

SUPERIOR SUPPORT



Protect and prolong your Rotating Equipment service life...

...by designing and building Mechanical Seal Support Systems with significantly fewer connections – and, thus, substantially fewer potential leak points that can cause asset damage, extensive downtime, and major safety/environmental risks:

Mechanical Seals are critical components for a safe and properly functioning seal and pump system as either a gas or liquid is supplied to regulate the environment in which a seal operates. In all, a typical mechanical support system has four primary functions:

- Lubrication to seal faces
- Pressure and temperature control in the seal chamber and seal
- Flushes seal contamination and/or residue buildup
- Prevents system process fluid from leaking into the atmosphere



Historically, pipe was used in many seal support systems. But recently, tubing has become the preferred construction element for most seal manufacturers, end users, and pump OEMs. **Why?** First, tubing can be bent and applied with tube fittings, drastically reducing total system connections. Adding flange adapters and extended male connectors further reduces the need for multiple fittings/connections from threaded seal ports to seal pots. Plus, tubing, which can be quickly installed, eliminates the need for costly on-site welding during pump-related maintenance.

Frequent visual inspection of a seal support system is essential for safety and reliability. As a result, make sure that your system function is apparent and its design is intuitive. If even small obstacles exist for operators, such as he/she having to bend down to read instrument information, troubling indicators can easily be missed.

Solution: Arrange all system components on a panel.

Doing so accomplishes:

- Plan panel now looks like a distinct system
- Flow path can be identified
- All instruments are at eye level
- Part numbers, flow path indication, and operator instructions can be included

Result? Safe, reliable pump/seal system startup and shutdown is ensured.

Next, your system should be designed for ease of maintenance. Since flow meters, strainers, and other visual tools are standard in most support systems, preventative maintenance should be conducted frequently and be safe and simple to complete. In addition, API 682 recommends block/bleed configurations for all gauges in use so that when gauges fail, operators will not miss key information

Also, consider in your system design how every serviceable component can be easily removed and replaced, as needed, while your system continues to operate. For example, you would not want to take your pumps offline or have your maintenance technicians employ a ladder or climb on a baseplate or piping to fill/service seal pots, potentially exposing your staff to process vapors. Again, locating your systems on panels, with clear labeling of all components, avoids any such danger.

Don't let seal failure lead to system failure

Swagelok Pittsburgh | Tri-State Area offers expert panel design and build services that will greatly enhance safety and uptime and simultaneously improve your overall Bottom-Line health.

Support: Visit [swagelok.com/en/blog/building-seal-support-systems-api682](https://www.swagelok.com/en/blog/building-seal-support-systems-api682)



For more information on Swagelok Mechanical Seal Support Systems or to determine your ideal API seal plan kit or assembly, contact:


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