PS-6TL-800

Heavy Stewart hexapod for vehicle-class and rotary-wing trainers - broad turn-and-sideslip travel with strong cabin force at full load.

MADE IN POLAND EUROPEAN UNION MEMBER

GLOBAL SHIPPING



0.71 G	750 mm/s	29.4°	±44.2°	400+ mm
MAX ACCELERATION	MAX VELOCITY	MAX TILT	YAW RANGE	TOTAL HEAVE

Total heave is full travel; other motion figures are per-axis maxima from neutral. Axes are not driven to their extremes simultaneously.

Engineered for professional simulation

0.7G Cabin Force at Full Load

Drivers and pilots feel braking, cornering and lane-change forces at training intensity, so seat-time transfers to the vehicle.

Widest Yaw for Turret and Rotary-Wing

Gunnery and rotary-wing instructors run heading drills with confidence, since the onset of rotation matches the airframe or turret.

Industrial 400V, Brakes That Hold Loaded

Electromagnetic brakes lock the legs on power loss, holding the loaded cabin in place rather than letting it drop.

Six-leg Stewart hexapod

Six electric ball-screw actuators stand in a Stewart hexapod between the base feet and the upper frame. In each leg a servo motor drives a recirculating ball screw through a timing belt, turning that rotation into smooth linear travel.

Plug-and-play for supported titles, or full SDK

- **ForceSeatPM** - platform manager, auto-detects supported titles
- **ForceSeatMI/DI SDK** - integrate motion into custom applications
- **ACE Engine** - professional motion-cueing
- **VR HeadWay** - VR motion compensation

AXIS	SINGLE EXCURSION	MAX EXCURSION	MAX VELOCITY	MAX ACCELERATION
Heave	-180.5 / 220.4 mm	-180.5 / 220.4 mm	400 mm/s	0.51 G
Surge	-371 / 353.8 mm	-425 / 423 mm	680 mm/s	0.71 G
Sway	-333.3 / 333.3 mm	-385 / 385 mm	750 mm/s	0.71 G
Pitch	-23.6 / 21.8°	-23.9 / 29.4°	45 °/s	500 °/s²
Roll	-24.5 / 24.5°	-25.9 / 25.9°	40 °/s	500 °/s²
Yaw	-37 / 37°	-44.2 / 44.2°	65 °/s	700 °/s²

PAYLOAD SPECIFICATIONS	
Gross Moving Load	800 kg
Payload (top frame fitted)	720 kg
CoG height above MPC	<500 mm
Moments of inertia (Ixx, Iyy, Izz)	450 kg·m²

MAIN DIMENSIONS	
Total Width	1898 mm
Total Length	2116 mm
Min Height	1066 mm
Max Height	1467 mm

SPECIFICATIONS	
Architecture	6 DOF
Drive technology	Linear Actuator
Product weight	689 kg

POWER & INSTALLATION	
Supply	400V three-phase (230V to neutral), 50/60 Hz; the feed is not supplied.
Network type	Wye only, ground and neutral (TN-S).
US supply	US 208V or 480V needs a transformer to reach 400V.
Circuit protection	25A type C circuit breaker.
EMC configuration	Runs on a standard RCD/GFCI-protected circuit.
Grounding	High leakage current - permanent solid protective earth, fitted by a qualified electrician.
Installation	Three-phase install by a qualified electrician; full detail in the manual.
Connection	USB or Ethernet

POWER DRAW	
Average power	4.5 kVA
Peak power	7.5 kVA
Average current	7 A/ph
Peak current	19 A/ph
Avg power - stress test	4.6 kW
Avg power - typical game	1.1 kW

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What's in the Box.

HARDWARE

- **PS-6TL-800**
  A heavy ball-screw hexapod (gross moving load up to 800 kg) - all six axes with ball-screw precision and serious payload. The factory top frame takes 80 kg of that figure, leaving the 720 kg payload; removing it and bolting the cabin floor directly to the mounting points frees the full 800 kg - validated during scoping.
- **PS-SB400 Cabinet + PS-BPT400 Transformer**
  Power and control - AC/DC protection and controller on a 400V three-phase supply, plus the PS-BPT400 transformer unit that matches the site's three-phase feed to the platform's power grid. The controller connects to the host PC over USB or Ethernet.
- **PS-SBR Remote + E-Stop**
  The PS-SBR remote (E-STOP, KNEEL, POWER LOCK) and PS-SBEC stop button - the hardware safety chain to park or stop motion. The keyed POWER LOCK keeps arming with the operator; the 3 m PS-SBEC lead adds a stop within reach.
- **Electromagnetic Brakes**
  One safety brake per actuator - engages on power loss and holds the load. A fail-safe, standard here.
- **Cable Set**
  Mains, USB to the host PC, and the PS-SBR remote and EMCY safety leads - wired together as delivered.
- **Packing & Handling**
  Ships factory-assembled and calibrated in a forklift-ready crate - the integrator unpacks and installs, with no on-site build.

SOFTWARE & LICENSES

- **ForceSeatPM**
  Auto-detects 154+ supported games with pre-tuned profiles. Included free, with free software updates.
- **Sim Profiles**
  Pre-tuned motion profiles for the popular sims and games, so the first session already feels right.
- **ACE**
  The motion cueing engine that turns simulator telemetry into felt acceleration - the sharp onset of a bend or brake on the platform, with sustained forces held by coordinated tilt rather than a crude static roll.
- **VR HeadWay**
  VR motion compensation that cancels the platform's own movement from the headset, so the view stays stable and motion sickness stays low. Included free.
- **Docs & 3D Model**
  Full documentation, including the mounting-point layout, and a simplified 3D STP model, plus the EC Declaration of Incorporation (2006/42/EC) for partly completed machinery - the platform is integrated into a final machine on site.
- **24-Mo Warranty**
  A 24-month warranty on the hardware and motion electronics, with free software updates throughout.

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OPTIONAL SOFTWARE AND SERVICES

ForceSeatMI - Motion SDK

Motion SDK to drive the platform from custom software on top of ForceSeatPM. Licensed per motion platform, with the key stored on the PC.

ForceSeatDI - Direct Interface SDK

Low-level SDK that drives the hardware directly, without ForceSeatPM - each platform driven independently, on Windows, Linux or Raspberry Pi. Licensed per platform, with the key stored on the motion controller.

Remote Training (online)

Six-hour online session - overview, safety, operation, maintenance, ForceSeatPM setup, diagnostics and tuning. Per session.

VR HeadWay CrossPC

A paid VR add-on, licensed separately from the base VR HeadWay. One CrossPC license covers exactly two VR users on a shared platform - each seat has its own rendering PC and geometry-correct compensation (for example pilot and copilot). More seats need an additional license.

Motion Theater

Plays pre-authored motion with video or group sessions - for theaters, attractions and briefings, not live sim. Per platform.

More Options

Profile packs, installation, reports, extended warranty and bespoke development - talk to the Motion Systems team to tailor it.

MOTION SYSTEMS

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Made in Poland (EU)

PRODUCT

RESOURCES

All platforms

Knowledge Hub

Buyer's Guide