

# Scotsman Ice Systems

## Installation and Operating Instructions

### NU-100 / 150 / 220 / 300 Models

#### Important Information

This equipment must be installed in accordance with all local, state, and national regulations. This machine must be installed correctly as per these installation instructions. **This machine must be installed by a qualified Refrigeration or Electrical technician. A plumber should only be used to make the water connections.**

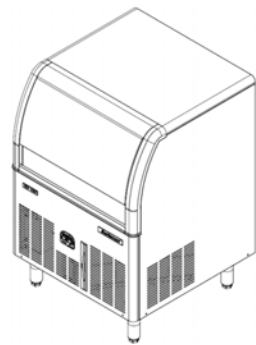
#### **THIS MACHINE IS NOT DESIGNED FOR OUTDOOR USE**

**LOCATION** - This ice machine must be level and situated in a cool dry area with sufficient air ventilation. **The ice machine is NOT to be installed in a cupboard or with limited or restrictive airflow. The equipment should NOT be located next to equipment that discharges or radiates hot air on or near the ice machine. NOTE: Hotter working environments OR water temperatures will reduce the production capacity of the machine.**

#### Operating Specifications Below

Operating air temperatures	Min 10°C to Max 40°C (24°C ideal)
Operating water temperatures	Min 5°C to Max 35°C (18°C ideal)
Operating water pressure	Min 1 bar to Max 5 bar
Machine side clearance	Min 150mm
Machine rear clearance	Min 100mm

The ice maker's location should have a dedicated power point, a dedicated water supply and a water drainage point within one meter of the machine. **For the ice maker to operate effectively and efficiently the machine requires sufficient air ventilation. The machine requires a minimum side clearance of 150mm, a minimum and a rear clearance of 100mm.**



#### IMPORTANT OPERATING REQUIREMENTS

	MINIMUM	MAXIMUM
Air Temperature	10 °C(50°F)	40°C (100°F)
Water Temperature	5°C (40°F)	35°C (90°F)
Water Pressures	1 bar gauge	5 bar gauge
Electrical Voltage Variations	-10%	+10%
Electrical Voltage rating specified on nameplate		

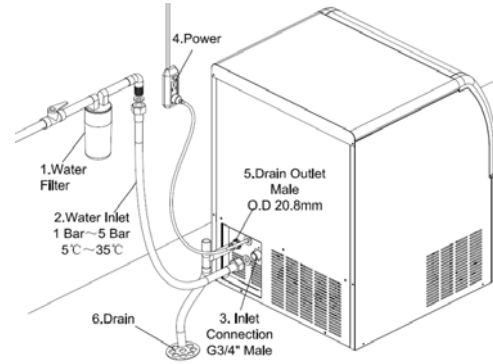
**Contact Moffat Service Support On 1300 264 217 For Assistance**

#### Set Up

Unbox and remove the ice machine from the wooden pallet. Open the storage bin and remove the manuals, ice scoop, water hoses, packaging, and carefully remove red strapping tape. Fit the adjustable feet to the ice machine base and set the feet to the minimum height. Ensure all the internal components are fitted correctly and secured in their final operating positions. water trough, shut off deflector, ice thickness probe, water distribution tube.



Fit the water supply hose and the water drain hose and clip to their connection points at the rear of the ice maker. Connect the water supply hose to the water filter outlet, attach the water drain hose and clip to the floor drain or tundish.



Maneuver the machine into its final position. **Ensure the ice machine has required 150mm side clearance and 100mm rear clearance.** Ensure the machine is level once in its final position. Remove the protective plastic from the panels of the machine and ice storage unit.

#### Electrical Connections

**The electrical connections for this machine must comply with all local, state, and national regulations. The ice maker requires a dedicated power point. Check the serial plate to ensure voltage requirements and plug are suitable for the wall socket and power supply for your local area. All electrical connections and adjustments must be undertaken by a qualified technician.**

#### 12 Point Checklist

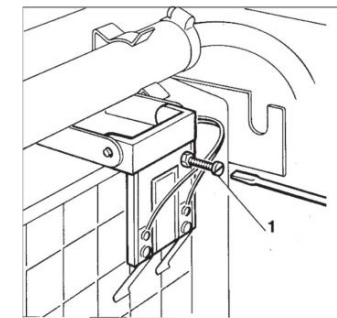
- 1) Is the ice machine level?
- 2) Is the ambient air temperature between 10c and 40c? (Ideal temp 32c)
- 3) Is there the required 150mm side clearance and the 100mm rear clearance? Is there any other equipment discharging hot air near or next to the machine? (remove equipment discharging heat near the ice machine)
- 4) Have the water connections been made and is the water pressure between 1 and 5 bars? Has the water pressure been tested?
- 5) Is the incoming water temperature between 5C and 35C? (Ideal temp 19c)
- 6) Does the machine have an in-line water filter fitted?
- 7) Do the electrical requirements comply and has the electrical connection been made? **DO NOT TURN ON THE MACHINE.**
- 8) Has all the packaging and red tape been removed from inside the ice machine?
- 9) Are all the internal components fitted and secured correctly?
- 10) Has the owner been instructed on the operation and maintenance of the machine? Has the owner been given the installation instructions which include the maintenance schedule details?
- 11) Has the machine been cleaned and sanitized before starting up?
- 12) Does the customer have Moffat's service contact details?

#### Start Up

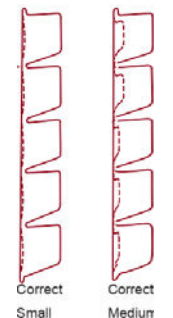
- 1) Open the water supply to the ice machine and check for water leaks.
- 2) Switch the power on at the wall socket. Press the green button / switch on the front of the ice machine to start.
- 3) The machine will enter the startup mode for 3 x minutes. Water will drain out the machine. The water inlet valve will open and will fill the water trough.
- 4) After 3 minutes the machine will enter the freeze cycle. The refrigeration system will run, and the condenser fan will thermostat on and off during the cycle. The pump will circulate water over the evaporator as the water freezes. The water level sensors will monitor the water level and add water when required. After + - 20 to 25 minutes the ice thickness probe will put the ice machine into a harvest once it senses a full sheet of ice. The harvest mode will run for + - 60 seconds and will heat the evaporator until the ice drops into the ice bin.
- 5) When the ice drops into the ice bin the ice deflector opens and closes. The PC Board senses the ice drop and puts the machine back into a freeze cycle to make more ice. When the ice bin is full the ice deflector is left in the open position, the PC Board senses the open circuit and puts the machine into a standby mode. When ice is removed from the bin, the ice deflector will close, and the machine will restart after a three-minute delay.
- 6) Inspect the ice in the storage bin after the second drop of ice and if necessary, adjust the ice thickness float probe as per below diagram.

**NOTE: The ice cubes must have a + - 3mm concave dimple in the back of each cube. The machine makes a slab of ice that breaks up into pieces when falling into the ice bin, not every ice cube will break up perfectly. If the ice thickness is set to thick the ice will not break up and if the ice is set to thin and the ice sheet is not fully formed and may shut the machine down. The user of the machine will need to break up the ice slab pieces from time to time with the ice scoop to maximize the capacity of the ice storage bin.**

#### Ice Thickness Sensor



#### Ice Thickness Diagram



The ice thickness probe can be adjusted for thicker or thinner ice cubes by screwing the adjusting screw (1) clockwise for thicker ice or for thinner ice counterclockwise. **NOTE: Ensure the ice cubes have a 3mm concave dimple on the back of the cube. The ice bridge connecting the ice cubes should be between 2mm and 3mm thick. (Use a 6mm drill bit to set clearance between probe and evaporator)**

**Contact Moffat Pty Ltd on 1300 264 217 for Assistance**

## **Maintenance, Cleaning and Sanitizing Instructions**

To ensure your Scotsman ice machine operates effectively, efficiently and in peak performance, the ice machine requires regular maintenance, cleaning, and sanitizing. **As per Health and Safety requirements in Australia, it is the owner's responsibility to ensure the ice machine is installed, maintained, and regularly cleaned as per the manufacturer's specifications. Ice is classed as a food product so the machine must be regularly inspected and maintained to ensure the ice is clean, safe, and fit for human consumption.**

### **Cleaning Schedules**

**All Scotsman ice machines require a general clean and sanitize procedure every two weeks to a month (depending on the location of the machine)**

**All Scotsman ice machines require a major strip down, a deep clean and sanitizing twice a year by a qualified technician (depending on the location of the machine it may require more frequent cleaning)**

### **General Weekly or Monthly Clean**

Switch off the ice machine and un- plug it. Remove the air filter element, inspect, and clean it with a soft bristle brush. Inspect the condenser and if required remove the front lower panel and gently clean it with a soft bristle brush. Replace the lower panel and replace the air filter element.

Remove all the ice from the storage bin, clean the inside of the ice bin thoroughly with a general cleaner and then sanitize the bin using Moffat's ice machine sanitizer. Rinse the ice storage bin with clean water. **Pour ½ liter of warm water mixed with Moffat ice machine sanitizer down the ice bin drain to keep the drain and the hoses clean and free of bacteria. (Mixture 10 parts water and 1 part Moffat ice machine sanitizer)**

Wipe down and clean the outside of the cabinet, clean the ice storage bin door using disposable sanitizing wipes. Check the machine has the required 150mm side and 100mm rear clearance for maximum air ventilation. Check the water filter is not blocked up and that the general area around the machine is clean and tidy. Plug in and turn the ice machine on. Discard the first 2 x batches of ice that are made after cleaning. Inspect the quality of the cubes after two drops of ice. Should you have any issues with the machine after cleaning contact Moffat Pty Ltd or your local service agent.

### **Six Month Major Strip Down and Deep Clean**

**A major strip down deep clean should only be performed by a qualified technician.**

At the end of the harvest cycle switch off the ice machine and un-plug it. Remove ALL the ice from the ice storage bin. Remove the top panel, remove the air filter and the front lower panel from the machine. Remove the ice deflector, the water pump, the water trough, the water distribution tube and dis-assemble. Remove the water level float sensor and the ice thickness probe.

Using **Moffat's ice machine nickel safe cleaner**, mix a bucket of hot water and Moffat cleaner (mixture of 10 parts water to 1 part cleaner) Thoroughly clean the inside of the ice machine food zone, clean the inside panels and the evaporator plastic side panels. Using a soft bristle brush gently clean the evaporator ensuring not to damage the evaporator or the nickel plating (Do not use anything abrasive that may damage the evaporator or plating) Once cleaned thoroughly rinse off the evaporator and the food zone with water. Make up a mixture of Moffat ice machine sanitizer and warm water (mixture of 10 parts water to 1 part sanitizer) clean the evaporator and food zone panels thoroughly and then rinse off with water.

Use the remaining bucket of cleaner water and a soft bristle brush, clean the ice deflector, water trough, water distribution tubes (pipe cleaning brush) and hose.

Carefully wash and clean the ice thickness probe and water level float sensor. Do not use anything abrasive on the ice thickness probe, rinse off with water and sanitize these parts carefully Rinse off with water and dry thoroughly.

Carefully wash and thoroughly clean the water pump **DO NOT SUBMERGE THE WATER PUMP IN WATER OR CLEANER.** Allow the water pump to dry.

Reassemble the ice machine and double check all parts are re-fitted correctly.

Restart the ice machine and press the CLEAN button for 2-3 seconds on the touch pad. The machine will go into the clean mode, the red light will flash quickly. Wait 30 seconds and then add the required amount of **Moffat nickel safe cleaner** to the water trough as per the quantities below. The water will circulate for 10 minutes cleaning the water circuit system and will then purge all water from the trough.

### **WARNING**

**Only use Moffat's Nickel Safe ice machine cleaner for all Scotsman ice machines. Using a non-nickel safe cleaner will DAMAGE the nickel-plating on the evaporator.**

- A) NU-models = 150 ml
- B) Sanitizer mixture = 1 x liter of water to = 100 ml sanitizer (10 parts to 1)

**The machine will re-fill the water trough and rinse 10 times and will stop.** The clean mode light (red light) will flash slowly to signal the end of the clean mode. Press the CLEAN button again and the machine will start in normal ice making mode.

Wipe down the outside off the machine cabinet and storage bin using disposable cleaning wipes. Wash the inside of the ice storage bin using the remainder of the hot water and cleaner, rinse the inside of the bin with water. Pour the remainder of the water / sanitizer down the drain to keep the drain and drain hose clean and free of bacteria.

Allow the machine to make 2 x batches of ice and inspect the ice cubes, adjust thickness if necessary. Discard the first 2 drops of ice to ensure the ice is clean and free of any cleaner or sanitizer.

### **Contact Moffat Pty Ltd on 1300 264 217 for Assistance**

**Ice machine error codes are located inside the front door panel.**

## **How an Ice Machine Works**

An ice machine works by transferring heat from the water inside the ice machine, to the condenser through the refrigeration system. The condenser fan exhausts this heat out and away from the ice machine. The transfer of heat is so efficient that it freezes the water into the evaporator mold making ice cubes.

NOTE: If the airflow is restricted or blocked on either the air inlet or air outlet vents the heat transfer process will not take place. This means the ice machine will make little or no ice. It requires good cool airflow through the machine to operate effectively and efficiently.

Ensure there is NO heat generating equipment next to or close by the ice machine. The hotter the work area and water temperature is going into the machine, the less ice the machine will make.

### **Warranty details, terms, and conditions**

Warranty issues are all subject to Moffat Pty Ltd.'s standard terms and conditions. To view Moffat's terms and conditions, please visit the Moffat web site on [www.moffat.com.au](http://www.moffat.com.au)