

# How to Select an Optical Top Support System

Choose from rigid support, air isolation, or piezoelectric active vibration cancellation



## Features

- Modular design for upgradability, maximum convenience
- Choose rigid support or Gimbal Piston™ air vibration isolation
- Retractable casters
- Safety tiebars
- A range of heights and capacities

## GENERAL SPECIFICATIONS

### Isolator natural frequency:

#### High Input

Vertical = 1.0 Hz

Horizontal = 0.8 Hz

#### Low Input

Vertical = 1.2-1.7 Hz

Horizontal = 1.0-1.5 Hz

### Isolation efficiency @ 5 Hz:

Vertical = 80-90%

Horizontal = 80-90%

### Isolation efficiency @ 10 Hz:

Vertical = 90-99%

Horizontal = 90-99%

### Finish:

Medium texture

black powder coat paint

### Facilities required:

80 psi nitrogen or air

## System 1 Modular Post-Mount Supports

### Rigid Supports or Gimbal Piston™ Air Vibration Isolators

System 1 gives you superior convenience and economy in acquiring precisely the equipment you need for supporting optical tables or other large work surfaces. The unique System 1 design lets you customize basic features and still have off-the-shelf prices and speedy delivery. There are six categories of options, and the convenient selection charts help you construct a part number for ordering. Systems can also be easily upgraded – whether to convert from a leveling stand to an isolator or add casters – whenever required.

## Options

### Isolators/Leveling Posts

If you need vibration isolation now, the choice is our Gimbal Piston™ isolators,

which are unsurpassed in the industry for passive vertical and horizontal vibration attenuation – especially as demonstrated at realistic, low levels of input.

If a rigid stand will suffice for the present, System 1 offers an economical leveling mount option with rugged, adjustable jack screws that provide +2 1/2 and -0 in. (+62 and -0 mm) of travel. Later, you can upgrade the system to full vibration isolation performance, with a total cost only slightly more than if you had opted for this feature originally.

### Load Capacities

Depending on the weight of your table and onboard equipment, you can select support systems with capacities of 1,400, 4,000, 6,000, 10,000, or 15,000 lb (600,

2,000, 3,000, 4,500, or 7,000 kg, respectively). Customized systems can be configured from standard components to support virtually any structure.

### Height

Seven post heights are available as standard: 12, 16, 18, 22, 24, 28, and 32 in. (300, 400, 450, 550, 600, 700, and 800 mm, respectively) – though not all sizes are available in all capacities. Taking into account the table thickness and height of equipment components, select the post size that provides the working height you need. Ergonomic convention would dictate 36 in. (900 mm) from floor to table top surface.

### Tiebars

For safety reasons, tiebars are recommended. They are mandatory

when you choose casters or anticipate upgrading to them. If you require constant access to the area under the table, free-standing support bases will provide more than adequate stability.

### Casters

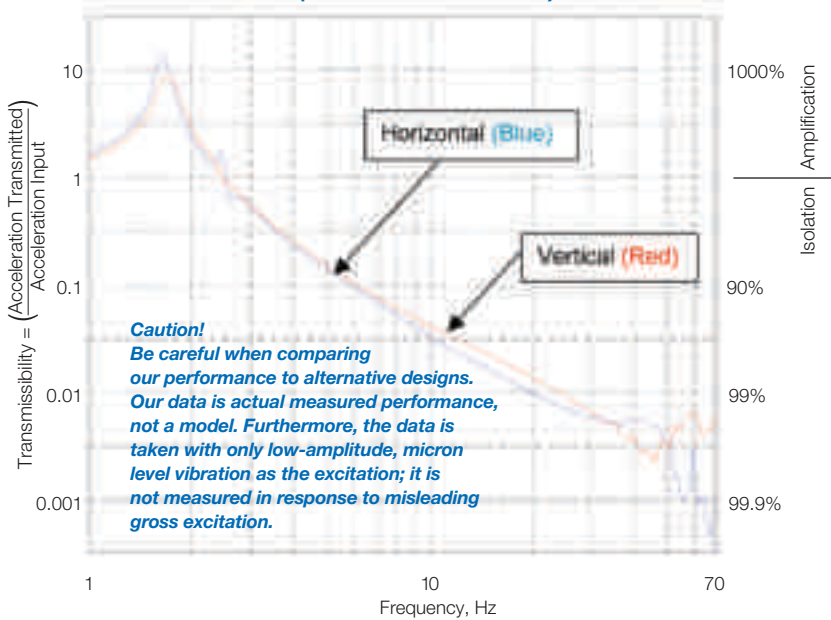
System 1's optional casters are of a rugged, heavy-duty design making an installed table easily movable when they are engaged.

Once the table is positioned, the casters retract to establish solid floor contact during equipment operation. Like other System 1 features, they can be integrated at the outset or purchased later if you choose to upgrade. Casters retract externally on the smallest capacity posts, internally on the intermediate, and are not available for the highest capacity. They are not available on posts less than 18 in. tall.

### Configurations

A simple four-post frame configuration is the most common; however, depending on the size and shape of the supported structure and on the weight and position of onboard equipment, another multiple support system may be preferred. For unusual size tops or if you have any doubt as to your approach, please call us.

**System 1 Vibration Isolation Performance**  
(actual measured data)



Measured performance of TMC 14 Series System 1 Gimbal Piston™ Isolators

## NEW From TMC!

### STACIS® iX LaserTable-Base™

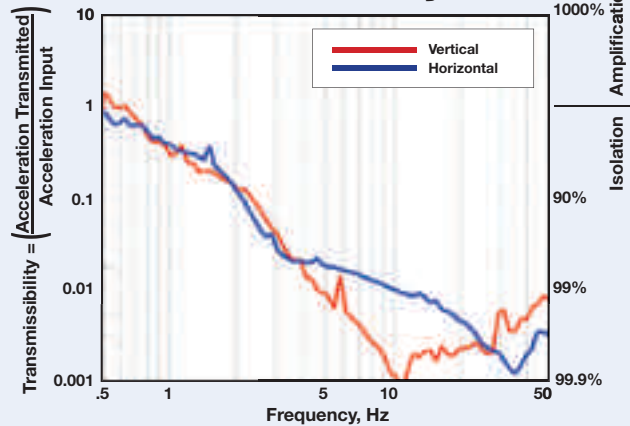
Hybrid Piezoelectric/Air Active Vibration Cancellation System

*New two-stage hybrid active/passive system achieves breakthrough vibration isolation performance*



For the ultimate in vibration isolation performance, TMC has developed a new, hybrid active/passive two-stage isolation system, STACIS® iX LaserTable-Base™. Though low frequency air isolators provide excellent high frequency isolation, passive mass-spring-dampers actually amplify vibration at their resonant frequency, typically 1 to 3 Hz. LaserTable-Base combines the patented STACIS® piezoelectric vibration cancellation system achieving almost 20 dB of isolation at 2 Hz with TMC's MaxDamp® Gimbal Piston™ Isolators to provide unprecedented overall vibration isolation performance. LaserTable-Base is ideal for the most demanding, vibration-sensitive applications including Atomic Force Microscopy, Single Molecule BioPhysics, Laser Trapping, and Interferometry.

### Transmissibility\*



\* 4,000 lb (1,800 kg) capacity LaserTable-Base™ with MaxDamp® Isolation System. Payload of 2,000 lbs (907 kg), tested with simulated floor vibration at VC-A (2,000 micro-inches per second, 50 microns per second).