

**Model**  
**ALM602**

**Feature**

- Aluminum alloy housing
- SUS304 inner-tube
- Compact mechanical system
- Protect class IP66
- Built-in limit switches
- Imported POT/HALL sensors (options)
- CE certificated
- Widely work in the harsh environment



**Basic Spec.**

Housing color	<input type="checkbox"/> Silver	<input type="checkbox"/> Black	<input type="checkbox"/> Customize colors			
Screw type	<input type="checkbox"/> T screw					
Control	<input type="checkbox"/> control box		<input type="checkbox"/> control system + manual			
Application	<input type="checkbox"/> Industrial					
Work environment	<input type="checkbox"/> 0~40°C	<input type="checkbox"/> -20~65°C	<input type="checkbox"/> -40~65°C			
Noise level	<input type="checkbox"/> ≤65dB					
Stroke	<input type="checkbox"/> 50-600mm	<input type="checkbox"/> Customize stroke				
Load	<input type="checkbox"/> ≤1200N	<input type="checkbox"/> ≤2000N	<input type="checkbox"/> ≤2500N			
Duty cycle	<input type="checkbox"/> 10%	<input type="checkbox"/> 20%				
Motor type	<input type="checkbox"/> Brushed DC motor					
IP rating	<input type="checkbox"/> IP65	<input type="checkbox"/> IP66				
Signal output	<input type="checkbox"/> No	<input type="checkbox"/> Switch signal	<input type="checkbox"/> Hall sensors	<input type="checkbox"/> POT	<input type="checkbox"/> Magnetic switch	
Input voltage	<input type="checkbox"/> 12V	<input type="checkbox"/> 24V	<input type="checkbox"/> 36V	<input type="checkbox"/> 48V		
Cable length	<input type="checkbox"/> 1m	<input type="checkbox"/> 2m	<input type="checkbox"/> Customize length			

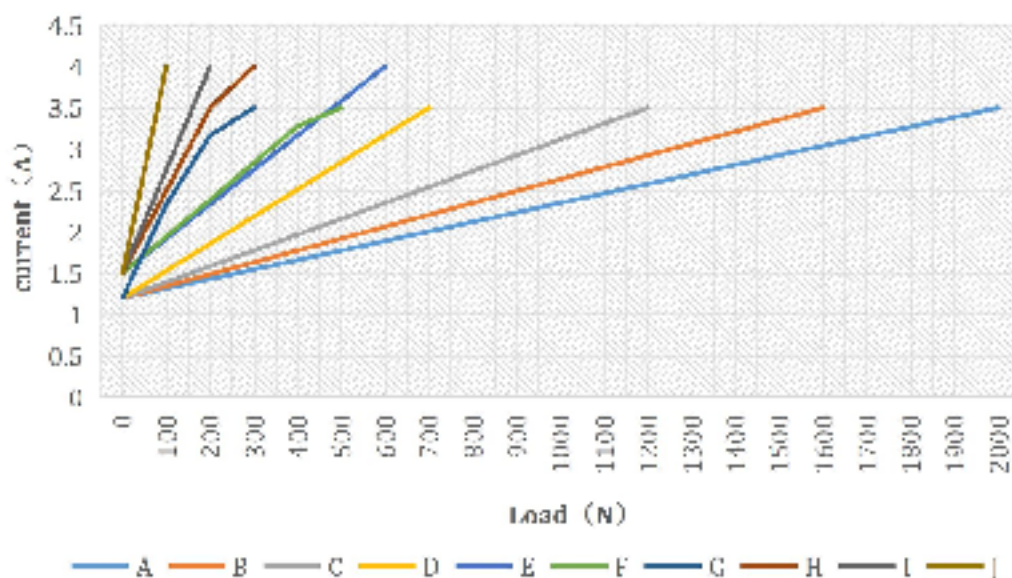
# Technical info

Code	Gear ratio	Screw pitch	Max.load	No-load (mm/s)	Full-load (mm/s)	Test environment (standard temperature)							
						12V	24V	36V	48V	12V	24V	36V	48V
						No-load current (A)				Full-load current (A)			
A	40:1	3	2000	5	35	1.2	0.6	0.4	0.3	3.5	2	1.5	1
B	30:1	3	1600	65	5	1.2	0.6	0.4	0.3	3.5	2	1.5	1
C	20:1	3	1200	10	7	1.2	0.6	0.4	0.3	3.5	2	1.5	1
D	10:1	3	700	18	13	1.2	0.6	0.4	0.3	3.5	2	1.5	1
E	20:1	5	600	14	11	1.5	0.8	0.5	0.3	4	2.5	1.5	1
F	20:1	7.5	450	24	18	1.5	0.8	0.5	0.3	4	2.5	1.5	1
G	5:1	3	300	38	30	1.2	0.7	0.4	0.3	3.5	2	1.5	1
H	10:1	7.5	250	45	35	1.5	0.8	0.5	0.3	4	2.5	1.5	1
I	5:1	5	200	55	45	1.5	0.8	0.5	0.3	4	2.5	1.5	1
J	5:1	7.5	100	80	60	1.5	0.8	0.5	0.3	4	2.5	1.5	1

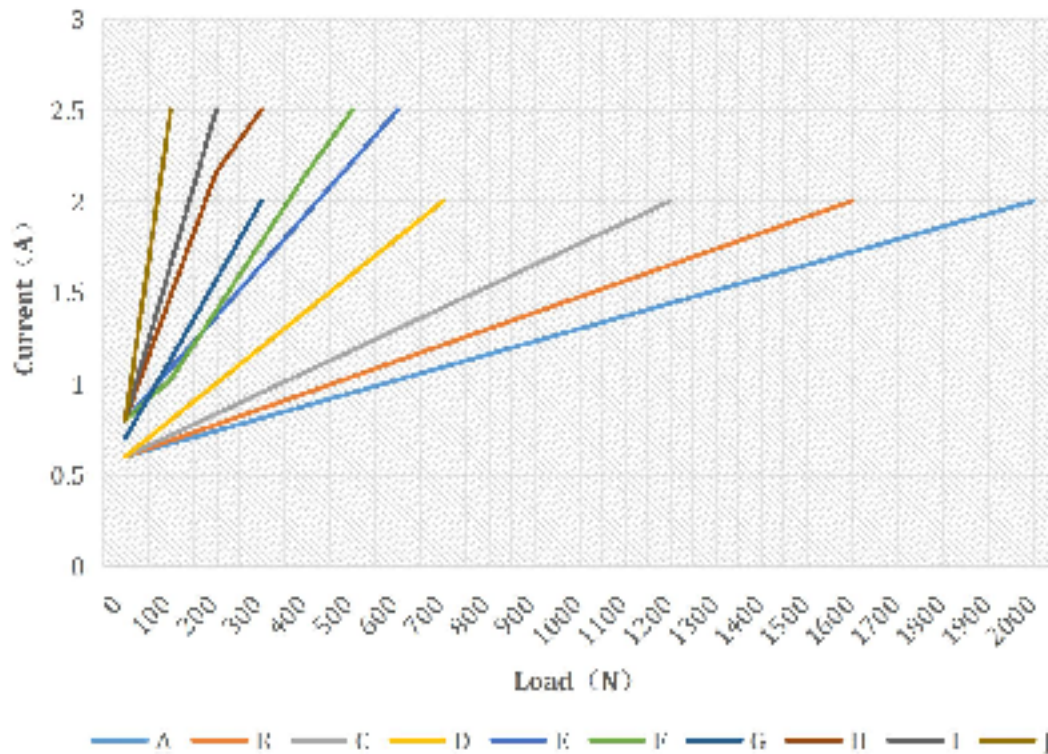
## Load & Current

(The letter corresponds to the transmission code in the selection parameter table)

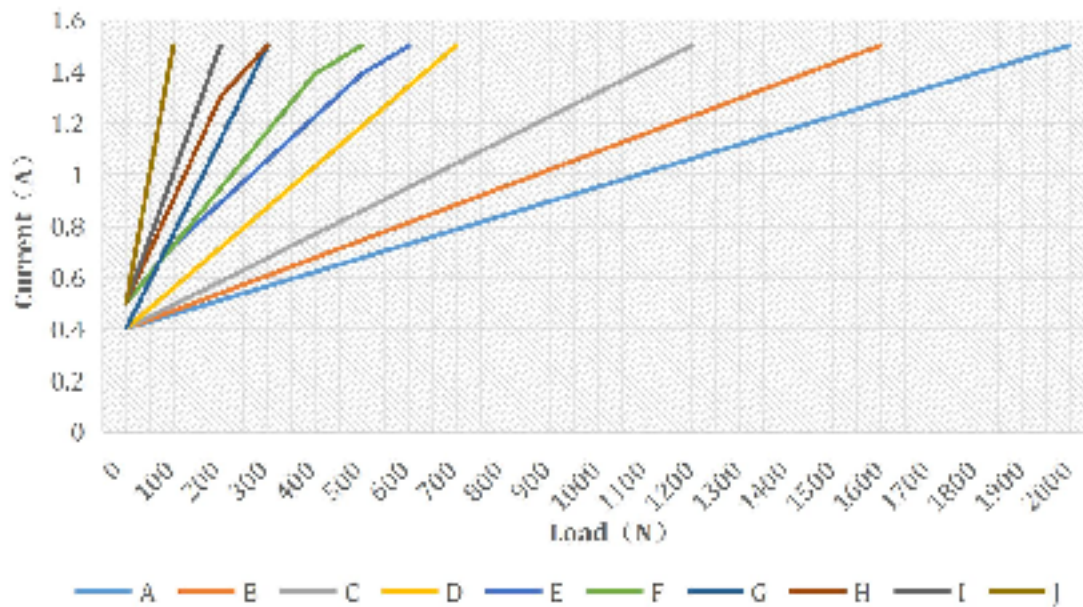
12V Load & Current



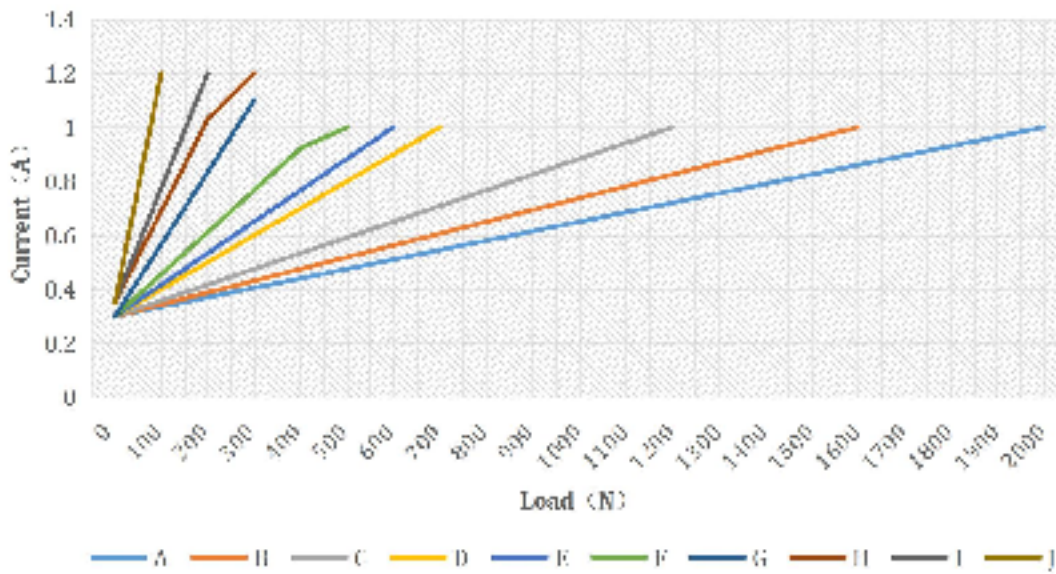
24V Load & Current



36V Load & Current



10V Load & Current



# Mounting length

## Stroke & Mounting length

Linear actuator without POT

Linear actuator with POT

S(mm)	Retracted L (mm)	Extended A (mm)	Simulate
50	158	208	$30 \leq \text{Stroke} \leq 300,$ $L = S + 108$ $A = L + S (A = S^2 + 108)$
100	208	308	
150	258	408	
200	308	508	
250	358	608	
300	408	708	
350	500	850	$300 < \text{Stroke} \leq 500,$ $L = S + 150$ $A = L + S (A = S^2 + 150)$
400	550	950	
450	600	1050	
500	650	1150	
550	730	1280	$500 < \text{Stroke} \leq 600,$ $L = S + 180$ $A = L + S (A = S^2 + 180)$
600	780	1380	

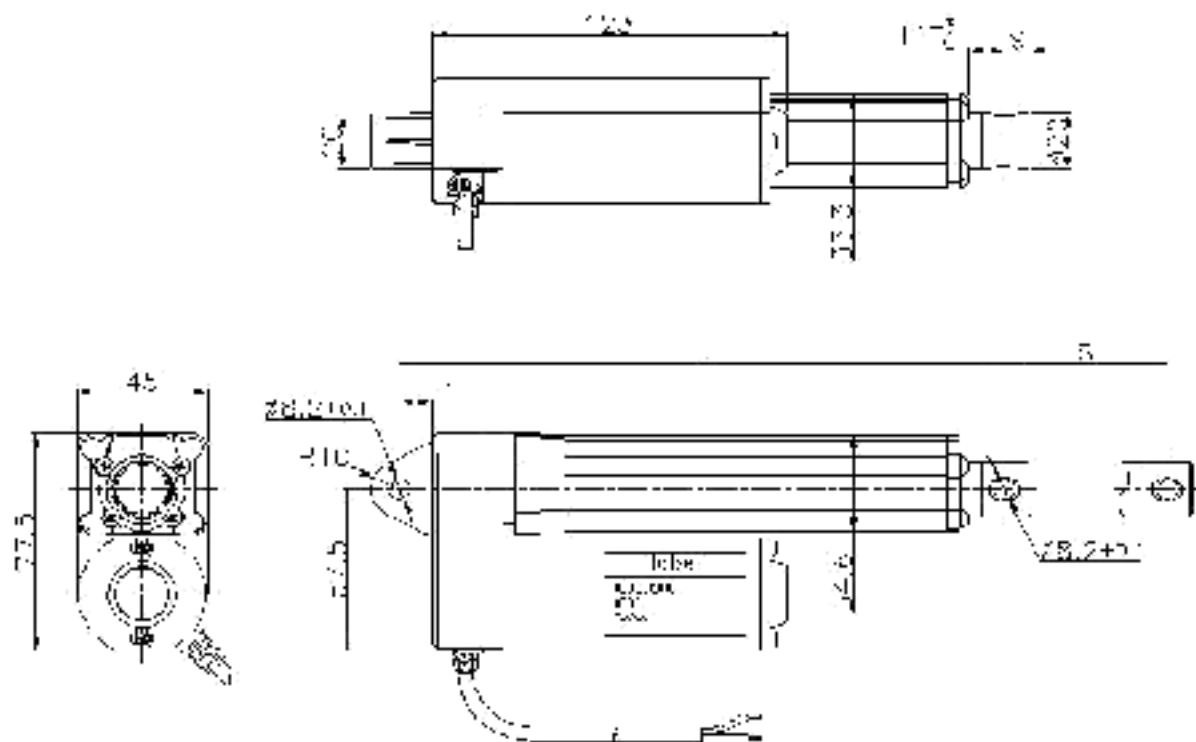
S(mm)	Retracted L (mm)	Extended A (mm)	Simulate
50	190	240	$30 \leq \text{Stroke} \leq 400,$ $L = S + 140$ $A = L + S (A = S^2 + 140)$
100	240	340	
150	290	440	
200	340	540	
250	390	640	
300	440	740	
350	490	840	
400	540	940	

## Dimension

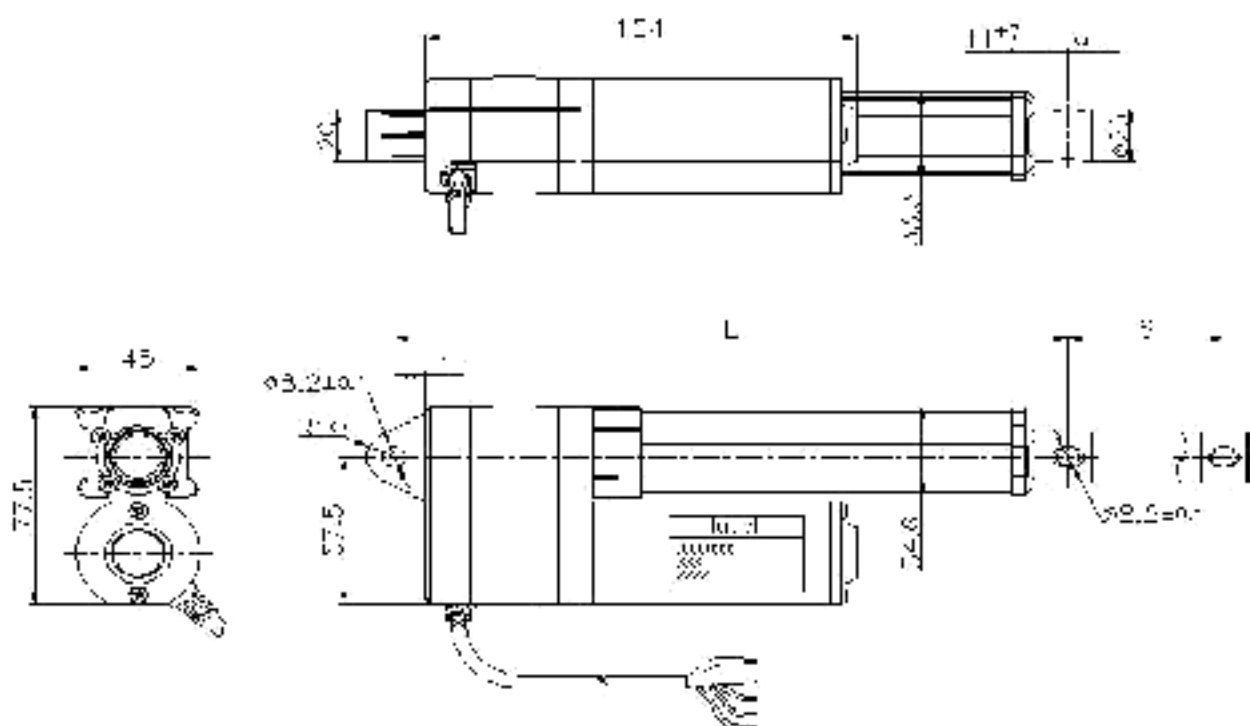
S: Stroke, the travel length of actuator

L: Length, the fully retracted length of actuator from front hole centre to rear hole centre

### (Standard type/without POT)

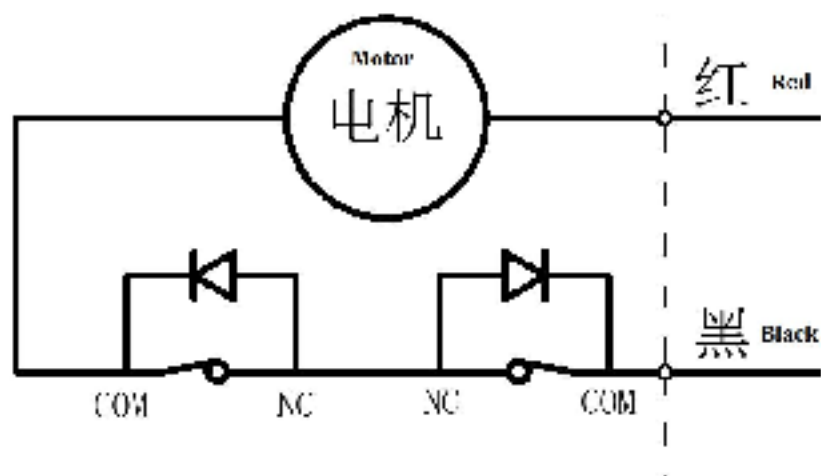


### (With POT)



# Signal output

## Standard limit switch diagram



## Limit switch signal output

Closed <input type="checkbox"/>	Open <input type="checkbox"/>
<p>The diagram shows a motor connected to a limit switch. The switch has terminals labeled 'COM', 'NC', and 'COM'. The signal output is shown as a closed switch.</p>	<p>The diagram shows a motor connected to two limit switches: 'Down limit switch' and 'Upper limit switch'. The signal output is shown as an open switch.</p>
C <input type="checkbox"/>	NC <input type="checkbox"/>
<p>The diagram shows two limit switches: 'Upper limit switch' and 'Down limit switch'. The signal output is shown as a common terminal connected to a motor.</p>	<p>The diagram shows two limit switches: 'Upper limit switch' and 'Down limit switch'. The signal output is shown as a normally closed terminal connected to a motor.</p>



## Hall sensor signal

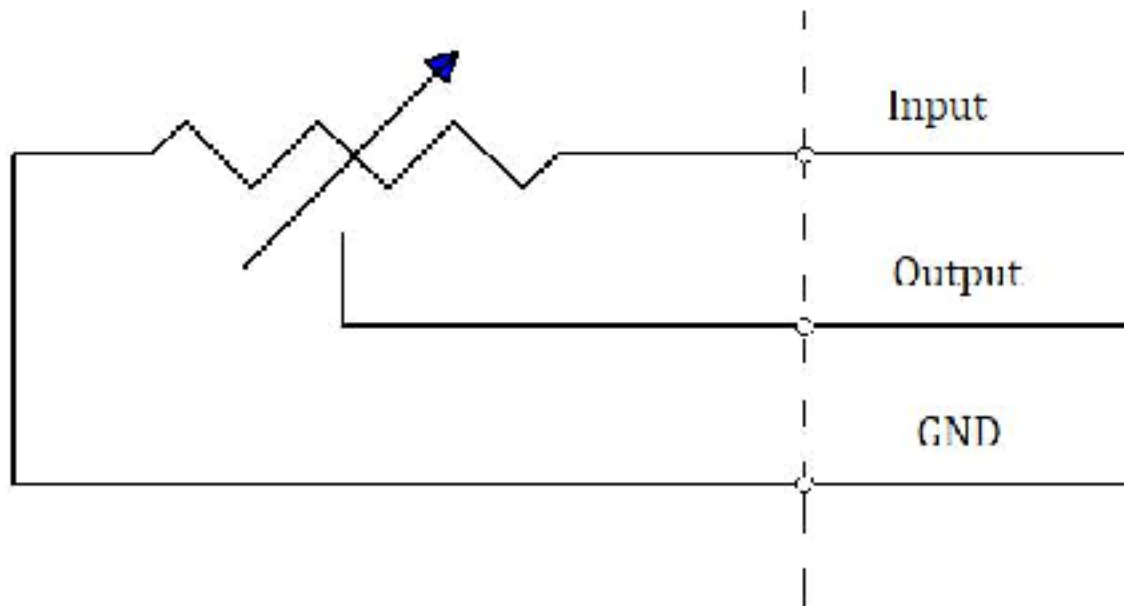
Hall sensors built-in motor				
Code	Signal feedback	Magnetic pole	Resolution (1 pair of pole) Pulse/mm	Resolution (4 pairs of poles) Pulse/mm
A	Hall sensors	1 pair of pole or 4 pairs of poles	13.17 pulse/mm	52.67 pulse/mm
B			10.16 pulse/mm	40.63 pulse/mm
C			7.10 pulse/mm	28.4 pulse/mm
D			3.70 pulse/mm	14.8 pulse/mm
E			4.26 pulse/mm	17.04 pulse/mm
F			2.84 pulse/mm	11.36 pulse/mm
G			1.78 pulse/mm	7.12 pulse/mm
H			1.48 pulse/mm	5.92 pulse/mm
I			1.07 pulse/mm	4.272 pulse/mm
J			0.71 pulse/mm	2.848 pulse/mm
Phase difference				
Phase difference 90°		<p>The diagram shows two square wave signals, Hall 1 and Hall 2, for two different phases: Extend (伸長) and Retract (縮短). In the Extend phase, Hall 1 is high and Hall 2 is low. In the Retract phase, Hall 1 is low and Hall 2 is high. The signals are 90 degrees out of phase. Blue arrows indicate the pulse width and the phase shift between the two signals.</p>		

Notice: Hall sensor power supply 3.3V-24V, recommend to use 5V or 12V

## POT

POT information			
Resistance	Turn(s)	Tolerance	Remark
10K	10	$\pm 5\%$	Actual resistance value may vary within the 0-10K $\Omega$ range based on stroke length
POT (10K $\Omega$ )			
Code	Initial resistance	10K $\Omega$ POT Max. stroke	Remark
A、B、C、D、G	0.2-0.4K $\Omega$	180mm/540mm	/
E、I	0.2-0.4K $\Omega$	300mm/600mm	/
F、H、J	0.2-0.4K $\Omega$	540mm/600mm	/

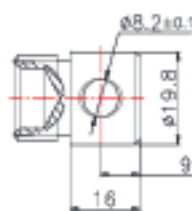
### Potentiometer wiring diagram



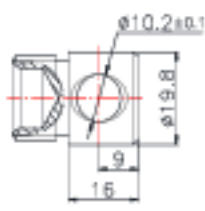


# Attachment options

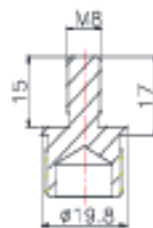
## Front



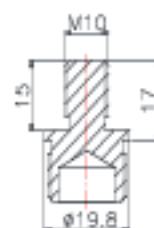
01



02



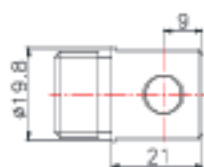
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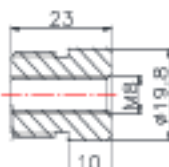
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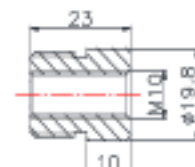
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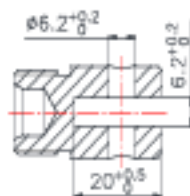
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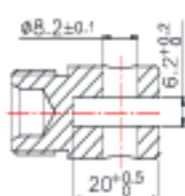
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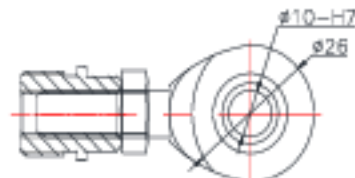
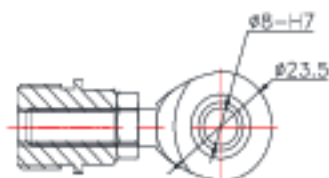
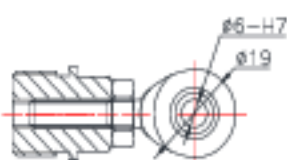
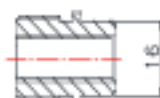
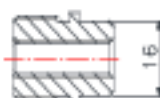
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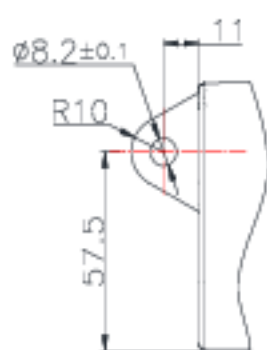
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## Rear



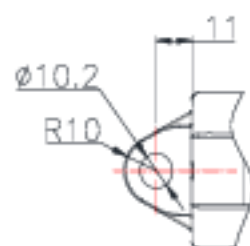
01  
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04  
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## Main products

Model	Load (N)	Stroke (mm)	Speed (mm/s)	IP rating	Application
ALM501B	8000	50-600mm	5-17mm/s	IP65	Medical, furniture, industrial
ALM601	1200	50-600mm	3.5-80mm/s	IP65	Industrial
ALM602	2000	50-600mm	3.5-55mm/s	IP65	Industrial
ALM603	2500	50-600mm	5-15mm/s	IP65	Medical, furniture, industrial
ALM606	8000	50-600mm	5-50mm/s	IP65	Industrial
ALM606A	7000	50-900mm	5-50mm/s	IP65	Industrial
ALM607	5000	50-600mm	5-50mm/s	IP65	Industrial
ALM608	12000	50-1000mm	6.5-38mm/s	IP66	Industrial