

Seismic Mount Type GSH-2

25mm, 50mm and 75mm Nominal Static Deflection

APPLICATION

Where equipment requires the use of a spring type mount for a high degree of isolation under normal operating conditions, but with the facility to restrain the equipment from excessive motion in any direction due to displacement inputs imparted by the foundation through earthquake activity.

DESCRIPTION

An integrated, stand-alone six direction restrained twin spring mount with cup located springs and internal adjustment. GSH-2 mounts are rated to the static force restraint requirements of:

- AS1170.4 for Australian seismic zones
- NZS 4219 for most New Zealand seismic zones
- Most international seismic codes

FEATURES

- Heavy duty stable steel spring
- Acoustically isolating location cup
- Internal leveling bolts
- Alternative equipment mounting positions
- Single adjustable central vertical restraint bolt
- Replaceable shock absorbing rubber snubbers
- Treated for weather resistance

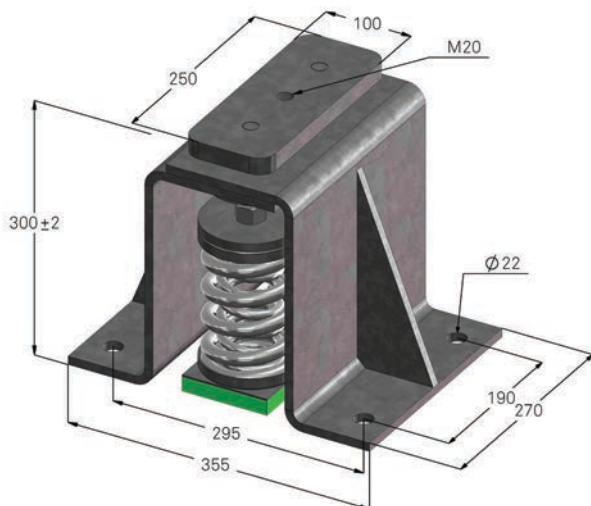
RESTRAINT CAPACITY

Restraint capacity is given as a maximum static force. The following can be applied simultaneously in one lateral direction and vertically up or down:

Vertical: 13kN

Lateral: 13kN

At maximum restraint loads, the displacement from normal operating position is approximately 10mm.



GSH-2 D DIMENSIONS

Type	Max Load kg	Static Defl. mm	Spring Constant kg/mm	Spring Colours	
				Outer	Inner
GSH-2-400	400	30	12.1	Black	-
GSH-2-421	510	30	15.4	Black	Black
GSH-2-423	600	30	20.0	Black	Yellow
GSH-2-425	765	30	25.5	Black	Red
GSH-2-1000	900	25	36.0	Green	-
GSH-2-1023	1,020	25	42.1	Green	Yellow
GSH-2-1024	1,100	25	46.0	Green	Green
GSH-2-1026	1,375	25	55.0	Green	White
GSH-2-1600	1,550	25	62.0	Grey	-
GSH-2-1622	1,650	25	66.4	Grey	Blue
GSH-2-1624	1,750	25	72.0	Grey	Green
GSH-2-1626	2,000	25	80.0	Grey	White
GSH-2-1628	2,300	24	95.8	Grey	Grey
GSH-2-1731	2,550	20	127.5	Orange	Grey/ Yellow
GSH-2-50	130	50	2.6	Blue	-
GSH-2-51	250	50	5.0	Black	-
GSH-2-510	390	50	7.8	Black	Blue
GSH-2-52	450	50	9.0	Red	-
GSH-2-520	590	50	11.8	Red	Blue
GSH-2-521	700	50	14.0	Red	Black
GSH-2-53	900	50	18.0	Green	-
GSH-2-530	1,040	50	20.8	Green	Blue
GSH-2-531	1,150	50	23.0	Green	Black
GSH-2-532	1,400	50	28.0	Green	Red
GSH-2-55	1,300	50	26.0	Grey	-
GSH-2-551	1,550	50	31.0	Grey	Black
GSH-2-552	1,800	50	36.0	Grey	Red
GSH-2-553	2,000	50	40.0	Grey	Green
GSH-2-593	2,230	45	49.6	Orange	Green
GSH-2-562	300	75	4.0	Black	
GSH-2-563	420	75	5.6	Red	
GSH-2-564	600	75	8.0	Green	
GSH-2-565	840	75	11.2	Grey	
GSH-2-566	1200	75	16.0	Orange	
GSH-2-566A	1400	75	18.7	Orange / Black	

DESIGN

GSH-2 Mounts are designed with spring horizontal to vertical stiffness ratios between 0.9 and 1.1 at rated loads; ratio of spring diameter to loaded height minimum 0.8; and a rated maximum static operating deflection 2/3 deflection to solid.

ACOUSTICAL ISOLATION

Although steel spring mounts provide particularly effective isolation of mechanical vibration, the spring itself, depending on its physical geometry, may transmit certain audible level frequencies if present.

To minimise these audible level transmissions, all mounts are fitted with a resilient rubber base. For type GSH-2 mounts, the standard base has a theoretical effectiveness of over 95% in isolating such transmissions.

MOUNT SELECTION

When selecting mounts, it is recommended that a safety factor of 10-20% is applied to the calculated mass of the equipment to avoid overloading of any mounts. If maximum rated deflections are required, then equipment should be weighed and an accurate assessment of point loads made.

For equipment using more than four mounts, endeavour to distribute them so that each mount has equal loading. If this cannot be done, mount selection must be made on the basis of matching static deflections as closely as possible.

WEATHER TREATING

Mounts are supplied post-treatment for weather resistance for external use. Standard treatment consists of zinc or galvanised plating of all metal components including springs, with a final gloss paint identification colour.

RESTRAINT SYSTEM

These mounts incorporate replaceable resilient rubber snubbers for both vertical and lateral restraint. Vertical restraints have a normal design clearance of 5mm in both directions and are adjustable ± 2 mm in conjunction with level adjustments. Lateral restraints have a fixed clearance of nominal 5mm.

CONSTRUCTION

Hot dipped galvanised steel housing, oil resistant high frequency spring base isolation cup. All other components including spring, zinc plated.

INSTALLATION

BOLTING DOWN

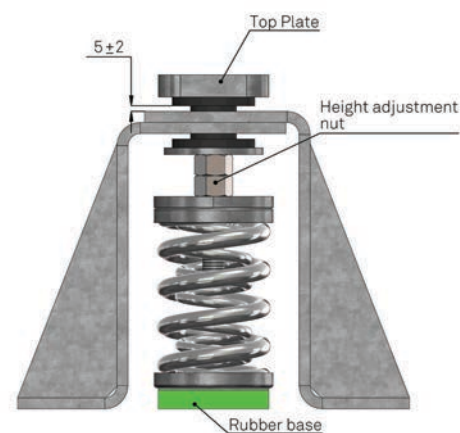
- Foundation: Place housings in position (see above) and drill through housing base holes for fastening.
- The GSH-2 mount is designed to take a maximum of M20 fastenings.
- Housing fastenings should be torqued to maximum value recommended by the fastener manufacturer.

2. PLACING EQUIPMENT

- Place equipment on mounts.
- Attach the equipment to the top plate using M20 bolts.

3. ADJUSTMENT AND LOCKING

- Load the springs alternately by winding the adjusting nut anti-clockwise a maximum of two turns until the equipment is floating on the springs.
- Check for level and adjust if necessary.
- Lift further until gap $X=5\text{mm} \pm 2\text{mm}$ on all mounts.



GSH-2 PARTS

TECHNICAL ASSISTANCE

All Embelton offices can provide detailed technical assistance on the use of this product in specific applications.

CONDITIONS OF SALE

These products are sold subject to the published General Conditions of Sale of G. P. Embelton and Co. Pty. Ltd., copies of which maybe inspected on request.

SPECIFICATION

Spring mounts shall permit freedom of equipment motion at normal operating conditions, but restrain the equipment from excessive motion when subjected to foundation displacement in any direction. Two vertical restraint bolts shall be used, which also locks the equipment to the mount. Springs shall be free standing and laterally stable with an acoustically isolating base cup. They shall have a minimum additional travel of 50% rated deflection to solid and a diameter not less than 0.8 of loaded height; they shall be type GSH-2 as supplied by Embelton.