Precision Vibration Isolation Systems

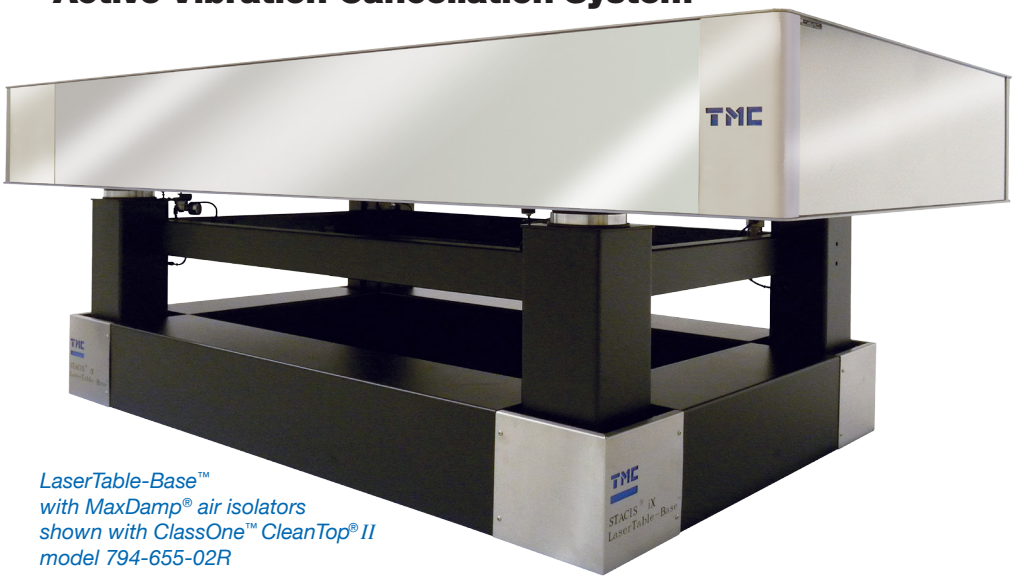
TMC™
Technical Manufacturing Corporation

GMP
GENERAL MICROTECHNOLOGY & PHOTONICS

CE Marked

STACIS® iX LaserTable-Base™

Hybrid Piezoelectric/Air Active Vibration Cancellation System



LaserTable-Base™ with MaxDamp® air isolators shown with ClassOne™ CleanTop® II model 794-655-02R

Features

- Incorporates patented STACIS® technology
- Active inertial vibration cancellation system
- Vibration cancellation starts below 1 Hz
- Extended stroke piezoelectric actuators, up to 60 microns
- 6 active degrees-of-freedom
- Consists of two isolation systems in series for maximum vibration cancellation
- Incorporates patented MaxDamp® Air Isolators
- Simple, robust, and cost-effective
- Installs easily, minimal tuning required
- Optional shelves for mounting equipment under the table
- Includes TMC's DC-2000 Digital Controller

TMC introduces LaserTable-Base™, the latest addition to our STACIS® iX line of piezoelectric active vibration cancellation systems. LaserTable-Base offers an extraordinary level of improvement over existing technology in the amount of vibration isolation attainable with an Optical Table.

Typically, Optical Tables are supported by low-frequency pneumatic vibration isolation systems. Though very effective at isolating high frequencies, these passive systems actually amplify vibration in the critical 1 to 3 Hz range.

TMC's STACIS® technology overcomes these limitations through a patented technology which incorporates piezoelectric actuators and inertial vibration sensors to cancel, not amplify, very low frequency vibration.

The STACIS® iX LaserTable-Base combines these two technologies, air and STACIS®, into one integrated cancellation system. The result is vibration cancellation at very low frequencies and unprecedented levels of high frequency isolation due to the combined effect of two isolation systems in series.

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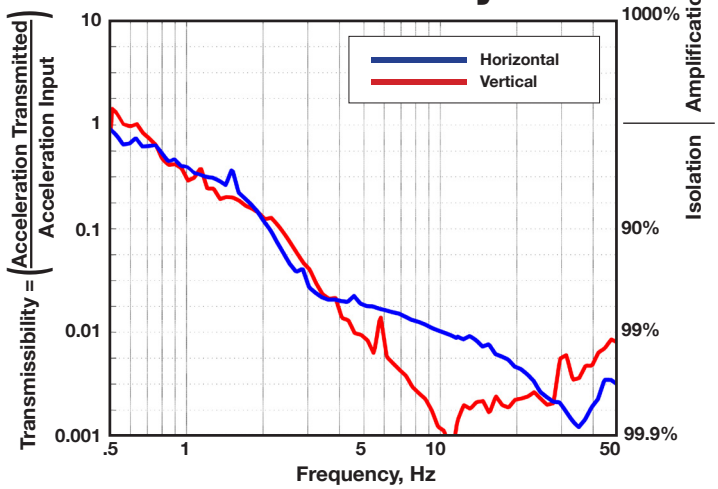
Transmissibility*



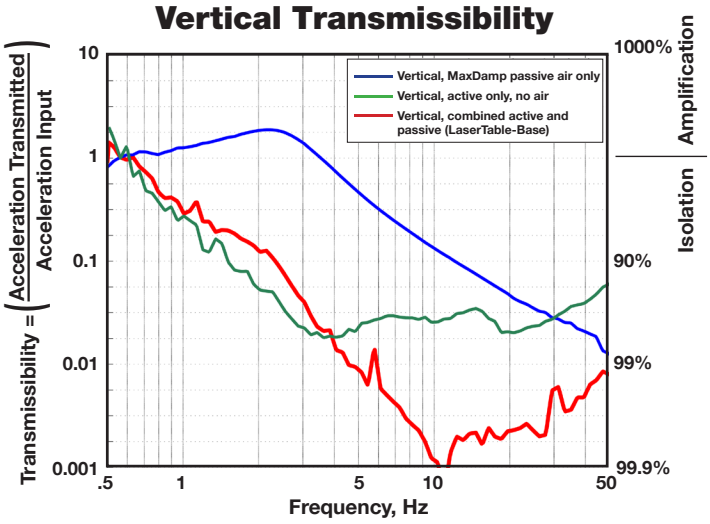
** 4,000 lb (1,800 kg) capacity LaserTable-Base™ with MaxDamp® Isolation System. Payload of 2,000 lbs (907 kg), tested with simulated floor vibration at VC-A (2,000 micro-inches per second, 50 microns per second).*

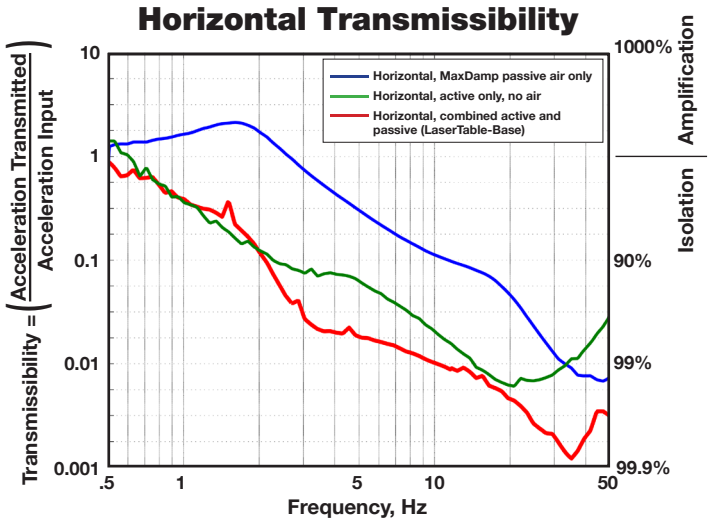
STACIS® iX
LaserTable-Base™

Hybrid Piezoelectric/Air Active Vibration Cancellation System

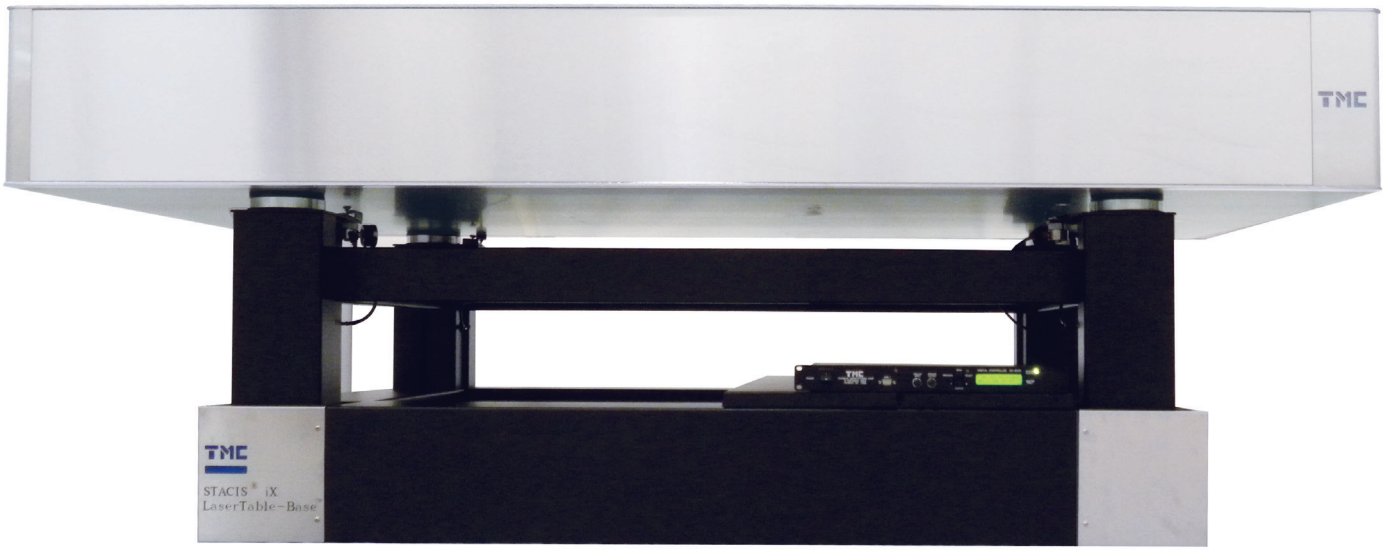
Furthermore, the STACIS® iX family improves upon the original STACIS® technology by the addition of extended travel piezoelectric actuators (to accommodate even the worst floors) and an updated design that significantly lowers total cost.

The upper pneumatic portion of STACIS® iX LaserTable-Base consists of patented MaxDamp® Air Isolators. The modular design allows for customizing the air sub system for specific application requirements.





Combining the low frequency, passive MaxDamp Air Isolators with a Piezoelectric Active Vibration Cancellation System in series results in an overall transmissibility curve that is the sum of the two individual transmissibility curves. The resultant vibration isolation performance is so dramatic that over some frequency ranges, we are limited by measurement instrumentation noise-floors and unable to measure and demonstrate the full isolation performance. That is, above 10 to 12 Hz, the actual performance of the combined system is expected to exceed that shown since the combined isolation is theoretically the sum of the isolation provided by the two sub-systems.



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