

YALAN ZJ1-D1 Cartridge Mechanical Seals

Designed for Slurry and Paper Pulp Pumps
Installation Manual



WIDE SCOPES OF APPLICATIONS

Flue gas desulphurization (AKA FGD) pumps, slurry pumps and paper pulp pumps for industries such as coal washery, mining, sewage treatment, paper making, metallurgy, power plants, and chemical engineering.

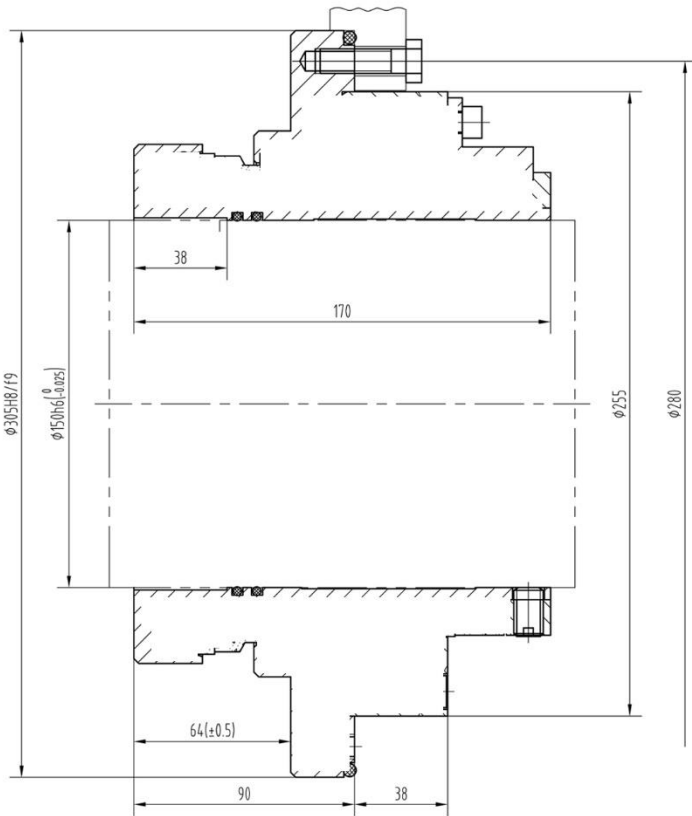
Installation Instructions

Pre-Installation Checks

1. Make sure the type of the mechanical seal and seal material combinations were correctly selected according to the actual operating conditions and the type of the devices.
2. While the mechanical seal is installed into pumps and other rotary devices, check and make sure the axial movement of the shaft is no more than 0.3 mm.
3. At the stage of the shaft or shaft sleeve up to which the mechanical seal is going to be installed, must be rounded edged with $3 \times 10^\circ$. The roughness of the edge surface Ra would be no bigger than 1.6.
4. The roughness of the shaft or shaft sleeve Ra must be no bigger than 1.6. The runout tolerance must be no bigger than 0.04 mm. The shaft or shaft sleeve dimension tolerance should be within the range of h6.
5. The connection surfaces between the stationary sealing housing and the elastomers (auxiliary sealing parts) should have the roughness Ra no bigger than 3.2, with the dimension tolerance of H8, and the verticality of the sealing end against the shaft should be no more than 0.04 mm.

Installation Notes

1. Knocking at the mechanical seals during installation is forbidden. The mechanical seals, sealing housing, the shaft or shaft sleeve must be cleaned before installation and inside the auxiliary seal (elastomers), machinery oil or Vaseline should be used for greasing. Some of the auxiliary seal, such as EPDM (which should not have direct contact with grease) should be greased by liquid soap or other detergents that will not react with the rubber. Rubbers such as NBR should not work with gasoline or kerosene.
2. The installation dimensions provided by YALAN Seals should be strictly followed during installation.
3. While the operating temperature of the device and the sealed medium temperature is too high, too low, having particles, flammable, explosive, or toxic, flushing solutions following standards such as API682, JB/T6629-93 should be deployed to quench, flush and filter.
4. After the installation is done, check if there is any noise from the transmission parts. Recheck and adjustment is needed till there is no further noise and the transmission becomes smooth.
5. Before your devices running with the installed mechanical seals, please make sure the sealing chamber is filled with liquid medium or sealant. If dedicated sealant circulating system is deployed, make sure that system is started first. Before shutting down the running devices, please make sure your devices are shut down first and then shut down the sealant circulating system.



Dimensions Specifically for ZJ1-D1-150

Standards: DIN24960, ISO3069, GB6556

Dimension Specifications

Inner Shaft Diameter Range

35 mm to 250 mm

Operation Parameters

Pressure	Temperature	Linear Speed
≤ 1.6 MPa	- 20 ~ 150 °C	≤ 15 m/s

Cooling/Sealant System Notes

1. Most of the time, the pressure of the sealant should not be higher than 0.1 MPa; the flowrate about 0.3 L/s. Double ended, still structure cartridge mechanical seals, while requiring high pressure sealant, the pressure should not be higher than 0.5 MPa; the flowrate should be around 0.3 L/s.
2. While deploying double ended mechanical seals, make sure sealant circulating system is used and the pressure of the sealant should be 0.05 to 0.15 MPa higher than the pressure of the mediums inside the sealing chamber.
3. While deploying single ended mechanical seals, the sealant pressure should be 0.1 MPa higher than the medium pressure. The flowrate should be controlled at around 0.5 L/s.
4. Turn on the sealant/cooling water control 5 minutes before running your devices. After your devices are shut down, let the sealant/cooling water system running for 5 more minutes.
5. While the operating temperature is higher than 150°C, beside for using cooling water/sealant, external cooling system such as heat exchangers following standards of API610 and JB/T6629-93 are required.
6. Mechanical seals are not allowed to be running under the circumstances of having no flushing/cooling water/sealant. Without flushing the running of the devices is forbidden. Dry running will cause failure of sealing.

Material Options

Rotary Ring Face	Stationary Ring Face	Elastomers	Springs	Metal Parts
SiC/TC	SiC/TC/Carbon	Viton/EPDM/Aflas	SS304/SS316/HC276	410S/SS304/SS316/SS316L /2205

YALAN ZJ1-D1 Structural Features

Double end, multiple springs, balanced, independent direction of rotation, still structure and set screw transmission. The component is cartridge seal with easy installation. The still spring design is good for high speed running and can take the vibration of the pumps. The springs are not having contact with the mediums so that there will be no jam or corrosion caused by the high viscosity and crystallization active content. The seal face load is well balanced and the seal can work with a wide range of sealant pressure (upto 0.5 MPa) and the cooling efficiency is high.



YALAN Seals
No. 139 Dongxin Road
Industrial Park of Chibiwan
City of Chuzhou, Anhui
China

yalan
seals
MECHANICAL SEAL EXPERT

www.yalan-seals.com