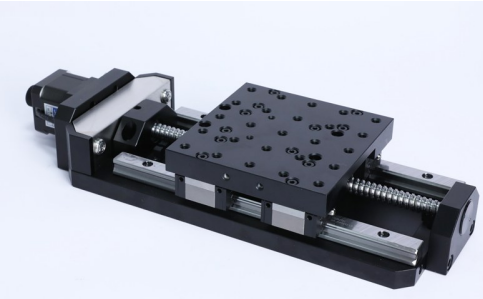
TSAxx-B Series Square-Guide Motorized Linear Stages, 50–300 mm Travel

Model TSAxx-B Series · waveqvanta.com/products/tsaxx-b-series-square-guide-motorized-linear-stages

Stepper-driven ball-screw linear stages on square linear guides for heavy-load, steady-running positioning.



The TSA-B series are motorized linear stages built on linear-slider (square-rail) guides, an industrial-grade φ12 × 4 ball screw and a high-quality shaft coupling. Mechanical limit switches at both ends and an origin sensor protect the stage, and a hand wheel on the motor allows manual adjustment. Standard electrical and mechanical interfaces and mounting holes make multi-axis assemblies straightforward; the series suits heavy-load, steady-running applications.

Key features

- Industrial-grade ball screw with 4 mm lead, driven by a two-phase 42 stepping motor
- Linear-slider guides for 30 kg horizontal load capacity
- 120 × 120 mm table on all models, 50–300 mm travel
- Mechanical limit switches at both ends plus an origin sensor
- Hand wheel on the motor for manual positioning
- Standard mounting holes and interfaces for building multi-axis systems

Specifications

Travel Range	50–300 mm (5 models)
Table Size	120 × 120 mm
Drive	Precision ball screw, φ12 × 4
Guide	Linear-slider guides
Body	Black anodized aluminum alloy
Resolution (Full / Half Step)	10 / 5 µm (TSA50-B to TSA150-B); 20 / 10 µm (TSA200-B, TSA300-B)
Resolution (8 Microsteps)	1.25 µm (TSA50-B to TSA150-B); 2.5 µm (TSA200-B, TSA300-B)
Max Speed	40 mm/s (zero load, motor at 600 rpm)
Repeatability	≤ ±5 µm
Backlash	≤ 7 µm
Motor	Two-phase 42 stepping motor; 0.9° (TSA50-B to TSA150-B), 1.8° (TSA200-B, TSA300-B)
Motor Current / Holding Torque	1.7 A / 0.42 N·m
Limit / Origin Sensors	2 mechanical limit switches + 1 origin sensor, built-in
Manual Adjustment	Hand wheel on motor
Load Capacity (Horizontal / Vertical / Inverted)	30 / 3 / 5 kg

Model overview

Model	Travel (mm)	Step Angle (°)	Full / Half Step (µm)	8 Microsteps (µm)	Weight (kg)
TSA50-B	50	0.9	10 / 5	1.25	3.4
TSA100-B	100	0.9	10 / 5	1.25	3.7
TSA150-B	150	0.9	10 / 5	1.25	4.1
TSA200-B	200	1.8	20 / 10	2.5	4.6

Model	Travel (mm)	Step Angle (°)	Full / Half Step (µm)	8 Microsteps (µm)	Weight (kg)
TSA300-B	300	1.8	20 / 10	2.5	5.3

Typical applications

- Heavy-load linear positioning
- Multi-axis XY and XYZ stage assemblies
- Automation and test fixtures
- Laboratory sample and optics positioning