VIB 20.000

Metallic Spring Steel Isolators

r6: 9/2022

vibcon®

Vibroacústica Control y Aislamiento S.L.

Index

Tel. 93 583 61 08 / Fax. 93 675 58 90 Email: vibcon@vibcon.es Web. www.vibcon.es

Tel. 93 583 61 08 / Fax. 93 675 58 90 Email: vibcon@vibcon.es Web. www.vibcon.es

Information

VIB 20.000 Series are spring steel isolators composed by two VIB 1.000 Series springs assembled in parallel.

They provide a very high vibration insulation due to its very low damping factor (t= 0,001).

By using VIB 20.000 Series two main goals are achieved:

Decreasing vibrations transmission.
Reducing structural noise induced by mechanical vibrations.

Highly recommended for insulating machinery operating at low working cycles (above 600 rpm).

Natural frequency 3-7 Hz.

VIB 20.000 E
(with antioxidant EPOXY coating finish)

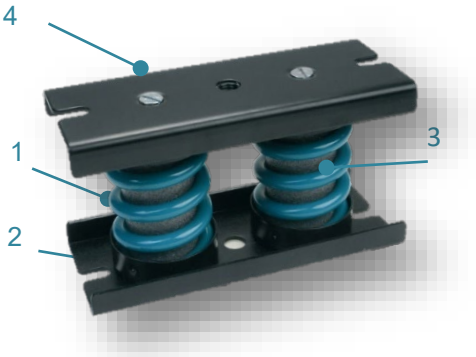
Description and Dimensions

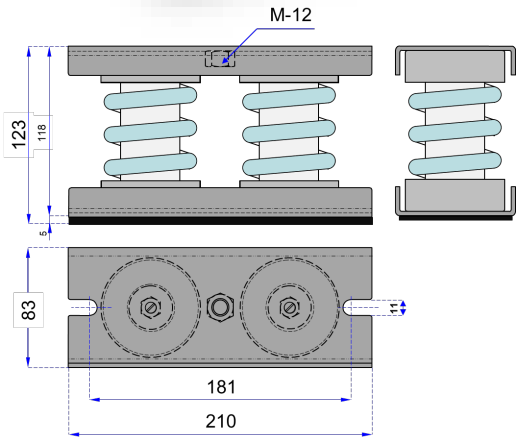
VIB 20.000 Series is a standard steel spring with high resistance that is compliant with DIN standards, subsequently treated with shot peening to extend its resistance to fatigue under permanent conditions of stress. Surface finish coated with EPOXY protection.

Steel framework with mechanical anchoring which prevents the spring from removing. Thanks to the special glue that joins the spring to the housing, direct contact between pieces is avoided thus reducing metallic noise.

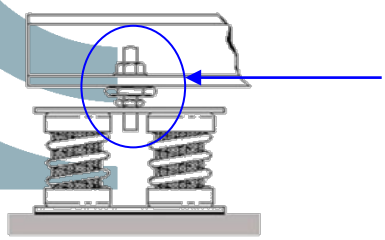
Closed internal flexible polyethylene filler, to prevent solid elements from entering and damaging the spirals under load.

Metal base, with rib for increased stiffness. Oval holes to facilitate its centering and anchoring to the ground.





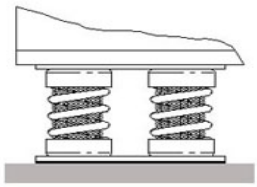
Supply Versions and Installation



Leveling installation

Assembly with special top base

Accesory: M-12 leveling bolt



Direct installation
Assembly with plain top base for free positioning

AS FOR THE FINISH, TWO VERSIONS AVAILABLE

Standard Version

Galvanized finish

"E" Epoxy Version

Antioxidant EPOXY coating finish

ACCESORY: Vibroacoustic insulation reinforcement

Acoustic base Version

with AD 412 rubber mat

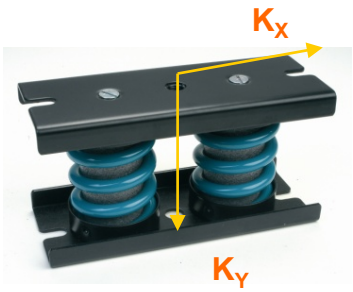
Tel. 93 583 61 08 / Fax. 93 675 58 90 Email: vibcon@vibcon.es Web. www.vibcon.es

Physical Analysis

Vibcon Model	Minimum and maximum static compression load in **daN**(1)					Isolator's weight [kg]
	MINIMUM load	**MINIMUM** defelction	MAXIMUM load	**MAXIMUM** deflection	OPTIMUM load	
VIB 20.200	20	2,5 mm	200	25 mm	40-184	2
VIB 20.225	23		225		45-207	2
VIB 20.250	25		250		50-230	2
VIB 20.275	28		275		55-253	2
VIB 20.300	30		300		60-276	2
VIB 20.350	35		350		70-322	2
VIB 20.400	40		400		80-368	2
VIB 20.450	45		450		90-414	2
VIB 20.500	50		500		100-460	2
VIB 20.550	55		550		110-506	2
VIB 20.600	60		600		110-552	2,5
VIB 20.700	70		700		120-644	2,5
VIB 20.800	80		800		140-736	2,5
VIB 20.900	90		900		160-828	3
VIB 21.000	100		1.000		200-920	3
VIB 21.100	110		1.100		220-1.012	3
VIB 21.200	120		1.200		240-1.104	3
VIB 21.400	140		1.400		280-1.281	3
VIB 21.500	150		1.500		300-1.373	3
VIB 21.600	160		1.600		320-1.464	3

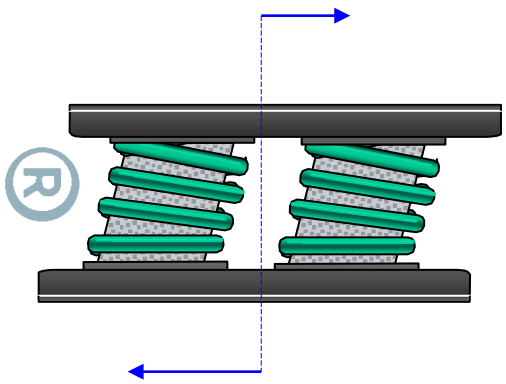
***Note**:1 daN =10 kp=1 kgf*

- Working temperature range: -90ºC to 200ºC
- Stiffness ratio **KX / KY = 0,7**
- Admissible overload: 50% of its maximum load



LATERAL SHIFTING

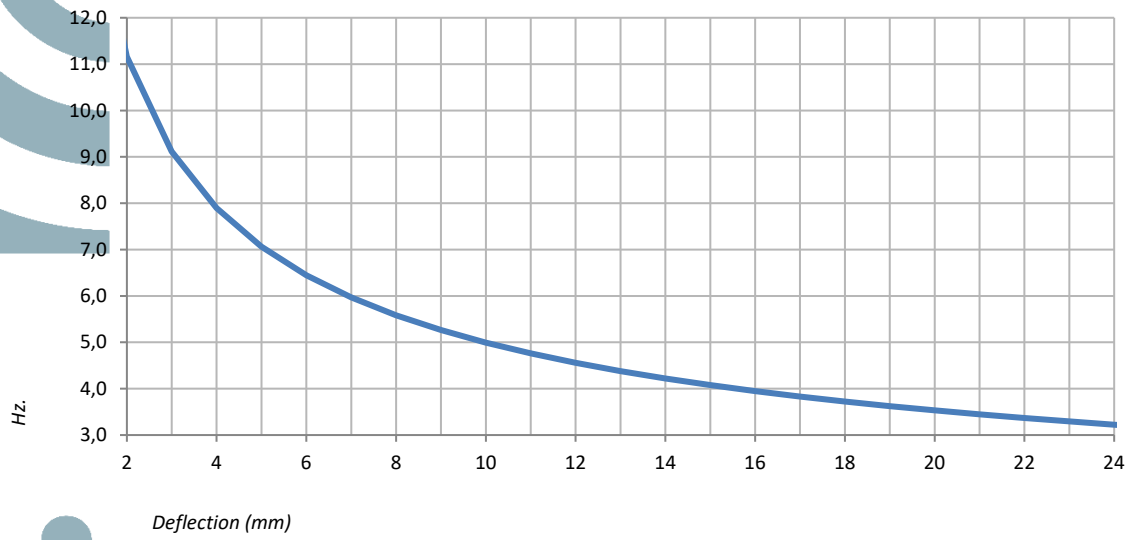
Should the structure where the isolator is attached expand, isolators may shift laterally the maximum values shown in the following table:



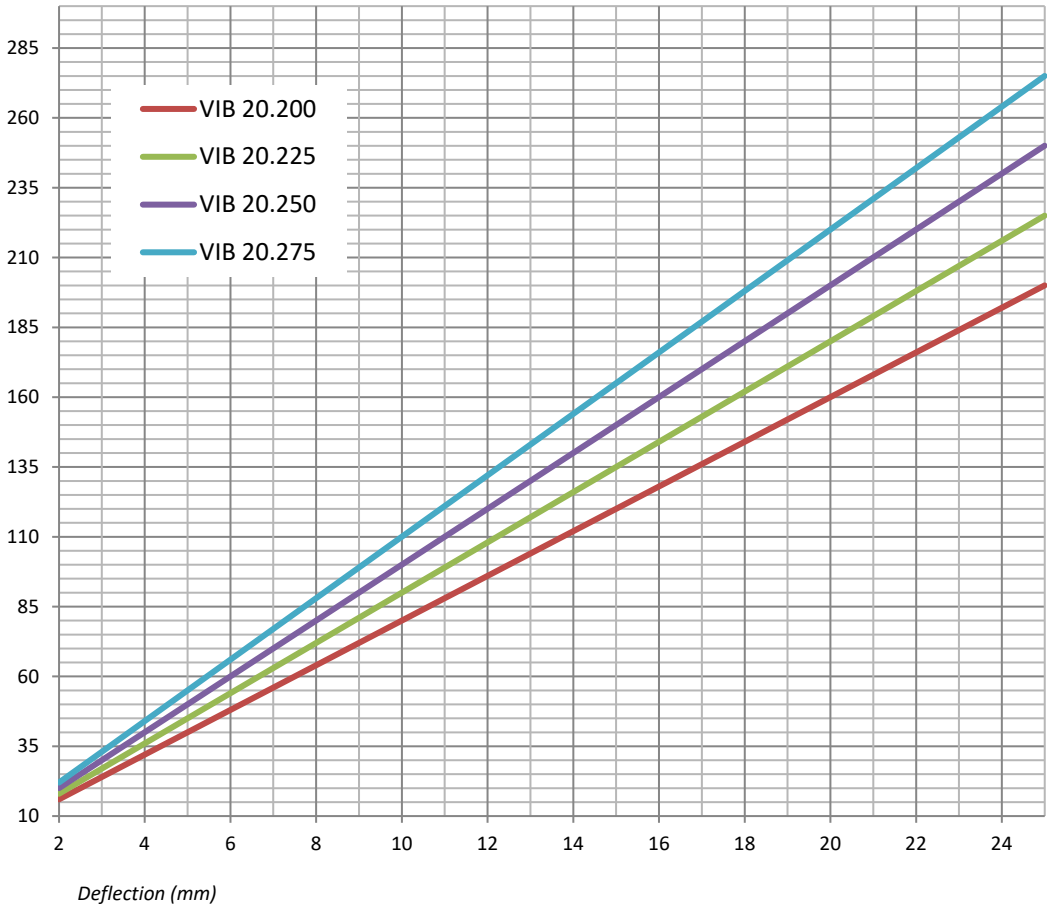
Compression [mm]		Shear [mm]	
Max. shift	25mm	Max. shift	10-16mm

Tel. 93 583 61 08 / Fax. 93 675 58 90 Email: vibcon@vibcon.es Web. www.vibcon.es

Graph: Dynamics (Natural Frequency)

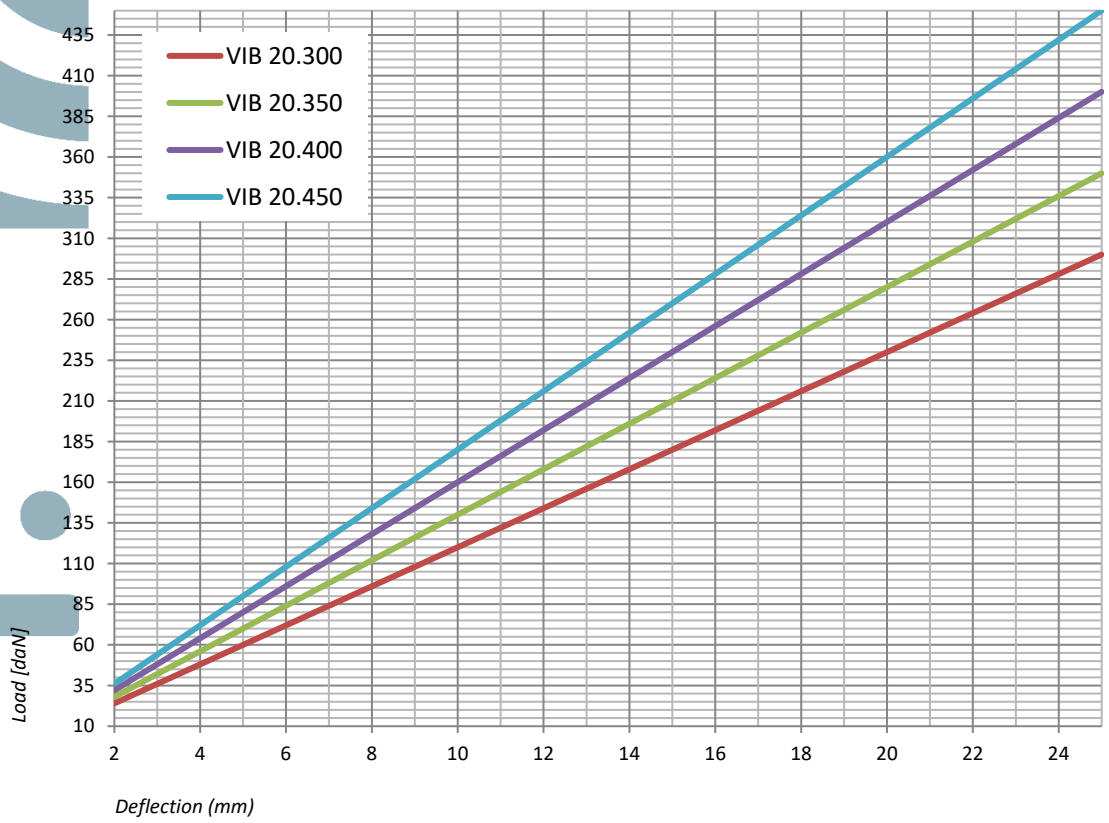


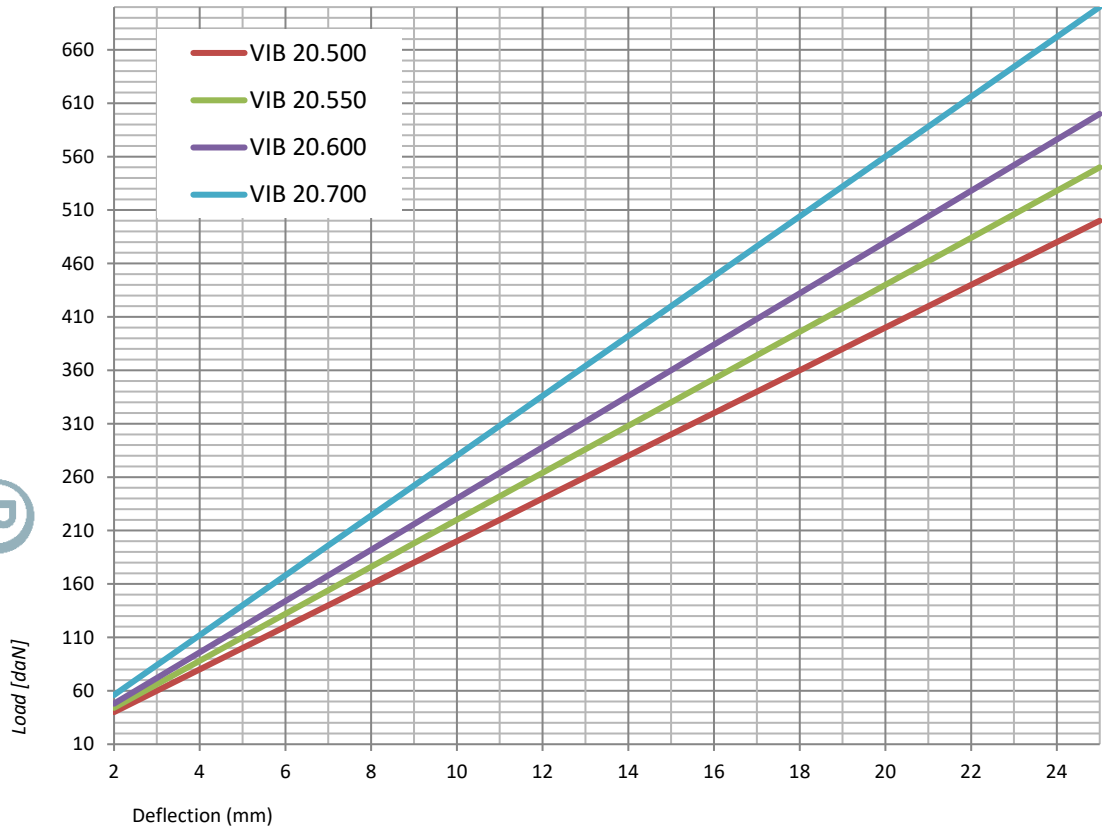
Graph: Statics



Tel. 93 583 61 08 / Fax. 93 675 58 90 Email: vibcon@vibcon.es Web. www.vibcon.es

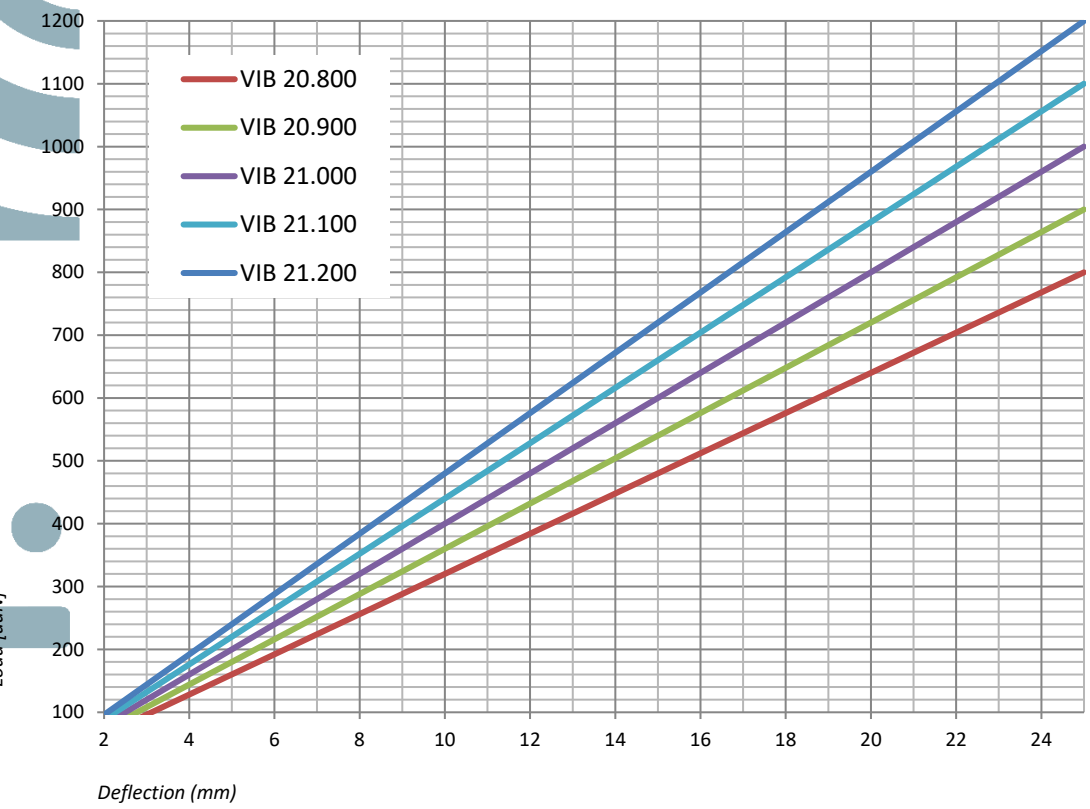
Graph: Load-Deflection

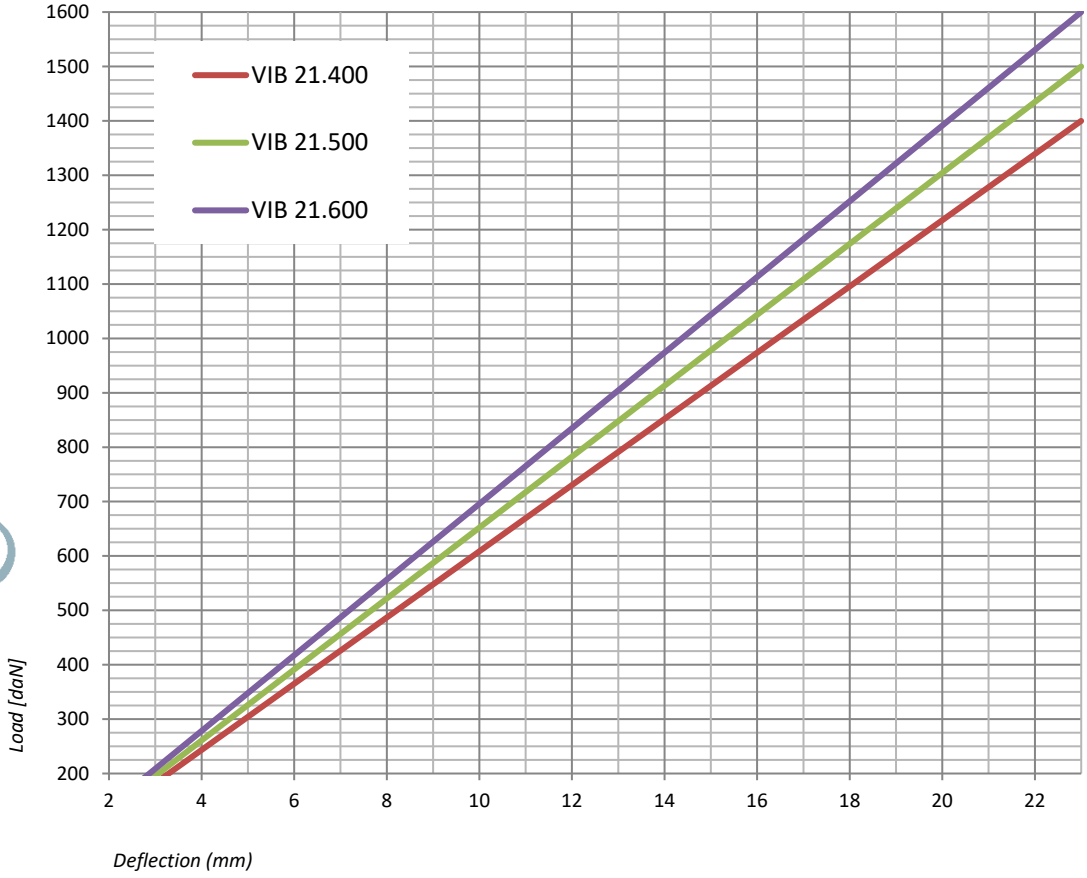




Tel. 93 583 61 08 / Fax. 93 675 58 90 Email: vibcon@vibcon.es Web. www.vibcon.es

Graph: Load-Deflection



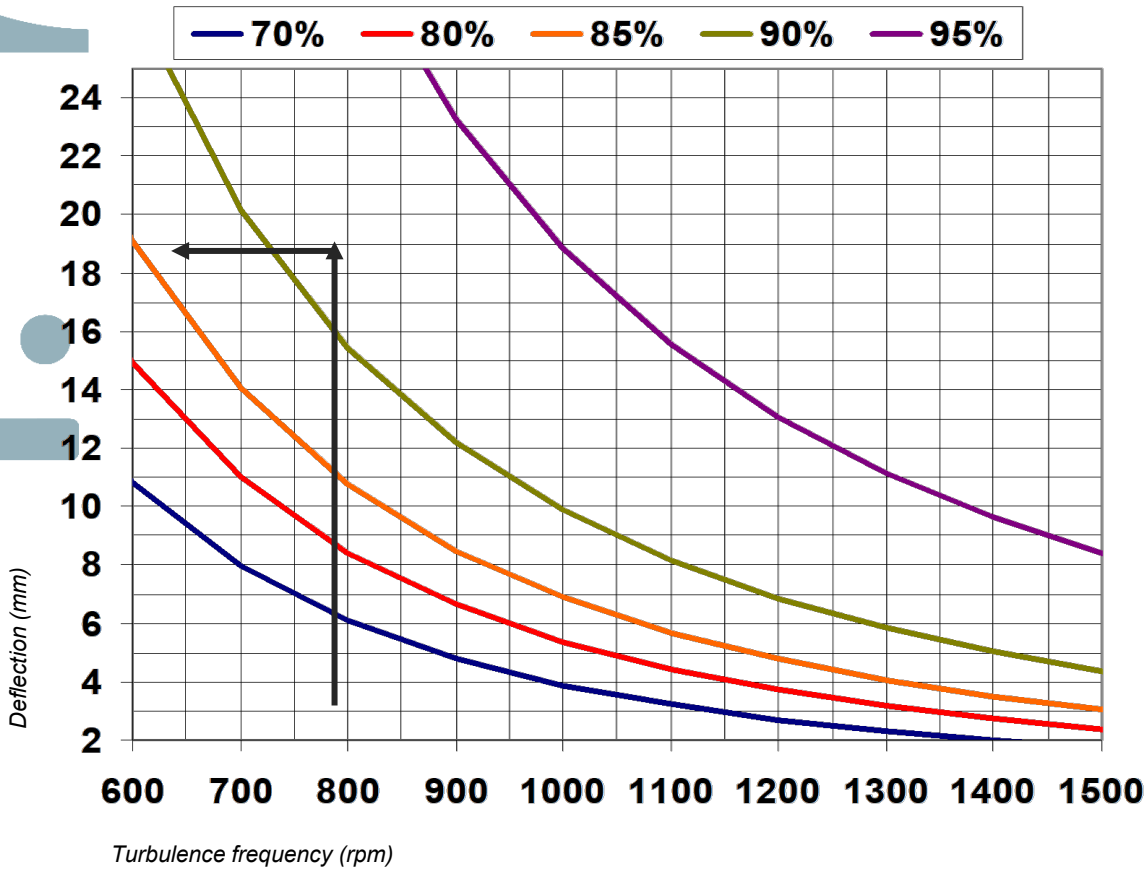


Tel. 93 583 61 08 / Fax. 93 675 58 90 Email: vibcon@vibcon.es Web. www.vibcon.es

Insulation Grade Graph

This graph is used to select the precise compression deflection for obtaining an Insulation Grade, expressed in %, depending on the minimum revolutions of the equipment.

This graph is only valid for **Vibcon** metal spring insulators and is not applicable for any other countertype on the market.



EXAMPLE: Air-water cooling plant with compressors working at 25% (750 rpm).

- The TURBULENCE FREQUENCY is taken as the minimum revolutions, i.e., 750 rpm
- For compliance with the RITE an insulation of ≥ al 90% is required
- A vertical line is drawn on axis x in 750 until it intersects with the curve of 90%
- Then a horizontal line is drawn from the intersection point obtained to the axis, to OBTAIN THE MINIMUM DEFLECTION (18 mm) the load insulator must comply with the insulation conditions based on RITE.
- If once under load the insulator is compressed to obtain a deflection of > 18mm, it will be compliant with RITE.

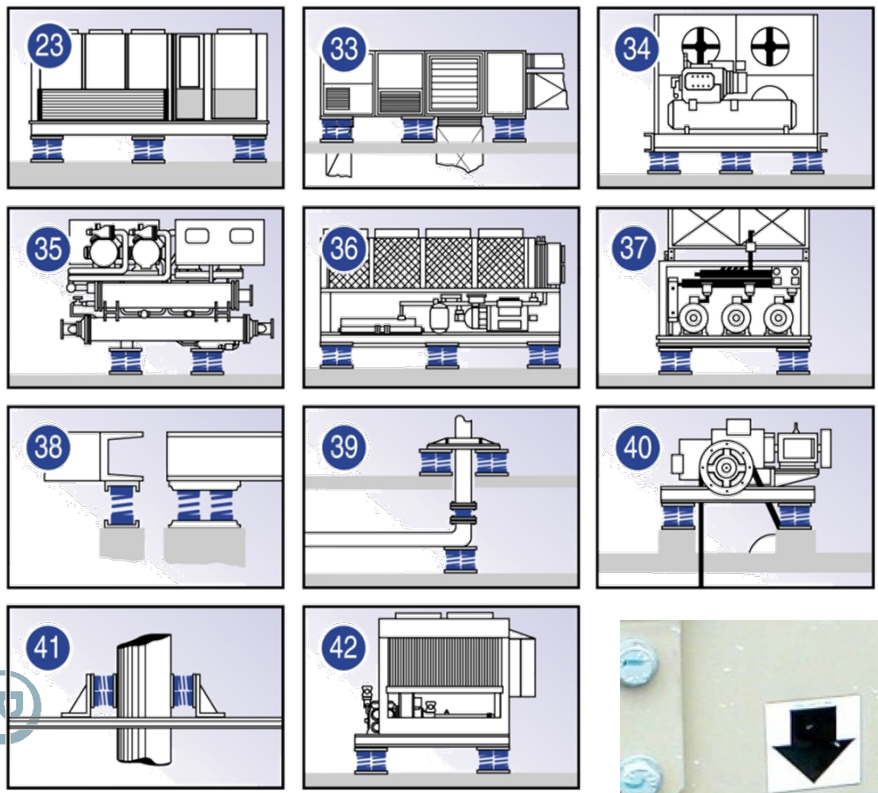
WHEN CALCULATING INSULATION GRADE, LOAD AND MINIMUM TURBULENCE FREQUENCY ARE ALWAYS REQUIRED.

Tel. 93 583 61 08 / Fax. 93 675 58 90 Email: vibcon@vibcon.es Web. www.vibcon.es

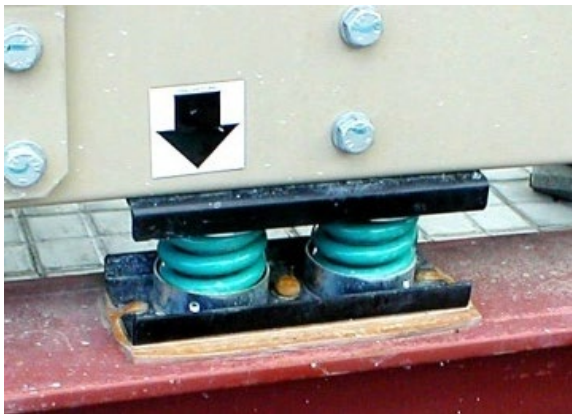
CRITERION FOR SELECTING THE INSULATION GRADE

ZONE	Description	GRADE IN %
NO-CRITICAL ZONE	Industrial warehouses on industrial estates Basements. Areas far from places that are sensitive to structural noise and vibrations.	**85%**
CRITICAL ZONE	Roofs of apartment blocks, offices or public buildings. Zones that are sensitive to the transmission of structural noise and vibrations.	**90-95 %**
VERY CRITICAL ZONE	Auditoriums, theatres, cinemas, congress halls, hospitals, etc. Zones in which very low levels of noise and vibrations are required.	**>95%**

Uses



- Thermal facilities
- Vibrating sieves
- Floating bedframes
- Ventilation boxes
- Compressors
- Etc.



Tel. 93 583 61 08 / Fax. 93 675 58 90 Email: vibcon@vibcon.es Web. www.vibcon.es


vibcon®
Vibroacústica Control y Aislamiento S.L.