



VT-dBlock

Adjustable raised sound floor

Vibratec[®]
akustikprodukter

VT-dBlock Raised Floor System

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

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 apartments, 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

Sound-proofing

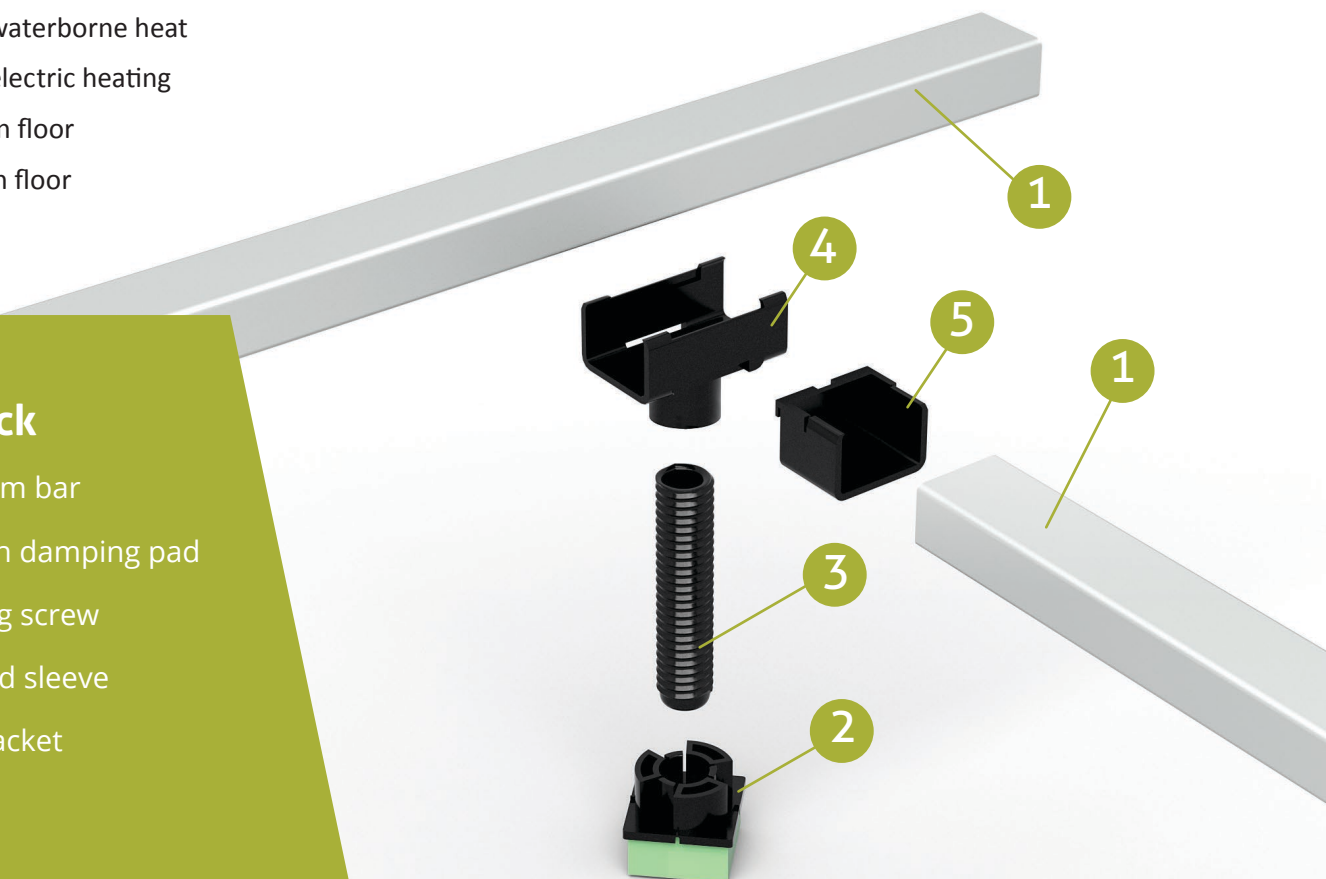
The various damping pads in the dBlock systems have been tested in Vibratec's own lab in Denmark. dBlock is further tested and type approved by SINTEF in Norway - in addition, a number of measurements of impact and airborne sound insulation have been performed on finished projects (CLT projects, gyms, homes, offices). Depending on sound requirements, cushioning pads in thickness 12.5, 25 or 50 mm are used.

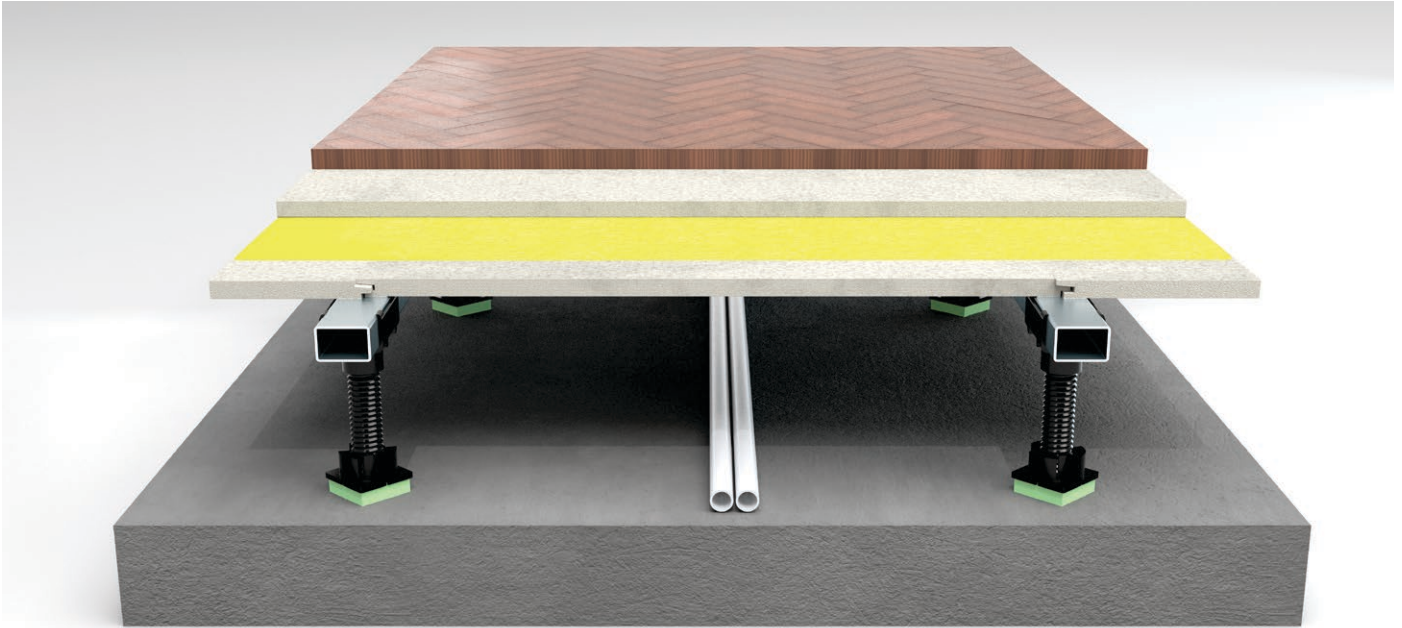
Creaking

An elastic floor will move when loaded. Even small deflections can give rise to creaking when floorboards move e.g. in screws, joints or against a wall. Therefore, self-adhesive elastic strip VT-STRIPE is used between the floorboards and surrounding walls. Furthermore, gluing of floorboards to the floor Al-bars is recommended (even if traditional screws work).

VT-dBlock

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





Fire

To prevent the spread of fire and smoke under the raised floor, the system can be supplemented with a vertical floor barrier: VT-RFB (Raised Floor Barrier). This barrier also contributes to reduced sound transmission by sealing the cavities between the raised floor and the subfloor. This is useful e.g. in corridors or offices with rooms/walls on top of a raised dBlock floor. VT-RFB is made of mineral wool insulation with a reinforced aluminum foil on both sides which provides excellent resistance to fire and smoke

Comfort

dBlock flooring system not only provides a reduction in structure born sound - it also provides floors that are comfortable to walk on. Hard floors cause wear on the human body, ligaments and backs. The elastic pad of the

dBlock system provides a slight deflection when the floor is loaded, which gives a more comfortable feeling and in the long run a floor that is healthier to walk on.

Design and installation

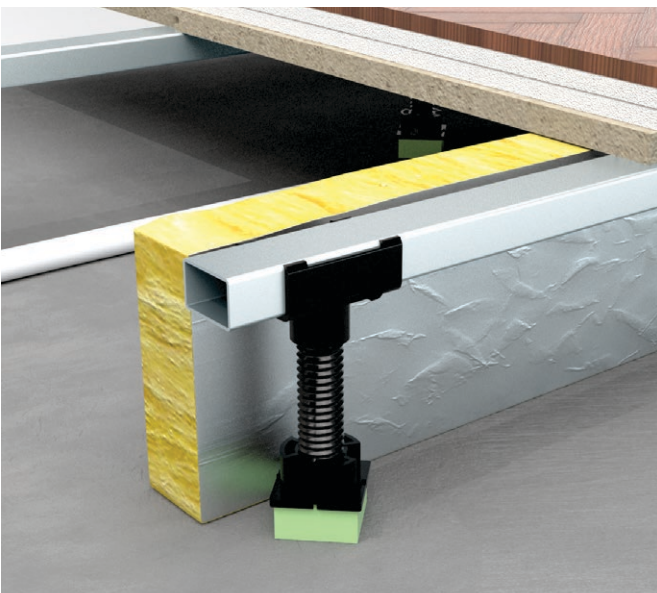
Vibratec can assist with the design and make floor plans with placement of damping feet and floor profiles. The profiles are cut on site according to the layout drawing or, if wanted, delivered in pre-cut lengths. The adjusting screws can also, in order to minimize the installation time, be delivered in the final length (if the need for adjustability does not exist).

Vibratec can also assist with on-site installation if requested.

Mounting

Before mounting, the sub-floor must be vacuum cleaned. Damping feet are glued to the base - no drilling or screwing is needed. Adjusting screws (200 or 400 mm) are clicked into the foot and cut at the laser height. The threaded bracket is rotated onto the adjusting screw - fine adjustment can now be done by rotating the bracket or the adjusting screw. Self-adhesive elastic strip is attached to the walls and the floorboards can now be glued / screwed into the joists. The floor bars (Aluminium) are clicked into the threaded brackets - start by mounting a frame along the surrounding walls.

See also separate installation instructions and film on Vibratec's website.





dBlock-12



Raised floor system with adjusting screws 200 or 400 mm that are cut to the desired length on site. Damping feet with 12 mm thick elastic elements in Regufoam. Several types are available to choose from depending on the application and dimensioning load.

Characteristics

Resonance frequency 15 – 20 Hz

Airborn sound improvement: $\Delta R_w = 5 - 7$ dB

Impact sound improvement: $\Delta L_{n,w} = 26 - 28$ dB

Application areas

System dBlock-12 is used on concrete floorings, hollow core slabs, offices, public premises, renovations, industries, tiled floors, etc.

dBlock-25



Raised floor system with adjusting screws 200 or 400 mm that are cut to the desired length on site. Damping feet with 25 mm thick elastic elements in Regufoam. Several types are available to choose from depending on the application and dimensioning load.

Characteristics

Resonance frequency 10 – 13 Hz

Airborn sound improvement: $\Delta R_w = 5 - 7$ dB

Impact sound improvement: $\Delta L_{n,w} = 28 - 30$ dB

Application areas

System dBlock-25 is used for higher attenuation requirements and for lighter floors. Typical applications are CLT floors, schools, dance and sports floors, etc.



dBlock-50



Raised floor system with adjusting screws 200 or 400 mm that are cut to the desired length on site. Damping feet with 50 mm thick elastic elements in Regufoam. Several types are available to choose from depending on the application and dimensioning load.

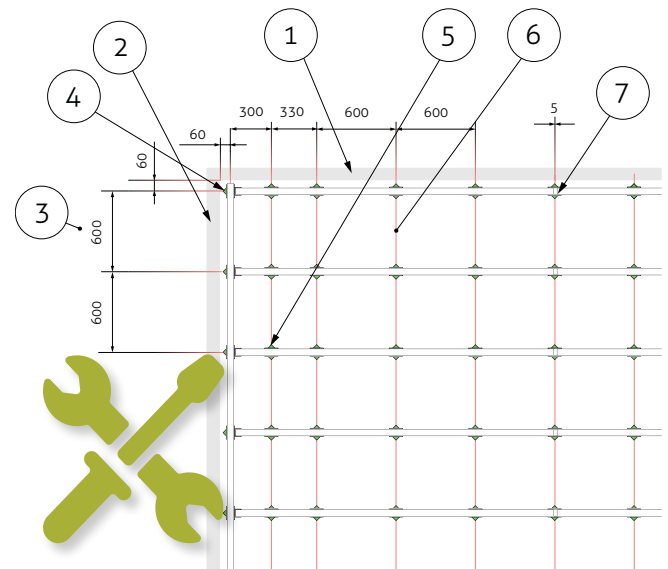
Characteristics

Resonance frequency 7 – 10 Hz

Impact sound improvement: $\Delta L_{n,w} > 30$ dB

Application areas

System dBlock-50 is used where the requirements for sound insulation are high and for applications where low frequencies or shocks must be isolated. The system requires a heavy upper floor to endure no bounce and to provide a low resonant frequency. Typical applications are rehearsal rooms, cinema halls, concert halls, fitness / gym, etc.



VT-dBlock

Installation

Make a floor plan for the positioning of feet and bars based on the principles in the sketch above (drawing can be provided by Vibratec if desired). As long as the c/c distances for aluminum bars and feet do not exceed 600 mm, there is great freedom to move or add extra the feet.

Floor plan

1. Distance from all walls to Al-bar (frame) = 60-80 mm
2. Starting wall for mounting feet out over the room
3. The distance between the first and second rule is based on the possible need for extra strength along walls (due to future loads that will load the floor). At normal load c/c 600 mm is used, at high load 400 mm is used.
4. The first damping foot is placed 60-80 mm from the starting wall.
5. The first row of feet is placed at a distance of c/c 300 mm and the next at c/c 330 mm. This is so that the next Al-bar joint will end up in the centre of a threaded sleeve.
6. Remaining feet are placed with c/c 600 mm
7. Joints between two Al-bars should always be in the middle of a threaded sleeve. A gap of 5 mm must always be left to the next bar to allow any thermal expansion.

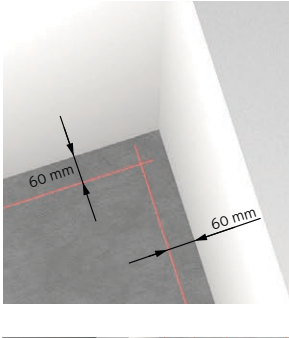


Image A-1: Distance from wall to frame.

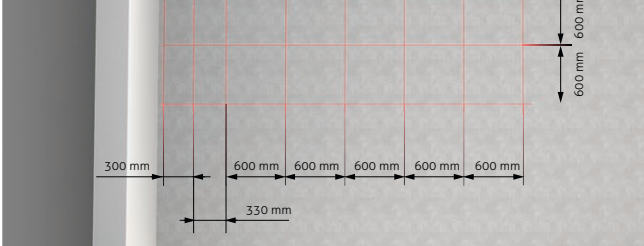


Image A-2: mark the rest of the floor according to the technical drawing.

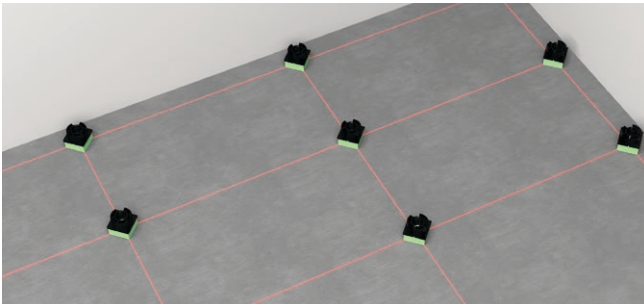


Image B-1: Glue the feet of the floor system to the floor surface.

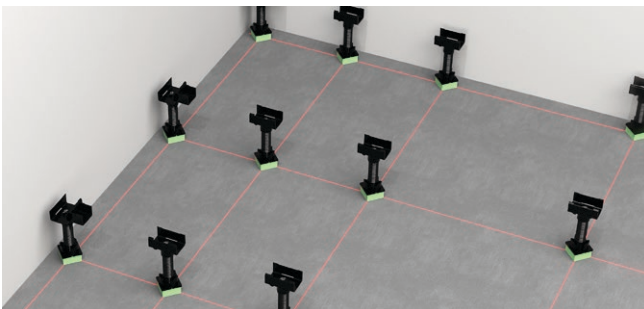


Image B-2: Mount the screws of the floor system to the feet.

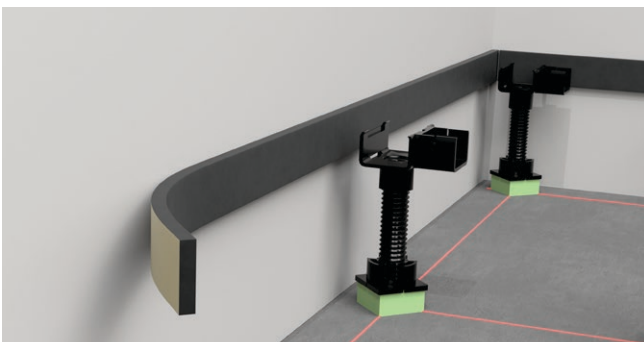


Image B-3: Mount self-adhesive elastic strip VT-Stripe on the walls at the height of future floor boards.

VT-dBlock installation step by step

A. Preparations

Existing floor must be clean and dry. Primer can be used to create good adhesion for the pads. Lace up the floor to mark the positions of the feet. Use installation drawing or follow the following simple principles:

The first line must be 60 mm from the wall (image A-1). Continue lacing a grid based on image A-2. If the distance between the last line and the end of the floor is greater than c/c 600 mm, divide the last distance by two for the last two lines. The same applies to the end wall opposite the starting wall.

B. Installation of feet, screws and threaded sleeves

Glue the feet with pads onto the floor at the intersections. Use approved adhesive - Maxi Bond Seal or equivalent. Place your feet turned 45° with the corners of pads on the chalk lines, then the foot ends up centred in the intersection (image B-1).

While the glue dries; pre-cut the adjusting screws to approximate final length with a jigsaw or other suitable tool. If there are big differences in the floor, it may be better to cut the screws to a laser height. Screw the upper threaded sleeve onto the adjusting screws.

Click the adjusting screws into the glued feet on the floor. Start with the feet along the starting wall and continue with the bars along the walls for the "frame" (image B-2). Use a rotating laser to fine-tune the height of the threaded sleeve.

Mount self-adhesive elastic strip VT-Stripe on the walls at the height of future floorboards. This is to avoid flank transmission, acoustic bridging and creaking.

C. Installation of Aluminum profiles (bars)

Click the aluminum bars into the threaded sleeve (image C-1). Make sure that all Al-bar joints end up in the middle of the threaded sleeve (on top of the adjusting screw) with a 5 mm gap between the bars. This makes it easier in the continuation of the assembly.

For stability and easier installation, there are shelf brackets that can be hooked onto the threaded

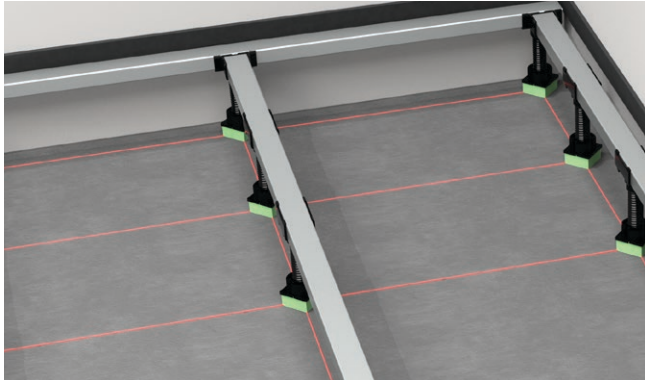


Image C-1: Click the aluminium bars into the brackets.

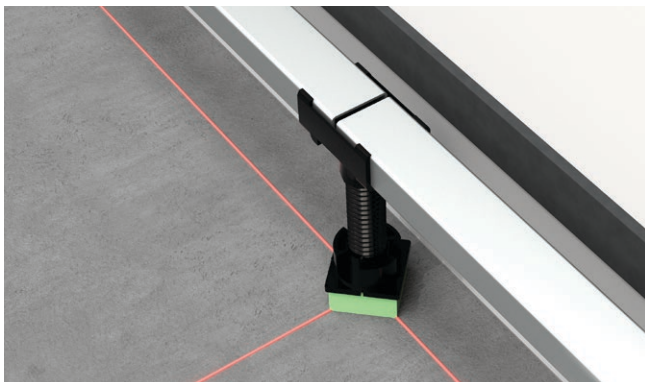


Image C-2: An expansion distance of 5 mm between two bats is required for temperature changes.

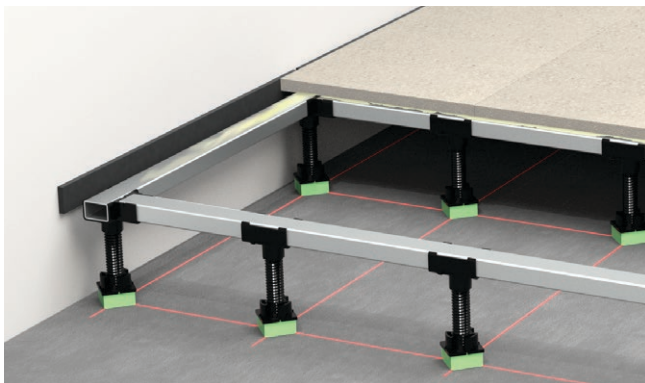


Image D-1: Glue the floor boards to the bats.



Image E-1: Finished VT-dBlock Floor System ready for floor covering.

sleeve. These shelf brackets can be used for transverse bars for extra stability during installation. These can remain or be removed and used at the next joint - the shelf bracket has no load-bearing function.

In the threaded sleeve there must be a gap of 5 mm between each aluminum bar to make room for thermal expansion and movements (image C-2).

When finishing against a wall, the c/c distance between the last bars should be a maximum of 600 mm (for large loads a maximum of 400 mm).

Tip:

When you have reached 2.4 m into the room, you can start laying the floorboards. It provides stability and greater flexibility and free work space in the room if you install Al-bars and boards simultaneously.

D. Laying of floorboards

Start by laying floor boards along the starting wall. Apply plenty of glue on the Al-bars, we recommend type Bostik Maxi Bond or equivalent - for gluing of tongue and groove in floorboards, use glue according to the board supplier's instructions. The first floorboard is also screwed with some self-drilling screws (3.8-5 x 41-48 mm), at least 3 per Al-bar for the first board. Laying floorboards can be done in parallel with the installation of Al-bars.

Floorboards with tongue and groove are glued in accordance with the supplier's instructions. Board joints are placed on the centre of the Al-bar, with the exception of the bars along the wall (Fig. D-1).

Continuous height control is recommended - it is easy to adjust a screw before continuing with the next row of boards.

E. Floor covering

Floor coverings such as wooden floors, parquet, tiles, carpets, etc. can now be laid. Follow the supplier's instructions and make sure that the floor covering does not come into contact with the surrounding walls as this may cause creaking and an acoustic short circuit.

To ensure noise reduction; fill all gaps along the wall with elastic sealant type VT-FAS.

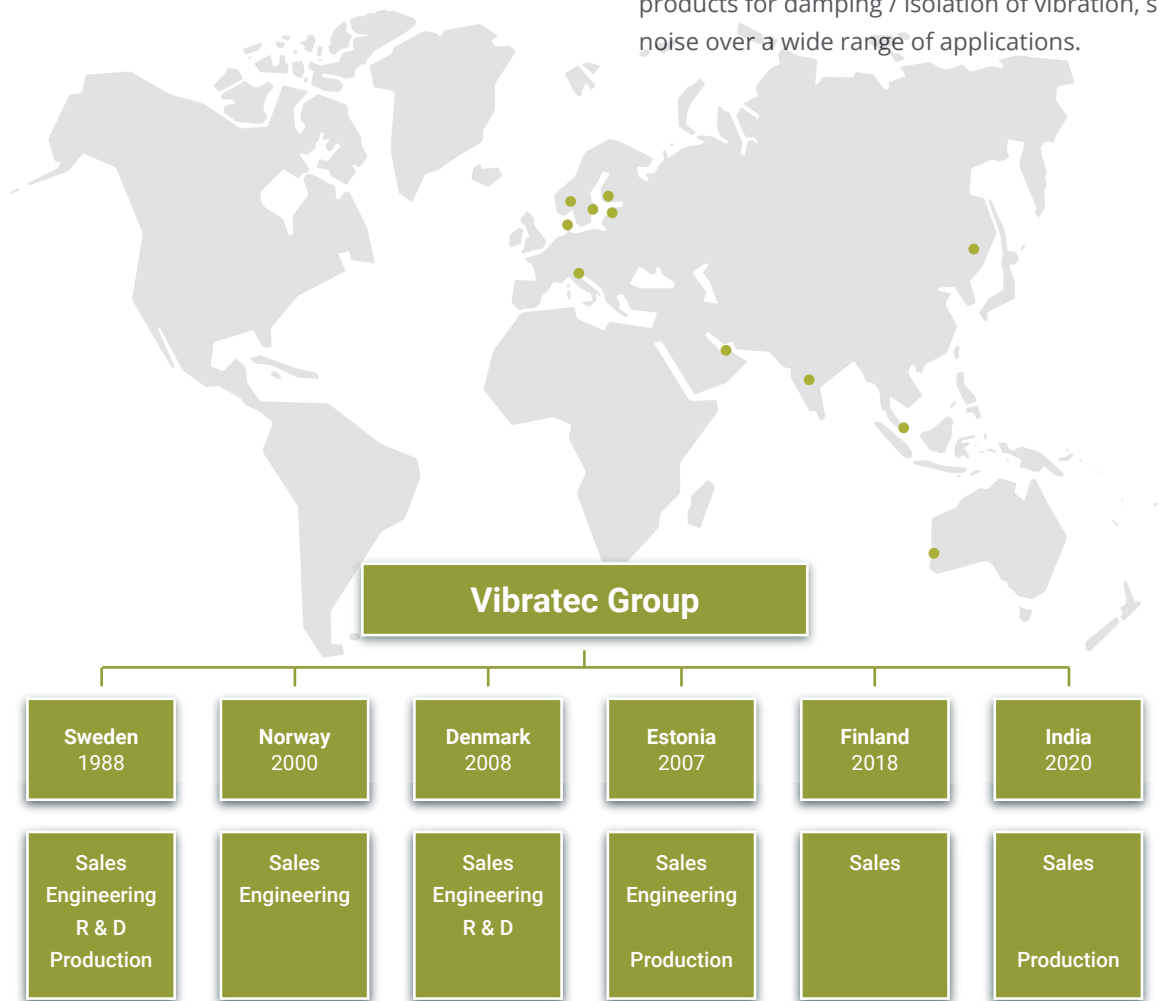
Vibratec Akustikprodukter

Engineering, Production and installation

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.

Construction, Defence, Industrial, Marine, Offshore and Railway

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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