



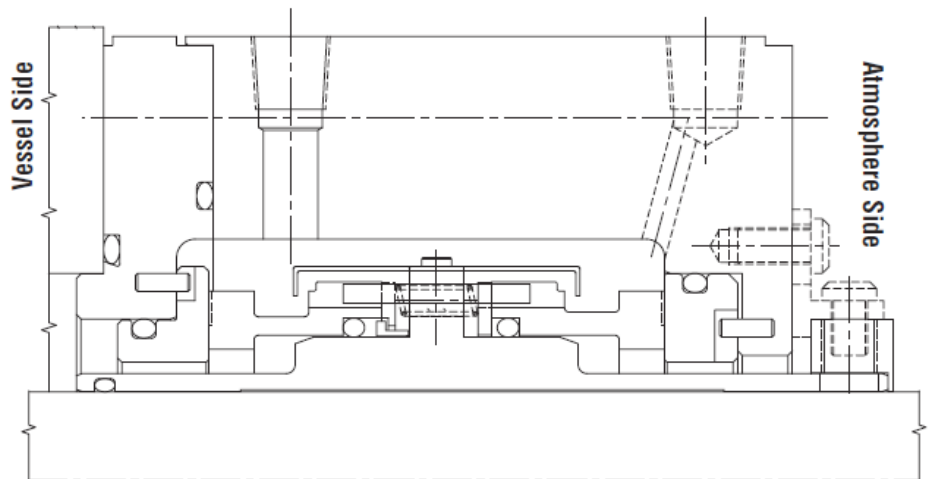
Installation of John Crane Type 7800 Universal Vessel Seal

1. General

Be sure to read all instruction carefully before installing seal.

ATTENTION: These instructions are for the installation and operation of a seal as used in rotating equipment and will help to avoid danger and increase reliability. The information required may change with other types of equipment or installation arrangements. These instructions must be read in conjunction with the instruction manuals for both the vessel and any ancillary equipment.

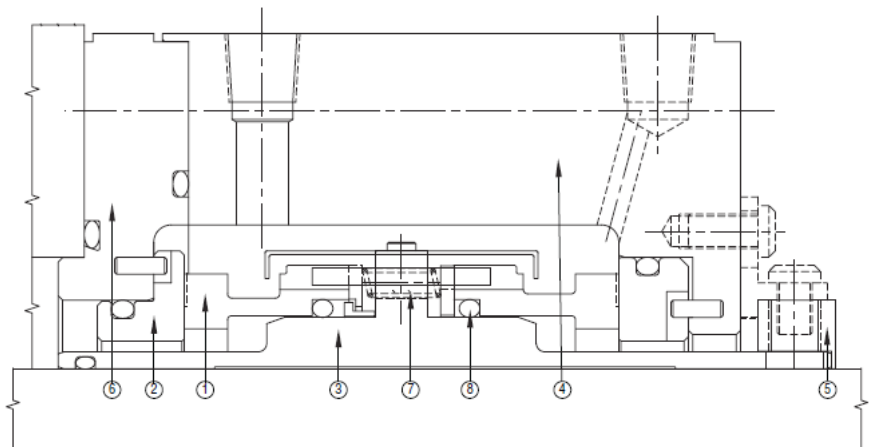
The John Crane Type 7800 seal is a precision product and must be handled appropriately; take particular care to avoid damage to lapped sealing faces and to flexible sealing rings. Do not excessively compress the seal before or during installation.



Part Name

1. Primary ring
2. Mating ring
3. Sleeve
4. Gland Plate
5. Collar
6. Inner Gland
7. Springs
8. O-ring

Typical Type 7800 Seal Arrangement

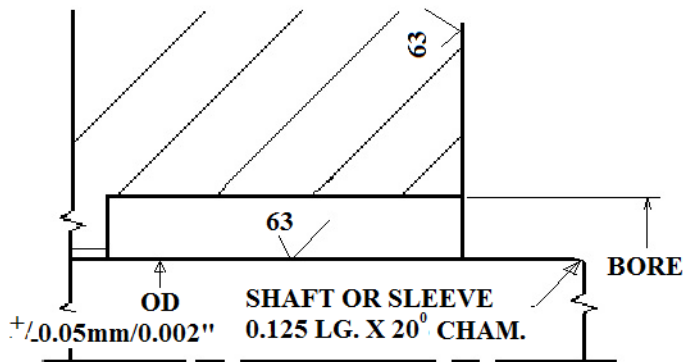




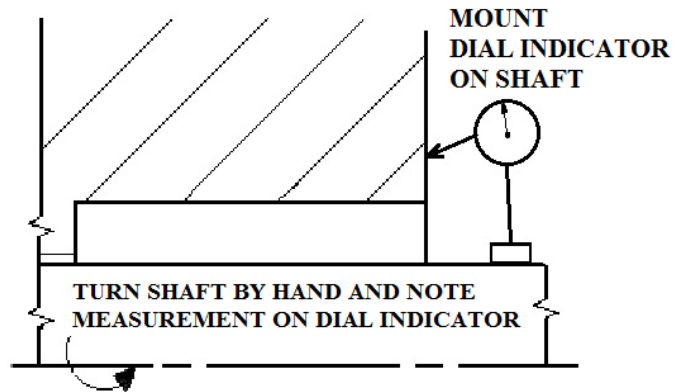
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2. Preparing the Equipment:

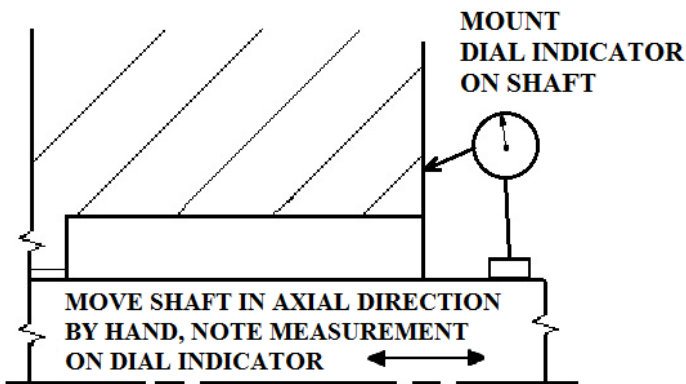
- a. Check seal chamber for dimensions and finishes.



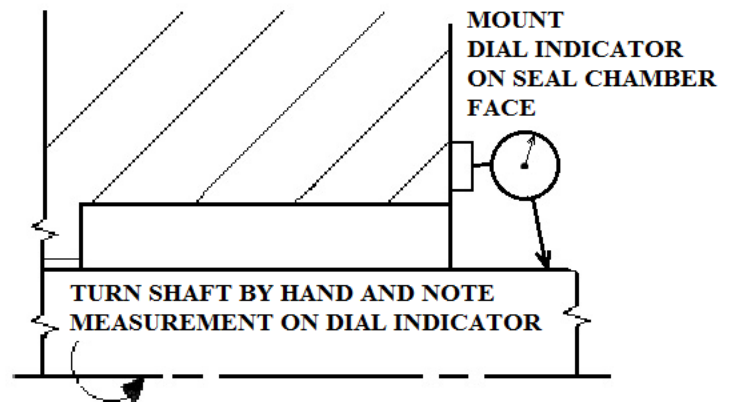
- c. Determine squareness of seal chamber face to Shaft: (0.020" TIR max).



- b. Measure shaft end play/axial float (0. TIR max).



- d. Measure shaft runout (0.125" TIR max).



NOTE: If measured dimensions exceed those values given, consult equipment manual.



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XCEL Series of Turbine Mixers

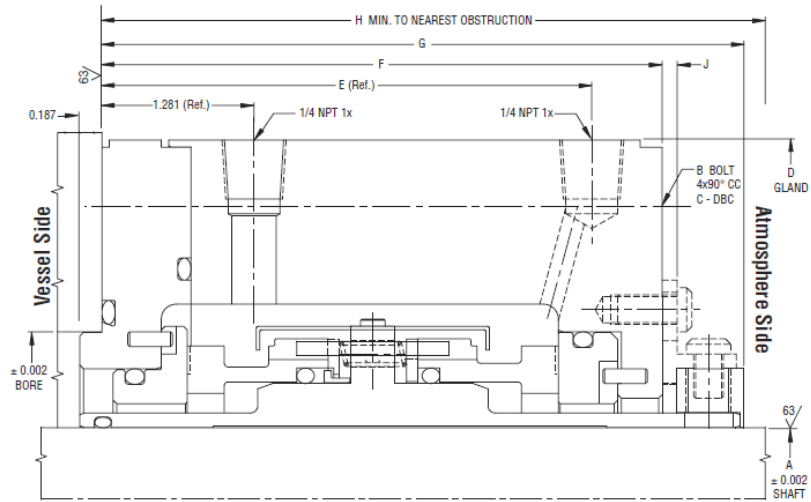
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3. Arrangement dimensions

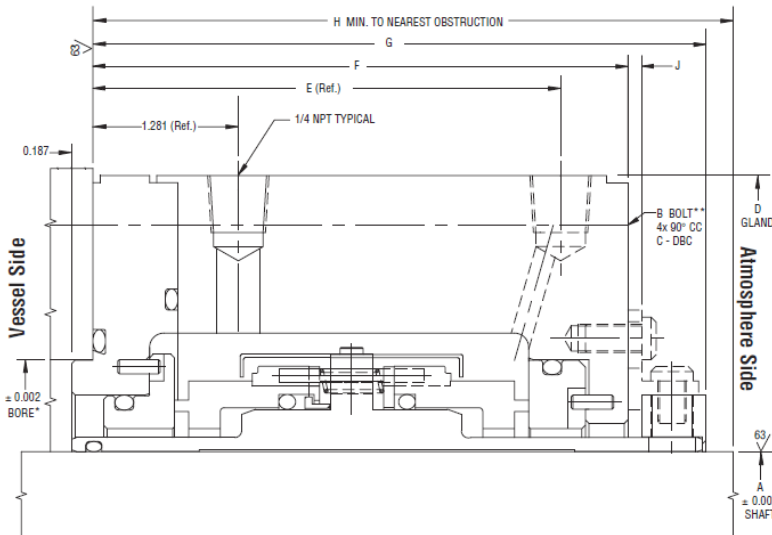
Typical Type 7828G Arrangement



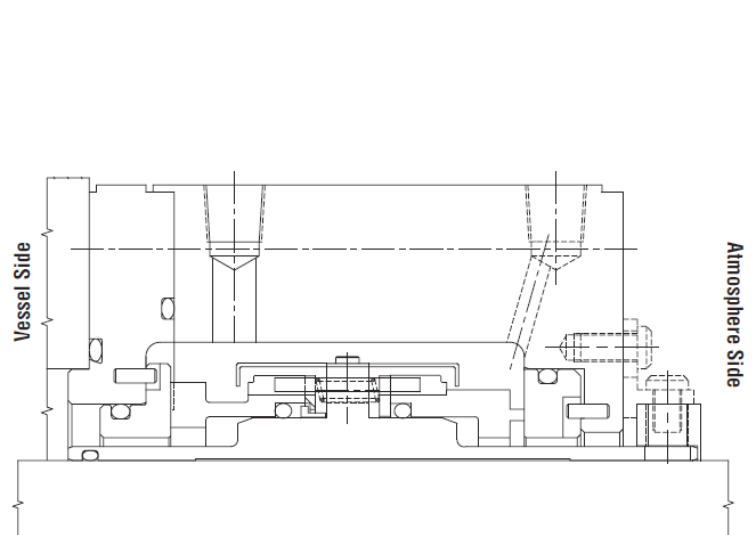
Type 7828G/7848D/7848W Dimensional Data (inches)

Shaft Size Range	A	B	C	D	E	F	G	H	I
Up to 1.500	1.500	0.375	4.625	5.343	3.375	3.968	4.656	4.781	0.094
1.625 – 2.000	2.000	0.500	5.500	6.500	4.125	4.718	5.437	5.562	0.125
2.125 – 2.500	2.500	0.500	6.000	7.000	4.125	4.718	5.437	5.562	0.125
2.625 – 3.000	3.000	0.500	6.500	7.500	4.125	4.718	5.437	5.562	0.125
3.125 - 3.500	3.500	0.500	7.000	8.000	4.125	4.718	5.437	5.562	0.125
3.625 – 4.000	4.000	0.500	7.500	8.500	4.125	4.718	5.437	5.562	0.125
4.125 – 4.500	4.500	0.500	8.000	9.000	4.125	4.718	5.437	5.562	0.125
4.625 – 5.000	5.000	0.500	9.000	9.875	4.125	4.718	5.437	5.562	0.125

Typical Type 7848D/7848W Arrangement



Typical Type 7828GD Arrangement





Installation of John Crane Type 7800 Universal Vessel Seal

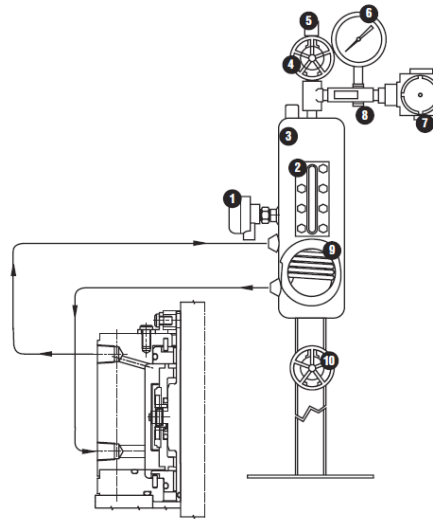
4. Installing the Seal

- A. Lubricate the sleeve O-ring thoroughly with John Crane silicone O-ring grease (Part #D-0001-637) and slide complete assembly on the shaft.
- B. Bolt the gland plate to the face of the seal chamber. Tighten bolts finger tight.
- C. If the stuffing box is to be removed, bolt gland plate to adapter plate. Or, if the seal is to be mounted directly to the stuffing box, tighten the bolts alternately until secure. Do not over-torque bolts.

5. Seal Support Systems

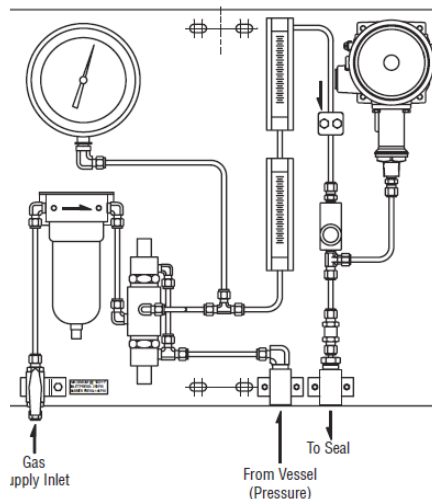
System components for Type 7848W seal

1. Level Switch
2. Level Gauge
3. Reservoir
4. Vent Valve
5. Orifice
6. Pressure Gauge
7. Pressure Switch
8. Block and Bleed Valve
9. Cooling Coil
10. Drain Valve



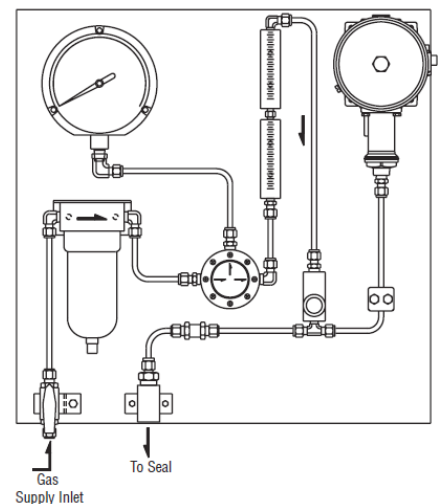
Type 7828G/7828GD Gas Control Panel

Instrumentation to the right is suitable for the Type 7828G and type 7828GD. These are non-contacting dry gas seals and require ~ 50 psi pressure differential above vessel pressure. This instrumentation panel features a differential pressure regulator to insure a 50 psi delta during operation.



7848D Gas Control Panel

Instrumentation to the right is suitable for the Type 7848D. This is a dry running design and requires a pressurized barrier gas to be dead headed into the barrier chamber (between the seals).





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Before Starting the Equipment

1. Check mixer at coupling for proper alignment of the driver or motor. Recheck that all gland bolts and set screws are securely fastened.
2. Complete assembly of the mixer. If possible, turn shaft by hand to ensure free rotation.
3. If a 7848W seal is to be installed, this is a wet seal. Liquid lubricated. Check seal barrier circulation lines. Make certain liquid lines are free of an obstruction that might interfere with circulation. If a 7848D, 7828G or 7828GD seals are installed be certain that barrier gas is available and connection are tight.
4. Refer to seal installation drawing or equipment manufacturer's instructions for proper piping connections.
5. Pressurize the 7848W wet seal 15 psi to 20 psi greater than vessel pressure.
 - a. 7848D is a dry contacting design that runs on barrier gas. Pressurized this design 15psi to 20psi greater than vessel pressure.
 - b. 7828G and 7828GD are non-contacting designs. These require that barrier gas pressure be set at 50 psi greater than vessel pressure.
6. Ensure before start-up that all personnel and assembly equipment have been removed to a safe distance so there is no contact with rotating parts on the seal, coupling or motor.

Warning:

Seal installation should be handled only by qualified personnel. If questions arise, contact the local United Equipment Technologies Representative or United Equipment Technologies directly. Improper use and/or installation of this product could result in injury to the person and/or harmful emissions to the environment, and may affect any warranty on the product. Please contact the company for information as to exclusive product warranty and limitations or liability.