SO SINGLE 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 followings seals:
MFLWT 80 by Burgmann Germany
BXRH/BXHH by Flowserve, USA
604/606/609/3609 by John Crane, USA
34 family by EKK Eagle, Japan

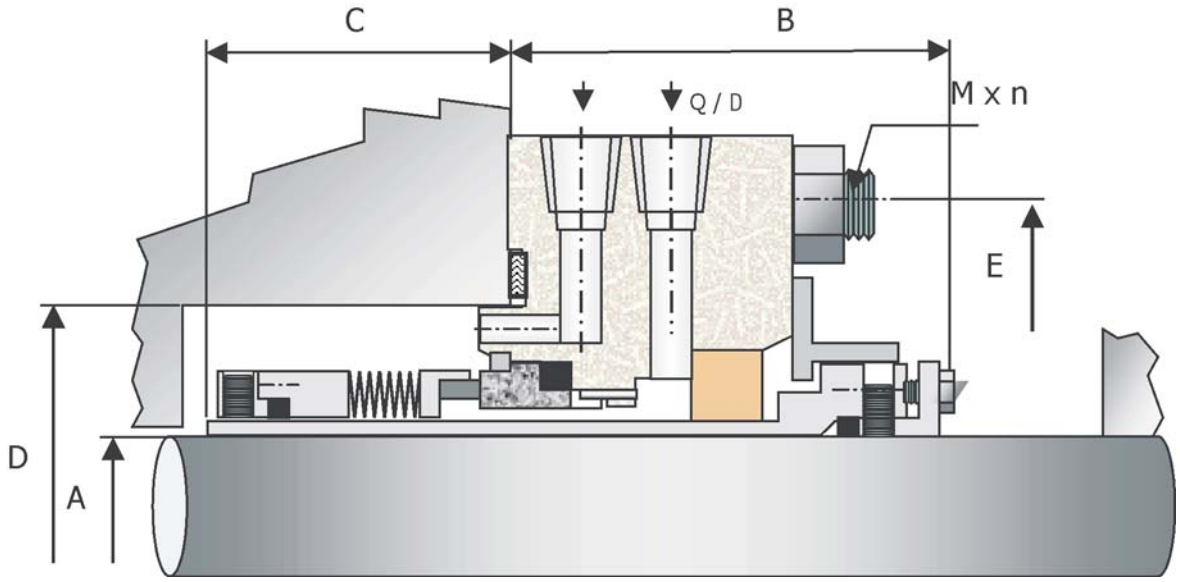
Advantages
- Welded metal bellows mechanical seals feature no rubber secondary seals; all seal components are made of advanced thermally and chemically resistant materials to substantially expand the range of application temperatures and fluids.
- The SO series mechanical seals are fitted with a throttle 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.

Materials	
Bellows	Alloy AM-350®, Hastelloy C®, Inconel 718®
Seal rings	Tungsten carbide, silicon carbide, carbon graphite, Trembide 85, Trembide 50
Secondary seals	Flexible graphite with or without stainless steel reinforcement
Metal items	Stainless steel SS304, SS316, SS321H

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

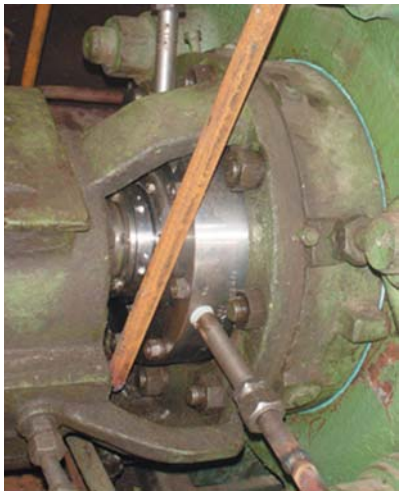
Recommended API Plans for SO seals			
API Plan (per API 682)	Description	Application guidelines	Auxiliary units
11, 13	Recirculation from/to pump case through orifice to/from seal chamber before the seal	VOCs, crystallizing fluids, fluids with solids	-
62	Steam or nitrogen quench, applied between main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

SO seal general layout (bellows rotary version shown)



The seal is designed to every pump individually
Due to compactness of SO seals in radial direction they can be installed into sealing chamber of most pumps, mixers, reactors and other equipment, including imported one.
To receive an offer for SO mechanical seals for specific applications, it is advisable to fill in the seal selection form.

SO seals were successfully designed for the pumps of many famous manufacturers:
Sulzer
Flowserve
Worthington
KSB
Byron Jackson
RuhrPumpen
EBARA
Nigata
Ingersoll Dresser Pumps



"TREM Engineering SO seals not requiring an additional heat exchanger proved to be reliable solution for hot pump with coke particles in fluid"

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