

Seal Support Systems

Seal Support Systems (API Plans):

Mechanical seals are critical components in rotating equipment such as pumps, compressors, and mixers. To ensure their reliable performance, various Seal Support Systems (as per API 682 standards) are used. These systems provide proper lubrication, cooling, and flushing to maximize seal life and reduce unplanned downtime.

Why Seal Support Systems are Important?

Enhance seal reliability and reduce leakage. Maintain controlled environment at the seal faces. Prevent dry running and overheating. Improve safety & compliance in hazardous and high-pressure applications. Extend equipment life cycle and reduce maintenance costs.

Common API Seal Support Plans:

Plan 11 – Flush from Pump Discharge uses a line from pump discharge to the seal chamber. Provides continuous clean, pressurized liquid to the seal faces. Ideal for handling non-slurry and non-contaminated fluids.

Plan 21 – Flush with Cooling similar to Plan 11 but includes a cooler. Controls temperature in high-heat applications.

Plan 23 – Circulation with Heat Exchanger recirculates fluid through a cooler back into the seal chamber.

Plan 32 – External Flush Introduces clean liquid from an external source. Protects seals in dirty or slurry services.

Plan 52 – Un-pressurized Seal Pot used with dual seals (tandem arrangement). Provides a buffer fluid at low pressure.

Plan 53 – A/B/C – Pressurized Seal Pots used with dual pressurized seals. Maintains a barrier fluid at higher pressure than process.

Plan 54 – External Pressurized System circulates barrier fluid using an external pump or system. Best for critical, high-duty applications.

Plan 62 – Quench System Supplies external steam, water, or gas to the atmospheric side. Prevents icing, coking, or crystallization.