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› Bell & Gossett Circulating Pump Series 100 Model 100 NFI 1/12 hp 115 Volts

## **Bell & Gossett Series 100 Model 100 NFI (4RD16)**

# **Bell & Gossett Circulating Pump Series 100 Model 100 NFI Instruction Manual**

Model: Series 100 Model 100 NFI (4RD16)

## **INTRODUCTION**

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This manual provides essential information for the safe and efficient operation, installation, and maintenance of your Bell & Gossett Circulating Pump Series 100 Model 100 NFI. This cast-iron in-line hot water circulator pump is designed for general space heating applications. Please read this manual thoroughly before installation or operation to ensure proper function and longevity of the unit.



Image: Bell & Gossett Series 100 Model 100 NFI Circulating Pump. This image displays the red cast-iron pump unit with its motor and the flanged inlet/outlet connections.

## SAFETY INFORMATION

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Always observe the following safety precautions to reduce the risk of injury or damage:

- Ensure power is disconnected before performing any installation, maintenance, or service.
- Installation and servicing should only be performed by qualified personnel.
- Wear appropriate personal protective equipment (PPE), including safety glasses and gloves.
- Do not operate the pump if it is damaged or leaking.
- This pump is designed for hot water circulation. Do not use it for other fluids without consulting the manufacturer.
- Maximum working pressure is 175 PSI. Do not exceed this pressure.
- Maximum temperature is 240° F. Do not exceed this temperature.

## PRODUCT OVERVIEW

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The Bell & Gossett Series 100 Model 100 NFI is a robust circulating pump built for reliability in heating systems. Key features include:

- **Construction:** Durable cast iron body.
- **Motor:** 1/12 hp, 1.75 amps, 115 Volts.
- **Application:** Specifically designed for in-line hot water circulation in general space heating systems.
- **Included Accessories:** Comes with two flange gaskets and bolts for installation. Note: Flanges are not included

with the pump.

## SETUP AND INSTALLATION

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Proper installation is crucial for the pump's performance and longevity. Follow these general steps:

1. **System Preparation:** Ensure the heating system is drained and depressurized. Isolate the section where the pump will be installed.
2. **Mounting:** Mount the pump in an accessible location, ensuring it is properly supported and aligned with the piping. The pump should be installed in an in-line configuration.
3. **Flange Connection:** Attach the system flanges (not included) to the pump's inlet and outlet using the provided gaskets and bolts. Ensure a tight, leak-free seal. A torque wrench may be required for proper tightening.
4. **Electrical Connection:** Connect the pump to a dedicated 115 Volt electrical supply. All wiring must comply with local electrical codes and be performed by a qualified electrician. Ensure proper grounding.
5. **System Fill:** Once installed, slowly refill the heating system, bleeding air from the highest points until all air is expelled and the system is at the correct operating pressure.
6. **Initial Lubrication:** Before first operation, ensure the motor bearings are properly lubricated according to the maintenance section.

## OPERATING INSTRUCTIONS

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Once installed and the system is filled, the pump is ready for operation:

- **Power On:** Restore electrical power to the pump.
- **System Activation:** Activate your heating system's thermostat or control unit to initiate the call for heat. The pump should begin circulating hot water through the system.
- **Monitor Performance:** Observe the pump for any unusual noises, vibrations, or leaks during initial operation. Ensure consistent water flow.
- **Continuous Operation:** The pump is designed for continuous operation as required by the heating system's demand.

## MAINTENANCE

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Regular maintenance ensures optimal performance and extends the life of your pump. Perform the following checks periodically:

- **Lubrication:** The motor bearings require periodic lubrication. Refer to the pump's motor plate or specific Bell & Gossett lubrication guidelines for the correct type and amount of oil. Over-lubrication can be detrimental.
- **Leak Inspection:** Regularly inspect all connections and the pump body for any signs of water leaks. Address any leaks immediately.
- **Noise and Vibration:** Listen for any unusual noises or vibrations. These could indicate worn bearings, impeller issues, or air in the system.
- **Cleaning:** Keep the exterior of the pump clean and free of dust and debris to ensure proper motor cooling.
- **System Pressure:** Ensure the heating system maintains its recommended operating pressure.

## TROUBLESHOOTING

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This section provides solutions to common issues. For problems not listed, contact qualified service personnel.

Problem	Possible Cause	Solution
Pump not running	No power; tripped breaker; faulty wiring; seized motor.	Check power supply and breaker. Verify wiring. If motor is seized, professional service is required.
No water circulation	Air in system; closed valves; clogged impeller.	Bleed air from the system. Ensure all necessary valves are open. Inspect impeller for obstructions (power off).
Excessive noise/vibration	Air in system; worn bearings; improper mounting; cavitation.	Bleed air. Check for proper lubrication. Ensure pump is securely mounted. Verify system pressure.
Water leak	Loose flange bolts; damaged gaskets; cracked housing.	Tighten flange bolts. Replace gaskets. If housing is cracked, pump replacement may be necessary.

## SPECIFICATIONS

Attribute	Detail
Brand	Bell & Gossett
Model	Series 100 Model 100 NFI (4RD16)
Horsepower (hp)	1/12 hp
Amperage	1.75 amps
Voltage	115 Volts
Material	Cast Iron
Color	Red
Max. Working Pressure	175 PSI
Max. Temperature	240° F
Product Dimensions (L x W x H)	5.7" x 16.1" x 7.5"
UPC	663001283515

## WARRANTY AND SUPPORT

This Bell & Gossett Circulating Pump Series 100 Model 100 NFI comes with a **1 Year Manufacturer Warranty**. For warranty claims, technical support, or service inquiries, please contact Bell & Gossett customer service or visit their official website. Ensure you have your model number (Series 100 Model 100 NFI or 4RD16) and purchase information available when seeking support.

For further assistance, you may also refer to the official Bell & Gossett resources or consult with a certified HVAC professional.



