NEWS LETTER- 20

In our earlier Newsletter-16 we had touched upon the various technical inputs required for selection of Hangers and Supports and the engineering documents through which this information is conveyed. One of them is the Reference Isometric drawing.

In this issue let us discuss regarding Reference Isometric drawing and its importance in the client technical data sheet

1.Reference Isometric dwg no:

Although it is **not a subject of concern** for support selection, it is better to know a little about isometric dwg which will be useful to understand its importance better. It can be said that without a piping there is no support & without a support there is no piping.

A piping normally is of hollow cylindrical in shape carrying a specific medium from one source to the other source (delivery point/equipment). Thus, it connects two different equipments & transfers the medium under specific pressure & with temperature or at ambient temperature. {at present we are **not** discussing on cryogenic piping (medium temperature less than ZERO °C)}

It can be explained easily like water supply piping from overhead tank at a particular location that carries water & delivers it to the individual flat/house at different location.

When once it is mentioned as LOCATION- it means both equipments (inlet/outlet) need not be in the same x/y/z coordinates.

An **isometric dwg** (iso) is nothing but a **NOT TO SCALE** dwg indicating the pipe routing (how it travels in X/Y/Z axes (directions) while transporting the medium between equipments. Each axis will be represented at 120° apart as shown.

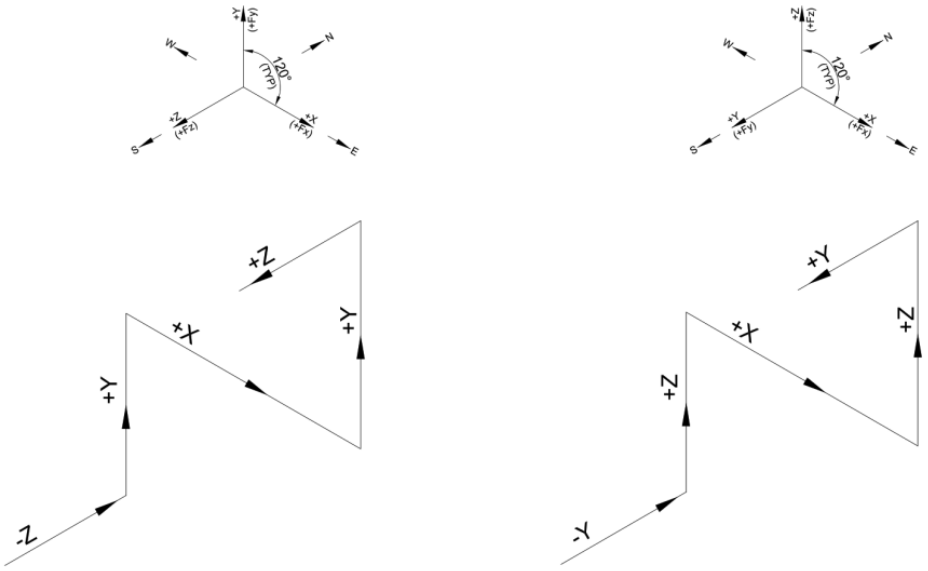
The X/Y/Z axes are explained as below.

There are two types of axes references/representations.

1. With “Y” axis as vertical & the rest two X&Z are considered as horizontal axes.
2. With”Z” axis as vertical & the rest two Y&Z are considered as horizontal axes.

With the above two types of representations, excepting the vertical axis referred, out of the rest two axes, anyone may be axial & the other lateral depending on the pipe axis. On the layout ±X may match North/South direction & ±Z may match East/West direction. Sometimes client may represent X & Z axes in North, South/East west coordinates also.

The picture shown below will clearly explain this aspect.



(±Y AS VERTICAL) (± Z AS VERTICAL)

Referring to fig 1, it can be seen that when the pipe is running in –Z axis, then ±X axis will be lateral & **±Z** axis will be axial (pipe axis). When the pipe is running in +X axis, then ±Z axis will be lateral & **±X** axis will be axial (pipe axis). Especially in Petro chemical projects, each & every support is identified precisely by its global X, Y, Z co-ordinates only(it will be given as eg- N1102078,E234576,El10500,all values in mm). In that respect any point/tapping, specialities etc are identified in this manner only.(this achieved by the use of software tools like PDS/PDMS etc) Nowadays in very big power plants also it is being followed where isometrics are extracted from the layout generated thru above said software tools. Let us conclude with this wrt axes as further details are not very much essential from the support point of view.
We have understood about the isometric dwg along with its axes representations to some extent in this issue.

Let us discuss further about the importance of isometric reference in technical data sheet in the next issue.

Please see attachment on next page.

For past newsletters please look up our website www.pipehangers.in

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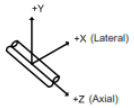
Ordering Information



1) Hot Load (Operating Load) in Kgs :
2) Thermal Movement / Travel (Direction + or -) in mm : UP (+) mm
3) Type of Hanger Variable / Constant /Rigid : VariableEffort Support
4) For Constant Add Over Travel : ☐ Yes ☐ No
5) For Variable Springs Max Allowable % Load Variation : %
6) Horizontal / Lateral Movement (If any) : 'X' Dir mm / 'Z' Dir mm
7) Hydro Load (If any) : Kgs
8) Model & Type of Support :
9) Assembly Length (From BOS/TOS to Pipe CL) : mm
10) Operating Temperature : Deg C
11) Pipe Insulation Thk : mm
12) Pipe Material :
13) Require Pipe Shoe for Foot Mounted Support : ☐ Yes ☐ No
14) For Foot Mounted Support Match Height : ☐ Yes ☐ No
15) Attachments like Lugs, Cleats Welded to Pipe in Scope : ☐ Yes ☐ No
16) Operating Load includes Wt of Accessories like Clamp, Tie Rods, Cleats, Lugs etc. : ☐ Yes ☐ No
17) Preferred Surface Protection / Painting :
18) For 'G' Type / Double / Trapeze type Hanger the Load Given above is for 1 assembly consisting of 2 Hangers / Individual Hanger : ☐ Yes ☐ No