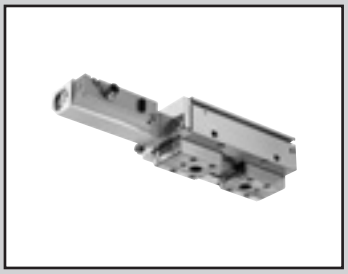


Low-profile long stroke hand with length measuring function

LSTM-HP2 Series

● Operating stroke length: 12, 16, 20 mm

Double acting

Specifications

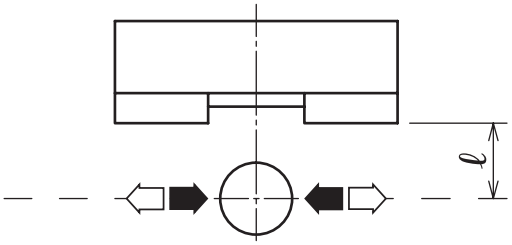
Item		LSTM		
Bore size	mm	ø12 x 2	ø16 x 2	ø20 x 2
Actuation		Double acting		
Working fluid		Compressed air		
Max. working pressure	MPa	0.7		
Min. working pressure	MPa	0.1		
Port size		M5		
Operating stroke length	mm	12	16	20
Power supply voltage		24 VDC ±10%		
Current consumption		25 mA or less		
Display lamp		Green LED ON when power applied		
Analog output		1 V when finger is closed - 5V*1 when open, connection load 100kΩ or more		
Analog output linearity		±0.5% F.S. or less (ambient temperature 25°C)		
Repeatability of analog output		±0.04 mm or less (No deformation or wear of the actuator / jig when ambient temperature is 25°C)		
Valid measured range length	mm	12	16	20
Shock resistance (sensor/amplifier section)		294m/s^2		
Vibration resistance (sensor / amplifier section)		10 to 55Hz double amplitude 1.5mm, 2 hours in each X, Y, Z direction		
Degree of protection (sensor/amplifier section)		IEC Standard IP65		
Ambient temperature, humidity		10 to 60°C, 85% RH or less (no freezing)		
Weight	kg	0.26	0.50	0.90
Lubrication		Not required		

*1: There is output fluctuation of 1 mV/°C.

Gripping power

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

● Open direction (⇦)
● Close direction (➡)

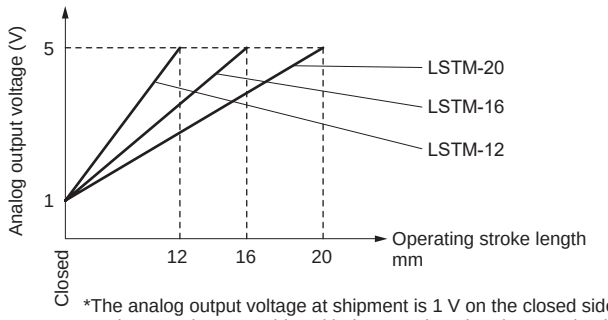


Unit: N

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

*Supply pressure: 0.5 MPa, L = 15 mm, value at stroke center

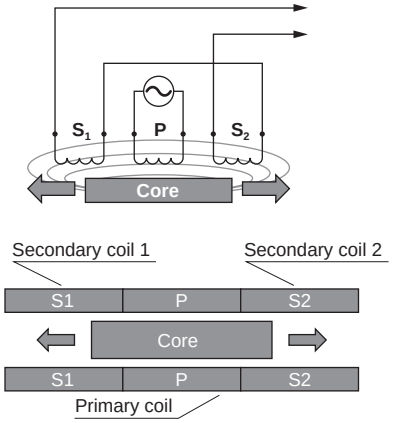
Analog output characteristics



*The analog output voltage at shipment is 1 V on the closed side and 5 V on the open side, with the port closed and pressurized..

LVDT displacement sensor operation principle

When exciting the primary coil (P), induced voltage is generated in the two secondary coils (S1/S2) by electromagnetic induction.When the Hand is driven, the core position changes and a difference in induced voltage occurs between S1 and S2.This difference is used to output the position of the core as electric signals.



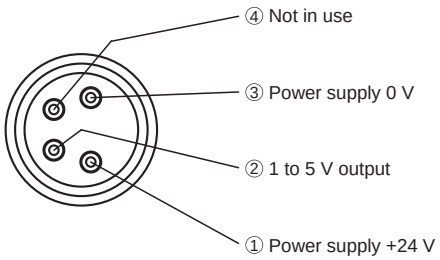
How to order

LSTM - 12 A 1 N - HP2

- A Bore size (mm)
- B Stroke length
- C Port position
- D High precision positioning hole

Code	Description
A Bore size (mm)	
12	ø12
16	ø16
20	ø20
B Stroke	
A	Short stroke length
C Port position	
1	Standard, axis direction
D High precision positioning hole	
N	None
A	Yes

Plug contact array diagram



[Example of model No.]

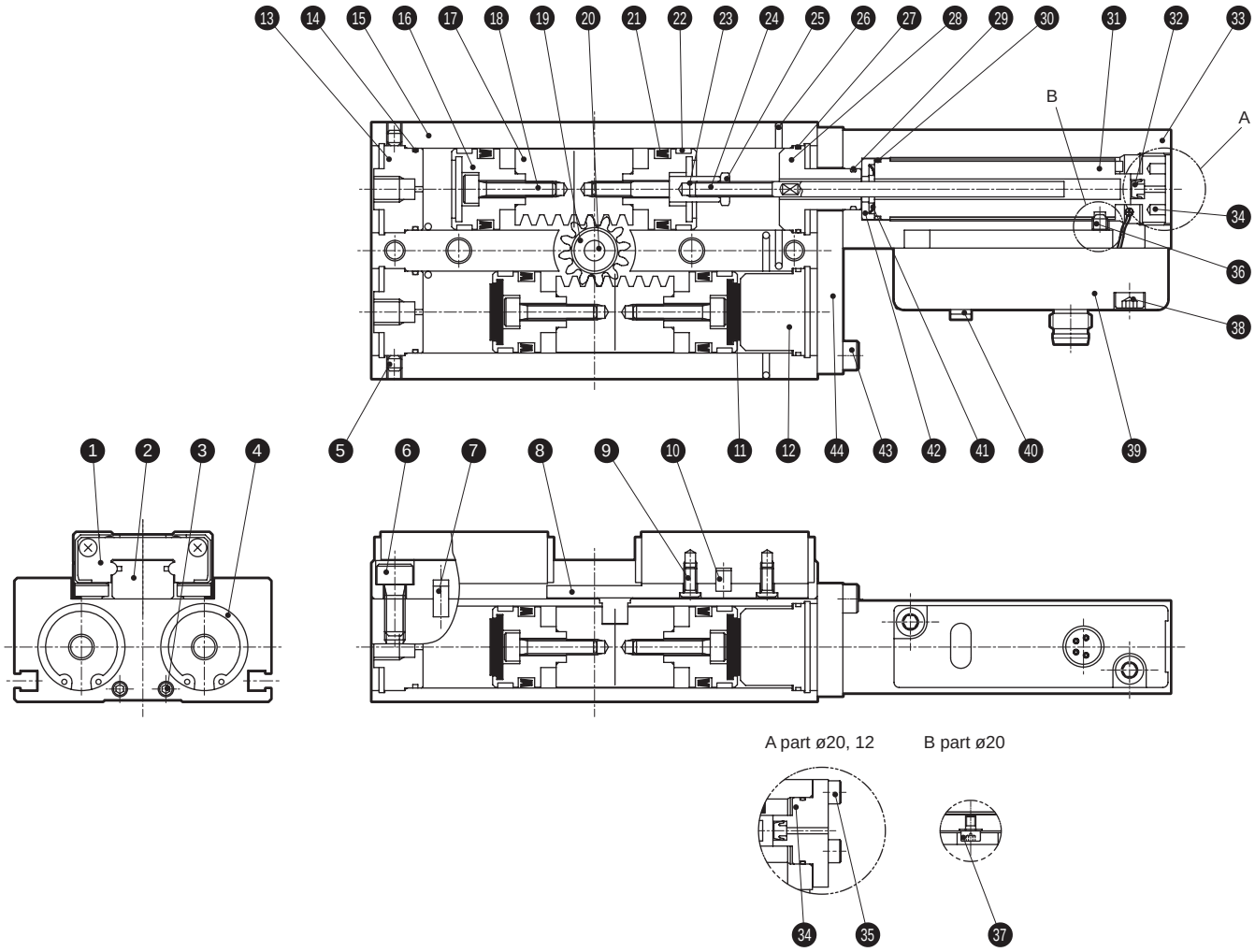
LSTM-16A1A-HP2

Model: Low-profile long stroke hand with length measuring function

- A Bore size (mm) : ø16
- B Stroke : Short stroke length
- C Port position : Standard, axis direction
- D High precision positioning hole : Yes

Internal structure diagram and parts list

●LSTM-12~20A



Cannot be disassembled

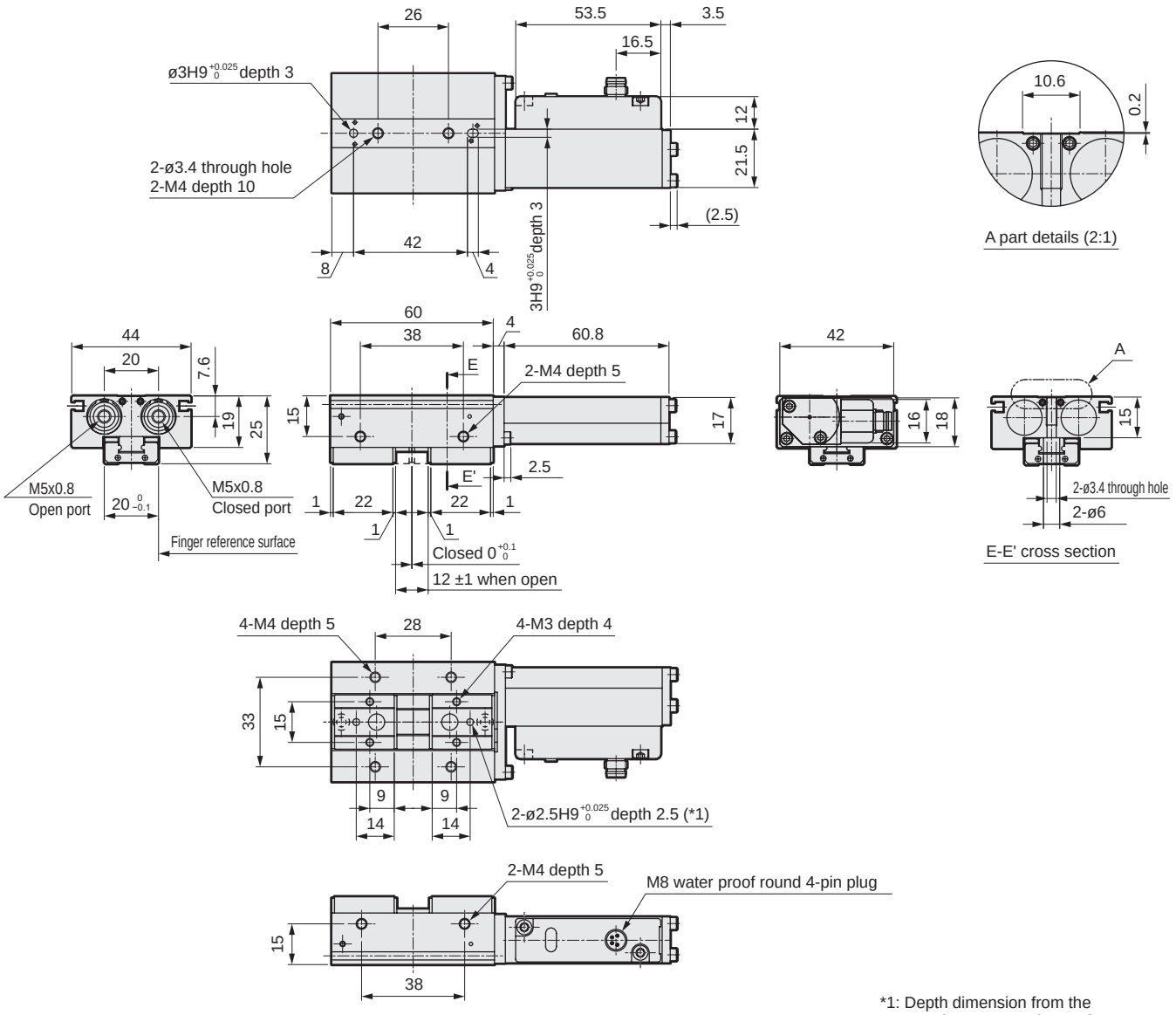
Parts list

Part number	Part name	Material	Remarks	Part number	Part name	Material	Remarks
1	Finger	Stainless steel		23	Fixed rod	Stainless steel	
2	Linear guide	Stainless steel		24	Core shaft	Steel	
3	Hexagon socket set screw	Stainless steel		25	Nut	Stainless steel	
4	Round R type snap ring	Steel	ø12	26	Steel ball	Stainless steel	
	C-snap ring	Steel	ø16~20	27	O-ring	Nitrile rubber	
5	Hexagon socket set screw	Stainless steel		28	Cover 2	Aluminum alloy	Chromate
6	Hexagon socket head cap screw	Stainless steel		29	O-ring	Nitrile rubber	
7	Pin	Stainless steel		30	O-ring	Nitrile rubber	
8	Rack joint	Stainless steel		31	Sensor body	-	
9	Pan head machine screw	Stainless steel		32	Check valve	Nitrile rubber	
10	Pin	Stainless steel		33	Sensor adaptor	Aluminum alloy	Chromate
11	Cushion rubber	Urethane rubber		34	Head cover	Chromate	
12	Cover 1	Aluminum alloy	Chromate	35	Hexagon socket head cap screw	Stainless steel	
13	Port cover	Aluminum alloy	Chromate	36	Hexagon socket set screw	Stainless steel	
14	O-ring	Nitrile rubber		37	Hexagon socket head cap screw	Stainless steel	
15	Body	Aluminum alloy	Hard alumite	38	Hexagon socket head cap screw	Stainless steel	
16	Piston	Aluminum alloy	Chromate	39	Amplifier	-	
17	Rack	Stainless steel		40	Plug	Nitrile rubber	
18	Hexagon socket head cap screw	Stainless steel		41	Wave washer	Stainless steel	
19	Pinion	Steel alloy		42	Washer retainer	Aluminum alloy	
20	Pin	Stainless steel		43	Hexagon socket head cap screw	Stainless steel	
21	Piston packing	Nitrile rubber		44	Mounting plate	Aluminum alloy	
22	Wear ring	Acetal resin					

MEMO

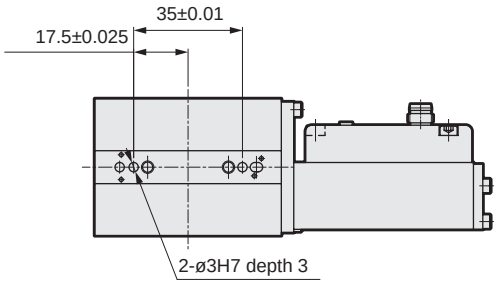
Dimensions (bore size: ø12)

●LSTM-12A1N



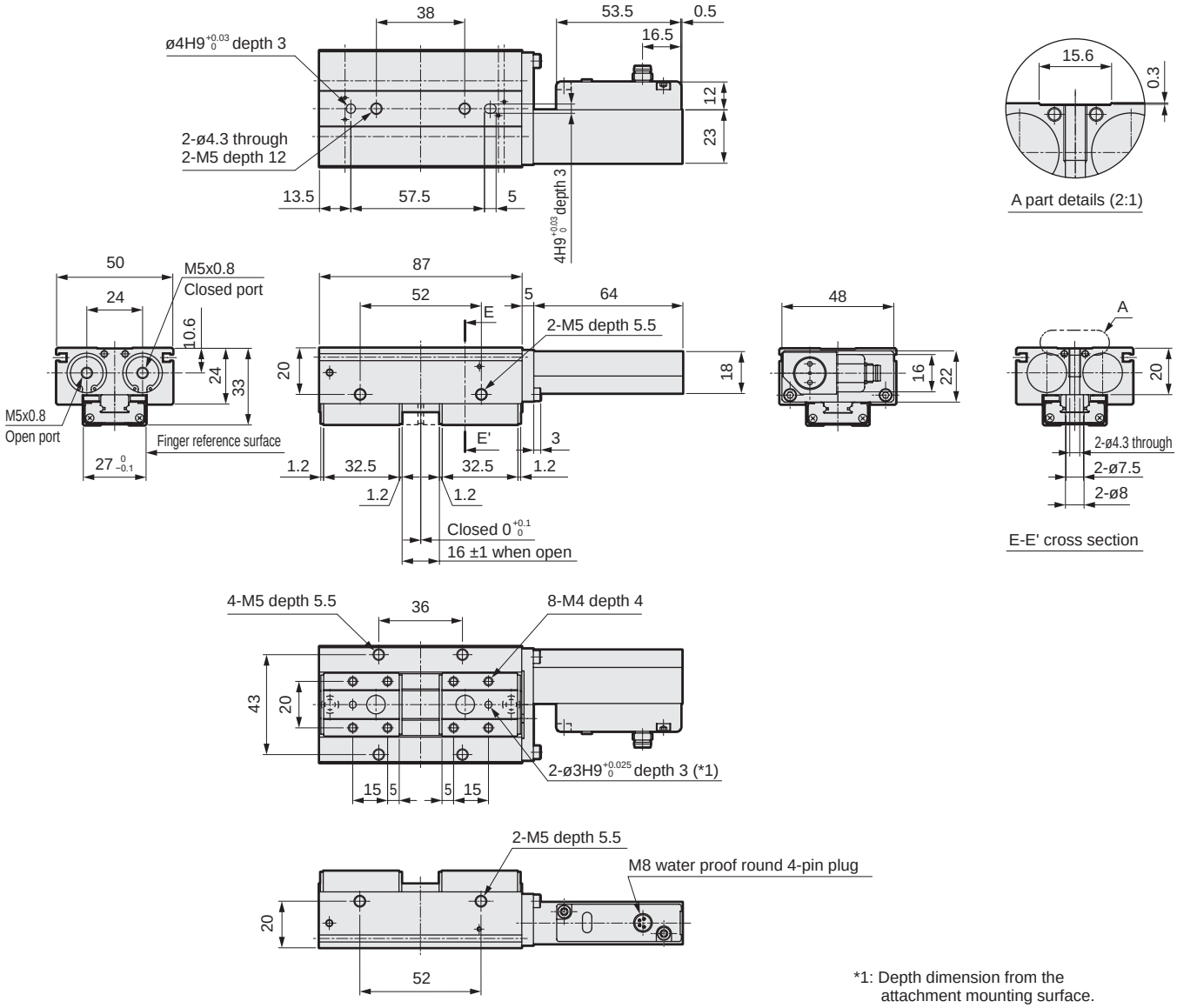
*1: Depth dimension from the attachment mounting surface.

●LSTM-12A1A



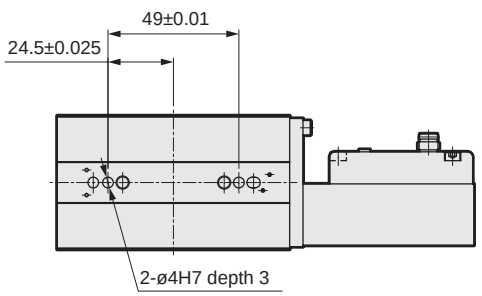
Dimensions (bore size: ø16)

●LSTM-16A1N



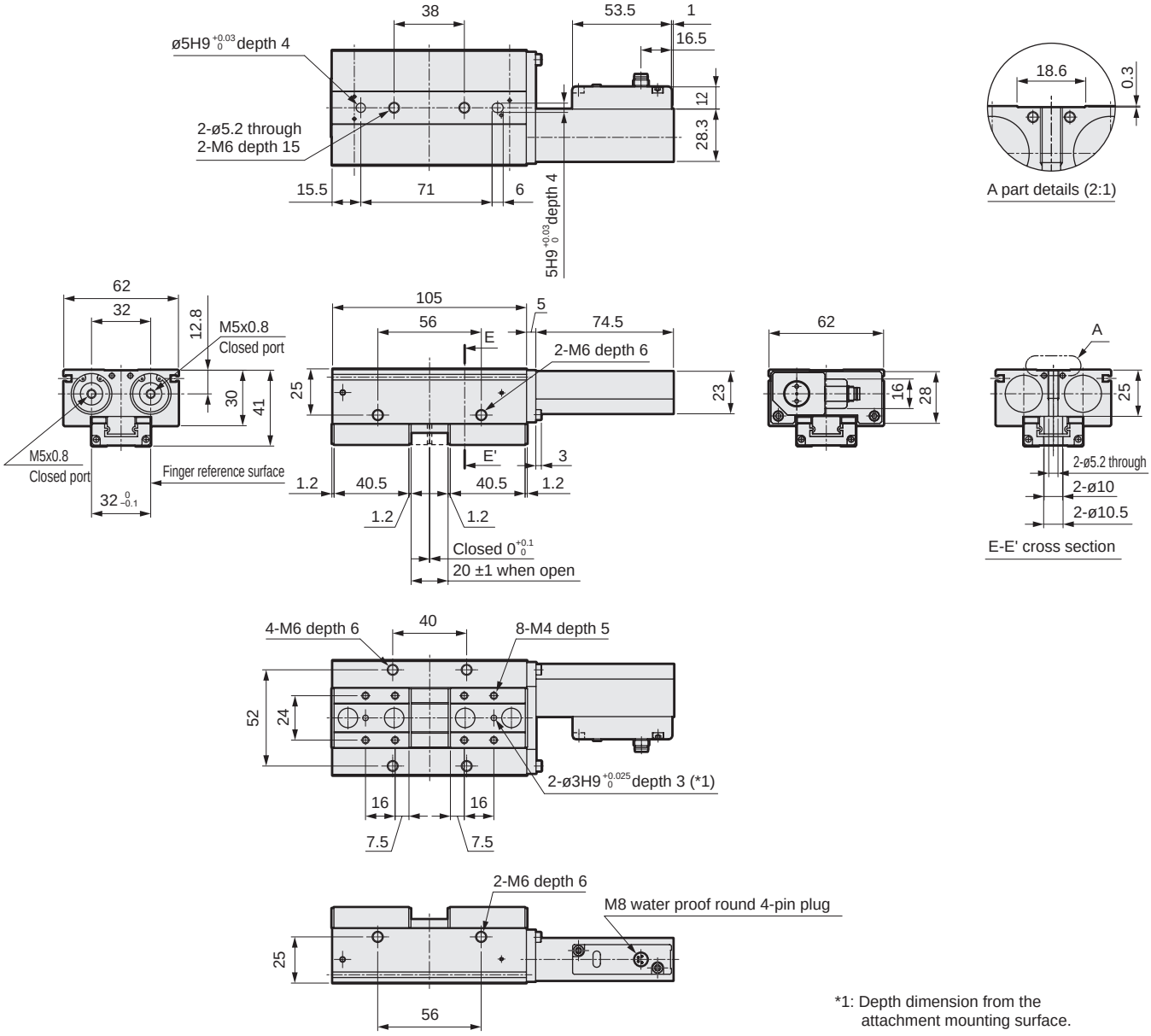
*1: Depth dimension from the attachment mounting surface.

●LSTM-16A1A



Dimensions (bore size: ø20)

●LSTM-20A1N



*1: Depth dimension from the attachment mounting surface.

●LSTM-20A1N