

MIZUDO FDG-CS120SBW-LP

MIZUDO Tankless Water Heater Instruction Manual (Model FDG-CS120SBW-LP)

Comprehensive guide for installation, operation, and maintenance of your MIZUDO outdoor tankless propane water heater.

1. INTRODUCTION

This manual provides essential information for the safe and efficient operation of your MIZUDO Tankless Water Heater, Model FDG-CS120SBW-LP. This outdoor propane unit is designed to deliver continuous hot water for whole-house applications, featuring advanced temperature control and multiple safety protections. Please read this manual thoroughly before installation and use.

2. IMPORTANT SAFETY INFORMATION

Always adhere to local codes and regulations for gas and water heater installation. Failure to follow these instructions could result in property damage, personal injury, or death.

- **Professional Installation:** Installation should be performed by a qualified professional in accordance with all local and national plumbing and electrical codes.
- **Outdoor Use Only:** This unit is designed for outdoor installation only. Do not install indoors.
- **Gas Supply:** Ensure the correct propane gas supply is connected and properly sealed to prevent leaks.
- **Electrical Connection:** The unit requires a 120V power supply. Ensure proper grounding.
- **Water Temperature:** Hotter water increases the risk of scalding injury. Before changing temperature settings, consult this instruction manual.
- **Anti-Freezing Protection:** The unit includes automatic anti-freezing protection. However, in extremely cold climates, additional measures may be necessary. Ensure the unit is connected to power and gas for the anti-freeze function to operate.
- **Leakage Detection:** Regularly check for gas and water leaks after installation and during operation.

3. PRODUCT FEATURES

The MIZUDO Tankless Water Heater offers several advanced features for optimal performance and user comfort:

- **Upgraded Temperature Control:** Features a self-modulating system with a gas proportional valve, water volume

servo, and built-in chip to maintain water temperature within $\pm 1^{\circ}\text{F}$ for a consistent bathing experience.

- **High Capacity:** Delivers up to 5.1 GPM (Gallons Per Minute) at 120,000 BTU, suitable for simultaneously running up to 3 showers in homes with 2-3 bathrooms.
- **Energy Efficiency:** Consumes gas only during use, eliminating standby waste and potentially saving up to 20% on gas bills. UEF > 0.81 exceeds DOE baseline.
- **Comprehensive Safety Protections:** Equipped with windproof, waterproof (IPX4), overheat, anti-freeze, and dry-combustion protections to enhance safety and extend service life.
- **CSA Certified:** UL listed and CSA certified, meeting all US safety codes.
- **Oxygen-Free Copper Heat Exchanger:** Ensures high thermal conductivity for quick heating and durability.
- **Bottom Inverter Fan:** Provides stable operation and resistance to 9-level winds.

4. TECHNICAL SPECIFICATIONS

Specification	Value
Brand	MIZUDO
Model Number	FDG-CS120SBW-LP
Product Dimensions	13"W x 24"H x 7.28"D
Weight	38 pounds
Color	White
Power Source	Propane Gas, 120V AC Electrical
Wattage	42 Watt-hours
Maximum Flow Rate	5.1 Gallons Per Minute (GPM)
Heat Output	120,000 BTU per Hour
Efficiency (UEF)	>0.81 (High Efficiency)
Maximum Operating Pressure	150 PSI
Mounting Type	Wall or Ceiling (Outdoor Installation Only)
Water Connections	3/4" NPT
Special Features	Upgraded Temp Control, Automatic Anti-Freezing Protection, CSA Certified

5. SETUP AND INSTALLATION

Proper installation is critical for the safe and efficient operation of your MIZUDO tankless water heater. This unit is designed for outdoor installation only. Refer to the included Quick Installation Poster and consult a qualified professional.

5.1. Choosing an Installation Location

Select an outdoor location that is protected from direct sunlight and heavy rain, yet allows for proper ventilation. Ensure sufficient clearance around the unit for maintenance and operation. The unit should be mounted on a stable, vertical surface.



Image: MIZUDO Tankless Water Heater installed on an exterior wall, showing water inlet, water outlet, gas inlet, and power supply connections. Dimensions are also indicated.

5.2. Connecting Water and Gas Pipes

Connect the cold water inlet, hot water outlet, and gas inlet to the corresponding ports on the unit. Use 3/4" NPT connectors. Ensure all connections are secure and leak-free. It is recommended to install a service valve kit for easier maintenance.

Your browser does not support the video tag.

Video: This video demonstrates the unboxing and initial setup steps for the Mizudo Gas Water Heater, including connecting the gas and water lines.

Your browser does not support the video tag.

Video: This video provides a visual guide to the outdoor installation of the MIZUDO Tankless Gas Water Heater, showing the connection of water and gas lines and mounting the unit.

5.3. Electrical Connection

Plug the unit's power cord into a standard 120V AC, 60Hz grounded electrical outlet. This powers the control panel and internal components, including the anti-freeze system.

5.4. Venting

Ensure proper venting is installed according to local codes. The unit's design includes a fan system capable of withstanding strong winds, but correct vent pipe installation is crucial for exhaust gas removal.



Image: An internal diagram illustrating the upgraded water flow sensor, gas volume control, and water temperature regulation within the MIZUDO tankless water heater.

6. OPERATING INSTRUCTIONS

The MIZUDO tankless water heater features an intuitive control panel for easy operation.

6.1. Powering On/Off

Press the power button on the control panel to turn the unit on or off. The digital display will show the current temperature setting.

6.2. Setting Water Temperature

Use the up and down arrows on the control panel to adjust the desired hot water temperature. The unit will automatically modulate gas and water flow to maintain this set temperature within $\pm 1^{\circ}\text{F}$.



Image: The MIZUDO tankless water heater unit shown with its remote control, displaying a digital temperature reading of 108°F.

6.3. Seasonal Fire Adjustment

The unit features automatic fire adjustment technology, adapting the number of active burner columns to match the season and incoming water temperature for optimal efficiency and comfort. For example, fewer columns in summer for energy saving, and more columns in winter for higher heating demand.



Image: A diagram detailing the automatic fire adjustment technology, showing how the number of active burner columns changes for Spring (7), Autumn (12), Winter (15), and Summer (4) to match seasonal water temperature needs.

7. MAINTENANCE

Regular maintenance ensures the longevity and efficiency of your tankless water heater.

- **Annual Flushing:** It is recommended to flush the unit annually to remove mineral buildup, especially in areas with hard water. A service valve kit (sold separately) facilitates this process.
- **Exterior Cleaning:** Keep the exterior of the unit clean and free from debris.
- **Inspect Connections:** Periodically check all gas and water connections for any signs of leaks or corrosion.
- **Anti-Freeze System:** Ensure the unit remains powered during cold weather for the automatic anti-freeze system to function. For extended periods of non-use in freezing temperatures, manually drain water from the unit.



Image: A diagram detailing the triple anti-freeze protection system, including device self-protection (automatic cycle heating), mechanical protection (fans blowing cold air), and manual protection (draining water).

8. TROUBLESHOOTING

If you encounter issues with your MIZUDO tankless water heater, refer to the following common problems and solutions:

- **No Hot Water:**

- Check gas supply: Ensure propane tank is not empty and gas valve is open.
- Check power supply: Verify the unit is plugged in and receiving 120V power.
- Check water flow: Ensure adequate water pressure and flow to activate the unit.
- Review error codes: The digital display may show an error code; consult the full user manual for specific code meanings.

- **Inconsistent Water Temperature:**

- Ensure proper gas pressure and flow.
- Check for mineral buildup in the heat exchanger (requires professional cleaning).
- Verify incoming water temperature is within operating range, especially in very cold conditions.

- **Unit Not Activating in Cold Weather:**

- Confirm electrical connection for the anti-freeze system.
- Ensure gas supply is active.
- In extremely cold conditions, consider additional insulation or manual draining if the unit is not in continuous use.

- **Gas Leak Detected:**

- Immediately shut off the gas supply to the unit.
- Ventilate the area.
- Do not operate any electrical switches or appliances.
- Contact a qualified gas technician for inspection and repair.

9. WARRANTY AND SUPPORT

MIZUDO provides the following warranty coverage for this product:

- **Whole Unit:** 2-year support.
- **Oxygen-Free Copper Heat Exchanger:** 5-year support.

For technical assistance, warranty claims, or further inquiries, please contact MIZUDO customer support. Refer to the warranty card included with your product for detailed terms and conditions.




Contact Information:


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Related Documents - FDG-CS120SBW-LP

	<p>MIZUDO FDG-CS1205 Outdoor Tankless Water Heater Installation and Operation Manual</p> <p>Comprehensive installation and operation manual for the MIZUDO FDG-CS1205 outdoor tankless gas water heater. Covers safety, features, installation steps, operation, maintenance, and troubleshooting.</p>
	<p>MIZUDO FDG-CS120S Outdoor Tankless Water Heater Installation and Operation Manual</p> <p>Comprehensive installation and operation manual for the MIZUDO FDG-CS120S outdoor tankless water heater. Covers safety, features, installation steps, operation, maintenance, and troubleshooting.</p>
	<p>MIZUDO FDG-CS80/FDG-CS100 Tankless Hot Gas Water Heater: Installation & Operation Manual</p> <p>Comprehensive installation and operation manual for MIZUDO FDG-CS80 and FDG-CS100 tankless hot gas water heaters. Learn about setup, safety, maintenance, and specifications.</p>

 <p>Tankless Hot Gas Water Heater Installation and Operation Manual</p> <p>MODEL: FDG-CS100 FDG-CS80</p>	<p>MIZUDO FDG-CS100/FDG-CS80 Tankless Hot Gas Water Heater Installation and Operation Manual</p> <p>Comprehensive installation and operation manual for MIZUDO Comfortech Classic CS series tankless hot gas water heaters, models FDG-CS100 and FDG-CS80. Includes safety, installation, operation, and maintenance guidelines.</p>
 <p>Tankless Hot Gas Water Heater Installation and Operation Manual</p> <p>MODEL: FDG-CS90 FDG-CS120</p>	<p>MIZUDO FDG-CS90/FDG-CS120 Tankless Hot Gas Water Heater Installation and Operation Manual</p> <p>Comprehensive installation and operation manual for MIZUDO FDG-CS90 and FDG-CS120 tankless hot gas water heaters. Includes safety information, technical specifications, installation guides, operation instructions, troubleshooting, and maintenance procedures.</p>
 <p>Tankless Hot Gas Water Heater Installation and Operation Manual</p> <p>MODEL: FDG-CS80 FDG-CS100</p>	<p>MIZUDO Tankless Hot Gas Water Heater Installation and Operation Manual</p> <p>This manual provides installation and operation instructions for the MIZUDO Tankless Hot Gas Water Heater, models FDG-CS80 and FDG-CS100. It covers safety information, general information, installation procedures, operation guidelines, troubleshooting, maintenance, and wiring diagrams.</p>