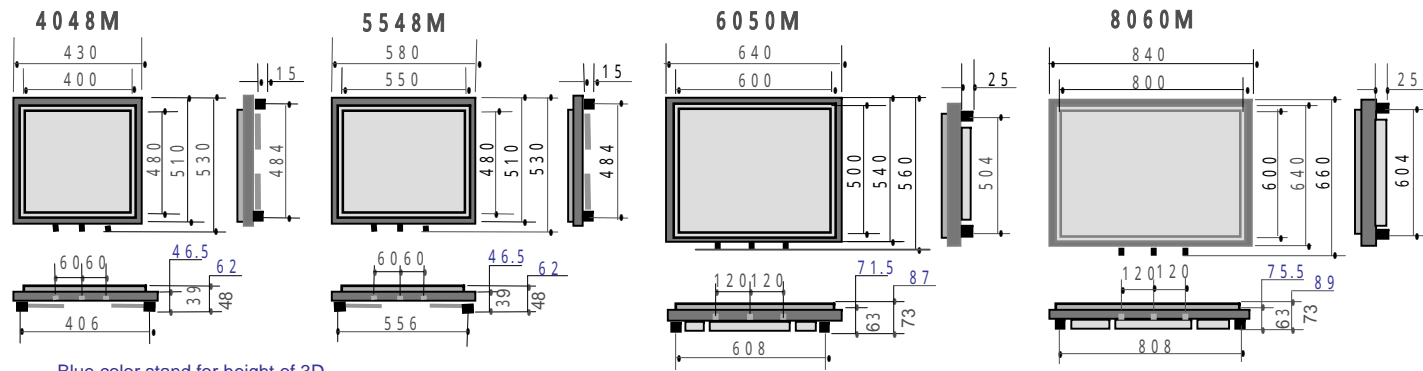
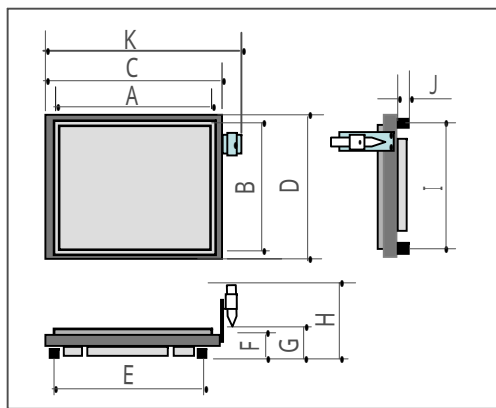


**nano DT- Desktop Vibration Isolation System M-Type External Dimensions**



Blue color stand for height of 3D.

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



Units : mm

	4048A	5548A	6050A	8060A
A	400	550	600	800
B	480	480	500	600
C	430	580	640	840
D	510	510	540	640
E	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
H	144	144	168	168
I	484	484	504	604
J	482	632	692	892
K	15	15	25	25

Blue color stand for height of 3D.

**Specifications**

A-type (Auto-Leveling Version)

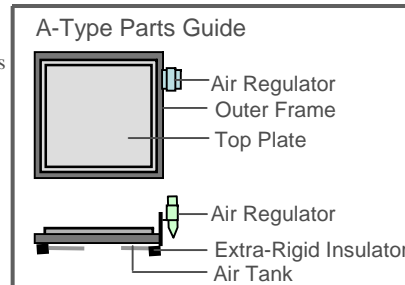
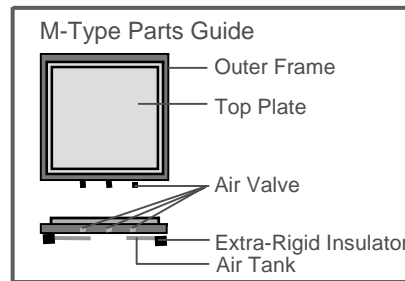
Model	1D / DT -	4048M	5548M	6050M	8060M
Model	3D / DT -	4048M	5548M	6050M	8060M
Model	1D / DT -	4048A	5548A	6050A	8060A
Model	3D / DT -	4048A	5548A	6050A	8060A

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 Leveling Sensors included)			
Top Plate Options	A. Non-slip Sheet B. Ferro-Magnetic Stainless Steel C. B. plate with tapped holes			
Top Plate Options	High-Damping Finish a. with *Standard on 3D b. without			
Frame Options	High-Damping Finish a. with *Standard on 3D b. without			
Load Capacity	30 kg	30 kg	70 kg	60 kg
System Feet	Extra-Rigid Insulators *3D Type only			
M Type Accessories	One (1) Hand Pump, One (1) Schrader Valve Wrench, Instruction Manual			
A Type Accessories	3 meters of tubing (for connection to air supply) Instruction Manual			

External air supply for A type models not included. Air compressor, Nitrogen tank, or air supply will need to have pressure of 0.2 - (max.)0.3MPa.

Herz carries silent air compressors. More information available upon request.

Information and performance data in this catalog may change without notice.



**N**ano

Desktop Vibration Isolation System

DT<sub>M</sub> DT<sub>A</sub>



**Herz Co. Ltd.**

YCS Bldg. 18 Fl., 5-1 Sakae-cho, Kanagawa-ku,  
Yokohama-shi, Kanagawa-ken

TEL: 045 - 450 - 2211 FAX: 045 - 450 - 2221

e-mail: sales@herz-f.co.jp URL: www.herz-f.co.jp

**Herz Co., Ltd.**



Into the Nanotech Era . . . .

## nano DT Desktop Vibration Isolation System

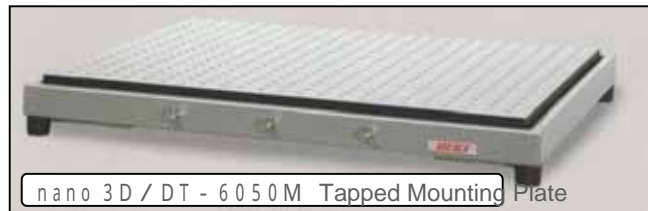
Herz has developed the new nanoDT vibration isolation system over the past twenty years with the challenges of nanotechnology research in mind. The measuring environment of the nanotechnology era presents new challenges that require the latest in vibration isolation and vibration control. In response 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 3D/DT. 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.



### nano 3D / DTA Desktop Vibration Isolation System nano 1D / DTA Desktop Vibration Isolation System

The nano3D / DTA and the 1D / DTA 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 horizontal position. The 3D/DTA 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 3D/DTA is the ideal vibration isolation solution for the Nanotechnology Era.

### nano 3D / DTM Desktop Vibration Isolation System nano 1D / DTM Desktop Vibration Isolation System

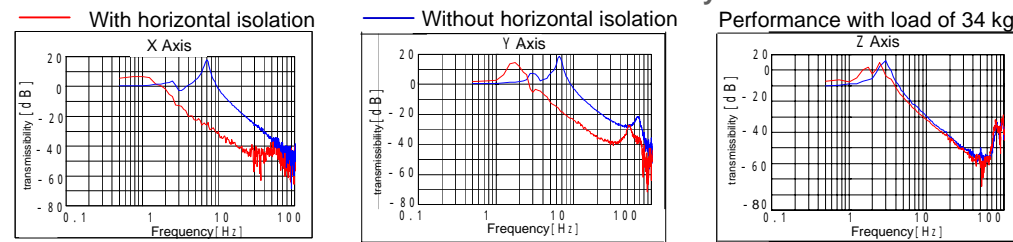


nanoDT - M comes standard with a manual hand pump. After the instrument is loaded on the system, use the pump and three air valves to supply the correct amount of air to make the table float evenly. There is no need for an external air supply so you can easily achieve a vibration-free environment. The 3D/DTM 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

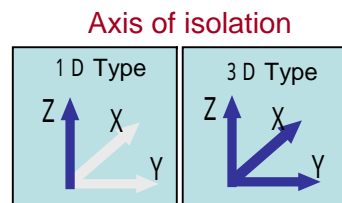
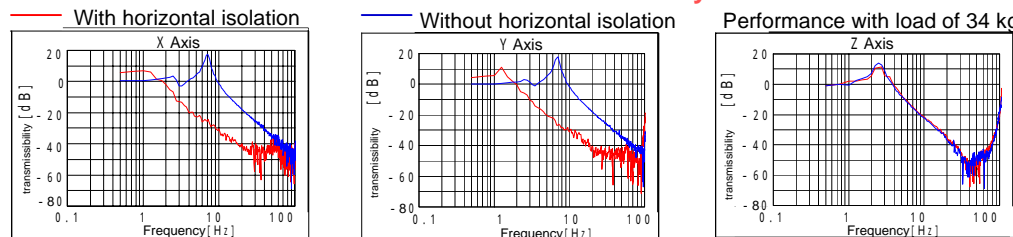
### nano 3D / DTM Desktop Vibration Isolation System nano 1D / DTM Desktop Vibration Isolation System

#### nano 3D / DT - 5548M & DT - 5548M Transmissibility

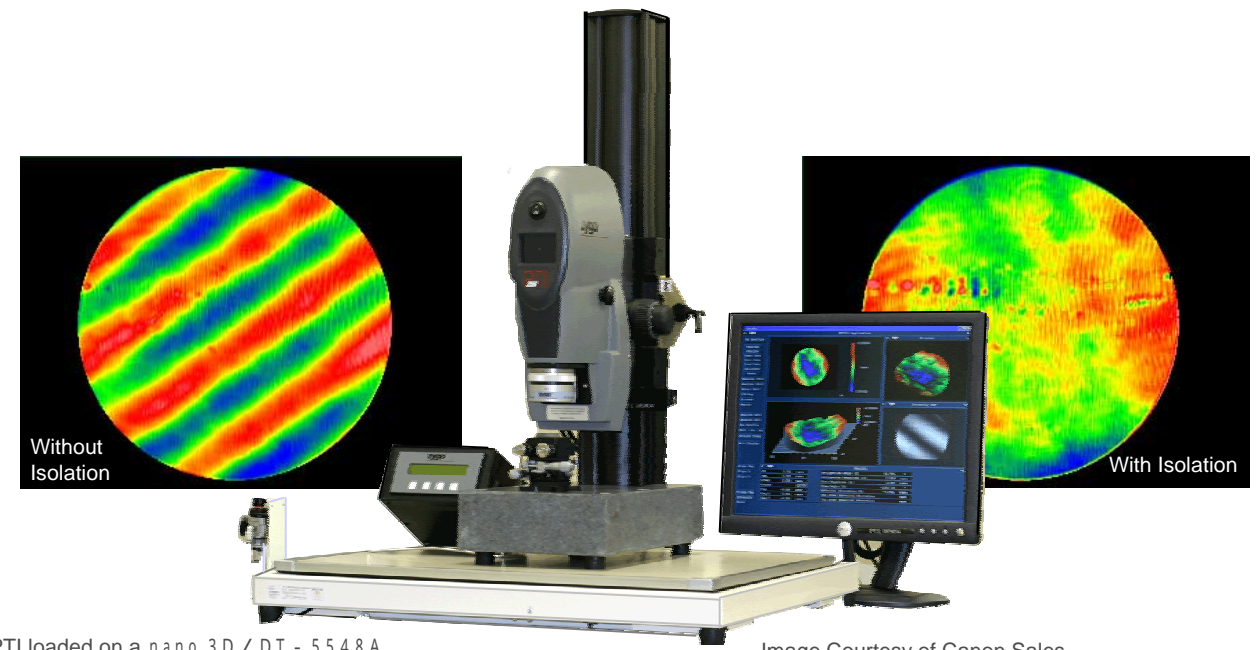


The desktop system with the horizontal isolation mechanism [nano 3D / DT] effectively isolates in 3 dimensions. The horizontal resonance is at 1.0 – 2.0 Hz. The simple design provides unprecedented levels of isolation performance. Most buildings have floor vibrations in the few Hz – 50 Hz range. The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

#### nano 3D / DT - 6050M & DT - 6050M Transmissibility



## Supporting the Measuring Environment



PTI loaded on a nano 3D / DT - 5548A Desktop Vibration Isolation System

Image Courtesy of Canon Sales

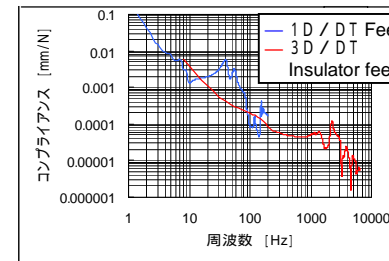
### nano 3D / DT Top Plate Damping Treatment

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 3D/DT, featuring high-damping technology and the ultra-high performance three-dimensional air spring.

### nano 3D / DT Compliance Specifications for System Feet

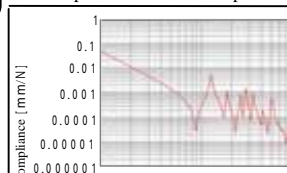
Comparison of compliance for normal system feet and the 3D/DT insulators (based on impulse hammer strike test)

Resonance of normal feet : 39.75 Hz  
Resonance of 3D insulator feet : 2256 Hz  
Both tests based on DT-6050M

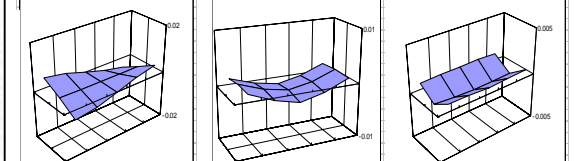


### nano 3D / DT Loading Plate Compliance Specifications

Compliance of 6050M Top Plate



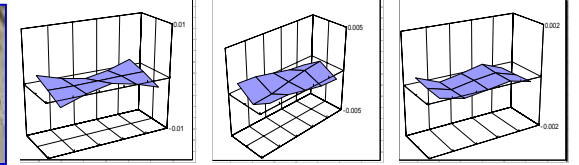
1<sup>st</sup> Mode 125 Hz 0.00504 mm/N  
2<sup>nd</sup> Mode 180 Hz 0.00110 mm/N  
3<sup>rd</sup> Mode 247 Hz 0.00068 mm/N



Compliance Test using impulse hammer

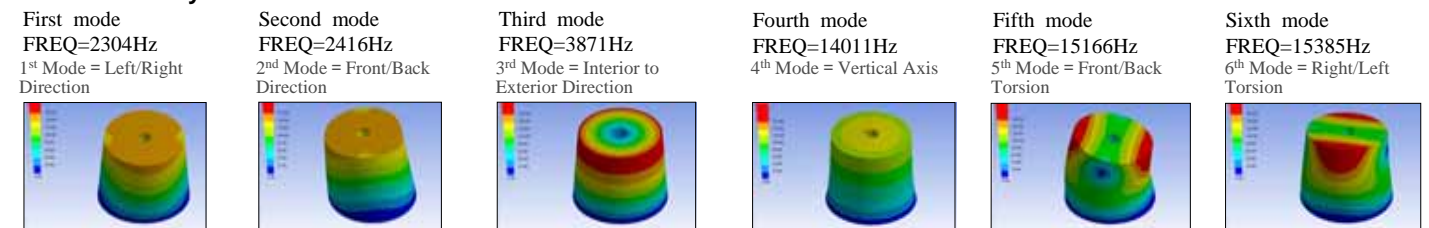


4<sup>th</sup> Mode 276 Hz 0.00142 mm/N  
5<sup>th</sup> Mode 326 Hz 0.00055 mm/N  
6<sup>th</sup> Mode 406 Hz 0.00019 mm/N



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

#### Modal Analysis of nano 3D / DT - 6050 · 8060 Insulators



#### Modal Analysis of nano 3D / DT - 4048 · 5548 Insulators

