

# API PLAN 53A

## Seal Support System



### Product Description

API Plan 53A uses an external reservoir to provide external pressurized liquid (barrier liquid) for arrangement 3 Seals. The reservoir pressure is maintained by a gas, usually nitrogen at a pressure 2Kg/Cm2 above stuffing box pressure. It consists of a reservoir with capacity of 20 Liters, cooling coils level gauge, level switch / level transmitter, pressure gauge, pressure switch / pressure transmitter, Nitrogen connection, hand pump, support pipe with pipe fittings

### Objective

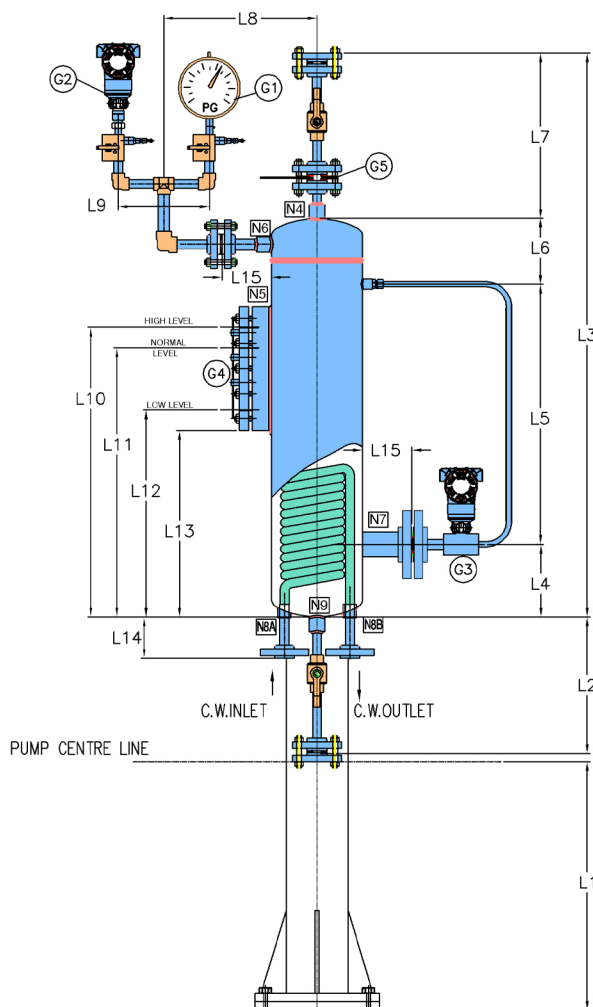
- 1.It is used in services where the process fluid leakage is eliminated.
- 2.It is economically used where the stuffing box does not 10 kg/cm2 (g) and the box temperature is up to 150oC.
- 3.It is used where safety is of utmost importance and the media being sealed is extremely hazardous.
- 4.It can also be used in application where additional heat removal from the inner Seal is required.

### Advantages

- 1.Economical of all the plan 53 plans
- 2.There is no chance of the hazardous process liquid to leak provided barrier pressure is maintained
- 3.Enhanced cooling of the inner and outer Seals.
- 4.With flanged bottom connections, the cooling coils can go for maintenance.
- 5.An orderly shut down & repair of Seals is possible in case of failure of inner Seals.
- 6.Monitoring of both inner seal leakage and outer seal leakage is possible through switches or transmitters linked to DCS. (distributed control system)

### Technical Features

- 1.Level switch with one float / displacer is adequate to serve the liquid leakage
- 2.Suitable for applications with box pressure up to 10.0 kg/cm2 (g) and box temperature upto 1500C
- 3.A decrease in pressure on level indicates either inner Seal or outer Seal has leaked
- 4.Circulation is provided with the help of internal circulating device like pumping ring screw.
- 5.Nitrogen pressure to be supplied at a pressure of 2.0 kg/cm2 above box pressure
- 6.Designed in accordance with ASME Section VIII Division 1 & API 682 Standard
- 7.Capacity at normal liquid level = 20 Liters



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