Vibration-damping levelling feet

Technopolymer base, SUPER-technopolymer stem, PUR damping element

ELESA Original design

BASE
Glass-fibre reinforced polyamide based (PA) technopolymer, black colour, matte finish.

DAMPING ELEMENT
Polyurethane-based rubber (PUR), natural colour, hardness 50 Shore A.

ARTICULATED STEM
Glass-fibre reinforced polyamide based (PA) SUPER-technopolymer, with hexagonal socket and regulation hexagon.

FEATURES
Thanks to the property of the SUPER-technopolymer stem, high rigidity and mechanical resistance are obtained in addition to natural resistance to corrosion.
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 to operator's health;
- noise.

ORDER INFORMATION
The levelling feet are supplied unassembled to make carriage and storage easier. The components (base and stem) are supplied in separate packing: less volume taken and better protection from scratches and dirt.
To order bases and stems separately, see:
- table of possible combinations Bases/Stems
- the codes of the Bases
- the codes of the Stems

TECHNICAL DATA AND GUIDELINES FOR THE CHOICE
The maximum static load value shown in the table indicates the static load for a specific load of 0.4 N/mm2 to which the damping element can be subjected in order to have optimal vibration absorption.
The table shows also the values (l_2) of elastic deformation with a load of max 0.6 N/mm² in case of a dynamic load.
The effectiveness of the damping depends on the ratio between the disturbance frequency of the machine and the natural frequency of the damping foot.
The natural frequency of the base depends on the material, the geometry, and the specific load [N/mm2] to which it is subjected.
The specific load is obtained by dividing the applied load by the support area of the damping element.
Once the specific load is known, the natural frequency of the foot can be obtained from the graph in figure 1.
The damping starts when the ratio between the disturbance frequency of the machine and the natural frequency of the damping foot is greater than √2. The greater the difference between the interference frequency of the machine and the natural frequency of the foot, the greater the damping (see figure 2).
Example:
1. Expected load on the foot = 150 N
2. Specific load LS.VA-32 = 150/239 = 0.63 N/mm2
3. Specific load LS.VA-40 = 150/452 = 0.33 N/mm2
4. LS.VA-40 is therefore chosen as the specific load of the example is less than 0.4 N/mm2 , which is the optimal damping value.
5. Entering the graph in figure 1 with a specific load of 0.33 N/mm2 we obtain a natural frequency of 26 Hz (curve LS.VA-40).
6. Entering the graph in figure 2, with 26 Hz, the chosen foot will start to dampen frequencies greater than 32 Hz. A damping of 69% is obtained for a machine frequency of 61 Hz. A damping of 92% is obtained for a machine frequency of 85 Hz.

ACCESSORIES ON REQUEST
NT.: AISI 304 stainless steel or zinc-plated steel nut.

Fig.1

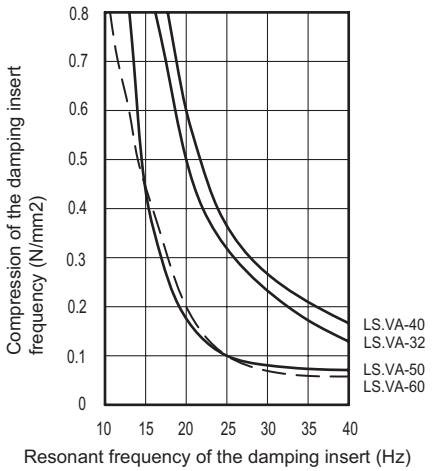
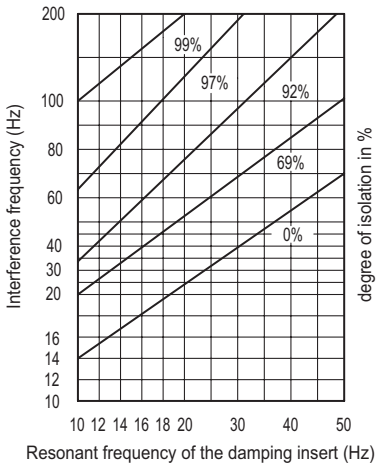
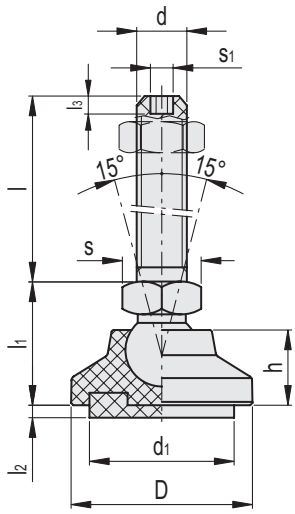


Fig.2





Code	Description	D	d	d1	l	l1	l2	l3	h	s	s1	Articulation Ø	l2 0 [N/mm²]	l2 0.4 [N/mm²]	l2 0.6 [N/mm²]	Area damping insert [mm²]	Max. limit static load* [N]	⚖
342124	LS.VA-32-14-STP-M8x44	32	M8	23.1	44	26	5.3	5	17	16	3	14	5.3	4.8	4.6	239	96	20
342128	LS.VA-32-14-STP-M8x69	32	M8	23.1	69	26	5.3	5	17	16	3	14	5.3	4.8	4.6	239	96	21.5
342224	LS.VA-32-14-STP-M10x44	32	M10	23.1	44	26	5.3	6	17	16	4	14	5.3	4.8	4.6	239	96	21.5
342228	LS.VA-32-14-STP-M10x69	32	M10	23.1	69	26	5.3	6	17	16	4	14	5.3	4.8	4.6	239	96	24
342234	LS.VA-32-14-STP-M10x99	32	M10	23.1	99	26	5.3	6	17	16	4	14	5.3	4.8	4.6	239	96	27
342324	LS.VA-32-14-STP-M12x44	32	M12	23.1	44	26	5.3	7	17	16	5	14	5.3	4.8	4.6	239	96	23
342328	LS.VA-32-14-STP-M12x69	32	M12	23.1	69	26	5.3	7	17	16	5	14	5.3	4.8	4.6	239	96	27
342334	LS.VA-32-14-STP-M12x99	32	M12	23.1	99	26	5.3	7	17	16	5	14	5.3	4.8	4.6	239	96	31.5
343124	LS.VA-40-14-STP-M8x44	40	M8	30	44	25.5	6	5	17	16	3	14	6	5.6	5.4	452	180	28
343128	LS.VA-40-14-STP-M8x69	40	M8	30	69	25.5	6	5	17	16	3	14	6	5.6	5.4	452	180	29.5
343224	LS.VA-40-14-STP-M10x44	40	M10	30	44	25.5	6	6	17	16	4	14	6	5.6	5.4	452	180	29.5
343228	LS.VA-40-14-STP-M10x69	40	M10	30	69	25.5	6	6	17	16	4	14	6	5.6	5.4	452	180	32
343234	LS.VA-40-14-STP-M10x99	40	M10	30	99	25.5	6	6	17	16	4	14	6	5.6	5.4	452	180	35
343324	LS.VA-40-14-STP-M12x44	40	M12	30	44	25.5	6	7	17	16	5	14	6	5.6	5.4	452	180	31
343328	LS.VA-40-14-STP-M12x69	40	M12	30	69	25.5	6	7	17	16	5	14	6	5.6	5.4	452	180	35
343334	LS.VA-40-14-STP-M12x99	40	M12	30	99	25.5	6	7	17	16	5	14	6	5.6	5.4	452	180	39.5
344124	LS.VA-50-14-STP-M8x44	50	M8	40	44	28	6	5	19	16	3	14	6	5	4.7	1000	400	39
344128	LS.VA-50-14-STP-M8x69	50	M8	40	69	28	6	5	19	16	3	14	6	5	4.7	1000	400	40.5
344224	LS.VA-50-14-STP-M10x44	50	M10	40	44	28	6	6	19	16	4	14	6	5	4.7	1000	400	40.5
344228	LS.VA-50-14-STP-M10x69	50	M10	40	69	28	6	6	19	16	4	14	6	5	4.7	1000	400	43
344234	LS.VA-50-14-STP-M10x99	50	M10	40	99	28	6	6	19	16	4	14	6	5	4.7	1000	400	46
344324	LS.VA-50-14-STP-M12x44	50	M12	40	44	28	6	7	19	16	5	14	6	5	4.7	1000	400	42
344328	LS.VA-50-14-STP-M12x69	50	M12	40	69	28	6	7	19	16	5	14	6	5	4.7	1000	400	46
344334	LS.VA-50-14-STP-M12x99	50	M12	40	99	28	6	7	19	16	5	14	6	5	4.7	1000	400	50.5
344614	LS.VA-60-14-STP-M8x44	60	M8	50.5	44	35	5	5	24	16	3	14	5	3.9	3.5	1709	680	53
344618	LS.VA-60-14-STP-M8x69	60	M8	50.5	69	35	5	5	24	16	3	14	5	3.9	3.5	1709	680	54.5
344624	LS.VA-60-14-STP-M10x44	60	M10	50.5	44	35	5	6	24	16	4	14	5	3.9	3.5	1709	680	54.5
344628	LS.VA-60-14-STP-M10x69	60	M10	50.5	69	35	5	6	24	16	4	14	5	3.9	3.5	1709	680	57
344634	LS.VA-60-14-STP-M10x99	60	M10	50.5	99	35	5	6	24	16	4	14	5	3.9	3.5	1709	680	60
344724	LS.VA-60-14-STP-M12x44	60	M12	50.5	44	35	5	7	24	16	5	14	5	3.9	3.5	1709	680	56
344728	LS.VA-60-14-STP-M12x69	60	M12	50.5	69	35	5	7	24	16	5	14	5	3.9	3.5	1709	680	60
344734	LS.VA-60-14-STP-M12x99	60	M12	50.5	99	35	5	7	24	16	5	14	5	3.9	3.5	1709	680	64.5

* See paragraph: Technical data and guidelines for the choice.