

BEVERAGE & FLAVOR SHOT TOWERS



Servend®

INSTALLATION & SERVICE GUIDE

Part Number 5030763



ISO 9001:2000
Quality System Certified



Manitowoc Beverage Equipment

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In accordance with our policy of continuous product development and improvement, this information is subject to change at any time without notice.

September 27, 2006 REV2



FOREWORD

Manitowoc Beverage Equipment (MBE) developed this manual as a reference guide for the owner/operator, service agent, and installer of this equipment. Please read this manual before installation or operation of the machine. A qualified service technician should perform installation and start-up of this equipment, consult the *Troubleshooting Guide* within this manual for service assistance.

If you cannot correct the service problem, call your MBE Service Agent or Distributor. Always have your model and serial number available when you call.

Your Service Agent _____

Service Agent Telephone Number _____

Your Local MBE Distributor _____

Distributor Telephone Number _____

Model Number _____

Serial Number _____

Installation Date _____

UNPACKING AND INSPECTION

Note: The unit was thoroughly inspected before leaving the factory. Any damage or irregularities should be noted at the time of delivery.

WARRANTY INFORMATION

Consult your local MBE Distributor for terms and conditions of your warranty. Your warranty specifically excludes all beverage valve brixing, general adjustments, cleaning, accessories and related servicing.

Your warranty card must be returned to Manitowoc Beverage Equipment to activate the warranty on this equipment. If a warranty card is not returned, the warranty period can begin when the equipment leaves the MBE factory.

No equipment may be returned to Manitowoc Beverage Equipment without a written Return Materials Authorization (RMA). Equipment returned without an RMA will be refused at MBE's dock and returned to the sender at the sender's expense.

Please contact your local MBE distributor for return procedures.

TABLE OF CONTENTS

FOREWORD	3
UNPACKING AND INSPECTION	3
WARRANTY INFORMATION	3
SAFETY	5
IMPORTANT SAFETY INSTRUCTIONS	5
CARBON DIOXIDE WARNING	5
QUALIFIED SERVICE PERSONNEL	5
SHIPPING, STORAGE, AND RELOCATION	5
ADDITIONAL WARNINGS	5
GROUNDING IN STRUCTIONS	6
INSTALLATION	7
UNIT INSPECTION	7
PRE-INSTALLATION CHECK LIST	7
UNIT INSTALLATION	8
UNIT INSTALLATION	9
OPERATION	9
STARTING YOUR FLAVOR SHOT BEVERAGE SYSTEM	9
BEVERAGE VALVES	9
COUNTERTOP MEASUREMENTS	10
USER MAINTENANCE	10
PREVENTATIVE MAINTENANCE	10
CLEANING AND SANITIZING INSTRUCTIONS	11
DAILY CLEANING	11
MONTHLY SANITIZING	11
BAG-IN-BOX	12
INDEX	18

SAFETY

IMPORTANT SAFETY INSTRUCTIONS

Carefully read all safety messages in this manual. Learn how to operate the Flavor Shot Beverage Towerunit properly. Do not allow anyone to operate the unit without proper training and keep it in proper working condition. Unauthorized modifications to the Flavor Shot Beverage Tower may impair function and/or safety and affect the life of the unit.

CARBON DIOXIDE WARNING



DANGER: Carbon Dioxide (CO₂) displaces oxygen. Exposure to a high concentration of CO₂ gas causes tremors, which are followed rapidly by loss of consciousness and suffocation. If a CO₂ gas leak is suspected, particularly in a small area, immediately ventilate the area before repairing the leak. CO₂ lines and pumps should not be installed in an enclosed space. An enclosed space can be a cooler or small room or closet. This may include convenience stores with glass door self serve coolers. If you suspect CO₂ may build up in an area, venting of the B-I-B pumps and / or CO₂ monitors should be utilized.

QUALIFIED SERVICE PERSONNEL



WARNING: Only trained and certified electrical and plumbing technicians should service this unit. All wiring and plumbing must conform to national and local codes.

SHIPPING, STORAGE, AND RELOCATION



CAUTION: Before shipping, storing, or relocating this unit, syrup systems must be sanitized. After sanitizing, all liquids (sanitizing solution and water) must be purged from the unit. A freezing environment causes residual sanitizing solution or water remaining inside the unit to freeze, resulting in damage to internal components.

ADDITIONAL WARNINGS



⚠️ WARNING

UNPLUG UNIT BEFORE
SERVICING OR
CLEANING

**ELECTRIC SHOCK
HAZARD**



WARNING

Flush sanitizing solution from syrup system
Residual sanitizing solution left in system
could create a health hazard



⚠️ WARNING

When using cleaning
fluids or chemicals,
rubber gloves and eye
protection should
be worn

Installation and start-up of this equipment should be done by a qualified service technician. Operation, maintenance, and cleaning information in this manual are provided for the user/operator of the equipment. **Save these instructions.**

SAFETY

GROUNDING INSTRUCTIONS



WARNING: Risk of electrical shock. Connect to a properly grounded outlet only.

This appliance must be grounded. In the event of malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This appliance is equipped with a cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

DANGER – Improper connection of the equipment-grounding conductor can result in a risk of electric shock. The conductor with insulation having an outer surface that is green with or without yellow stripes is the equipment grounding conductor. If repair or replacement of the cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal. Check with a qualified electrician or serviceman if the grounding instructions are not completely understood, or if in doubt as to whether the appliance is properly grounded. Do not modify the plug provided with the appliance – if it will not fit the outlet, have a proper outlet installed by a qualified electrician.

WARNING – When using electric appliances, basic precautions should always be followed, including the following:

- a) Read all the instructions before using the appliance.
- b) To reduce the risk of injury, close supervision is necessary when an appliance is used near children.
- c) Do not contact moving parts.
- d) Only use attachments recommended or sold by the manufacturer.
- e) Do not use outdoors.
- f) For a cord-connected appliance, the following shall be included:
 - Do not unplug by pulling on cord. To unplug, grasp the plug, not the cord.
 - Unplug from outlet when not in use and before servicing or cleaning.
 - Do not operate any appliance with a damaged cord or plug, or after the appliance malfunctions or is dropped or damaged in any manner. Return appliance to the nearest authorized service facility for examination, repair, or electrical or mechanical adjustment.
- g) For a permanently connected appliance – Turn the power switch to the off position when the appliance is not in use and before servicing or cleaning.
- h) For an appliance with a replaceable lamp – always unplug before replacing the lamp. Replace the bulb with the same type.
- i) For a grounded appliance – Connect to a properly grounded outlet only. See Grounding Instructions.

SAVE THESE INSTRUCTIONS

INSTALLATION

UNIT INSPECTION

Thoroughly inspect the unit upon delivery. Immediately report any damage that occurred during transportation to the delivery carrier. Request a written inspection report from a claims inspector to document any necessary claim.

PRE-INSTALLATION CHECK LIST

When installing any system, first make sure the major components are available. Generally the major components necessary for an installation are:

Pre-mix system:

- CO₂ regulator set
- Product connectors for Figal tank
- Gas connectors for Figal tank
- Beverage dispenser
- Beverage tubing
- CO₂ tank
- Figal beverage tanks
- Stepless (Oetiker) clamps
- Chain for CO₂ tank

B-I-B System also:

- B-I-B connectors
- B-I-B regulator set
- B-I-B rack
- B-I-B syrup boxes

Double Check:

- Do you have enough space to install the dispenser?

Also consider the location of the following items before installation:

- Water line
- Drain

Post mix system:

- CO₂ regulator set
- Beverage dispenser
- Beverage tubing
- CO₂ tank
- Carbonator
- Stepless (Oetiker) clamps
- Chain for CO₂ tank

Figal system also:

- Syrup connectors for Figal tank
- Gas connectors for Figal tank
- Figal syrup tanks

- Is the countertop level?

- Power outlet
- Heating and air conditioning ducts

INSTALLATION

UNIT INSTALLATION



FIGURE 1

1. Carefully remove the tower from the shipping container and check for freight damage. Any damage should be noted at the time of delivery and reported to the carrier. **DO NOT DISCARD ACCESSORIES BAG.**
2. Drain line:
 - a. If a drain line is desired, carefully remove end from $\frac{3}{4}$ " (1.905 cm) horizontal drain fitting (See figure 2) on drain pan and attach a $\frac{3}{4}$ " (1.905 cm) insulated drain line of sufficient length to reach drain. Assure that drain line slopes toward drain $\frac{1}{8}$ " per foot (0.5cm per m) or per local plumbing codes.
 - b. If no drain line is desired, do not remove end of $\frac{3}{4}$ " (1.905 cm) drain fitting. Drain pan will have to be removed and emptied manually as required.

Post Mix Beverage Valve Instructions for Models [2703405](#) and [2703406](#):

1. Plumb the tower.
 - a. Plumb the syrup lines using the two (2) pre plumbed tower syrup line connections with $\frac{1}{4}$ " (.635cm) by $\frac{3}{8}$ " (.95cm) connectors to $\frac{3}{8}$ " (.95cm) syrup line.
 - b. Attach syrup lines to syrup connection on syrup pump.
 - c. Plumb the water/soda line using the $\frac{1}{4}$ " (.635cm) pre plumbed tower water line connection with $\frac{1}{4}$ " (.635cm) X $\frac{3}{8}$ " (.95cm) connector to a $\frac{3}{8}$ " (.95cm) water line.
 - d. Attach water line to water source, carbonated water or plain water as required.
2. Select the tower location.
3. Using the enclosed template (P.N. 5012434), mark cut outs for syrup/water lines, drain line (if used) and mounting screws.
4. Cut the holes for the incoming water, syrup, and (if used) drain lines.
5. Mount the tower and secure with the two (2) enclosed #8 X $\frac{3}{4}$ " (1.905 cm) screws.
6. Plug the transformer butt connector into the tower. Plug the transformer wall plug into a standard duplex outlet.
7. Set syrup pump pressure on regulator according to line run length and syrup viscosity.
8. Turn on water flow to valves.
9. Turn key to "ON" position.
10. Set the valve flow rates to between 1.5 oz (44 cc) / second and 3.0 oz (88 cm) / second and brix the beverage valves to the proper ratio after attaining normal beverage dispense temperature.
11. Check for water and syrup leaks.

INSTALLATION

UNIT INSTALLATION

Flavor Shot Valve Instructions Models 2703315 and 2703329:

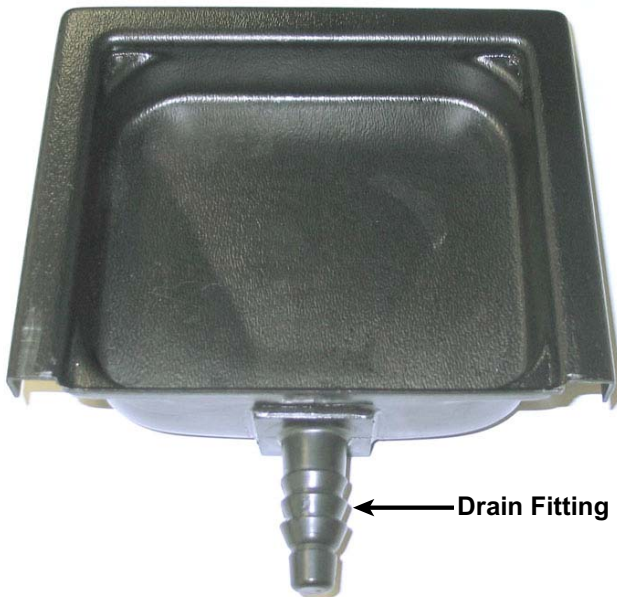


FIGURE 2

1. Plumb the unit.
 - a. Plumb the syrup lines using the two (2) $\frac{1}{4}$ " (.635cm) pre plumbed tower syrup line connections with $\frac{1}{4}$ " (.635cm) X $\frac{3}{8}$ " (.95cm) connectors to $\frac{3}{8}$ " (.95cm) syrup line.
(See Figure 2)
 - b. Attach syrup lines to syrup connection on syrup pump.
 - c. No water line connection is used on Flavor Shot Towers.
2. Select the tower location.
3. Using the enclosed template (P.N. 5012434), mark cut outs for syrup lines, drain line (if used), and mounting screws.
4. Cut the holes for the incoming syrup and drain lines (if used).
5. Mount the tower and secure with the two (2) #8 X $\frac{3}{4}$ " (1.905 cm) screws.
6. Plug the transformer butt connector into the tower. Plug the transformer wall plug into a standard duplex outlet.
7. Set syrup pump pressure on regulator according to line run length and syrup viscosity.
8. Turn key to "ON" position.
9. Set the syrup flow rate to 1 oz (30 cc) /sec ond and test run the valves.
10. Check for syrup leaks.

OPERATION

STARTING YOUR FLAVOR SHOT BEVERAGE SYSTEM

Upon completion of the beverage dispenser and / or system installation, all tubing, dispenser, and system components must be cleaned and sanitized prior to use.

NOTE: *At installation equipment, dispensers, and tubing get moved through many environments, dirt, dust, chases, insulation, drywall, etc. It is an important procedure and best practice to address cleaning to deliver the best quality drink to your customer.*

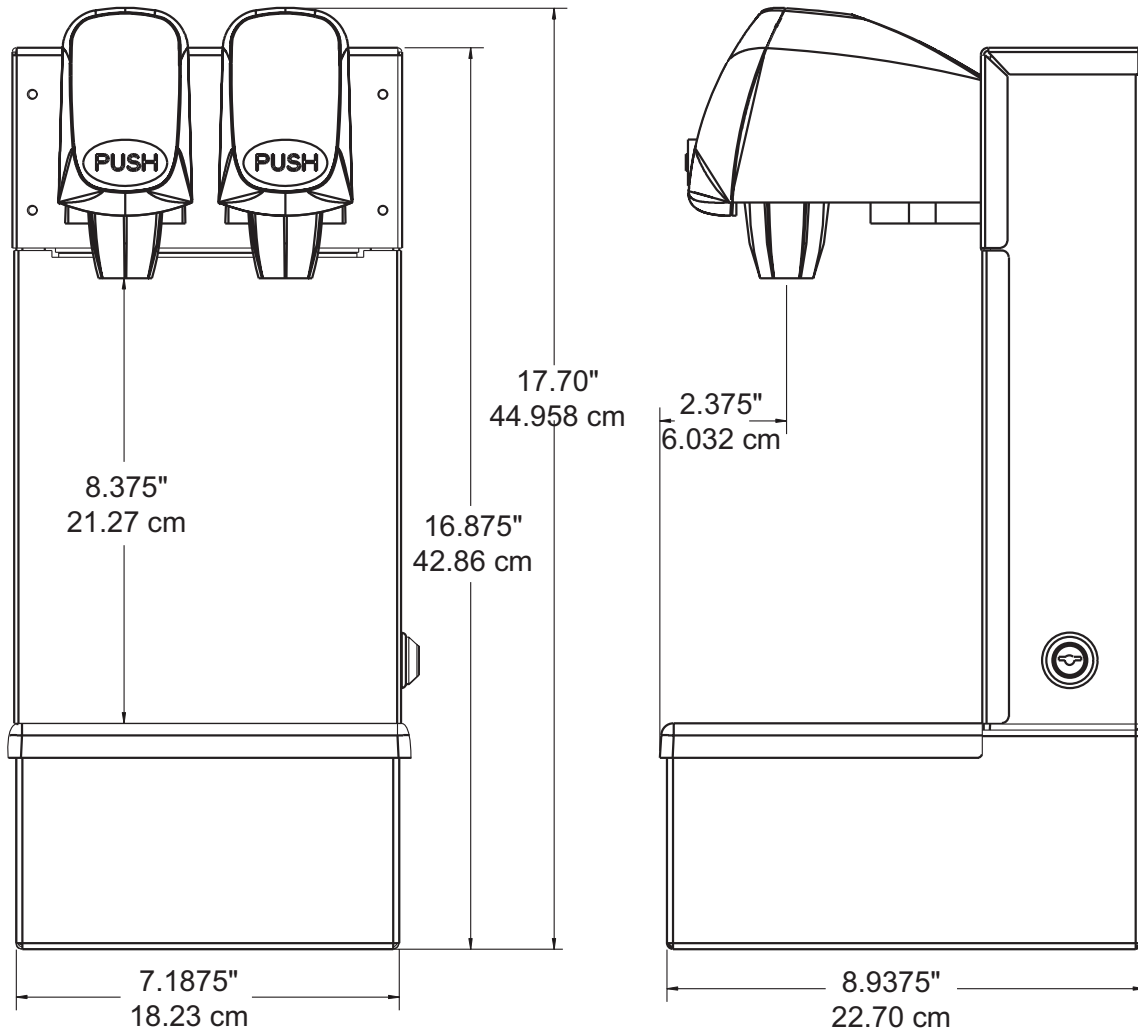
Clean and sanitize the water and syrup circuits according to instructions provided in this manual. Clean and sanitize the dispenser components according to instructions provided in this manual. Seal to counter top when no legs are used with the unit. Consult and use local health codes if a discrepancy occurs between this manual and your local health codes.

BEVERAGE VALVES

Post-mix beverage valves are designed to precisely meter the flow of both water and syrup to obtain the proper mixing ratio. The syrup and soda water components of the post-mix beverage are mixed as they leave the beverage valve.

OPERATION

COUNTERTOP MEASUREMENTS



USER MAINTENANCE


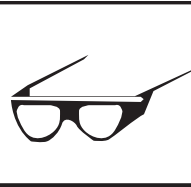
PREVENTATIVE MAINTENANCE

Preventative maintenance is a vital part of keeping your Servend dispenser in top condition. Following the guidelines below will assist you in continued trouble free operation of your unit. Contact MBE at 1-800-367-4233 for more information about our **ProActive Maintenance Program**.

1. Conduct daily maintenance of the machine.
2. Perform monthly maintenance of the machine.
3. Perform periodic maintenance and sanitizing of beverage system.
4. Do not allow the dispenser to sit for prolonged periods of non use.

USER MAINTENANCE

CLEANING AND SANITIZING INSTRUCTIONS

	<p>⚠ WARNING</p> <p>UNPLUG UNIT BEFORE SERVICING OR CLEANING</p> <p>ELECTRIC SHOCK HAZARD</p>	<p>⚠ WARNING</p> <p>Flush sanitizing solution from syrup system</p> <p>Residual sanitizing solution left in system could create a health hazard</p>	 <p>⚠ WARNING</p> <p>When using cleaning fluids or chemicals, rubber gloves and eye protection should be worn</p>
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NOTE: Scheduled cleaning must be in compliance with local health codes. This cleaning schedule is a recommendation. Cleaning procedures may vary according to local health codes.

DAILY CLEANING

⚠ CAUTION: Use only warm soapy water to clean the exterior of the dispenser. Do not use solvents or other cleaning agents. *Do not pour hot coffee into the drain pan. Pouring hot coffee*



You will need clean warm water to wash and rinse with, mild non-abrasive soap and a clean cloth to clean the following:

- Drain pan
 - Grid
 - Splash panel
 - Valve nozzles
 - Diffusers
1. Lift up the grid and remove it from the drain pan
 2. Using mild soap, warm water and clean cloth, wash the drain pan and splash panel. Then rinse with clean, warm water. Allow plenty of warm water to run down the drain to remove syrup residue that can clog the drain opening.
 3. Wash the grid, then rinse with clean warm water. Place the grid back in the drain pan.
 4. Wash all exterior surfaces of the unit with warm water and a clean cloth. Wipe again with a clean, dry cloth.
 5. Turn nozzle clockwise to the stop. Pull the nozzle downward to remove. Grasp diffuser and pull downward to remove.
 6. Clean both the nozzle and diffuser with soap and water to remove syrup residue. (A soft bristle brush can be used).
 7. Rinse nozzle and diffuser with warm, clean water.
 8. Replace diffuser in the valve body. Position nozzle and turn counter clockwise to the stop.

MONTHLY SANITIZING

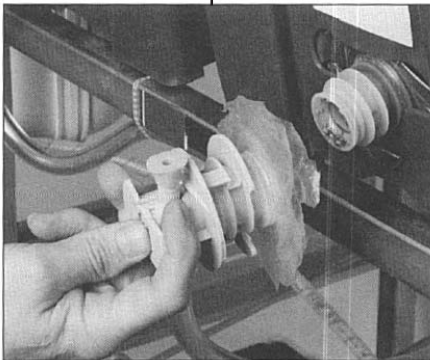
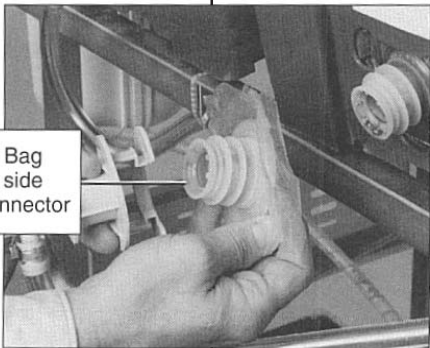
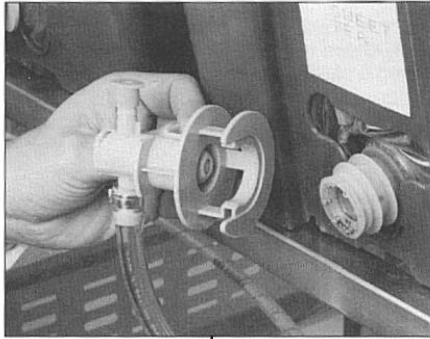
Mix a sanitizing solution of 1/2 ounce liquid, unscented bleach (5.25%Cl Na O concentration) with a gallon of water, to supply 100 PPM of available chlorine. Using this solution and a clean cloth or soft bristle brush, sanitize the parts mentioned in the daily cleaning procedure. Allow parts to air dry and then re-assemble.

USER MAINTENANCE

BAG-IN-BOX

You will need: Three clean, empty five-gallon buckets to be used for the rinse, detergent and sanitizing.

1. Disconnect the bag-in-box connectors.
2. Prepare the following in three clean buckets:
 - a. Rinse bucket - fill bucket with clean tap water
 - b. Detergent bucket - mix mild non-abrasive detergent with warm water as recommended by the detergent manufacturer.
 - c. Sanitizing bucket - mix a solution of 1 ounce of unscented household bleach (5.25% Cl Na O concentration) with two gallons of tap water. The mixture should supply 100 PPM of available chlorine.



3. Remove the cap located opposite the tubing connection on the bag-in-box connector. Alternate: use old BIB bag.
4. Place bag-in-box connector in the rinse (step 2A). Draw clean tap water through the system and out the beverage valve until all syrup is flushed from the system.
5. Place bag-in-box connector in the detergent bucket (step 2B). Draw detergent solution through the system and out the beverage valve for 2 minutes. Then allow the remaining detergent stay in the system for 5 minutes.
6. Remove the valve nozzles and diffusers, as described in the daily cleaning instructions. Using a clean cloth or a soft bristle brush, scrub the nozzle, the diffuser, the bottom of the valve and the cup lever, if applicable.
7. Place the valve diffusers and nozzles in sanitizing solution for 20 minutes, then replace them on the beverage valve.
8. Place bag-in-box connector in the sanitizing bucket (step 2C). Draw sanitizing solution through the system and out the valve for 10 minutes. Allow the sanitizing solution to remain in the system for a minimum of 20 minutes.
9. Replace the plastic cap opposite the tubing connection on the bag-in-box connector (or remove bag if alternate old BIB bag is used).
10. Reconnect the bag-in-box connector to the syrup bag-in-box.
11. Draw syrup through the system and out the beverage valve until all sanitizing solution is flushed from the system.
12. Repeat the above steps for each syrup circuit of each beverage valve or follow this procedure with any number of valves concurrently.

DO NOT USE

***Under
Preventative
Maintenance***

Please post this page in front of dispenser when cleaning system.



INDEX

B					
brixing	3				
C					
Carbon Dioxide	5				
CAUTION	10				
claims	7				
Cleaning	3				
CO2	4				
CO2 monitors	4				
D					
damage	3, 7				
delivery	3, 7				
distributor	3				
Drain	7				
ducts	7				
F					
FOREWORD	3				
		I		Q	
		INSPECTION	3	Qualified Service Personnel	5
		inspection	7		
		INSTALLATION	7, 8, 9	R	
		Installation Date	3	Relocation	5
		irregularities	3	return procedures	3
		L		S	
		location	7	SAFETY	5, 6
		M		sanitizing	4
		MBE	3	Serial Number	3
		Model Number	3	service assistance	3
		modifications	5	Service Personnel	5
		O		Shipping	5
		Operation	5	Shipping, Storage, Relocation ..	5
		P		soapy water	10
		Power outlet	7	solvents	10
				start-up	5
				Storage	5
				U	
				Unit Inspection	7
				UNPACKING	3
				W	
				Warning	5
				WARRANTY INFORMATION ...	3
				Water line	7
				water-to-syrup ratio. See brixing	



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