

PRECISION BALL SCREW ACTUATOR

PRECISION ACTUATORS

Motion. Logic. Safety. HMI. — One Platform.

80 MM PROFILE · INTEGRATED LINEAR GUIDE · ±0.005 MM REPEATABILITY



Compact 80 mm ball-screw actuator with an integrated linear guide — payloads to 105 kg, strokes to 1,250 mm, ±0.005 mm repeatability. Ships matched to an Autoblocks Absolute Motor and Control Block — one motion stack, one cable, no integration.

MOTION

80 mm aluminum profile, 56 mm tall. ±0.005 mm repeatability. C7-grade Ø14 mm ball screw with leads of 6 / 12 / 24 mm. 105 kg payload at Lead 6 — 1,440 mm/s top speed at Lead 24. Strokes 50–1,250 mm in 50 mm increments.

LOGIC

Driven directly by the Control Block. No standalone drive. No external controller. Single-axis or coordinated multi-axis motion in AutoCode. Profile, jog, home, and absolute moves from one program.

SAFETY

STO-rated through the Control Block safety controller. E-stop cuts motor power at the source. Software end-of-travel limits in every axis. Designed for guarded factory cells.

HMI

Jog, home, and tune from the Pendant or Web HMI. Live position and commanded velocity surfaced in AutoCode. Operate the axis from the Pendant, any browser, or the HMI Hub — same interface.

One linear platform — motion through commissioning.

Autoblocks Precision Actuators ship as a pre-paired motion module: actuator, Absolute Motor, and Control Block configured together at the factory. Integrators get a single SKU per axis — no driver sizing, no encoder wiring, no servo tuning, no homing routine. Plug the cable, drop the axis into AutoCode, and run.

STROKE

1,250 mm

50 mm increments

PAYLOAD

105 kg

Horizontal · Lead 6

TOP SPEED

1,440 mm/s

Lead 24

REPEATABILITY

±0.005 mm

C7 ball screw

HARDWARE

Body width	80 mm
Body height	56 mm
Stroke range	50 – 1,250 mm (50 mm increments)
Repeatability	±0.005 mm
Linear guide	Integrated, built into aluminum body
Ball screw	C7 grade · Ø14 mm
Lead options	6 mm · 12 mm · 24 mm
Max rotating speed	3,600 rpm
Operating life	10,000 km rated
Mounting	Horizontal · Wall · Vertical
Motor pairing	Autoblocks Absolute Motor, sized to application

PERFORMANCE BY LEAD

Max payload — horizontal	L6 105 kg · L12 85 kg · L24 40 kg
Max payload — vertical	L6 30 kg · L12 20 kg · L24 10 kg
Max linear speed	L6 360 · L12 720 · L24 1,440 mm/s
Rated thrust	L6 569 N · L12 284 N · L24 142 N
Max acceleration	L6 0.37 G · L12 0.73 G · L24 1.47 G

MECHANICAL LOADS

Ball screw dynamic (Ca)	L6 7,733 N · L12 5,855 N · L24 3,007 N
Ball screw static (Coa)	L6 14,200 N · L12 10,401 N · L24 5,414 N
Linear guide dynamic (Cr, 100 km)	4,007 N
Linear guide static (Cor)	34,189 N
Static moment — M_p	271 N·m
Static moment — M_v	271 N·m
Static moment — M_R	449 N·m

EXTERNAL PORTS

- ▶ **Single cable** — power and communication run through one M12 connection to the Absolute Motor.
- ▶ **No drive box** — driver, encoder, and motion control live in the Absolute Motor and Control Block.
- ▶ **Absolute position feedback** — multi-turn absolute encoder eliminates the homing routine on power-up.
- ▶ **No homing switches required** — no inductive sensors, no cable trays, no end-of-travel proximity wiring.
- ▶ **Software end-of-travel limits** — defined in AutoCode, enforced by the Control Block.

COMMUNICATION & SOFTWARE

- ▶ **AutoCode** — Native single-axis or coordinated multi-axis motion. 27-command human-auditable language.
- ▶ **Autoblocks Studio** — Laptop-side offline programming, diagnostics, and support.
- ▶ **Web HMI** — Browser-based jog, home, and live position from any device on the network.
- ▶ **Pendant** — Direct teach and jog from the shop floor.

SUPPORTED DEVICES — PLUG & CONFIGURE

MOTOR

Autoblocks Absolute Motor · sized to application by lead and payload

CONTROLLER

Autoblocks Control Block · all current revisions

OPERATOR INTERFACE

Pendant · Web HMI · HMI Hub (1280×800)

COORDINATED AXES

Up to 4 auxiliary axes per Control Block, programmed together in AutoCode

POSITION FEEDBACK

Multi-turn absolute encoder in the Absolute Motor · no homing on boot

CONFIGURATION OPTIONS

Specify stroke (50–1,250 mm in 50 mm increments), lead (6 / 12 / 24 mm), and the Absolute Motor frame. See the current configuration guide at autoblocks.co.



SCAN FOR LIVE PRODUCT PAGE
autoblocks.co/precision-actuators