FPB60

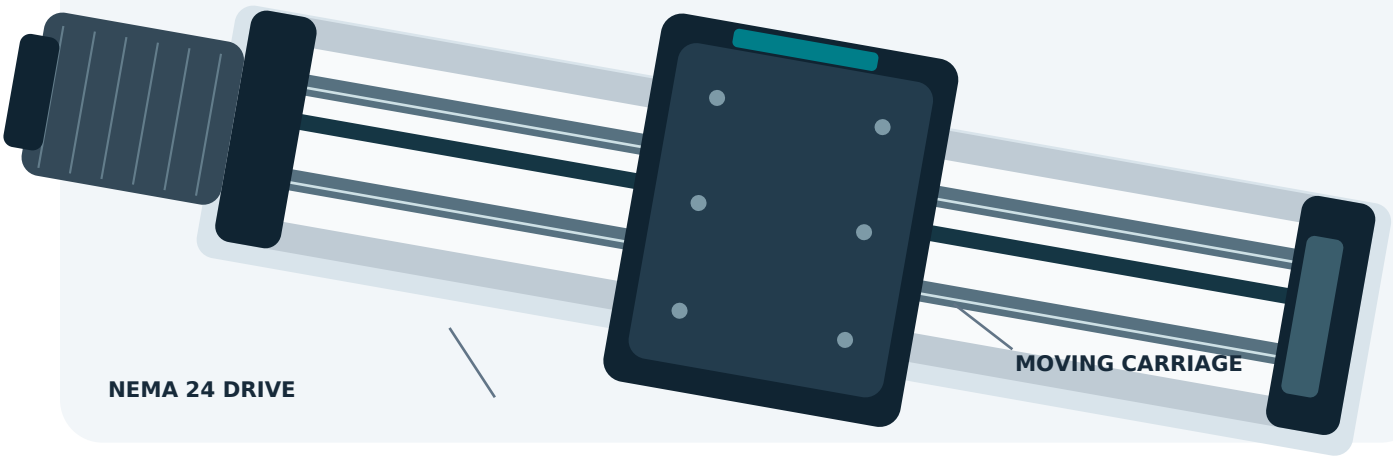
Belt-Drive Linear Guide Stage

Dual-guide linear actuator with a standard NEMA 24 stepper motor, designed for long-stroke CNC positioning and automated transfer.

60 mm profile | NEMA 24 stepper | Dual-rail guidance | Timing-belt drive

MECHANICAL LAYOUT

SCHEMATIC - NOT TO SCALE



STANDARD STROKE	SPECIAL STROKE
100-2000 mm	up to 3500 mm

STEPPER LOAD	REPEATABILITY
up to 25 kg	±0.05 mm

Application scope CNC automation, inspection fixtures, material handling, gantry positioning, light assembly and equipment integration. Actual travel speed and payload depend on motor, drive settings, stroke, mounting orientation and duty cycle.

01

Technical Specifications

Commercial configuration first; higher performance values are identified by motor type.

PARAMETER	PUBLISHED / REFERENCE VALUE
Product model	FPB60
Linear motion architecture	Dual-rail, timing-belt-driven stage
Nominal body/profile width	60 mm
Standard motor configuration	NEMA 24 / 60-frame stepper motor
Alternative drive	400 W servo motor (optional)
Standard effective stroke	100 to 2000 mm
Extended effective stroke	Up to 3500 mm by arrangement
Repeat positioning accuracy	±0.05 mm (published specification)
Travel per pulley revolution	95 mm (listed as lead)
Stepper horizontal load	Up to 25 kg (configuration-dependent)
Servo horizontal load	Up to 35 kg (separate configuration)
Advertised maximum speed	Up to 2000 mm/s (not at all loads)
Storage temperature	-15°C to +60°C (published data)

PERFORMANCE INTERPRETATION

NEMA 24 stepper: The manufacturer-style performance chart lists horizontal payloads from 5 to 25 kg, with speed tiers of up to 1400, 1200 or 1000 mm/s depending on load. The maximum advertised 2000 mm/s is not a guaranteed stepper speed at full payload.

400 W servo: The separate reference chart includes horizontal payloads up to 35 kg and light-load speed ratings up to 2000 mm/s. Do not apply those values to the stepper configuration.

Engineering note: Horizontal payload figures assume suitable installation and mechanical support. Vertical lifting requires separate sizing and a safe brake or restraint; no general vertical load rating is assigned here.

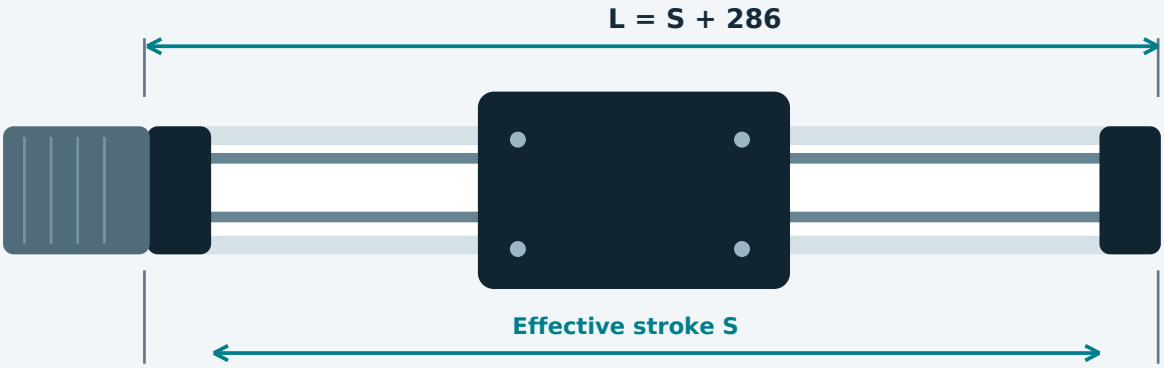
02

Dimensional Reference

All dimensions below are in millimeters unless otherwise stated.

REFERENCE PLAN / TOP VIEW

NOT A MACHINING DRAWING



Overall length reference excludes unusual brackets, cables and custom motor hardware.

LENGTH RELATION

L = S + 286 mm

CARRIAGE LENGTH

115 mm (plan view)

STROKE S	BODY LENGTH L	REFERENCE MASS
100 mm	**386 mm**	4.4 kg
200 mm	**486 mm**	4.8 kg
500 mm	**786 mm**	6.0 kg
1000 mm	**1286 mm**	8.0 kg
1500 mm	**1786 mm**	10.0 kg
2000 mm	**2286 mm**	12.0 kg
2500 mm	**2786 mm**	14.0 kg
3000 mm	**3286 mm**	16.0 kg
3500 mm	**3786 mm**	18.0 kg

Mass values are approximate catalog references and vary with motor, brake, sensors, stroke and mounting accessories. For hole spacing, side-clearance and detailed fit, request a dimensioned drawing for the exact ordered assembly.

03

Installation and Integration

Practical conditions to verify before fitting the stage in a machine.

1 Mechanical mounting

Mount on a straight, stiff surface; do not force an uneven base. Keep the belt and carriage path clear, and allow travel clearance at both end positions.

2 Motor and driver matching

Confirm the motor nameplate, phase current, step angle, lead-wire identification, supply voltage and driver selection. NEMA frame size alone does not define electrical ratings.

3 Motion setup and homing

Provide suitable limit/home sensing and a controller-defined safe travel envelope. Start with conservative acceleration and speed; verify repeatability under the actual payload.

4 Long-stroke operation

For high stroke lengths, assess alignment, support spacing, belt dynamics, moving cable management, vibration, thermal drift and deceleration distance.

ORDER / APPLICATION CHECKLIST

☐ **Stroke and total length:**	Choose S; allow L = S + 286 mm as reference.
☐ **Load and orientation:**	Specify horizontal, inclined or vertical arrangement.
☐ **Motor placement:**	Confirm left/right or alternative installation direction.
☐ **Drive accessories:**	Confirm driver, controller, PSU, limit switches and cable chain.
☐ **Acceptance conditions:**	Request drawing, motor data and duty-cycle confirmation.

Specification status: This independent technical summary is based on published product data. Values describe offered configurations, not an acceptance-test certificate. Verify final motor, mechanical dimensions and full-load operating performance with the supplied unit.

Site:https://www.oyostepper.com
E-mail:support@oyostepper.com
TELL: +86-023-68438829