



Vibration Control Technology

TOKKYOKIKI

Total Solution for Electron Microscope

Realize noise free environment by Active Vibration Isolation (AVI) System + Active Magnetic Field Canceller + Acoustic Enclosure. Tokkyokiki can offer the total solution!

Magnetic Field Fluctuation Control

Active Magnetic Field Canceller **AMC-331**

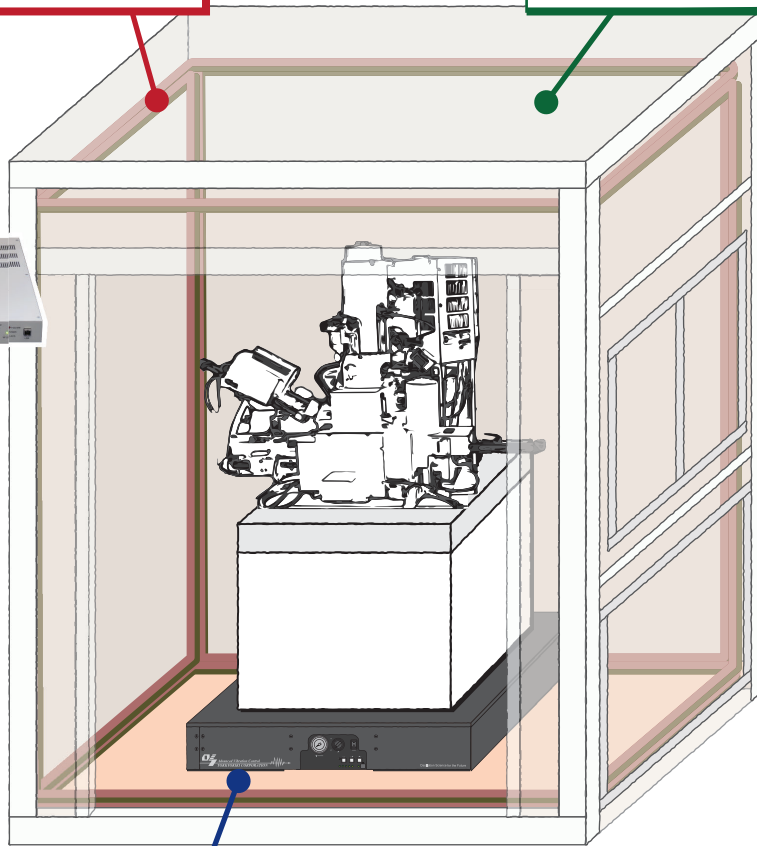
- Cancel AC and DC EMI simultaneously
- Cage (Aluminum frame) structure fitting to installation environment
- High performance, low cost, easy installation



Acoustic Control

Acoustic Enclosure **PNC series**

- Sound insulation performance of more than 20dB
- Easy installation
- High flexibility



Floor Vibration Control

Low Height AVI System **αL4X-911R1**

- Lowest possible height of 155mm which enables space saving
- Excellent isolation performance by active control
- Small air consumption



Full support from site survey, installation to tuning

- | | |
|---------------------------------------|---|
| STEP1
Site survey, Analysis | Installation environment like ground disturbance/vibration, magnetic field fluctuation and acoustic noise are measured and analyzed. |
| STEP2
Proposal | Propose optimum plan in order to maximize target tool performance. |
| STEP3
Design, Manufacturing | Pioneering company of vibration technology, Tokkyokiki has been constantly continuing reserch & development and product improvement. Tokkyokiki will propose most effective solution by its abundant technology accumulation. |
| STEP4
Installation | Tokkyokiki performs speedy installation and optimum tuning. |
| STEP5
Maintenance | Tokkyokiki will also take care of maintenance service and support. |

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■ Saving space

Lowest possible height of 155mm (floating) mitigates installation location limitation, and achieve space saving.

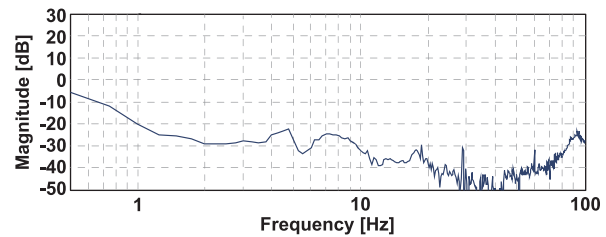
■ Excellent vibration isolation performance

Excellent vibration isolation performance from low frequency by 6DOF active control that cannot be obtained by passive isolation.

■ Small air consumption (1/10 of Tokkyokiki conventional AVI)

Thanks to small air consumption, αL4X-911R1 can normally share the CDA from the compressor for Electron Microscope's internal passive isolator.

■ Actual measurement data ※



■ Specification

Product Size : 902(W) x 1,102(D) x 152(H) (Floating155)[mm]
 Product Weight : 320 [kg]
 Loading Weight : 1,000 [kg]
 CDA Pressure : 0.6 [MPa]

Active Magnetic Field Canceller AMC-331

■ Simultaneous cancellation of AC and DC magnetic field fluctuation

Based upon frequency analysis algorithm, AMC-331 performs digital pinpoint control against multiple EMI disturbance.

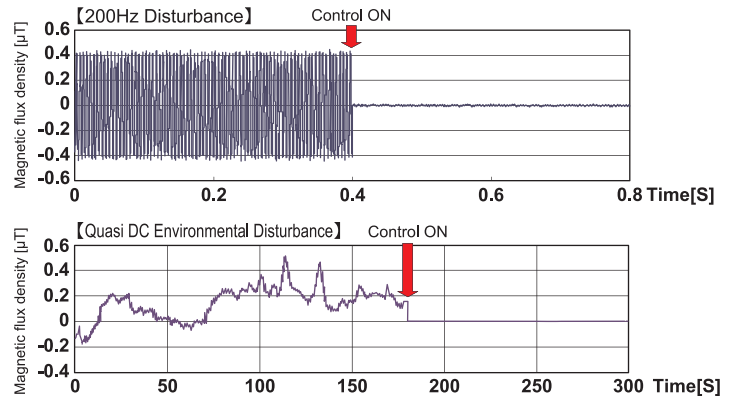
■ Cage (Aluminum frame) structure fitting to installation environment

Design the aluminum frame according to the target tool for the optimum control.

■ High performance, low cost, easy installation

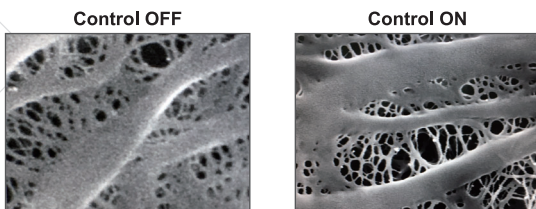
Excellent attenuation performance of max 40 to 60 dB
 Approximately 1/10 cost compare to passive EMI shield
 Easy installation just setting up Helmholtz coil cable surrounding the target tool

■ Actual measurement data ※



■ Specification

Control method : Quasi DC + Typical AC Component + Independent feedback for each axis
 Control range : ±15 [μT]
 Control frequency : Quasi DC to 1k [Hz]
 Maximum EMI attenuation : 40 to 60 [dB]



Acoustic Enclosure PNC Series

■ Excellent sound insulation performance of more than 20dB

The complex board consists of sound absorption and insulation material realizes excellent sound insulation performance from low to high frequency.

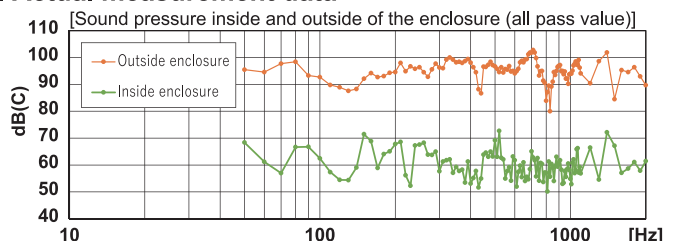
■ Easy installation

Light weight material enables easy installation without using heavy machinery.

■ Higher flexibility

Customized design is feasible according to the target tool size and installation environment.
 Installation of removable and/or open-close door offers higher maintainability.

■ Actual measurement data ※



■ Specification

Insulation Frequency : 63 ~ 2k[Hz]
 Insulation Level : 20 ~ 50[dB]
 Size : Customized (On demand)
 Option : Sirocco fan, Spot light, Power distribution panel, Sound insulation glass, Removable panel etc.

※The measurement data is reference value. The performance may change based upon actual installation condition.