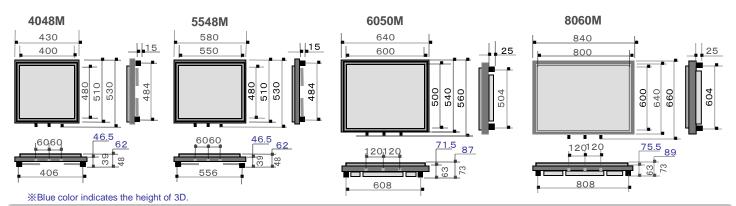
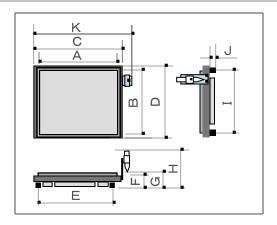
### DT - Desktop Vibration Isolation System M-Type External Dimensions



## **DT - Desktop Vibration Isolation System A-Type External Dimensions**



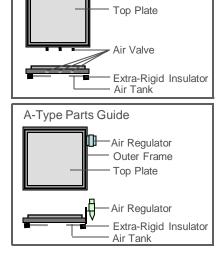
	4048A	5548A	6050A	8060A
Α	400	550	600	800
В	480	480	500	600
С	430	580	640	840
D	510	510	540	640
Е	406	556	608	808
F	39	39	63	63
F	46.5	46.5	71.5	75.5
G	48	48	73	73
G	62	62	87	89
Н	144	144	168	168
- 1	484	484	504	604
J	15	15	25	25
K	482	632	692	892

Units: mm \*\*Blue color indicates the height of 3D.

Outer Frame

## **■** Specifications **■**

		A-type (Auto-Leveling Type)			
Model DT-	4048M	5548M	6050M	8060M	
Model 3DT-	4048M	5548M	6050M	8060M	
Model DT-	4048A	5548A	6050A	8060A	
Model 3DT-	4048A	5548A	6050A	8060A	
Isolation Method	HERZ High-Precision Air Spring				
Resonant Frequency (Vertical)	1.5 – 3.0 Hz				
Resonant Frequency (Horizontal)	1.0 – 2.0 Hz * 3D Model Only				
M Type Air Supply System	Manual Air Pump				
M Type Leveling Method	3 Air Valves for Manual Adjustment				
A Type Air Supply System	Air Compressor / Air Supply				
A Type Leveling Method	Auto-Leveling (3 Level Sensors included)				
Top Plate Options	A. Steel laminated with vibration reducing sheet     B. Mechanical process and black coating finish     C. Ferromagnetic stainless steel     D. Ferromagnetic stainless steel with mounting holes M6-50mmXY     E. Ferromagnetic stainless steel with mounting holes M6-25mmXY				
Top Plate Options	High-Damping Finish * 3D Model Only				
Frame Options	High-Damping Finish * 3D Model Only				
Load Capacity	30kg	30kg	70kg	60kg	
System Feet	Extra-Rigid Insulators * 3D Model Only				
M Type Accessories	Hand Pump, Schrader Valve Wrench, Instruction Manual x 1 each				
A Type Accessories	3 m of tubing (for connecting to air supply), Instruction Manual				



M-Type Parts Guide

- External air supply for A type models not included. Air compressor, Nitrogen tank, or air supply will need to have pressure of 0.2 0.3MPa (max.).
  Herz offers silent air compressors. More information available upon request.
- % Information and performance data shown in the above are subject to change without prior notice.

# Herz Co. Ltd.

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Herz Co., Ltd.



## Into the Nanotech Era · · · ·

## **DT Desktop Vibration Isolation System**

Herz has developed the new DT vibration isolation system over the past twenty years with the challenges of nanotechnology research in mind. The measuring environment of the nanotechnology era presents new challenges that require the latest in vibration isolation and vibration control. In response to this, Herz has improved on the vertical isolation provided by the air spring system of the original DT system by developing a 360 degree horizontal isolation mechanism to produce the 3DT. After conducting modal analysis on the new damping feet and compliance tests on the mounting plate, we have changed the design of the DT to offer the most reliable desktop vibration isolation solution for the Nanotechnology Era.



## **3DT-A**Desktop Vibration Isolation System **DT-A** Desktop Vibration Isolation System

The 3DT-A and the DT-A systems use an external air supply (air compressor, air supply, or nitrogen tank). The DT's air regulator ensures that the air pressure will be perfectly suited to the instrument that is being isolated. The three auto-leveling sensors maintain the system's level. The 3DT-A features a damping mechanism that provides 360 degree horizontal isolation, high damping finish on the frame and mounting plate, and ultra-rigid damping feet. The 3DT-A is the ideal vibration isolation solution for the Nanotechnology Era.

**3DT-M** Desktop Vibration Isolation System **DT-M** Desktop Vibration Isolation System

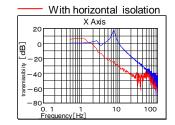


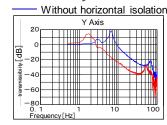


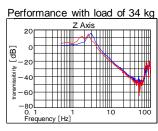
DT-M comes standard with a manual hand pump. After the instrument is loaded on the system, use the pump and three air valves to supply the correct amount of air to make the table float evenly. There is no need for an external air supply so you can easily achieve a vibration-free environment. The 3DT-M comes standard with a high-damping finish on the frame and mounting plate that make it a simple, easy-to-use solution for the Nanotechnology Era.

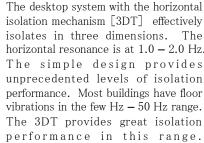
Isolation **Performance**  **3DT-M** Desktop Vibration Isolation System **DT-M** Desktop Vibration Isolation System

#### 3DT-5548M & DT-5548M Transmissibility

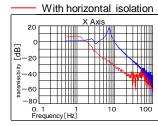


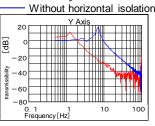


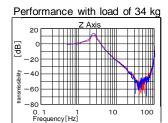






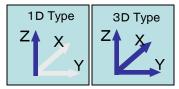




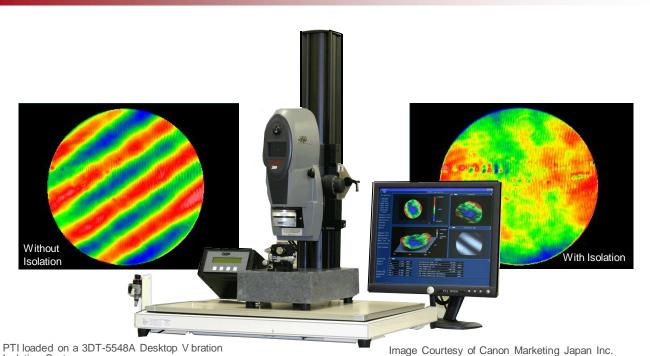


isolation mechanism [3DT] effectively isolates in three dimensions. The horizontal resonance is at 1.0 - 2.0 Hz. The simple design provides unprecedented levels of isolation performance. Most buildings have floor vibrations in the few Hz - 50 Hz range. The 3DT provides great isolation performance in this range.

#### Axis of isolation



## **Supporting the Measuring Environment**



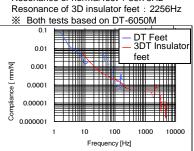
#### Top Plate Damping Treatment

The progress of nano-level science and technology is relentless. So Herz develops vibration isolation technology continually. In order to meet the needs of the next generation of instruments and applications, Herz has developed its newest series, the 3DT, featuring high-damping technology and the ultra-high performance three-dimensional air spring.

# **Compliance Specifications for System Feet**

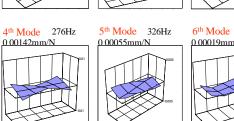
Comparison of compliance for normal system feet and the 3DT insulators (based on impulse hammer strike

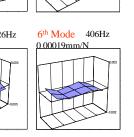
Resonance of normal feet: 39.75Hz ※ Both tests based on DT-6050M



# **IDT** Loading Plate Compliance Specification 3<sup>rd</sup> Mode 247Hz Compliance of 6050M Top Plate 0 00110mm/N 0 00068mm/N





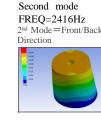


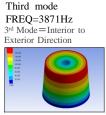
#### Modal Analysis of 3DT Insulators (Created with ANSYS Workbench Products 7.0)

### Modal Analysis of 3DT-6050 · 8060 Insulators

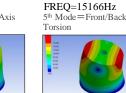
FREQ=2304Hz 1st Mode=Left/Right

First mode



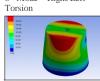


Fourth mode FREQ=14011Hz



Fifth mode





### Modal Analysis of 3DT-4048-5548 Insulators

FREO=4481Hz

First mode



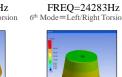
Second mode







Fifth mode FREQ=24236Hz





Sixth mode