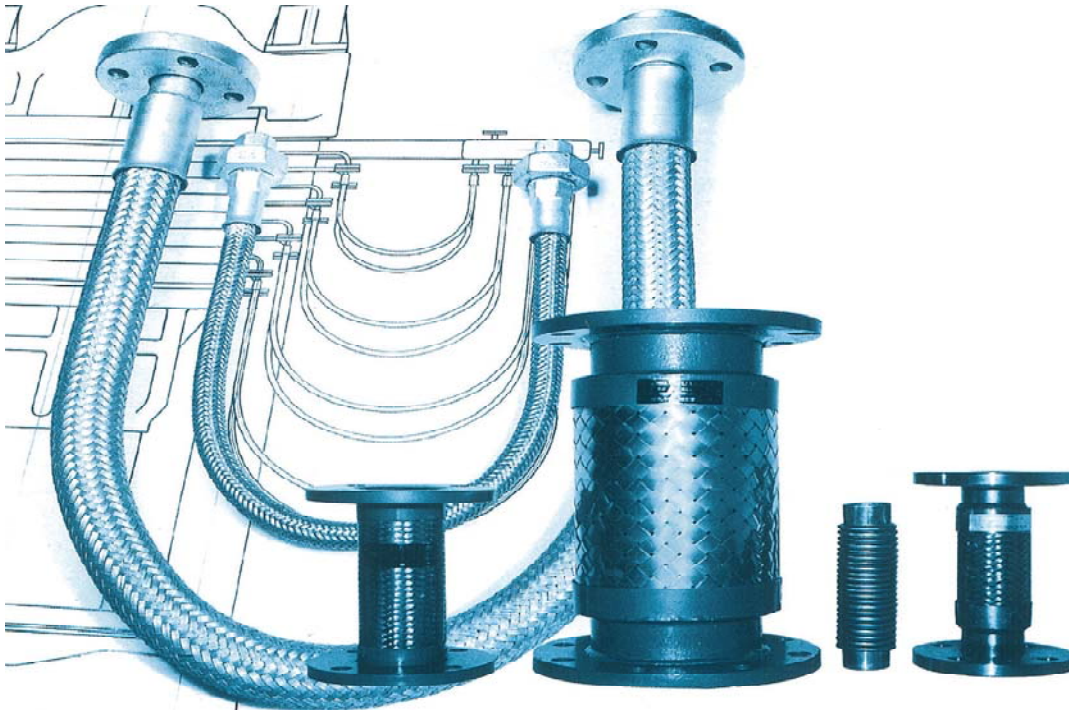


Flexible Hose & Coupling

1. Flexible Hose & Coupling Selection



Size of Connecting Pipe. The size of metal hose for a given application is usually determined by the size of the existing piping and mating fittings. However, other considerations such as pressure drop, rate of flow, and velocity also influence your selection of the proper size of hose.

Temperature of Operation in Relation to Pressure and Material. Temperature, of course, affects the physical properties of any material. This factor must be taken into account, as well as the working pressure and the specific application. Hose type, metal alloy, fittings, and attachments determine the temperature limit.

Media in Relation to Corrosion of Hose Material. A primary consideration in specifying metal hose is to select a material which is resistant to the media to be conveyed through the hose; this is possible in most applications. Remember to consider the corrosive effects of the outside environment, as well as the media conveyed within. Both factors are significant. Remember also that metal hose, a thin walled material, will not have the same total length of usage as pipe or tube that is heavier-walled material, even though both are of the same material

Pressure - Operating, Test and Burst Needed for the Application. The pressure rating for each type of flexible metal hose is affected by the conditions of actual use, such as, shock or pulsating conditions, temperature, and bending stresses. The maximum operating pressure is 25% of the Nominal Burst Pressure, while the maximum test pressure is 150% of the Maximum Operating Pressure. The Nominal Burst Pressure is the pressure at which the hose can be expected to rupture. When pulsating, surge or shock pressures exist, from conditions such as fast closing valves, the peak pressure should not exceed 50% of the Maximum Operating Pressure.

Motion Type Affecting Hose and Amount of Motion. Flexible metal hose is specified for several different applications: whenever there is excessive vibration; whenever misaligned pipe or tube is encountered; whenever flexibility is needed for manual handling situations. To select the proper hose for any of these applications requires, careful consideration of the inherent flexibility of the material in regards to the design of the assembly, installation, and versatility expected of the hose.

Length of Hose Needed to Absorb Motion in Relation to Space Available. The type of motion, the offset motion, vibration, as well as live length required, are all factors to consider in determining the proper hose selection.

Fittings Needed to Connect to Existing Connections Compatible with Media, Temperature, and Pressure. End fittings may have male or female threads. In addition to conventional unions-flanges, flared tube fittings-special designs or custom connectors are available. The attachment method: welding, soldering, silver brazing, or mechanical, is determined by the appropriate type of hose, alloy, and temperature.

Flow Velocity. High flow velocities in metal hose can cause vibration resulting in noise and premature failure.