



## Installation of John Crane Type 8-1 Mechanical Seal

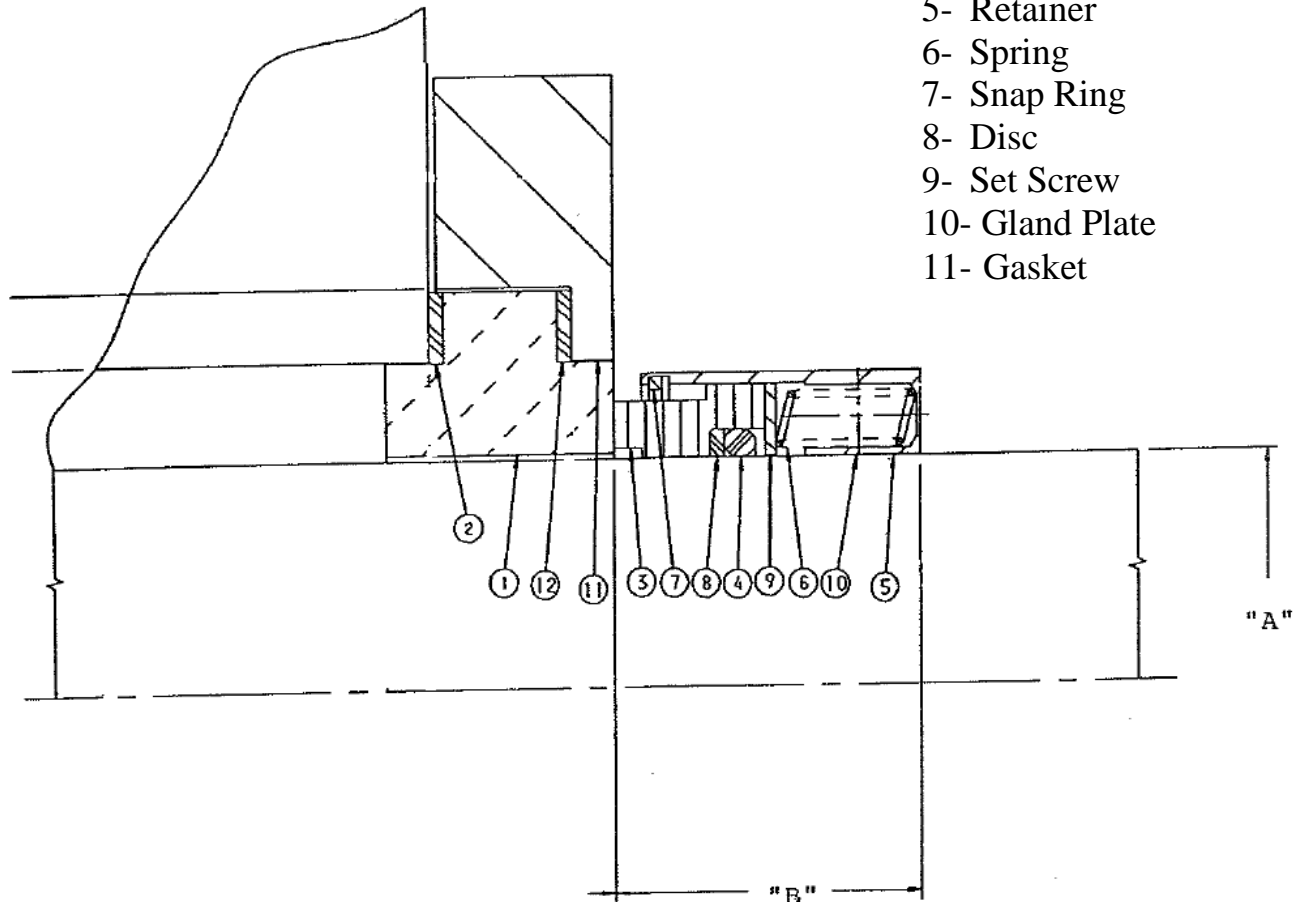
### 1. General

Be sure to read all instructions carefully before installing seal.

The John Crane Type 8-1 Seal is a precision product. To assure satisfactory operation, handle seal with care. Take particular caution to see that the lapped sealing faces are not scratched or marred.

### Part Name

- 1- Mating Ring
- 2- Gasket
- 3- Primary Ring
- 4- O-Ring
- 5- Retainer
- 6- Spring
- 7- Snap Ring
- 8- Disc
- 9- Set Screw
- 10- Gland Plate
- 11- Gasket





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## **XCEL Series of Turbine Mixers**

**Bulletin 02-818**  
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## **2. Installing the Seal**

- A. Place the mating ring and gaskets in position.
  1. Smooth shiny face of mating ring facing outward
  2. White Teflon gasket between flange and mating ring.
  3. Paper gasket between mating ring and gland plate
- B. Bolt the gland plate to the face of the housing and tighten bolts finger tight.
- C. Tighten gland plate by tightening bolts alternately until secure. Increase torque by no more than 5 ft-lbs per bolt at one time. Over tightening bolts can overstress mating ring causing it to crack or break.
- D. Lubricate the O-ring on inside of primary ring (rotating ring) with silicone grease.
- E. Clean seal faces with rubbing alcohol, making sure faces are free of any dirt and grease.
- F. Place a piece of masking tape over shaft keyway to protect O-ring from being cut by edges of keyway.
- G. Slide complete assembly onto shaft.
- H. Compress seal to proper working height (see diagram on page 01 of 03 and table on page 03 of 03). To achieve the proper working height, follow the appropriate method below:
  1. Normally the rotating ring comes with clips on the outside (usually held on by masking tape). These clips preset the springs to the correct working height. If this is the case, slide the primary ring down until the faces meet and the rotating face is up against the springs. Then tighten the set screws on the retainer to the shaft. Remove the masking tape and compression springs.
  2. If the primary ring does not have compression clips, slide the primary ring down until the faces are in contact. Then compress the springs to the proper working height according to the chart and tighten set screws on the retainer to the shaft.



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<b>“A” SHAFT DIAMETER +/- .002</b>	<b>“B” WORKING HEIGHT</b>	<b>“A” SHAFT DIAMETER +/- .002</b>	<b>“B” WORKING HEIGHT</b>
.375	.812	3.750	1.687
.500	“	3.875	“
.625	.750	4.000	“
.750	.875	4.125	“
.875	.937	4.250	“
1.000	1.000	4.375	“
1.125	1.062	4.500	“
1.250	“	4.625	“
1.375	1.125	4.750	“
1.500	“	4.875	“
1.625	1.375	5.000	“
1.750	“	5.125	“
1.875	“	5.250	2.000
2.000	“	5.375	“
2.125	1.687	5.500	“
2.250	“	5.625	“
2.375	“	5.750	“
2.500	“	5.875	“
2.625	“	6.000	“
2.750	“	6.125	“
2.875	“	6.250	“
3.000	“	6.375	“
3.125	“	6.500	“
3.250	“	6.625	“
3.375	“	6.750	“
3.500	“	6.875	“
3.625	“	7.000	“

**3. Before Starting Unit**

- A. Check unit at coupling for proper alignment of the driver or motor.
- B. Complete assembly of unit. Turn shaft by hand to insure free rotation.
- C. Insure before start-up that all personnel and assembly equipment have been moved to a safe distance so there is no contact with rotating parts on the agitator, seal coupling or motor.