

Taco 003-001RP

Taco 003-001RP Replacement Cartridge Assembly Instruction Manual

For Taco 003-B and 003-S Series Circulator Pumps

1. INTRODUCTION

This manual provides detailed instructions for the proper installation, operation, and maintenance of the Taco 003-001RP Replacement Cartridge Assembly. This cartridge is designed for use with Taco 003-B (Bronze Series) and 003-S (Stainless Steel Series) circulator pumps. Please read these instructions thoroughly before proceeding with installation to ensure safe and efficient operation.

2. SAFETY INFORMATION

- Always disconnect electrical power to the circulator pump before attempting any installation, maintenance, or service. Failure to do so can result in electric shock.
- Turn off the water supply to the system and drain the pump before servicing to prevent scalding or flooding.
- Wear appropriate personal protective equipment (PPE), such as safety glasses and gloves, during installation and maintenance.
- Ensure the system has cooled down if it has been in operation, as hot water can cause burns.
- If you are unsure about any step, consult a qualified professional.

3. PRODUCT OVERVIEW

The Taco 003-001RP is a genuine replacement cartridge assembly specifically engineered to restore the performance of your Taco 003-B or 003-S Series circulator pump. This assembly includes the impeller and shaft, which are critical components for water circulation. Replacing the cartridge can often resolve issues such as noise, reduced flow, or complete pump failure without needing to replace the entire pump housing.



Figure 3.1: Taco 003-001RP Replacement Cartridge Assembly. This image shows the complete cartridge unit, including the impeller and shaft, ready for installation into a compatible Taco 003 Series circulator pump.

4. PACKAGE CONTENTS

Verify that all components are present before beginning installation:

- 1x Taco 003-001RP Replacement Cartridge Assembly
- Gaskets (typically two are included, one for the motor housing and one for the volute, though an extra O-ring may be present for other models)

5. SETUP AND INSTALLATION

Follow these steps to replace the cartridge assembly in your Taco 003-B or 003-S Series circulator pump:

1. Prepare the System:

- Turn off the electrical power to the circulator pump at the circuit breaker.
- Close the isolation valves on both sides of the circulator pump. If no isolation valves are present, drain the system sufficiently to lower the water level below the pump.
- Allow the pump and system water to cool down if recently in operation.

2. Remove the Motor Housing:

Using an appropriate wrench, carefully loosen and remove the four bolts that secure the motor housing to the pump volute (the main body of the pump). Support the motor housing as you remove the last bolt to prevent it from falling.

3. Extract the Old Cartridge:

Once the motor housing is separated, the old cartridge assembly will be visible. Gently pull the old cartridge straight out from the motor housing. Note the orientation of the old cartridge and any gaskets for reference.

4. Clean the Housing:

Inspect the inside of the motor housing and the pump volute for any debris, scale, or corrosion. Clean these surfaces thoroughly to ensure a proper seal with the new cartridge and gaskets.

5. Install the New Cartridge:

Insert the new Taco 003-001RP Replacement Cartridge Assembly into the motor housing. Ensure it seats correctly. Place the new gasket(s) in their proper positions between the motor housing and the pump volute. Note: The package typically includes two gaskets. One is for the motor-to-volute connection, and the other is often a spare or for a slightly different model. Use the gasket that matches the one removed or fits correctly for your specific 003 Series pump.

6. Reattach the Motor Housing:

Carefully align the motor housing with the pump volute, ensuring the cartridge shaft slides smoothly into the volute. Insert the four bolts and hand-tighten them. Then, using the wrench, tighten the bolts evenly in a crisscross pattern to ensure a uniform seal. Do not overtighten.

7. Refill and Vent the System:

Open the isolation valves slowly to refill the system. Bleed any air from the system using the appropriate air vents until a steady stream of water flows. This is crucial for proper pump operation and to prevent airlocks.

8. Restore Power:

Once the system is refilled and vented, restore electrical power to the circulator pump.

6. POST-INSTALLATION CHECKS AND OPERATION

After installation and power restoration, perform the following checks:

- **Listen for Operation:** The pump should start and operate smoothly with minimal noise.
- **Check for Leaks:** Carefully inspect all connections, especially around the pump volute and motor housing, for any signs of water leakage. Tighten bolts slightly if minor weeping is observed, but avoid overtightening.
- **Verify Circulation:** Confirm that water is circulating through the system as expected.

7. MAINTENANCE

The Taco 003-001RP Replacement Cartridge Assembly is designed for long-term, maintenance-free operation once installed. However, regular inspection of the overall circulator pump and system is recommended:

- **Annual Inspection:** Annually check the pump for unusual noises, vibrations, or leaks.
- **System Water Quality:** Ensure the system water quality is maintained according to the original pump manufacturer's recommendations to prevent premature wear or corrosion.

8. TROUBLESHOOTING

If you encounter issues after replacing the cartridge, consider the following:

Problem	Possible Cause	Solution
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Problem	Possible Cause	Solution
Pump not running	No power; airlock; seized motor	Check power supply; vent system thoroughly; if motor is seized, further inspection or replacement may be needed.
Reduced flow or no circulation	Airlock; incorrect installation; debris in system	Vent system; re-check installation steps; flush system if debris is suspected.
Water leakage from pump	Improperly seated gasket; loose bolts; damaged gasket	Ensure gasket is correctly positioned; tighten bolts evenly; replace gasket if damaged.
Unusual noise or vibration	Airlock; impeller rubbing; motor bearing issue	Vent system; ensure cartridge is fully seated; if noise persists, consult a professional.

9. SPECIFICATIONS

- **Model Number:** 003-001RP
- **Compatibility:** Taco 003-B Series and 003-S Series Circulator Pumps
- **Item Weight:** Approximately 1 pound
- **Product Dimensions:** Approximately 5 x 4 x 7 inches (packaging/overall unit)
- **Included Components:** Replacement Cartridge Assembly, Gaskets
- **Manufacturer:** Taco

10. WARRANTY AND SUPPORT

For specific warranty information regarding the Taco 003-001RP Replacement Cartridge Assembly, please refer to the documentation provided with your original circulator pump or contact Taco directly. Warranty terms can vary based on purchase location and date.

For technical support or further assistance, please visit the official Taco website or contact their customer service department. Always provide your product model number (003-001RP) when seeking support.