

NEWSLETTER - FEBRUARY' 2016

In continuation to our January'2016 Newsletter, let us discuss some more about Rigid Struts.

Rigid strut - by construction

It is made of pipe section of required thickness.

On both ends of the pipe, it is provided with a threaded rod (one side left hand & other side right hand thread) with eye having swivel bearing.

The rigid force acting on the pipe is transferred to the structure through the clamp, rigid strut and welding clevis thus protecting the piping system from any possible damage under dynamic loads.

Points to note:-

This R.S. **should not** be compared/ **replaced** with tie rod hanger which is used only in **static load** cases & R.S is used under **Dynamic load** condition (\pm loads) although both are used where there is "0" movement in the direction of application of load.

The **main difference** is

Rod hangers are made of solid threaded rods & it can take only TENSILE loads & **cannot take COMPRESSIVE** loads. The rods will **buckle** under compressive load.

Like wise

- A) The Stiff clamps used with rigid struts should not be REPLACED by static clamps as the latter are fit for static loads only
- B) The Welding clevis should not be REPLACED by beam welding attachment (Ref UA4 of PHS catalogue, page 7) which is used for normal static load.

(Under miscellaneous piping systems, suppose the applied load is – ve (say it is North direction), If there is feasibility to support it in the south direction, then the static load is +ve & we can select Rod hanger along with normal static clamp & beam welding attachment)

In short static components should not be used for dynamic loading.

The converse is true but it is a **REDUNDANT SELECTION & not economical.**

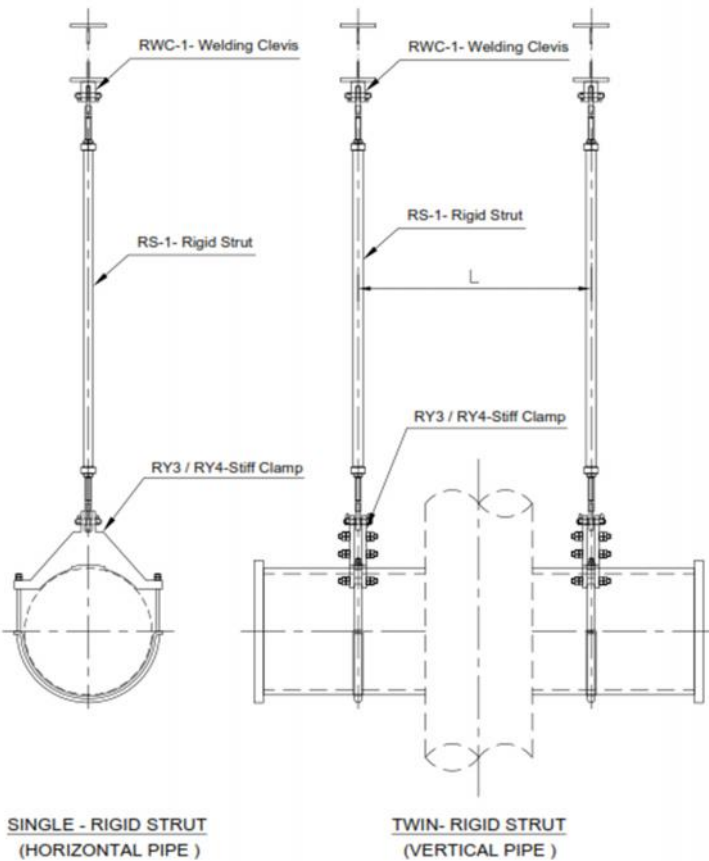
When R.S. is used as twin struts as in vertical/horizontal piping in one location, some clients may insist to select with a condition that "select Rigid strut of EACH limb for FULL load". This condition is to be checked/ verified before selection, to avoid wrong selection.

Unlike Tie rod case the R. S. **cannot** be of any length. Depending on the Load, there is limitation on the maximum Length that can be used. (Ref. PHS catalogue). The balance height is to be bridged suitably by structure.

Similarly there is a minimum length of R.S. for each load also exists due to manufacturing limitations. There is length adjustment available for site contingencies (\pm value & it differs based on the selection of Rigid strut) In PHS design for long struts (ref PHS cat RS 1to 11) it is $\pm 100\text{mm}$ & ± 50 for short struts. (Ref. PHS Catalogue RSA 1 to 12)

Typical rigid strut arrangement drawing is appended below.

We will discuss Dynamic loading support “ Snubber Support” in the next issue. Till then bye!



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