Mach Motion Products

MLA-HDA Electric Hydraulic Linear Actuator

2026 Catalog

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• Product Overview

MLA-HDA Hydraulic Linear Actuators are a versatile, environmentally friendly motion control solution for a wide range of industrial applications. Featuring a miniature DC Permanent Magnet motor, the MLA-HDA features a smaller size than other actuator models, easy installation, and is essentially maintenance free.

The fully enclosed hydraulic system ensures reliable, stable operation without environmental pollution. The MLA-HDA has a IP65 Protection Rating and an optional -20º~ 60ºC working environment configuration.

Ideal for applications like:

- Industrial Machinery & Automation Equipment
- Material Transfer Carriers, Lift and Clamping Fixtures
- Vehicles, Industrial Machinery, Auxilary Lifting and Moving Devices
- Office, Medical and Fitness Equipment
- Sports and Recreational Facilities

• General Specifications

Color	_ Silver	X Black	_ Custom			
Operation Mode	X Electrical	_ Electrical + Manual				
Application	X Industrial	X Furniture	X Medical			
Operational Temp.	_ 5°C to 40°C	_ -10°C to 65°C	X -40°C to 65°C			
Stroke Range	X 150 to 350 mm	_ 351 to 600mm	_ 600 to 1,000mm			
Dynamic Load	_ ≤1,200N	_ ≤2,000N	_ ≤4,000N	X ≤8,000N	_ ≤10,000N	_ ≤20,000N
Motor Type	X Brushed DC	_ Stepper Motor	_ Brushless	_ Servo Motor		
Overload Protection	_ None	X Relief Valve	_ Electronic	_ Thermistor	_ Clutch	
Weather Protection	_ IP20	_ IP43	_ IP54	X IP65	IP66	_ IP69K
Position Feedback	_ None	X Limit Switch (Internal)	_ Hall Sensor	_ Potentiometer	_ Encoder	_ Endstop Signal
Input Voltage	X 12VDC	X 24VDC	X 36VDC	X 48VDC	_ 110VAC	_ 220VAC

[Table 1]

• Technical Parameters

Specification	Rated Voltage (DC)	12V, 24V, 36V, 48V	Motor	Power	270W
	Diameter	Ø38		RPM	5,000rpm
	Speed +/-10%	16mm/sec	Pump	Pressure	7.1Mpa
				Displacement	0.33ml/rpm

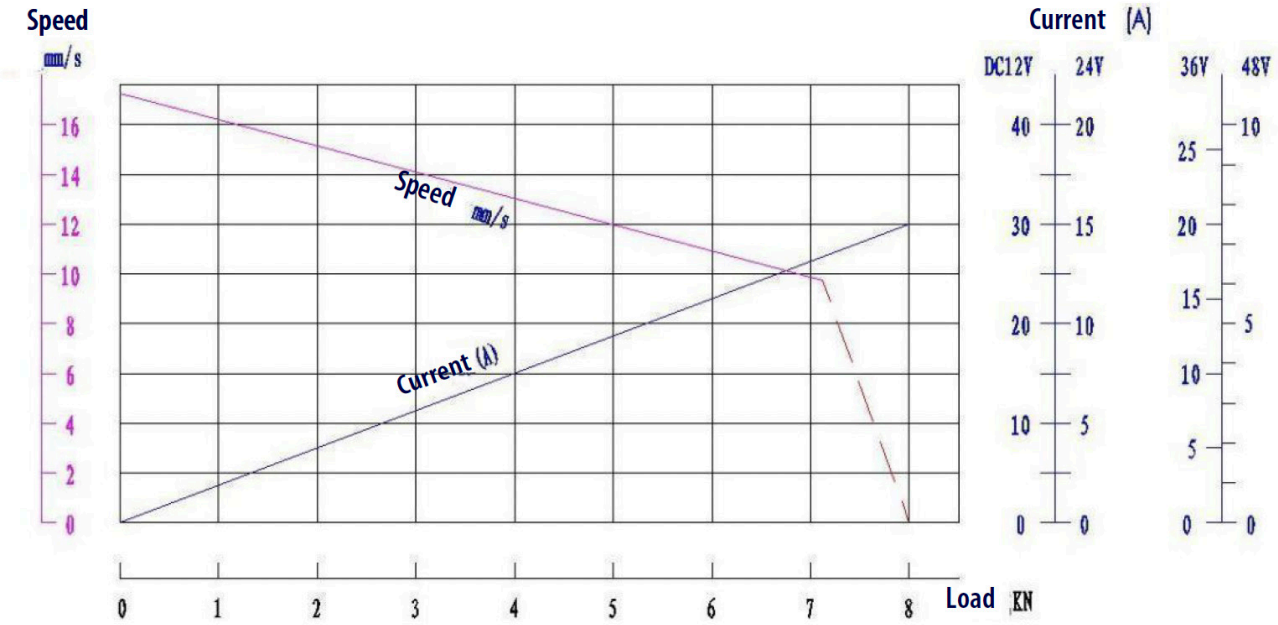
[Table 2]

Code	Max. Dynamic Load	Max. Self-Locking Load	Max. Stroke No Pot.
	(N)	(N)	(mm)
A	4,000	13,000	350
B	6,000	13,000	350
C	8,000	13,000	350

[Table 3]

• Performance

Current and Speed vs. Load

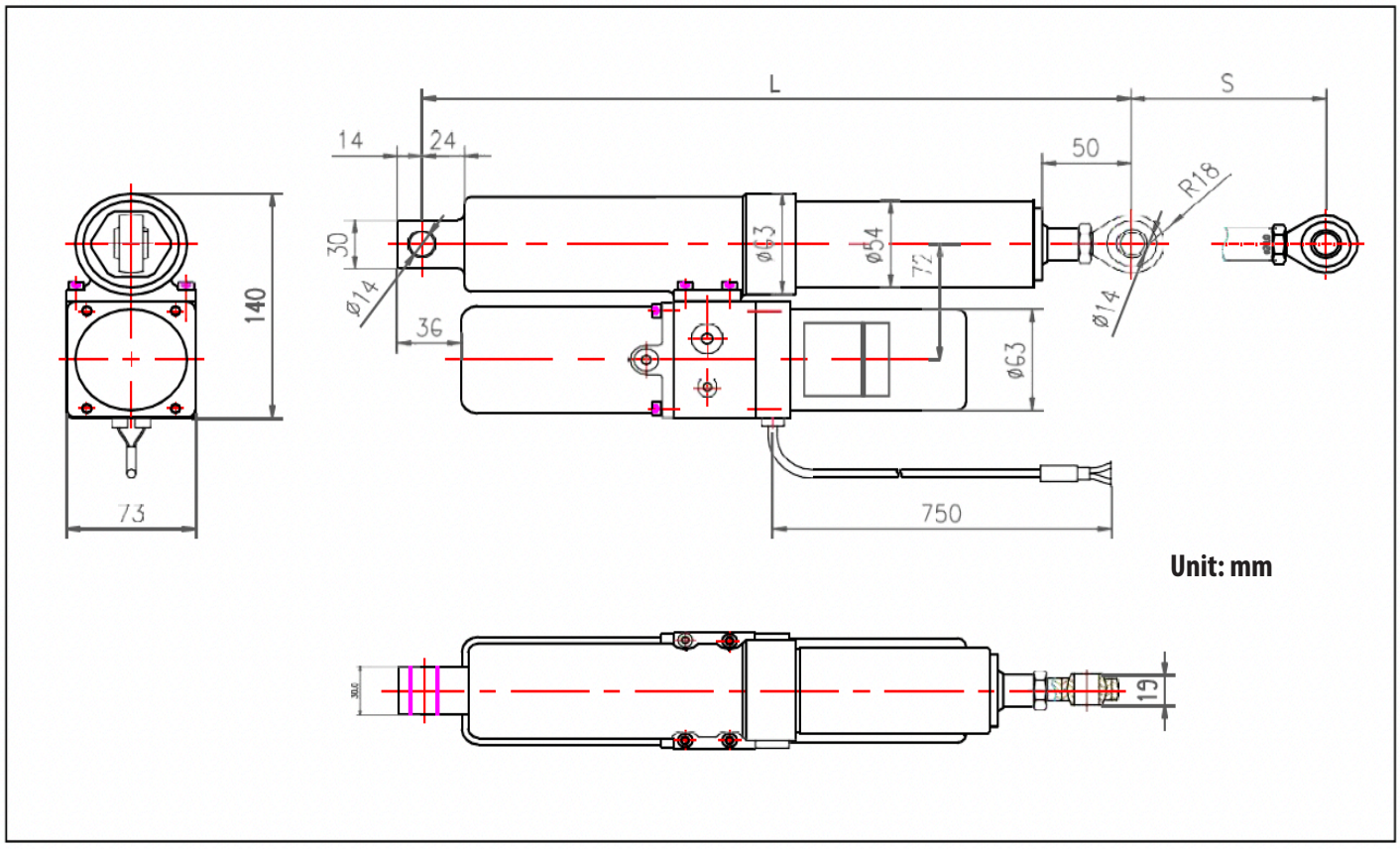


[Table 4]

• Overflow Valve

- Stop immediately when running to the limit position. If time exceeds 2 seconds, the overflow valve will cause oil temperature to rise.
- The set pressure of relief valve is fixed (4 MPa, 6 MPa, 8 MPa).
- All models are intermittenly driven and cannot be operated continuously.
- In 40 second units, valve is used within 25% of the duty cycle in a normal temperature working environment.
- At rated pressure (thrust), the dwell time is at or over 120 seconds.
- When the maximum load is 8,000N or duty ratio is exceeded, the cylinder stops working. The load or DC motor can be used again after a cool down period.
- When the static load is greater than 13,000N, the cylinder will return due to excessive pressure.
- Do not power off frequently.
- When the rated load is exceeded, the relief opens and cylinder will not move.
- Manual operation in an emergency is available.

• Product Dimensions

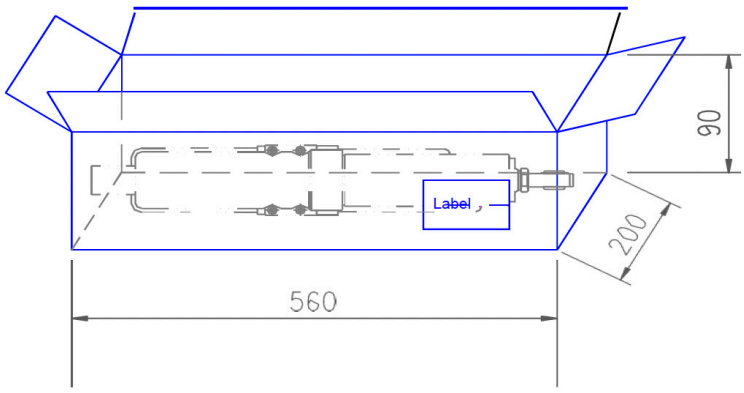


• Stroke vs. Installation Length

Stroke (S) (mm)	Installation Length (L) 150 + S (mm)
150	300
200	350
250	400
300	450
350	500

[Table 5]

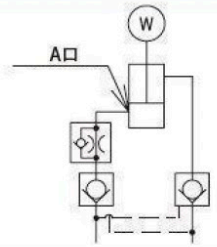
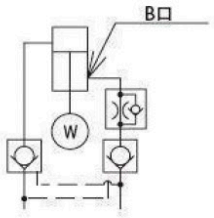
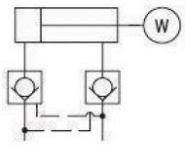
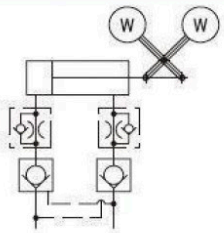
• Packaging Dimensions



• Selection of Throttle Hole

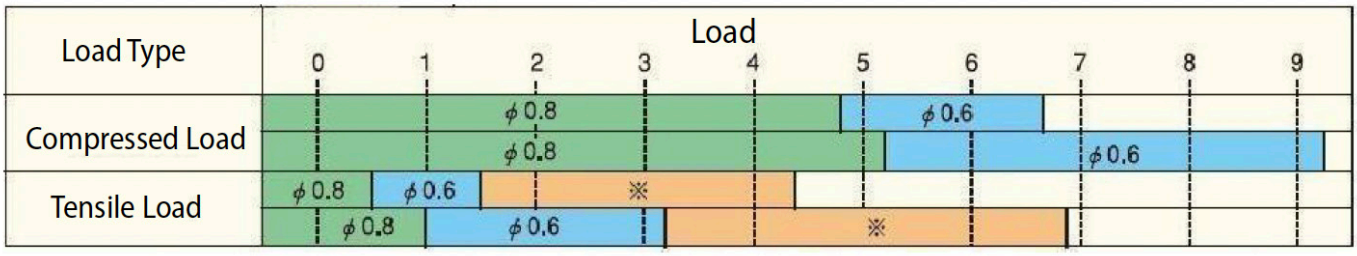
- Throttle holes are necesary on the reflux side when the cylinder shakes from drop of dead weight.
- These holes help maintain the same direction force of load and prevent running jitters.
- Port A or B can be chosen as throttle holes depending on cylinder's load.

• Load Form

A. Compressed Load	B. Tensile Load	C. Horizontal Load	D. Compressed & Tensile Load
			
A. Require Throttle Holes	B. Require Throttle Holes	C. Without Throttle Holes	Both Require Throttle Holes

[Table 6]

• Throttling Aperature



Example: 6Kn Compressed Load should choose Ø0.6mm throttle hole.

[Table 7]

• Important Notes

1. Cylinder should be retracted when actuator is not in use to prevent damage to cylinder seals.
2. Please note that cylinder must be fully extended to remove cylinder plug.
3. To prevent hydraulic oil leakage use caution and remove cylinder plug slowly as it is pressurized from actuator use.

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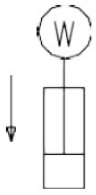
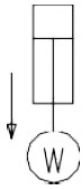
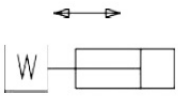
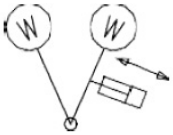
• Product Inquiry Table

Selection	Specification	Available Options			
	Voltage	1 = 12V	2 = 24V	3 = 36V	4 = 48V
	Load and Speed	See [Tables 2 & 3]			
	Stroke (mm)	Please contact cs@machmo.com if required stroke is out of range.			
	Installation Length (mm)	See [Table 5]			
	Throttle Hole	A:	1 = No	2 = 0.8mm	3 = 0.6mm
		B:	1 = No	2 = 0.8mm	3 = 0.6mm
	Cable Length	1 = 0.5m	2 = 0.75m	X = Custom	
	Load				
		A = Push	B = Pull	C = Horizontal	D = Push, Pull
Application	Working Temperature	1 = -20°C ~ 65°C			
	Working Frequency	Estimated Work Cycles Per Day			
	End Use	Indoor or Outdoor?			