

Hydro Mount VL

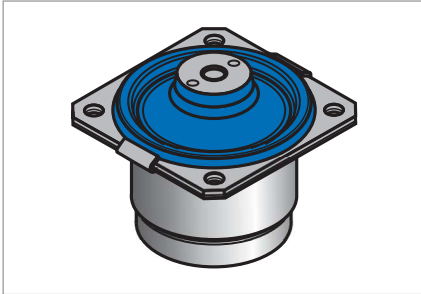


Fig. 1 Hydro Mount VL

Product description

The mount design, the chosen fluid and the hydraulic mechanism provide the characteristic wide-band damping. In cases with remote excitation frequencies in the lower frequency range, the use of this hydro mount permits an optimal mounting. By precise reduction of the fluid chamber stiffness of one of the chambers, a significantly improved compromise of effective vibration reduction and structure-borne sound isolation is achieved as opposed to the hydro mounts without this design.

Product advantages

- Broad-band damping at high amplitudes
- Significantly reduced damping at low amplitudes
- Optimised elastomer spring
- Compact
- RoHS-compliant.

Application

The Hydro Mount VL offers a wide range of possible applications such as cab and engine mounts, for agricultural and construction machinery, industrial

vehicles, forest machinery, communal vehicles, ships and for mounting superstructures, pumps and compressors. It is equally suited for mounting machinery and systems/units with severe resonance transients.

Material

Standard material	Hardness	Special design
Natural rubber NR 11	40, 45, 50, 55, 60, 65 Shore A	on enquiry

Operating conditions

Axial forces in Z direction	3000 N ... 8500 N	Maximum permissible force
Max. temperature	+60 °C, transient +80 °C	
Min. temperature	-45 °C	

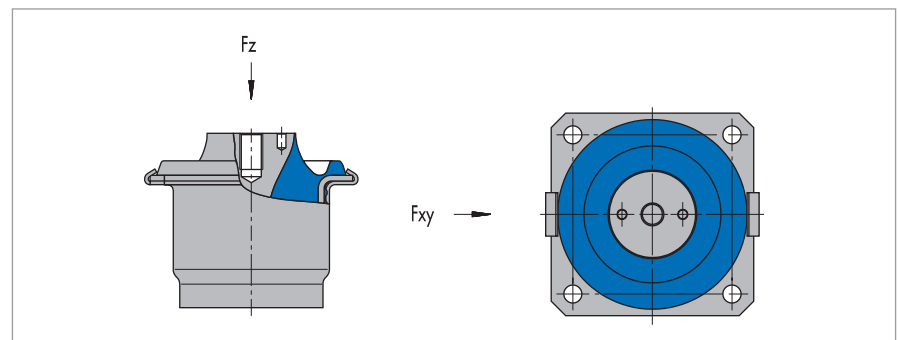


Fig. 2 Primary load directions

The hydraulic mechanism with frequency and amplitude dependent damping integrated in the mount is designed for effect in the Z direction. The effective damping over the wide-band frequency is also present for changes to the spring-supported mass. At low excitation amplitudes, the Hydro Mount VL has a significantly reduced damping. Hydro

Mounts VL have a greater flexibility in the Z direction as in the X,Y direction. The mount configuration is designed for primary loading in the axial as well as radial direction but it can also withstand cardanic deformation. The longitudinal axis should be selected for the introduction of the static primary load.

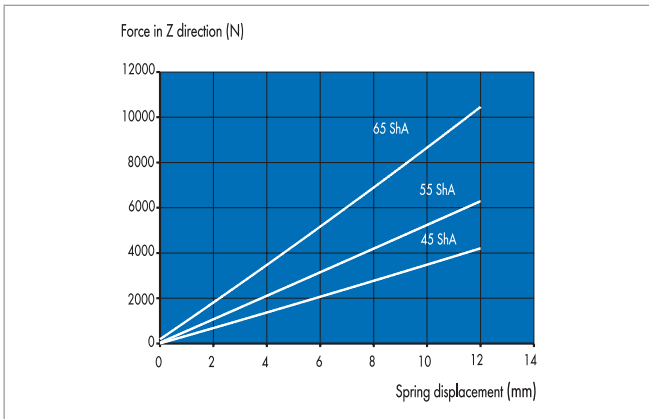


Fig. 3 Force-deflection characteristics, 036 18 704

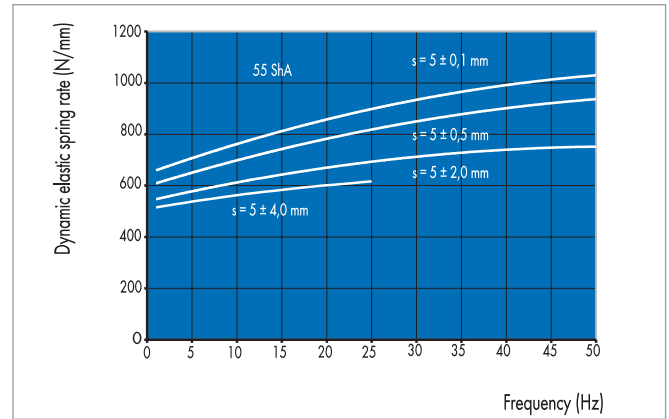


Fig. 4 Dynamic spring rate, 036 18 704; 55 ShA

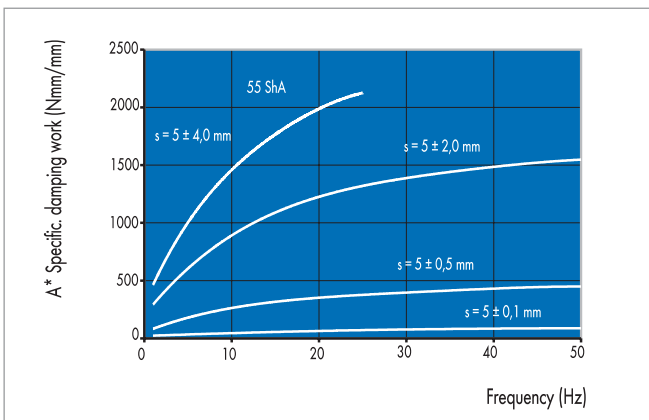


Fig. 5 Specific damping work, 036 18 704; 55 ShA

Design notes

The mount configuration comprises a conical mount with outer metal component with rectangular flange and bore holes. It also contains an inner metal component with central thread hole to which a washer is attached which extends into a fluid-filled chamber. This is formed by the tapered mount and the cup mounted on the tapered mount. The base of the cup is closed off with a diaphragm.

Fitting & installation

- Hydro Mounts VL are designed to be secured by means of threaded fasteners
- Individual components permit slight adjustment to allow for in-situ offset
- The flat part of the flange must make full-surface contact with the supporting structure
- It is important to ensure that the mating face is flat and smooth, and the same applies to the mating face of the mass carried by the mount. It is also important to ensure full-surface contact with the inner metal part of the mount
- Position the mount relative to the static load in such a way that the inner metal part of the conical mount and the flange are preloaded relative to each other.

Article list

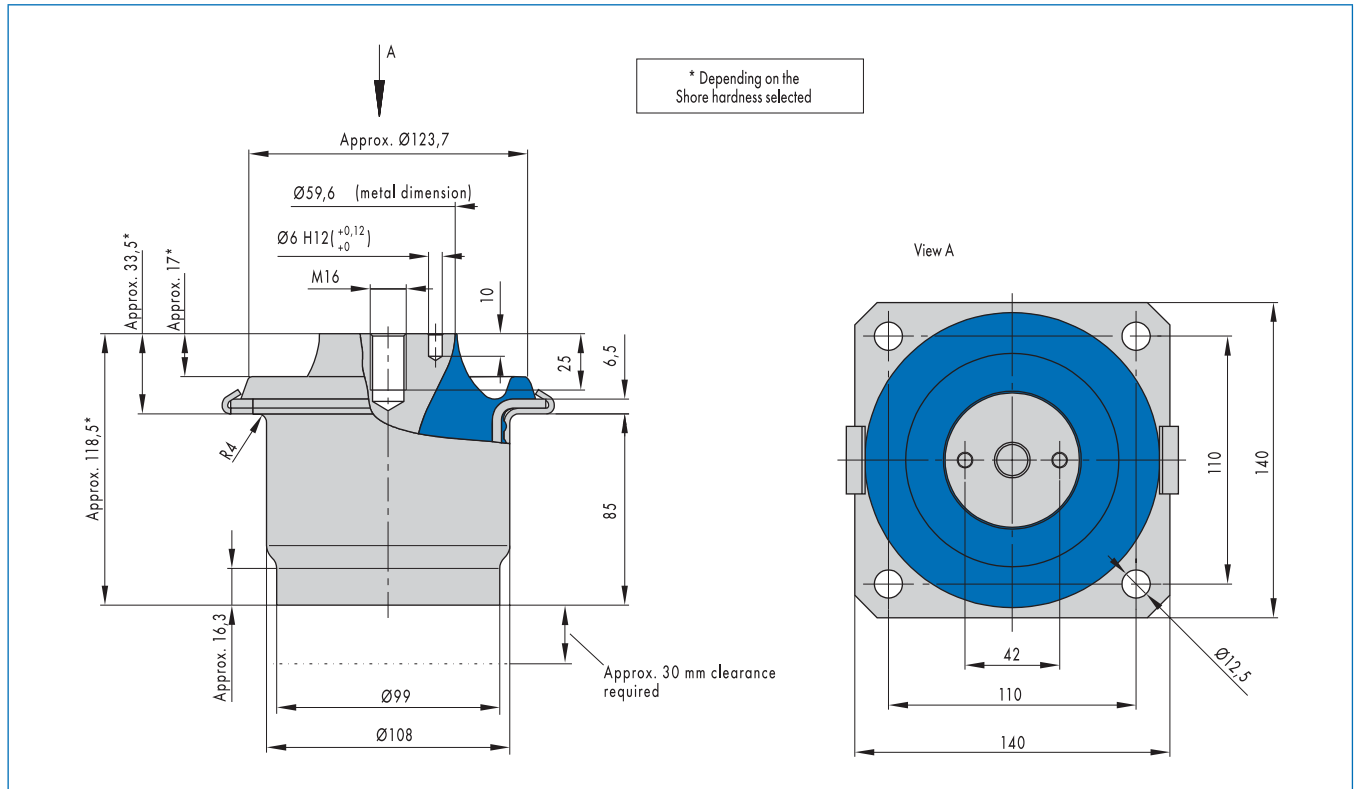


Fig. 6 Hydro Mount VL 036 18 704

Nominal values of the maximum amounts		Stiffness		Product No.	Material	Article No.	
Axial pressure		Radial shear	Axial pressure				
F _z max	s _z max	c _{x, y}	c _z				
		(s _z =0)	(s _z =5)				
[N]	[mm]	[N/mm]	[N/mm]				
2600	10	380	260	036 18 704	40 NR 11	49028132	●
3100	10	440	310	036 18 704	45 NR 11	49023248	●
3900	10	580	380	036 18 704	50 NR 11	49028133	●
4700	10	760	470	036 18 704	55 NR 11	49023250	●
6200	10	1050	600	036 18 704	60 NR 11	49028134	●
8000	10	1360	740	036 18 704	65 NR 11	49023251	●
3000	10	500	300	036 18 706	40 NR 11	49039034	○
3900	10	650	390	036 18 706	45 NR 11	49039035	○
4600	10	800	460	036 18 706	50 NR 11	49039036	○
5500	10	1100	550	036 18 706	55 NR 11	49039037	○
7000	10	1500	700	036 18 706	60 NR 11	49039038	○
8800	10	1950	880	036 18 706	65 NR 11	49039039	○
2100	10	270	210	036 18 707	40 NR 11	49039040	○
2700	10	350	270	036 18 707	45 NR 11	49039041	○
3000	10	450	300	036 18 707	50 NR 11	49039082	○
3600	10	600	360	036 18 707	55 NR 11	49039083	○
4800	10	830	480	036 18 707	60 NR 11	49039084	○
5700	10	1100	570	036 18 707	65 NR 11	49039085	○

● Available from stock ○ On request: Tool is available, delivery at short notice