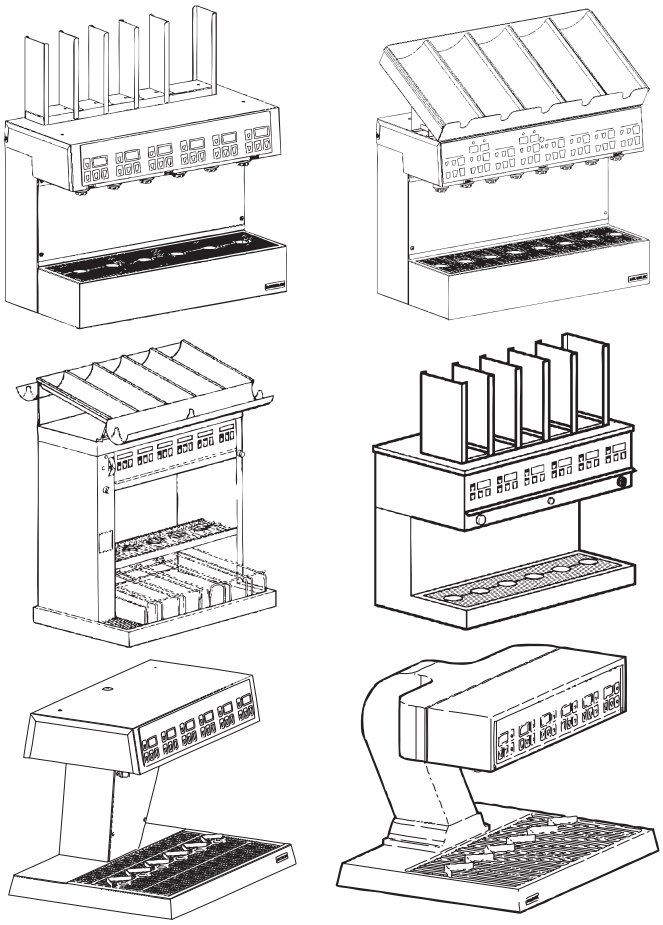
Multiplex



Soda Dispensing Towers
Original Instructions

Installation, Use & Care Manual

This manual is updated as new information and models are released.
Visit our website for the latest manual. www.manitowocfsg.com

America's Quality Choice in Refrigeration

Part Number 020002777 9/14

Safety Notices

As you work on Manitowoc equipment, be sure to pay close attention to the safety notices in this manual. Disregarding the notices may lead to serious injury and/or damage to the equipment.

Throughout this manual, you will see the following types of safety notices:

⚠ Warning

Text in a Warning box alerts you to a potential personal injury situation. Be sure to read the Warning statement before proceeding, and work carefully.

⚠ Caution

Text in a Caution box alerts you to a situation in which you could damage the equipment. Be sure to read the Caution statement before proceeding, and work carefully.

Procedural Notices

As you work on Manitowoc equipment, be sure to read the procedural notices in this manual. These notices supply helpful information which may assist you as you work.

Throughout this manual, you will see the following types of procedural notices:

Important

Text in an Important box provides you with information that may help you perform a procedure more efficiently. Disregarding this information will not cause damage or injury, but it may slow you down as you work.

NOTE: Text set off as a Note provides you with simple, but useful, extra information about the procedure you are performing.

Read These Before Proceeding:

⚠ Caution

Proper installation, care and maintenance are essential for maximum performance and trouble-free operation of your Manitowoc equipment. Read and understand this manual. It contains valuable care and maintenance information. If you encounter problems not covered by this manual, do not proceed, contact Manitowoc. We will be happy to provide assistance.

Important

Routine adjustments and maintenance procedures outlined in this manual are not covered by the warranty.

⚠ Warning

PERSONAL INJURY POTENTIAL

Do not operate equipment that has been misused, abused, neglected, damaged, or altered/modified from that of original manufactured specifications.

⚠ Warning

The installer is responsible to provide a suitable plug meeting all requirements, or a means for disconnection must be incorporated in the wiring according to the wiring rules.

⚠ Warning

Do not operate equipment that has been misused, abused, neglected, damaged, or altered/modified from that of original manufactured specifications. 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.concerning use of the appliance by a person responsible for their safety. Do not allow children to play with this appliance

NOTE: SAVE THESE INSTRUCTIONS.

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Section 1
General Information

Section 2
Installation

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Before Calling for Service

Section 1
General Information

Read This Manual

Manitowoc Food Service developed this manual as a reference guide for the owner/operator and installer of this equipment. Please read this manual before installation or operation of the machine. A qualified service technician must perform installation and start-up of this equipment, consult **Section 5** within this manual for service assistance.

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

Your Service Agent _____

Service Agent Telephone Number _____

Your Local MBE Distributor _____

Distributor Telephone Number _____

Model Number _____

Serial Number _____

Installation Date _____

Unit Inspection

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

⚠ Warning

PERSONAL INJURY POTENTIAL

Do not operate equipment that has been misused, abused, neglected, damaged, or altered/modified from that of original manufactured specifications.

Model Numbers

This manual covers the following models:

Soda Tower Models
116, 126CNK. 126ENK, 126LNK, 126LDP, 126LDPX, 136, 136PDP, 136PDPX, 138CDA, 138CDAX, 138CDLX, 136LDAX, 136LDLX, 138EDAX, 136EDLVX, 138EDSX, 138EDSX, 138DS, 138LDAX, 138CDAL, 138PDLX, 138PDP, 138PDPX, 136FDL, 136FDP, 136FDS, 136EDL, 136FDL, 136FDP, 136FDS, 136LDAL, 136LDL, 138FDL, 138FDP, 138FDS, 138EDL, 138FDL, 138FDP, 138FDS, 138LDAL, 138LDL, EDA, FDA, LDA, 143LDAX, 143EDA, 143EDAX, 146, 146 Quad Control, 156, 156PDP, 156PDPX, 156EDL, 156EDRA, 156FDAX, Pass-Thru, Quad Control, 156 Pass-Thru, 158FDLHX, 158LDLHX, 158PDPLH, 158PDPLHX, 158LDLHX, 1310EDC, 1310ENS, 1310LVD, 1310PDL, 1310PDP, 1510EDLH, 1510LDLHX

Intended Use

ATTENTION: MARINE INSTALLATIONS

> **⚠ Warning**
> This unit is for use on vessels over 66 ft (20 m) in length. This unit must not be installed in the engine space of a gasoline-powered ship.

NOTE: This unit must be secured to the vessel during installation.

OUTDOOR APPLICATIONS

TS Multiplex Beverage Recirculating units are approved and listed by Underwriters Laboratories (UL). However they are not UL approved for outdoor weather exposure applications. These units must be installed in areas where adequate protection from the elements is provided, all other models are ETL listed.

DISPENSING PRODUCTS

Multiplex towers are intended to dispense carbonated and non-carbonated soft drinks, teas, and juices. Do not dispense any non-food products and do not dispense any flammable liquids.

This product is a working equipment which can be located in the customer area and is allocated to the customers for a short period of time.

NOISE EMISSION

Noise level emitted from this unit is below 70 dba.

SERVICING

The maintenance, service, and the inspection of the proper operation of the product has to be carried out by a trained person.

Warranty Information

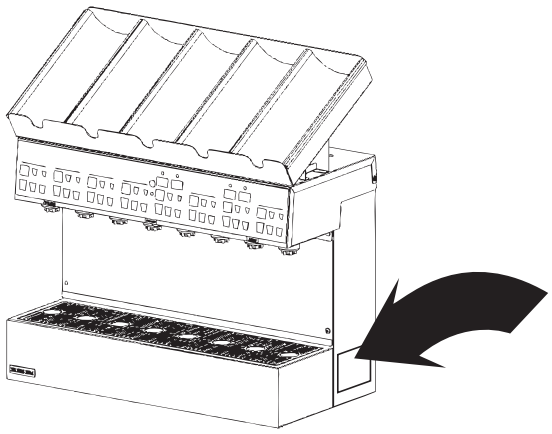
Consult your local MBE Distributor for terms and conditions of your warranty. Your warranty specifically excludes all beverage valve brixing, general adjustments, cleaning, accessories and related servicing.

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

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

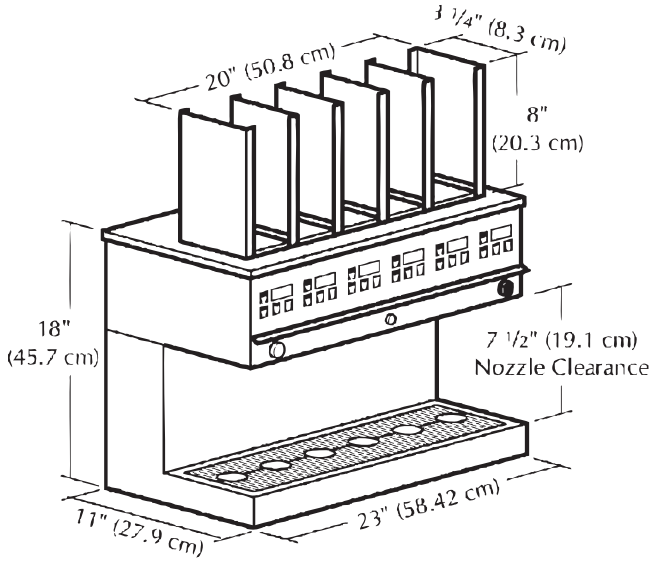
Please contact your local MBE distributor for return procedures.

Serial Plate Location

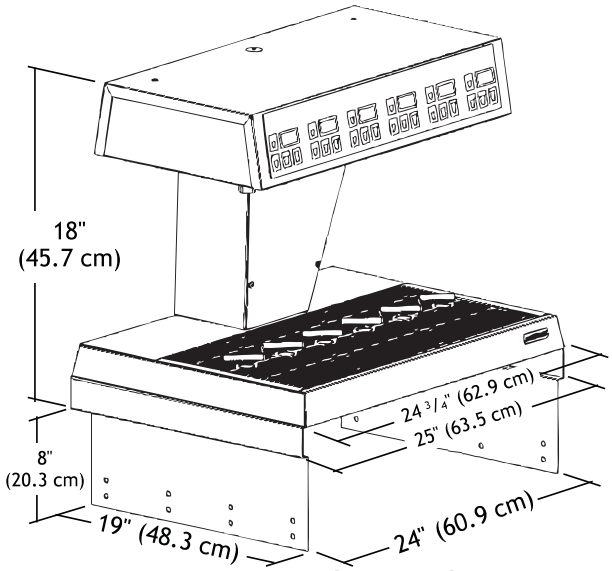


Section 2
Installation

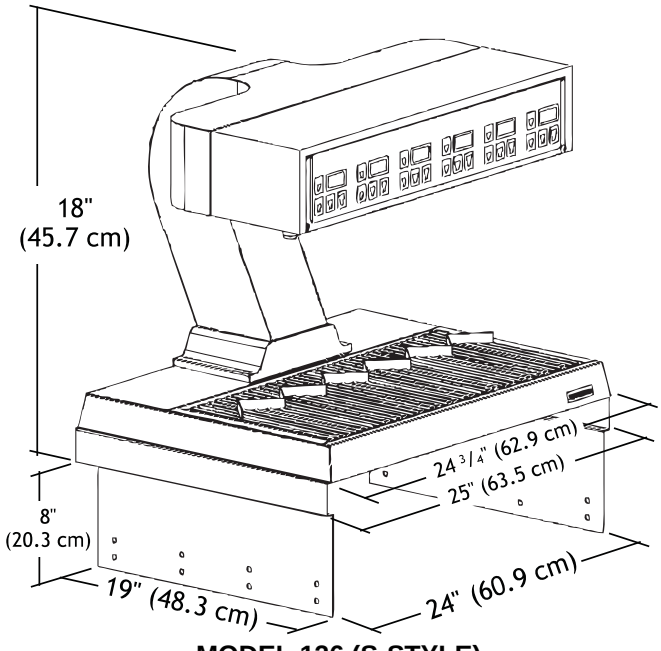
DIMENSIONS AND CLEARANCES — ALL MODELS



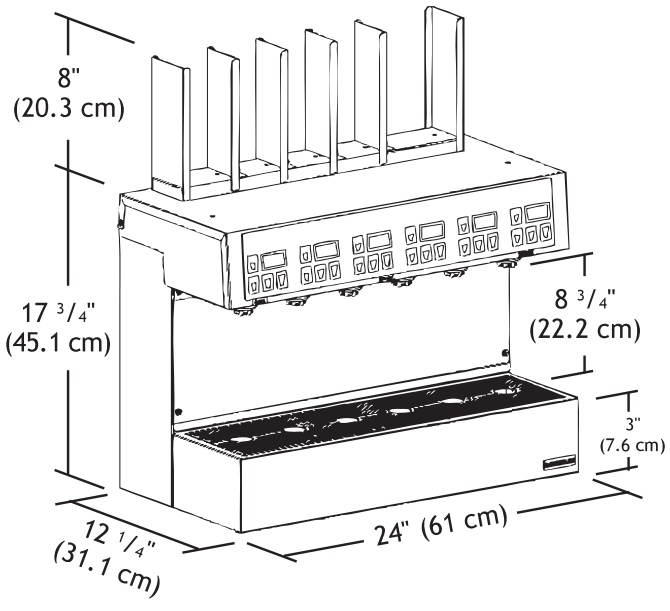
MODEL 116



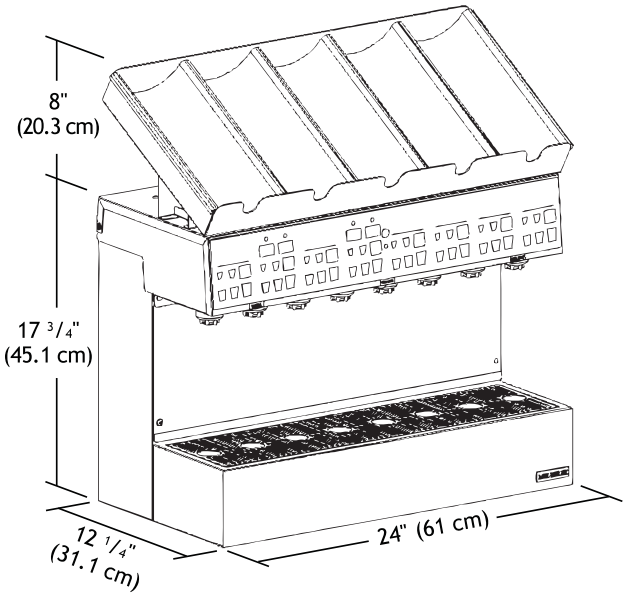
MODEL 126 (V-STYLE)



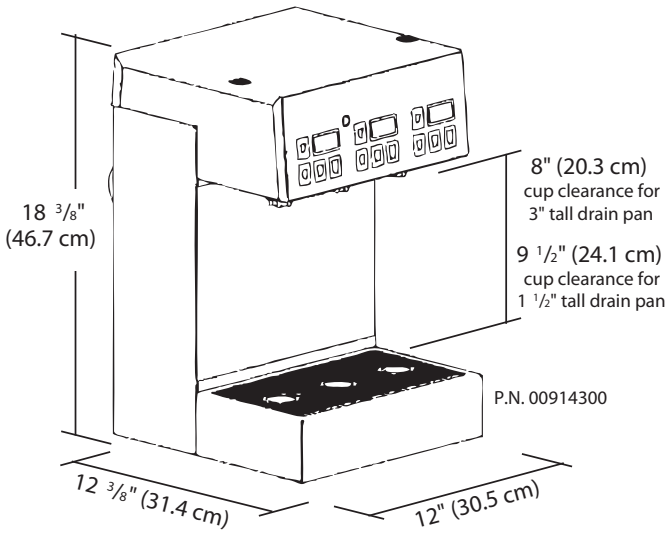
MODEL 126 (S-STYLE)



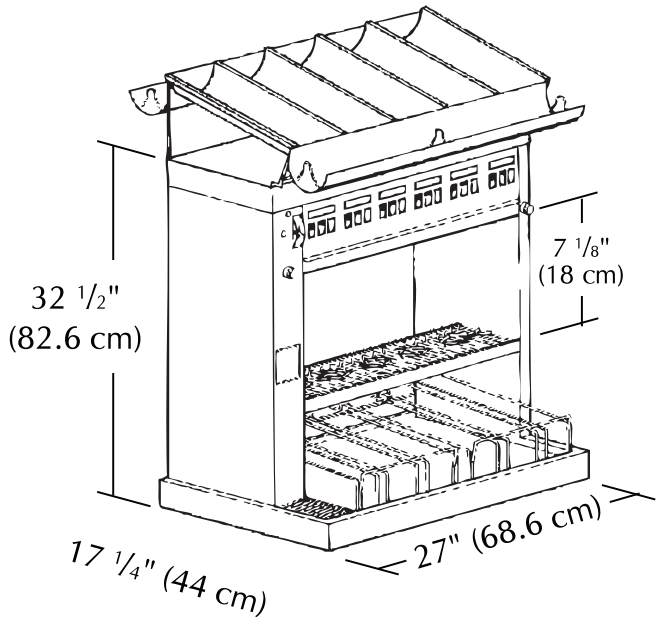
MODEL 136



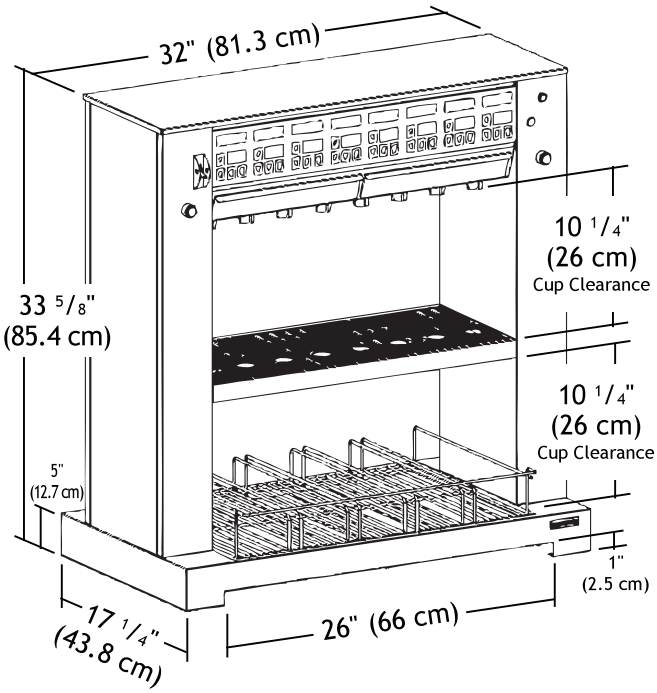
MODEL 138



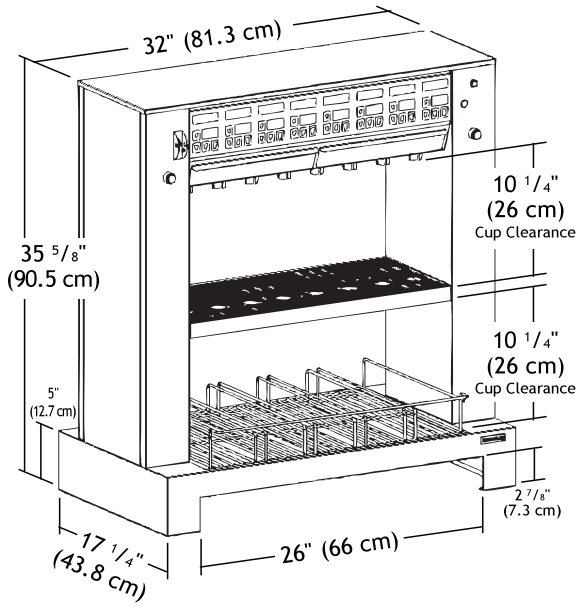
MODEL 143



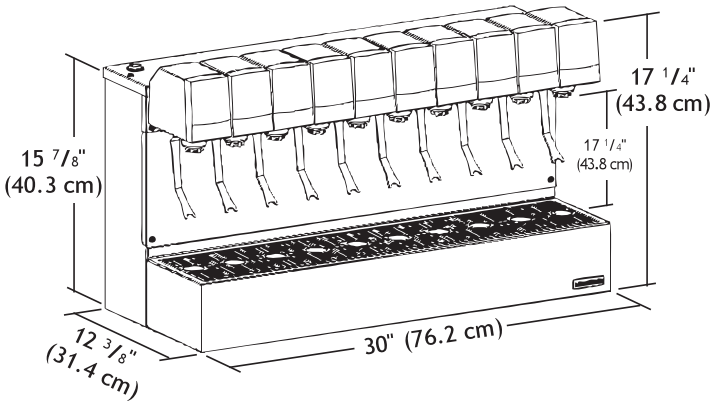
MODEL 156



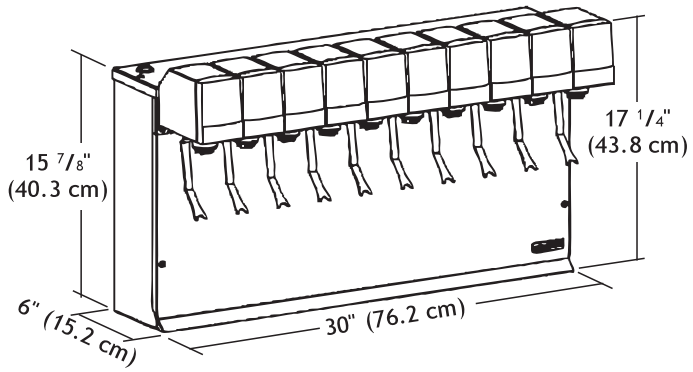
MODEL 158



MODEL 158 (HIGH CUP CLEARANCE)

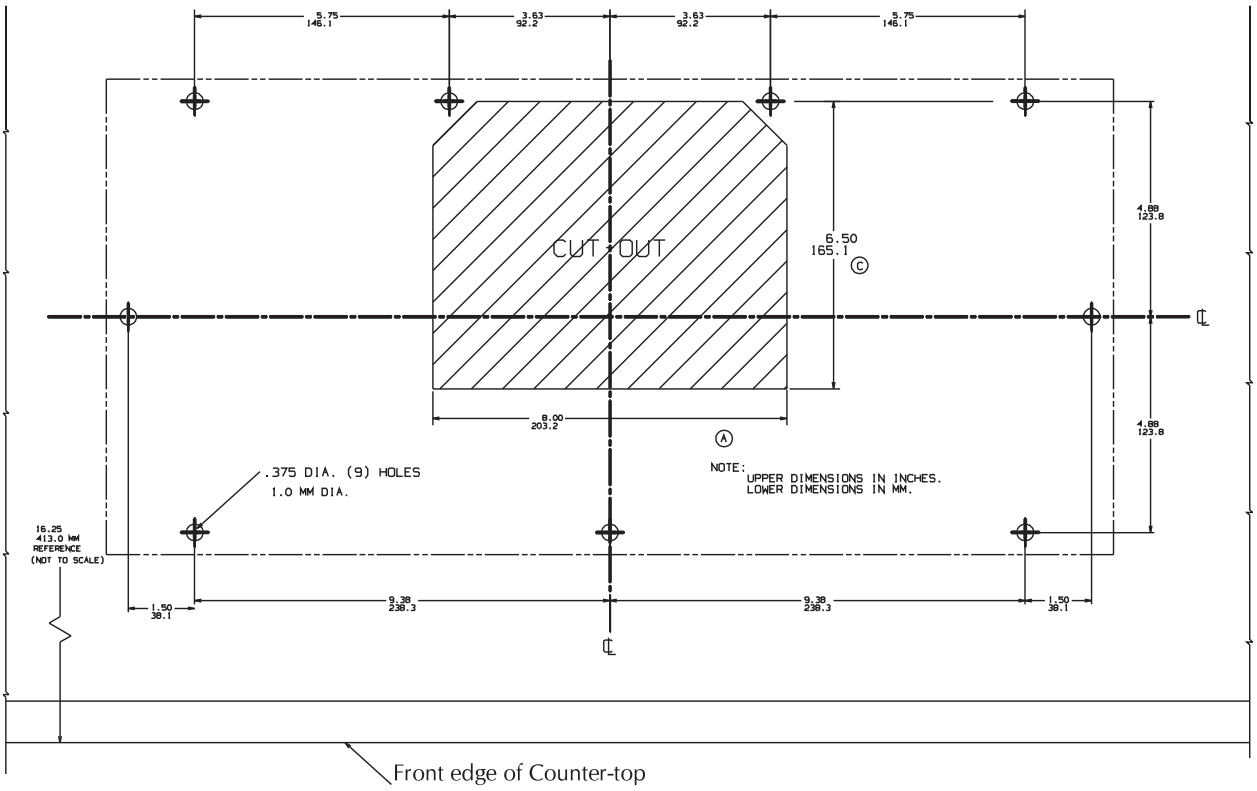


MODEL 1310 (WITH DRAIN PAN)

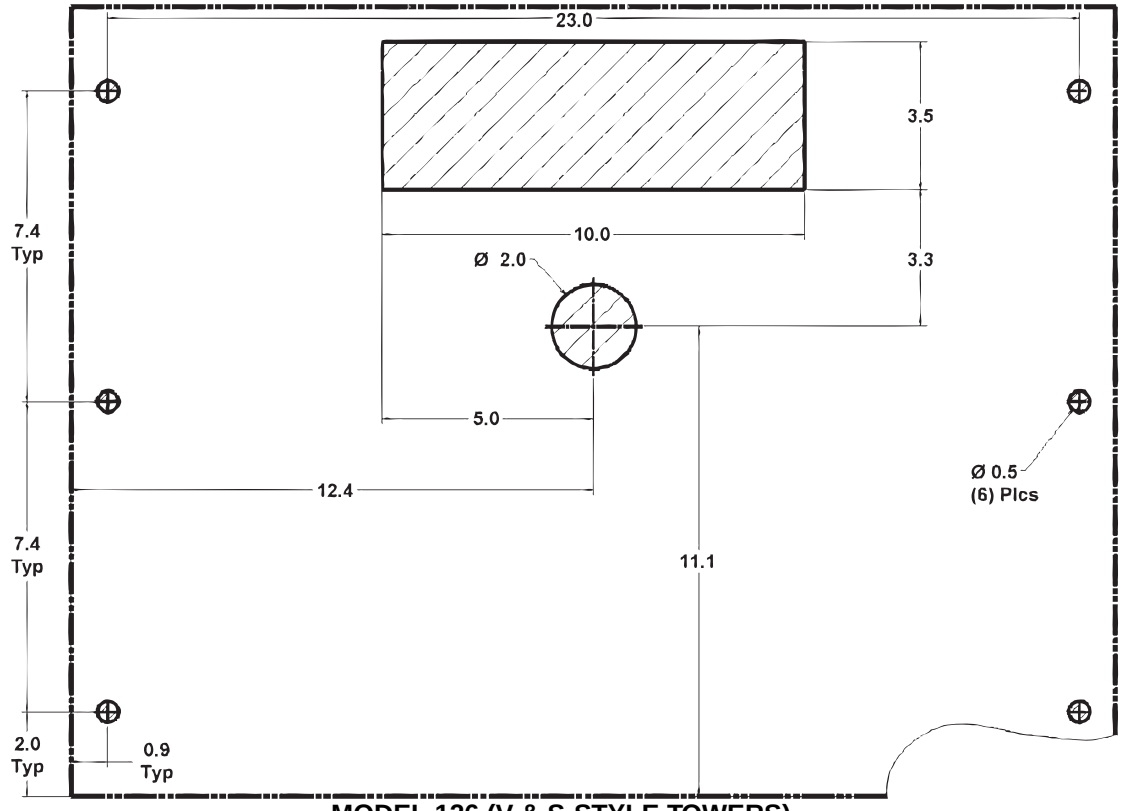


MODEL 1310 (NO DRAIN PAN)

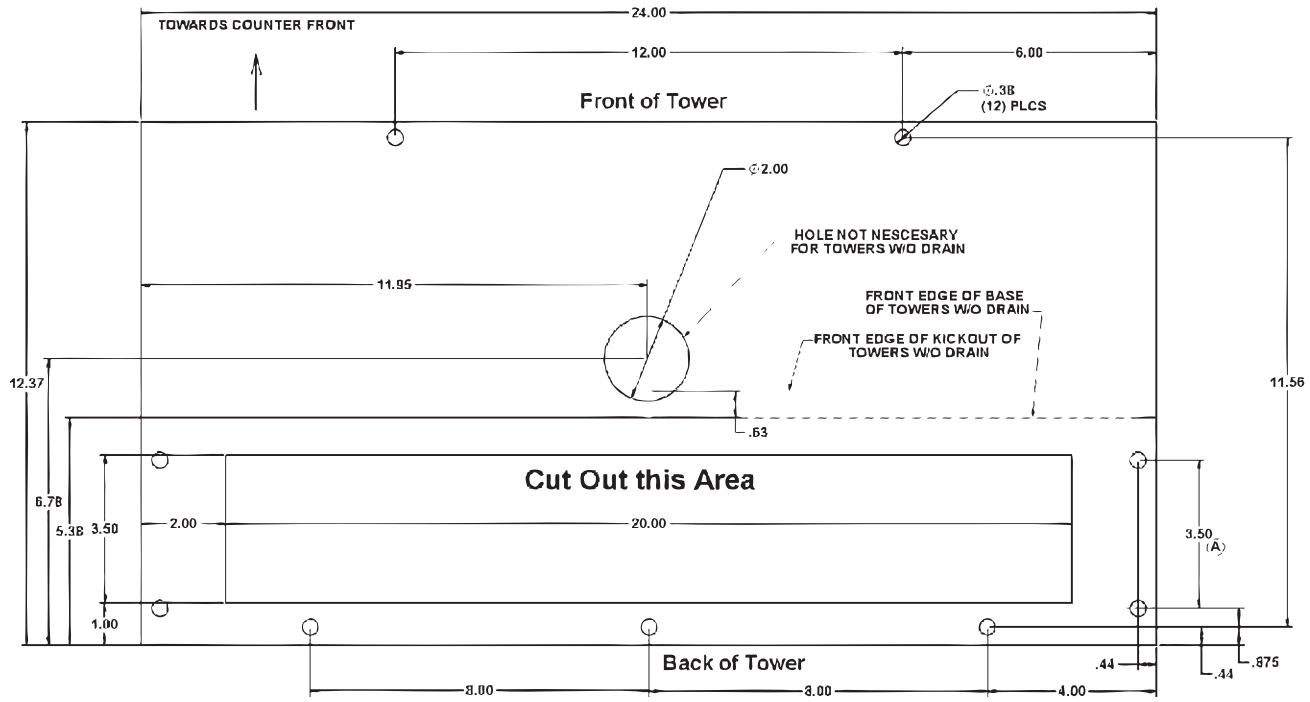
FOOTPRINTS - ALL MODELS



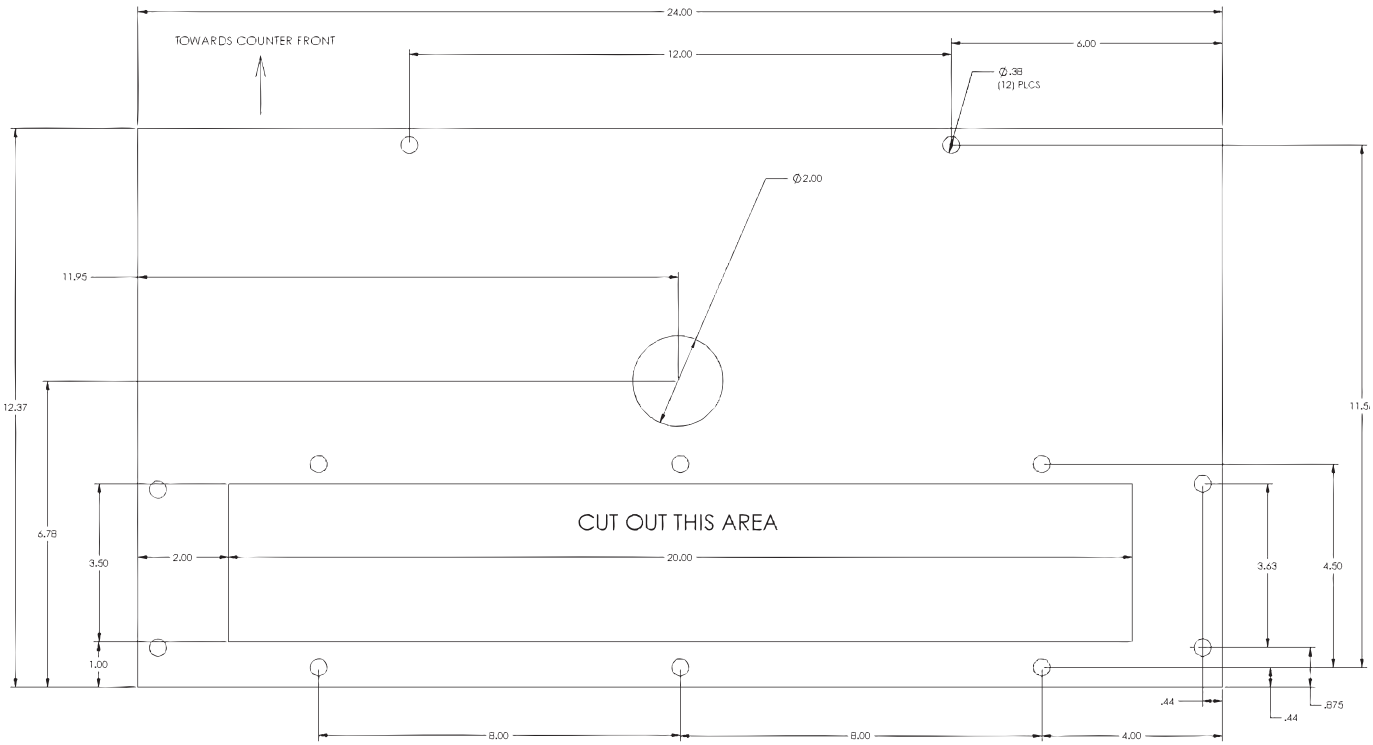
MODEL 116



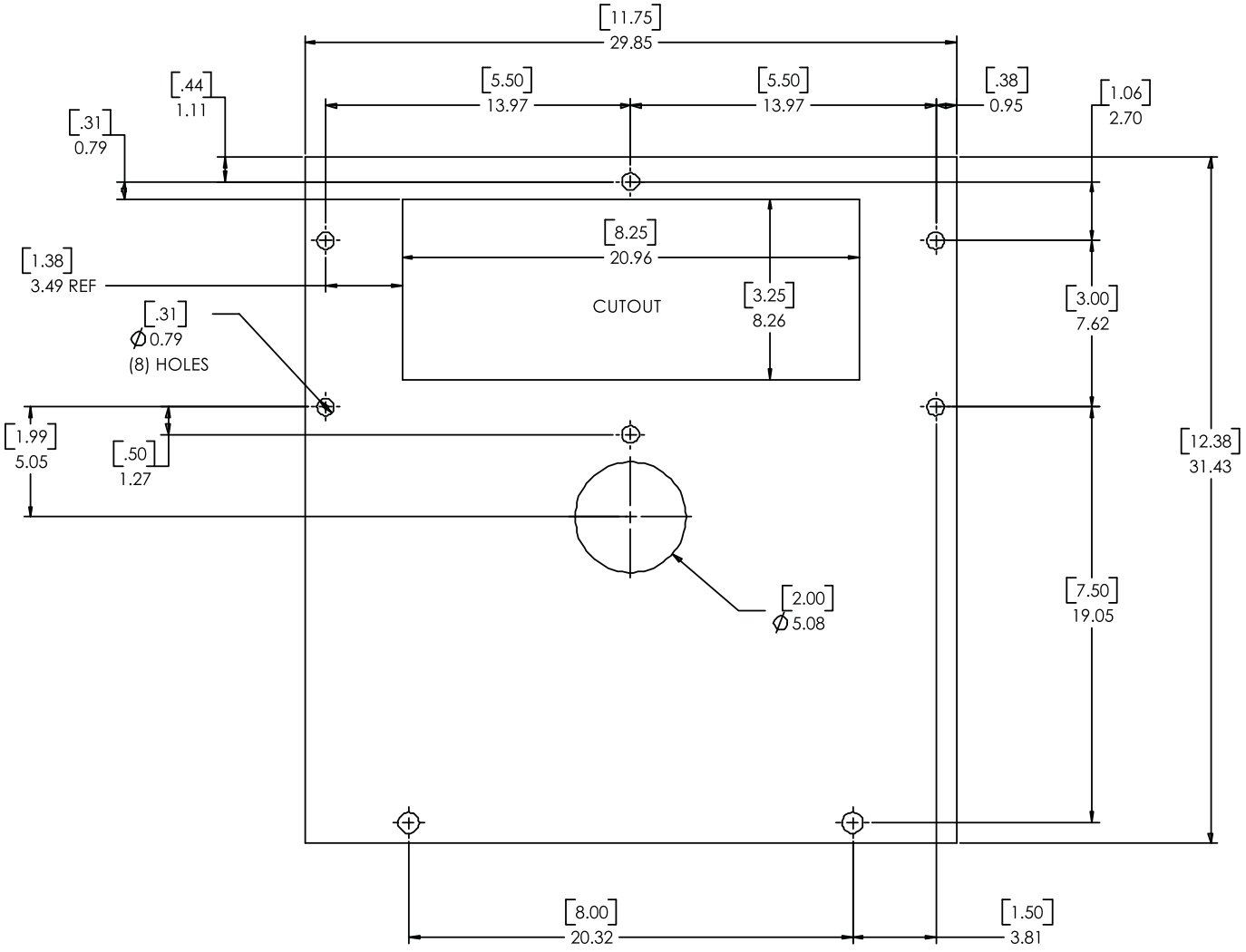
MODEL 126 (V & S-STYLE TOWERS)



MODEL 136

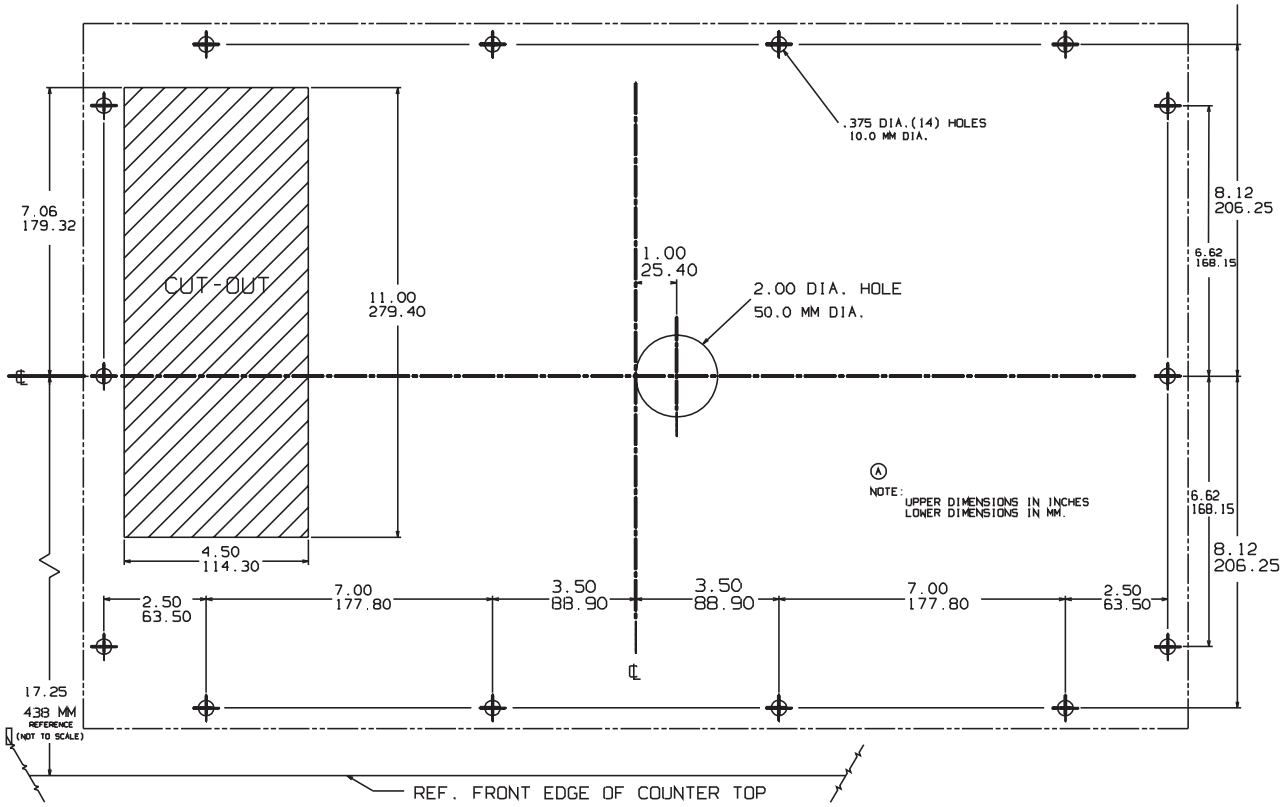


MODEL 138

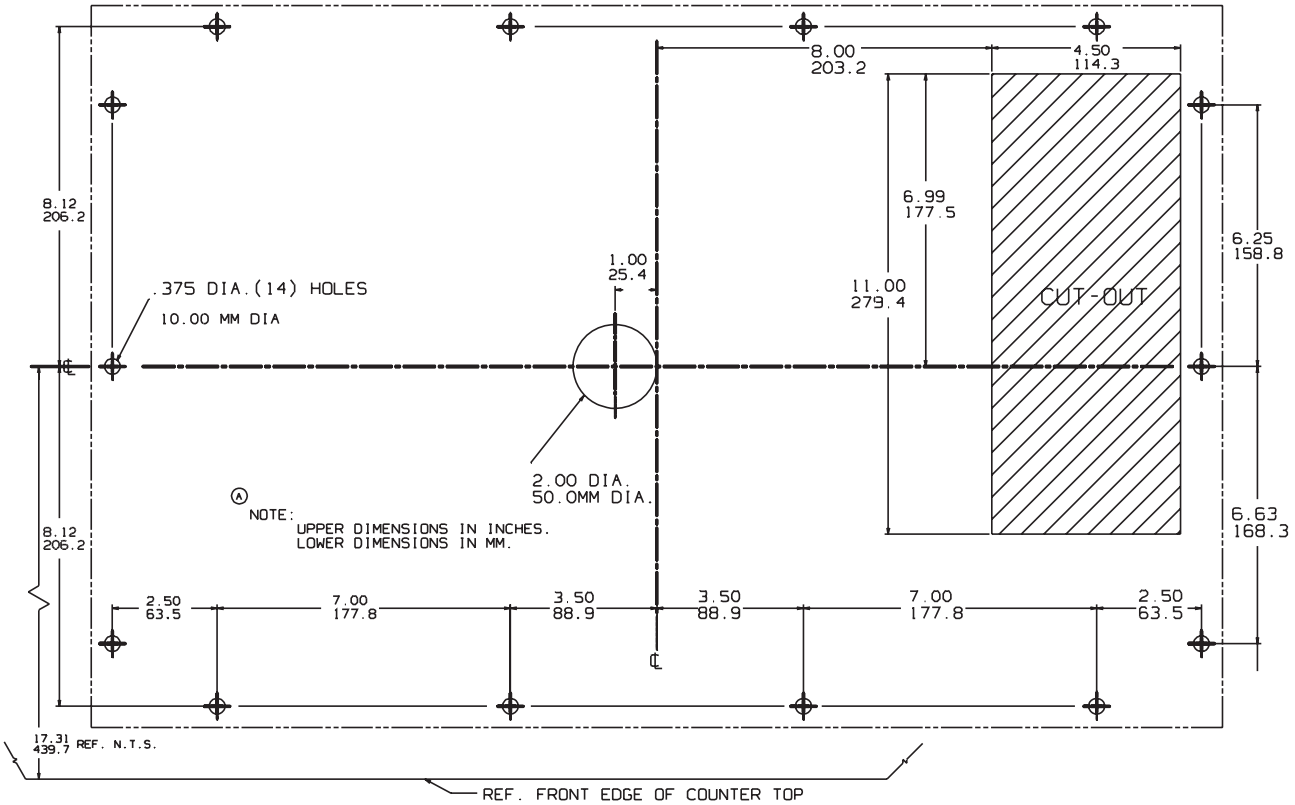


NOTE: ALL DIMENSIONS ARE IN CENTIMETERS UNLESS INDICATED OTHERWISE.
ALL DIMENSIONS IN BRACKETS [ ] ARE IN INCHES.

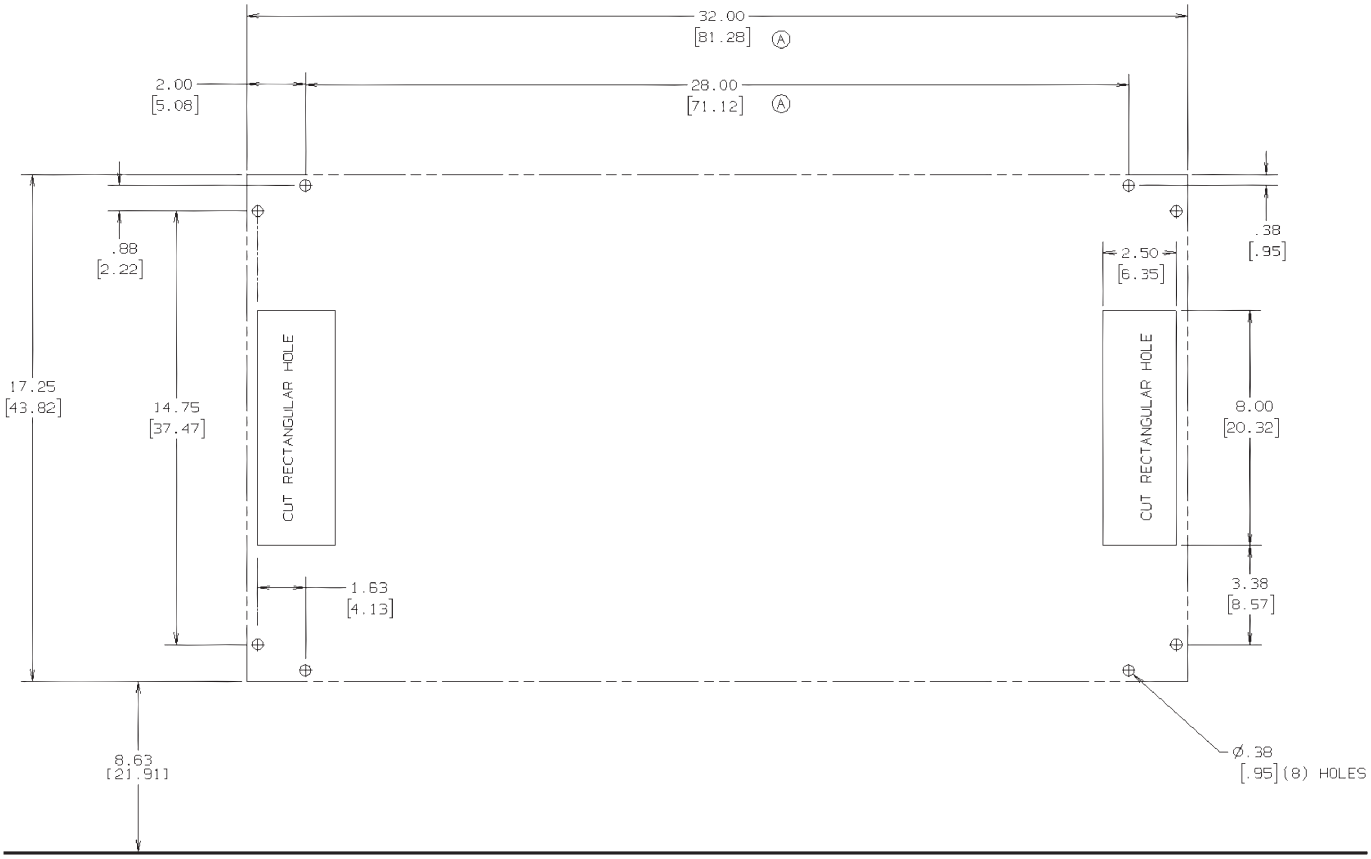
MODEL 143



MODEL 156 (LEFT HAND PASS-THRU)

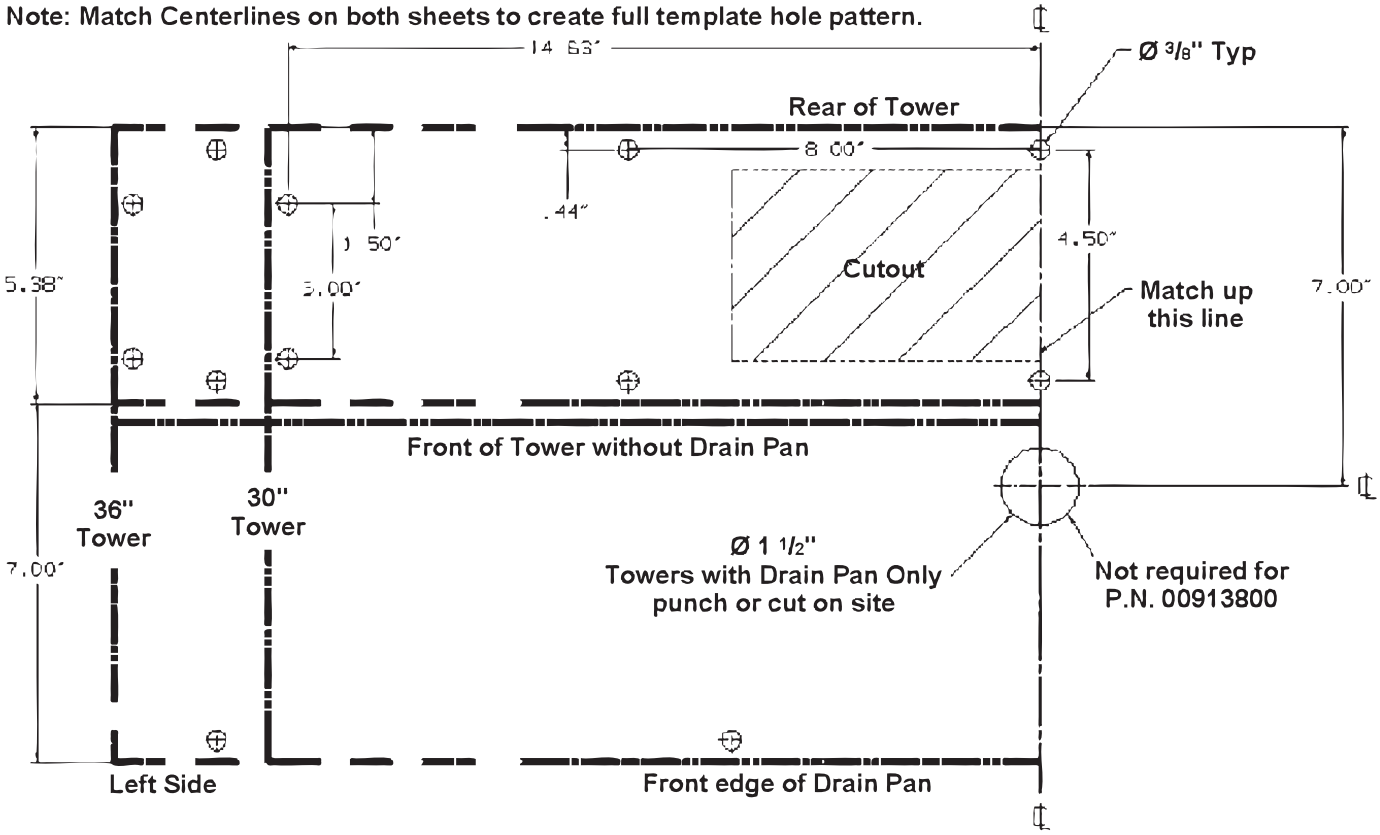


MODEL 156 (RIGHT HAND PASS-THRU)



NOTE: NOT FULL SCALE
NOTE: [ ] INDICATE DIM IN CENTIMETERS

MODEL 158


Note: Match Centerlines on both sheets to create full template hole pattern.
14.63"
Ø 3/8" Typ
Rear of Tower
8.00"
.44"
1.50"
3.00"
5.38"
4.50"
Cutout
Match up
this line
7.00"
Front of Tower without Drain Pan
36"
Tower
30"
Tower
7.00"
Ø 1 1/2"
Towers with Drain Pan Only
punch or cut on site
Not required for
P.N. 00913800
Left Side
Front edge of Drain Pan

MODEL 1310

Safe Installation Dos and Don'ts

⚠ Warning

Read the following warnings before beginning an installation. Failure to do so may result in possible death or serious injury.

- **DO** adhere to all National and Local Plumbing and Electrical Safety Codes.
- **DO** turn OFF incoming electrical service switches when servicing, installing, or repairing equipment.
- **DO** check that all flare fittings are tight. This check must be performed with a wrench to ensure a quality seal.
- **DO** inspect pressure on regulators before starting up equipment.
- **DO** protect eyes when working around refrigerants.
- **DO** use caution when handling metal surface edges of all equipment.
- **DO** handle CO_2 cylinders and gauges with care. Secure cylinders properly against abrasion.
- **DO** store CO_2 cylinder(s) in well ventilated areas.
- **DO NOT** exhaust CO_2 gas (example: syrup pump) into an enclosed area, including all types of walk-in coolers, cellars, and closets.
- **DO NOT** throw or drop a CO_2 cylinder. Secure the cylinder(s) in an upright position with a chain.
- **DO NOT** connect the CO_2 cylinder(s) directly to the product container. Doing so will result in an explosion causing possible death or injury. It is best to connect the CO_2 cylinder(s) to a regulator(s).
- **DO NOT** store CO_2 cylinders in temperature above 125°F (51.7°C) near furnaces, radiator or sources of heat.
- **DO NOT** release CO_2 gas from old cylinder.
- **DO NOT** touch refrigeration lines inside units; some may exceed temperatures of 200°F (93.3°C).
- **DO NOT** clean this unit with a water jet, steam hose, pressure washers, or water hoses.

NOTICE: All utility connections and fixtures must be sized, installed, and maintained in accordance with Federal, State, and Local codes.

Location Requirements

LOCATION OF THE DISPENSING TOWER

1. Determine the location where the Multiplex Dispensing Tower will be installed.
2. Locate the mounting template provided with the tower installation kit.
3. Using the mounting template as a guide, punch out the required holes in the counter top.
4. Main power plug must be accessible at all times.

RATINGS

NOTE: Refer to nameplate on side of unit for voltage and amperage specifications. Optional equipment may require additional power supplies.

⚠ Warning

Carbon Dioxide (CO_2) displaces oxygen. Exposure to a high concentration of CO_2 gas causes tremors, which are followed rapidly by loss of consciousness and suffocation. If a CO_2 gas leak is suspected, particularly in a small area, immediately ventilate the area before repairing the leak. CO_2 lines and pumps must not be installed in an enclosed space. An enclosed space can be a cooler or small room or closet. This may include convenience stores with glass door self serve coolers. If you suspect CO_2 may build up in an area, venting of the BIB pumps and/or CO_2 monitors must be utilized.

KITCHEN EQUIPMENT INSTALLER REPRESENTATIVE RESPONSIBILITIES

Prior to scheduling Multiplex Equipment installer, the following steps listed below must be completed:

1. Usable floor sewer drain.
2. Refer to electrical requirement chart for your model.
3. Usable potable water.
4. CO_2 Gas (bulk or bottled supply); minimum 3/8" line.
5. One 5 gallon (19 L) container or Bag-In-Box container of each post mix syrup flavor.
6. A 120 VAC, 3-wire, 1 Phase, 60 Hz dual wall receptacle for optional electrical equipment (domestic only).

NOTE: Do not schedule the authorized Multiplex Equipment Installer until all of the above have been completed. It will only result in charge-backs to you for the unnecessary trips.

REQUIREMENTS

- Conduit can be run through floor or ceiling chase.
- 60°F (15.6°C) minimum and 105°F (40.5°C) maximum operating ambient conditions.
- For indoor installation only.
- Syrup supply can be located on stand or adjacent to refrigeration unit.

Installer Instructions

Important

The remainder of these instructions is to be completed by an authorized Multiplex Installer.

These equipment instructions are intended to assist qualified personnel in the unpacking, locating and the initial operation of the Multiplex Beverage Equipment and/or Post Mix Refrigeration Unit.

Important

This publication must be saved for future reference. Read instructions before attempting installation.

PREPARATION

The Multiplex Beverage Equipment Soda Tower is pre-assembled in the factory and requires minimum installation.

For future reference or to be used when ordering parts, record the Model Number, Serial Number, Part Numbers of Unit, Condenser (if remote), Towers, etc., and Date of Installation on the inside of this Manual. Leave manual on site in a safe place. Do not discard manual.

Ambient Location Requirement

This equipment is rated for indoor use only. It will not operate in sub-freezing temperature. In a situation when temperatures drop below freezing, the equipment must be turned off immediately and properly winterized. Contact the manufacturer for winterization process.

Electrical

GENERAL

⚠ Warning

All wiring must conform to local, state and national codes.

MINIMUM CIRCUIT AMPACITY

The minimum circuit ampacity is used to help select the wire size of the electrical supply. (Minimum circuit ampacity is not the beverage/ice machine's running amp load.) The wire size (or gauge) is also dependent upon location, materials used, length of run, etc., so it must be determined by a qualified electrician.

ELECTRICAL REQUIREMENTS

Refer to Machine Model/Serial Plate for voltage/amperage specifications.

ELECTRICAL SPECIFICATIONS

ALL TOWERS
120 or 220VAC primary
24 VAC secondary
50/60Hz
Recommended 15 AMP Breaker

MAKING THE ELECTRICAL CONNECTIONS

1. Locate the low voltage transformer and position it below the tower in a shielded and protected area. Use the screws provided to secure the transformer to the cabinet.

2. Route the transformer cords up to the rear of the dispensing tower and plug into the cords in the rear of the tower.

3. Connect the transformer power supply cord to an appropriate wall outlet. Do Not turn "ON" the power switch at this time.

GROUNDING INSTRUCTIONS

⚠ Warning

The beverage/ice machine must be grounded in accordance with national and local electrical codes.

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

⚠ Warning

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

⚠ Warning

When using electric appliances, basic precautions must always be followed, including the following:

a. Read all the instructions before using the appliance.

b. To reduce the risk of injury, close supervision is necessary when an appliance is used near children.

c. Do not contact moving parts.

d. Only use attachments recommended or sold by the manufacturer.

e. Do not use outdoors.

f. For a cord-connected appliance, the following shall be included:

- Do not unplug by pulling on cord. To unplug, grasp the plug, not the cord.
- Unplug from outlet when not in use and before servicing or cleaning.
- Do not operate any appliance with a damaged cord or plug, or after the appliance malfunctions or is dropped or damaged in any manner. Contact the nearest authorized service facility for examination, repair, or electrical or mechanical adjustment.

g. For a permanently connected appliance — Turn the power switch to the off position when the appliance is not in use and before servicing or cleaning.

h. For an appliance with a replaceable lamp — Always unplug before replacing the lamp. Replace the bulb with the same type.

i. For a grounded appliance — Connect to a properly grounded outlet only. See Grounding Instructions.

Mounting The Dispensing Tower

SECURED BY BOLTING TO THE COUNTER

1. Locate the drain pan and mounting screws. Mount the dispensing tower onto the counter.
2. Locate the rubber drain hose and clamp. Attach it to the drain pan fitting.
3. Apply a bead of plumber's putty to the bottom of the tower.
4. Position the tower on the counter. Route the drain line, electrical cord and product tubes through the opening in the counter. Pull the tower backwards into position. Verify that the drain pan is secure.
5. Remove the access panel. Locate the 1/4" 20 mounting screws, flat washers, lock washers and nuts supplied in the installation kit. Mount the tower via the slots inside the tower.

SECURED WITH MOUNTING CLAMPS

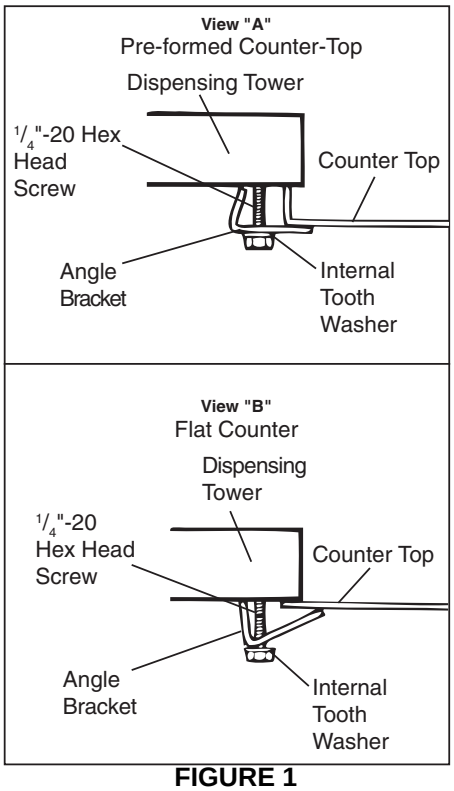


FIGURE 1

1. Position the tower on the counter-top in it's final location.
2. Locate the rubber drain hose and clamp. Attach it to the drain pan fitting.
3. Locate the angle mounting clamps, the 1/4"-20 x 1" Hex Head screws, and the internal tooth washers supplied with tower installation kit.
4. Secure the tower to the counter top with angle mounting clamps, screws, and washers provided in kit. (see figure 1)

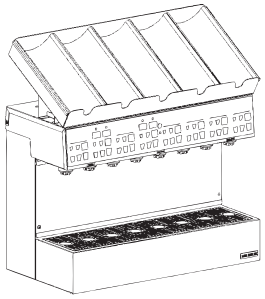
NOTE: If the tower is to be mounted to a flat counter top as in Figure 1 View B, it will be necessary to seal the edge of the tower to the counter top with R.T.V. sealant.

5. Route the beverage conduit up to the stainless steel Barb Stem Adaptors at the base of the dispensing tower. If the lines of the conduit are of different lengths, always connect the shortest line first. Use two (2) tab clamps at every connection.

Plumbing – General

CONNECTING THE SYRUP AND WATER LINES

Model 138CDA or 138CDAX



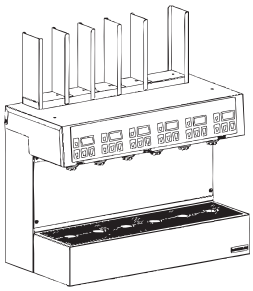
1. Locate the Barb-stem splicers and tab-clamps in the installation kit.

NOTE: The Installation Kit provides syrup connections for 1/2 or 3/8 ID conduits. The circulating carbonated Water Lines are supplied with 1/2 Barbs only. Determine the conduit size prior to the attaching Barb systems.

2. Attach the 1/4" Barb of the 1/4" x 1/2" or 1/4" x 3/8" Barb splicer to the Syrup Lines in the tower labeled #1, #2, #4, #5, #6, #7, and #8. clamp in place with tab clamp.
3. Attach the four (4) 1/2" x 1/2" Barb splicers to the tower lines labeled "AF or AR" and "BF or BR". Clamp in place with tab clamp (refer to "Note" below).
4. Route the beverage conduit up to the tower. If the lines of the conduit are different lengths, always connect the shortest line first. Use two (2) tab clamps per connection.
5. Using the plumbing diagram (located in this manual) as a guide for steps 5 through 7 attach the tower Syrup Lines labeled #1, #2, #3, #4, #5, #6, #7 and #8 to the corresponding numbered or colored line of the conduit. Clamp in place.
6. Connect the plain water supply to the line labeled "WF or WR". clamp with tab clamp.
7. Attach the Carbonated Water Line to the line labeled "AF or AR" and "BF or BR". Clamp in place.

NOTE: If a Single Circuit is used, run "AF or AR" In and "AF or AR" Out to "BF or BR" In. Route "BF or BR" back to conduit.

Model 136EDA, 136EDAX, 138EDA, or 138EDAX

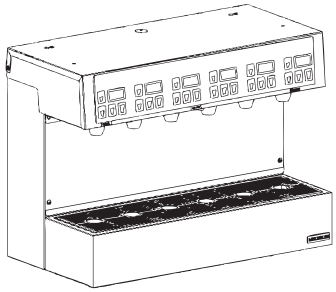


1. Locate the Barb stem splicers and tab clamps in the installation kit.

NOTE: The Installation Kit provides syrup connections for 1/2 or 3/8 ID conduits. The circulating carbonated Water lines are supplied with 1/2 Barbs only. Determine the conduit size prior to the attaching Barb systems.

2. Attach the 1/4" Barb of the 1/4" x 1/2" or 1/4" x 3/8" Barb splicer to the Syrup Lines in the tower labeled #1, #2, #3, #4, #5, and #6. Clamp in place with tab clamp.
3. Attach the two (2) 1/2" x 1/2" Barb splicers to the tower lines labeled "AF or AR". Clamp in place with tab clamp.
4. Route the beverage conduit up to the tower. If the lines of the conduit are different lengths, always connect the shortest line first. Use (2) tab clamps per connection.
5. Using the Plumbing diagram (in this manual) as a guide for steps 5 through 7, attach the tower Syrup Lines labeled #1, #2, #3, #4, #5, and #6 to the corresponding numbered or colored line of the conduit. Clamp in place.
6. Connect the plain water supply to the line labeled "WF or WR". Clamp with tab clamp.
7. Attach the Carbonated Water Line to the line labeled "AF or AR". Clamp in place

Model 136FDA, 136FDAX, 138FDA, or 138FDAX

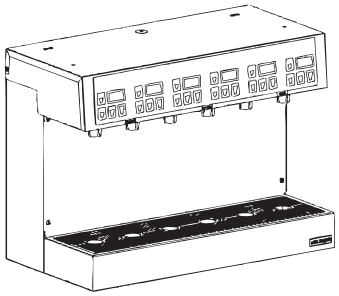


1. Locate the Barb stem splicers and tab clamps in the installation kit.

NOTE: The Installation Kit provides syrup connections for 1/2 or 3/8 ID conduits. The circulating carbonated Water lines are supplied with 1/2 Barbs only. Determine the conduit size prior to the attaching Barb systems.

2. Attach the 1/4" Barb of the 1/4" x 1/2" or 1/4" x 3/8" Barb splicer to the Syrup Lines in the tower labeled #1, #2, #3, #4, #5, and #6. Clamp in place with tab clamp.
3. Attach the two (2) 1/2" x 1/2" Barb splicers to the tower lines labeled "AF or AR". Clamp in place with tab clamp.
4. Route the beverage conduit up to the tower. If the lines of the conduit are different lengths, always connect the shortest line first. Use (2) tab clamps per connection.
5. Using the Plumbing diagram (in this manual) as a guide for steps 5 through 7, attach the tower Syrup Lines labeled #1, #2, #3, #4, #5, and #6 to the corresponding numbered or colored line of the conduit. Clamp in place.
6. Connect the plain water supply to the line labeled "WF or WR". Clamp in place.
7. Attach the Carbonated Water Line to the line labeled "AF or AR". Clamp in place Water Supply

Model 136LDA, 136LDAX, 138LDA, or 138LDAX



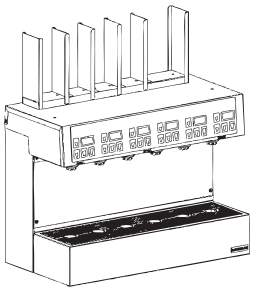
1. Locate the Barb-stem splicers and tab-clamps in the installation kit.

NOTE: The Installation Kit provides syrup connections for 1/2 or 3/8 ID conduits. The circulating carbonated Water Lines are supplied with 1/2 Barbs only. Determine the conduit size prior to the attaching Barb systems.

2. Attach the 1/4" Barb of the 1/4" x 1/2" or 1/4" x 3/8" Barb splicer to the Syrup Lines in the tower labeled #1, #2, #4, #5, #6, #7, and #8. clamp in place with tab clamp.
3. Attach the four (4) 1/2" x 1/2" Barb splicers to the tower lines labeled "AF or AR" and "BF or BR". Clamp in place with tab clamp (refer to "Note" below).
4. Route the beverage conduit up to the tower. If the lines of the conduit are different lengths, always connect the shortest line first. Use two (2) tab clamps per connection.
5. Using the plumbing diagram (located in this manual) as a guide for steps 5 through 7 attach the tower Syrup Lines labeled #1, #2, #3, #4, #5, #6, #7 and #8 to the corresponding numbered or colored line of the conduit. Clamp in place.
6. Connect the plain water supply to the line labeled "WF or WR". clamp with tab clamp.
7. Attach the Carbonated Water Line to the line labeled "AF or AR" and "BF or BR". Clamp in place.

NOTE: If a Single Circuit is used, run "AF or AR" In and "AF or AR" Out to "BF or BR" In. Route "BF or BR" back to conduit.

Model 138EDA2



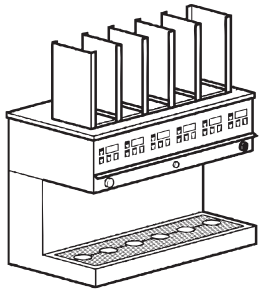
1. Locate the Barb-stem splicers and tab-clamps in the installation kit.

NOTE: The Installation Kit provides syrup connections for 1/2 or 3/8 ID conduits. The circulating carbonated Water Lines are supplied with 1/2 Barbs only. Determine the conduit size prior to the attaching Barb systems.

2. Attach the 1/4" Barb of the 1/4" x 1/2" or 1/4" x 3/8" Barb splicer to the Syrup Lines in the tower labeled #1, #2, #4, #5, #6, #7, and #8. clamp in place with tab clamp.
3. Attach the four (4) 1/2" x 1/2" Barb splicers to the tower lines labeled "AF or AR" and "BF or BR". Clamp in place with tab clamp (refer to "Note" below).
4. Route the beverage conduit up to the tower. If the lines of the conduit are different lengths, always connect the shortest line first. Use two (2) tab clamps per connection.
5. Using the plumbing diagram (located in this manual) as a guide for steps 5 through 7 attach the tower Syrup Lines labeled #1, #2, #3, #4, #5, #6, #7 and #8 to the corresponding numbered or colored line of the conduit. Clamp in place.
6. Connect the plain water supply to the line labeled "WF or WR". clamp with tab clamp.
7. Attach the Carbonated Water Line to the line labeled "AF or AR" and "BF or BR". Clamp in place.

NOTE: If a Single Circuit is used, run "AF or AR" In and "AF or AR" Out to "BF or BR" In. Route "BF or BR" back to conduit.

Model 115, & 116

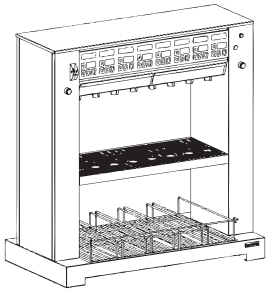


1. Locate the Barb-stem splicers and tab-clamps in the installation kit.

NOTE: The Installation Kit provides syrup connections for 1/2 or 3/8 ID conduits. The circulating carbonated Water Lines are supplied with 1/2 Barbs only. Determine the conduit size prior to the attaching Barb systems.

2. Attach Barb splicer to the syrup lines labeled #1, #2, #3, #4, and #5 ("6" and "W" if it is a six (6) valve tower). Clamp in place with ta clamps. Attach the two (2) 1/2 x 1/2 Barb splicers to the lines labeled #7 Carbonated Water and #8 Carbonated Water then clamp in place.
3. Attach the syrup lines labeled #1, #2, #3, #4, #5, and #6 (for six (6) valve towers application only) to the corresponding numbered or colored lines of the conduit. Clamp in place using two (2) clamps each.
4. Connect the plain water line (labeled "W") to the plain water supply and clamp in place (for six (6) valve tower application only).
5. Attach the Carbonated Water line to the line labeled #7 Carbonated Water and #8 Carbonated Water, then clamp in place.

Model 156, 158, & 1510

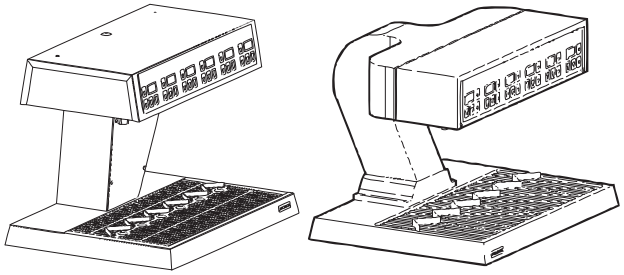


1. Route the Beverage Conduit up to the stainless steel Barb Stem Adaptors at the base of the tower. If the lines of the conduit are of different lengths, always connect the shortest line first. Use two (2) tab clamps at every connection.

NOTE: The Model 158 and 1510 Pass-Thru towers have two (2) internal Carbonated Water Circuits. Use the Carbonated Water lines #8, and #9 to connect to the lines labeled "xF or xR" and "A". Connect the Carbonated Water Lines labeled #7 and #10 to the lines labeled "xF or xR" and "B". If the refrigeration unit has only one (1) Carbonated Water Circuit, these lines must be connected together.

2. Attach the syrup lines labeled "1" through "6", "1" through "8", or "1" through "10" to the corresponding numbered Barb fittings of the tower. Use two (2) tab clamps per connection.
3. Attach the Non-carbonated Water Line (labeled "W") of the beverage conduit to the Barb Stem of the tower labeled "W". Use two (2) tab clamps.

Model 126LDP

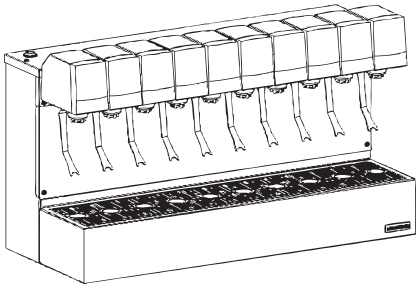


1. Route the beverage conduit up to the base of the tower. If the lines of the conduit are different lengths, always connect the shortest line first. Use two (2) Tab Clamps at every connection.

NOTE: The Multiplex Model 126 Front Draw Dispensing Tower has only one internal carbonated water circuit.

2. Attach the six (6) Syrup Lines labeled 1, 2, 3, 4, 5, and 6 to the corresponding numbered Barb Fittings of the tower. Use two (2) tab clamps per connection. If conduit has non-numbered colored tubing, use the "Conduit Number to Color Reference Chart" listed in these instructions.
3. Attach the Plain Water line (labeled "W") of the beverage conduit to the Barb System of the tower labeled "W". Use two (2) tab clamps. If six (6) Carbonated Water Valves are required, use 1/4" tee provided to connect the carbonated line to "W" line.

Model 1310

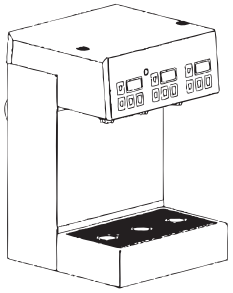


1. Locate the Barb stem splicers and tab clamps in the install kit.

NOTE: The Installation Kit provides syrup connections for the 1/2 or 3/8 ID conduit. The circulating carbonated water lines are supplied with 1/2 barbs only. Determine the conduit size prior to the attaching barb systems.

2. Attach barb splicer to the syrup lines labeled #1, #2, #3, #4, #5, #6, #7, #8, #9 and #10 and clamp in place. Attach two (2) 1/2 x 1/2 barb splicers to the lines labeled #7 Carbonated Water and #8 Carbonated Water and clamp in place. Attach one (1) 1/2 x 1/2 barb splicer to the line labeled "W" and clamp in place.
3. Attach the syrup lines labeled #1, #2, #3, #4, #5, #6, #7, #8, #9 and #10 to the corresponding number or color lines of the conduit. Clamp in place.
4. Connect the plain water line labeled "W" to the plain water supply and clamp in place.
5. Attach the Carbonated water line to the line labeled #7 Carbonated Water and #8 Carbonated Water, then clamp in place.

Model 143



1. Route the beverage conduit up to the stainless steel barb stem adaptors at the base of the dispensing tower. If the lines of the conduit are different lengths, always connect the shortest line first. Use two (2) tab clamps at every connection.
2. Attach the three (3) syrup lines labeled #1, #2, and #3 to the corresponding numbered barb fittings of the dispensing tower. Use two (2) tab clamps per connection.
3. Attach the Carbonated Water line labeled "xF or xR" of the beverage conduit to the barb stem of the tower labeled "xF or xR". Use two (2) tab clamps.

How to Insulate all the Connections

NOTE: Make sure all exposed Carbonated Water, Plain Water, and Syrup Lines are well insulated.

1. To insulate use conduit sections, aluminum foil and tape.
2. Cut the conduit sections to fit snugly over the exposed lines and fittings.
3. After all the lines are properly insulated, wrap tightly with tape to assure air tightness. This will prevent condensation from forming on the lines and prevent dripping.

Section 3
Operation

Calibration of the Dispensing Valves

SET THE FLOW (WATER FLOW RATE ONLY)

Important

For Electronic Volumetric Valves use OEM valve manual (skip this section).

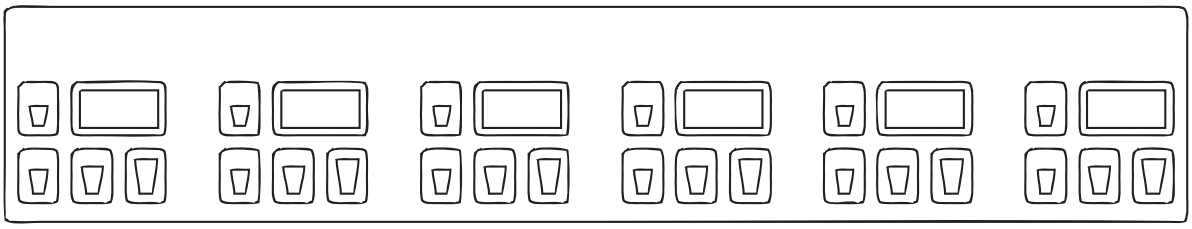
Check that the Primary CO_2 Tank High Pressure Regulator or Bulk CO_2 Regulator is adjusted properly. The Medium Pressure Regulator for sugar-based syrup must be adjusted to 60 psi (4 bar). The Low Pressure Regulator for sugar-free syrup must be adjusted to 14-16 psi (0.9-1.1 bar).

1. Turn “off” the syrup at the dispensing valve by turning the Syrup Shut-off (located on the valve mounting block). If there is no syrup shut-off, use a Syrup Separator.
2. Check the Water Shut-off (if applicable). It should be in the full “open” position.

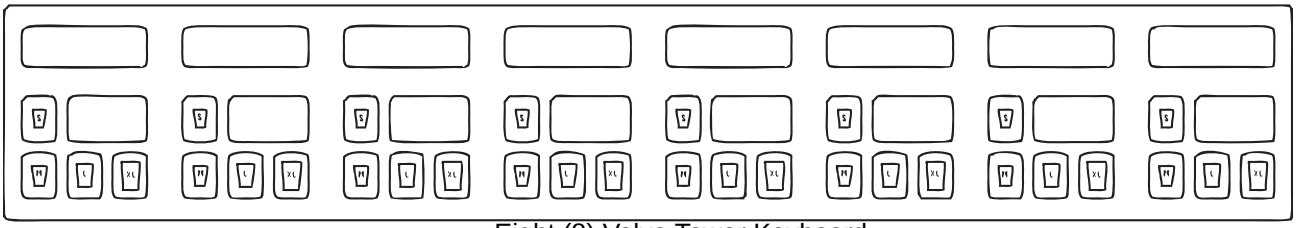
NOTE: The Syrup and Water Shut-off (if equipped) are not to be used as an alternate for flow controls. They are to be used only for shutting “on” or “off” the syrup and/or the water supply.

3. Place a Volume Cup with 10 oz (295.7 ml) measurement line, under valve to be adjusted. If using Syrup Separator, place Volume Cup under water side of separator only.
4. To adjust the water flow rate (if necessary), turn the adjusting screw clockwise to increase. Turn the adjusting screw counterclockwise to decrease the flow of water.
   A. Press CAL pad three (3) times in less than 3 seconds to enter Calibrate Mode. Calibrate lamp will light. (Omit this step if already in Calibration Mode).
   B. Press STOP-FILL pad of valve to adjusted once to cause 4 second pour into Volume Cup.
5. Repeat 4 second dispense (STOP-FILL pad) and water flow adjustment until volume is correct.
6. Open Syrup Shut-off or remove Syrup Separator (if applicable).
7. Repeat this procedure (steps 1 through 6 above) for each valve.
8. Press CAL button once to exit Calibrate Mode. Calibrate lamp will go “off”.

Portion Control Keyboard Layout



Six (6) Valve Tower Keyboard



Eight (8) Valve Tower Keyboard

FIGURE 2

SET THE RATIO (WATER TO SYRUP MIXTURE)

1. Remove valve nozzle by turning the nozzle and pulling down.
2. Place Syrup Separator on valve to be adjusted. Actuate the valve manually (pad, lever) until both syrup and water flow out of the syrup/water separator.
3. Position the proper ratio cup under the Syrup Separator. Manually Actuate the valve pad or lever valve (pad, lever). Dispense until at least 3/4 of the ratio cup is filled. Both products should fill to the same level.
4. To adjust the syrup flow (if levels are not equal), turn the syrup flow control adjusting screw clockwise to increase. Turn the syrup flow control adjusting screw counterclockwise to decrease the flow of syrup.

NOTE: Do not adjust the water flow during this procedure.

5. After syrup is adjusted, remove the Syrup Separator and replace the valve nozzle.
6. Repeat this procedure (steps 1 through 5 above) for the remaining valves.

For Special Dual Flavor Dispensing Valves

NOTE: The Syrup Separator is not used on second flavor.

1. Make sure first flavor (keypad and LED to left) is selected when testing Ratio as above.
2. Make sure second flavor (keypad and LED to right) is selected when testing Ratio as follows. Leave original nozzle on.
3. Rotate proper Ratio Cup 90o so it catches the second flavor syrup from tube just back of nozzle on bottom of valve.
4. Dispense until at least 3/4 of the ratio cup is filled. Both products should fill to the same level.
5. Adjust Syrup flow as necessary as stated above (step 4 under "Hot to set the Ratio (water to syrup mixture)".

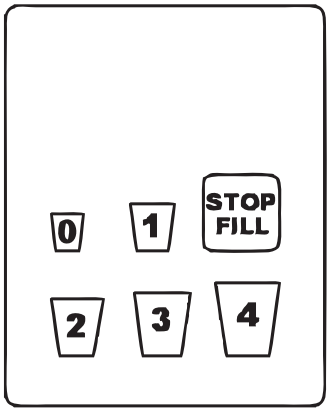
SET THE VOLUME (DRINK PORTION SIZES)

1. To enter the Portion Control Calibrate Mode, press CAL pad three (3) times in less than 3 seconds. The calibrate lamp will illuminate.
2. Use Volume Cup with finished drink marking lines, or use correct size sample cup with desired volume of ice.
3. Press and hold respective SIZE pad until product gets close to proper finished drink mark, or until close to top of sample cup.
4. Release SIZE pad before reaching final mark or before foam exceeds final mark. Press SIZE pad again momentarily, as many times as is necessary (letting foam settle), to get to the correct finished drink mark.
5. Repeat steps 2 through 4 above for all sizes and all stations (products) needing calibration. Be sure to use the correct Volume Cup finished drink marking line, or correct sample cup size and ice amount, for each size pad.

NOTE: If you fill above the final mark or need to "start over" for any reason, you must exit the Calibrate Mode and then re-enter the Calibrate Mode to resume.

6. Exit Calibrate Mode by pressing CAL pad once. Calibrate light will go out. All changes will be permanently saved.

RUN MODE



Size Buttons

Press any size button (0, 1, 2, 3, or 4) on any station to dispense product for that station for pre-programmed time for that respective size.

STOP-FILL Buttons

If no dispense is in progress, press any STOP-FILL button to manually dispense from the station. If portion dispense is in progress, press the STOP-FILL button to manually cancel.

Portion Control Water/Soda dispensing

Press either the WATER or the SODA button momentarily. Now press any size button on the respective station (within 2 seconds maximum). Portion dispense will continue automatically for that size only.

Optional Dual Flavor Keyboard

NOTE: Station No. 2 and No. 4 have Dual Flavors.

1. Press the flavor button and its associated LED will come “on”.

2. Press any size button to dispense this flavor and size. If the required flavor button LED is already “on”, press the size button desired.

NOTE: The left LED flavor is the default on both stations.

Program modes

PROGRAM MODE CAL NO. 1 (TOTAL VOLUME)

To enter the Calibrate No. 1 mode, simultaneously press the CAL button and the Size 1 button (1) on any station. You may also press the CAL button three times within three seconds. The CAL light will come “on” constantly.

Volume Sizing

NOTE: Use a Calibration Cup (or an appropriate size cup with the proper amount of ice).

1. Press the respective size button for that cup (0, 1, 2, 3, or 4) at that station.
2. Fill the cup with product to the correct level.

NOTE: This same size button may be started and stopped as many times as desired to acquire the correct level while letting the drink settle. All times for the same station and size are additive in the program session.

3. Repeat volume sizing procedure for all sizes and stations needing programming.

Flow Rate Calibration

In the Calibrate No. 1 Mode, press any STOP-FILL button one (1) time. That respective valve will flow for exactly 4 seconds allowing for checking or adjusting the valve flow rate.

One Station Sets All

Immediately after entering the Calibrate No. 1 Mode, press any STOP-FILL button two (2) times in less than 1 second. The CAL light will flash constantly, 2 times per second. Now all volumes on that station programmed in this session, will copy to all other stations when exiting.

Exiting the Program Mode, CAL No. 1

To exit, press the CAL button one (1) time turning “off” the CAL light. All volume changes made during this session will be permanently stored.

PROGRAM MODE CAL NO. 2 (INCREMENTAL)

To enter Calibrate No. 2 Mode, simultaneously press the CAL button and the Size 2 button (2) on any station. The CAL light will flash constantly, one (1) time per second.

Volume incrementing/decrementing

1. Press the size button (0, 1, 2, 3, or 4) on the specific station that needs a small increment of time adjustment. The CAL light will come “on” constantly indicating this size/station time is selected.
2. To increase time, press the Size 4 button () at this time. Each press of the Size 4 button () will increase total selected size stored time by 0.1 seconds. The CAL light will go “off” every time button is pressed.

Example: 10 presses = 1 second.

3. To decrease time, press the Size 1 button () at this time. Each press of the Size 1 button () will decrease total selected size stored time by 0.1 seconds. The CAL light will go “off” every time button is pressed.
4. Press STOP-FILL button on this station to temporarily save new time for this size this station. The CAL light will resume flashing.
5. Repeat procedure 1 through 5 for any other size or station needing incremental time programming

Exiting the Program Mode, CAL No. 2

To exit, press the CAL button one (1) time turning “off” the flashing CAL light. All incremental volume changes made during this session will be permanently stored.

PROGRAM MODE CAL NO. 3 (WATER/SODA)

NOTE: This is set at the factory to station number 2 (water) and 4 (soda). This may have to be reset in the field if someone inadvertently changes location, or if the location must change stations.

To enter water/soda programming mode, simultaneously press the CAL button and SIZE 3 button () on any station (refer to figure above). The CAL light will come “on” constantly.

1. Before changing the water/soda pour stations, you must make sure the correct WATER and SODA solenoids (from the stations to be programmed) are wired correctly to J9 and J10 respectively.
2. Pressing SIZE 1 button on any station, will set the special WATER solenoid driver J10 to come ON with all dispenses of THIS station, as well as the WATER button dispensing water from this station.

An automatic 2 second pour of water solenoid from this station will occur, to verify setting.

3. Pressing SIZE 4 button on any specific station, will set the special SODA solenoid driver J9 to come ON with all dispenses of this station, as well as the SODA button dispensing soda water from this station.

An automatic 2 second pour of water solenoid from this station will occur, to verify setting.

Exiting the programming mode, CAL No. 3.

To exit, press the CAL button one (1) time turning “off” the CAL light. All water/soda changes made during this session will be permanently stored.

TOP-OFF PROGRAM MODE

Top-Off Program Mode

To enter the top-off program mode, simultaneously press CAL button and the Size 4 button () on any station. You may also press the CAL button five times within three seconds. The CAL light will flash five (5) times and then remain “on”.

Enabling / Disabling the individual station Top-off

Enabling the individual station top-off allows every size dispensed on this station to pour all the volume programmed in two (2) pours with a 3 second delay between pours. Disabling the individual station top-off allows every size dispensed on this station to pour all the volume programmed in one pour.

1. Press the STOP-FILL button on the station desired to change the top-off mode.
2. The CAL light will immediately flash five (5) times to indicate the top-off mode has been toggled. If the respective station was disabled for top-off, then it will toggle to enable for top-off. If the respective station was enabled for top-off, then it will toggle to disable for top-off.

Exiting the Top-off Program Mode

To exit the Top-off Program Mode, press the CAL button one (1) time turning “off” the CAL light. All station top-off mode changes made during this session will be permanently stored.

TEST AND SANITATION MODE

1. With the power “off”, press the CAL button and turn power “on” simultaneously.
2. Release the CAL button. The portion control board will sequence each station for 4 seconds starting with the left most (station No. 1).
3. Check that each LED on the Portion Control board comes “on” sequentially and all valve solenoids come “on”.

NOTE: If the drain can support more than one (1) valve pouring at a time, press the STOP-FILL button on the station number for the number of valves flowing simultaneously.

Example: At station number 3, press the STOP-FILL button. Three (3) valves will flow simultaneously.

NOTE: If the LED light does not come “on” for any station(s), the Portion Control board is bad. If the LED light comes “on” but the valve does not come “on”, check wiring and valve solenoids.

INSTRUCTIONS FOR DUAL FLAVOR STATIONS

NOTE: Station No. 2 and 4 have Dual Flavors

1. Press the flavor and it's associated LED will come "on"
2. Press any size button to dispense this flavor and size. If the required flavor button LED is already "on", press the size button desired.

NOTE: The left LED flavor is the default on both stations.

ENTERING WATER/SODA PROGRAMMING MODE

To enter water/soda programming mode, press and hold the CAL button SIZE 3 buttons. The CAL light will come ON instantly.

Pressing SIZE 1 button on any station, will set the special WATER solenoid driver J10 to come ON with all dispenses of THIS station, as well as water button dispensing from this station. An automatic 2 second pour of water from this station will occur, to verify setting.

Pressing SIZE 4 button on any specific station, will set the special SODA solenoid driver J9 to come on. An automatic 2 second pour of water from this station will occur to verify setting.

You must also make sure the correct WATER and SODA solenoids (from the stations you just programmed) are wired correctly to J9 and J10 respectively.

Equipment Setup and Close Procedure

EQUIPMENT SETUP PROCEDURE

1. Ensure that all valve nozzles are attached to the valves.
2. Observe pressure of CO_2 high pressure tank of 500 psi (34 bar) or more, or bulk CO_2 tank of 150 psi or more. Primary regulator set at 90 psi (6 bar) and the secondary regulator set at 35 psi (2.4 bar).
3. Observe the control panel to verify that all pressure gauges are set at correct operating pressures.
4. Check the syrup tanks to make sure a sufficient number of tanks are connected in series to satisfy business volume.
5. Clean syrup inlet and outlet quick disconnects at the same time tanks are replaced. Rinse disconnects in clean potable water.

EQUIPMENT CLOSE PROCEDURE

1. Clean the underside of the dispensing tower around the nozzle area with a clean damp towel.
2. Pour at least 60 oz (1.8 liters) of warm water down the drain openings.

Section 4
Maintenance

Maintenance Schedule

This section provides a list of periodic maintenance tasks and the scheduled frequency required to ensure the proper operation of your Multiplex dispensing equipment. To ensure quality beverages, prevent downtime, and reduce costs, these tasks must be performed as indicated.

PERIODIC MAINTENANCE LISTED BY MAJOR COMPONENTS

Dispensing stations

Daily (365 times per year)

- Take temperature of finished drinks. Pour off the first and take the temperature of the second drink. The proper temperature of drinks must be 40°F (4°C) or less.
- Remove nozzles and diffusers from each dispensing valve. Clean with soap and warm water (not hot). Rinse with carbonated water and reinstall.
- Flush all dispenser drains. Pour hot water down drains at closing.

Beverage conduits

Every 4 months (3 times per year)

- Inspect beverage conduits for damage. Re-insulate and seal any un-insulated areas.
- Inspect floor chases and seal any open chase ends.

Air compressor

Monthly (12 times per year)

- Drain condensate water from air compressor tank.

Every 4 months (3 times per year)

- Inspect air compressor filter and replace if clogged. Air filter must be replaced every 6 months.
- Inspect air compressor to verify cut-in at 70 psi (4.8 bar) and cut-out at 90 psi (6.3 bar). Adjust pressure switch if necessary.
- Inspect system for air leaks and repair as required.

Refrigeration unit

Every 4 months (3 times per year)

- • Clean the refrigeration unit air-cooled condenser using a vacuum cleaner. If equipped with water-cooled condenser, verify the water discharge temperature is at 105°F (41°C). Adjust water modulating valve if necessary.
- Inspect water bath to verify water level is at the top of stand pipe. If below, add water and repair water makeup device. If excessive amount of water is flowing over stand pipe, locate leak within bath and repair.
- Inspect ice bank within the water bath to verify proper size ice bank and clarity. Look for uniform, 2" to 4" thick ice bank.
- Drain, clean, and refill water bath.
- Inspect agitator motor and ensure proper operation.
- Inspect the circulating motor/pump assembly. Clean strainer and oil motor.
- Inspect the carbonating motor/pump assembly. Clean strainer and oil motor.
- Inspect entire system for leaks and repair as required.

Water filters

Every 4 months (3 times per year)

- Verify that incoming water pressure is not less than 40 psi (2.8 bar) or greater than 60 psi (4.1 bar). If equipped with a water regulator, verify proper setting of 55 psi (3.8 bar). Adjust if necessary.
- If pressure is low, inspect water filter cartridges to ensure they are able to supply adequate water pressure under normal system flow. Replace if unable to provide minimum 20 psi (1.4 bar) under load.

Syrup supply

Daily (365 times per year)

- Clean general area of syrup hookup with soap and warm water. Rinse off all soap.

Every 4 months (3 times per year)

- Inspect syrup lines for proper flavor identification labels. Replace labels if necessary.
- Disconnect syrup containers. Clean connector with soap and warm water. Rinse with plain water and reconnect to syrup containers.

CO_2 gas supply

Every 4 months (3 times per year)

- Inspect pressure setting at CO_2 high pressure regulator. Verify proper 90 psi (6.3 bar) pressure setting. Adjust if necessary.

- Inspect pressure setting at syrup pressure regulators. Verify propter pressure setting. Adjust if necessary.
- Inspect system for CO_2 leaks, repair as required.

PERIODIC MAINTENANCE LISTED BY SCHEDULED FREQUENCY

Daily (365 times per year)

- Take temperature of finished drinks. Pour off the first and take the temperature of the second drink. The proper temperature of drinks must be 40°F (4°C) or less.
- Remove nozzles and diffusers from each dispensing valve. Clean with soap and warm water (not hot). Rinse with carbonated water and reinstall.
- Flush all dispenser drains. Pour hot water down drains at closing.
- Clean general area of syrup hookup with soap and warm water. Rinse off all soap.

Every 4 months (3 times per year)

- Using Brix cup and syrup separator, check for proper carbonated water flows (standard flow: 5 oz. in 4 seconds, fast flow: 10 oz. in 4 seconds) and syrup to water ratios at each dispensing station. Adjust as required.
- Inspect beverage conduits for damage. Re-insulate and seal any un-insulated areas.
- Inspect floor chases and seal any open chase ends.
- Inspect air compressor filter and replace if clogged. Air filter must be replaced every 6 months.
- Inspect air compressor to verify cut-in at 70 psi (4.8 bar) and cut-out at 90 psi (6.3 bar). Adjust pressure switch if necessary.
- Inspect system for air leaks and repair as required.
- Clean the refrigeration unit air-cooled condenser using a vacuum cleaner. If equipped with water-cooled condenser, verify the water discharge temperature is at 105°F (41°C). Adjust water modulating valve if necessary.
- Inspect water bath to verify water level is at the top of stand pipe. If below, add water and repair water makeup device. If excessive amount of water is flowing over stand pipe, locate leak within bath and repair.
- Inspect ice bank within the water bath to verify proper size ice bank and clarity. Look for uniform, 2" to 4" thick ice bank.
- Drain, clean, and refill water bath.
- Inspect agitator motor and ensure proper operation.
- Inspect the circulating motor/pump assembly. Clean strainer and oil motor.
- Inspect the carbonating motor/pump assembly. Clean strainer and oil motor.
- Inspect entire system for leaks and repair as required.
- Verify that incoming water pressure is not less than 40 psi (2.8 bar) or greater than 60 psi (4.1 bar). If equipped with a water regulator, verify proper setting of 55 psi (3.8 bar). Adjust if necessary. If pressure is low, inspect water filter cartridges to ensure they are able to supply adequate water pressure under normal system flow. Replace if unable to provide minimum 20 psi (1.4 bar) under load.
- Inspect syrup lines for proper flavor identification labels. Replace labels if necessary.
- Disconnect syrup containers. Clean connector with soap and warm water. Rinse with plain water and reconnect to syrup containers.
- Inspect pressure setting at CO_2 high pressure regulator. Verify proper 90 psi (6.3 bar) pressure setting. Adjust if necessary.
- Inspect pressure setting at syrup pressure regulators. Verify propter pressure setting. Adjust if necessary.
- Inspect system for CO_2 leaks. Repair as required.

CLEANING & SANITIZING THE DISPENSING VALVES AND PRODUCT LINES

Maintenance Schedule

Every day	
Dispensing valves	Remove nozzles and diffusers and soak in mild detergent cleaning solution. Scrub parts with small bristle brush taking care to clean small crevices and O-ring grooves. Turn OFF power to dispensing valves. Scrub exterior surfaces, including bottom splash area and actuator lever, with cleaning solution. Reassemble diffusers and nozzles. Wipe dry exterior surfaces before turning ON power.
Drip pan and drain hose	Wash with mild detergent. Rinse with clean water.
Quick disconnects	Wash with mild detergent. Rinse with potable water.
Weekly	
Outside, dispenser cabinet	Wash with clean water and mild detergent. Wipe dry.
Every 3 months	
Syrup circuits	Sanitize each syrup circuit. See “Maintenance”.
Water bath	Drain, melt ice and clean using detergent and brush; rinse with potable water. Do not use water over 140°F (60°C).
Every 6 months	
Condenser	Vacuum fins or use soft bristle brush (scrub brush).
Air purifier filter (if equipped)	Replace.

Cleaning Equipment and Supplies

- **Recommended cleaner:** Any caustic-base (low sudsing, non-perfumed, easily rinsed) detergent solution which provides a minimum 2% sodium hydroxide. The solution must be prepared in accordance with the manufacturer’s instructions. Solution temperature must be between 90°F (32°C) and 110°F (43°C). Temperatures in excess of this can cause internal damage to the dispensing valve components.
- **Recommended sanitizer:** Any sanitizer which provides a minimum of 120 parts per million (120 milligrams per liter) of available chlorine. Solution temperature must be between 90°F (32°C) and 110°F (43°C). Temperatures in excess of this can cause internal damage to the dispensing valve components.
- **Two five gallon (figals) syrup tanks** and fittings, cleaned and sanitized (one for cleaner; one for sanitizer)
- **Containers** for cleaner and sanitizer solutions
- **Clean, non-abrasive cloths**
- **Buckets**
- **Small Brush**
- **Extra Nozzles**
- **Extra Jumpers**

Sanitizing

BEVERAGE SYSTEM CLEANING

⚠ Warning

Flush sanitizing solution from syrup system.

Residual sanitizing solution left in system could create a health hazard.

⚠ Warning

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

Sanitize the beverage system at initial start-up as well as regularly scheduled cleaning. The drain pan must be in place under soda valves, to carry away detergent and sanitizing agents that will be flushed through valves.

BAG-IN-BOX SYSTEM SANITATION

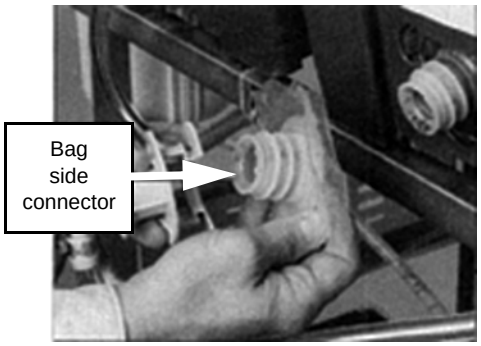
The procedure below is for the sanitation of one syrup circuit at a time. Repeat to sanitize additional circuits.

You will need the following items to clean and sanitize the Bag-in-Box (BIB) beverage system:

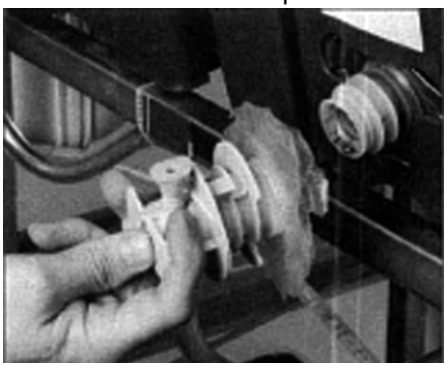
- Three (3) clean buckets
- Plastic brush or soft cloth
- Mild detergent
- Unscented bleach (5% Na CL O) or Commercial sanitizer
- Bag-In-Box bag connector

1. Prepare the following in the buckets:
   - Bucket 1 — warm to hot tap water for rinsing.
   - Bucket 2 — mild detergent and warm to hot water.
   - Bucket 3 — mix a solution of unscented bleach (5% Na CL O) or commercial sanitizer and warm to hot water. Mixture should supply 100 PPM available chlorine (1/4 oz. bleach to 1 gallon water).

2. Disconnect the “syrup-line side” of the BIB connector.



3. Rinse connector with warm tap water.



4. Connect syrup connector to BIB connector and immerse both into Bucket 1. A “bag-side” connector can be created by cutting the connector from an empty disposable syrup bag.

5. Draw rinse water through system until clean water is dispensed. Most beverage valves allow the syrup side to be manually activated by depressing the syrup pallet.
6. Connect Bucket 2 to system.
7. Draw detergent solution through system until solution is dispensed.
8. Repeat steps 2-7 until all syrup circuits contain detergent solution.
9. Allow detergent solution to remain in the system for 5 minutes.
10. Connect Bucket 3 to system.
11. Draw sanitizing solution through system until solution is dispensed.
12. Repeat step 11 until all syrup circuits contain sanitizer solution.
13. Allow sanitizer solution to remain in system for 15 minutes.
14. Remove nozzles and diffusers from beverage valves.
15. Scrub nozzles, diffusers and all removable valve parts (except electrical parts) with a plastic brush or a soft cloth and the detergent solution.
16. Soak nozzles, diffusers and removable valve parts (except electrical parts) in sanitizer for 15 minutes.
17. Replace nozzles, diffusers and valve parts.
18. Connect Bucket 1 to system.
19. Draw rinse water through system until no presence of sanitizer is detected.
20. Attach syrup connectors to BIBs.
21. Draw syrup through system until only syrup is dispensed.
22. Discard first 2 drinks.

FIGAL BEVERAGE SYSTEM

1. Prepare the following in three clean Figal tanks:
   - **Rinse tank** - fill with room temperature tap water.
   - **Detergent tank** - mix approved beverage system cleaner with warm water as directed.
   - **Sanitizing tank** - mix a solution of unscented bleach (5% Na CL O) or commercial sanitizer and warm to hot water. Mixture should supply 100 PPM available chlorine (1/4 oz. bleach to 1 gallon water).
2. Disconnect all product and water lines from product tanks and remove carbonator.
3. Locate the Figal syrup tank for the circuit to be sanitized. Remove both quick disconnects from the Figal syrup tank. Rinse quick disconnects in tap water.
4. Connect rinse tank to the syrup line. Draw clean rinse water through the valve until syrup is flushed from the system.
5. Connect detergent tank to the syrup line and draw detergent through the valve for two minutes. Then, allow remaining detergent to stay in the system for five minutes.
6. Connect rinse tank to the syrup line. Draw clean rinse water through the valve until detergent is flushed from the system.
7. Remove valve nozzle and diffuser as shown in Daily Cleaning instructions. Using a plastic brush or a soft cloth and warm water, scrub the nozzle, diffuser, bottom of the dispensing valve and cup lever, if applicable.
8. Place removable valve parts (EXCEPT solenoids) in sanitizing solution for 15 minutes.
9. Replace valve diffuser and nozzle on the beverage valve.
10. Connect sanitizer tank to the syrup line and draw sanitizer through the valve for two minutes. Allow sanitizer to remain in the system for a minimum of 15 minutes.
11. Reconnect syrup and carbonated water lines.
12. Draw syrup through the lines to rinse the system. Discard drinks until at least two cups of satisfactory tasting beverage are dispensed through the valve.

Shipping, Storage and Relocation

⚠ Caution

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

Section 5
Before Calling for Service

Checklist

If a problem arises during operation of your post mix soda refrigeration unit, follow the checklist below before calling service. Routine adjustments and maintenance procedures are not covered by the warranty.

⚠ Warning

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

Problem	Possible Cause	To Correct
All corresponding valves dispensing no syrup.	Malfunction of syrup system.	Refer to Troubleshooting "Section 8: Syrup System" under No syrup or insufficient syrup in finished drink.
No syrup at only one dispensing valve.	Syrup Shut-off Valve closed or partially closed.	Remove top cover from Dispensing valve or Tower. Locate Syrup Shut-off Valve on right hand side of Dispensing valve. Verify shut-off is turned fully open.
	Mounting Block restricted.	Remove Dispensing valve from Mounting Block. Place cup over Syrup outlet on Mounting Block and carefully open Syrup Shut-off Valve. If little or no syrup is present, Mounting Block is restricted. Remove and clean mounting block. Replace if necessary.
NO SYRUP OR INSUFFICIENT SYRUP IN FINISHED DRINK		
No carbonated water at half or all dispensing valves.	Flow Control our of adjustment or inoperative.	Readjust Flow Control to proper Brix. If no response, clean Syrup Flow Control. Replace if necessary.
	Valve Port restricted.	Clean Syrup valve Port Assembly.
	Seat swollen.	Replace Syrup Seat.
	Solenoid Coil defective.	Replace Syrup Solenoid Coil.
	Malfunction of Carbonated Water System.	Refer to Troubleshooting "Section 2: Carbonated Water System" under No carbonated water at any of the dispensing valves.

Problem	Possible Cause	To Correct
NO CARBONATED WATER OR INSUFFICIENT CARBONATED WATER IN FINISHED DRINK		
No Carbonated Water only at one dispensing valve.	Carbonated water Shut-off Valve closed or partially closed.	Remove top cover from Dispensing valve or Tower. Locate Carbonated Water Shut-off Valve on left hand side of Dispensing valve. Verify Shut-off Valve is turned fully open. Remove Dispensing valve from Mounting Block.
	Mounting Block restricted.	Place cup over Carbonated Water outlet on Mounting Block and carefully open Carbonated Water Shut-off Valve. If little or no Carbonated Water is present, Mounting Block is restricted. Remove and clean mounting block. Replace if necessary.
	Flow Control our of adjustment or inoperative.	Readjust Flow Control to proper Brix (5 oz in 4 seconds Standard valve, 10 oz in 4 seconds Fast Flow valve). If no response, clean Carbonated Water Flow Control. Replace if necessary.
	Valve Port restricted.	Clean Carbonated Water valve Port Assembly.
	Seat swollen.	Replace Carbonated Water Seat.
	Solenoid Coil defective.	Replace Carbonated Water Solenoid Coil.
	Carbonated Water Switch defective (black).	Replaced Carbonated Water Switch.
NO WATER OR INSUFFICIENT WATER IN FINISHED DRINKS		
All valves dispensing noncarbonated drinks no water.	Water Shut-off Valve closed or partially closed.	Refer to Troubleshooting “Section 9: Water Booster System” under Low or No Water Pressure at Noncarbonated Beverages.
Problem occurs at only one dispensing valve.		Refer to this section on No carbonated water at only one dispensing valve in the dispensing valve.
Too much Syrup, Carbonated Water or Water in finished drink. Problem occurs at only one dispensing valve.	Syrup, carbonated water, or noncarbonated water flow control out of adjustment or inoperative.	Readjust appropriate Flow Control. If Flow Control does not respond to adjustment, clean Flow Control. Replace if necessary. Carbonated Water Flow rates: (5 oz in 4 seconds Standard valve, 10 oz in 4 seconds Fast Flow valve).
Too much syrup in finished drink. All valves dispensing same flavor-too much syrup.	Malfunction of syrup system.	Refer to Troubleshooting “Section 8: Syrup System” under Drinks too sweet.
Too much water in finished drink. All valves dispensing noncarbonated drink too much water.	Malfunction of water Booster system.	Refer to Troubleshooting “Section 9: Water Booster System” under Qualifier: Pump and motor cycles “on” and “off” excessively.
Syrup or Carbonated Water or Water dripping from Nozzle.	Valve port scarred.	Disassemble appropriate Syrup or Water Assembly. Examine valve Port for scars or nicks. Replace if necessary.
	Armature Spring or Retaining Ring broken.	Disassemble appropriate Syrup or Water Assembly. Examine Armature, Spring and Retainer Ring. If damaged, replace.
	Seat scarred or obstructed.	Disassemble appropriate Syrup or Water Assembly. Examine Seat, if scarred, replace. If foreign material is found in Assembly, remove, reassemble.

Problem	Possible Cause	To Correct
Valves will not activate when Selection Panel pressed. Problem occurs at two (2) or three (3) consecutive Valves on one (1) tower.	Transformer inoperative.	Verify wire leads from Transformer have solid connections. Switch low voltage lead from Transformer supplying power to left and right hand side of Tower. If Valves operate and the other three do not, Transformer is defective. Replace.
	Dispensing tower's "on" and "off" Toggle defective.	If after switching Leads, the three valves still do not operate, the "on" and "off" Toggle Switch is defective.
Problem occurs at all valves on one (1) dispensing tower.	No power to transformer or transformer defective.	Verify power with a voltmeter at wall outlet. Verify power across low voltage leads on transformer. If 24 volts are present "on" and "off" Toggle Switch is defective. Replace.
Problem occurs at only one (1) dispensing valve.	Dispensing tower's "on" and "off" is Switch defective.	Verify Main Power Supply and power at Transformer Leads replace "on" and "off" Switch if operative.
	Poor connection on valve Wire Harness.	Trace wiring on defective valve and reconnect any loose wires. Clean and reconnect any corroded connections.
	Portion Control Timer inoperative.	Replace the problem valve Portion Control Timer with a known Operative Timer. If valve then operates, Portion Control Timer was defective. Replace.
	Selection Switch inoperative.	Replace defective Portion Control Timer with operative Timer. If Valves still will not activate, Selection Panel is defective. Replace Selection Switch.
	Poor connection at Contact Clips on Selection Panel (with Portion Control Timer).	Examine Contact Clips on Selection Panel and insure proper contact between Portion Control Timer and Contact Clips.
Valve will not shut "off".	Moisture on Portion Control Timer or Contact Clips.	Remove top cover from Dispensing Tower. Remove all moisture from Portion Control Timer and Contacts.
	Portion Control Timer Adjustment Screw turned beyond control limit.	Turn Portion Control Adjustment Screws on defective valve counterclockwise 10 complete turns. If valve shuts off when selection is pressed, readjust for proper portions. Note: Several revolutions may be necessary to bring control back into range.
	Portion Control Timer defective.	Verify above probables are not the problem. Push "on/off" Switch for Dispensing Tower to the "off" position. If valve ceases to dispense when pushed to "on" position, Portion Control Timer is defective. Replace.
	Selection Panel defective.	Push "on/off" Switch for dispensing tower to the "off" position. If valve ceases and then continues to dispense when switch is pushed in "on" position, Selection Panel is defective. Replace.

Problem	Possible Cause	To Correct
Foaming of finished products.	Nozzles, Syrup Tube Diffusers dirty.	Remove and clean Nozzle Assemblies and reassemble.
	Warm drinks.	Refer to Troubleshooting “Section 7: Refrigeration System” under Warm drinks.
	Incorrect pressure on syrup.	Verify pressure supplied to sugar base products is at 60 psi (4.2 kg/cm2). Adjust Medium Pressure Regulator if necessary. Verify pressure supplied to diet product is at 15 psi (1.1 kg/cm2). Adjust Low Pressure Regulator if necessary. Note: Insure the Low Pressure Supply Line has not mistakenly been switched for a Medium Pressure Supply Line on the diet tank.
	Change-over Valve Medium or Low Pressure is in the wrong position.	Verify valve Medium to Low Pressure is in the Low Pressure position for diet products.
	Air or CO_2 gas in syrup line.	Replace empty Syrup Tank. Dispense Syrup from valve until consistent flow is achieved and product stabilizes. If evidence of air is still entering line, replace Liquid Disconnect which is allowing air to be drawn into syrup supply.
	Flake ice.	Only cube ice should be used for carbonated beverages.
	Improper adjustment of valve.	Insure carbonated water flow is properly set (5 oz. in 4 seconds standard valve, 10 oz in 4 seconds Fast Flow valve). Insure Brix is properly set. Adjust as necessary.
Unit totally inoperative; all electrical switches in the “on” position.	Power failure, all power to system is “off”, or Fuse/Circuit Breaker is “open”.	Check Circuit Breaker. Reset. Examine Time Delay, replace if necessary.

Multiplex

Manitowoc Beverage Systems

CE 2013

EC Declaration of Conformity

We, Manitowoc Beverage Systems, manufacturer of Multiplex beverage dispensers, located at 2100 Future Drive, Sellersburg, Indiana, USA, declare under our sole responsibility that our Beverage Dispensers, Models 116LDKX, 126LDPX, 136EDAX, 136EDLVX, 136EDLX, 136FDAX, 136FDLX, 136FDPX, 136FDSX, 136LDLAX, 136LDAX, 136LDLX, 138CDAX, 138CDLX, 138EDAX, 138EDLX, 138EDSX, 138ENLX, 138FDAX, 138FDLX, 138FDPX, 138FDSX, 138LDALX, 138LDAX, 138LDLX, 138PDLX, 138PDPX, 143EDAX, 143LDAX, 1510LDLHX, 156EDLAX, 158EDLHX, 158LDLHX, and 166LNAX are in conformity with the following Directives and Standards:

LVD EN 2006/95/EC
EN 60335-1
MD EN 2006/42/EC
EMC EN 2004/108/EC
EN 55014-1
EN 55014-2, Category II

European Distributor
Manitowoc Beverage Systems
Chancel Way
Halesowen Industrial Estate
Halesowen B62 8SE
Great Britain
Phone 0121 501 2566

The undersigned hereby declares the equipment specified above conforms to the applicable Directives and Standards.

James W. Brown
Director of Engineering

Continuing product improvements may necessitate change of specifications without notice.

Part Number 020002777 9/14

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