

ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

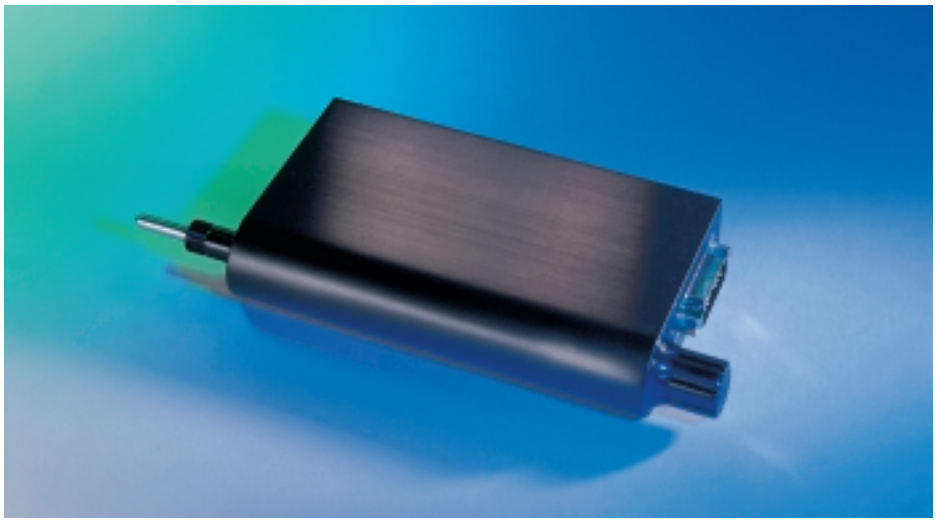
Find the *Newport PM500-1A* at our website: ***Click HERE***

PM500-1A Series

Ultra-Precision Motorized Actuators

Key Features

- *Smallest and lightest actuator with integrated precision glass-scale metrology*
- *Non-rotating tip avoids periodic motion variations*
- *Very low friction lead screw provides exceptional smooth motion with high damping.*
- *Unmatched performance with 20,000 hours MTBF reliability*
- *Convenient manual adjustment knob*



The PM500-1A Series, our highest performing closed-loop actuators, combines highly reliable performance with ultra-precise positioning. These actuators are manufactured to the highest standards to ensure precision and quality. The result is a motion system with unmatched laboratory-grade quality and performance with production line reliability. And like all PM500 Series devices, the PM500-1A incorporates direct-output metrology to deliver outstanding dynamic performance.

A linear glass scale integrated into the moving spindle assembly (US Patent #5053685) eliminates all of the drivetrain-induced errors not measurable when the encoder is attached to the motor. The scale provides better than 1 µm accuracy over full travel, and incorporates a fiducial track for reading absolute origin position. A proprietary non-contacting read-head eliminates hysteresis and wear.

The actuators are built from high-strength stress-relieved aircraft grade aluminum and incorporate a high-quality lead screw with a low-friction preloaded nut for excellent stiffness, load capacity and lifetime. Combining this with a cool running DC motor drive provides reliability better than 20,000 hours MTBF. The actuators incorporate a space-saving side-by-side motor-to-lead screw design and a non-rotating spindle to eliminate micron-scale torque-induced positioning errors. A convenient manual adjustment knob allows quick intuitive positioning when the motor is off.

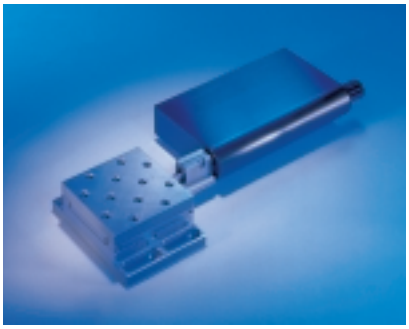
For optimum positioning performance and seamless compatibility, these stages must be used with our PM500-C6 Series Controllers.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Controllers/Accessories



(see page 1048)
PM500-C6 Six axis controller
PM500-K6 Keypad



PM500-1As are compatible with most standard Newport manual stages and opto-mechanical components like this stainless steel crossed-roller 462-X linear stage.

Design Details

Base Material	Stress-relieved 7075 Aluminum
Bearings	Ball bearings
Drive Mechanism	Very low friction lead screw
Drive Screw Pitch (mm)	1
Feedback	Proprietary glass scale encoder
Limit Switches	Optical, on encoder's fiducial track
Origin	Optical, on fiducial track, located at center of travel
Motor	Cool running DC servo motor with Tachometer
Cable	4.8 m long cable included
Driver Module	Driver module with on-board processing power for PM500-C6 included
MTBF@ 30% rated load (h)	20,000
Weight [lb (kg)]	1.3 (0.6)

Specifications

Travel (mm)	25
Resolution (µm)	0.1; 0.05
Minimum Incremental Motion (µm)	0.1; 0.05
Bi-directional Repeatability (µm)	0.2, 0.1 typical
Absolute Accuracy (µm)	0.75
Speed Range	0.02 µm–25 mm/s
Speed Regulation	±1% RMS typical above 10 µm/s
Acceleration Range (g)	0.001–0.25
Axial Load Capacity (N)	90
Side Load Capacity (N)	20

Configuration Information

PM500-1A actuators are numbered as follows:

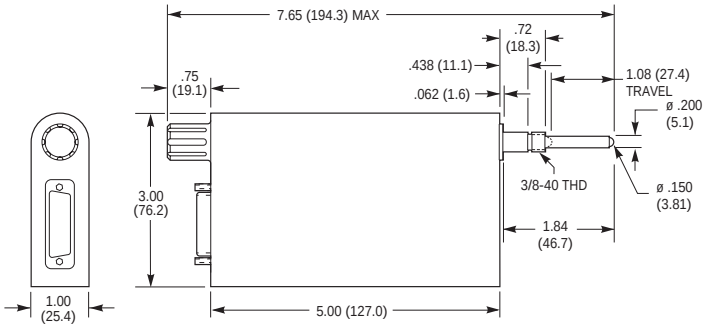
PM500-1A. □

Resolution
100 nm
50 nm

PM500 systems are ordered pre-configured with the **PM500-06 Series controller**. Please see page 1048 for ordering information.

The PM500-1A is configured by specifying the resolution in nanometers. The **PM500-1A.50** is a 25 mm travel, closed-loop, DC driven actuator with 0.050 µm (50 nm) resolution.

Dimensions



Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP