

RELY ON EXCELLENCE

## LP-D

Mechanical seals | Mechanical seals for pumps | Engineered seals



### Features

- Integrated seal for Sulzer A pumps
- Dual seal, balanced
- Semi cartridge unit
- Independent of direction of rotation
- Double pressure balanced
- Internal barrier fluid circulation
- Static springs on both sides
- No dynamic O-Ring on shaft
- Rugged design
- Shrink-fitted seal faces
- Seal faces have a large clearance to the shaft
- Wear part cost minimized
- Optimized design for Non-Flow use

### Advantages

- Individually integrated to equipment for the best sealing result
- Straightforward and easy installation
- Static springs on both face sides reduces influence of misalignment
- No damage of the shaft by dynamically loaded O-Rings
- Extended service life due to rugged design
- No brittle parts in contact with torque transmission pins
- Seal faces protected by strong steel parts and a large radial clearance

### Operating range

Temperature:

$t = -20\text{ °C} \dots +140\text{ °C}$  ( $-4\text{ °F} \dots +284\text{ °F}$ )  
( $180\text{ °C}$  ( $356\text{ °F}$ ) with Kalrez® elastomers)

Pressure:

$p_1 \dots 25\text{ bar}$  (363 PSI),  $p_3 < 12\text{ bar}$  (174 PSI)

Sliding velocity:  $vg \dots 20\text{ m/s}$  (66 ft/s)

Stock content:  $< 8\%$

Non-flow operation:

Temperature:

$t = +5\text{ °C} \dots +100\text{ °C}$  ( $+41\text{ °F} \dots +212\text{ °F}$ )

Pressure:

$p_1 \text{ max. } 10\text{ bar}$  (145 PSI),  $p_3 > p_1$

Sliding velocity:  $vg < 10\text{ m/s}$  (33 ft/s)

### Materials

Seal face: Silicon carbide (Q12), Carbon (A)

Secondary seals: FKM (V), EPDM (E), FFKM (K)

Metal parts: CrNiMo steel (G),

Grade 5A (4T), SMO 654 (4U)

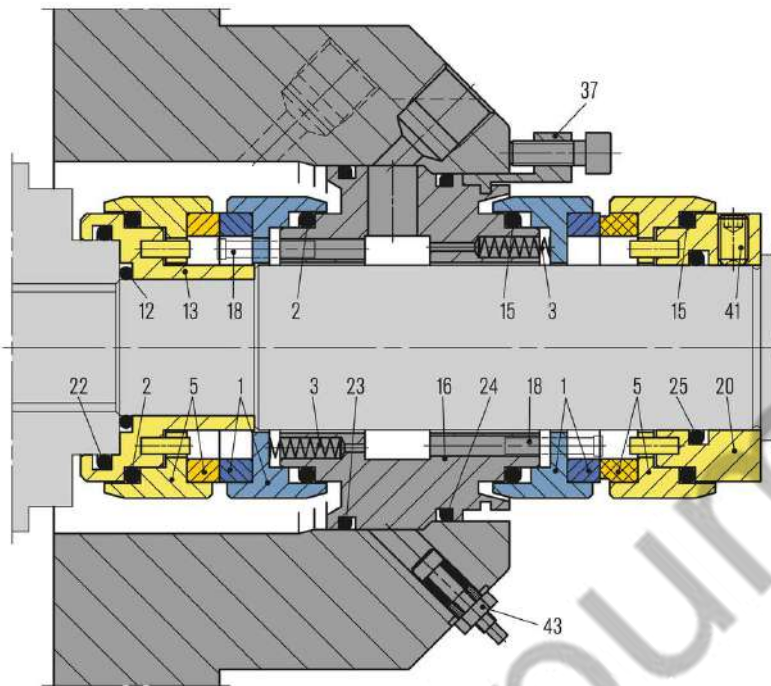
### Notes

- Double, quench and single seals have the same wear parts on the product side, reduces stock holding costs
- The dual seal can also be used as single seal by removing the atmospheric seal parts
- Can be used with pressurized buffer fluid or with quench

### Recommended applications

- Pulp and paper industry
- Chemical industry
- Clean, abrasive or corrosive liquids
- Stocks of various kind
- Applications where crystallization is a problem
- Sulzer Ahlstar A (MS11) centrifugal pumps

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Item	Designation
1	Seal face
5	Seat
13	Sleeve
16	Housing
18	Pin
37	Locking fixture
2, 12, 15, 22, 23, 24, 25	O-Ring
43	Plug
LP-D-UP Dual seal Ready-fitted for Ahlstar UP A MS21 range of pumps, bearing unit A1-A6	

## Product variants

### LP-D-S32-D20

Dual seal, adapted for Sulzer APP/APT pumps.

### LP-D-SL

Dual, adapted for Sulzer SL Mixers.

### Further designs

available to fit in numerous other equipment from notable manufacturers for the Pulp- and Paper Industry e.g., Metso conical refiners, Andritz pressure screens and stock pumps.