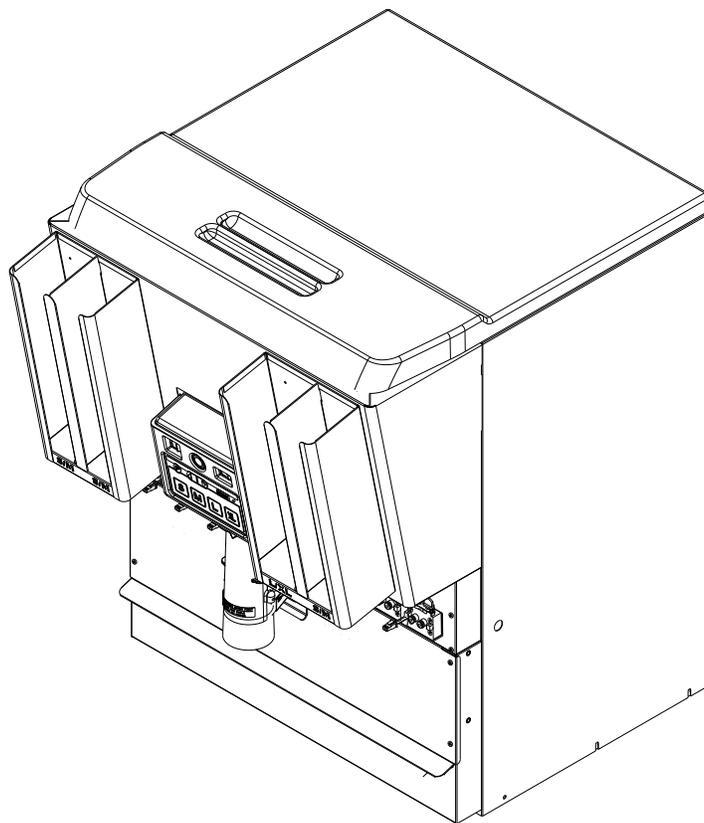


IN-N-OUT BURGERS NGF 255 PROGATE DRIVE THRU Operator's Manual



Release Date: January 31, 2011
Publication Number: 621058475OPR
Revision Date: April 02, 2014
Revision: B

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The products, technical information, and instructions contained in this manual are subject to change without notice. These instructions are not intended to cover all details or variations of the equipment, nor to provide for every possible contingency in the installation, operation or maintenance of this equipment. This manual assumes that the person(s) working on the equipment have been trained and are skilled in working with electrical, plumbing, pneumatic, and mechanical equipment. It is assumed that appropriate safety precautions are taken and that all local safety and construction requirements are being met, in addition to the information contained in this manual.

This Product is warranted only as provided in Cornelius' Commercial Warrant applicable to this Product and is subject to all of the restrictions and limitations contained in the Commercial Warranty.

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Contact Information:

To inquire about current revisions of this and other documentation or for assistance with any Cornelius product contact:

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This document contains the original instructions for the unit described.

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Printed in U.S.A.



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SAFETY INSTRUCTIONS

READ AND FOLLOW ALL SAFETY INSTRUCTIONS

Safety Overview

- Read and follow **ALL SAFETY INSTRUCTIONS** in this manual and any warning/caution labels on the unit (decals, labels or laminated cards).
- Read and understand **ALL** applicable OSHA (Occupational Safety and Health Administration) safety regulations before operating this unit.

Recognition

Recognize Safety Alerts



This is the safety alert symbol. When you see it in this manual or on the unit, be alert to the potential of personal injury or damage to the unit.

DIFFERENT TYPES OF ALERTS

DANGER:

Indicates an immediate hazardous situation which if not avoided **WILL** result in serious injury, death or equipment damage.

WARNING:

Indicates a potentially hazardous situation which, if not avoided, **COULD** result in serious injury, death, or equipment damage.

CAUTION:

Indicates a potentially hazardous situation which, if not avoided, **MAY** result in minor or moderate injury or equipment damage.

SAFETY TIPS

- Carefully read and follow all safety messages in this manual and safety signs on the unit.
- Keep safety signs in good condition and replace missing or damaged items.
- Learn how to operate the unit and how to use the controls properly.
- **Do not** let anyone operate the unit without proper training. This appliance is **not** intended for use by very young children or infirm persons without supervision. Young children should be supervised to ensure that they do not play with the appliance.
- Keep your unit in proper working condition and do not allow unauthorized modifications to the unit.

QUALIFIED SERVICE PERSONNEL

WARNING:

Only trained and certified electrical, plumbing and refrigeration technicians should service this unit. **ALL WIRING AND PLUMBING MUST CONFORM TO NATIONAL AND LOCAL CODES. FAILURE TO COMPLY COULD RESULT IN SERIOUS INJURY, DEATH OR EQUIPMENT DAMAGE.**

SAFETY PRECAUTIONS

This unit has been specifically designed to provide protection against personal injury. To ensure continued protection observe the following:

WARNING:

Disconnect power to the unit before servicing following all lock out/tag out procedures established by the user. Verify all of the power is off to the unit before any work is performed.

Failure to disconnect the power could result in serious injury, death or equipment damage.

CAUTION:

Always be sure to keep area around the unit clean and free of clutter. Failure to keep this area clean may result in injury or equipment damage.

SHIPPING AND STORAGE

CAUTION:

Before shipping, storing, or relocating the unit, the unit must be sanitized and all sanitizing solution must be drained from the system. A freezing ambient environment will cause residual sanitizing solution or water remaining inside the unit to freeze resulting in damage to internal components.

CO₂ (CARBON DIOXIDE) WARNING

DANGER:

CO₂ displaces oxygen. Strict attention **MUST** be observed in the prevention of CO₂ gas leaks in the entire CO₂ and soft drink system. If a CO₂ gas leak is suspected, particularly in a small area, **IMMEDIATELY** ventilate the contaminated area before attempting to repair the leak. Personnel exposed to high concentrations of CO₂ gas experience tremors which are followed rapidly by loss of consciousness and **DEATH**.

MOUNTING IN OR ON A COUNTER

WARNING:

When installing the unit in or on a counter top, the counter must be able to support a weight in excess of **615 lbs.** to insure adequate support for the unit.

FAILURE TO COMPLY COULD RESULT IN SERIOUS INJURY, DEATH OR EQUIPMENT DAMAGE.

NOTE: Many units incorporate the use of additional equipment such as icemakers. When any addition equipment is used you must check with the equipment manufacturer to determine the additional weight the counter will need to support to ensure a safe installation.

UNIT REQUIREMENTS

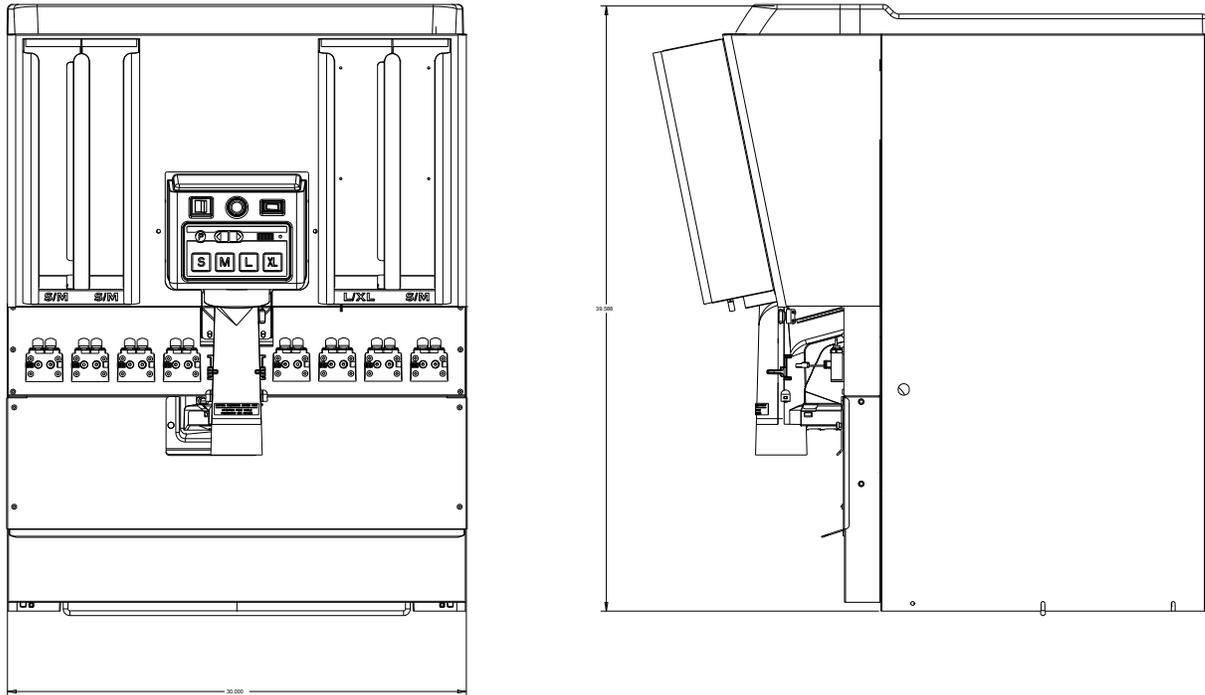


Figure 1.

Electrical Connections: 6 ft long power cord with 3-prong plug attached to dispenser.

Power Requirements: 9.3 amps at 120 volts dedicated power supply.

Water Supply Requirements: 100 psi (7 bar) maximum static pressure 40 psi (28 bar) minimum dynamic pressure. 3/8" minimum water line recommended.

CO2 Requirements: 100 psi max to unit regulated to 35 psi (2.4 bar) to Progate 2 ice gate system, 75 psi (5.2 bar) carbonator.

Progate 2 Features

Progate Portion Ice Control Features

- 4 Programmable ice dispense sizes
- Automatic/Manual Ice Dispense Modes
- Unit Power On/Off Switch
- Programmable Agitation Time

START-UP AND OPERATING INSTRUCTIONS

ICE DRINK DISPENSER

The ice drink dispenser shall be installed by qualified personnel following instruction given in the Installation manual part number 621057419INS. Fill the hopper with ice. Dispense several large cups of ice (approximately 20 to 30 seconds total dispensing time) to allow ice to fill the cold plate cabinet. Add ice to the hopper as necessary to refill, then replace the lid. Allow 10 to 15 minutes for the cold plate to cool down. Repeat this procedure whenever the dispenser has run out of ice. Start up the beverage system and adjust faucets to the proper brix. Contact your local syrup distributor for complete information on the beverage system.

The ice drink dispenser is designed to operate in ambient temperatures ranging from 65 to 95° F. Do not allow the unit to be stored or operated in conditions below 32° F. This could cause damage to the unit.

CAUTION:

Dispenser cannot be used with crushed or flaked ice. Use of bagged ice which has frozen into large chunks can void warranty. The dispenser agitator is not designed to be an ice crusher. Use of large chunks of ice which “jam up” inside the hopper will cause failure if the agitator motor and damage to the hopper. If bagged ice is used, it must be carefully and completely broken into small, cube-sized pieces and left to “temper” or warm up for a minimum of 20 minutes in room temperature before loading into the dispenser hopper

In normal operation, pushing the ice dispenser mechanism will cause ice to flow from the ice chute. Ice flow will continue until the dispenser mechanism is released. Dispensing of any faucet will provide beverage of the appropriate flavor.

WARNING:

Use caution to avoid spilling ice when filling dispenser. Clean up immediately any spilled ice from filling or operating the unit. To prevent contamination of ice, the lid must be installed on the unit at all times. **Failure to clean up spills could result in serious injury or death**

If the dispenser fails to dispense ice or beverage, refer to the troubleshooting section in the Installation Manual part number 621057419INS.

NOTE: The dispenser is not designed for a wash-down environment and MUST NOT be placed in an area where a water jet could be used.

NOTE: This appliance is not intended for use by personnel (including children) with reduced physical, sensory or mental capabilities or lack of experience and knowledge, unless given supervision or instruction concerning use of the appliance by a person responsible for safety.

CLEANING AND MAINTENANCE INSTRUCTIONS

These instructions are used on all Cornelius ice drink dispensers.

Some models may have additional cleaning requirements.

Those models will have addition procedures listed later in the manual.



WARNING:

Disconnect power to the unit before cleaning or servicing following all lock out / tag out procedures established by the user. Verify all of the power is off to the unit before performing any work.

Failure to comply could result in serious injury, death or damage to the equipment.



CAUTION:

Do not use metal scrapers, sharp objects or abrasives on the ice storage hopper, top cover, agitator disc or exterior surfaces as damage to the unit may result. Do not use solvents or other cleaning agents as they may attack the material resulting in damage to the unit.

- **Soap solution** – Use a mixture of mild detergent and warm (100° F) potable water.
- **Sanitizing Solution** – Dissolve 2 packets (4 oz) of Stera Sheen Green Label into 2 gallons of warm (80 – 100° F) potable water to ensure 200 ppm of chlorine.

DAILY CLEANING:

1. Remove cup rest from drip tray and clean with warm soapy water, rinse with clean water and allow to air dry.
2. Wipe down the exterior of the unit with warm soapy water, rinse with clean water and allow to air dry.
3. Remove valve nozzles and diffusers and wash in warm soapy water, rinse in clean water and allow to air dry.
4. Clean the interior of the ice chute using the brush provided with the unit with warm soapy water, rinse with clean water and allow to air dry.
5. Spray the ice chute inside and out with sanitizer and allow to air dry.
6. Pour warm soapy water down the drains to keep them clean and flowing smoothly.
7. Spray the nozzles and diffusers inside and outside with approved sanitizing solution, reinstall them on the valves and allow to air dry.
8. Reinstall the cup rest into the drip tray.
9. Pour all remaining sanitizer solution down the drains to help keep the drain clear.

DAILY MAINTENANCE:

1. Check the temperature, smell and taste of the product.
2. Check the water pressure coming to the unit using the pressure gauges on the back room package.
3. Check carbonation of the drink
4. Check level of CO₂ supply to the system.
5. Check the date on all of the BIB's (bags in boxes).

WEEKLY CLEANING: (IN ADDITION TO DAILY PROCEDURES)

Remove the ice chute cover and clean it along with the back half with warm soapy using the brush provided with the unit. Rinse with clean water and reinstall on the unit. Spray the ice chute assembly with approved sanitizer allowing it to air dry.

MONTHLY CLEANING: (IN ADDITION TO DAILY AND WEEKLY PROCEDURES)

- Flush and sanitize all syrup lines as well as all of the syrup connectors. (See the sanitize syrup lines section shown later in this manual).
- Remove ice from hopper and clean and sanitize the hopper. (See the Cleaning the interior surfaces section shown later in this manual).
- While cleaning the hopper use the brush provided with the unit to clean the cold plate surface. To accomplish this, the brush needs to be extended through the opening in the bottom of the hopper.

YEARLY MAINTENANCE:

- Have the water pump and check valve inspected and cleaned by a qualified service technician.
- Have the CO₂ gas check valve inspected and cleaned by a qualified service technician.
- Remove the unit's splash and cold plate cover to clean and sanitize the cold plate surface. (See the cleaning the cold plate section shown later in this manual).

Cleaning Interior Surfaces (Monthly Cleaning)

CAUTION:

When pouring liquid into the hopper, do not exceed the rate of 1/2 gallon per minute. Pouring more liquid into the hopper could result in an overflow situation may result in injury or damage to the equipment.

1. Remove agitator assembly.
2. Using a nylon bristle brush or sponge, clean the interior of the hopper, top cover and agitator assembly with soap solution. Thoroughly rinse the hopper, cover and agitator surfaces with clean potable water.
3. Reassemble agitator assembly. Take special care to ensure that the thumbscrew is tight.
4. Using a mechanical spray bottle filled with sanitizing solution, spray the entire interior and agitator assembly. Allow to air dry.
5. Remove merchandiser and ice chute cover from unit.
6. With a nylon bristle brush or sponge, clean the inside of the ice chute, gasket, and cover with soap solution and rinse thoroughly to remove all traces of detergent.
7. Reassemble ice chute assembly.
8. Using a mechanical spray bottle filled with sanitizing solution, spray the inside of the ice chute. Allow to air dry.
9. Reinstall merchandiser.

Cold Plate (Yearly Maintenance)

1. Remove splash panel.
2. Remove or move the plastic cold plate cover to expose the cold plate.
3. Locate and remove any debris from the drain trough. Check that the drain holes are not clogged.
4. Pour small amount of soap solution through cold plate openings in hopper.
5. Using a cloth, wash down the surfaces of the cold plate and plastic cover with soap solution.
6. Install and properly position the access covers on the cold plate.
7. Install the splash panel in the reverse order it was removed.
8. Rinse cold plate surface by pouring potable water through hopper openings.

Dispensing Valves: (Daily Cleaning)

Refer to addendum supplied with the unit that is applicable to the manufacturer of the valves installed on the unit.

Product Tubing (Monthly Cleaning)

IMPORTANT: Only trained and qualified persons should perform these cleaning and sanitizing procedures.

Sanitize Pre-Mix And Post-Mix Tank System

1. Remove all the quick disconnects from all the tanks. Fill a suitable pail or bucket with soap solution.
2. Submerge all disconnects (gas and liquid) in the soap solution and then clean them using a nylon bristle brush. **(Do not use a wire brush)**. Rinse with clean water.
3. Prepare sanitizing solution and using a mechanical spray bottle, spray the disconnects. Allow to air dry.
4. Using a clean, empty tank, prepare five (5) gallons of the sanitizing solution. Rinse the tank disconnects with approximately 9 oz. of the sanitizing solution. Close the tank.
5. Prepare cleaning tank by filling clean five (5) gallon tank with a mixture of mild detergent and potable water (120°F).
6. Connect a gas disconnect to the tank and then apply one of the product tubes to the cleaning tank. Operate the appropriate valve until liquid dispensed is free of any syrup.
7. Disconnect cleaning tank and hook up sanitizing tank to syrup line and CO₂ system.
8. Energize beverage faucet until chlorine sanitizing solution is dispensed through the faucet. Flush at least two (2) cups of liquid to ensure that the sanitizing solution has filled the entire length of the syrup tubing.
9. Allow sanitizer to remain in lines for fifteen (15) minutes.
10. Repeat the step above, applying a different product tube each time until all tubes are filled with the sanitizing solution.
11. Remove the nozzle and syrup diffuser and clean them in a mild soap solution. Rinse with clean water and reassemble the nozzle and syrup diffuser on the valve.
12. Rinse the parts in clean water, reassemble the valve and reconnect it to the dispenser.
13. Discard the tank of sanitizing solution and reconnect the product syrup tanks. Operate the valves until all sanitizer has been flushed from the system and only product syrup is flowing.

Sanitize syrup lines, B-I-B Systems

1. Remove all the quick disconnects from all the B-I-B containers.
2. Fill a suitable pail or bucket with soap solution.
3. Submerge all disconnects (gas and liquid) in the soap solution and then clean them using a nylon bristle brush. **(Do not use a wire brush)**. Rinse with clean water.
4. Using a plastic pail, prepare approximately five (5) gallons of sanitizing solution.
5. Rinse the B-I-B disconnects in the sanitizing solution.
6. Sanitizing fittings must be attached to each B-I-B disconnect. If these fittings are not available, the fittings from empty B-I-B bags can be cut from the bags and used. These fittings open the disconnect so the sanitizing solution can be drawn through the disconnect.
7. Place all the B-I-B disconnects into the pail of sanitizing solution. Operate all the valves until the sanitizing solution is flowing from the valve. Allow sanitizer to remain in lines for fifteen (15) minutes.
8. Remove the nozzle and syrup diffuser from each valve and clean them in a soap solution. Rinse with clean water and reassemble the nozzle and syrup diffuser to the valve.
9. Remove the sanitizing fittings from the B-I-B disconnects and connect the disconnects to the appropriate B-I-B container. Operate the valves until all sanitizer has been flushed from the system and syrup is flowing freely.

Replenishing CO₂ Supply (As Required)

NOTE: When indicator on the 1800-psi gage is in the shaded (“change CO₂ cylinder”) portion of the dial, CO₂ cylinder is almost empty and should be changed.

1. Fully close (clockwise) the CO₂ cylinder valve.
2. Slowly loosen the CO₂ regulator assembly coupling nut allowing CO₂ pressure to escape, then remove the regulator assembly from the empty CO₂ cylinder.
3. Unfasten safety chain and remove the empty CO₂ cylinder.

WARNING:

To avoid personnel injury and/or property damage, always secure the CO₂ cylinder with a safety chain to prevent it from falling over. Should the valve become accidentally damaged or broken off, a CO₂ regulator can cause serious personnel injury or death could occur.

4. Position the full CO₂ cylinder and secure with a safety chain.
5. Make sure gasket is in place inside the CO₂ regulator assembly coupling nut, then install the regulator assembly on the CO₂ cylinder.
6. Open (counterclockwise) the CO₂ cylinder valve slightly to allow the lines to slowly fill with gas, then open the valve fully to back-seat the valve (back-seating the valve prevents gas leakage around the valve shaft).
7. Check CO₂ connections for leaks. Tighten any loose connections.

Ice Chute Cleaning (Daily Cleaning)

The ice chute needs to be cleaned daily to remove buildups.

NOTE: The ice chute has an built in safety feature meaning that when the ice chute cover is removed the unit is disabled. If the ice chute cover is not properly installed the agitator and ice chute gate will not function.

Removing and Reinstalling the Ice Chute

1. Grab ice chute and slide up until it comes to a stop.
2. Pull forward.
3. Properly clean the ice chute. The ice chute is manufactured out of materials that can survive chlorine-based cleaners and warm water <100°F.

IMPORTANT: Do not put the ice chute into a dishwasher.

4. Replace when finished.
5. If agitator or ice chute does not operate remove and reinstall chute cover.

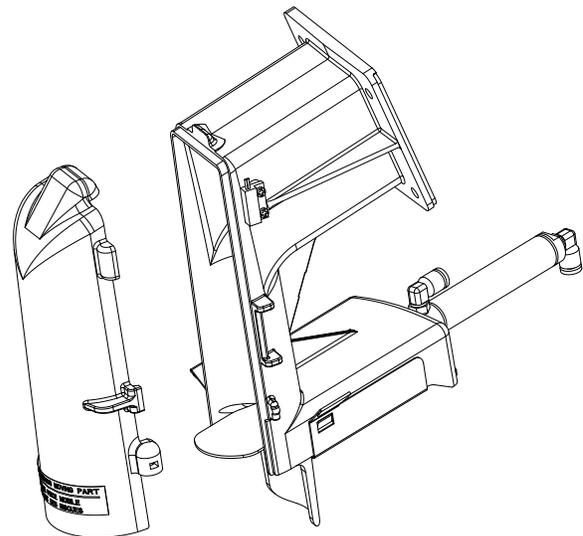
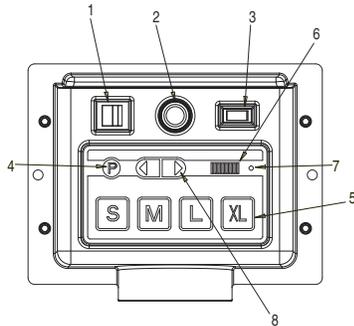


Figure 2.

PROGATE 2 CONTROL BOX OPERATION

PORTION CONTROL BOX FUNCTIONS

The portion control box on the PROGATE 2 has several functions including dispensing 4 programmed ice portions for 4 cup sizes, programming and a manual dispense mode.



1. MAIN POWER ON/OFF
2. AGITATOR PUSH ON
3. MODE SWITCH MANUAL/PROGATE
4. PROGRAM BUTTON
5. ICE PORTION DISPENSE BUTTONS
6. ICE PORTION BAR
7. PROGATE ON LIGHT
8. PORTION SIZE UP/DOWN KEYS

Figure 3.

1. **Main Power ON OFF:** Turns power to the entire machine off. Lights Orange when ON.
2. **Agitator Push ON:** Turns on agitator and opens ice gate allowing continuous dispense. This button will turn green in the manual mode and be off in PROGATE automatic. This button will also agitate in the automatic mode but not dispense ice.
3. **Mode Switch Manual/Progate:** Turns on agitator and opens ice gate allowing unlimited ice portion.
4. **Program Button:** The programming button is used with cup size button enabling the user to enter the portion programming mode to adjust the ice portions. The programming button is used with the directional arrow buttons to adjust the agitation time.
5. **Ice Portion Dispense Buttons:** Used to dispense the appropriate ice portion. Can also be used in conjunction with the program button to program a portion size.
6. **Ice Size Program Bar:** The program bar is only active in the program mode as a visual aid in setting the portion size.
7. **Light:** On start up of the unit or during a mode change (Manual to Progate) this light turns orange to inform the user that the unit is going through a self diagnostic test. On completion of this test the light turns green to inform the user that the machine is ready to dispense. If the light remains solid on red and the unit is not dispensing any ice when an ice portion is pressed this should generate a service call. During ice dispense if there is insufficient ice in the ice chute then the light turns red instantaneously to inform the user that there is insufficient ice. Once the user releases the portioned button then the red light goes out.
8. **Portion Up/Down Buttons:** The program bar is only active in the program mode to change the ice dispense program size.

Programming (Changing) the Ice Portion

To change the size of any of the four ice dispense sizes follow the steps below.

1. To enter the program mode press the **Program Button**  and **Desired Size** button  at the same time and hold for 5 seconds.

2. The Ice Portion Bar comes on. 

3. Press the UP ARROW button  to increase the amount of dispensed ice. The LED moves towards the right indicating the Ice Portion has been increased.
4. Press the DOWN ARROW button  to decrease the amount of dispensed ice. The LED moves towards the left indicating the Ice Portion has been decreased.
5. To exit the program mode press the Desired Size button  or wait 10 seconds and the control returns to the dispense mode.
6. Place a cup under the ice chute and press the just programmed dispense size button  If amount dispense amount is not the desired amount repeat the process.

Agitation Time

The software coding for the progate system involves a direct relationship between the dispense time and the agitation time.

Dispense Rime (mS)	Agitation Ratio	Agitation Time (mS)
50	10	500
70	10	700
90	10	900
110	10	1100
130	10	1300
150	10	1500
170	10	1700
190	10	1900
210	10	2100
230	10	2300

Dispense Rime (mS)	Agitation Ratio	Agitation Time (mS)
50	16	800
70	16	1120
90	16	1440
110	16	1760
130	16	2080
150	16	2400
170	16	2720
190	16	3040
210	16	3360
230	16	3680

Dispense Rime (mS)	Agitation Ratio	Agitation Time (mS)
50	28	1400
70	28	1960

90	28	2520
110	28	3080
130	28	3640
150	28	4200
170	28	4760
190	28	5320
210	28	5880
230	28	6440

The relationship is expressed below.

$$\text{Agitation Time (A}_T\text{)} = \text{Dispense Time (D}_T\text{)} \times \text{Agitation Ratio}^2 \text{(R}_A\text{)}$$

The agitation time equals the dispense time multiplied by the agitation ratio. The user is given the flexibility to change the agitation ratio thereby altering the agitation time in order to ensure that the ice chute is always filled with ice for all the different ice types.

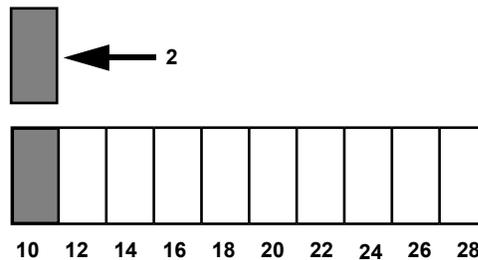


Figure 4.

Programming (Changing) the Agitation Time

1. Simultaneously Press and hold for 3 seconds, the  button and also both direction arrow buttons   to enter the programming mode.
2. The LED meter turns ON once the programming mode is entered. Visual feedback of ratio/agitation time is obtained from the visual programming LED . The LED meter shows the existing agitation ratio enabling the user to.
3. Vary the agitation time using the directional arrow buttons. Left to decrease and right direction arrow button to increase.

Ice Portion Bar

The portion bar is used to determine the amount of time programmed for each size button. Each button has a minimum and maximum amount of time that can be programmed. If a button cannot be adjusted to the size desired use another button to get the desired results.

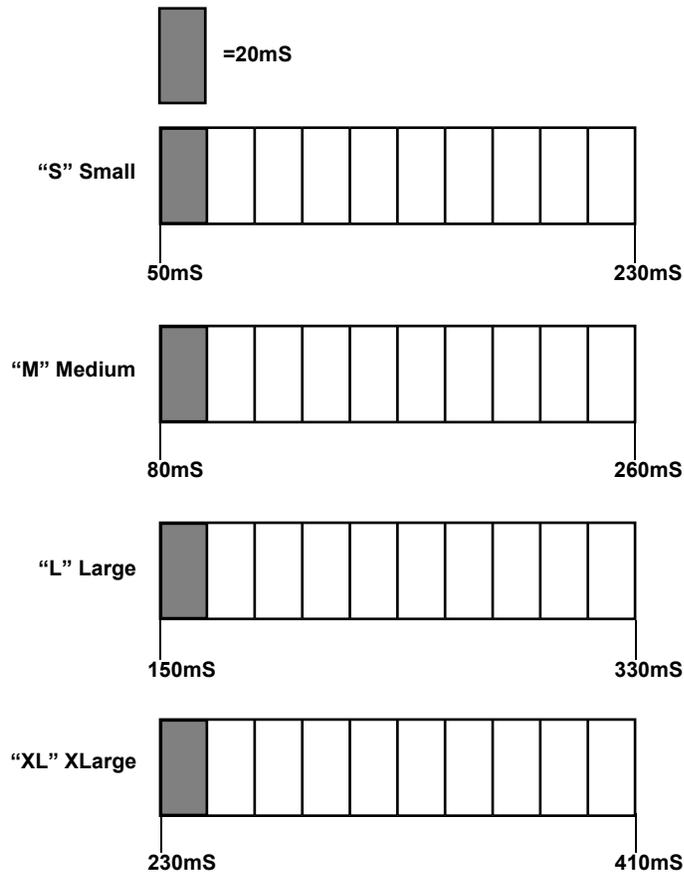


Figure 5.

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