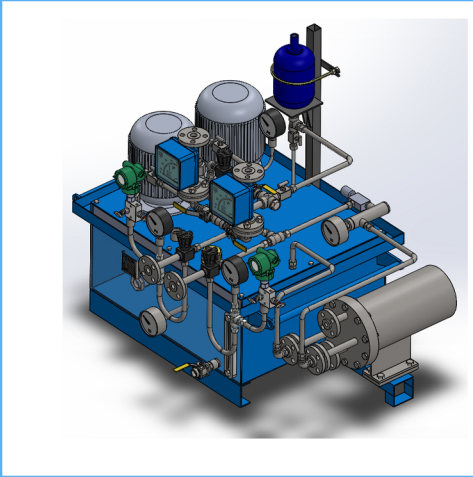


# API PLAN 54

## Seal Support System



### Product Description

API Plan 54 comes into two variety – either in piping design or stand-alone tank design. Piping design API Plan 54 takes external barrier liquid from the plant header and includes pressure control valve, strainer, flow-meter, pressure gauge, temperature gauge and fittings. Stand-alone API Plan 54 consists of a tank of 150 L capacity, gear pumps with motors, suction strainer, breather, pressure relief valve, pressure control valve, accumulator, pressure gauge, temperature gauge & flow meter.

### Objective

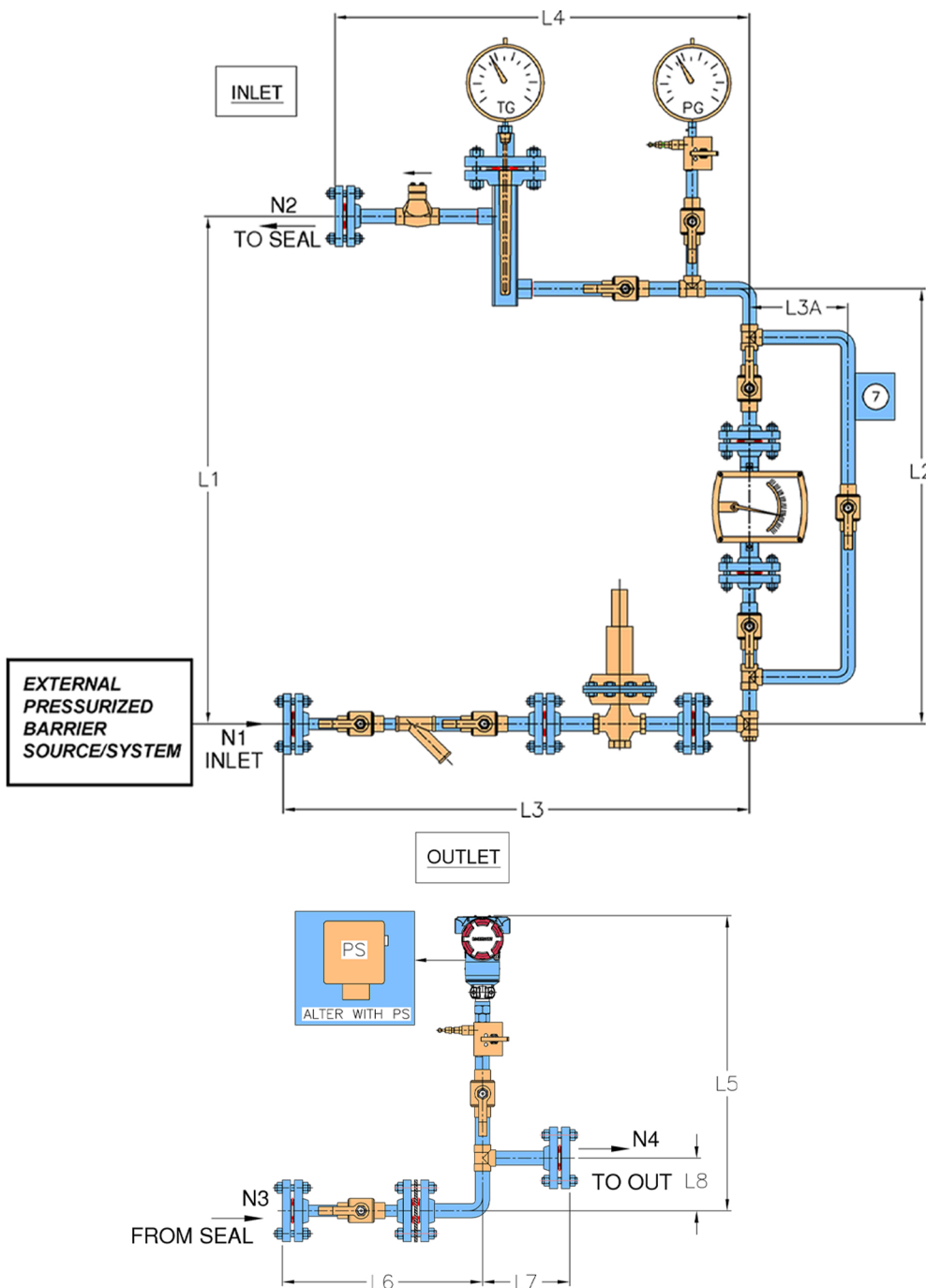
- 1.External source provides required pressure & flow which is used for cooling of the seal faces.
- 2.It is used for very high temperature application like crude bottom pumps.
- 3.This plan is used for the liquids which are highly flashing when they come into contact with atmosphere.
- 4.It is used in applications where high flow rate of barrier liquid is required for heat removal from the seals faces.

### Advantages

- 1.Highly reliable API Plan for removal of heat generated across seal faces & heat soak.
- 2.Barrier fluid has exceptional lubricating properties which results in extended MTBPM for the seal.
- 3.When properly instrumented the system can safeguard the seal against pump upset conditions.
- 4.Positively eliminates the leakage of harmful & fugitive emissions to the atmosphere.
- 5.Can provide pressurized flow to multiple seal installation with one system to reduce costs.
- 6.It is not constrained by nitrogen ingress into the barrier fluid as in API Plan 53A

### Technical Features

- 1.Piping design of API Plan 54 constitute pressure control valve designed to provide the required downstream pressure to the Seals
- 2.Bypass line in piping design allow for maintenance of flow-meter Stand - Alone tank design
- 3.Electric motor is started to the required pressure & flow rate of the barrier liquid
- 4.Gear pump is designed for the required flow rate
- 5.Baffle plate provided in the tank for the smooth flow of barrier liquid return line
- 6.Accumulator along with solenoid valves maintain barrier pressure in the seal chamber during pump upset condition or power cut off for few minutes
- 7.Pressure relief valve releases any build-up pressure back to the tank.
- 8.Pressure control valve in combination with flow-control valve provides the required pressure and flow to the mechanical seals.
- 9.Heat exchanger could be either water cooled in coil design or plate-type designed to the duty required based on the thermal design.



Mark	Description
N1	Inlet (From External)
N2	To seal
N3	From Seal
N4	To Out