

SEM-Base® LP for Thermo Fisher Scientific TMC Model Number 25-44003-01

CE Marked



Compatible Thermo Fisher Scientific Tool Models

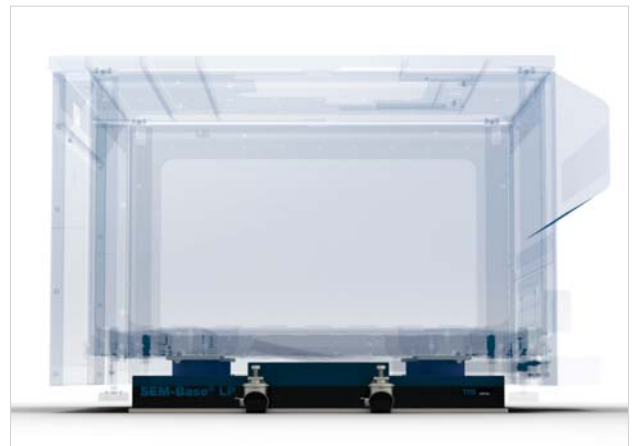
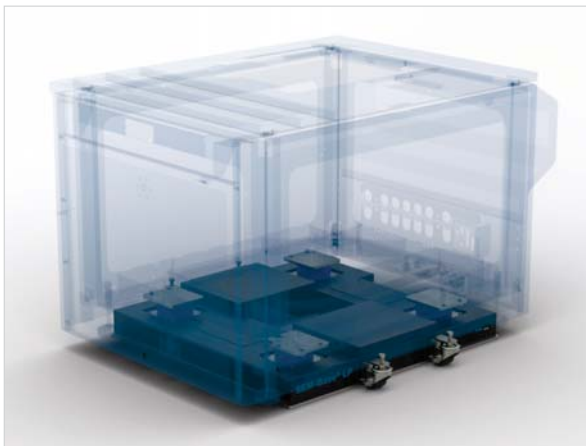
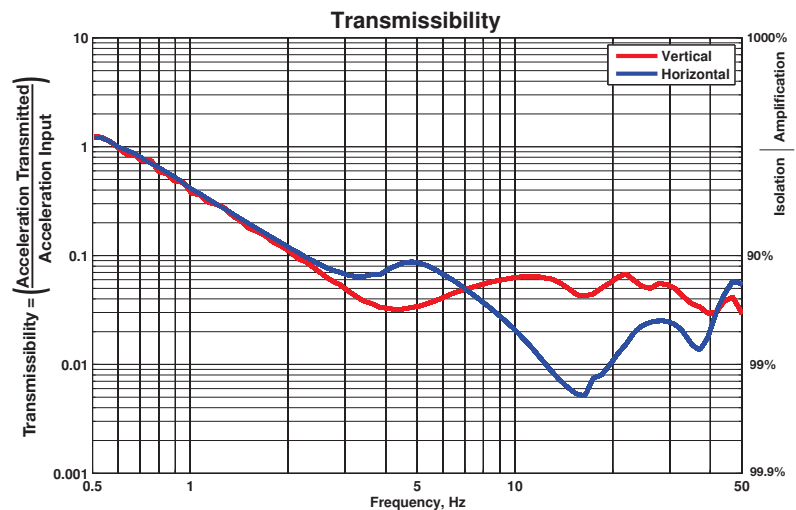
- Apreo
- Aquilos
- Helios 5
- Nova NanoSEM x50
- Prisma
- Quattro S
- Scios
- Teneo
- Verios 5
- Versa 3D

If your tool is not listed, contact
TMC to check for compatibility.

SEM-Base LP is a custom, low profile version of the standard SEM-Base active piezoelectric vibration cancellation platform. SEM-Base LP is easier to install, provides outstanding performance, and is ergonomically optimized. The compact design facilitates installation without lifting the Scanning Electron Microscope (SEM) column with anything other than the SEM's built-in leveling feet. And, once installed, the SEM's height above the floor does not increase. SEM-Base LP incorporates our unique STACIS piezo technology and has the same vibration cancellation performance as our industry-standard SEM-Base VI.

Model 25-44003-01 includes casters and is designed specifically to integrate with many *Thermo Fisher Scientific* (formerly *FEI*) tools.

1800 lbs (818 kg) payload tested with simulated vibration
at VC-C (500 μ in./s, 12.5 μ m/s RMS)

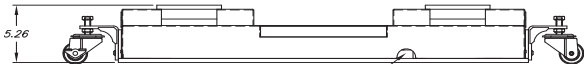
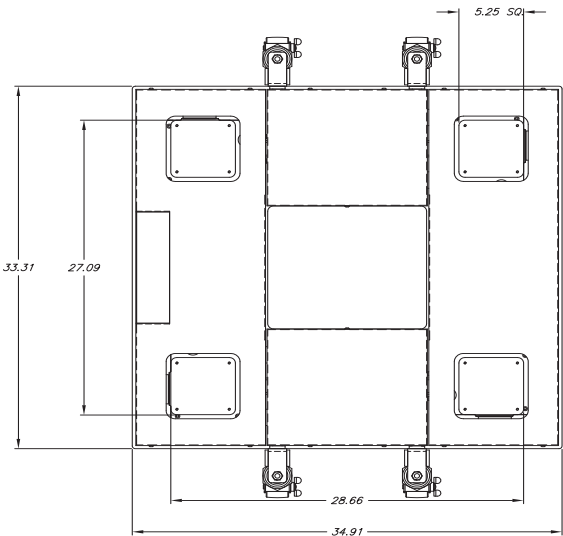


Example of how 25-44003-01 integrates with the bottom frame of the tool

Technical Specifications

SEM-Base® LP

Performance	
Active degrees of freedom	6
Active bandwidth	0.6 Hz - 100 Hz
Passive natural frequency	12 Hz nominal
Effective active resonant frequency	0.5 Hz
Isolation at 1 Hz	40 - 70%
Isolation at 2 Hz	90%
Isolation at ≥ 3 Hz	90 - 98%
Internal noise	<0.1 nm RMS
Operating load range	900 - 2,500 lbs 408 - 1134 kg
Static lift capacity	12,000 lbs 5454 kg
Magnetic field emitted at max. 4 in. (102 mm) from platform	<0.02 µG broadband RMS



Design, Dimensions, and Environmental and Utility

Environmental and safety	CE and RoHS compliant
Active isolation elements	High-force piezoelectric actuators that receive signal from a high-voltage amplifier with an output of up to 800 VDC
Passive isolation element	Single stiff elastomer (no compressed air supply needed)
Vibration sensor elements	Downward facing geophone type inertial sensors that measure floor vibration below the isolator and deliver voltage proportional to the velocity of vibration motion
Active feedback control loop	Floor vibration is measured, processed and attenuated below the spring supporting the isolated surface
Dimensions (WxD)	33.3 x 34.9 in. 846 x 887 mm base (41 x 34.9 in. 1041 x 887 mm total with casters)
Height	5.26 in. 133.6 mm nominal
Operating temperature	50° - 90° F 10° - 32° C
Storage temperature	-40° - 130° F -40° - 55° C
Humidity	< 80% @ 68° F 20° C
System power requirements	100 - 240 VAC, 50-60 Hz, < 600 W
Floor displacement	< 800 µin. 20 µm below 10 Hz

Processor	150/75 MHz dual core
Sampling rate	10 kHz
Analog outputs	16 channels
Analog inputs	16 channels
Status light	Single LED
Front panel ports	1x serial USB 2.0; 1x serial micro-USB; 1x Ethernet RJ-45; 2x BNC
User interface	Front LCD display; character menu on HyperTerminal; Extended GUI for Microsoft Windows; embedded ethernet GUI

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