

ULTRASEAL 2000

DOUBLE/TANDEM CARTRIDGE SEAL

INSTALLATION INSTRUCTIONS

PREPARE PUMP

1. Clean and inspect pump parts.
2. Replace shaft or shaft sleeve if worn in secondary sealing areas under o-rings.
3. Check for good starting bevel and remove all burrs that would cut secondary seal o-rings or cause misalignment.
4. Check shaft run out (to be within .001" TIR per inch of shaft dia.), shaft end play (not to exceed .005"), stuffing box face alignment (must be square to shaft within .003" TIR and have good sealing surface, 125 RMS min.), and condition of bearings. Replace if necessary.

INSTALLING SEAL

1. Lubricate shaft or sleeve.
2. Insert seal into stuffing box with barrier fluid ports facing desired location.
3. Loosely thread gland bolts into back plate. **IMPORTANT:** Do not tighten gland bolts at this time. Also, do not remove any setting clips at this time. **NOTE:** For larger pumps with heavy back plates, install the seal on the shaft or sleeve, then slip on the back plate and loosely thread the gland bolts.
4. Install and bolt back plate to pump frame.
5. Install and tighten impeller.
6. Make all necessary impeller adjustments as required. The impeller can be reset at any time, as long as the setting clips are in place and the seal set screws are loosened while the shaft is being moved.
7. Tighten gland bolts evenly.
8. Tighten set screws in collar making sure set screws are going through holes in sleeve onto shaft.
9. *Remove flat head screws and setting clips.
10. Turn shaft by hand to make sure there is no rubbing between rotating and stationary parts.
11. Make all necessary pump connections and alignments. Clean out seal (barrier/buffer) lubricant lines and seal pot. Connect the "INLET" seal lubricant port. Connect the appropriate "OUT" port depending on shaft rotation (see sketch). Connect the "OUT" fluid line to the port with the arrow pointing in the direction of the shaft rotation. Plug the remaining unused "OUT" port.
12. If a seal pot is used, fill seal pot with fluid and bleed out air in lines. Avoid sharp bends and maintain an up-hill slope on lines.
13. For DOUBLE SEAL operation, the seal lubricant system must be pressurized and maintained at 20 psig above the stuffing box pressure prior to pump start up. Never exceed 50 psig differential between the stuffing box and the seal lubricant system pressure. See example below.
14. For TANDEM SEAL operation the seal lubricant system will be non-pressurized.
NOTE: It is important that the seal lubrication system be properly connected and in operation prior to start up for proper seal operation.
15. Run pump according to normal start up and operating procedures.
***NOTE:** Flat head screws holding spacers, may be located in close areas within the pump frame. If this occurs, the screws may be loosened and tightened by hand to aid in their removal.

