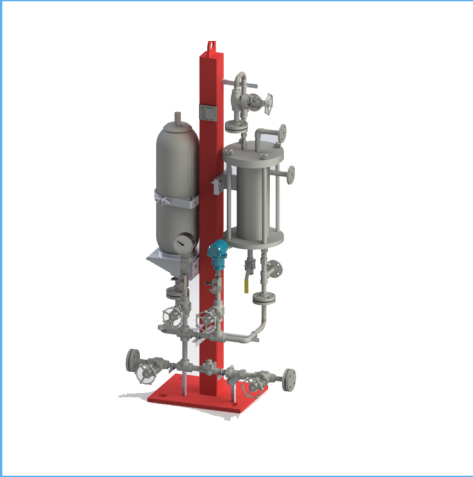


API PLAN 53B

Seal Support System



Product Description

API Plan 53B is a modified version of API Plan 53A. API Plan 53B has only the piping and an air or water cooled heat exchanger within the closed loop circuit. The barrier pressure shall be generally 2Kg/Cm2 to 6Kg/Cm2 above box pressure. It consists of a bladder type accumulator; heat exchanger, either air cooled, finned tubing on water coolers, and instruments like pressure gauge, pressure switch / transmitters and temperature gauges / transmitters.

Objective

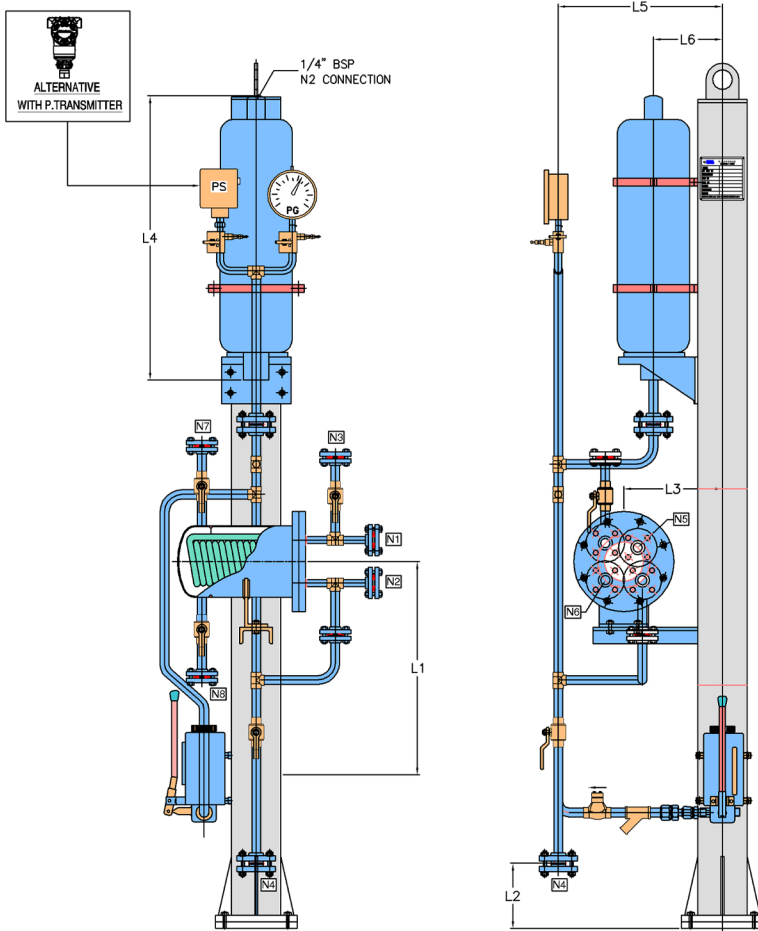
1. It is used in services where the process fluid leakage is eliminated.
2. Successfully used where the box pressure exceeds 10.0 Kg/Cm2 and temperature above 50 Deg C.
3. It is used where safety is of utmost importance and the media being sealed is extremely hazardous.
4. Preferably used where the margin between the box pressure and the vapour pressure at the pumping temperature is less.
5. Used in critical high pressure applications where use of plan 53A would allow nitrogen to become vapour and cause cavitation near the seal faces.
6. Used in applications where additional heat removal is required from the inner seal.

Advantages

1. Enhanced seal life at higher pressure and temperature as mixing of nitrogen with the barrier liquid is eliminated
2. There is no chance of the hazardous process liquid to leak provided barrier pressure is maintained.
3. Enhanced cooling of the inner and the outer seals
4. Make up of nitrogen pressure in the bladder accumulator using nitrogen charging kit is possible.
5. Monitoring of both inner seal leakage and outer seal leakage is possible.

Technical Features

1. Bladder accumulator in either carbon steel or SS316L and bladder material in nitrile for temperature up 120 Deg C & Viton for higher temperature
2. Capacity of bladder accumulator :
20 Liters
35 Liters
50 Liters
Others as per requirement.
3. Heat Exchangers
- Air Cooled either natural or forced circulation type - Finned tubes Heat Exchanger- Water cooled
4. A decrease in pressure indicates either inner seal or outer seal has leaked
5. Circulation is provided with the help of internal circulating devices line pumping ring, pumping screw.
6. Designed in accordance with ASME Section VIII Division 1 and API Standard
7. Bladder is pre-charged with 90% of working pressure
8. Based on API 682 4TH edition, pressure alarm is being set considering maximum and minimum temperature of site location.
9. Transmitters are either HART or foundation fieldbus (FF) protocol



Item	Description
N1	To Seal
N2	From Seal
N3	Vent
N4	Drain
N5	Cooling Water Inlet
N6	Cooling Water Outlet
N7	Cooling Water Vent
N8	Cooling Water Drain