



## SINGLE METAL BELLOWS SEALS FOR HIGH TEMPERATURE APPLICATIONS

### Description

SO series welded metal bellows cartridge single mechanical seals are designed for sealing many fluids including chemically aggressive with temperature from -70 to +425 °C.

**SO family seals are used for the same applications as the following seals:**

**MFLWT 80** by Burgmann Germany

**BXRH/BXHH** by Flowsolve, USA

**604/606/609/3609** by John Crane, USA

**34 family** by EKK Eagle, Japan

Materials	
Metal bellows	Alloy AM-350®, Hastelloy C®, Inconel 718®
Seal rings	Tungsten carbide, silicon carbide, carbon graphite
Secondary seals	Flexible graphite with or without stainless steel reinforcement
Metal items	Stainless steel SS304, SS316

Technical data	
Temperature	From -70 to +425°C
Pressure	Up to 65 bar (with reinforced metal bellows), 90 bar static
Linear speed	Up to 50 m/c (with stationary metal bellows)

Recommended API Plans for SO seals:			
API Plan (per API 682)	Description	Application guidelines	Auxiliary units
11, 13	Recirculation from/to pump case through orifice to/from seal chamber before the seal	VOCs, crystallizing fluids, fluids with solids	-
62	Steam or nitrogen quench, applied between main seal and throttle bushing	Coking and hardening fluids (mainly - hydrocarbons)	-

### Operating Advantages

- Welded metal bellows mechanical seals feature no rubber secondary seals; all seal components are made of advanced thermally and chemically resistant materials to substantially expand the range of application temperatures and fluids.
- The SO series mechanical seals are fitted with a throttle bushing as a secondary seal; it can be used to seal inflammable fluids in compliance with OST 26-06-2028-96.
- Being a single seal, the SO mechanical seal's support system is by far less complicated than that of a double mechanical seal (but before use please check if you are allowed to use a single seal for the specific application).
- Compared to spring-loaded mechanical seals metal bellows seals are more resistant to clogging and hang-up.
- Shaft sleeve is sealed by a gland tightened graphite gasket. This provides for higher sealing safety especially with worn out or scratched/galled shafts.
- Metal bellows mechanical seals are balanced, so they have lower heat generation.

