# VibroFOAM

ADVANCED VIBRATION ISOLATORS

VibroFOAM

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*For more vibration control products please visit* ***www.antivibration-systems.com***

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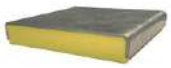

### PM.F
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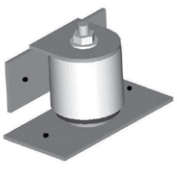
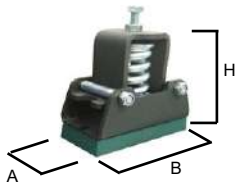


### SeiSmicon.F
SEISMIC RESTRAINT
WITH INTERNAL LAYERS OF
REGUFOAM®

NOTE: The technical information referred in this brochure comes from measurements and tests made in good faith and objectivity and are guideline values. This does not imply responsibility of the Company and may be subject to changes. We do not assume liability for spelling or printing errors.

# SMR.F

SMR.F.1



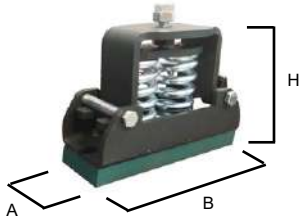

## SPRING MOUNT WITH MULTI-DIRECTIONAL RESTRAIN & ADJUSTABLE HEIGHT

Anti-vibration spring mount **SMR.F** is a multi directional seismic restraint system with adjustable height.

At their base they have a high quality polyurethane vibration isolation foam Regufoam® with 25mm thickness, in order to achieve better vibration isolation, also at high frequencies. The Regufoam® is manufactured by the German company BSW and it is available in different hardness/colours.

The SMR.F casing is made of steel with limited welding points and is protected from oxidation with a polyester epoxy powder paint (hot dip galvanized on request). The anti-vibration springs comply with ISO.N.10270 standards. An adjustable height system is placed, in order to align the machine during the installation.

SMR.F.2




**SMR.F**'s advanced anti-seismic design can successfully sustain forces from various directions both vertical and lateral (like earthquakes, hurricanes and wind-pressure).

**SMR.F** can be used for low frequency vibration control (low speed rotation 400 rpm upwards) that also require lateral and vertical restrain and protection from earthquakes and excess wind pressure. Typical applications are air compressors, two-cycle engines, chillers, water cooling towers, air handling units etc.

SMR.F.4

### Selection Table

| TYPE | REGUFOAM COLOR | No. of Springs | DIMENSIONS (A - B - H mm) | MAXIMUM LOAD (daN) |
|---|---|---|---|---|
| SMR.F 250.1 | Beige | 1 | 90-185-190 | 250 |
| SMR.F 500.1 | Turquoise | 1 | 90-185-190 | 500 |
| SMR.F 750.1 | Red | 1 | 90-185-190 | 750 |
| SMR.F 500.2 | Beige | 2 | 95-260-205 | 500 |
| SMR.F 1000.2 | Turquoise | 2 | 95-260-205 | 1000 |
| SMR.F 1500.2 | Brown | 2 | 95-260-205 | 1500 |
| SMR.F 1000.4 | Rose | 4 | 160-260-205 | 1000 |
| SMR.F 2000.4 | Red | 4 | 160-260-205 | 2000 |
| SMR.F 3000.4 | Brown | 4 | 160-260-205 | 3000 |

More load ranges and Regufoam® thicknesses available upon request.

### Dynamic Characteristics

Deflection: 27 mm at maximum load
Natural Frequency: 3 Hz at maximum load

# MSR.F

## RESTRAINED SPRING MOUNT

Spring mounts **MSR.F** are a multi directional seismic restraint system with special design limit stops devices.

At their base they have a high quality polyurethane vibration isolation foam Regufoam® with 25mm thickness, in order to achieve better vibration isolation, also at high frequencies. The Regufoam® is manufactured by the German company BSW and it is available in different hardness/colours.

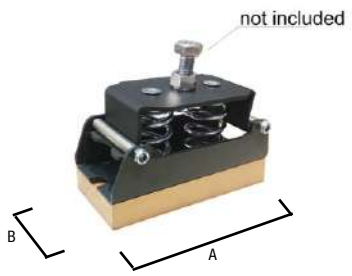
The metal plates are made of steel with limited welding points and are protected from oxidation with polyester powder paint.

On the bottom **MSR.F** can be fixed with the use of up M12 pass -through bolts (not included). On the upper part is an M12 threaded rivet in order to be fixed to the machinery.

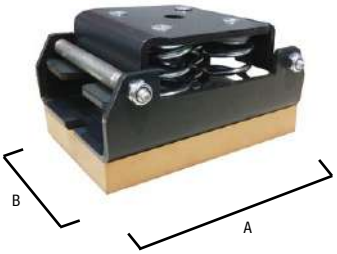
The spring complies with ISO EN 10270 requirements.

**MSR.F** can be used for low frequency vibration control (low speed rotation 400 rpm upwards) that also require lateral and vertical restrain and protection from earthquakes and excess wind pressure, such as air compressors, two-cycle engines, chillers, water coolers, air handling units.

MSR.F.2




MSR.F.4




### Selection Table

| TYPE | REGUFOAM COLOR | No. of SPRINGS | DIMENSIONS (A-B-H mm) | MAXIMUM LOAD (daN) |
|---|---|---|---|---|
| MSR.F 100.2 | Brown | 2 | 160 - 66 - 100 | 100 |
| MSR.F 100.4 | Black | 4 | 170 - 120 - 100 | 100 |
| MSR.F 200.2 | Beige | 2 | 160 - 66 - 100 | 200 |
| MSR.F 200.4 | Grey | 4 | 170 - 120 - 100 | 200 |
| MSR.F 400.4 | Beige | 4 | 170 - 120 - 100 | 400 |
| MSR.F 500.5 | Rose | 5 | 170 - 120- 100 | 500 |
| MSR.F 750.5 | Turquoise | 5 | 170 - 120 - 100 | 750 |

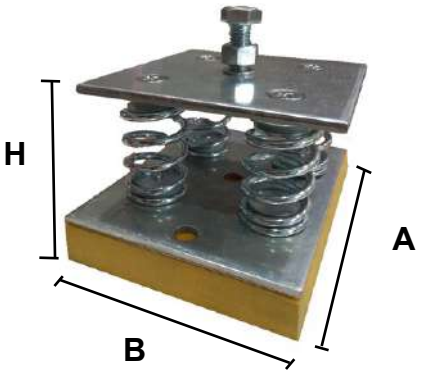
More load ranges and Regufoam® thicknesses available upon request.

**HR-12**

OPTIONAL
Height Regulation Device

### Dynamic Characteristics

Deflection 27 mm at maximum load
Natural Frequency: 3Hz at maximum load
Available also with 50mm deflection (MSR.FD).




# MS.F

## MULTIPLE SPRING MOUNT FREE STANDING

**MS.F** is an anti-vibration mount with multiple free standing springs. It is specially designed to have low height (type L) and is very effective in low frequency vibrations absorption.

The springs are fixed with an innovative fastening system.

At their base they have a high quality polyurethane vibration isolation foam Regufoam® with 25mm thickness, in order to achieve better vibration isolation, also at high frequencies. The Regufoam® is manufactured by the German company BSW and it is available in different hardness/colours.

The combination of spring and Regufoam® expands the natural frequency range for better vibration reduction results.

**MS.F** is used for low frequency vibration control and especially in cases that the usage of multiple springs is necessery for greater stability.

### Selection Table

| TYPE | REGUFOAM COLOR | No. of SPRINGS | DIMENSIONS (A-B-H mm) | MAXIMUM LOAD (daN) |
|---|---|---|---|---|
| MS.F 50 | Grey | 2 | 170 - 80 - 80 | 50 |
| MS.F 100 | Grey | 2 | 170 - 80 - 80 | 100 |
| MS.F 200 | Beige | 2 | 170 - 80 - 95 | 200 |
| MS.F 300 | Beige | 3 | 170 - 80 - 95 | 300 |
| MS.F 400 | Beige | 4 | 160 - 125 - 95 | 400 |
| MS.F 500 | Rose | 5 | 160 - 125 - 95 | 500 |
| MS.F 600 | Rose | 4 | 160 - 125 - 95 | 600 |
| MS.F 750 | Turquoise | 5 | 160 - 125 - 95 | 750 |
| MS.F 1000 | Turquoise | 10 | 200 - 125 - 95 | 1000 |
| MS.F 1500 | Red | 10 | 200 - 125 - 95 | 1500 |
| MS.F 2000 | Brown | 10 | 200 - 125 - 95 | 2000 |

More load ranges available upon request

### Dynamic Characteristics

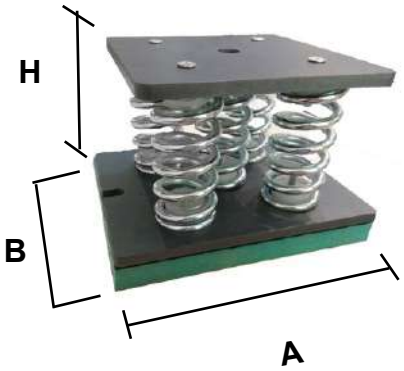
Deflection 27 mm at maximum load
Natural Frequency: 3 Hz at maximum load
Available also with 50mm deflection (MS.FDR).

**HR-12**

OPTIONAL
Height Regulation Device

# MSH.F

## HEAVY DUTY MULTI-SPRING MOUNT




**MSH.F** is an anti-vibration mount with multiple springs for very heavy equipment. It is specially designed to absorb low frequency vibrations (i.e. reciprocating machines). The springs are fixed with an innovative fastening system to the metal base.

At their base they have a high quality polyurethane vibration isolation foam Regufoam® with 25mm thickness, in order to achieve better vibration isolation, also at high frequencies. The Regufoam® is manufactured by the German company BSW and it is available in different hardness/colours.

**MSH.F** is used for very heavy machinery mounting which require low frequency vibration absorption.

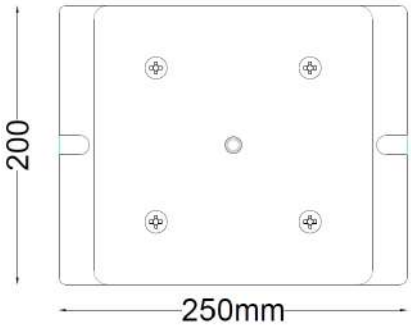
### Selection Table

| TYPE | REGUFOAM COLOR | No. of SPRINGS | DIMENSIONS (A-B-H mm) | MAXIMUM LOAD (daN) |
|---|---|---|---|---|
| MSH.F 1000 | Beige | 4 | 250-200-170 | 1000 |
| MSH.F 1500 | Rose | 5 | 250-200-170 | 1250 |
| MSH.F 2000 | Turquoise | 4 | 250-200-170 | 2000 |
| MSH.F 2500 | Red | 5 | 250-200-170 | 2500 |
| MSH.F 3000 | Red | 4 | 250-200-170 | 3000 |
| MSH.F 3750 | Brown | 5 | 250-200-170 | 3750 |

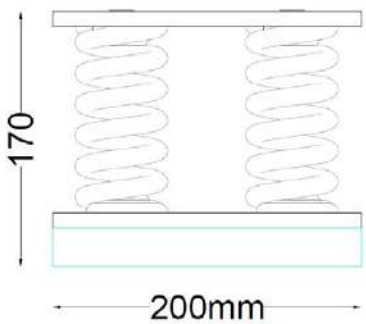
### Dynamic Characteristics

Deflection: 27 mm at maximum load
Natural Frequency: 3 Hz at maximum load

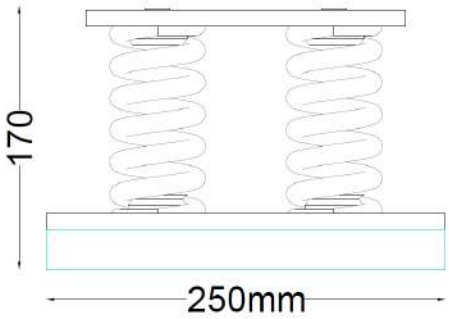
PLAN VIEW




FRONT VIEW

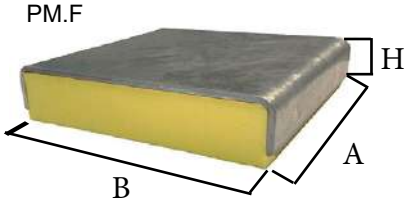



SIDE VIEW



# PM.F

PM.F




## Pad of Regufoam® with Metal Cover

**PM.F** consists of a galvanized metal cover that contains the polyurethane elastomer Regufoam® pad which absorbs the vibrations. The Regufoam® is manufactured by the German company BSW and it is available in different hardness/colours.

The metal cover protects Regufoam® from UV radiation and liquids.

At the same time, the load applied on the mount is equally distributed to the entire pad surface.

They can be used in multiple layers, in order to reduce the natural frequency down to 4 Hz.

PM.F can be used for vibration absorption in the following indicative applications:

- Anti-vibration mounts of aircompressors, pumps, fans, generator sets, cutting machines, etc.
- Floating supports: Industrial floors, elevators, printing machines, testing machines etc.

### Dimensions

- 200 x 100 x 27 mm
- 200 x 100 x 28 mm
- 100 x 100 x 27 mm
- 100 x 100 x 28 mm

### Selection Table

| TYPE | REGUFOAM COLOR | DIMENSIONS (A - B - H cm) | MAXIMUM STATIC LOAD (daN) |
|---|---|---|---|
| PM.F.1.Ye | Yellow | 10 x 10 x 2.7 | 17 |
| PM.F.2.Ye | | 20 x 10 x 2.7 | 35 |
| PM.F.1.Bl | Blue | 10 x 10 x 2.7 | 35 |
| PM.F.2.Bl | | 20 x 10x 2.7 | 80 |
| PM.F.1.Gr | Grey | 10x 10 x 2.7 | 80 |
| PM.F.2.Gr | | 20 x 10x 2.7 | 220 |
| PM.F.1.Be | Beige | 10 x 10 x 2.7 | 210 |
| PM.F.2.Be | | 20 x 10x 2.8 | 430 |
| PM.F.1.Ro | Rose | 10 x 10 x 2.8 | 300 |
| PM.F.2.Ro | | 20 x 10x 2.8 | 560 |

### Dynamic Characteristics

Deflection: ~2 mm at maximum load
Natural Frequency: ~13 Hz at maximum load

# PM.F.plus

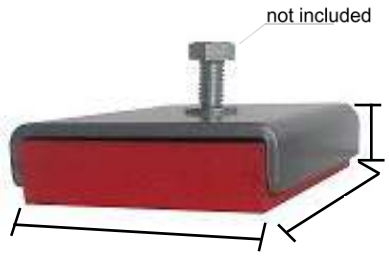
## Pad of Regufoam® with Metal Cover & fixing nut

**PM.F.plus** consists of a specially 2 side-formed galvanized metal cover that contains the polyurethane elastomer Regufoam® pad which absorbs the vibrations. The Regufoam® is manufactured by the German company BSW and it is available in different hardness/ colours.

At the center of the upper side of the metal cover, an internal M12 thread is incorporated, which allows a fixing screw (which is not included) to attach the machine to the anti vibration mount.

The metal cover protects Regufoam® from UV radiation and liquids. At the same time, the load applied on the mount is equally distributed to the entire pad surfac.

They can be used in multiple layers, in order to reduce the natural frequency down to 4 Hz.




PM.F.plus

PM.F.plus can be used for vibration absorption in the following indicative applications:

- Anti-vibration mounts of aircompressors, pumps, fans, generator sets, cutting machines, etc.
- Floating supports: Industrial floors, elevators, printing machines, testing machines

### Dimensions

- 200 x 100 x 27 mm
- 200 x 100 x 28 mm
- 100 x 100 x 27 mm
- 100 x 100 x 28 mm

### Selection Table

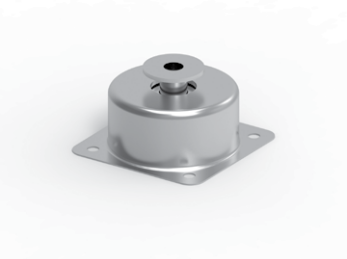
| TYPE | REGUFOAM COLOR | DIMENSIONS (A - B - H cm) | MAXIMUM STATIC LOAD (daN) |
|---|---|---|---|
| PM.F.plus.1.Ye | Yellow | 10 x 10 x 2.7 | 17 |
| PM.F. plus. 2.Ye | | 20 x 10 x 2.7 | 35 |
| PM.F. plus. 1.Bl | Blue | 10 x 10 x 2.7 | 35 |
| PM.F. plus. 2.Bl | | 20 x 10x 2.7 | 80 |
| PM.F. plus. 1.Gr | Grey | 10x 10 x 2.7 | 80 |
| PM.F. plus. 2.Gr | | 20 x 10x 2.7 | 220 |
| PM.F. plus. 1.Be | Beige | 10 x 10 x 2.7 | 210 |
| PM.F. plus. 2.Be | | 20 x 10x 2.8 | 430 |
| PM.F. plus. 1.Ro | Rose | 10 x 10 x 2.8 | 300 |
| PM.F. plus. 2.Ro | | 20 x 10x 2.8 | 560 |

### Dynamic Characteristics

Deflection: ~2 mm at maximum load
Natural Frequency: ~13 Hz at maximum load

**HR-12**

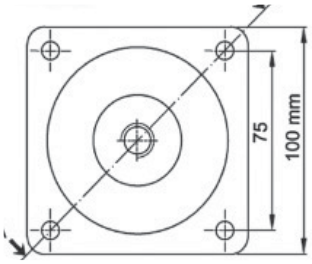
OPTIONAL
Height Regulation Device

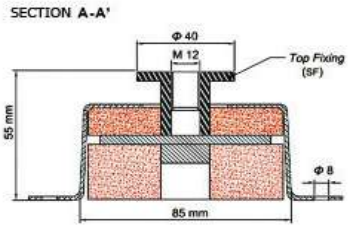


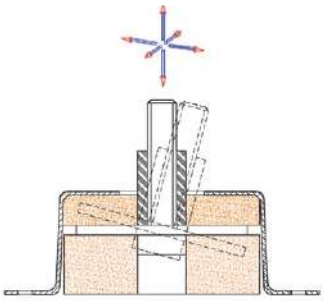
# 3D.F

## MULTIDIRECTIONAL ANTI-VIBRATION MOUNT

The new anti-vibration mount **3D.F** is one of the few mounts that can offer vibration control in every direction. **3D.F** is designed to sustain impulsive loads in all three axis (x, y, z), so it is able to receive high vertical or lateral shocks with minimum danger of destruction. The main internal elastic foam material is polyourethane foam with semi closed cells, which is produced in Germany with the trademark Regufoam®.



### Selection Table

| COLOR CODE | APPLICATION | MAX STATIC LOAD (daN) | MAX DYNAMIC LOAD (daN) |
|---|---|---|---|
| Grey | MOUNTING (B) | 38 | 55 |
| | SUSPENSION (H) | 31 | 47 |
| Beige | MOUNTING (B) | 77 | 110 |
| | SUSPENSION (H) | 63 | 93 |
| Turquoise | MOUNTING (B) | 165 | 231 |
| | SUSPENSION (H) | 154 | 187 |
| Red | MOUNTING (B) | 298 | 418 |
| | SUSPENSION | 200 | 280 |

Note: The max. load for the radial force shall be 15% of the mounting load.

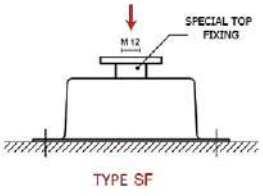
Indicative order form: **3D.F Red / B-SF**

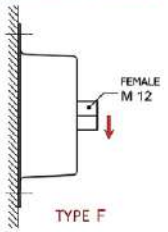
**HR-12**

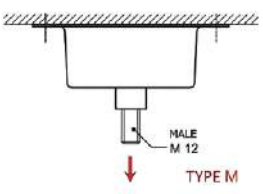
OPTIONAL
Height Regulation Device

| ENDING TYPE |
|---|
| Male (M) |
| Female (F) |
| Special Female Fixing (SF) |

### 3D.F in different mounting positions.



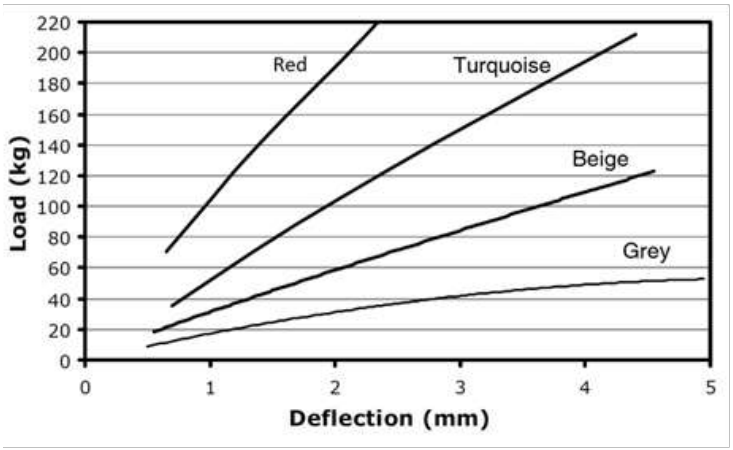



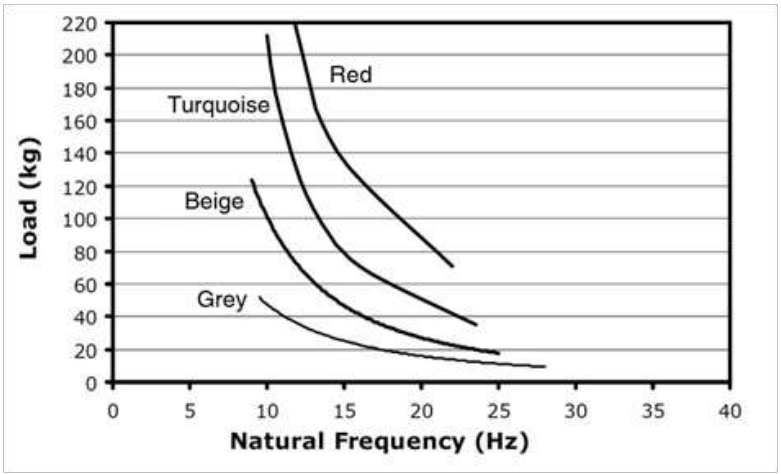

Note: All the ending types (M,F,SF) can be applied in different mounting positions.

# Dynamic Characteristics for 3D.F

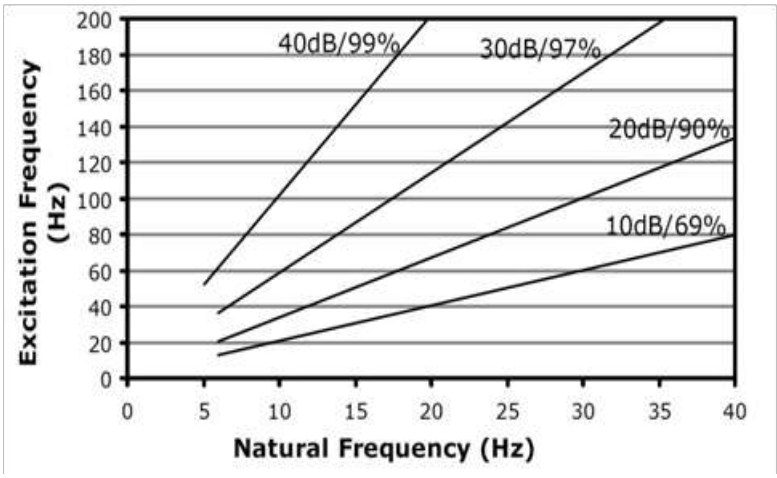
### 1. LOAD - DEFLECTION DIAGRAM




### 2. LOAD - NATURAL FREQUENCY DIAGRAM




### 3. THEORETICAL VIBRATION REDUCTION CHART



# CH.F

SHAPE (1)

SHAPE (2)

SHAPE (3)

## MULTIFORM HANGER with REGUFOAM®

### Description

The frame of **CH.F** consists of a galvanized heavy metal frame and an anti-vibration elastic element. The elastic element of the hanger is a high quality polyurethane foam, with semi-closed cells, manufactured by the German company BSW under the trademark Regufoam®.

The precisely designed incisions of the metal sheet provide easy bending of its frame, at certain shapes. Thus, CH.F can be easily transformed, into 4 different shapes in order to help the installer use it at the most favorable form.

- SHAPE (1) - Screwed on both sides of the metal suspension's profile
- SHAPE (2) - Fixed with 2 anchors on the ceiling
- SHAPE (3) - Hanged up with a hook or other proper device.

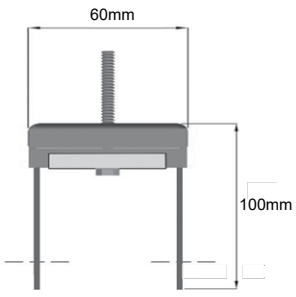
**CH.F** is available in 4 different thicknesses (12-25-37-50mm) and in 2 different stiffnesses, in order to achieve the desired natural frequency.

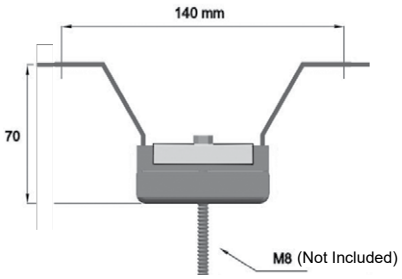
### Applications

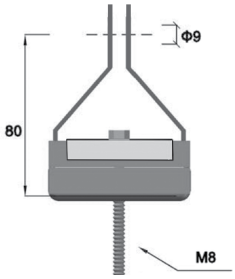
CH.F can be used as hangers for suspension of floating false ceiling with gympumboard, suspension of machinery (ventilators, air conditioning e.t.c.), anti-vibration suspension of pipes, air – ducts etc.

### Selection Table

| TYPE (Thickness) | MAXIMUM LOAD (daN) |
|---|---|
| CH.F 20.(12-25-37-50) | 20 |
| CH.F 50.(12-25-37-50) | 50 |



# QH.F

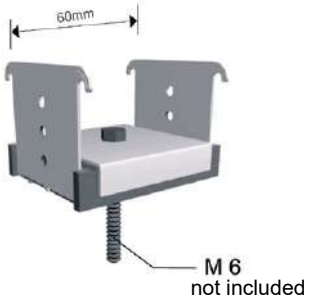
## HANGERS For GYPSUM BOARDS CEILINGS

### Description

**QHR** consist of a specially design galvanized metal suspension hanger, which has grappling edges for QUICK AND EASY connection with the standard ceiling profiles with dimensions 60x27 mm (for false ceilings) according to DIN 18182-1.

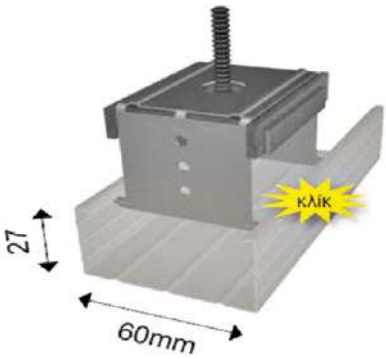
Therefore, the labour cost decreases and it also facilitates the work of the installer. The elastic element of the QHR hanger is high quality polyurethane foam, with semi-closed cells.

**It is available in 2 different thicknesses of its elastic pad:**
**12mm (economic solution)**
**25mm (better vibration control)**



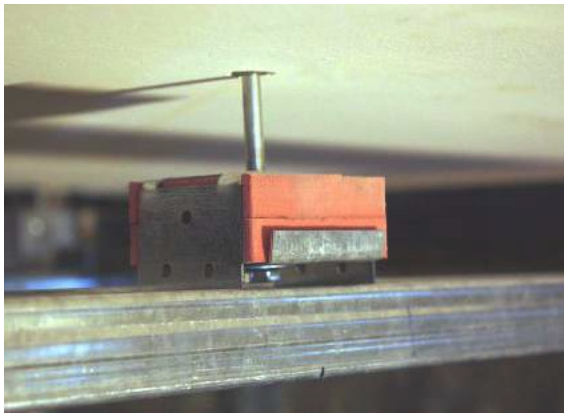

### Applications

**QHR** can be used as hangers for suspension of floating false ceiling with gympumboard, suspension of machinery (ventilators, air conditioning e.t.c.), anti-vibration suspension of pipes, air – ducts etc.




### Selection Table

| TYPE (Thickness) | MAXIMUM LOAD (daN) |
|---|---|
| QHR 20.(12) | 20 |
| QHR 20.(25) | 20 |



# Dynamic Characteristics for CH.F & QH.F

### Selection Method

The deflection (mm) has to be checked, taking into account the assessed load (daN) per hanger point( chart 1). Then the natural frequency of the hangers, can be calculated (chart 2).

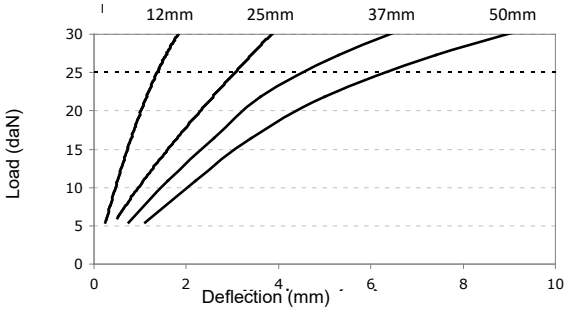
$$fn = \frac{1}{2\pi}\sqrt{\frac{K}{M}}$$

From Chart 3, with the assessed excitation frequency of the machine (fe=rpm/60) and the natural frequency derived from chart 2, the % theoretical vibration reduction (efficiency, n) can be predicted).

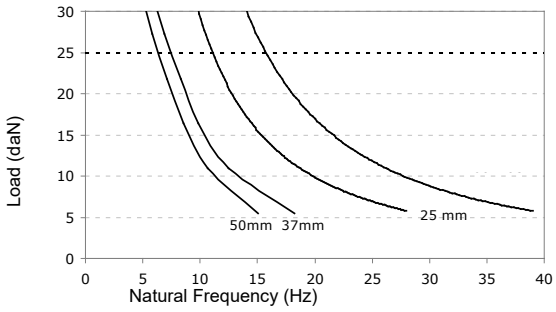
For achieving optimum results in special applications, we recommend to contact our technical department for selecting the best vibration isolation solution.

## DYNAMIC CHARACTERISTICS CH.F 20 / QH.F 20

### LOAD - DEFLECTION DIAGRAM

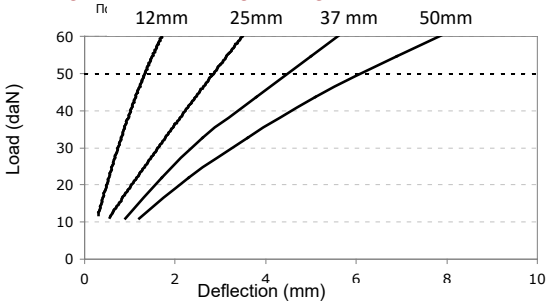



### LOAD - NATURAL FREQUENCY DIAGRAM

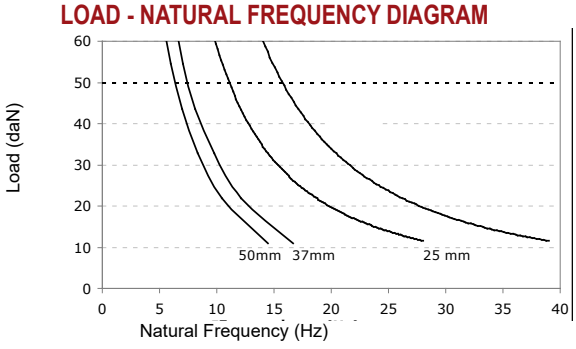



## DYNAMIC CHARACTERISTICS CH.F 50/ QH.F 50

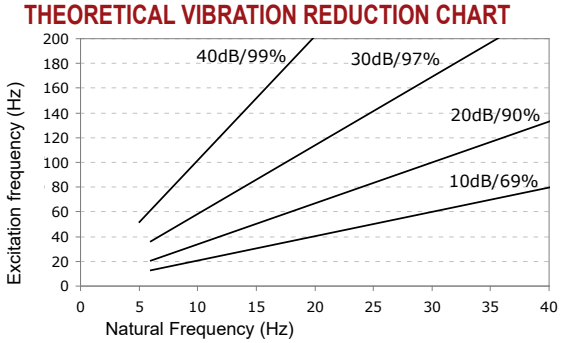
### LOAD - DEFLECTION DIAGRAM




### LOAD - NATURAL FREQUENCY DIAGRAM

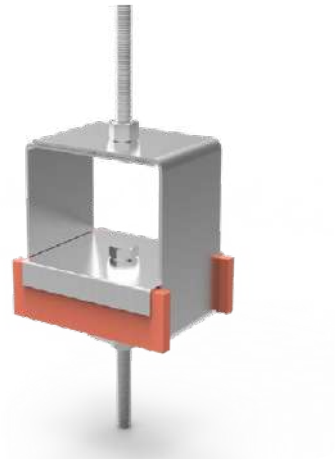



### THEORETICAL VIBRATION REDUCTION CHART



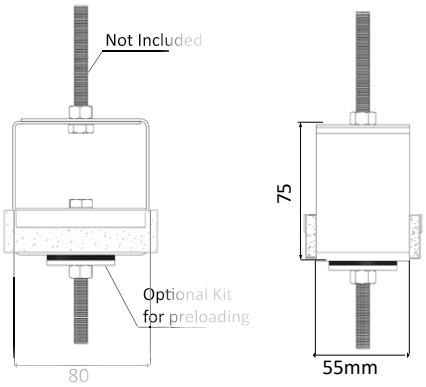
# HR.F

## HEAVY HANGER WITH REGUFOAM



HR.F is a rubber hanger made from galvanized metal sheet. The Suspension Screw/rod can be from M8 to M12 depending on application needs (not included). Acceptable rod misalignment up to 25° arc, without contacting metal frame. The elastic element of the hanger is a high quality polyurethane foam, with semi-closed cells, manufactured by the German company BSW under the trademark Regufoam ®.

**HR.F** can be used as a suspension of floating false ceiling with gympumboard. an anti-vibration suspension of machinery (fans, air conditioning, AHU, e.t.c.) and suspension of pipes, and air ducts.




Sides View

### Selection Table

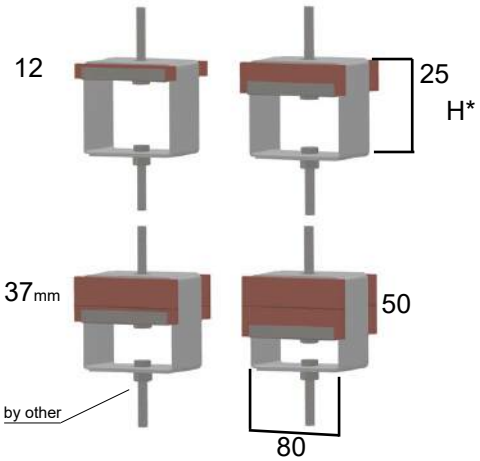
| TYPE | Color Code | MAXIMUM LOAD (daN) |
|---|---|---|
| HR.F 20 | Black | 20 |
| HR.F 40 | Gray | 40 |
| HR.F 80 | Beige | 80 |
| HR.F 110 | Rose | 110 |
| HR.F 160 | Turquoise | 160 |
| HR.F 220 | Red | 220 |

More load ranges available upon request

All types can be produced in 4 different rubber thickness (12 - 25 - 37 & 50 mm).
*Height (H), depends on the application.

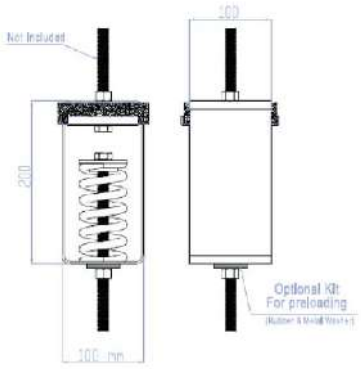
### Dynamic Characteristics

Natural Frequency: 8-17 Hz (depending on thickness of the layers of the foam rubber)
Increasing the thickness of anti-vibration rubber, better vibration isolation is achieved.




**HR.F** with four different thickness

HH.F




Sides View

# HH.F

## HEAVY SPRING HANGER

**HH.F** is a heavy spring/rubber foam hanger. Its frame is made from galvanized metal sheet or metal with painted finish. The Suspension screw/rod can vary depending on application needs (not included). Acceptable rod misalignment up to 30° arc, without contacting metal frame.

The elastic element of the hanger is a high quality polyurethane foam, with semi-closed cells, manufactured by the German company BSW under the trademark Regufoam ®.

**HH.F** can be supplied with a preloading kit (rubber & metal washer) upon request. Different types of hanging endings can be provided (screw/rod, eye bold, etc.)

HH.F can be used as anti-vibration suspension of machinery (fans, AHUs, Compressors, etc), suspension of pipes or air ducts and suspension of loudspeakers (line array).

### Selection Table

| TYPE | MAXIMUM LOAD (daN) |
|---|---|
| HH.F 250 | 250 |
| HH.F 500 | 500 |
| HH.F 750 | 750 |

### Dynamic Characteristics

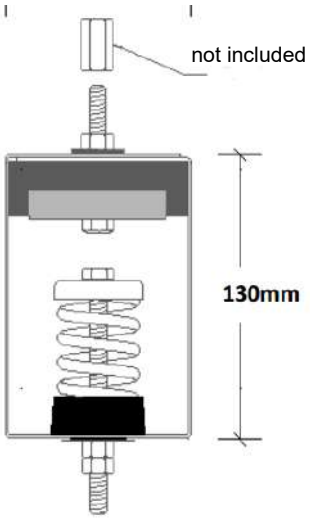
Deflection: 25 mm at maximum load
Natural Frequency: 3 Hz at maximum load

# SH.F

## HANGER with SPRING + Regufoam®

**SH.F** is a hanger with a combination of special polyurethane rubber with metal spring for better vibration isolation of low and high frequency which can be heard by the human ear. It consist of a steel frame with a painted finish or galvanised protection. The upper part of the hanger has a special elastic element made of high quality polyurethane foam, with semi-closed cells, under the trademark Regufoam®.

They can also be pre-loaded by tightening the nut. (hanging bolt not included)



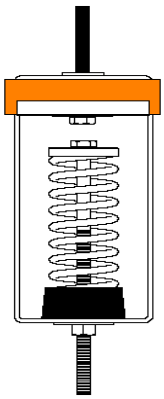

**SH.F** can be used in sound insulation of false ceiling with plasterboard or the vibration isolation of pipes, air ducts, loudspeakers etc.

### Selection Table

| TYPE | MAXIMUM LOAD (daN) |
|---|---|
| SH.F 25 | 25 |
| SH.F 50 | 50 |
| SH.F 100 | 100 |
| SH.F 150 | 150 |

### Dynamic Characteristics

Deflection: 25 mm at maximum load
Natural Frequency: 3 Hz at maximum load



# SHD.F

## SPRING HANGER WITH DOUBLE DEFLECTION SPRING and REGUFOAM®

**SHD.F** is a spring hanger with double deflection (50mm). It consists by a Steel frame made of galvanized metal sheet. The upper part of the hanger has a special elastic element made of high quality polyurethane foam, with semi-closed cells, under the trademark Regufoam.

The spring provides high deflection in order to achieve very low natural frequency. Rubber cap at the base of the spring prevents sound bridge.
The Rubber element on the top offers better isolation of audible frequencies.

- Hanging rod for height regulation with safety nut.
- Preloading capability by turning the bottom nut.
- Rubber spring cup with a projecting bushing to prevent sound bridge.
- Different hanging systems (screw, eyes bold).
- The combination of special foam and metal spring offers better vibration isolation at the low frequencies that can be transmitted through the spring but also at a wider range of frequencies heard by the human ear.

**SHD.F** can be used as vibration control hanging in rotating machines (AHU, chillers, Fans e.t.c.), vibrating pipes or air ducts, loudspeakers, gypsumboard noise insulation false ceiling.

### Selection Table

| TYPE | MAXIMUM LOAD (daN) |
|---|---|
| SHD.F 25 | 25 |
| SHD.F 50 | 50 |
| SHD.F 100 | 100 |
| SHD.F 150 | 150 |

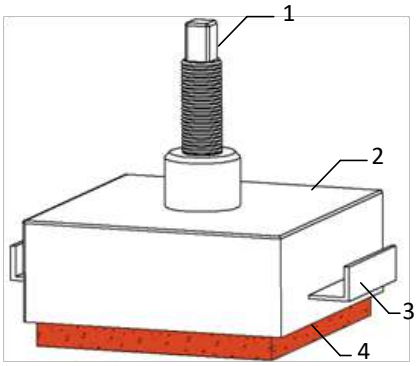
### Dynamic Characteristics

Deflection: 50 mm at maximum load
Natural Frequency: 2.3 Hz at maximum load

# JU.F

## JACK-UP RUBBER MOUNT with REGUFOAM for CONCRETE FLOATING FLOORS

**JU.F** is an advanced vibration control system for raised concrete floating floors. It consists of a metal shell that contains the polyurethane elastomer Regufoam sheet which absorbs the vibrations and a mechanism which enables the lifting of concreat floor. The poured concrete does not touch the supporting floor and so the sound bridge between the floating and the supporting floor is avoided. It's very easy to install, allows regulation of height and helps to avoid the use of remaining plywood forms. It also creates an air gap, which is beneficial for the sound insulation and the vibration control.



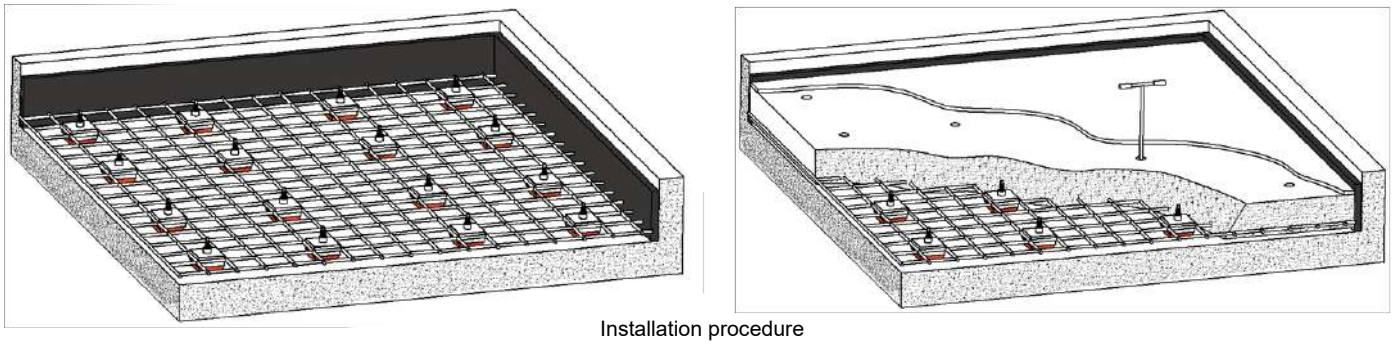

1. Regulation – elevation mechanism.
2. Cover Plate.(Galvanised Metal Sheet)
3. Concrete reinforced holding.
4. Rubber mount Regufoam

### Installation instructions

- Place a polyethylene sheet under and round all the surface of the concrete floating floor.
- Isolate the floating floor from building structure, with a suitable anti-vibration board, between the floating floor and the existing walls
- Place the mount JU.F.
- Insert the elastic tube, covering the screw. Cut the elastic tube in a suitable length, so it is greater than the thickness of concrete slab.
- Calculations of the concrete's quality, adequate reinforcement and requirements must be done from a Civil Engineer. Place reinforcing structure of the slab and pour the concrete. Allow the concrete to mature a few days.
- Load progressively and uniform the rubber mounts terning clockwise the elevation mechanism using an appropriate female hexagon hand operated socket in order to jack-up the concrete floating floor.
- Place cover tap, if necessary.

### Selection Table

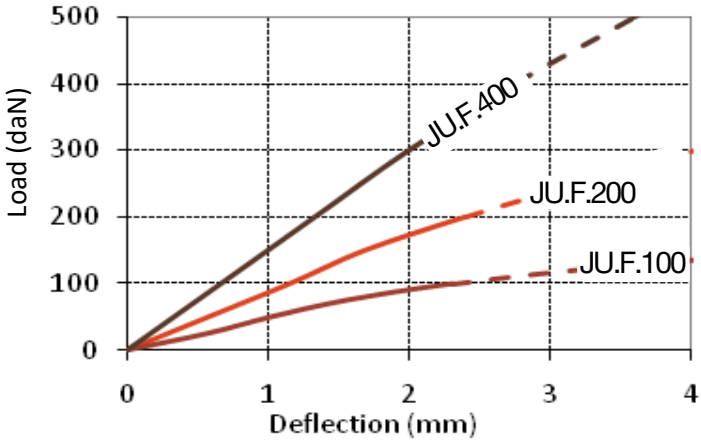
| TYPE | MAXIMUM LOAD (daN) | Color |
|---|---|---|
| JU.F.100 | 100 | Grey |
| JU.F.200 | 200 | Beige |
| JU.F.400 | 400 | Turquoise |



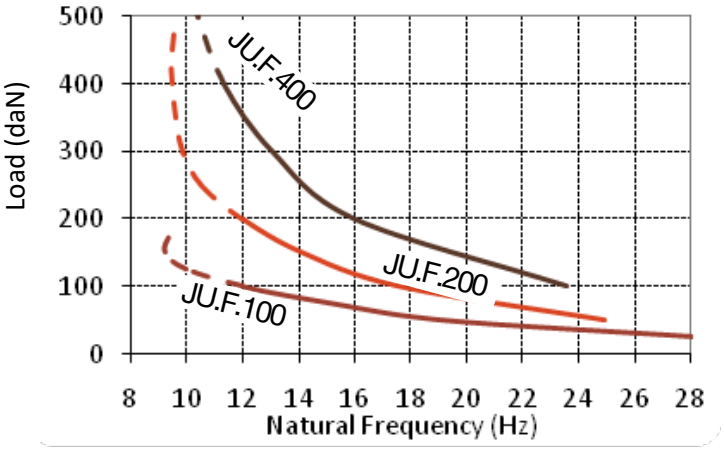
Installation procedure

# Dynamic Characteristics for jack up JU.F

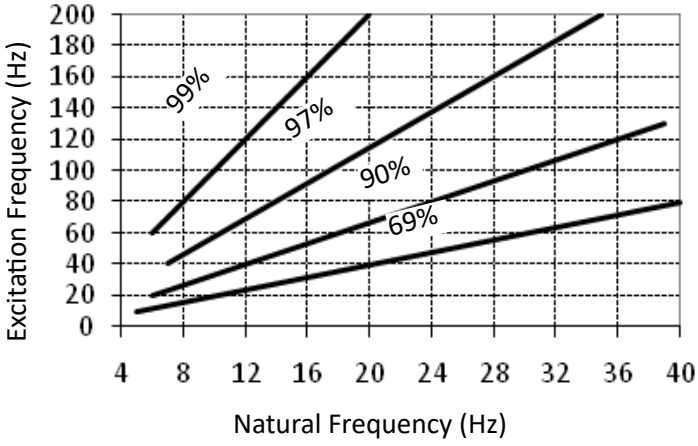
LOAD - DEFLECTION DIAGRAM




LOAD - NATURAL FREQUENCY DIAGRAM




THEORETICAL VIBRATION REDUCTION CHART



# SC.F

## WALL CONNECTION

Anti-vibration wall connection **SC.F** is used in order to add structural integrity of long and tall gypsum board walls, which are mounted on anti-vibration pads or based on floating floor.

It prevents any direct connection between the double walls, and increases their stiffness.

Additionally it prevents wall backling during earthquakes. It is usefull when a secondary wall is applied for improved sound insulation where rigid connections will cause an unwanted sound bridge.

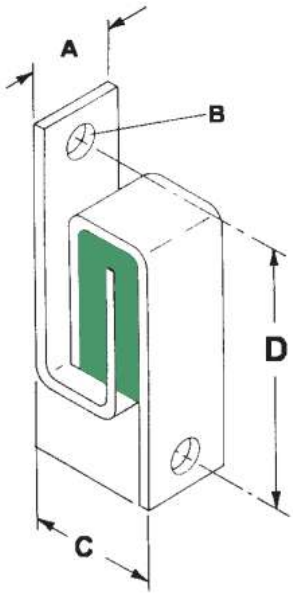
**SC.F** consists of a metal sheet, suitable modulated. The polyurethane elastomer Regufoam sheet is placed internally to absorb positive and negative axial forces. The pass-through SC.Few does not come in contact with the metal frame, so that no sound bridge is created.

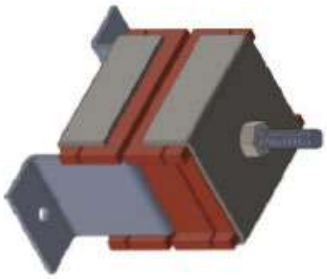
**SC.F.1 (25mm)**

**SC.F.2 (50mm)**

### Selection Table

| TYPE | DIMENSIONS A x B x C x D (mm) | MAX AXIAL RESTRAINT (daN) |
|---|---|---|
| SC.F.1 | 25 - 8 - 40 - 70 | 30 |
| SC.F.2 | 50 - 8 - 40 - 70 | 60 |





# WB.F

## WALL BRACE

**WB.F** is a wall brace connector which consists of a metal frame suitable modulated. The elastic anti-vibration element of the sway brace is a high quality polyurethane foam with semi closed cells manufactured by the German company BSW under the trademark Regufoam.

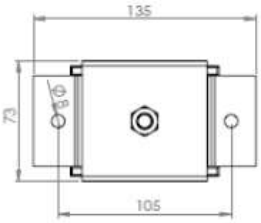
The pass through threaded rod does not come in contact with the metal frame, so that no sound bridge is created. The side of the rod depends on the maximum axial load capacity. Its length and type of ending may vary accodring to applications.

There are two metal flaps, at each side, to facilitate rigid connection with the frame of partition.

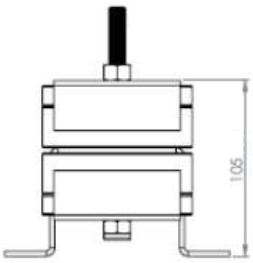
The wall braces **WB.F** are used in order to add structural integrity of long and tall partitions, which are mounted on pads or based on floating floor. They avoid any direct connection between the double stud or combination of masonry walls and increase their stiffness.

Additionaly they prevent wall buckling during earthquakes. it is usefull when a secondary wall is applied for improved sound insulation and rigid connections will cause unwanted sound bridge. They also provide structural stability without losing acoustic performance.

Top view




Side view




### Selection Table

| TYPE | REGUFOAM THICKNESS (mm) | COLOR CODE | MAXIMUM AXIAL RESTRAINT (daN) |
|---|---|---|---|
| WB.F-25.25 | 25 | Black | 25 |
| WB.F-25.37 | 37 | Black | 25 |
| WB.F-50.25 | 25 | Grey | 50 |
| WB.F-50.37 | 37 | Grey | 50 |
| WB.F-100.25 | 25 | Beige | 100 |
| WB.F-100.37 | 37 | Beige | 100 |
| WB.F-150.25 | 25 | Rose | 150 |
| WB.F-150.37 | 37 | Rose | 150 |

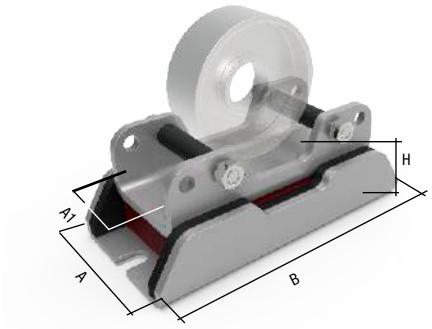
### Dynamic Characteristics

Natural Frequency (at maximum load): 11 Hz for 25 mm thickness
8 Hz for 37 mm thickness

Notes:
-More types can be produced on demand for other axial loads.
-Wall braces are not to be used for vertical support.
-Natural frequency is a function of the applied load and the dynamic stiffness in axial direction.

# TRS.F

## TRANSFORMERS SUPPORT




**TRS.F** is a special engineered and designed anti-vibration mount for electrical transformers with transportation rolls.

The elastomeric element between the two metal profiles is a high quality polyurethane vibration isolation foam, manufactured by the German company BSW under the trademark “Regufoam” , available in different hardness.

There are two different thicknesses (25 and 37mm) of the elastomeric foam in order to achieve better vibration isolation. The metal plate is protected from oxidation with polyester powder paint or can be hot dip galvanized (upon request).

Rubber pads on both sides between the metal profiles, help avoid any sound bridge. On the upper metal profile there are two cylindrical axis in order to be avoided the rolling of the wheel. The position of these cylindrical axes can be adjusted according to the wheel’s diameter. There are also lateral restraints due to the metal wings.

TRS.F mount is recommended to be used for Vibration isolation for a wide range of transformers. It can be applied as a vibration damping under the transportation rolls in order to protect the relative building from the structural born noise transmission.

### Selection Table

| TYPE | THICKNESS OF REGUFOAM (mm) | DIMENSION A - A1 - B - H (mm) | WHEEL DIAMETER (mm) | LOAD RANGE (daN) |
|---|---|---|---|---|
| TRS.F.**1** | 25 | 130-90-250-35 | 90-200 | 100-1700 |
| TRS.F.**1** | 37.5 | 130-90-250-47.5 | 90-200 | 100-1700 |
| TRS.F.**2** | 25 | 220-168-350-41 | 180-300 | 1500-3500 |
| TRS.F.**2** | 37.5 | 220-168-350-53.5 | 180-300 | 1500-3500 |

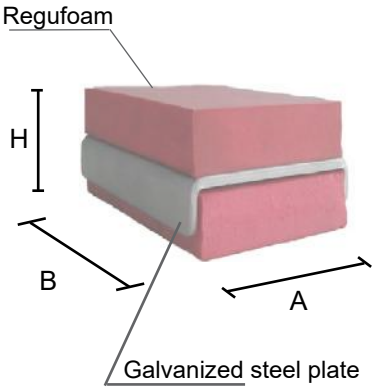
### Dynamic Characteristics

Deflection: Max 4 mm at higher load
Natural Frequency: Up to 15 Hz

TRS.F.1

TRS.F. 2

*Our technical department will select the appropriate TRS.F type, according to the transformer technical characteristics and the required vibration reduction.*




# ELR.F

## ELEVATOR ISOLATION ELEMENT FOR STRUCTURAL BORN NOISE

The new anti-vibration mount **ELR.F** is an isolation element that can protect the building from the structure borne noise from a drive unit elevator machine.

**ELR.F** is designed to be installed directly on the machine floor in the drive unit, on bedplate steel beams.

The elastomeric foam is a vibration control material from polyourethane with semi closed cells, which is produced in Germany with the trademark Regufoam®.

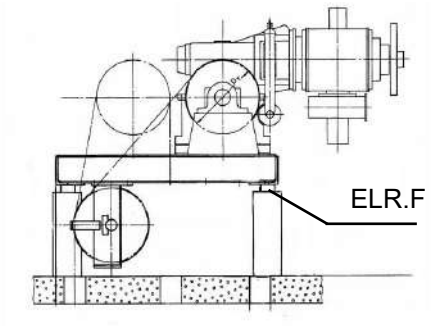
In order to be achieved a better distribution of the applied load, a metal galvanized profile is placed between the two elastomeric elements.

Along with ELR.F element, it is recommended the use of a seismic restraint mechanism, such as Vibro-Seismicon, in order to be avoided possible horizontal displacements.

### Selection Table

| TYPE (COLOR CODE *) | DIMENSIONS (AxBxH) (mm) | MAX STATIC LOAD (daN) | DEFLECTION AT MAX LOAD (mm) | NATURAL FREQUENCY AT MAX LOAD (Hz) |
|---|---|---|---|---|
| **ELR.F. 1-600 (R*)** | 100X100X55 | 600 | 4.9 | 8.2 |
| **ELR.F. 2-900 (R*)** | 150X100X55 | 900 | 4.9 | 8.2 |

More load ranges with different dimensions and stifnesses available upon request




Typical Application on machine elevator

### NOTES - RECOMMENDATIONS

•When checking the max load of the isolation elements, please consider all the relevant masses (rope forces and weight of drive machine of the elevator.

•The isolation elements should preferably be loaded near the maximum static load, in order to achieve better vibration reduction

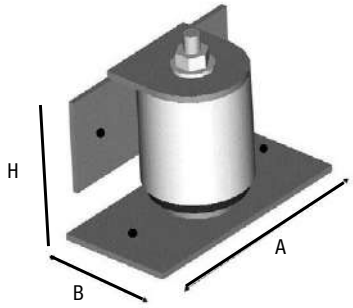
•All the mounts that are placed below the machine frame, have to be loaded uniformly .

•If several isolation elements are placed side by side, a minimum distance of 40mm should be applied.

*Our technical department will select the appropriate ELR.F type, according to technical characteristics and the required vibration reduction.*

# SeiSmicon.F

## SEISMIC RESTRAINT




Machines based on anti-vibration mounts such as springs, elastic pads etc., during external excitation (e.g. earthquake, wind, tornado etc.) can develop critical displacements. These displacements may stop the operation or even cause serious damage to the machine.

Seismic restraints could resist the imposed forces and limit the movement of equipment to all three directions. The restraints also prevent the creation of sound bridge between the machine and its support base, due to their internal rubber foam bushings, thus the vibrations during normal operation are not transmitted.

The elastomeric foam is a vibration control material from polyourethane with semi closed cells, which is produced in Germany with the trademark Regufoam®.

Four SeiSmicon.F pieces should be installed, one each side of the machine, near the corners of its base.

The application of the restraint must be done after the installation and the operation of the machine. Afterwards, restraint can be regulated in height.

Metal sheets additions could be screwed or welded on the restraint's parts, if it is necessary to be adapted with special needs of installation.

It must be ensured that the machine frame and also the building structure have the necessary strength to remain both attached to the SeiSmicon, during an earthquake or extreme wind loading according to local regulations.

Selection Table

| TYPE | INTERNAL RUBBER COLOR | DIMENSIONS (AxBxH) (mm) | MAXIMUM LOAD (daN) |
|---|---|---|---|
| C-1 | Rose | 200-100-95 | 750 |
| C-2 | Turquoise | 200-100-95 | 1000 |

# VIBRATION MEASUREMENTS

Our company is equipped with high tech vibration measurement equipment.This contributes in improving our Research and Development activity in regards with new & innovative vibration isolation products. It also improves our accurate product customization and production, in order to offer our clients the best vibration control solutions, covering even the most complex requirements!

The measuring vibration equipment consists of highly specialized precision tri-axial accelerometers (1v/g), targeted specifically for measurements in building vibration.

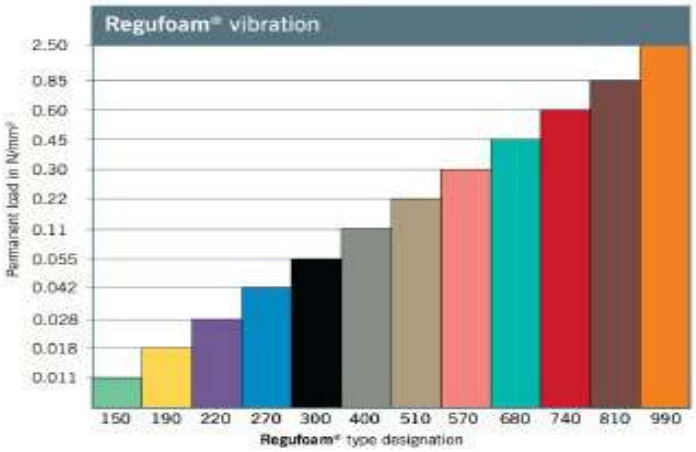
In addition, we use industrial type accelerometers to measure vibration on machines such as: generators, chillers, air handling units, gen sets, boilers, HVAC etc. These instruments are able to simultaneously measure acceleration/velocity/displacement in relation with the time and frequency domain. (FFT analysis and waterfall graph)

**Some indicative applications for vibrations measuring:**

- Measurement of machine vibration before and after the application of vibration control products.
- Vibration measurement in buildings (ground-borne and structure-borne vibration) generated by mechanical sources, or traffic (train) excitations.
- Protection of sensitive appliances, measuring the machinery excitation frequency (i.e. sensitive electronic appliances on ships etc).
- Human response to Vibration (H.R.V.) assessment in work places.
- New products prototyping & testing.
- Quality control.

## Technical Data

Regufoam® vibration is a mixed cell polyurethane foam for vibration isolation.
It is available in 12 different qualities.
They can be specifically set for support frequencies between 20 Hz and 8 Hz in a broad load range from 0.011 N/mm² to 2.50 N/mm².
Expert consultants in particular benefit from this large degree of flexibility.




| Regufoam® vibration Colour | 150 Green | 190 Yellow | 220 Purple | 270 Blue | 300 Black | 400 Grey | 510 Beige | 570 Rose | 680 Turquoise | 740 Red | 810 Brown | 990 Orange |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Permanent static load N/mm² | 0.011 | 0.018 | 0.028 | 0.042 | 0.055 | 0.11 | 0.22 | 0.30 | 0.45 | 0.60 | 0.85 | 2.50 |
| Optimum load range N/mm² | 0.004 to 0.011 | 0.011 to 0.018 | 0.018 to 0.028 | 0.028 to 0.042 | 0.042 to 0.055 | 0.055 to 0.11 | 0.11 to 0.22 | 0.22 to 0.30 | 0.30 to 0.45 | 0.45 to 0.60 | 0.60 to 0.85 | 0.85 to 2.50 |
| Tensile strength[1] N/mm² | 0.31 | 0.4 | 0.5 | 0.9 | 1.2 | 1.5 | 2.4 | 2.9 | 3.6 | 4.0 | 4.6 | 6.9 |
| Mechanical loss factor[2] | 0.28 | 0.25 | 0.22 | 0.20 | 0.18 | 0.17 | 0.15 | 0.14 | 0.12 | 0.11 | 0.10 | 0.09 |
| Static modulus of elasticity[3] N/mm² | 0.06 to 0.16 | 0.1 to 0.25 | 0.15 to 0.35 | 0.25 to 0.45 | 0.35 to 0.58 | 0.6 to 1.0 | 1.1 to 1.7 | 2.6 to 2.7 | 2.0 to 2.9 | 4.3 to 5.9 | 5.8 to 7.2 | 20.0 to 78.0 |
| Dynamic modulus of elasticity[4] N/mm² | 0.15 to 0.36 | 0.25 to 0.55 | 0.35 to 0.79 | 0.60 to 1.05 | 0.88 to 1.25 | 1.2 to 2.0 | 2.2 to 3.7 | 5.1 to 6.3 | 6.8 to 10.0 | 7.9 to 13.0 | 11.0 to 16.5 | 41.0 to 160.0 |
| Compression hardness[5] kPa | 14 | 22 | 22 | 63 | 82 | 170 | 330 | 620 | 840 | 1050 | 1241 | 3640 |
| Fire behaviour | B2, E | | | | | | | | | | | |

*The above technical information are based on data by Berleburger Schaumstoffwerk GmbH*
*More info at: [www.berleburger.com](http://www.berleburger.com)*

# VibroFOAM

**ALPHA ACOUSTIKI S.A.** using the experience in the field of noise and vibration control since 1978 of its engineering R&D team, have create a new range of innovative vibration control systems using **Regufoam®** vibration absorption elastomer**.**

Regufoam® produced by the German company BSW is mixed microcellular polyurethane foam, with high vibration absorption.

The pioneering technologies of VIBRO products in combination with the beneficial properties of Regufoam, give us the opportunity to create a new series of innovative products with the trade mark ***Vibro - FOAM*** with excellent vibration control capabilities.

Our technical department will be glad to assist you resolve your vibration problems with our advanced vibration control solutions.

Design and Production according to
Quality Assurance System ISO 9001.2015
& Environmental Management System ISO 14001.2015

**SUSTAINABILITY**
SEE OUR ACTIONS

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