

API PLAN 54 SEAL SUPPORT SYSTEM

Technical Specification

- A Electric motor
- B Filter Assembly*
- **C** Pump protection valve
- D Pump
- E Heat exchanger
- F Back pressure regulator
- ${\bm G} \ \ {\sf Barrier} \ {\sf fluid} \ {\sf outlet}$
- H Barrier fluid inlet
- I Reservoir



Product Description

API 682 Plan 54 utilizes an external source to provide a clean pressurized barrier fluid to a dual pressurized mechanical seal with minimal leakage across the primary sealing interface into the process stream. The GS 54 global standard system is a pre-engineered design to provide a best-practice solution to the overly complex design process between supplier and customer significantly reducing specification and delivery timescales.

GS 54

Performance Capabilities

- Temperature: -20° to 180°F/-29° to 82°C (design) 20° to 110°F/-7° to 43°C (ambient)
- Pressure: 917 psig/63 barg (design) 50 to 667 psig/3.5 to 46.0 barg (operation)
- Resevoir size: 30 gallons/113 liters (nominal)
- Footprint: L x W x H: 39.5" x 21.125" x 32.625"/ 1001 mm x 536 mm x 841 mm

Design Features

- Best practice design to deliver clean, cooled, and filtered barrier fluid for optimal mechanical seal performance and centrifugal pump up time
- Assured differential pressure, circulation rate and seal-generated heat removal during pump operation and stand-by
- Safeguards against the toughest environments and provides full containment of VOCs for zero-emission control

- Streamlined design to minimize footprint and obstruction
- Design modularity and specified component flexibility
- Quick delivery with lead times to meet or exceed your needs

The GS 54 global standardized Plan 54 seal support system is a preengineered design that is already certified for regional qualifications. By providing clear component description and simplified selection criteria, customers receive an improved and faster process of doing business. The GS 54 is designed to deliver high reliability with long-term low cost of ownership.

Materials of Construction

Seal Components	Materials
System assembly	Tank 304 SS/tube and fittings 316 SS/carbon steel
Motor	3 hp 3/60/230-460, 1800 RPM, UL/CSA XP Div1 Class 1 Gr. C & D 3 kW 3/50/400, 1500 rpm, ATEX EEx-d IIB T4 IP55
Pumps	4.5 gallons per minute
Filter	10 µm spin-on filters with gauge
Pressure gauge	2-1/2" Dial, Bourdon Tube, 1/4" NPT, SS movement, glycerin-filled
Heat exchanger	Shell and tube \geq 20,000 BTU/hr / 5.8 kW
Pressure control valve	1/2" NPT spring operated, CS/SS
Pressure safety valve*	NPT spring operated set at 817 psig/56.3 barg
Level gauge	5" level gauge with thermometer

*Region specific



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GS 54 Typical Arrangement

GS 54

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Shown with dual-filter configuration.



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