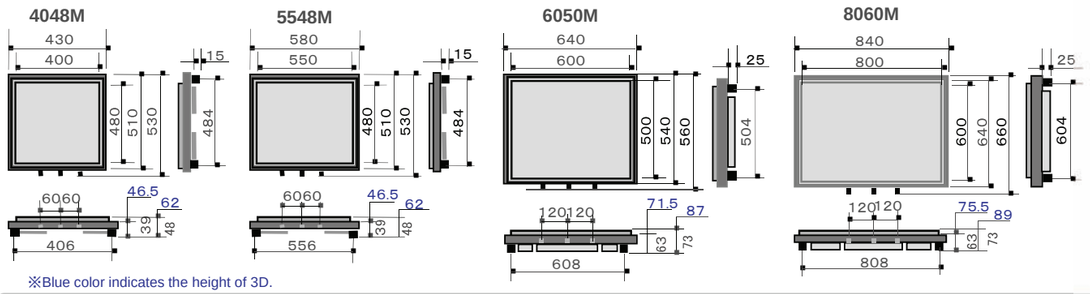
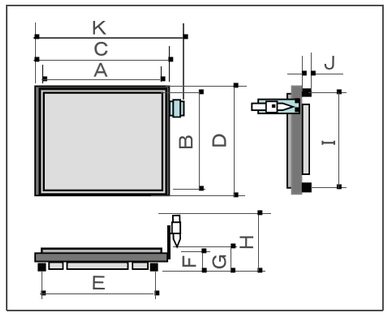
DT - Desktop Vibration Isolation System M-Type External Dimensions



※Blue color indicates the height of 3D.

DT - Desktop Vibration Isolation System A-Type External Dimensions



	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	15	15	25	25
K	482	632	692	892

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

Specifications

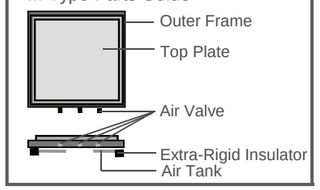
A-type (Auto-Leveling Type)

Model DT-	4048M	5548M	6050M	8060M
Model 3D/DT-	4048M	5548M	6050M	8060M
Model 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 Level Sensors included)			
Top Plate Options	A. Steel laminated with v bration 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			

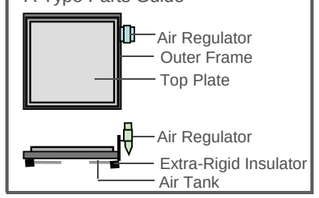
※ External air supply for A type models not included. Air compressor, Nitrogen tank, or air supply will need to have pressure of 0.2 – 0.3MPa (max.).
Herz offers silent air compressors. More information available upon request.

※ Information and performance data shown in the above are subject to change without prior notice.

M-Type Parts Guide



A-Type Parts Guide



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HERZ
Supporting the measuring environment

Nano
Desktop Vibration Isolation System
DT M DT A

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 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.

3D/DT-A Desktop Vibration Isolation System
DT-A Desktop Vibration Isolation System

The 3D/DT-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 3D/DT-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 3D/DT-A is the ideal vibration isolation solution for the Nanotechnology Era.

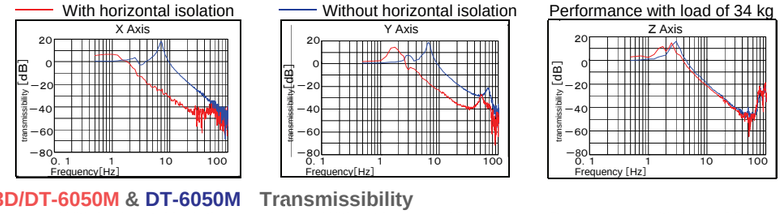
3D/DT-M Desktop Vibration Isolation System
DT-M Desktop Vibration Isolation System

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 3D/DT-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.

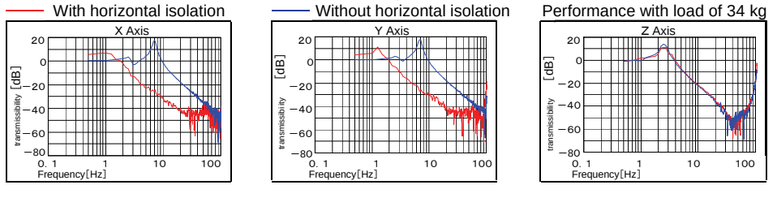
Isolation Performance

3D/DT-M Desktop Vibration Isolation System
DT-M Desktop Vibration Isolation System

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

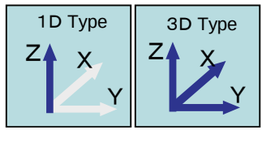


3D/DT-6050M & DT-6050M Transmissibility

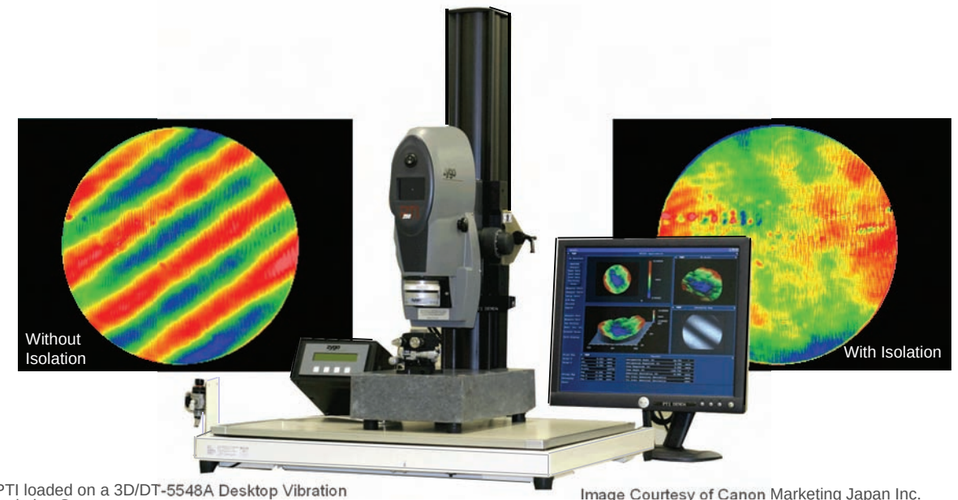


The desktop system with the horizontal isolation mechanism [3D/DT] effectively isolates in three dimensions. The horizontal resonance is at 1.0 – 2.0 Hz. The simple design provides unprecedented levels of isolation performance. Most buildings have floor vibrations in the few Hz – 50 Hz range. The 3D/DT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

Axis of isolation



Supporting the Measuring Environment



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

Image Courtesy of Canon Marketing Japan Inc.

3D/DT Top Plate Damping Treatment

The progress of nano-level science and technology is relentless. So Herz develops v bration 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.

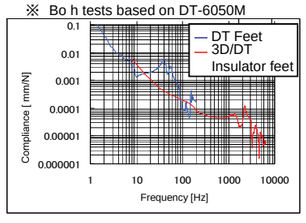
3D/DT Compliance Specifications for System Feet

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

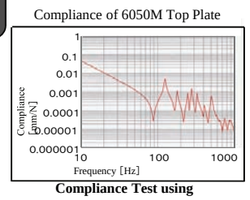
Resonance of normal feet : 39.75Hz

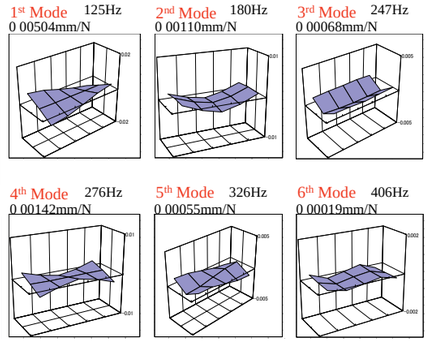
Resonance of 3D insulator feet : 2256Hz

※ Bo h tests based on DT-6050M



3D/DT Loading Plate Compliance Specification



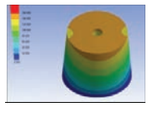


Compliance Test using impulse hammer

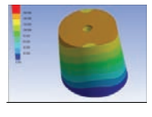
Modal Analysis of 3D/DT Insulators (Created with *ANSYS Workbench Products 7.0*)

Modal Analysis of 3D/DT6050·8060 Insulators

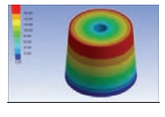
First mode
FREQ=2304Hz
1st Mode=Left/Right Direction



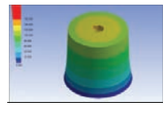
Second mode
FREQ=2416Hz
2nd Mode=Front/Back Direction



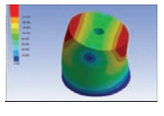
Third mode
FREQ=3871Hz
3rd Mode=Interior to Exterior Direction



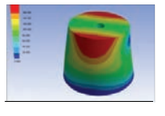
Fourth mode
FREQ=14011Hz
4th Mode=Vertical Axis



Fifth mode
FREQ=15166Hz
5th Mode=Front/Back Torsion

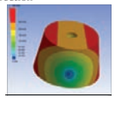


Sixth mode
FREQ=15385Hz
6th Mode=Right/Left Torsion

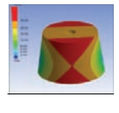


Modal Analysis of 3D/DT4048·5548 Insulators

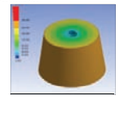
First mode
FREQ=4481Hz
1st Mode=Left/Right Direction



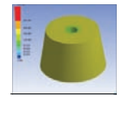
Second mode
FREQ=4655Hz
2nd Mode=Front/Back Direction



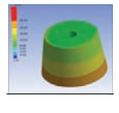
Third mode
FREQ=6712Hz
3rd Mode=Interior to Exterior Direction



Fourth mode
FREQ=22200Hz
4th Mode=Vertical Axis



Fifth mode
FREQ=24236Hz
5th Mode=Front/Back Torsion



Sixth mode
FREQ=24283Hz
6th Mode=Left/Right Torsion