



sealmatic®

CTX API Category 1 Mechanical Seal As Per API 682

There is an increasing trend with more and more pumps being equipped with mechanical seal systems compliant to API 682, Category 1. Customers across the globe have put their faith in CTX API shaft seal which is specifically designed for this application and complies with the requirements of API 682.

The API Standard For Mechanical Seals

API 682 and ISO 21049 are equivalent standards which define technical requirements for pump sealing systems in the oil, gas and chemical industry. The parameters include design characteristics, materials, operating limits and minimum dimensions. The API standard defines three categories. Category 1 applies in particular to mechanical seals for chemical process pumps with ASME 73.1 and ASME 73.2. seal chamber sizes as well as for all other pumps with similar design characteristics.

State Of The Art Design

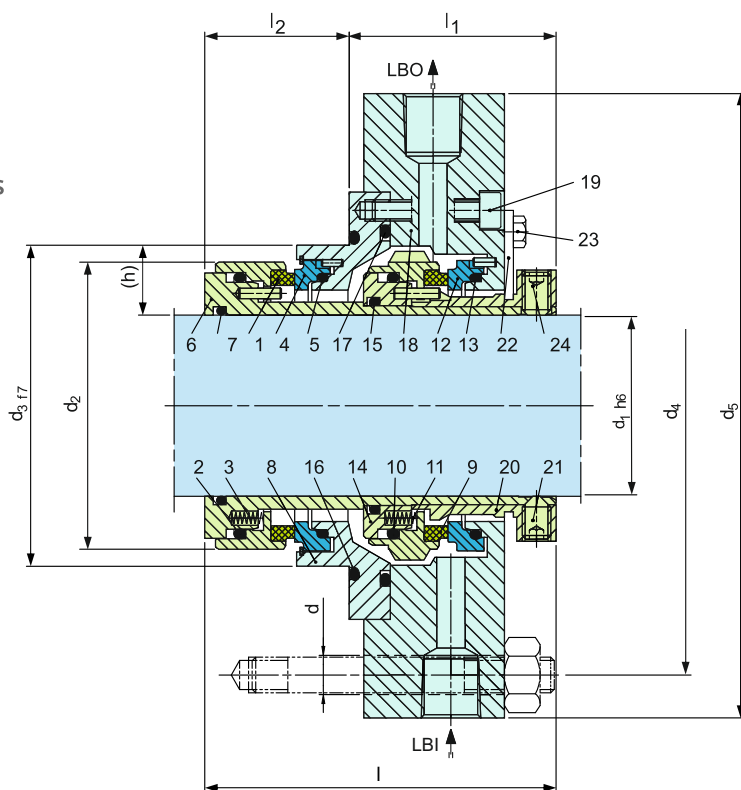
CTX API are single and double pusher type mechanical seals in cartridge design complying to API 682 Category 1, Type A. These robust and reliable mechanical seals are designed to withstand process fluctuations and shaft deflection. The shrink-fitted seal faces and the floating seat mounting ensure dependable operation. The sliding parts on the product and atmospheric side are identical, which simplifies inventory management. The highly efficient internal pumping ring maintains optimal circulation of the barrier fluid to the inboard and outboard mechanical seal.

Advantages & Technical Features

- High MTBF value and profitability
- Shrink-fit seal faces and solid seats
- Insensitive to shaft deflections and process fluctuations
- Suitable for pressure reversal
- Seat loosely inserted in the cover
- Cover distortion cannot cause seat misalignment
- Pumping ring inside
- Good heat dissipation
- No external pump necessary
- Simple handling and installation
- Cartridge design, pre-assembled unit & ready to install
- Reduction of installation errors and time
- Short fitting length & low space requirements
- API 682 / ISO 21049 compliant, well-engineered design

Performance Capabilities

Shaft diameter: $d_1 = 20 \dots 110 \text{ mm}$ (0.79" ... 4.33")
 Pressure: $p = \text{vacuum} \dots 20 \text{ bar}$ (290 PSI)
 Temperature: $t = -40 \text{ }^\circ\text{C} \dots +200 \text{ }^\circ\text{C}$ (-40 °F ... +392 °F)
 Sliding velocity: $v_g \dots 23 \text{ m/s}$ (75 ft/s)



Note: The item numbers as depicted above are based on our technical experience and knowledge and are placed in the chronological order of their assembly procedure.