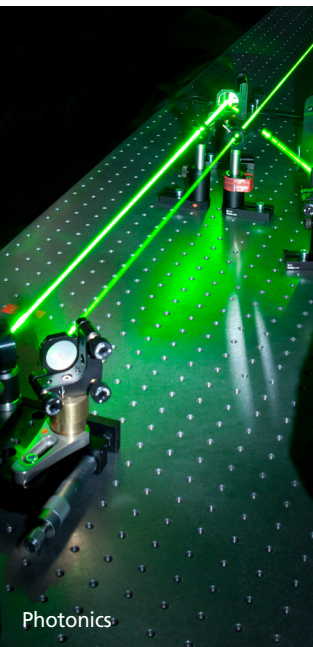
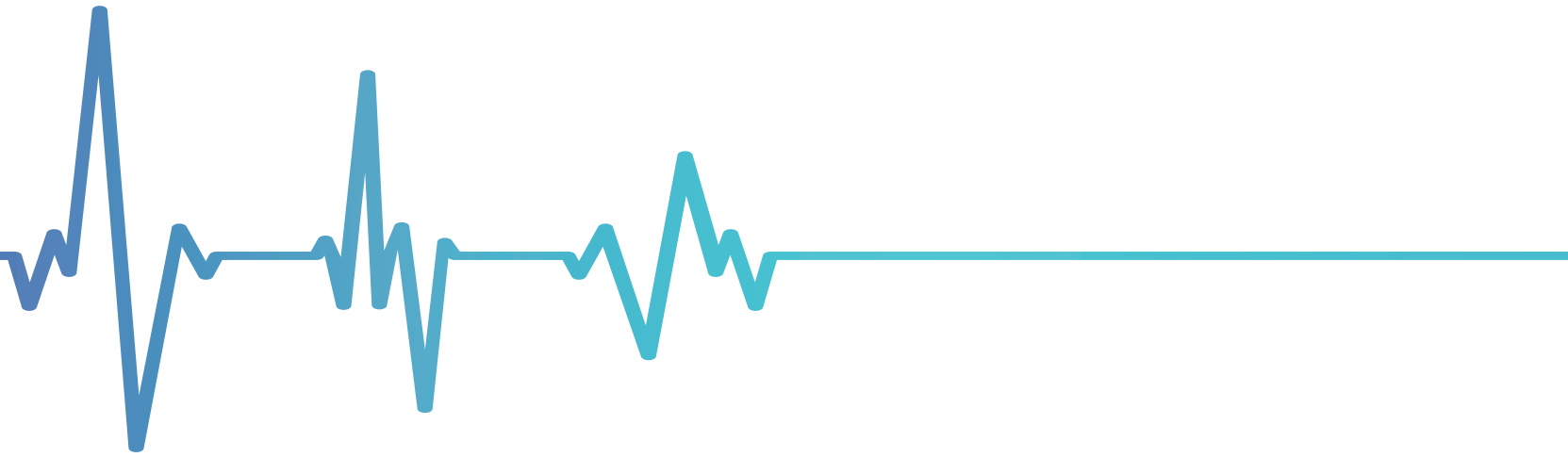
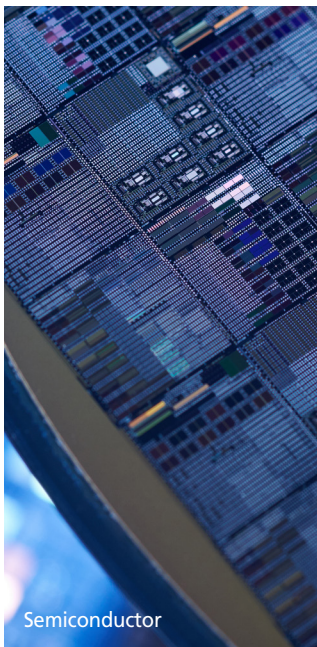


# VIBRATION ISOLATION SYSTEMS



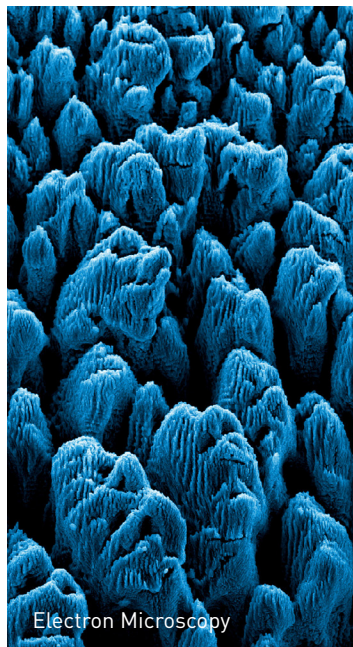
Photonics



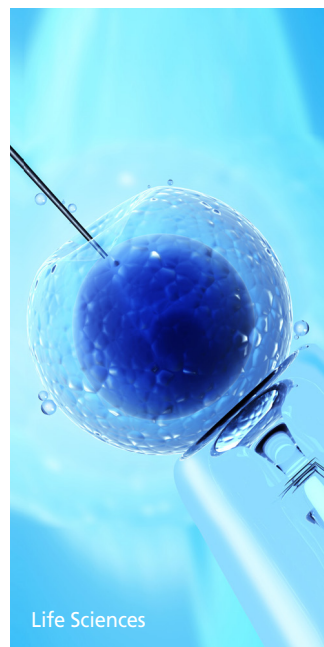
Semiconductor



Metrology



Electron Microscopy



Life Sciences

# DVIO Series Optical Tables

## Optical Tables

Ever since 1993, DAEIL SYSTEMS has been designing and manufacturing optical tables. Our optical tables are designed for challenging applications that are susceptible to vibration like optical experiments, spectroscopy, interferometry, holography, microscopy, nan positioning, ultrafast research, etc. The lightweight but incredibly rigid steel honeycomb table top is combined with uniquely designed pneumatic vibration isolators, efficiently reducing vibration.

### • Optical Table Tops

**Grade : Research Grade :** High-resolution applications such as Holography, Nanopositioning and Ultrafast Research.

**Scientific Grade :** General applications such as Raman Spectroscopy, Bio-Imaging and Micromaching.

- Features :**
- Maximum stiffness-to-mass ratio
  - Superior rigid steel honeycomb core structure
  - Honeycomb table top with excellent vibration immunity
  - Broadband damping to reduce resonance amplitudes and deflection
  - Mounting holes individually sealed with nylon cups



Scientific Grade Optical Tables

### • Table Supports

**Type :** Vibration isolation required? → Pneumatic isolators  
Vibration isolation not required? → Rigid isolators

Stability & Portability required? → Tie-Bar support  
Confined space? → Self-Standing support

- Features :**
- Superior vibration isolation performance
  - Dual chamber design – effective damping
  - Automatic leveling system – leveling valves
  - Excellent leveling repeatability



Research Grade Optical Tables

## Why do we need optical tables?

An optical table is a vibration isolated platform, specially designed to support applications of photonics and laser and to isolate the various sources of vibration that disturb optics and laser related experiments and metrology. The optical table top is designed to be as stiff as possible to minimize relative motion between existing optical elements that are mounted on the optical table top. The high-performance pneumatic isolators reduce the floor vibrations and provides effective damping to reduce the vibration amplitudes and the system deflection at resonance.

## The primary goal of an optical table is to minimize relative motion between components placed on the surface of the optical table top.

### Static Rigidity

Static rigidity defines the ability of an optical table top to minimize deflections and relative motion between components when a static load is placed on the table top. Therefore, the higher static rigidity contributes to maintain the precise and better alignment of the elements, as a result, the system performance will not be disturbed.

Moreover, the higher static rigidity is highly correlated with a high natural frequency of the table top, preventing the coincidence with low frequency vibrations that are not reduced by vibration isolators.

### Dynamic Rigidity

Dynamic rigidity defines the ability of an optical table top to resist deflection in response to external forces such as floor vibrations, acoustic noise and mechanical sources on the surface of the table top. The table top with the higher dynamic rigidity damps the structural resonance due to the vibrations passed through pneumatic isolators.

### Pneumatic Vibration Isolator

Pneumatic isolators of the optical table reduce the floor vibration before it is transmitted to the table top surface. When the forced frequency vibration is lower than the natural frequency of the isolators, vibration is transmitted directly to the table top. When the forced frequency vibration coincides with natural frequency of the isolators, vibration is amplified. Thus, it is critical to design the isolator with the lower natural frequency.

Damping is another essential factor when designing pneumatic isolators. Damping decreases the amplitude of vibration caused by resonance, improving the system stability and providing the fast settling time.



Non-Magnetic Optical Table

# Ordering Charts

## Optical Table (Breadboard 50t + Support)

Model No.	Dimensions W x D x H (mm)	Dimensions W x D x H (in.)
DVIO-I/R-0906M/E-50t(H)	900 x 600 x H	36 x 24 x H
DVIO-I/R-0907M/E-50t(H)	900 x 700 x H	36 x 28 x H
DVIO-I/R-0975M/E-50t(H)	900 x 750 x H	36 x 30 x H
DVIO-I/R-0909M/E-50t(H)	900 x 900 x H	36 x 36 x H
DVIO-I/R-1005M/E-50t(H)	1000 x 500 x H	40 x 20 x H
DVIO-I/R-1006M/E-50t(H)	1000 x 600 x H	40 x 24 x H
DVIO-I/R-1007M/E-50t(H)	1000 x 700 x H	40 x 28 x H
DVIO-I/R-1075M/E-50t(H)	1000 x 750 x H	40 x 30 x H
DVIO-I/R-1009M/E-50t(H)	1000 x 900 x H	40 x 36 x H
DVIO-I/R-1010M/E-50t(H)	1000 x 1000 x H	40 x 40 x H
DVIO-I/R-1206M/E-50t(H)	1200 x 600 x H	48 x 24 x H
DVIO-I/R-1207M/E-50t(H)	1200 x 700 x H	48 x 28 x H
DVIO-I/R-1275M/E-50t(H)	1200 x 750 x H	48 x 30 x H
DVIO-I/R-1209M/E-50t(H)	1200 x 900 x H	48 x 36 x H
DVIO-I/R-1210M/E-50t(H)	1200 x 1000 x H	48 x 40 x H
DVIO-I/R-1212M/E-50t(H)	1200 x 1200 x H	48 x 48 x H
DVIO-I/R-1306M/E-50t(H)	1300 x 600 x H	52 x 24 x H
DVIO-I/R-1506M/E-50t(H)	1500 x 600 x H	60 x 24 x H
DVIO-I/R-1507M/E-50t(H)	1500 x 700 x H	60 x 28 x H
DVIO-I/R-1575M/E-50t(H)	1500 x 750 x H	60 x 30 x H
DVIO-I/R-1509M/E-50t(H)	1500 x 900 x H	60 x 36 x H
DVIO-I/R-1510M/E-50t(H)	1500 x 1000 x H	60 x 40 x H
DVIO-I/R-1512M/E-50t(H)	1500 x 1200 x H	60 x 48 x H
DVIO-I/R-1806M/E-50t(H)	1800 x 600 x H	72 x 24 x H
DVIO-I/R-1807M/E-50t(H)	1800 x 700 x H	72 x 28 x H
DVIO-I/R-1809M/E-50t(H)	1800 x 900 x H	72 x 36 x H
DVIO-I/R-1812M/E-50t(H)	1800 x 1200 x H	72 x 48 x H
DVIO-I/R-2010M/E-50t(H)	2000 x 1000 x H	80 x 40 x H
DVIO-I/R-2012M/E-50t(H)	2000 x 1200 x H	80 x 48 x H
DVIO-I/R-2409M/E-50t(H)	2400 x 900 x H	96 x 36 x H
DVIO-I/R-2412M/E-50t(H)	2400 x 1200 x H	96 x 48 x H

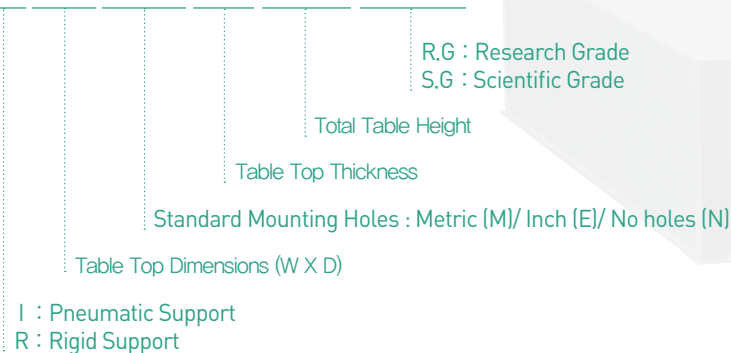
## Optical Table (Breadboard 100t + Support)

Model No.	Dimensions W x D x H (mm)	Dimensions W x D x H (in.)
DVIO-I/R-0906M/E-100t(H)	900 x 600 x H	36 x 24 x H
DVIO-I/R-0907M/E-100t(H)	900 x 700 x H	36 x 28 x H
DVIO-I/R-0975M/E-100t(H)	900 x 750 x H	36 x 30 x H
DVIO-I/R-0909M/E-100t(H)	900 x 900 x H	36 x 36 x H
DVIO-I/R-1005M/E-100t(H)	1000 x 500 x H	40 x 20 x H
DVIO-I/R-1006M/E-100t(H)	1000 x 600 x H	40 x 24 x H
DVIO-I/R-1007M/E-100t(H)	1000 x 700 x H	40 x 28 x H
DVIO-I/R-1075M/E-100t(H)	1000 x 750 x H	40 x 30 x H
DVIO-I/R-1009M/E-100t(H)	1000 x 900 x H	40 x 36 x H
DVIO-I/R-1010M/E-100t(H)	1000 x 1000 x H	40 x 40 x H
DVIO-I/R-1206M/E-100t(H)	1200 x 600 x H	48 x 24 x H
DVIO-I/R-1207M/E-100t(H)	1200 x 700 x H	48 x 28 x H
DVIO-I/R-1275M/E-100t(H)	1200 x 750 x H	48 x 30 x H
DVIO-I/R-1209M/E-100t(H)	1200 x 900 x H	48 x 36 x H
DVIO-I/R-1210M/E-100t(H)	1200 x 1000 x H	48 x 40 x H
DVIO-I/R-1212M/E-100t(H)	1200 x 1200 x H	48 x 48 x H
DVIO-I/R-1506M/E-100t(H)	1500 x 600 x H	60 x 24 x H
DVIO-I/R-1507M/E-100t(H)	1500 x 700 x H	60 x 28 x H
DVIO-I/R-1575M/E-100t(H)	1500 x 750 x H	60 x 30 x H
DVIO-I/R-1509M/E-100t(H)	1500 x 900 x H	60 x 36 x H
DVIO-I/R-1510M/E-100t(H)	1500 x 1000 x H	60 x 40 x H
DVIO-I/R-1512M/E-100t(H)	1500 x 1200 x H	60 x 48 x H
DVIO-I/R-1806M/E-100t(H)	1800 x 600 x H	72 x 24 x H
DVIO-I/R-1807M/E-100t(H)	1800 x 700 x H	72 x 28 x H
DVIO-I/R-1809M/E-100t(H)	1800 x 900 x H	72 x 36 x H
DVIO-I/R-1812M/E-100t(H)	1800 x 1200 x H	72 x 48 x H
DVIO-I/R-2010M/E-100t(H)	2000 x 1000 x H	80 x 40 x H
DVIO-I/R-2012M/E-100t(H)	2000 x 1200 x H	80 x 48 x H
DVIO-I/R-2409M/E-100t(H)	2400 x 900 x H	96 x 36 x H
DVIO-I/R-2410M/E-100t(H)	2400 x 1000 x H	96 x 40 x H
DVIO-I/R-2412M/E-100t(H)	2400 x 1200 x H	96 x 48 x H

\*Custom dimensions and configurations are available upon request.

## Ordering Information

DVIO-I/R-2010 M/E/N-200t (800H)-R.G/S.G



### Optical Table (Table Top 200t + Support)

Model No.	Dimensions W x D x H (mm)	Dimensions W x D x H (in.)
DVIO-I/R-1010M/E-200t (H)-R.G/S.G	1000 x 1000 x H	40 x 40 x H
DVIO-I/R-1212M/E-200t (H)-R.G/S.G	1200 x 1200 x H	48 x 48 x H
DVIO-I/R-1575M/E-200t (H)-R.G/S.G	1500 x 750 x H	60 x 30 x H
DVIO-I/R-1509M/E-200t (H)-R.G/S.G	1500 x 900 x H	60 x 36 x H
DVIO-I/R-1510M/E-200t (H)-R.G/S.G	1500 x 1000 x H	60 x 40 x H
DVIO-I/R-1512M/E-200t (H)-R.G/S.G	1500 x 1200 x H	60 x 48 x H
DVIO-I/R-1515M/E-200t (H)-R.G/S.G	1500 x 1500 x H	60 x 60 x H
DVIO-I/R-1807M/E-200t (H)-R.G/S.G	1800 x 700 x H	72 x 28 x H
DVIO-I/R-1875M/E-200t (H)-R.G/S.G	1800 x 750 x H	72 x 30 x H
DVIO-I/R-1809M/E-200t (H)-R.G/S.G	1800 x 900 x H	72 x 36 x H
DVIO-I/R-1810M/E-200t (H)-R.G/S.G	1800 x 1000 x H	72 x 40 x H
DVIO-I/R-1812M/E-200t (H)-R.G/S.G	1800 x 1200 x H	72 x 48 x H
DVIO-I/R-1815M/E-200t (H)-R.G/S.G	1800 x 1500 x H	72 x 60 x H
DVIO-I/R-2009M/E-200t (H)-R.G/S.G	2000 x 900 x H	80 x 36 x H
DVIO-I/R-2010M/E-200t (H)-R.G/S.G	2000 x 1000 x H	80 x 40 x H
DVIO-I/R-2012M/E-200t (H)-R.G/S.G	2000 x 1200 x H	80 x 48 x H
DVIO-I/R-2015M/E-200t (H)-R.G/S.G	2000 x 1500 x H	80 x 60 x H
DVIO-I/R-2409M/E-200t (H)-R.G/S.G	2400 x 900 x H	96 x 36 x H
DVIO-I/R-2410M/E-200t (H)-R.G/S.G	2400 x 1000 x H	96 x 40 x H
DVIO-I/R-2412M/E-200t (H)-R.G/S.G	2400 x 1200 x H	96 x 48 x H
DVIO-I/R-2415M/E-200t (H)-R.G/S.G	2400 x 1500 x H	96 x 60 x H
DVIO-I/R-2508M/E-200t (H)-R.G/S.G	2500 x 800 x H	100 x 32 x H
DVIO-I/R-3009M/E-200t (H)-R.G/S.G	3000 x 900 x H	120 x 36 x H
DVIO-I/R-3010M/E-200t (H)-R.G/S.G	3000 x 1000 x H	120 x 40 x H
DVIO-I/R-3012M/E-200t (H)-R.G/S.G	3000 x 1200 x H	120 x 48 x H
DVIO-I/R-3015M/E-200t (H)-R.G/S.G	3000 x 1500 x H	120 x 60 x H
DVIO-I/R-3612M/E-200t (H)-R.G/S.G	3600 x 1200 x H	144 x 48 x H
DVIO-I/R-3615M/E-200t (H)-R.G/S.G	3600 x 1500 x H	144 x 60 x H

### Optical Table (Table Top 300t + Support)

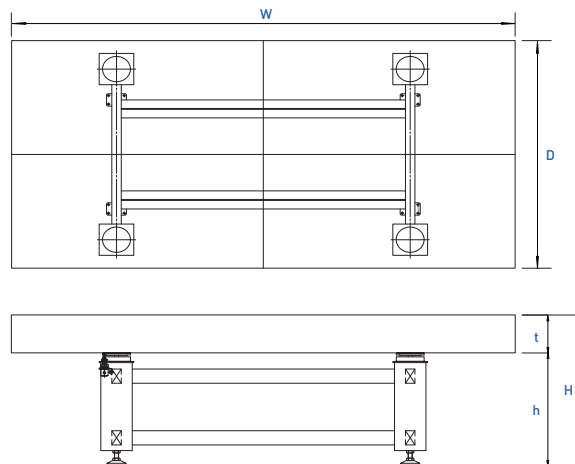
Model No.	Dimensions W x D x H (mm)	Dimensions W x D x H (in.)
DVIO-I/R-1010M/E-300t (H)-R.G/S.G	1000 x 1000 x H	40 x 40 x H
DVIO-I/R-1212M/E-300t (H)-R.G/S.G	1200 x 1200 x H	48 x 48 x H
DVIO-I/R-1575M/E-300t (H)-R.G/S.G	1500 x 750 x H	60 x 30 x H
DVIO-I/R-1509M/E-300t (H)-R.G/S.G	1500 x 900 x H	60 x 36 x H
DVIO-I/R-1510M/E-300t (H)-R.G/S.G	1500 x 1000 x H	60 x 40 x H
DVIO-I/R-1512M/E-300t (H)-R.G/S.G	1500 x 1200 x H	60 x 48 x H
DVIO-I/R-1515M/E-300t (H)-R.G/S.G	1500 x 1500 x H	60 x 60 x H
DVIO-I/R-1875M/E-300t (H)-R.G/S.G	1800 x 750 x H	72 x 30 x H
DVIO-I/R-1809M/E-300t (H)-R.G/S.G	1800 x 900 x H	72 x 36 x H
DVIO-I/R-1810M/E-300t (H)-R.G/S.G	1800 x 1000 x H	72 x 40 x H
DVIO-I/R-1812M/E-300t (H)-R.G/S.G	1800 x 1200 x H	72 x 48 x H
DVIO-I/R-1815M/E-300t (H)-R.G/S.G	1800 x 1500 x H	72 x 60 x H
DVIO-I/R-2009M/E-300t (H)-R.G/S.G	2000 x 900 x H	80 x 36 x H
DVIO-I/R-2010M/E-300t (H)-R.G/S.G	2000 x 1000 x H	80 x 40 x H
DVIO-I/R-2012M/E-300t (H)-R.G/S.G	2000 x 1200 x H	80 x 48 x H
DVIO-I/R-2015M/E-300t (H)-R.G/S.G	2000 x 1500 x H	80 x 60 x H
DVIO-I/R-2409M/E-300t (H)-R.G/S.G	2400 x 900 x H	96 x 36 x H
DVIO-I/R-2410M/E-300t (H)-R.G/S.G	2400 x 1000 x H	96 x 40 x H
DVIO-I/R-2412M/E-300t (H)-R.G/S.G	2400 x 1200 x H	96 x 48 x H
DVIO-I/R-2415M/E-300t (H)-R.G/S.G	2400 x 1500 x H	96 x 60 x H
DVIO-I/R-2515M/E-300t (H)-R.G/S.G	2500 x 1500 x H	100 x 60 x H
DVIO-I/R-3009M/E-300t (H)-R.G/S.G	3000 x 900 x H	120 x 36 x H
DVIO-I/R-3010M/E-300t (H)-R.G/S.G	3000 x 1000 x H	120 x 40 x H
DVIO-I/R-3012M/E-300t (H)-R.G/S.G	3000 x 1200 x H	120 x 48 x H
DVIO-I/R-3015M/E-300t (H)-R.G/S.G	3000 x 1500 x H	120 x 60 x H
DVIO-I/R-3612M/E-300t (H)-R.G/S.G	3600 x 1200 x H	144 x 48 x H
DVIO-I/R-3615M/E-300t (H)-R.G/S.G	3600 x 1500 x H	144 x 60 x H

### Optical Table (Table Top 400t + Support)

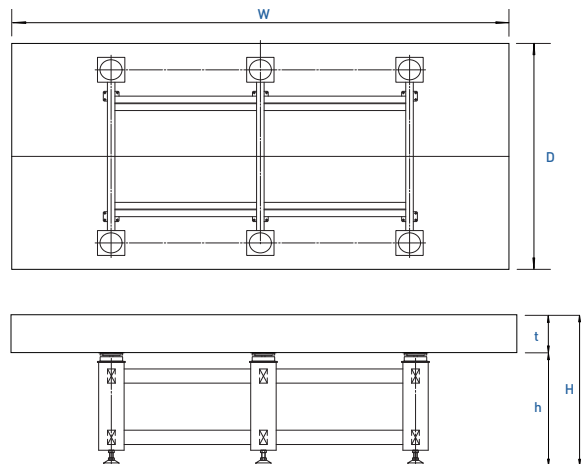
Model No.	Dimensions W x D x H (mm)	Dimensions W x D x H (in.)
DVIO-I/R-1812M/E-400t (H)-R.G/S.G	1800 x 1200 x H	72 x 48 x H
DVIO-I/R-1815M/E-400t (H)-R.G/S.G	1800 x 1500 x H	72 x 60 x H
DVIO-I/R-2010M/E-400t (H)-R.G/S.G	2000 x 1000 x H	80 x 40 x H
DVIO-I/R-2012M/E-400t (H)-R.G/S.G	2000 x 1200 x H	80 x 48 x H
DVIO-I/R-2015M/E-400t (H)-R.G/S.G	2000 x 1500 x H	80 x 60 x H
DVIO-I/R-2409M/E-400t (H)-R.G/S.G	2400 x 900 x H	96 x 36 x H
DVIO-I/R-2410M/E-400t (H)-R.G/S.G	2400 x 1000 x H	96 x 40 x H
DVIO-I/R-2412M/E-400t (H)-R.G/S.G	2400 x 1200 x H	96 x 48 x H
DVIO-I/R-2415M/E-400t (H)-R.G/S.G	2400 x 1500 x H	96 x 60 x H
DVIO-I/R-3009M/E-400t (H)-R.G/S.G	3000 x 900 x H	120 x 36 x H
DVIO-I/R-3010M/E-400t (H)-R.G/S.G	3000 x 1000 x H	120 x 40 x H
DVIO-I/R-3012M/E-400t (H)-R.G/S.G	3000 x 1200 x H	120 x 48 x H
DVIO-I/R-3015M/E-400t (H)-R.G/S.G	3000 x 1500 x H	120 x 60 x H
DVIO-I/R-3612M/E-400t (H)-R.G/S.G	3600 x 1200 x H	144 x 48 x H
DVIO-I/R-3615M/E-400t (H)-R.G/S.G	3600 x 1500 x H	144 x 60 x H

\*Custom dimensions and configurations are available upon request.

\* 4 POST



\* 6 POST

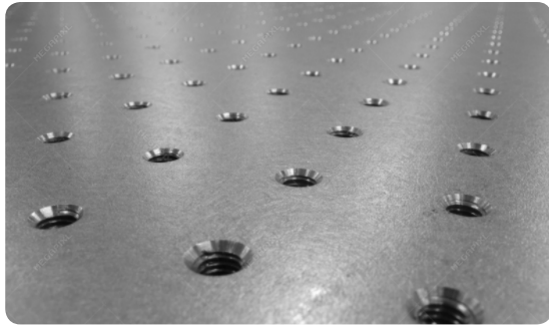


# DVIO-B Series Optical Table Tops

## Optical Table Top

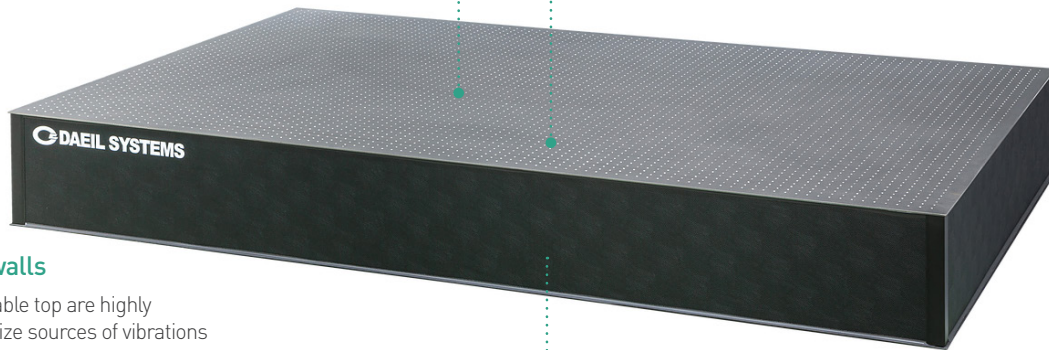
### Tapped and Clean Surface

The table top surface is precision tapped and delicately sanded to provide a non-reflecting surface. Moreover, the surface is completely cleaned to remove residual metal particles and cutting fluids.



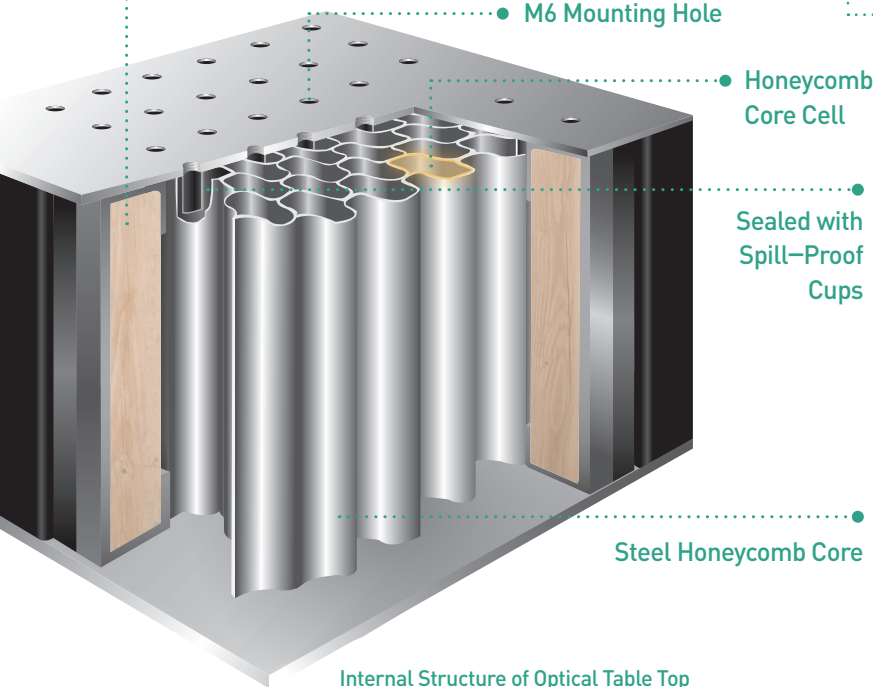
### Individually Sealed Mounting Holes

Spill-proof and non-corrosive nylon cups are individually epoxy-bonded under each mounting hole to prevent spilling of liquids from contaminating the honeycomb core.



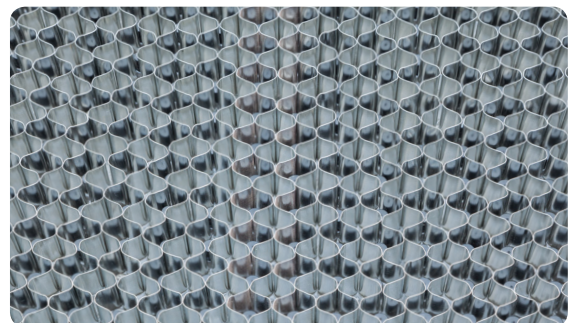
### Damped Sidewalls

Sidewalls of the table top are highly damped to minimize sources of vibrations and reinforce the structural damping.



### Steel Honeycomb Core

The corrugated honeycomb steel layers are vertically epoxy bonded with a stainless steel top skin, a carbon steel bottom skin and sidewalls. This steel honeycomb core structure provides the highest core density and the smallest honeycomb cell size, making the optical table top super rigid. As the smallest honeycomb cells contribute to increase the elastic selection modulus, the natural frequency of the table top is increased, which the table top is less likely to respond to external forces. Our optical table top is all steel constructed, ensuring the long term thermal stability.



Internal Structure of Optical Table Top

# Compliance Curve

## Quantification of Dynamic Rigidity – Compliance

Compliance is defined as the ratio of the magnitude of the displacement amplitude to the magnitude of the external force. When a table top is subjected to an external force, the lower compliance, the less a table top deflects and the greater compliance, the more a table top deflects. A well-designed optical table top has the higher resonant frequency and the lower compliance, meaning that the excellent damping characteristic minimizes the relative displacement by rapidly damping the external force.

$$C = \frac{|X|}{|F|}$$

C = Compliance  
 F = Magnitude of the external force  
 X = Magnitude of the displacement amplitude

## Dynamic Deflection Coefficient

The dynamic deflection coefficient is defined as a measure of table top's movement in response to external forces. The dynamic deflection coefficient is derived from the table top's minimum resonant frequency and maximum amplification at resonance as shown in the compliance curve. The dynamic deflection coefficient is used to compare dynamic performance of table tops directly and provides an idea of choosing appropriate optical table tops for various applications.

$$\left(\frac{Q}{f_n^3}\right)^{1/2}$$

Q = Maximum Amplification at Resonance, Damping efficiency  
 f<sub>n</sub> = Resonance Frequency

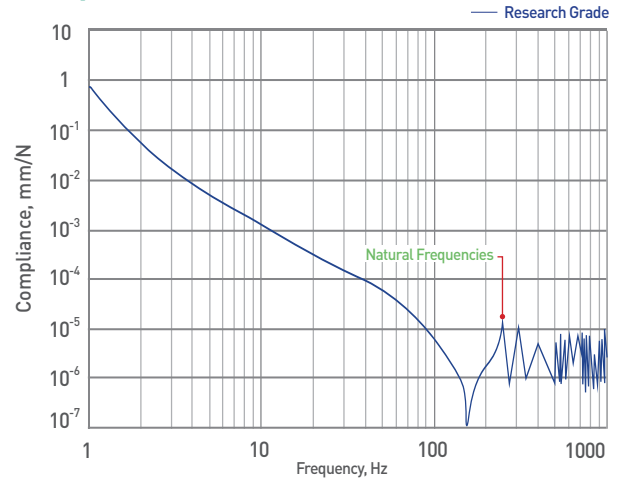
## Deflection Under Load

Deflection under load refers to how much a table top sags between its isolators when a static load is placed on a table top.

$$\text{Deflection} = \frac{PL^3}{24Eb TH^2} + \frac{PL}{4Ghb}$$

P = applied force by a load      H = thickness of table top      E = young's modulus of the skin material  
 L = distance between isolators      T = thickness of skins      G = shear modulus of the core  
 (Table length X 0.56)  
 b = width of table top

## Compliance Curve

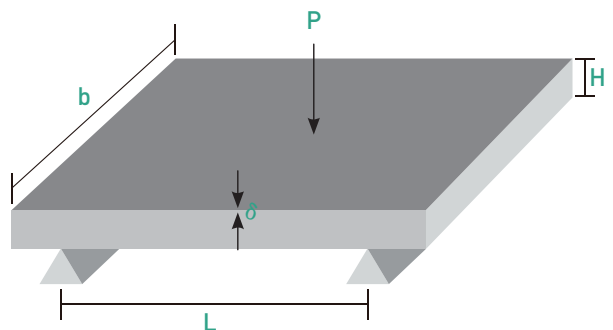


A compliance curve shows the dynamic performance of an optical table top. A compliance curve displays the table top's resonant frequencies and its maximum amplification at resonance, and these can be used to calculate the relative motion of the two components on the table top.

## Maximum Relative Motion

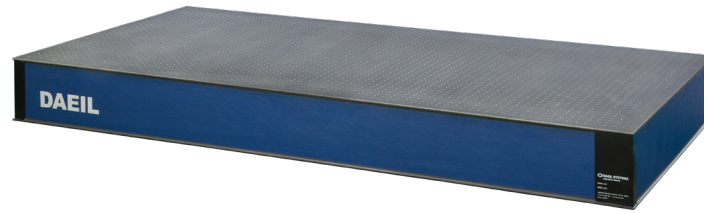
The maximum relative motion is defined as a calculation of the highest relative motion value between two points on a surface of a table top at the resonant frequency. The smaller the relative motion indicates a well-designed optical table top.

## Static Deflection Under a Load



## Research Grade Optical Table Top

Our unique damping techniques are integrated in the research grade table tops to provide the highest structural damping level and stiffness for the most challenging laser and optics related experiments.



## Scientific Grade Optical Table Top

DAEIL's scientific grade optical table top is based on the broadband damping which minimizes relative motions in a wide frequency, offering a promised performance and quality for extensive applications.



## Non-Magnetic Optical Table Top

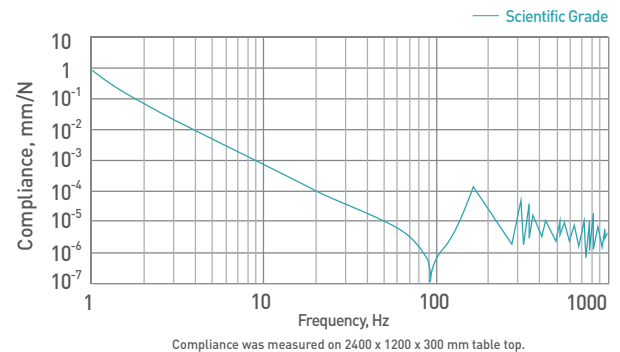
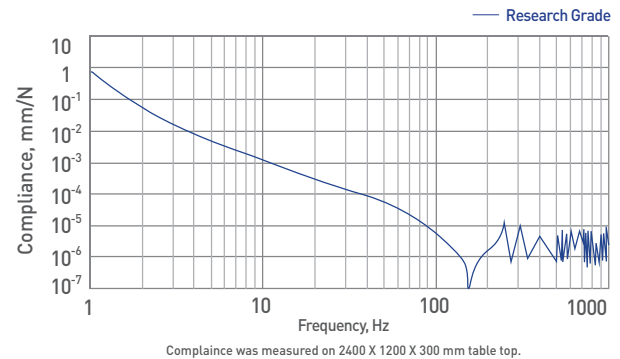
The non-magnetic table top is made of 304 series non-magnetic stainless steel for cleanrooms and applications that are easily disturbed by magnetic fields. The non-magnetic table top provides the maximum cleanroom compatibility and it can be customized to equipment specifications.



## Specifications

Construction		
Core	Steel honeycomb core, 0.25 mm (1 in.) thick foil	
Core Cell Size	2.9 cm <sup>2</sup> (0.4 in <sup>2</sup> )	
Core Shear Modulus	19339 kgf/cm <sup>2</sup> (275,000 psi)	
Surface Flatness	±0.1 mm (±0.004 in.) over 600 x 600 mm (2 x 2 ft.)	
Top Skin	430 series ferromagnetic stainless steel, 4.0 mm thick	
Bottom Skin	4.5 mm thick steel	
Side Walls	2.0 mm thick steel plate with highly damped composite wood	
Mounting Holes	M6-1.0 (1/4-20)	
Mounting Hole Pattern	25 mm (1 in.) grid	
Mounting Hole Borders	37.5 mm (1.5 in.)	
Mounting Hole Sealing	21 mm deep cylindrical cup (chemical resistant nylon material)	
Damping	Broadband damping	
Performance		
	Research Grade	Scientific Grade
Deflection Underload	1.2 x 10 <sup>-3</sup> mm	1.2 x 10 <sup>-3</sup> mm
Maximum Relative Motion	7.5 x 10 <sup>-8</sup> mm	1.9 x 10 <sup>-7</sup> mm
Maximum Dynamic Deflection Coefficient	0.3 x 10 <sup>-3</sup>	0.6 x 10 <sup>-3</sup>

## Compliance Curve





# Ordering Charts

## Optical Table Top 200t

Model No.	Dimensions W x D x t (mm)	Dimensions W x D x t (in.)	Weight (kg)
DVIO-B-1010M/E-200t-R.G/S.G	1000 x 1000 x 200	40 x 40 x 8	139
DVIO-B-1212M/E-200t-R.G/S.G	1200 x 1200 x 200	48 x 48 x 8	201
DVIO-B-1575M/E-200t-R.G/S.G	1500 x 750 x 200	60 x 30 x 8	157
DVIO-B-1509M/E-200t-R.G/S.G	1500 x 900 x 200	60 x 36 x 8	188
DVIO-B-1510M/E-200t-R.G/S.G	1500 x 1000 x 200	60 x 40 x 8	209
DVIO-B-1512M/E-200t-R.G/S.G	1500 x 1200 x 200	60 x 48 x 8	251
DVIO-B-1515M/E-200t-R.G/S.G	1500 x 1500 x 200	60 x 60 x 8	313
DVIO-B-1807M/E-200t-R.G/S.G	1800 x 700 x 200	72 x 28 x 8	175
DVIO-B-1875M/E-200t-R.G/S.G	1800 x 750 x 200	72 x 30 x 8	188
DVIO-B-1809M/E-200t-R.G/S.G	1800 x 900 x 200	72 x 36 x 8	226
DVIO-B-1810M/E-200t-R.G/S.G	1800 x 1000 x 200	72 x 40 x 8	251
DVIO-B-1812M/E-200t-R.G/S.G	1800 x 1200 x 200	72 x 48 x 8	301
DVIO-B-1815M/E-200t-R.G/S.G	1800 x 1500 x 200	72 x 60 x 8	376
DVIO-B-2009M/E-200t-R.G/S.G	2000 x 900 x 200	80 x 36 x 8	251
DVIO-B-2010M/E-200t-R.G/S.G	2000 x 1000 x 200	80 x 40 x 8	278
DVIO-B-2012M/E-200t-R.G/S.G	2000 x 1200 x 200	80 x 48 x 8	334
DVIO-B-2015M/E-200t-R.G/S.G	2000 x 1500 x 200	80 x 60 x 8	417
DVIO-B-2409M/E-200t-R.G/S.G	2400 x 900 x 200	96 x 36 x 8	301
DVIO-B-2410M/E-200t-R.G/S.G	2400 x 1000 x 200	96 x 40 x 8	334
DVIO-B-2412M/E-200t-R.G/S.G	2400 x 1200 x 200	96 x 48 x 8	401
DVIO-B-2415M/E-200t-R.G/S.G	2400 x 1500 x 200	96 x 60 x 8	501
DVIO-B-2508M/E-200t-R.G/S.G	2500 x 800 x 200	100 x 32 x 8	278
DVIO-B-3009M/E-200t-R.G/S.G	3000 x 900 x 200	120 x 36 x 8	376
DVIO-B-3010M/E-200t-R.G/S.G	3000 x 1000 x 200	120 x 40 x 8	417
DVIO-B-3012M/E-200t-R.G/S.G	3000 x 1200 x 200	120 x 48 x 8	501
DVIO-B-3015M/E-200t-R.G/S.G	3000 x 1500 x 200	120 x 60 x 8	626
DVIO-B-3612M/E-200t-R.G/S.G	3600 x 1200 x 200	144 x 48 x 8	601
DVIO-B-3615M/E-200t-R.G/S.G	3600 x 1500 x 200	144 x 60 x 8	751

## Optical Table Top 400t

Model No.	Dimensions W x D x t (mm)	Dimensions W x D x t (in.)	Weight (kg)
DVIO-B-1812M/E-400t-R.G/S.G	1800 x 1200 x 400	72 x 48 x 16	471
DVIO-B-1815M/E-400t-R.G/S.G	1800 x 1500 x 400	72 x 60 x 16	589
DVIO-B-2010M/E-400t-R.G/S.G	2000 x 1000 x 400	80 x 40 x 16	436
DVIO-B-2012M/E-400t-R.G/S.G	2000 x 1200 x 400	80 x 48 x 16	524
DVIO-B-2015M/E-400t-R.G/S.G	2000 x 1500 x 400	80 x 60 x 16	654
DVIO-B-2409M/E-400t-R.G/S.G	2400 x 900 x 400	96 x 36 x 16	471
DVIO-B-2410M/E-400t-R.G/S.G	2400 x 1000 x 400	96 x 40 x 16	524
DVIO-B-2412M/E-400t-R.G/S.G	2400 x 1200 x 400	96 x 48 x 16	628
DVIO-B-2415M/E-400t-R.G/S.G	2400 x 1500 x 400	96 x 60 x 16	785
DVIO-B-3009M/E-400t-R.G/S.G	3000 x 900 x 400	120 x 36 x 16	589
DVIO-B-3010M/E-400t-R.G/S.G	3000 x 1000 x 400	120 x 40 x 16	654
DVIO-B-3012M/E-400t-R.G/S.G	3000 x 1200 x 400	120 x 48 x 16	785
DVIO-B-3015M/E-400t-R.G/S.G	3000 x 1500 x 400	120 x 60 x 16	981
DVIO-B-3612M/E-400t-R.G/S.G	3600 x 1200 x 400	144 x 48 x 16	942
DVIO-B-3615M/E-400t-R.G/S.G	3600 x 1500 x 400	144 x 60 x 16	1178

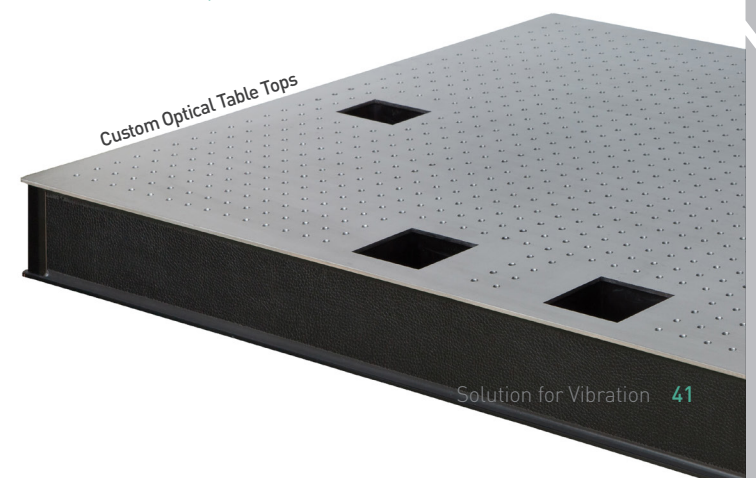
\*Custom dimensions and configurations are available upon request.

## Optical Table Top 300t

Model No.	Dimensions W x D x t (mm)	Dimensions W x D x t (in.)	Weight (kg)
DVIO-B-1010M/E-300t-R.G/S.G	1000 x 1000 x 300	40 x 40 x 12	165
DVIO-B-1212M/E-300t-R.G/S.G	1200 x 1200 x 300	48 x 48 x 12	238
DVIO-B-1575M/E-300t-R.G/S.G	1500 x 750 x 300	60 x 30 x 12	186
DVIO-B-1509M/E-300t-R.G/S.G	1500 x 900 x 300	60 x 36 x 12	223
DVIO-B-1510M/E-300t-R.G/S.G	1500 x 1000 x 300	60 x 40 x 12	248
DVIO-B-1512M/E-300t-R.G/S.G	1500 x 1200 x 300	60 x 48 x 12	297
DVIO-B-1515M/E-300t-R.G/S.G	1500 x 1500 x 300	60 x 60 x 12	372
DVIO-B-1875M/E-300t-R.G/S.G	1800 x 750 x 300	72 x 30 x 12	223
DVIO-B-1809M/E-300t-R.G/S.G	1800 x 900 x 300	72 x 36 x 12	268
DVIO-B-1810M/E-300t-R.G/S.G	1800 x 1000 x 300	72 x 40 x 12	297
DVIO-B-1812M/E-300t-R.G/S.G	1800 x 1200 x 300	72 x 48 x 12	357
DVIO-B-1815M/E-300t-R.G/S.G	1800 x 1500 x 300	72 x 60 x 12	446
DVIO-B-2009M/E-300t-R.G/S.G	2000 x 900 x 300	80 x 36 x 12	297
DVIO-B-2010M/E-300t-R.G/S.G	2000 x 1000 x 300	80 x 40 x 12	330
DVIO-B-2012M/E-300t-R.G/S.G	2000 x 1200 x 300	80 x 48 x 12	396
DVIO-B-2015M/E-300t-R.G/S.G	2000 x 1500 x 300	80 x 60 x 12	495
DVIO-B-2409M/E-300t-R.G/S.G	2400 x 900 x 300	96 x 36 x 12	357
DVIO-B-2410M/E-300t-R.G/S.G	2400 x 1000 x 300	96 x 40 x 12	396
DVIO-B-2412M/E-300t-R.G/S.G	2400 x 1200 x 300	96 x 48 x 12	476
DVIO-B-2415M/E-300t-R.G/S.G	2400 x 1500 x 300	96 x 60 x 12	594
DVIO-B-2515M/E-300t-R.G/S.G	2500 x 1500 x 300	100 x 60 x 12	620
DVIO-B-3009M/E-300t-R.G/S.G	3000 x 900 x 300	120 x 36 x 12	446
DVIO-B-3010M/E-300t-R.G/S.G	3000 x 1000 x 300	120 x 40 x 12	495
DVIO-B-3012M/E-300t-R.G/S.G	3000 x 1200 x 300	120 x 48 x 12	594
DVIO-B-3015M/E-300t-R.G/S.G	3000 x 1500 x 300	120 x 60 x 12	743
DVIO-B-3612M/E-300t-R.G/S.G	3600 x 1200 x 300	144 x 48 x 12	713
DVIO-B-3615M/E-300t-R.G/S.G	3600 x 1500 x 300	144 x 60 x 12	891

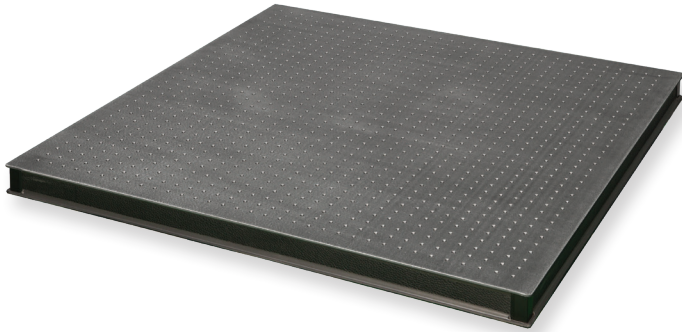
## Ordering Information

DVIO-B-2412 M/E/N-300t-R.G/S.G



## Optical Breadboards

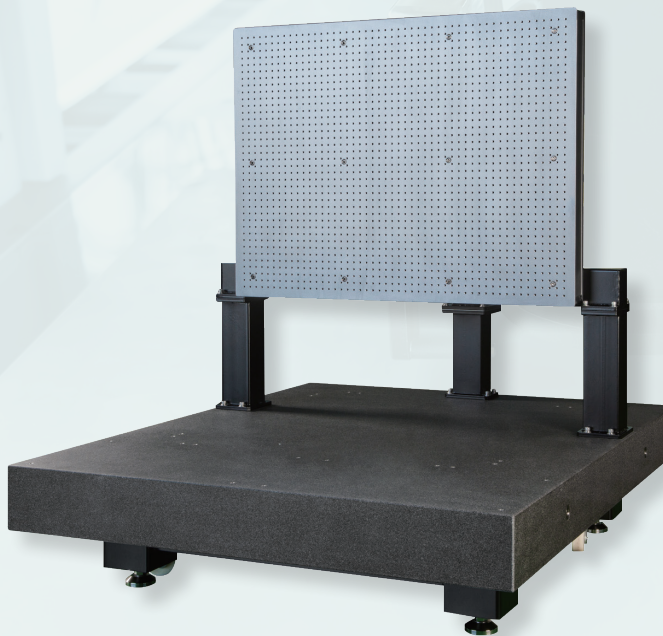
25 mm, 50 mm, and 100 mm thick optical breadboards provide excellent rigidity and damping, effectively reducing the relative motion over a wide frequency range.



## Specifications

Construction	
Core	Steel honeycomb core, 0.25 mm (1 in.) thick foil
Core Cell Size	2.9 cm <sup>2</sup> (0.4 in <sup>2</sup> )
Core Shear Modulus	19339 kgf/cm <sup>2</sup> (275,000 psi)
Surface Flatness	±0.1 mm (±0.004 in.) over 600 x 600 mm (2 x 2 ft)
Top Skin	430 series ferromagnetic stainless steel 4.0 mm thick
Bottom Skin	4.5 mm thick steel
Side Walls	2.0 mm thick steel plate with highly damped composite wood
Mounting Holes	M6-1.0 (1/4-20)
Mounting Hole Patterns	25 mm (1 in.) grid
Mounting Hole Borders	37.5 mm (1.5 in.)
Mounting Hole Sealing	21 mm deep cylindrical cup (chemical resistant nylon material)
Damping	Broadband damping

## Custom Optical Breadboards



Custom Vertical Laser Support Structure



Custom Optical Breadboard



Custom Optical Breadboard

# Ordering Charts

## Optical Breadboard 25t

Model No.	Dimensions W x D x t (mm)	Dimensions W x D x t (in.)	Weight (kg)
DVIO-B-0504M/E-25t	500 x 400 x 25	20 x 16 x 1	14
DVIO-B-0603M/E-25t	600 x 300 x 25	24 x 12 x 1	13
DVIO-B-0605M/E-25t	600 x 500 x 25	24 x 20 x 1	22
DVIO-B-0606M/E-25t	600 x 600 x 25	24 x 24 x 1	25
DVIO-B-0707M/E-25t	700 x 700 x 25	28 x 28 x 1	39
DVIO-B-0806M/E-25t	800 x 600 x 25	32 x 24 x 1	34
DVIO-B-0906M/E-25t	900 x 600 x 25	36 x 24 x 1	38
DVIO-B-0907M/E-25t	900 x 700 x 25	36 x 28 x 1	47
DVIO-B-0909M/E-25t	900 x 900 x 25	36 x 36 x 1	57
DVIO-B-1006M/E-25t	1000 x 600 x 25	40 x 24 x 1	42
DVIO-B-1007M/E-25t	1000 x 700 x 25	40 x 38 x 1	53
DVIO-B-1206M/E-25t	1200 x 600 x 25	48 x 24 x 1	50
DVIO-B-1207M/E-25t	1200 x 700 x 25	48 x 28 x 1	63
DVIO-B-1209M/E-25t	1200 x 900 x 25	48 x 36 x 1	76
DVIO-B-1509M/E-25t	1500 x 900 x 25	60 x 36 x 1	95

## Optical Breadboard 50t

Model No.	Dimensions W x D x t (mm)	Dimensions W x D x t (in.)	Weight (kg)
DVIO-B-0504M/E-50t	500 x 400 x 50	20 x 16 x 2	18
DVIO-B-0605M/E-50t	600 x 500 x 50	24 x 20 x 2	27
DVIO-B-0606M/E-50t	600 x 600 x 50	24 x 24 x 2	32
DVIO-B-0707M/E-50t	700 x 700 x 50	28 x 28 x 2	43
DVIO-B-0806M/E-50t	800 x 600 x 50	32 x 24 x 2	42
DVIO-B-0906M/E-50t	900 x 600 x 50	36 x 24 x 2	47
DVIO-B-0907M/E-50t	900 x 700 x 50	36 x 28 x 2	55
DVIO-B-0975M/E-50t	900 x 750 x 50	36 x 30 x 2	59
DVIO-B-0909M/E-50t	900 x 900 x 50	36 x 36 x 2	71
DVIO-B-1005M/E-50t	1000 x 500 x 50	40 x 20 x 2	44
DVIO-B-1006M/E-50t	1000 x 600 x 50	40 x 24 x 2	53
DVIO-B-1007M/E-50t	1000 x 700 x 50	40 x 38 x 2	61
DVIO-B-1075M/E-50t	1000 x 750 x 50	40 x 30 x 2	66
DVIO-B-1009M/E-50t	1000 x 900 x 50	40 x 36 x 2	79
DVIO-B-1010M/E-50t	1000 x 1000 x 50	40 x 40 x 2	87
DVIO-B-1206M/E-50t	1200 x 600 x 50	48 x 24 x 2	63
DVIO-B-1207M/E-50t	1200 x 700 x 50	48 x 28 x 2	74
DVIO-B-1275M/E-50t	1200 x 750 x 50	48 x 30 x 2	79
DVIO-B-1209M/E-50t	1200 x 900 x 50	48 x 36 x 2	94
DVIO-B-1210M/E-50t	1200 x 1000 x 50	48 x 40 x 2	105
DVIO-B-1212M/E-50t	1200 x 1200 x 50	48 x 48 x 2	126
DVIO-B-1306M/E-50t	1300 x 600 x 50	52 x 24 x 2	68
DVIO-B-1506M/E-50t	1500 x 600 x 50	60 x 24 x 2	79
DVIO-B-1507M/E-50t	1500 x 700 x 50	60 x 28 x 2	92
DVIO-B-1575M/E-50t	1500 x 750 x 50	60 x 30 x 2	98
DVIO-B-1509M/E-50t	1500 x 900 x 50	60 x 36 x 2	118
DVIO-B-1510M/E-50t	1500 x 1000 x 50	60 x 40 x 2	131
DVIO-B-1512M/E-50t	1500 x 1200 x 50	60 x 48 x 2	157
DVIO-B-1806M/E-50t	1800 x 600 x 50	72 x 24 x 2	94
DVIO-B-1807M/E-50t	1800 x 700 x 50	72 x 28 x 2	110
DVIO-B-1809M/E-50t	1800 x 900 x 50	72 x 36 x 2	141
DVIO-B-1812M/E-50t	1800 x 1200 x 50	72 x 48 x 2	188
DVIO-B-2010M/E-50t	2000 x 1000 x 50	80 x 40 x 2	174
DVIO-B-2012M/E-50t	2000 x 1200 x 50	80 x 48 x 2	209
DVIO-B-2409M/E-50t	2400 x 900 x 50	96 x 36 x 2	188
DVIO-B-2412M/E-50t	2400 x 1200 x 50	96 x 48 x 2	251

## Optical Breadboard 100t

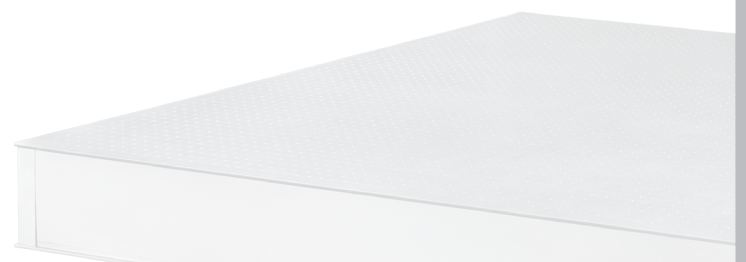
Model No.	Dimensions W x D x t (mm)	Dimensions W x D x t (in.)	Weight (kg)
DVIO-B-0504M/E-100t	500 x 400 x 100	20 x 16 x 4	25
DVIO-B-0605M/E-100t	600 x 500 x 100	24 x 20 x 4	37
DVIO-B-0606M/E-100t	600 x 600 x 100	24 x 24 x 4	44
DVIO-B-0707M/E-100t	700 x 700 x 100	28 x 28 x 4	60
DVIO-B-0906M/E-100t	900 x 600 x 100	36 x 24 x 4	66
DVIO-B-0907M/E-100t	900 x 700 x 100	36 x 28 x 4	77
DVIO-B-0975M/E-100t	900 x 750 x 100	36 x 30 x 4	83
DVIO-B-0909M/E-100t	900 x 900 x 100	36 x 36 x 4	99
DVIO-B-1005M/E-100t	1000 x 500 x 100	40 x 20 x 4	61
DVIO-B-1006M/E-100t	1000 x 600 x 100	40 x 24 x 4	74
DVIO-B-1007M/E-100t	1000 x 700 x 100	40 x 38 x 4	86
DVIO-B-1075M/E-100t	1000 x 750 x 100	40 x 30 x 4	92
DVIO-B-1009M/E-100t	1000 x 900 x 100	40 x 36 x 4	110
DVIO-B-1010M/E-100t	1000 x 1000 x 100	40 x 40 x 4	122
DVIO-B-1206M/E-100t	1200 x 600 x 100	48 x 24 x 4	88
DVIO-B-1207M/E-100t	1200 x 700 x 100	48 x 28 x 4	103
DVIO-B-1275M/E-100t	1200 x 750 x 100	48 x 30 x 4	110
DVIO-B-1209M/E-100t	1200 x 900 x 100	48 x 36 x 4	132
DVIO-B-1210M/E-100t	1200 x 1000 x 100	48 x 40 x 4	147
DVIO-B-1212M/E-100t	1200 x 1200 x 100	48 x 48 x 4	176
DVIO-B-1506M/E-100t	1500 x 600 x 100	60 x 24 x 4	110
DVIO-B-1507M/E-100t	1500 x 700 x 100	60 x 28 x 4	129
DVIO-B-1575M/E-100t	1500 x 750 x 100	60 x 30 x 4	138
DVIO-B-1509M/E-100t	1500 x 900 x 100	60 x 36 x 4	165
DVIO-B-1510M/E-100t	1500 x 1000 x 100	60 x 40 x 4	183
DVIO-B-1512M/E-100t	1500 x 1200 x 100	60 x 48 x 4	220
DVIO-B-1806M/E-100t	1800 x 600 x 100	72 x 24 x 4	132
DVIO-B-1807M/E-100t	1800 x 700 x 100	72 x 28 x 4	154
DVIO-B-1809M/E-100t	1800 x 900 x 100	72 x 36 x 4	198
DVIO-B-1812M/E-100t	1800 x 1200 x 100	72 x 48 x 4	264
DVIO-B-2010M/E-100t	2000 x 1000 x 100	80 x 40 x 4	245
DVIO-B-2012M/E-100t	2000 x 1200 x 100	80 x 48 x 4	293
DVIO-B-2409M/E-100t	2400 x 900 x 100	96 x 36 x 4	264
DVIO-B-2410M/E-100t	2400 x 1000 x 100	96 x 40 x 4	293
DVIO-B-2412M/E-100t	2400 x 1200 x 100	96 x 48 x 4	352

\*Custom dimensions and configurations are available upon request.

## Ordering Information

DVIO-B-0506 M/E/N-50t

Breadboard Thickness  
Standard Mounting Holes : Metric (M) / Inch (E) / No holes (N)  
Breadboard Dimensions



# Optical Aluminum Plates

Black anodizing finish aluminum plate reduces light reflections and provides a working surface with mounting holes.

## Specifications

Material	6061 Aluminum
Finish	15 um Black anodized
Thickness	12 mm / 15 mm
Mounting Hole	M6-1.0 (1/4-20)
Mounting Hole Pattern	25 mm (1 in.) grid
Mounting Hole Borders	12.5 mm (0.5 in.)



## Ordering Information

DSAP-0906 M/E/N-15t

Thickness (mm)

Standard Mounting Holes : Metric (M) / Inch (E) / No holes (N)

Dimensions (W x D)

## Ordering Chart

Model No.	Dimensions W x D x t (mm)	Dimensions W x D x t (in.)	Weight (kg) 12t / 15t
DSAP-0302M/E-12t/15t	300 x 200 x 12/15	12 x 8 x 0.5/0.6	2 / 2
DSAP-0303M/E-12t/15t	300 x 300 x 12/15	12 x 12 x 0.5/0.6	3 / 4
DSAP-0304M/E-12t/15t	300 x 400 x 12/15	12 x 16 x 0.5/0.6	4 / 5
DSAP-0345M/E-12t/15t	300 x 450 x 12/15	12 x 18 x 0.5/0.6	4 / 6
DSAP-0305M/E-12t/15t	300 x 500 x 12/15	12 x 20 x 0.5/0.6	5 / 6
DSAP-0306M/E-12t/15t	300 x 600 x 12/15	12 x 24 x 0.5/0.6	6 / 7
DSAP-0307M/E-12t/15t	300 x 700 x 12/15	12 x 28 x 0.5/0.6	7 / 9
DSAP-0404M/E-12t/15t	400 x 400 x 12/15	16 x 16 x 0.5/0.6	5 / 7
DSAP-0405M/E-12t/15t	400 x 500 x 12/15	16 x 20 x 0.5/0.6	7 / 8
DSAP-4545M/E-12t/15t	450 x 450 x 12/15	18 x 18 x 0.5/0.6	7 / 8
DSAP-0406M/E-12t/15t	400 x 600 x 12/15	16 x 24 x 0.5/0.6	8 / 10
DSAP-0407M/E-12t/15t	400 x 700 x 12/15	16 x 28 x 0.5/0.6	9 / 11
DSAP-4575M/E-12t/15t	450 x 750 x 12/15	18 x 30 x 0.5/0.6	11 / 14
DSAP-0502M/E-12t/15t	500 x 200 x 12/15	20 x 8 x 0.5/0.6	3 / 4
DSAP-0505M/E-12t/15t	500 x 500 x 12/15	20 x 20 x 0.5/0.6	8 / 10
DSAP-0506M/E-12t/15t	500 x 600 x 12/15	20 x 24 x 0.5/0.6	10 / 12
DSAP-0507M/E-12t/15t	500 x 700 x 12/15	20 x 28 x 0.5/0.6	11 / 14
DSAP-0575M/E-12t/15t	500 x 750 x 12/15	20 x 30 x 0.5/0.6	12 / 15
DSAP-0508M/E-12t/15t	500 x 800 x 12/15	20 x 32 x 0.5/0.6	13 / 16
DSAP-0509M/E-12t/15t	500 x 900 x 12/15	20 x 36 x 0.5/0.6	15 / 18
DSAP-0606M/E-12t/15t	600 x 600 x 12/15	24 x 24 x 0.5/0.6	12 / 15

Model No.	Dimensions W x D x t (mm)	Dimensions W x D x t (in.)	Weight (kg) 12t / 15t
DSAP-0607M/E-12t/15t	600 x 700 x 12/15	24 x 28 x 0.5/0.6	14 / 17
DSAP-0609M/E-12t/15t	600 x 900 x 12/15	24 x 36 x 0.5/0.6	18 / 22
DSAP-0707M/E-12t/15t	700 x 700 x 12/15	28 x 28 x 0.5/0.6	16 / 20
DSAP-7575M/E-12t/15t	750 x 750 x 12/15	30 x 30 x 0.5/0.6	18 / 23
DSAP-0909M/E-12t/15t	900 x 900 x 12/15	36 x 36 x 0.5/0.6	26 / 33
DSAP-1003M/E-12t/15t	1000 x 300 x 12/15	40 x 12 x 0.5/0.6	10 / 12
DSAP-1004M/E-12t/15t	1000 x 400 x 12/15	40 x 16 x 0.5/0.6	13 / 16
DSAP-1005M/E-12t/15t	1000 x 500 x 12/15	40 x 20 x 0.5/0.6	16 / 20
DSAP-1006M/E-12t/15t	1000 x 600 x 12/15	40 x 24 x 0.5/0.6	19 / 24
DSAP-1007M/E-12t/15t	1000 x 700 x 12/15	40 x 28 x 0.5/0.6	23 / 28
DSAP-1008M/E-12t/15t	1000 x 800 x 12/15	40 x 32 x 0.5/0.6	26 / 32
DSAP-1009M/E-12t/15t	1000 x 900 x 12/15	40 x 36 x 0.5/0.6	29 / 37
DSAP-1010M/E-12t/15t	1000 x 1000 x 12/15	40 x 40 x 0.5/0.6	32 / 41
DSAP-1011M/E-12t/15t	1000 x 1100 x 12/15	40 x 44 x 0.5/0.6	36 / 45
DSAP-1012M/E-12t/15t	1000 x 1200 x 12/15	40 x 48 x 0.5/0.6	39 / 49
DSAP-1203M/E-12t/15t	1200 x 300 x 12/15	48 x 12 x 0.5/0.6	12 / 15
DSAP-1206M/E-12t/15t	1200 x 600 x 12/15	48 x 24 x 0.5/0.6	23 / 29
DSAP-1209M/E-12t/15t	1200 x 900 x 12/15	48 x 36 x 0.5/0.6	35 / 44
DSAP-1505M/E-12t/15t	1500 x 500 x 12/15	60 x 20 x 0.5/0.6	24 / 30
DSAP-1506M/E-12t/15t	1500 x 600 x 12/15	60 x 24 x 0.5/0.6	29 / 37
DSAP-1845M/E-12t/15t	1800 x 450 x 12/15	72 x 20 x 0.5/0.6	26 / 33

\*Custom dimensions and configurations are available upon request.

## Optical Table Supports

The primary goal of designing vibration isolators is to lower the natural frequency of the isolators as low as possible, to reduce ambient vibrations in buildings, before the vibrations can reach and disturb an optical table top.

DAEIL offers two types of optical table supports: pneumatic isolators and rigid non-isolators. Our pneumatic isolators provide the industry leading vibration isolation performance and exceptional damping via the dual-chamber design. Rigid isolator is used for equipment requiring no vibration isolation and rigid platforms. The table supports are available in Tie-Bar and Self-Standing configuration.

### Pneumatic Supports



Tie-Bar Type



Self-Standing Type

Pneumatic supports incorporate the high-performance pneumatic vibration isolators to effectively reduce floor vibrations and provide damping.

### Rigid Supports



Tie-Bar Type



Self-Standing Type

Elastomer pads are mounted onto each rigid isolators, providing a high load capacity and a rigid platform.

# Pneumatic Supports

## Tie-Bar Type

Pneumatic isolators are welded to a tie-bar frame, leveling feet and casters are mounted to a tie-bar, providing mobility and easy installation.



4 Post System



6 Post System

## Self-Standing Type

4, 6, or 8 self-standing supports can be installed according to equipment specifications and dimensions of a table top.



## Features

### Dual Chamber Design

DAEIL's pneumatic vibration isolators consist of the two chambers that are uniquely designed, developed to lower its natural frequency.

### Exceptional Vibration Isolation Performance

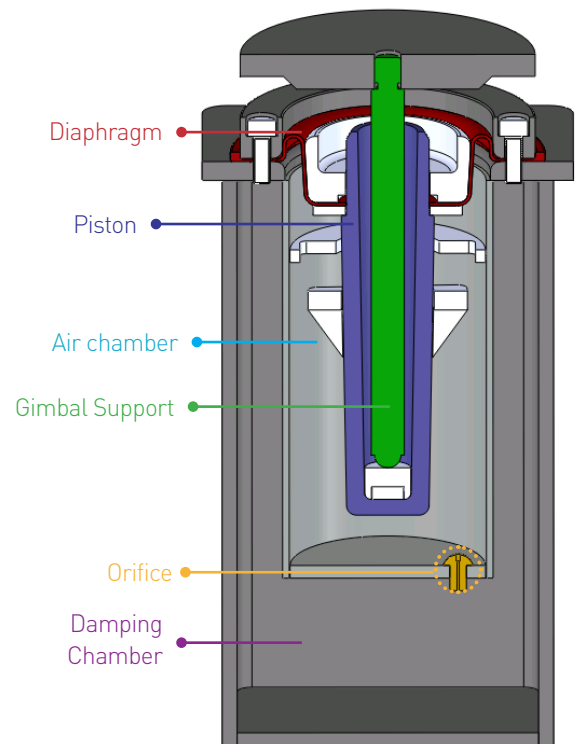
The size of an air chamber is optimized and sealed with an ultra-soft rolling diaphragm and a piston, softening the stiffness to further improve the vertical vibration isolation performance. A gimbal support of the pneumatic isolator as a mechanical filter system acts as a gimbal to minimize friction and reduce horizontal displacements.

### Superior Damping

The second chamber is a damping chamber which is linked with the air chamber through an orifice. As the air chamber creates the restoring force, the air flows into the damping chamber, and the orifice dissipate the energy in the air, damping the system and improves stability. As the piston moves up and down, air is forced to move through this orifice, producing a damping force on the payload. This type of damping is very strong for large displacements of the piston and less for small displacements. This allows for fast settling of the payload, without compromising small amplitude vibration isolation performance. The orifice installed between the air chamber and the damping chamber quickly restricts the movement of the optical table top or the external force applied to the optical table top.

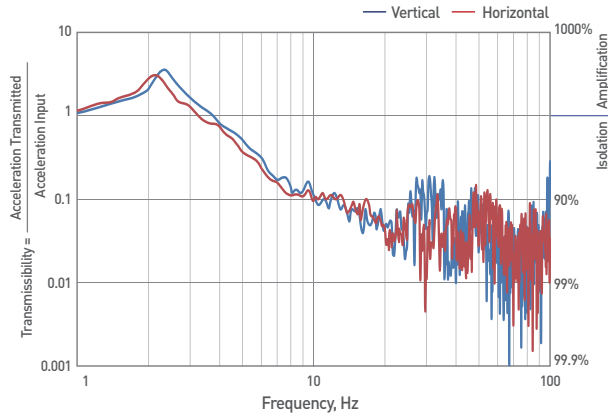
### Automatic Leveling – Leveling Valves

The high-performance leveling valves automatically relevel a table top, offering a wide range of valves options starting from the standard valves with repeatability of  $\pm 1.0$  mm to the precision valves with repeatability of  $\pm 0.05$  mm. If the settling time, leveling accuracy and leveling repeatability are required to meet equipment specifications, then the precision leveling valves must be selected.



Cutaway View of Pneumatic Isolator

## Vibration Isolation Performance



## Ordering Information (Tie-Bar Type)

DVIO-S-2412 I-600h



## Ordering Chart (Tie-Bar Type)

Model No.	Dimensions (A x B x h) (mm)	Cross Section (K) (mm)	Isolator Size	Maximum Payload Capacity (kg)	Number of Isolators				
DVIO-S-0906I-h	750 x 450 x h	100	ISO-S	300	4				
DVIO-S-1006I-h									
DVIO-S-0975I-h	750 x 650 x h	100	ISO-S	300	4				
DVIO-S-1075I-h									
DVIO-S-0909I-h	750 x 600 x h	100	ISO-S	300	4				
DVIO-S-0910I-h									
DVIO-S-1009I-h									
DVIO-S-1010I-h									
DVIO-S-1206I-h					900 x 450 x h	100	ISO-S	300	4
DVIO-S-1209I-h					900 x 750 x h	100	ISO-S	300	4
DVIO-S-1210I-h	900 x 900 x h	100	ISO-S	300	4				
DVIO-S-1212I-h									
DVIO-S-1212I-h	900 x 900 x h	125	ISO-M	500	4				
DVIO-S-1275I-h	900 x 600 x h	100	ISO-S	300	4				
DVIO-S-1506I-h	1150 x 450 x h	100	ISO-S	300	4				
DVIO-S-1806I-h									
DVIO-S-1509I-h	1150 x 750 x h	125	ISO-M	500	4				
DVIO-S-1510I-h									
DVIO-S-1809I-h									
DVIO-S-2009I-h									
DVIO-S-2010I-h									
DVIO-S-1512I-h					1150 x 900 x h	125	ISO-M	500	4
DVIO-S-1812I-h									
DVIO-S-2012I-h	1150 x 900 x h	150	ISO-L	1000	4				
DVIO-S-1512I-h									
DVIO-S-1812I-h	1150 x 1150 x h	150	ISO-L	1000	4				
DVIO-S-2012I-h									
DVIO-S-1515I-h	1150 x 600 x h	100	ISO-S	300	4				
DVIO-S-2015I-h									
DVIO-S-1575I-h	1400 x 700 x h	150	ISO-L	1000	4				
DVIO-S-2409I-h									
DVIO-S-2410I-h	1400 x 900 x h	150	ISO-L	1000	4				
DVIO-S-2412I-h									
DVIO-S-2415I-h	1400 x 1150 x h	150	ISO-L	1000	4				
DVIO-S-3009I-h									
DVIO-S-3010I-h	1600 x 700 x h	150	ISO-L	1000	4				
DVIO-S-3012I-h									
DVIO-S-3012I-h	1800 x 900 x h	150	ISO-L	1500	6				
DVIO-S-3012I-h		175	ISO-P	2000	4				
DVIO-S-3015I-h	1800 x 1150 x h	150	ISO-L	1500	6				
DVIO-S-3015I-h					175	ISO-P	2000	4	
DVIO-S-3612I-h	2100 x 900 x h	150	ISO-L	1500	6				
DVIO-S-3615I-h	2100 x 1150 x h	150	ISO-L	1500	6				
DVIO-S-3615I-h					175	ISO-P	2000	4	

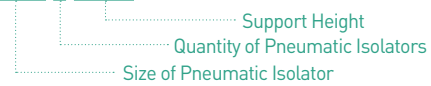
\*The recommended payload is 70% of maximum payload capacity.  
\*Custom dimensions and configurations are available upon request.

## Specifications

Isolation System	Pneumatic Isolation
Resonant Frequency	Vertical/Horizontal = 1.2 - 3.0 Hz
Vibration Isolation at 10 Hz	Vertical/Horizontal = 80 - 90%
Accuracy of Leveling Repeatability	Standard Leveling Valve = $\pm 1.0$ mm (0.04 in.) Precision Leveling Valve = $\pm 0.05$ mm (0.002 in.)
Maximum Load Capacity	3000 kg
Automatic Leveling	Yes
Height Adjustment	$\pm 20$ mm
Required Air Supply	3 - 5 kg/cm <sup>2</sup> nitrogen or compressed air

## Ordering Information (Self-Standing Type)

DVIO-S-M/L/P4 (500h)

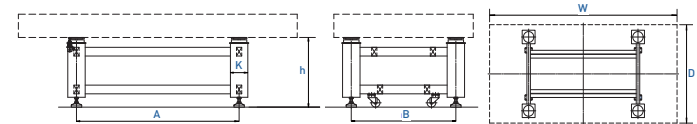


## Ordering Chart (Self-Standing Type)

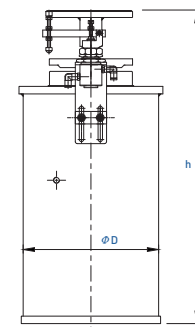
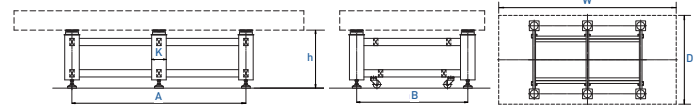
Model No.	Dimensions $\phi D \times h$ (mm)	Maximum Payload Capacity (kg / 1set)
DVIO-S-M4(h)	216 X h	500
DVIO-S-L4(h)		1000
DVIO-S-L6(h)	216 x h or 267 x h	1500
DVIO-S-P4(h)		2000
DVIO-S-P6(h)		3000

\*The recommended payload is 70% of maximum payload.  
\*The diameter of the self-standing support depends on dimensions of the optical table top.  
\*Custom dimensions and configurations are available upon request.

### 4 Post with Tie-Bar



### 6 Post with Tie-Bar



Self-Standing

# Rigid Supports

## Tie-Bar Type

The rigid non-isolating isolators are welded to a tie-bar and leveling feet and casters are mounted to a tie-bar, providing mobility and easy installation.



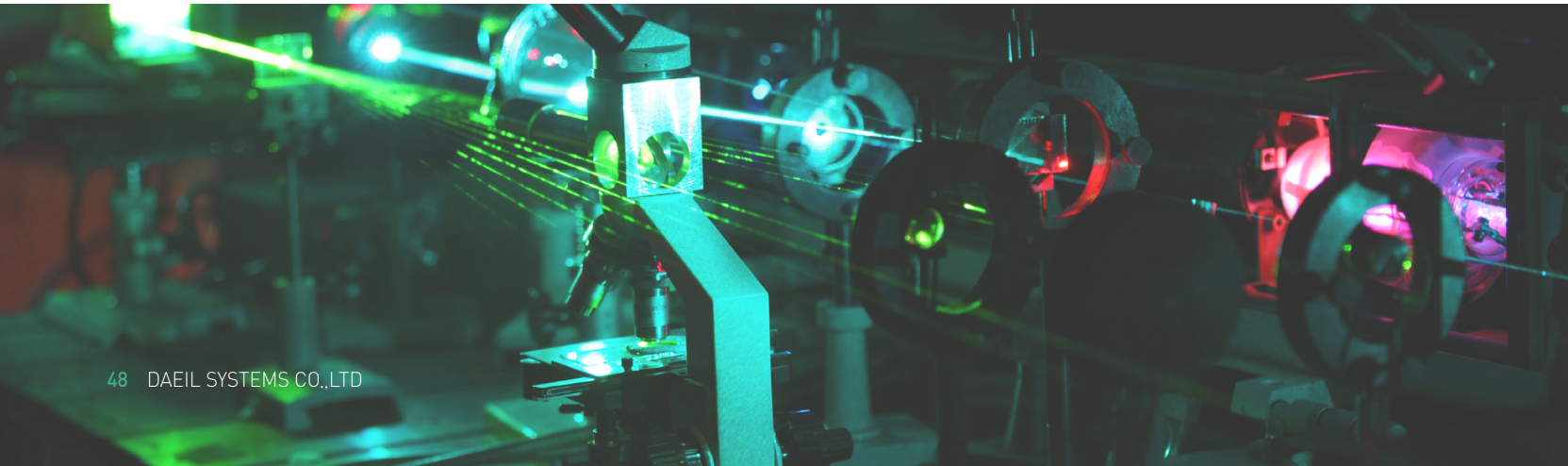
4 Post System



6 Post System

## Self-Standing Type

4, 6, or 8 self-standing supports can be installed according to a payload and dimensions of a table top.





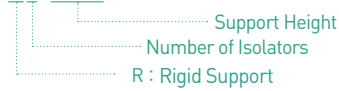
### Ordering Information (Tie-Bar Type)

DVIO-S-2412 R-600h



### Ordering Information (Self-Standing Type)

DVIO-S-R4 (500h)



### Ordering Chart (Tie-Bar Type)

Model No.	Dimensions (A x B x h) (mm)	Cross Section (K) (mm)	Maximum Payload Capacity (kg)	Number of Isolators
DVIO-S-0906R-h	750 x 450 x h	100	1700	4
DVIO-S-1006R-h				
DVIO-S-0975R-h	750 x 650 x h	100	1700	4
DVIO-S-1075R-h				
DVIO-S-0909R-h	750 x 750 x h	100	1700	4
DVIO-S-0910R-h				
DVIO-S-1009R-h				
DVIO-S-1010R-h				
DVIO-S-1206R-h	900 x 450 x h	100	1700	4
DVIO-S-1209R-h	900 x 750 x h	100	1700	4
DVIO-S-1210R-h				
DVIO-S-1212R-h	900 x 900 x h	100	1700	4
DVIO-S-1275R-h	900 x 600 x h	100	1700	4
DVIO-S-1506R-h	1150 x 450 x h	125	1700	4
DVIO-S-1806R-h				
DVIO-S-1509R-h	1150 x 750 x h	125	1700	4
DVIO-S-1510R-h				
DVIO-S-1809R-h				
DVIO-S-2009R-h				
DVIO-S-2010R-h	1150 x 900 x h	125	1700	4
DVIO-S-1512R-h				
DVIO-S-1812R-h				
DVIO-S-2012R-h	1150 x 1150 x h	125	1700	4
DVIO-S-1515R-h				
DVIO-S-1815R-h	1150 x 600 x h	125	1700	4
DVIO-S-2015R-h				
DVIO-S-1575R-h	1400 x 700 x h	150	1700	4
DVIO-S-2409R-h				
DVIO-S-2410R-h	1400 x 900 x h	150	1700	4
DVIO-S-2412R-h				
DVIO-S-2415R-h				
DVIO-S-3009R-h	1600 x 700 x h	150	1700	4
DVIO-S-3010R-h				
DVIO-S-3012R-h	1800 x 900 x h	150	2500	6
DVIO-S-3015R-h	1800 x 1150 x h	150	2500	6
DVIO-S-3612R-h	2100 x 900 x h	150	2500	6
DVIO-S-3615R-h	2100 x 1150 x h	150	2500	6

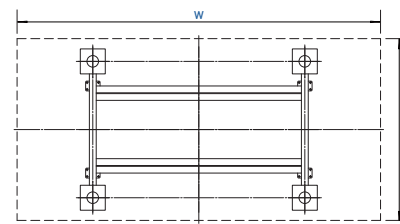
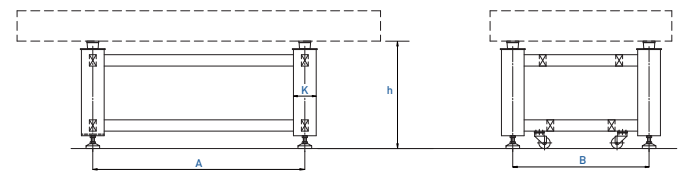
\*Custom dimensions and configurations are available upon request.

### Ordering Chart (Self-Standing Type)

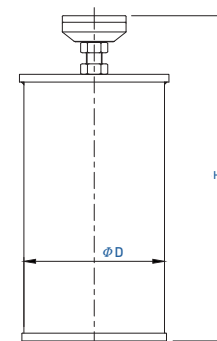
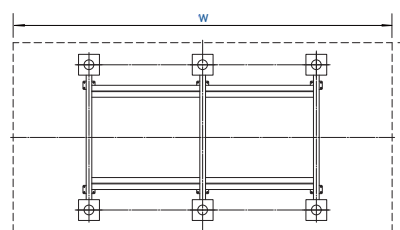
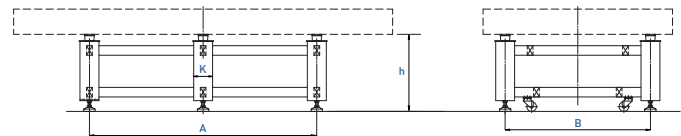
Model No.	Dimensions $\phi D \times h$ (mm)	Maximum Payload Capacity (kg/1set)
DVIO-S-R4(h)	267 x h	1700
DVIO-S-R6(h)		2500

\*Custom dimensions and configurations are available upon request.

#### 4 Post with Tie-Bar



#### 6 Post with Tie-Bar



Self-Standing



# Enabling Vision for the Future.

 **DAEIL SYSTEMS**

July 26, 2018

Publication Date

DAEIL SYSTEMS CO.,LTD

Publisher

International Sales

Contact

+82-31-339-3375 ✉ internationalsales@daeilsys.com

Copyright © 2018 by DAEIL SYSTEMS

All rights reserved. No part of this publication may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods, without the prior written permission of the publisher, except in the case of brief quotations embodied in critical reviews and certain other noncommercial uses permitted by copyright law.



Enabling Vision for the Future.

 **DAEIL SYSTEMS**

40, Maengni-ro Wonsam-myeon, Cheoin-gu, Yongin-si, Gyeonggi-do, 17166, South Korea  
Tel : +82-31-339-3375 | E-mail : [internationalsales@daeilsys.com](mailto:internationalsales@daeilsys.com) | Web : [www.daeilsys.com](http://www.daeilsys.com)