

# Safeseal Type SE2

## Double-balanced design, ultimate reliability

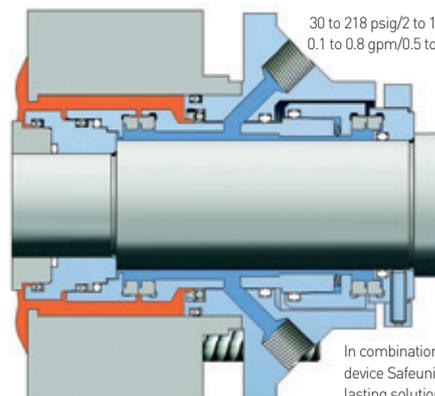
### Typical applications

The double-balanced design of Safeseal Type SE2 ensures reliable and long-lasting operation under the most demanding conditions. This seal is typically used in pumps for abrasive and environmentally hazardous liquids in cooking, evaporation and causticising facilities in pulp mills. Type SE2 is especially designed for Sulzer APP and APT pump series.

### Features and benefits

1. Seal faces are fastened by a patented thermal heat shrink method, which ensures correct face alignment at all temperatures recommended for this seal.
2. The springs are located in the stationary body on piston ring of the seal in the seal water. This allows the seal water to rinse the springs continuously, preventing corrosion by process chemicals. In addition, spring jams decrease. Shaft misalignment does not pump up springs or wear out O-rings.
3. The piston-type design of the seal enables free axial movement, therefore axial movement does not have any impact on seal face pressure.

4. Even in standard models, PTFE slot rings in positions where they are exposed to the product have replaced traditional O-rings. The PTFE seal advantage is that it does not jam even in high solid content process conditions.
5. Milled slots are used to prevent stationary seal faces inside face carriers from rotating. This prevents tension that would distort the seal face.
6. The special double-balanced design allows the use of both pressurised and non-pressurised seal water regardless of process pressure ensuring that seal faces will not open.



In combination with the seal water control device Safeunit, the seal is a reliable and long-lasting solution.

### Technical specifications

Temperature	356°F/180°C max
Stuffing box pressure	290 psig/20 barg max
Seal water pressure	220 psig/15 barg
Speed	4,000 fpm/20 m·s <sup>-1</sup> max

### Materials

Seal faces	SiC/SiC (product side) SiC/Carbon (atmosphere side)
O-rings	EPDM PTFE Viton® FFKM
Metals	Standard material AISI 329/ AISI 316 (Titanium, Alloy 20)
Springs	Nimonic

# Mechanical Seals for Sulzer Ahlstar Pumps

## Mechanical Sealing Systems

### Type SE Seal Identification Codes

E.g. SE2-AP-50-QRMG-305123

XXX-XX-X<sub>1</sub>X<sub>2</sub>X<sub>3</sub>X<sub>4</sub>-XXXXXX

①    ②    ③    ④

① Type of seal  
SE1: single seal  
SEW: quench wash seal  
SE2: double seal

② Shaft diameter: (in, mm)

③ Material codes:

**X<sub>1</sub> = inboard faces**

Q-SiC/SiC  
G-SiC/Carbon

**X<sub>2</sub> = wetted metals**

R-AISI 316/329  
T-Titanium  
U-UHB 904 L

**X<sub>3</sub> = elastomers**

M-PTFE  
E-EPDM  
V-Viton®

**X<sub>4</sub> = outboard faces**

O- Single seal  
G-SiC/Carbon  
V- V-ring (quench)

④ Drawing number

P/P1= early versions of design  
AP= latest seal version

John Crane has a comprehensive network of highly trained representatives, distributors, and installation and maintenance personnel. Contact your local John Crane sales office for more information.