THS

API PLAN 52/53A MECHANICAL SEAL SUPPORT SYSTEMS





PRODUCT FEATURES

- The reservoir of THS system is installed inside the serpentine coil, can be real-time cooling.
- The front of THS system is equipped with glass plate liquid level gauge, and with high and low liquid level alarm position, convenient real-time observation of liquid level change.
- THS system is equipped with funnel type filling cup and each quick open ball valve, convenient operation and maintenance.
- Optional all kinds of instruments, such as thermometer, pressure switch, liquid level switch, pressure transmitter, liquid level transmitter, etc. Can realize the scene alarm, also can transmit the data to the PLC control panel, better monitor the operation of the mechanical seal.
- Optional manual replenishment pump, can be in the case of equipment does not stop, real-time manual replenishment and pressure.
- The back bracket adopts the design of hanging ear, which is convenient for on-site installation and disassembly.

SYSTEM PARAMETERS

Temperature	-20 ° C ~ + 100 °C
Pressure	⩽ 40 bar
Volume (heat exchange area)	10L(0.24㎡)， 16L(0.24㎡)， 26L(0.4㎡)

SYSTEM MATERIALS

Storage tank	304SS / 316L
Heat exchange tubes	304SS / 316L

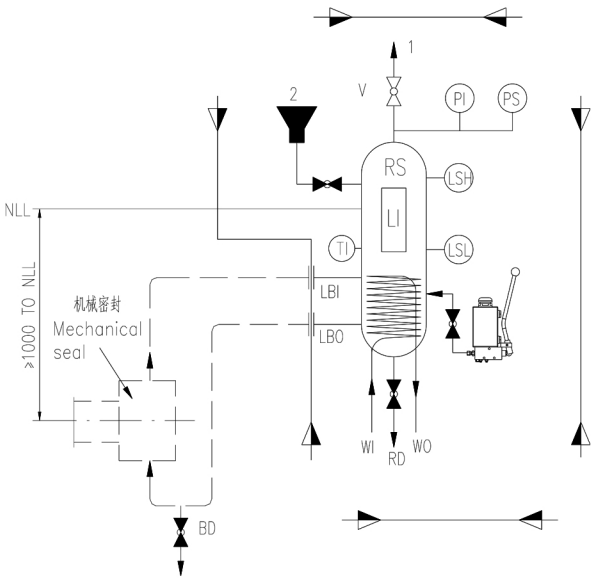
APPLICABLE INDUSTRIES

- Process pumps
- Arduous applications demanding pressurized barrier fluid
- Mixer and agitators
- Wide range of applications requiring high reliability across oil and gas, chemical and general Industry, and high-purity and organics
- High abrasives content
- Slurries

PRODUCT APPLICATION

For API Plan 52

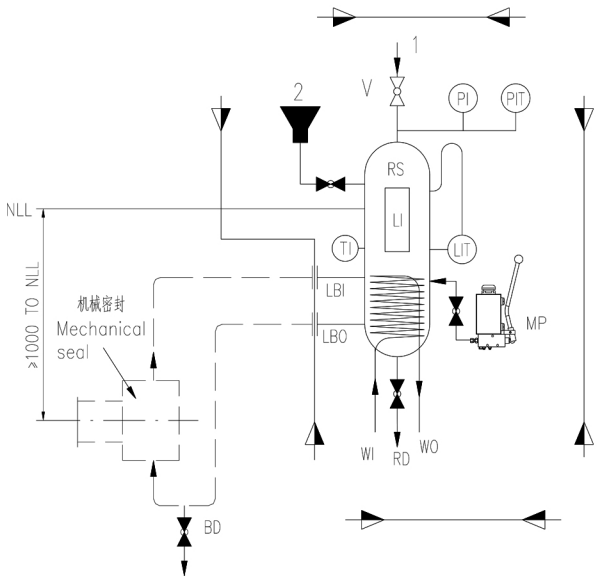
1. THS series thermosiphon system is used with the double seals of arrangement 2 seal . The buffer liquid shall be maintained at a pressure less than seal chamber pressure and less than 0.28 MPa (2.8 bar) (40 psi).
2.It is normally used in services where process fluid leakage to atmosphere should be minimized and contained. It is also used in applications where the process may solidify in contact with atmosphere or in applications where additional heat removal from the inner seal is required.
3.THS series thermosiphon system works best with clean, nonpolymerizing, pure products that have a vapor pressure higher than the buffer system pressure. Leakage of higher vapor pressure process liquids into the buffer system will flash in the seal reservoir and the vapor can escape to the collection system.
4.Inner seal process liquid leakage will normally mix with the buffer fluid and contaminate the buffer liquid over time. Maintenance associated with seal repairs, filling, draining, and flushing a contaminated buffer system can be considerable.



ITEM	SERVICE
RD	Reservoir Drain
BD	Barrier Fluid Drain
LBI	Liquid Buffer In (From Seal)
LBO	Liquid Buffer Out (To Seal)
WI	Cooling Water Inlet
WO	Cooling Water Outlet
1	To collection system
2	Make-up Liquid
RS	Reservoir
LI	Level Gauge
V	Valve
PI	Pressure Gauge
PIT	Pressure Transmitter
PS	Pressure Switch
TI	Temperature Gauge
LIT	Level Transmitter
LSL	Low Level Switch
LSH	High Level Switch
MP	Manual Pump

For API Plan 53A

1.THS series thermosiphon system is used with the double seals of arrangement 3 seal , that is, the pressure of the isolation fluid is higher than the maximum pressure of the seal chamber and at least 0.14MPa (20psi) higher, which can be achieved by flushing nitrogen at the top of the reservoir.
2.This scheme is usually used in services where no leakage to atmosphere can be tolerated, It may also be selected for applications where the pump may be operated dry or the pump process fluid may be damaging to the seal faces.
3.Plan 53 is usually chosen over Plan 52 for dirty, abrasive or polymerizing products that would either damage the seal faces or cause problems with the buffer liquid system if Piping Plan 52 were used.
4.The clean barrier liquid provides lubrication to the seal faces, but the barrier liquid that passes across the inner seal faces will enter the pumped process stream. Therefore, the process liquid shall be compatible with the barrier liquid and be able to tolerate a small amount of contamination from the barrier liquid.



ITEM	SERVICE
RD	Reservoir Drain
BD	Barrier Fluid Drain
LBI	Liquid Barrier In (From Seal)
LBO	Liquid Barrier Out ((To Seal))
WI	Cooling Water Inlet
WO	Cooling Water Outlet
1	From External Pressure Source
2	Make-up Liquid
RS	Reservoir
LI	Level Gauge
V	Valve
PI	Pressure Gauge
PIT	Pressure Transmitter
PS	Pressure Switch
TI	Temperature Gauge
LIT	Level Transmitter
LS	Level Switch
MP	Manual Pump

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FBU is certified to API Q1, ISO 9001, ISO 14001