LANCER
WORLDWIDE ®

TST
Touchscreen Tower

Operation Manual

ETL LISTED c US

CE

NSF ®

ISO 14001

ISO 9001

320

TABLE OF CONTENTS

ABOUT THIS MANUAL

This booklet is an integral and essential part of the product. Please carefully read 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 or 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.

SAFETY NOTICES

READ ALL SAFETY INSTRUCTIONS BEFORE USING THIS UNIT.

This manual contains important safety information and all applicable safety precautions must be observed. To reduce the risk of fire, electric shock, damage to the equipment or personal injury when using this unit all instructions/warnings on the product being used must be followed:

⚠ **WARNING**

Text following the Warning signal indicates a hazardous situation, which if not avoided, will result in death or serious injury. Be sure to read all Warning statements before proceeding with the installation.

⚠ **ATTENTION**

Text following the Attention signal addresses a situation that if not followed could potentially damage the equipment. Be sure to read the Attention statements before proceeding

⚠ **CAUTION**

Text following the Caution signal indicates a hazardous situation, which if not avoided, could result in death or serious injury. Be sure to read the Caution statements before proceeding with the installation

NOTE

Text following the Note signal provides you with information that may help you more effectively perform the installation procedures within this manual. Disregarding information will not cause damage or injury, however it may limit the performance of the dispenser.

IMPORTANT SAFETY INSTRUCTIONS

⚠ Intended Use

- The dispenser is for indoor use only.

- This appliance is intended to be used in commercial applications such as restaurants or similar.

- This appliance is to be installed in a location where its use can be overseen by trained personnel.

- This appliance 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.

- This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.

- Cleaning and user maintenance shall not be performed by children without supervision.

- This unit is not a toy and children should be advised not to play with the appliance.

- 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 or above maximum ambient operation conditions.

- Should freezing occur, cease operation of the unit and contact an authorized service technician.

- The maximum tilt for safe operation is 5°.

- This appliance must be installed and serviced by a professional.

⚠ Carbon Dioxide (CO_2)

- **WARNING:** Carbon Dioxide (CO_2) 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.
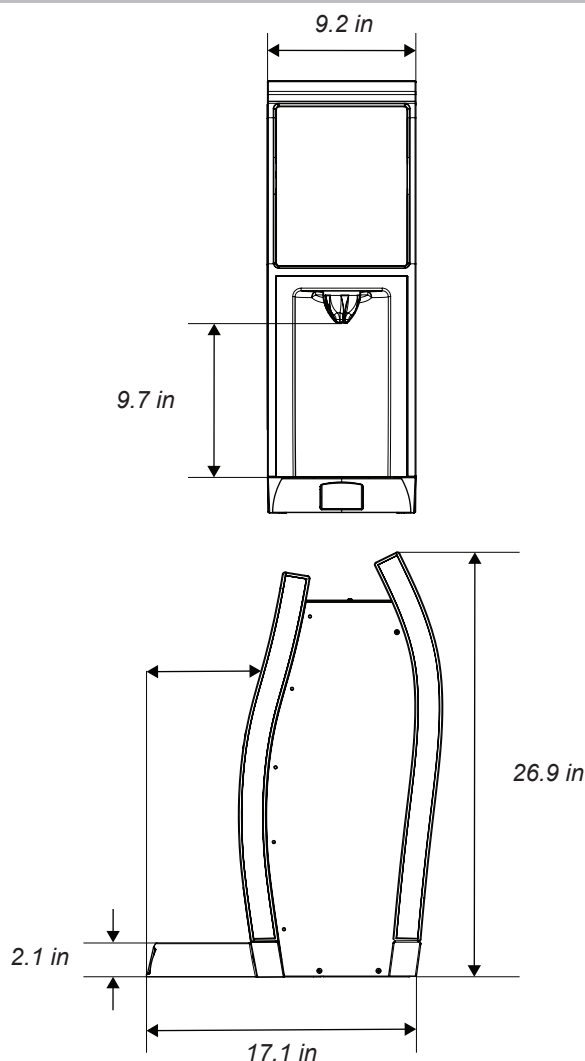
⚠ Power

- Follow all local electrical codes when making connections.

- Appliance must be supplied by 24 VDC.

- Check dispenser nameplate label, located inside tower panels, for 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.

- 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.

- **WARNING:** 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.

- **WARNING:** Make sure that all water lines are tight and units are dry before making any electrical connections.

- If this dispenser is installed in an area that is susceptible to ±10% variation of the nominal line voltage, consider installing a surge protector or similar protection device.

⚠ Water Notice

- Appliance is not suitable for installation where a water jet could be used.

- 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 codes.

- The water supply line must be at least a 3/8 inch (9.5 mm) pipe with a minimum of 20 psi (0.137 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).

- 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.

- **CAUTION:** The water supply must be protected by means of an air gap, a backflow prevention device (located upstream of the CO_2 injection system) 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.

- **CAUTION:** Ensure the backflow prevention device complies with ASSE and local standards. It is the responsibility of the installer to ensure compliance.

PRE-INSTALLATION

Specifications & Features

9.2 in

9.7 in

26.9 in

2.1 in

17.1 in

A. Touch Screen
B. Nozzle
C. Splash Plate
D. Cup Rest
E. Drip Tray
F. Ribbon Light

DIMENSIONS

Width: 9.2 inches (234 mm)
Depth: 17.1 inches (434 mm)
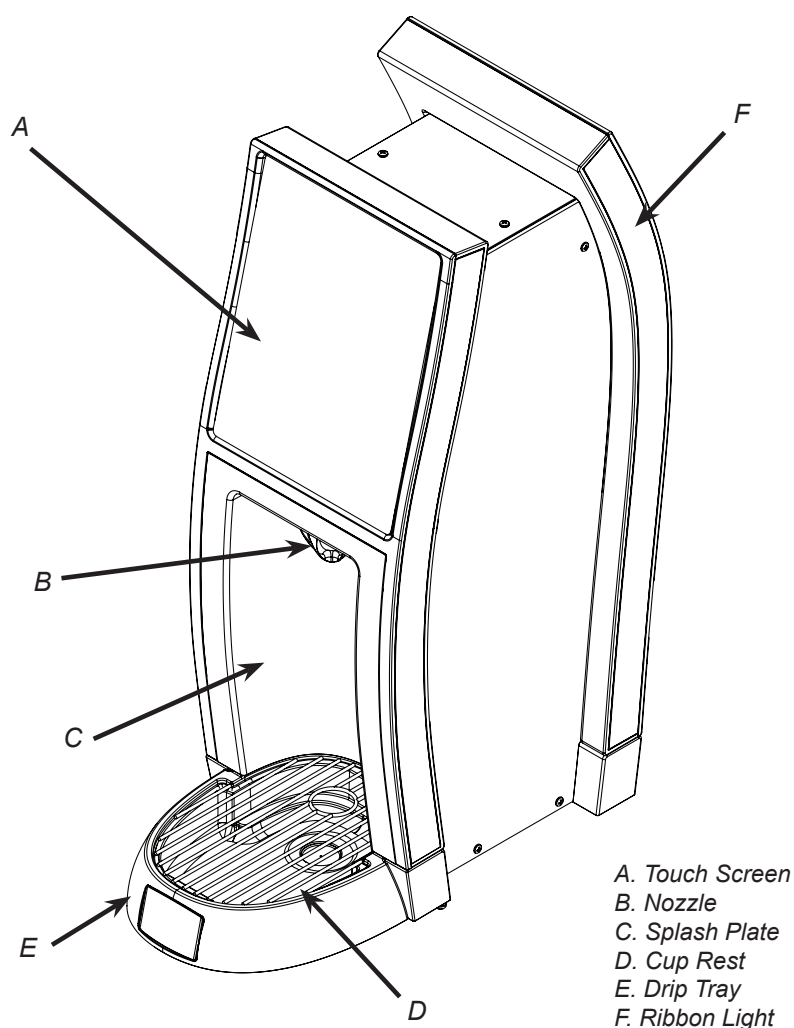*Height*: 26.9 inches (683 mm)

WEIGHT

Shipping: 40 lbs (18.14 kg)
Operating: 35 lbs (15.88 kg)

ELECTRICAL

24 VDC / 2.0 Amps

FLOW RATE

1.5 - 2.0 ounces per second

PLAIN WATER SUPPLY

Min Flowing Pressure: 20 psi (0.137 MPa)
Max Static Pressure: 65 psi (0.448 MPa)
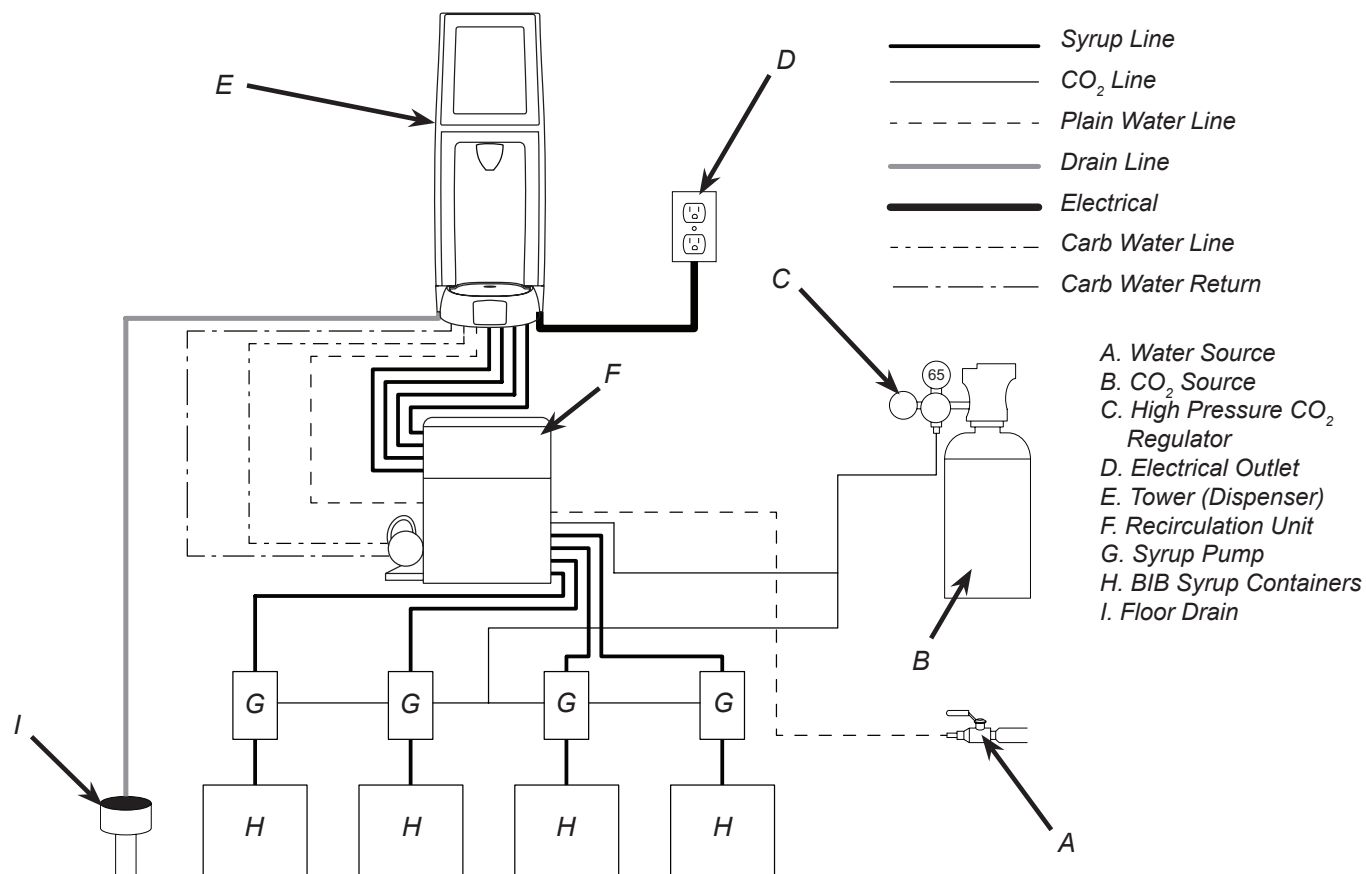
CARBON DIOXIDE (CO_2) SUPPLY

Min Pressure: 70 psi (0.483 MPa)
Max Pressure: 80 psi (0.552 MPa)

FITTINGS

Carb Water Inlet: 3/8 inch (9.5 mm) barb
Carb Water Outlet: 3/8 inch (9.5 mm) barb
Plain Water Inlet: 3/8 inch (9.5 mm) barb
Brand Syrup Inlets: 3/8 inch (9.5 mm) barb
Drain Fitting: 5/8 inch (15.9 mm) barb

This unit emits a sound pressure level below 70 dB

General System Overview

Legend:
- Syrup Line
- CO_2 Line
- Plain Water Line
- Drain Line
- Electrical
- Carb Water Line
- Carb Water Return

A. Water Source
B. CO_2 Source
C. High Pressure CO_2 Regulator
D. Electrical Outlet
E. Tower (Dispenser)
F. Recirculation Unit
G. Syrup Pump
H. BIB Syrup Containers
I. Floor Drain

Pre-Installation Checklist

TOOLS REQUIRED:

☐ Oetiker Pliers

☐ Tubing Cutters

☐ Wrench

☐ Slotted Screwdriver

☐ Phillips Screwdriver

☐ Drill

BAG-IN-BOX (BIB) SYSTEM:

☐ BIB Rack

☐ BIB Syrup Boxes

☐ BIB Regulator Set

☐ BIB Connectors

POST MIX ACCESSORIES:

☐ High Pressure CO_2 Regulator

☐ CO_2 Supply

☐ Chain for CO_2 Tank

☐ Beverage Dispenser

☐ Beverage Tubing

☐ Oetiker Clamp Fittings

CONSIDER THE FOLLOWING BEFORE INSTALLATION:

☐ Location of Water Supply Lines

☐ Location of Drain

☐ Location of Electrical Outlet

☐ Location of Heating and Air Conditioning Ducts

☐ Do you have enough space to install the dispenser?

☐ Is countertop level?

☐ Can the countertop support the weight of the dispenser?

☐ Is dispenser located away from direct sunlight or overhead lighting?

INSTALLATION

Read This Manual

This manual was developed by Lancer Worldwide as a reference guide for the owner/operator and installer of this dispenser. Please read this manual before installation and operation of this dispenser. Please see pages 23 - 25 for troubleshooting or service assistance. If the service cannot be corrected please call your Service Agent or Lancer Customer Service. Always have your model and serial number available when you call.

Unpacking the Dispenser

1. Cut package banding straps and remove.

2. Open the box and remove the accessory kit and loose parts.

3. Carefully lift the unit out of the box and place on a flat surface taking care to not scratch the plastic covers.

NOTE

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

Selecting/Preparing a Counter Location

NOTE

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

1. Select a location that is in close proximity to a properly grounded electrical outlet, within five (5) feet (1.5 m) of a drain, and a water supply that meets the requirements shown in the Specifications section found on page 4.

⚠ ATTENTION

Inspect the counter location where the unit is to be installed. Verify the selected counter is strong enough to safely support the weight of the installed unit, after the cutout for the unit is made. The ideal counter for installation should measure at least one (1) inch thick.

2. Select a location that utilizes the clearances/space required for installation.

3. Select a location for the remote chiller system or carbonator (if necessary), syrup pumps, CO_2 tank, syrup containers, and water filter (recommended).

4. Using Counter Cut-Out Template provided (see page 31), cut out required opening for the tower installation in the designated location.

Max: 2.75 in

Min: 0.75 in

Max: 48.0 in

Min: 2.0 in

A

Max: 1.5 in

B

A. Drain Tube
B. Inlet Tubes

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.
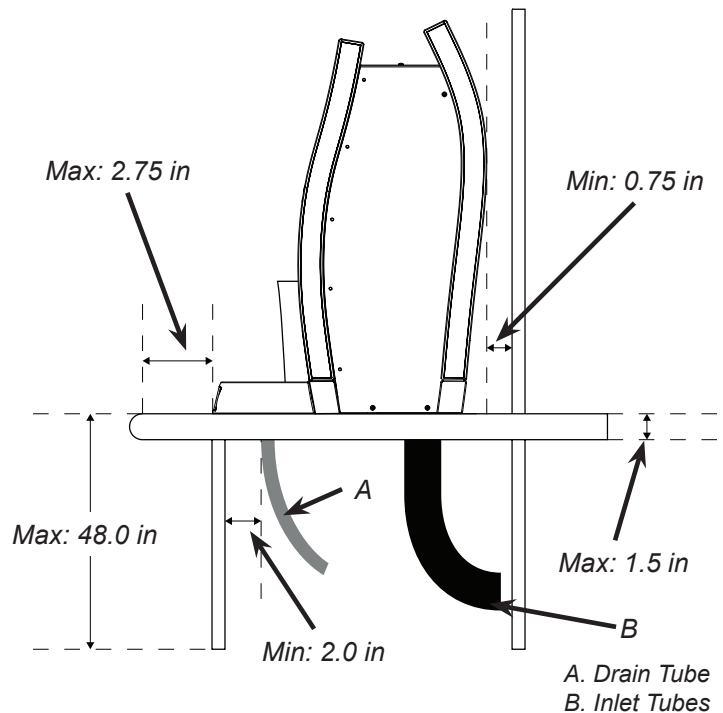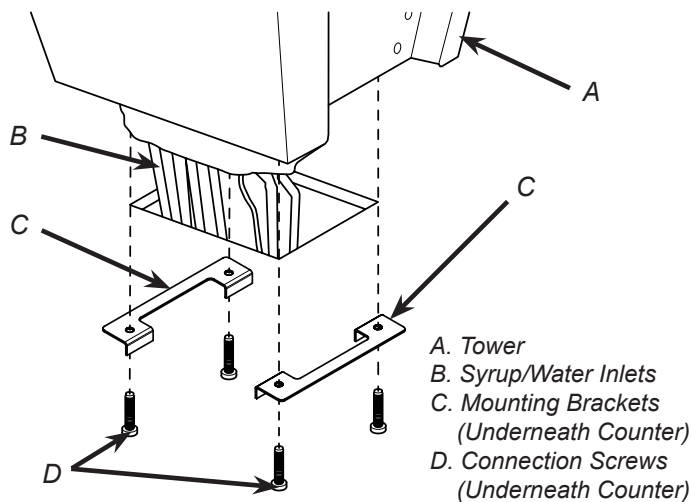
Dispenser Installation

1. Using proper lifting techniques, lift the tower over the counter top, then route the end of the power cord through the designated opening in the counter.

2. Slide the tower into the cutout in the counter and use the screws and mounting brackets provided to secure the tower to the counter.

> ⚠ **ATTENTION**
>
> **When attaching the tower to the counter, make sure the screws do not extend more than 0.75 in (19 mm) from the top of the mounting plate. These could damage the valves when installing the dispenser.**


A. Tower
B. Syrup/Water Inlets
C. Mounting Brackets
   (Underneath Counter)
D. Connection Screws
   (Underneath Counter)

> **NOTE**
>
> **NSF listed units must be sealed to the counter with a bead of silicone caulk or sealant which provides a smooth and easily cleanable bond to the counter.**

3. Route appropriate tubing from the syrup pump location to the syrup inlets on the tower. Connect tubing to inlets using the Oetiker pliers and clamps. Repeat for all syrup connections.

4. Route appropriate tubing for the carbonated/plain water inlets then connect tubing to inlet. Repeat for all water connections including the return inlet.

A. Oetiker Pliers
B. Oetiker Clamp
C. Tubing
D. Syrup/Water
   Inlet
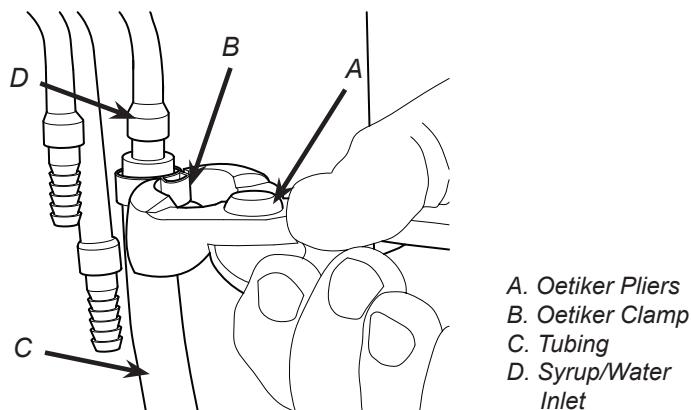
5. Slide drip tray into opening in tower until magnets engage and lock drip tray in place. Connect ADA wire harness from drip tray to ADA wire harness in tower.

A. Tower
B. Drip Tray
C. Magnet Connection
   in Tower
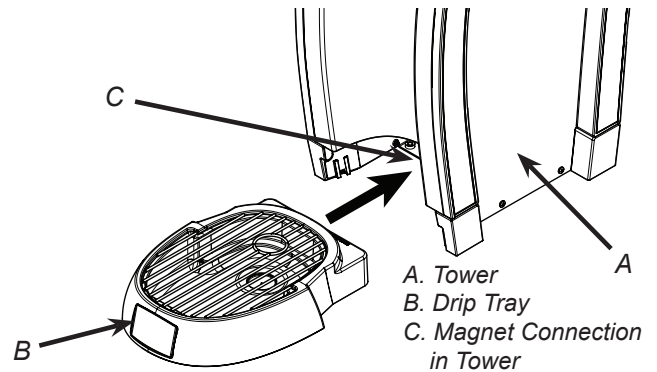
6. If a drain line is to be utilized, place gasket at the bottom of the drain then attach drain fitting to drip tray.

A. Seal
B. Drip Tray
C. Counter
D. Upper Drain Fitting
E. Lower Drain Fitting
F. Washer
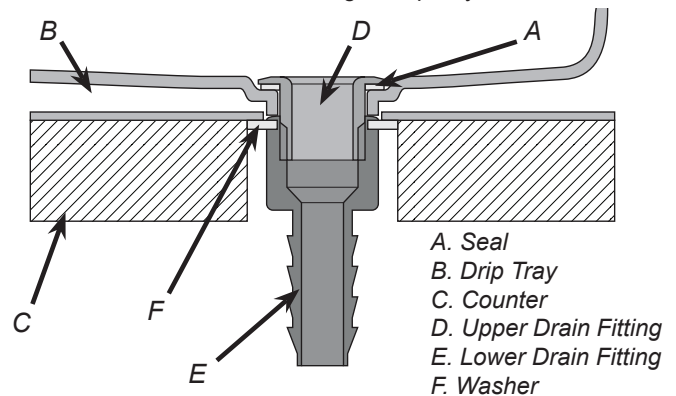
> ⚠ **ATTENTION**
>
> **If a drain line is utilized, connect ADA wire harness in drip tray to wire harness behind splash plate before attaching drip tray.**

7. Plug in power cord to power supply then route power supply cord to the designated grounded electrical outlet.

> ⚠ **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.**

> **NOTE**
>
> **Unit has the option to be supported by a remote chiller system or remote ice cooled system. Please see the manufacturer's specifications and instructions for installation. The following are the instructions for plumbing the remote chiller system to the tower.**

8. Route appropriate tubing from the syrup pump location to the syrup inlets at the remote chiller. Repeat for all syrup connections.

9. Route appropriate tubing from the water source to the water inlet at the remote chiller and only connect tubing to the water source.

10. Turn on the water and flush the water line thoroughly.

11. Turn off the water and connect water line to the plain water inlet at the remote chiller.

Dispenser Setup

1. Remove the cup rest from drip tray.

2. Remove the nozzle by twisting counterclockwise and pulling down.

A. Nozzle
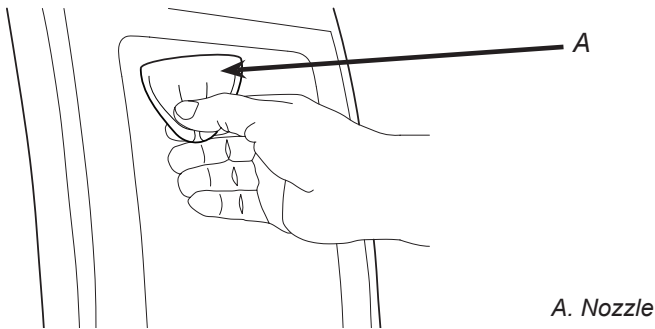
3. Remove the splash plate.

4. Turn on the water supply.

5. Verify all BIBs contain syrup and check for leaks.

6. If using a remote chiller, open the pressure relief valve located on the remote chiller system by flipping up on the valve cap lever. Hold open until water flows from the relief valve, then close (flip down) the relief valve.

A. Carbonator Relief Valve
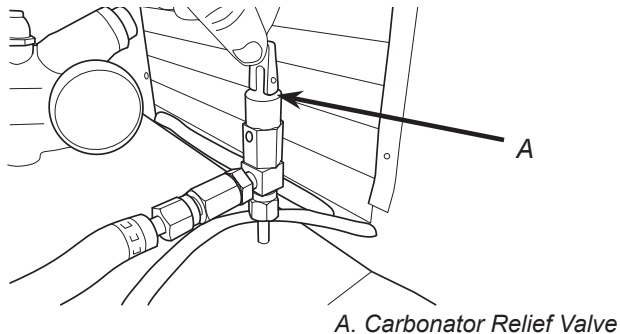
7. Using a screwdriver, remove the top two screws from the top plate then slide plate back slightly and lift from the front edge to remove.

A. Top Plate Screw
B. Touchscreen
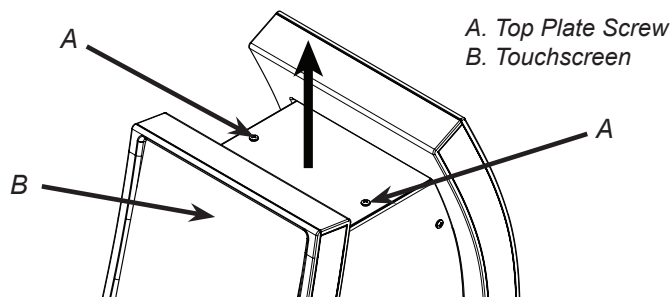
8. Connect power cord to grounded electrical outlet.

> ⚠ **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.**

9. Turn on the power to the dispenser by flipping the power switch, located underneath the top plate removed in step 7.

10. Once the screen has booted up, access the service menu by placing your finger at the top, right corner of the screen.

11. In one swift, fluid motion slide your finger along the top of the screen to the left till you reach the upper left corner of the screen, then hold your finger to the screen for a minimum of two (2) seconds.

- Slide Finger to Left and Hold

12. After the two second hold, tap all four corners of the screen in any order.

13. A keypad will appear, enter the designated pin number to access the service menu.

> **NOTE**
>
> **Contact Lancer Technical Support for the unit's designated pin number.**

14. For manager's access to the service menu, press and hold the upper, right-hand corner of the screen for a minimum of five (5) seconds and enter the manager's pin number: 6655
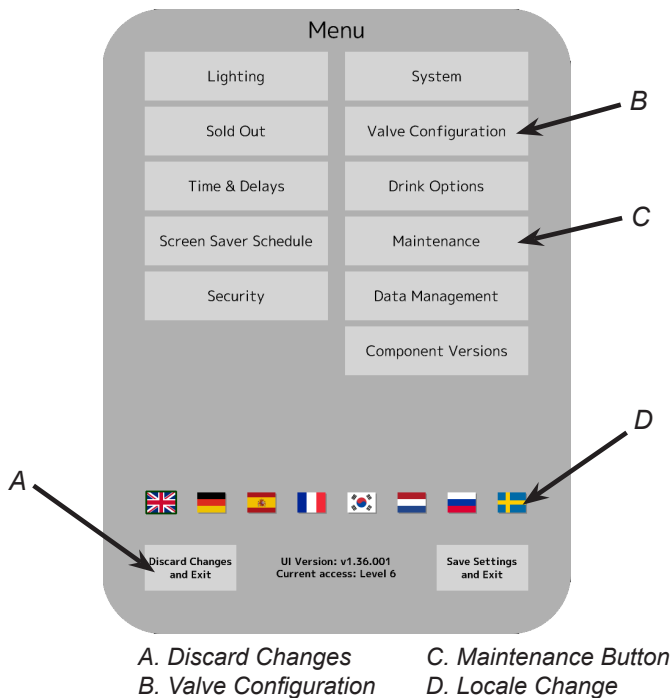
> **NOTE**
>
> **The manager's access to the service menu allows access to the Lighting screen (see page 15), the Sold-Out screen (see page 16), and the Time & Delays screen (see page 14).**

15. To lock the dispenser, or put it in "sleep" mode, repeat step 13 but instead enter the lock code: 3.14
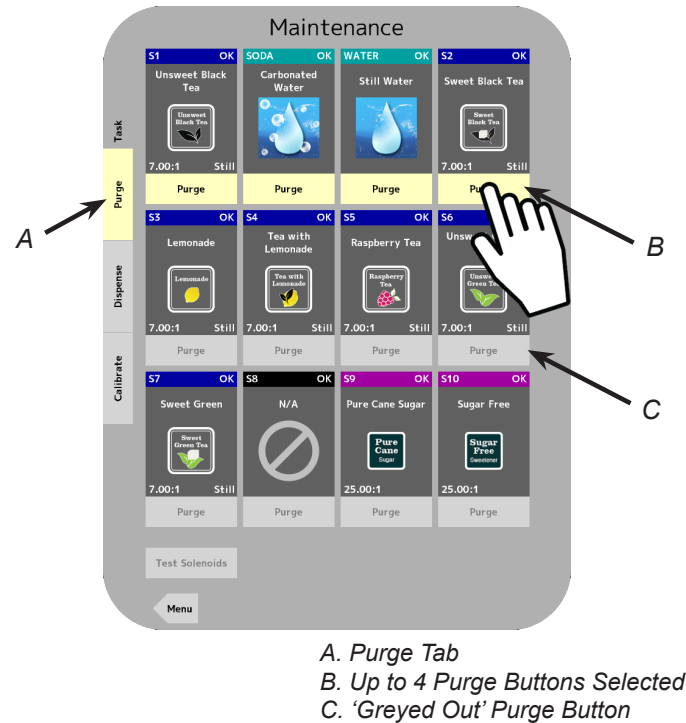
> **NOTE**
>
> **This mode prevents users from dispensing drinks and acts as a power saving tool while the unit is not in use.**

16. For access to only the Sold-Out Menu, repeat step 13 and enter the Sold Out pin: 963.

17. From the service menu press the *Maintenance* button.

A. Discard Changes
B. Valve Configuration
C. Maintenance Button
D. Locale Change

18. Press the *Purge* tab on the far left side of the screen.

19. Press the *Purge* buttons for both the plain water and the carbonated water modules.

A. Purge Tab
B. Up to 4 Purge Buttons Selected
C. 'Greyed Out' Purge Button

> **NOTE**
>
> **Once the purge is activated, it will continue to dispense product until it is deactivated. To deactivate the purge, simply press the *Purge* button again. Up to four modules can be purged at one time. Once four modules are selected, all other modules are greyed out and cannot be selected.**

20. Once a steady flow of water is achieved, press the *Purge* button again to deactivate the modules.

21. Ensure that the pump deck at the remote chiller is turned off before turning on the CO_2.

22. Turn on CO_2 at the source then, using a screwdriver, adjust the high pressure regulator at the source to 65 PSI (0.448 MPa) then tighten locknut with wrench.

A. Regulator Adjustment Screw
B. Adjust to 65 PSI (0.448 MPa)
C. Wrench
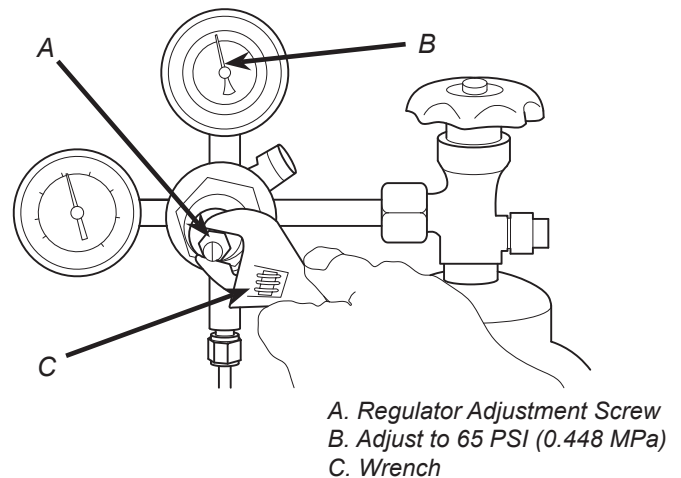
23. Purge the carbonated water module until gas-out.

24. Reactivate the pump deck at the remote chiller.

25. Purge the carbonated water module again until a steady flow of carbonated water is achieved.

26. Purge each syrup module until a steady flow of syrup is achieved.

Adding New Brand/Flavor Module

1. In order to add a new brand or flavor module, the module must first be activated.

2. From the service menu, press the *Valve Configuration* button.

3. Press the *Valve Type* tab on the far left side of the screen, then select any of the inactive modules.


A. Valve Type Tab
B. Valve Type Button
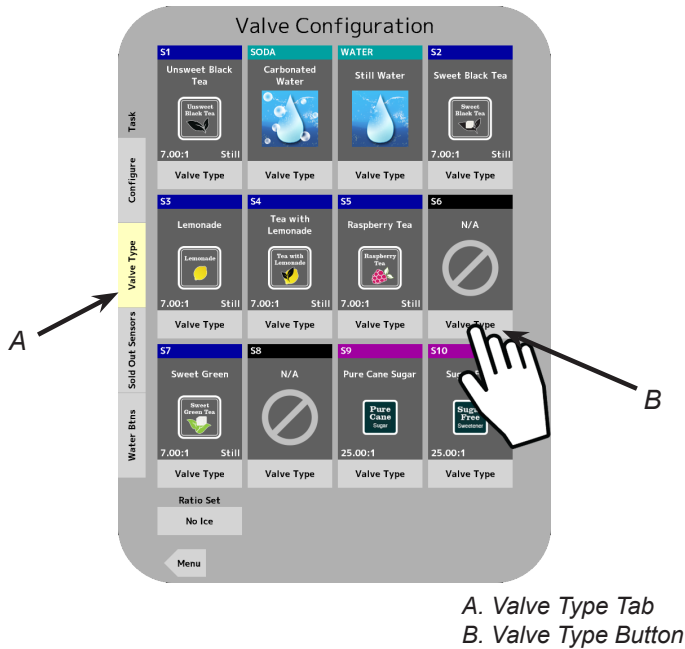
4. Choose the desired function and valve type for the incorporated valve module.
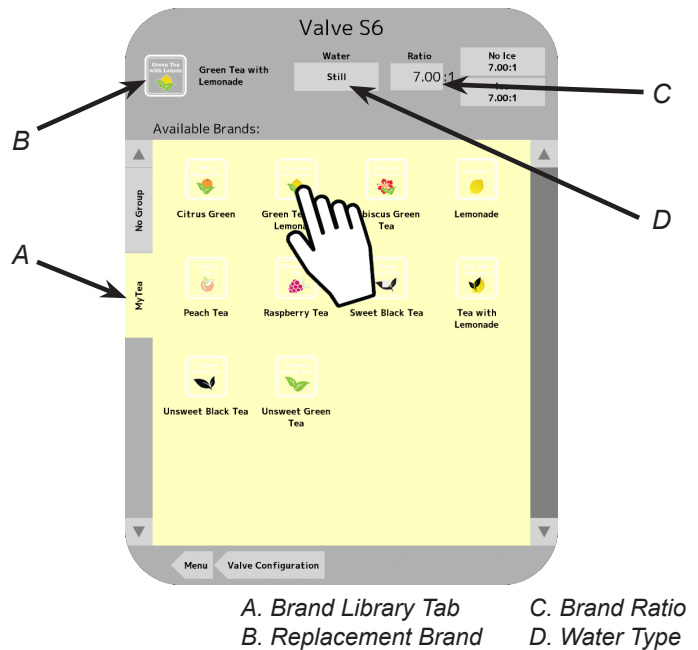

A. Valve Function
B. Valve Type
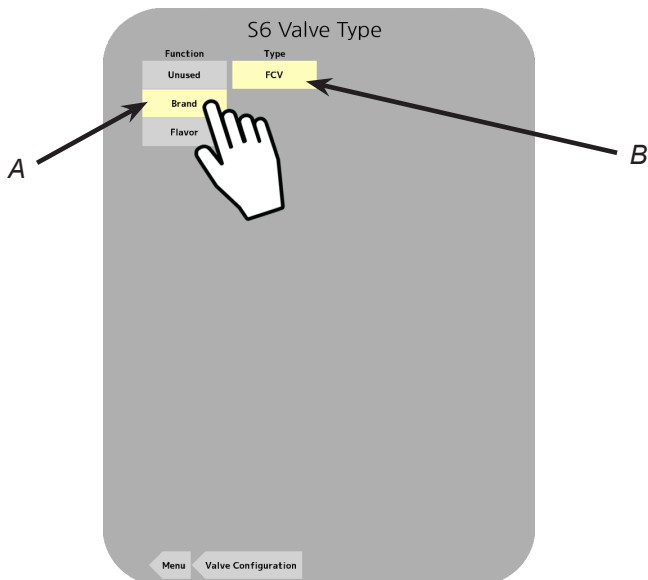
5. Press the *Valve Configuration* button at the bottom to return to the Valve Configuration menu.

6. Repeat steps 3 and 4 for any other desired brand or flavor modules.

7. From the Valve Configuration menu, press the *Configure* tab on the far left side of the screen.

8. Press the *Configure* button under any of the activated brand or flavor modules to open its Configuration Page.

A. Configure Tab   *D. Brand Water Type*
B. Configure Button   *E. Brand Ratio*
C. Activated Module
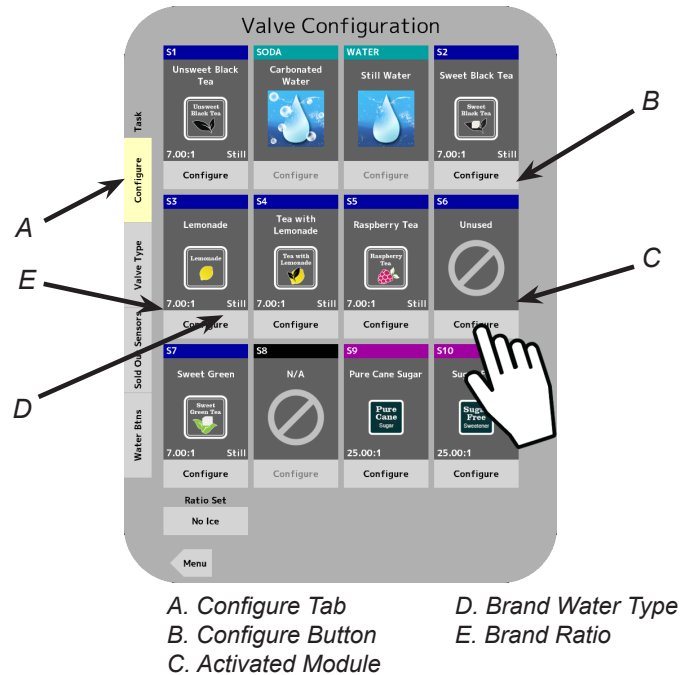
9. Select a new brand from the available Brands Library tabs on the left side of the screen.

A. Brand Library Tab   *C. Brand Ratio*
B. Replacement Brand   *D. Water Type*

NOTE

Each brand has a default water type and ratio already set when they are selected. The water type and ratio can be adjusted if necessary, however, adjusting the ratio here is purely representational and does not set the ratio for the finished drink. Adjust the ratio by selecting the Ice or No Ice ratio using the buttons in the upper right corner of the screen, or by manually adjusting the ratio by tapping the number and entering the new value on the keypad.

10. Once a brand/flavor has been selected, press the *Valve Configuration* button to return to the Valve Configuration screen.

11. Repeat steps 8 and 9 for any other desired brand or flavor modules.

12. Press the Menu button to return to the service menu.

13. From the service menu, press the Maintenance button.

14. Press the Purge tab on the far left side of the screen.

15. Purge any new brand or flavor module until there is a steady flow of syrup (see page 9).

16. Press the Menu button to return to the service menu.

CALIBRATION & MAINTENANCE

Calibrating Plain Water Module

1. Reinstall nozzle (see page 8).

2. From the service menu, press the Maintenance button.

3. Press the Calibrate tab on the far left side of the screen and press the Calibrate button for the plain water module.

4. Enter the desired flow rate in milliliters per second (ml/sec). This number is based on the target finished drink flow rate and the desired drink ratio (see examples below).

EXAMPLE

Ratio = 5:1
Finished drink flow rate = 44.36 ml/sec

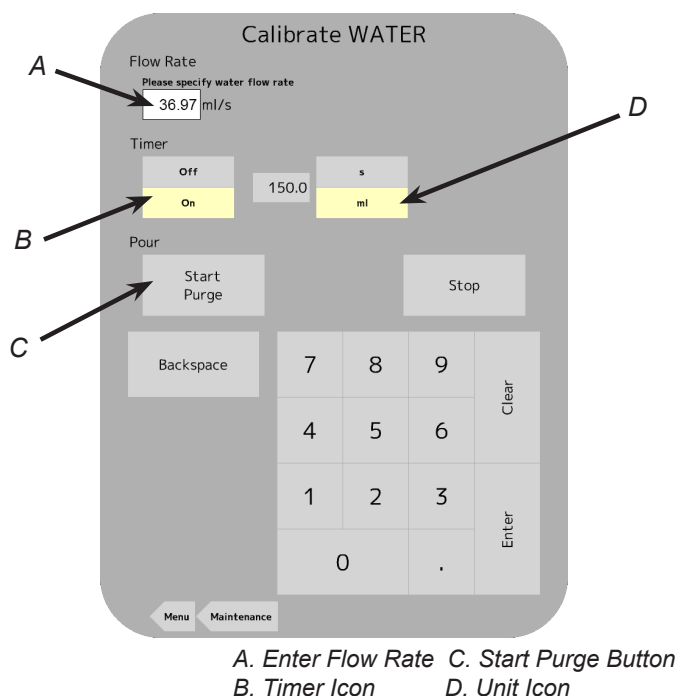**44.36 ml/s X 5 / (5 + 1) = 36.97 ml/sec water flow rate**

44.36 ml/s X 1 / (5 + 1) = 7.39 ml/sec syrup flow rate

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Ratio = 7:1
Finished drink flow rate = 60 ml/sec

60 ml/s X 7 / (7 + 1) = 52.5 ml/sec water flow rate

60 ml/s X 1 / (7 + 1) = 7.5 ml/sec syrup flow rate

---

6. Using the keypad, enter a specific volume to be dispensed based on the size of the graduated cylinder being used to calibrate the plain water module. The larger the volume dispensed, the more accurate the results. Use the 150 ml example from the screenshot.

7. With the graduated cylinder placed in a position below the nozzle, press the Start Purge button. The unit will dispense the volume designated in the previous step.

A. Graduated Cylinder
B. Nozzle
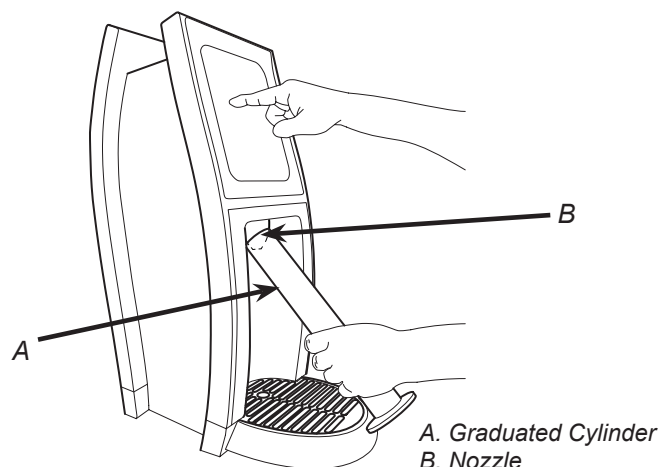
8. Examine the dispensed volume in the graduated cylinder. If the dispensed volume does not match the value (*150 ml*) entered on the screen in step 5, remove the protective cap for the corresponding valve and use a screwdriver to adjust the carbonated water flow control (see the plumbing diagram on page 29 for reference).

A. Flow Control
B. Valve Retainer
C. Solenoid
D. Valve Body

Increase   *Decrease*

A. Enter Flow Rate   C. Start Purge Button
B. Timer Icon   D. Unit Icon

5. Set the Timer to the ON position and select milliliters (ml) as the desired unit of measurement.
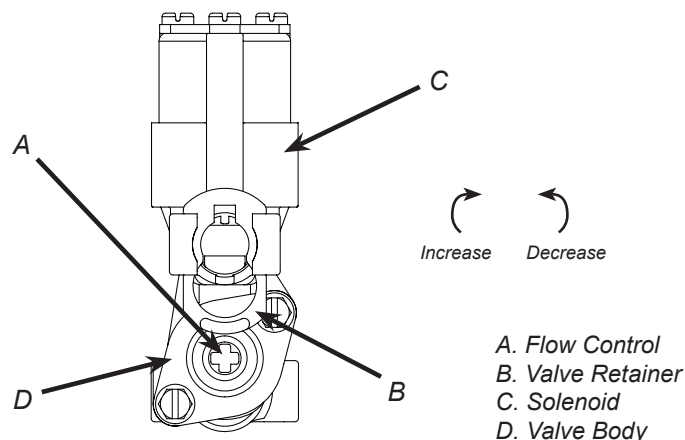
9. Repeat steps 6 and 7 until the designated volume of *150 ml* in step 5 is achieved.

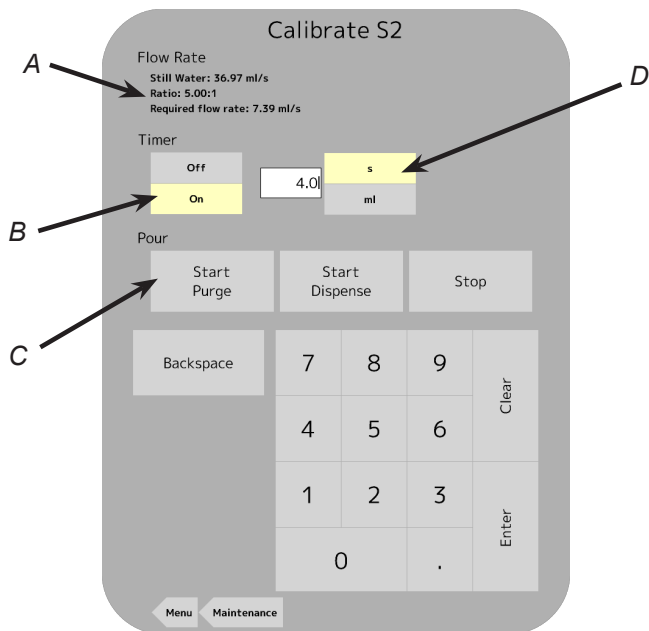10. Repeat steps 2-8 for the carbonated water module, if valve is present.

Calibrating Brand Modules

Graduated Cylinder:

1. From the service menu, press the Maintenance button.

2. Press the calibrate tab on the far left side of the screen and press the Calibrate button for the first brand syrup module.

3. The water flow rate should be set from the calibration of the plain water module in the previous section and the ratio should be determined from when the brand was configured (see Adding New Brand/Flavor Module in page 10).

A. Flow Rate/Ratio   C. Start Purge Button
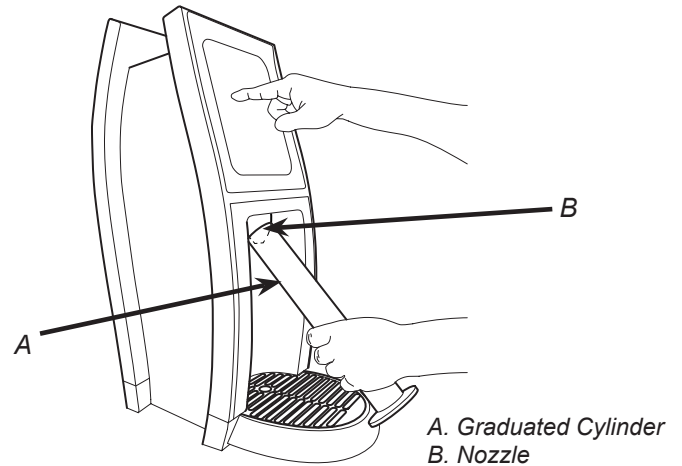B. Timer Icon   D. Unit of Measurement Icon

4. Set the Timer to the ON position and select seconds (s) as the desired unit of measurement.

5. Using the keypad, enter in a time of 4 seconds as the preset dispensing time.

6. With the graduated cylinder placed in a position below the nozzle, press the Start Purge button. The unit will dispense the designated syrup for 4 seconds.

A. Graduated Cylinder
B. Nozzle

7. Examine the dispensed volume in the graduated cylinder. If the dispensed volume does not match the value of 29.56 ml, remove the protective cap for the corresponding valve and use a screwdriver to adjust the brand syrup flow control (see plumbing diagram on page 29 for reference).

Increase   Decrease

A. Flow Control
B. Valve Retainer
C. Solenoid
D. Valve Body

8. Repeat steps 6 and 7 until the designated volume of 29.56 ml is achieved.

9. Repeat steps 2-8 for the remaining brand syrup modules.

10. Press the Maintenance button to return to the Maintenance screen and then press the Menu button to return to the service menu.

Ratio Settings Table:

The table below shows the flow rate for the plain water modules and the volume of syrup dispensed after a 4 second pour, for different ratio settings (all at a finished drink flow rate of 60 ml/sec):

Ratio	5	5.2	5.4	5.6	5.8	6	6.2	6.4	6.6	6.8	7
Plain Water Flow Rate (ml/s)	50	50.32	50.63	50.91	51.18	51.43	51.67	51.89	52.11	52.31	52.50
Volume of Syrup (4 sec.) (ml)	40	38.71	37.50	36.36	35.29	34.29	33.33	32.43	31.58	30.77	30

Ratio	7.2	7.4	7.5	7.6	7.8	8	8.2	8.4	8.6	8.8	9
Plain Water Flow Rate	52.68	52.86	52.94	53.02	53.18	53.33	53.48	53.62	53.75	53.88	54
Volume of Syrup (4 sec.)	29.27	28.57	28.24	27.91	27.27	26.67	26.09	25.53	25	24.49	24

Calibrating Flavor Modules

1. From the Maintenance menu, press the Calibrate tab on the far left side of the screen and press the Calibrate button for any designated flavor module.

2. The water flow rate should be set from the calibration of the plain water module in the previous section and the ratio should be determined from when the flavor was configured (see Adding New Brand/Flavor Module in page 10).

A. Flow Rate/Ratio   C. Start Purge Button
B. Timer Icon   D. Unit of Measurement Icon

3. Set the Timer to the ON position and select seconds (s) as the desired unit of measurement.

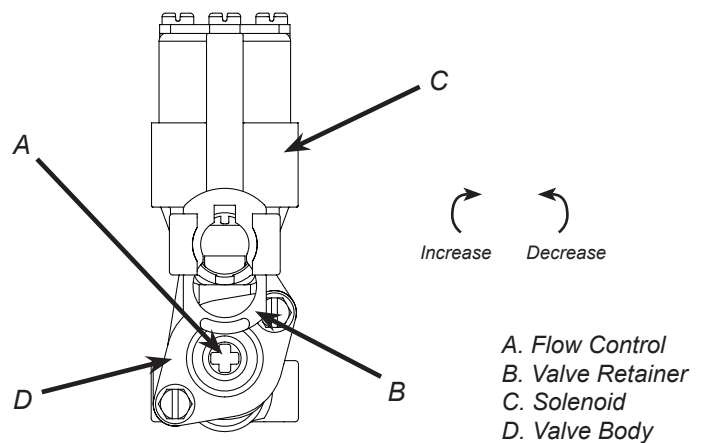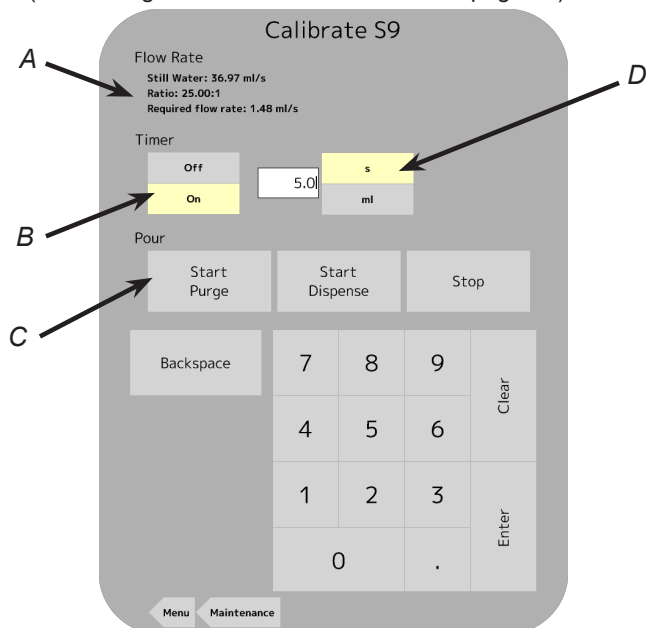4. Using the keypad, enter in a time of 5 seconds as the preset dispensing time.

NOTE

The finished drink flow rate was set to 44.36 ml/sec, which makes the finished flavor flow rate 1.48 ml/s. In 5 seconds, the volume of syrup that should be dispensed is 7.4 ml.

5. With the graduated cylinder placed in a position below the nozzle, press the Start Purge button. The unit will dispense the designated flavor for 5 seconds.

6. Examine the dispensed volume in the graduated cylinder. If the dispensed volume does not match the value of 7.4 ml, (see note above) remove the protective cap for the corresponding valve and use a screwdriver to adjust the flavor flow control (see plumbing diagram on page 29 for reference).

A. Flow Control
B. Valve Retainer
C. Solenoid
D. Valve Body
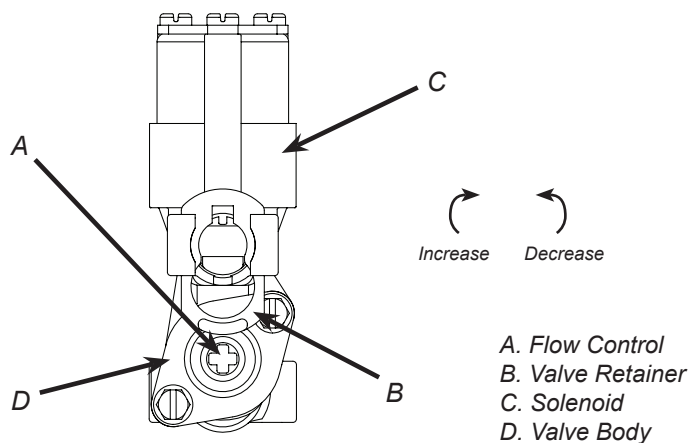
7. Repeat steps 6 and 7 if any more bonus flavor flow adjustment is necessary.

8. Repeat steps 2-8 for any remaining bonus flavor module.

9. Reinstall top plate, splash plate, and cup rest.

Scheduled Maintenance

As Needed	• Keep exterior surfaces of dispenser (include drip tray and cup rest) clean using a clean, damp cloth.
Daily	• Remove outer nozzle and rinse well in warm water. **DO NOT** use soap or detergent. This will cause foaming and off-taste in finished product. • Using a soft cloth and cleaning solution, clean the nozzle injectors. See Cleaning and Sanitizing Nozzle section on page 22 for reference. • Remove cup rest and wash in cleaning solution. • Pour warm cleaning solution into the drip tray and wipe with a clean cloth. • With a clean cloth and cleaning solution, wipe off all of the unit's exterior surfaces and splash areas. **DO NOT USE ABRASIVE SOAPS OR STRONG DETERGENTS. DO NOT USE AMMONIA BASED PRODUCTS WHEN CLEANING THE SCREEN OR SURROUNDING PLASTICS.** • Replace the cup rest and nozzle.
Weekly	• Taste each product for off-tastes. If off-taste is present, clean and sanitize the unit using the appropriate procedures outlined in the Cleaning and Sanitizing section of this manual.
Monthly	• Clean and sanitize the unit using the appropriate procedures outlined in the Cleaning and Sanitizing section of this manual.
Every Six Months	• If remote chiller is being used, clean according to manufacturer's instructions. • Clean the entire exterior of the unit.

FEATURES OF THE TOUCHSCREEN TOWER

Time & Delay Features

1. From the service menu, press the *Time & Delays* button to access the Time & Delays menu.

2. Update the current *Date & Time,* if necessary, by tapping the field and using the keypad to enter the correct date or time. Press *Set* to save the changes.

3. Enable or Disable any of the four (4) delay functions by tapping underneath their designated function names: *Brand Timeout, Screen Saver, Sleep,* and *Dispense Timeout*.

> **NOTE**
>
> **Brand Timeout - the amount of time for a selected brand on the Pour Screen to be deselected after inactivity.**
>
> **Screen Saver - the amount of time for the screen saver to be initiated after inactivity.**
>
> **Sleep - the amount of time for the unit to enter Sleep Mode after inactivity.**
>
> **Dispense Timeout - the amount of time a valve will pour before automatic shutoff.**
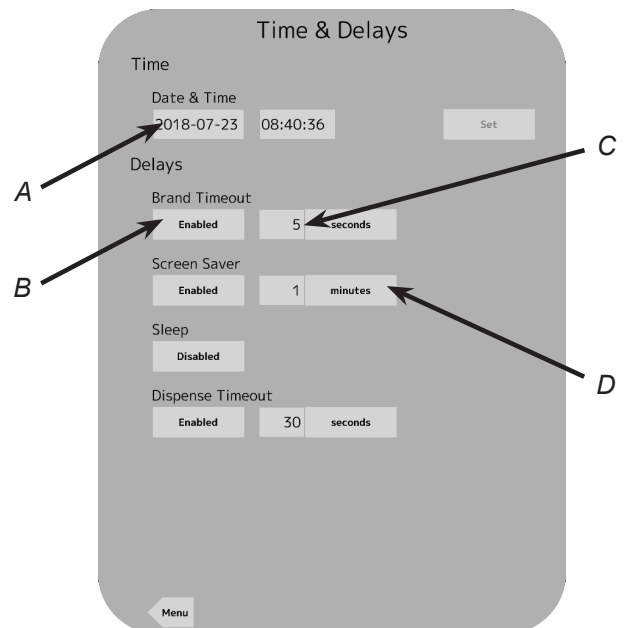
4. Adjust the *Frequency* and *Units of Time* by selecting their corresponding fields.

A. Current Date/Time
B. Enable/Disable
C. Frequency
D. Units of Time

Lighting Features

1. From the service menu, press the *Lighting* button.

2. From this menu, the user can adjust the *Screen Brightness* as well as the brightness of the *Nozzle Light* when the unit is dispensing and when the unit is not dispensing (idle).

A. Screen Brightness
B. Nozzle Brightness (Idle)
C. Nozzle Brightness (Dispensing)
D. Ribbon Light Features

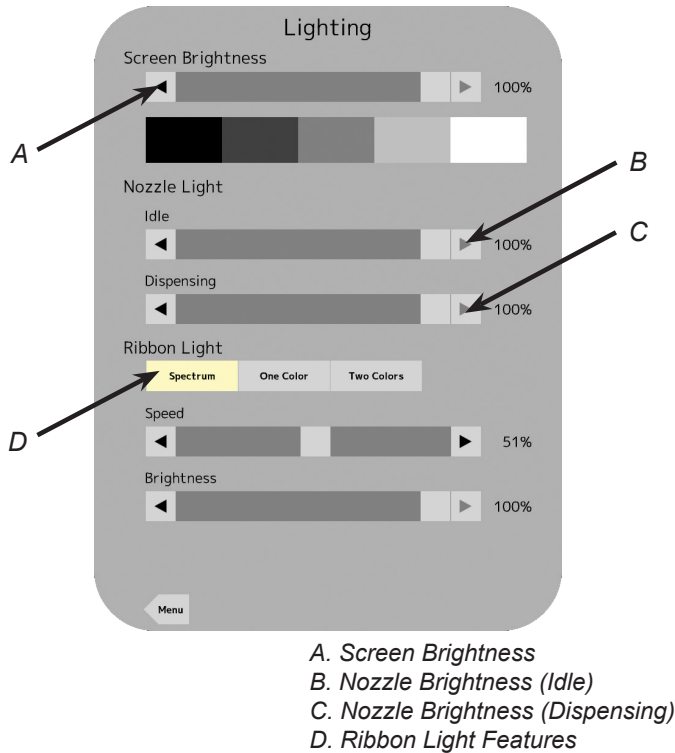3. Below the Nozzle Light sliders, the user can change how the ribbon lights, on the side of the dispenser, are displayed.

NOTE

Spectrum - Ribbon lights cycle through preset colors. The brightness and the speed at which the colors cycle can be adjusted using the sliders.

One Color - Ribbon lights are displayed using only one color determined by the user. Press the *Color* bar to change the color using the *RGB Color Table*.

Two Colors - Ribbon lights cycle through two colors determined by the user. Press the *Color* bars to change the colors using the *RGB Color Table*. The brightness and the speed at which the colors cycle can be adjusted using the sliders.

A. Screen Brightness
B. Nozzle Brightness (Idle)
C. Nozzle Brightness (Dispensing)
D. Ribbon Light Features

A. Old Color
B. New Color
C. Brightness Slider
D. RGB Color Table
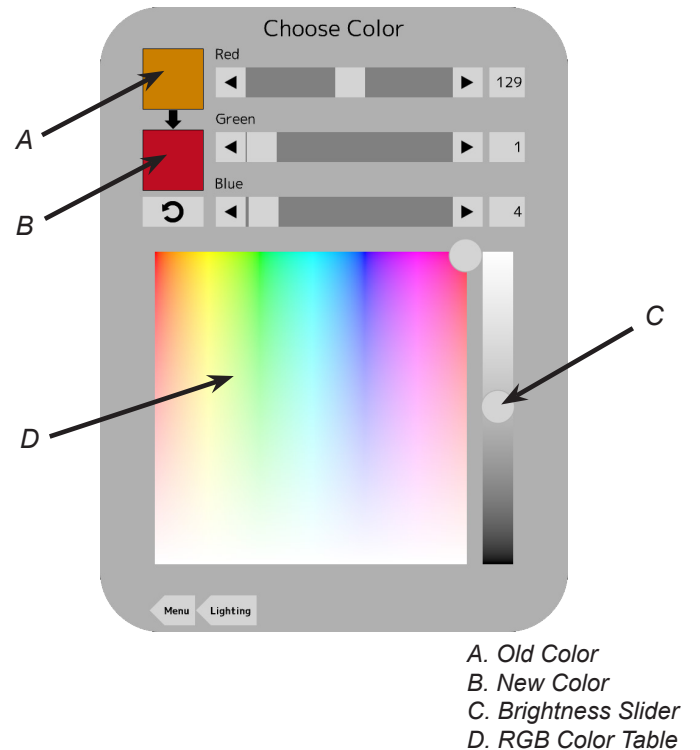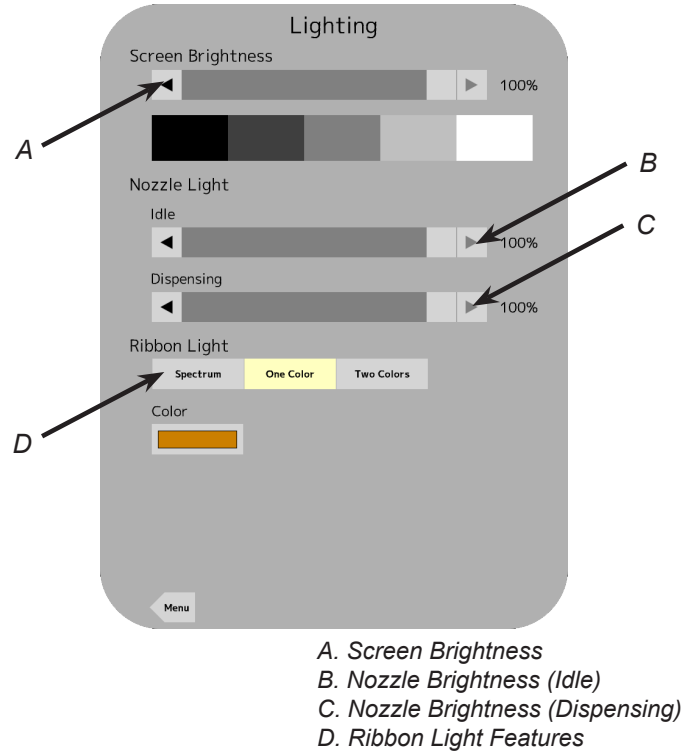
Sold-Out Feature

1. From the service menu, press the *Sold Out* button.

2. Press the *Override* tab on the far left side of the screen.

3. From here, manually adjust specific brands to read *Ready, Out,* or *Auto*

> **NOTE**
>
> **Ready - signifies there is available product and the valve will dispense when activated.**
>
> **Out - signifies there is no available product or there is a problem with the specified brand and will dispense when activated.**
>
> **Auto - signifies that the configured Sold Out Sensor controls whether the brand can be dispensed. This feature requires an optional sold-out sensor kit, does not come standard, and is available for up to ten (10) brands at one time. The following is a set of instructions on how to set up this feature. If no sold-out sensor is assigned then the Auto feature acts the same as the Ready feature.**
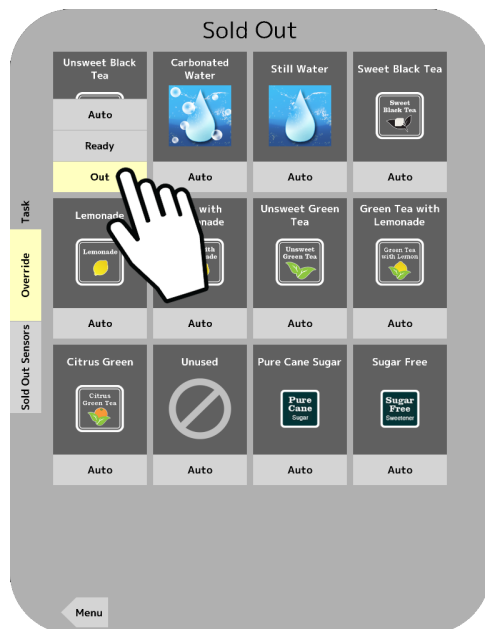
4. Press the *Sold Out Sensors* tab on the left side of the screen.

5. To add the Auto Sold Out feature to a specific brand, simply tap the corresponding intersection to activate a sold-out sensor for that brand.

> **NOTE**
>
> **This feature will automatically shut off the pump for that specific brand when there is no product to be dispensed. This feature only comes into effect when the corresponding brand is changed to "Auto" in the Sold-Out menu.**

> **NOTE**
>
> **Header changes color when sensor is active.**
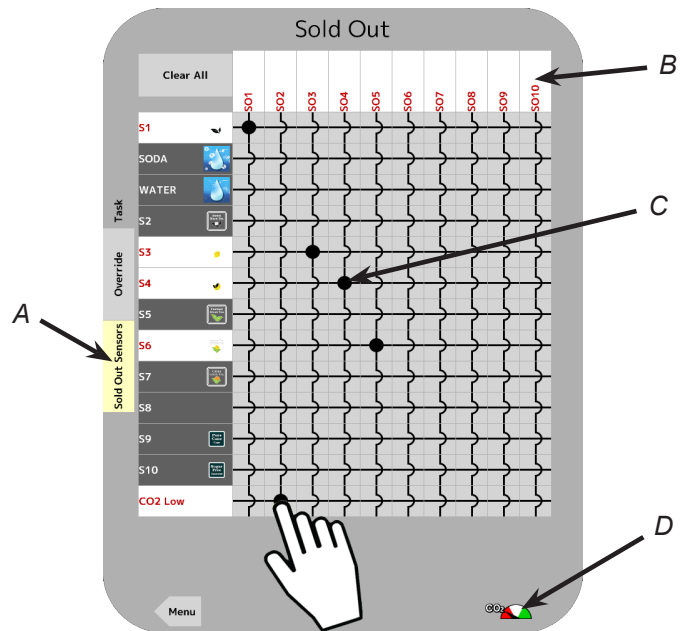
A. Sold Out Sensors Tab
B. Sold Out Sensors 1-10
C. SO4 Enabled for Brand S4.
D. CO_2 Low Pressure Indicator

> **NOTE**
>
> **If a Sold Out Sensor is utilized for the CO_2 low section, as shown in the image above, then the CO_2 Low Pressure Indicator will appear whenever the unit or a valve is not receiving enough CO_2.**

6. Press the *Menu* button to return to the service menu.

System Settings

1. From the service menu, press the *System* button on the top of the left hand column.

2. Press the *Enabled* button to turn on the Brand/Flavor Nutrition Feature.

A. Enable Nutrition
B. Custom Background
C. Volume Unit
D. Time Format

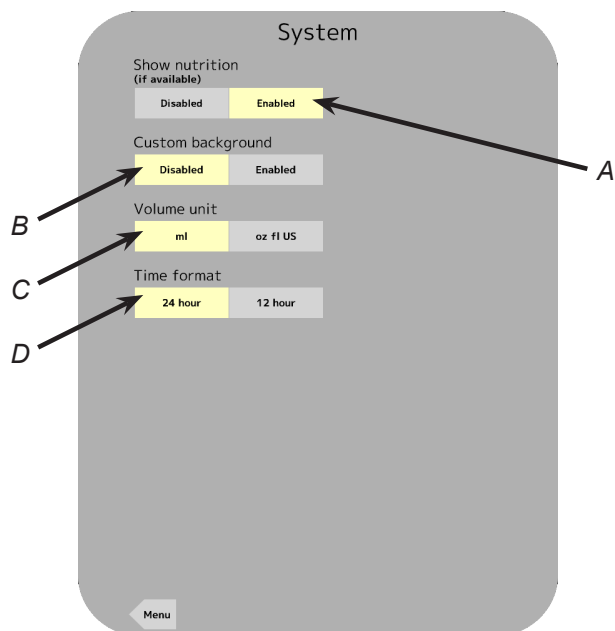3. Press the *Menu* button to return to the service menu and press the *Save Settings and Exit* button to return to the main screen.

4. Press and hold the new *Nutrition Facts* "page curl" at the top of the screen to reveal the nutrition information of the brands/flavors present on the screen (if available).

A. Nutrition Page Curl
*B. Pour Button*

5. Access the service menu and press the *System* button to return to the System menu.

6. Enable the *Custom background* function to use the new background image uploaded from a USB drive (if available, see page 21).

7. Use the *Volume unit* section to switch between imperial and metric units.

8. Use the *Time format* section to switch between a 24 hour and 12 hour time format.

Water Button Feature

1. In order to pour plain and/or carbonated water from the main menu, press the Configuration button from the service menu.

2. Press the Water Btns tab on the far left side of the screen.

3. From here, the water buttons (carbonated and plain) can be dragged and placed onto their designated water modules.

4. Once a water button has been dragged and placed over its designated water module, a button will appear on the main menu.
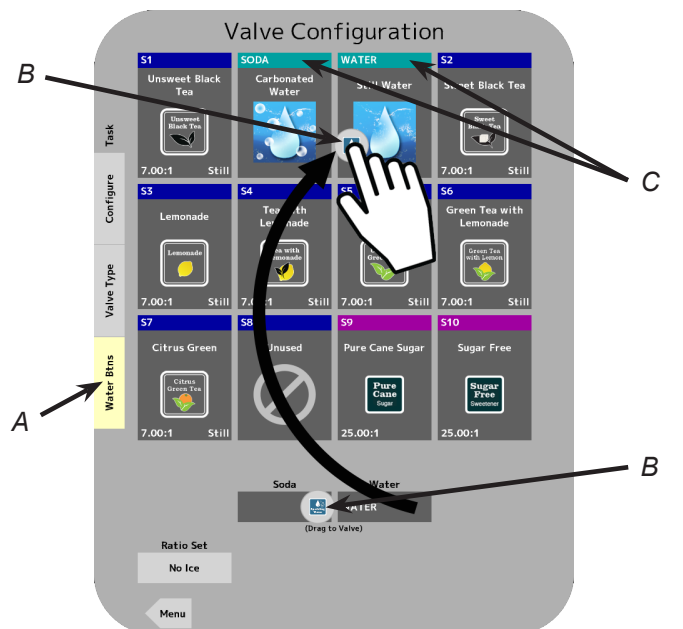
A. Water Buttons Tab
B. Plain/Carb Water Button
C. Plain/Carb Water Module

- Plain Water Button on Main Menu

NOTE

The carbonated/plain water valve must be present in order for water button to properly function. If there is no carb/plain water valve present, the corresponding water button will not appear on screen.

Drink Options Menu

1. From the service menu, press the Drink Options button to access the Drink Options menu.

2. Tap next to any of the configured brands or water valves to enable or disable the use of any one of the configured flavor valves.

NOTE

When disabled, the designated flavor will not be selectable for that specific brand. It is recommended to disable flavor valves for both water buttons and any brand that is already sweetened.
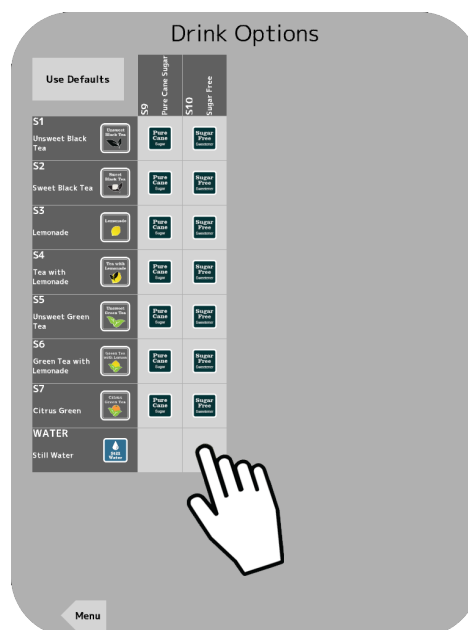
DATA MANAGEMENT

Update Brands/Flavors

1. Using the *Tower Brand Management Software*, create the necessary *.brand* file, complete with new brand name and images.

> **IMPORTANT**
>
> **Any data imported to the TsT will completely replace all existing content. For example: If the user wishes to add new brands to the existing brands library, the user must upload both the existing brand file as well as the new brand file(s).**
>
> **For information on the Tower Brand Management Software visit lancerworldwide.com or contact your Lancer Customer Service Representative. Visit lancer-worldwide.com and access the Tower Brand Management Software Instruction Sheet.**
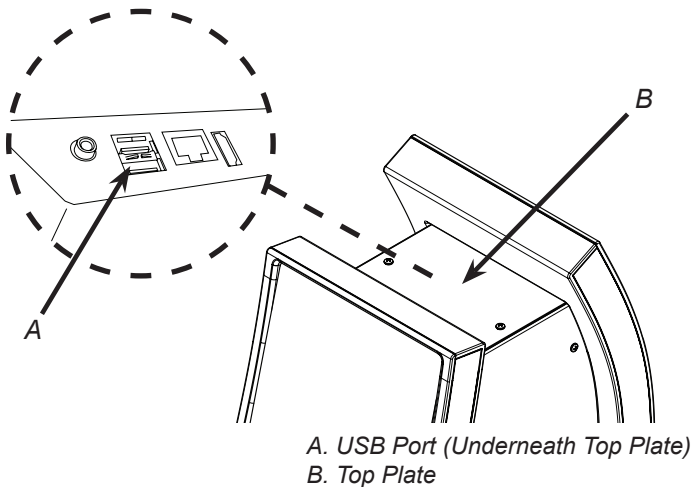
2. Create a USB drive with the created *.brand* file in a folder named "brands" as shown in the image below.

3. Plug the USB into the tower port located underneath the top plate of the tower (see page 8 for information on removing top plate).

A. USB Port (Underneath Top Plate)
B. Top Plate

4. From the service menu, press the *Data Management* button.

5. In the "Update from USB" section, press the *Brands* button.

> **NOTE**
>
> **There will be a check mark next to the Brands button if the USB drive has the brand files in the correct place.**
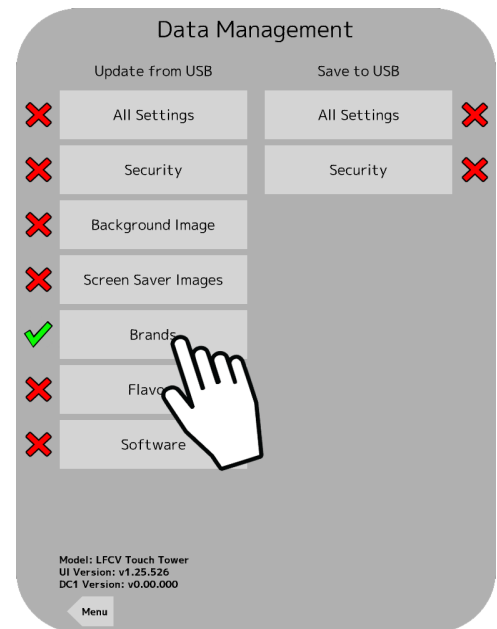
6. Once the Brands button turns green then the updated brands will be available.

> **NOTE**
>
> **To upload new flavors to the TsT User Interface, create the flavor *.brand* file and put into a folder named "flavors", then repeat steps 2-5.**
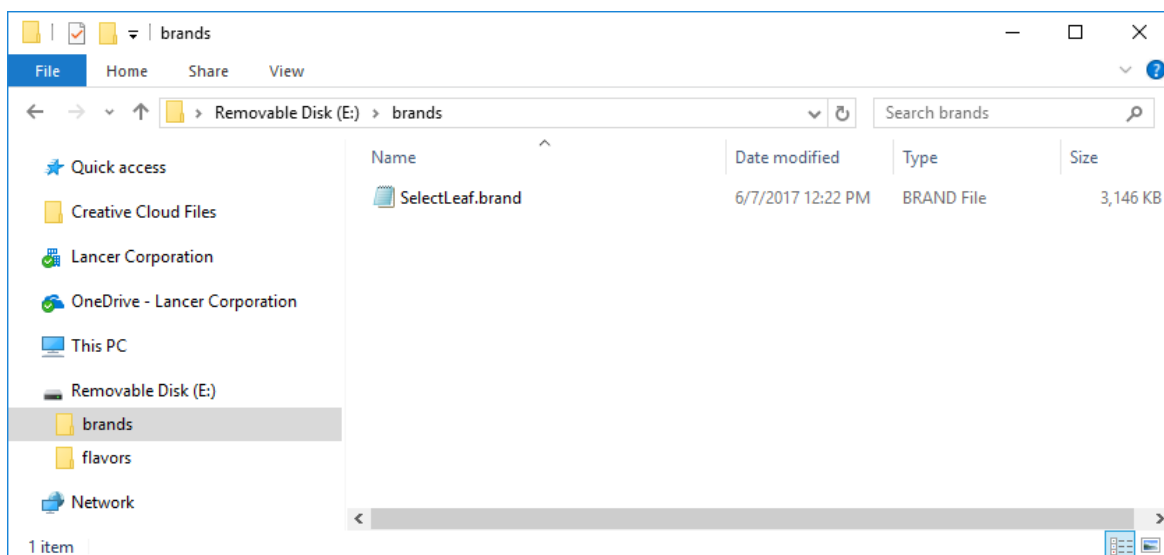
Update Screen Saver Videos

1. Create a USB drive with the new video file in a folder structure named "images\ss".

NOTE

The video file must be in a .mp4 format and the dimensions of the video must be 768 px x 1024 px.

2. Create a *.txt* file in any editor software (ex: Notepad on Windows machines) that contains the name of the video file and is named "list.txt" as shown in the image below.

3. Once both the video file and list.txt file are in the "ss" folder on the USB drive, plug in the drive into the tower port located underneath the head of the tower.

NOTE

Multiple videos can be uploaded at one time, just add the name of each video to the "list.txt" file, one filename per line.

4. From the service menu, in the "Update from USB" section, press the *Screen Saver Images* button.

NOTE

There will be a check mark next to the Screen Saver Images button if the USB drive has the video and text files in the correct place.

5. Once the *Screen Saver Images* button turns green, cycle the power to the tower then the updated videos will be available.

Update Background Image

1. Create a USB drive with the new video file in a folder structure named "images".

> **NOTE**
>
> **The image file must be in a *.png* format and the dimensions of the video must be 768 px X 1024 px.**

2. Change the name of the image file to read "background. png".

3. Once the *background.png* image file is in the "images" folder on the USB drive, plug in the drive into the tower port located underneath the head of the tower.
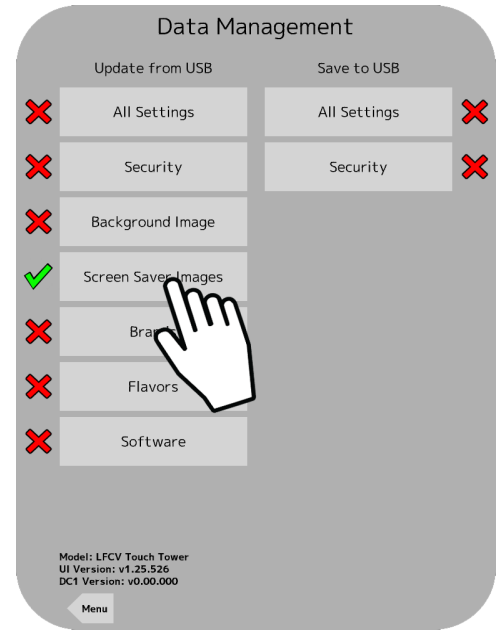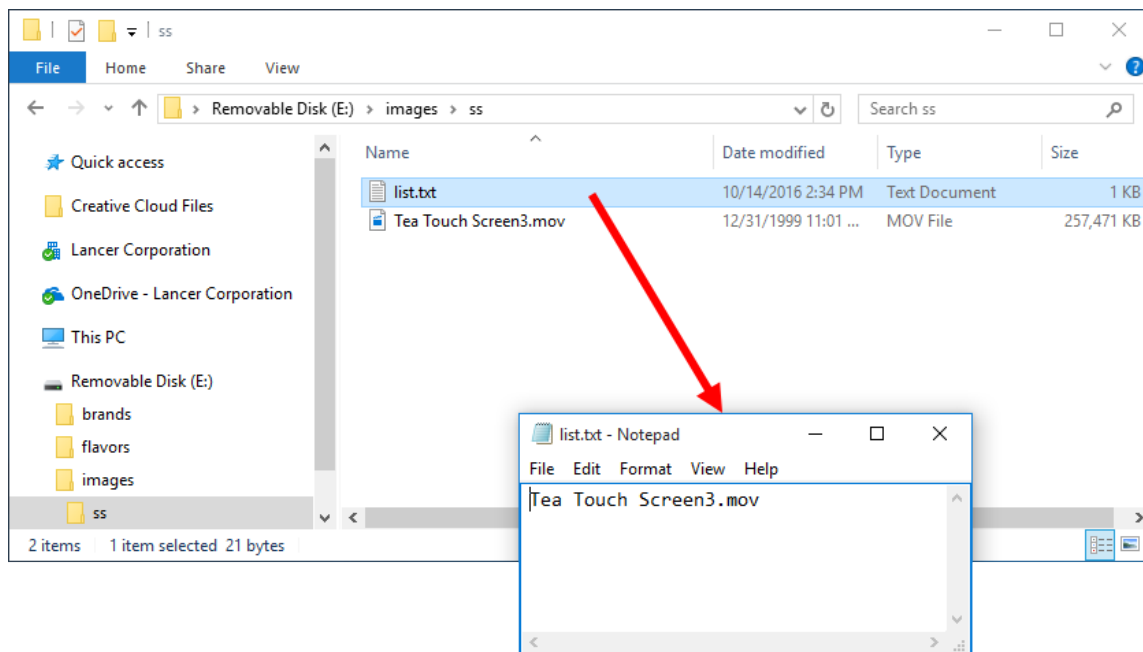
4. From the service menu, in the Data Management section, press the *Background Image* button.

> **NOTE**
>
> **There will be a check mark next to the *Background Image* button if the USB drive has the image file in the correct place.**

5. Once the *Background Image* button turns green, cycle the power to the tower then the new image will appear on the pour screen .

Export Tower Settings

> **NOTE**
>
> **The following highlights the steps necessary in order to copy a tower's brand configuration settings from one tower dispenser to another.**

1. Plug an empty USB drive into the tower port located underneath the head of the tower.

2. Access the service menu and under the Save to USB section, press the *All Settings* button.

> **NOTE**
>
> **There will be a check mark next to the All Settings button if an empty USB drive is inserted.**

3. Once the *All Settings* button turns green, remove the USB and plug into a different tower.

4. Access the service menu and under the Update from USB section, press the *All Settings* button.

CLEANING AND SANITIZING

General Information

• Lancer equipment 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.

> **NOTE**
>
> **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. Ensure all sanitizing solution is removed from the system.**

Cleaning and Sanitizing Solutions

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 syrup lines may require additional cleaning solution.

Sanitizing Solution

Prepare sanitizing solutions in accordance with the manufacturer's written recommendations and safety guidelines. The solution must provide 100 parts per million (PPM) chlorine (e.g. Sodium Hypochlorite or bleach). A minimum of five gallons of sanitizing solution should be prepared. Any sanitizing solution may be used as long as it is prepared in accordance with the manufacturer's written recommendations and safety guidelines, and provides 100 parts per million (PPM) chlorine.

⚠ **CAUTION**

If a powder sanitizer is used, dissolve it thoroughly with hot water prior to adding to the product system. Ensure sanitizing solution is removed from the dispenser as instructed.

Cleaning and Sanitizing Syrup Lines

1. Disconnect syrup lines from BIB's or other product supply.
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 above.
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 above.
9. Place syrup lines into sanitizing solution and activate each valve to fill lines 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.

Cleaning and Sanitizing Nozzle

1. Disconnect power, so as to not activate valve while cleaning.
2. Remove outer nozzle by twisting counterclockwise and pulling down.
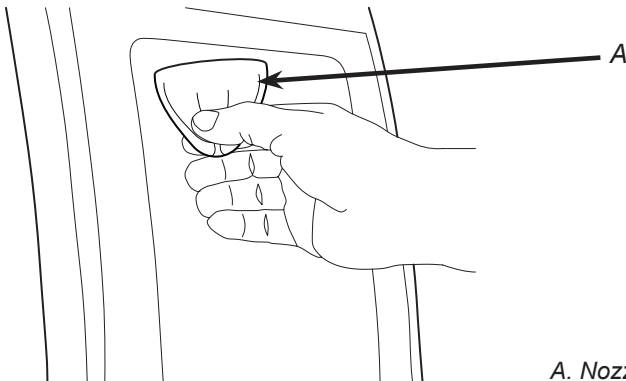
A. Nozzle

3. Rinse nozzle with warm water.

4. Wash nozzle with cleaning solution then immerse in sanitizing solution and let sit for fifteen (15) minutes.
5. Set nozzle aside and let air dry. ***DO NOT*** rinse with water after sanitizing.
6. Using a soft, clean cloth and cleaning solution, clean the nozzle injectors.
7. Using a soft, clean cloth, sanitize the nozzle injectors and let air dry.
8. Reconnect nozzle.
9. Connect power.
10. Taste the drink to verify that there is no off-taste. If off-taste is found, sanitize the nozzle and nozzle injectors 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

TROUBLE	CAUSE	REMEDY
When first installed, touch-screen is unresponsive.	1. Screen is dirty from shipping.	1. Wipe screen with clean, dry cloth.
This icon appears on screen:	1. Communication with the dispense controller has been lost.	1. Check connection between dispense controller and touchscreen.
This icon appears on screen:	1. Connection with touchscreen has been lost.	1. Contact Lancer Customer Service for more information.
Water leakage around nozzle.	1. O-ring is damaged or missing.	1. Replace O-ring.
Miscellaneous leakage.	1. Gap between parts. 2. Damaged or improperly installed O-rings.	1. Tighten appropriate retaining screws. 2. Replace or adjust appropriate O-rings.
Insufficient water flow.	1. Insufficient incoming supply water pressure. 2. Shutoff on mounting block not fully open. 3. Foreign debris in water flow control. 4. 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 flow control from upper body and clean out any foreign material to ensure smooth free spool movement. 4. Remove water pump strainer and clean.
Insufficient syrup flow.	1. Insufficient CO_2 pressure to BIB pumps. 2. Out of CO_2. 3. Shutoff on mounting block not fully open. 4. Foreign debris in syrup flow control. 5. 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. Remove syrup flow control form upper body and clean out any foreign material to ensure smooth free spool movement. 5. Replace BIB pump.
Erratic ratio.	1. Incoming water and/or syrup supply not at minimum flowing pressure. 2. Foreign debris in water and/or syrup flow controls.	1. Check pressure and adjust. 2. Remove flow controls from upper body and clean out any foreign material to ensure smooth free spool movement.
No syrup dispensed.	1. Water and syrup shutoffs on mounting block not fully open. 2. Electric current not reaching valve. 3. Improper or inadequate water or syrup supply. 4. Transformer failure. 5. Bad valve solenoid(s).	1. Open shutoff fully. 2. Check electric current supplied to valve. If current is adequate, check solenoid coil and switch (replace if necessary). 3. Remove valve from mounting block and open shutoffs slightly and check water and syrup flow. If no flow, check dispenser for freeze-up or other problems. 4. Reset transformer circuit breaker. If breaker trips again check for pinched wire harness at backblocks. 5. Replace solenoid(s).

TROUBLE	CAUSE	REMEDY
Water only dispensed (no syrup), or syrup only dispensed (no water).	1. Water or syrup shutoff on mounting block not fully open. 2. Improper or inadequate water or syrup flow. 3. BIB supply too far from dispenser. 4. CO_2 pressure too low. 5. Stalled or inoperative BIB pump. 6. Kinked line.	1. Open shutoff fully. 2. Remove valve from mounting block, open shutoffs slightly and check water and syrup flow. If no flow, check dispenser for freeze-up or other problems. Ensure BIB connection is engaged. 3. Check that BIB supply is within six (6) feet of the dispenser. 4. Check the CO_2 pressure to the pump manifold to ensure it is between 70 and 80 psi (0.483 and 0.552 MPa). 5. Check CO_2 pressure and/or replace pump. 6. Remove kink or replace line.
Syrup only dispensed (no water), but CO2 gas dispensed with syrup.	1. Improper water flow to dispenser. 2. Carbonator pump motor has timed out.	1. Check for water flow to dispenser (see "Insufficient water flow" on previous page). 2. Reset by turning the unit OFF and then ON.
Excessive foaming.	1. Incoming water or syrup temperature too high. 2. CO_2 pressure too high. 3. Water flow rate too high. 4. Nozzle not installed correctly. 5. Nozzle and nozzle injectors not clean. 6. Air in BIB lines. 7. Poor quality ice. 8. High beverage temperature.	1. Correct prior to dispenser. Consider larger dispenser or pre-cooler. 2. Adjust CO_2 pressure downward, but not less than 70 PSI (0.483 MPa). 3. Readjust and reset ratio. Refer to "Adjust Water Flow Rate & Syrup/Water Ratio" section. 4. Remove and reinstall properly. 5. Remove nozzle and clean injectors. 6. Bleed air from BIB lines. 7. Check quality of ice used in drink. 8. Check refrigeration system.
Warm drinks.	1. Restricted airflow. 2. Dispenser connected to hot water supply. 3. Dispenser capacity exceeded.	1. Check clearances around sides, top, and inlet of unit. Remove objects blocking airflow through grill. 2. Switch to cold water supply. 3. Add pre-cooler or replace with larger dispenser.
Circuit breaker tripping.	1. PCB is bad. 2. Secondary wire harness is bad. 3. Transformer failure.	1. Detect short by disconnecting J1 connector (24 VAC input) from PCB. Restore power. If breaker doesn't trip, then replace PCB. If breaker does trip, then PCB is OK. Reconnect J1 connector. 2. If it does not trip, locate short in secondary harness between transformer, PCB, and valve wire harness. 3. Detect short by disconnecting both transformer fastons and restore power. If breaker does trip, replace transformer.

| 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 pump.	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 pump.	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.	1. Check CO_2 supply. Adjust CO_2 pressure to 70 psi (0.483 MPa). 2. Water regulator should be set at 65 psi (0.448 MPa). 3. Replace carbonator pump.

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 AND PART LISTINGS

Main Unit Assembly
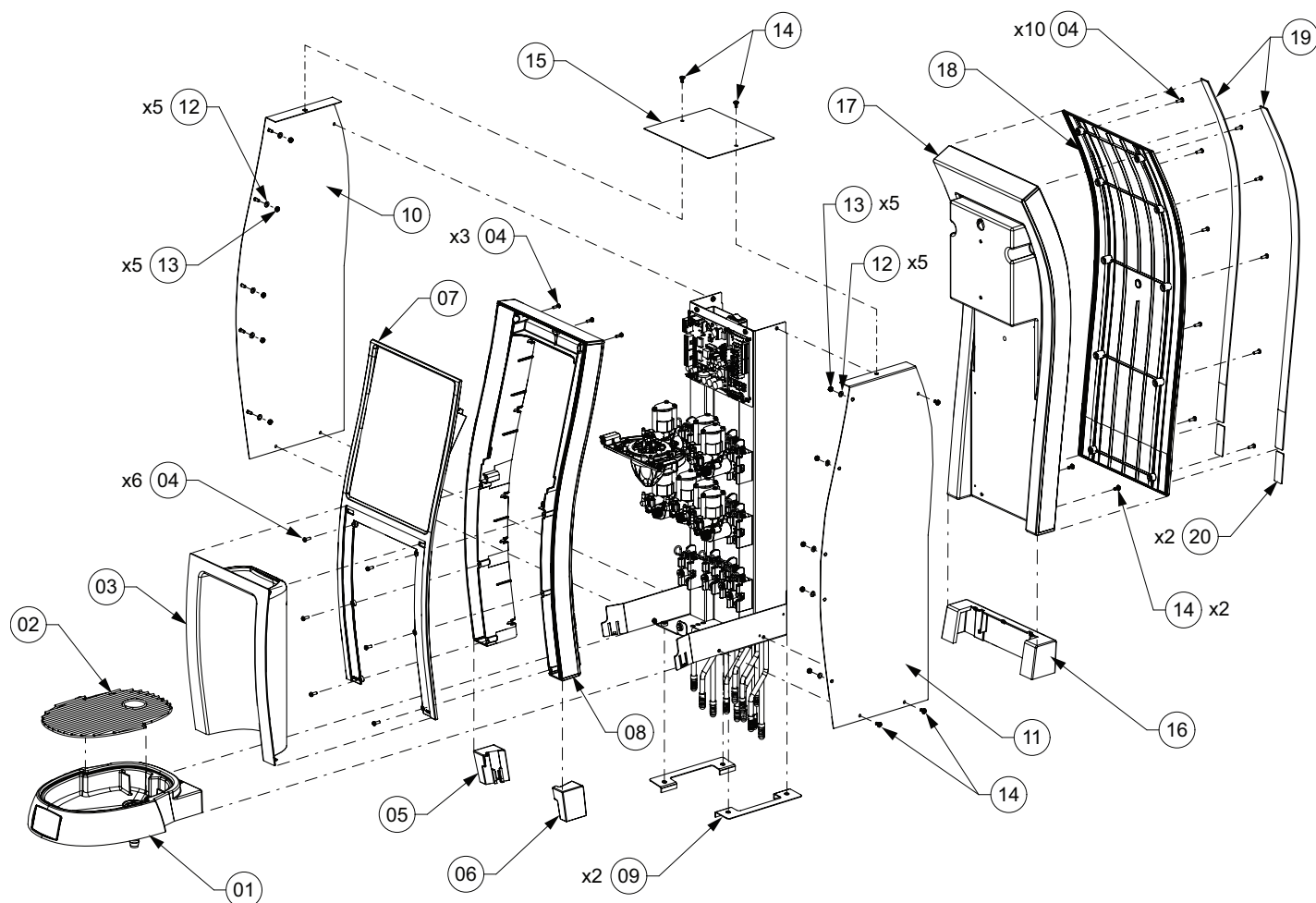
Item	Part No.	Description		Item	Part No.	Description
01	05-3429/02	Drip Tray, TsT		11	30-11889	Center Panel, Right
02	23-1726	Cup Rest, TsT		12	04-1714	Washer, M4
03	05-3296/02	Splash Plate, TsT		13	04-1717	Nut, M4
04	04-0633/01	Screw, 6-19 x 0.437		14	04-1689/01	Screw, M4
05	05-3434/02	Drip Tray Bumper, Left		15	30-11890	Center Panel, Top
06	05-3432/02	Drip Tray Bumper, Right		16	05-3437/02	Lower Rear Cover
07	05-3295/02	Front Cosmetic Panel		17	05-3292/02	Rear Internal Panel
08	05-3294/02	Front Internal Panel		18	05-3293/02	Rear Cosmetic Panel
09	30-16121	Mounting Plate Bracket, TsT		19	05-3435	Upper Rear Trim
10	30-11888	Center Panel, Left		20	05-3436	Lower Rear Trim

Plumbing Assembly
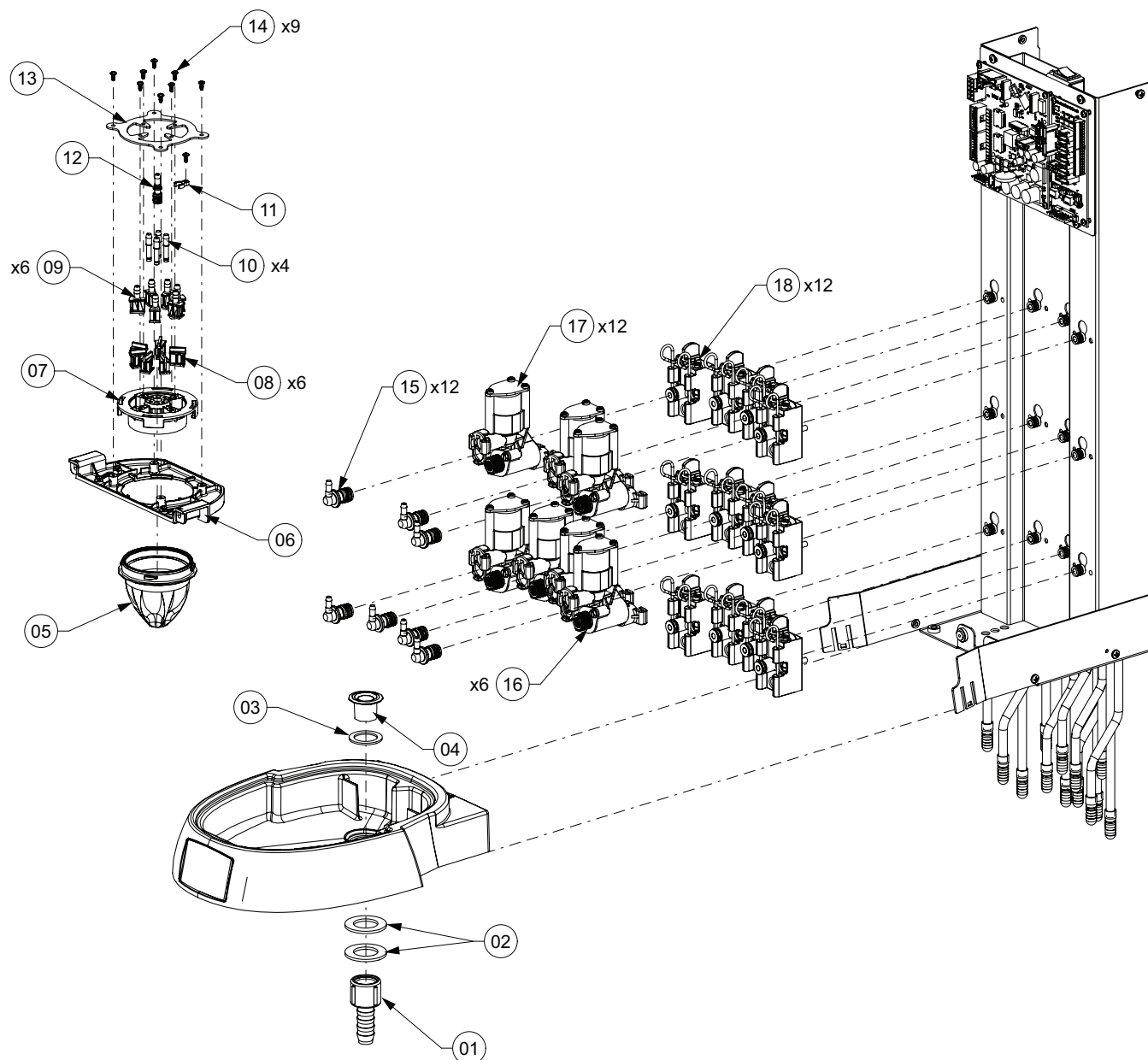
Item	Part No.	Description		Item	Part No.	Description
01	01-2991	Coupling, Female		10	05-3392	Injector, Blank, Bonus Flavor
02	04-1710/01	Washer, Flat		11	05-3309	Locking Clip, Water Inlet
03	02-0677	Seal, Washer, Drain		12	05-1612	Fitting, Water, M/F Nozzle
04	01-2994	Drain Fitting, 1/2 NPT		13	30-12139/01	Nozzle Plate
05	05-3407/01	Nozzle Overmold Assy		14	04-1639/01	Screw, 4-20 X 0.250
06	05-3297/02	Nozzle Mount, TsT		15	05-1385	Elbow, .5 Dole
07	05-3286/02	Inner Body, Flex Nozzle		16	19-0266/02	Valve Assy, 2.0 Syrup Blk
08	05-3391/01	Injector, Blank, Syrup		17	19-0267/02	Valve Assy, 2.0 Syrup Gray
09	05-3393/01	Injector, Syrup, Low Flow		18	82-2317/01	Mounting Block Assy

Electronics Assembly

Item   Part No.   Description
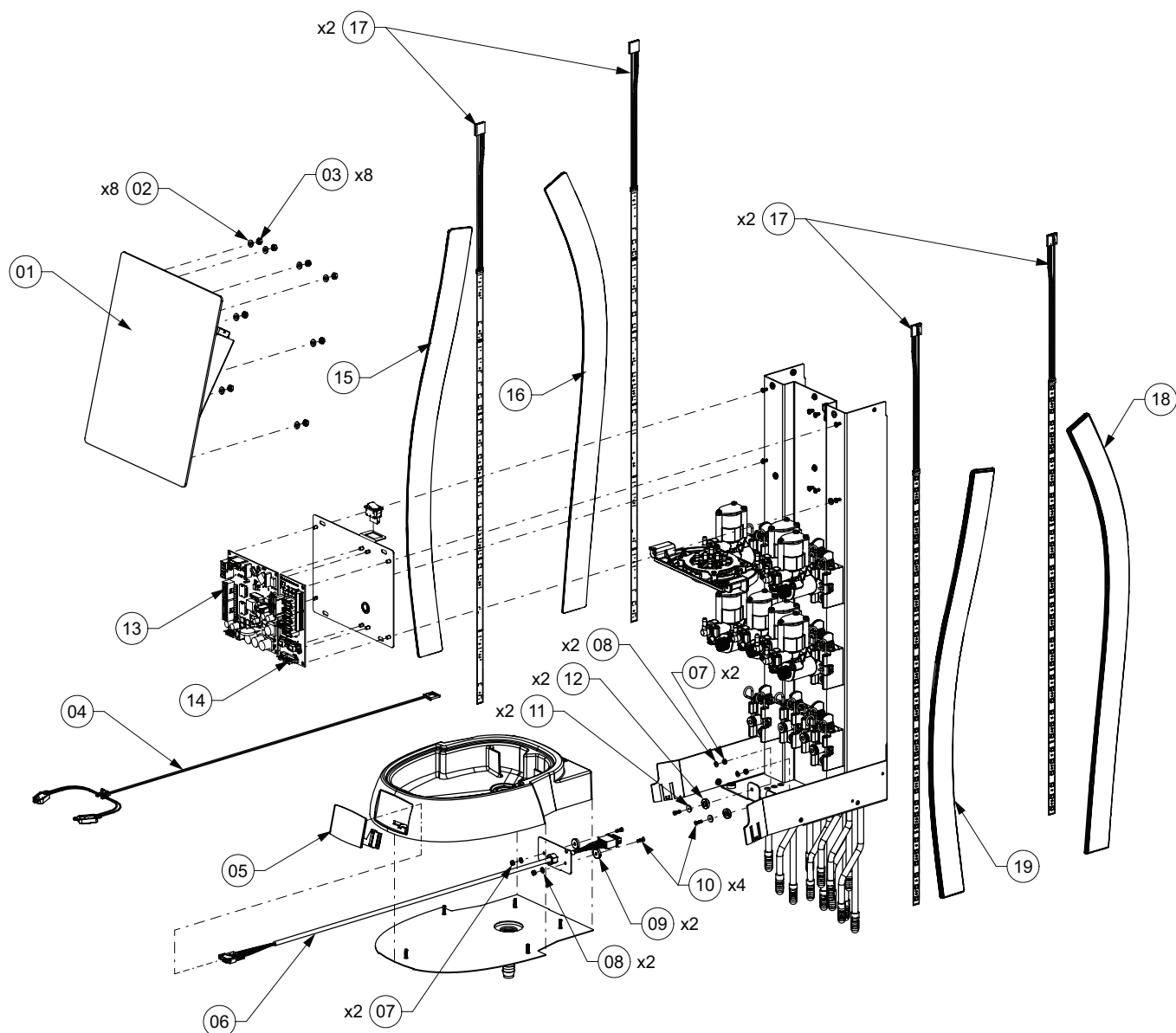
Item	Part No.	Description
01	82-4963/04	Screen Assy, TsT
02	04-1714	Washer, Flat, M4
03	04-1717	Nut, M4
04	52-3661	Drip Tray Dual Light Assy
05	12-0629	Keypad, Membrane Switch
06	52-3718	Harness, Keypad to ADA
07	04-1709/01	Hex Nut, M3 x 0.5, SS
08	04-1716	Washer, Flat, M3
09	10-0958	Magnet, Neo, 0.5 X 0.125
10	04-1748	Screw, M3

Item	Part No.	Description
11	02-0681	Washer, 0.343 OD X 0.093
12	10-1000	Magnet, Neo, Reverse, 0.5 X 0.125
13	64-5061/01	PCB Assy, Valve Board
14	64-5138	PCB Assy, Power Board
15	05-3483	Front Lens, Left
16	05-3486	Rear Lens, Left
17	52-3730	LED Strip Assy
18	05-3485	Rear Lens, Right
19	05-3484	Front Lens, Right

Unit Plumbing Diagram
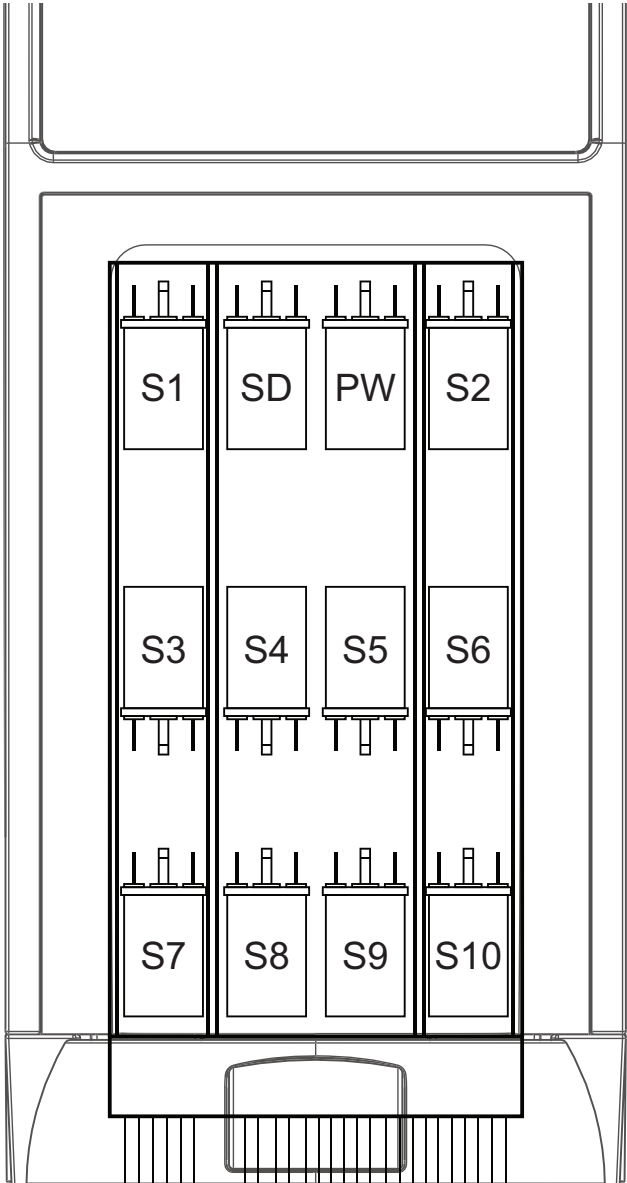
Item	Description
S1	Syrup Line 1
S2	Syrup Line 2
S3	Syrup Line 3
S4	Syrup Line 4
S5	Syrup Line 5
S6	Syrup Line 6
S7	Syrup Line 7
S8	Syrup Line 8
S9	Syrup Line 9
S10	Syrup Line 10
PW	Plain Water Line
SD	Soda Line
RC	Recirculation Line

Unit Wiring Diagram

DISPLAY
82-4963/04

USB

LVDS

SBC, IMX6 SOLO
64-5103

5VDC   I2C   GPIO   SERIAL

12VDC

12 PIN Bulk Head

J7 Serial

UDC
64-5059

J4

J3

J2

VALVES

S1	SODA	WTR	S2
BLK BLK	ORG GRY	ORG BRN	RED RED

S3	S4	S5	S6
BLU BLU	WHT WHT	GRN GRN	YEL YEL

S7	S8	S9	S10
BRN BRN	ORG ORG	GRY GRY	VIO VIO

J8 SO

J9 SO

J18 ADA

J4

J5

J7

J6

J1 COM

POWER PCB
64-5138

J2   J3

LED STRIP

LED STRIP

NOZZLE LED

SWITCH

24VDC SUPPLY
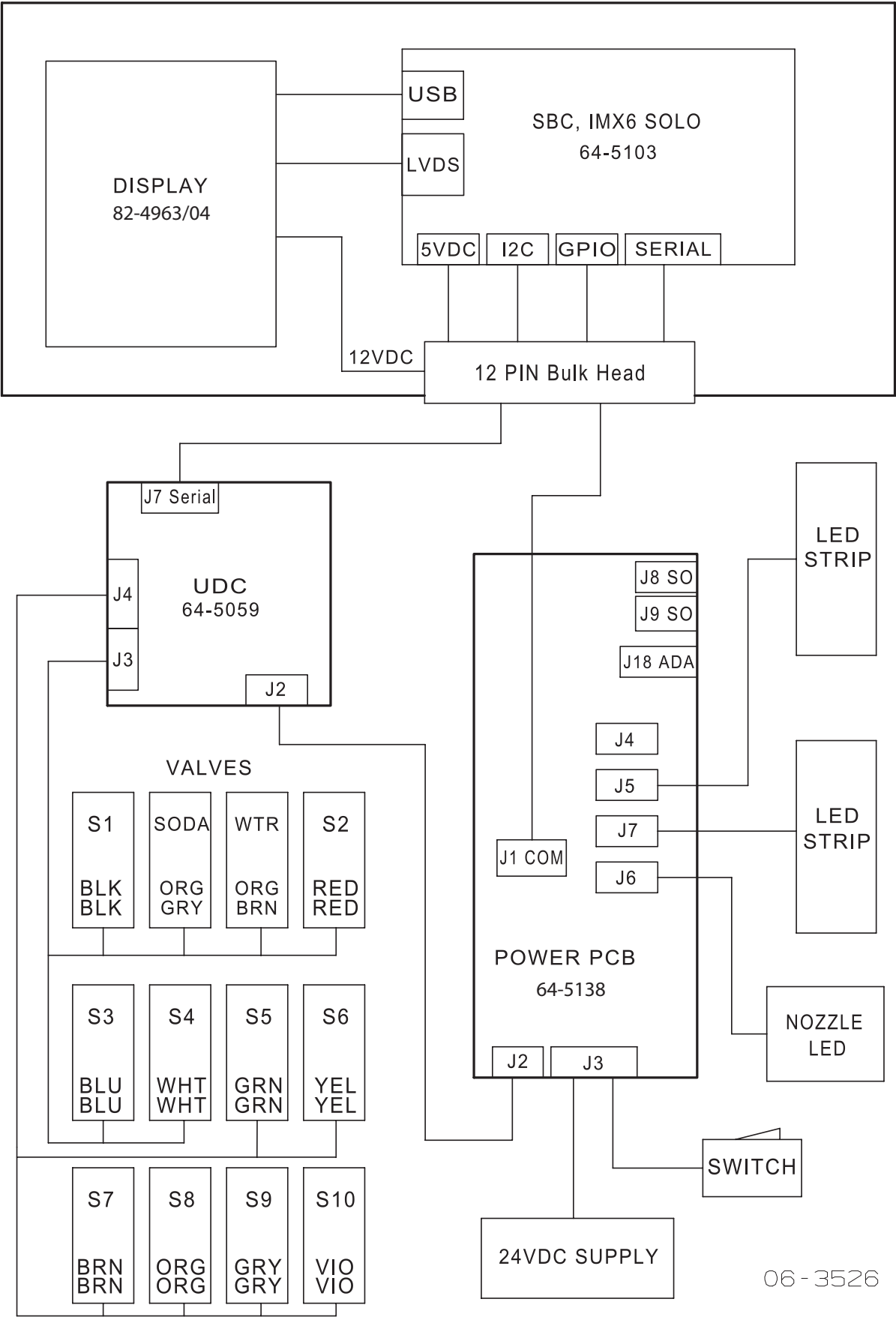
06 - 3526

Counter Cut-Out Template

5.02
[127.49]

6.19
[157.30]

3.60
[91.44]

CUT ALONG
DOTTED LINES

Ø 1.62
[41.28]

FRONT OF UNIT