



Seal Removal

Tools required:

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| 11mm wrench | Dead blow hammer |
| Socket wrench for impeller nut | 9.5 mm round bar |
| 90 degree o-ring pick | Torque key |



Attention

Before attempting any service on any pump or motor, disconnect or lockout electrical power to the pump motor. If the pump and motor are to be removed as a unit, note the wiring and configuration. Use coloured or numbered tape to mark the wire connections of the pump motor and

1. Disconnect electrical power to the pump motor and follow any lockout / tag-out procedures in place at your facility.
2. Disconnect pump from the suction piping. Drain all fluids from the pump.
3. Loosen cover nuts. They may need to be tapped loose with a dead blow hammer. Remove cover wing nuts, flat washers (if provided), lock washers (if provided), cover, cover gasket and shaft guard.
4. Insert a 9.5 mm bar in the hole in the stub shaft. Turn the impeller nut with a socket wrench counterclockwise.
5. Remove the impeller nut then the nut gasket.
6. Rotate the impeller so the key is on top.
7. Remove the impeller then the key.
8. Pull out the seal driver assembly. You may have to use a pick to separate the rotating seal assembly from the stationary seal. The rotating seal, o-ring, spring and seal driver will come out as a single component.
9. Push the stationary seal out from the back of the pump using an o-ring pick or your fingers or both (pushing on opposite sides of the shaft with constant light pressure the best). Make sure to push outside of the rear seal face to avoid damaging the face for a double seal. Remove stationary seal once pushed out of its bore. Check the condition of the casing, rotating seal and stationary seal. Clean seal and casing and remove any foreign matter before reinstalling the seal.
10. For double seals remove the rotating double seal by sliding the seal off the shaft

The mechanical seal is the only expandable pump part. It is suggested that the complete mechanical seal, both stationary and rotating members, be replaced whenever dripping or leakage occurs at the shaft, or whenever parts are removed to the point of separating the primary sealing surfaces.

Seal Installation and Pump Assembly

When replacing the seal assembly lubricate all o-rings with food grade lubricant. Once the pump is assembled turn the stub shaft a few revolutions by hand making sure it turns relatively freely and nothing is rubbing inside the pump. Running the pump with foreign objects inside it or having the impeller making contact with either the cover or the casing will result in serious damage and may even completely destroy the pump.

1. For double seals slide the rotating double spring onto the shaft. Use the slot to set the spring between the driving pins on the shaft and shoulder
2. For double seals slide the rotating double seal onto the shaft, making sure the driving pins are in the slots of the rotating double seal.
3. Slide the stationary seal over the shaft and into the casing. Line up a flat on the stationary seal to the a flat of the window of the casing and gently press the stationary seal into the casing bore. The stationary seal should be properly seated before continuing the assembly of the pump.
4. Install inner seal driver o-ring.
5. Assemble the seal driver assembly. Insert the single seal spring into the seal driver. Insert the backup ring into the seal driver.* Insert the single rotating seal o-ring into the seal driver. Then insert the single rotating seal into the seal driver while aligning the notches in the single rotating seal with the pins in the seal driver.
6. Then slide the rotating seal assembly onto the stub shaft against the stationary seal. Be sure the outer seal driver o-ring is in the o-ring groove of the seal driver.
7. Insert key into the keyway in the stub shaft.
8. Slide the impeller onto the shaft and over the key.
9. Install the impeller nut and the impeller nut gasket.* Insert a 9.5 mm bar into the hole of the stub shaft to hold the rotating parts while tightening the impeller nut. Torque the impeller nut to 122N-m for LF-X pumps and to 54N-m for all other LF/LM pumps.
10. Reinstall cover, wing nuts, cover gasket and shaft guard.



Never allow the mechanical seal to run dry, even for a short period, as this can cause serious damage. Make sure that the flush is reconnected and flowing and the pump is in place and primed before operating.

*Replacement seal kits come with a backup ring and two different sized impeller nut gaskets. Use only one backup ring in the seal driver and the impeller nut gasket that fits the impeller nut for the pump.