

## Spring Hangers – Hot Loads and Cold Loads

- Normally a spring hanger is used in any piping system carrying hot medium where it has to take load of the piping at that point and vertical displacement (movement) due to temperature (may be up or down). It is conventionally termed as +y for up & -y for down movement.
- 2) The bare spring that we use in both the above hangers is "Helical Spring-Compression type". These springs are similar to the springs used in our ball point pens (push type).

## In case of ball pen springs

- 3) When we "press" (apply pressure) it is compressed & the depth of compression depends on "the amount (intensity) of pressure/load applied. When we release "the pressure/load the spring goes back to normal. i.e. the compression is released. The same philosophy applies to spring hangers also.
- 4) The term "pressure" is designated as operating load. This operating load is nothing but the weight of pipe, insulation & any fittings acting at that support point. So the operating load (normally called as Hot load) is the load when the pipe is charged with fluid & has its full temperature.
- Secondly any support point may either more up (+ve) or down (-ve) in vertical direction (+Y/-Y) which will in turn increase or decrease the compression. It means load is increased or reduced, due to direction of movement.
- 6) We have supported the pipe at operation with some derived load (Hot Load). When the flow of hot medium is stopped no more temperature acts on pipe & the vertical movement is released & the load acting on pipe at this condition is called Cold Load.

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