



AEK-2002



The Crypt



NanoVault

## Enclosure Features Guide

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Herzan enclosures are designed to suit the most demanding applications. Developed through cooperation with instrument makers and users, Herzan enclosures possess a unique set of features which allow them to achieve the highest performance while still providing great ease of use.

Standard features of ALL Herzan enclosures include...

## PERFORMANCE

- ◆ **Eleven layers** of sound-damping material
- ◆ 30 – 50 dB of **Sound Loss** over a broad frequency spectrum
- ◆ All openable areas (doors, windows, and feedthroughs) lined with compressive gasket to provide an **air-tight seal**

## CONSTRUCTION

- ◆ **Damped Cable Clamp** eliminates parasitic noise
- ◆ Rigid frame provides **Added Stiffness**
- ◆ Front window provides **Easy Viewing**
- ◆ Precisely tuned door requires **Minimal Open and Close Force**
- ◆ **High-quality** hardware



### - Detail - NanoVault Features



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Sensitive research instruments require a quiet, stable environment to operate properly. Herzan enclosures provide an unprecedented level of sound reduction, but unfortunately acoustic noise is not the only source of environmental interference. So we have developed upgrades which provide protection from other environmental noise sources, ensuring the quietest environment possible.

## Active and Passive Vibration Isolation

In noisy environments, mechanical vibrations can cause as much difficulty as acoustic noise. Herzan offers an array of vibration isolation options. We offer Table Stable active vibration isolation systems which continually sense and damp incoming vibrations as well as inherent mechanical resonances. We also offer air- and bungee-based passive isolation systems which provide great performance at a low price. Vibration isolation systems can be added separately or integrated into an enclosure's design.



**TS Active Vibration Isolation System**

## EMI Shield

Electromagnetic interference is a common cause of instrument malfunction and decreased accuracy. Having a conductive covering for your instrument provides a high level of protection from ambient EMI fields. Herzan enclosures can be converted into totally conductive EMI shields, guarding your instrument from both EMI and acoustic noise.



**Temperature Stability Control Box**

## Temperature Stability

Temperature variation can reduce the repeatability of measurements. Throughout the day, temperatures in a laboratory can fluctuate by up to five degrees Celsius. Herzan enclosures can be outfitted with a temperature stability feature which heats the enclosure above ambient and actively maintains temperature stability to within +/- 0.2 degrees Celsius. Greater stability in your environment means higher accuracy and repeatability.

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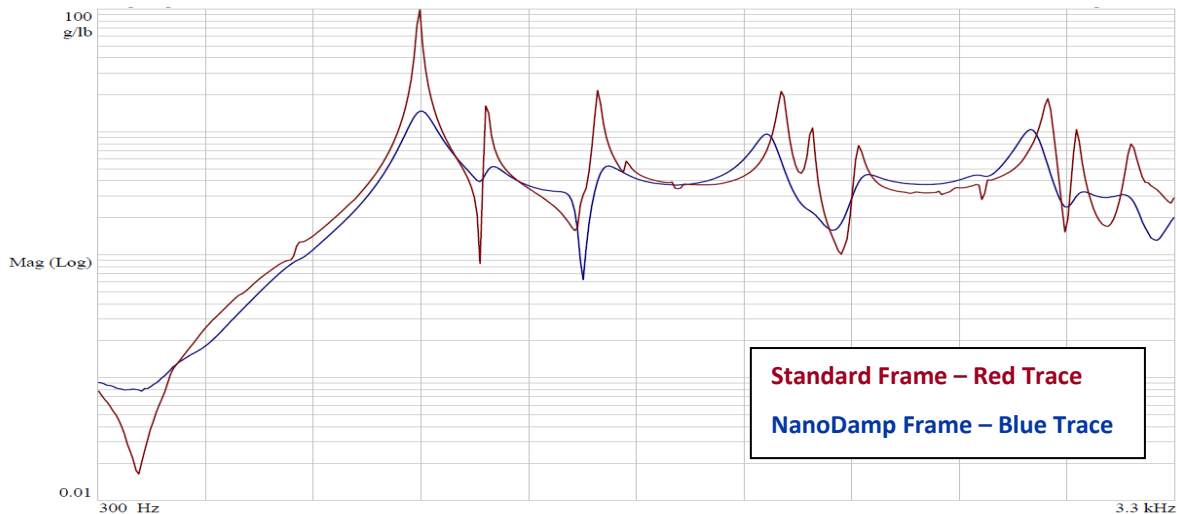


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## NanoDamp Frame

It is a sad fact of high precision research that every mechanical structure has inherent resonances. Herzan has developed a process to reduce the resonances inherent in the rigid support frame of our enclosures, called NanoDamping. By reducing the structural resonances, environmental vibrations will have less effect on the enclosed instrument. A NanoDamp frame will provide an overall quieter environment in which to conduct your precision research.



**NanoDamp Frame Response Curve**

## Performance Boost

With some design modifications and additional damping material, the already high level of damping achieved by Herzan enclosures can be boosted to achieve an ultra quiet environment. The Performance Boost can provide an additional 10 dB of sound reduction.

## Gas Purge Capability

For many biological applications, it is necessary to purge the chamber with an inert gas to remove oxygen from the environment. Herzan enclosures can be easily modified to allow for an inert gas purge of the chamber.



**Internal Gas Purge Port**

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## Automated Door

The automated door is opened and closed with the push of a button. The door can be opened and closed completely or stopped in mid-travel. This option is ideal for high throughput applications where repetitive use can cause user strain. Potential applications include data storage qualification, semiconductor research, or high volume product testing.



Automated Door Actuator

## Interior LED Lighting

To enable easy instrument viewing while the enclosure is closed, we have developed a low power LED lighting solution. LEDs provide great light quality with minimal heat dissipation. Our interior lighting solution is operated using an external switch, plugs into a standard outlet, and is easily retrofittable to installed enclosures.

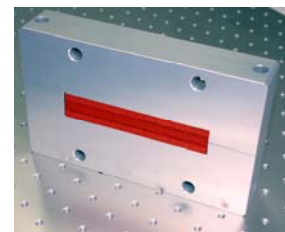
## Accessibility Options

Sometimes a front door is not enough. Additional access points can be added to Herzan enclosures to allow for easy instrument installation. Windows can be converted to openable doors for quick adjustment. Enclosure walls can be converted to removable panels for service access. An enclosure's back wall can become a new door. Let us know your accessibility requirements and we will make it happen.

## Cable Management

The easiest way to compromise an acoustic enclosure's performance is to allow parasitic vibrations to enter via instrument cables. Herzan enclosures come with specially designed cable clamps that eliminate parasitic noise without creating air gaps that would degrade sound isolation performance. Also, our clamps prevent cables from becoming messy and disorganized. Herzan offers several standard cable clamp designs.

Herzan is happy to provide custom cable management solutions which are designed specifically for your instrument's cabling requirements. Let us know what you want to accomplish and we will provide a solution.



Standard Cable Clamp

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Adding shelves to your enclosure is a great way to free up desk space. It is also an easy way to organize your instrument's controllers, hardware, and manuals. Herzan is happy to offer a number of shelving options to improve the usability of our enclosures. Some shelving solutions include:

- ◆ Controller Side Shelf
- ◆ Side-mounted Hardware Tray
- ◆ Removable Base Shelf
- ◆ Adjustable Internal Shelf
- ◆ Custom Mounting and Shelving Options



- If you have a special shelf idea or a unique requirement, please let us know -



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In addition to our popular standard enclosures, Herzan is happy to work on custom projects. As a comprehensive solutions provider, we offer design and engineering services as well as limited run production capabilities. Whether you need a one-off custom test station, an OEM enclosure to fit your instrument, or just some additional mounting holes, bring your challenge to us!

Common customizations include...

- ◆ Custom Sizes and Form Factors
- ◆ Custom Colors and Logo Application
- ◆ Mounting and Shelving
- ◆ Feedthroughs and Interlocks
- ◆ Handles and Hardware Selection
- ◆ Safety and Ergonomic Modifications



OEM Enclosure

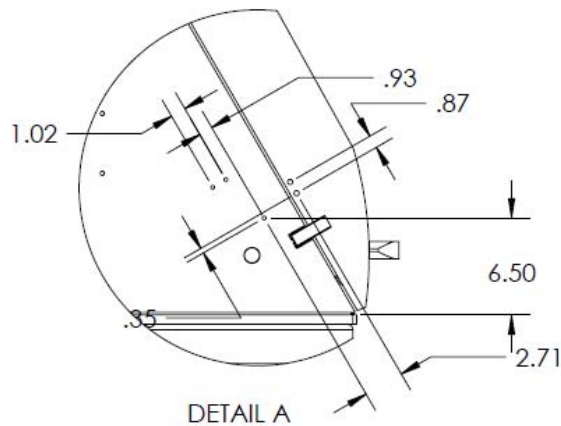
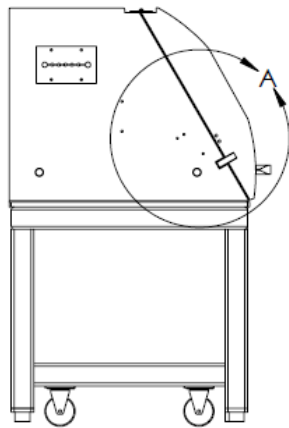


Diagram of Interlock Mount Built to Specification

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	FEATURES								
Available for...	Vibration Isolation	Temperature Stability	NanoDamp Frame	EMI Shield	Gas Purge	Performance Boost	Automated Door	Lighting	Shelving
AEK-2002	✓	✓	✓	✓	✓	✓	✓	✓	✓
NanoVault	✓	✓	✓	✓	✓	✓	✓	✓	✓
The Crypt	✓		✓	✓	✓	✓		✓	✓
Retrofittable?	✓	✓		✓	✓			✓	✓



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