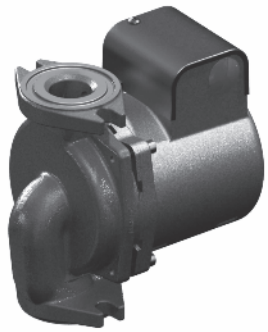
Instruction Sheet
Mechanical Seal Replacement

102-414

2400 Series Hi-Capacity Circulator

SUPERSEDES: December 19, 2014 EFFECTIVE: March 2, 2015

Plant ID# 001-3933



NSF Certified to NSF/ANSI 372
STAINLESS STEEL MODELS ONLY

c UL us LISTED
FOR INDOOR USE ONLY

INSTALLER: Please leave these instructions for owner's use.

APPLICATION:

The Taco 2400 Series Hi-Capacity circulators are designed for use on a wide range of hydronic heating, cooling or domestic water re-circulating systems. Features include a quiet running, close-coupled, thermally protected motor assembly with permanent split-capacitor and permanently lubricated bearings. A stainless steel face plate and shaft, carbon/silicon-carbide mechanical seal and non-ferrous impeller make the 2400 series an ideal choice for years of maintenance-free operation on open or closed systems.

Note: Always use Stainless Steel body circulators on open, fresh water systems.

CAUTION: Taco "2400 Series" circulators are designed for indoor use only.

OPERATING SPECIFICATIONS:

- Maximum Working Pressure: 150 psi (1000 kPa)
- Maximum Operating Temperature: 225ºF (107ºC)
- Electrical Rating: 115V/60Hz/1Ph or 230V/60Hz/1Ph

CAUTION: The majority of mechanical seal failures are due to poor media (fluid) quality in the system. To maximize seal life, media quality must be maintained in the system, and TDS (Total Dissolved Solids)/TSS (Total Suspended Solids) should not exceed 500ppm with standard Carbon/Silicon-Carbide seals. The use of inhibitor based glycols is acceptable, but additional inhibitors should not be added. Always follow the glycol manufacturer's specification for system preparation and water quality. Treatment with silicates should not be used. Failure to maintain media quality will void the standard Taco warranty.

REMOVAL OF EXISTING PUMP FROM SYSTEM PIPING:

1. Disconnect and lock-out electrical supply to pump.
2. Close isolation valves on suction and discharge sides of pump. If valves are not installed, the system may need to be drained.

CAUTION: To prevent injury, allow system water to cool to 100ºF before removing old pump or draining system. Leave drain valve open until service/replacement is complete.

3. Remove capacitor box cover and disconnect electrical supply lines to pump.
4. Loosen flange bolts and shift pump body slightly to relieve any remaining system pressure.
5. Remove flange nuts/bolts and pump from system.

REPLACING THE MECHANICAL SEAL: Refer to Fig. 1 on back page.

MECHANICAL SEAL OPTIONS	SEAL KIT NUMBER*
Standard Seal Carbon/Silicon-Carbide	2400-029RP

* Includes new body gaskets

1. Follow steps 1 thru 5 in section "Removal of existing pump from system piping".
2. Loosen the four body bolts that attach the motor housing to the casing. While supporting the motor, remove the four bolts and carefully remove the motor and impeller assembly from the casing.
3. To remove the impeller, first insert a screwdriver into the motor ventilation slots to make contact with one of the rotor cooling fins. While holding the rotor in place with the screwdriver, turn the impeller clockwise to loosen and remove from shaft.
4. Remove the seal assembly from the impeller shaft.

   Note: 2400 models with suffix "3P" are provided with a 3-piece rotating seal.

CAUTION: Do not allow screwdriver to make contact with motor windings or insulation. Permanent damage to motor may result.

5. Remove the seal face plate by gently prying it away from the housing.

6. Remove the old seal seat and cup from the seal face plate. Lubricate the new cup with soapy water and install new parts in the face plate recess. Replace the face plate to its original position. Carefully tap the face plate evenly into the recess in the motor housing.
7. Clean the impeller shaft before installing the new seal.
8. Lubricate the impeller shaft with soapy water. Do not install new seal on a dry impeller shaft or damage to seal may result.
9. Slide the new carbon seal and spring assembly onto the shaft until it contacts the seal seat.
10. While holding the rotor in place as in Step 3, thread the impeller onto the shaft in a counter-clockwise direction until it stops. Check to make sure the pump will rotate. If the impeller will not spin freely, contact Taco Technical Support at 1-401-942-8000.

CAUTION: Do not allow screwdriver to make contact with motor windings or insulation. Permanent damage to motor may result.

11. Remove old body gasket and replace with new gasket provided in seal kit. Press gasket into seal face plate, then attach motor to casing. Use caution not to pinch body gasket or leaks may result.
12. Attach the pump casing to the motor housing and secure with the four body bolts. Be sure flow arrow on casing is pointing in proper direction. Tighten the four bolts evenly in a criss-cross pattern to 70 in-lb of torque. There should be a small, even gap between the casing and the motor mounting bracket.
13. Re-install circulator into system using new flange gaskets, if required.
14. Reconnect electrical wiring. Do not open electrical supply to pump until “System Start-Up” steps are complete.

SYSTEM START-UP:

CAUTION: Do not start the pump until the system has been completely filled and vented. Running the pump dry may damage the mechanical seal and void warranty.

1. Prior to pump start-up, closed heating and cooling systems should be thoroughly cleaned, flushed and drained.
2. Open isolation valves and re-fill system with clean water. Check for any leaks.
3. Vent all air from system at an air vent located at the high point in the system.
4. Start circulator to check for proper operation.

PERIODIC INSPECTION, MAINTENANCE:

Taco 2400 Series Hi-Capacity circulators are designed to provide years of trouble-free service. However, periodic inspection and routine maintenance is recommended for all hydronic systems and mechanical equipment. If any evidence of leakage or damage is present, take preventive steps to repair or replace the circulator immediately.

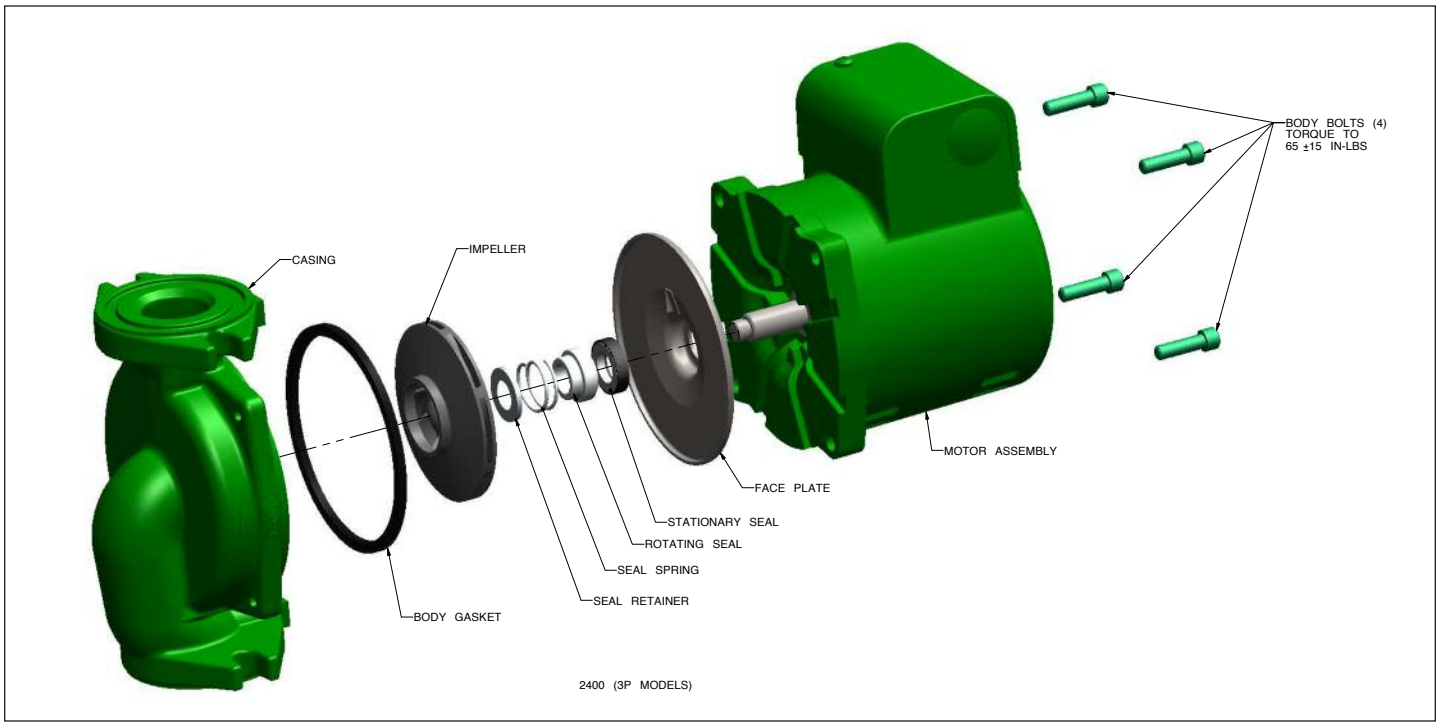


Fig. 1: Exploded View of Pump

Taco Comfort Solutions™ A Taco Group Company
Taco, Inc., 1160 Cranston Street, Cranston, RI 02920 | Tel: (401) 942-8000 | FAX: (401) 942-2360
Taco (Canada), Ltd., 8450 Lawson Road, Suite #3, Milton, Ontario L9T 0J8 | Tel: (905) 564-9422 | FAX: (905) 564-9436
Visit our web site: www.TacoComfort.com | Printed in USA |