
AKUSTIK BUCH GmbH

Schall- und Schwingungsdämmung

Komponenten lufttechn. Anlagen

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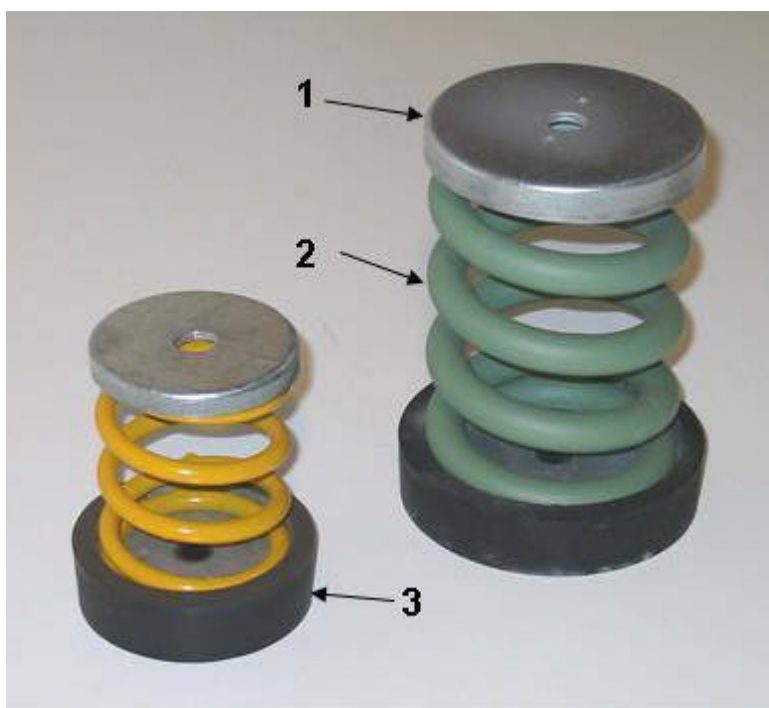
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1. Vibration dampers

A part of the vibrations, caused by working machine goes through the connection points into the building structure and induces vibrations there. This vibrations load the people and their environment.

This way of transition of vibrations can be damped by well calculated non-rigid connections. To reach it, we can put any kind of elastic materials - vibration isolator - between the machine and its foot. This kind of materials are: rubber, corkwood, basalt wool sheets, and so on.

1.1. Simple spring vibration damper – type EST



Centralizer disc (1), steel spring (2), support disc with rubber core (3)

Description and operation of EST vibration dampers

The insulator has to be placed under the body for vibration damp, lifted the height equal to the spring insulators. You can use bolt for centralisation - fitted in the rubber cored hole in the support disc. It is not advised to use rigid screwed fixing for this aim, because it can form a bridge for body noises.

The insulating characteristics of EST spring vibration dampers are equal to the TFI and TFA ones.

Specification of EST vibration dampers

Vibration damper set,pieces Manufacturer: AKUSTIK BUCH GmbH.

EST type spring vibration damper, for equipment with N weight.

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Technical data

compression strain at nominal load:	28 mm
characteristic frequency of the system at nominal load:	3 Hz
insulating efficiency at nominal load:	96 % from 15 Hz
diameter of the housing: A =	..... mm
height of the unloaded insulator:	..... mm
working height of the insulator:	..... mm
specific insulating efficiency: %
forced frequency:	..... Hz

Table of dimensions for EST type vibration dampers:

Calculate with 28 mm spring compression during the selection of the vibration damper.

Nominal load (N)	Height of spring housing H_0 (mm)	Diameter of disc below/above (mm)	Colour Code
500	100	80/70	White
1000	100	80/70	Yellow
1500	100	80/70	Green
2000	100	80/70	Grey
2500	100	80/70	Red
3000	120	80/70	Green
4000	120	110/95	Grey
5000	120	110/95	Red
6500	150	110/95	Green
8000	150	110/95	Grey
10000	150	110/95	Red

Ordering sample:

EST 4000



nominal load (N)
type

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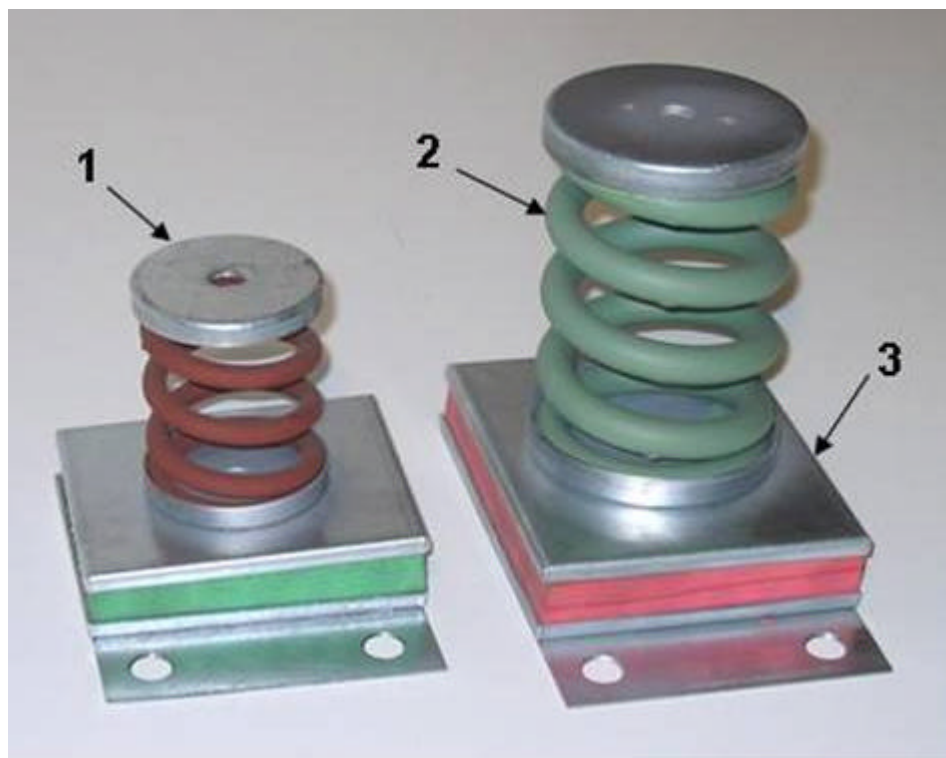
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1.2. Simple spring vibration damper – type EST - SY



Centralizer disc (1), steel spring (2), support disc with sylomer-adapter (3)

Description and operation of EST-SY vibration dampers

The insulators has to be placed under the body for vibration damp, lifted the height equal to the spring insulators. You can use bolt for centralisation - fitted in the rubber cored hole in the support disc. It is not advised to use rigid screwed fixing for this aim, because it can form a bridge for body noises.

Specification of EST-SY vibration dampers

Vibration damper set,pieces Manufacturer: AKUSTIK BUCH GmbH.

EST-SY type spring vibration damper, for equipment with N weight.

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Technical data

compression strain at nominal load :	31 mm
characteristic frequency of the system at nominal load:	3 Hz
insulating efficiency at nominal load:	96 % from 15 Hz
diameter of the housing:	A =..... mm
height of the unloaded insulator:	..... mm
working height of the insulator:	..... mm
specific insulating efficiency: %
forced frequency:	..... Hz

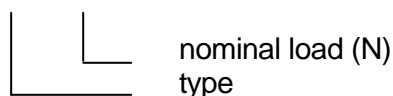
Table of dimensions for EST-SY type vibration dampers:

Calculate with 28 mm spring compression during the selection of the vibration damper.

Nominal load (N)	Height of spring housing + sylomer-adapter H ₀ (mm)	Diameter of disc above (mm)	Size of sylomer-adapter (mm)	Colour Code
500	100+30	70	120 x 100	White
1000	100+30	70	120 x 100	Yellow
1500	100+30	70	120 x 100	Green
2000	100+30	70	120 x 100	Grey
2500	100+30	70	120 x 100	Red
3000	120+30	70	120 x 100	Green
4000	120+30	95	120 x 100	Grey
5000	120+30	95	120 x 100	Red
6500	150+30	95	120 x 150	Green
8000	150+30	95	120 x 150	Grey
10000	150+30	95	120 x 200	Red

Ordering sample:

EST-SY 4000



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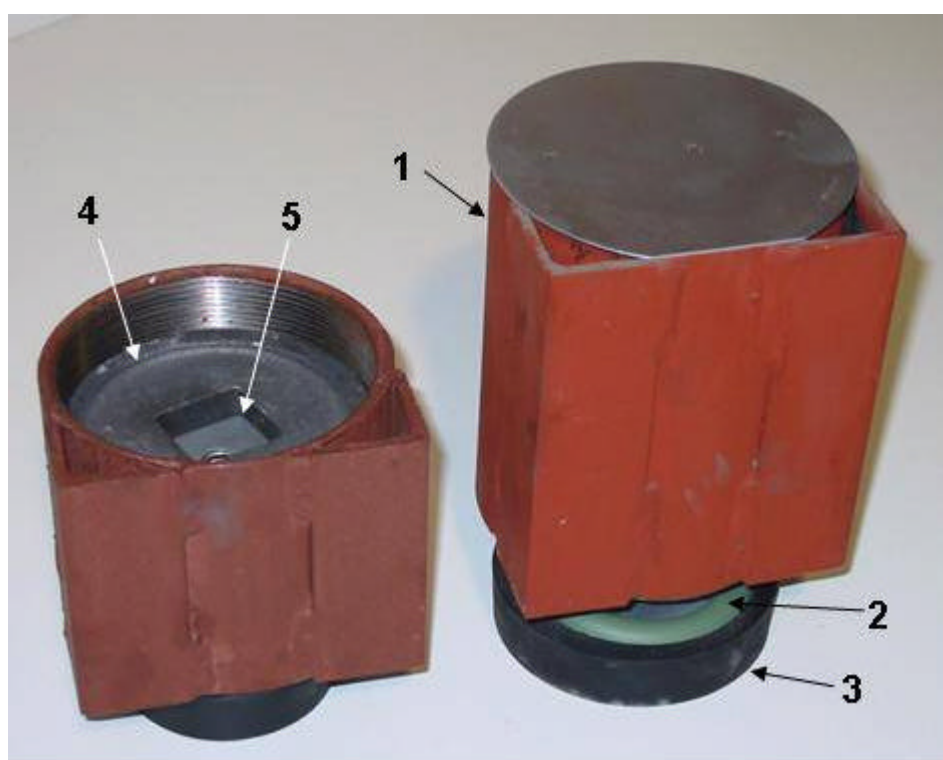
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1.3. Vibration damping with point supported elements

The TFA and TFI type telescopic spring vibration dampers are available for damping low frequency vibrations of machines, pedestals and architectural parts. This way we can reach a good insulating efficiency (>96%) in case of low frequency vibrations induced by air and climatic systems for example. We apply a completion of rubber layer to insulate the higher frequency vibrations.

1.4. Telescopic spring vibration damper - Type TFA



Cylindrical spring housing (screw-type bush, cover) (1), steel spring (2), support disc with rubber core (3), screwed disc (4) with square hole (5).

The material of the housing is black steel.

Description of the TFA type vibration damper

Weld the spring housing on the well calculated bearer structure. Then fit the support disc, the spring and the screwed disc into the housing. To pre-stress the spring and the lifting the pedestal, screw in the screwed disc into the screwed cylinder, this way we press the spring to the base through the support disc.

Installation of the vibration damper

Weld the binder fixed on the cylinder to the base-frame of the machine or to the pedestal.

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Advantages

- It is possible to apply TFA elements welded on a mounting plate and screwed to the pedestal.
- It is possible to prepare flexible supported pedestals with arbitrary dimensions.
- The lifting procedure is simple with the vibration dampers.
- You do not need to apply special lifting devices and special bases for them.
- The installation of the machine can be done in steady state of the pedestal.
- If the load changes, it is possible to exchange the springs, you can do a new boning subsequently.
- In case of unequal loading, it is possible to allocate the vibration dampers equally.
- You can apply different thickness in the pedestal.
- It is possible to exchange the springs of TFI and TFA type vibration dampers into special rubber elements, this way you get special conducted sound insulators or adjustable vibration limiters.

Specification of the TFA vibration dampers

Vibration damper set, pieces. Manufacturer: AKUSTIK BUCH GmbH.

TFA type telescopic spring vibration damper with lifter and boning set, for vibration damping of equipment with N weight.

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Technical data

compression strain at nominal load:	28 mm
characteristic frequency of the system at nominal load:	3 Hz
insulating efficiency at nominal load:	96 % from 15 Hz
diameter of the housing:	B = 121 mm
height of the housing:	..... mm
working height of the insulator:	..... mm
specific insulating efficiency: %
forced frequency:	..... Hz

Table of dimensions for TFA type vibration dampers

Calculate with 28 mm spring compression during the selection of the vibration damper.

Nominal load (N)	Height of spring housing H_0 (mm)	Diameter of spring housing $\varnothing B$ (mm)	Diameter of support disc $\varnothing A$ (mm)	Colour code
500	100	121	80	White
1000	100	121	80	Yellow
1500	100	121	80	Green
2000	100	121	80	Grey
2500	100	121	80	Red
3000	120	121	80	Green
4000	120	121	110	Grey
5000	120	121	110	Red
6500	150	121	110	Green
8000	150	121	110	Grey
10000	150	121	110	Red

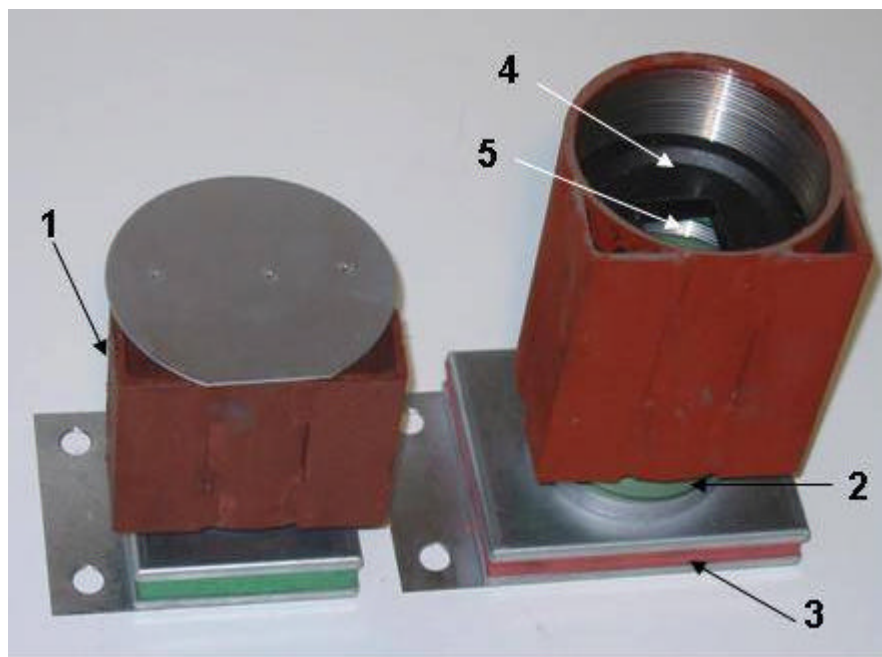
Ordering sample:

TFA 3000



nominal load (N)
type

1.5. Telescopic spring vibration damper - Type TFA-SY



Cylindrical spring housing (screw-type bush, cover) (1), steel spring (2), support disc with sylomer-adaptor (3), screwed disc (4) with square hole (5). The material of the housing is black steel.

Description of the TFA-SY type vibration damper

Weld the spring housing on the well calculated bearer structure. Then fit the support disc, the spring and the screwed disc into the housing. To pre-stress the spring and the lifting the pedestal, screw in the screwed disc into the screwed cylinder, this way we press the spring to the base through the support disc.

Installation of the vibration damper

Weld the binder fixed on the cylinder to the base-frame of the machine or to the pedestal.

Advantages

Similar to the TFA system.

Specification of the TFA-SY vibration dampers

Vibration damper set, pieces. Manufacturer: AKUSTIK BUCH GmbH.

TFA-SY type telescopic spring vibration damper with lifter and boning set, for vibration damping of equipment with N weight.

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Technical data

compression strain at nominal load:	28 mm
characteristic frequency of the system at nominal load:	3 Hz
insulating efficiency at nominal load:	96 % from 15 Hz
diameter of the housing:	B =121 mm
height of the housing:	..... mm
working height of the insulator:	..... mm
specific insulating efficiency: %
forced frequency:	..... Hz

Table of dimensions for TFA-SY type vibration dampers

Calculate with 28 mm spring compression during the selection of the vibration damper.

Nominal load (N)	Height of spring housing + sylomer-adapter H ₀ (mm)	Diameter of spring housing $\bar{A}B$ (mm)	Size of sylomer-adapter(mm)	Colour code
500	100+30	121	120 x 100	White
1000	100+30	121	120 x 100	Yellow
1500	100+30	121	120 x 100	Green
2000	100+30	121	120 x 100	Grey
2500	100+30	121	120 x 100	Red
3000	120+30	121	120 x 100	Green
4000	120+30	121	120 x 100	Grey
5000	120+30	121	120 x 100	Red
6500	150+30	121	120 x 150	Green
8000	150+30	121	120 x 150	Grey
10000	150+30	121	120 x 200	Red

Ordering sample:

TFA 3000



nominal load (N)
type

1.6. Telescopic spring vibration damper - Type TFI



Cylindrical spring housing (screw-type bush, height balance ring, cover) (1), spring (2), support disc with rubber core (3), screwed disc with square hole.
The material of the housing is grey cast iron.

Description

The spring housing has to be imbedded in concrete of the pedestal. Then fit the support disc, the spring and the screwed disc into the housing. To pre-stress the spring and the lifting the pedestal, screw in the screwed disc into the screwed cylinder, this way we press the spring to the base through the support disc.

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Installation of the vibration damper

To avoid the agglomeration of the base earth, we can lay sanded tarred roofing-felt on the whole base surface (the sanded side down).

Stand up the spring housings, which are better to fix to the reinforcement to avoid their dislocation during the concrete placement. Put wasps round the each housing, to avoid the inflow of the concrete.

Then prepare the concrete pedestal by its routine. After the concretion break out the wasps, clean out the spring housing, grease the screwed parts, fit in the base disc, the spring and the screwed disc.

Advantages

- It is possible to prepare flexible supported pedestals with arbitrary dimensions (the minimal thickness of the concrete plate is 16 cm). You do not need to apply residual form-works in the concrete.
- The lifting procedure is simple with the vibration dampers; there is no danger of the point overload of the base earth.
- You do not need to apply special lifting devices and special bases for them.
- The installation of the machine can be done in steady state of the pedestal.
- If the load changes, it is possible to exchange the springs, you can do a new boning subsequently.
- In case of unequal loading, it is possible to allocate the vibration dampers equally.
- You can apply different thickness in the pedestal.
- It is possible to exchange the springs of TFI and TFA type vibration dampers into special rubber elements, this way you get special conducted sound insulators or adjustable vibration limiters.

Specification of the TFI vibration dampers

Vibration damper set, pieces. Manufacturer: AKUSTIK BUCH GmbH.

TFI type telescopic spring vibration damper, for vibration insulating ofN weighted equipment.

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Technical data

Compression strain at nominal load:

28 mm

Characteristic frequency of the system at nominal load:

3 Hz

Insulating efficiency at nominal load:

96 % from 15 Hz

Table of dimensions for TFI type vibration dampers

Calculate with 28 mm spring compression during the selection of the vibration damper.

Nominal load (N)	Height of spring housing H_0 (mm)	Diameter of spring housing $\varnothing B$ (mm)	Diameter of support disc $\varnothing A$ (mm)	Colour code
5000	160	135	110	Red
6500	160	135	110	Green
8000	160	135	110	Grey
10000	160	135	110	Red

Ordering sample:

TFI 6500



nominal load (N)
type