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Data Sheet

August 13, 2026

BURLEIGH

Burleigh PCS-6000 / 6100 Controller and fixture

The Burleigh PCS-6000 / 6100 is a precision controller and fixture designed for exacting positioning and alignment applications. It provides stable control and secure mounting for sensitive components during manufacturing or testing. The PCS-6000/6100 ensures reliable and repeatable results in demanding industrial and research environments.



MODEL	CALIBRATION
Burleigh PCS-6000/PCS-6100	Available on request
CONDITION	STATUS
Used	In stock
RFQ / SKU	LISTING
PCS-6000/PCS-6100	https://aumictechlabs.com/products/pcs-6000-pcs-6100-2/

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The Burleigh PCS-6000 / 6100 Controller and Fixture is a precision micro-positioning system that combines motorized coarse positioning with piezoelectric fine control for nanometer-level sample manipulation. Designed for high-stability, low-drift operation, it delivers rapid coarse adjustments followed by ultra-fine piezo tuning - critical for demanding electrophysiology and research applications where drift and electrical noise compromise results.

Technical Specifications

Positioning Technology: Piezoelectric actuators (fine control) and stepper motors (coarse positioning) Coarse Travel: 1 inch (≈ 25 mm) per axis Coarse Step Size: Down to $5\text{ }\mu\text{m}$ Fine Piezo Travel: $150\text{ }\mu\text{m}$ or $300\text{ }\mu\text{m}$ options per axis Drift Performance: $<1\text{ }\mu\text{m/hour}$ per axis Coarse Motion Speed: 0.0005 mm/sec to 2 mm/sec (continuously variable); Memory speed 3.5 mm/sec Computer Interface: USB Axis Configurations: Three orthogonal axes (front-to-back, vertical, approach); left-hand and right-hand variants Manipulator Dimensions: Approximately $7'' \times 8.5'' \times$

7.5" (length, width, height); height adjustable

Key Features Electrically quiet motors paired with specialty shielded cables, internal ground skeleton, and grounding pin eliminate experimental noise Integrated rotary stages with adjustable Home and Work positions lock approach angles for repeatable cell or tissue access Modular construction supports mixed configurations: motorized or manual long-travel axes, 150 μm or 300 μm piezo per axis, or no piezo option Dual manipulator packages (PCS-6200) available for simultaneous multi-site positioning Large-knob Axis Control Unit (ACU) for manual fine positioning; joystick controls servo motor speed and direction for coarse motion

Typical Applications Electrophysiology patch-clamp recording, microinjection, and tissue slice manipulation where sub-micron stability and rapid approach-and-fine-tune workflows are essential.

Compatibility & Integration USB control interface supports integration with standard laboratory automation systems. Modular design accommodates cultured cell ('C') or traditional tissue slice ('T') mounting configurations.

Features & description

From manufacturer datasheet

Features

- Coarse motorized travel ~25 mm • Fine piezo travel 150 μm or 300 μm • Joystick coarse speed/direction; ACU fine piezo knobs • Rotary pivots for pipette working angle and exchange • Modular PCS-6000 family (6100–6500 variants) • Crossed-roller bearing linear stages with piezo-flexure

Applications

- Electrophysiology pipette positioning • Patch-clamp and intracellular recording setups • Coarse-then-fine biological micromanipulation • Modular multi-axis PCS workstation configurations

PCS6000PCS6100 Characteristics / Specifications

PARAMETER	VALUE
Model	PCS-6000 / PCS-6100
Manufacturer	Burleigh
Instrument Type	Motorized Micromanipulator Controller and Fixture
Product Family	PCS-6000 Series
Coarse Travel	approximately 25 mm
Coarse Step Size	as small as 0.5 µm
Fine Piezo Travel Options	150 µm or 300 µm
Max Coarse Speed Class	2 mm/s (joystick)
Stage Construction	Piezo-flexure assemblies in crossed-roller bearing linear stages
Coarse Actuation	Stepping / servo motors
Fine Actuation	Piezo actuators via Axis Control Unit (ACU)
User Controls	Joystick (coarse); large ACU knobs (fine)
Pipette Adjustments	Dual rotary pivot stages for angle and exchange
Architecture	Modular multi-configuration desktop system
Controller Contents	Electronics for piezo and servo motors
Related Models	PCS-6100; PCS-6200; PCS-6300; PCS-6400; PCS-6500
Application Domain	Electrophysiology micromanipulation
Motion Modes	Coarse motorized + fine piezoelectric Notes Specs from Burleigh PCS-6000 Series operating manual overview. Exact piezo travel (150 vs 300 µm) and axis count depend on configuration—confirm PCS-6100 fixture options on the unit.

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications	
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Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.