

Generic Smart Dry Ice Cleaning Machine

Smart Dry Ice Cleaning Machine User Manual

Model: Smart Dry Ice Cleaning Machine | Brand: Generic

1. INTRODUCTION

This user manual provides essential information for the safe and efficient operation, setup, maintenance, and troubleshooting of your Smart Dry Ice Cleaning Machine. Please read this manual thoroughly before operating the machine to ensure proper usage and to prevent damage or injury. Keep this manual for future reference.

2. SAFETY INFORMATION

WARNING: Failure to follow these safety instructions may result in serious injury or property damage.

- Always wear appropriate Personal Protective Equipment (PPE), including safety glasses, hearing protection, gloves, and long sleeves, when operating the machine.
- Ensure adequate ventilation in the work area to prevent accumulation of carbon dioxide (CO2) gas, which is a byproduct of dry ice sublimation. CO2 can displace oxygen and cause asphyxiation.
- Handle dry ice with insulated gloves to prevent frostbite. Dry ice temperature is extremely low (-78.5°C / -109.3°F).
- Do not direct the dry ice blast at people or animals.
- Ensure the machine is properly grounded before connecting to a power source.
- Never operate the machine with damaged components or hoses. Inspect all parts before each use.
- Keep children and unauthorized personnel away from the operating area.

3. PRODUCT OVERVIEW

3.1 Components and Features

The Smart Dry Ice Cleaning Machine is designed for efficient and precise cleaning of industrial and precision equipment. Its robust design and adjustable settings make it suitable for various cleaning scenarios.



Figure 3.1: Front view of the Smart Dry Ice Cleaning Machine, showcasing its compact design and control panel.



Figure 3.2: Side view highlighting key components: Ice hatch cover for dry ice loading, durable stainless steel body, and universal wheels for easy mobility.



Figure 3.3: Rear view showing additional features: Smart screen for control, ergonomic push handle, convenient shelf hook, retractable static clips, and an anti-release hook chain for safety.



Figure 3.4: Included accessories: Output hose, intake hose, long handle, right-angle quick connector, protective face shield, ice scoop, noise-reducing earmuffs, button switch, gloves, ice cover, ground clamp, and flat nozzle gun.

3.2 Key Features

- **Versatile Cleaning Configuration:** The machine supports various cleaning scenarios, allowing adjustment of particle sizes based on the material, stain stubbornness, and desired fineness.
- **Adjustable Blasting Pressure:** Precisely adjust the blasting pressure within a wide range to customize the cleaning solution for each task.
- **Non-Contact Cleaning:** Utilizes dry ice blasting for effective, non-abrasive cleaning without direct contact with the surface.
- **Water Cooling System:** Ensures stable operation and extends the lifespan of the equipment.

3.3 Technical Specifications

Parameter	Value
Equipment Name	Smart Dry Ice Cleaning Machine
Power	1000W
Dimensions (L*W*H)	110 x 65 x 115 cm (approx.)
Weight	150 kg (330 lbs)
Cleaning Method	Dry Ice Blasting (Non-contact)
Cooling Method	Water Cooling
Application	Industrial & Precision Equipment Cleaning, Metal Surface Cleaning
Package Dimensions	38 x 23 x 21 inches
Package Weight	122 Pounds
Manufacturer	Generic
Country of Origin	China

4. SETUP

Follow these steps to set up your Smart Dry Ice Cleaning Machine for operation:

- Unpacking:** Carefully remove the machine and all accessories from the packaging. Inspect for any shipping damage.
- Positioning:** Place the machine on a stable, level surface in a well-ventilated area. Ensure there is enough space around the machine for operation and maintenance.
- Connect Power:** Connect the power cord to a grounded electrical outlet that matches the machine's power requirements.
- Connect Air Supply:** If an external air compressor is required for the blasting process (common for dry ice blasters), connect the air hose from your compressor to the machine's air inlet. Ensure the air supply meets the specified pressure and flow rate.
- Load Dry Ice:** Open the ice hatch cover and carefully load dry ice pellets into the hopper. Use the provided ice scoop and wear insulated gloves. Do not overfill.
- Attach Nozzle and Hoses:** Securely attach the desired nozzle to the blasting gun. Connect the output hose from the machine to the blasting gun.

5. OPERATING INSTRUCTIONS

Before operating, ensure all safety precautions are understood and followed.

- Power On:** Turn on the main power switch on the machine. The smart screen should illuminate.

2. **Adjust Settings:** Use the controls on the smart screen to adjust the blasting pressure and dry ice feed rate according to the cleaning task. Start with lower settings and gradually increase if needed.
3. **Test Blast:** Before cleaning the target surface, perform a short test blast on a non-critical area to verify settings and ensure proper operation.
4. **Cleaning Procedure:** Direct the nozzle at the surface to be cleaned, maintaining an appropriate distance. Move the nozzle steadily to ensure even cleaning. The dry ice pellets will sublime upon impact, lifting contaminants without leaving residue.
5. **Monitor Results:** Observe the cleaning progress. For stubborn stains, you may need to adjust pressure or make multiple passes.
6. **Power Off:** Once cleaning is complete, release the trigger on the blasting gun. Turn off the main power switch on the machine. Disconnect the air supply if applicable.



Figure 5.1: Examples of cleaning effectiveness on various surfaces, including industrial molds, engine components, and valves.

6. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your Smart Dry Ice Cleaning Machine.

- **Daily Cleaning:** After each use, ensure any remaining dry ice has sublimated. Wipe down the exterior of the machine with a clean, dry cloth.
- **Hose and Nozzle Inspection:** Regularly inspect hoses for cracks, wear, or blockages. Check nozzles for wear and replace if necessary to maintain cleaning efficiency.
- **Air Filter Maintenance:** If your model includes an air filter for the compressor input, clean or replace it as per the manufacturer's recommendations to ensure clean air supply.
- **Water Cooling System Check:** Periodically check the water cooling system for proper levels and ensure there are no leaks. Refer to the specific instructions for your cooling system.
- **Storage:** Store the machine in a dry, clean environment when not in use. Ensure all dry ice has sublimated before storage.

7. TROUBLESHOOTING

This section provides solutions to common issues you might encounter. For problems not listed here, or if issues persist, contact customer support.

Problem	Possible Cause	Solution
Machine does not power on	No power supply; tripped circuit breaker; faulty power cord.	Check power connection and outlet. Reset circuit breaker. Inspect power cord for damage.
Low blasting pressure	Insufficient air supply; clogged nozzle; low dry ice feed rate.	Ensure air compressor is providing adequate pressure. Clean or replace nozzle. Increase dry ice feed rate setting.
Poor cleaning performance	Incorrect pressure/feed rate; worn nozzle; type of dry ice.	Adjust pressure and feed rate. Replace worn nozzle. Ensure dry ice is fresh and of appropriate size.
Excessive CO2 accumulation	Inadequate ventilation.	Increase ventilation in the work area. Use CO2 monitors if necessary.

Remote Diagnostic Service: The manufacturer offers an advanced remote diagnostic service. If your equipment experiences abnormal conditions, operating data can be transmitted in real-time to a professional after-sales platform for analysis and solution provision.

8. WARRANTY AND SUPPORT

Your Smart Dry Ice Cleaning Machine comes with comprehensive support and warranty coverage.

- **Warranty:** The product is covered by a 3-year warranty from the date of purchase. This warranty covers manufacturing defects and malfunctions under normal use.
- **Lifetime Supply of Spare Parts:** The manufacturer is committed to providing a lifetime supply of spare parts for the equipment. Parts can be obtained in a timely manner, and logistics are optimized for fast

delivery to minimize downtime.

- **Customer Support:** For technical assistance, warranty claims, or inquiries regarding customization, please contact the manufacturer directly.

Contact Information:

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