

API PLAN 52

Seal Support System



Product Description

API Plan 52 uses an external reservoir to provide buffer liquid for the outer Seals of arrangement 2 Seals. The buffer liquid shall be maintained at a pressure less than the seal chamber and less than 2.8 bar. It consists of a reservoir with capacity of 20 liters, cooling coils, level gauge, level switch / level transmitter, pressure gauge, pressure switch / pressure transmitter, orifice plate, support pipe with pipe fittings.

Objective

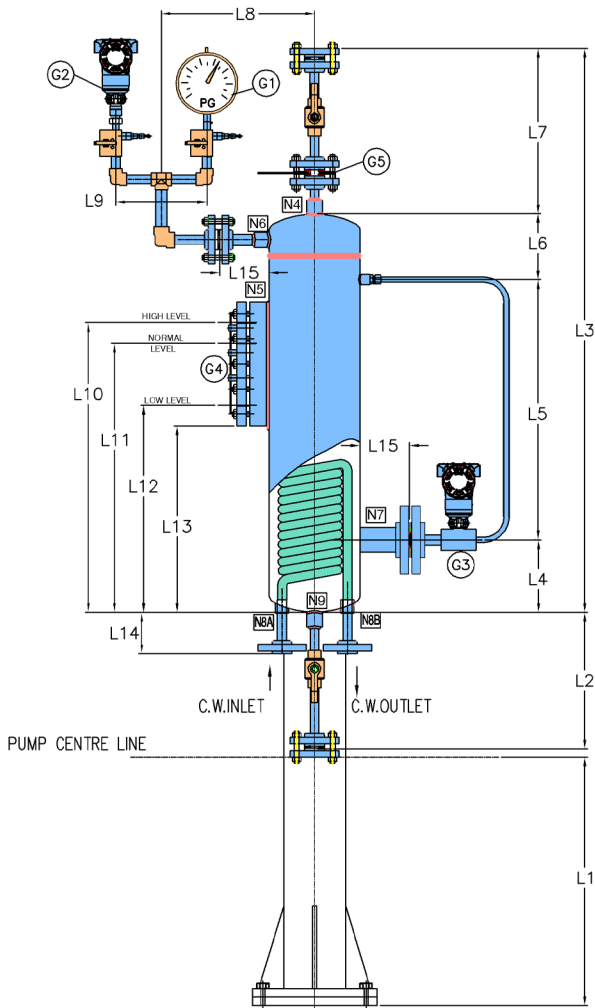
1. It is used in services where the process fluid leakage to the atmosphere should be minimized and contained.
2. It is used in applications where the process liquid may solidify or tends to be icy once the process liquid comes into atmosphere. The buffer fluid acts as a contained quench for the process liquid.
3. It is also used in applications where additional heat removal from the inner Seal is required.
4. Plan 52 works best with clean, non-polymerizing, pure products that have a higher vapor pressure than the flare pressure. Leakage of higher vapor pressure liquid can escape either to flare line or to a suitable collection system.
5. It is employed where inner seal leakage mixing with the buffer liquid is allowed.

Advantages

1. When the inner Seal fails, the outer seals take over there by giving buffer time for repair or maintenance activity
2. No process liquid contamination
3. Enhanced cooling of the inner & outer seals
4. Best for hydrocarbons which are contained by safety back-up seal
5. With flanged bottom connection the cooling coils can easily go for maintenance.
6. An orderly shut down and repair of Seals is possible in case of failure of inner seals
7. Monitoring of both inner seal leakage and outer seal leakage is possible through switches or transmitters linked to distributed control System (DCS)

Technical Features

1. Level gauge can either be welded to the reservoir with borosilicate glass for viewing the level of buffer liquid
2. Level switch / level transmitter can either be top mounted or housed in a separate housing
3. Decrease in buffer liquid level indicates that outer seals has failed & increase in buffer liquid level indicates inner seal leakage
4. Circulation is provided with the help of internal circulating services like pumping or pumping screw
5. Designed in accordance with API 682 standard along with requirements meeting ASME Sec VIII Div.1
6. Bottom flanged connections can be provided for ease of maintenance
7. Available in various configurations based on flange type, class rating, external or inbuilt coolers
8. Pressure switch / transmitter as additional monitoring for inner seal leakage
9. Capacity at normal liquid level (NLL) = 20, Liters others available on client request



Item	Description
G1	Pressure gauge
G2	Pressure Transmitter
G3	Dp Transmitter
G4	Level gauge
G5	Orifice Plate