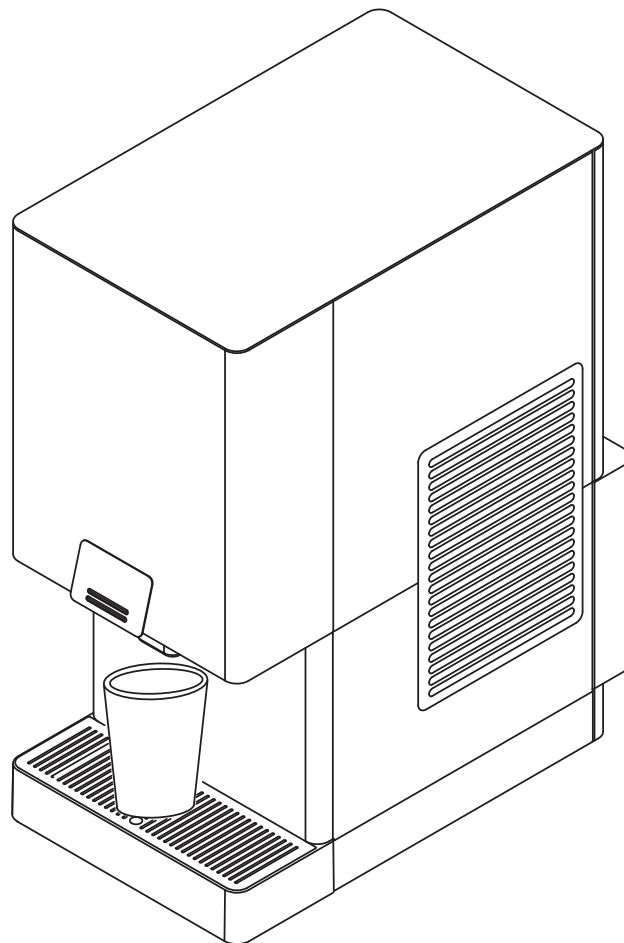


CounterTop Nugget Ice Machine

CNP0200

Installation, Operation and Maintenance Manual



Original Document



Read this instruction before operating this equipment.

Safety Notices

Safety Notices

Read these precautions to prevent personal injury:

- Read this manual thoroughly before operating, installing or performing maintenance on the equipment. Failure to follow instructions in this manual can cause property damage, injury or death.
- Routine adjustments and maintenance procedures outlined in this manual are not covered by the warranty.
- Proper installation, care and maintenance are essential for maximum performance and trouble-free operation of your equipment. Visit our website www.manitowocice.com for manual updates, translations, or contact information for service agents in your area.
- This equipment contains high voltage electricity and refrigerant charge. Installation and repairs are to be performed by properly trained technicians aware of the dangers of dealing with high voltage electricity and refrigerant under pressure. The technician must also be certified in proper refrigerant handling and servicing procedures. All lockout and tag out procedures must be followed when working on this equipment.
- This equipment is intended for indoor use only. Do not install or operate this equipment in outdoor areas.

Definitions

DANGER

Indicates a hazardous situation that, if not avoided, will result in death or serious injury. This applies to the most extreme situations.

Warning

Indicates a hazardous situation that, if not avoided, could result in death or serious injury.

Caution

Indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

Notice

Indicates information considered important, but not hazard-related (e.g. messages relating to property damage).

NOTE: Indicates useful, extra information about the procedure you are performing.

⚠ Warning

Follow these precautions to prevent personal injury during installation of this equipment:

- All field wiring must conform to all applicable codes of the authority having jurisdiction and comply with all applicable equipment fire and health codes. It is the responsibility of the end user to provide the disconnect means to satisfy local codes. Refer to rating plate for proper voltage.
- To avoid instability the installation area must be capable of supporting the combined weight of the equipment and product. Additionally the equipment must be level side to side and front to back.
- Legs or casters must be installed and the legs/casters must be screwed in completely. When casters are installed the mass of this unit will allow it to move uncontrolled on an inclined surface. These units must be tethered/secured to comply with all applicable codes. Swivel casters must be mounted on the front and rigid casters must be mounted on the rear. Lock the front casters after installation is complete.
- Connect to a potable water supply only.
- This appliance must be grounded.
- Remove all removable panels before lifting and installing and use appropriate safety equipment during installation and servicing. Two or more people are required to lift or move this appliance to prevent tipping and/or injury.
- Do not damage the refrigeration circuit when installing, maintaining or servicing the unit.
- This equipment must be positioned so that the plug is accessible unless other means for disconnection from the power supply (e.g., circuit breaker or disconnect switch) is provided.
- Check all wiring connections, including factory terminals, before operation. Connections can become loose during shipment and installation.

⚠ DANGER

Do not operate equipment that has been misused, abused, neglected, damaged, or altered/modified from that of original manufactured specifications. This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision concerning use of the appliance by a person responsible for their safety. Do not allow children to play with, clean or maintain this appliance without proper supervision.

⚠ Warning

Follow these precautions to prevent personal injury while operating or maintaining this equipment:

- Read this manual thoroughly before operating, installing or performing maintenance on the equipment. Failure to follow instructions in this manual can cause property damage, injury or death.
- Crush/Pinch Hazard. Keep hands clear of moving components. Components can move without warning unless power is disconnected and all potential energy is removed.
- Moisture collecting on the floor will create a slippery surface. Clean up any water on the floor immediately to prevent a slip hazard.
- Objects placed or dropped in the bin can affect human health and safety. Locate and remove any objects immediately.
- Never use sharp objects or tools to remove ice or frost. Do not use mechanical devices or other means to accelerate the defrosting process.
- When using cleaning fluids or chemicals, rubber gloves and eye protection (and/or face shield) must be worn.

⚠ DANGER

Follow these flammable refrigeration system requirements during installation, use or repair of this equipment.

- | | |
|---|---|
| <ul style="list-style-type: none">• Refer to nameplate - Ice machine models may contain up to 150 grams of R290 (propane) refrigerant. R290 (propane) is flammable in concentrations of air between approximately 2.1% and 9.5% by volume (LEL lower explosion limit and UEL upper explosion limit). An ignition source at a temperature higher than 470°C is needed for a combustion to occur. Refer to nameplate to identify the type of refrigerant in your equipment.• To minimize the risk of ignition due to improper installation, replacement parts or service procedures, only refrigeration technicians with flammable refrigerant training who are aware of the dangers of dealing with high voltage electricity and refrigerant under pressure are allowed to work on this equipment.• This equipment must be installed in accordance with the ASHRAE 15 Safety Standard for Refrigeration Systems.• This equipment can not be installed in corridors or hallways of public buildings• Installation must comply with all applicable equipment fire and health codes with the authority having jurisdiction. | <ul style="list-style-type: none">• All lockout and tag out procedures must be followed when working on this equipment.• This equipment contains high voltage electricity and refrigerant charge. Shorting electrical wires to refrigeration tubing may result in an explosion. All electrical power must be disconnected from the system before servicing the system. Refrigerant leaks, can result in serious injury or death from explosion, fire, or contact with refrigerant or lubricant mists.• Do not damage the refrigeration circuit when installing, maintaining or servicing the unit. Never use sharp objects or tools to remove ice or frost. Do not use mechanical devices or other means to accelerate the defrosting process.• All replacement parts must be like components obtained from the equipment manufacturers authorized replacement part network. |
|---|---|

 DANGER

Follow these precautions to prevent personal injury during use and maintenance of this equipment:

- It is the responsibility of the equipment owner to perform a Personal Protective Equipment Hazard Assessment to ensure adequate protection during maintenance procedures.
- Do Not Store Or Use Gasoline Or Other Flammable Vapors Or Liquids In The Vicinity Of This Or Any Other Appliance. Never use flammable oil soaked cloths or combustible cleaning solutions for cleaning.
- All covers and access panels must be in place and properly secured when operating this equipment.
- Risk of fire/shock. All minimum clearances must be maintained. Do not obstruct vents or openings.
- Failure to disconnect power at the main power supply disconnect could result in serious injury or death. The power switch DOES NOT disconnect all incoming power.
- All utility connections and fixtures must be maintained in accordance with the authority having jurisdiction.
- Turn off and lockout all utilities (gas, electric, water) according to approved practices during maintenance or servicing.
- Units with two power cords must be plugged into individual branch circuits. During movement, cleaning or repair it is necessary to unplug both power cords.
- Never use a high-pressure water jet for cleaning on the interior or exterior of this unit. Do not use power cleaning equipment, steel wool, scrapers or wire brushes on stainless steel or painted surfaces.
- Two or more people are required to move this equipment to prevent tipping.
- These units must be tethered/secured to comply with all applicable codes.
- The on-site supervisor is responsible for ensuring that operators are made aware of the inherent dangers of operating this equipment.
- Do not operate any appliance with a damaged cord or plug. All repairs must be performed by a qualified service company.

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Section 1

Installation

These instructions are provided to assist the qualified installer. Check your local phone directory for the name of the nearest Manitowoc distributor, or call Manitowoc Foodservice for information regarding start-up services.

Important

Failure to follow these installation guidelines may affect warranty coverage.

Location of Ice Machine

The location selected for the ice machine must meet the following criteria. If any of these criteria are not met, select another location.

- The ice machine can not be installed outdoors and the location must be free of airborne and other contaminants.
- The air temperature must be at least 10°C, but must not exceed 43°C.
- A potable water supply must be available.
- The location must not be near heat-generating equipment or in direct sunlight.
- The location must be capable of supporting the weight of the ice machine and a full bin of ice and allow the ice machine to be level front to back and side to side.
- The location must allow enough clearance for water and electrical connections in the **rear of the ice machine**. The drain can be routed out the rear or bottom of dispenser.
- The location must not obstruct airflow through or around the ice machine. Airflow is in the left side and out the top. Refer to chart for clearance requirements.

These ice machines are intended for use in household and similar applications such as:

- Staff kitchen areas in shops, offices and other work environments.
- Clients in hotels, motels, farmhouses, bed and breakfast and other residential type environments.
- Catering and similar non-retail applications.

Caution

To avoid instability the ice machine must be installed in an area capable of supporting the weight of the ice machine and a full bin of ice.

Ice Machine Clearance Requirements

Top	Sides	Back
50 mm	50 mm	200 mm

Notice

The ice machine must be protected if it will be subjected to temperatures below 0°C. Failure caused by exposure to freezing temperatures is not covered by the warranty. See "Removal from Service/Winterization".

SEALING TO COUNTERTOP OR STAND

Ice machines installed without legs must be sealed to the countertop or stand. This prevent liquids or debris from infiltrating beneath the ice machine.

Electrical Service

Warning

All wiring must conform to local and national codes and the ice machine must be grounded.

VOLTAGE

The maximum allowable voltage variation is $\pm 10\%$ of the rated voltage on the ice machine model/serial number plate at start-up (when the electrical load is highest).

FUSE/CIRCUIT BREAKER

A separate fuse/circuit breaker must be provided for each ice machine.

Electrical Specifications

Refer to ice machine model serial plate for electrical specification.

Water Supply and Drain Requirements

Caution

Plumbing must conform to local and national codes.

- A shutoff valve and union must be installed in the potable water line before the ice machine.
- The water temperature must be at least 3°C, but must not exceed 25°C.
- A water filter is recommended for hard water areas.

Location	Water Temperature	Water Pressure
Ice Making Water Inlet	3°C Min. 25°C Max	0.1 Mpa Min. 0.6 Mpa Max.

Warning

PERSONAL INJURY POTENTIAL

For ice making, connect to a potable water supply only.

DRAIN CONNECTIONS

Follow these guidelines when installing drain lines:

- Drain lines must have a minimum 22 mm internal diameter and have a 2.5 cm per meter drop and must not create traps.
- The floor drain must be large enough to accommodate drainage from all drains.
- Drains must have a union or other suitable means to allow in-place disconnection from the ice machine when servicing is required.

Before Starting the Ice Machine

INSTALLATION CHECKLIST

✓	Checklist Item
	Is the ice machine level?
	Have all of the internal packing been removed?
	Have all of the electrical and water connections been made?
	Has the supply voltage been tested and checked against the rating on the nameplate?
	Is there proper clearance around the ice machine for air circulation?
	Has the ice machine been installed where ambient temperatures will remain in the range of 10°C - 43°C?
	Has the ice machine been installed where the incoming water temperature will remain in the 3° – 25°C range?
	Are all electrical leads free from contact with refrigeration lines and moving equipment?
	Has the owner/operator been instructed regarding maintenance?
	Has the ice machine and bin been sanitized?
	Has this manual been given to the owner/operator?
	Is the water reservoir approximately 2/3 full of water?

Section 2

Operation and Maintenance

Operation

NOTE: The water reservoir must be 2/3 full of water before starting the ice machine.

INITIAL START-UP

The ice machine does not have an on/off switch. With the water valve open, applying power will start ice making.

FREEZE CYCLE

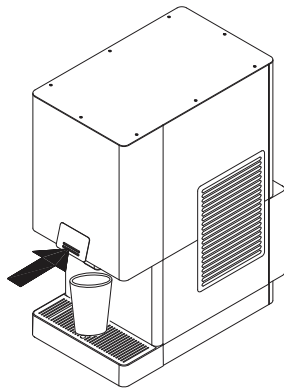
The float valve automatically maintains the water level in the reservoir. The ice machine will continue to make ice until the ice touches the thermostat in the bin.

AUTOMATIC SHUTOFF

After ice contacts the thermostat the ice machine stops. When ice is dispensed and no longer contacts the thermostat, the ice machine will start ice making until ice again contacts the bin thermostat.

ICE DISPENSE

Place a suitable container under the spout and press the dispense button until the desired quantity of ice is dispensed, then release the button.



Operational Checks

GENERAL

Normally, a newly installed ice machine does not require any adjustment.

To ensure proper operation, always follow the Operational Checks:

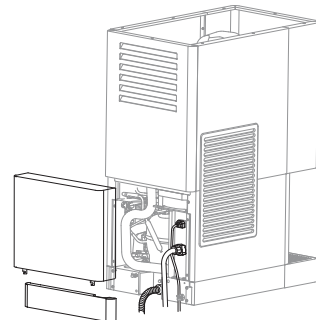
- when starting the ice machine for the first time
- after a prolonged out-of-service period
- after descaling and sanitizing

NOTE: Routine adjustments and maintenance procedures outlined in this manual are not covered by the warranty.

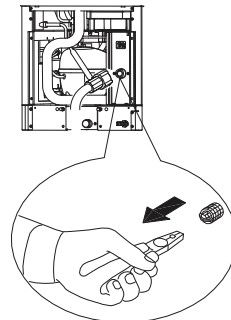
CLEANING THE WATER INLET SCREEN

Clean the water filter screen at least every 2 months.

1. Disconnect power to the ice machine and turn off the potable water supply.
2. Remove back panels to access potable water inlet .



3. Remove water inlet line from ice machine, then remove the water filter with a pliers for cleaning. Flush the filter clean with water or replace as needed.



4. Reassemble filter, water inlet line and replace panels. Restore water and electrical supply to the ice machine.

Interior Cleaning and Sanitizing

Maintenance procedures covered in this manual are not covered by the warranty.

Warning

Wear rubber gloves and safety goggles (and/or face shield) when handling descaling or sanitizing products.

DESCALING/SANITIZING PROCEDURE

This procedure must be performed once every six months.

- All ice must be removed from the bin.
- The ice machine and bin must be disassembled, descaled and sanitized.
- The ice machine produces ice with the descaler and sanitizer solutions.
- All ice produced during the descaling and sanitizing procedure must be discarded.

HEAVILY SCALED ICE MACHINES

Perform the descaling/sanitizing procedures if you have some or all of these symptoms.

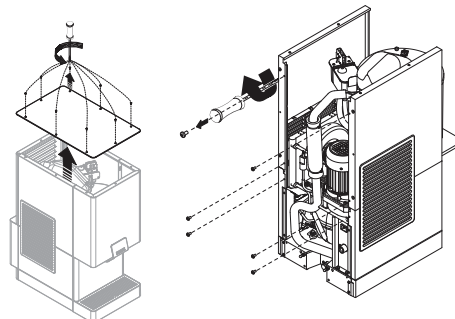
- Grinding, popping or squealing noises from the evaporator.
- Grinding noise from gearbox.

Exterior Cleaning

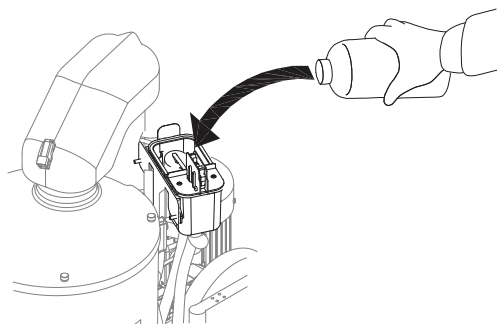
Remove dust and dirt off exterior surfaces with mild household dish washing detergent and warm water. Wipe dry with a clean, soft cloth.

Descaling/Sanitizing Procedure

- Step 1** Dispense all ice from the bin.
- Step 2** Disconnect power to the ice machine.
- Step 3** Remove top, back and side panels.



- Step 4** Turn off the ice making water supply and drain water from evaporator and reservoir.
- Step 5** Make 2 liters of 25% descaler solution by mixing .5 liters of white vinegar and 1.5 liters water.
- Step 6** Remove the top cover from the water reservoir and fill the evaporator and reservoir with cleaning solution.



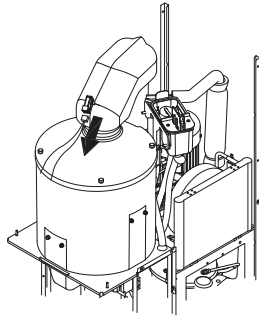
- Step 7** Reapply power and the ice machine will make ice with the descaling solution and deposit the ice in the bin. Add the remaining solution as the water level in the reservoir drops.

NOTE: Do not allow the solution level to drop below the minimum water level. The ice machine will discontinue the cleaning cycle if the water float switch opens.

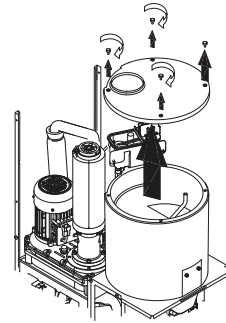
- Step 8** After all of the descaler/water solution has been added, turn on the ice making water supply. Continue the freeze cycle for 10 minutes to remove the cleaning solution from the water circuit.

- Step 9** Disconnect power to the ice machine.

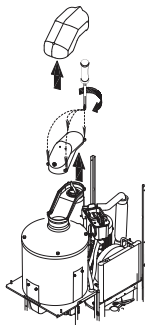
Step 10 Disassemble parts for hand cleaning/sanitizing.



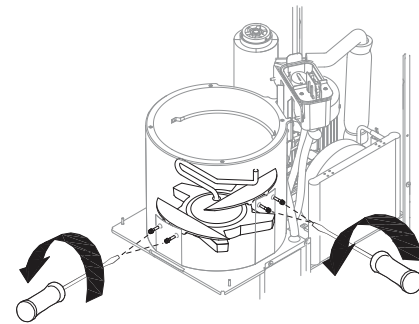
Disconnect ice chute wire



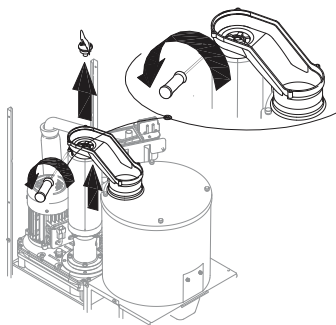
Remove bin cover fasteners and bin cover



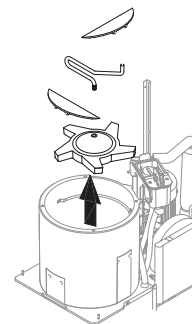
Remove ice chute top cover and fasteners



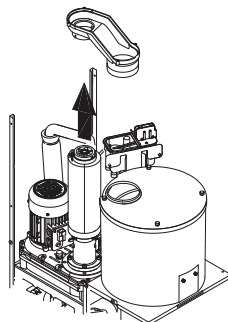
Remove ice deflector fasteners



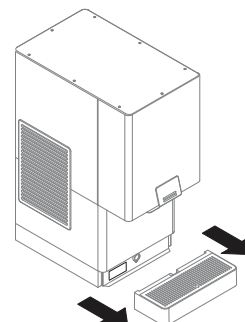
Remove ice wiper and loosen Ice chute fastener



Remove deflectors and dispenser wheel



Remove ice chute



Remove drain pan

Step 11 Hand descale and sanitize all parts using a sponge or soft bristle brush.

- Make 2 liters of 25% descaler solution by mixing .5 liters of white vinegar and 1.5 liters water. Descale all parts including interior bin surfaces, then rinse with clear potable water.
- Make 2 liters of a 25°C solution of 200 mg/l sodium hypochlorite and water. Sanitize all parts including interior bin surfaces, then rinse with clear potable water.
- Descale/rinse, sanitize/rinse the top of the evaporator.
- Descale/rinse, sanitize/rinse the drain pan.

Step 12 Reassemble all parts removed in step 10.

Step 13 Make 2 liters of a 25°C solution of 200 mg/l sodium hypochlorite and water.

Step 14 Drain all water from the evaporator and reservoir, then fill the evaporator and reservoir with sanitizer/water solution.

Step 15 Reapply power and the ice machine will make ice with the sanitizer/water solution and deposit the ice in the bin. Add the remaining solution when the water level in the reservoir drops.

NOTE: Do not allow the solution level to drop below the minimum water level. The ice machine will discontinue the cleaning cycle if the water float switch opens.

Step 16 After all of the solution has been added to the reservoir, turn on the ice making water supply.

Step 17 Continue the freeze cycle for 30 minutes and then discard all ice produced.

Air-Cooled Condenser Cleaning

Warning

Disconnect electric power to the ice machine and the remote condenser at the electric service switch before cleaning the condenser.

A dirty condenser restricts airflow, resulting in excessively high operating temperatures and reduced ice production. Clean the condenser at least every six months.

Caution

The condenser fins are sharp. Use care when cleaning them.

Clean the outside of the condenser with a soft brush or a vacuum with a brush attachment. Shine a flashlight through the condenser to check for dirt between the fins. If dirt remains, a method suitable to remove the contamination must be used to ensure air flow.

Removal from Service/Winterization

1. Descale and sanitize the ice machine.
2. Disconnect electrical power to turn off the ice machine.
3. Turn off the water supply, disconnect and drain the incoming ice-making water line at the rear of the ice machine and drain the water trough.
4. Blow compressed air in both the incoming water and the drain openings in the rear of the ice machine to remove all water.
5. Replace all panels.



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