

INSTALLATION INSTRUCTIONS FOR
APCO MECHANICAL SEAL TYPE



ADB
(DRY DUAL BALANCED)

PRE-INSTALLATION CHECKS

- 1) The diameter of the agitator shaft in the seal area should be within the specified tolerances mentioned in the mechanical seal assembly drawing.
- 2) Check the surface finish of the shaft in seal area, it should be 32 CLA and free of nicks and burrs. A damaged surface under any seal will result in leakage along the shaft.
- 3) Shaft ends should have 2.5mm chamfer and 1mm radius or equivalent Corner break. All the sharp edges and burrs should be removed from keyways, grooves and the steps on the shaft.
- 4) Assemble the agitator shaft and bearing housing with housing & without the mechanical seal. With the help of a Dial Gauge,
 - a) Check shaft for radial run-out near seal area, which should be within 0.05mm TIR.
 - b) Check concentricity of the shaft, with dial gauge on the shaft and stylus on mounting pad of the vessel. Reading during one revolution of the shaft should be within 0.10mm TIR.
 - c) Check squareness of the pad, with dial gauge on the shaft and the stylus on the liner diameter. Reading during one revolution of the shaft should be within 0.10mm TIR.
 - d) Check for shaft axial play. Shaft should be positively locked at both the directions by bearings, top & bottom covers of the housing.

INSTALLATION :

- 1) Check if the sleeve 'o' ring and the flange gasket are in place.
- 2) Apply lubricant on the inside of the sleeve and 'O' ring.
- 3) Slide the rotary unit of the seal over the shaft carefully.
- 4) Clamp the stationary face on the mounting pad.
- 5) Assemble the agitator.
- 6) Compress the seal to desired length as shown in the drawing & tighten the set screws.
- 7) Rotate the shaft manually to ensure smooth rotation.
- 8) Start the agitator. Watch out for any abnormal sound, vibrations or excessive whip during running.
- 9) Pressurize the vessel, conduct static pressure test and observe for any leakage.
- 10) Conduct running trial under pressure and observe for any leakage.

INSTALLATION INSTRUCTIONS FOR
APCO MECHANICAL SEAL TYPE



ADB-H

(WET – DUAL BALANCED)

PRE-INSTALLATION CHECKS

- 1) Assemble the complete agitator with bearing housing and lantern on the vessel.
- 2) Check for radial run-out, concentricity and square-ness as mentioned earlier. These should be within the specified tolerances. Provide dowels between housing and the mounting pad before installing the seal. This will ensure repeatability of the assembly.

INSTALLATION :

Assemble the seal parts into a cartridge unit as per the set of instructions given separately.

- A. Make sure shaft diameter, spigot(locating step on the pad) are within the specified tolerances..
- B. Tighten studs on the vessel flange loosely.
- C. Assemble the agitator shaft .Check for any axial play in the shaft. It should be locked on both sides of bearing & housing.
- D. After installing the entire assembly, tighten studs firmly and then tighten grub screws firmly on the shaft. Remove locketing washers and rotate the shaft manually. Make sure it moves freely.
- E. Check for radial run-out again to make sure it is still within the tolerances.
- F. Install the oil cap assembly (optional) as shown in the drawing. Fill up the seal housing with Ethylene Glycol/ Glycerin / White Mineral Oil or any compatible lubricant.
- G. Kick-start the agitator couple of times for any abnormal sound or jerks.
- H. Start the agitator and check for overheating of the seal.
- I. To save on down time in an unlikely event of seal failure, or during overhauling or during preventive *maintenance*, it is advisable to stock set of elastomers and seal faces.