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› Grundfos MAGNA3 40-180 FN Circulator Pump User Manual

## Grundfos MAGNA3 40-180 FN

# Grundfos MAGNA3 40-180 FN Circulator Pump User Manual

Model: MAGNA3 40-180 FN | Brand: Grundfos

## 1. INTRODUCTION

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The Grundfos MAGNA3 circulator pump is a versatile and highly efficient solution designed for a wide range of building projects, whether old or new. Engineered for optimal performance in heating and cooling systems, this pump boasts unrivaled energy efficiency, an extensive range of capabilities, and advanced built-in communication features. Ideal for engineers and specifiers, the MAGNA3 is maintenance-free thanks to its canned-rotor design, where the pump and motor form a seamless unit without a shaft seal, lubricated by the pumped liquid. With an intuitive display, wireless connectivity via the Grundfos GO Remote app, and a 4-pole synchronous permanent-magnet motor, the MAGNA3 delivers superior performance, advanced control, and cost-saving benefits for applications like mixing loops, heating surfaces, air conditioning, ground-source heat pump systems, and smaller chiller setups.

## 2. PRODUCT OVERVIEW

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Figure 2.1: The Grundfos MAGNA3 40-180 FN circulator pump, featuring a black and red casing with a digital display and control buttons on the front. The pump is designed for efficient fluid circulation in heating and cooling systems.

The MAGNA3 series represents a significant advancement in circulator pump technology, offering a compact and robust design suitable for various demanding applications. Its integrated display provides real-time operational data and allows for easy configuration, while its advanced motor technology ensures high energy efficiency and quiet operation.

### 3. KEY FEATURES

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- **Advanced Connectivity:** Features an intuitive display and wireless access to the Grundfos GO Remote app for enhanced monitoring and reporting, plus Fieldbus communication via CIM modules.
- **Unmatched Energy Efficiency:** Powered by a 4-pole synchronous permanent-magnet motor and integrated frequency converter, MAGNA3 outperforms conventional asynchronous motors.
- **Maintenance-Free Design:** Canned-rotor construction eliminates the need for a shaft seal, using only two gaskets and liquid-lubricated bearings for reliable, hassle-free operation.
- **Smart Control Options:** Includes AUTOADAPT and FLOW ADAPT features, reducing the need for throttling valves and lowering system component costs.

### 4. APPLICATIONS

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The Grundfos MAGNA3 40-180 FN circulator pump is designed for a wide array of applications within heating and cooling systems, including:

- Mixing loops
- Heating and cooling surfaces
- Ground-source heat pump systems
- Smaller chiller systems

Its versatility makes it suitable for both new installations and retrofitting existing systems, ensuring optimal performance

and energy savings.

## 5. SETUP AND INSTALLATION

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Installation of the Grundfos MAGNA3 pump should be performed by qualified personnel in accordance with local regulations and the provided installation guide. Key considerations include:

- **Mounting Position:** Ensure the pump is mounted correctly to allow for proper operation and cooling.
- **Pipe Connections:** Securely connect the pump to the piping system, ensuring no leaks. The pump supports GF15/26/40/43 pipe connections.
- **Electrical Connection:** Connect the pump to a 1 x 115 V, 60 Hz power supply as specified. All electrical work must comply with local electrical codes.
- **System Filling:** After installation, fill the system with the appropriate liquid and bleed any air to ensure smooth operation.

Refer to the comprehensive installation manual for detailed step-by-step instructions and safety precautions.

## 6. OPERATING INSTRUCTIONS

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The MAGNA3 pump features an intuitive display and advanced control options for easy operation:

- **Initial Start-up:** Upon first power-up, the pump will guide you through an initial setup process.
- **Display Navigation:** Use the control buttons on the pump's display to navigate through menus and adjust settings. The display provides real-time information on pump status, flow, and power consumption.
- **AUTOADAPT and FLOW ADAPT:** These intelligent control modes automatically adjust pump performance to match system demands, optimizing energy consumption and comfort.
- **Grundfos GO Remote App:** For advanced monitoring, reporting, and remote control, download and connect to the Grundfos GO Remote app via wireless communication.
- **Fieldbus Communication:** The pump supports Fieldbus communication via optional CIM modules for integration into building management systems.

For detailed operational modes and parameter adjustments, consult the full operating manual.

## 7. MAINTENANCE

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One of the significant advantages of the Grundfos MAGNA3 circulator pump is its **maintenance-free design**. The canned-rotor construction means that the pump and motor form a seamless unit without a shaft seal. The bearings are lubricated by the pumped liquid itself, eliminating the need for external lubrication or frequent seal replacements.

While the pump itself requires minimal maintenance, it is recommended to:

- Periodically inspect the system for leaks around pipe connections.
- Ensure the system fluid quality is maintained according to manufacturer guidelines to prevent internal fouling.
- Keep the pump's exterior clean and free from debris to ensure proper heat dissipation.

No user-serviceable parts are inside the sealed motor unit. Any internal issues should be addressed by authorized Grundfos service personnel.

## 8. TROUBLESHOOTING

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The MAGNA3 pump is designed for reliable operation. Should you encounter issues, the integrated display often provides diagnostic information or error codes. Here are some general troubleshooting steps:

- **No Power/Pump Not Running:**

- Check the power supply and circuit breaker.
- Ensure all electrical connections are secure.

- **Unusual Noise/Vibration:**

- Check for air in the system; bleed if necessary.
- Verify proper mounting and secure pipe connections.
- Ensure no foreign objects are obstructing the impeller (requires professional inspection).

- **Insufficient Flow/Pressure:**

- Check system pressure and ensure it's within the pump's operating range.
- Verify that system valves are fully open.
- Check pump settings on the display or via the Grundfos GO Remote app.

- **Error Codes on Display:**

- Consult the detailed troubleshooting section of the official Grundfos MAGNA3 manual for specific error code interpretations and solutions.

If issues persist after attempting these steps, contact Grundfos technical support or a certified service technician.

## 9. TECHNICAL SPECIFICATIONS

Attribute	Value
Model Number	MAGNA3 40-180 FN
Part Number	98126810
Manufacturer	Grundfos
Rated Voltage	1 x 115 V
Frequency	60 Hz
Maximum Pressure	174 psi
Pipe Connection	GF15/26/40/43
Product Dimensions	14.76 x 10.83 x 8.5 inches
Color	Black
Included Components	Circulator Pump
ASIN	B00LBHUNKI
Date First Available	June 26, 2014

## 10. WARRANTY AND SUPPORT

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For information regarding the warranty period and terms for your Grundfos MAGNA3 40-180 FN circulator pump, please refer to the warranty card included with your product or visit the official Grundfos website. Grundfos provides comprehensive technical support and a network of authorized service centers to assist with any product-related inquiries or service needs.

**Contact Information:** Please visit [www.grundfos.com](http://www.grundfos.com) for the latest contact details for customer service and technical support in your region.