Besides natural magnetic fields that exist everywhere in the universe, the majority of problems encountered when operating sensitive devices arise from low-frequency magnetic fields that are caused by human activities, such as those emanating from electrical power cables, railways vehicles, elevators, etc. These fields occur as soon as electricity flows through a conductor. Without suitable shielding, they expand outwards in a circular form and are quite capable of passing through most materials unhindered.

Magnetic field compensation has established itself as the most cost-effective solution. With this method the magnetic field is continuously measured and a compensation device, which includes the necessary control electronics and power amplifier for the direct connection of compensation coils, generates an opposing field. The compensation coils can be made of coiled cables that are laid at the edges of the laboratory, or as a complete solution integrated in a self-supporting aluminium frame.

Applications
- Image enhancement in electron microscopy (REM and TEM)
- Biomagnetic applications
- Compensation of mains frequencies (50/60 Hz) and harmonic waves
- Suppression of slow and stepped magnetic fields caused by vehicles, moving magnetic objects, elevators, etc.
- A special version for MRI applications is available

- 3 axis automatic real-time compensation of low frequency magnetic field disturbance
- Frequency range DC to 1,000 Hz (1kHz)
- Fluxgate magnetic field sensor with sub Nano Tesla resolution
- Controller mode: AC, DC, AC+DC
- 40 db typical suppression of 50 Hz disturbance
- Compensation coil connection capability
- Measured value and alarm display

For further information about our products and installation services please call to arrange a personal consultation.
Vibration insulated tables

Individually tailored to your requirements.
**LTH laboratory table**
Particularly robust and resistant, dynamic applications

**Product properties**
- Adjustable table feet
- Rigid, welded steel subframe
- BiAir® membrane air spring (vertical natural frequency approximately 3 Hz) between the subframe and table top
- Mechanical-pneumatic level control
  (level accuracy ± 1/100 mm or ± 1/10 mm, depending on the valve used)
- Table top made from hard stone with a ground finish
- Painting as desired by the customer
- Standard colour: RAL 9005
- Working height 760 mm

**Applications**
- Vibration-sensitive measuring and testing equipment
- Laser equipment
- Optical and electronic instruments
- Scales
- Medical instruments

**Technology**
The Bilz laboratory table LTH is a vibration insulated work place and can be used for all applications where vibrations and/or changes in level cause sustained disturbances to the experiment or work.

Disturbing vibrations from the environment are isolated by means of highly effective membrane air spring insulators and the solid hard stone plate.

At the same time the mechanical-pneumatic level control automatically ensures that the level is retained to an accuracy of up to ±1/100 mm even with load changes.

The maintenance unit for compressed-air conditioning is included.

**LTH LABORATORY TABLE STANDARD SIZES**

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>LTH 60-50</th>
<th>LTH 80-60</th>
<th>LTH 100-63</th>
<th>LTH 90-75</th>
<th>LTH 100-80</th>
<th>LTH 100-100</th>
<th>LTH 120-80</th>
<th>LTH 150-100</th>
<th>LTH 200-100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width [mm]</td>
<td>600</td>
<td>800</td>
<td>1,000</td>
<td>900</td>
<td>1,000</td>
<td>1,000</td>
<td>1,200</td>
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<tr>
<td>Depth [mm]</td>
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<td>650</td>
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<td>800</td>
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<td>1,000</td>
<td>1,000</td>
</tr>
<tr>
<td>Thickness table top [mm]</td>
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<td>120</td>
<td>100</td>
<td>100</td>
<td>140</td>
<td>160</td>
<td>160</td>
<td>190</td>
<td>220</td>
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<tr>
<td>max. Load [N]†</td>
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<td>2,500</td>
<td>3,200</td>
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<td>7,000</td>
<td>7,000</td>
<td>18,000</td>
<td>28,000</td>
</tr>
</tbody>
</table>

† At centric load

Further dimensions are available on request

Right to make technical changes is reserved.
**LTH**-Laboratory tables with BiAir® OC

**Static applications**

**Product properties**
- As LTH (see p. 69)
- Table top from hard stone with ground finish
- Design with membrane air spring insulators BiAir® OC between table top and subframe
- Also available with optical tops as an option (see p. 72)
- Working height 760 mm

**Technology**

Due to their increased air volume the newly-developed BiAir® OC air springs achieve a reduced natural frequency of approximately 2 Hz in the vertical plane. The laboratory tables with BiAir® OC air springs are suitable for applications with lower dynamics that require an excellent insulation effect.

**Applications**

- Vibration-sensitive measuring and testing equipment e.g. atomic force microscopes (AFM), interferometer

---

**LTH LABORATORY TABLES WITH BIAIR® OC STANDARD SIZES**

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>LTH 60-50-OC</th>
<th>LTH 80-60-OC</th>
<th>LTH 100-63-OC</th>
<th>LTH 90-75-OC</th>
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<th>LTH 120-80-OC</th>
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<td>7,000</td>
<td>7,000</td>
</tr>
</tbody>
</table>

* At centric load

OC = one chamber

Right to make technical changes is reserved.
LTH-Laboratory tables with BiAir® PAS

Static applications

**Product properties**
- As LTH (see p. 69)
- Table top from hard stone with ground finish
- Design with pendulum suspended membrane air spring insulators BiAir® between table top and subframe
- Also available with optical tops as an option (see p. 72)
- Working height 760 mm

**Technology**
Newly developed pendulum suspended BiAir® PAS air springs achieve a reduced vertical natural frequency due to their increased air volume and also have reduced natural frequency in the horizontal plane due to their pendulum suspension arrangement. This enables the laboratory table with pendulum air springs to reach a natural frequency of approximately 2 Hz in the vertical plane and approximately 1.2 Hz in the horizontal plane. The laboratory table with pendulum air springs is suitable for applications with low dynamics and higher requirements for vibration insulation in both the vertical and horizontal planes.

**Applications**
- Vibration-sensitive measuring and testing equipment e.g. atomic force microscopes (AFM), interferometers

**LTH LABORATORY TABLES WITH BIAIR® PAS STANDARD SIZES**

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>LTH 60-50-PAS</th>
<th>LTH 80-60-PAS</th>
<th>LTH 100-63-PAS</th>
<th>LTH 90-75-PAS</th>
<th>LTH 100-80-PAS</th>
<th>LTH 100-100-PAS</th>
<th>LTH 120-80-PAS</th>
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</thead>
<tbody>
<tr>
<td>Width [mm]</td>
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<td>1,000</td>
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<td>3,200</td>
<td>7,000</td>
<td>7,000</td>
<td>7,000</td>
</tr>
</tbody>
</table>

* At centric load
PAS = pendulum air spring

Subframe of a laboratory table with BiAir® PAS and LCV level control
**LTO optical table**
Excellent quality and functionality

**Product properties**
- As LTH (see p. 69)
- Optical table tops:
  - HD steel honeycomb core with high natural damping, cover plate without thread insert
  - HDT as HD, but with thread inserts
- Variants: Standard, clean room (base plate in stainless steel)
- Also available with BiAir® OC as an option (see p. 70)
- Working height 760 mm

**Applications**
- Construction of laser optical systems and interferometers
- Special microscopes

**Technology**
Work places from Bilz are distinguished by their excellent quality and functionality. Optical work places should offer optimum rigidity and damping with low density. Bilz LTO honeycomb tops are optimised in regard to their damping response so that the usual high resonance amplitude in the higher frequency range are attenuated by the tables in the HD series by their natural damping.

**Description of the table tops:**
- **Cover plate:** Stainless steel 3 mm, magnetic or non-magnetic, anti-reflective.
- **Base plate:** Steel sheet 3 mm
- **Clamping hole grid:** 25 mm (standard)
- **Core:** HD/HDT: Steel honeycomb made of galvanised 0.5 mm steel sheet, precision formed, bonded with specifically matched resin
- **Thread inserts (HDT):** Floating mounted threaded inserts M6, closed sleeves prevent any contact with the table core. Capability to displace the clamping bolts by 0.5 mm whilst simultaneously inclining by ±3°. Maximum depth of thread 30 mm.

**LTO OPTICAL TABLE STANDARD SIZES**

<table>
<thead>
<tr>
<th>Dynamic application</th>
<th>LTO 90-75</th>
<th>LTO 120-60</th>
<th>LTO 150-90</th>
<th>LTO 200-100</th>
<th>LTO 240-120</th>
<th>LTO 300-150</th>
</tr>
</thead>
<tbody>
<tr>
<td>Static application</td>
<td>LTO 90-75-PAS</td>
<td>LTO 120-60-PAS</td>
<td>LTO 150-90-PAS</td>
<td>LTO 200-100-PAS</td>
<td>LTO 240-120-PAS</td>
<td>LTO 300-150-PAS</td>
</tr>
<tr>
<td>Width [mm]</td>
<td>900</td>
<td>1,200</td>
<td>1,500</td>
<td>2,000</td>
<td>2,400</td>
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<tr>
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<td>600</td>
<td>900</td>
<td>1,000</td>
<td>1,200</td>
<td>1,500</td>
</tr>
<tr>
<td>Thickness table top [mm]</td>
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<td>100</td>
<td>200</td>
<td>200</td>
<td>300</td>
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<tr>
<td>max. Load [N]*</td>
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<td>5,000</td>
<td>5,000</td>
<td>7,500</td>
<td>7,500</td>
</tr>
</tbody>
</table>

* At centric load

Further dimensions are available on request.

Right to make technical changes is reserved.
Compile the equipment features for the optimum laboratory table for your application:

- Additional holes/threads in the table top and the subframe
- Special sizes on request
- Can be equipped with metal guide rails on request

**Options**

Different frames in standard or special sizes

- Cover hood
- Arm rest

Differents materials (wood, metal) and colors for:
  - Doors
  - Base plates/inserted plates
  - Housing

Wooden plate:
  - Differents sizes
  - Cutout
  - Rounded corners

**Insulators**

- Level control (mechanical or electronic)
- Accessories (e.g. compressed-air control)
- Insulators perfectly integrated in the subframe

**Subframe**

Levelling elements and rollers are available in various different designs and sizes.
BILZ-VITAP® Vibration insulating table platform

Product properties
- Portable, robust, powder coated metal housing with integrated Bilz rubber air springs FAEBI® or optionally with Bilz membrane air springs BiAir®, colour: RAL 7037, dusty grey
- Equipped with very simple through to very convenient Bilz level control systems
- A ground-finished hard stone plate lies on the insulators as a support base and solid base mass
- Available with and without a connection to an external compressed air supply

Applications
- For very light and very small measuring or test equipment
- Weight range up to 200 kg
- Optical devices, optical microscopes, microscopes with a CCD camera, inspection microscopes, small surface roughness and roundness measuring equipment, hardness testers, analytical balances, applications in industrial production environments, laboratories and measuring rooms up to clean rooms. Also suitable for the portable use of these measuring devices.

TECHNICAL DATA VITAP®-F, VITAP®-FP, VITAP®-BM

<table>
<thead>
<tr>
<th>Item no.</th>
<th>Dimensions mm Platform box</th>
<th>Dimensions mm Installation surface</th>
<th>Height mm</th>
<th>Load capacity N</th>
<th>Natural frequency Hz</th>
<th>Compressed air supply</th>
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<tbody>
<tr>
<td>VITAP®-F 50-40</td>
<td>56-0008</td>
<td>540 x 440</td>
<td>500 x 400</td>
<td>99 +/-1.5</td>
<td>600</td>
<td>4.5 – 6</td>
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<td>VITAP®-F 60-50</td>
<td>56-0009</td>
<td>640 x 540</td>
<td>600 x 500</td>
<td>99 +/-1.5</td>
<td>1,300</td>
<td>4.5 – 6</td>
</tr>
<tr>
<td>VITAP®-FP 50-40</td>
<td>56-0010</td>
<td>540 x 440</td>
<td>500 x 400</td>
<td>99 +/-1.5</td>
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<td>4.5 – 6</td>
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<tr>
<td>VITAP®-FP 60-50</td>
<td>56-0011</td>
<td>640 x 540</td>
<td>600 x 500</td>
<td>99 +/-1.5</td>
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<td>500 x 400</td>
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<td>500 x 400</td>
<td>95 +/-1.5</td>
<td>1,500</td>
<td>2.5 – 3</td>
</tr>
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<td>1,500</td>
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<td>56-0003</td>
<td>640 x 540</td>
<td>600 x 500</td>
<td>95 +/-1.5</td>
<td>2,000</td>
<td>2.5 – 3</td>
</tr>
</tbody>
</table>

Right to make technical changes is reserved.