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> ORBEK Natural Gas Tankless Water Heater HS120 User Manual

## Orbek HS120

# ORBEK Natural Gas Tankless Water Heater

Model: HS120

## INTRODUCTION

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This user manual provides essential information for the safe and efficient operation, installation, and maintenance of your ORBEK Natural Gas Tankless Water Heater, Model HS120. Please read this manual thoroughly before installation or use and retain it for future reference. This appliance is designed to provide on-demand hot water for residential use.

## SAFETY INFORMATION

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**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.**

- Ensure the unit is installed outdoors as specified.
- Only qualified professionals should perform installation and service.
- Verify gas type (Natural Gas) matches the appliance.
- Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- Ensure proper ventilation and clearances are maintained.
- Protect the unit from freezing temperatures, especially in environments below 18°F, where an automatic drainage accessory is recommended.

# Comprehensive Security Protection CSA Authoritative Certification



Flame out protection



Antifreeze ceramic heating



Wind backflow prevention



high water pressure protection



Water leakage prevention



Leakage protection



Overheating protection



Dry burning protection

Image: The ORBEK tankless water heater displayed next to a CSA Certificate of Compliance, surrounded by icons representing various safety features such as flame out protection, antifreeze ceramic heating, wind backflow prevention, high water pressure protection, water leakage prevention, leakage protection, overheating protection, and dry burning protection. This illustrates the comprehensive security protections and CSA authoritative certification of the product.

## PRODUCT OVERVIEW

The ORBEK HS120 is an outdoor-installed natural gas tankless water heater designed for efficiency and reliability. It provides on-demand hot water, eliminating the need for a storage tank.

### Key Components & Features:

- **Copper Heat Exchanger:** Made from high-quality oxygen-free copper for superior heat transfer and corrosion resistance.
- **Stainless Steel Burner:** Ensures efficient and intelligent staged combustion.
- **DC High-Speed Fan:** Provides strong outdoor wind resistance for consistent operation.

- **Remote Control & LED Digital Display:** Allows flexible temperature adjustment from 95°F to 149°F with a power-off memory function.
- **Advanced Safety Features:** Includes dry combustion protection, overheat protection, water leakage prevention, anti-freeze protection, flame failure protection, and high water pressure protection.

## Instant Start, Efficient Combustion Enjoy on-demand hot water anytime

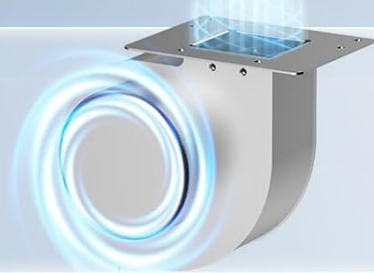
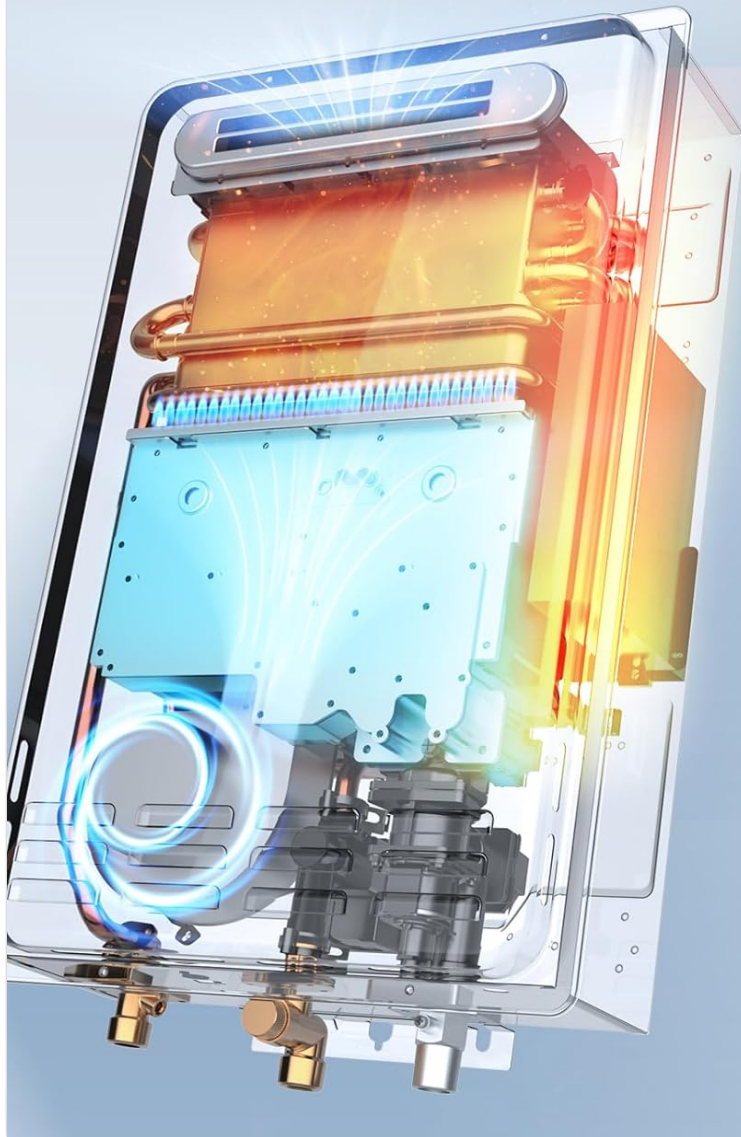


Image: An X-ray view of the ORBEK tankless water heater highlighting its internal components: a copper heat exchanger at the top, a stainless steel burner in the middle, and a DC high-speed fan at the bottom. This visual emphasizes the "Instant Start, Efficient Combustion" and "Enjoy on-demand hot water anytime" capabilities.

## Copper Heat Exchanger Boosts Efficiency and Cuts Gas Costs

**> 81%**  
Energy Efficiency

**Oxygen-free**  
Superior Material

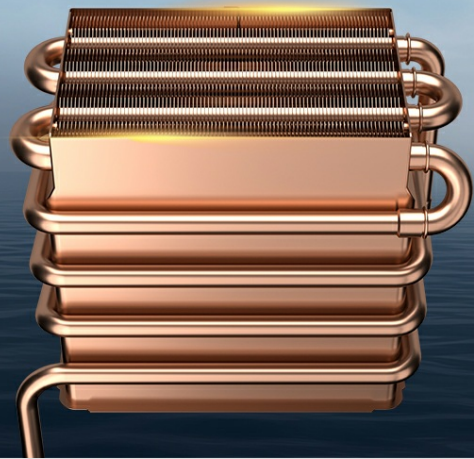


Image: A detailed view of the copper heat exchanger, emphasizing its role in boosting efficiency and reducing gas costs. Text overlays indicate '> 81% Energy Efficiency' and 'Oxygen-free Superior Material'.

### INSTALLATION

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The ORBEK HS120 is designed for outdoor installation only. Professional installation is highly recommended to ensure safety and optimal performance.

#### Pre-Installation Checklist:

- Confirm natural gas supply and pressure meet specifications.
- Ensure adequate clearances around the unit for ventilation and service.
- Verify water supply pressure is within 15-150 PSI.
- Prepare 3/4" NPT connectors for water and gas lines.
- Ensure 120V AC power supply is available.

#### Mounting the Unit:

1. Select a suitable outdoor wall location, away from windows, doors, and air intakes.
2. Mount the unit securely using appropriate hardware for your wall type.

#### Connecting Water and Gas Lines:

1. Connect the cold water inlet and hot water outlet using 3/4" NPT connectors.
2. Connect the natural gas supply line to the gas inlet using a 3/4" NPT connector. Ensure all gas connections are leak-tested.
3. Install the remote wired control unit indoors, connecting it to the water heater as per the wiring diagram provided in the full manual.

# 120,000BTU

## Size

23.9"H x 15.5"L x 7.28"W

## Weight

29.32 pounds

## Voltage

AC 120V/60HZ

## Installation

outdoor only

## Water Pressure

15~150PSI

## Gas Type

natural gas

## Water & Gas Connector size

3/4"NPT

## Temp. Rise Range

95°F~149°F



Image: A diagram illustrating the dimensions of the ORBEK tankless water heater (23.9"H x 15.5"L x 7.28"W) and key specifications like 120,000 BTU, 5.1 GPM, 120V/60Hz voltage, and 3/4" NPT connector size. It also shows the water inlet, water outlet, and gas inlet connections.

Image: An installation diagram detailing the included accessories (tankless water heater, user manual, quick installation poster, assembly kit) and items required for purchase (water and gas shut-off valves). It visually depicts the connections for water inlet, water outlet, and gas inlet.

## OPERATING INSTRUCTIONS

Once installed and connected, the ORBEK HS120 is ready for operation. The unit features a remote wired control for convenient temperature adjustment.

### Initial Startup:

1. Ensure all water and gas connections are secure and leak-free.

2. Open the cold water supply valve to the unit.
3. Open a hot water faucet in your home to purge air from the water lines.
4. Open the gas supply valve to the unit.
5. Plug the unit into a 120V AC power outlet.
6. The unit will perform a self-check and the LED display will illuminate.

### Temperature Adjustment:

- Use the remote wired control to set your desired water temperature. The temperature range is 95°F to 149°F.
- The unit's built-in chip adjusts heating power 20,000 times per second to maintain a stable water temperature within 1°F.
- The power-off memory function retains your last temperature setting.



Image: A woman is shown adjusting the temperature on the ORBEK remote wired control, which displays '108°F'. This image highlights the ease of controlling the unit from indoors, with features like 95°F-149°F temperature control and a temperature memory function.

### Seasonal Modes:

The unit can adjust between four heating modes (Summer, Spring, Autumn, Winter) to optimize energy consumption based on ambient conditions and water demand.

# Precise Temperature Control Intelligently Adjusts Heat Output

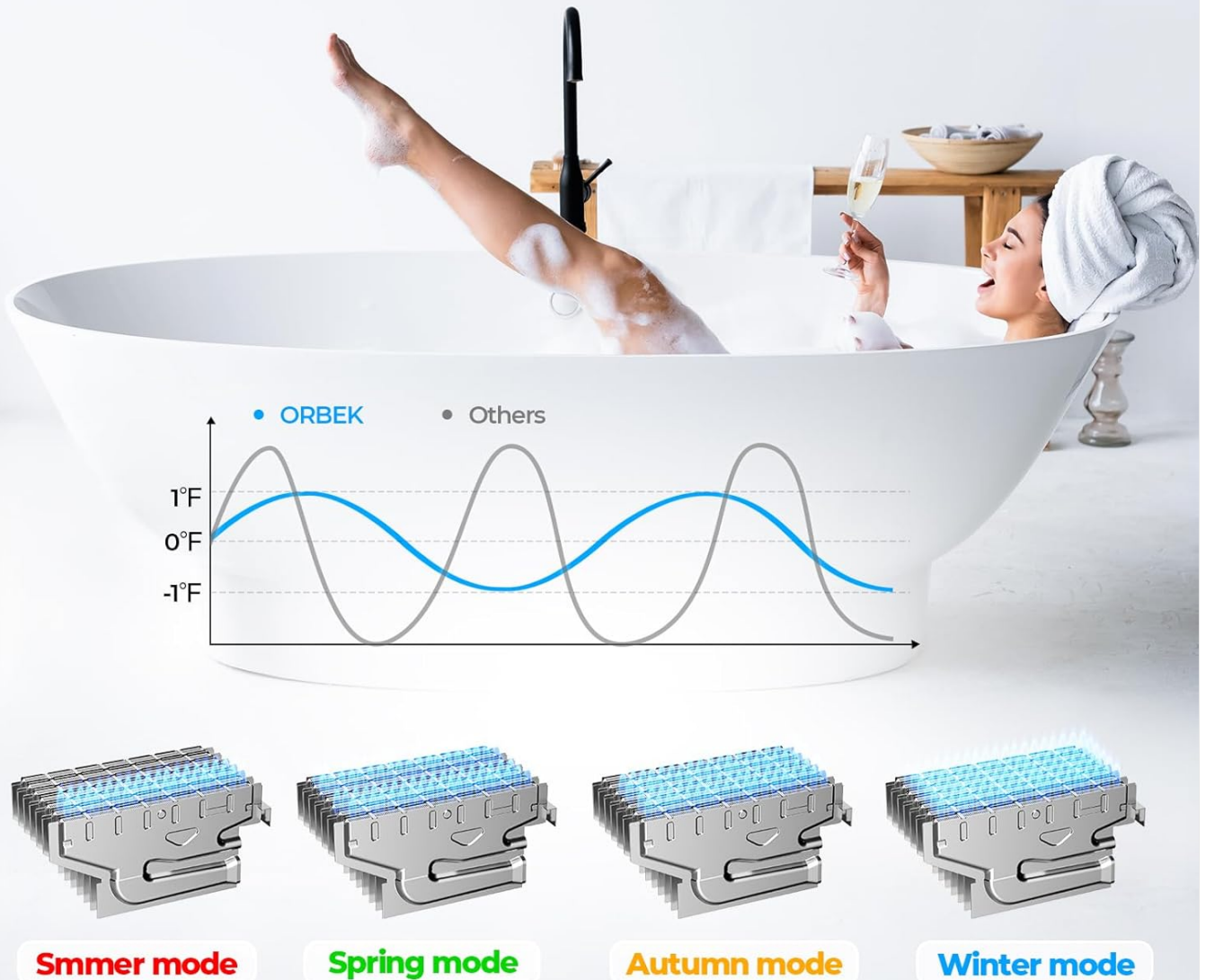


Image: A graph illustrating ORBEK's precise temperature control, showing a stable water temperature within 1°F compared to other systems. Below the graph, four burner diagrams represent different seasonal modes: Summer, Spring, Autumn, and Winter, indicating the unit's adaptability.

## MAINTENANCE

Regular maintenance ensures the longevity and efficient operation of your ORBEK tankless water heater.

### Annual Maintenance:

- **Flush the Heat Exchanger:** Annually flush the heat exchanger to remove mineral buildup, especially in areas with hard water. This helps maintain efficiency and prevents damage.
- **Inspect Gas and Water Connections:** Check for any signs of leaks or corrosion.
- **Clean Exterior:** Wipe down the exterior of the unit with a soft, damp cloth.

### Winterization (for extreme cold):

While the unit has anti-freeze protection, in environments consistently below 18°F, additional measures are recommended:

- Consider installing an automatic drainage accessory to drain water during power outages.
- Ensure the unit is continuously powered to allow the anti-freeze function to operate.



\*Tips: For installations in environments below 18°F, an automatic drainage accessory is recommended to provide freeze protection by draining water during power outages.

Image: The ORBEK tankless water heater is shown installed outdoors under simulated rainy conditions, with icons highlighting its ability to adapt to various extreme environments: Force 9 Winds, Freeze Protection, and IPX4 Anti-Rain. A note advises on automatic drainage for temperatures below 18°F.

## TROUBLESHOOTING

This section provides solutions for common issues you might encounter.

Problem	Possible Cause	Solution
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Problem	Possible Cause	Solution
No hot water	No gas supply, no water flow, power outage, low water pressure.	Check gas valve, open water faucets, verify power, check water pressure.
Inconsistent water temperature	Fluctuating water pressure, mineral buildup in heat exchanger, incorrect temperature setting.	Check water pressure, flush heat exchanger, adjust temperature setting.
Unit not turning on	No power, gas valve closed, safety lockout.	Verify power connection, open gas valve, reset unit (refer to full manual for specific reset procedures).
Error code on display	Specific system fault.	Refer to the full user manual for a list of error codes and their corresponding solutions. If the issue persists, contact customer support.

For more detailed troubleshooting steps and error code explanations, please consult the comprehensive user manual provided with your unit.

## SPECIFICATIONS

Attribute	Detail
Model	HS120
Brand	Orbek
Product Dimensions	15.51"W x 23.94"H x 7.28"D
Weight	29.3 pounds
Gas Type	Natural Gas
BTU Output	120,000 BTU
Maximum Flow Rate	5.1 Gallons Per Minute (GPM)
Voltage	120 Volts (AC), 60Hz
Wattage	42 watts
Water Pressure Range	15 to 150 PSI
Temperature Range	95°F to 149°F
Connector Size	3/4" NPT
Installation Method	Outdoor (Wall Mounted)
Certifications	CSA Certified

## WARRANTY AND SUPPORT

ORBEK is committed to providing reliable products and excellent customer service.

- **Warranty:** The ORBEK HS120 comes with a **2-year coverage for the whole machine** and a **5-year coverage for**

**the heat exchanger.**

- **Customer Service:** For any inquiries, technical support, or warranty claims, please contact ORBEK customer service.

**Contact Information:**

Phone: 762-761-8080

Email: [service@orbek.com](mailto:service@orbek.com)

Additional support resources, including the full user manual (PDF), may be available on the official ORBEK website or through your purchase platform.



Image: A customer service representative wearing a headset, symbolizing professional after-sales service. This image reinforces the availability of 24/7 support, a 30-day return guarantee, and a comprehensive warranty policy.