ACCURION
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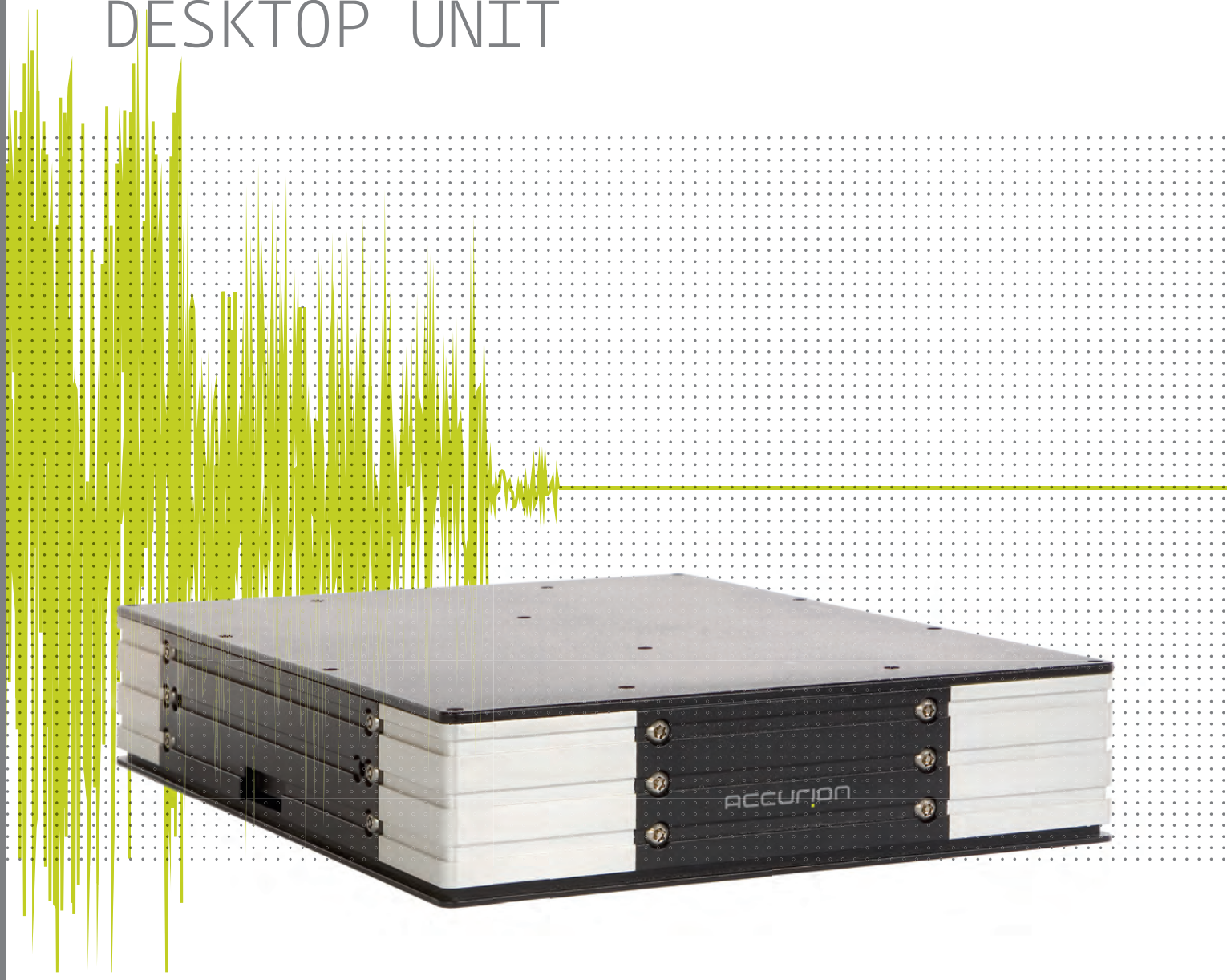
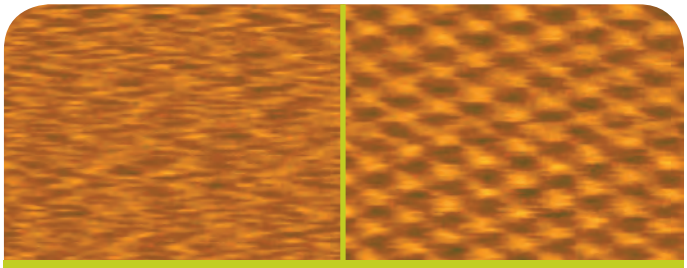
HALCYONICS_NANO

ACTIVE VIBRATION ISOLATION DESKTOP UNIT



ACTIVE VIBRATION ISOLATION DESKTOP UNIT: HALCYONICS_NANO

The **halcyonics_nano** series consists of two ultra-compact active vibration isolation systems: namely, the **Nano_20,** which is the world's smallest active isolation system, and a slightly larger version, the **Nano_30.** The **Nano** systems are designed such that they are ideal for small and light-weight applications. One very good example is the use of these with entry-level atomic force microscopes. The system does not require any load adjustment. Once the transportation lock is released, the isolator is ready to be used. No further action is required from the users.



Atomic-scale image of highly oriented pyrolytic graphite (HOPG) without and with active vibration isolation

Because of its design simplicity, the price of the **Nano** series is very affordable. In addition, the **Nano** systems have a small external controller. A major advantage of this is the isolator does not generate heat.

This is important for heat critical applications and applications that are used inside an acoustic enclosure. Potential EMC interferences coming from the electronics are minimized, as the controller can be placed away from the application.

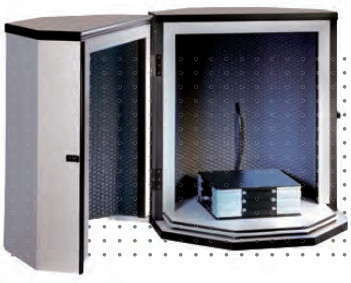
One accessory to our active vibration isolation systems are specially designed welded support frames. These frames feature a high horizontal and vertical stiffness and are the ideal basis for the optimal isolation performance of our systems. Different sizes of support frames are available to meet the requirements of our customers.

ACCESSORIES AND OPTIONS

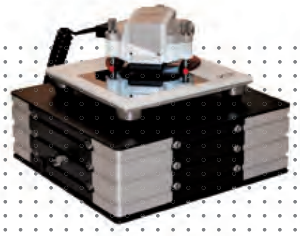
- Steel support frame
- Acoustic enclosure
- Metric mounting holes in top plate (M6 tapped holes on 25 mm centers)
- Imperial mounting holes in top plate (¼"–20 tapped holes on 1" centers)

SELECTED APPLICATIONS

Atomic Force Microscope on **Nano_20**



Nano_20 with Acoustic Enclosure_200

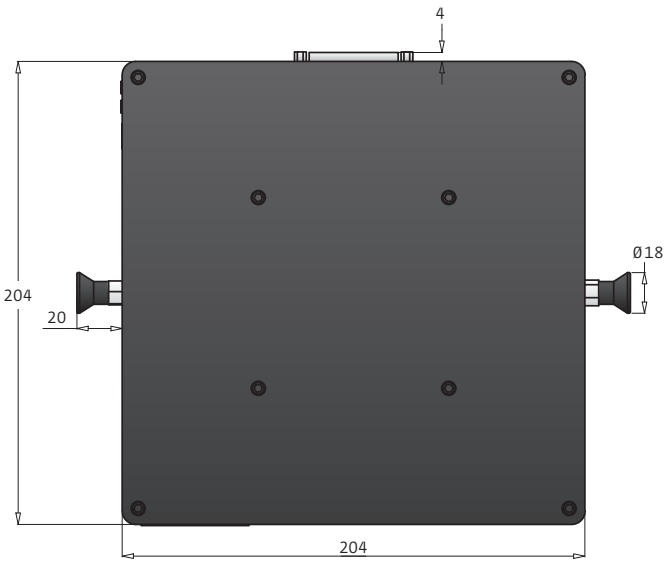


Nanosurf Mobile S on **Nano_20**

Bruker Multimode on **Nano_20**

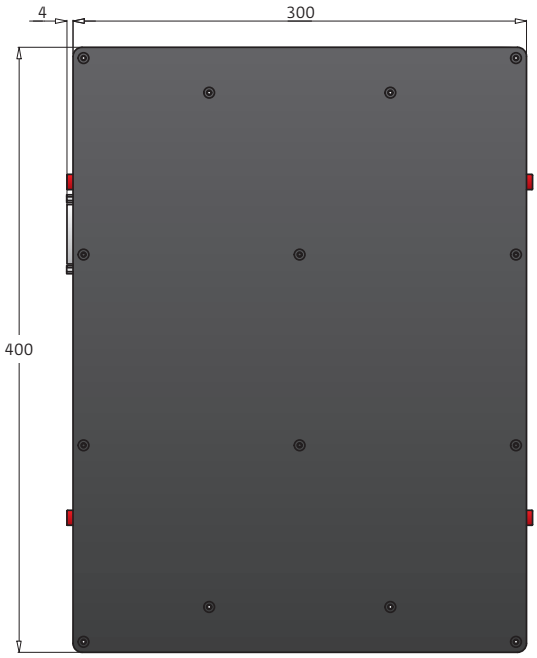
NANO_20

204 mm × 204 mm × 69 mm
8.0" × 8.0" × 2.7"



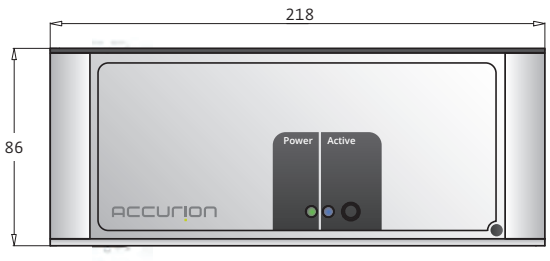
NANO_30

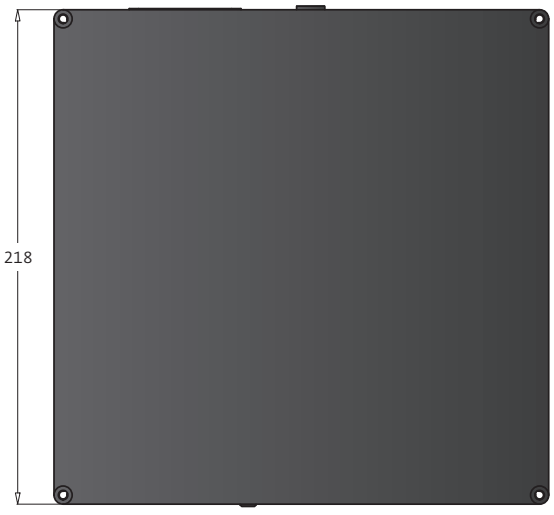
400 mm × 300 mm × 75 mm
15.7" × 11.8" × 2.9"

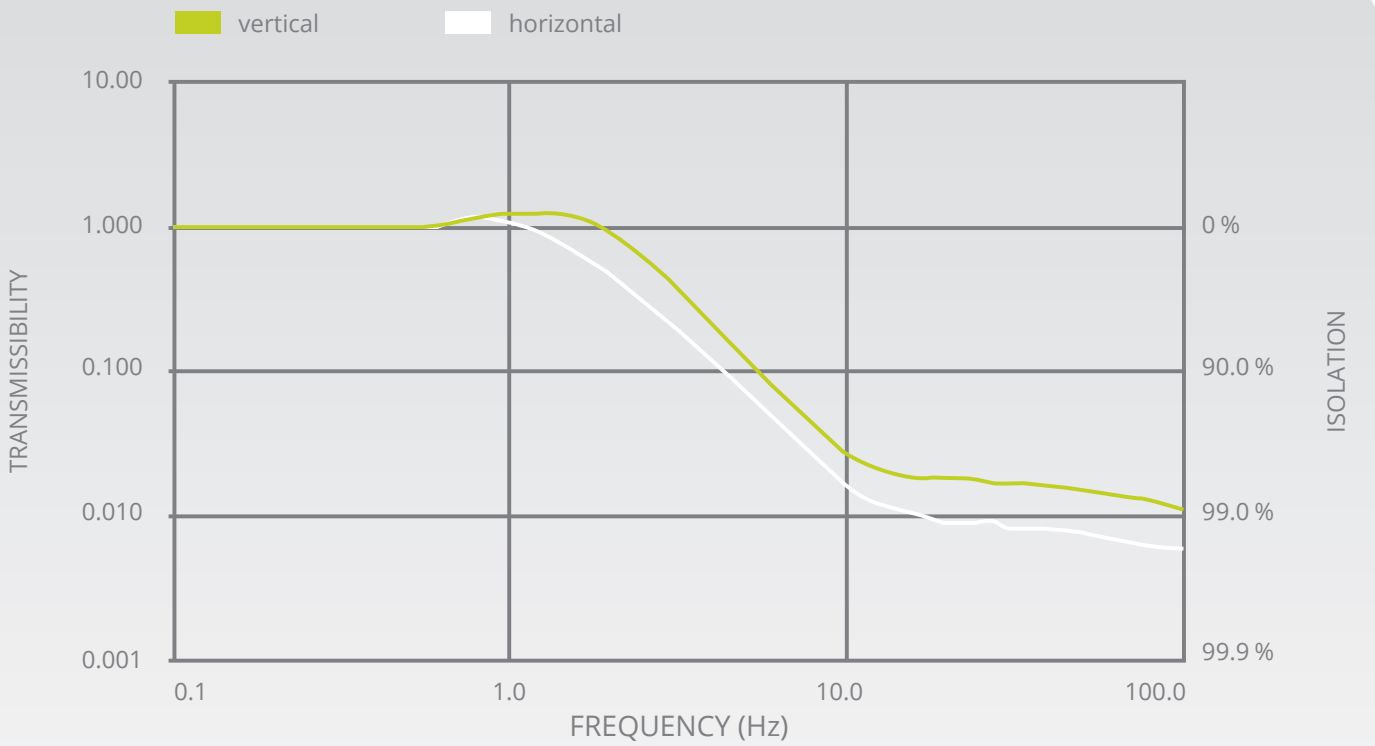


NANO_CONTROL

218 mm × 218 mm × 86 mm
8.6" × 8.6" × 3.4"







Transmission graph of the **halcyonics_nano_20** measured at a velocity of 100 µm/sec. with a payload of 8 kg (17.6 lbs).

KEY FEATURES:

- Active vibration isolation starts at 1 Hz (passive isolation above 200 Hz).
- Isolation in all six degrees of freedom.
- Ultra-compact and portable.
- External control unit.
- Easiest handling – no tuning or load adjustment required.
- Provides better vibration isolation (> 99.0 % isolation above 15 Hz) than large optical tables.
- Ideal for small and light-weight applications.
- No natural low frequency resonance and, as a result, excellent vibration characteristics also in frequency ranges below 5 Hz.
- No compressed air supply is needed, AC power from an electrical outlet is sufficient.
- Excellent position stability and stiffness.
- Two-year warranty.
- Moderate pricing.
- Long term tests and quality control procedures.

AFM Workshop TT-AFM on **Nano_30**

PLEASE CONTACT US FOR FURTHER INFORMATION!

SPECIFICATIONS	NANO_20	NANO_30
Dimensions	204 × 204 × 69 mm 8 × 8 × 2.7 inch	400 × 300 × 75 mm 15.7 × 11.8 × 2.9 inch
Load capacity	0 – 8 kg / 0 –17.6 lbs	5 – 25 kg / 11– 55 lbs or 10 – 30 kg / 22 – 66 lbs
Weight	**Isolator:** 5.6 kg / 12.6 lbs **Control Unit:** 2 kg / 4.4 lbs	**Isolator:** 11.3 kg / 24.9 lbs **Control Unit:** 2 kg / 4.4 lbs
Isolation technology	**Halcyonics_nano** control technology based on piezoelectric type acceleration pickup, fast signal processing and electro-dynamic force transducers.	
Control electronics	External control unit.	
Force directions	Active compensation in all six degrees of freedom.	
Isolation performance	> 5 Hz = 23 dB (93.0 %) > 15 Hz = 40 dB (99.0 %)	
Active bandwidth	1.0 – 200 Hz* (passive isolation beyond 200 Hz)	
Settling time	300 ms**	
Stroke of the actuator	1 mm	
Max. correction forces	Vertical ± 8 N Horizontal ± 4 N	
Max. compensation level	55 µm/sec. at 2 Hz and 8 kg / 17.6 lbs**, 350 µm/sec. at 6 Hz and 8 kg / 17.6 lbs**	
Environmental and operational requirements	Electrical voltage: 100 – 250 V~/47 – 63 Hz Power consumption: Typically 30 – 50 W Operating temperature: 16 – 40 °C / 61 – 104 °F Relative humidity: 0 – 60 % Operating altitude: < 2,500 m / 8,100 ft	
Electrical safety	CE certified according to directive 2006/95/EC	
EMC	CE certified according to directive 2004/108/EC	

*Floating table top is supported by steel springs; low-pass characteristics of spring-mass combination dominates the dynamic behaviour above 200 Hz.

**The settling time and maximum compensation level depend on several conditions, such as payload, frequency, load distribution and height of the payload. For that reason this value should be considered as an estimation.

Errors and omissions excepted.

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