

**Isolator Natural Frequency  
High Input Specifications**

Vertical 1.2 Hz  
Horizontal 1.0 Hz

**Low Input Specifications**

Vertical 1.5 - 2.0 Hz  
Horizontal 1.2 - 1.7 Hz

**Isolation Efficiency @ 5 Hz**

Vertical 70 - 85%  
Horizontal 75 - 90%

**Isolation Efficiency @ 10 Hz**

Vertical 90 - 97%  
Horizontal 90 - 97%

**Gross Load Capacity**

1,400 lbs. (640kg)

**Net Load Capacity**

350 lbs. (160kg)

**Finish**

Medium texture black powder coat  
frame; stainless steel top.

**Facilities Required**

80 psi nitrogen or air

**Accessories**

- Front Support Bar
- Rear Support Bar
- Armrest Pads
- Sliding Shelves
- Articulated ArmRest
- Raised Rear Shelf
- Sub Shelf
- Clear Acrylic Enclosures
- Fixed Full Perimeter Enclosures
- Precision Control Valves
- Casters

# No shake, rattle, or roll.

**Series 63-500 High-Performance Laboratory Tables**

TMC 63-500 Series High-Performance Lab Tables provide an excellent vibration-free working surface for loads up to 350 lb (160 kg). Now with modular construction, these tables are recommended for use in such diverse applications as electrophysiology, cell injection, ultramicrotomy, photomicroscopy, scanning tunnel microscopy, and confocal laser scanning microscopy.

- **Gimbal Piston Isolators**

TMC's Patented Gimbal Piston™ Isolator has been proven by independent tests to consistently outperform the competition. It achieves both horizontal and vertical isolation down to very low input levels.

- **Thin-Wall Rolling Diaphragms**

An integral part of the Gimbal Piston, the thin-wall, dacron-reinforced, rolling diaphragm air seals are only 0.020 in. (0.5 mm) thick and extremely flexible. They do not stiffen the spring as thicker rubber diaphragms do.



- **All-Aluminum Height Control Valves**

All systems are equipped with rugged all-aluminum height control valves. Virtually unbreakable, they are finger adjustable with no need for tools. The standard model maintains height to  $\pm 0.050$  in. ( $\pm 1$  mm); the precision model, to  $\pm 0.005$  in. ( $\pm 0.1$  mm).

- **Internal Piston Travel Restraint**

Unique in the industry, Technical Manufacturing Corp provides husky, tamperproof, built-in piston travel restraints. The restraints are completely independent of the table valves and have been ram-tested at forces above those produced by the pistons operating at full pressure. They cannot be decoupled accidentally and do not interfere with setting up and using the table, but simply protect against overtravel without the use of external bars that create hazardous pinch points. Heavy loads, including the top plate, can be safely removed from a table in full operation.

- **Tiebar Gussets**

Exclusive TMC tiebar gussets increase table frame rigidity. They compensate for the elimination of the front tiebar in order to provide kneewell space.

- **Rugged Built-in Leveling Feet**

Table legs include built-in fine-thread 3 in. (75 mm) diameter screw jack levelers with 1/2 in. (13 mm) travel, provision for external adjustment and a handy adjustment wrench. The base is a solid, slightly domed shape to assure solid, wobble-free contact with sloping or irregular floors.

- **Superior Table Tops**

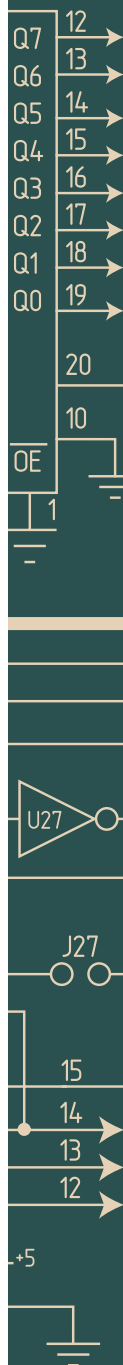
Our standard laminated tops provide an attractive stainless steel ferromagnetic working surface with highly damped, high stiffness construction at low cost. For applications requiring the ultimate stiffness and damping or mounting holes, specify TMC's patented CleanTop® II honeycomb top.

## Accessories for 63-500 Series

Tables may be fitted with armrests and rigidly supported sliding side shelves just above the table top. The sliding shelves must be used in conjunction with a front support bar and a rear support bar that are fastened to the table legs. The bars can be retrofitted, but cannot be used with the full perimeter enclosure or Faraday Cage.

### Front Support Bar

This adjustable steel rail mounts on the table's front legs. It has a slot in which the shelves mount, and is normally ordered with the armrest pads. The bar may be centered along the length of the table or cantilevered to suit your application.



**Armrest Pads****Articulated Armrest****Rear Support Bar**

This adjustable rail mounts on the rear table legs and supports the rear end of the sliding shelves. It may also be cantilevered.

**Armrest Pads**

Adjustable leather forearm rests which fasten to the front support bar. A new armrest pad is now available which fastens to the perimeter enclosure.

**Sliding Shelves**

Shelves are made of wood with white plastic laminate covering all sides. A metal bracket on the front edge of the shelf fits into the slot in the front support bar. Shelves slide freely from side to side and are easily lifted off the support bars. Built-in stops prevent shelves from sliding out of slots. When ordering sliding shelves, you must order front and rear support bars.

**Articulated ArmRest**

Our rugged, leather Articulated ArmRest adds stability and comfort when delicate manipulations must be made without disturbing the isolated surface. Mounts to front support bar or perimeter enclosures.

**Raised Rear Shelf**

The 14 in. (350 mm) deep raised rear shelf mounts on the full perimeter enclosure and is the length of the corresponding table top. The shelf is solidly supported 18 in. (450 mm) above the isolated surface with no direct noise transmission to the table top.

NOTE: This shelf cannot be used with the Faraday Cage.

**Sub Shelf**

For additional storage space, a shelf mounted beneath the isolated table top is available and may be retrofit at any time.

**Clear Acrylic Enclosures**

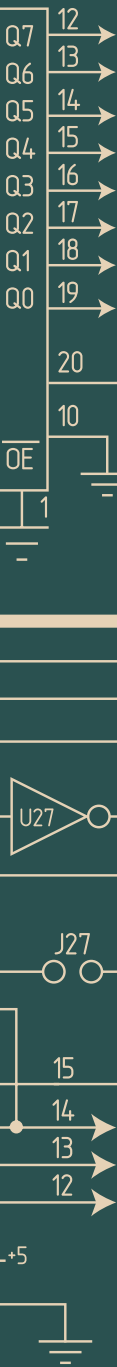
The clear acrylic enclosure provides protection from drafts and dust. Custom configurations allow for acoustic and light protection. Features include: clear acrylic panels; solid top; triple-track front section with a three-piece sliding front panel.

**Fixed Full Perimeter Enclosures**

A fixed, welded-steel structure that completely surrounds the table top to provide non-isolated support for Faraday Cages, raised rear shelves Plexiglas enclosures and other special fixtures. Cannot be used with sliding shelves or support bars.

**Precision Control Valves**

To minimize bottled air supply usage, standard TMC height control valves have a small "dead band," resulting in a height return accuracy of  $\pm 0.05$  in. ( $\pm 0.13$  mm). Precision valves control height to within  $\pm 0.005$  in. (0.13 mm) but have a slight, constant leak. To specify precision height control valves with a table, add the letter 'P' after the basic table model number.



### Casters

A set of four retractable casters, with a total weight capacity of 1000 lbs (450 kg) can be mounted to the base of the table legs.

### Casters



### TMC Air Table Ordering Information

Part No.	Product Description	Price
TM-63-533	63-500 Series High-Performance Lab Air Tables	\$3,855+
TM-81-301-01	Front support bar 63-500 Series	\$ 160+
TM-81-302-01	Rear support bar 63-500 Series	\$ 160+
TM-90-510	OnTrak pre-assembled roll off feature *New	\$ 441+
Complete TMC product line available. Call or email for part numbers.		

U.S./Canada prices shown. International prices add 15%. Email or visit web store for latest prices.

### Breadboards

Another in a long line of TMC innovations, the 75 Series Breadboards minimize both weight and cost. A patented manufacturing technique allows us to form countersunk, tapped holes in a thin top skin of stainless steel. The holes are not drilled or punched, but fabricated in a way that effectively "thickens" the skin in a small ring around the threads. No inserts are used and the tapped holes are 3 threads deep.

These tops have relatively high levels of rigidity, as they utilize our standard steel core. They are ideal when light loads are anticipated and low weight and/or cost are the most crucial factors.

This lightweight design is available from stock in several sizes. A full range of sizes and materials is available on a custom basis.

- Ultra-lightweight design weighs less than 9 lbs/ft<sup>2</sup> (44 kg/m<sup>2</sup>).
- Ferromagnetic Stainless steel top and bottom skins.
- Aluminum and carbon steel versions available.
- Formed holes are countersunk and tapped 3 threads.
- Formed holes in top skin add to rigidity.
- CleanTop® individual cups under each hole make the core spillproof.

### Breadboards



### Breadboard Specifications

**Core**  
Steel honeycomb, closed-cell,  
0.010 in. (0.2mm) thick foil

**Core Shear Modulus**  
275,000 psi  
(19,300 kg/cm<sup>2</sup>)

**Core Cell Size**  
<0.5 in.<sup>2</sup>  
(3cm<sup>2</sup>)

**Core Density**  
13.3 lb/ft<sup>3</sup>  
(230 kg/cm<sup>3</sup>)

**Top Skin**  
430 series stainless steel, 0.075in.  
(2 mm) thick

**Bottom Skin**  
400 series stainless steel, 0.075in.  
(2 mm) thick

**AutoMate Scientific®**  
READY FOR RESEARCH.™

### TMC Breadboard Ordering Information

Part No.	Product Description	Price
TM-75SSC-103-02	Breadboard 19 x 23" 75 Series (metric sizes with M6 holes	\$ 695
TM-75SSC-104-12	Breadboard 19 x 47" 75 Series (available)	\$ 915
TM-75SSC-115-12	Breadboard 23" x 35" 75 Series	\$ 905
TM-75SSC-135-02	Breadboard 35 x 47" 75 Series	\$ 1,355
Complete TMC product line available. Call or email.		

U.S./Canada prices shown. International prices add 15%. Email or visit web store for latest prices.



### BenchTop Faraday Cage

Until recently, TMC's Faraday Cages have only been available as part of a complete vibration isolation table system. The cages required our Perimeter Enclosure option and could not be assembled without a TMC 63-500 Series Vibration Isolation Table as its base.

We now offer the same line of 40 in. tall cages with a baseplate which allows the cage to be used on a bench-top without a corresponding TMC table. The base of the cage is a reinforced stainless steel plate which can support a compact vibration isolation system, microscope, or other instrument.

### Options and Features

#### Type II Cages

- New 2 in. diameter holes for cable passage
- Optional armrest pads are now available with Faraday Cages
- Optional "U" shaped hanging shelf
- Optional non-isolated sliding shelf oriented front-to-rear
- Full perimeter enclosure required to mount cage

#### BenchTop Faraday Cage

- BenchTop cage includes stainless steel baseplate
- Bench-mounted cage does not require vibration table

# Industry-standard electrical noise protection.



### Type II Faraday Cages

The Type II Faraday Cage offers improved access and simplified assembly. The "window-shade" type retracting front panel is easier to operate than hinged doors and causes less disturbance when adjusted. This front panel may be positioned anywhere between fully opened and closed and stays in position without a fastener. The front door is shipped assembled and the entire unit may be assembled in a few minutes with a screwdriver (provided).

This cage incorporates the same stainless steel frame and copper-mesh material as previous versions. It mounts to (and requires) TMC's full-perimeter enclosures and mounts to our 63-500 Series tables.

### TMC Air Table Ordering Information

Part No.	Product Description	Price
TM-81-333-03	Type II Faraday Cage, 40 in.	\$1,400+
TM-81-334-03	BenchTop Faraday Cage	\$1,580+
Complete TMC product line available. Call or email for part numbers.		

U.S./Canada prices shown. International prices add 15%. Email or visit web store for latest prices.

# State-of-the-art vibration isolation performance.



## 20 SERIES, Active Vibration Isolation Tables

TMC's Active Vibration Isolation Table features state-of-the-art vibration isolation performance. By integrating their new Compact Sub-Hertz Pendulum Isolation System (CSP®) for horizontal vibration reduction with the new PEPS-VX® Inertial Damper for vertical vibration cancellation, TMC has produced a superior, ultra-quiet table in six degrees-of-freedom. This advanced isolation technology may be combined with TMC optical tables and other TMC products, as well as designed into equipment for OEM applications.

Featuring 10 dB of isolation vertically and 20 dB of isolation horizontally at 2 Hz (a frequency at which other tables amplify vibration), the Active Vibration Isolation Table is ideal for the most demanding applications in unusually severe vibration environments.

### Isolator natural frequency

#### Low Input

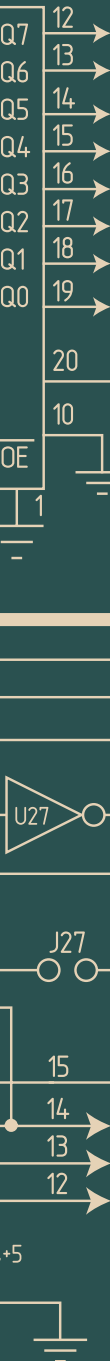
Vertical 0.5 Hz (actively suppressed)  
Horizontal 0.5 Hz

### Isolation efficiency @ 2 Hz

Vertical = 10dB  
Horizontal = 20 dB

### Net Load Capacity

1,200 lbs. (545 kg)



**Finish**

Medium texture black powder coat frame; stainless steel top.

**Facilities required**

3 CFM @ 80 psi air filtered to 20 microns or less  
120 VAC or  $\pm 15$  VDC  
7 w nom, 12 w max

**Features**

- Compact Sub-Hertz Pendulum Isolation System (CSP®) for 0.5 Hz horizontal resonant frequency.
- PEPS® Precision Electronic Positioning System for non-contacting height control of isolated surface to one micron.
- PEPS-VX® Vibration Cancellation add-on to PEPS® Precision Electronic Positioning System for low frequency vibration cancellation in the three vertical degrees-of-freedom.
- Rigid steel frame construction in a desk-style configuration.
- Highly damped, high stiffness two-inch thick, stainless steel, laminate top

**Applications**

- Atomic Force Microscopes
- Scanning Probe Microscopes
- Commercial Interferometers
- Electro-Physiology Recording
- Semiconductor Inspection Equipment

**TMC Air Table Ordering Information**

Part No.	Product Description	Price
TM-20-561	Series 20 - Active Vibration Isolation Tables	\$14,640+
	Complete TMC product line available. Call or email for part numbers.	

U.S./Canada prices shown. International prices add 15%. Email or visit web store for latest prices.

# Isolate floor vibration with unprecedented ease, portability and economy.



## Series 64 TableTop Platforms

Effectively isolates floor vibration with unprecedented ease, portability and economy.

### Features

- Gimbal Piston Isolators
- Top plates available in granite, stainless steel laminate and CleanTop® II steel honeycomb breadboard
- Attaches to tops up to 2 1/8" thick Isolators cradle platform for stability
- Isolator housings protect isolators from being disturbed

## TMC Air Table Ordering Information

Part No.	Product Description	Price
TM-64-446	64 Series TableTop Platforms	\$2,865+
	Complete TMC product line available. Call or email for part numbers.	

U.S./Canada prices shown. International prices add 15%. Email or visit web store for latest prices.

## General Specifications

### Isolator Natural Frequency:

#### High Input

Vertical = 2.0 Hz  
Horizontal = 1.7 Hz

#### Low Input

Vertical = 2.0-2.9 Hz  
Horizontal = 2.2-3.5 Hz

### Isolation Efficiency @ 5 Hz

Vertical = 25-50%  
Horizontal = 40-60%

### Isolation Efficiency @ 10 Hz

Vertical = 60-90%  
Horizontal = 70-90%

### Gross load Capacity

3 isolators = 1000 lbs.  
(405kg) @ 80 psi  
4 isolators = 1400 lbs.  
(640 kg) @ 80 psi

### Net load Capacity

3 isolators = 250 lbs. (110kg)  
4 isolators = 350 lbs. (160kg)

### Finish

Medium texture black powder coat frame; stainless steel top or granite top

### Facilities required

80 psi nitrogen or air

### Number of Gimbal Piston Isolators Required

For granite tops and CleanTop® II breadboards, three isolators are adequate for most loads. Some applications may benefit from a fourth isolator to allow alternate isolator arrangements. The effect on isolation is negligible. Heavier stainless steel laminate tops generally use four isolators for better load distribution.



**General Specifications**

**Net Load Capacity**

150 lbs, 67 kg

**Facilities Required**

80 psi air or nitrogen

**Finish**

Electropolished Stainless Steel  
Sides and Base. Textured Powder  
Coat Carbon Steel Top Plate

**Dimensions**

18(w) x 20(d) x 3"(h)  
(458 x 508 x 76mm)

**Weight**

50 lbs (22kg)

Lightweight system with exceptional low frequency passive vibration isolation.



**66 SERIES Active TableTop™ CSP®**

High-Performance Vibration Isolation System with Compact Sub-Hertz Pendulum Technology

**Benefits**

- Self-leveling design with height control valves
- Electropolished stainless steel chassis with powder finish steel top plate
- Incorporates patented CSP isolator design
- Lightweight, low-profile

**Features**

- Exceptional passive vibration isolation, comparable to our full-size industry standard 63-500 Series Tables
- Lightweight, Compact Design (less than 50 lbs) is easily portable

**TMC Air Table Ordering Information**

Part No.	Product Description	Price
TM-66-501	TableTop CSP Isolation Systems	\$ 2,290
	Complete TMC product line available. Call or email for part numbers.	

U.S./Canada prices shown. International prices add 15%. Email or visit web store for latest prices.

