

# INSTALLATION AND SERVICE MANUAL FOR FLAVOR SELECT 22 ICE BEVERAGE DISPENSER LANCER SERIES 14400

---



---

85-14408-06-2 ICE BEVERAGE DISPENSER, ABOVE COUNTER  
MULTI BRAND, 22 INCH WIDE, 8 BRANDS / 6 FLAVORS,  
115V/60Hz

85-14408N-06-2 ICE BEVERAGE DISPENSER, ABOVE COUNTER *PELLET ICE*  
MULTI BRAND, 22 INCH WIDE, 8 BRANDS / 6 FLAVORS,  
115V/60Hz

---

*This manual supersedes and replaces 28-0580, dated 01/18/06.*

---

**LANCER**

6655 LANCER BLVD. • SAN ANTONIO, TEXAS 78219 USA • (210) 310-7000

FAX SALES

• NORTH AMERICA – 210-310-7245 • INTERNATIONAL SALES – 210-310-7242 • CUSTOMER SERVICE – 210-310-7242 •  
• LATIN AMERICA – 210-310-7245 • EUROPE – 32-2-755-2399 • PACIFIC – 61-8-8268-1978 •

FAX Engineering: • 210-310-7096

"Lancer" is the registered trademark of Lancer • Copyright — 2006 by Lancer, all rights reserved

DATE:	09/05/06
P.N.	28-0580/01

## **SPECIFICATIONS**

### **DIMENSIONS**

#### **22" WIDE**

HEIGHT:	39.625 INCHES (1007 mm)
WIDTH:	22.00 INCHES (559 mm)
DEPTH:	30.50 INCHES (775 mm)

**TOTAL ICE CAPACITY:** 200 LBS (90.7 KG)

**DISPENSABLE ICE CAPACITY:** 175 LBS (79.4 KG)

**COUNTER WEIGHT (WITHOUT ICE):** 280 LBS (127.0 KG)

**SHIPPING WEIGHT:** 310 LBS (140.7 KG)

### **ELECTRICAL**

VOLTAGE:	115
AMPS:	7.0
Hz:	60

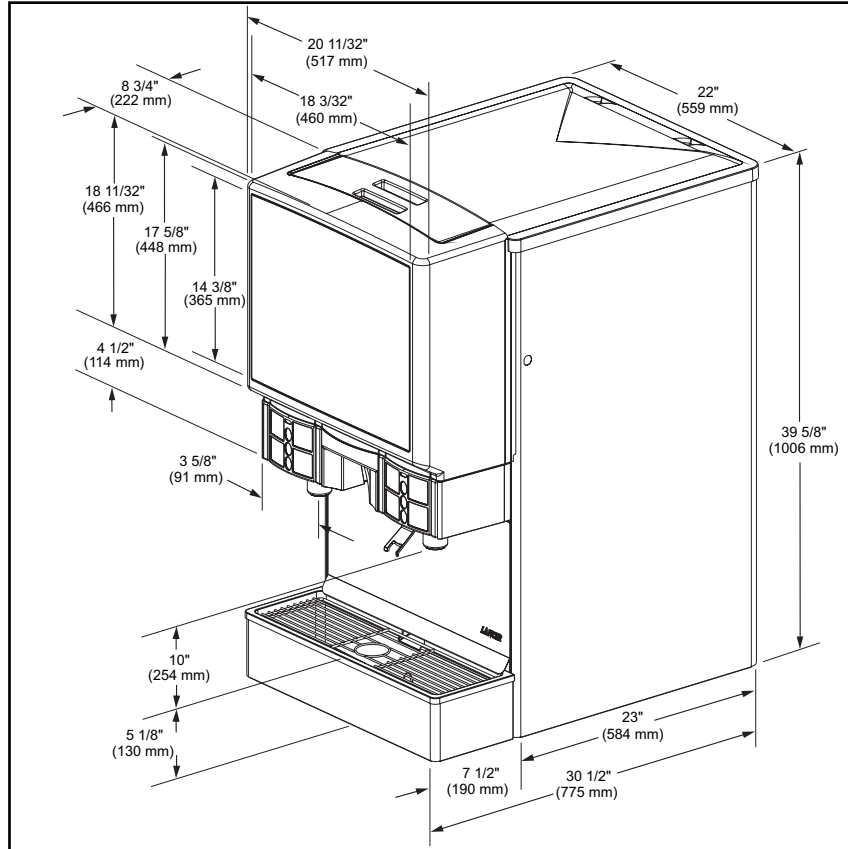
### **WARNING**

**THIS UNIT IS EQUIPPED WITH AUTOMATIC AGITATION. IT MAY ACTIVATE UNEXPECTEDLY. DO NOT PLACE HANDS, OR FOREIGN OBJECTS IN THE ICE STORAGE COMPARTMENT.**

**WHEN UNIT IS BEING SERVICED, CLEANED, OR SANITIZED, UNPLUG DISPENSER FROM THE POWER SOURCE.**

### **NOTE**

*Lancer does not recommend the use of shaved, flake, nugget, or pellet ice in dispensers not properly equipped to do so.*



***The FS22 Dispenser, Lancer Series 14400***

## MANUFACTURERS INTRODUCTION - High Volume Free Standing Fountain Drink Dispenser

*The unit is designed with the highest quality components to be user and service friendly.* The **FS22** is designed to be ready to use out-of-the-box as long as there is a steady water supply, BIB (Bag-In-Box) syrups with their pumps, and a regulated CO<sub>2</sub> supply.

The **FS22** features a casted-in cold carbonator within the cold plate. It has a removable probe that regulates the mixture of CO<sub>2</sub> and plain water. The unit is equipped with a pressure (PSI) relief valve and a maintenance-free remote water pump with backflow preventer for the carbonator. The cold plate has been designed and tested to meet the highest performance and health standards. *The design allows for a single drain and the ability for up to eight (8) independent brands to be dispensed through two (2) Lancer Multi-Flavor dispense nozzles. A total of six (6) "bonuses" (ambient flavors) may be added to the drink via the flavor injection system on two (2) nozzles.* The bonus flavors are plumbed independently to each of the nozzles allowing for a multitude of customer pleasing drink combinations.

**Supplier Name:** Lancer  
**Address:** 6655 Lancer Blvd  
San Antonio, TX 78219  
**Phone:** (800) 729-1500

**Local Service Name:** \_\_\_\_\_

**Local Service Phone #:** \_\_\_\_\_

---

### TABLE OF CONTENTS

<b>SPECIFICATIONS</b>	<b>i</b>
<b>MANUFACTURERS INTRODUCTION</b>	<b>ii</b>
<b>TABLE OF CONTENTS</b>	<b>ii</b>
<b>1. INSTALLATION</b>	<b>1</b>
1.1 RECEIVING	1
1.2 UNPACKING	1
1.3 SELECTING COUNTER LOCATION	2
1.4 INSTALLING THE DISPENSER	2
1.5 OPTIONAL INSTALLATION OF SOLD-OUT DEVICE	4
<b>2. CLEANING AND SANITIZING INSTRUCTIONS</b>	<b>4</b>
2.1 GENERAL INFORMATION	4
2.2 REQUIRED CLEANING EQUIPMENT	4
2.3 DAILY CLEANING	5
2.4 ICE BIN CLEANING - START UP AND MONTHLY	5
2.5 CLEANING AND SANITIZING BEVERAGE COMPONENTS - FIGAL SYSTEMS	6
2.6 CLEANING AND SANITIZING BEVERAGE COMPONENTS - BAG-IN-BOX SYSTEMS	6
<b>3. HOW TO OPERATE AND ADJUST THE LANCER FS22</b>	<b>7</b>
3.1 NORMAL OPERATION	7
3.2 PROGRAMMING AND SETUP SOFTWARE	7
3.3 PURGING THE CARBONATION SYSTEM	9
3.4 PURGING THE WATER AND SYRUP SYSTEMS	9
3.5 ADJUSTING WATER FLOW (LFCV®)	9
3.6 WEEKLY ADJUSTING OF WATER TO SYRUP (RATIO) BRX (LFCV®)	10
3.7 CARBONATOR PUMP MODIFICATIONS	10
3.8 PRIMING THE SYRUP PUMP AT THE CORRECT PRESSURE	10
3.9 REPLENISHING BIB (BAG-IN-BOX) SYRUP SUPPLY	10
<b>4. TROUBLESHOOTING GUIDE FOR THE FS22 DISPENSER</b>	<b>11</b>
<b>5. EXTRA CAPABILITIES</b>	<b>14</b>
5.1 AUTOMATIC AGITATION AND RESETTABLE BREAKER	14
5.2 DIAGNOSTIC	14
<b>6. ILLUSTRATIONS, PARTS LISTINGS, AND WIRING DIAGRAMS</b>	<b>15</b>
6.1 FINAL ASSEMBLY	15-16
6.2 PELLET ICE ASSEMBLY AND PARTS LISTING	17
6.3 WIRING DIAGRAM (FIGURE SCHEMATICS)	18
6.4 PLUMBING DIAGRAM WITH VALVE WIRING	19

## 1. INSTALLATION

### 1.1 RECEIVING

Each unit is completely tested under operating conditions and thoroughly inspected before shipment. At time of shipment, the carrier accepts the unit and any claim for damage must be made with the carrier. Upon receiving units from the delivering carrier, carefully inspect carton for visible indication(s) of damage. If damage(s) exist(s), have carrier note same on bill of lading and file claim with carrier.

### 1.2 UNPACKING

- Set shipping carton upright on the floor.
- Cut band and remove.
- Open top of carton and remove interior packing.
- Lift carton up and off of the dispenser.
- Remove wood shipping base from the bottom of the dispenser. (Support dispenser while removing shipping base to prevent damage to the dispenser.)

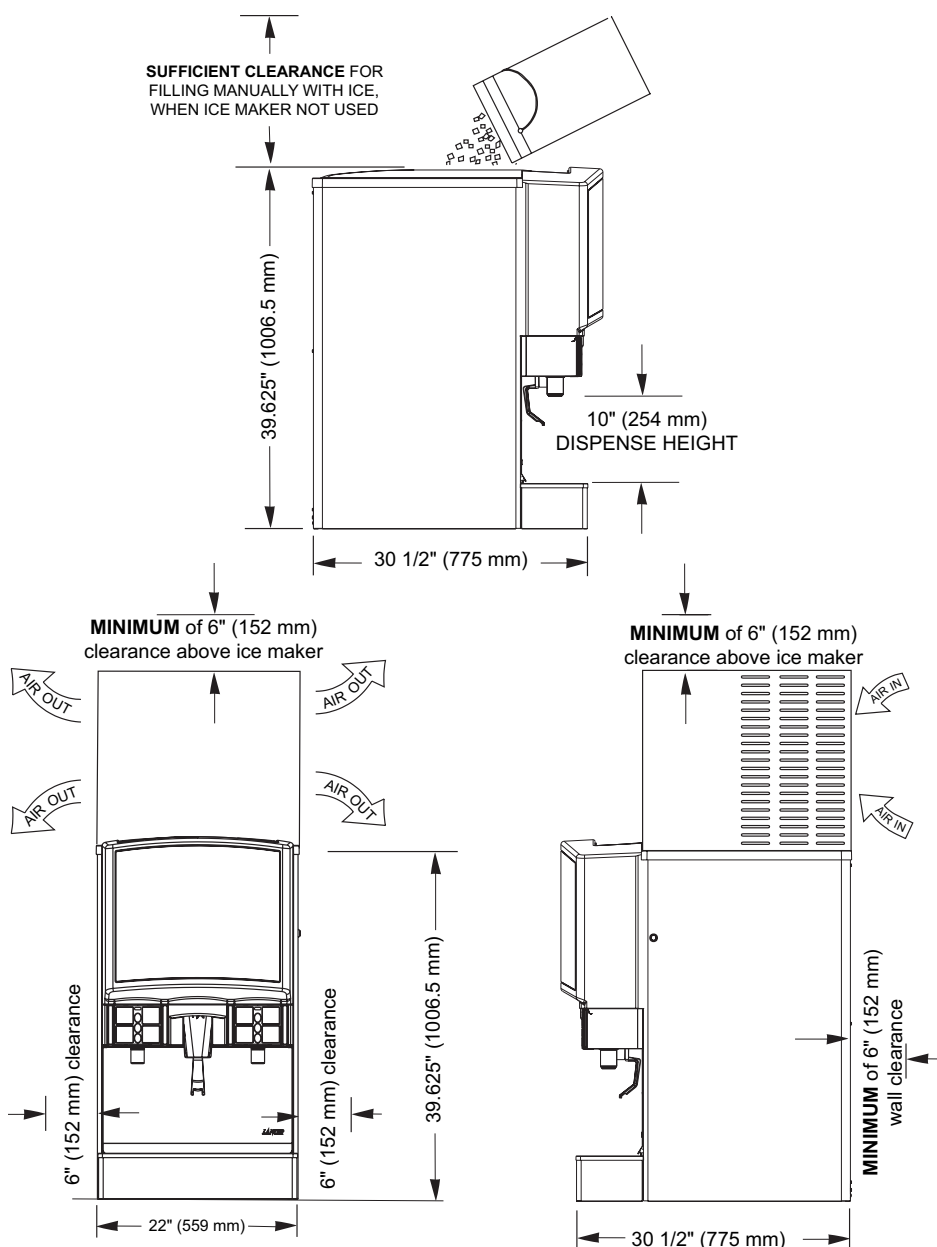


Figure 1

### 1.3 SELECTING COUNTER LOCATION (SEE FIGURE 1)

#### **WARNING**

**THIS APPLIANCE MUST BE EARTHED. THIS DISPENSER MUST BE ELECTRICALLY GROUNDED TO AVOID DANGER TO THE OPERATOR. THE POWER CORD PROVIDED HAS A THREE PRONG GROUNDED PLUG. IF A THREE HOLED GROUNDED ELECTRICAL OUTLET IS NOT AVAILABLE, USE AN APPROVED METHOD OF INSURING A PROPER GROUND TO THE DISPENSER.**

#### **CAUTION**

**FAILURE TO DISCONNECT THE MOTOR POWER SUPPLY WILL DAMAGE THE CARBONATOR MOTOR AND PUMP AND VOID THE WARRANTY.**

- A. Select a location close to a properly grounded 20 Amp electrical outlet, convenient to an open type drain, access for soda, water, and syrup lines. It should have sufficient clearance above the unit to provide for servicing.
  1. If at all possible, location should be away from direct sunlight or other heat sources.
  2. Connecting lines may be run through access in back of the unit or extend down through a counter cutout.
  3. Check the dispenser serial number plate for correct electrical requirements of unit. *Do not plug into wall electrical outlet unless the current shown on the serial number plate agrees with local current available.*
  4. The counter must support the weight of the dispenser, ice, and possibly an icemaker. *Total weight may exceed 500 pounds (226.8 kg).*
- B. Unit may be installed directly on the countertop or on legs supplied with the unit. If installed directly on the counter, the unit must be sealed to the countertop. ***If an icemaker is to be mounted on top of dispenser, do not install dispenser on legs.***

#### **NOTE**

Water pipe connections and fixtures directly connected to a potable water supply must all be sized, installed, and maintained according to Federal, State, and Local laws.

The water supply must be protected by means of an air gap, a backflow prevention device (located upstream of the CO<sub>2</sub> injection system) or another approved method to comply with NSF standards. A backflow prevention device must comply with ASSE and local standards. *It is the responsibility of the installer to ensure compliance.*

- C. ***Location must insure sufficient clearance*** on sides, top and back of unit is provided for ventilation and air circulation (see Figure 1).
- D. Additionally, if an ice maker is not top mounted on the unit, sufficient clearance should be provided [a minimum of 16 inches (40.6 cm) is recommended] to allow filling the unit with ice from a five (5) gallon (19 liter) container (see Figure 1).

### 1.4 INSTALLING THE DISPENSER

- A. Remove Cup Rest, Drip Tray, Splash Plate, and Top Cover.
- B. Remove Cover Plate at rear of unit if not a through-the counter-installation.
- C. Connect water supply for carbonator/plain water to the 3/8 inch flare fittings at the front of the unit (See Figure 2).
- D. For the **plain water supply line**, the inlet water **flowing pressure** should be **at least 75 PSI**. ***If the water pressure is lower than 75 psi flowing, a Water Booster system must be used.***

#### **NOTE:**

**The Lancer Water Booster/Tank, PN MC-163172, is offered as a kit.**

The Water Booster must be installed as close as possible to the plain water circuit inlet.

If the water flowing pressure is lower than 75 PSI at the plain water inlet, and a water booster is NOT installed, all water products will not hold a proper flow rate and/or water/syrup ratio. Additionally, flow conditions at the nozzle may be affected, for example, poor nozzle coning and mixing.

- E. For the **soda water supply line**, the inlet water static pressure going into the carbonator pump **should NOT exceed 50 PSI**. If the static water pressure exceeds 50 psi, a water regulator must be installed before the carbonator water inlet.

**NOTE:**

**The Lancer Pressure Regulator, PN 18-0306, is offered.**

The regulator must be installed as close as possible to the water carbonator pump inlet.

There is no minimum water pressure value feeding the carbonator. If the water pressure does not exceed 50 psi, but fluctuates over this value (for example, when water usage on other equipment connected to the same water supply causes pressure “spikes”), the use of a water regulator is also required.

- F. Place CO<sub>2</sub> Cylinder with regulator in a serviceable location and route CO<sub>2</sub> supply line (75 PSI) to the 1/4 inch flare fitting at the front of the unit (See Figure 3). Check for leaks.
- G. Connect syrup supply lines to the 3/8 inch barb inlet fittings at the front of the unit (See Figure 4), using BIB (Bag-In-Box) pumps. Check for leaks.
- H. Connect flavor injection lines to the barb fittings at the front of the unit (See Figure 4). Check for leaks.
- I. Install Drip Tray and extend hose to open type drain.
- J. Drain lines 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.
- K. Install Cup Rest and Splash Plate.
- L. Connect Power Cord to grounded electrical outlet.

**WARNING:**

**ICE AUGER AND BIN AGITATION SYSTEM WILL OPERATE AUTOMATICALLY. DO NOT PLACE HANDS OR ANY BODY PARTS WITHIN THE BIN OR IN THE ICE CHUTE.**

- M. Test Motor operation by pushing Ice Chute.

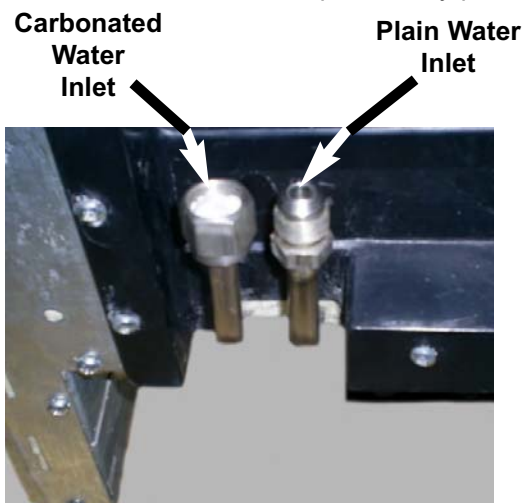


Figure 2

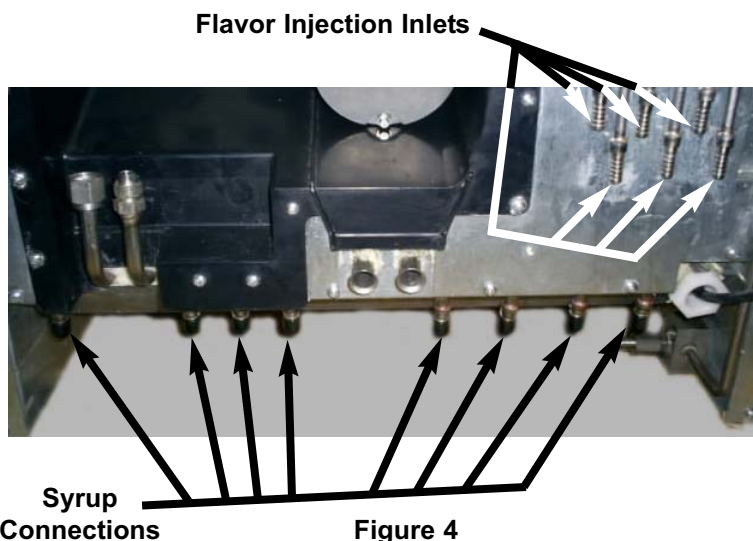


Figure 4

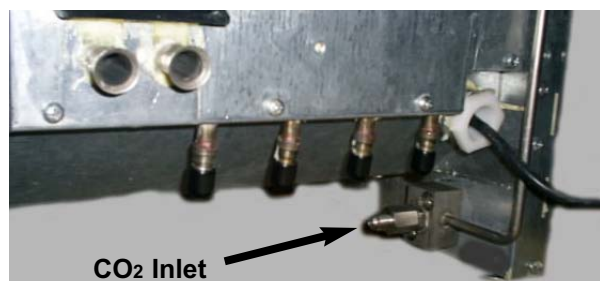


Figure 3

- N. Clean and sanitize dispenser (see Section 2).
- O. Fill unit approximately half full with ice. Push Chute and check for ice delivery.
- P. Fill unit with ice.
- Q. Install Top Cover.

**NOTE**

*Lancer does not recommend the use of shaved, flake, nugget, or pellet ice in dispensers not properly equipped to do so.*

- R. Set brix ratio for beverage dispensing valves according to manufacturer's instructions.

## **1.5 OPTIONAL INSTALLATION OF SOLD-OUT DEVICE**

- A. An optional Sold-Out Device can be used to automatically shut off the Syrup Pump when the Package(s) is empty. This stops the operation of the Pump and the exhaust of gas until a new syrup package is connected to the Pump.
- B. The Lancer Sold-Out device measures syrup vacuum in the Pump Inlet Line. When the Syrup Package is empty, the Pump increases vacuum causing the device to shut off the gas pressure to stop the Pump. The Lancer Sold-Out automatically resets, after new Syrup Packages are connected.

## **2. CLEANING AND SANITIZING INSTRUCTIONS**

### **2.1 GENERAL INFORMATION**

- A. Lancer equipment (new or reconditioned) is shipped from the factory cleaned and sanitized in accordance with NSF guidelines. This equipment must be cleaned and sanitized after installation is complete, and 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 and sanitizing procedures provided herein pertain to the Lancer equipment identified by this manual. If other equipment is being cleaned, follow the guidelines established for that equipment.

- B. Cleaning and sanitizing should be accomplished only by trained personnel. Sanitary gloves are to be used during cleaning and sanitizing operations. Applicable safety precautions must be observed. Instruction warnings on the product being used must be followed.
- C. Water lines are not to be disconnected during the cleaning and sanitizing of syrup lines to avoid contamination.
- D. Do NOT use strong bleaches or detergents. They tend to discolor and/or corrode various materials.
- E. Do NOT use metal scrapers, sharp objects, steel wool, scouring pads, abrasives, solvents, etc., on the dispenser.
- F. Do NOT use hot water above 140°F (60°C). This may damage certain materials.

### **2.2 REQUIRED CLEANING EQUIPMENT**

- A. Cleansers (for example, Ivory Liquid, Calgon, etc.) mixed with clean, potable water at a temperature of 90 to 110 degrees Fahrenheit should be used to clean equipment. The mixture ratio, using Ivory Liquid, is one (1) ounce of cleanser to two (2) gallons of water. A minimum of five (5) gallons of cleaning mixture should be prepared. Any equivalent cleanser may be used as long as it provides a caustic based, non-perfumed, easily rinsed mixture containing at least two (2) percent sodium hydroxide (NaOH). Rinsing must be thorough and use clean, potable water which is also at a temperature of 90° to 110°F.

**NOTE**

Extended lengths of product lines may require that an additional volume of cleaning solution be prepared.

- B. Sanitizing solutions should be prepared in accordance with the manufacturer's written recommendations and safety guidelines. The solution must provide 50 to 100 parts per million



(PPM) available chlorine. A minimum of five (5) 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 50 to 100 parts per million (PPM) available chlorine. Sanitizing solution is to be purged from line(s) and equipment by flushing with product only until there is no after taste. ***Do not rinse with water.***

#### **NOTE**

Please note that a fresh water rinse cannot follow sanitization of equipment. Purge only with the end use product until there is no after taste in the product. ***This is an NSF requirement, since residual sanitizing solution left in the system could create health hazards.***

Extended lengths of product lines may require that an additional volume of sanitizing solution be prepared.

#### **C. Other**

1. Clean cloth towels.
2. Bucket.
3. Small brush (PN 22-0017) - included with installation kit.
4. Extra nozzle.
5. Sanitary gloves.

### **2.3 DAILY CLEANING**

- A. Carefully remove the nozzle housings by turning counter-clockwise and pulling down from the nozzle body.
- B. Wash the nozzle housings in warm soapy water and rinse with clean warm water.
- C. Wet a clean cloth in warm soapy water.
- D. While the nozzle housing is removed, wipe down the perimeter and end of the nozzle body.
- E. Fill a cup with clean warm water and rinse nozzle body.
- F. Make certain that the nozzle o-ring is not torn or otherwise damaged. If necessary, replace damaged o-ring with LANCER PN 02-0231.
- G. Wet the inner surface of the nozzle housing with water and reinstall the nozzle housing by sliding it over the nozzle body and turning clockwise to lock in position.

### **2.4 ICE BIN CLEANING - START UP AND MONTHLY**

- A. Disconnect Dispenser from power source.
- B. Remove Top Cover
- C. Melt out any remaining ice from the bin.
- D. Remove Splash Plate, Drip Tray and front and rear bin covers.
- E. Remove Agitator Pin from Agitator Shaft. Slide Agitator Shaft rearward out of Motor Shaft and pull out of rear Bearing to remove.
- F. Remove Dispensing Wheel from Motor Shaft by sliding rearward.
- G. Remove Dispensing Wheel Shroud.
- H. Using cleaning solution, described in Section 2.2, and a clean cloth or soft brush, clean all removable parts, sides of Ice Bin, Ice Chute, and surface of aluminum casting.
- I. Using hot water, thoroughly rinse away the cleaning solution.
- J. Wearing sanitary gloves, soak a clean cloth towel in sanitizing solution, described in Section 2.2, and wash all surfaces of removable parts, sides of Ice Bin, Ice Chute, and surface of aluminum casting.
- K. Wearing sanitary gloves, reassemble all removable parts.
- L. Fill unit with ice and replace Top Cover.

#### **NOTE**

***Lancer does not recommend the use of shaved, flake, nugget, or pellet ice in dispensers not properly equipped to do so.***

- M. Reconnect Dispenser to power source.



## 2.5 CLEANING AND SANITIZING BEVERAGE COMPONENTS - FIGAL SYSTEMS

### **NOTE**

Extended lengths of product lines may require more time for flushing and rinsing lines than stated below.

- A. Disconnect syrup lines from syrup containers (for example, quick disconnects, figal containers, etc.).
- B. Connect hose half of syrup line to a syrup tank filled with clean, potable, room temperature water. Connect CO<sub>2</sub> supply hose to tank and pressurize.
- C. Activate valve until water is dispensed. Flush and rinse line and fittings for a minimum of 60 seconds to remove all traces of residual product.

### **WARNING**

**TO AVOID POSSIBLE PERSONAL INJURY OR PROPERTY DAMAGE, DO NOT ATTEMPT TO REMOVE SYRUP TANK COVER UNTIL CO<sub>2</sub> PRESSURE HAS BEEN RELEASED FROM TANK.**

- D. Disconnect CO<sub>2</sub> supply hose from the water filled syrup tank.
- E. Following the instructions as described in Section 2.2 above, mix appropriate amount of cleaning solution. Fill a tank with this solution. Connect hose half of syrup line to the tank. Connect CO<sub>2</sub> supply hose to tank and pressurize.
- F. Activate valve and draw cleaning solution through lines for a minimum of 60 seconds. This will ensure line is flushed and filled with cleaning solution. Allow line to stand for at least 30 minutes.
- G. Disconnect CO<sub>2</sub> supply hose from the tank.
- H. Connect hose half of syrup line to a tank filled with clean, potable, water at a temperature of 90° to 110°F. Connect CO<sub>2</sub> supply hose to tank and pressurize.
- I. Activate valve to flush and rinse line and fittings for a minimum of 60 seconds to remove all traces of cleaning solution. Continue rinsing until testing with phenolphthalein shows that the rinse water is free of residual detergent.

### **WARNING**

**TO AVOID POSSIBLE PERSONAL INJURY OR PROPERTY DAMAGE, DO NOT ATTEMPT TO REMOVE SYRUP TANK COVER UNTIL CO<sub>2</sub> PRESSURE HAS BEEN RELEASED FROM TANK.**

- J. Disconnect CO<sub>2</sub> supply hose from the tank.
- K. Following the instructions as described in 2.2 above, mix appropriate amount of sanitizing solution. Fill a tank with this solution. Connect hose half of syrup line to the tank. Connect CO<sub>2</sub> supply hose to tank and pressurize.
- L. Activate valve and draw sanitizing solution through line for a minimum of 60 seconds. This will ensure line is flushed and filled with sanitizing solution. Allow line to stand for at least 30 minutes.
- M. Disconnect CO<sub>2</sub> supply hose from the tank.
- N. Reconnect syrup lines to syrup containers (for example, quick disconnects, figal containers, etc.) and ready unit for operation.
- O. Draw drinks to refill lines and flush the sanitizing solution from the dispenser.

### **NOTE**

*Please note that a fresh water rinse cannot follow sanitization of equipment. Purge only with the end use product until there is no after taste in the product. This is an NSF requirement.*

- P. Test dispenser in normal manner for proper operation. Taste dispensed product to ensure there is no off-taste. If off-taste is found, additional flushing of syrup system may be required.
- Q. Repeat cleaning, rinsing, and sanitizing procedures for each valve and each circuit.

## 2.6 CLEANING AND SANITIZING BEVERAGE COMPONENTS - BAG-IN-BOX SYSTEMS

### **NOTE**

Extended lengths of product lines may require more time for flushing and rinsing lines than stated below.

- A. Disconnect syrup quick disconnect coupling from syrup packages and connect coupling to a bag

- valve removed from an empty Bag-in-Box (BIB) package.
- B. Place syrup inlet line in a clean container filled with clean, potable, room temperature water.
- C. Activate valve until water is dispensed. Flush and rinse line and fittings for a minimum of 60 seconds to remove all traces of residual product.
- D. Following the instructions as described in 2.2 above, mix appropriate amount of cleaning solution in a clean container. Place syrup inlet line in container filled with cleaning solution.
- E. Activate valve and draw cleaning solution through lines for a minimum of 60 seconds. This will ensure line is flushed and filled with cleaning solution. Allow line to stand for at least 30 minutes.
- F. Place syrup inlet line in a clean container filled with clean, potable, water at a temperature of 90° to 110°F.
- G. Activate valve to flush and rinse line and fittings for a minimum of 60 seconds to remove all traces of cleaning solution. Continue rinsing until testing with phenolphthalein shows that the rinse water is free of residual detergent.
- H. Following the instructions as described in 2.2 above, mix appropriate amount of sanitizing solution in a clean container. Place syrup inlet line in container filled with sanitizing solution.
- I. Activate valve and draw sanitizing solution through line for a minimum of 60 seconds. This will ensure line is flushed and filled with sanitizing solution. Allow line to stand for at least 30 minutes.
- J. Remove bag valve from quick disconnect coupling and reconnect syrup inlet line to syrup package. Ready unit for operation.
- K. Draw drinks to refill lines and to flush the chlorine sanitizing solution from the dispenser.

#### **NOTE**

*Please note that a fresh water rinse cannot follow sanitization of equipment. Purge only with the end use product until there is no after taste in the product. This is an NSF requirement.*

- L. Test dispenser in normal manner for proper operation. Taste dispensed product to ensure there is no off-taste. If off-taste is found, additional flushing of syrup system may be required.
- M. Repeat cleaning, rinsing, and sanitizing procedures for each valve and each circuit.

### **3. HOW TO OPERATE AND ADJUST THE LANCER FS22**

#### **3.1 NORMAL OPERATION**

- A. Fill cup with desired amount of ice.
- B. Place cup under nozzle below desired brand.
- C. Select up to two (2) desired bonus flavors from those available on the keypad, by pressing against the flavor label once. Selection indicator light will illuminate, acknowledging selection(s).
- D. Press and hold brand label to fill cup.
- E. Top off cup as desired

#### **3.2 PROGRAMMING AND SETUP SOFTWARE**

##### **A. INTRODUCTION**

#### **NOTE:**

The following descriptions reflect Firmware Version **V0.161** for the Controller Board and Firmware Version **V1.132** for the Valve Boards. *Lancer reserves the right to make changes and updates as required. If you have any questions regarding the latest versions of programs, please contact your Lancer representative.*

- 1. The Lancer FS22 has been factory preset to the settings necessary to comply with the brand/flavor version of the unit requested by the customer.
- 2. Adjustments or upgrades should only be performed by trained personnel. For any upgrades, an upgrade kit may be purchased. It will include all of the hardware required for the upgrade, including bezels and valves.
- 3. The valves can be adjusted by scrolling through the menus (see Figure 5) using the **UP** and **DOWN** arrows. By pressing the **ENTER** button, a submenu is revealed. In the submenu, the individual valves can be adjusted to the desired configuration.

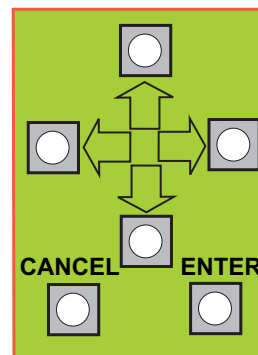
## INITIALIZATION SCREEN (BOOT UP ONLY)

LANCER FS SERIES  
VER. 0.161

### MAIN MENU

### SUB-CATEGORY

FS-22 (NO PWB) MAJOR / MINOR C	BRANDS PER SIDE V:1 L:2 R:2
FS-22 (NO PWB) CONFIG BONUS KEY C	BONUS KEY SETUP V:1 T:F M:F B:F
FS-22 (NO PWB) CARB / WATER SETUP C	CARB / WATER SETUP V1 B1 SODA
FS-22 (NO PWB) CONFIG ICE TYPE C	CONFIG ICE TYPE CUBE PELLET
FS-22 (NO PWB) VW ICE STIR TMS C	ICE STIR ON 2000 ICE STIR OFF 60
FS-22 (NO PWB) SYRUP PURGE C	SYRUP PURGE OFF SINGLE ALL
FS-22 (NO PWB) CONFIG KEY AS PC C	CONFIG KEY AS PC V1 B1 PC OFF
FS-22 (NO PWB) PC SETTINGS C	SET PC POUR SIZE V1 B1 S F
FS-22 (NO PWB) SOLD OUT C	SELECT SOLDOUT SOLD OUT #1
FS-22 (NO PWB) SOFTWARE VERSION C	CONTROLLER X.XXX V1 X.XXX
FS-22 (NO PWB) NUMBER OF VALVES C	1 2 Y Y
FS-22 (NO PWB) RESET DEFAULTS C	RELOAD DEFAULTS? NO YES
FS-22 (NO PWB) GLOBAL CONFIG C	SET MAIN CONFIG FS8 (PWB)



↑ ↓ Scrolls through Main Menu  
 Press "Enter" to enter sub-category  
 → ← Moves cursor to right or left  
 ↑ ↓ Changes value (number/letter)  
 Press "Enter" to save changes  
 Press "Cancel" to exit menu

### 2ND SUB-CATEGORY

SOLD OUT #1  
OFF

NOTE:  
C = CUBED ICE  
P = PELLET ICE  
O = OVERRIDEN

Figure 5

#### B. MENUS AND SUBMENUS

##### 1. Bonus Flavors

- a. Decide if the bonus flavors will be set to add an injected flavor to the brands or dispense carbonated water/plain water.
- b. Choose the **Valve** number (1-2) by scrolling **UP** and **DOWN** arrows.
- c. Use the **LEFT** and **RIGHT** arrows to shift to the **Top**, **Middle**, or **Bottom** "bonus" flavors categories.
- d. Press the **UP** and **DOWN** arrows under **Top**, **Middle**, or **Bottom** to select it as an injected flavor, carbonated **Soda** water, or plain **Water**.
- e. Press **ENTER** to finalize settings. Panel lights should confirm finalized configurations.

## 2. Brands

- a. Decide how the brands will be setup.
- b. Choose the **Valve number (1-2)** by scrolling **UP** and **DOWN** arrows.
- c. Use the **LEFT** and **RIGHT** arrows to shift to the **Left** or **Right** categories. The **Left** or **Right categories are set with the assumption that you are looking at them from the front.**
- d. Press **UP** and **DOWN** arrows under **Left (1-2)** or **Right (1-2)** to select the brand per side as a single or double. For example, for bezel PN 05-2120, V:1 L:1 R:2

## 3. Soda/Water

- a. Decide which switch locations will be carbonated and/or non-carbonated drinks.
- b. Choose the **Valve number (2-3)** by scrolling the **UP** and **DOWN** arrows.
- c. Use the **LEFT** and **RIGHT** arrows to shift to the number categories (**1-4**). *The number categories correspond to the brand location (per valve) that is being configured.*
- d. Press the **UP** and **DOWN** arrows under the number to select if that brand will be carbonated **Soda** or non-carbonated plain **Water**. If a single brand per side, only number **1** and/or **3** need to be set.

### 3.3 PURGING THE CARBONATION SYSTEM

- A. Turn power off.
- B. Turn the pressure adjusting screw on the CO2 regulator counter-clockwise, all the way out.
- C. The relief valve for the built-in carbonator is located on the right hand side behind the dispenser splash plate. Lift the yellow lever on the top of the relief valve until water flows from the holes in the relief valve. Allow pressure on the regulator to drop and then lock the relief valve lever into place.
- D. Turn the pressure adjusting screw on the CO2 regulator clockwise, until there is resistance. Open the CO2 cylinder handle slowly. Turn the CO2 pressure regulator up (clockwise) slowly to 75 PSIG (5.1 bar).
- E. Reconnect the power supply. The remote carbonator pump will activate periodically to fill carbonator with the appropriate amount of water.

#### **NOTE**

To check for CO2 leaks, close the valve on the CO2 cylinder and observe if the pressure to the system drops with the cylinder valve closed for five (5) minutes. Open the cylinder valve after check.

### 3.4 PURGING THE WATER AND SYRUP SYSTEMS

- A. Open a dispensing valve until water and syrup are flowing steadily from the valve.
- B. Repeat procedure "A" for each valve.
- C. Check all of the unit's syrup and water connections for leaks and repair if necessary.
- D. Replace the unit's splash plate and cup rest.

### 3.5 ADJUSTING WATER FLOW (LFCV®)

- A. The water flow can be adjusted between 2.50 oz/sec (73.9 ml/sec) and 3.75 oz/sec (110.9 ml/sec) on all dispensing valves using the following procedure.
- B. Ice should be on the cold plate for at least one (1) hour before you attempt to brix the valves. The drink temperature should be no higher than 40°F (4.4°C) when the brix is set.
- C. Remove dispenser merchandiser assembly.
- D. Rotate switches panel, forward and down by releasing the two pin latches on its sides.
- E. Rotate light panel, forward and up by releasing the two pin latches on its sides towards the top.
- F. Remove nozzle by twisting counter clockwise and pulling down.
- G. Install Lancer syrup separator (PN 54-0362) in place of nozzle.
- H. Activate dispensing valve to fill separator syrup tube.
- I. Hold a Lancer brix cup under the syrup separator and dispense water and syrup into cup for four (4) seconds. Divide number of ounces (ml) of water in cup by four (4) to determine water flow rate per second.
- J. To obtain the proper flow, remove protective cap, and use a screwdriver to adjust water flow control.
- K. Repeat process for each "water valve". There can be up to six (6) gray "water valves" on this dispenser [up to four (4) carbonated "water valves" and two (2) plain "water valves"].

### **3.6 WEEKLY ADJUSTING OF WATER TO SYRUP (RATIO) BRUX (LFCV®)**

- A. Hold the Lancer brix cup under the syrup separator and activate valve. Check brix.
- B. To obtain the proper brix, use screwdriver to adjust syrup flow control.
- C. Once proper ratio is obtained repeat to verify.
- D. Remove syrup separator (PN 54-0362 installed in Section 3.5.G above).
- E. Install nozzle.
- F. Repeat process for each valve.
- G. Once all of the valves have been brixed, restore switches panel and light panel to their original positions.

### **3.7 CARBONATOR PUMP MODIFICATIONS**

#### **NOTE**

The electric, positive displacement, rotary vane pump with replaceable (250 PSI) bypass, is maintenance-free. Only trained personnel should service pump. Additionally, it is not recommended that the pump be used with hard water.

- A. Servicing
  - 1. Turn unit off.
  - 2. Remove drip tray and splash plate.
  - 3. Turn the CO<sub>2</sub> off, activate the relief valve.
  - 4. Once the pressure has been released, untighten the inlet/outlet nuts into/out of the pump

### **3.8 PRIMING THE SYRUP PUMP AT THE CORRECT PRESSURE**

For the Syrup Pump to operate correctly, it is necessary to remove all air from the system. After all lines to the Syrup Pump and Syrup Packages are connected and CO<sub>2</sub> (or air pressure) is set, the system should be primed as follows:

- A. Disconnect Wire to Soda Solenoid or close Shut Off Valve on soda side so that only syrup will be dispensed when Dispensing Valve is operated.
- B. Operate Valve for five (5) seconds and then release for five (5) seconds. Continue drawing syrup until flow is steady and full.
- C. After priming, look for air pockets in Syrup Inlet or Outlet Lines. Repeat priming to remove any air pockets found.
- D. After priming, replace the Wire to Soda Solenoid or open Soda Shut Off Valve on Dispensing Valve.
- E. Repeat above procedure for all Syrup Pumps.

### **3.9 REPLENISHING BIB (BAG-IN-BOX) SYRUP SUPPLY**

- A. Remove empty Syrup Package from system by turning Collar on Quick Disconnect Coupling counterclockwise.
- B. On a new Package, push in on tab located above perforated opening flap.
- C. After breaking seal on flap, pull the flap up.
- D. Reach in the box and pull the Bag Valve out. Remove the Dust Cap.
- E. Connect the Quick Disconnect Coupling by turning the Collar clockwise until stopped by the Bag Valve.
- F. The Lancer Sold-Out Device will reset automatically.
- G. If air has entered the Syrup System, prime the Syrup Pump following the instructions in Section 3.3

#### 4. TROUBLESHOOTING GUIDE FOR FS22 DISPENSER

<b>TROUBLE</b>	<b>CAUSE</b>	<b>REMEDY</b>
<b>4.1</b> No product when switch is activated. (Switch panel does <b>NOT</b> light up when activated).	A. Keyswitch is off, or Keyswitch harness disconnected. B. <b>9-pin</b> valve harness is disconnected. C. Faulty switch assembly. D. No power to unit.	A. Turn Keyswitch "ON" and/or reconnect Keyswitch harness. B. <b>Turn off power</b> , reconnect 9-pin harness, and restore power. C. Replace switch assembly. D. Check internal breaker and incoming power.
<b>4.2</b> No product when switch is activated (switch panel <b>DOES</b> light up when activated).	A. <b>25-pin</b> valve harness is disconnected. B. Faulty switch assembly.	A. <b>Turn off power</b> , reconnect 25-pin harness, and restore power. B. Replace switch assembly.
<b>4.3</b> Push Chute and nothing happens.	A. Dispenser not connected to power source. B. Microswitch defective. C. Wiring Harness not plugged in. D. PC Board defective.	A. Connect Dispenser to power source. B. Replace Microswitch. C. Plug in Wiring Harness. D. Replace PC Board.
<b>4.4</b> Push Chute. Ice Door opens but Motor does not run.	A. Wiring Harness not plugged in. B. PC Board defective. C. Motor defective.	A. Plug in Wiring Harness. B. Replace PC Board. C. Replace Motor.
<b>4.5</b> Push Chute. Motor runs but Ice Door does not open.	A. Solenoid not connected to PC Board. B. Solenoid defective. C. PC Board defective. D. Solenoid bracket screwed too low and not opening completely.	A. Connect Solenoid to PC board. B. Replace Solenoid. C. Replace PC Board. D. Unscrew solenoid bracket, raise solenoid and re-screw bracket.
<b>4.6</b> Push Chute, Ice Door opens, Motor runs, but no ice dispenses, or ice is of poor quality.	A. Dispenser is out of ice. B. Agitator Pin is missing or damaged. C. Poor ice quality.	A. Fill unit with ice. B. Replace Agitator Pin. C. Install water filtration/purification to ice maker supply water.
<b>4.7</b> Valves do not operate.	A. Keyswitch is off, or Keyswitch harness disconnected. B. Circuit Breaker tripped. C. Unit not plugged in.	A. Turn Keyswitch and/or make sure Keyswitch harness is connected. B. Reset Circuit Breaker. C. Plug in Dispenser.
<b>4.8</b> Water in Ice Bin.	A. Coldplate Drain is obstructed.	A. Remove Splash Plate to obtain access to Drain tubes and clear accordingly.
<b>4.9</b> Water leakage around nozzle.	A. Damaged or improperly installed o-ring on Nozzle.	A. If damaged, replace. If improperly installed, adjust.
<b>4.10</b> Miscellaneous leakage.	A. Gap between parts. B. Damaged or improperly installed O-rings.	A. Tighten appropriate retaining screws. B. Replace or adjust appropriate O-rings.
<b>4.11</b> Noisy/Cavitating Carbonator Pump	A. Insufficient incoming water supply pressure.	A. Verify incoming supply water pressure to Carbonator Pump is a <b>minimum</b> of 25 psi Carbonator Pump (maximum of 50 psi).

<b><u>TROUBLE</u></b>	<b><u>CAUSE</u></b>	<b><u>REMEDY</u></b>
<b>4.12</b> Insufficient "Soda" flow. (Carbonated drinks)	A. Insufficient CO2 supply pressure. B. Shutoff on mounting block not fully open. C. Foreign debris in Soda Flow Control.	A. Verify incoming CO2 pressure between 70 - 75 psi. B. Open shutoff fully. C. Remove Soda Flow Control from valve and clean out any foreign material to ensure smooth spool movement.
<b>4.13</b> Insufficient Water flow. (Plain Water drinks)	A. Insufficient incoming supply pressure. B. Shutoff on mounting block not fully open. C. Foreign debris in Water flow control. D. Water filtration problem.	A. Verify incoming supply water pressure to Plain Water inlet is a <b>minimum</b> of 70 psi (maximum of 125 psi). B. Open shutoff fully. C. Remove Water Flow Control from valve and clean out any foreign material to ensure smooth spool movement. D. Service water system as required.
<b>4.14</b> Insufficient syrup flow.	A. Insufficient CO2 pressure to BIB pumps. B. Shutoff on mounting block not fully open. C. Foreign debris in syrup flow control. D. Defective BIB Pump.	A. Adjust CO2 pressure to 80 psi (Minimum: 70 psi) for BIB pumps. B. Open shutoff fully. C. Remove Syrup Flow Control from valve and clean out any foreign material to ensure smooth spool movement. D. Replace pump.
<b>4.15</b> Erratic ratio.	A. Incoming water and/or syrup supply not at minimum flowing pressure. B. Foreign debris in water and/or syrup flow control. C. CO2 regulator malfunction.	A. Check pressure and adjust. B. Remove flow control from suspected valve and clean out any foreign material to ensure smooth spool movement. C. Repair or replace CO2 regulator, as required.
<b>4.16</b> Water only dispensed; no syrup; or syrup only dispensed; no water.	A. Syrup BIB empty. B. Water or syrup shutoff on mounting block not fully open. C. Improper or inadequate water or syrup supply. D. CO2 pressure to syrup pump(s) too low. E. Stalled or inoperative BIB pump. F. Kinked line. G. CO2 Regulator malfunction.	A. Replace syrup BIB as required. B. Open shutoff fully. C. Remove valve from mounting block and open shutoffs slightly and check water and syrup supply. If no supply, check dispenser for or other problems. Ensure BIB connection is engaged. D. Check the CO2 pressure to the pump to ensure it is between 70 - 80 psi. E. Check CO2 pressure and/or replace pump. F. Remove kink or replace line. G. Repair or replace CO2 regulator as required.
<b>4.17</b> Valve will not shut off.	A. Debris in solenoid seat. B. Solenoid plunger "sticking"	A. Activate valve a few times to try and free debris. If that doesn't eliminate the problem, remove the solenoid coil and plunger, and clean out any foreign material. B. Replace Solenoid coil.



<b><u>TROUBLE</u></b>	<b><u>CAUSE</u></b>	<b><u>REMEDY</u></b>
<b>4.18</b> Syrup only dispensed. No water, but CO <sub>2</sub> gas dispensed with syrup.	A. Improper water flow to dispenser. B. Carbonator pump motor has timed out. (A message will be displayed on the LCD screen). C. Liquid level probe not connected properly to PCB. D. Faulty PCB assembly. E. Faulty liquid level probe.	A. Check for water flow to dispenser. B. Reset by turning the unit OFF and then ON (by using the Circuit Breaker on the Power Supply, or momentarily unplugging unit). C. Check connections of liquid level probe to PCB assembly. D. Replace PCB assembly. E. Replace liquid level probe.
<b>4.19</b> Excessive foaming.	A. No ice in bin. B. Incoming water or syrup temperature too high. C. CO <sub>2</sub> pressure too high. C. Water flow rate too high. E. Nozzle and diffuser not clean. F. Air in BIB lines.	A. Fill bin with ice , and allow coldplate to re-stabilize. B. Correct prior to dispenser. C. Adjust CO <sub>2</sub> pressure downward, but not less than 70 psi. D. Readjust and reset ratio. E. Remove and clean. F. Bleed air from BIB lines.
<b>4.20</b> Water continually leaking at connections.	A. Loose water connection(s). B. Flare seal washer leaks.	A. Tighten water connections. B. Replace flare seal washer.
<b>4.21</b> Water leaking from Ice Door.	A. Securing screws loosened. B. Ice Door improperly seated.	A. Tighten screws. B. Reattach door assembly to dispenser.
<b>4.22</b> Circuit breaker tripping.	A. Valve wire harness(es) shorted to itself or Faucet Plate. B. Controller PCB is bad. C. Secondary wire harness is shorted. D. Power Supply is bad.	A. Detect short by disconnecting valve harnesses from Switch Panel [(4) 25-pin harnesses and (4) 9-pin harnesses]. Restore power. If breaker does <b>NOT</b> trip, then find and replace shorted harness. If breaker still trips, re-install the (8) harnesses, and proceed to Step B, below. B. Detect by disconnecting the white, 5-pin harness from the controller PCB. Restore power. If breaker does <b>NOT</b> trip, then replace controller PCB. If breaker still trips, re-install the white 5-pin harness and proceed to Step C, below. C. Locate short from a motor or solenoid harness, and replace as necessary. D. Detect short by disconnecting ALL harness(es) connected to Power Supply. Restore power. If breaker still trips, replace Power Supply.
<b>4.23</b> BIB pump does not operate when dispensing valve is opened.	A. Out of CO <sub>2</sub> , CO <sub>2</sub> not turned on, or low CO <sub>2</sub> pressure. B. Out of syrup. C. BIB connector not tight. D. Kinks in syrup or gas lines.	A. Replace CO <sub>2</sub> supply, turn on CO <sub>2</sub> supply, or adjust CO <sub>2</sub> pressure to 70-80 psi. B. Replace syrup supply. C. Fasten connector tightly. D. Straighten or replace lines.
<b>4.24</b> BIB pump operating, but no flow.	A. Leak in syrup inlet or outlet line. B. Defective BIB pump check valve.	A. Replace line. B. Replace BIB pump.

<b><u>TROUBLE</u></b>	<b><u>CAUSE</u></b>	<b><u>REMEDY</u></b>
<b>4.25</b> BIB pump continues to operate when bag is empty.	A. Leak in suction line. B. Leaking o-ring on pump inlet fitting. C. Defective syrup BIB pump.	A. Replace line. B. Replace o-ring. C. Replace defective pump.
<b>4.26</b> BIB pump fails to restart after bag replacement.	A. BIB connector not on tight. B. BIB connector is stopped up. C. Kinks in syrup line.	A. Tighten BIB connector. B. Clean out or replace BIB connector. C. Straighten or replace line.
<b>4.27</b> BIB pump fails to stop when dispensing valve is closed.	A. Leak in discharge line or fittings. B. Empty BIB. C. Air leak on inlet line or bag connector.	A. Repair or replace discharge line. B. Replace BIB. C. Repair or replace.
<b>4.28</b> Low or no carbonation.	A. Low or no CO <sub>2</sub> . B. Low water pressure. C. Worn or defective carbonator pump. D. Backflow preventer not allowing water to flow. E. Probe malfunctioning. F. PCB malfunctioning.	A. Check CO <sub>2</sub> supply. Adjust CO <sub>2</sub> pressure to 70 psi. B. Need water a booster kit. C. Replace carbonator pump. D. Replace backflow preventer, noting the flow direction arrow (from pump-to-coldplate). E. Replace Probe. F. Replace PCB.

## 5. EXTRA CAPABILITIES

### 5.1 AUTOMATIC AGITATION AND RESETTABLE BREAKER

#### **WARNING**

**THIS UNIT IS EQUIPPED WITH AUTOMATIC AGITATION. IT MAY ACTIVATE UNEXPECTEDLY. DO NOT PLACE HANDS, OR FOREIGN OBJECTS IN THE ICE STORAGE COMPARTMENT. WHEN UNIT IS BEING SERVICED, CLEANED, OR SANITIZED, UNPLUG DISPENSER FROM THE POWER SOURCE.**

- A. Resettable breaker switch should not be used as a substitute for unplugging the dispenser from power source to service unit.
- B. Each Series 14400 ice beverage dispenser is equipped with automatic agitation for the ice bin.
  - 1. The unit is shipped with timing set at two (2) seconds ON every 60 minutes for **cubed** ice.
  - 2. The unit is shipped with timing set at four (4) seconds ON every 150 minutes for **pellet** ice.

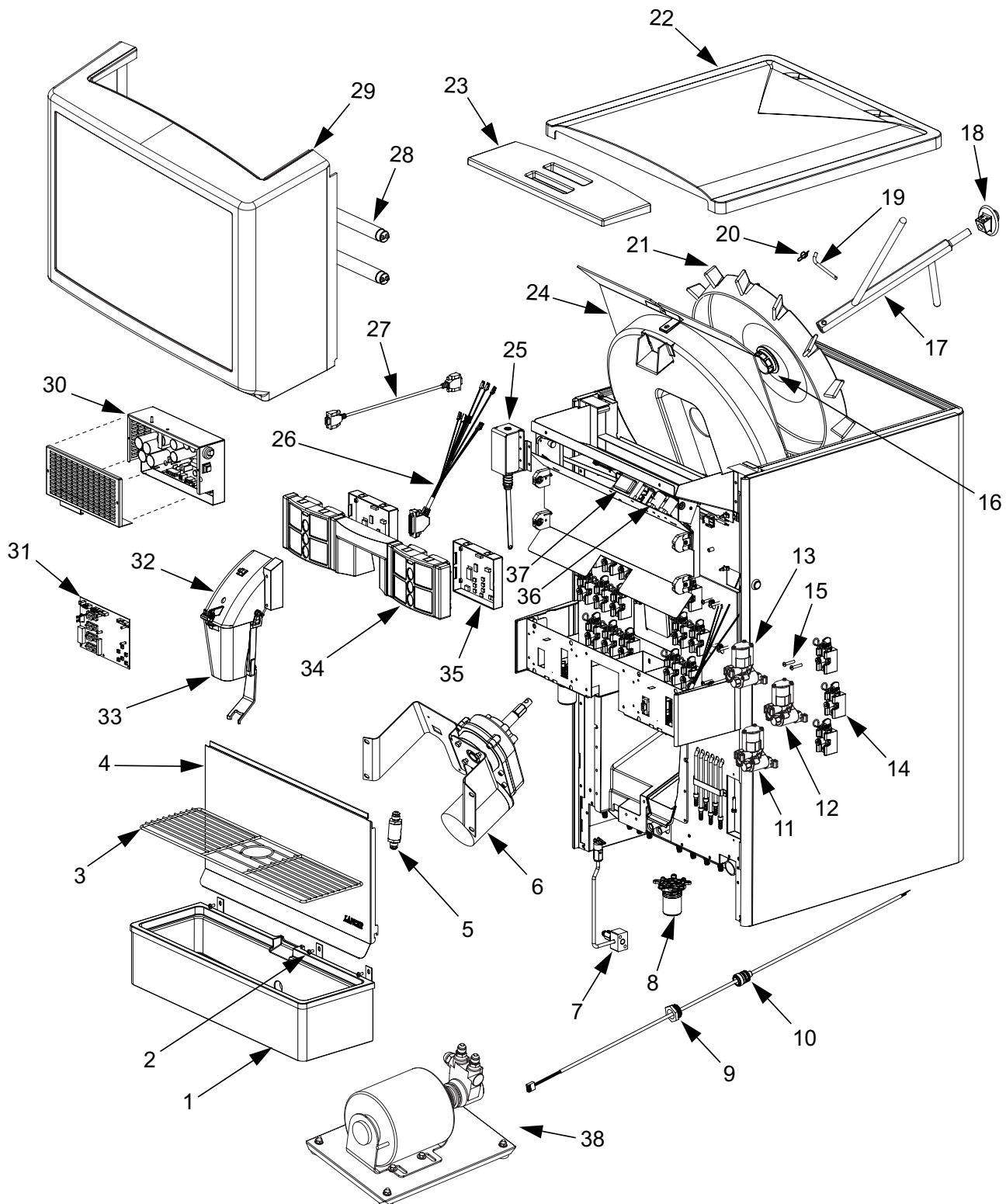
### 5.3 DIAGNOSTIC

#### REPROGRAMMING

*Only trained technicians should attempt any kind of reprogramming to new firmware version releases.*

## 6. ILLUSTRATIONS AND PARTS LISTINGS

### 6.1 FINAL ASSEMBLY



## 6.1 FINAL ASSEMBLY (CONTINUED)

<u>Item</u>	<u>Part No.</u>	<u>Description</u>
-------------	-----------------	--------------------

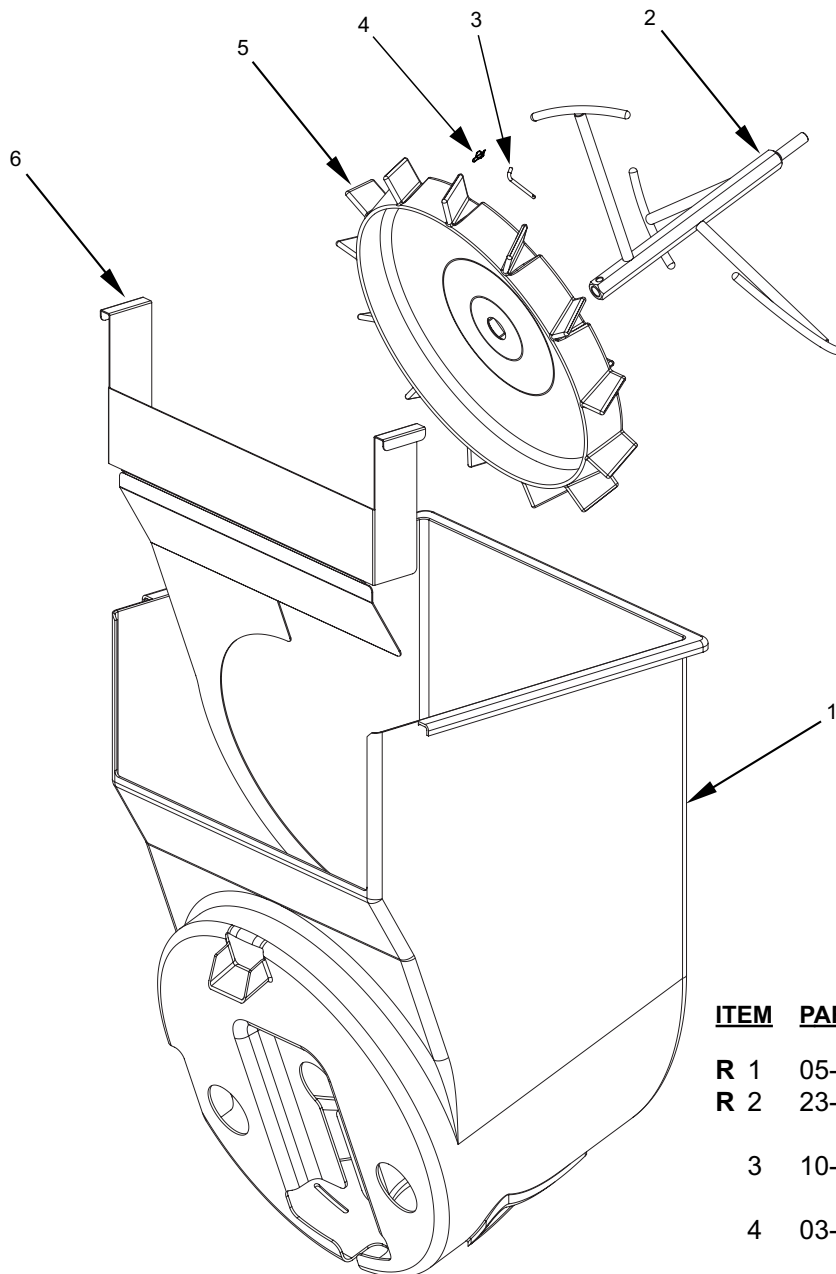
- |   |                |   |
|---|----------------|---|
| - | 85-14408-06-2  | IBD, ACMB, 22", 150#, 8/6, LFCV         |
| - | 85-14408N-06-2 | IBD, ACMB, 22", 150#, 8/6, LFCV, Pellet |

<u>Item</u>	<u>Part No.</u>	<u>Description</u>	<u>Item</u>	<u>Part No.</u>	<u>Description</u>
R 1	82-3441/01	Drip Tray Assy, IBD22	R 24	05-1309/02-01	Shroud, Dispensing Wheel, MOD, IBD
2	04-0236	Screw, 10-24 x 0.375, PHD, PH, MS, SS	R 25	23-1029	Plunger Assy, Solenoid
3	23-0669/01	Cup Rest, Wire, 22", IBD	R 26	52-2985	Harness, Valve 25-pin, FS-16, Sealed
4	30-9194	Splash Plate, FS-8	27	52-2686	Harness, Control-To-Valve, 9-pin, M/F, FS-8
5	17-0556.	Check Valve, Vented, 5/8-18, Watts	R 28	12-0146/01	Lamp, 18", 5W, T8, Daylight
R 6	82-3795	Motor Assy, Gear, 115V, 1/7HP, IBD	29	82-3771	Merchandise, Assy, FS-22
7	82-3370	CO <sub>2</sub> Assy, Inlet/P-Off, FS-16	R -	06-2994-01	Graphic, FS-22, Warm Blue
8	54-0289	Nozzle Assy, Multi-Flavor	R -	06-2994-02	Graphic, FS-22, Brilliant Yellow
9	01-2214	Nut, Swivel, Probe, Carb, FS-16	R 30	82-3664	Assy, Switching Power Supply, FS-8
10	52-2751/02	Probe Cord Assy, Carb, FS-16	R 31	52-2820/01	PCB Assy, FS-IBD Controller Board
R 11	82-3020	Valve Assy, LFCV, .2 Syrup Injection, Natural (Spare with Adapter)	32	82-3538	Ice Chute Assy, IBD30, Pellet
R 12	82-3024	Valve Assy, LFCV, 3.0 - 4.5, Soda/Water, Gray (Spare with Adapter)	33	05-2258	Chute, Lower, IC
R 13	82-3023	Valve Assy, LFCV, 3.0 - 4.5, Syrup, Black (Spare with Adapter)	34	05-2058	Bezel, M-Brand, 2L/2R
R 14	82-2317/01	Block Mounting Assy, SGL	35	82-3630	Switch Assy, FS, 2L/2R
15	04-1089	Screw, 10-32 x 1.000, RH, PH/SL	36	12-0104	Starter, with Condenser, IBD
16	02-0406	Seal, Shaft, Motor, IBD	37	12-0188	Ballast, Fluorescent Light, LC-14-20-C
17	23-1373	Agitator Assy, FS/IBD, HEX	38	82-3791	Pump Assy, Remote, FS22, 1/3 HP
18	05-1555	Bearing, Agitator, Rear, IBD	R in margin indicates change		
19	10-0762	Pin, Hex Design, FS-16			
20	03-0368	Retainer, Pin, Agitator, IBD			
R 21	82-3556	Dispensing Wheel Assy, Hex			
22	05-1467	Lid, Back, IBD22, RND			
R 23	05-1476/01	Lid, Front, IBD, RND			

## 6.2 PELLET ICE ASSEMBLY AND PARTS LISTING

**NOTICE:**

*The Pellet Ice components listed on this Instruction Sheet are to be used **ONLY** in conjunction with Nugget, Cubelet, or Chewblet ice. **LANCER** makes no warranty of any kind with regard to these components being used with any other kind of ice.*



<u>ITEM</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>
<b>R</b> 1	05-2325/01	Ice Shroud, IC
<b>R</b> 2	23-1401/01	Agitator Assy, Helical, IC
3	10-0762	Pin, Hex Design, FS-16
4	03-0368	Retainer, Pin, Agitator, IBD
5	82-3651	Dispensing Wheel Assy, Pellet Ice
<b>R</b> 6	30-9801/01	Shield, Nugget, IC

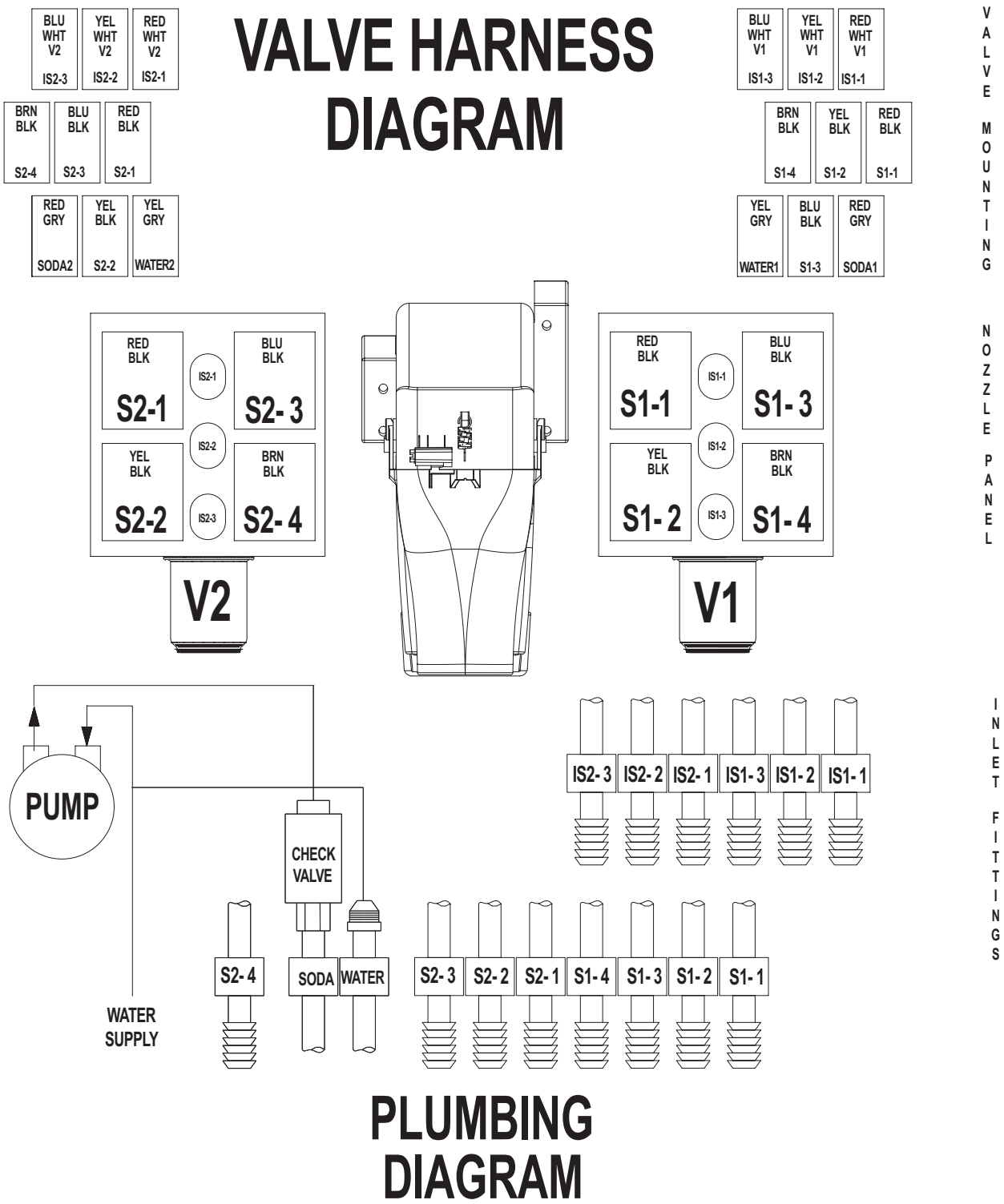
**R** in margin indicates change

# FS22

# WIRING DIAGRAM



6.4 PLUMBING DIAGRAM WITH VALVE WIRING





(Continued from previous page)

### **Bras Sulamericana LTDA. - Brasil**

Contact: Fabio Queiroz  
Rua. Dr. Ladislau Retti, 1400  
Parque Alexandre  
Cotia Sao Paulo - Brasil  
CEP: 06714-150  
Phone: 55-11-4612-1122  
FAX: 55-11-4612-2219  
e-mail: fabio.queiroz@bras.com.br

### **Lancer Chile Ltda. - Chile**

Contact: Heriberto Concha  
Vicuna mackenna 3019, San joaquin  
Santiago, Chile  
Phone: 56-2-5521657  
FAX: 56-2-5521961  
e-mail: lancerchile@lancer.tie.cl

### **Lancer Pacific**

Web Site: [www.lancerpacific.com](http://www.lancerpacific.com)

### **Australia**

Lancer Pacific Pty Ltd  
5 Toogood Avenue  
Beverley 5009  
PO Box 331  
Welland 5007  
South Australia  
Phone: 61-8-8268-1388  
FAX: 61-8-8268-1978  
e-mail: joe-thorp@lancer-pacific.com.au  
(Managing Director, Lancer Pacific)  
steve-sotiriou@lancer-pacific.com.au  
(for Fountain/soft drink)  
bill-cadd@lancer-pacific.com.au  
(for Draught Products)

### **New South Wales / ACT**

Lancer Pacific Pty Ltd  
Unit 8, 2 Holker Street  
Newington 2127  
New South Wales  
Australia  
Phone: 61-2-9648-6840  
FAX: 61-2-9648-6850  
e-mail: darren-castle@lancer-pacific.com.au

### **Victoria / Tasmania**

Lancer Pacific Pty Ltd  
55 Keele Street  
Collingwood 3066  
Victoria  
Australia  
Phone: 61-3-8415-1920  
FAX: 61-3-8415-1929  
e-mail: shane-devlyn@lancer-pacific.com.au

### **Queensland / Northern Territory**

Lancer Pacific Pty Ltd  
Unit 27, 256-258 Musgrave Road  
Coopers Plains 4108  
Queensland  
Australia  
Phone: 61-7-3274-5700  
FAX: 61-7-3875-1805  
e-mail: brett-thomson@lancer-pacific.com.au

### **Western Australia**

Lancer Pacific Pty Ltd  
24 Ernest Clark Road  
Canning Vale 6155  
Western Australia  
Ph: 61-8-9455-2722  
Fax: 61-8-9455-2455  
Email: ross-kleinhanss@lancer-pacific.com.au

### **New Zealand**

Lancer Pacific Ltd  
9 O'Rorke Street  
Onhunga, Auckland  
POBox 12-523  
Penrose, Auckland  
New Zealand  
Phone: 64-9-634-3612  
Mobile Phone: 64-21-745-389  
FAX: 64-9-634-1472  
e-mail: mike-peffers@lancer-pacific.com.au  
mark-hooper@lancer-pacific.com.au

### **Lancer Authorized Distributors**

### **Indonesia**

P.T. Dikarunia Sejahtera - Indonesia  
Jl. Gelong Baru Tengah #1A  
Tomang, Jakarta, Barat 11440  
Indonesia  
Phone: 62-21-5694-3245  
FAX: 62-21-560-6889  
e-mail: dikarunia@cbn.net.id

### **Philippines**

RBP Industrial Sales, Inc. - Philippines  
Unit 20, 2/F, Facilities Centre Bldg.  
548 Shaw Blvd  
1552 Mandaluyong City  
Philippines  
Phone: 632-531-1221/1215/1289  
FAX: 632-531-1271  
e-mail: rbpsales@pldtlsl.net  
rbp@pldtlsl.net

### **Lancer Asia**

### **International Sales**

6655 Lancer Blvd.  
San Antonio, TX 78219  
Phone: (210) 310-7000  
FAX: (210) 310-7242  
1-800-729-1500  
e-mail: asia@lancercorp.com

### **Hong Kong**

Patrick Co - Director Asia  
Flat A, 24/F., Houston Industrial Bldg.  
32-40 Wang Lung Street  
Tsuen Wan, N. T., Hong Kong  
Phone: 852-94302585  
FAX: 852-24082605  
e-mail: patrickco@lancer-asia.com

### **Lancer Authorized Distributors**

### **Shanghai Freser International Co Ltd. - China**

1856, Hu Tai Road  
Shanghai, 200436, China  
Phone: 86-21-5650-3555  
FAX: 86-21-5650-2666  
e-mail: daniel@freser.com.cn

### **Freser (HK) Company Ltd - Hong Kong**

Flat A, 24/F., Houston Industrial Bldg.  
32-40 Wang Lung Street  
Tsuen Wan, N. T., Hong Kong  
Phone: 852-2408-2595  
FAX: 852-2408-2605  
e-mail: freserhk@netvigator.com

### **Hayakawa Sanki - Japan**

Hayakawa Sanki, Inc.  
1-13-13, Kayaba-cho  
Nihonbashi, Chuo-ku  
Tokyo, 103-0025  
Japan  
Phone: 03-5651-1481  
FAX: 03-5651-1445  
e-mail: toshi@hayakawa-sanki.co.jp

### **Tahoe Corporation - Korea**

Tahoe Corporation  
2FL, 835-66 Yocksam-dong  
Kangnam-Ku  
Seoul, Korea  
Phone: 82-2-557-5612, -5614  
FAX: 82-2-557-5615  
e-mail: tahoeapark@empal.com

### **Freser (MALAYSIA) SDN. BHD. - Malaysia**

No. 31, Jalan TPP 5/13, Taman  
Perindustrian Puchong, Seksyen 5,  
47100 Puchong, Selangor, Malaysia  
Phone: 60-3-8061-6666  
FAX: 60-3-8062-1007  
e-mail: freser@tm.net.my

### **Freser (S) Pte Ltd - Singapore**

621 Aljunied Road  
#02-09 Lipo Building  
Singapore 389834  
Phone: 65-6746-8191  
FAX: 65-6746-8196  
e-mail: fresersin@pacific.net.sg

### **Freser International Corporation - Taiwan**

No. 76, Gui-Sui Street  
Taipei 103, Taiwan R.O.C.  
Phone: 886-2-2553-1555  
FAX: 886-2-2553-2742  
e-mail: herman@intl.freser.com.tw

### **Freser Makasan International Co., Ltd - Thailand**

Freser Makasan International Co., LTD.  
Navanakorn Industrial Estate Zone 4  
95/3 Moo 13, Klongnung, Klongluang  
Patumthani 12120, Thailand  
Phone: 662 520-3457 (Automatic, 7 lines)  
FAX: 662 529-3840  
e-mail: komsan@makasan.co.th

### **Lancer - Indian Sub-Continent**

### **India**

Shabbir Shafiqui - Area Manager  
India and Sub-Continent  
B-7, Pannalal Silk Mill Compounds  
78, LBS Marg, Bhandup (W)  
Mumbai 400-078, India  
Phone: 91-22-67161200  
Cell No: 91-98-67554152  
e-mail: shafiquis@vsnl.com

### **Lancer Authorized Distributors**

### **Western Refrigeration Ltd - India**

B-7, Pannalal Silk Mill Compounds  
78 L.B.S. Marg, Bhandup (W)  
Mumbai 400-078, India  
Phone: 91-22-67161200  
91-22-67161201  
FAX: 91-22-25962257  
e-mail: parmeet@westernequipments.com

### **Bengal Marketing Company - Bangladesh**

Skylark Point (6th Floor)  
Room #G-2  
24/A Bijoy Nagar,  
Dhaka-1000, Bangladesh  
Phone: 880-2-934-2987  
FAX: 880-2-935-0127  
e-mail: bmc@dhaka.agni.com

### **Dynamic Equipment - Pakistan**

Dynamic Equipment and Controls (Pvt.) Ltd.  
F-1/23, Canal Cottages, Block-D.  
New Muslim Town.  
Lahore, Pakistan.  
Phone: 0092-42-583-6737  
0092-42-583-6787  
FAX: 0092-42-586-7924  
e-mail: info@dynamic-eqpt.com.pk  
m.atteeq@dynamic-eqpt.com.pk



**Directory of USA - Canada Offices,  
International Offices, and Authorized Distributors**

**Corporate Office**

**6655 Lancer Blvd. • San Antonio, Texas 78219 • 210-310-7000 • 1-800-729-1500 • FAX 210-310-7250**

**Lancer USA**

**Manufacturing Locations**

**Foster Road Facilities-USA**

6655 Lancer Blvd  
San Antonio, TX 78219  
Web Site: [www.lancercorp.com](http://www.lancercorp.com)  
Phone: (210) 310-7000  
MFG FAX: (210) 310-7088  
ENG FAX: (210) 310-7096  
ACCT FAX: (210) 310-7091  
PURCH FAX: (210) 310-7094

**Manufacturing - Mexico**

Industrias Lancermex S.A. de C.V.  
Victoria No. 2708 Nte Colonia Mundo Nuevo CP  
260 10, Mexico  
Phone: 011- 52 (878) 782-6600  
FAX-Purchase: 011- 52 (878) 782-5401  
FAX-Accounting: 011- 52 (878) 782-9240  
FAX-Engineering: 011- 52 (878) 782-2302

**Warehouse**

Eagle Pass Warehouse  
1793 Brown Street  
Building A-2  
Eagle Pass, TX 78852-5423  
Phone: 830-757-5770  
FAX: 830-757-4381

**Lancer North America**

**USA - Canada Sales**

6655 Lancer Blvd.  
San Antonio, TX 78219  
Phone: (210) 310-7000  
SALES FAX: (210) 310-7245  
CUSTOMER SERVICE FAX: (210) 310-7250  
1-800-729-1500

**Georgia Office**

1125 Northmeadow Parkway, Suite 116  
Roswell, GA 30076  
Phone: (770) 343-8828  
FAX: (770) 475-8646  
1-800-729-1750

**Lancer Authorized Distributors**

**Advanced Beverage Solutions (ABS)**

100 N. Gary Avenue, Suite C  
Roselle, IL 60172  
Phone: (847) 524-1707  
(877) 814-2271  
FAX: (847) 524-1710  
[www.absone.com](http://www.absone.com)

**Bevco**

6900 Camille Avenue  
Oklahoma City, OK 73149  
Phone: (405) 672-7770  
800-460-4238  
FAX: (405) 672-7443  
e-mail: [sales@bevcoinc.com](mailto:sales@bevcoinc.com)

**Joe Kirwan Company**

119 White Oak Lane  
Old Bridge, NJ 08857  
Phone: (732) 679-1900  
FAX: (732) 679-9236  
e-mail: [sales@jkiirwan.com](mailto:sales@jkiirwan.com)

**L & M Beverage Equipment Co. Inc.**

12510 Santa Fe Trail Drive  
Lenexa, KS 66215  
Phone: (913) 888-8988  
FAX: (913) 888-9137  
e-mail: [L7mco@aol.com](mailto:L7mco@aol.com)

**(Update #68 - as of July 17, 2006)**

**Ernest F. Mariani Company**

614 West 600 South  
Salt Lake City, UT 84104  
Phone: (801) 359-3744  
FAX: (801) 531-9615  
e-mail: [febell@efmco.com](mailto:febell@efmco.com), or  
[clay@efmco.com](mailto:clay@efmco.com)

**Mark Powers & Company, Inc.**

P.O. Box 72  
1821 Henry Street  
Guntersville, AL 35976  
Phone: (256) 582-6620  
FAX: (256) 582-8533  
e-mail: [sales@markpowers-and-company.com](mailto:sales@markpowers-and-company.com)

**Maurer Supply, Inc.**

843 Rainier Avenue South  
Seattle, WA 98144  
Phone: (206) 323-8640  
FAX: (206) 323-9286  
e-mail: [maurersupply@qwest.net](mailto:maurersupply@qwest.net)

**Simgo Ltd.**

5122 Timberlea Blvd.  
Mississauga, Ontario L4W 2S5  
Canada  
Phone: 905-602-5800  
FAX: 905-602-5804  
e-mail: [simgo@simgo.com](mailto:simgo@simgo.com)

**Simgo (B.C.) Ltd.**

16-8125 - 130th Street  
Surrey, B.C. V3W 7X4  
Canada  
Phone: 604-590-4022  
FAX: 604-590-1601

**Lancer Europe**

Web Site: [www.lancereurope.be](http://www.lancereurope.be)

**Belgium - European Central Office**

Lancer Europe, S.A.  
Mechelsesteenweg 592  
B-1930 Zaventem  
Belgium  
Phone: 32-2-755-2390  
FAX: 32-2-755-2399  
e-mail: [info@lancereurope.be](mailto:info@lancereurope.be)

**England**

Managing Director  
Contact: Paul Haskayne  
Lancer G.B. Llp.  
Unit 9 Prosperity Court, Midpoint 18  
Middlewich CW10 OGD  
Cheshire, United Kingdom.  
Phone: 441606837711  
FAX: +441606832705  
e-mail: [phaskayne@lancergb.co.uk](mailto:phaskayne@lancergb.co.uk)

**Hungary**

H-2100 Gödöllő  
Isaszegi út 67  
Hungary  
Phone: 36-28-417-179  
FAX: 36-28416-881  
e-mail: [bodolai@compuserve.com](mailto:bodolai@compuserve.com)

**Lancer International Sales, Inc.**

**Representation Office**

Kashirskoe shosse, 65 (1), Office 610  
Moscow 115583 Russia  
Mail: Moscow, 115551, Mail Box #2, Russia  
Mobile Phone: 7-495-991-7778  
Office Phone: 7-495-727-4063  
Office FAX: 7-495-727-4064  
e-mail: [Vladimir.Demkin@oronet.ru](mailto:Vladimir.Demkin@oronet.ru)  
[lancer@online.ru](mailto:lancer@online.ru)

**Egypt / Middle East**

Elsayed Moniem - Regional Manager  
Lancer Middle East/Africa  
7 Mubarak Street  
East Ain Shams 11311  
Cairo, Egypt  
Phone: 2-02-49-35-395  
FAX: 2-02-49-33-914  
Mobile Phone (GSM): 2-010-500-4007  
e-mail: [elsayed\\_lancer@msn.com](mailto:elsayed_lancer@msn.com)

**Lancer Authorized Distributors**

**Complete Beverage Services, Ltd.**

**Republic of Ireland and Northern Ireland**

Gortrush Industrial Estate  
Omagh County Tyrone  
Northern Ireland  
Office: 44-1662 250 008  
FAX: 44-1662-252-991

**DispenseTech - South Africa**

P.O. Box 17495  
Sunward Park, 1470  
South Africa  
Phone: 27-11-397-7455  
FAX: 27-11-397-7648  
e-mail: [david@dispensetech.co.za](mailto:david@dispensetech.co.za)

**Lancer Latin America**

**Latin America Sales**

6655 Lancer Blvd.  
San Antonio, TX 78219  
Phone: (210) 310-7000  
1-800-729-1500  
FAX: (210) 310-7245  
e-mail: [latinamerica@lancercorp.com](mailto:latinamerica@lancercorp.com)

**Lancer de Mexico, S.A. de C.V.**

Contact: Carlos Robles  
Calle Lerdo De Tejada #544 PTE.  
Col. Las Villas  
San Nicolas De Los Garza, N.L.  
Mexico C.P. 66422  
Phone: (52)-81-83-05-81-00  
Phone: (52)-81-83-05-81-01  
Phone: (52)-81-83-05-81-02  
FAX: (52)-81-83-05-81-09  
e-mail: [Carlos.robles@lancer.com.mx](mailto:Carlos.robles@lancer.com.mx)

**PEL SudAmerica - Ecuador**

Lancer Sales Company  
Contact: Luciano Lopez  
Luis De Beethoven #N4756  
Y Capitan Rafael Ramos  
Sector Las Acacias  
Quito, Ecuador  
Phone: (5932) 2406346, 2407289, 2400937  
FAX: (5932) 2405371  
e-mail: [Llopez@ecnet.ec](mailto:Llopez@ecnet.ec)

**Lancer Authorized Distributors**

**PromoVen, S.A. - Argentina**

Contact: Rafael Mendoza  
Juncal 858 - Piso 3 Depto. "L"  
(1062) Buenos Aires  
Argentina  
Phone: (54.11)4394.7654  
FAX: (54.11)4394.1193  
e-mail: [promoven@fibertel.com.ar](mailto:promoven@fibertel.com.ar)  
[depositopromoven@fibertel.com.ar](mailto:depositopromoven@fibertel.com.ar)

**(Continued on reverse)**

**Please refer to the Lancer web site  
([www.lancercorp.com](http://www.lancercorp.com)) for information  
relating to Lancer Installation and  
Service Manuals, Instruction Sheets,  
Technical Bulletins, Service Bulletins,  
etc.**