

## CVI Melles Griot Optical Tabletop Design

All CVI Melles Griot optical tables feature:

### ■ Excellent Surface Flatness

This eliminates the need to readjust components for height variations across the tabletop and prevents component wobble. High-quality magnetic stainless steel plates are specially handled to maintain superior flatness throughout the manufacturing process. Our unique thermal bonding process ensures that stress is not induced during manufacture.

### ■ Athermalized Design

The unique athermalized design found in all CVI Melles Griot tabletops uses magnetic stainless steel for both the top and bottom plates. This eliminates thermal bowing effects caused by temperature variations.

### ■ Solvent Resistant

Due to the mechanical construction no part of the table is vulnerable to chemical attack.

### ■ Lifetime Warranty

CVI Melles Griot tabletops are warranted to be free of defects in materials and workmanship.

StableTop™ tables feature:

### ■ Minimum Relative Tabletop Motion

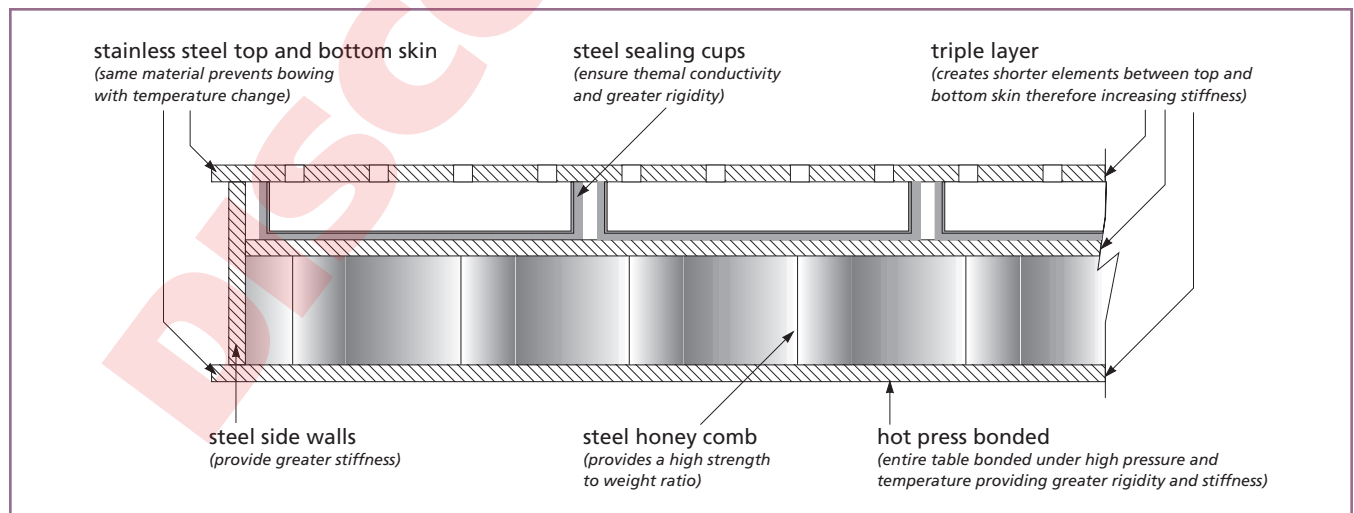
The triple plate, double-honeycomb design provides unsurpassed stiffness and excellent dynamic rigidity.

### ■ Low Dynamic Deflection

Strategic positioning of tuned and broadband dampers ensures superior performance by reducing the compliance curve resonance peak, which further reduces relative tabletop motion.

### ■ Sealed Holes for Easy Clean-Up

Each group of four adjacent holes is sealed beneath the top plate by a sealing cup, allowing liquid and solid debris to be easily removed.



CVI Melles Griot StableTop™ optical tables have a triple-plate double-honeycomb core design for maximum stiffness.



## Selecting an Optical Tabletop

CVI Melles Griot offers a wide range of tabletops and platforms designed to suit your applications and environment. Three important parameters need to be considered prior to choosing a table. First, the isolation requirements relating to vibration, acoustic noise, electromagnetic interference, and thermal fluctuations—all of which have significant influences on the experiments—need to be considered. Next, the function of the tabletop with respect to its stiffness, flatness, and surface quality. Finally, the ergonomics of the whole setup—the surrounding workspace, the distribution of the critical and important ancillary equipment, and the safety and comfort of the operator.

Once these parameters have been clearly defined, the following four-step procedure will help you select the most suitable CVI Melles Griot tabletop for your application. We recommend consideration of both immediate and long-term needs of the laboratory while working through the selection procedure.

### Step 1: Choose tabletop size

CVI Melles Griot tabletops are available in the most popular standard sizes from 1.25 × 2.00 to 1.5 × 3.0 meters (4 × 6 to 5 × 10 feet). Additional sizes, joined configurations and custom shapes can be manufactured to meet your needs. Select a size that will best suit your requirements.

### Step 2: Determine performance requirements

CVI Melles Griot offers tabletops to meet virtually all requirements.

- Performance™ tabletops are unmatched in value. With a single steel core and broadband damping, this series offers dynamic rigidity and stiffness at cost-competitive prices.
- StableTop™ 350 tabletops are general-purpose laboratory tables which outperform many of the best tabletops from other manufacturers. The StableTop 350 features a triple-skin design, double honeycomb structure, sealed holes, and both tuned and broadband damping.
- StableTop™ 450 the world's premier tabletops, are designed for the most demanding applications. Proprietary tuned and broadband damping, combined with the triple-skin design and double honeycomb structure, provides the highest performance available anywhere.

### Step 3: Determine tabletop thickness

Tabletops are available two standard thicknesses of 210 and 310 mm (8.3 and 12.2 in.). Typically, the thicker the tabletop the stiffer the structure and the higher the resonant frequency. However, this may need to be balanced against weight and floor-loading conditions.

### Step 4: Add desired options

CVI Melles Griot offers several standard options including laser ports, mounting for accessory shelves, black-finish tops, and double-density hole patterns. Custom cutouts and hole patterns are readily available.

### Optical Tabletop Performance Comparison

Performance Characteristic	Performance™	StableTop™ 350	StableTop™ 450
Dynamic Deflection Coefficient	$<1.3 \times 10^{-3}$	$<0.7 \times 10^{-3}$	$<0.5 \times 10^{-3}$
Relative Tabletop Motion	$<0.27 \text{ nm } (10.5 \times 10^{-9} \text{ in.})$	$<0.14 \text{ nm } (5.5 \times 10^{-9} \text{ in.})$	$<0.10 \text{ nm } (4.0 \times 10^{-9} \text{ in.})$
Deflection Under Load	$<1.65 \text{ } \mu\text{m } (6.5 \times 10^{-5} \text{ in.})$	$<1.5 \text{ } \mu\text{m } (5.9 \times 10^{-5} \text{ in.})$	$<1.5 \text{ } \mu\text{m } (5.9 \times 10^{-5} \text{ in.})$
Local Flatness (any 1-m <sup>2</sup> area)	$\pm 0.10 \text{ mm } (0.004 \text{ in.})$	$\pm 0.10 \text{ mm } (0.004 \text{ in.})$	$\pm 0.10 \text{ mm } (0.004 \text{ in.})$
Flatness within Hole Pattern	$\pm 0.20 \text{ mm } (0.008 \text{ in.})$	$\pm 0.10 \text{ mm } (0.004 \text{ in.})$	$\pm 0.10 \text{ mm } (0.004 \text{ in.})$

### Optical Tabletop Feature Comparison

Feature	Performance™	StableTop™ 350	StableTop™ 450
Athermalized Design	✓	✓	✓
StableTop Construction	—	✓	✓
Sealed Holes	Optional	✓	✓
Internal Damping	Broadband	Tuned and Broadband	Tuned and Broadband