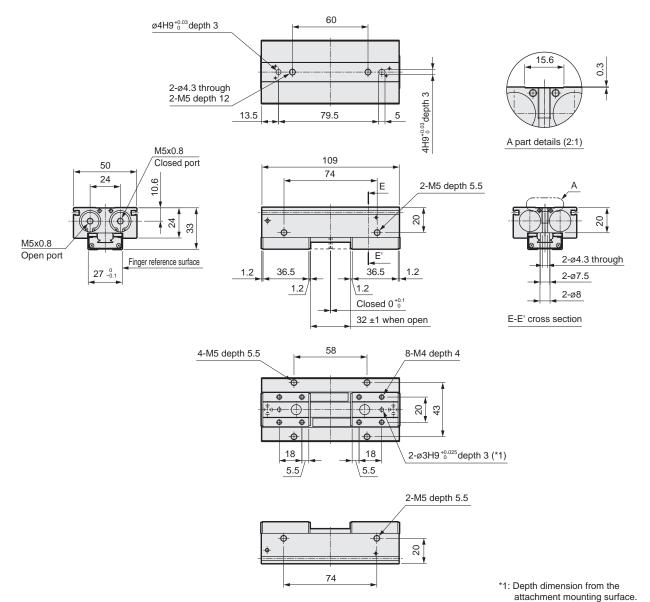




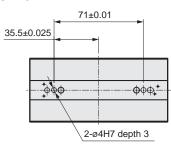
### Dimensions (bore size: Ø16, middle stroke) [CAD]



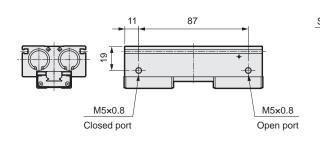
#### ●LST-16B1N

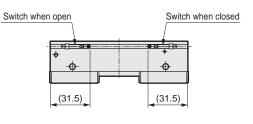


#### ●LST-16B\*A



#### ●LST-16B2\*

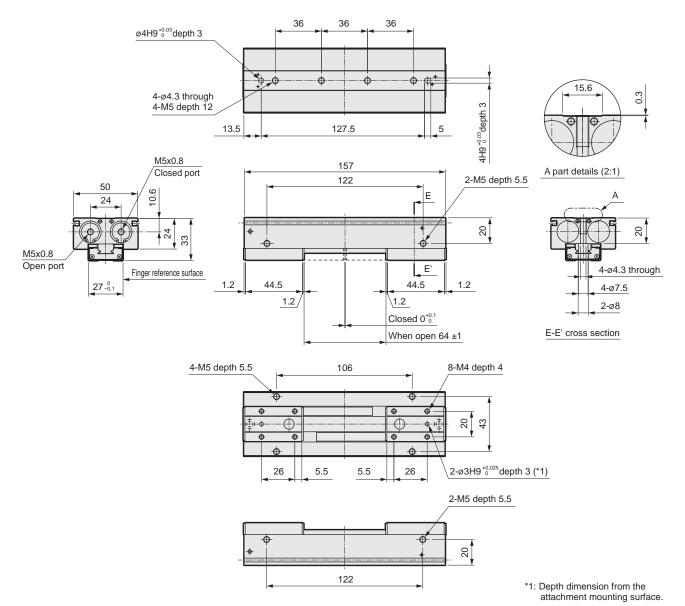




### Dimensions (bore size: ø16, long stroke)

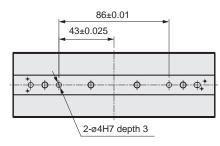


#### ●LST-16C1N

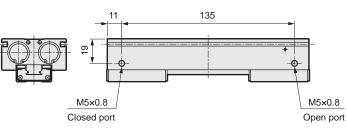


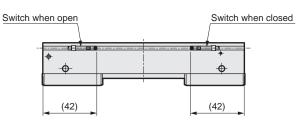
#### ●LST-16C\*A

●LST-16C2\*



# 135

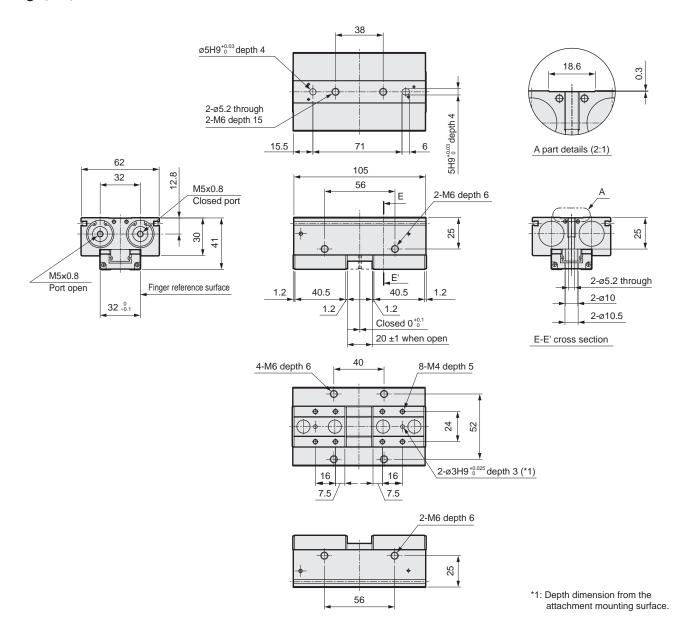




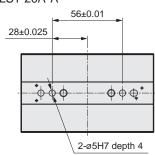
## Dimensions (bore size: ø20, short stroke)



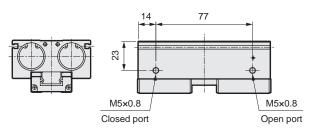
#### ●LST-20A1N

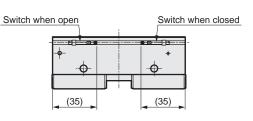


#### ●LST-20A\*A



#### ●LST-20A2\*

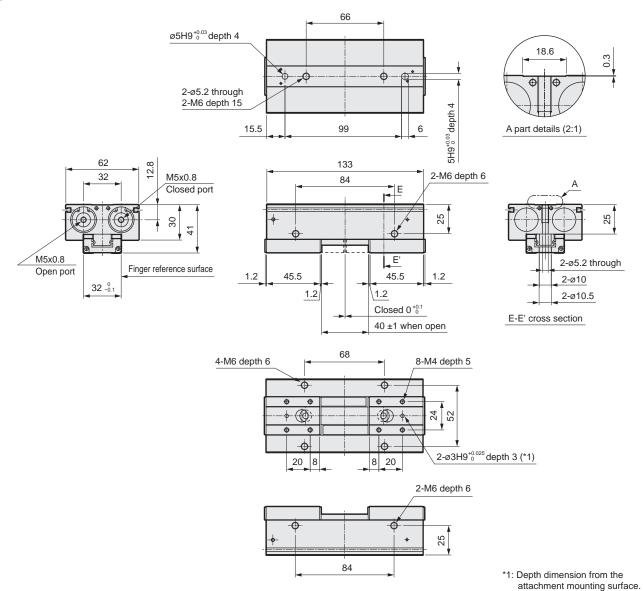




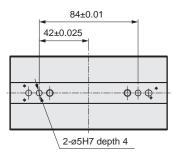
### Dimensions (bore size: ø20, middle stroke)



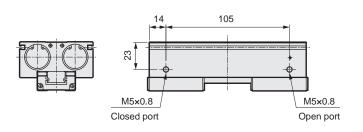
#### ●LST-20B1N

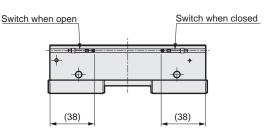


#### ●LST-20B\*A



#### ●LST-20B2\*

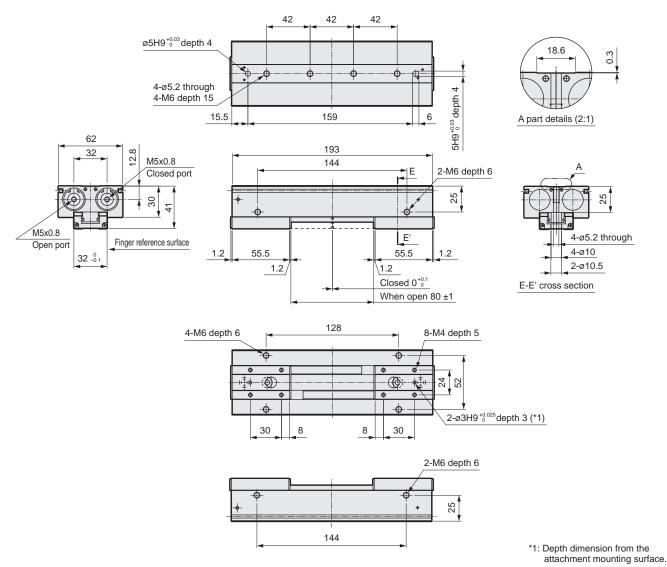




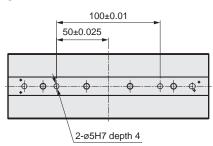
## Dimensions (bore size: ø20, long stroke)



#### ●LST-20C1N



#### ●LST-20C\*A



#### ●LST-20C2\*

