Multi-Valve Unit (MVU) Tower

LANCER INSTALLATION/OPERATION MANUAL

Español...
Français...
Deutsche...
日本語...

FOR QUALIFIED INSTALLER ONLY. This basic Installation Sheet is an initial release. If a complete Operations Manual (for the unit being installed) is required or needed, please refer to the Lancer web site (lancercorp.com) for immediate access, or for your convenience, scan this QR code with a mobile device (app required) for immediate access to other Technical Documents and alternative translations (if available) pertaining to this unit. Contact Lancer Customer Service for assistance as required.

ABOUT THIS MANUAL

This booklet is an integral and essential part of the product and should be handed over to the operator after the installation and preserved for any further consultation that may be necessary. Please read carefully the guidelines and warnings contained herein as they are intended to provide the user with essential information for the continued safe use and maintenance of the product. In addition, it provides ***GUIDANCE ONLY*** to the user on the correct services and site location of the unit.

BEFORE GETTING STARTED

Each unit is tested under operating conditions and is thoroughly inspected before shipment. At the time of shipment, the carrier accepts responsibility for the unit. Upon receiving the unit, carefully inspect the carton for visible damage. If damage exists, have the carrier note the damage on the freight bill and file a claim with carrier. Responsibility for damage to the dispenser lies with the carrier.

The installation and relocation, if necessary, of this product must be carried out by qualified personnel with up-to-date safety and hygiene knowledge and practical experience, in accordance with current regulations.

IMPORTANT SAFETY INSTRUCTIONS

⚠ Intended Use

The dispenser is for indoor use only. This unit is not a toy. Children should not be supervised not to play with appliance. It should not be used by children or infirm persons without supervision. 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 or instruction concerning use of the appliance by a person responsible for their safety. Cleaning and user maintenance shall not be performed by children without supervision. The min/max ambient operating temperature for the dispenser is 40°F to 90°F (4°C to 32°C). Do not operate unit below minimum ambient operation conditions. Should freezing occur, cease operation of the unit and contact authorized service technician. Service, cleaning and sanitizing should be accomplished only by trained personnel. Applicable safety precautions must be observed. Instruction warnings on the product being used must be followed.

MVU

LANCER PN: 28-2826/02
Revision: May 2018

⚠ Electrical Warning

Check the dispenser name plate label, located behind the splash plate, for the correct electrical requirements of unit. Do not plug into a wall electrical outlet unless the current shown on the serial number plate agrees with local current available. Follow all local electrical codes when making connections. Each dispenser must have a separate electrical circuit. Do not use extension cords with this unit. Do not 'gang' together with other electrical devices on the same outlet. The keyswitch does not disable the line voltage to the transformer primary. Always disconnect electrical power to the unit to prevent personal injury before attempting any internal maintenance. The resettable breaker switch should not be used as a substitute for unplugging the dispenser from the power source to service the unit. Only qualified personnel should service internal components of electrical control housing. Make sure that all water lines are tight and units are dry before making any electrical connections!

⚠ Carbon Dioxide (CO_2)

- **WARNING:** Carbon Dioxide (CO2) is a colorless, noncombustible gas with a light pungent odor. High percentages of CO_2 may displace oxygen in the blood.
- **WARNING:** Prolonged exposure to CO_2 can be harmful. Personnel exposed to high concentrations of CO_2 gas will experience tremors which are followed by a loss of consciousness and suffocation.
- **WARNING:** If a CO_2 gas leak is suspected, immediately ventilate the contaminated area before attempting to repair the leak.
- **WARNING:** Strict attention must be observed in the prevention of CO_2 gas leaks in the entire CO_2 and soft drink system.

⚠ Water Notice

Provide an adequate potable water supply. Water pipe connections and fixtures directly connected to a potable water supply must be sized, installed, and maintained according to federal, state, and local laws. The water supply line must be at least a 3/8 inches (9.525 mm) pipe with a minimum of 25 PSI (0.172 MPA) line pressure, but not exceeding a maximum of 65 PSI (0.448 MPA). Water pressure exceeding 65 PSI (0.448 MPA) must be reduced to 65 PSI (0.448 MPA) with the provided pressure regulator. Use a filter in the water line to avoid equipment damage and beverage off-taste. Check the water filter periodically, as required by local conditions. The water supply must be protected by means of an air gap, a backflow prevention device or another approved method to comply with NSF standards. A leaking inlet water check valve will allow carbonated water to flow back through the pump when it is shut off and contaminate the water supply. Ensure the backflow prevention device complies with ASSE and local standards. It is the responsibility of the installer to ensure compliance.

SPECIFICATIONS & FEATURES

DIMENSIONS

Width: 7.25 inches (184.15 mm)
Depth: 9 inches (228.6 mm)
Height: 16.5 inches (419 mm)

WEIGHT

Shipping: 15 lbs (7.0 kg)

ELECTRICAL

115 VAC / 60 Hz

PLAIN/CARBONATED WATER SUPPLY

Min Flowing Pressure: 25 PSI (0.172 MPA)
Max Static Pressure: 65 PSI (0.448 MPA)

CARBON DIOXIDE (CO_2) SUPPLY

Min Pressure: 70 PSIG (0.483 MPA)
Max Pressure: 80 PSIG (0.552 MPA)

FITTINGS

Plain/Carb Water Inlet: 3/8 inch barb
Brand Syrup Inlets: 3/8 inch barb

This unit emits a sound pressure level below 70 dB

READ THIS MANUAL

This manual was developed by the Lancer Corporation as a reference for the owner/operator and installer of this dispenser. Please read this guide before installation and operation of this dispenser. If service is required please call your Lancer Service Agent or Lancer Customer Service. Always have your model and serial number available when you call.

Your Service Agent: _____

Service Agent Telephone Number: _____

Serial Number: _____

Model Number: _____

INSTALLATION

Unpack the Dispenser

1. The Lancer dispenser is shipped in a corrugated shipping carton.
2. Remove dispenser from corrugated shipping carton.

NOTE

Inspect unit for concealed damage. If evident, notify delivering carrier and file a claim against the same.

Selecting/Preparing Counter Location

NOTE

The dispenser should only be installed in a location where it can be overseen by trained personnel

1. Select a level, well ventilated location that is in close proximity to a properly grounded electrical outlet, within five (5) feet (1.5 m) of a drain, a water supply that meets the requirements shown in the Specifications section found on page 2, and away from direct sunlight or overhead lighting.
2. The dispenser is designed to be installed permanently to a counter and must be sealed with a bead of clear silicone caulk or sealant which provides a smooth and easily cleanable bond to the counter.

NOTE

NSF listed units must be sealed to the counter or have four (4) inch legs installed.

3. Select a location for the remote chiller systerm, syrup pumps, CO_2 tank, syrup containers, and water filter (recommended).
4. Cut out required opening in counter for the water/soda and syrup lines in the designated dispenser location.

Leveling the Dispenser:

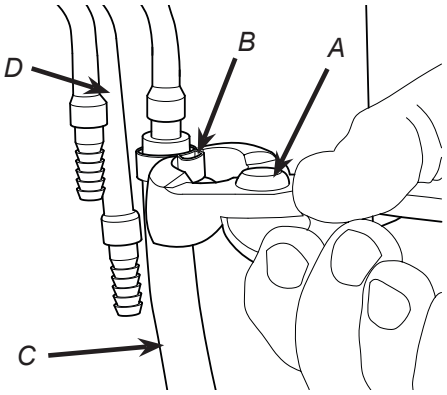
In order to facilitate proper dispenser drainage, ensure that the dispenser is level, front to back and side to side. Place a level on the top of the rear edge of the dispenser. The bubble must settle between the level lines. Repeat this procedure for the remaining three sides. Level unit if necessary. For optimum performance place the unit at a 0° tilt. The maximum tilt is 5°.

NOTE

To assure that beverage service is accessible to all customers, Lancer recommends that counter height and equipment selection be planned carefully. The 2010 ADA Standards for Accessible Design states that the maximum reach height from the floor should be no more than 48" if touch point is less than 10" from the front of the counter, or a maximum of 46" if the touch point is more than 10" and less than 27" from the front of the counter. For more information about the customer's legal requirements for the accessibility of installed equipment, refer to 2010 ADA Standards for Accessible Design - http://www.ada.gov.

Tower Installation

1. Route appropriate tubing from the water source to the plain water inlet at tower and connect tubing to inlet using the oetiker pliers and fittings,(see Plumbing Diagram on unit or page 11 for reference).



A. Oetiker Pliers
B. Fitting
C. Tubing
D. Syrup/Water Inlet

2. Connect tubing to water source then flush water line to check for leaks.
3. Route appropriate tubing from the remote chiller system location to the carbonated water inlet on tower and connect tubing to inlet.

NOTE

Unit is designed to be supported by a remote chiller system or remote ice cooled system. Please see the manufacturer's specifications and instructions for installation.

4. Route appropriate tubing from the syrup pump location to the syrup inlets and connect tubing to inlet. Repeat for remaining syrup lines
5. Route the power supply cord to a grounded electrical outlet of the proper voltage and amperage rating.

⚠ WARNING

DO NOT PLUG UNIT INTO GROUNDED ELECTRICAL OUTLET AT THIS TIME. **Make sure that all water lines are tight and unit is dry before making any electrical connections**

6. Connect drain line to fitting at the bottom of the drip tray and route to designated open type foor drain.

⚠ CAUTION

Drain line must be insulated with a closed cell insulation. Insulation must cover the entire length of the drain hose, including fittings. The drain should be installed in such a manner that water does not collect in sags or other low points, as condensation will form.

⚠ ATTENTION

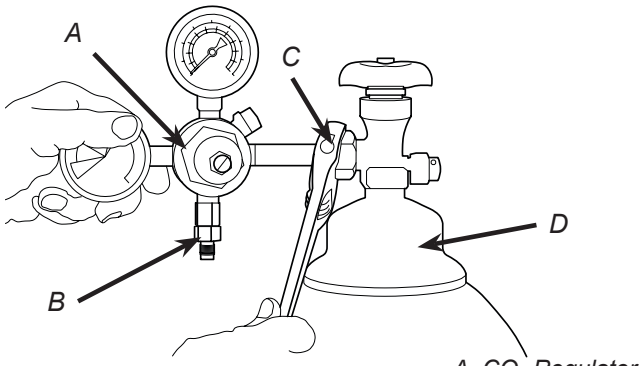
Pouring hot water down the drain may cause the Drain Tube to collapse. Allow only luke warm or cold water to enter the Drain Tube. Pouring coffee, tea, or other similar substances down the drain may cause the Drain Tube to become clogged.

Installing CO_2 Supply

1. Connect high pressure CO_2 regulator assembly to CO_2 cylinder or bulk system.

⚠ ATTENTION

Before installing regulator, assure that a seal (washer or o-ring) is present in regulator attachment nut.



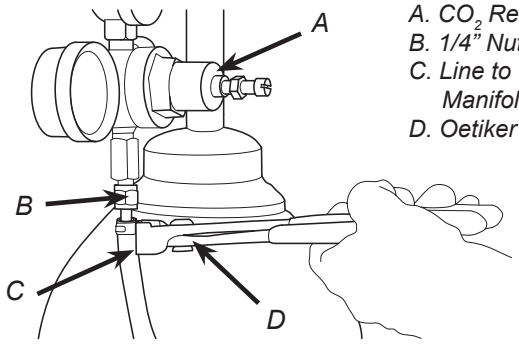
A. CO_2 Regulator
B. Outlet
C. Wrench
D. CO_2 Supply

- *Thread regulator nut on to tank, then tighten nut with wrench*

2. Connect a 1/4" nut, stem and seal to CO_2 regulator outlet.
3. Route appropriate tubing from the low pressure CO_2 regulator manifold location to the 1/4" nut, stem on the high pressure CO_2 regulator attached to source and connect tubing.

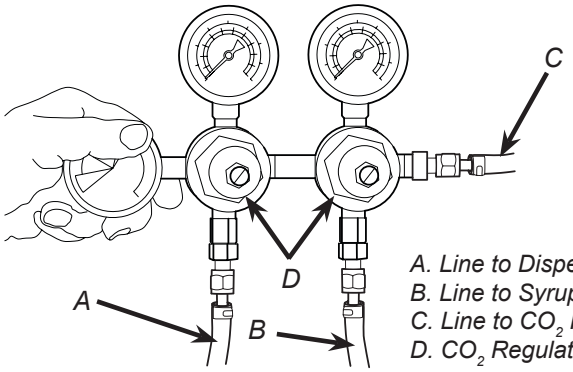
⚠ ATTENTION

A dedicated CO_2 regulator is required to supply the CO_2 inlet at the remote chiller as well as to all syrup pumps.



A. CO_2 Regulator
B. 1/4" Nut, Stem & Seal
C. Line to CO_2 Regulator Manifold
D. Oetiker Pliers

4. Route appropriate tubing from one of the low pressure CO_2 regulator manifold outlets to the inlet at the remote chiller.
5. Route appropriate tubing from the second outlet of the low pressure CO_2 regulator manifold to the syrup pumps location.

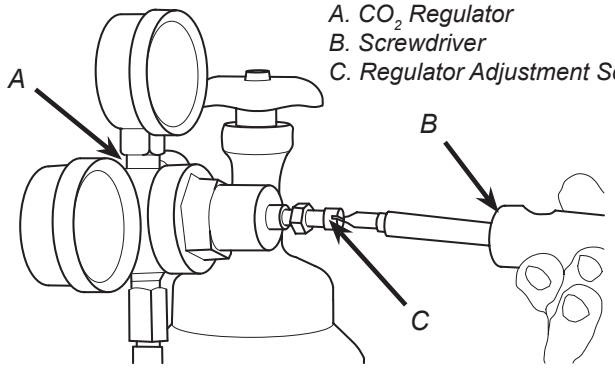


A. Line to Dispenser
B. Line to Syrup Pumps
C. Line to CO_2 Regulator
D. CO_2 Regulator Manifold

6. Using a wrench, loosen lock nut on the regulator adjustment screw of the high pressure CO_2 regulator connected to the source, then using a screwdriver back out lock nut screw all the way.

⚠ WARNING

DO NOT TURN ON CO_2 SUPPLY AT THIS TIME



A. CO_2 Regulator
B. Screwdriver
C. Regulator Adjustment Screw

7. Repeat Step 6 for both low pressure CO_2 regulators on the regulator manifold routed to the unit and the syrup pumps.

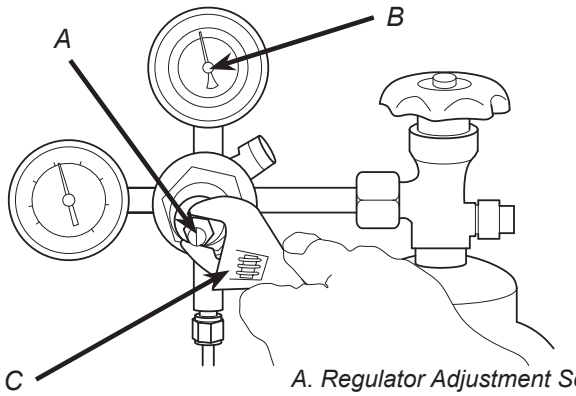
Dispenser Setup

1. Turn on water source.
2. Open the pressure relief valve located on the remote chiller system or remote carbonator by flipping up on the valve cap lever. Hold open until water flows from the relief valve then close (flip down) reflief valve.
3. Verify all Bag-In-Box contains syrup and check all connections for leaks.
4. Connect tower and remote chiller power cords to grounded electical outlet.

⚠ WARNING

The dispenser must be properly electrically grounded to avoid serious injury or fatal electrical shock. The power cord has a three-prong grounded plug. If a three-hole grounded electrical outlet is not available, use an approved method to ground the unit. Follow all local electrical codes when making connections. Each dispenser must have a separate electrical circuit. Do not use extension cords. Do not connect multiple electrical devices on the same outlet.

5. Activate each valve to ensure a good flow of water is achieved.
6. Ensure pump deck is turned OFF before turning on CO_2.
7. Turn on CO_2 at the source then, using a screwdriver, adjust the high pressure regulator at the source to 110 PSI (0.758 MPA) then tighten locknut with wrench.



A. Regulator Adjustment Screw
B. Adjust to 110 PSI (0.758 MPA)
C. Wrench

8. Adjust both of the low pressure regulators on the regulator manifold to 75 PSI (0.517 MPA) then tighten locknut with wrench.
9. Activate each valve until gas-out.
10. Plug in the remote carbonator pump deck, if not already done so, and turn the switch to the ON position.
11. Activate each valve until the carbonator pump comes on. Release the button, allow carbonator to fill and stop. Repeat this process until a steady flow of carbonated water is achieved.

NOTE

The pump deck has a 3 minute timeout feature. If the timeout occurs, turn the deck OFF then ON by flipping the switch on the control box.

NOTE

To check for CO_2 leaks, close the valve on the CO_2 cylinder and observe if the pressure to the system drops with the cylinder valve closed for five minutes. Open the cylinder valve after check.

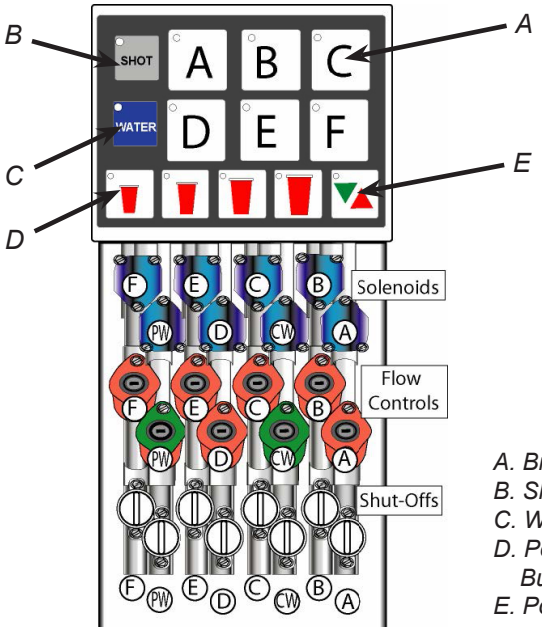
12. Activate each valve to purge air from the syrup lines.

MULTI-VALVE UNIT (MVU) PROGRAMMING

Overview

The MVU module is designed to dispense up to 6 beverages and/or shots through one dispense nozzle. The MVU consists of: an electronic board, touch pad which is used to both program and dispense drinks, 8 solenoids (one for each circuit), 8 flow controls (one for each circuit), and 8 shut-offs

1. Positions A and D are plumbed through the cold plate meaning that the syrup is chilled in each of those locations.
2. Positions B, C, E, and F bypass the cold plate so the syrups are not chilled and should ***NOT*** be used for carbonated beverages.
3. The water flow controls are green in color the plain water control is labeled with “PW”, and the carbonated water is labeled with “CW”. There are no stickers on the water flow controls.
4. The syrup flow control modules are red and correspond to the touch pad, (touchpad position A activates solenoid A).
5. The 8 solenoids are 24 VDC, activated by the touch pad, and controlled by the MVU circuit board.



A. Brand Button
B. Shot Button
C. Water Button
D. Portion Control Buttons
E. Pour/Cancel

Set MVU for Carb, Non-Carb, or Flavor Shot Only

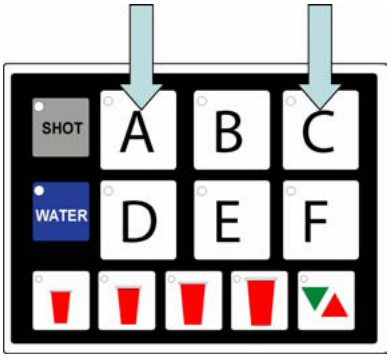
NOTE

Refer to Overview Illustration for touch pad reference.

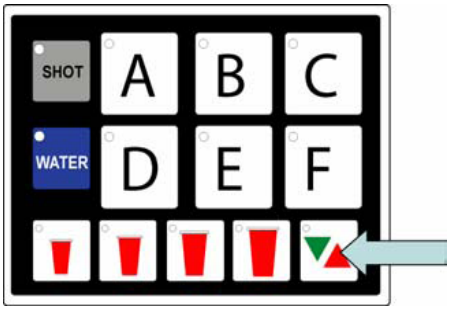
1. On the MVU panel, press and hold both of the A and C brand buttons at the same time to enter programming mode.

NOTE

The Pour/Cancel LED will illuminate and the Shot button LED will blink one time, once in programming mode.



2. Observe brand LED's to identify the water setting for each button:
   - Lights on = Plain Water
   - Lights flashing = Carb Water
   - Lights off = No Water (Deactivated unless set for shot)
3. To change a brand from its factory setting, press that button to toggle between plain water, soda water, or no water.
4. Repeat this process for each brand for positions B, C, D, E, and F
5. Press the Pour/Cancel to save the changes and exit the programming mode.



NOTE

The Program will save automatically in 60 seconds if no additional changes are made in that time frame; however, you can exit any time within the 60 second window by pressing Pour/Cancel. The changes you've made will be saved.

Set MVU for Flavor Shots

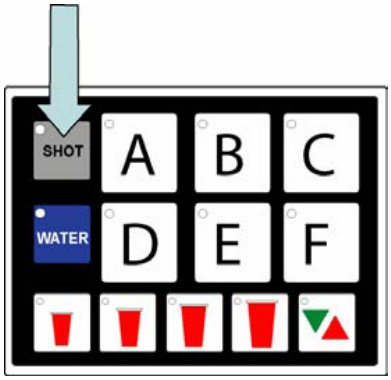
NOTE

Refer to Overview Illustration for touch pad reference.

1. On the MVU panel, press and hold both of the A and C brand buttons at the same time for a minimum of 5 seconds to enter programming mode.
2. Press the "Shot" button.

NOTE

The "Shot" button will illuminate. Brands enabled for shots will be illuminated.



3. Press the "Brand" button to turn the shot mode for that brand on or off.
4. Press the Pour/Cancel Button to save changes in place and exit the programming mode.

NOTE

The Program will save automatically in 60 seconds if no additional changes are made in that time frame; however, you can exit any time within the 60 second window by pressing Pour/Cancel. The changes you've made will be saved.

MVU Flow Rate Check

NOTE

Refer to Overview Illustration for touch pad reference.

1. To check the flow rate, remove the splashguard and MVU front plate to expose the flow controls and solenoids.

NOTE

CW = Carbonated Water

PW = Plain Water

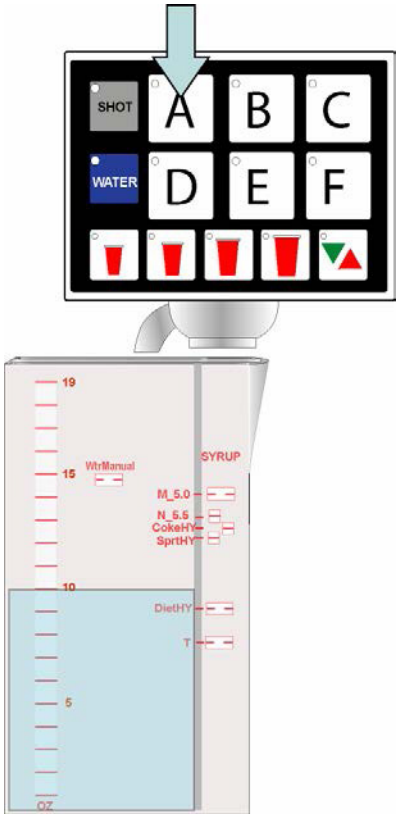
Green is for water and Red is for syrup

2. Press and hold the A and B brand buttons at the same time for a minimum of 5 seconds.

NOTE

The "Pour/Cancel" button will illuminate and the "Shot" button will blink 5 times.

3. Remove outer nozzle and insert syrup separator.
4. Place a ratio cup under the nozzle and press a brand button.



NOTE

The brand's water module will open and pour for 4 seconds to prime the separator. Only water will pour during the flow rate check.

5. Press the brand button again to pour for 4 seconds.
6. Check for 10 oz of water in the ratio cup:

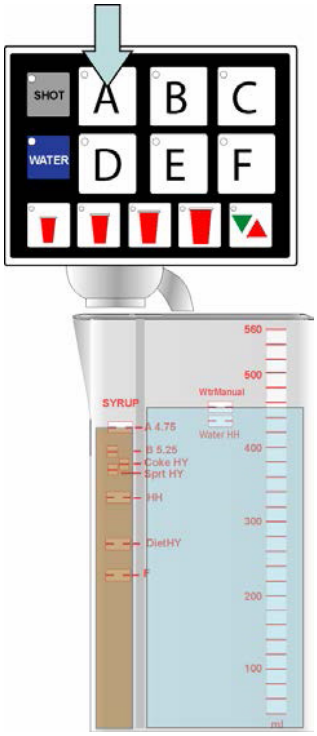
NOTE

If above or below 10 oz., adjust the water flow control. Water should not be adjusted after this step.

7. Repeat process for other water type.
8. Press Pour/Cancel to exit programming mode.

Ratio Process

1. Prime syrup by running the valve.
2. Press and fill the ratio cup to the appropriate level.



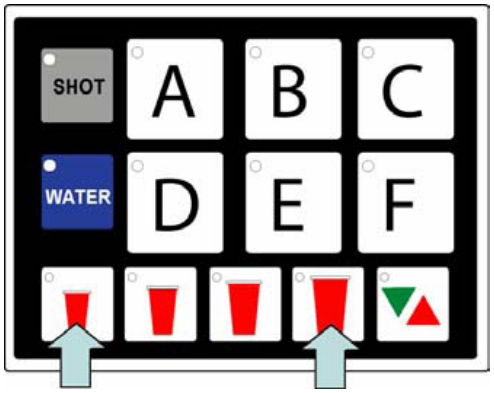
3. Check/Adjust Ratio on each brand.
4. Use flow controls to adjust syrup only. Do not adjust water.
5. Replace MVU front plate when all adjustments have been made.

Portion Control Programming

1. Press the S and XL portion control size buttons at the same time for a minimum of 5 seconds to enter portion setting mode.

NOTE

The "Pour/Cancel" button will illuminate and the "Shot" button will blink 2 times.



2. Press the brand button(s) to select for portion control setting, the selected brand's LED will illuminate.

NOTE

Multiple brands can be programmed at the same time to pour the same amounts for each size during this step by selecting several brands. However, the first button selected will illuminate and only its beverage will pour while the other brands selected will flash slowly.

NOTE

In multi-brand programming mode, do not set carbonated drinks and non-carbonated drinks at the same time because carbonated drinks tend to foam.

NOTE

The LED will blink twice and turn off if the brand has been programmed as a flavor shot only. You will need to reprogram the brand as a drink prior to setting the portion if it needs to be programmed as a drink as well as a flavor shot.

3. Fill a cup 1/3 full with ice and place it under the nozzle, push and hold a drink "size" button until the cup is full.
4. Once the pour is completed, the LED will blink slowly to indicate that a new pour duration has been programmed for that size.
5. Repeat this step for each of the other size cups.
6. Select other brands and repeat these steps for each of them.
7. Press "Pour Cancel" button to save programming.

NOTE

The Program will save automatically in 60 seconds if no additional changes are made in that time frame; however, you can exit any time within the 60 second window by pressing Pour/Cancel. The changes you've made will be saved.

MVU Shot Size Programming

1. While in Portion Control Programming, press the Shot button. If pressed again, it will exit "Shot Size Programming.
2. Press any "Brand" button. The brand button will illuminate.

NOTE

If brand is not enabled for shot mode, the LED light on that brand will blink twice and turn off.

3. Place a graduated cylinder under the nozzle.
4. Press and hold the XL portion button until it reaches the target of 30 ml (1 oz) of syrup.

NOTE

The XL LED will blink slowly to indicate that it has been programmed. The other size buttons are automatically set and do not require adjusting.

5. Repeat steps 2 through 4 for each of the other brands.
6. Press Pour/Cancel to save the settings.

CLEANING AND SANITIZING

GENERAL INFORMATION

Lancer equipment (new or reconditioned) is shipped from the factory cleaned and sanitized in accordance with NSF guidelines. The operator of the equipment must provide continuous maintenance as required by this manual and/or state and local health department guidelines to ensure proper operation and sanitation requirements are maintained.

The cleaning procedures provided herein pertain to the Lancer equipment identified by this manual. If other equipment is being cleaned, follow the guidelines established by the manufacturer for that equipment.

Cleaning should be accomplished only by trained personnel. Sanitary gloves are to be used during cleaning operations. Applicable safety precautions must be observed. Instruction warnings on the product being used must be followed.

⚠ ATTENTION

- **Use sanitary gloves when cleaning the unit and observe all applicable safety precautions.**
- ***DO NOT* use a water jet to clean or sanitize the unit.**
- ***DO NOT* disconnect water lines when cleaning and sanitizing syrup lines, to avoid contamination.**
- ***DO NOT* use strong bleaches or detergents; These can discolor and corrode various materials.**
- ***DO NOT* use metal scrapers, sharp objects, steel wool, scouring pads, abrasives, or solvents on the dispenser.**
- ***DO NOT* use hot water above 140° F (60° C). This can damage the dispenser.**
- ***DO NOT* spill sanitizing solution on any circuit boards. Insure all sanitizing solution is removed from the system.**

Cleaning Solution

Mix a mild, non-abrasive detergent (e.g. Sodium Laureth Sulfate, dish soap) with clean, potable water at a temperature of 90°F to 110°F (32°C to 43°C). The mixture ratio is one ounce of cleaner to two gallons of water. Prepare a minimum of five gallons of cleaning solution. Do not use abrasive cleaners or solvents because they can cause permanent damage to the unit. Ensure rinsing is thorough, using clean, potable water at a temperature of 90°F to 110°F. Extended lengths of product lines may require additional cleaning solution.

Sanitizing Solution

Prepare the sanitizing solution in accordance with the manufacturer's written recommendations and safety guidelines. The type and concentration of sanitizing agent recommended in the instructions by the manufacturer shall comply with 40 CFR §180.940. The solution must provide 200 parts per million (PPM) chlorine (e.g. Sodium Hypochlorite or bleach) and a minimum of five gallons of sanitizing solution should be prepared.

Scheduled Maintenance/Cleaning

As Needed	• Keep exterior surfaces of tower clean using a clean, damp cloth.
Daily	• Using the cleaning solution, clean all exterior stainless steel surfaces of tower • Remove cup rest then clean the drip tray and cup rest. Replace cup rest when finished. • Wipe clean all splash areas using a damp cloth soaked in cleaning solution. • Clean and sanitize tower nozzle as specified by the section *Cleaning and Sanitizing Tower Nozzle*.
Every Six Months	• Clean and sanitize the syrup lines as specified by the section *Cleaning and Sanitizing Syrup Lines - Bag in Box*.

Cleaning and Sanitizing Tower Nozzle

1. Disconnect power, so as to not activate valve while cleaning.
2. Remove nozzle by twisting counter clockwise and pulling down.
3. Remove diffuser by pulling down.
4. Rinse nozzle and diffuser with warm water.
5. Wash nozzle and diffuser with cleaning solution then immerse in sanitizing solution and let sit for fifteen (15) minutes.
6. Set nozzle and diffuser aside and let air dry. ***DO NOT*** rinse with water after sanitizing.
7. Reconnect diffuser and nozzle.
8. Connect power.
9. Taste the drink to verify that there is no off-taste. If off-taste is found, flush syrup system again.

⚠ CAUTION

Following sanitization, rinse with end-use product until there is no aftertaste. Do not use a fresh water rinse. This is a NSF requirement. Residual sanitizing solution left in the system creates a health hazard.

Cleaning and Sanitizing Syrup Lines - Bag in Box

1. Disconnect syrup lines from BIB's
2. Place syrup lines, with BIB connectors, in a bucket of warm water.
3. Activate each valve to fill the lines with warm water and flush out syrup remaining in the lines.
4. Prepare Cleaning Solution described on previous page.
5. Place syrup lines, with BIB connectors, into cleaning solution.
6. Activate each valve until lines are filled with cleaning solution then let stand for ten (10) minutes.
7. Flush out cleaning solution from the syrup lines using clean, warm water.
8. Prepare Sanitizing Solution described on previous page.
9. Place syrup lines into sanitizing solution and activate each valve to fill with sanitizer. Let sit for ten (10) minutes.
10. Reconnect syrup lines to BIB's and draw drinks to flush solution from the dispenser.
11. Taste the drink to verify that there is no off-taste. If off-taste is found, flush syrup system again.

⚠ CAUTION

Following sanitization, rinse with end-use product until there is no aftertaste. Do not use a fresh water rinse. This is a NSF requirement. Residual sanitizing solution left in the system creates a health hazard.

TROUBLESHOOTING

Tower Troubleshooting

TROUBLE	CAUSE	REMEDY
Insufficient water flow.	1. Insufficient incoming supply water pressure. 2. Shutoff not fully open. 3. Foreign debris in water pump strainer	1. Verify incoming supply water pressure is a minimum of 25 psi (0.172 MPa). 2. Open shutoff fully. 3. Remove water pump strainer and clean.
Insufficient syrup flow.	1. Insufficent CO_2 pressure to BIB pumps. 2. Out of CO_2 . 3. Shutoff not fully open. 4. Bad syrup pump.	1. Adjust CO_2 pressure to 80 Psi (0.550 MPa) [minimum 70 Psi (0.480 MPa)] for BIB pumps. 2. Replace CO_2 tank/refill. 3. Open shutoff fully. 4. Replace BIB pump.
Water only dispensed; no syrup; or syrup only dispensed, no water	1. Water or syrup shutoff on mounting block not fully open. 2. BIB supply too far from dispenser. 3. CO_2 pressure too low. 4. Stalled or inoperative BIB pump 5. Kinked line.	1. Open shutoff fully. 2. Check that BIB supply is within six (6) feet of the dispenser. 3. Check the CO_2 pressure to the pump manifold to ensure it is between 70 and 80 Psi (0.483 and 0.552 MPa). 4. Check CO_2 pressure and/or replace pump. 5. Remove kink or replace line.
Excessive foaming.	1. Incoming water or syrup temperature too high. 2. CO_2 pressure too high. 3. Water flow rate too high. 4. Nozzle and diffuser not installed. 5. Nozzle and diffuser not clean. 6. Air in BIB lines. 7. Poor quality ice.	1. Correct prior to dispenser. Consider larger dispenser or pre-cooler. 2. Adjust CO_2 pressure downward, but not less than 70 Psi. 3. Re-adjust and reset ratio. 4. Remove and reinstall properly. 5. Remove and clean. 6. Bleed air from BIB lines. 7. Check quality of ice used in drink.
Warm drinks.	1. Dispenser was recently installed. 2. Dispenser connected to hot water supply.	1. It may take up to 5 hours, after install, to reach the desired temperature. 2. Switch to cold water supply.
No carbonation	1. Carbonator motor not running. 2. Absence of CO_2 gas. 3. Gas only from valves. 4. Carbonator tank air bound. 5. CO_2 gas pressure below too low. 6. Carbonator motor running continuously.	1. Check power supply. Be sure toggle switch is in ON position. 2. Replace with full tank of CO_2 gas. 3. Check for power failure. Check fuses. Clean strainer on pump. 4. Relieve gas pressure in tank by pulling ring on safety relief valve until water spurts out. 5. Reset high pressure CO_2 gas regulator to 90-110 psi. Change CO_2 tank if required. 6. Check switch on carbonator. Check water in check valve for blockage. Check carbonator control. Check carbonator pump for efficiency.

TROUBLE	CAUSE	REMEDY
Noisy carbonator pump.	1. Insufficient water supply or water leak, allowing air to be pulled into pump. 2. Loose pump coupling.	1. Provide adequate water supply. Check strainer for cleanliness. 2. Tighten set screw on pump coupling.
Off-taste in soda.	1. Leaking water check valve, allowing carbonated water back into supply line.	1. Dismantle and clean check valve. Replace O-ring if torn or distorted.
Valves inoperable.	1. Loss of power.	1. Check power supply to see if plugged in. Check transformer circuit breaker. Check main power circuit breaker 110V.

Post-Mix Troubleshooting

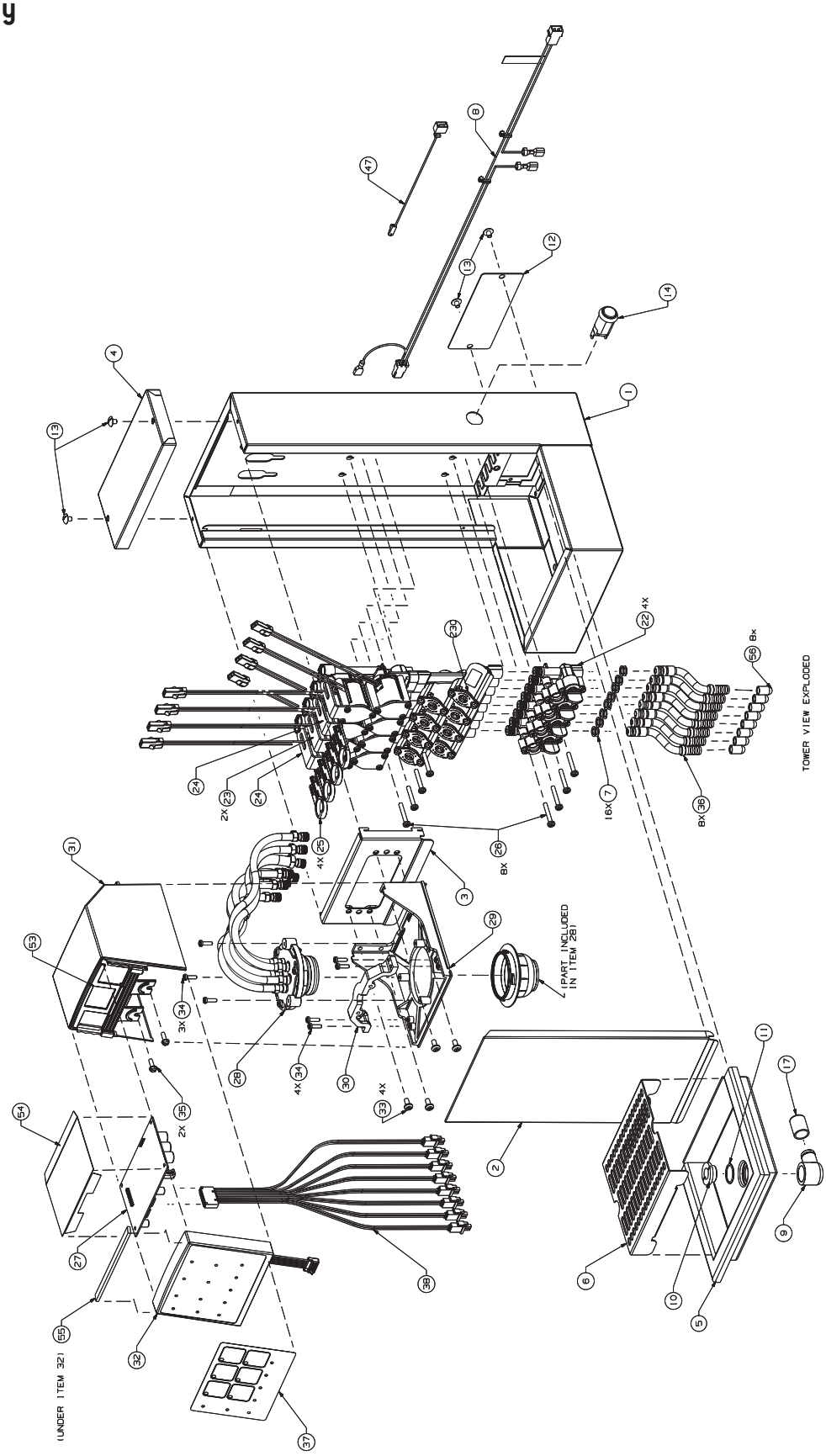
TROUBLE	CAUSE	REMEDY
BIB pump does not operate when dispensing valve opened.	1. Out of CO_2, CO_2 not turned on, or low CO_2 pressure. 2. Out of syrup. 3. BIB connector not tight. 4. Kinks in syrup or gas lines. 5. Bad BIB Pumps.	1. Replace CO_2 supply, turn on CO_2 supply, or adjust CO_2 pressure to 70-80 Psi (0.483-0.552 MPa) 2. Replace syrup supply. 3. Fasten connector tightly. 4. Straighten or replace lines. 5. Replace BIB pump.
BIB pump operated, but no flow.	1. Leak in syrup inlet or outlet line. 2. Defective BIB pump check valve.	1. Replace line. 2. Replace BIB pump
BIB pump continues to operate when bag is empty.	1. Leak in suction line. 2. Leaking o-ring on pump inlet fitting.	1. Replace line. 2. Replace o-ring.
BIB pump fails to restart after bag replacement.	1. BIB connector not on tight. 2. BIB connector is stopped up. 3. Kinks in syrup line 4. Bad BIB Pumps.	1. Tighten BIB connector. 2. Clean out or replace BIB connector. 3. Straighten or replace line. 4. Replace BIB pump.
BIB pump fails to restart when dispensing valve is closed.	1. Leak in discharge line or fittings. 2. Empty BIB. 3. Air leak on inlet line or bag connector.	1. Repair or replace discharge 2. Replace BIB. 3. Repair or replace.
Low or no carbonation.	1. Low or no CO_2. 2. Excessive water pressure. 3. Worn or defective carbonator pump. 4. PCB malfunctioning.	1. Check CO_2 supply. Adjust CO_2 pressure to 70 Psi (0.483 MPa). 2. Water regulator should be set at 50 Psi (0.345 MPa) 3. Replace carbonator pump. 4. See page 19.

Dispenser Disposal

To prevent possible harm to the environment from improper disposal, recycle the unit by locating an authorized recycler or contact the retailer where the product was purchased. Comply with local regulations regarding disposal of the refrigerant and insulation.

ILLUSTRATIONS & PART LISTINGS

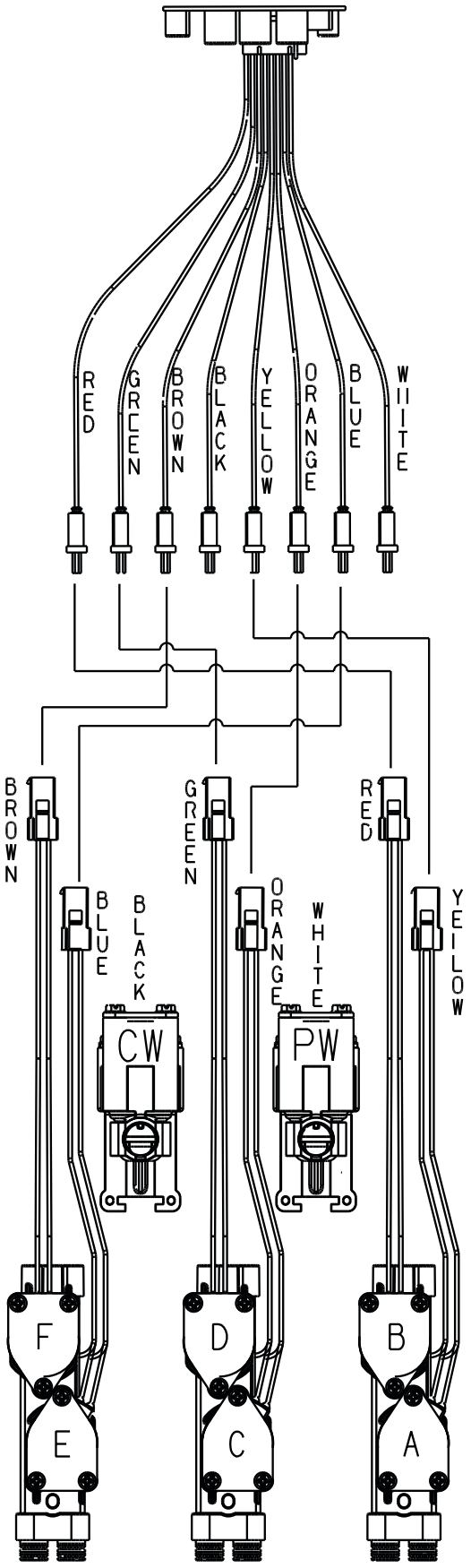
MVU Tower Assembly



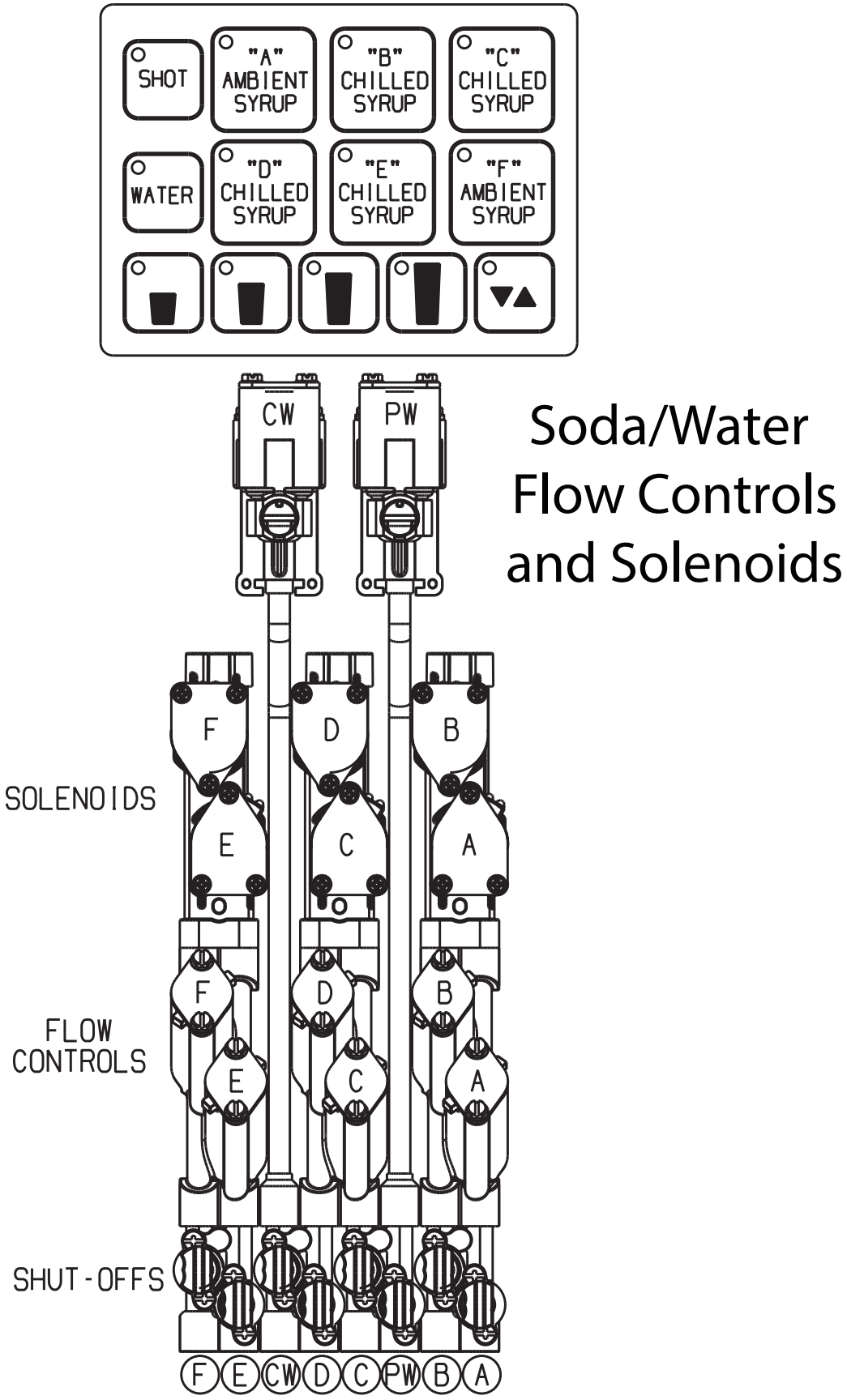
Item	Part No.	Description
1	51-6311	Structure, MVU
2	30-1649/01	Plate, Splash
3	30-10431	Plate, Faucet
4	30-1648	Cap, Tower, 1&2
5	05-0953	Drip Tray, Two
6	30-1651	Cup Rest
7	02-0003	O-Ring, 2-011
8	52-3260	Harness Assy, Power
9	05-0610/01	Elbow, Drain, WI
10	05-0611	Collar, Drain
11	02-0221	O-Ring, 2-018
12	30-0612	Plate, Back,
13	04-0148	Scr, 10-32x.250
14	12-0097	Switch, Key
15	28-0777*	Manual, Install
16	08-0184*	Tubing, Gray
17	05-08968	Cap, Drain, Vinyl
18	06-0075/01*	Nmplt, Vinyl
19	25-0069/01*	Transformer
20	52-1772/01*	Harness Assy, Wire
21	06-1061*	Template, Base
22	17-0622-2	Body Assy
23	19-0471/01	Valve Assy, 2-Pack, Syrup/ Syrup (85-3136-MVUFC uses 3)
24	19-0472/01	Valve Assy, 2-Pack, Syrup/ Water (not included on 85-3136-MVUFC)
25	05-2775/01	Retainer, Slide
26	04-0481	Scr, 8-32x1.125
27	64-5011/02	PCB Assy
28	49-0330	Nozzle Assy
-	49-0331	Nozzle Assy, Flavor Shots Only
29	05-2687/01	Plate, Nozzle
30	05-2682	Bracket, Cover
31	54-0464	Cover Assy, MVU
32	52-3160	Panel Assy, ID
33	04-0236	Scr, 10-24x.375
34	04-0470	Scr, 6-19x.500
35	04-0267/02	Scr, 8-16x.5, PL
36	48-2862	Tube Assy
37	06-3077	Overlay, Button
-	06-3191	Overlay, Flavor Shots Only
38	52-3169	Harness Assy
39	06-0111*	Label Soda
40	06-0112*	Label Water,
41	06-3127*	Label, “A A A A”
42	06-3128*	Label, “B B B B”
43	06-3129*	Label, “C C C C”
44	06-3130*	Label, “D D D D”
45	06-3131*	Label, “E E E E”
46	06-3132*	Label, “F F F F”
47	52-3208	Harness, MVU
48	06-3125	Label, Plmb/Wir
49	90-0065*	Carton, Single
50	90-0004*	Bag, 9x15, Clr
51	90-0444*	Bag, 38.000 x 3
52	90-0066*	Pad, Tower
53	05-2831	MVU Shield, Plastic
54	05-2832	MVU Control BD, CVR, Plastic
55	50-0586	Insulation Strip, MVU Tower
56	04-0559	Cap, Protective, Vinyl, VC-375-8

**** - Items not shown.***

Wiring Diagram



Plumbing Diagram



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