

SECONDARY CONTAINMENT BUSHING (SCB)

MECHANICAL SEAL



DESIGN BENEFITS

- Plan 66A solution for pipeline operators using single seals to control leakage to environment in normal and 'shutdown' conditions
- Prevent normal leakage from exiting pump case, directing to drain
- Provide a pressure signal when the primary seal is compromised
- Structural and operational integrity up to of 150% of maximum process pressure

PRODUCT DESCRIPTION

■ ■ ■ ■ The characteristic crude-oil pipeline operations of multiple, unmanned and extremely remote pumping stations, means that in certain regions, many pipeline pumps rely on single mechanical seals to contain the crude and prevent leakage.

The addition of the SBC secondary containment device enables improved containment reliability in the event of primary sealing failure, while maintaining the simplicity of operations required in such situations.

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Performance Capabilities:

The SCB allows pipeline operators to deploy an API682 Plan 66A containment plan at full pipeline duty conditions with the confidence that both normal and catastrophic seal leakage will be fully contained.

The SCB is specifically targeted at crude-oil pipeline pumps with single mechanical seals, such as the 8648VRS, non-pusher elastomer seal. The combined solution of 8648VRS and SCB provides improved pump, station and line uptime, lower ongoing maintenance costs and the opportunity to move to Plan 66A from Plan 65 configuration, for better-managed process leakage and environmental security in normal running and failure conditions. In such an arrangement, the SCB provides:

- Normal seal leakage prevented from exiting the pump case and directed to drain, without triggering an alarm
- Upset detection warning and pressure warning indicating seal failure
- Restricted and redirected leakage in the event of primary seal failure, such that the vast majority of fluid is directed towards the drain during static and dynamic operation
- Structural and operational integrity up to of 150% of maximum process pressure during static pressurization



Operation	Condition	Pressure Limit	Design Duration
Dynamic	Up to 3500 fpm (17.8 m/s)	0 psig/0 barg	3 years
Dynamic	Up to 3500 fpm (17.8 m/s)	Up to 1500 psig/103 barg	2 minutes
Dynamic	Decreasing from 5000 fpm (25.4 m/s) max	Up to 1500 psig/103 barg	3 minutes
Static	Max. static pressure following primary seal failure	1500 psig/103 barg	15 minutes
Static	150% max. static pressure	2200 psig/152 barg	15 minutes

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