

OPTO-MECHANICAL PRODUCTS

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OPTO-MECHANICAL PRODUCTS

Optical Tables



Altechna offers a wide range of optomechanical products including optical tables, brackets&rails, base mounts&accessories, optical mounts, optical positioners, base positioners, translations&rotation stages, motorized positioners&controllers, fine adjustment screws and opto-mechanics&sets. These products are used for various scientific and industrial applications requiring features such as: precision, stability, corrosion resistance, vibration isolation and damping and many more.

Here in our catalogue you can find only small part of our opto-mechanical products. All of our standard opto-mechanical products are described in detail in our web site www.altechna.com

■ Pictures & Descriptions



Honeycomb Table Tops provide the base on which precision optical and laser work is performed. The table tops have a honeycomb core inside. The table tops meet high requirements for rigidity, flatness, vibration isolation and damping.



We offer optimal Vibration Isolation Systems for the optical table of your choice.



Table Connectors render quick and reliable way to link table tops together. Laser shelves are optional breadboards which save space when installing a laser and other equipment beneath optical table tops. Protective Screens are specially designed for protection of the optical setups from undesired flashes, glitters and other undesired optical disturbances.

Custom sizes available on request. More information is provided in our web page www.altechna.com

Brackets & Rails



Optical Rails provide linear adjustment of the spacing of optical components over a wide range, the best way is to use a rail. These rails are in the form of a dovetail. Alternatively the rails may be clamped using ledges along the sides.



Rods have sturdiness suitable for the majority of general laboratory applications. Rod is produced from stainless steel or aluminum tube filled with vibration damping plastic.



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Base Mounts & Accessories

■ Pictures & Descriptions



Posts and post holders provide a simple means for mounting optical components. They may be stud mounted to a wide variety of component holders. Post collars are offered separately to hold the posts at a preset height. Post and post holders are made from aluminum or stainless steel.



Clamps are used to connect or fasten components at random positions and allows the plate to rotate freely while the component remains stable.



Base Plates are designed to position posts and holders. The base is fastened by mounting slots, which allow to slide the base to positions independent of the pattern holes. Material: steel of black finish, or black anodized aluminum.

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Fasteners&Accessories mainly are: Thread Adapters for connecting components when precise orientation in plane is not required. Connecting cones is useful in connecting elements when specific orientation plane is required. Hex Keys suitable for tightening all standard Hex Screws. Special and Standard Screws which can be screwed by hand and tightened using a spanner. A Washer which is used to protect surface from scratches and to provide more stable tightening.

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- *Custom sizes available on request. More information is provided in our web page www.altechna.com*

Optical Mounts

■ Pictures & Descriptions



Altechna sells various Optical Mounts such as Self-Centering Optics Mounts for lenses, simple Optical Component Mounts for various round, standard dimensions optics elements, Adjustable Radius Optics Mount for round objects of virtually any thickness and length and Big Optical Mounts for large and heavy elements.



Optics Holders consists of Multiple Filter Holders which allows fixation of up to 6 filters, Push Holders for optics of any shape or configuration: round and rectangular, with negligible loss of clear aperture, even at large angles of incidence, Plate Clamps for thin light-weight plates and Universal Plate Holders for long and thick components.



Optics Clamps are used for clamping of components directly to flats like a surface of an optical table or translation stages. We offer mainly Bar Clamp, V-Clamp and Spring Clamps.

- Custom sizes available on request. More information is provided in our web page www.altechna.com

Optical Positioners

■ Pictures & Descriptions



We offer a broad selection of Optical Positioners which suit the optical components listed earlier in this catalog as well as many others. Flipping Mounts to place optics in and out of the optical scheme. Flip the platform out and back again, and it sits on the driving screws in a repeated position. 2/3 axis tilt/translation mounts suitable for precise alignment of various optical elements to desired angular and linear orientation.



Polarizer holder's main function is to rotate polarization optics about the optical axis. Adjustable polarizer holders complement our range of polarizers with an integrated adjustment of tilt and tip about two orthogonal axes



2 axis tilt mounts are ideally suitable for precise aligning of various optical elements to desired angular orientation.



Optical Mounts of Side Control/Drive which we sell are Objective Mounts for precise adjustments of standard microscope objective lenses and ensures low-cost positioning of a focus point. Also Beamsplitters/Optics Mounts which have very convenient access to the adjustment handles.



Neither the less Altechna offers Miniature Precision Mirror Mounts and various Special Positioners for various optical schemes and applications.

Base Positioners

■ Pictures & Descriptions



Simple as it is a Single-Axis Tilt Stage provides tilt range of 6° with $6\mu\text{rad}$ sensitivity.



Multi-Axis Tilt Platform provides angular and adjustment about two-axis - tilting and in-plane rotation. Three Angle Prism / Beamsplitter Table provides non-calibrated tilt motion in three planes. It is ideal work platform for prisms, beam splitters and mirrors, which needed to be precisely adjusted in angle about three orthogonal axes. Tilt / rotation stage provides two independent tilt adjustments within $\pm 5^\circ$ range and $\pm 5^\circ$ in-plane rotation adjustment. Adjustable Laser/Laser Head Holder is for repeatable mounting and drift-free pointing of laser heads and other cylindrical objects.



Altechna offers two types of Bases: Kinematic and Magnetic Kinematic Base which are used for for repeated positioning of groups of units mounted on its platform.

Translation & Rotation stages

■ Pictures & Descriptions



We offer various manual 1/2 Axis Translation Stages with great travel range increased stability of precision.travel. They come in various sizes from miniature to Multi-axis assemblies. Stages are made from steel or aluminum after that they are black anodized.



We offer a fine, very compact dimensions Rotation Stages with micrometer screw. As translation stages these also come in various sizes from miniature to large ones. Stages are made from steel or aluminum after that they are black anodized.

Motorized Positioners & Controllers

■ Pictures & Descriptions



Besides various manual we also offer and Motorized Translation Stages driven by a stepper motor with high-resolution and precision.



Motorized Rotation Stages provides 360° of rotation with high accuracy and stability. This is an excellent general purpose motorized rotator. Rotation Stages are made of a combination of black anodized aluminum and black finished steel. Goniometers rotate an object about an axis in space located outside the body of the unit (usually-above the platform), so the axis is not obscured by the unit itself. Goniometers have small travel range and greater stability, compared to rotation stages.



The new generation of stepping motors allows step division modes (micro-stepping), which increase the resolution of the screw to 4 arcsec and optional dimensions by Motorized Screws. Combining motorized screws with Mirror Mounts we achieve more precise positioning than with the manual adjusters. It is ideal for use in closed systems.



Altechna sells lots of motorized devices such as linear translation stages, rotation stages, attenuators and other equipment. All stepper motor devices can be controlled by stepper controller cards. Controller can be used to drive motorized positioners of other manufacturers if stepper motor parameters match specifications.

Fine Adjustment Screws

Picture & Description



Altechna has a large diversity of screws: High-Resolution Micrometers allows very fine reading accuracy by combining a large knob and a stainless steel screw with precise pitch. Fine Closed Screws offers high resolution and smooth movements. Adjustment Screws are popular for their low cost, and miniature size, in applications where rough resolution is enough. Ultra-Fine Adjustment Screws are compact and provide extremely high resolution. Special design provides smooth and repeatable action. Altechna also offers a hard anodized aluminium Knobs, which will help you prevent inadvertent touching and will save space if removed after the screw is adjusted.

More information is provided in our web page www.altechna.com

Light Test & Measurement Instruments

Picture & Description



High-Power/Energy/Photo detectors, Laser Power/Energy meters provide functionality, performance and versatility then it comes to any kind of energy detection or measurement.

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