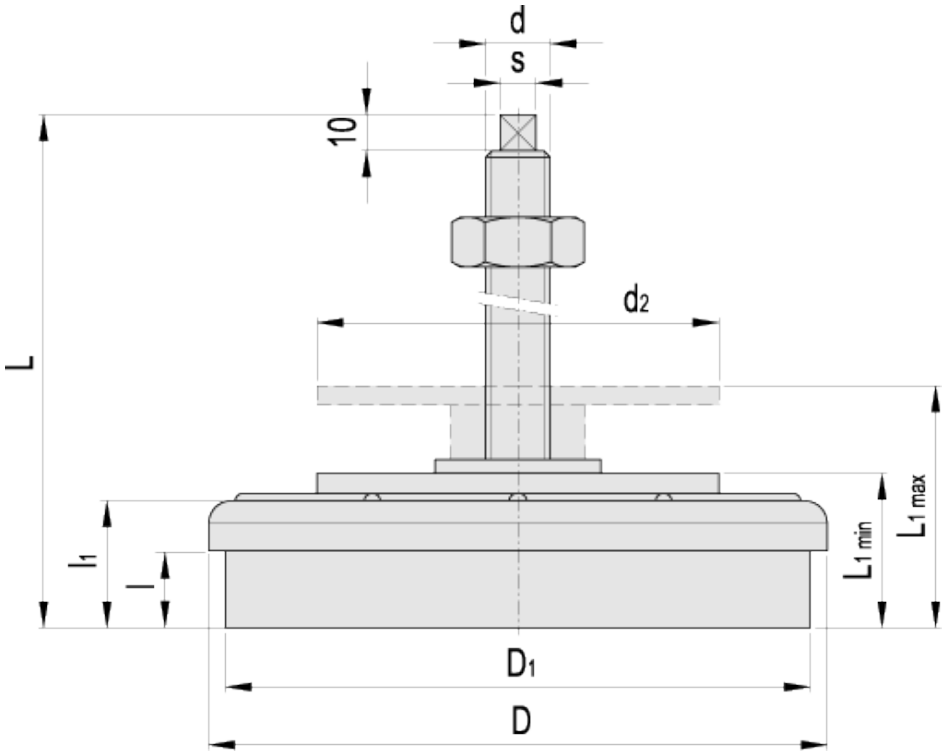
LW.A

Vibration-damping levelling elements



technical informations

Base

Zinc-plated steel.

Vibration-damping disk

Natural rubber NR, hardness 80 Shore A, black colour, matte finish.

Levelling plate

Zinc-plated steel.

Packing ring

OR in NBR synthetic rubber.

Threaded stem

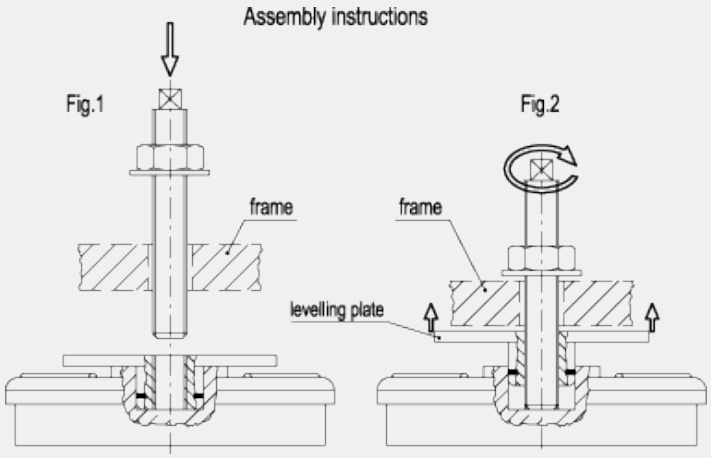
Zinc-plated steel, supplied not assembled.

Nut and washer

Zinc-plated steel.

Assembly instructions

- Put the base of the vibration-damping element under the machine and insert the stem through the hole (not tapped) in the frame of the machine (fig.1)
- Turn the square end of the stem to take the levelling plate in contact with the machine thus obtaining the levelling required. Then lock with nut and washer (fig.2)



Features and applications

ELESA vibration-damping levelling elements have been designed to damp vibrations, shocks and noises produced by moving bodies or non-balanced vibrating masses of equipment and machines which can cause:
- malfunctioning and reduction of the machine lifespan and/or of the adjacent ones
- damage at men's health
- noise.

Technical data and guidelines for the choice

1) Basic data required:
- disturbing frequency: the frequency of the disturbing vibration produced by a on-duty machine. In general, it coincides with the number of rotations of the engine [rpm]
- the static load applied to every single vibration-damping element [N]
- the isolation degree required [%]
- damping disk deflection value [mm] under a given load
- the stiffness, that is to say the load that applied to the vibration-damping element, produces a deflection of 1mm [N/mm].

2) How to choose the vibration-damping element:
- with reference to the nomograph (Diagram), intersect the disturbing frequency value with the isolation degree required (each isolation degree corresponds to a line on the nomograph) and define the deflection (static deflection mm)
- divide the load applied onto the vibration-damping element by the deflection value to obtain the required rigidity of the vibration-damping element
- compare the rigidity obtained with the rigidity shown in the table and choose the vibration-damping element which presents the nearest value (lower) to the calculated one.

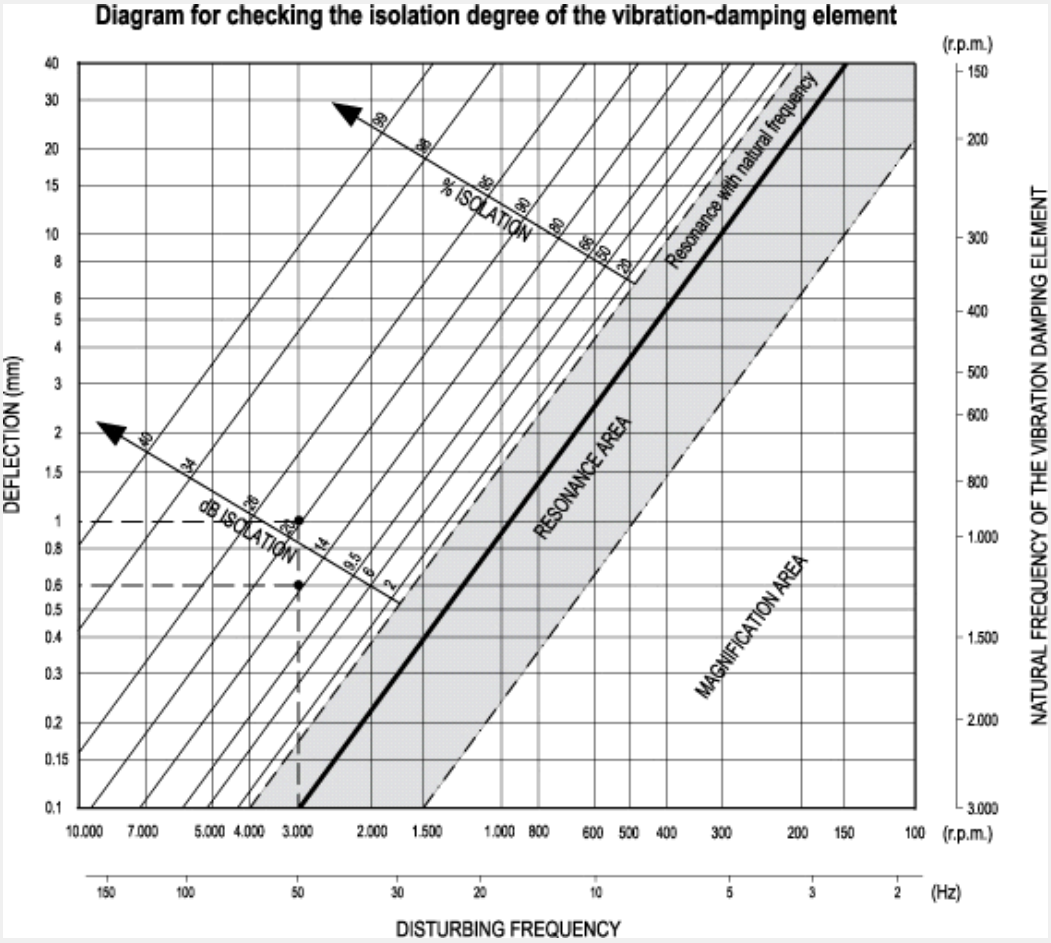
3) Check the values obtained:
- the deflection of the vibration-damping element chosen can be obtained in graphic 2 on the basis of the static load.
- intersect the disturbing frequency value with the vibration-damping element deflection value in the nomograph (Diagram) to obtain the isolation degree offered by the vibration-damping element chosen.
- compare the obtained value with the isolation degree required.

4) Example:
A 80% isolation degree is required.
Conditions of use:
- disturbing frequency = 3,000 rpm;

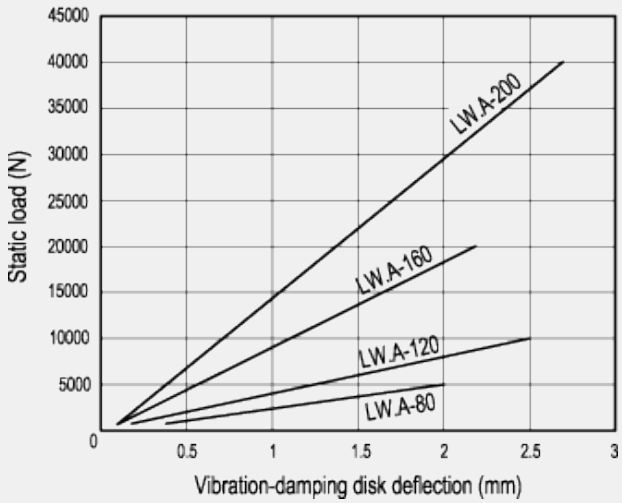
- load applied to every levelling element = 4,000 N.
- Diagram shows that with a 3,000 rpm disturbing frequency and an isolation degree of 80%, the deflection obtained is 0.6 mm.
- Divide the load applied by the deflection obtained to define the rigidity required, which is 4,000/0.6= 6,666 N/mm.
- Compare the rigidity value obtained (6,666 N/mm) with the values reported in the table. This value is within the rigidity value reported in the table for LW.A-120 (4,000 N/mm) and LW.A-160 (9,000 N/mm). Choose the vibration-damping element with the lower value that is LW.A-120.

For a further check:
- graphic 2 shows that LW.A-120 (4,000 N/mm) deflection is 1mm.
- by intersecting the deflection value with the disturbing frequency of 3,000 rpm in the nomograph, the isolation degree obtained is 90%.

This value is even greater than the required one; your choice has proved correct.



Graphic 2



Standard Elements	Main dimensions	Threaded stem	Max load	Max deflection	Stiffness	Weig

Code	Description	D	D_1	L	$L_{1\ min}$	$L_{1\ max}$	l	l_1	d_2	d	s	[N]	[mm]	[N/mm]	g
415111	LW.A-80-M12x1.25x120	80	72	134	38	50	18.5	33	60	M12x1.25	7x7	5000	2	2500	530
415121	LW.A-120-M16x1.5x130	120	109	150	45	58	23	39	80	M16x1.5	9x9	10000	2.5	4000	120
415131	LW.A-160-M20x1.5x170	160	150	192	55	70	29	47	130	M20x1.5	12x12	20000	2.2	9000	265
415141	LW.A-200-M20x1.5x170	200	186	206	65	80	36	58	130	M20x1.5	12x12	40000	2.7	15000	450