

Your expert for
vibration insulation and
machine installation
technology

GOOD VIBRATIONS

AT BILZ VIBRATION TECHNOLOGY AG, WE ARE EXPERTS IN VIBRATION INSULATION FOR INDUSTRY AND RESEARCH. THERE IS BARELY ANY VIBRATION ENGINEERING PROBLEM THAT WE CANNOT SOLVE.

OUR COMPANY HISTORY

1985

Company is established

1989

Creation of a world-wide distribution network with its first branches in France, Austria, Switzerland, Taiwan, Korea and the USA

1995

Move to the current company headquarters at Böblinger Straße 25 in Leonberg

2006

Change to public limited company

WE WORK FOR THESE INDUSTRIES

- ✓ Machinery / plant construction
- ✓ Industrial measuring technology
- ✓ Semiconductors
- ✓ Research / laboratories
- ✓ Automotive
- ✓ Construction / architecture
- ✓ Pharma / medical technology



OUR FAMILY BUSINESS WAS BUILT ON THESE THREE PILLARS



1

UNRIVALLED PRODUCT RANGE

Our product range covers nearly all applications in industry and research: from simple insulation pads for vibration insulation through levelling elements for vibration-insulated machine installation to vibration-insulated laboratory tables. No matter whether you need a forging hammer to be decoupled with insulation composite pads or you are in the semiconductor industry and want your highly sensitive machines to be air-mounted ☿ there is barely any vibration problem that we cannot solve for you.

2

WE'LL FIND THE SOLUTION ☿ INCLUDING FOR YOU!

The right vibration technology for your application, whether off the shelf or as a custom-made product ☿ that's what we focus on. Our products are only one part of the solution. The other part is our experienced staff who enthusiastically develop new concepts for you. Together we will find the best way for you ☿ we promise!



3

SERVICE ☿ THE WAY YOU NEED IT

We are a system supplier and project partner offering all-round service: From problem analysis and the planning phase of a project to installation, commissioning and after-sales support ☿ with us you get everything from a single source. Our distribution network enable us to offer you our expert advice, services and, of course, our vibration insulation solutions around the world.

FOCUSED ON PARTNERSHIP

NO MATTER WHETHER YOU ARE A LARGE INTERNATIONAL CORPORATION OR A REGIONAL COMPANY: WE AT BILZ VIBRATION TECHNOLOGY AG ARE THE RIGHT PARTNER FOR YOU. PARTNERSHIP FORMS THE BASIS OF OUR CORPORATE CULTURE AND OUR VALUES.

1**WHAT DO WE WANT? FOR YOU TO BE COMPLETELY SATISFIED.**

All our actions are driven by the need to see our customers satisfied. To achieve this, we treat our customers and business partners with respect and in a spirit of partnership. We understand their requirements, provide competent advice and work out the optimum solution together. Highest product quality, fair prices and best service form the basis of our customer focus.

2**WE ARE TRUE TO OUR WORD. WE ARE RELIABLE.**

We stand by our agreements and commitments. Because that's how trust is built. We believe that trusting cooperation with customers and business partners is the most important foundation for business success.

3**WE FIND THE BEST SOLUTION FOR OUR CUSTOMERS.**

We will not settle for any less. What could such a solution look like? It must display maximum performance and at the same time be cost-efficient. We want our customers to be successful in the long term and to benefit from their competitive edge. Aspects of sustainability and environmentally aware actions are becoming more and more important for us and are also increasingly being incorporated into our work.

4**WE ARE FAST AND HAVE SHORT ROUTES.**

Short response times are important success factors for our customers in manufacturing and research. The route to our large warehouse directly at our company headquarters is also short. That's how we prevent bottlenecks and procurement issues.



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INSULATION PADS

THE PROVEN ECONOMIC SOLUTION FOR VIBRATION INSULATION IN MANY INDUSTRY SECTORS



You can also find
all information on
our insulation pads
on our website.

Manufactured from a precisely defined combination of nitrile rubber and cork particles, embedded in a composite of cotton fibres, the physical and mechanical properties of this high-quality composite material satisfy all of the current requirements for various industrial applications, depending on the type of pad.

Very good insulation properties ensure optimum spring deflection and level consistency under both static and dynamic loads.

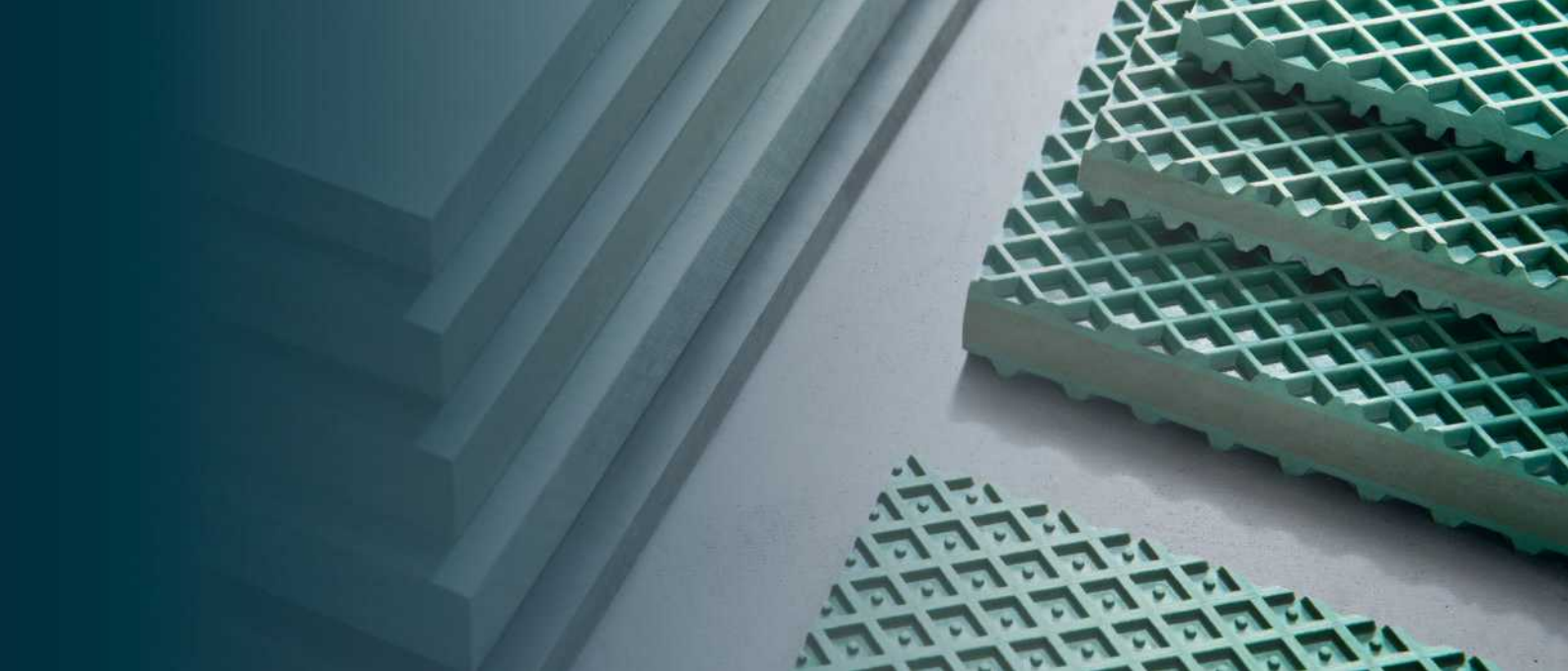
CHARACTERISTICS AND FACTS

- Effective structure-borne noise insulation
- Ageing resistance: Virtually unlimited service life with adherence to load values. High degree of levelling constancy.
- Temperature resistance: -20° C to +80° C
- Chemical resistance: Excellent resistance to most commercially available coolants and lubricants, fuels and cleaning agents
- Vibration insulation properties: Very high degree

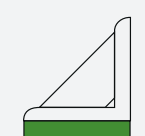
NOTES

- Bilz insulation pads, anti-slip and spacer pads can be cut to size with any circular or band saw.
- We are happy to supply special sizes on request.
- The specified maximum load is composed of the static and dynamic load of the machine.
- The optimum insulation effect is achieved at approx. 80/90 % of the specified maximum load.
- Selected insulation pads can also be supplied with a profile on one side (description e.g. B4/1).
- The specified coefficient of friction refers to standard industrial screed.
- Cutting tolerance is according to DIN 7715/T5, class P3.
- **W:** Waffle structure designs for compensation of uneven floors (B32W, B30W, B13W)

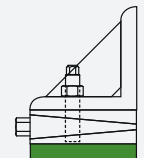
The insulation pad type B13W is also available as a pad set, e.g. for insulating foundations, see also page 13.



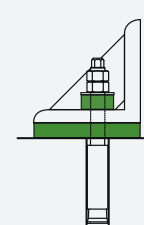
FOUR POSSIBLE OPTIONS FOR THE USE OF INSULATION PADS FOR MACHINE INSTALLATION

- 

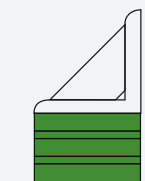
1



2



3



4
- Free-standing** machine foundations using Bilz insulation pads with low demands on alignment. The uneven floor is compensated for with pads, etc. The arrangement of the pads is usually a pattern of points, not over the full surface. Numerals and size of the required insulation pads is given by the weight of the machine and the existing support surface.

Stable connection to the machine bed using **bolt-on installation fittings** that remain in place when the machine is lifted. Specifically for machines with high dynamic forces (injection moulding machines, stamping equipment, etc.).

Bolt-through ground anchoring using insulation pads and insulation washers. The use of insulation washers prevents vibrations being transmitted through the bolt.

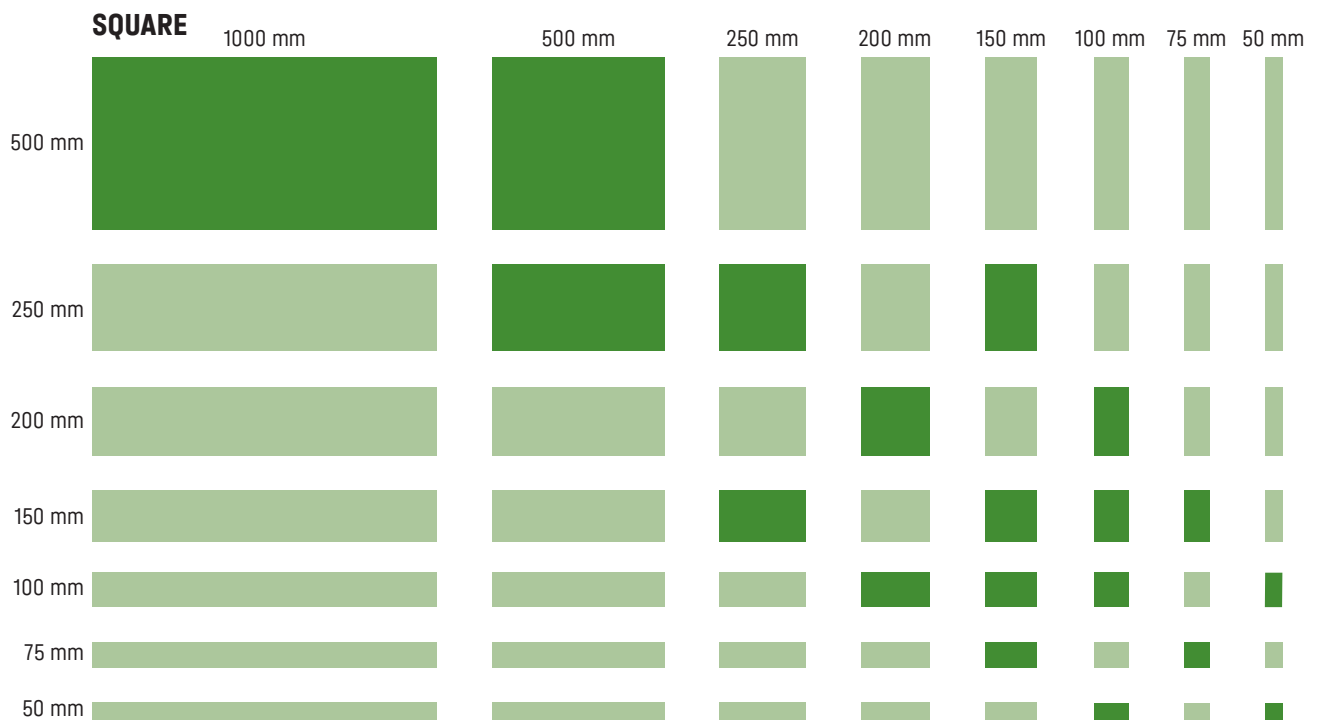
Highly effective shock and vibration insulation by Bilz **insulation pad sets**. Different Bilz pads are combined into pad sets offering significantly improved insulation.

Schematic representation of the application of insulation pads and pad sets

BILZ INSULATION PADS ARE RESISTANT TO MOST COMMERCIALLY AVAILABLE SUBSTANCES

- Lubricants:
Greases for rolling and plain bearings, gear greases
- Synthetic lubricants:
Polyalkylene glycols, carboxylic acid esters, radiator antifreeze
- Cleaning agents:
Chlorinated hydrocarbons, petroleum ether, cold cleaners
- Cleaning agents (aqueous solutions):
Detergents and rinsing agents, wetting agents, diluted acids, diluted alkalis, salt solutions
- Fuels and combustibles:
Petrol, diesel fuel, heating oil, aviation fuel, special fuels
- Flame retardant liquids:
Oil-in-water emulsions, water-in-oil emulsions, aqueous polymer solutions
- Mineral oils:
Common water-miscible cooling lubricants, ATF (Automatic Transmission Fluid), cooling lubricants, water-miscible corrosion protection oils, slideway oils, compressed air oils, lubricating oils, heat transfer oils, filter oils, rolling oils, automotive gear oils, mineral oil-based brake fluids

ARTICLE NUMBERS AND STANDARD SIZES



■ Available square standard formats

■ Special and intermediate formats are manufactured individually on request

SQUARE	B6	B0	B4	B50	B5	B32	B32W	B30	B30W	B13W	BS1	BS	BN	BR7	B8
mm															
1000 × 500	0100323	0100005	0100202	0100291	0100260	0100139	0100175	0100057	0100087	0100038	0100462	0100441	0100371	0100391	0100350
500 × 500	0100342	0100027	0100223	0100310	0100280	0100158	0100194	0100079	0100106	0100051	0100473	0100458	0100384	0100406	0100365
500 × 250	0100341	0100026	0100222	0100309	0100279	0100157	0100193	0100078	0100105	0100050	0100472	0100457	0100383	0100405	0100364
250 × 250	0100337	0100020	0100217	0100305	0100274	0100153	0100189	0100072	0100101	0100048	0100470	0100453	0100380	0100402	0100361
250 × 150	0100336	0100019	0100216	0100304	0100273	0100152	0100188	0100071	0100100	0100047	0100469	0100452	0100379	0100401	0100360
200 × 200	0100334	0100016	0100214	0100302	0100271	0100150	0100186	0100069	0100098	0100046	0100468	0100450	0100378	0100400	0100359
200 × 100	0100333	0100015	0100213	0100301	0100270	0100149	0100185	0100068	0100097	0100045	0100467	0100449	0100377	0100399	0100358
150 × 150	0100330	0100012	0100210	0100298	0100267	0100146	0100182	0100065	0100094	0100043	0100465	0100446	0100375	0100397	0100356
150 × 100	0100329	0100011	0100209	0100297	0100266	0100145	0100181	0100064	0100093	0100042	0100464	0100445	0100374	0100396	0100355
150 × 75	0100331	0100013	0100211	0100299	0100268	0100147	0100183	0100066	0100095	0100044	0100466	0100447	0100376	0100398	0100357
100 × 100	0100324	0100006	0100204	0100292	0100261	0100140	0100176	0100058	0100088	0100039	0100463	0100442	0100372	0100392	0100351
100 × 50	0100325	0100007	0100205	0100293	0100262	0100141	0100177	0100060	0100089	0100040	-	-	0100373	0100393	0100352
75 × 75	0100346	0100034	0100228	0100313	0100284	0100162	0100198	0100083	0100110	0100053	-	-	0100388	0100409	0100369
50 × 50	0100343	0100029	0100224	0100311	0100281	0100159	0100195	0100080	0100107	0100052	-	-	0100385	0100407	0100366

ROUND



Ø / 300 mm



Ø 238 mm



Ø 200 mm



Ø 150 mm



Ø 110 mm



Ø 75 mm



Ø 50 mm

● Available round standard formats

ROUND	B6	B0	B4	B50	B5	B32	B32W	B30	B30W	B13W	BS1	BS	BN	BR7	B8
Ø mm															
50	0100339	0100024	0100220	0100307	0100277	0100155	0100191	0100076	0100103						
75	0100345	0100033	0100227	0100312	0100283	0100161	0100197	0100082	0100109						
110	0100326	0100008	0100206	0100294	0100263	0100142	0100178	0100061	0100090						
150	0100328	0100010	0100208	0100296	0100265	0100144	0100180	0100063	0100092	These pad types are available on request.					
200	0100332	0100014	0100212	0100300	0100269	0100148	0100184	0100067	0100096						
238	0100335	0100018	0100215	0100303	0100272	0100151	0100187	0100070	0100099						
300	0100338	0100021	0100218	0100306	0100275	0100154	0100190	0100073	0100102						

SELECTION OF SUITABLE PAD TYPE

USE	B6	B0	B4	B50/B5	B32/B32W	B30/B30W	B13W
Metal processing							
Processing centre	●	●					
Drilling machine			●				
Boring mills	●						
Lathe		●					
Lathe, long bed	●						
Milling machine		●	●				
Press					●	●	
Saw			●				
Impact shears				●	●		
Grinding machine	●	●					
Punching machine/nibbler				●	●	●	
Transfer line	●						
Plastic processing							
Granulating machine		●	●				
Milling and hammering machine				●	●		
Injection moulding machine			●	●		●	
Printing and paper industry							
Bookbinding/printing machine, folder			●				
Scissors, packaging line			●		●		
Measuring and checks							
Measuring machines, scales, microscopes						●	
Pad set							
Foundation							●

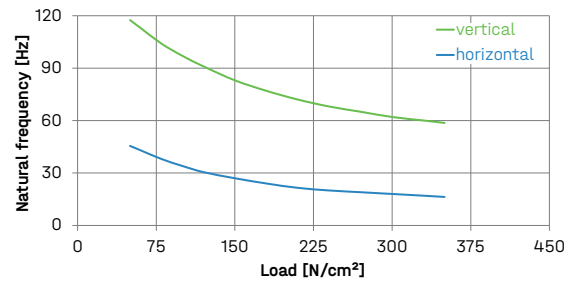
PAD TYPE B6



Extremely heavy-duty insulation pad with the highest level of constancy. For very heavy and long-bed machines.

Type	Loads N/cm ²	Thickness mm	Friction- coeff.
B6	50-350	15	0,6

DYNAMIC NATURAL FREQUENCY



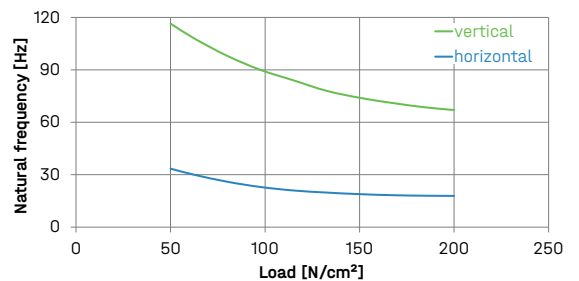
PAD TYPE B0



Insulation pad with high level consistency, specifically for machines with low intrinsic rigidity such as processing centres, lathes and grinding machines, etc.

Type	Loads N/cm ²	Thickness mm	Friction- coeff.
B0	50-200	15	0,6

DYNAMIC NATURAL FREQUENCY



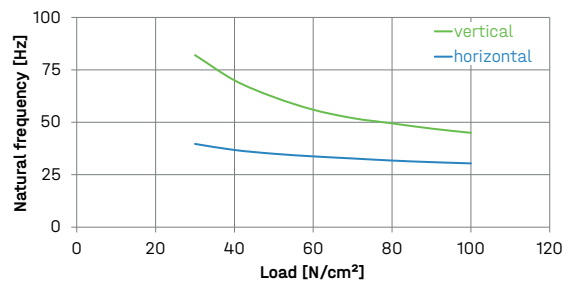
PAD TYPE B4



Universally applicable insulation pad for machine tools, plastic and printing machines. Very well suited for machines that tend to "wander". Also available profiled on one side (B4/1).

Type	Loads N/cm ²	Thickness mm	Friction- coeff.
B4	30-100	15	0,8

DYNAMIC NATURAL FREQUENCY



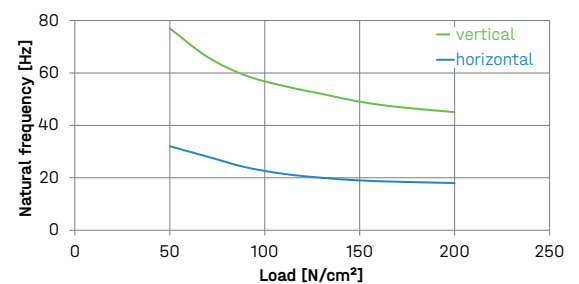
PAD TYPE B50



Insulation pad for machines having high machine dynamics and only a small contact surface, e.g. presses, punches, shears etc.

Type	Loads N/cm ²	Thickness mm	Friction- coeff.
B50	50-200	25	0,8

DYNAMIC NATURAL FREQUENCY



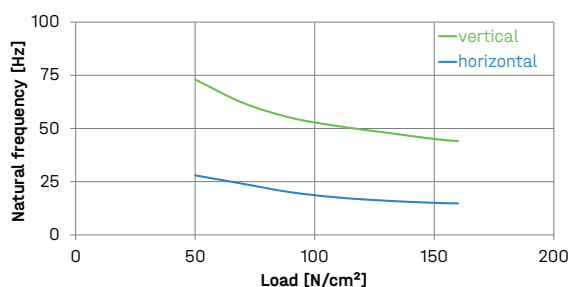
PAD TYPE B5



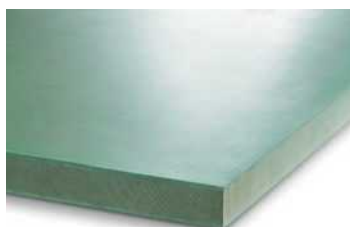
Profiled insulation pad to compensate for uneven floors. Designed specifically for machines with only a small contact surface and high dynamics, e.g. presses, punches, shears etc.

Type	Loads N/cm ²	Thickness mm	Friction- coeff.
B5	50-160	25	0,8

DYNAMIC NATURAL FREQUENCY



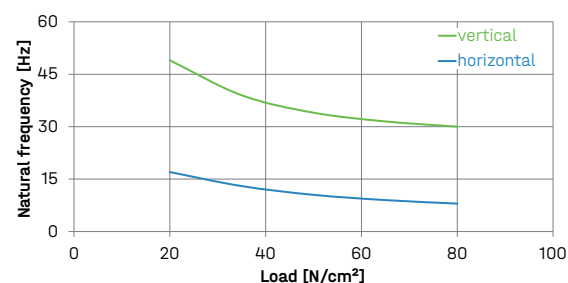
PAD TYPE B32



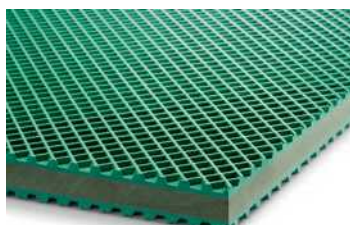
Soft insulation pad without profile with excellent insulation effect, designed specifically for machines with low dynamics such as medium presses, punches etc.

Type	Loads N/cm ²	Thickness mm	Friction- coeff.
B32	20-80	25	0,8

DYNAMIC NATURAL FREQUENCY



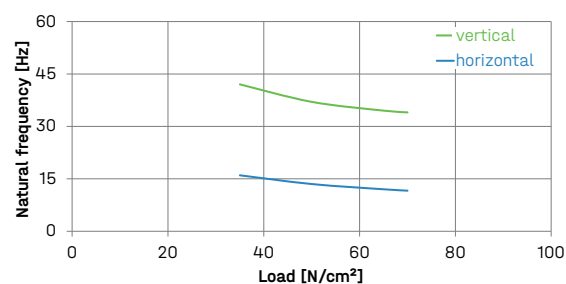
PAD TYPE B32 W



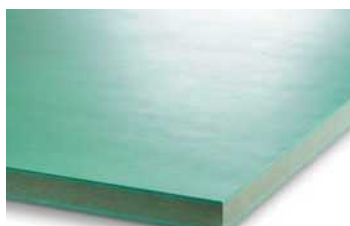
Very soft insulation pad with profile and very high insulation effect. Suitable for machines with low dynamics.

Type	Loads N/cm ²	Thickness mm	Friction- coeff.
B32W	35-70	25	0,8

DYNAMIC NATURAL FREQUENCY



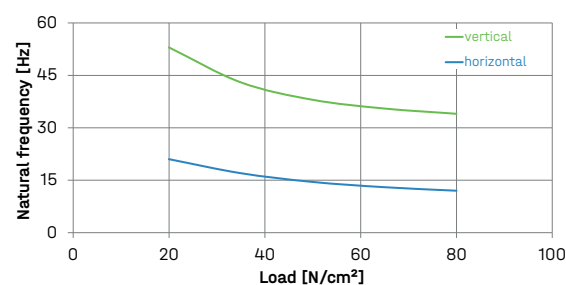
PAD TYPE B30



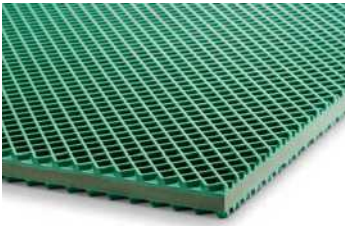
Soft insulation pad without profile, designed specifically for effective insulation when installed on upper floors.

Type	Loads N/cm ²	Thickness mm	Friction- coeff.
B30	20-80	18	0,8

DYNAMIC NATURAL FREQUENCY



PAD TYPE B30W



Very soft, profiled insulation pad for static applications with optimum insulating effect due to low-frequency absorption, e.g. for measuring and testing machines, scales, microscopes. B30W also available profiled on one side: B30W-1

Type	Loads N/cm ²	Thickness mm	Friction- coeff.
B30W	5-40	18	0,8

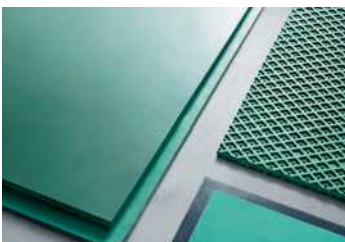
PAD TYPE B13W



Profiled insulation pad for highest insulation values, can be layered up to 6 times, tuning up to approx. 25 Hz (up to approx. 8 Hz if insulation pad set), best as pad set for foundation insulation.

Type	Loads N/cm ²	Thickness mm	Friction- coeff.
B13W	5-40	13	0,8

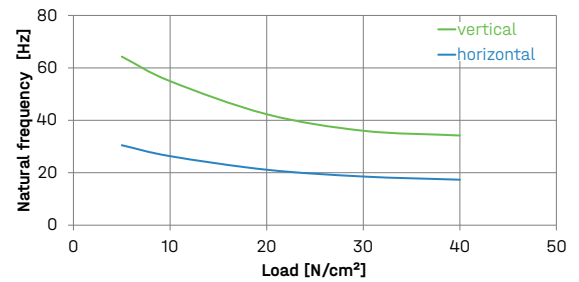
ANTI-SLIP PADS



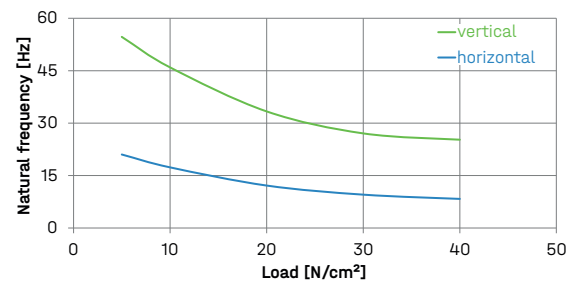
Bilz anti-slip and distance pads, for mechanical levelling and anti-slip. Not used for vibration insulation.
BR7 also available profiled on one side: BR7-1

Type	Loads N/cm ²	Thickness mm	Friction- coeff.
BS1	10-400	1	0,9
BS	10-400	2	0,9
BN	10-300	5	0,6
BR7	10-160	7	0,8
B8	5-40	8	0,8

DYNAMIC NATURAL FREQUENCY



DYNAMIC NATURAL FREQUENCY



PAD TYPE BS1



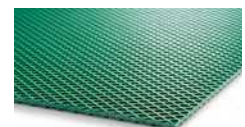
PAD TYPE BS



PAD TYPE BN



PAD TYPE BR7



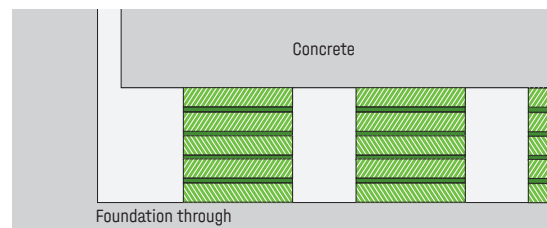
PAD TYPE B8



PAD SETS

By multiple layering of 2% Bilz insulation pads to form pad sets, reduced natural frequencies can be achieved and thus the insulating effect can be significantly increased compared to single-layer insulation pads.

These pad sets are ideal for **large machines and swing foundations**. Even after years of dynamic stress, the vibration-damping and insulation properties of the insulation pad sets remain unchanged.



Format: Pad sets under a foundation (concrete block)

STANDARD SIZES

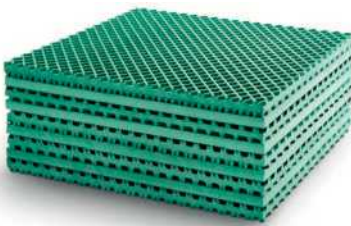
Standard Item no. 0100476

Special sizes Item no. 0100475

Please specify the desired size when ordering.

SQUARE

	Length mm				
	500	250	200	166	150
Width mm					
500	●	●			
250	●	●	●	●	
200		●	●	●	
166		●	●	●	
150					●

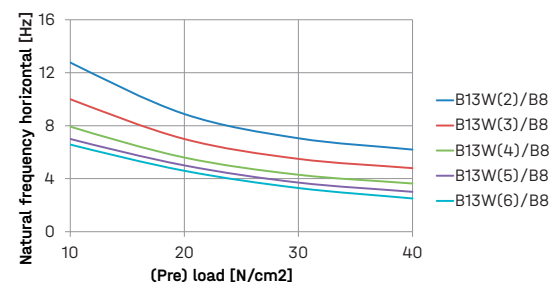
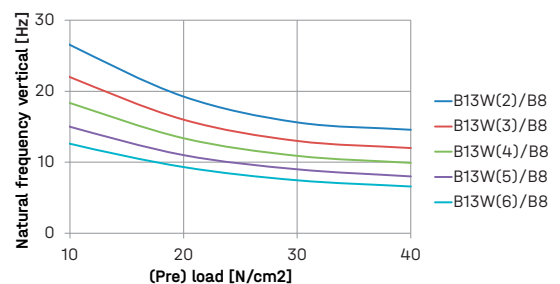


The permissible weight load of a pad set is between 5 and 40 N/cm² depending on the application.

The number and dimensions of the insulation layers as well as the required distribution of the pad sets is determined by Bilz specifically for the application.

We are happy to supply special sizes on request.

NATURAL FREQUENCY



Type	Thickness unloaded mm	Natural vertical frequency Hz	Natural horizontal frequency Hz
B13W/B8, 2x	34	14,5 ± 26,5	5,5 ± 12,5
B13W/B8, 3x	55	12,0 ± 22,0	4,5 ± 10,0
B13W/B8, 4x	76	10,0 ± 18,5	3,5 ± 8,0
B13W/B8, 5x	97	8,0 ± 15,0	3,0 ± 7,0
B13W/B8, 6x	118	6,5 ± 12,5	2,5 ± 6,5

LEVELLING ELEMENTS

**THE COST-EFFECTIVE COMBINATION OF PRECISE LEVELLING
ADJUSTMENT AND EFFECTIVE INSULATION FROM DISRUPTIVE
VIBRATIONS IN MACHINE INSTALLATIONS**



All information
about our levelling
elements is also
available on our
website.

Bilz levelling elements are used for vibration and structure-borne noise insulated machine installation.

The maintenance-free machine feet ensure simple and precise levelling of machines and are available in many versions.

The appropriate size and insulation pads are selected according to the application and load. The levelling range can be adjusted depending on the selected bolt length and according to individual requirements (except for BNSH / BNSHA).

NOTES

- The specified maximum load is composed of the static and dynamic load of the machine.
The optimum insulation effect is achieved at approx. 80%90 % of the specified maximum load.
- You will find the specified insulation pad type in the type designation: BNSH 80/50 is equipped with insulation pad B50, BNSHA 120/32 with B32 etc.
- Permissible temperature range: -20 °C to +80 °C
- Details on the characteristics of the insulation pads used can be found on pp.1012.
- Tables for the selection of available bolts can be found on pp. 2021.
Nuts and washers are included. Please specify the size when ordering.
- Please contact us, if the suitable dimension, colour, pad fitting or bolt connection required for your application is not listed. We also have numerous special solutions available besides our standard solutions and colours.
We are always happy to offer our advice.



SERIES BNSH | BNSHA

Round levelling element, specifically for high demands on horizontal stability, e.g. injection moulding machines, presses, punches.

BNSH: without bolt-on floor mounting | **BNSHA:** with bolt-on floor mounting

- Specially developed levelling element for the bearing of injection moulding machines, presses, punches, etc.
- Optimum load distribution due to the proven pressure pad design.
- Very high horizontal stability over the entire levelling range.
- The BNSHA levelling element with bolt-on floor mounting is particularly suitable for all machines that tend to 'wander'.
- The floor mounting is not designed as a safeguard against tipping.

Colour: RAL 7037, dusty grey



BNSH

BNSHA

BNSH | BNSHA

Type BNSH / BNSHA	Item no. BNSH	Item no. BNSHA	max. load N/Stk.	H BNSH mm	H BNSHA mm	Ø D mm	Adjustment range mm	Fine thread G	Pitch
70/0	12-0042	12-0016	5.000	31	36	80	+6	M10	1,25
80/50	12-0047	12-0020	9.500	43	48	96	+18	M12	1,5
120/50	12-0024	12-0003	20.000	51	56	133	+18	M16	1,5
160/50	12-0028	12-0006	40.000	52	57	175	+17	M20	1,5
175/50	12-0032	12-0009	45.000	56	64	193	+17	M20	1,5
200/50	12-0036	12-0012	65.000	63	71	229	+16	M24	2,0
250/50	12-0040	12-0015	90.000	67	75	270	+15	M30	2,0
70/30	12-0043	12-0017	2.400	34	39	80	+6	M10	1,25
80/32	12-0045	12-0018	4.800	43	48	96	+18	M12	1,5
120/32	12-0022	12-0001	9.600	51	56	133	+18	M16	1,5
160/32	12-0026	12-0004	17.000	52	57	175	+17	M20	1,5
175/32	12-0030	12-0007	20.800	56	64	193	+17	M20	1,5
200/32	12-0034	12-0010	29.000	63	71	229	+16	M24	2,0
250/32	12-0038	12-0013	41.000	67	75	270	+15	M30	2,0

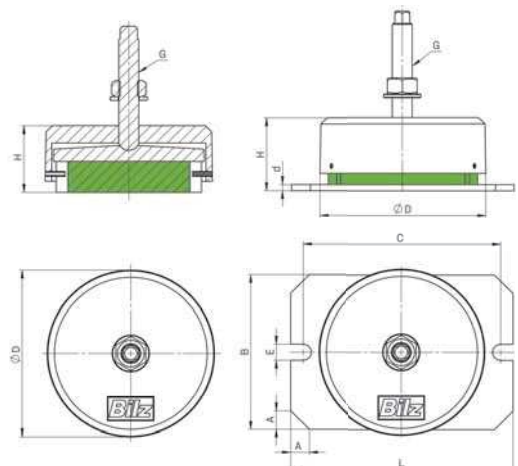
Properties of the insulation pad:

B50:

- Good insulating effect when machines are installed on natural ground.
- Very well suited for machines with high dynamic forces.

B32:

- Very good insulating effect.
- Specially developed for use on upper floors or on insufficiently stable ground.



BNSH

BNSHA

BNSHA DIMENSIONS FLOOR PAD

Type	L mm	A mm	B mm	C mm	E mm	d mm
BNSHA 70	125	15	75	105	8	5
BNSHA 80	140	15	90	120	8	5
BNSHA 120	180	15	125	160	13	5
BNSHA 160	220	15	170	200	16	5
BNSHA 175	260	20	185	230	20	8
BNSHA 200	300	20	225	270	20	8
BNSHA 250	330	20	265	300	20	8

SERIES BNV | BNVS

Square levelling element with compensation of angular differences by means of movable levelling bolt.

BNV: optionally with movable levelling bolt | BNVS: connected with movable levelling bolt

- Proven and highly effective pad elements, preferably for light to medium-heavy machines with corresponding locating holes or threads in the machine base.
- The BNVS element is used wherever a rigid connection between element and machine is required.
- The movable levelling bolt can compensate for any unevenness of the floor or angular differences of up to $\pm 3^\circ$.

Colour: RAL 7037, dusty grey



BNV | BNVS

Type BNV / BNVS	Item no. BNV	Item no. BNVS	max. load N/Stk.	L mm	B mm	H mm
50/4	08-0030	10-0013	2.000	60	60	22
80/4	08-0034	10-0023	4.700	85	85	24
110/4	08-0004	10-0004	12.000	123	123	28
115/4	08-0008	10-0026	11.400	163	88	29
150/4	08-0016	10-0009	18.000	147	147	32
200/4	08-0020	10-0025	37.000	264	165	44
50/0	08-0028	10-0011	4.000	60	60	22
80/0	08-0032	10-0021	9.500	85	85	24
110/0	08-0002	10-0002	24.000	123	123	28
115/0	08-0006	10-0027	22.800	163	88	29
150/0	08-0014	10-0007	36.000	147	147	32
200/0	08-0018	10-0028	74.000	264	165	44
50/30W	08-0029	10-0012	950	60	60	25
80/30W	08-0033	10-0022	2.300	85	85	27
110/30W	08-0003	10-0003	5.000	123	123	31
115/30W	08-0007	10-0029	4.500	163	88	32
150/30W	08-0015	10-0008	7.300	147	147	35
200/30W	08-0019	10-0030	15.000	264	165	47

Properties of the insulation pad:

B4:

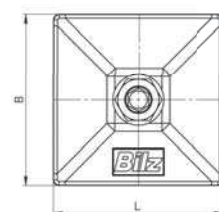
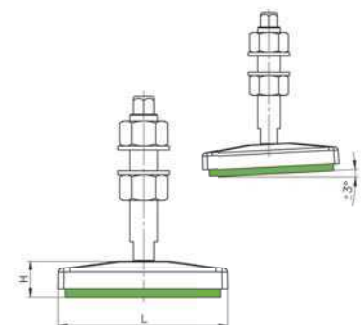
- Medium-hard insulation pad with good vibration and structure-borne sound insulation.
- Suitable for universal use.

B0:

- Insulation pad without profile and with high level consistency, e.g. for lathes, processing centres, etc.

B30W:

- Soft tuning for very good insulating effect, e.g. for grinding machines, testing equipment, measuring machines, etc.



BNVS

SERIES BNR | BNRS

Round levelling element with compensation of angular differences by means of movable levelling bolt.

BNR: optionally with movable levelling bolt | BNRS: connected with movable levelling bolt

- Proven and highly effective pad elements, preferably for light to medium-heavy machines with corresponding locating holes or threads in the machine base.
- The BNRS element is used wherever a rigid connection between element and machine is required.
- The movable levelling bolt can compensate for any unevenness of the floor or angular differences of up to $\pm 3^\circ$.

Colour: RAL 7037, dusty grey



BNR | BNRS

Type BNR / BNRS	Item no. BNR	Item no. BNRS	max. load N/Stk.	Ø D mm	H mm
50/4	09-0035	11-0014	1.700	60	21
70/4	09-0048	11-0019	3.600	79	29
80/4	09-0045	11-0023	4.200	85	23
110/4	09-0006	11-0004	9.100	120	31
150/4	09-0016	11-0009	17.000	162	34,5
200/4	09-0025	11-0026	31.000	213	42
50/0	09-0033	11-0012	3.400	60	21
70/0	09-0049	11-0017	7.200	79	29
80/0	09-0042	11-0024	8.400	85	23
110/0	09-0002	11-0002	18.200	120	31
150/0	09-0012	11-0007	34.000	162	34,5
200/0	09-0021	11-0027	62.000	213	42
50/30W	09-0034	11-0013	700	60	24
70/30W	09-0050	11-0018	1.400	79	32
80/30W	09-0043	11-0025	1.600	85	26
110/30W	09-0003	11-0003	3.500	120	34
150/30W	09-0013	11-0008	6.900	162	34,5
200/30W	09-0022	11-0028	12.000	213	42

Properties of the insulation pad:

B4:

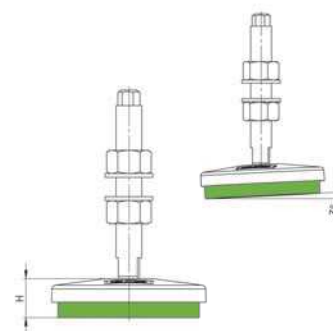
- Medium-hard insulation pad with good vibration and structure-borne sound insulation.
- Suitable for universal use.

B0:

- Insulation pad without profile and with high level consistency, e.g. for lathes, processing centres, etc.

B30W:

- Soft tuning for very good insulating effect, e.g. for grinding machines, testing equipment, measuring machines, etc.



BNRS

SERIES BNRV | BNRSV

Round, stainless steel levelling element with compensation of angular differences by means of movable levelling bolt. Specially designed for applications in the food, pharmaceutical and clean room industries.

BNRV: optionally with movable levelling bolt | BNRSV: connected with movable levelling bolt

- For machines with corresponding locating holes or threads in the machine feet used in the food, luxury food, packaging, chemical and pharmaceutical industries, as well as for clean room applications.
- BNRSV elements are used wherever a rigid connection between element and machine is required.
- The movable levelling bolt can compensate for any unevenness of the floor or angular differences of up to $\pm 3^\circ$.

Colour: Stainless steel



BNRV

BNRSV

BNRV | BNRSV

Type BNRV / BNRSV	Item no. BNRV	Item no. BNRSV	max. load N/Stk.	Ø D mm	H mm
50/4	30-0031	30-0014	1.700	54	24
70/4	30-0035	30-0018	3.600	76	25
110/4	30-0023	30-0007	9.100	116	27,5
150/4	30-0027	30-0011	17.000	156	29,5
50/30W	30-0030	30-0013	700	54	27
70/30W	30-0034	30-0017	1.400	76	28
110/30W	30-0022	30-0006	3.500	116	30,5
150/30W	30-0026	30-0010	6.900	156	32,5
50/BR7	30-0032	30-0016	2.800	54	16
70/BR7	30-0036	30-0020	5.800	76	17
110/BR7	30-0024	30-0009	14.500	116	19,5
150/BR7	30-0028	30-0012	27.500	156	21,5

Properties of the insulation pad:

B4:

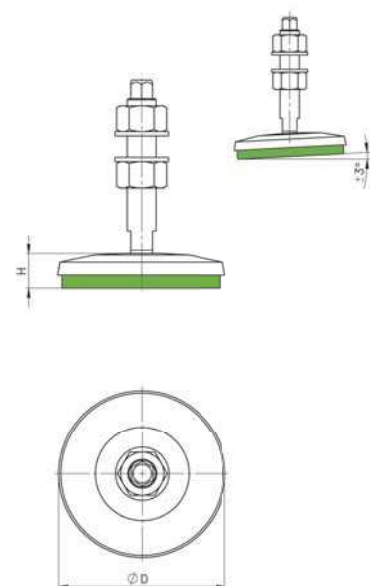
- Medium-hard insulation pad with good vibration and structure-borne sound insulation.
- Suitable for universal use.

B30W:

- Soft tuning for very good insulating effect, e.g. for grinding machines, testing equipment, measuring machines, etc.

BR-7:

- Anti-slip pad without vibration insulation.



SERIES BFE

Cost-effective round, stainless steel levelling element with compensation of angular differences by means of movable levelling bolt. Specially designed for applications in the food, pharmaceutical and clean room industries.

BFE: round, stainless steel version, with flexible levelling bolt

- Cost-effective stainless steel design for machines with corresponding locating holes or threads in the machine feet in the food, packaging, chemical and pharmaceutical industries.
- The movable levelling bolt can compensate for any unevenness of the floor or angular differences of up to $\pm 7.5^\circ$.
- BFE levelling elements cannot be used in combination with Bilz insulation pads.

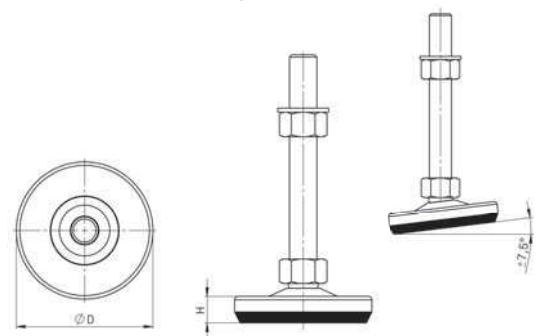
Colour: Stainless steel



Isolierplatte: NBR70

BFE

Type BFE	Item no. BFE	max. load N/Stk.	Ø D mm	H mm
50	30-0003	3.000	50	14
80	30-0004	8.500	80	17
100	30-0001	20.000	100	19
125	30-0002	30.000	125	19



SERIES GMA

Cost-effective rubber-metal element, designed specifically for robust vibration and structure-borne noise insulation of machines and aggregates in outdoor areas.

GMA: Bolt-on rubber-metal parts

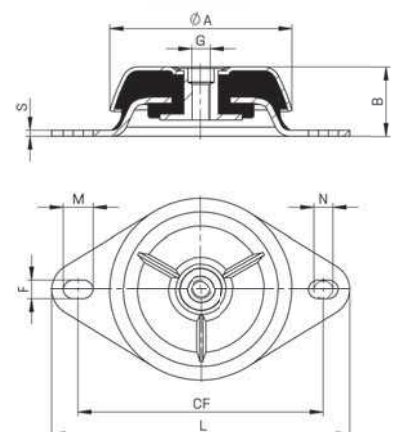
- Stationary and mobile use of machines, equipment and aggregates, e.g. engines, machine tools, woodworking machines, screens, rolling mills, pumps, compressors, air conditioning and ventilation systems.
- Natural frequency approx. 25 Hz
- These elements are supplied without bolts.

Colour: Galvanised steel



GMA

Type GMA	Item no.	Ø A mm	B mm	F mm	M mm	N mm	CF mm	L mm	S mm	max. Pressure load N/Stk.	max. Springing mm	Thread G
83	1300009	83	36	11,5	15	15	110	135	3	2.300	3,5±1,5	M10
92	1300010	92	34	10	15	10	123	150	3	3.000	5,0±1,5	M10
106	1300011	106	41	13	19	19	143	169	4	4.200	3,5±1,5	M12
150	1300012	150	54	14	18	18	182	218	4	10.000	3,5±1,5	M16



SERIES BNL

Cost-effective levelling element for machines with high vertical and horizontal dynamic forces.

BNL: Steel, with levelling bolt

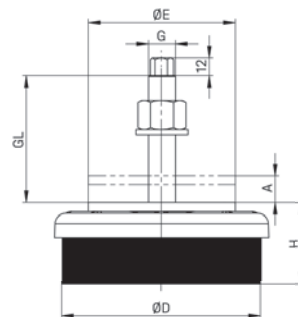
- Sufficient insulation from vibrations and structure-borne sound.
- Precise levelling pressure pad for optimum weight distribution.
- The rubber element is resistant to commercial acids, alkalis and lubricating oils.
- Matching levelling bolts, each with a nut and washer, are included.
- Cannot be used in combination with Bilz insulation pads.

Colour: Galvanised steel



BNL

Type BNL	Item no. BNL	max. load N/Stk.	Ø D mm	Ø E mm	H mm	Adjustment range A	G	GL mm
80	140027	5.000	80	60	45	+12	M12 × 1,5	86
120	140028	11.000	120	60	45	+15	M16 × 1,5	80
160	140029	21.000	160	70	56	+20	M20 × 1,5	125
200	140030	40.000	200	70	68	+20	M20 × 1,5	122



ACCESSORIES

A large range of different bolts are available for each type of levelling element. You will find the appropriate bolts in the following tables. The bolt type must be selected according to the static and dynamic load in the application. We are happy to help you with this.

LEVELLING AND FIXING BOLTS

BNSH | BNSHA

Thread	Pitch	Material	Length 80 mm	Length 100 mm	Length 125 mm	Length 150 mm	Length 200 mm
M10	1,25	verzinkt	1900282	1900283	1900284		
M12	1,5	verzinkt	190039	190032	190034	190036	
M16	1,5	verzinkt		190076	1900261	190081	190083
M20	1,5	verzinkt		190156	190162	190167	190172
M24	2,0	verzinkt				190219	190221
M30	2,0	verzinkt				190242	190245

The galvanised levelling and fastening bolts for the elements mentioned on the left are included and are supplied with one nut and one washer each. Please specify the size when ordering.

BNV | BNVS

BNR | BNRS

BNRV | BNRSV

Thread	Material	Length 70 mm	Length 100 mm	Length 125 mm	Length 150 mm	Length 200 mm	Length 250 mm	Length 300 mm
M10	verzinkt	190025	190020					
	Edelstahl	180012	180006					
M12	verzinkt		190042	190045	190048			
	Edelstahl		180017	180068	180020			
M16	verzinkt		190086	190092	190095	190099	190102	
	Edelstahl		180031	180061	180034	180037	180056	
M18	verzinkt		190131	190134	190137	190140	190143	
M20	verzinkt		190179	190183	190186	190189	190192	
	Edelstahl		180042	180063	180045	180048		
M24	verzinkt				190215	190224	190227	190230
	Edelstahl				180053	180064	180065	

The levelling and fixing bolts for the elements mentioned on the left have a standard thread and are supplied incl. 2 nuts and washers each. Please specify the size when ordering.

BNV | BNVS:
galvanised or stainless steel

BNR | BNRS:
galvanised or stainless steel

BNRV | BNRSV:
Stainless steel

ALLOCATION OF LEVELLING BOLT SIZE TO LEVELLING ELEMENT SIZE

BNRS

Thread	BNRS 50	BNRS 70	BNRS 80	BNRS 110	BNRS 150	BNRS 200
M10	●					
M12	●	●	●			
M16		●	●	●	●	
M18			●	●	●	●
M20				●	●	●
M24					●	●

We recommend the combinations marked with a dot.

BNVS

Thread	BNVS 50	BNVS 80	BNVS 110	BNVS 115	BNVS 150	BNVS 200
M10	●					
M12	●	●	●			
M16		●	●	●	●	
M18			●	●	●	●
M20				●	●	●
M24					●	●

BNRSV

Thread	BNRSV 50	BNRSV 70	BNRSV 110	BNRSV 150
M10	●			
M12	●	●	●	
M16		●	●	●
M18			●	●
M20				●
M24				●

STAINLESS STEEL BOLTS

BFE

Thread	Length 50 mm	Length 80 mm	Length 100 mm	Length 120 mm	Length 150 mm	Length 180 mm	Length 200 mm	Length 250 mm	Length 300 mm
M8	180213	180214	180215	180216	180217	180218	180219		
M10	180220	180221	180222	180223	180224	180225	180226		
M12	180227	180228	180229	180230	180231	180232	180233		
M16	180234	180235	180236	180237	180238	180239	180240	180241	180242
M20	180243	180244	180245	180246	180247	180248	180249	180250	180251
M24	180252	180253	180254	180255	180256	180257	180258	180259	180260
M30	180261	180262	180263	180264	180265	180266	180267	180268	180269

The stainless steel bolts for the elements mentioned on the left have a standard thread and are suitable for all element sizes. They are supplied with 2 nuts and washers each and are available in numerous combinations.



SPANNER SIZES FOR BILZ PRECISION LEVELLING WEDGES

Type	Inside	Outside
PK 1	SW 6	SW 13
PK 2	SW 10	SW 19
PK 2.5	SW 10	SW 19
PK 3	SW 12	SW 22
PK 3.2	SW 12	SW 22
PK 3.5	SW 12	SW 22
PK 3.8	SW 12	SW 22
PK 4	SW 14	SW 27
PK 4.5	SW 14	SW 27
PK 5	SW 14	SW 27
PK 5.5	SW 14	SW 27
PK 6	SW 14	SW 27
PK 7	SW 17	SW 32
PK 8	SW 19	SW 41
PK 9	SW 22	SW 50

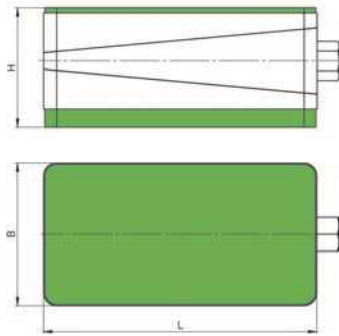
Type	Inside	Outside
PKA / PKD 1	SW 10	SW 19
PKA / PKD 2	SW 12	SW 22
PKA / PKD 3	SW 14	SW 27
PKA / PKD 4	SW 14	SW 27
PKA / PKD 5	SW 14	SW 27
PKA / PKD 6	SW 17	SW 32
PKA / PKD 7	SW 19	SW 41
PKA / PKD 8	SW 22	SW 50

Type	Outside
PKA / PKD 1-AL	SW 19
PKA / PKD 2-AL	SW 22
PKA / PKD 3-AL	SW 27
PKA / PKD 4-AL	SW 27

Type	Outside
PKAK / PKDK 1-AL	SW 19
PKAL / PKDK 2-AL	SW 22
PKAK / PKDK 3-AL	SW 27
PKAL / PKDK 4-AL	SW 27

SERIES PK

Free-standing precision levelling wedges especially for machines without mounting holes in the machine bed.



Description

- PK ≡ free-standing precision levelling wedge
- Especially for machines without mounting holes in the machine bed
- Suitable levelling wedges are also available for existing installations
- **Colour:** RAL 7037, dusty grey

Please contact us if the appropriate insulation pad configuration for your application is not listed. We are also able to develop a wide range of special solutions. We are always happy to offer our advice.

A-MOUNTING



- Universally usable for machine tools and injection moulding machines.
- Especially for machines with high horizontal forces.
- Very high sliding prevention performance.

Upper side: Anti-slip pad BR7

Underside: Insulation pad B4

Type PK A-mounting	Item no.	max. load N/Stk.	L mm	B mm	H centre position mm	Adjustment range mm
PK 1-A	02-0004	5.400	105	55	59	+4/-5
PK 2-A	02-0011	10.000	150	75	63	+5/-6
PK 2.5-A	0200104	12.000	115	115	67	+4/-5
PK 3-A	02-0025	18.000	200	95	67	+5/-5
PK 3/72-A	02-0019	18.000	200	95	94	+5/-4
PK 3.2-A	0200110	20.000	150	150	68	+5/-6
PK 3.5-A	0200116	26.000	115	250	92	+4/-8
PK 3.8-A	0200122	26.000	170	170	76	+6/-8
PK 4-A	02-0042	38.000	200	200	70	+5/-7
PK 4/72-A	02-0033	38.000	200	200	94	+5/-7
PK 4.5-A	0200128	39.000	180	230	84	+9/-9
PK 5-A	02-0050	48.000	200	250	94	+10/-7
PK 5.5-A	0200134	73.000	300	250	106	+10/-8
PK 6-A	02-0057	80.000	250	330	94	+7/-10
PK 7-A	02-0064	117.500	300	400	95	+8/-12
PK 8-A	02-0071	195.500	400	500	95	+8/-14
PK 9-A	02-0078	294.500	500	600	137	+12/-15

B-MOUNTING



- Special design for CNC lathes, grinding machines, boring and milling machines, processing centres, transfer lines.

Upper side: Anti-slip pad BS

Underside: Insulation pad B0

Typ PK B-mounting	Item no.	max. load N/Stk.	L mm	B mm	H centre position mm	Adjustment range mm
PK 1-B	02-0005	10.000	105	55	54	+4/-5
PK 2-B	02-0012	21.000	150	75	58	+5/-6
PK 2.5-B	0200105	25.000	115	115	62	+4/-5
PK 3-B	02-0026	36.000	200	95	62	+5/-5
PK 3/72-B	02-0020	36.000	200	95	89	+5/-4
PK 3.2-B	0200111	43.000	150	150	63	+5/-6
PK 3.5-B	0200117	55.000	115	250	87	+4/-8
PK 3.8-B	0200123	55.000	170	170	71	+6/-8
PK 4-B	02-0043	77.000	200	200	65	+5/-7
PK 4/72-B	02-0034	77.000	200	200	89	+5/-7
PK4.5-B	0200129	79.500	180	230	79	+9/-9
PK 5-B	02-0051	97.000	200	250	89	+10/-7
PK 5.5-B	0200135	144.000	300	250	101	+10/-8
PK 6-B	02-0058	161.000	250	330	89	+7/-10
PK 7-B	02-0065	236.000	300	400	90	+8/-12
PK 8-B	02-0072	393.000	400	500	90	+8/-14
PK 9-B	02-0079	591.000	500	600	132	+12/-15

C-MOUNTING



- Highly effective vibration insulation.
- Especially suitable for use on upper floors.

Upper side: Anti-slip pad BS

Underside: Insulation pad B32

Typ PK C-mounting	Item no.	max. load N/Stk.	L mm	B mm	H centre position mm	Adjustment range mm
PK 1-C	02-0006	4.600	105	55	64	+4/-5
PK 2-C	02-0013	8.700	150	75	68	+5/-6
PK 2.5-C	02-0106	10.000	115	115	72	+4/-5
PK 3-C	02-0027	14.600	200	95	72	+5/-5
PK 3/72-C	02-0021	14.600	200	95	99	+5/-4
PK 3.2-C	02-0112	17.000	150	150	73	+5/-6
PK 3.5-C	02-0118	22.000	115	250	97	+4/-8
PK 3.8-C	02-0124	22.000	170	170	81	+6/-8
PK 4-C	02-0044	31.000	200	200	75	+5/-7
PK 4/72-C	02-0035	31.000	200	200	99	+5/-7
PK 4.5-C	02-0133	32.000	180	230	89	+9/-9
PK 5-C	02-0052	38.900	200	250	99	+10/-7
PK 5.5-C	02-0136	58.000	300	250	111	+10/-8
PK 6-C	02-0059	64.500	250	330	99	+7/-10
PK 7-C	02-0066	94.500	300	400	100	+8/-12
PK 8-C	02-0073	157.000	400	500	100	+8/-14
PK 9-C	02-0080	236.000	500	600	142	+12/-15

D-MOUNTING



- For machines with extremely high dynamic forces, such as presses, punches, shears.

Upper side: Anti-slip pad BR7

Underside: Insulation pad B5

Typ PK D-mounting	Item no.	max. load N/Stk.	L mm	B mm	H centre position mm	Adjustment range mm
PK 1-D	02-0007	8.700	105	55	69	+4/-5
PK 2-D	02-0014	17.000	150	75	73	+5/-6
PK 2.5-D	02-0107	20.000	115	115	77	+4/-5
PK 3-D	02-0028	29.000	200	95	77	+5/-5
PK 3/72-D	02-0022	29.000	200	95	104	+5/-4
PK 3.2-D	02-0113	34.500	150	150	78	+5/-6
PK 3.5-D	02-0119	44.500	115	250	102	+4/-8
PK 3.8-D	02-0125	44.500	170	170	86	+6/-8
PK 4-D	02-0045	62.000	200	200	80	+5/-7
PK 4/72-D	02-0036	62.000	200	200	104	+5/-7
PK 4.5-D	02-0130	64.000	180	230	94	+9/-9
PK 5-D	02-0053	77.000	200	250	104	+10/-7
PK 5.5-D	02-0137	116.000	300	250	116	+10/-8
PK 6-D	02-0060	129.000	250	330	104	+7/-10
PK 7-D	02-0067	189.000	300	400	105	+8/-12
PK 8-D	02-0074	314.000	400	500	105	+8/-14
PK 9-D	02-0081	470.000	500	600	147	+12/-15

SERIES PK

Free-standing precision levelling wedges especially for machines without mounting holes in the machine bed.

E-MOUNTING



- For machines and systems where vibration insulation is not required.
- Good frictional connection due to anti-slip pads.
- Very low overall height.

Upper side: Anti-slip pad BS

Underside: Anti-slip pad BS

Typ PK E-mounting	Item no.	max. load N/Stk.	L mm	B mm	H centre position mm	Adjustment range mm
PK 1-E	02-0008	16.000	105	55	41	+4/-5
PK 2-E	02-0015	32.500	150	75	45	+5/-6
PK 2.5-E	02-0108	38.000	115	115	49	+4/-5
PK 3-E	02-0029	54.900	200	95	49	+5/-5
PK 3/72-E	02-0023	54.900	200	95	76	+5/-4
PK 3.2-E	02-0114	65.000	150	150	50	+5/-6
PK 3.5-E	02-0120	83.500	115	250	74	+4/-8
PK 3.8-E	02-0126	83.500	170	170	58	+6/-8
PK 4-E	02-0046	116.400	200	200	52	+5/-7
PK 4/72-E	02-0037	116.400	200	200	76	+5/-7
PK 4.5-E	02-0131	120.000	180	230	66	+9/-9
PK 5-E	02-0054	145.500	200	250	76	+10/-7
PK 5.5-E	02-0138	218.000	300	250	88	+10/-8
PK 6-E	02-0061	242.000	250	330	76	+7/-10
PK 7-E	02-0068	355.000	300	400	77	+8/-12
PK 8-E	02-0075	589.500	400	500	77	+8/-14
PK 9-E	02-0082	887.000	500	600	119	+12/-15

F-MOUNTING



- For extremely high loads.
- Very high levelling constancy.

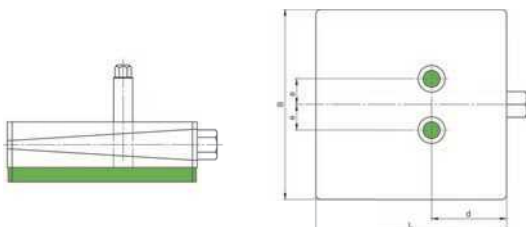
Upper side: Anti-slip pad BS

Underside: Insulation pad B6

Typ PK F-mounting	Item no.	max. load N/Stk.	L mm	B mm	H centre position mm	Adjustment range mm
PK 1-F	02-0009	19.000	105	55	54	+4/-5
PK 2-F	02-0016	38.000	150	75	58	+5/-6
PK 2.5-F	02-0109	44.500	115	115	62	+4/-5
PK 3-F	02-0030	64.000	200	95	62	+5/-5
PK 3/72-F	02-0024	64.000	200	95	89	+5/-4
PK 3.2-F	02-0115	75.800	150	150	63	+5/-6
PK 3.5-F	02-0121	97.000	115	250	87	+4/-8
PK 3.8-F	02-0127	97.000	170	170	71	+6/-8
PK 4-F	02-0047	135.000	200	200	65	+5/-7
PK 4/72-F	02-0039	135.000	200	200	89	+5/-7
PK 4.5-F	02-0132	139.500	180	230	79	+9/-9
PK 5-F	02-0055	170.000	200	250	89	+10/-7
PK 5.5-F	02-0139	253.000	300	250	101	+10/-8
PK 6-F	02-0062	282.000	250	330	89	+7/-10
PK 7-F	02-0069	414.000	300	400	90	+8/-12
PK 8-F	02-0076	680.000	400	500	90	+8/-14
PK 9-F	02-0083	1.035.000	500	600	132	+12/-15

SERIES PKA

Bolt-on precision levelling wedges for machines with strong forces that require a firm connection to the machine bed.



Description

- Bolt-on Bilz precision levelling wedge PKA are used for machines with large forces that require a solid connection to the machine bed, e.g. injection moulding machines, impact machines, cold extrusion presses, etc.
- The bolt-on machine feet remain in position even when the machine is lifted, significantly easing the installation of the machine.
- **Colour:** RAL 7037, dusty grey.
- **Fixing bolts:** Tables for the selection of available bolts can be found on p. 33.

BO-MOUNTING



- Suitable for lathes, boring mills, grinding machines and processing centres.

Underside: Insulation pad B0

Type PKA BO mounting	Item no.	max. load N/Stk.	L mm	B mm	H centre position mm	d mm	e mm	Internal thread	Adjustment range mm
PKA 1 0	03-0007	25.000	115	115	60	50	24	M16	+3/-3
PKA 2 0	03-0010	43.000	150	150	61	58	23	M18	+4/-4
PKA 3 0	03-0024	77.000	200	200	63	76	27	M20	+4/-6
PKA 3/72 0	03-0020	77.000	200	200	87	76	27	M20	+4/-7
PKA 4 0	03-0028	97.000	200	250	87	95	27	M20	+10/-7
PKA 5 0	03-0033	161.000	250	330	87	125	105	M24	+6/-10
PKA 6 0	03-0037	236.000	300	400	88	150	95	M24	+8/-12
PKA 7 0	03-0040	393.000	400	500	88	200	130	M24	+8/-14
PKA 8 0	03-0043	591.000	500	600	130	255	150	M30 x 2	+12/-15

B4-MOUNTING



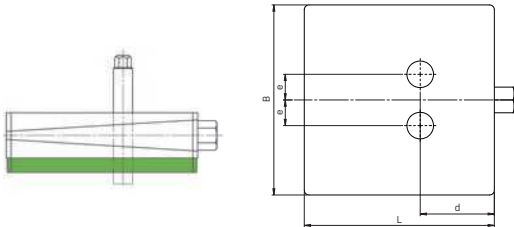
- Suitable for plastic injection moulding machines, die casting machines, planers, impact machines, cold extrusion presses etc.
- Extreme slip resistance.

Underside: Insulation pad B4

Typ PKA B4 mounting	Item no.	max. load N/Stk.	L mm	B mm	H centre position mm	d mm	e mm	Internal thread	Adjustment range mm
PKA 1 4	03-0008	12.000	115	115	60	50	24	M16	+3/-3
PKA 2 4	03-0011	20.000	150	150	61	58	23	M18	+4/-4
PKA 3 4	03-0025	38.000	200	200	63	76	27	M20	+4/-6
PKA 3/72 4	03-0021	38.000	200	200	87	76	27	M20	+4/-7
PKA 4 4	03-0030	48.000	200	250	87	95	27	M20	+10/-7
PKA 5 4	03-0034	80.000	250	330	87	125	105	M24	+6/-10
PKA 6 4	03-0038	117.500	300	400	88	150	95	M24	+8/-12
PKA 7 4	03-0041	195.500	400	500	88	200	130	M24	+8/-14
PKA 8 4	03-0044	294.500	500	600	130	255	150	M30 x 2	+12/-15

SERIES PKD

Used for machines that need to be anchored to the floor due to unfavourable centre of gravity conditions and low inherent rigidity.



Description

- Bolt-through Bilz precision levelling wedges PKD are used for machines where anchoring is essential due to unfavourable centre of gravity conditions.
- They can also be used for machines that have to be pushed or pulled when levelling 〰 i.e. for machines with low intrinsic rigidity. Suitable for plastic injection moulding machines, die casting machines, planers, impact machines, cold extrusion presses etc.
- Extreme slip resistance.
- **Colour:** RAL 7037, dusty grey.
- **Fixing bolts:** Tables for the selection of available bolts can be found on p. 33.
- The delivery includes a suitable insulating washer for insulating the bolt head.

BO-MOUNTING



- Suitable for boring and milling machines, processing centres, special machines, long lathes, long planers.

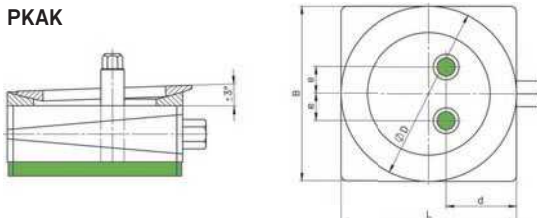
Underside: Insulation pad B0

Typ PKD BO mounting	Item no.	max. load N/Stk.	L mm	B mm	H centre position mm	d mm	e mm	Drill hole mm	Adjustment range mm
PKD 1〰	04-0003	25.000	115	115	60	50	24	22	+4/-5
PKD 2〰	04-0005	43.000	150	150	61	58	23	23	+5/-6
PKD 3〰	04-0009	77.000	200	200	63	76	27	26	+3/-7
PKD 3/72〰	04-0007	77.000	200	200	87	76	27	26	+4/-7
PKD 4〰	04-0011	97.000	200	250	87	95	27	26	+10/-7
PKD 5〰	04-0013	161.000	250	330	87	125	105	30	+6/-10
PKD 6〰	04-0015	236.000	300	400	88	150	95	30	+8/-12
PKD 7〰	04-0017	393.000	400	500	88	200	130	35	+8/-14
PKD 8〰	04-0019	591.000	500	600	130	255	150	35	+12/-15

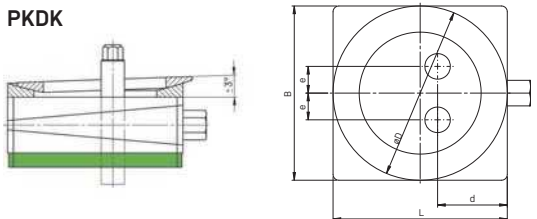
SERIES PKAK | PKDK

Can be bolted to the machine bed (PKAK) / bolt-through (PKDK) with calotte and used to compensate for angle differences, especially for machines with high geometric requirements.

PKAK



PKDK



Description

- Bilz precision levelling wedges **PKAK (bolt-on) / PKDK (bolt-through)** with spherical cap to compensate for angular differences between machines and foundations, e.g. in the case of unprocessed machine supports or uneven floors.
- For machines with a long bed and high geometric requirements.
- PKAK: The bolt-on levelling wedges remain in position even when the machine is lifted, significantly easing the installation of the machine
- **Colour:** RAL 7037, dusty grey.
- **Fixing bolts:** Tables for the selection of available bolts can be found on p. 33.
- PKDK: The delivery includes a suitable insulating washer for insulating the bolt head.

BO-MOUNTING



- With calotte
- Especially suitable for injection moulding machines, impact machines, cold extrusion presses.

Upper side: lacquered

Underside: Insulation pad B0

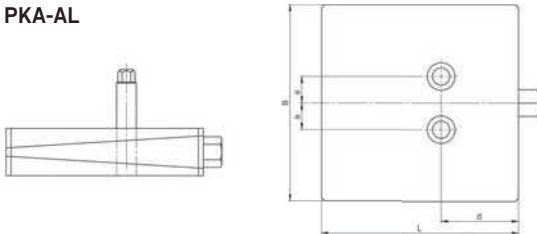
Typ PKAK BO mounting	Item no.	max. load N/Stk.	L mm	B mm	H centre position mm	ØD mm	d mm	e mm	Internal thread	Adjustment range mm
PKAK 1/8	05-0003	25.000	115	115	70	110	50	24	M16	+3/-3
PKAK 2/8	05-0008	43.000	150	150	77	150	58	23	M18	+4/-4
PKAK 3/8	05-0011	77.000	200	200	79	150	76	27	M20	+4/-6
PKAK 4/8	05-0015	97.000	200	250	103	150	95	27	M20	+10/-7

Typ PKDK BO mounting									Drill hole mm	
PKDK 1/8	06-0003	25.000	115	115	70	110	50	24	22	+4/-5
PKDK 2/8	06-0006	43.000	150	150	77	150	58	23	23	+5/-6
PKDK 3/8	06-0008	77.000	200	200	79	150	76	27	26	+3/-7
PKDK 4/8	06-0010	97.000	200	250	103	150	95	27	26	+10/-7

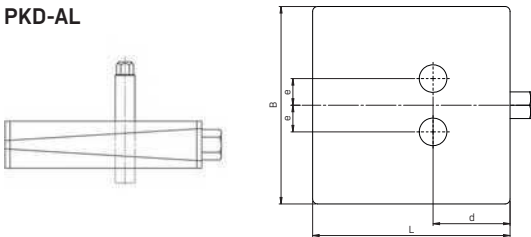
SERIES PKA-AL | PKD-AL

Easily adjustable levelling wedge with excellent wear properties, particularly suitable for EMC and clean room applications, can be bolted to the machine bed (PKA-AL) or anchored to the floor (PKD-AL).

PKA-AL



PKD-AL



Description

- Bilz precision levelling wedges **PKA-AL (bolt-on) / PKD-AL (bolt-through)** in aluminium version with hard anodising (hardcoat) are characterised by a high layer density, high hardness $\approx$ up to 600 HV $\approx$ and very good wear protection properties. The levelling wedge is very easy to adjust and particularly suitable for EMC applications.
- PKA-AL: The bolt-on machine feet remain in position even when the machine is lifted, significantly easing the installation of the machine.
- Can be fitted with Bilz insulation pads (also in EPDM for clean room applications).
- We supply special lubricants for applications in clean rooms.
- General tolerances according to ISO 2768 mK.
- **Colour:** Intrinsic colouring dark grey.
- **Fixing bolts:** Tables for the selection of available bolts can be found on p. 33.

VARIANTS



- Especially suitable for machines in the food and luxury food industry, packaging, chemical and pharmaceutical industry as well as for EMC and clean room applications.
- Easily adjustable, with very good wear properties.

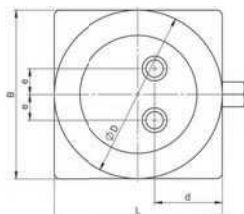
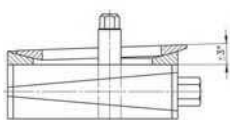
Type PKA-AL	Item no.	max. load N/Stk.	L mm	B mm	H centre position mm	d mm	e mm	Internal thread	Adjustment range mm
PKA 1-AL	03-0060	19.000	115	115	44	50	24	M16	+3/-3
PKA 2-AL	03-0061	32.000	150	150	47	60	24	M18	+3/-5
PKA 3-AL	03-0062	57.000	200	200	53	80	27	M20	+4/-5
PKA 4-AL	03-0063	72.000	200	250	73	95	27	M20	+9/-5

Type PKD-AL								Drill hole mm	
PKD 1-AL	04-0020	19.000	115	115	44	50	24	22	+3/-3
PKD 2-AL	04-0021	32.000	150	150	47	60	24	22	+3/-5
PKD 3-AL	04-0022	57.000	200	200	53	80	27	26	+4/-5
PKD 4-AL	04-0023	72.000	200	250	73	95	27	26	+9/-5

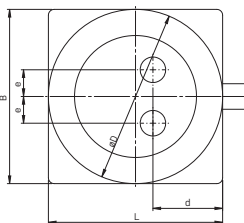
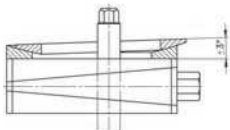
SERIES PKAK-AL | PKDK-AL

Easily adjustable levelling wedge with excellent wear properties, particularly suitable for EMC and clean room applications, can be bolted to the machine bed (PKAK-AL) or anchored to the floor (PKDK-AL), and to balance out angular differences

PKAK-AL



PKDK-AL



Description

- Bilz precision levelling wedges **PKAK-AL (bolt-on) / PKDK-AL (bolt-through)** in aluminium version with hard anodising (hardcoat) are notable for their high layer density, hardness $\approx$ up to 600 HV, and excellent wear protection properties. The levelling wedge is very easy to adjust and particularly suitable for EMC applications.
- With calotte to balance out angular differences
- PKAK-AL: The bolt-on machine feet remain in position even when the machine is lifted, significantly easing the installation of the machine.
- Can be fitted with Bilz insulation pads (also in EPDM for clean room applications).
- We supply special lubricants for applications in clean rooms.
- General tolerances according to ISO 2768 mK.
- **Colour:** Intrinsic colouring dark grey.
- **Fixing bolts:** Tables for the selection of available bolts can be found on p. 33.

VARIANTS



- With calotte
- Especially suitable for machines in the food and luxury food industry, packaging, chemical and pharmaceutical industry as well as for EMC and clean room applications.
- Easily adjustable, with very good wear properties.

Type PKAK-AL	Item no.	max. load N/Stk.	L mm	B mm	H centre position mm	ØD mm	d mm	e mm	Internal thread	Adjustment range mm
PKAK 1-AL	05-0018	19.000	115	115	54	110	50	24	M16	+3/-3
PKAK 2-AL	05-0019	32.000	150	150	63	150	60	24	M18	+3/-5
PKAK 3-AL	05-0020	57.000	200	200	69	150	80	27	M20	+4/-5
PKAK 4-AL	05-0021	72.000	200	250	89	150	95	27	M20	+9/-5

Type PKDK-AL									Drill hole mm	
PKDK 1-AL	06-0012	19.000	115	115	54	110	50	24	22	+3/-3
PKDK 2-AL	06-0013	32.000	150	150	63	150	60	24	22	+3/-5
PKDK 3-AL	06-0014	57.000	200	200	69	150	80	27	26	+4/-5
PKDK 4-AL	06-0015	72.000	200	250	89	150	95	27	26	+9/-5

ACCESSORIES

Our accessories complete the performance requirements of our precision levelling wedges and consequently support an ideal machine arrangement.

INSULATING PADS



Structure-borne sound insulation of firmly anchored machines and pipe suspensions.

FOR BOLT HEAD INSULATION

Our insulation washers for bolt heads provide sufficient vibration and structure-borne noise insulation of fixed machines and components. They can be used at temperatures from -20 °C to +80 °C and are highly resistant to industrially used oils, greases, acids and cooling mixtures.

WALL PLUGS



Fischer heavy duty wall plug SL
SL Fischer reaction anchor R and threaded rod RG
Fischer anchor bolt FAZ

FOR FLOOR ANCHORING

Fischer anchors are part of our product range. Other models and manufacturers on request.

EXTENSION



Easy and quick alignment of the machine in confined spaces.

FOR LEVELLING WEDGE BOLT

If the levelling bolt is difficult to access, we recommend using the levelling bolt extension. This ensures quick and easy levelling even when space is limited. These levelling aids are available in different lengths and wrench widths depending on the levelling wedge shoe used. Please contact us for further details.

FIXING BOLTS

Suitable bolts and nuts with standard thread can be supplied on request. The delivery includes 1 nut and 1 washer each.

ARTICLE NUMBERS FOR BOLTS AND NUTS

PKA | PKAK

Thread	Material	Length 100 mm	Length 125 mm	Length 150 mm	Length 200 mm
M16	verzinkt	1900323	1900324		
	Edelstahl	1800083	1800080		
M18	verzinkt	1900325	1900357	1900441	
	Edelstahl	1800084			
M20	verzinkt	1900326		1900327	1900308
	Edelstahl	1800085		1800081	
M24	verzinkt			1900329	
	Edelstahl			1800082	
M30×2	verzinkt			1900242	1900245



PKD | PKDK

Thread	Material	Length 150 mm	Length 200 mm	Length 250 mm	Length 300 mm
M16	verzinkt	1900094	1900098	1900101	
	Edelstahl	1800033	1800036	1800202	
M18	verzinkt	1900136	1900139	1900142	
M20	verzinkt	1900185	1900188	1900191	
	Edelstahl	1800044	1800047		
M24	verzinkt	1900214	1900223	1900226	1900229
	Edelstahl	1800052	1800069	1800203	1800204

PKA-AL | PKAK-AL

Thread	Material	Length 100 mm	Length 125 mm	Length 150 mm
M16	Edelstahl	1800083	1800080	
M18	Edelstahl	1800084		
M20	Edelstahl	1800085		1800081

PKD-AL | PKDK-AL

Thread	Material	Length 150 mm	Length 200 mm	Length 250 mm	Length 300 mm
M16	Edelstahl	1800033	1800036	1800202	
M20	Edelstahl	1800044	1800047		
M24	Edelstahl	1800052	1800069	1800203	1800204

HORIZONTAL ELEMENTS

**FOR MACHINES WITH HIGH HORIZONTAL FORCES
OR FOR LATERAL LINKING AND FIXING.**



All information about our horizontal elements is also available on our website.

Bilz horizontal elements are used for machines with extremely strong horizontal forces or when machines are linked and have to be fixed laterally.

HORIZONTAL ELEMENT



Size 1:

Steel angle, levelling element
model BNVS 115/5, 3 bolts
M16 × 150, 2 plugs M16

Size 2:

Steel angle, levelling element
model BNVS 115/5, 4 bolts
M20 × 150, 3 plugs M20

FOR LATERAL FIXATION

For machines with extremely strong horizontal forces or when machines are linked and have to be fixed laterally.

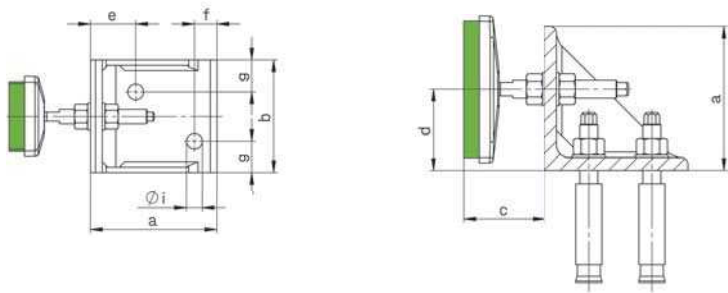
Bilz levelling elements model BNV are used as a pressure pad, which ensures vibration insulation.

Bilz horizontal elements are available in 2 sizes with 16,500 N pressure absorption.



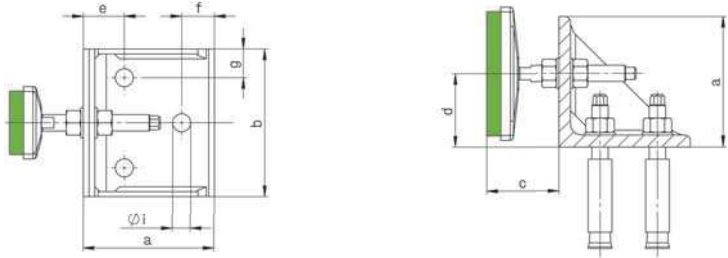
SIZE 1

Type	Item no.	max. load N/Stk.	a mm	b mm	c mm	d mm	e mm	f mm	g mm	i mm
Size 1	2000066	16.500	140	125	45	60-115	50	25	35	17,5



SIZE 2

Type	Item no.	max. load N/Stk.	a mm	b mm	c mm	d mm	e mm	f mm	g mm	i mm
Size 2	2000067	16.500	160	180	55	60-140	48	43	37	22



AIR SPRINGS

(RUBBER/MEMBRANE AIR SPRINGS)

HIGHLY EFFECTIVE INSULATION OF VIBRATIONS AND STRUCTURE-BORNE NOISE FOR A WIDE VARIETY OF MACHINE MODELS, OPTICAL AND ELECTRONIC DEVICES, LASER SYSTEMS AS WELL AS VEHICLE, ENGINE AND TRANSMISSION TEST BENCHES.



All information about our rubber springs is also available on our website.

The use of Bilz air spring insulators with active level control constantly maintains the correct level of machines or foundations. The level control and adjustment is entirely automatic.

The pressure in the air springs is appropriately adjusted by pressurising or venting in response to load changes. This keeps the insulating effect constant in all events.

Unlike steel springs air springs do not transmit structure-borne sound.

RUBBER AIR SPRING INSULATORS

for highly effective shock and vibration insulation

- FAEBI® rubber air springs are used for the highly effective insulation of machines, apparatus and aggregates from shocks, vibrations and structure-borne noise.
- The element comprises of a bellshaped rubber form made from high-grade elastomer.
- The constructive design enables highly effective vibration insulation without the disadvantage of high horizontal deflection.
- Overloading of the element due to a sudden pressure drop is virtually impossible.
- On request, the system is also available with mechanical or electronic level control (see under "Accessories", page 46).
- The base pad is equipped with an anti-slip pad to eliminate the need for floor anchoring.
- The FAEBI® rubber air spring is also available in a stainless steel version for use in outdoor areas (e.g. air-conditioning technology).



APPLICATIONS FOR RUBBER SPRINGS

Perfectly suited for source insulation of fast running presses, forging hammers and other machines and aggregates with highly dynamic disturbance forces. Passive insulation of measuring and test equipment as well as highly accurate machine tools.

SHOCK AND VIBRATION INSULATION WITH RUBBER AIR SPRINGS

The natural frequency of the rubber air spring in the vertical direction is between 3 and 14 Hz depending on the static load. The maximum spring deflection in response to a pulse load is up to 15mm depending on the model and size of the air spring.

AIR PRESSURE CONTROL

FAEBI® elements can be equipped with an air pressure control on request. The air pressure monitor will indicate if the air pressure falls below the required set point.

BILZ LEVEL CONTROL SYSTEMS

The level control is a significant component to ensure the optimal function of an air spring system. The level control can correct load changes that cause undesired deflection of the air elements or inclination of the machine in a machine or system equipped with air springs.

NOTES

Selection and notes on the FAEBI® variants

Please select a suitable rubber air spring so that the maximum load (sum of static and dynamic load) is not exceeded. In applications with high dynamics, harder FAEBI® variants reduce the deflection of the insulators, but the achievable insulating effect is better with softer insulators.

Please get in touch, we would be happy to assist you in selecting the most suitable elements.

- If the bottom edge of the machine does not completely cover the diameter ($\varnothing D$ see p. 40) of the rubber air spring, we recommend the use of our special cover (see "Accessories" section on page 45/47).
- The elements are attached to the holes provided on the machine using the bolts supplied. Anchoring to the floor is usually not necessary.
- Please bolt in by hand only, do not use a wrench! Please also fasten the corresponding nut with low torque only.
- The machine is placed on the deflated element, which is then inflated in stages using the standard valve until dimension H (= working height) is reached. The maximum specified air pressure must also not be exceeded!
- Ventilation and venting may only take place under load (please observe max. permissible pressure)!
- Up to ± 5 mm are available for levelling.

SERIES FAEBI®

FAEBI® rubber air spring insulator

FAEBI®



FAEBI® WITH LEVEL CONTROL



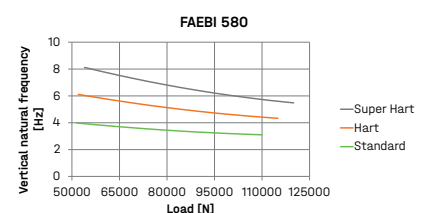
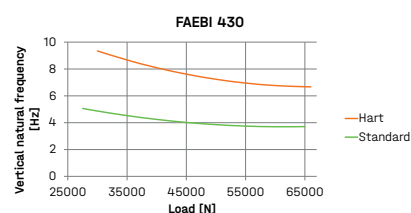
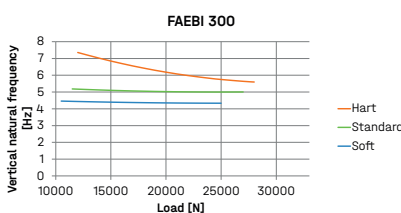
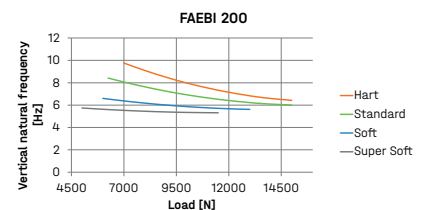
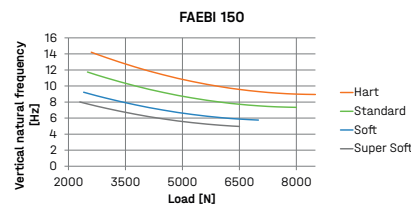
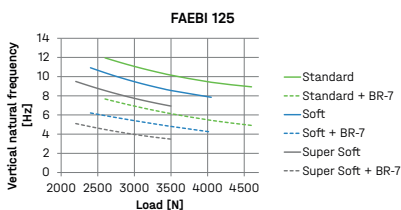
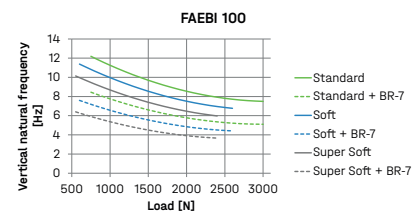
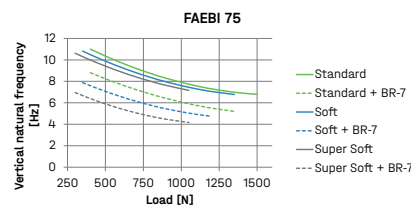
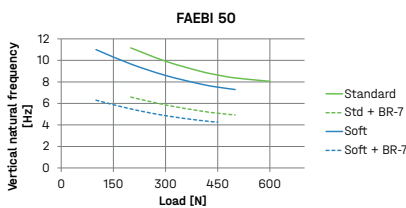
The FAEBI® element is available in many different sizes and versions to suit your application.

Advantages over steel springs

Compared to steel springs, the use of air springs offers numerous advantages in vibration insulation:

- Flexible design of the insulation system: If the static or dynamic load changes, the deflection can be adjusted accordingly by adjusting the air pressure. This can be done either manually or automatically (e.g. by Bilz level control).
- Integrated damping, therefore separate insulation is not necessary.
- No transmission of structure-borne noise.
- Permissible temperature range: -20 °C to +60 °C.

NATURAL FREQUENCIES FAEBI® 50 TO 580



SERIES FAEBI® IN STAINLESS STEEL

FAEBI® rubber air spring insulator in stainless steel

FAEBI® IN STAINLESS STEEL



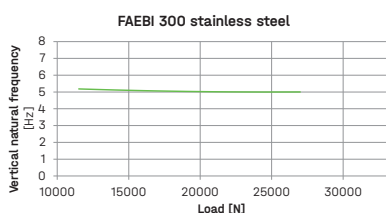
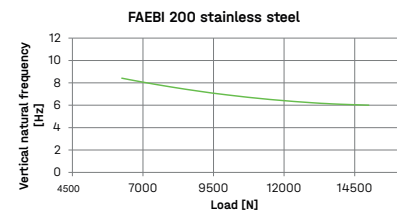
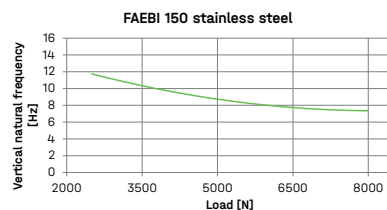
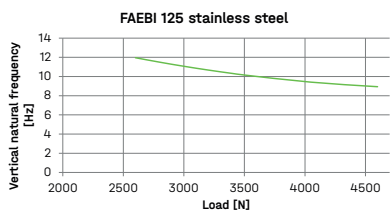
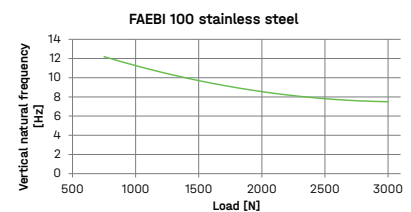
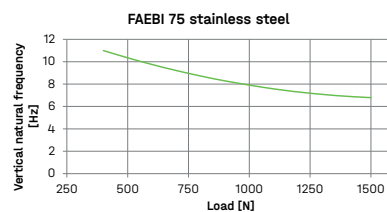
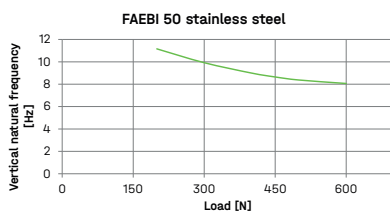
FAEBI® elements in the VA version were specifically developed for outside applications. Effortless vibration insulation of systems in the open air such as air conditioning units, compressors, heat exchangers, cold water chillers.

Advantages over steel springs

Compared to steel springs, the use of air springs offers numerous advantages in vibration insulation:

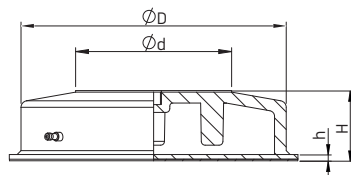
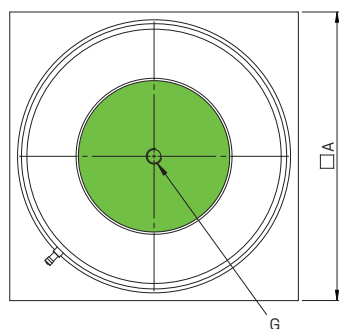
- Flexible design of the insulation system: If the static or dynamic load changes, the deflection can be adjusted accordingly by adjusting the air pressure. This can be done either manually or automatically (e.g. by Bilz level control).
- Can be used in outdoor areas in combination with a stainless steel protective hood.
- Integrated damping, therefore separate insulation is not necessary.
- No transmission of structure-borne noise.
- Permissible temperature range: -20 °C to +60 °C.

NATURAL FREQUENCIES FAEBI® 50 TO 300 IN STAINLESS STEEL



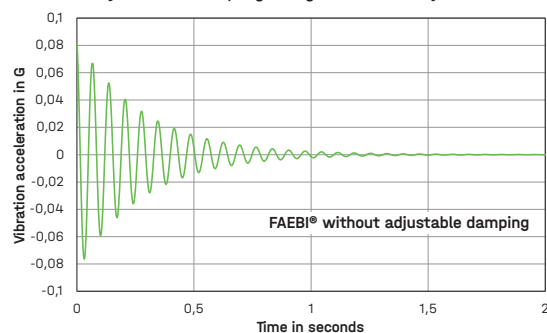
VARIANTS AND ARTICLE NUMBERS OF THE FAEBI® AND FAEBI® STAINLESS STEEL SERIES

Type	Variant	Item no. FAEBI®	Item no. FAEBI® in Stainless steel	load N/pc.	max. pressure bar	A mm	Ø D mm	H approx. mm = working height	H (deflated) mm	Ø d mm	h mm	G
FAEBI® 50	Standard	4000071	4000075	200±600	3	110	85	60	61	35	5	M10
	Standard + BR7	4000134		200±500	2,5	110	85	62	68	35	5	M10
	Soft	4000072		100±500	2,5	110	85	60	61	35	5	M10
	Soft + BR7	4000135		100±450	2,3	110	85	62	68	35	5	M10
FAEBI® 75	Standard	4000082	4000086	400±1.500	3	115	100	63	67	43	5	M12
	Standard + BR7	4000136		400±1.350	2,7	115	100	65	74	43	5	M12
	Soft	4000084		350±1.300	2,6	115	100	63	67	43	5	M12
	Soft + BR7	4000137		350±1.200	2,4	115	100	65	74	43	5	M12
	Super Soft	4000083		300±1.050	2,1	115	100	63	67	43	5	M12
	Super Soft + BR7	4000138		300±1.050	2,1	115	100	65	74	43	5	M12
FAEBI® 100	Standard	4000024	4000030	750±3.000	5	135	120	62	65	60	5	M12
	Standard + BR7	4000139		750±3.000	5	135	120	64	72	60	5	M12
	Soft	4000026		600±2.600	4,4	135	120	62	65	60	5	M12
	Soft + BR7	4000140		600±2.600	4,4	135	120	64	72	60	5	M12
	Super Soft	4000025		550±2.400	4	135	120	62	65	60	5	M12
	Super Soft + BR7	4000141		550±2.400	4	135	120	64	72	60	5	M12
FAEBI® 125	Standard	4000033	4000036	2.600±4.600	5,5	165	140	93	98	66	5	M16
	Standard + BR7	4000142		2.600±4.600	5,5	165	140	95	105	66	5	M16
	Soft	4000035		2.400±4.050	4,9	165	140	93	98	66	5	M16
	Soft + BR7	4000143		2.400±4.050	4,9	165	140	95	105	66	5	M16
	Super Soft	4000034		2.200±3.500	4,2	165	140	93	98	66	5	M16
	Super Soft + BR7	4000144		2.200±3.500	4,2	165	140	95	105	66	5	M16
FAEBI® 150	Hard	4000043		2.600±8.500	6,4	200	170	91	96	80	8	M16
	Standard	4000037	4000042	2.500±8.000	6	200	170	91	96	80	8	M16
	Soft	4000040		2.400±7.000	5,3	200	170	91	96	80	8	M16
	Super Soft	4000038		2.300±6.500	4,9	200	170	91	96	80	8	M16
FAEBI® 200	Hard	4000051		7.000±15.000	6	260	236	91	95	130	8	M16
	Standard	4000046	4000050	6.250±15.000	6	260	236	91	95	130	8	M16
	Soft	4000048		6.000±13.000	5,2	260	236	91	95	130	8	M16
	Super Soft	4000047		5.500±11.500	4,6	260	236	91	95	130	8	M16
FAEBI® 300	Hard	4000058		12.000±28.000	6,5	370	340	89	93	200	8	M20
	Standard	4000055	4000057	11.500±27.000	6	370	340	89	93	200	8	M20
	Soft	4000056		10.500±25.000	5,6	370	340	89	93	200	8	M20
FAEBI® 430	Hard	4000065		30.000±66.000	6,1	500	480	89	94	315	12	M20
	Standard	4000064		27.500±65.000	6	500	480	89	94	315	12	M20
FAEBI® 580	Super Hard	4000079		54.000±120.000	6,6	680	650	89	91	380	14	M24
	Hard	4000078		52.000±115.000	6,3	680	650	89	91	380	14	M24
	Standard	4000076		51.500±110.000	6	680	650	89	91	380	14	M24



SETTING CURVE FAEBI®

without adjustable damping (single chamber system)



SERIES FAEBI®-HD

with adjustable damping

FAEBI®-HD WITH ADJUSTABLE DAMPING



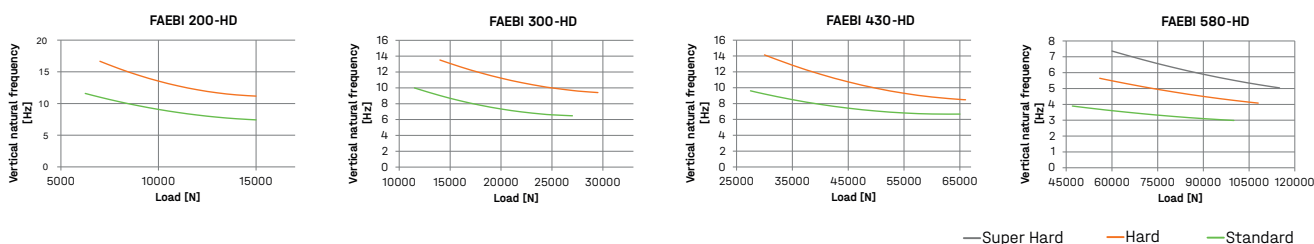
Extra high air cushioning due to two-chamber system.

For reducing the amplitudes of movement in highly dynamic systems, also in the resonance range, thus reducing machine wear and improving production quality.

Description

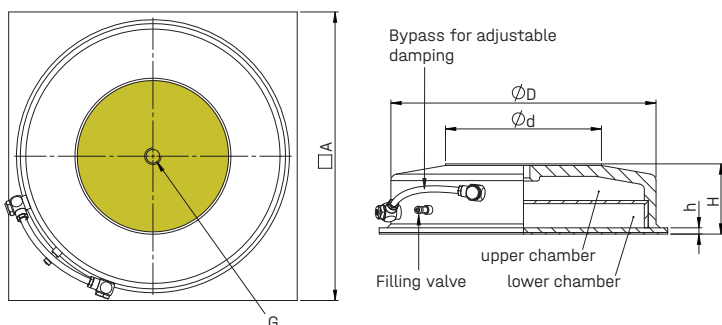
- Wear-resistant, low-maintenance air damping, easy to adjust from the outside using the throttle valve.
- Rapid machine movement reduction due to increased energy absorption.
- Deflection characteristics can be adapted by adjusting the air pressure.
- No transmission of structure-borne noise.
- Permissible temperature range: -20 °C to +60 °C.

NATURAL FREQUENCIES FAEBI® 200-HD TO 580-HD



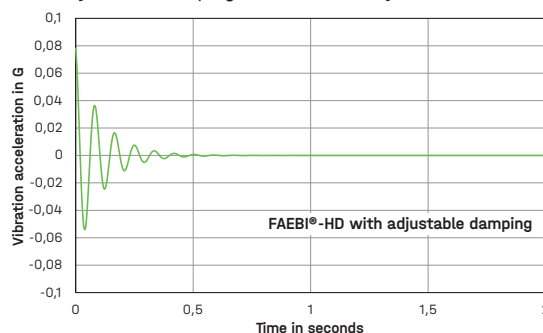
VARIANTS AND ARTICLE NUMBERS OF THE FAEBI®-HD SERIES

Type	Variant	Item no.	load N/pc.	max. pressure bar	A mm	Ø D mm	H approx. mm = working hight	H (deflated) mm	Ø d mm	h mm	G mm
FAEBI® 200-HD	Hard	4000054	7.000 ± 5.000	6	260	236	89	90	130	8	M16
	Standard	4000053	6.250 ± 5.000	6	260	236	89	90	130	8	M16
FAEBI® 300-HD	Hard	4000063	14.000 ± 29.500	6,5	370	340	89	94	200	8	M20
	Standard	4000061	11.500 ± 27.000	6	370	340	89	93	200	8	M20
FAEBI® 430-HD	Hard	4000070	30.000 ± 66.000	6,1	500	480	91	97	315	12	M20
	Standard	4000067	27.500 ± 65.000	6	500	480	91	96	315	12	M20
FAEBI® 580-HD	Super Hard	4000081	60.000 ± 115.000	6,9	680	650	126	135	380	14	M24
	Hard	4000145	56.000 ± 108.000	6,5	680	650	126	133	380	14	M24
	Standard	4000080	47.000 ± 100.000	6	680	650	126	130	380	14	M24



SETTING CURVE FAEBI®-HD

with adjustable damping (two-chamber system)



MEMBRANE AIR SPRINGS

for effective vibration damping and insulation

- With our BiAir® air spring insulator, the air volume is enclosed by a thin-walled, flexible and pressure-resistant rolling membrane.
- The piston sits on the membrane and is pressed into place by the air volume.
- This constructional design enables highly effective vibration insulation.

APPLICATIONS FOR MEMBRANE AIR SPRINGS

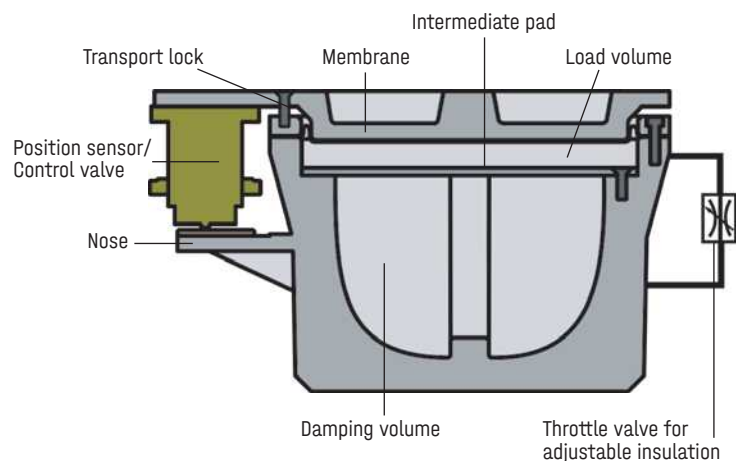
For highly effective receiver insulation of measuring and testing machines, inspection and production machines in the semiconductor industry, optical and electronic devices, laser systems, precision machining machines, as well as vehicle, engine and gearbox test tables etc.

HOW THE MEMBRANE AIR SPRINGS WORK

In order to simultaneously achieve the highest degree of damping possible, the air space is divided into two chambers (load/damping volume) connected by a bypass. An adjustable throttle valve is used from the outside to set the flow cross-section in the connecting line of the bypass to the desired damping. A degree of damping of up to 15% is possible.

GENERAL INFORMATION ON THE SELECTION AND APPLICATION OF OUR BIAIR® MEMBRANE AIR SPRINGS

- The maximum permissible movement amplitude in the horizontal plane is between approximately 1 to 2mm depending on the size of the air spring.
- In addition to the standard solutions listed here we also offer numerous air springs with a larger stroke and lower natural frequency.
- Please select the load at an air pressure of 4 bar when selecting the air spring size.
- The powder coated air springs are also available in other RAL colours on request.
- Permissible temperature range: -20 °C to +80 °C.
- Damage to the rolling membrane due to overpressure is virtually impossible through the use of additional safety valves or a mechanical piston stroke limit.



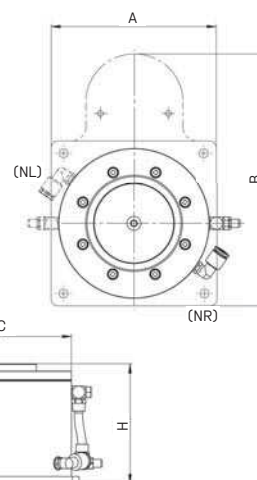
SERIES BIAIR®-ED-AL IN ANODISED ALUMINIUM



Low-frequency (**vertical from 2.5 Hz**) membrane air spring with precisely adjustable damping for effective vibration isolation.

Made from anodised aluminium to meet high demands on material properties.

Variants with lug for mounting valves (MPN) or displacement sensors are available with hose connections on the left (NL) or right (NR) on request.



VARIANT SELECTION AND ITEM NUMBERS BIAIR®-ED-AL

Type	Item no. without nose	Item no. NR	Art.-Nr NL	Natural frequency vertical/ horizontal Hz	A mm	B mm	Ø C mm	Working height H mm	+/- Travel mm	max. load N / 4 bar*	max. load N / 6 bar*
0,125	5000002	-	-	3,0/3,5	75	-	74	77	+/- 2,0	390	580
0,15	5000005	-	-	3,0/3,5	75	-	74	77	+/- 2,0	670	1.000
0,25	5000129	5000135	5000136	3,0/3,5	120	182	110	87	+/- 2,5	1.130	1.700
0,5	5000130	5000137	5000138	2,5/2,8	130	198	129	100	+/- 2,5	2.670	4.000
1	5000131	5000139	5000140	2,5/2,8	200	275	200	100	+/- 2,5	6.330	9.500
1,5	5000146	5000147	5000147	2,5/2,8	230	305	230	100	+/- 3,5	10.170	15.260
2	5000133	5000141	5000141	2,5/2,8	260	350	260	100	+/- 2,5	14.200	21.300
2,5	5000134	5000142	5000142	2,5/2,8	300	390	300	100	+/- 3,0	19.670	29.500

* max. load N at an air pressure of 4 bar or 6 bar

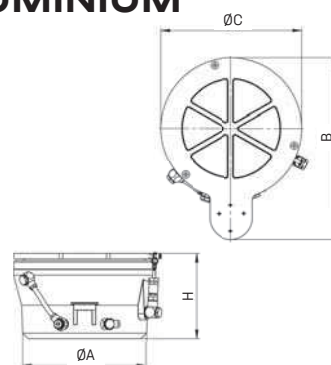
- max. working height 100mm
- Load-independent natural frequency
- Wear-resistant, low-maintenance air damping, easy to adjust from the outside
- No transmission of structure-borne noise

SERIES BIAIR®-ED MADE FROM CAST ALUMINIUM



Low-frequency (**vertical 2.5 Hz**) membrane air spring with precisely adjustable damping for effective vibration isolation.

Made from cast aluminium, universally applicable.



VARIANT SELECTION AND ITEM NUMBERS BIAIR®-ED

Type	Item no.	Natural frequency vertical/ horizontal Hz	A mm	B mm	Ø C mm	Working height H mm	+/- Travel mm	max. load N / 4 bar*	max. load N / 6 bar*
0,5	5000012	2,5/2,8	120	216	129	157	+/- 2,5	2.670	4.000
1	5000026	2,5/2,8	172	288	200	157	+/- 2,5	6.330	9.500
1,5	5000191	2,5/2,8	212	305	230	157	+/- 3,5	10.170	15.260
2	5000188	2,5/2,8	226	335	260	157	+/- 2,5	14.200	21.300
2,5	500036	2,5/2,8	271	378	300	157	+/- 3,0	19.670	29.500
3	500055	2,5/2,8	348	467	382	157	+/- 2,5	34.130	51.200
4	500064	2,5/2,8	490	605	530	157	+/- 2,75	65.730	98.600
5**	500072	2,5/2,8	747	875	798	157	+/- 3,5	155.730	233.600

* max. load N at an air pressure of 4 bar or 6 bar

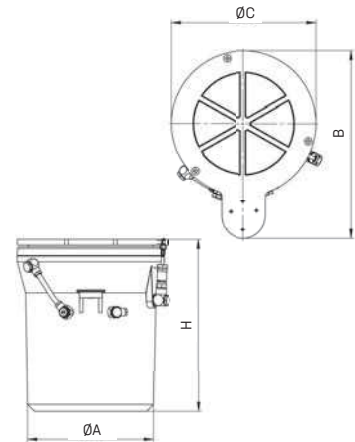
**unlacquered

- max. working height 157mm
- Load-independent natural frequency
- Wear-resistant, low-maintenance air damping, easy to adjust from the outside.
- No transmission of structure-borne noise.
- Powder coated in RAL similar to 7037, dusty grey.

SERIES BIAIR®-ED-HE MADE FROM CAST ALUMINIUM



Very low-frequency (**vertical 1.7 Hz**) membrane air spring with precisely adjustable damping for effective vibration isolation.
Made from cast aluminium, universally applicable.



VARIANT SELECTION AND ITEM NUMBERS BIAIR®-ED-HE

Typ	Item no.	Natural frequency vertical/horizontal Hz	A mm	B mm	Ø C mm	Working height H mm	+/- Travel mm	max. load N / 4 bar*	max. load N / 6 bar*
0,5**	5000145	1,7/2,8	129	216	129	307	+/- 2,5	2.670	4.000
1	5000027	1,7/2,8	172	288	200	307	+/- 2,5	6.330	9.500
1,5	5000021	1,7/2,8	212	305	230	307	+/- 3,5	10.170	15.260
2	5000046	1,7/2,8	226	335	260	307	+/- 2,5	14.200	21.300
2,5	5000037	1,7/2,8	271	378	300	307	+/- 3,0	19.670	29.500
3	5000056	1,7/2,8	348	467	382	307	+/- 2,5	34.130	51.200
4	5000065	1,7/2,8	490	605	530	307	+/- 2,75	65.730	98.600

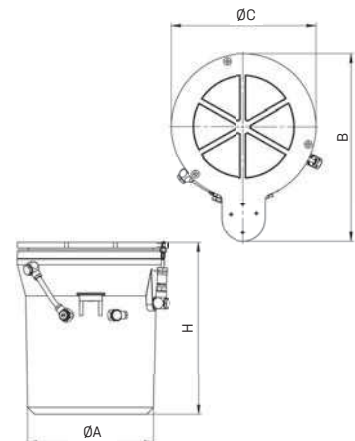
* max. load N at an air pressure of 4 bar or 6 bar
** unlacquered, made of aluminium

- max. working height 307mm
- Load-independent natural frequency
- Wear-resistant, low-maintenance air damping, easy to adjust from the outside
- No transmission of structure-borne noise
- Powder coated in RAL similar to 7037, dusty grey

SERIES BIAIR®-ED-HE-MAX MADE FROM CAST ALUMINIUM



Very low-frequency (**vertical 1.2 Hz**) membrane air spring with precisely adjustable damping for effective vibration isolation.
Made from cast aluminium, universally applicable.



VARIANT SELECTION AND ITEM NUMBERS BIAIR®-ED-HE-MAX

Type	Item no.	Natural frequency vertical/horizontal Hz	Ø A mm	B mm	Ø C mm	Working height H mm	+/- Travel mm	max. load N / 4 bar*	max. load N / 6 bar*
1	5000372	1,2/2,8	172	288	200	509	+/- 2,5	6.330	9.500
1,5	5000373	1,2/2,8	212	305	230	509	+/- 3,5	10.170	15.260
2	5000374	1,2/2,8	226	335	260	509	+/- 2,5	14.200	21.300
2,5	5000375	1,2/2,8	271	378	300	509	+/- 3,0	19.670	29.500
3	5000376	1,2/2,8	348	467	382	509	+/- 2,5	34.130	51.200
4	5000335	1,2/2,8	490	605	530	509	+/- 2,75	65.730	98.600
5	5000073**	1,2/2,8	728	960	880	509	+/- 3,5	155.730	233.600

* max. load N at an air pressure of 4 bar or 6 bar
** unlacquered

- max. working height 509 mm
- Load-independent natural frequency
- Wear-resistant, low-maintenance air damping, easy to adjust from the outside
- No transmission of structure-borne noise
- Powder coated in RAL similar to 7037, dusty grey

ACCESSORIES

Our accessories complete the performance requirements of our air springs and consequently support an ideal vibration isolation.

FIXING BOLTS



The FAEBI® rubber air springs are attached to the existing holes in the machine using the bolts provided (incl. one nut and one washer each). Anchoring to the floor is usually not necessary. A large range of different bolts are available for each variant. We are always happy to offer our advice.

ITEM NUMBERS

FAEBI®	Item no.	Thread	Material	Length mm
FAEBI® 50	1900311	M10	Galvanised steel	100
FAEBI® 75/100	1900322	M12	Galvanised steel	100
FAEBI® 125/150/200	1900324	M16	Galvanised steel	125
FAEBI® 300/430	1900327	M20	Galvanised steel	150
FAEBI® 580	1900329	M24	Galvanised steel	150

FAEBI® Edelstahl VA	Item no.	Thread	Material	Length mm
FAEBI® 50 VA	1800005	M10	Stainless steel	100
FAEBI® 75/100 VA	1800016	M12	Stainless steel	100
FAEBI® 125/150/200 VA	1800066	M16	Stainless steel	125
FAEBI® 300/430 VA	1800044	M20	Stainless steel	150
FAEBI® 580 VA	1800052	M24	Stainless steel	150

FAEBI®-HD	Item no.	Thread	Material	Length mm
FAEBI® 200-HD	1900324	M16	Galvanised steel	125
FAEBI® 300-HD/430-HD	1900327	M20	Galvanised steel	150
FAEBI® 580-HD	1900329	M24	Galvanised steel	150

PRESSURE CONTROL



Suitable for all rubber air springs.

Applications with a constant centre of gravity during the production/testing process (no moving machine components, workpieces, etc., steady masses).

Difficult to access systems, where the manual checking of air pressure in the air springs is impeded.

Item numbers:

3 Pressure regulator incl. pneumatic connection and hose set:

Item no. 4000179

4 Pressure regulator incl. pneumatic connection and hose set:

Item no. 4000180

The Bilz pressure control is the ideal addition to applications that do not need automatic level control.

Instead of filling the air springs manually, they are connected to a constant compressed air supply. The working height of the individual insulators can each be individually set with one pressure regulator.

Advantages of FAEBI® pressure control

- Simple and precise setting of the required pressure for each air spring or control group.
- Low maintenance.
- Manometer for continuous pressure indication.
- Upstream particle filter and water separator.
- Can be configured for any number of air springs or control groups.

HAND PUMP



Suitable for all rubber air springs.

Item no. 4000128

Hand pump for manual air filling.

ACCESSORIES

COMPRESSED AIR GUN



Suitable for all rubber air springs.

Item no. 400089

Compressed air gun with pressure gauge for air filling via existing compressed air supply.

MECHANICAL-PNEUMATIC LEVEL CONTROL SYSTEMS



MPN-LCV for FAEBI® and FAEBI®-HD Rubber air spring insulators:

Item no. 610103

Standard version of the LCV with stainless steel washer

MPN-LCV for BiAir® membrane air springs: Item no. 610012

Standard version LCV with stainless steel washer

MPN-LCV-short-Pad-A for BiAir® membrane air springs:

Item no. 610054

Shortened version of the LCV with plunger insulation pad.

MPN-LCV

The mechanical-pneumatic level control MPN-LCV with our robust LCV proportional valves is a simple but effective solution to prevent tilting as a result of load changes. The target level is adjusted by turning the knurled adjustment ring and is maintained with an accuracy of $\pm 1/10\text{mm}$.

MECHANICAL-PNEUMATIC LEVEL CONTROL SYSTEMS



MPN-PVM for BiAir® membrane air springs: Item no. 610010

Standard version PVM with hard metal washers

MPN-PVM-short-Pad-A for BiAir® membrane air springs:

Item no. 610058

Shortened version of the PVM with plunger insulation pad

MPN-PVM

The mechanical-pneumatic level control MPN-PVM with our robust PVM proportional valves is a simple but effective solution to prevent tilting as a result of load changes. The target level is adjusted and maintained by turning the knurled adjustment ring.

High-precision proportional valve.

The reset accuracy is $\pm 1/100\text{mm}$.

ELECTRONIC-PNEUMATIC LEVEL CONTROL SYSTEMS



Suitable for all membrane air springs.

ELECTRONIC-PNEUMATIC POSITION CONTROL EPPC

EPPC real-time level control for efficient vibration insulation of vibration sensitive, highly dynamic machines and strict requirements on positional accuracy and setting time.

Further details regarding the BiAir® membrane air springs with electronic-pneumatic level control can be found in the chapter EPPC on pages 52/53.