UFP Series High-Sensitivity Manual Stages, Coarse/Fine Tuning, ≤0.5 µm

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Micrometer-driven linear and two-axis rotary stages with coarse/fine adjustment for sub-micron fiber and optics alignment.



The UFP series covers compact manual stages for fine positioning in fiber alignment setups. The UFP1A, UFP1B and UFP1C linear stages pair a ±6.5 mm coarse travel with a ±0.3 mm fine adjustment that reaches 0.5 µm sensitivity or better, while the UFP2T provides ±3° rotation about two axes. All models are micrometer driven and made of black anodized aluminum alloy.

Key features

- Dual coarse/fine tuning on the linear stages: ±6.5 mm coarse and ±0.3 mm fine travel
- Linear sensitivity ≤10 µm (coarse) and ≤0.5 µm (fine)
- Three linear stage heights on a 60 × 60 mm platform: 20 mm (UFP1A), 25 mm (UFP1B), 30 mm (UFP1C)
- UFP2T two-axis rotary stage: θx and θy ±3°, sensitivity ≤25.2″ (θx) and ≤23.4″ (θy)
- Linear-slider guides (UFP1A/UFP1B), crossed-roller guide (UFP1C), crossed-roller ring (UFP2T)
- Linear models: motion straightness ≤3 µm, motion parallelism ≤10 µm
- Left- (-L) or right-hand (-R) drive versions of UFP1C and UFP2T

Specifications

Configurations	Linear stages (UFP1A, UFP1B, UFP1C); two-axis rotary stage (UFP2T)
Linear Travel	Coarse ±6.5 mm; fine ±0.3 mm
Linear Sensitivity	Coarse ≤10 µm; fine ≤0.5 µm
Rotary Travel (UFP2T)	θx ±3°; θy ±3°
Rotary Sensitivity (UFP2T)	θx ≤25.2″; θy ≤23.4″
Stage Surface Size	60 × 60 mm (UFP1); 45 × 45 mm (UFP2T)
Stage Thickness	20 mm (UFP1A); 25 mm (UFP1B); 30 mm (UFP1C)
Guide Mechanism	Linear-slider guides (UFP1A/1B); crossed-roller guide (UFP1C); crossed-roller ring (UFP2T)
Drive Type	Micrometer
Drive Location	Left (-L) or right (-R) for UFP1C and UFP2T; no left/right version for UFP1A/1B
Static Parallelism (Linear Models)	≤60 µm
Motion Parallelism (Linear Models)	≤10 µm
Motion Straightness (Linear Models)	≤3 µm
Horizontal Load Capacity	5 kg (UFP1); 1.5 kg (UFP2T)
Weight	0.28–0.64 kg
Body Material and Finish	Black anodized aluminum alloy

Model overview

Model	Type	Stage Size (mm)	Thickness (mm)	Travel	Sensitivity	Guide	Load (kg)	Weight (kg)
UFP1A	Linear	60 × 60	20	±6.5 mm coarse / ±0.3 mm fine	≤10 μm / ≤0.5 μm	Linear-slider guides	5	0.28
UFP1B	Linear	60 × 60	25	±6.5 mm coarse / ±0.3 mm fine	≤10 μm / ≤0.5 μm	Linear-slider guides	5	0.32
UFP1C-L	Linear, left drive	60 × 60	30	±6.5 mm coarse / ±0.3 mm fine	≤10 μm / ≤0.5 μm	Crossed-roller guide	5	0.4
UFP1C-R	Linear, right drive	60 × 60	30	±6.5 mm coarse / ±0.3 mm fine	≤10 μm / ≤0.5 μm	Crossed-roller guide	5	0.4
UFP2T-L	2-axis rotary, left drive	45 × 45	–	θx ±3°, θy ±3°	θx ≤25.2″, θy ≤23.4″	Crossed-roller ring	1.5	0.64
UFP2T-R	2-axis rotary, right drive	45 × 45	–	θx ±3°, θy ±3°	θx ≤25.2″, θy ≤23.4″	Crossed-roller ring	1.5	0.64

Typical applications

- Optical fiber alignment and coupling
- Fine positioning of small optical components
- Angular alignment of fibers and optics
- Laboratory optical setups