TPR Series Pneumatic Optical Tables, Three-Wire Pendulum Isolation, 1500–3500 mm

Model TPR Series · waveqvanta.com/products/tpr-series-pneumatic-optical-tables

Pneumatic optical table with three-wire pendulum isolators for microscopes and other precision optical instruments.



The TPR Series isolates its tabletop with a three-wire pendulum pneumatic system and laminar damping, giving resonant frequencies below 1.5–2.5 Hz vertically and below 1–1.5 Hz horizontally. Eighteen sizes run from 1500 × 900 mm to 3500 × 1500 mm, with 200 or 300 mm thick tops and an 800 mm total height. A low-noise, oil-free portable air compressor is included unless the -WQB version is ordered.

Key features

- Three-wire pendulum pneumatic isolation acting in both vertical and horizontal directions
- Laminar damping elements for sensitive response
- Isolation efficiency at 10 Hz: 90–95% vertical, 92–98% horizontal
- Tabletop height indicator to simplify height adjustment (−10 to +15 mm)
- Three-layer sandwich honeycomb top (welded) as standard; bonded trussed honeycomb top with individual cleaning cups (-K) optional
- SUS430 (1Cr17) working surface as standard; SUS304 (-304) or SUS316 (-316) optional
- Low-noise, oil-free portable air compressor included by default; -WQB without compressor

Specifications

Isolation Mechanism	Three-wire pendulum pneumatic isolation
Damping	Laminar damping
Resonant Frequency, Vertical	Below 1.5–2.5 Hz
Resonant Frequency, Horizontal	Below 1–1.5 Hz
Isolation Efficiency, Vertical	75–92% at 5 Hz; 90–95% at 10 Hz
Isolation Efficiency, Horizontal	88–94% at 5 Hz; 92–98% at 10 Hz
Tabletop	Three-layer sandwich honeycomb, welded (default); bonded trussed with cleaning cups (-K)
Flatness, Welded Top	0.02–0.05 mm / 600 mm × 600 mm
Flatness, Bonded Top (-K)	0.1 mm / 600 mm × 600 mm
Tabletop Sizes	1500 × 900 mm to 3500 × 1500 mm
Tabletop Thickness	200 / 300 mm
Working Surface	4–6 mm thick stainless steel, SUS430 (1Cr17) standard
Optional Surface Materials	SUS304 (-304), SUS316 (-316)
Working Surface, Width Over 1500 mm	1Cr13 (410) stainless steel
Bottom Skin	4–6 mm thick carbon steel
Side Panels	Blue PU leather (welded top), black PU leather (-K top); stainless steel corners
Mounting Holes	M6 on 25 mm × 25 mm grid, 37.5 mm from border

Total Height (Tabletop and Frame)	800 mm
Height Adjustment	−10 to +15 mm
Load Capacity	1000 kg (4 legs), 1500 kg (6 legs)
Table Foot Area	160 × 160 mm
Maximum Air Pressure	0.7 MPa
Recommended Working Pressure	0.3–0.4 MPa
Horizontal Repeatability	±0.5 mm
Air Supply	Low-noise, oil-free portable compressor and oil/water separator; -WQB without compressor
Accessories	Wrench, bullseye level

Model overview

Model	Size L × W × H (mm)	Top Thickness (mm)	Top Weight (kg)	Load (kg)	Legs	-K Version	Working Surface
TPR15-09	1500 × 900 × 800	200	189	1000	4	Available	SUS430
TPR15-10	1500 × 1000 × 800	200	210	1000	4	Available	SUS430
TPR15-12	1500 × 1200 × 800	200	252	1000	4	Available	SUS430
TPR15-15	1500 × 1500 × 800	200	315	1000	4	Available	SUS430
TPR18-09	1800 × 900 × 800	200	227	1000	4	Available	SUS430
TPR18-10	1800 × 1000 × 800	200	252	1000	4	Available	SUS430
TPR18-12	1800 × 1200 × 800	200	302	1000	4	Available	SUS430
TPR18-15	1800 × 1500 × 800	200	378	1000	4	Available	SUS430
TPR20-10	2000 × 1000 × 800	200	280	1000	4	Available	SUS430
TPR20-12	2000 × 1200 × 800	200	336	1000	4	Available	SUS430
TPR20-15	2000 × 1500 × 800	200	420	1000	4	Available	SUS430
TPR24-12	2400 × 1200 × 800	200	403	1000	4	Available	SUS430
TPR24-15	2400 × 1500 × 800	200	504	1000	4	Available	SUS430
TPR24-18	2400 × 1800 × 800	200	605	1000	4	No	1Cr13 (410)
TPR30-12	3000 × 1200 × 800	300	601	1500	6	Available	SUS430
TPR30-15	3000 × 1500 × 800	300	752	1500	6	Available	SUS430
TPR35-12	3500 × 1200 × 800	300	701	1500	6	No	SUS430
TPR35-15	3500 × 1500 × 800	300	877	1500	6	No	SUS430

Typical applications

- High-magnification microscopy
- Laser confocal microscopy
- Precision optical instruments
- Compact optical paths in optical communication