

ON THE SAME WAVELENGTH  
AS OUR CUSTOMERS



**VIBRATION  
INSULATION**

**MAGNETIC FIELD  
CANCELLATION**

**ACOUSTIC  
PROTECTION**



**MAGNETIC FIELD  
CANCELLING SYSTEMS**



**ACTIVE ISOLATION  
SYSTEMS**



**VIBRATION INSULATED  
TABLE TOPS**



**ACOUSTIC ENCLOSURES  
& ROOM PROTECTION**



**VIBRATION  
INSULATED TABLES**

**YOUR PARTNER ENSURING QUALITY AND RELIABILITY IN YOUR MEASUREMENTS**

# VIBRATION INSULATION

Pneumatic insulators offered are tailored to your application, depending on the desired performance and frequencies to isolate. Vibration measurements are possible to bring you guaranteed results.

Without measurement, Vib&Tec's staff also have extensive experience in the protection of measurement instruments that are sensitive to vibration in order to offer you a suitable solution.



**FAEBI®**  
natural frequency ~3-6 Hz



**BiAir® ED**  
vertical natural frequency ~ 2,5 Hz  
horizontal natural frequency ~ 2,8 Hz



**BiAir® OC**  
vertical natural frequency ~ 2 Hz  
horizontal natural frequency ~ 2,8 Hz)



**BiAir® PAS**  
vertical natural frequency ~ 2 Hz  
horizontal natural frequency ~ 1,2 Hz



**BiAir® EDHE Max**  
vertical natural frequency ~ 1,2 Hz  
horizontal natural frequency ~ 2,8 Hz

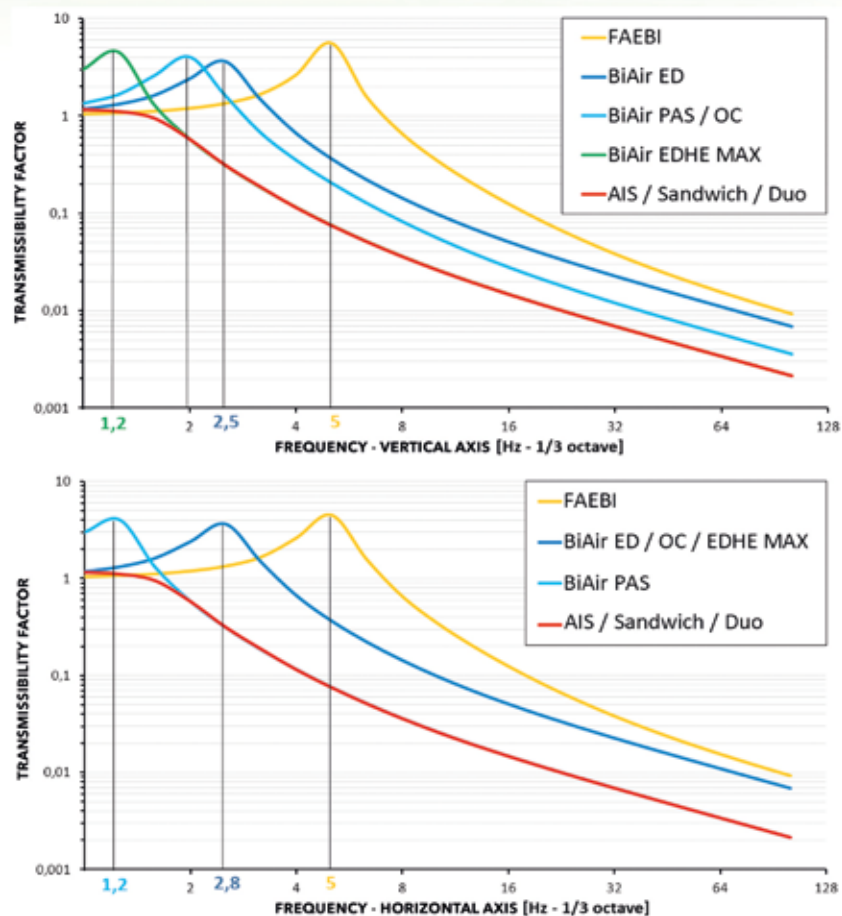


**AIS®**  
vertical natural frequency ~ 1,2 Hz  
horizontal natural frequency ~ 0,6 Hz

## TECHNOLOGY USED



Transmissibility curves from our insulators



The real natural frequency of an insulator depends on the selected model and load applied. The amplification factor at resonance depends on the damping rate.

BiAir® insulators have adjustable damping rates from 5 to 40% (patented).

## VIBRATION INSULATED TABLES

**Insulated tables** have a working surface isolated from vibrations and shocks. Pneumatic insulators protect equipment from vibrations generated by the environment (operating machines, vehicle traffic, movement of persons, slamming doors, fumes...).

Vib&Tec offers a wide range of vibration isolated tables that fit your applications, constraints and working environments, combining performance and working ergonomics. It is also possible to make most of the tables below with customized dimensions.

### LTH - GRANITE SURFACE



#### Product description

- Granite plate
- Rigid welded steel frame
- Membrane air-spring insulators in aluminum BiAir® ED / BiAir® OC / BiAir® PAS or rubber made FAEBI®
- Automatic mechanical level control (1/10 mm or 1/100 mm)
- Manometer and air filter included
- Adjustable feet
- Flexible working height (basic 760 mm)

#### Range of application

Specially designed for industrial and quality control laboratories. Ideal for instruments with high dynamics, where a mass input allows better regulation : shape controller, 3D measurement machine, rugosimeter, optical and electronic instruments, scales, medical instruments...



measurement machine, rugosimeter, optical and electronic instruments, scales, medical instruments...



## LTO - OPTICAL TABLE

### Product description

- Optical plate, honeycomb structure with stainless steel or aluminum working surface
- Smooth surface with (HDT) or without (HD) M6 tapped holes with 25 mm centers
- Rigid welded steel frame
- Membrane air-spring insulators in aluminum BiAir® ED / BiAIR® OC / BiAIR® PAS or rubber made FAEBI®
- Automatic mechanical level control (1/10 mm or 1/100 mm)
- Manometer and air filter included
- Adjustable feet
- Flexible working height (basic 760 mm)



 Bilz

### Range of application

Optical set-up, laser systems, interferometer, microscopy...

## LT-ALU - SPECIAL IMAGING



### Product description

- Plate at choice : granite, optical plate or TRESPA®
- Rigid aluminum frame
- Flexible framework for accessories integration
- Membrane air-spring insulators in aluminum BiAir® ED or rubber made FAEBI®
- Automatic mechanical level control (1/10 mm or 1/100 mm)
- Manometer and air filter included
- Adjustable feet
- Armrest and rolls included
- Accessories available : computer kit (screen support, keyboard and mouse support, computer tower holder), shelves (size and dimension at choice), joystick support, power strip
- Flexible working height (basic 780 mm)

These insulated tables were developed in collaboration with the imaging center of the institute of genetics, molecular and cellular biology (IGBMC) in Strasbourg, France, to meet the needs of researchers. These ergonomic products are customizable upon request and can evolve over time.

### Range of application

Designed for chemistry and life science laboratories, particularly for microscopy applications : upright microscope, inverted microscope, confocal microscope, spinning disk, medical device...

## LTB - SPECIAL PRECISION BALANCES

### Product description

- Light structure easy to assemble
- Granit plate mounted with rubber supports anti shocks
- Two independent rigid aluminum frames
- Disconnected working surface
- Adjustable feet

Unique model existing : working surface 800x600 mm including 450x400 mm isolated from vibrations

### Range of application

Precision balances

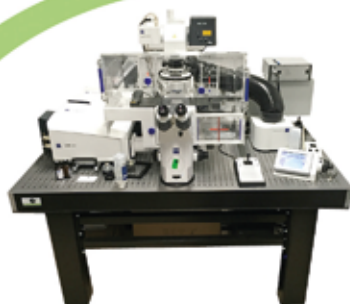


Standard sizes for insulated tables LTH, LTO and LT-ALU

in cm	60x50	80x60	90x75	100x63	120x75	120x90	150x90	200x100	240x120	300x150
LTH	X	X	X	X	X	X	X	X		
LTO	X	X	X		X	X	X	X	X	X
LT-ALU			X		X		X			

These three models also exist with custom made design at standardized price.

You don't know your vibration environment or which table to use ? Ask our laboratory application expert.



## INSULATED TABLE TOPS

**Insulated table tops** have a working surface isolated from vibrations and shocks. Coupled with insulators and positioned on a rigid frame or laboratory bench, they protect equipment from vibrations generated by the environment (operating machines, vehicle traffic, movement of persons, slamming doors, fumes...).

### ISOBAL

Insulated marble for laboratory bench or fume hood equipped with very soft rubber insulators. Effective against shock and vibration operating machines.

**Natural frequency**

~ 10 Hz / Weight : 12 kg

**Standard size**

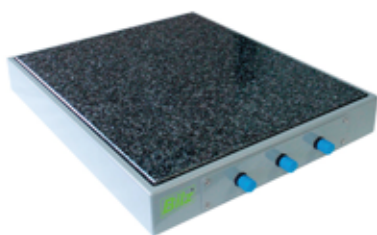
300x400 mm. Customized dimensions available upon request.

**Range of application**

Specially designed for precision balances



### VITAP F - VITAP BM



Equipped with pneumatic isolators BiAir® and automatic mechanical level control (VITAP BM) or with rubber made FAEBI® (VITAP F)

- Robust coated steel box
- Granite working surface
- Continuous supply of air required (VITAP BM, P~6 bars) or manual inflation with air pump (VITAP F, P~3 bars)

**Standard size**

500x400 mm or 600x500 mm

**Range of application**

Small measurement and control devices with load from 1 to 150kg : microscopes, profilometer, viscometer, hardness unit...

### NANO - i4

Active piezoelectric table tops designed for isolating high resolution instruments very sensitive to vibrations.

- Active isolation on 6 degrees of freedom starting from 0,6 Hz
- 99% isolation above 10 Hz
- Passive isolation above 200 Hz
- Automatic load adjustment
- Available with mounting holes in top plate (including M6 tapped holes with 25mm centers)

**Standard size**

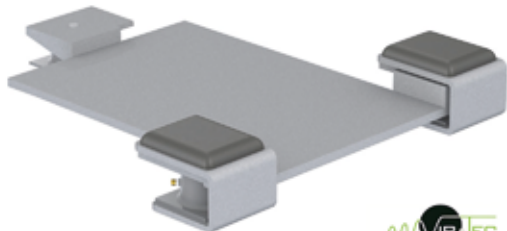
200x200 mm (Nano 20), 400x300 mm (Nano 30), 500x400 mm (i4), 700x550 mm (i4 Large)

**Range of application**

Specially designed for atomic force microscopes (AFM), optical microscopes and profilometers



### ISOSCOPE



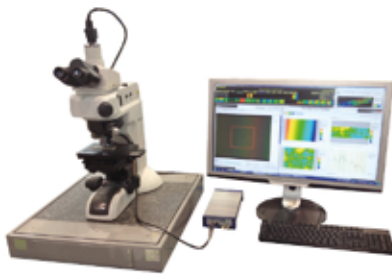
Entry-level solution equipped with FAEBI® insulators, a rigid power coated steel frame and side armrests

**Standard size**

600x550 mm

**Range of application**

Microscopes

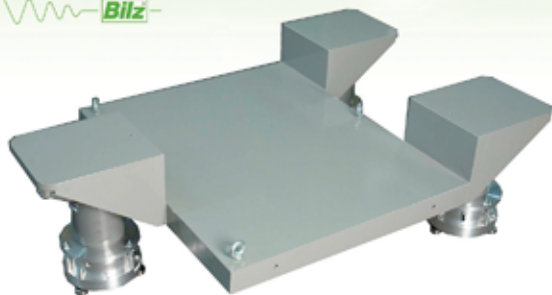




## ACTIVE ISOLATION SYSTEMS

**Active isolation systems** are based on active electro pneumatic or piezoelectric solutions that work against vibrations with efficient real time regulation. Used for the highest demands in vibration insulation, settling time and level hold.

### AIS® BILZ



- Active electro pneumatic isolation up to 6 degrees of freedom
- Isolation of very low frequencies below 2 Hz
- Automatic compensation and level adjustment in real time
- High efficiency, no amplification at resonance
- Accurate positioning of the system ( $\pm 10 \mu\text{m}$ , vertical and horizontal)
- All controllers equipped with a microprocessor that integrates ultra-precise position, pressure and acceleration sensors
- Intelligent WinSNI/WebVisu software for settings and diagnosis
- No Feedforward signal required
- No electromagnetic or calorific disturbance

#### Exist in 3 versions

- AIS 3 DOF - active on 3 degrees of freedom (vertical or horizontal)
- AIS 6 DOF - active on 6 degrees of freedom (vertical and horizontal)
- AIS 6 DOF HIGH PERFORMANCE - the most effective solution in the market

The solution proposed depends on environmental vibrations and performance requirements to achieve. It is also possible to upgrade from an existing passive BILZ BiAir® system to an active AIS® system without changing the structure.

Integration under concrete foundations or steel platforms above ground according to your installation environment.

Vib&Tec provides services for environmental vibration measurements, supply, handling and installation of these global solutions. Our expertise in this domain enables us to guarantee you achievement of the specifications of your instruments with the most suitable solution, technologically and ergonomically.

#### Range of application

Optimal vibration isolation of very high precision measurements and tests machinery (laser systems, high resolution microscopes, lithography machines...) as well as inspection or production machines in semiconductor field.

## SANDWICH & DUO

Sandwich / Duo products are alternative solutions for insulating high-precision instruments with weight lower than 1200kg

- Active isolation on 6 degrees of freedom
- Active bandwidth 1 - 200 Hz, no amplification at resonance
- Isolation  $> 5 \text{ Hz} = 25 \text{ dB}$  (94.4 %) ;  $> 10 \text{ Hz} = 35 \text{ dB}$  (98.2 %)
- Automatic load adjustment
- Direct integration below instruments

#### Standard size

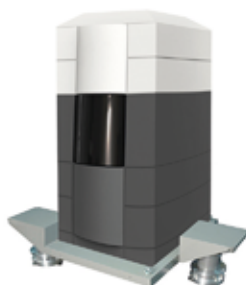
DUO : 730x210x125 mm and 1000x210x125 mm (minimum 2 elements)

SANDWICH : 800x800x130 mm, 1000x800x130 mm and 1000x900x130 mm

Customized sizes available for instruments with complex geometry or higher weight

#### Range of application

Electron microscope (SEM, TEM, FIB), scanning probe microscope (STM), ...



# ACOUSTIC ISOLATION

Thanks to many partners specialized in acoustic isolation, Vib&Tec is able to offer you effective solutions to acoustic problems. Dimensions and ergonomics are defined in association with your needs and layout constraints. The index of sound insulation and overall performance can be adapted to the type of experiment performed.

Our high quality solutions for the absorption of sound energy are characterized by a maximum sound isolation and mitigation of airborne and structure-borne noise.

Two solutions are available for protecting an instrument or a room from internal or external acoustic disturbance :

- Acoustic enclosures
- Insulation of entire rooms

## ACOUSTIC ENCLOSURES



### Product description

Broadband damping of acoustic noise through multi-layer wall construction : organic fiber walls and insulating foam inside, melamine resin surface outside.

### Standard internal size

from 350x350x415 mm to 950x750x940 mm

Wide range of customization available : cable port, holes, open or closed base, customized dimensions, integration to an existing working surface.

It is also possible to make a complete table mounted with welded steel frame, integrate our insulated table tops or couple acoustic enclosures with our insulated tables.

### Range of application

Protection of small measurement instruments sensitive to acoustic noise : AFM, optical assembly, acoustic microscopes, ...

## ENTIRE ROOMS ISOLATION

Vib&Tec acoustic elements provide optimized acoustics and insulation of airborne noise for offices, industrial buildings, laboratories and test cells.

We provide expertise for protecting electron microscopes (SEM, TEM), scanning probe microscopes (STM) or any other high resolution instruments sensitive to acoustic noise.

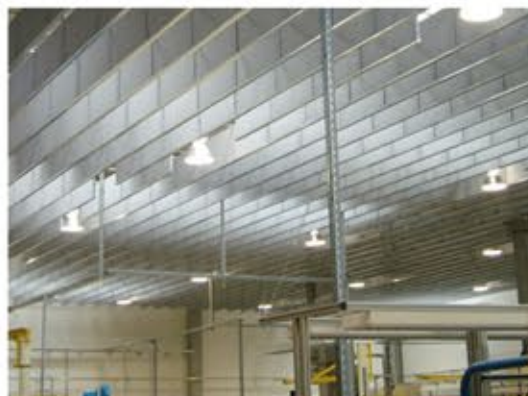
Solutions are tailored according to your working environment and technical requirements to achieve. Vib&Tec offers guaranteed solutions for your projects (new building or existing room).

Our acoustic elements are available in various versions to match individual requirements such as wall elements, ceiling sails, enclosures, ...

Our delivery range also includes impact resistant, non-flammable materials (class A2 according to DIN 4102) to suit the particular application.

The material can also be color dyed or covered with printable fabric on request.

**You don't know acoustic environment around your room or which material to use ?  
Ask us for an expertise**





# MAGNETIC FIELD CANCELLATION

This **active cancellation system** operates on the principle of a Helmholtz cage containing six loops positioned in three axes. Magnetic field cancellation is performed by continuously generating real-time opposite fields, allowing improved image quality and reduced noise.

Active magnetic field cancelling system MR3 STEFAN MAYER provides great reliability with robust analog design, easy programming without crashes. Magnetic fields are measured with a three axes low noise sensor. Its interface contains electronic controllers as well as power amplifiers directly connected to the compensating coils. More than 500 MR-3 systems sold worldwide.

Two ways of installation are available :

- A local isolation with aluminum cage around the instrument
- A global isolation of a room (full or partial)

## Product description

- Continuous real time compensation of quasi-static DC and AC magnetic field disturbances in all three axes
- Frequency range from DC to 1 kHz (up to 10 kHz for MR3 FAST)
- Magnetic field sensor with sub-nanotesla resolution
- Typical 40 dB attenuation at 50 / 60 Hz
- Typical 20 dB attenuation at 250 / 300 Hz
- Digital display of the magnetic field value (with or without compensation)
- Analogic display of the real time cancellation
- Alarm functions (audible and visual)

For the most demanding requirements we offer a complete test system with integrated coils in a self-supporting frame which can be positioned directly around existing microscopes.

## Range of application

MR3 cancelling systems are intended for electron microscopes (SEM, TEM), ion beam experiments (FIB), electron lithography, nanotechnology, biomagnetic investigations, magnetic resonance imaging (MRI).

## Sources of interference

- Power lines
- Trams / Subways
- Trucks
- Elevators
- Operating machines
- Air-conditioning
- Etc.

You don't know magnetic field levels in your room ? Ask us for an expertise.

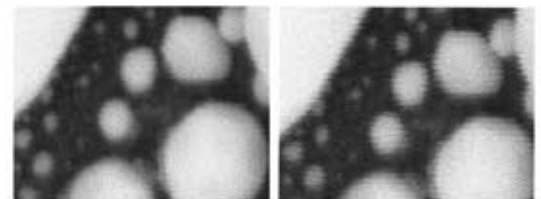
Possibility to run tests with our mobile structure on already installed microscopes with imaging problems.

Possibility to measure magnetic fields in your environment.



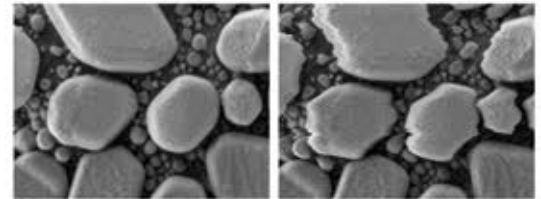
Compensateur 3 axes MR-3

Stefan Mayer Instruments  
Fluxgate Magnetometers & more

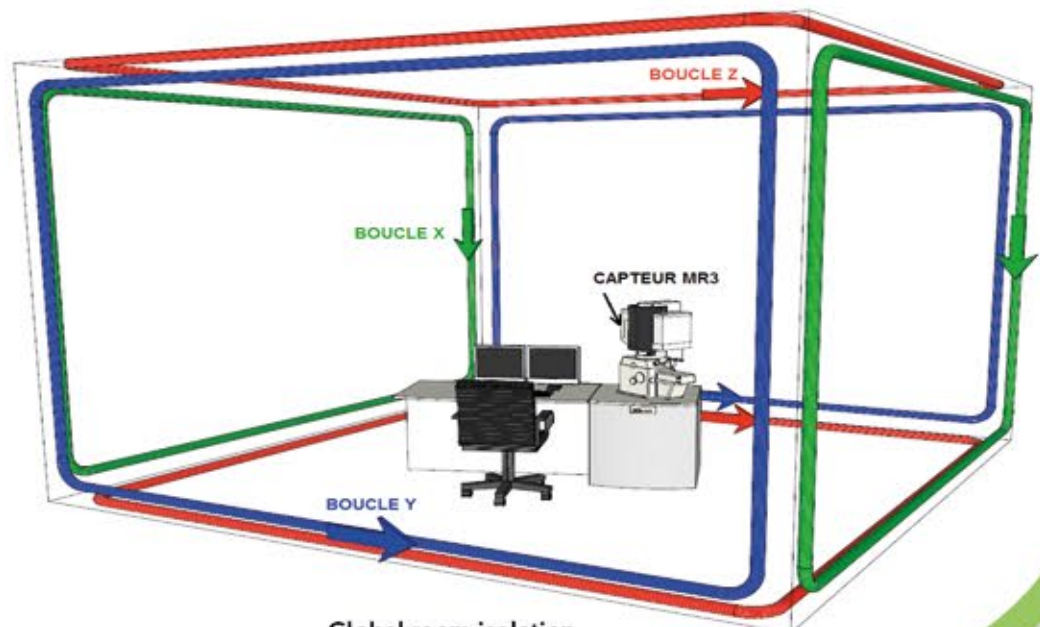


MR3 ON

MR3 OFF



Local isolation



Global room isolation





IT IS ALSO...



## VIBRATION & MAGNETIC FIELD MEASUREMENT

Diagnosis and recommendations



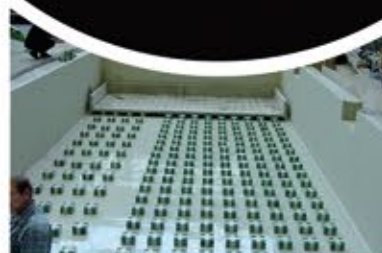
## INSTALLATION & AFTER-SALES SERVICE

Receipt of material

Validation tests

Users training

Helpline



## VIBRATION ISOLATED FOUNDATIONS

Pneumatic technology or insulation plate

Isolated concrete bloc or welded steel frame



## INTEGRATION IN SAFETY SURROUNDINGS

Clean-rooms

Laboratory bench integration



## ENGINEERING & DESIGN

Calculations and dynamic simulation

Custom design

Direct integration to instruments



## HANDLING

Project management

TEAM VIB&TEC WILL BE YOUR PARTNER  
IN EVERY STEP OF YOUR PROJECT



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