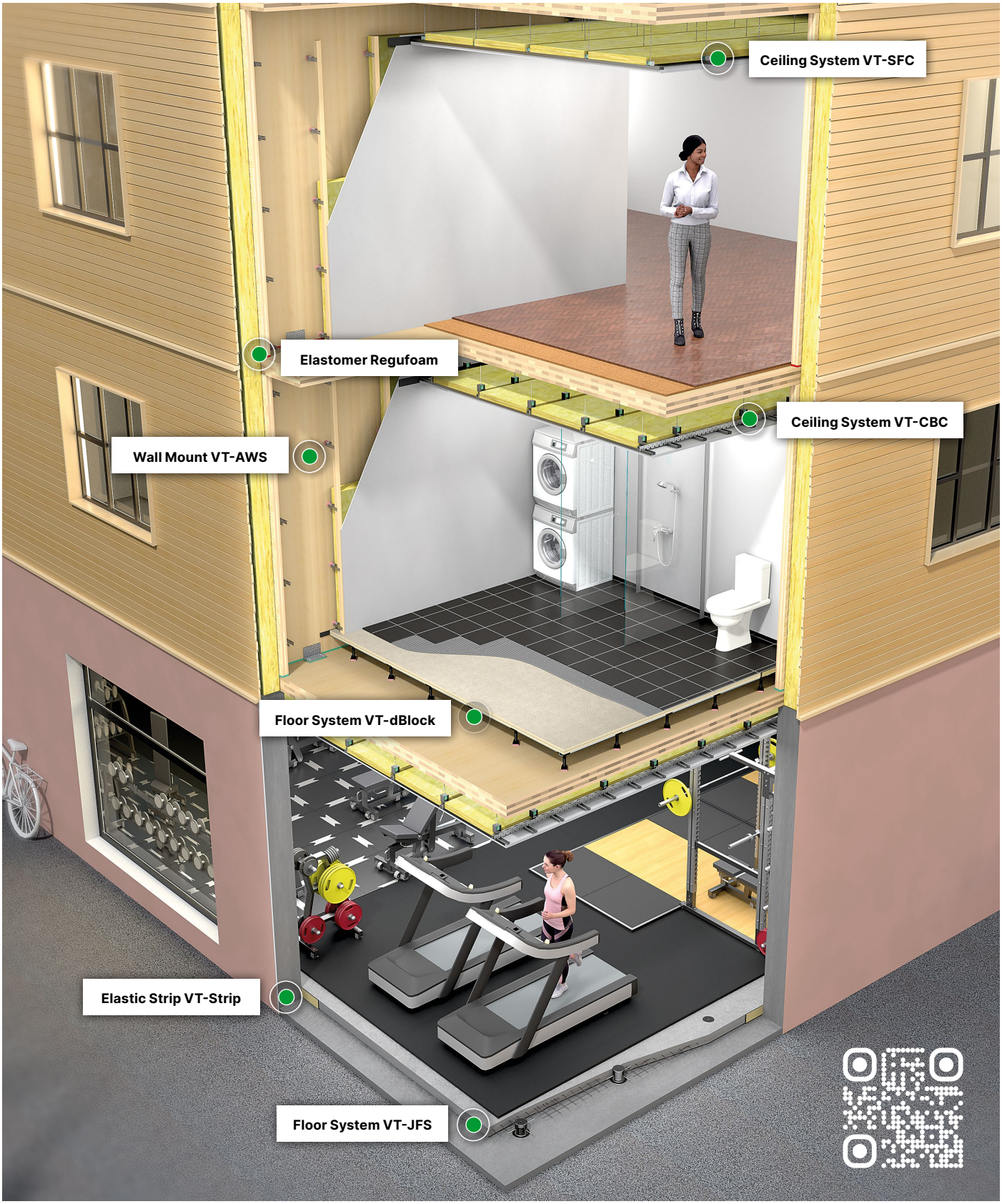
VIBRATEC

Product Catalogue for Construction

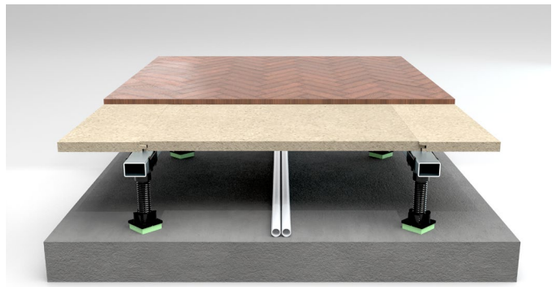
Floors, ceilings and walls



Quietly Improving Your Environment

Floors

Floor System VT-dBlock



VT-dBlock - 12

Resonance frequency 15 – 20 Hz

Airborn sound improvement: ΔRw = 5 - 7 dB

Impact sound improvement: ΔLn,w = 26 - 28 dB

VT-dBlock - 25

Resonance frequency 10 – 13 Hz

Airborn sound improvement: ΔRw = 5 - 7 dB

Impact sound improvement: ΔLn,w = 28 - 30 dB

VT-dBlock - 50

Resonance frequency 7 – 10 Hz

Impact sound improvement: ΔLn,w >30 dB

Description

VT-dBlock is an adjustable system for raised floors specially developed for a quick and easy installation and for effective impact and airborne sound isolation.

The system consists of very robust ABS plastic components, damping pad and aluminum profiles (Al-bars) - all components are clicked together. By using different types of damping pads, different noise reduction can be achieved, and by playing with c/c distances, higher load capacity (or less bounce) can be obtained.

The system is as simple as building a standard floor of wood and chipboard - but with the benefits of adjustability in terms of sound and construction height. The adjusting screw is available in 2 standard lengths: 200 mm and 400 mm.

VT-dBlock is first and foremost a floor for sound attenuation and is used in appartments, offices, schools and public premises. VT-dBlock can be used for both new production and renovation as:

- Sound floor
- Floor for waterborne heat
- Floor for electric heating
- Installation floor
- Ventilation floor

Installation

The floorsystem is delivered with the aluminum bars and plastic adjusting screws uncut in standard lengths. Vibratec can provide installation plans and deliver the floor system precut if needed.

For a detailed installation guide se the separate installation manual on our website.

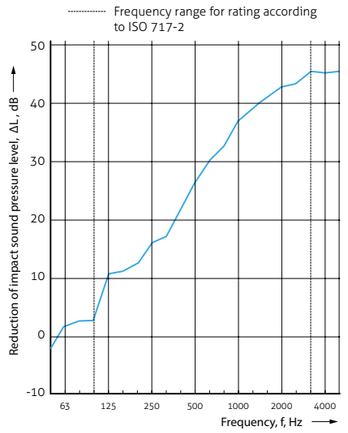
Flank transmissions

To avoid flank transmissions, floorboards and surface coating do not have direct contact with surrounding walls and structures. To avoid contact, it is recommended that the floorboards are mounted against the self-adhesive elastic strip VT-Strip.

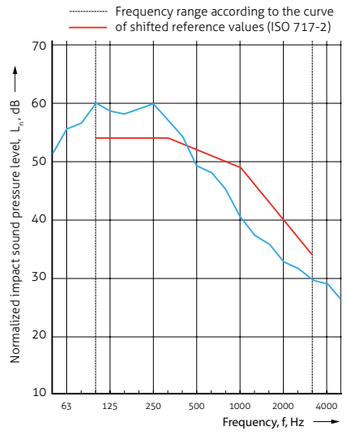
Characteristics

Utility load 2 kN/m² (vid c/c 0,6 x 0,6 m between support legs)

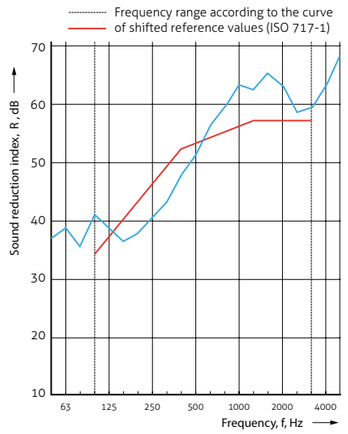
Reduction of impact sound pressure level ΔLw = 28 dB (50 mm isolerad air gap + 22 mm floorboard + 14 mm parquet), see graph below

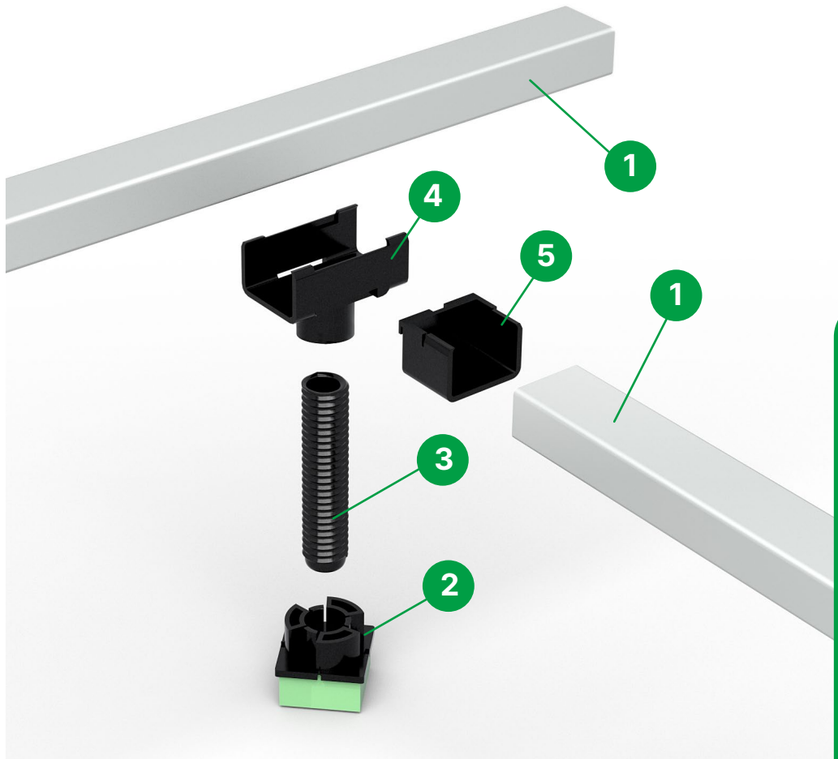


Normalized impact sound pressure level Ln,w = 52 dB (50 mm isolerad air gap + 22 mm floorboard on 140 mm standard concrete flooring), see graph below



Sound reduction index Rw = 53 dB (50 mm isolerad air gap + 22 mm floorboard on 140 mm standard concrete flooring), see graph below

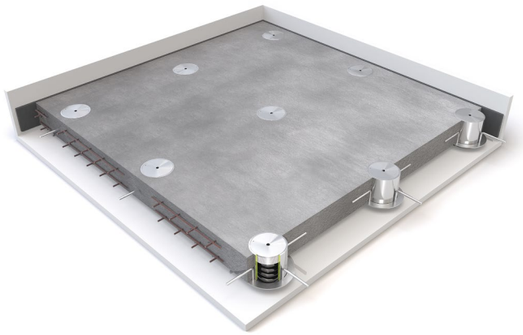




VT-dBlock

1. Aluminum bar
2. Foot with damping pad
3. Adjusting screw
4. Threaded sleeve
5. Shelf bracket

Jack-up Floor System VT-JFS



Description

VT-JFS is an antivibration system for floating concrete floors and slabs.

VT-JFS jack-up floating floor system results in high performances on the isolation level of airborne and structure-borne sound transmission.

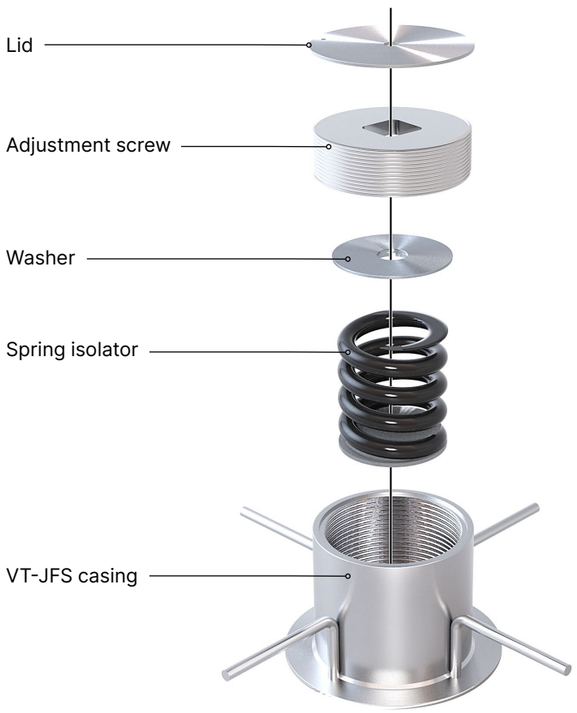
VT-JFS is ideal to use in areas subjected to vibrations such as gym floors, bowling halls, shopping malls, machine rooms etc.

It is also useful in cases where a limited height is available for the floating concrete floor, as the system allows for smaller air gap than with formwork panels.

Characteristics

Static Load	From 300 daN to 2000 daN
Natural Frequency	3 - 6 Hz
Concrete thickness	From 80 mm to 300 mm

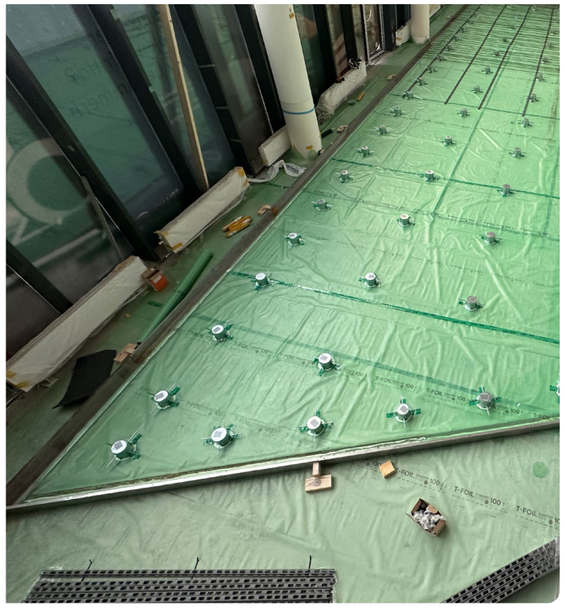
VT-JFS components

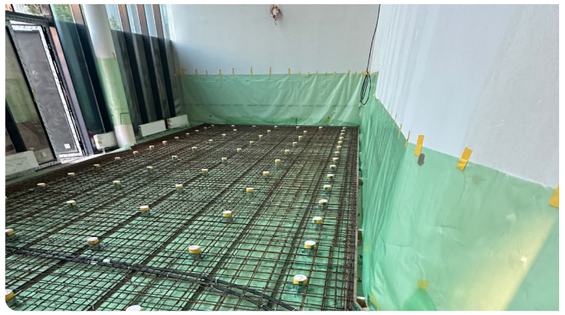


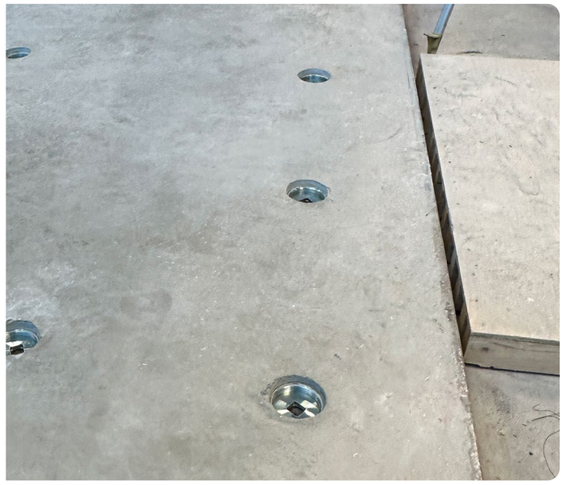
Advantages of the VT-JFS System are:

- Low natural frequency.
- High level of vibration attenuation.
- High stability of the suspension due to low C.O.G.
- Improved operational life for suspended machinery.
- Integrated system controlling the height of the floor.
- Springs are accessible if modifications are required.

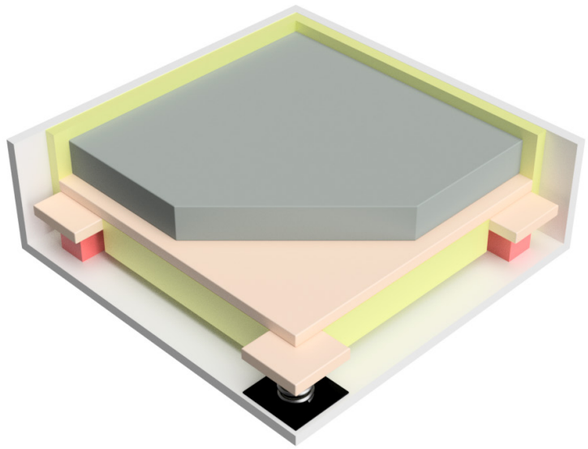
Floors







Floor System VT-FLOAT



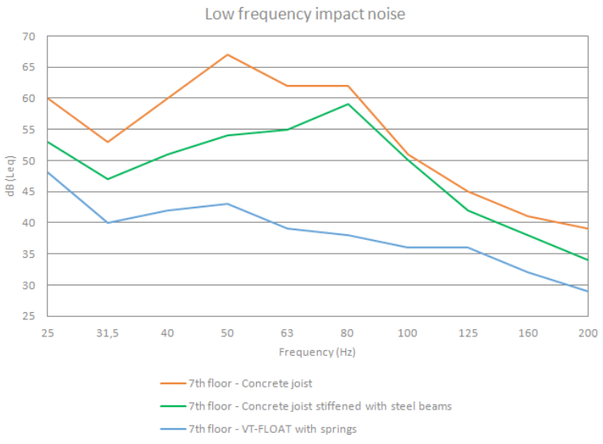
Description

A system for heavy floating concrete floors with either elastic pads or steel springs as discrete isolators.

VT-FLOAT is used in cases with high requirements on airborne and impact sound isolation. The system can either be delivered as pre-manufactured, uniquely marked panels (with isolators and mineral wool glued to the board), or as separate components.

Characteristics

By adding extra isolators the system allows easy adjustment of the stiffness on different parts of the floor (due to extra linear or point loads for instance).

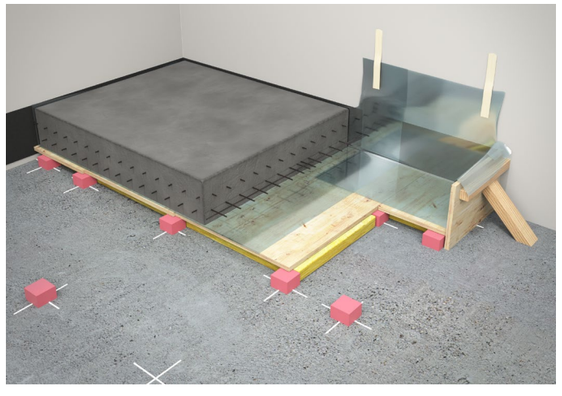


The elastic isolators are available in standard heights 50 and 75 mm reaching a resonance frequency of 6 Hz (other heights on request).

The steel springs are available in standard heights 100 and 150 mm reaching a resonance frequency of 5 and 3,5 Hz.

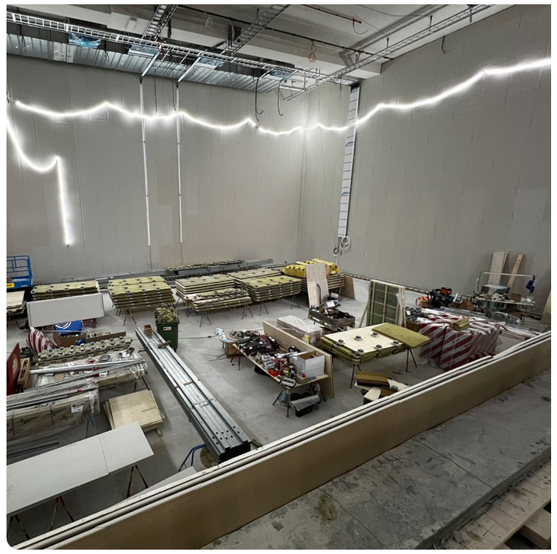
Heavy floating concrete floors are often required in applications such as bowling lanes, cinema halls, gym floors, night clubs, machine foundations etc.

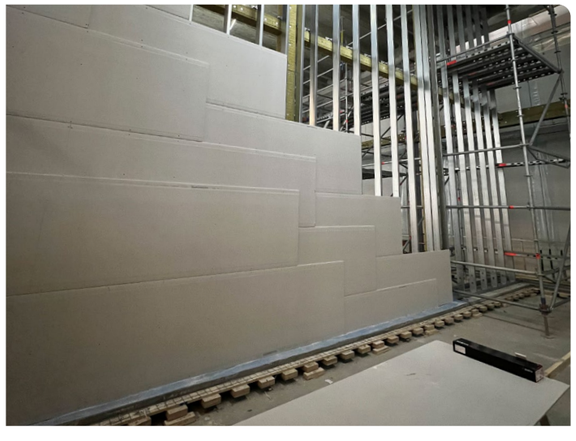
Vibratec can also offer the on-site installation of the system plus verification measurements of L_n and R_w.



Advantages of the VT-FLOAT System are:

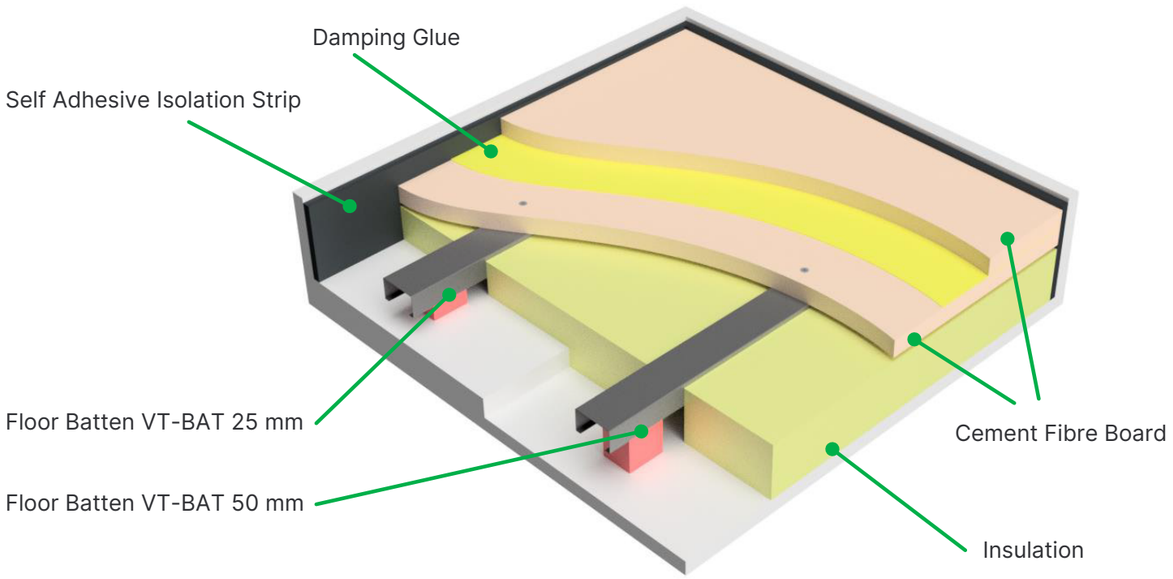
- System comes with full design drawings and is extremely quick and easy to install.
- Optimises sound isolation.
- The air void beneath the floor can be varied to tune the system natural frequency.
- Available with springs (3-5 Hz) or rubber pads.





Floor System VT-BAT

Illustration of a typical installation of VT-BAT



Description

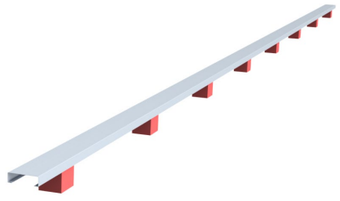
Vibratec floor system VT-BAT is a quick and easy-to-install system with discrete isolators. The system comprises of 3 meter long and a width of 48 mm steel battens with isolators (elastic elements) available in 4 different standard heights: 25, 30, 50 and 75 mm (other heights available on request).

Characteristics

Depending on the load and the choice of height resonance frequencies below 6 Hz can be achieved (see frequency curves on next page). The stiffness can be adjusted by playing on the number of isolators per m2 or/and by choosing softer/stiffer material for the isolators, please contact Vibratec for advice.

Applications

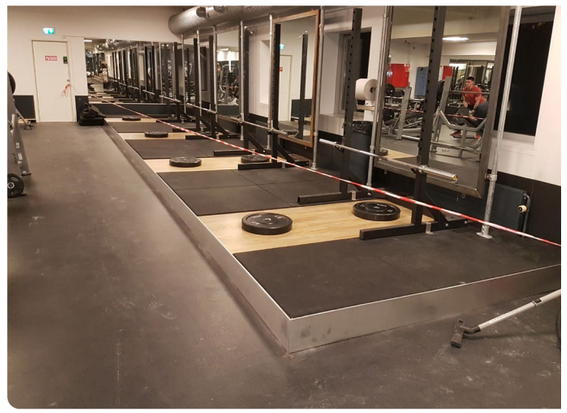
Used for wet or dry floating floors in rehearsal rooms, studios, cinemas, offices and industries. Also used in sprung floors for dance, gymnastics, sports and stages.



Color	Type	Load Range (kg/m²)*
Grey	VT-BAT-400	40 - 120
Brown	VT-BAT-510	60 - 240
Red	VT-BAT-570	80 - 310
Blue	VT-BAT-680	120 - 450

*Loads are based on CC 600 mm

Height	Deflection	F_n (Hz)
25 mm	1 - 2 mm	> 9 Hz
30 mm	1 - 2 mm	> 8 Hz
50 mm	1 - 2 mm	> 6.5 Hz
75 mm	1 - 2 mm	> 5.5 Hz



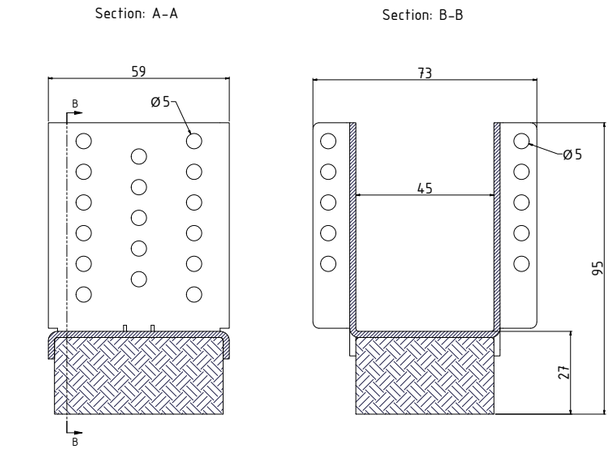
Installation

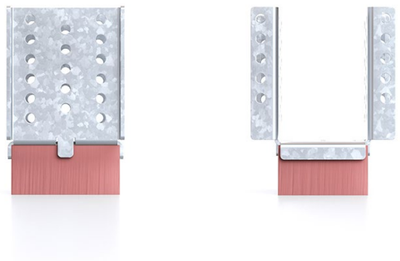
1. Install Self Adhesive Isolation Strips around the perimeter of the floating floor to de-couple the floating floor from the adjacent structure.
2. Install the VT-BAT rails with c/c- distance 600 mm.
3. Place low density mineral wool between the VT-BAT rails (the thickness must be less than the deflected void under the floating floor).
4. Screw floor panels into the VT-BAT rails.

If walls are going to be standing on the floorsystem, then the amount of isolator pads needs to be calculated to support the extra weight. In the fotograph, double floor battens have been used at the perimeter of the floor.

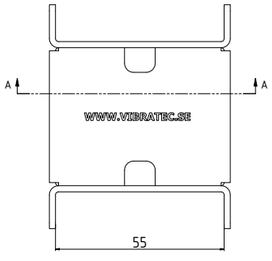
Flexible Floor Bracket VT-FFB

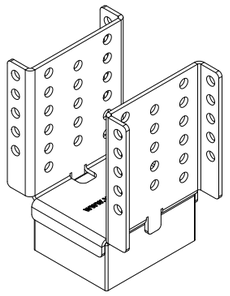
The Flexible Floor Bracket with a Regufoam 510+ 25 mm cushion





The Flexible Floor Bracket with a Regufoam 570+ 25 mm cushion





Description

Vibratec's Flexible Floor Bracket is a quick and easy way to build a floating floor. The bracket fits on standard wooden beams (45 mm width) and is fastened with screws. The height can be adjusted about 30 mm and the total height of the floor depends on the height of the wooden beam.

A very nice feature of our bracket is by sewing steel wire through the holes on the side of the foot you can make a "web" to put insulation on so it avoids contact with the foundation.

Characteristics

The Flexible Floor Bracket comes as standard with a Regufoam 510+ 25 mm cushion. For most flooring applications this is the perfect choice, however if there are big loads or demanding applications Vibratec should be contacted to make the right material choice.

Optimal load for the standard Flexible Floor Bracket is a dead weight of approx. 15-30 kg/foot and a total load (dead load + live load) of maximum 65 kg/foot. For households/ offices/music studios with 2 layers of chipboard, beams are placed cc600 and elastic feet cc600.

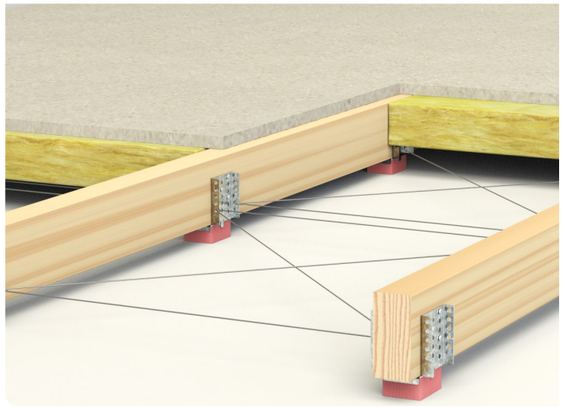
Resonance frequency of the system is depending on the load, in above case about 12 Hz and 3 mm deflection is achieved. The stiffness can be adjusted by changing the number of isolators per m^2 and/or by choosing softer/stiffer material for the isolators.

For more information and customized solutions, don't hesitate to contact us at Vibratec.

Applications

Used for wet or dry floating floors in rehearsal rooms, studios, cinemas, offices and industries. Also used in sprung floors for dance, gymnastics, sports and stages.

Floors



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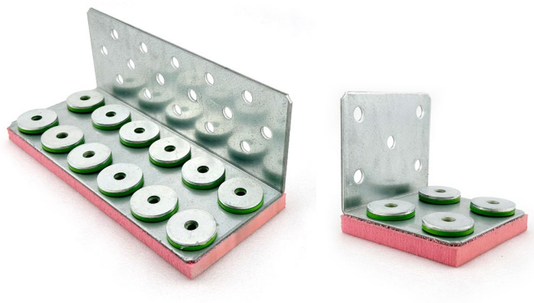
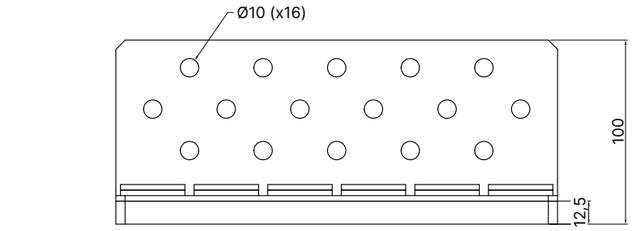
VT-L-Bracket series

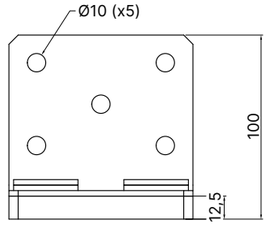


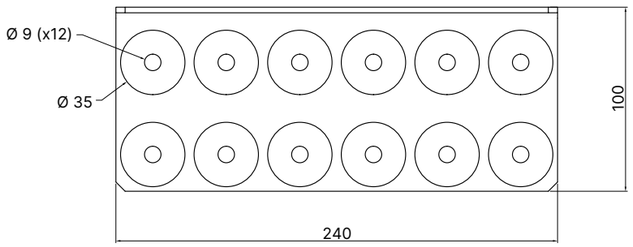
Description

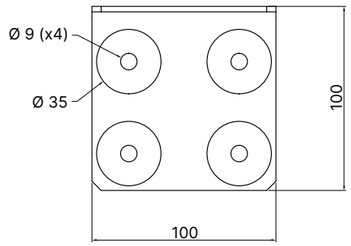
Vibratec L-Bracket series are used in cross-joint connections of wood, CLT panels and beams, LVL, solid timber etc.

The brackets should be used in connection with vibration isolated walls. The elastic layers in the bracket ensure no metal-to-metal contact between screws and bracket thus ensuring no acoustic bridging and a proper function of the vibration isolation.









Material

- 3 mm galvanized steel plate
- Regufoam-mat
- 3D-washer that prevents mechanical contact between mounting screws and the bracket

Characteristics

For characteristic load capacities (tensile, compression and horizontal loads) please contact Vibratec.

Installation guidelines

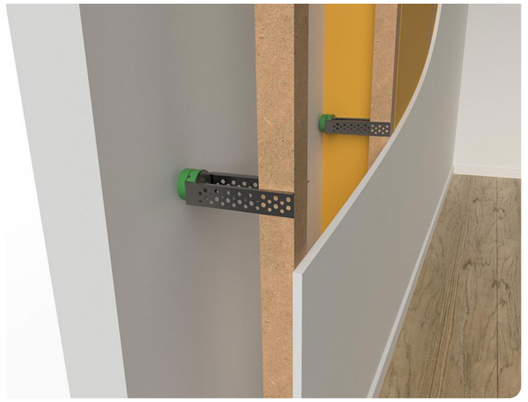
The L-brackets can be used for tension and shear loads (or combined).

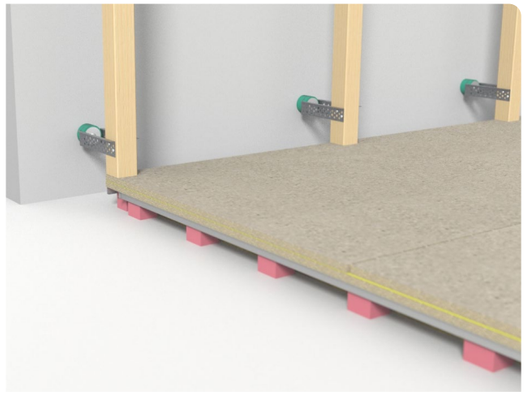
Double brackets are often used symmetrically on both sides of a wall for even load distribution.

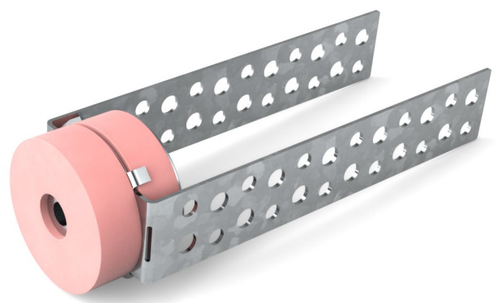
8mm washer head screw used to mount the bracket to the wooden floor. Fastening to concrete floor through anchors shall be verified according to the load acting on the anchor.

Anchor nail or anchor screws are recommended for fastening to wooden walls.

Wall Mount VT-AWS







Description

VT-AWS (Acoustic Wall Suspension) is used to de-couple innerwalls to prevent transmission of vibrations and structure born sound.

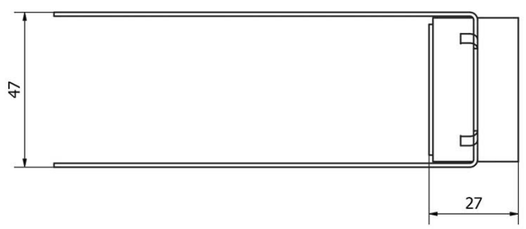
Installation

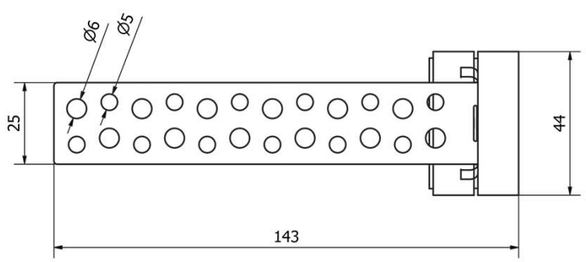
Use approximatly 1 VT-AWS per 2 square metre wall.

1. Fasten the VT-AWS element with a screw through the centerhole, the diameter of the hole is 6 mm. Compress fixing until the cylindrical distance is in contact with existing wall.
2. Fold flaps at edge of rubber.
3. Use self-tapping screws to fix into wall rail or stud.
4. If needed, remove excessive flaps when screwed on the rail or stud.

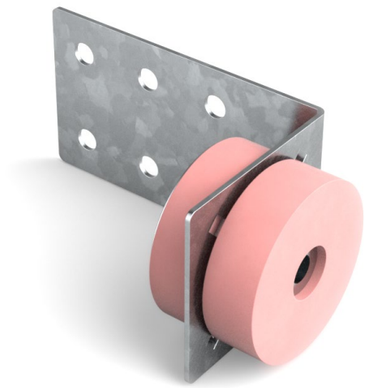
The VT-AWS may also be used as ceiling hanger. The upward elastic element then needs to be replaced by a softer material.

Contact Vibratec for support.





Wall Mount VT-AWS-L



Description

VT-AWS-L (Acoustic Wall Suspension) is used to de-couple inner walls to prevent transmission of vibrations and structure born sound.

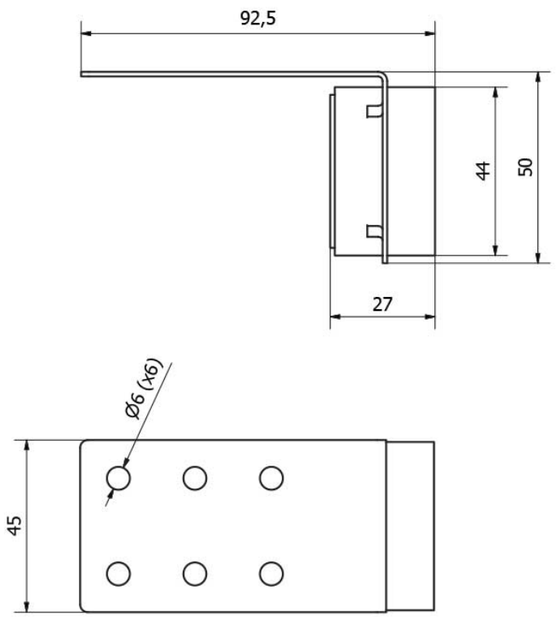
Installation

Use approximatly 1 VT-AWS-L per 2 square metre wall.

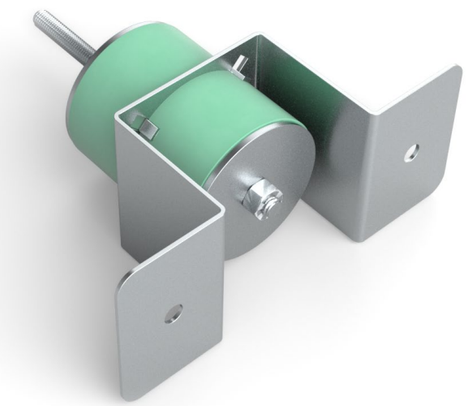
1. Fasten the VT-AWS-L element with a screw through the centerhole, the diameter of the hole is 6 mm. Compress fixing until the cylindrical distance is in contact with existing wall.
2. Use self-tapping screws to fix into wall rail or stud.

The VT-AWS-L may also be used as ceiling hanger. The upward elastic element then needs to be replaced by a softer material.

Contact Vibratec for support.



Wall Mount VT-WH



Description

VT-WH (Wall Hanger) is used to de-couple inner walls to prevent transmission of vibrations and structure born sound.

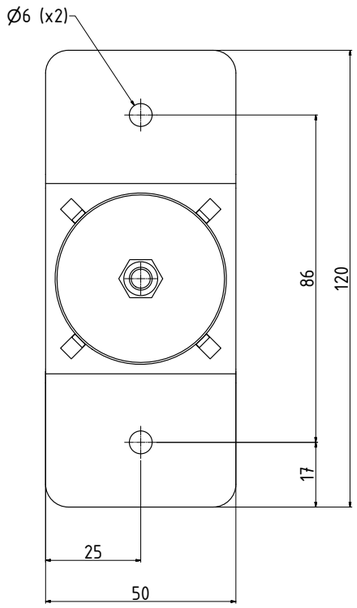
Installation

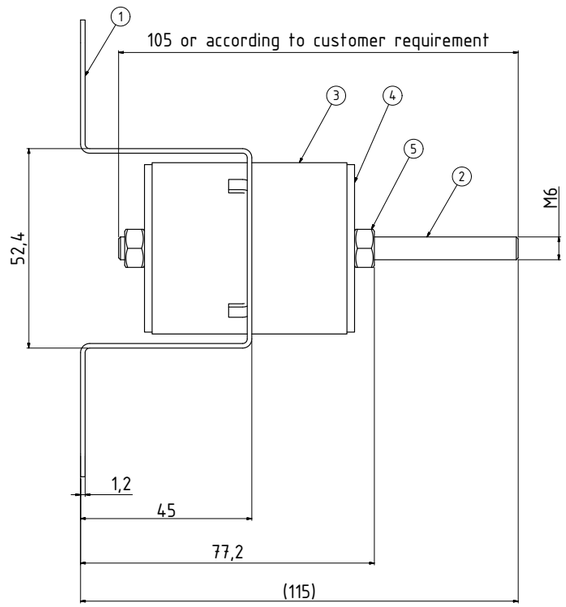
Use approximately 1 VT-WH per 2 square metre wall.

1. Fasten the VT-WH element with a threaded rod (Not included in the shipment), the diameter of the hole is 6 mm.
2. Use self-tapping screws to fix into wall rail or stud.

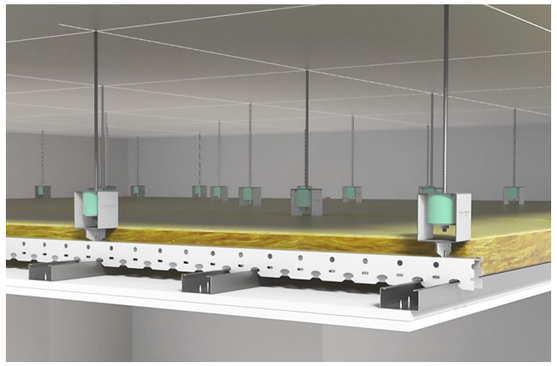
The VT-WH may also be used as ceiling hanger. The upward elastic element then need to be replaced by a softer material.

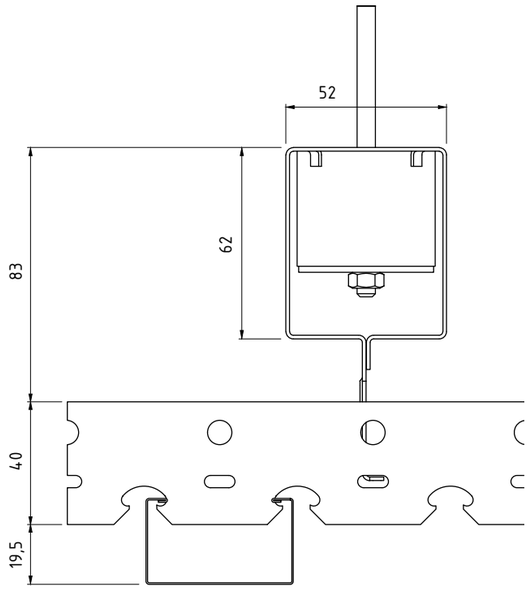
Contact Vibratec for support

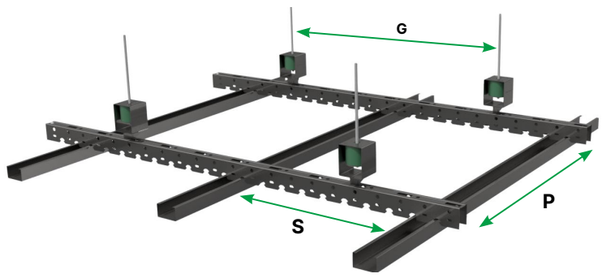




Ceiling System VT-CBC







Description

The VT-CBC Cross-Bar Ceiling System is a double frame ceiling system with click-on hangers and profiles designed to optimise the sound isolation of suspended ceilings.

The system comprises of VT-CBC hangers, click-on crossbars (UD274007) and C-profile rails 50×27 mm (CD5027). Depending on required resonance frequency the VT-CBC hangers can be delivered with Regufoam pads in thickness 25 mm, 37 mm or 50 mm.

Installation Guidelines

The hangers are mechanically fixed via threaded rod to the ceiling with c/c-distances G and P and clicked into the crossbars. Secondary profiles with c/c-distance S are clicked onto the crossbars. Plasterboard can then be fixed on to the rails. A self adhesive elastic strip VT-Strip should be used to isolate the suspended ceiling from surrounding walls to avoid acoustic bridging between ceiling and wall.

Mineral wool should be used in the air void to absorb possible standing waves in the void.

Characteristics

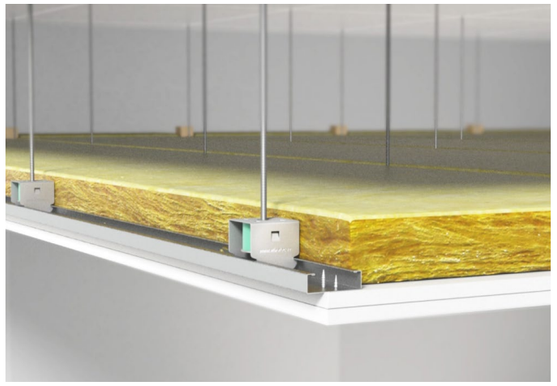
Type	Elastic part	f_n	Deflection
VT-CBC-RF25	25 mm pad	9 - 11 Hz	1 - 2 mm
VT-CBC-RF37	37 mm pad	7 - 9 Hz	2 - 3 mm
VT-CBC-RF50	50 mm pad	6 - 7 Hz	4 - 5 mm

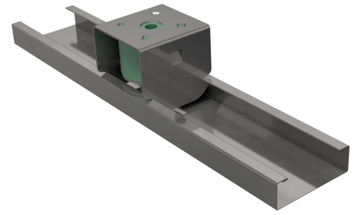
Distance between supports

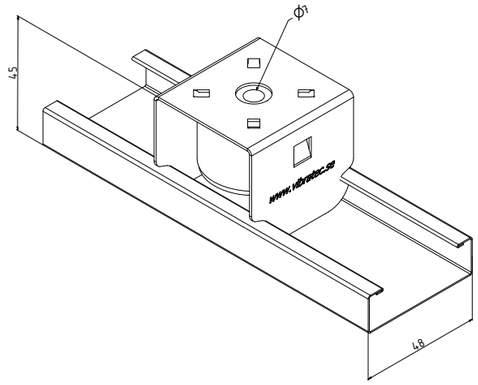
Ceiling weight kg/m²	P (mm)	G (mm)	kg/support
10 - 15	1200	900	11 - 14
15 - 30	1000	800	11 - 22
30 - 50	750	600	13 - 22
50 - 75	600	600	18 - 27

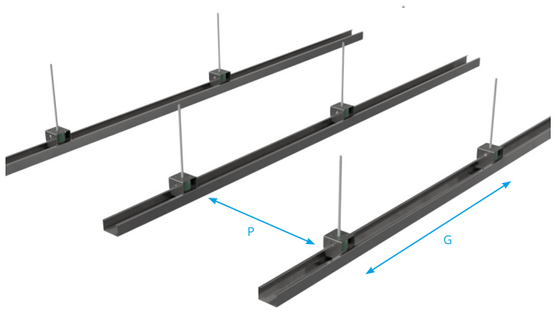
Spacing (S) should not exceed 400 mm at longitudinal installation and 500 mm at transversal installation.

Ceiling System VT-SFC









Description

The VT-SFC Single Frame Ceiling System is designed to optimize the sound isolation of suspended ceilings. The system comprises of VT-SFC hangers and profile rails CD5015 or CD5027.

Installation Guidelines

The hangers are mechanically fixed to the ceiling and the profile rail is clicked on to the hangers. Plasterboard can then be fixed on to the rails. VT-SFC hangers is used with profile rail 50×27 mm to ensure structural stability of the ceiling, but can also be used with the profile rails 50×15 mm if lower build-height is required.

A self adhesive elastic strip VT-Strip should be used to isolate the suspended ceiling from surrounding walls to avoid undermining the acoustic integrity of the ceiling.

Mineral wool should be used in the air void to absorb possible standing waves in the void.

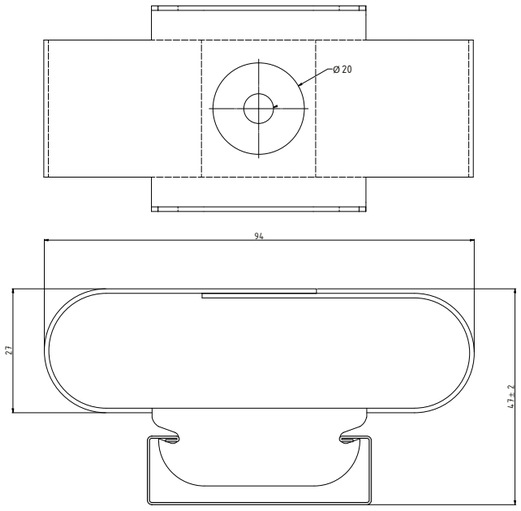
Characteristics

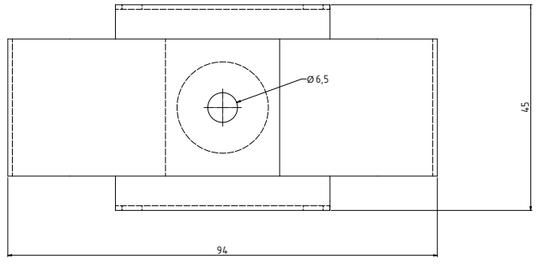
- Deflection: 1-3 mm
- Resonance frequency down to 9 Hz.

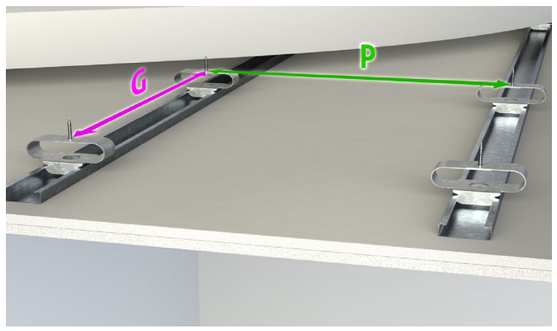
Distance between supports

Ceiling weight kg/m²	P (mm)	G (mm)	kg/ support	F_n (Hz)
10 - 15	600	1000	6 - 9	14 - 16
15 - 30	450	900	9 - 12	11 - 14
30 - 50	450	750	12 - 17	9 - 11
50 - 75	450	500	12 - 17	9 - 11

Ceiling System VT-ACC







Description

The Vibratec acoustic ceiling connector VT-ACC is designed for easy installation and good performance. The connector or hanger is made of galvanized steel and it will deflect under load as a symmetrical leaf spring.

Unlike our other suspended ceiling systems, VT-ACC has a fixed height of ca 47 mm including the 50×15 mm rail (CD5015) or ca 59 mm including the 50×27 mm rail (CD5027) excluding deflection.

Characteristics

- When installed according to below table the system will deflect approximately 3 mm resulting in a resonance frequency of approx. 10 Hz.
- To keep the acoustic ceiling connector in its elastic zone and avoid plastic deformation the connector should not be overloaded.

Installation Guidelines

The acoustic ceiling connectors are screwed to the existing ceiling in straight lines - recommended distance between hangers and rails according to the table below. For higher loads and other configurations contact Vibratec for support.

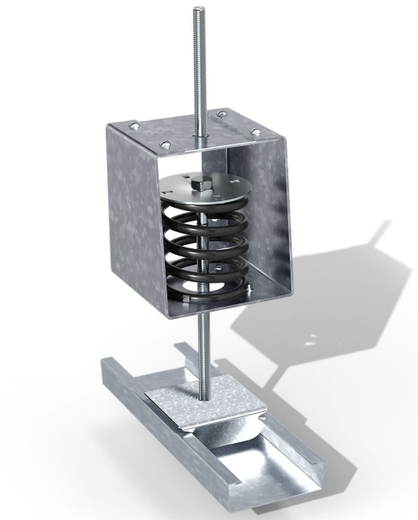
When the acoustic ceiling connectors are in place, the rails can be installed with a simple click and plasterboards are screwed onto the rails.

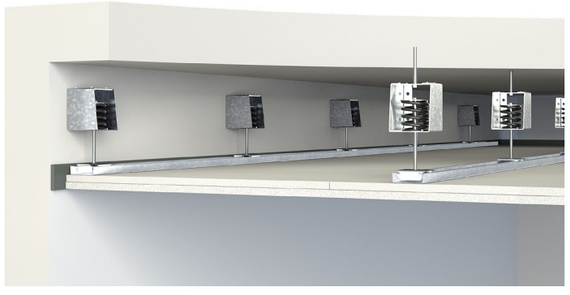
Insulation should be used in the air void to absorb possible standing waves in the void. Self adhesive elastic strip VT-Strip can be used to isolate the suspended ceiling from surrounding walls to avoid undermining the acoustic integrity of the ceiling. Fireproof acoustic sealant VT-FAS can also be used.

Rail distance (P)	Plasterboard layers (std 12,5mm)	Connector distance (G)
600 mm	2	800
	3	600
450 mm	2	1000
	3	800

This table could be used for ceilings without additional hanging load. 45 mm standard mineral wool is included in the calculation, giving approx. 12 kg/connector. For other ceiling materials, heavy insulation or attachments to the ceiling, please contact Vibratec for advise.

Ceiling System VT-MSH





Description

The VT-MSH Spring Hanger is designed for both top or back mounting. It could be used together with Vibratec click-on hangers and profiles for ceiling suspension, or as it is for hanging equipment such as speakers, pipes or ventilation.

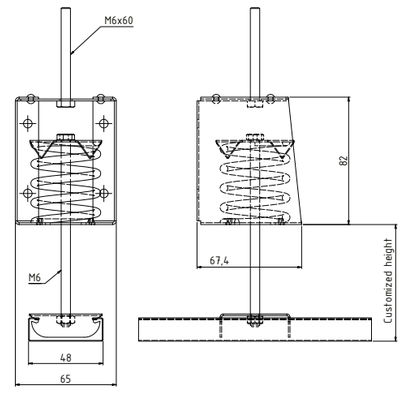
For beam structures, back mounting of the hangers could reduce the total height of the system.

When a longer distance between ceiling and hanger is needed threaded rods could be used instead of bolts.

Elastically suspended ceilings must also be de-coupled from surrounding walls by using for instance self adhesive elastic strip VT-Strip.

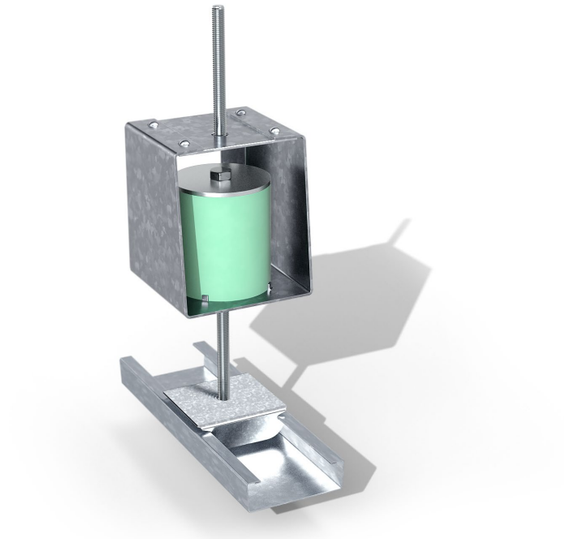
Screws, threaded bars, click-ons and ceiling profiles are not a part of the product and need to be ordered separately.

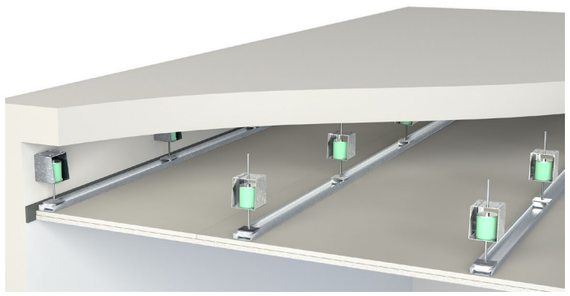
VT-MSH
Top-mounted
With click-on system

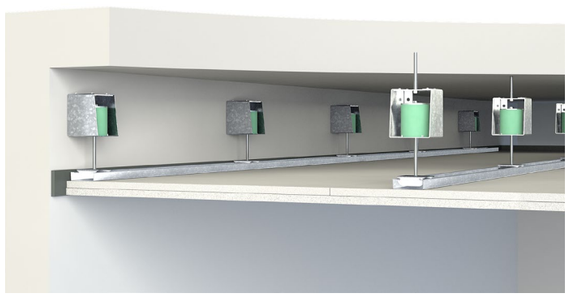


Type	Load Range (kg)	Spring Rate (N/mm)	F_n (Hz)
VT-MSH-S-1	5 - 7	6	4 - 5
VT-MSH-S-2	6 - 9	7,6	
VT-MSH-S-3	9 - 13	10,7	
VT-MSH-S-4	13 - 20	17,5	
VT-MSH-S-5	20 - 30	27	
VT-MSH-S-6	30 - 50	39,7	

Ceiling System VT-MCH







Description

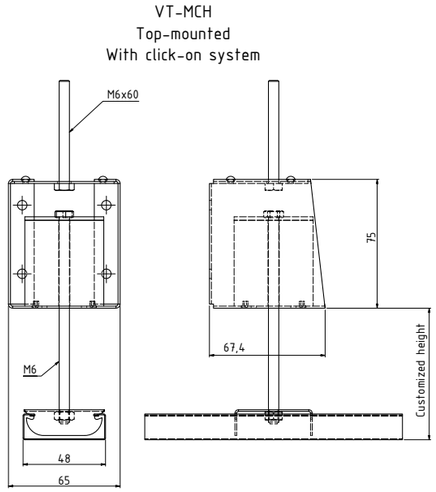
The VT-MCH Multi Cushion Hanger is designed for both top or back mounting. It could be used together with Vibratec click-on hangers and profiles for ceiling suspension, or as it is for hanging equipment such as speakers, pipes or ventilation.

For beam structures, back mounting of the hangers could reduce the total height of the system.

When a longer distance between ceiling and hanger is needed threaded rods could be used instead of bolts.

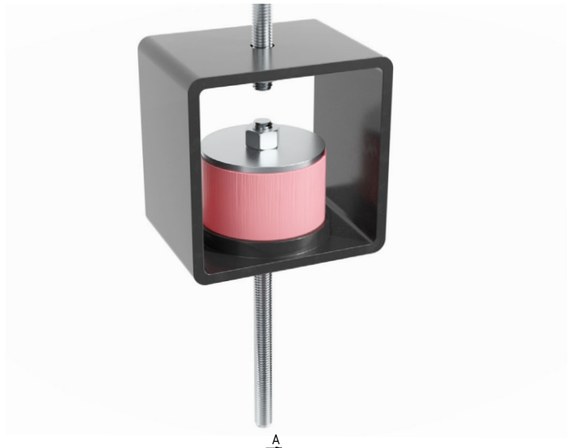
Elastically suspended ceilings must also be de-coupled from surrounding walls by using for instance self adhesive elastic strip VT-Strip.

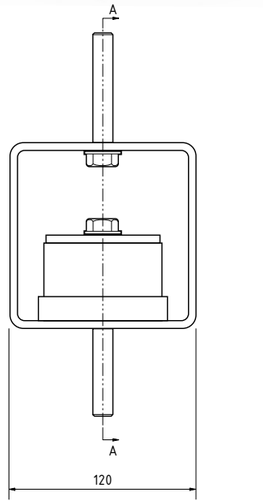
Screws, threaded bars, click-ons and ceiling profiles are not a part of the product and need to be ordered separately.

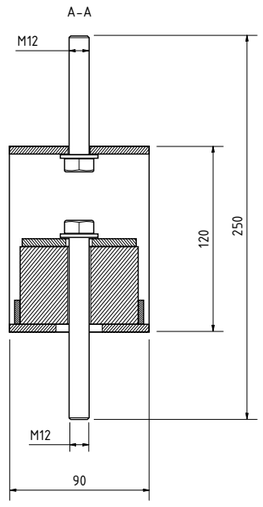


Type	Load (kg)	F_n (Hz)	Deflection (mm)
VT-MCH-400/25	10-20	12-15	2-3
VT-MCH-400/50	10-20	7-11	4-7
VT-MCH-510/25	20-30	12-15	2-3
VT-MCH-510/50	20-30	7-11	4-7
VT-MCH-570/25	30-40	12-15	2-3
VT-MCH-570/50	30-40	7-11	4-7

Ceiling Hanger VT-RFH







Description

VT-RFH is a series of Regufoam Hangers available in 5 different load ranges. Housing and washer in zinc plated steel, elastic elements in color coded polyurethane foam.

Characteristics

- Deflection: 4 – 8 mm for pads 50 mm
- Resonance frequency: 7 – 10 Hz for pads 50 mm

Applications

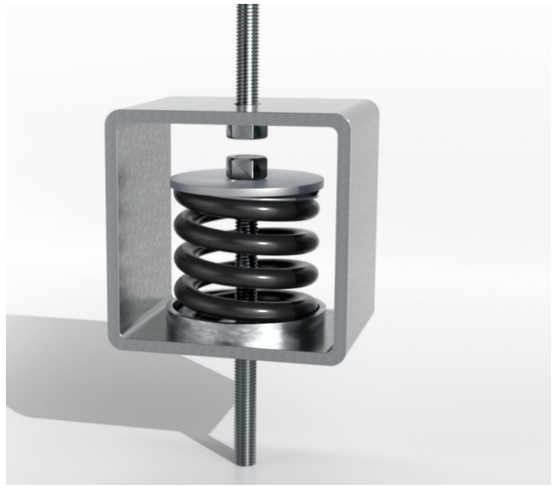
For elastic pendulum suspension of piping, mechanical equipment, fans, air ducts, loud speakers and inner ceilings. The Regufoam pad acts as a vibration isolator attenuating structure born sound.

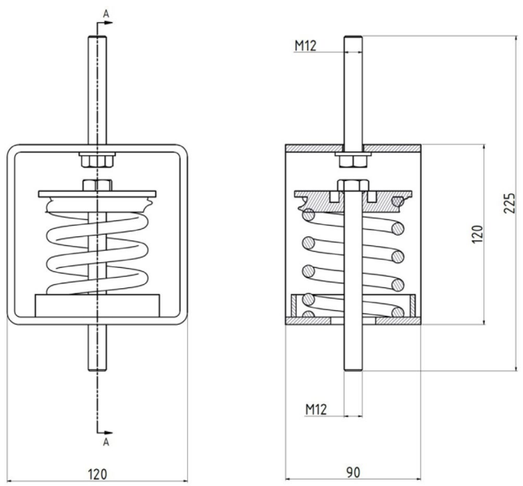
Note

For smaller loads use VT-MCH.

Article Nr.	Load Range	Color
VT-RFH-220/50	20-40kg	Purple
VT-RFH-510/50	40-80kg	Beige
VT-RFH-570/50	80-140kg	Pink
VT-RFH-740/50	140-200kg	Red
VT-RFH-810/50	180-250kg	Brown

Spring Hanger VT-4523





Description

Single working all metal telescopic mount with spring made of high tensile steel. Scroll in aluminum and housing in zinc plated steel.

Characteristics

Mounts with low natural frequency, 5-6 Hz, depending on preload.

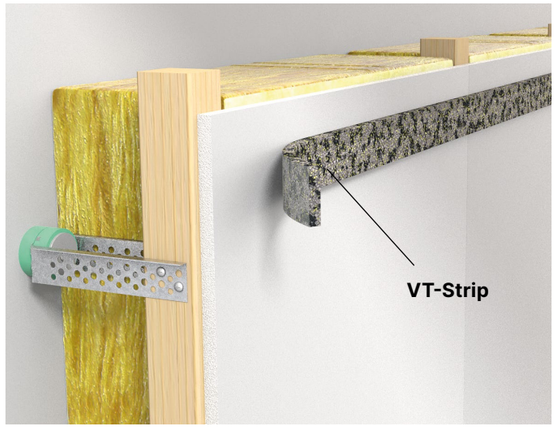
- Accepts both static and dynamic tension forces.
- Maximum excitation: ± 1 mm.
- Mechanical strength: 2 g.
- Amplification factor: < 5.
- Temperature range: -90°C to +300°C

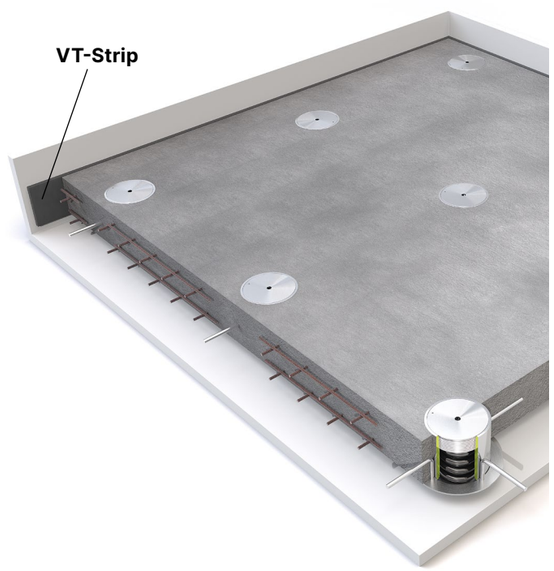
Applications

- Isolation of exhaust-, air- water- and steam-pipes.
- Isolation of fans, ventilation and cooling aggregates.
- Stabilization of frames and equipment on vessels, ships and vehicles.

Type	Load [daN≈kg]
VT-4523-01	30 - 50
VT-4523-02	50 - 80
VT-4523-03	80 - 125
VT-4523-04	125 - 195
VT-4523-05	195 - 300

VT-Strip





Description

Vibratec VT-Strip is a self-adhesive soft elastic strip primarily used to separate vibration isolated structures from non-isolated structures, so no acoustic bridging can occur.

Material

VT-Strip consists of re-cycled mixed cell polyurethane foam

- Thickness: 10 mm
- Length: 1150 mm
- Width: 45 mm or project specific

Applications

VT-Strip can be attached on the surrounding walls before installing a vibration isolated floating floor or inner ceiling.

This speeds up and helps the installation of floor/ceiling boards and ensures no structural contact (meaning no acoustic bridging).

In floating floors, the perimeter isolation strip can be delivered in widths corresponding to the floor thickness. The elastic strip VT-Strip can be hidden with Vibratec's acoustic sealant VT-FAS.

VIBRATEC

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Vibratec has extensive experience, combined with the use of modern tools, when we design and manufacture tailor made solutions in all areas of vibration and noise reduction. Vibratec performs test to evaluate mechanical, physical and long term behaviour on materials as well as complete solutions.

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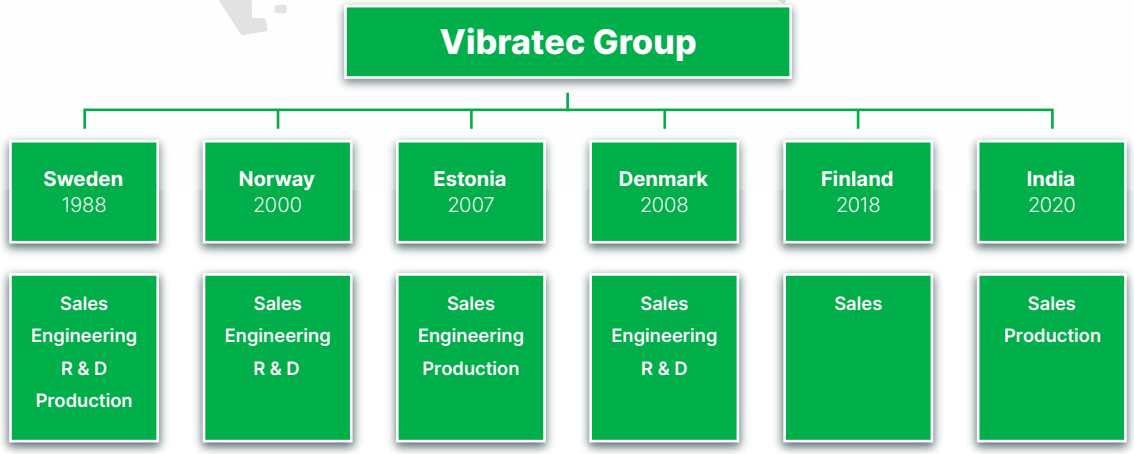
Vibratec Akustikprodukter is one of Scandinavia's leading suppliers of noise and vibration solutions Vibratec´s ambition is to become the preferred choice for customers who need solutions to noise, vibration and shock problems. Vibratec produce and store many products for damping / isolation of vibration, shock and noise over a wide range of applications.



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