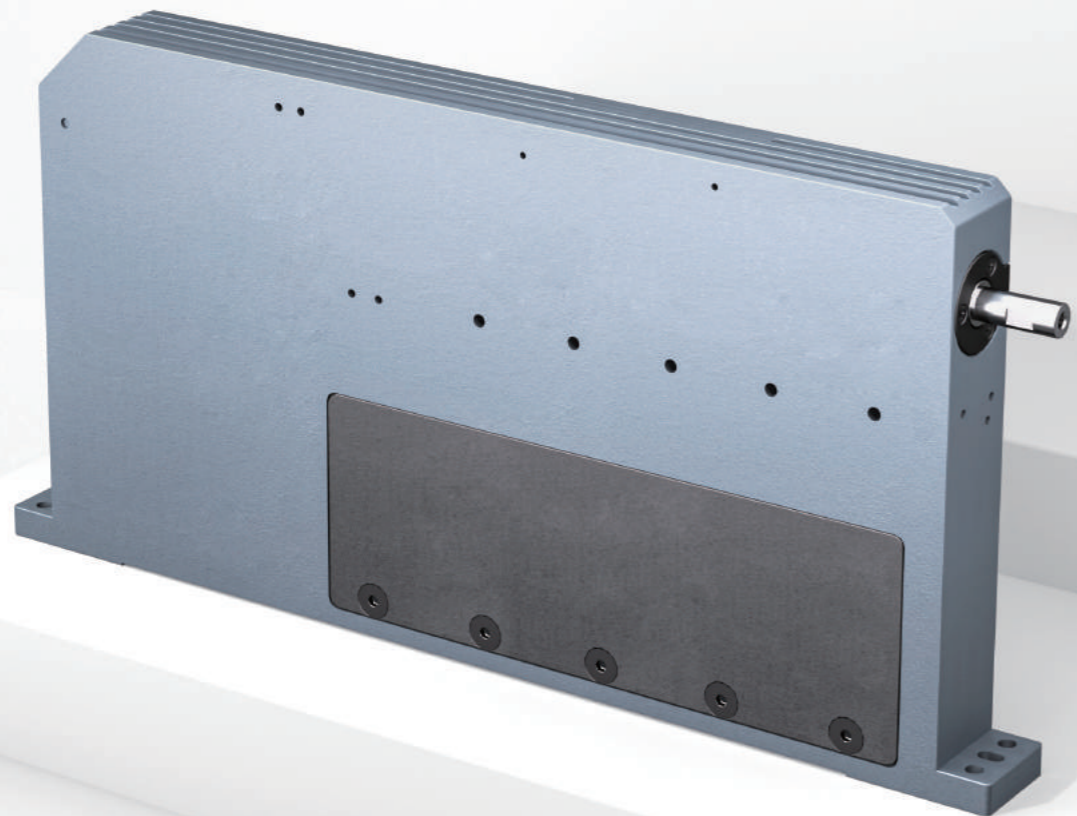


DLAR SERIES

Direct Drive Linear Rotary Actuator

DLAR-20-40(Optical/Magnetic encoder)

DLAR-25-50(Optical/Magnetic encoder)



PRODUCT FEATURES

High performance Linear/Rotary motion Adjustable parameters

Provide accurate linear and rotary actions of the Z-axis during high-speed motion, with adjustable velocity, thrust, and position parameters, enabling complex actions requiring high frequency and high precision.

Hollow rod Soft landing Power-off protection

The product is compact, light, and thin. It employs a hollow rod design to support pick-and-place tasks. The intelligent soft landing function protects the picked and placed workpiece with precise force control. The Z-axis has a built-in spring to prevent the axis from falling off due to power-off during vertical operations.

Precision resolution Long life over 100 million cycles

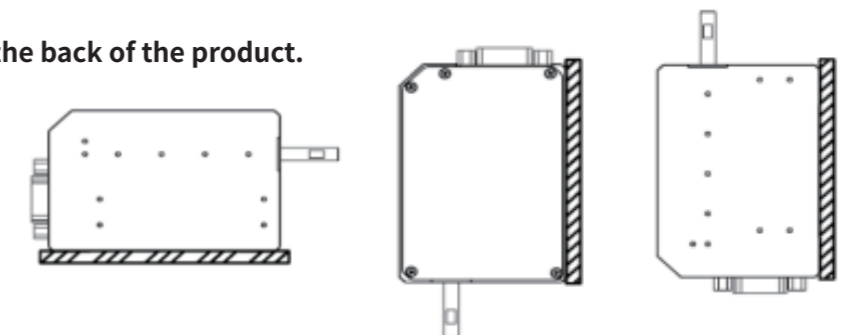
Regarding this product, the stroke resolution is up to 0.5 μm , the rotary position resolution is 0.005°. With high-quality guide rail-level related components, it has a service life of up to 100 million cycles, and it is stable and durable.

INSTALLATION METHOD

Install it using the screw holes on the back of the product.

Installation directions:

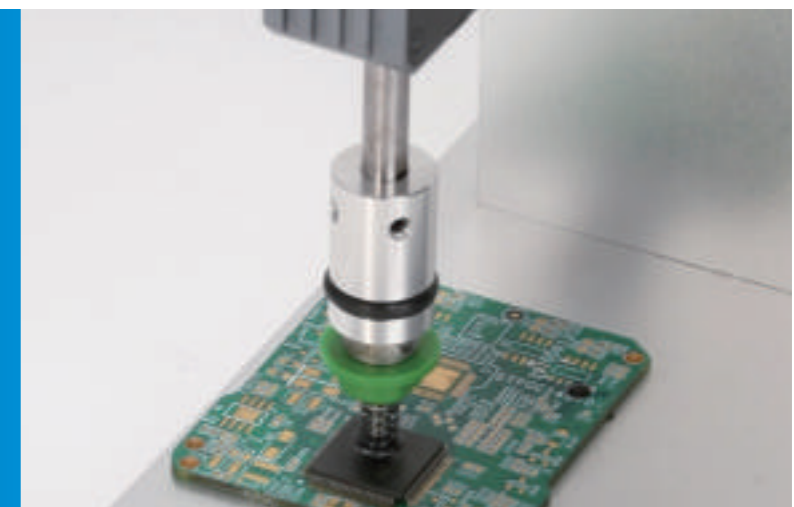
- Horizontal direction
- Vertical installation with the vertical rod pointing down
- Vertical installation with the vertical rod pointing up



APPLICATION SCENARIOS

The force repeatability of $\pm 3\text{ g}$ and the micron-level resolution can be applied to the fast pick-and-place, assembly, testing, and other scenarios in semiconductors, 3C electronics, and other industries.

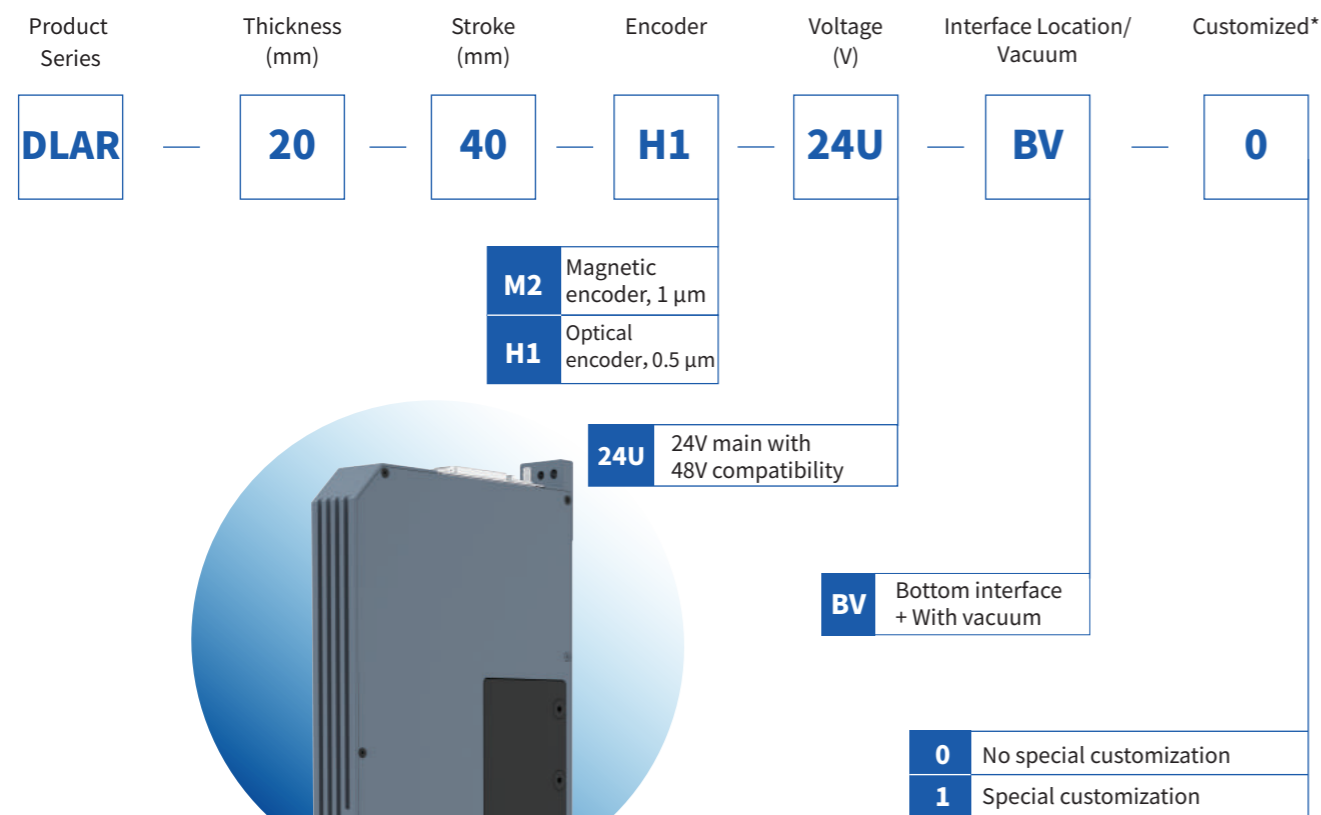
The unique linear and rotary motions of the Z-axis of the VLAR series can adapt to more abundant industrial scenarios, such as positioning, correction, and assembly in medical automation, 3C, and packaging automation.



DLAR-20-40 (Optical/Magnetic encoder)

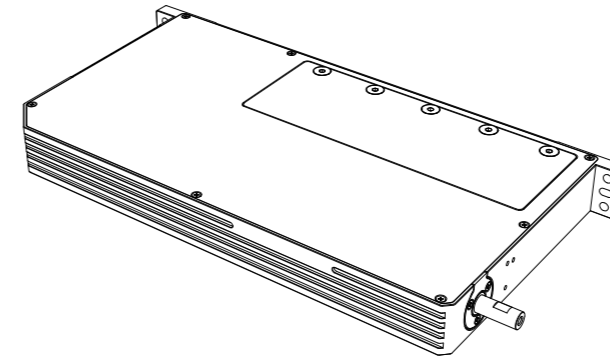
DIRECT DRIVE LINEAR ROTARY ACTUATOR

SELECTION METHOD



*Note: For customization fees, consult the company's sales staff.

TECHNICAL SPECIFICATIONS

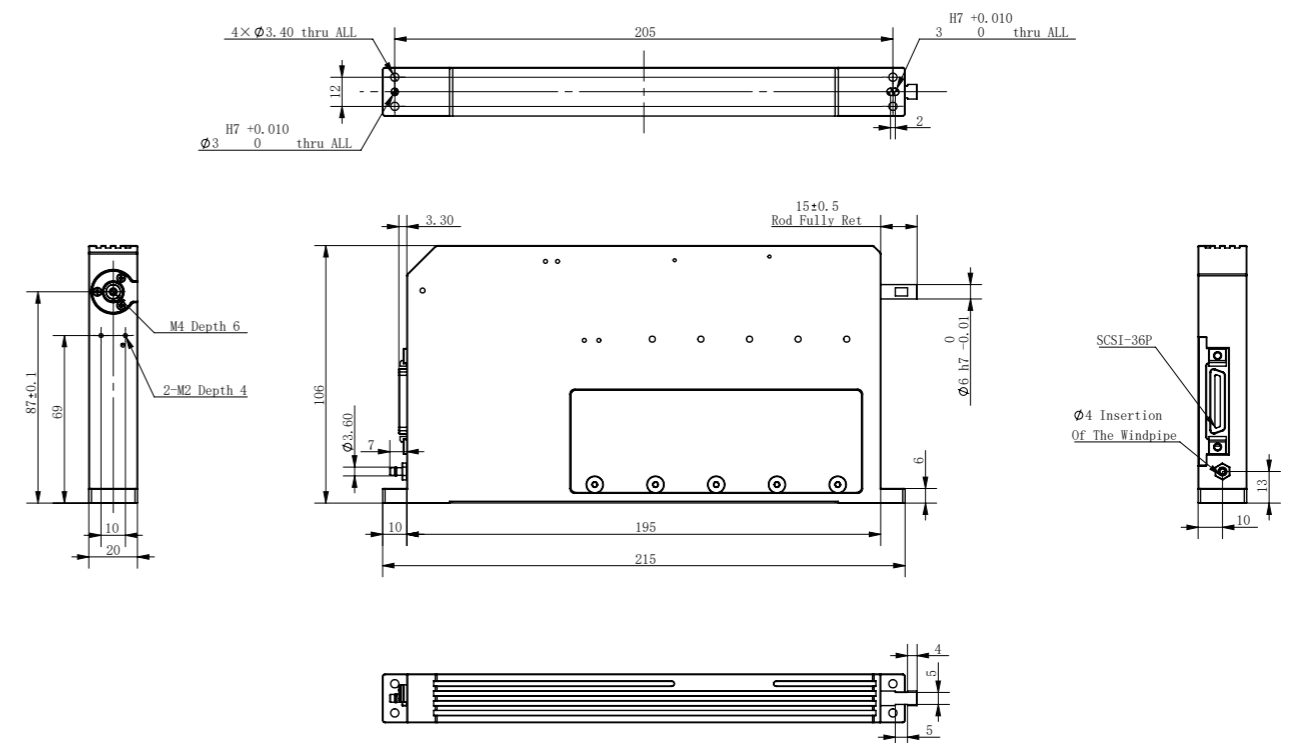


Performance specifications	
Peak thrust	33 N
Continuous thrust	11 N
Total stroke	40 mm
Force repeatability	±5 g
Force constant	9.2 N/A
Maximum torque	0.056 N·m
Maximum speed	2000 rpm
Linear stroke resolution	1 μm ^(Magnetic grid encoder) / 0.5 μm ^(Optical encoder)
Positioning repeatability	±5 μm ^(Magnetic grid encoder) / ±2 μm ^(Optical encoder)
Rotary encoder resolution	0.02° ^(Magnetic grid encoder) / 0.005° ^(Optical encoder)
Mechanical specifications	
Overall mass	1100 g
Movable part mass	180 g
Size	195 mm x 106 mm x 20 mm
Vacuum	With vacuum
Operating environment	
Operating voltage	24 V DC ± 10%
Continuous current	(Linear) 1.2 A / (Rotary) 0.6 A
Peak current	(Linear) 3.5 A / (Rotary) 2.5 A
Recommended load	≤ 150 g
Recommended load inertia	20 g·cm ²
IP rating	IP 40
Recommended operating environment	0°C-40°C, 85% RH or less
International standard compliance	CE, FCC, RoHS



For specific selection of voice coil products, please contact DH-Robotics or authorized agent for application and process confirmation. When higher requirements for actuators are required, please contact engineering staff.

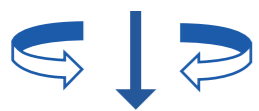
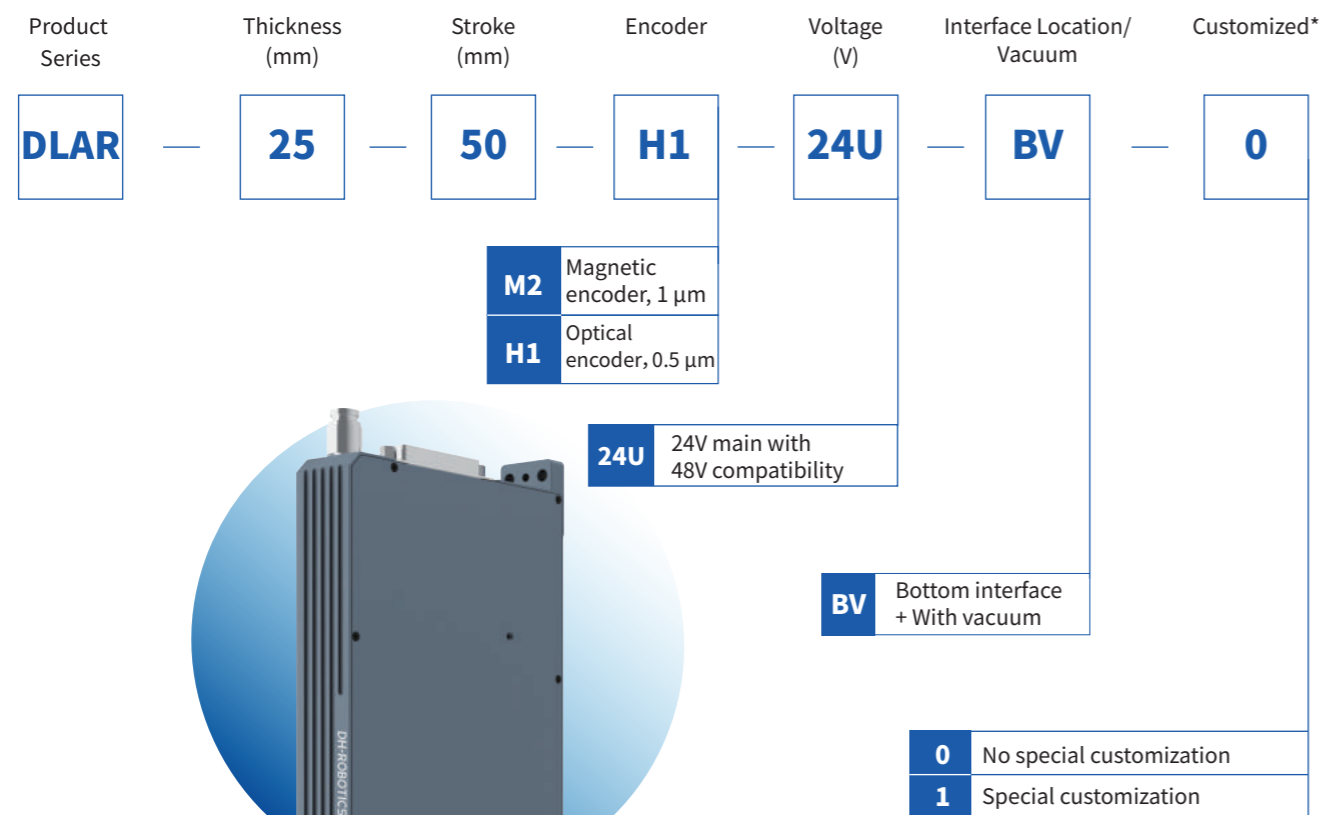
Dimensions



DLAR-25-50 (Optical/Magnetic encoder)

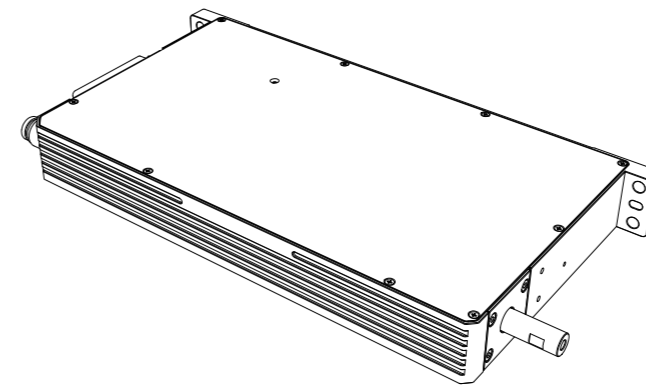
DIRECT DRIVE LINEAR ROTARY ACTUATOR

SELECTION METHOD



*Note: For customization fees, consult the company's sales staff.

TECHNICAL SPECIFICATIONS



Performance specifications	
Peak thrust	26 N
Continuous thrust	8 N
Total stroke	50 mm
Force repeatability	±10 g
Force constant	6.6 N/A
Maximum torque	0.03 N·m
Maximum speed	800 rpm
Linear stroke resolution	1 μm <small>(Magnetic grid encoder)</small> / 0.5 μm <small>(Optical encoder)</small>
Positioning repeatability	±5 μm <small>(Magnetic grid encoder)</small> / ±2 μm <small>(Optical encoder)</small>
Closed-loop stepper motor with encoder resolution	2000 lines
Mechanical specifications	
Overall mass	1170 g
Movable part mass	245 g
Size	200 mm x 115 mm x 25 mm
Vacuum	With vacuum
Operating environment	
Operating voltage	24 V DC ± 10%
Continuous current	(Linear) 1.2 A / (Rotary) 0.8 A
Peak current	(Linear) 4.0 A / (Rotary) 1.2 A
Recommended load	150 g
Recommended load inertia	20 g·cm ²
IP rating	IP 40
Recommended operating environment	0°C-40°C, 85% RH or less
International standard compliance	CE, FCC, RoHS



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Dimensions

