

GRS CP-27US

GRS 27KW 240V Electric Tankless Water Heater Instruction Manual

Model: CP-27US

1. INTRODUCTION

This manual provides essential information for the safe and efficient operation, installation, and maintenance of your GRS 27KW 240V Electric Tankless Water Heater, model CP-27US. Please read all instructions carefully before installation and use. Retain this manual for future reference.

INSTANT HOT WATER. MODERN EFFICIENCY.

18KW TANKLESS WATER HEATER

SMART DIGITAL CONTROL

-  **97%** ENERGY EFFICIENT
-  TOUCHSCREEN DISPLAY
-  COMPACT & SPACE SAVING
-  SAFE & RELIABLE FOR YOUR FAMILY



18KW
POWERFUL
HEATING



ENDLESS
HOT WATER



REDUCE ENERGY
COSTS



PERFECT FOR
WHOLE HOUSE

Image: Front view of the GRS 27KW 240V Electric Tankless Water Heater, showcasing its compact design and digital display.

Product Overview Video

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Video: An overview of the GRS Tankless Water Heater Electric, highlighting its features and benefits. This video provides a visual introduction to the product.

2. IMPORTANT SAFETY INFORMATION

WARNING: Improper installation, adjustment, alteration, service, or maintenance can cause property damage, injury, or death. Read the installation, operating, and maintenance instructions thoroughly before installing or servicing this equipment.

- This appliance must be installed by a licensed plumber and electrician. Failure to do so will void all warranties and may result in unsafe operation.
- Ensure the electrical supply matches the unit's requirements (240V, 27KW, 113A, 3x40A circuit breaker).

- Do not operate the unit if it is damaged or malfunctioning.
- The unit is equipped with overheat protection, dry heating protection, grounding protection, and a child lock feature for enhanced safety.
- Always disconnect power before performing any service or maintenance.

ENGINEERED FOR SAFE EVERYDAY USE

Advanced Protection Features Built In



OVERHEAT PROTECTION

Automatically shuts off to prevent overheating



DRY HEATING PROTECTION

Prevents damage when water flow is too low



GROUNDING PROTECTION

Ensures electrical safety and stability



CHILD-LOCK FUNCTION

Lock the controls to keep your family safe



DURABLE ABS HOUSING

Built to last with premium quality materials



GRS
appliances

*Certified by Intertek in 2023.

Image: Rear view of the GRS Tankless Water Heater, illustrating built-in safety features such as overheat protection, dry heating protection, grounding protection, and durable ABS housing.

3. PRODUCT FEATURES

The GRS 27KW 240V Electric Tankless Water Heater is designed for efficient, on-demand hot water delivery. Key features include:

- **On-Demand Hot Water:** Provides continuous hot water for various residential applications.
- **Energy Efficient:** Heats water only when needed, reducing energy waste.
- **Space-Saving Design:** Compact, wall-mounted unit saves floor space, ideal for apartments, RVs, and small

bathrooms.

- **Quick Installation:** Designed for straightforward connection to standard plumbing (professional installation required).
- **Safe and Reliable:** Features durable ABS housing, overheat protection, dry heating protection, grounding, and a child lock.
- **Digital Display:** Easy-to-read digital temperature display for accurate control.

FREE UP VALUABLE SPACE

COMPACT WALL-MOUNTED DESIGN

- ✓ Sleek & Modern Look
- ✓ Perfect for Apartments, Bathrooms & RVs
- ✓ Easy Wall Installation
- ✓ Space-Saving Solution

19.21"

11.10"

GRS

38°

BULKY TANK HEATER

TANKLESS DESIGN

VS

✗ Takes Up Space

✓ Saves Space

Image: The GRS Tankless Water Heater shown in a compact, wall-mounted installation, demonstrating its space-saving benefits compared to traditional tank heaters.

ONE HEATER, MULTIPLE APPLICATIONS.

Reliable Hot Water Wherever You Need It



SHOWERS



KITCHENS



**BATHROOM
SINKS**



**LAUNDRY
ROOMS**



**UTILITY
SINKS**



Image: Diagram illustrating the multiple applications of the GRS Tankless Water Heater, including showers, kitchen sinks, bathroom sinks, utility sinks, and laundry rooms.

4. INSTALLATION GUIDE

Installation of the GRS Tankless Water Heater requires professional expertise. A licensed plumber and electrician must perform the installation to ensure safety and warranty validity.

Pre-Installation Checks:

- Verify that your home's electrical system can support the 27KW power requirement. This unit requires 240V and a 3x40A circuit breaker.
- Ensure adequate water pressure (0-87 PSI) and flow rate (minimum 0.79 GPM) are available at the installation site.
- Select a suitable indoor location for wall mounting, away from freezing temperatures and direct sunlight.

Installation Steps:

- 1. **Mounting:** Securely mount the unit on the wall using the provided template and hardware.
- 2. **Water Connections:** Connect the water inlet (cold) and outlet (hot) to your plumbing system. The unit uses NPT 3/4" connections.
- 3. **Electrical Connections:** Connect the unit to the 240V power supply. This involves connecting three AC power lines internally.
- 4. **Initial Startup:** After all connections are secure and checked, power on the unit and check for leaks or malfunctions.

DESIGNED FOR EASY / INSTALLATION

Simple Setup. Powerful Performance.

EASY 3-STEP INSTALLATION

**1 MOUNT**
Securely mount the unit on the wall

**2 CONNECT**
Connect to water inlet and outlet

**3 POWER ON**
Connect to 240V power supply



TECHNICAL SPECIFICATIONS			
Models	CP-13US	CP-18US	CP-27US
Rated Voltage	220-240V 50/60Hz		
Rated Power	13.8kW	18kW	27kW
Rated Current	57.5A	75A	112.5A
Connecting Wires	6 AWG	2x8 AWG	3x8 AWG
Minimum Required Circuit Breaker	70A	2x40A	3x40A
Minimum Water Flow to Activate	0.53 GPM	0.66 GPM	0.79 GPM
Colors	Metal Grey		
Control	Sensor Touch Screen Control		
Rated Pressure	0.6MPa		
Temp. Setting Range	86 - 140°F / 30 - 60°C		
Water Connections	NPT 1/2"		NPT 3/4"
Product Dimensions	14.09x9.68x3.34 Inches		19.21x11.10x4.01 Inches



Image: A diagram illustrating the easy 3-step installation process: Mount, Connect, and Power On. This provides a visual guide for professional installers.

Installation Video

Your browser does not support the video tag.

Video: A detailed installation guide for the GRS Tankless Water Heater Electric, demonstrating the steps involved in setting up the unit.

5. OPERATING INSTRUCTIONS

The GRS Tankless Water Heater features a user-friendly digital display for temperature control and settings.

Digital Display and Controls:

- The front-mounted digital display shows the current water temperature.
- Use the touch screen sensor controls to adjust the desired temperature within the range of 86-131°F (30-55°C).
- The unit can display temperature in Fahrenheit or Celsius.

Child Lock Function:

- Activate the child lock feature to prevent accidental temperature changes. Refer to the on-screen menu for instructions on enabling/disabling this function.

6. MAINTENANCE

Regular maintenance ensures optimal performance and extends the lifespan of your tankless water heater.

- **Filter Screen Cleaning:** Periodically clean the built-in filter screen at the water inlet connection to prevent sediment buildup.
- **Flushing/Descaling:** In areas with hard water, it is recommended to flush the unit with a vinegar solution or liquid descaler every 6-12 months. This prevents mineral deposits from accumulating on the heating elements. Professional assistance is recommended for this procedure, and installation of cutoff valves is advised for easier flushing.
- Inspect all water connections for leaks annually.

7. TROUBLESHOOTING

If you encounter issues with your GRS Tankless Water Heater, consider the following common problems. For complex issues, contact a licensed professional.

- **No Hot Water:** Check power supply and circuit breaker. Ensure water flow is above the minimum activating flow rate (0.79 GPM).
- **Inconsistent Water Temperature:** Verify that the inlet water temperature and flow rate are within the unit's operating parameters. Ensure the filter screen is clean.
- **Error Codes on Display:** Refer to the specific error code displayed on the unit. Consult a professional if the issue persists after basic checks.
- **Low Water Pressure:** Check for blockages in the water inlet filter or plumbing.

8. SPECIFICATIONS

Feature	Specification
Brand	GRS
Model Number	CP-27US (JN)
Wattage	27 KW

Feature	Specification
Voltage	240 volts
Amperage	113A
Minimum Required Circuit Breaker	3x40A
Wire Size (Recommended)	3x8#AWG
Product Dimensions (W x H)	11.1"W x 19.21"H
Material Type	Aluminum (Housing: ABS)
Water Connections	NPT 3/4"
Minimum Activating Water Flow	0.79 GPM (3.0 L/min)
Water Pressure Range	0-87 PSI (0-0.6MPa)
Temperature Setting Range	86-131°F (30-55°C)
Special Features	Overheat Protection, Dry Heating Protection, Grounding, Child Lock

GRS

CP-27US



Voltage
240V/60Hz



Wire Size
Recommended 3×8#AWG



Wattage
27 kW



Minimum Activating
Water Flow
0.79GMP - 3.0 L/min



Amperage
113A



Water Pressure Range
0-87 PSI - 0-0.6MPa



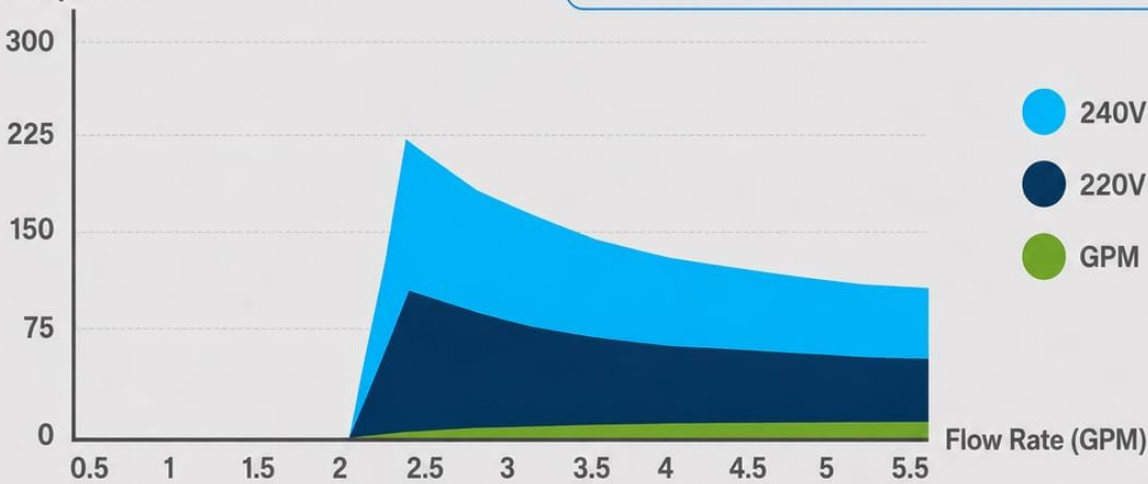
Minimum Required
Circuit Breaker
3×40A



Temperature
Setting Range
86-131°F - 30-55°C

Max Temp. Rise °F@Flow Rate (GPM)
Temp. Rise = Outlet temp. - Inlet temp.

Temp. Rise °F



Flow Rate (GPM)

240V
220V
GPM

Image: Detailed technical specifications for the GRS CP-27US model, including voltage, wattage, amperage, wire size, and minimum flow rate, alongside a graph showing temperature rise versus flow rate.

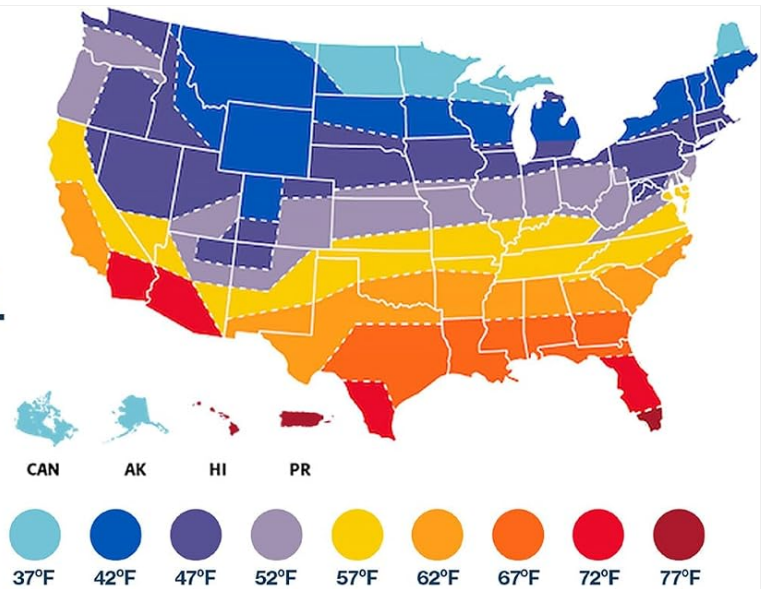
1

Use your location on the map to correlate with the legend for average groundwater temperature in the USA.

Average inlet water temperature.

Results based on outlet temperature of 105°F.

Actual inlet temperature may be affected by local variations and seasonal changes.



2

Calculate your desired GPM and find the best model for you



1.5 GPM
Water-Saver
Shower Head



2.0 GPM
Standard
Shower Head



0.5 GPM
Standard
Hand Sink



1-2 GPM
Kitchen Sink



>4 GPM
Bathtub



1-2 GPM
Dishwasher



1-1.5 GPM
Laundry

	37°F	42°F	47°F	52°F	57°F	62°F	67°F	72°F	77°F
CP-13US Water flow	1.3 GPM	1.4 GPM	1.5 GPM	1.7 GPM	1.8 GPM	2.0 GPM	2.3 GPM	2.7 GPM	3.1 GPM
CP-18US Water flow	1.8 GPM	1.9 GPM	2.1 GPM	2.3 GPM	2.5 GPM	2.8 GPM	3.2 GPM	3.7 GPM	4.3 GPM
CP-27US Water flow	2.7 GPM	2.9 GPM	3.1 GPM	3.4 GPM	3.8 GPM	4.2 GPM	4.8 GPM	5.5 GPM	6.5 GPM

*Average Gallons per Minute (GPM) basing on 2010 Plumbing Standards.

Image: A guide to calculating desired GPM based on average groundwater temperature in the USA, helping users select the appropriate tankless water heater model (CP-13US, CP-18US, CP-27US) for their needs.

9. WARRANTY AND SUPPORT

The GRS Tankless Water Heater comes with a 5-year warranty. Please note the following conditions:

- The warranty is valid only if the appliance is installed by a licensed plumber and electrician. Failure to adhere to this requirement will void the warranty.
- Keep your proof of purchase and installation records for warranty claims.

For technical support, service, or warranty inquiries, please refer to the contact information provided with your product packaging or visit the official GRS website.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question