

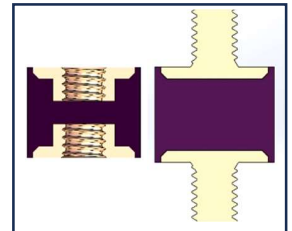
## Bobbin Mounts - Introduction. See Below for RLF Datasheet.

### What is a Bobbin Mount?

- A low-cost way of reducing the structural transmission of vibration.
- Bobbins are the most common anti-vibration mount due to their effectiveness and low price point. The two threads are bonded to a flexible rubber element.
- High tolerance to lateral loads, often used in shear (load should be reduced by 5/6<sup>th</sup> to achieve similar isolation levels to those quoted for compression)
- Typical uses: pumps, heat pumps, air conditioning units, generators, motors, ducting.
- Note: The reduced rubber height in female-female (FF) thread configurations will typically increase stiffness (see cross-section images, right).



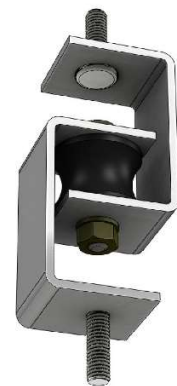
A male-male bobbin



Cross section of a typical FF and MM bobbin

### How should Bobbin Mounts be Installed & Maintained?

- Ensure the base of the mount is installed on a smooth, flat surface.
- We do not recommend loading bobbin mounts in tension. Even pure shear can result in some tension; however, this is a well-trodden path. A simple bracket (see image to the right) can be used to turn a tensile load into a compressive one.
- We recommend annual inspection of these products. Replace if the rubber is perishing or if any metal elements are damaged.



### Can I mix and match Bobbin mounts for one installation?

- Absolutely. The aim is to have a uniform deflection across the vibrating product which will give a uniform natural frequency of the supported structure.
- When we design a support structure, we mix different types (versions) of the same mount to achieve this. In heat pumps this is often an important requirement as the center of mass is heavily offset.

## What are the different shapes for?



### Cylindrical Bobbins

- The basic bobbin, this is the starter point for most bobbin requirements.
- Uniform shear properties.
- Lower deflection levels and therefore less absorption/attenuation.
- Lower cost tooling.
- Generally, a lower cost product as lower cost production techniques are easier to use.

### Waisted Bobbins

- Greater deflection than a cylindrical bobbin therefore improved absorption, especially with lower forcing frequencies.
- Greater surface area than a cylindrical bobbin therefore better heat control within the rubber.
- Uniform shear deflection properties.

### Round Low Frequency (RLF) Bobbins

- High levels of deflection for the space used, the rubber is worked in shear even when loaded in compression.
- High surface area allows excellent heat generation control.
- Very tight levels of material control are required as loose controls are amplify the tolerance on the product's spring rate.
- Non uniform shear properties.

If you cannot see quite what you are after, contact us. The details are above.

## RLF Premium Bobbin Series

- This lightweight round low frequency bobbin mount is commonly used in small pumps, centrifuges, motors and HVAC applications. It is popular in a wide range of industries.
- Due to its shape, the RLF bobbin offers much higher levels of deflection in compression than typical cylindrical or waisted bobbin mounts.
- Due to the RLF's shape, it has different deflection characteristics in each shear direction.



### Materials:

- Rubber: Our default version of this product uses a highly effective natural rubber material. Variants: EPDM, Nitrile and Neoprene.
- Metals: Our default product uses sherardize (zinc) plated mild steel however stainless steel is often requested.

### Load and Deflection Summary for RLF mounts (the data is the same regardless of the thread configuration).

RLF Bobbin loading and deflection data		Recommended loading (Kg) with deflection at max load						Vibration Absorption at max load	
		Compression		Shear 1		Shear 2		25 Hz	50 Hz
Part Number	Colour code	Min	Max (6mm)	Min	Max (10mm)	Min	Max (10mm)		
Bob-RLF/MM/2	Orange	1	4	0.5	1.5	0.5	2	90%	95%
Bob-RLF/MM/3	Green	3	6	1	3	2	4		
Bob-RLF/MM/4	Yellow	5	10	2.5	4	3	5		
Bob-RLF/MM/5	Red	9	17	3	6	4	8		

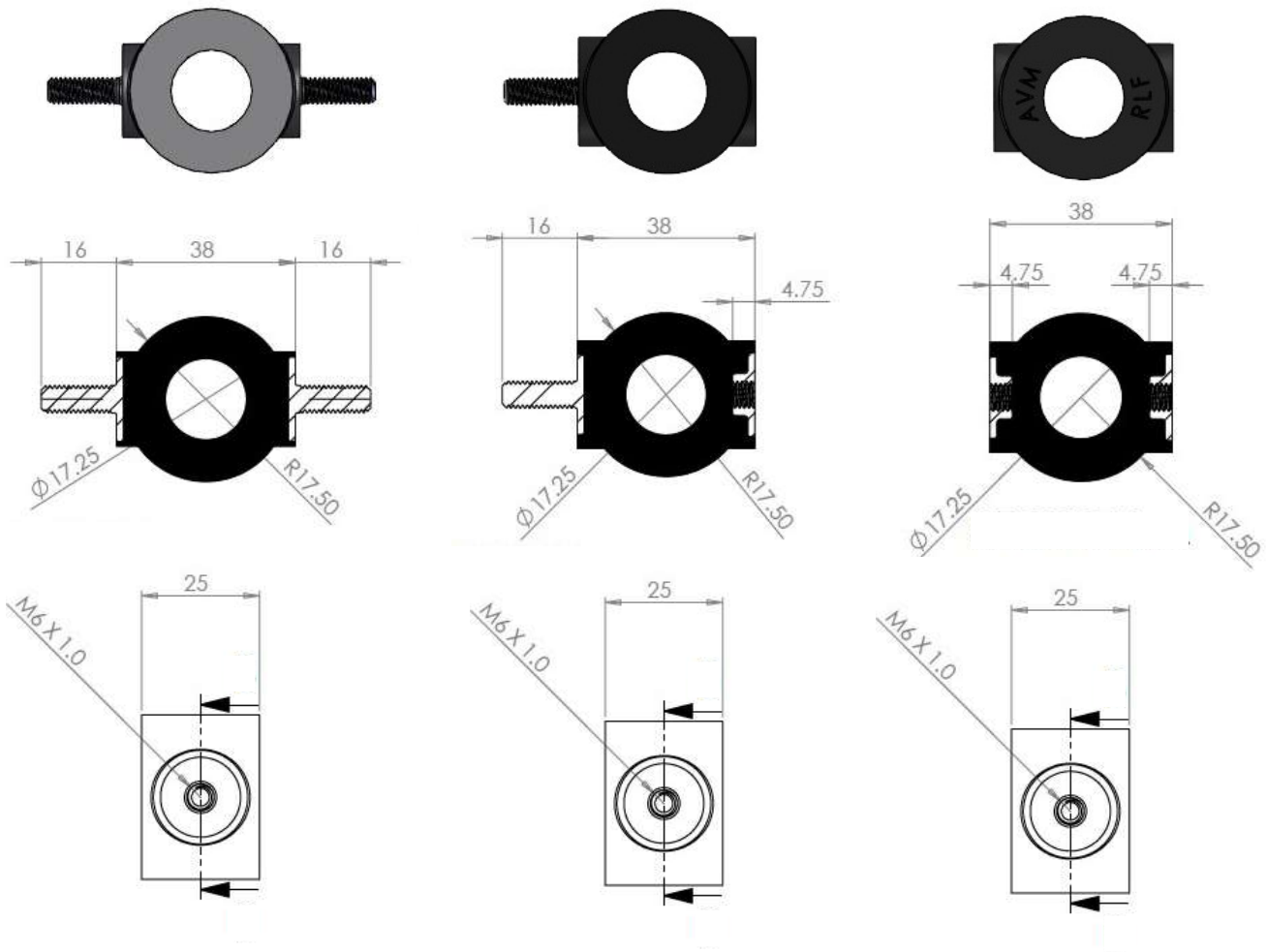
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## Dimensions (in mm)



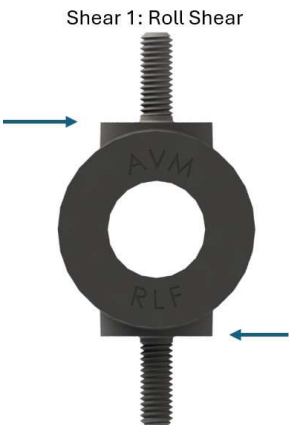
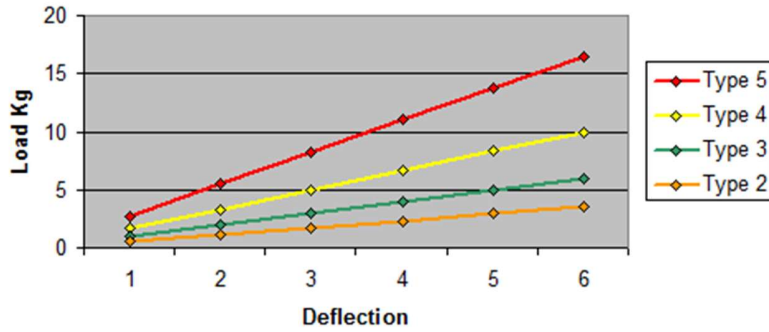
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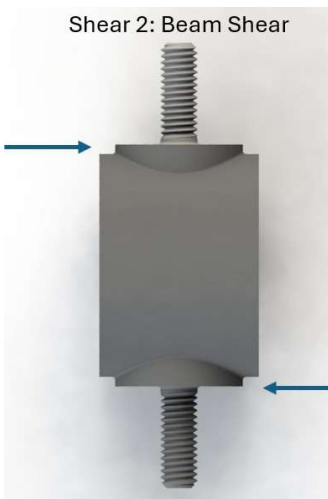
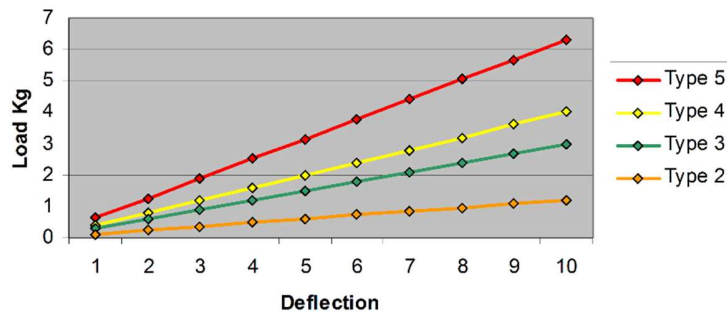
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RLF Mount Compression



RLF Mount Shear 1



RLF Mount Shear 2

