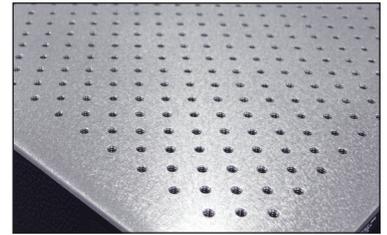
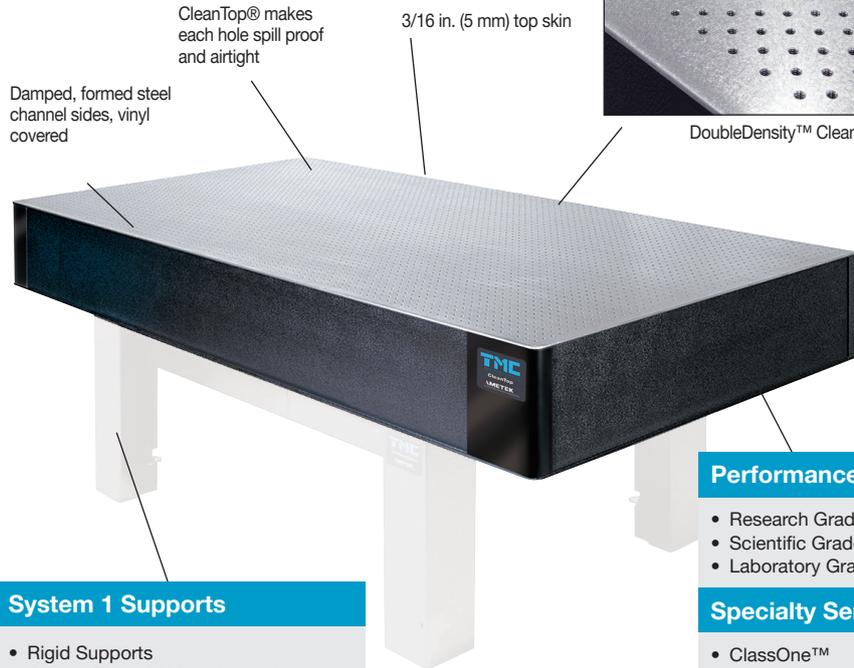


CleanTop® Optical Table Systems



DoubleDensity™ CleanTop



CleanTop® makes each hole spill proof and airtight

3/16 in. (5 mm) top skin

Damped, formed steel channel sides, vinyl covered

The CleanTop® Advantage

Liquid spills on the surface are contained and cannot reach the top's honeycomb core.

The core and skins are completely clean and dry with no residual thread-cutting oils to compromise an environment or the epoxy bonding.

Extremely clean tapped holes make screw insertion smooth and simple.

Easy retrieval of small parts dropped into the holes is assured.

Homogenous thermal expansion across entire structure.

Direct core to skin contact, no intermediate layer.



CleanTop honeycomb core structure

System 1 Supports

- Rigid Supports
- Gimbal Piston™ Vibration Isolators
- MaxDamp® Vibration Isolators
- UltraDamp™ Vibration Isolators

Performance Series

- Research Grade
- Scientific Grade
- Laboratory Grade

Specialty Series

- ClassOne™
- Non-Magnetic
- Vacuum Compatible

TMC's CleanTop line is the best method for a spill-proof, clean, precise, and corrosion resistant optical top with unmatched structural performance.

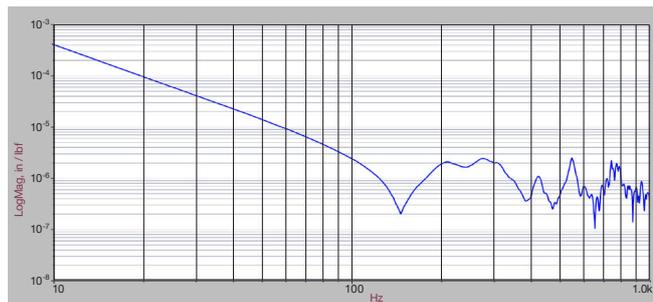
Our optical tops provide the highest core density and smallest honeycomb cell area in an all-steel construction with the first, and still best, spill-proof tapped hole design. The small honeycomb cell size results in a more rigid structure, a heavier structure, and a table with the highest inertia.

TMC utilizes broadband damping that does not need careful tuning and therefore is less susceptible to mass loading of the table that can change the table's resonant frequency.

We offer three different levels of Performance: Research, Scientific or Laboratory grade, as well as Specialty Tables for environmental considerations.

Specifications

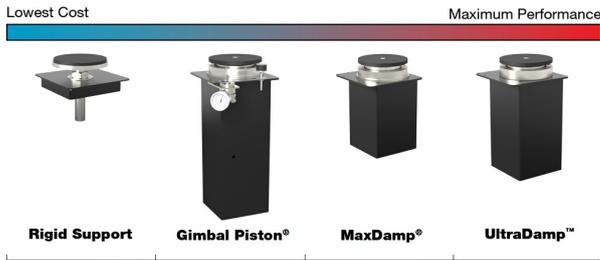
- **Core:** Steel honeycomb, closed-cell, 0.010 in. thick foil
- **Core shear modulus:** 275,000 psi
- **Core cell size:** <0.5 sq.in.
- **Core density:** 13.3 lb/cu.ft (230 kg/m³)
- **Flatness:** ±0.005 in. (0.13 mm) within the **entire** tapped hole pattern | ±0.004 in. (0.1 mm) over a 2 x 2 ft (600 x 600 mm) area
- **Top skin:** 430 series ferromagnetic stainless steel, 3/16 in. (5 mm) thick
- **Sidewalls:** Damped, formed steel channel, vinyl covered
- **Tapped holes:** Backed by 1 in. (25 mm) nylon cups



Note: Corner Compliance data measures the displacement of the top in response to impact by a calibrated hammer. The lack of response below 300 Hz is indicative of extremely high damping and excellent overall structural performance. Compliance was measured on a 48 x 96 x 12 in. top, model number 784-655-02R.

Options and Accessories

Interchangeable Isolators



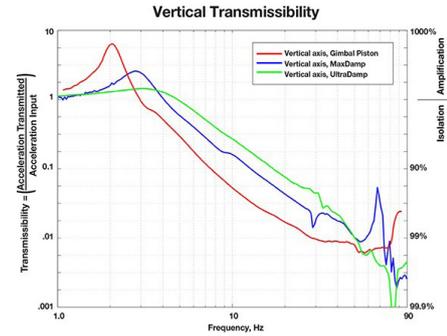
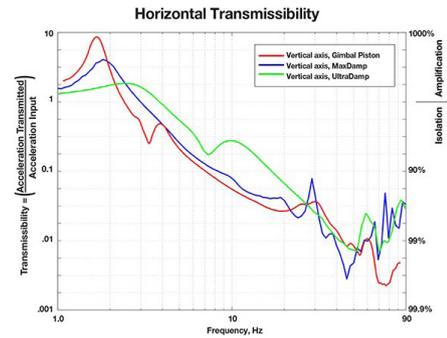
System 1

TMC's Optical Tops with Micro-g® System 1 Vibration Isolation supports feature the patented Gimbal Piston™ family of isolators which provide unparalleled isolation efficiency in both horizontal and vertical directions.

Combined with its highly tuned, non-linear damping response, the Gimbal Piston provides the most stable experimental working environments for advanced research.

The isolators are available in several damping levels and can be interchanged within the same System 1 frame. As a result even applications with extremely high centers of gravity or moving mass can be isolated effectively.

System 1 supports are available in a variety of different options, like internal casters which allow for easy placement of the system in a lab.



Isolation performance comparison between regular Gimbal Piston, MaxDamp and UltraDamp

LaserTable-Base™

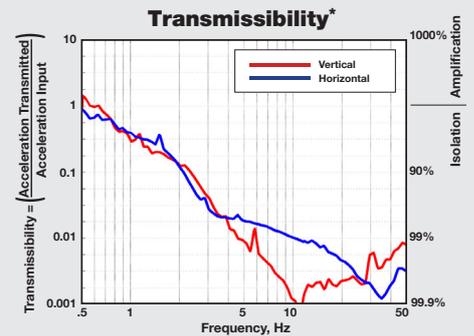
Hybrid Piezoelectric/Air Active Vibration Cancellation System

Two-stage hybrid active/passive system achieves breakthrough vibration isolation performance

For the ultimate in vibration isolation performance, TMC developed STACIS® LaserTable-Base™, a hybrid active/passive two-stage isolation system. 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.

Features

- Incorporates patented STACIS® technology
- Active inertial vibration cancellation system
- Vibration cancellation starts below 1 Hz
- 6 active degrees-of-freedom
- Consists of two isolation systems in series for maximum vibration cancellation
- Installs easily, minimal tuning required
- Incorporates patented MaxDamp Air Isolators
- Includes TMC's DC-2020 Digital Controller

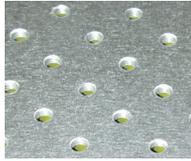


* 4,000 lb (1,800 kg) capacity LaserTable-Base™ with MaxDamp® Isolation System. Payload of 2,000 lbs (907 kg), tested with simulated floor vibration at VC-C (500 micro-inches per second, 12.5 microns per second).

TMC offers a comprehensive line of options and accessories to help you obtain maximum efficiency from TMC optical tops. We also provide unequalled expertise and fast turnaround in designing and building custom configurations to your specifications.

DoubleDensity™

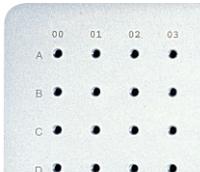
By combining our existing uniquely small honeycomb cell size (0.50 in.²) with our proprietary CleanTop® individual sealed hole technology, we are now able to offer twice the number of tapped holes.



outlets in the 8- and 10-ft shelves. (125 V, 60 Hz, 15 A). Optional accessories include a second tier shelf. The shelf includes two rows of holes on a 2 in. (50 mm) spacing to facilitate mounting of fixtures. The structure is formed steel with a non-resonant design, black powdercoat finish, and leveling feet for uneven floors. Capacity is 200 lb (90 kg). For custom requirements such as non-U.S. format outlet strips, contact TMC.

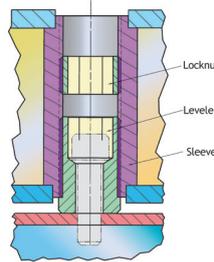
Alpha-Numeric Grid

By electro-chemically etching a coordinate pattern on the top surface, each tapped hole has an address. This is also helpful in documenting a setup for OEM applications.



Breadboard Leveler

As an option on 2 in. (50 mm) thick breadboards with 1/8 in. (3 mm) or 3/16 in. (5 mm) skins, TMC provides a breadboard leveler mechanism. The leveler consists of a threaded sleeve bonded into the top, a bushing leveler, and a locknut. An M6 or 1/4-20 bolt may then be used to fasten the breadboard to another top. The leveler is adjusted and locked with an Allen wrench.



Special Materials

Tables made of any commercially available metallic materials are readily manufactured by TMC. Aluminum, non-ferromagnetic 300 series stainless steel, and thermally stable Invar Alloys are among the most frequent requests.

Special Through-Holes and Ports

Our multiple new 2,000-watt laser machining centers coupled with our capacity to punch, drill, shear, form, and weld steel makes inclusion of custom hole patterns readily available. Common patterns include notches, rectangular through-holes, laser ports, and threaded bosses.



Rounded Corners

CleanTop® Tops include user-friendly 1-in. radiused rounded corners as a standard feature. If required, conventional square corners are available at no extra charge.



Earthquake Restraint System

TMC's earthquake restraint bracket system provides increased safety and stability for optical tables in high-risk earthquake areas without affecting table performance. The system relies on high strength structural tie bars and top brackets to control motion of the table top and fully welded posts and baseplates to secure the support structure to the floor. The result is an ASCE 7-16 certified design with no additional structures bolted to the optical top or floor.

Joined Tables

By welding a precision ground and aligned joiner plate system to the table skins, TMC can provide a rigid coupling between optical tables. In addition to tables coupled end-to-end, we can easily join them in "L" or "T" shapes. In addition, we can provide configurations with two working heights on one table by coupling tables of differing thicknesses.

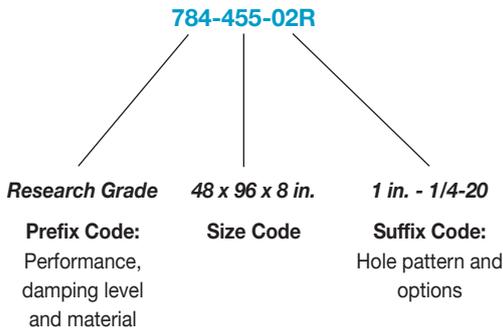


Model Number Configuration

1. Select a performance level or specialty type code from the Prefix Chart.
2. Select a size code for any one of the thicknesses indicated from the Size Chart.
3. Select a suffix code indicating hole pattern/laser ports requirements from the Suffix Chart.

Prefix Chart			
Code	Performance Series	Structural Damping Level	Material
784	Research Grade	Maximum	Standard steel structure with plastic cups
783	Scientific Grade	Standard	
781	Laboratory Grade	Nominal	
Specialty Series			
794	ClassOne	Maximum	Standard steel, plastic cups
794ss			Standard steel, steel cups
793		Standard	Standard steel, plastic cups
793ss			Standard steel, steel cups
714	Non-Magnetic	Maximum	304 alloy, plastic cups
714L			316 alloy, plastic cups

Model Number Example



Surface Dimensions		Thickness			
in.	m	8 in. 203 mm	12 in. 305 mm	18 in. 457 mm	24 in. 610 mm
30 x 60	0.75 x 1.5	432	632	-	-
30 x 72	0.75 x 1.8	491	691	-	-
30 x 96	0.75 x 2.4	492	692	-	-
30 x 120	0.75 x 3.0	493	693	-	-
36 x 60	0.9 x 1.5	436	636	-	-
36 x 72	0.9 x 1.8	439	639	-	-
36 x 96	0.9 x 2.4	440	640	740	840
36 x 120	0.9 x 3.0	494	694	794	894
40 x 60	1.0 x 1.5	443	643	-	-
40 x 80	1.0 x 2.0	444	644	744	844
40 x 120	1.0 x 3.0	445	645	745	845
48 x 48	1.2 x 1.2	447	647	-	-
48 x 60	1.2 x 1.5	449	649	-	-
48 x 72	1.2 x 1.8	451	651	751	851
48 x 96	1.2 x 2.4	455	655	755	855
48 x 120	1.2 x 3.0	459	659	759	859
48 x 144	1.2 x 3.6	463	663	763	863
48 x 168	1.2 x 4.2	465	665	765	865
48 x 192	1.2 x 4.8	467	667	767	867
59 x 60	1.5 x 1.5	470	670	770	870
59 x 72	1.5 x 1.8	471	671	771	871
59 x 80	1.5 x 2.0	472	672	772	872
59 x 96	1.5 x 2.4	473	673	773	873
59 x 120	1.5 x 3.0	475	675	775	875
59 x 144	1.5 x 3.6	476	676	776	876
59 x 168	1.5 x 4.2	477	677	777	877
59 x 192	1.5 x 4.8	478	678	778	878
Weight Factor		0.225 lb/in. ² 16 g/cm ²	0.265 lb/in. ² 19 g/cm ²	0.420 lb/in. ² 30 g/cm ²	0.475 lb/in. ² 33 g/cm ²

Suffix Chart				
Hole Pattern	Code			
	No Options	DoubleDensity	Grid Pattern	DoubleDensity + Grid
No holes	00R	-	-	-
1 in. centers - 1/4-20 and Laser Port	01R	01DR	01GR	01DGR
1 in. centers - 1/4-20	02R	02DR	02GR	02DGR
25 mm centers - M6 and Laser Port	11R	11DR	11GR	11DGR
25 mm centers - M6	12R	12DR	12GR	12DGR