



Vibration Overview

Vibration is an unacceptable but inevitable side effect that is generated by the operation of any plant, equipment or other application - irrespective of whether they are mechanically or electrically driven.

Excessive vibration is undesirable to the manufacturer as well as the end user, as it increases maintenance costs and associated downtime and it reduces the overall lifespan of the application.

As a result, the correct selection of Vibration Isolation Mounts is critical to the correct functioning of the application, its' longevity from a lifecycle point of view and for the acceptance to the end user.

However, the choices of Anti Vibration Mounts available on the Market are significant – with the result that careful selection is critical towards selecting the right solution for your application.

This selection process needs to take account of a number of factors, which include:-

Core elements

- The basic design of the application - specifically its function, mass, operation and centre of gravity.
- The available number of positions for securing the Mounts on the application, as well as the dimensional constraints around each position.
 - N.B. It is critical to select a Mount type that achieves the desired level of isolation within the working envelope (physical size during operation) available.
- Whether the application requires a fail-safe solution to protect the mount, application and/or the user in event of any abuse, shock or failure conditions.

Location

- The intended location and installation method of the application relative to other factors.
 - i.e. Will the application be floor, wall, roof mounted or hung?
This is critical towards determining which Mount design should be used.

Environment

- The environmental conditions are a critical element in the selection process for a Mount. These include :-
 - Temperature
 - Consideration for the transient temperature passing from the application into the Mount is required, as well as the temperature local to the Mounting positions.
 - The general ambient temperatures also need consideration including any sporadic temperature peaks (or lulls) resulting from other adjacent components, equipment (i.e. Exhausts) etc.
 - Exposure
 - Consideration for any other factors including Fluids (Oil, Fuel, Chemicals, Water) etc.

Dynamic forces

- Whilst the physical mass in static mode is quite easy to determine, there is a need to consider the other forces that come into play during operation of the application.
- The forces that will be introduced; in addition to the vertical forces may include lateral, transverse or cyclical forces – each of which requires careful consideration in the choice of mount.
Dependant on these forces, there may be a requirement for a Mount that can operate in all directions (Axial, Radial, Torsional and/or Conical) to differing degrees of stiffness.

Unfortunately, as you can see, the subject of vibration can be quite complex with many variable factors - each of which may dictate a different Mount solution.

However, if you're happy to select a Mount option following consideration of these factors, Fibet has one of the most extensive range of products that will cover every requirement you have.

Alternatively, if you'd like Fibet to assist you in this process and direct you to the optimum solution at the lowest price, please do not hesitate to contact us.