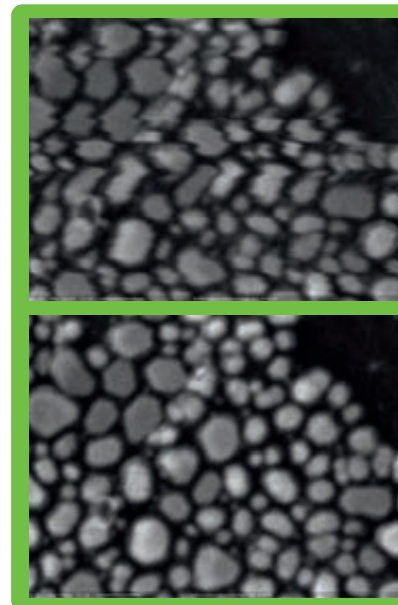


Besides natural magnetic fields that exist everywhere in the universe, the majority of problems encountered when operating sensitive devices arise from low-frequency magnetic fields that are caused by human activities, such as those emanating from electrical power cables, railways vehicles, elevators, 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



REM image without (above) and with (below) magnetic field compensation



Bilz magnetic field compensation system

- 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



Bilz magnetic field compensation using room coils

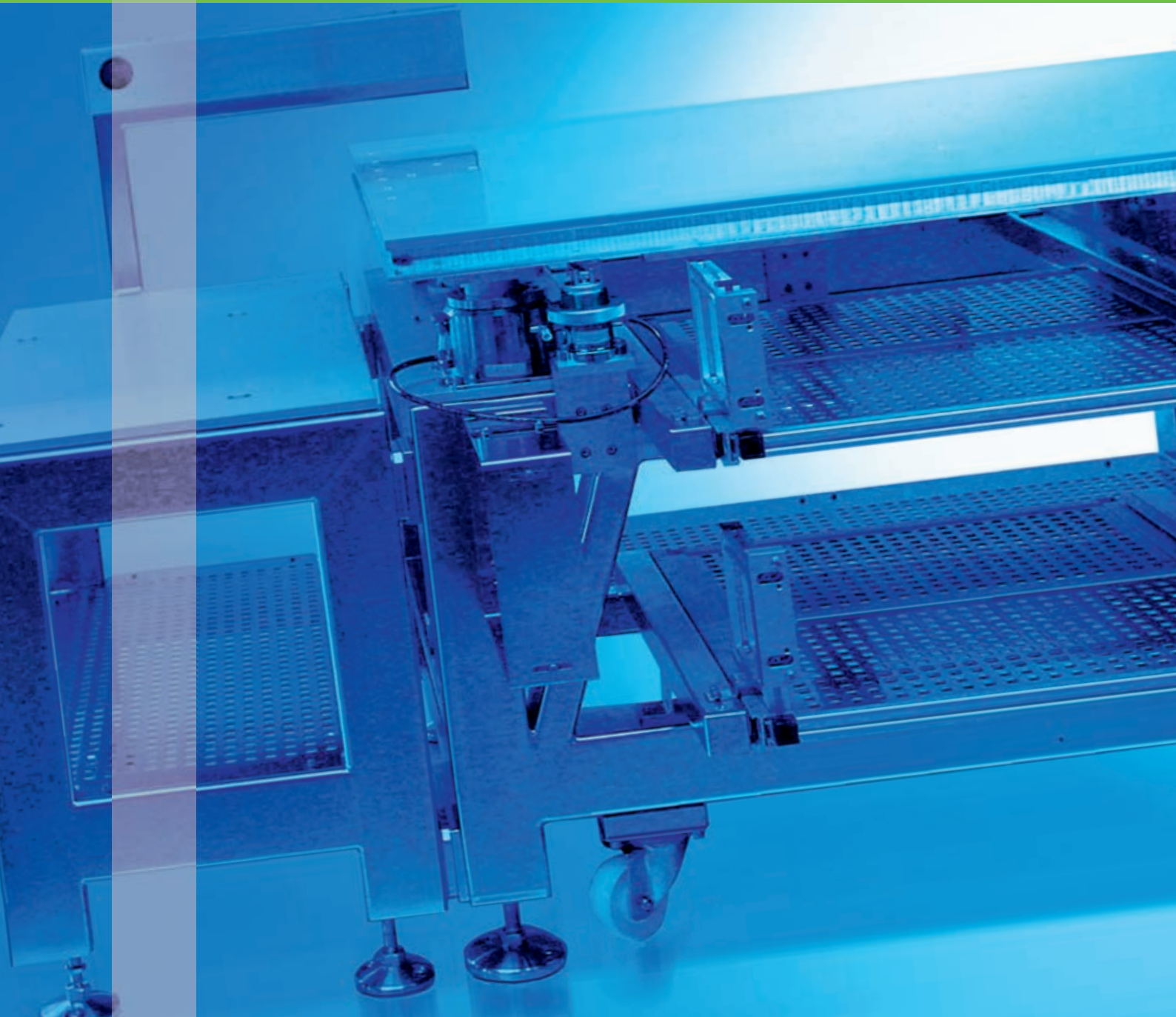


Integrated coil frame from Bilz for magnetic field compensation

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  $\pm 1/100$  mm or  $\pm 1/10$  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  $\pm 1/100$  mm even with load changes.

The maintenance unit for compressed-air conditioning is included.

### LTH LABORATORY TABLE STANDARD SIZES

Dimensions	LTH 60-50	LTH 80-60	LTH 100-63	LTH 90-75	LTH 100-80	LTH 100-100	LTH 120-80	LTH 150-100	LTH 200-100
Width [mm]	600	800	1,000	900	1,000	1,000	1,200	1,500	2,000
Depth [mm]	500	600	630	750	800	1,000	800	1,000	1,000
Thickness table top [mm]	100	120	100	100	140	160	160	190	220
max. Load [N]*	2,500	2,500	3,200	3,200	7,000	7,000	7,000	18,000	28,000

\* At centric load





## 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

Dimensions	LTH 60-50-OC	LTH 80-60-OC	LTH 100-63-OC	LTH 90-75-OC	LTH 100-80-OC	LTH 100-100-OC	LTH 120-80-OC
Width [mm]	600	800	1,000	900	1,000	1,000	1,200
Depth [mm]	500	600	630	750	800	1,000	800
Thickness table top [mm]	100	120	100	100	140	160	160
max. Load [N]*	2,500	2,500	3,200	3,200	7,000	7,000	7,000

\* At centric load

OC = one chamber

# 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

Dimensions	LTH 60-50-PAS	LTH 80-60-PAS	LTH 100-63-PAS	LTH 90-75-PAS	LTH 100-80-PAS	LTH 100-100-PAS	LTH 120-80-PAS
Width [mm]	600	800	1,000	900	1,000	1,000	1,200
Depth [mm]	500	600	630	750	800	1,000	800
Thickness table top [mm]	100	120	100	100	140	160	160
max. Load [N]*	2,500	2,500	3,200	3,200	7,000	7,000	7,000

\* 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

### 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 $\pm 3^\circ$ . Maximum depth of thread 30 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.



### LTO OPTICAL TABLE STANDARD SIZES

Dynamic application	LTO 90-75	LTO 120-60	LTO 150-90	LTO 200-100	LTO 240-120	LTO 300-150
Static application	LTO 90-75-PAS	LTO 120-60-PAS	LTO 150-90-PAS	LTO 200-100-PAS	LTO 240-120-PAS	LTO 300-150-PAS
Width [mm]	900	1,200	1,500	2,000	2,400	3,000
Depth [mm]	750	600	900	1,000	1,200	1,500
Thickness table top [mm]	100	100	100	200	200	300
max. Load [N]*	2,000	3,000	5,000	5,000	7,500	7,500

\* At centric load

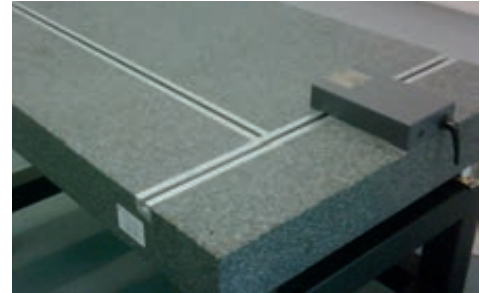
Further dimensions are available on request.

Right to make technical changes is reserved.

## Individual design

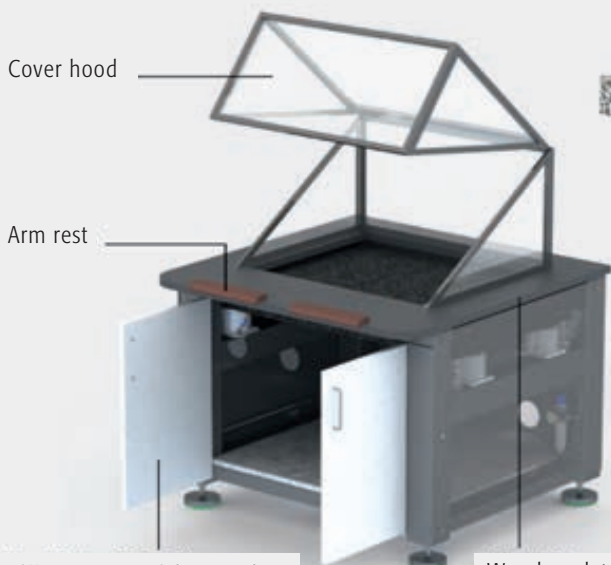
Compile the equipment features for the optimum laboratory table for your application:

- 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



Different materials (wood, metal) and colors for:

- Doors
- Base plates/inserted plates
- Housing

Wooden plate:

- Different sizes
- Cutout
- Rounded corners



Powder coating in RAL colors

### Insulators

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



BiAir®



FAEBI®

### Subframe

Levelling elements and rollers are available in various different designs and sizes.



## BILZ-VITAP® Vibration insulating table platform

### Product properties

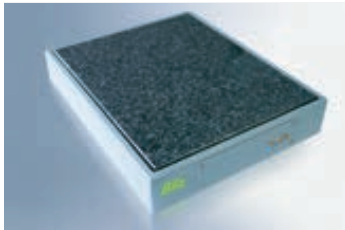
- Portable, robust, powder coated metal housing with integrated Bilz rubber air springs FAEBI® or optionally with Bilz membrane air springs BiAir®; colour: RAL 7037, dusty grey
- Equipped with very simple through to very convenient Bilz level control systems
- A ground-finished hard stone plate lies 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.

### VITAP®-F

With long-term tried and tested Bilz FAEBI® rubber air springs with non-return valve. Integrated hand pump, no compressed air supply necessary.



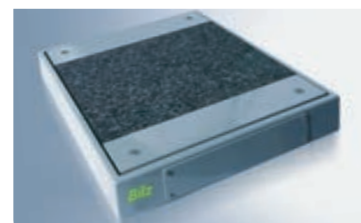
### VITAP®-FP

With long-term tried and tested Bilz FAEBI® rubber air springs with precision pressure control for convenient height adjustment. Connection to an external compressed air supply.



### VITAP®-BM

With highly efficient Bilz BiAir® membrane air springs and with mechanical-pneumatic level control (MPN) with automatic level compensation in response to load changes. Connection to an external compressed air supply.



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

	Item no..	Dimensions mm Platform box	Dimensions mm Installation surface	Height mm	Load capacity N	Natural frequency Hz	Compressed air supply
VITAP®-F 50-40	56-0008	540 x 440	500 x 400	99 +/-1.5	600	4.5 – 6	autonomous/air pump
VITAP®-F 60-50	56-0009	640 x 540	600 x 500	99 +/-1.5	1,300	4.5 – 6	autonomous/air pump
VITAP®-FP 50-40	56-0010	540 x 440	500 x 400	99 +/-1.5	600	4.5 – 6	4 bar/air pressure network
VITAP®-FP 60-50	56-0011	640 x 540	600 x 500	99 +/-1.5	1,300	4.5 – 6	4 bar/air pressure network
VITAP®-BM 50-40a	56-0006	540 x 440	500 x 400	95 +/-1.5	750	2.5 – 3	6 bar/air pressure network
VITAP®-BM 50-40b	56-0005	540 x 440	500 x 400	95 +/-1.5	1,500	2.5 – 3	6 bar/air pressure network
VITAP®-BM 60-50a	56-0002	640 x 540	600 x 500	95 +/-1.5	1,500	2.5 – 3	6 bar/air pressure network
VITAP®-BM 60-50b	56-0003	640 x 540	600 x 500	95 +/-1.5	2,000	2.5 – 3	6 bar/air pressure network

Right to make technical changes is reserved.

