

# INSTALLATION & SERVICE MANUAL

## QUANTUM SERIES



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**Cornelius**  
FOODSERVICE GROUP

IMI CORNELIUS INC.  
[www.cornelius.com](http://www.cornelius.com)

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## UNIT SPECIFICATIONS

Clearance Recommended: 12" (30.48 cm) on top and 4" (10.16 cm) required in back for air circulation if sides are blocked off. If sides are open only 2" (5.08) are required in back. Space between bottom of unit and counter cannot be obstructed in foot print area.

Electrical Connection: 6ft. long (1.83m) power cord with 3-prong plug attached to dispenser. Export models have line cord less plug.

Power Supply: 15 amps at 120 volts or 10 amps at 220 volts.

Water Connection: 3/8" (0.95 cm) SAE male flare fitting on dispenser.

Water Supply Requirements: 80 psi (5.5 bar) maximum static pressure. 20 psi (1.4 bar) minimum dynamic pressure; i.e., flowing pressure measured at dispenser water inlet with 3.0 ounces (88.7ml) per second water flow.

## PREINSTALLATION

### RECEIVING

Each unit is completely tested and 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 from the carrier, please, inspect the carton for visible damage. If damage exists, have the carrier make a note on the bill of lading and file a claim with the carrier.

### UNPACKING

- Remove staples securing carton to pallet.
- Lift carton up and off of unit.
- Remove top insert and shipping bag.
- Open the upper cabinet door and remove installation kit.
- Remove bolts securing unit to pallet.
- Lift unit off of pallet.
- Open the package, take legs and secure them to the bottom of the unit.

**NOTE: Do not lay the unit on sides or on the back.**

- Tilt the unit only when securing legs.
- If the unit is to be transported from the place where it was unpacked, do not remove the unit from the pallet. Transport it on the pallet to the installation site.

### COUNTER LOCATION

- Select location in well ventilated area, close to grounded electrical outlet. If possible do not place the unit close to hot and/or steaming machines.

# INSTALLATION SPECIFICATIONS

## WATER SUPPLY

The Quantum Juice Dispensing machine is designed to dispense juice at a high flow rate. It is very important that the incoming water line is dedicated for the unit, or at least does not have other machines connected which could cause a water surge; i.e., a dishwashing machine.

**NOTE: For increased cooling capacity the unit should be connected to a remote recirculating cooling unit. If the location is equipped with a dedicated beverage water supply system the juice dispenser should be connected to it.**

**NOTE: The water supply should be consistent with proper water quality standard (neutral ph of 7.0 to 8.0), and should not be connected to a water softener. The water cooling coil is Copper, and may be affected by poor water conditions (i.e. severe corrosion and pitting).**

Water connections shall be sized, installed, and maintained according to Federal, State, and Local Laws.

## ELECTRICAL

A minimum of 15 amps electrical service is needed for 120V power supply or 10 amps for 220V supply.

## SPACE

The minimum clearance is: 4" (10.16cm) in back and 12" (30.48cm) on top and open to the front if sides are blocked off. If the sides are open then only 2" (5.08cm) is required in the back. Space between the bottom of the unit and the counter cannot be obstructed.

**NOTE: Condenser air is drawn from the bottom and discharged out the back. Failure to maintain clearance space will reduce capacity of the unit and cause premature compressor failure.**

## CONNECTING WATER SUPPLY

1. Secure 3/8" (0.95cm) flexible hose to the unit water inlet. Make sure that the seal washer is used (hose and seal washer are included with the installation kit).
2. When securing flare nut use backup wrench on male side of the fitting (unit side) to prevent twisting of the copper tube inside the unit and/or possible damage to the water strainer/solenoid. A water shut off outside the unit is recommended.

## FILLING UNIT WITH WATER

To properly prime the unit with water, without air pockets in the system, push the dispensing switches simultaneously for a few seconds each. Repeat above until a steady flow of water is observed.

**NOTE: Water splashing may occur during the purge cycle.**

## **FLUSHING AND SANITIZING ON START UP**

Follow standard sanitizing and flushing procedure.

## **PROGRAMMING PORTION CONTROL (OPTIONAL)**

The portion control supplied with your orange juice dispenser has been programmed to pour 7, 12, and 16 ounce drinks. The "XL" size has also been programmed to pour 16 ounces. Should pour size adjustments be required, please follow the instructions below:

1. Simultaneously, press and hold "S" (small) and "XL" (extra large) push button switches on the Portion Control Module until the led "REFILL" light in the corner of the module starts blinking. Release the switches. The blinking led indicates the programming mode is active.
2. Place the cup under the white mixing valve nozzle and push the selected size button (small, medium, large, or extra large). Hold the button in until the cup fills to the desired portion, then release the button repeat the above procedure for the remaining sizes.
3. After programming all the drink sizes, press and release the "cancel/pour" switch to return the Portion Control to the operational mode. The blinking led light will go out.

If at a future date, it is decided to change the portion size of the drinks, the individual sizes can be adjusted by the above procedure. It is not necessary to reprogram every size.

The portion control has a full memory retention in case of a power failure.

## **CANCEL/POUR BUTTON**

- Push and release the cancel/pour button to stop the valve from dispensing.
- Push and hold for a continuous pour.

## CONCENTRATE LOADING AND BRIXING

### PLACING CONCENTRATE PRODUCTS ON DISPENSING PLATFORM

To engage the concentrate container, place it in the desired position and press down into bottle adapter opening on dispensing platform tray (inside the cabinet).

**NOTE: Make sure o-ring seal on the container adapter is lubricated; otherwise, you may experience difficulties with container replacement.**

**NOTE: Concentrate in the containers must be completely thawed and be within the temperature range of 35°F - 40°F (1.6°C - 4.4°C). Failing to supply concentrate inside the recommended temperature range, especially below 35°F (1.6°C), will cause an out of brix drink.**

It is recommended the concentrate be thawed in a refrigerated (35°F - 40°F) (1.6°C - 4.4°C) compartment for 36 to 48 hours before use.

It is recommended that the thawed concentrate be thoroughly shaken before use.

### CHANGING CONCENTRATE FLAVOR

1. Perform flush cycle
2. Move valve handle to "Dispense" position
3. Replace concentrate container

### PUMP PRIMING

1. Follow instructions in paragraph "Placing Concentrate Products on the Dispensing Platform"
2. Close the door (or unit will not activate)
3. Depress the push button until concentrate appears at the dispensing nozzle.

### BRIX SETTING

1. Make two (2) full clockwise turns of the corresponding brix knob from the "all the way out" position (factory set). These two turns will bring you within one turn of proper brix setting. (Refer to brix table located on the inside of the refrigerated compartment door).
2. Dispense 1/2 cup of juice and discard.
3. Dispense 1/2 cup of juice and use refractometer to check brix level.
4. Clockwise rotation of the knob decreases brix level for example from 13% to 11.5%. Counter-clockwise will increase brix level for example from 11.5% to 13%.

If a brix problem is experienced, refer to troubleshooting guide.

## **CLEANING AND SANITIZING PROCEDURES**

### **DAILY: SYSTEM FLUSH PROCEDURE**

1. A 1 quart (0.95 liters) (32 fluid oz. minimum) empty container is needed. Place the empty container on the drip tray grill under the nozzle of the dispensing station to be flushed.
2. Open the cabinet door.
3. Choose the valve handle that corresponds with dispensing station to be flushed.
4. Move chosen handle from “dispense” position to the “flush” position.
5. Close the door.
6. Depress and hold push button corresponding with dispensing station to be flushed, until clear water is dispensed from the nozzle.
7. Move the handle to the “dispense” position.
8. Depress the push button for approximately 0.5 sec. and release. This will release water pressure from the pump system.

It is recommended to use one or more quarts of water to flush a single dispensing station.

### **DAILY: PART WASHING**

1. Remove and wash dispensing nozzle, static mixer, splash plate, drip pan, bracket, and grille in a mild detergent solution. Rinse thoroughly.

### **WEEKLY: SANITIZING PROCEDURE**

1. Remove juice concentrate container from unit and place in separate refrigerated compartment.
2. Perform flush procedure.
3. Fill a clean empty concentrate container with one quart of extremely hot tap water, approximately 140°F (60°C) and place into unit. Run the hot water completely through unit into a large container. When complete remove concentrate container.
4. Remove nozzles and static mixers from unit and rinse under hot tap water to remove excess pulp.
5. Place nozzles and static mixers in separate container with 1 quart (0.95 liter) of sanitizing solution and agitate vigorously, using brush (P/N 07932) to remove any excess pulp or concentrate (allow to soak for 2 minutes).
6. Clean bottle adaptor's inlet area along with dispensing platform tray with brush and sanitizing solution to remove concentrate and pulp.
7. Clean valve mixing chambers with brush and sanitizing solution. (This is the cavity from which the nozzle is removed).
8. Replace nozzles and static mixers into proper location.



9. Fill a clean empty concentrate container with 2 quarts (1.9 liters) of sanitizing solution, place on dispensing platform, and insert bottle fitting into bottle adapter.

**NOTE: Do not reuse the same sanitizing solution used to clean nozzles, static mixers, etc.**

10. Place handle in dispense position and close door.
11. Run dispensing station for 90 seconds then stop; allow sanitizing solution to remain in lines for 5 minutes.
12. Dispense remaining sanitizing solution (approximately 90 seconds).
13. Replace sanitizing solution container with a concentrate container, and close door.
14. Depress and hold push buttons until juice appears at outlet of dispensing nozzle.
15. Dispense and discard two 8 oz. cups (236.6 ML) of juice.

**NOTE: Wipe internal and external surfaces of cabinet with a clean damp cloth.**

## **WEEKLY: CHECK BRIX SETTING**

Tools: Hydrometer or Refractometer

1. Dispense required ounces of juice per brix testing device instructions.
2. Test concentrate to water ratio of dispensed juice per brix testing device instructions.
3. Clockwise rotation of knob decreases brix level (i.e. from 13% to 11.5%). Counterclockwise rotation of knob increases brix level (i.e. from 11.5% to 13%).

**NOTE: If brix problem persists, refer to trouble shooting guide.**

## **SEMI-ANNUAL: GENERAL CLEANING**

1. Remove access port of Y-shaped water solenoid located on water inlet in lower cabinet, clean stainless steel strainer and reinstall.
2. Clean condenser fins.
3. Clean air inlet grille located in base of unit.
4. Clean lower cabinet interior.
5. Wipe fan blade clean.

## **YEARLY: REPLACE PUMP TUBING**

### **Removal of Platform (see figure 1):**

1. Remove concentrate container from the dispenser and place in a refrigerator.
2. Remove the product shelf.
3. Depress the button on the water line quick disconnect and lift the water line away from the platform.
4. Unplug the platform electrical connector at the inside rear of the cabinet.
5. Release the catch at the front of the platform by pulling the tab towards yourself with on finger.

6. Remove the nozzle and static mixers.
7. Carefully lift and pull the platform from the dispenser and place it in a clean and well lit area for service.

**Replacement of Pump Hose (see figure 2):**

1. Remove platform as described above in removal of platform instructions.
2. Remove the two white plastic hose clamps from the pump tube connections. Remove the two stainless steel concentrate delivery tubes from the hose ends.
3. Loosen and remove the four thumb screws from the pump body.
4. Remove the rear half (only) of the pump body to reveal the hose and rollers.
5. Remove the old hose from the pump body. If the rollers come out with the hose, place in back into the housing being sure to align the roller assembly shaft keyway to the motor shaft key so that the two interlock (see figure 3 for step by step pictorial instructions).
6. Firmly press the new hose into the pump body around the roller assembly, being sure to keep the protruding ends even with each other. Once the hose is in place, replace the outer half of the pump body. Hold the tubing in place inside pump housing with one hand, capture the lower part of the tubing with the outer housing, then proceed to capture the shaft of the roller assembly and push the housing straight onto the pump/motor portion of the assembly. Make sure to capture the hose within the body and not pinch it between the halves. Do not use any tool other than your finger tips to manipulate the hose into the housing or damage to the hose will result.
7. While holding the pump halves together by hand, reinsert the four thumb screws and tighten them in a criss-cross pattern until the two halves are pressed together.
8. Insert the two stainless tubes into the hose ends and fasten them with new clamps using pliers to tighten the clamps.

**Replace platform in unit, reinstall nozzles and static mixers, connect water, install product shelf and concentrate, and reconnect power to unit.**

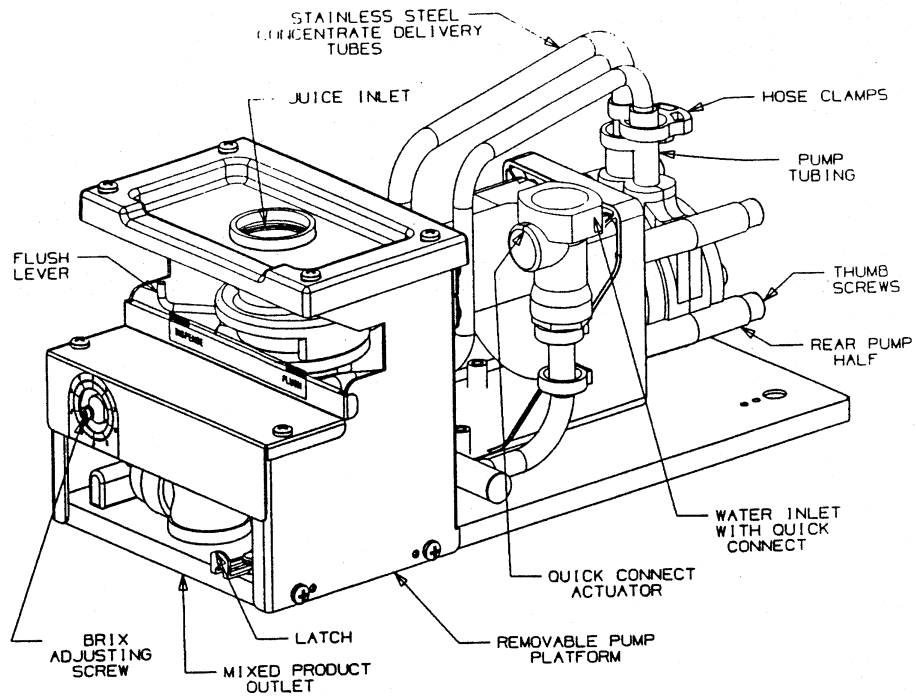


FIG. 1

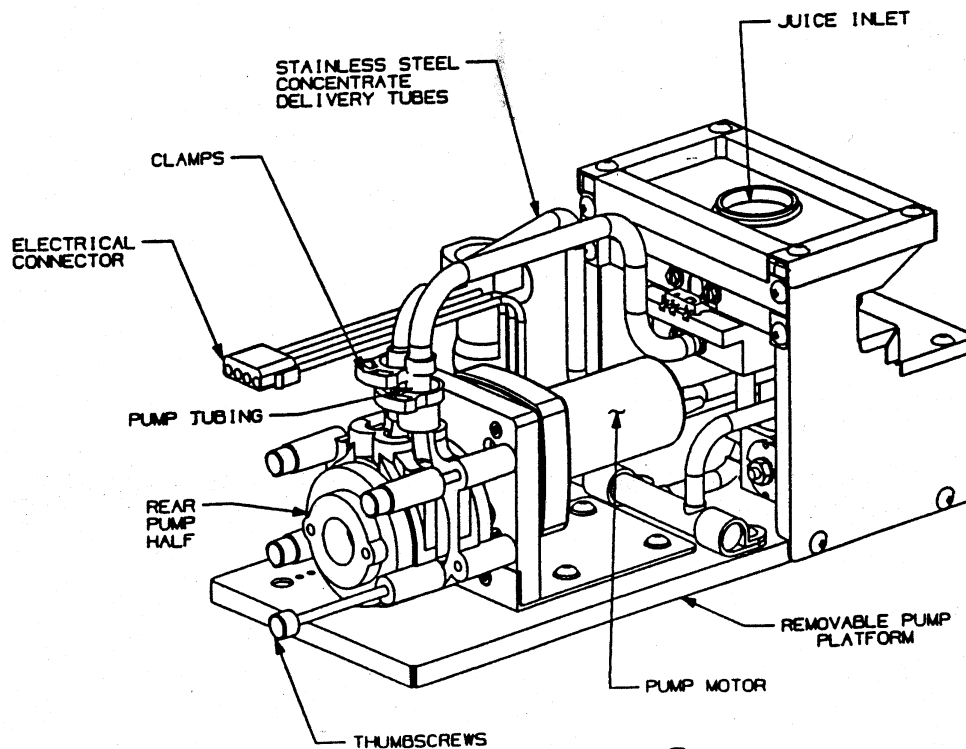


FIG. 2

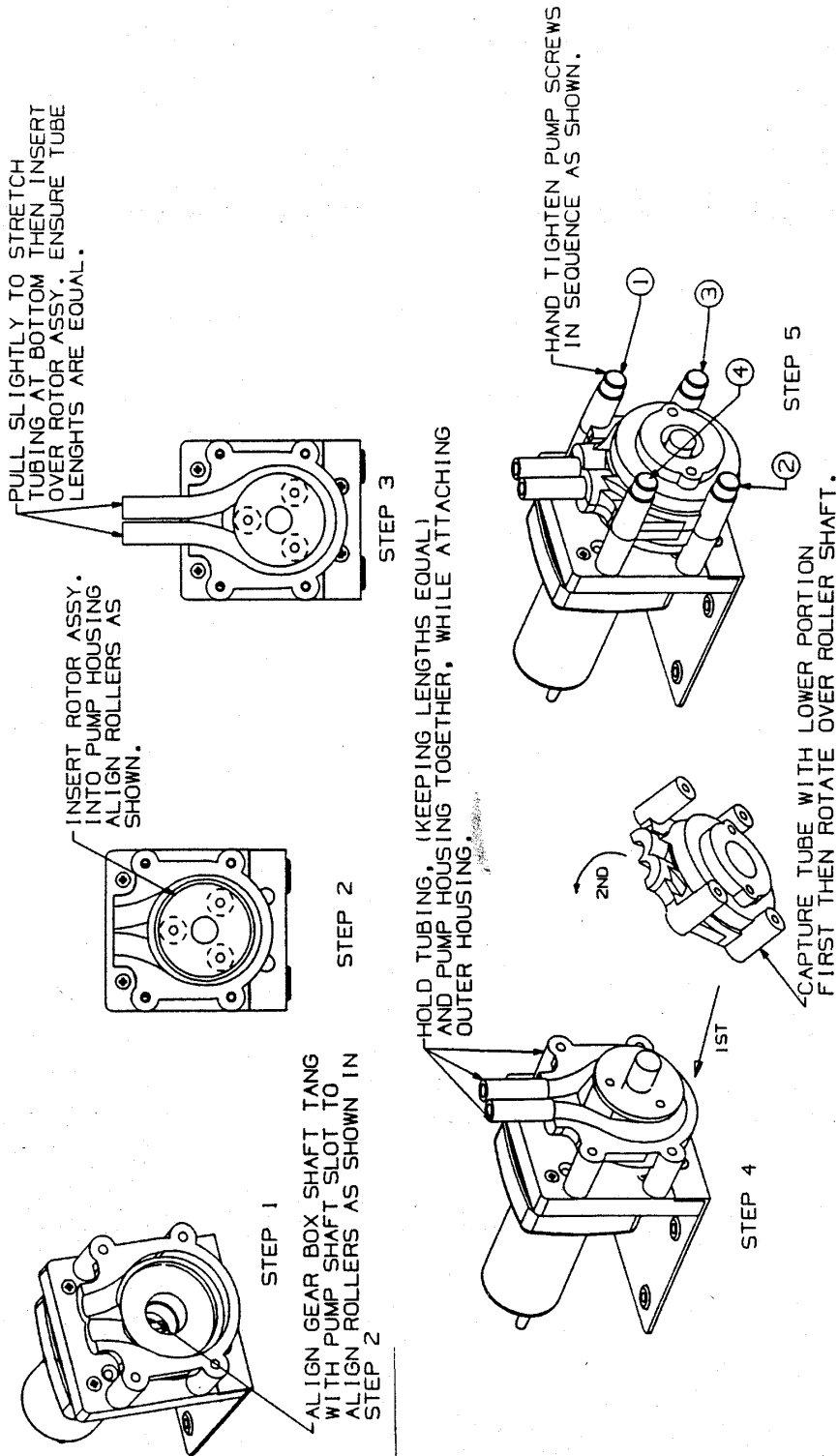


FIG. 3

## TROUBLE-SHOOTING GUIDE

The following pages contain trouble-shooting charts designed to aid an experienced serviceman in diagnosing any operating problems that may be experienced. In order to gain maximum benefit from the charts, please note:

1. Start at the beginning of the chart and supply the appropriate answer to each question.
2. Do not skip any section, unless instructed to do so. You may miss the solution to your problem.
3. Evaluate the possible problem causes in the sequence in which they are presented. In general, they began with the most likely and/or easiest to check, and proceed to the less likely and/or more complicated.
4. If, after checking all indicated causes, the problem is not resolved, it is recommended that you try a second time. Evaluate symptoms carefully and modify your answers as necessary.
5. If you are unable to resolve a problem after several attempts, contact customer service department at (1-800-238-3600) for assistance.

PROBLEM	PROBABLE CAUSE	REMEDY
Totally Inoperative	No power to dispenser due to tripped circuit breaker.	Reset circuit breaker. Confirm that breaker is correct size and no other equipment is operating on the same circuit. Also confirm that supply voltage is $\pm 10\%$ of nameplate specifications.
	Loose or broken power supply connection inside dispenser.	Repair connection
No cooling	Line voltage is not within $\pm 10\%$ of nameplate specifications causing compressor overload to trip	Contact an electrician
	Both thermostats in OFF position	Turn ON thermostats and recalibrate the temperatures to $34^{\circ}\text{F}$ $-40^{\circ}\text{F}$ ( $1.1^{\circ}\text{C}$ $-4.5^{\circ}\text{C}$ ).
	Defective compressor overload or start capacitor	Replace

No cooling (con't)	Defective start relay located on upper rear shelf inside dispenser	There should be line voltage on the black wire of the relay when there is line voltage present on the orange OR yellow wire. Replace relay if it fails this test.
	Compressor starts but hums and trips overload	Seized or shorted compressor, replace.
	Compressor starts but does not switch off of start winding	Relay or compressor is defective. Test and replace faulty item.
	Compressor short cycles on overload	Excessively high discharge pressure due to restricted condenser or inoperative condenser fan motor
	Refrigerant leak	Repair leak. Evacuate and recharge system.
No water dispensed, concentrate only.	No water to dispenser	Restore water
	Water supply line inside refrigerated cabinet disconnected from pump platform	Reconnect
	Water solenoid located on pump platform clogged or defective	Disassemble and clean solenoid. Replace if necessary.
	Main water solenoid/strainer located at base of dispenser is clogged, binding or defective	Remove and clean strainer. Confirm 28VDC is present at solenoid during dispense. Confirm solenoid coil is not open. Disassemble and clean solenoid.
	Water supply pressure is greater than 80 psi (5.5 bar)	Add external regulator and lower pressure to 50 psi (3.5 bar)

No water dispensed, concentrate only (con't).	Freeze-up of water coil or concentrate chamber	<p>Unplug dispenser and allow 2-4 hours to thaw. Water or concentrate thermostat set too low, recalibrate to 34°F -40 °F (<u>1.1 °C - 4.5 °C</u>).</p> <p>Defective water or concentrate thermostat, replace.</p> <p>Refrigerant solenoid stuck open or not closing fully. Evacuate system, replace solenoid valve and recharge</p>
No water and no concentrate, refrigeration is working	Service switch located under drip tray in OFF position	Turn on switch
	Door switch open	Door switch must be closed in order to operate pump. Check switch operation and replace if necessary
No water and no concentrate, refrigeration is working	6.25 amp Fuse inside front electrical box blown	Replace with 6.25 amp, 250VAC slow blow fuse and test
	No output from Transformer located on rear upper shelf	Confirm transformer output by measuring for 26VAC at fuse. Replace transformer if necessary
	Defective voltage regulator board (VRB) located inside front electrical box	Measure across the blue and black wire located in the upper left corner of the board. There should be 28VDC present when the dispense button is pressed. Replace VRB if necessary
	Defective portion control board	Disconnect wire harness from rear of portion control, close door switch and short the orange and black wires together on the harness. If unit dispenses portion control board is defective. If it does not dispense the voltage regulator board is defective.

No concentrate dispensed, water only	Dispense tube not fully engaged into receptacle on concentrate pouch	Refer to <i>Concentrate Loading</i> section of this manual
	Dispense tube disconnected from mixing chamber	Refer to <i>Concentrate Loading</i> section of this manual
	Slide block on pump in open position	Close and lock the slide block. Refer to <i>Concentrate Loading</i> section of this manual
	Switch on pump platform in FLUSH position	Move switch to RUN position
	Concentrate too cold, not properly thawed	Concentrate should be 34°F -40 °F (1.1 °C –4.5 °C) prior to loading
	Defective pump motor	Replace pump motor
Excessive remnant left in empty concentrate pouch	Concentrate pouch improperly thawed	Concentrate should be 34°F -40 °F (1.1 °C –4.5 °C) prior to loading
	Concentrate pouch and/or dispense tube improperly installed	Refer to <i>Concentrate Loading</i> section of this manual
Concentrate refill light comes on prematurely	Concentrate pouch improperly thawed	Concentrate should be 34°F -40 °F (1.1 °C –4.5 °C) prior to loading.
	Concentrate pouch and/or dispense tube improperly installed	Refer to concentrate loading section of this manual
	Loose wiring	Check wiring connections between the pump motor and the VRB board
	Bad VRB board	Replace VRB board
	Bad pump motor	Replace pump motor
Concentrate refill light does not come on at all	Pump improperly locked or pump is open	Close and lock Pump
	Run/flush switch is in the FLUSH position	Move switch to the RUN position

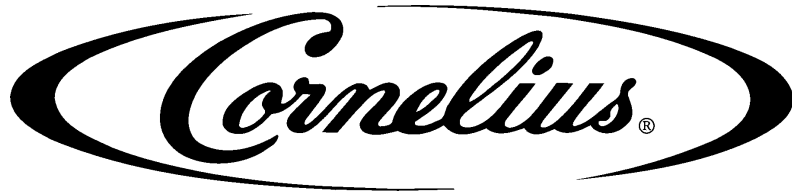


Concentrate refill light does not come on at all (con't)	Improperly loaded tube	Refer to concentrate loading section of this manual
	Bad VRB board	Replace VRB board
	Bad portion control	Replace portion control
Warm Drink	Incoming water supply too warm	Optimum performance is achieved when the dispenser utilizes water from a pre-cooler
	Ambient air too warm	Relocate dispenser
	Excessive demand on dispenser	Add water pre-cooler or second dispenser
	Dirty condenser coil	Clean condenser coil
	Inoperative condenser fan	Replace condenser fan motor
	Defective water thermostat	Replace thermostat
	Loss of refrigerant charge due to leak in system	Repair leak and recharge system
Water continuously drips from nozzle when in OFF mode	Main water solenoid at base of unit or water solenoid on pump platform not shutting off tightly	Clean solenoid(s), replace parts as necessary
No Flush Cycle	Run/Flush switch on pump platform in Run mode	Move switch to Flush position
	Defective Run/Flush switch on pump platform (concentrate continues to dispense while in Flush mode)	Replace Run/Flush switch
Concentrate warm, water cold	Concentrate thermostat is turned off or not calibrated properly	Calibrate to be 34°F -40 °F (1.1 °C_ -4.5 °C)
	Concentrate thermostat defective (stuck open)	Replace thermostat and calibrate to 34°F -40 °F (1.1 °C -4.5 °C)
	Defective start relay located on upper rear shelf inside dispenser	There should be line voltage on the black wire of the relay when there is line voltage present on the orange OR yellow wire. Replace relay if it fails this test.

Concentrate warm, water cold (con't)	Loss of refrigerant charge due to leak in system	Repair leak and recharge system
Brix Problem	Water supply pressure too low, less than 20 psi (1.4 bar) flowing or water pressure fluctuates sharply	Correct water supply problem to ensure a constant 40 psi (3 bar) flowing to the dispenser
	Water flow control binding or spring is defective	Clean and/or replace parts as necessary
	Improperly thawed concentrate. Brix changes as the concentrate temperature changes (concentrate becomes thinner as temperature rises)	Concentrate should 34°F -40 °F_ (1.1 °C _4.5 °C) prior to loading
	Check that the rollers on the pump are spinning freely with no tube in place	If they are sticky or locked up see platform removal and cleaning procedure.
Pump Inoperative	Pump motor defective	28VDC should be present at pump motor during dispense. If voltage is present and motor does not start, replace pump motor
	No power to transformer or no 28VAC output from transformer	Confirm transformer has line voltage present on primary side. If no 28VAC output from the secondary replace transformer
	Defective voltage regulator board (VRB) located inside front electrical box	Measure across the blue and black wire located in the upper left corner of the board. There should be 28VDC present when the dispense button is pressed. Replace VRB if necessary
	Defective portion control board	Disconnect wire harness from rear of portion control, close door switch and short the orange and black wires together on the harness. If unit dispenses portion control board is defective. If it does not dispense the voltage regulator board is defective.

Machine continues to dispense after dispense button is released or dispenses without operator input	Portion control pad stuck in on position	Disconnect the wire harness from the rear of the portion control and close the door. If unit does not dispense on its own the portion control is bad (stuck on)
	Relay on voltage regulator board (VRB) stuck on.	Disconnect the 4-wire harness from the lower right corner of the VRB. If the unit continues to dispense on its own the VRB is defective (relay stuck on)
Sold Out light illuminates when concentrate no longer passes through the pump.	The concentrate is improperly thawed. The temperature is not maintained between 34°F - 40°F(1.1-4.5°C)	Assure proper thawing procedures have been followed per the Minute Maid company instructions. Check that McDonald's walk-in cooler temperature is on the proper set point. Check the dispenser cabinet temperature is at 34°F - 40°F(1.1-4.5°C).
	High Brix readings result in a poor, pulsating/splashing dispense, erratic pump amp draw, and consequently erratic sold-out indications.	Check drink brix in procedure described on equipment P.M. card using the hydrometer provided.  Check the drink flow rate under normal operating conditions. The dispenser should pour a drink at a flow rate of approximately 1.5 oz. Per second or greater. If the flow rate is less, a check described in the Sold Out section should be completed.

Sold Out light illuminates when concentrate no longer passes through the pump.(con't)	Improper loading procedures will usually result in low brix conditions and thus erratic sold out indications.	<p>Check that the pouch of juice is properly loaded in the pouch holder. Tube fitting should be located at the bottom of the pouch holder and the tube should be approximately centered in the bottom portion of the opening of the holder.</p> <p>Check that the tube is correctly loaded in the pump and the pump is fully locked (top and bottom slide pins should be fully engaged into the pump body).</p>
	Tube has been stretched through pump when it was loaded. Pouch may not be seated correctly.	Adjust pouch. If pouch is loaded correctly there should be ample tube to reach the mixing chambers without stretching the tube.
	Check that the rollers on the pump are spinning freely with no tube in place.	If the rollers are sticky or locked up see the platform removal and cleaning procedure.
Sold Out light fails to reset itself after door is opened and closed (Sold Out light stays illuminated)	Check the operation of the reset switch located at the bottom left hand side of the door.	Adjust Switch.



**IMI Cornelius Inc.  
One Cornelius Place  
Anoka, MN 55303-1592  
U.S.A.**



**Total Systems Commitment**



IMI CORNELIUS INC.  
One Cornelius Place  
Anoka, MN. 55303-6234  
Telephone 1-800-238-3600  
Facsimile 1-800-258-0255

[www.cornelius.com](http://www.cornelius.com)

## ILLUSTRATED PARTS LIST

### QUANTUM SERIES JUICE DISPENSER

#### MODEL NO.

45200001  
45200002  
45200003  
45200004  
45200101  
45200102  
45200103  
45200104  
45400001  
45400002  
45400101  
45400102  
45400103  
45400104  
45500001  
45500002  
45500101  
45500102  
45650001  
45650003  
45650101  
45650103  
45650104  
45650105





IMI CORNELIUS INC.  
One Cornelius Place  
Anoka, MN. 55303-6234  
Telephone 1-800-238-3600  
Facsimile 1-800-258-0255

www.cornelius.com

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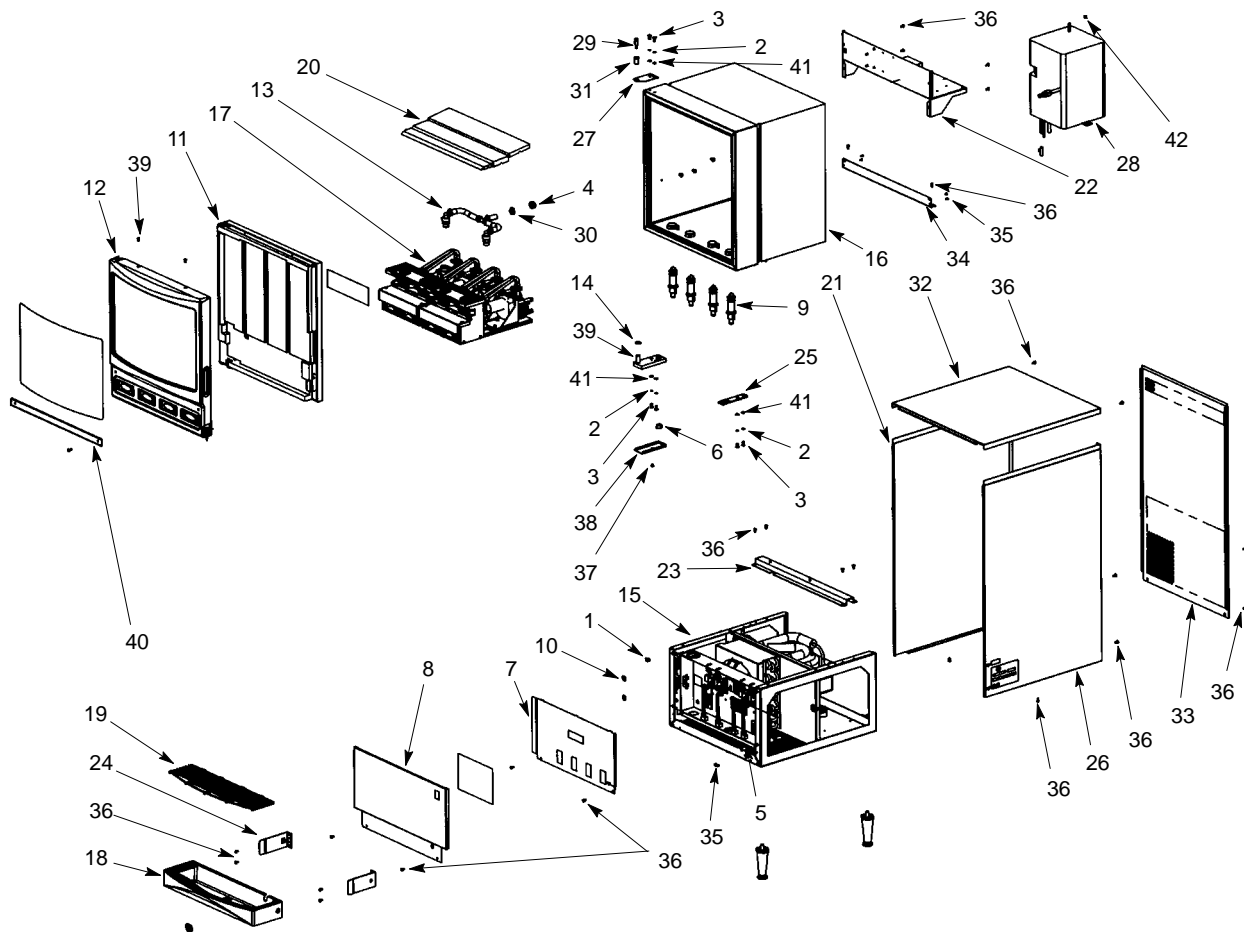


FIGURE 1. GENERAL ASSEMBLY



IMI CORNELIUS INC.  
One Cornelius Place  
Anoka, MN. 55303-6234  
Telephone 1-800-238-3600  
Facsimile 1-800-258-0255

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## ILLUSTRATED PARTS LIST

### QUANTUM SERIES JUICE DISPENSER

Item No.	Part No.	Name
1	0720405	Nut 1/4-20
2	0730202	Washer No. 10 Split Lock
3	0706903	Screw No. 10-32 x 1/2" TH SS 115V 60HZ
	07061002	Screw No. 10 x 5/8" HHWF 230V 50HZ
4	07344	Bushing Snap 3000 and 4000 Series
5	45366	Brkt and Tube Drain 3000 and 4000 Series
6	0733904	Bushing Snap
7	45107	Cover Elec Box 1000 and 2000 Series
	7245669	Cover Elec Box 3000 Series
	45408	Cover Elec Box 4000 Series
8	45159001	Panel Splash 1000 and 2000 Series
	45667100	Panel Splash 3000 Series
	45459100	Panel Splash 4000 Series
9	45003	Nozzle Mixer O-Ring Asy
	31525037	O-Ring .739 I.D.
	45123	Mixer Static
	48808001	Nozzle Mixing
10	470725	Plug Butn
11	45354	DoorAsy 1000 Series(SeeFigure8)
	45241	DoorAsy 2000 Series(SeeFigure8)
	45390	DoorAsy 3000 Series(SeeFigure8)
	45470	DoorAsy 4000 Series(SeeFigure8)
12	7245550	Cover Asy 1000 Series (See Figure 10)
	45296006	Cover Asy 2000 Series (See Figure 10)
	45394005	Cover Asy 3000 Series (See Figure 10)
	45481006	Cover Asy 4000 Series (See Figure 10)
13	309852000	Clamp 1000, 2000 and 3000 Series
	77060900	Fitg T-Brb 3/8 1000, 2000 and 3000 Series
	49034	Tube 1000, 2000 and 3000 Series
14	45439	Washer Nylon
15		Refrigeration Asy (See Figure 2)
16		Cabinet Asy (See Figure 3)
17	45115	Platform Asy 1000 Series (See Figure 4)
	45215	Platform Asy 115V 60HZ, 2000 and 4000 Series (See Figure 4)
	45215001	Platform Asy 230V 50HZ, 2000 and 4000 Series (See Figure 4)
	45315	Platform Asy 115V 60HZ, 3000 Series (See Figure 4)
18	45129001	Drip Tray, 1000 Series
	45129100	Drip Tray, 2000 Series
	45678100	Drip Tray, 3000 Series
	45430100	Drip Tray, 4000 Series

Item No.	Part No.	Name
19	45155001	Cup Rest, 1000 Series
	45255003	Cup Rest, 2000 Series
	45677003	Cup Rest, 3000 Series
	45455003	Cup Rest, 4000 Series
20	45158	Shelf, 1000 Series
	45117	Shelf, 2000 Series
	45317	Shelf, 3000 Series
	45417	Shelf, 4000 Series
21	45444	Strap
22		Electrical Box Asy (See Figure 12)
23	45151	Brkt Water Coil 1000 and 2000 Series
	45666	Brkt Water Coil 3000 Series
	45451	Brkt Water Coil 4000 Series
24	46546	Arm Asy
	45152	Brkt Asy Drip Tray 1000 Series (Not Shown)
25	96561	Plate Door Support 1000 Series
	45436	Plate Door Support 2000, 3000 and 4000 Series
26	7245443	Panel RH Side
27	49154	Plate Hinge Upper
28	45165100	Coil Wtr Asy
29	49155	Hinge Bolt Shoulder
30	309852000	Clamp
31	49157	Bushing Upper Hinge
32	45199	Panel Top 1000 and 2000 Series
	45659	Panel Top 3000 Series
	45445	Panel Top 4000 Series
33	45125	Panel Back 1000 and 2000 Series
	7245665	Panel Back 3000 Series
	45425	Panel Back 4000 Series
34	7245765	Brkt Cabinet 1000 and 2000 Series
	7245763	Brkt Cabinet 3000 Series
	7245764	Brkt Cabinet 4000 Series
35	07115001	Screw TF 08-32 TRPH 12
36	0704106	Screw 8-32 x 1/4" THMS
37	45088	Cover Botm Hinge
38	45087	Cover Top Hinge
39	0702901	Screw 8-32 x 3/8" FHM
40	45164	Brkt Flavor Strip 2000 Series
	45032	Holder Flavor Label 3000 Series
	45464	Holder Flavor Label 4000 Series
41	0730104	Washer Plain Flat 10
42	0720406	Nut No. 10-32
43		Item Not Used





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## ILLUSTRATED PARTS LIST

### QUANTUM SERIES JUICE DISPENSER

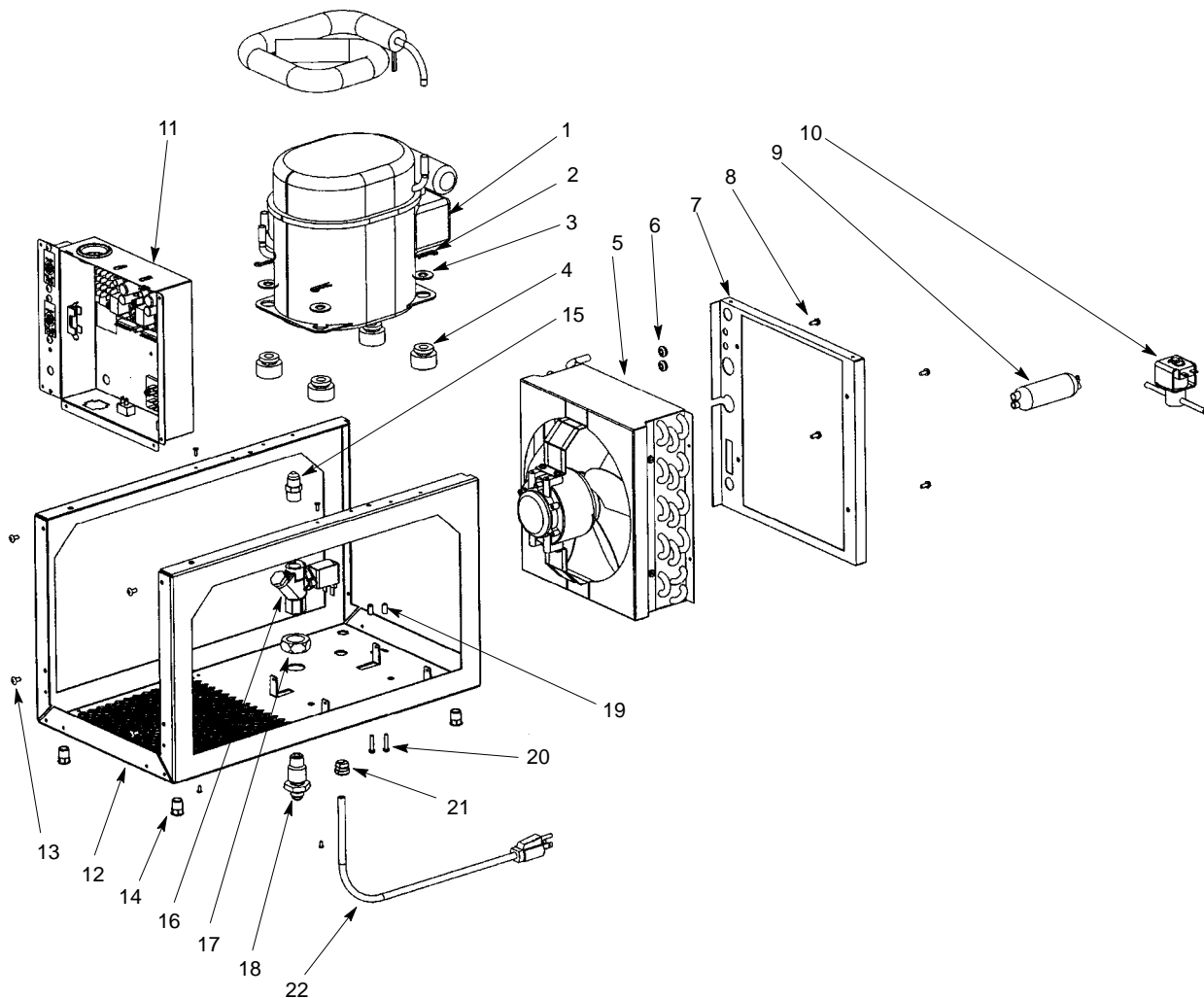


FIGURE 2. REFRIGERATION AND FRAME ASSEMBLY



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### QUANTUM SERIES JUICE DISPENSER (SEE FIGURE 2)

Item No.	Part No.	Name
		Refrigeration and Frame Ass'y
1	729011105	Kit Compressor, 120V 60HZ
	729011106	Kit Compressor, 230V 50HZ
2	08474	Clip Spring
3	07301046	Washer Ft .468 I.D.
4	08467	Grommet Compressor
5	45163001	Mtr Asy and Cond 115V 60HZ (See Figure 9)
	45163002	Mtr Asy and Cond 230V 50/60HZ (See Figure 9)
6	7240691	Grommet
7	45148	Baffle Cond (1000 and 2000 Series)
	45670	Panel Baffle Cond (3000 Series)
	45448	Panel Baffle Cond (4000 Series)
8	289521	Screw No. 8-32 xy 3/8" HHS
9	45073	Dryer

Item No.	Part No.	Name
10	45373010	Solenoid Valve 120V 60HZ
	45373020	Solenoid Valve 230V 50/60HZ
11		Box Elec Asy (See Figure 11)
12	45105100	Frame (1000 and 2000 Series)
	45671100	Frame (3000 Series)
	45405100	Frame (4000 Series)
13	07115001	Screw TF 08-32 TRPH 12
14	60342002	Insert Thd 3/8-16
15	2124713	Fitg Stght 3/8MF x 3/8MPT
16	45091001	Valve Water Solenoid 24V
17	03824001	Nut Jam 7/8-14
18	30041001	Fitg Bulkhead
19	04442	Spacer
20	0702609	Screw MA 8-32 BDPH 24
21	7221320	Strain Relief
22	46384	Cord Serv 115V 60HZ
	46384001	Cord Serv 220V 50HZ



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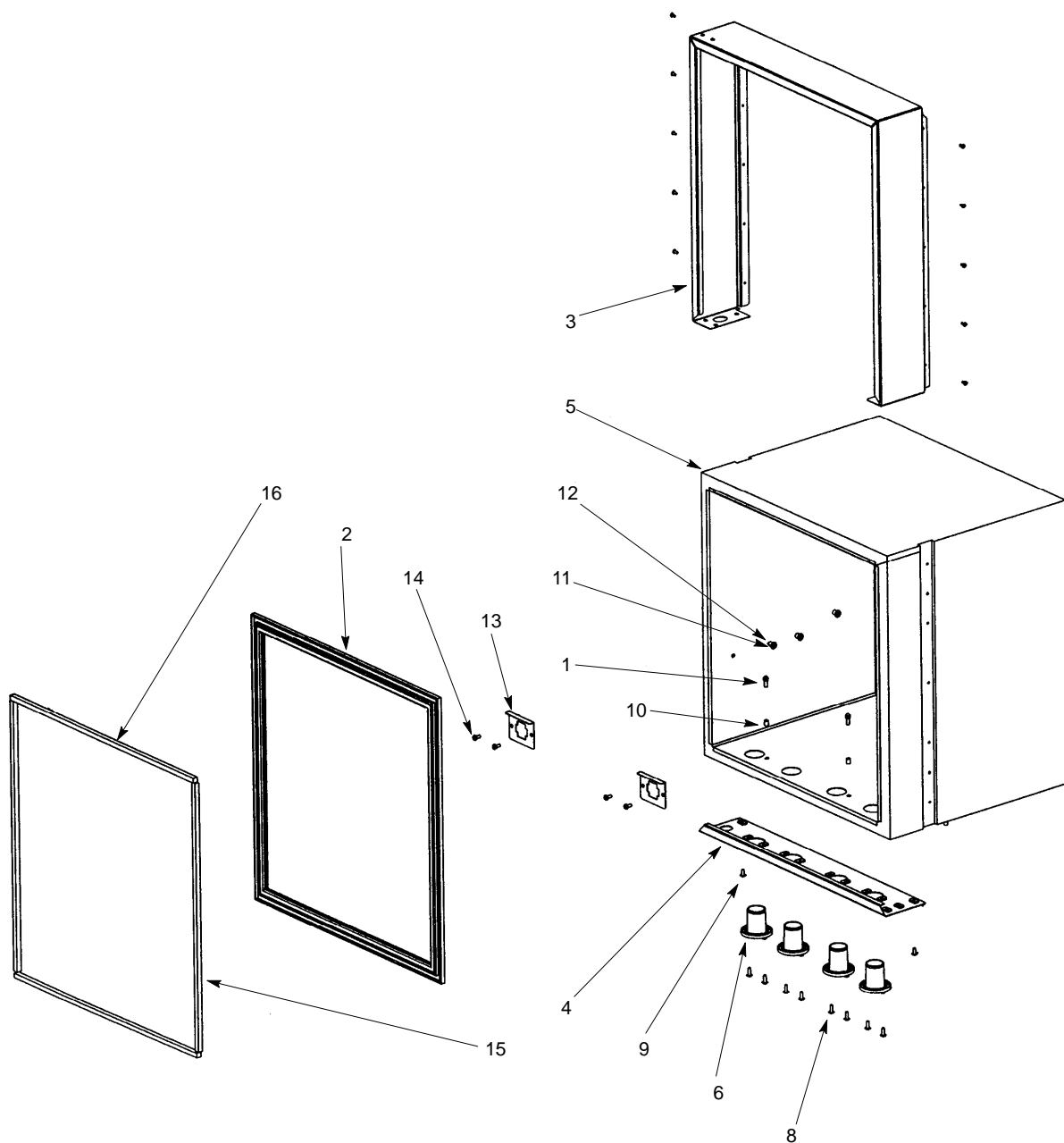


FIGURE 3. UPPER CABINET ASSEMBLY



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### QUANTUM SERIES JUICE DISPENSER (SEE FIGURE 3)

Item No.	Part No.	Name
		Upper Cabinet Asy
1	45051	Stud Latch No. 10-32
2	45119	Gasket Liner (1000 and 2000 Series)
	45662	Gasket Liner (3000 Series)
	45419	Gasket Liner (4000 Series)
3	45141	Wrap Front (1000 and 2000 Series)
	45657	Wrap Front (3000 Series)
	45441	Wrap Front (4000 Series)
4	45142	Panel Botm Front (1000 Series)
	45207	Panel Botm Front (2000 Series)
	45664	Panel Botm Front (3000 Series)
	45407	Panel Botm Front (4000 Series)
5	45167	Liner Inner Asy (1000 Series)
	45220	Liner Inner Asy (2000 Series)
	45654100	Liner Inner Asy (3000 Series)
	45420100	Liner Inner Asy (4000 Series)

Item No.	Part No.	Name
6	45027001	Bushing
7	11761	Harn Door (1000 Series: Not Shown)
	11762	Harn Door (2000 Series: Not Shown)
	11763	Harn Door (3000 Series: Not Shown)
	11823	Harn Door (4000 Series: Not Shown)
8	0704105	Screw No. 8-32 x 1/2" THMS
9	0704101	Screw MA No. 8-32 TRPH 12
10	04441	Spacer Lower
11	0702609	Screw MA No. 8-32 BDPH 24
12	46366	Bushing Hinge
13	45132	Brkt Conn Platform (1000 Series)
	45232	Brkt Conn Platform (2000 and 4000 Series)
	45632	Brkt Conn Platform (3000 Series)
14	0704001	Screw No. 8 x 3/8"
15	47121004	Magnet Door Seal
16	47121005	Magnet Door Seal (1000 and 2000 Series)
	47121006	Magnet Door Seal (3000 Series)



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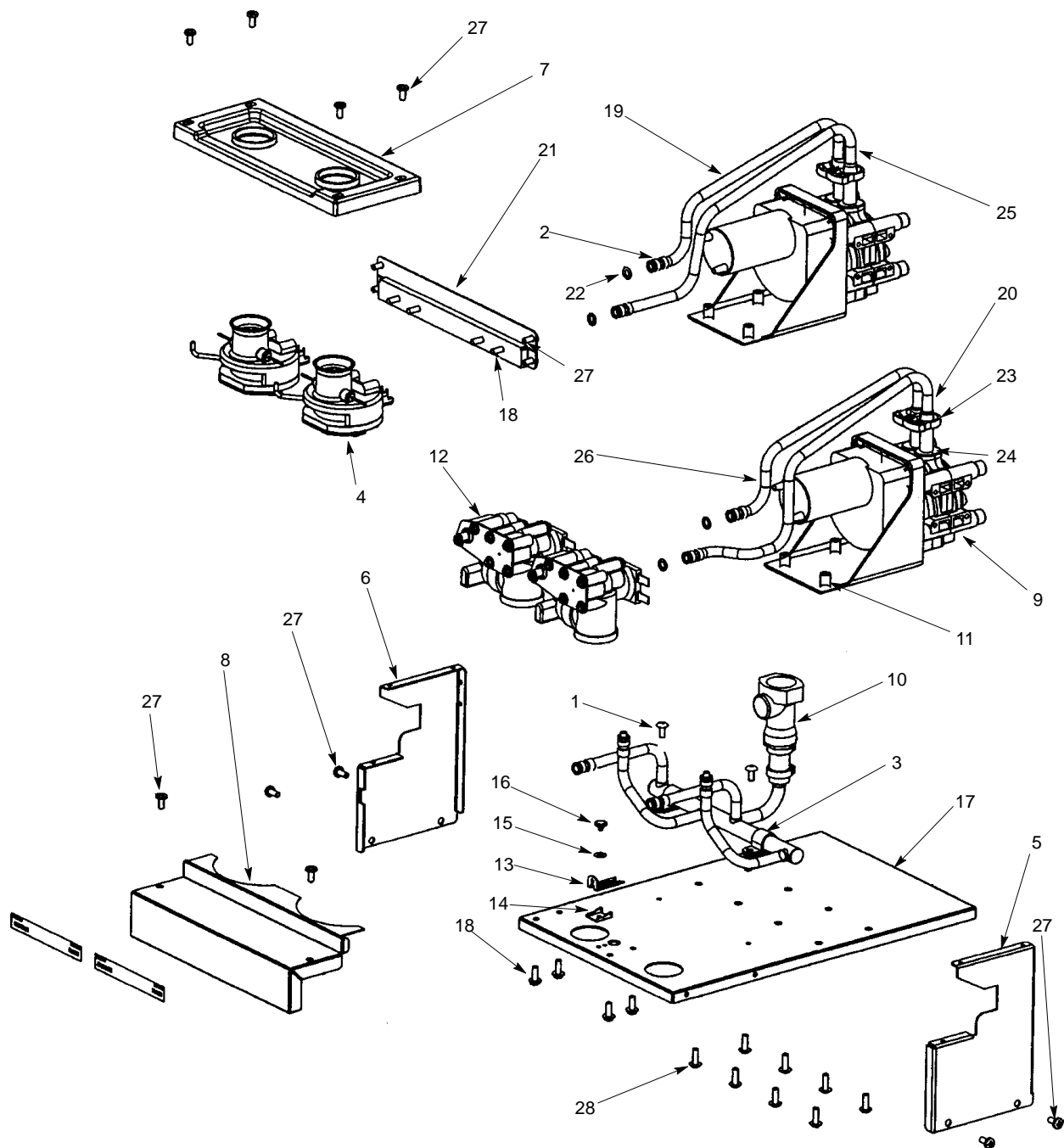


FIGURE 4. PLATFORM ASSEMBLY



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Item No.	Part No.	Name
	45115	Platform Asy (1000 Series)
	45215	Platform Asy (2000 and 4000 Series)
	45315	Platform Asy (3000 Series)
1	0704101	Screw MA 8-32 TRPH 12
2	71822081	Washer Holdown
3	309852000	Clamp
4	45026	Adapter Bottle Asy (See Figure 5)
5	45033	Support Bottle Right
6	45034	Support Bottle Left
7	45391001	Adapter Caddy Support (1000 Series)
	45391002	Adapter Caddy Support (2000 and 4000 Series)
	45391003	Adapter Caddy Support (3000 Series)
8	45137	Panel Splash Platform (1000 Series)
	45236	Panel Splash Valves (2000 and 4000 Series)
	45345004	Cover Platform (2000 and 4000 Series)
	7245036	Panel Splash Valves (3000 Series)
	45345003	Cover Platform (3000 Series)
9	45185	Pump and Mtr Asy (See Figure 7)
10	7245174	Manifold Asy Water (1000 Series)
	45274	Manifold Asy Water (2000 and 4000 Series)
	45041	Manifold Asy Water (3000 Series)
11	45283	Bushing
12	45045	Block Valve Asy
13	45046	Latch

Item No.	Part No.	Name
14	45047	Guide Latch
15	45048	Washer Latch
16	720800077	Rivet Latch
17	45114	Platform (1000 Series)
	45214	Platform (2000 and 4000 Series)
	45314	Platform (3000 Series)
18	07032001	Screw No. 8-18 x 7/16"
19	45173	Tube Asy Suction (1000 Series)
	45276	Tube Asy Suction (2000 and 4000 Series)
	45068003	Tube Asy Suction (3000 Series)
20	45069	Line Discharge Asy (1000 and 3000 Series)
	45273	Tube Asy Discharge (2000 and 4000 Series)
21	45160	Brkt Botl Adapter (1000 Series)
	7245262	Brkt Support Botl Adap (2000 and 4000 Series)
	45339	Brkt Caddy Support (3000 Series)
22	398033000	O-Ring .239 I.D.
23	48195006	Clamp Hose
24	481950062	Clamp
25	45275	Tube Asy Discharge (2000 and 4000 Series)
26	45068001	Line Suct Asy (3000 Series)
	45277	Tube Asy Suction (2000 and 4000 Series)
	45068002	Tube Asy Center Suction (3000 Series)
27	0704001	Screw No. 8-x 3/8"
28	0704105	Screw No. 8-32 x 1/2" THMS

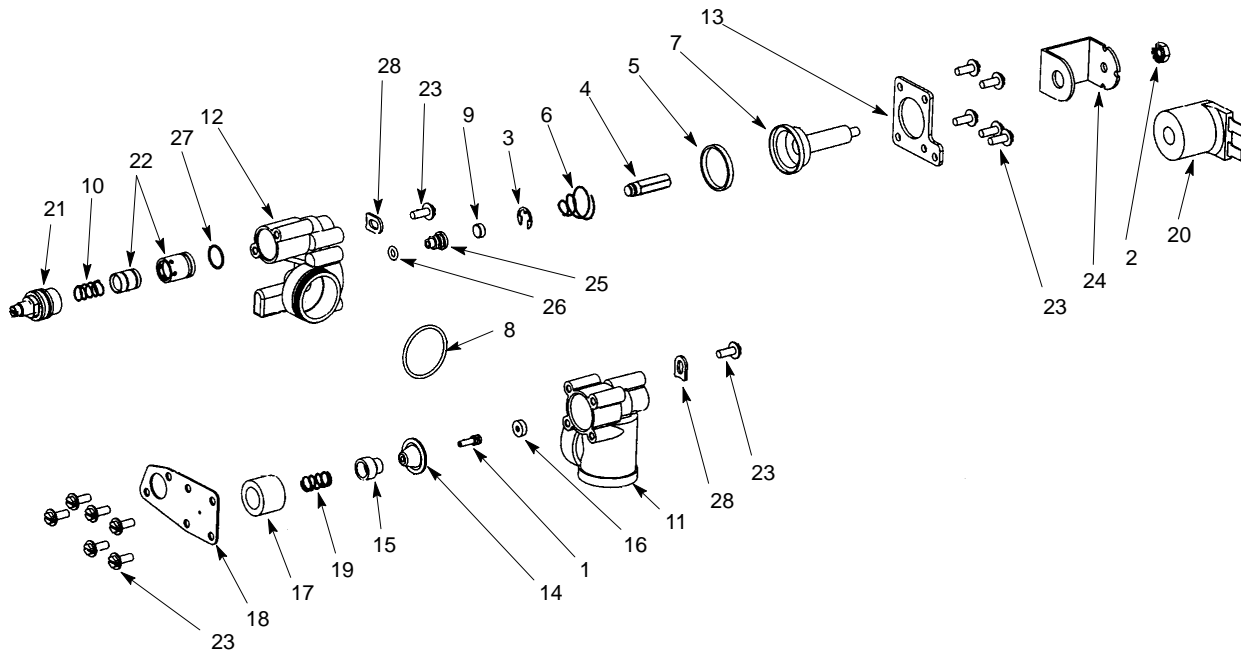


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**FIGURE 5. VALVE BLOCK ASSEMBLY**

Item No.	Part No.	Name
	45045	Block Valve Asy
1	45177	Holder Poppet Seal
2	0720406	Nut No. 10-32
3	71815321	Ring Retaining
4	7215323	Armature
5	18070002	Gasket Rubber Valve Block
6	18367	Spring Armature
7	19695001	Guide
8	31525021	O-Ring 1.114 I.D.
9	18071	Seat Armature
10	48258005	Spring Syrup
11	45192	Valve Body Mixing
12	45193	Valve Body Water
13	45029	Plate Coil Retainer
14	47011	Diaph Valve

Item No.	Part No.	Name
15	45180	Spring Acuator
16	45189	Poppet
17	45179	Support Diaphram
18	45195	Plate Front Valve Block
19	45186	Spring
20	48520001	Coil Asy 24V DC
21	48978	Flo Cntl Bonnet Asy
22	48979103	Sleeve and Piston Asy Water
	60281001	Sleeve Syrup Ceramic
23	07032001	Screw No 8-18 x 7/16
24	16779003	Frame Solenoid
25	49612	Port Valve Water
26	31525020	O-Ring .176 I.D.
27	31525060	O-Ring .459 I.D.
28	48378	Brkt Support Valve



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Item No.	Part No.	Name
	45026	Adapter Bottle Asy
1	45060001	Adapter Caddy Top
2	45060002	Adapter Caddy Run and Flush
3	45060003	Adapter Caddy Bottom
4	31525062	O-Ring .118 I.D.
5	31525014	O-Ring .489 I.D.
6	31525061	O-Ring 1.489 I.D.
7	07015001	Screw No. 8-18 x 3/4"
8	45043	Pin Sensor Soldout
9	31525064	O-Ring .488 I.D.
10	60068021	Switch Snap Portion Control
11	45076	Pin Actuator
12	60067086	Screw No. 2-56 x 7/16"
13	45084001	Plate Support Bottle

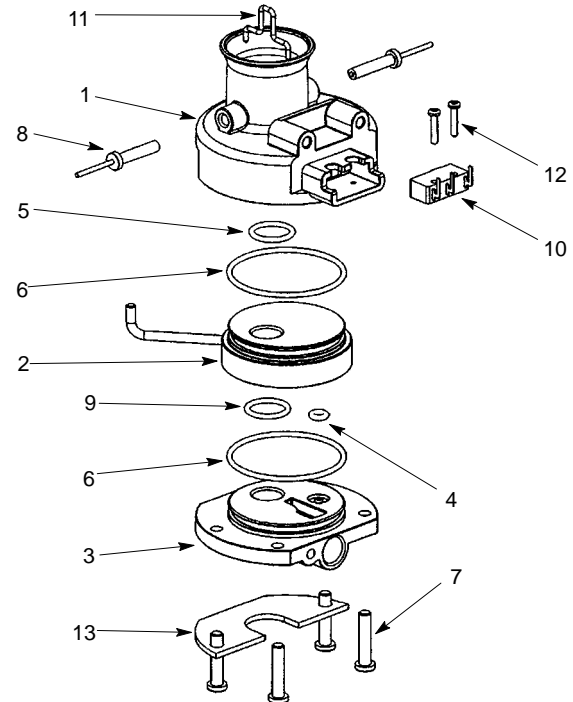


FIGURE 6. BOTTLE ADAPTER ASSEMBLY

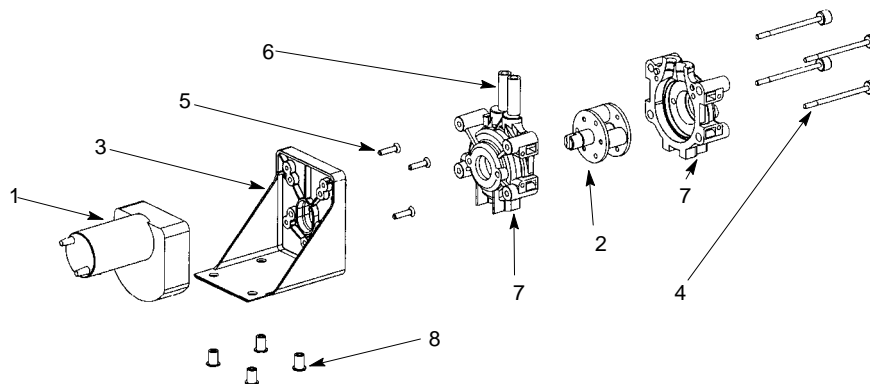


FIGURE 7. PUMP AND MOTOR ASSEMBLY

Item No.	Part No.	Name
	45185	Pump and Motor Asy
1	45016001	Motor Pump
2	45728001	Rotor Asy
3	45050	Block Asy Mtg Pump and Motor
4	45017001	Screw Thumb Pump
5	0702905	Screw No. 8-32 x 3/4" FHMS

Item No.	Part No.	Name
6	45037001	Tubg Neoprene .250 I.D. (Sold by the Foot)
7	45727	Body Pump Asy
8	45283	Bushing
9	45098	Kit Pump Tube Replacement





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Item No.	Part No.	Name
	45241	Door Asy Back (1000 and 2000 Series)
	45390	Door Asy Back (3000 Series)
	45470	Door Asy Back (4000 Series)
1	45281	Panel Rear Door (1000 and 2000 Series)
	45386	Panel Rear Door (3000 Series)
	45477	Panel Rear Door (4000 Series)
2	7233023	Switch Safety
3	7245120	Gasket Door Mag (1000 and 2000 Series)
	45320	Gasket Door Mag (3000 Series)
	45431	Gasket Door Mag (4000 Series)
4	7245780	Frame Door Gasket (1000 and 2000 Series)
	7245781	Frame Door Gasket (3000 Series)
	7245782	Frame Door Gasket (4000 Series)
5	7245779	Rivet .236 Dia.
6	45432	Switch Rocker

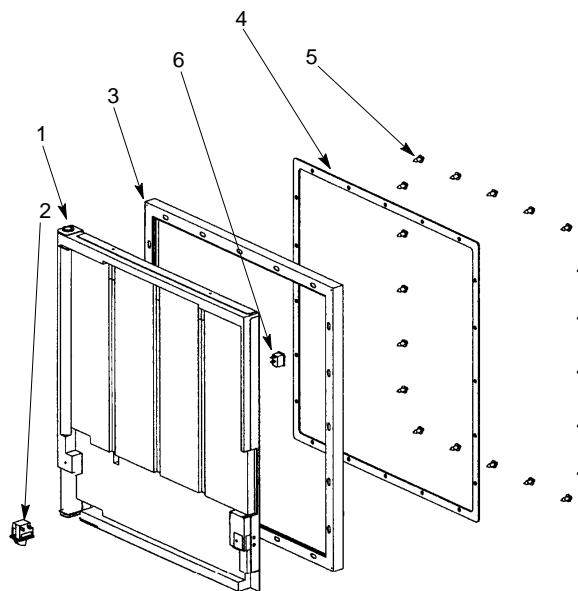


FIGURE 8. REAR DOOR ASSEMBLY

Item No.	Part No.	Name
	45175001	Motor Asy Fan 9W 120V 60HZ
	45175002	Motor Asy Fan 9W 230V 50/60HZ
1	0726802	Nut Tinnerman
2	45159	Panel Splash
3	41757	Washer
4	48004	Motor Fan 9W 120V 60HZ
	48013	Motor Fan 9W 230V 50/60HZ
5	45168	Blade Fan
6	96285001	Screw No. 8-36 x 3/8"
7	45161	Cond Coil

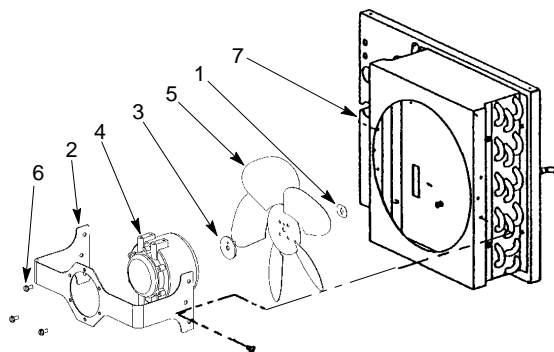


FIGURE 9. CONDENSER MOTOR ASSEMBLY

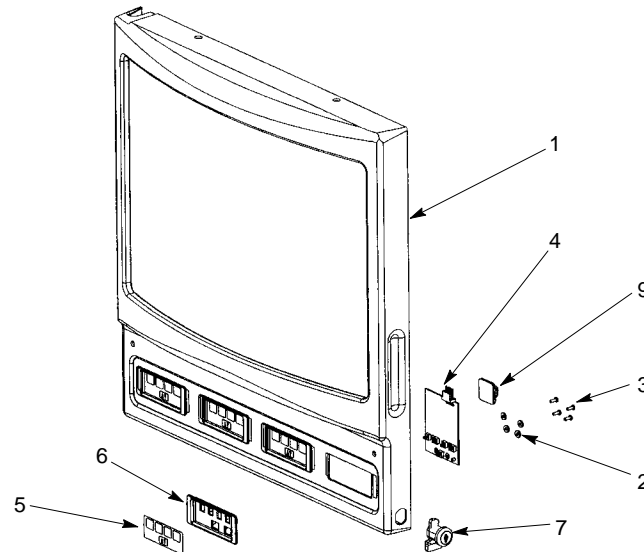


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### QUANTUM SERIES JUICE DISPENSER



**FIGURE 10. DOOR COVER ASSEMBLY**

Item No.	Part No.	Name
	45296006	Cover Asy Merchndsr Push Button (2000 Series)
	45296007	Cover Asy Merchndsr Portion Control (2000 Series)
	45296009	Cover Asy Merchndsr Portion Control, Illuminated (2000 Series)
	45394005	Cover Asy Merchndsr Push Button (3000 Series)
	45394007	Cover Asy Merchndsr Push Button, Illuminated (3000 Series)
	45394008	Cover Asy Merchndsr Portion Control, Illuminated (3000 Series)
	45481006	Cover Asy Merchndsr Push Button (3000 Series)
	45481007	Cover Asy Merchndsr Portion Control (4000 Series)
	45481008	Cover Asy Merchndsr Push Button, Illuminated (4000 Series)
	45481009	Cover Asy Merchndsr Portion Control, Illuminated (4000 Series)

Item No.	Part No.	Name
1	45224004	Cover Merchndsr (2000 Series)
	45224005	Cover Merchndsr Illuminated (2000 Series)
	45377004	Cover Merchndsr (3000 Series)
	45377005	Cover Merchndsr Illuminated (3000 Series)
	45472004	Cover Merchndsr (4000 Series)
	45472005	Cover Merchndsr Illuminated (4000 Series)
2	07301029	Washer Ft. .125 I.D.
3	0712901	Screw No. 4 x 5/16"
4	45018001	Board Push Button
	49280001	Portion Cntl Board
5	49230	Overlay Asy Push Button
	49231	Overlay Asy Portion Control
6	7245399	Bezel Push Button
	45398	Bezel Portion Control
7	45435	Lock and Keys
8	11771	Jumper Asy Strain Relief (Not Shown)
9	04037	Clip



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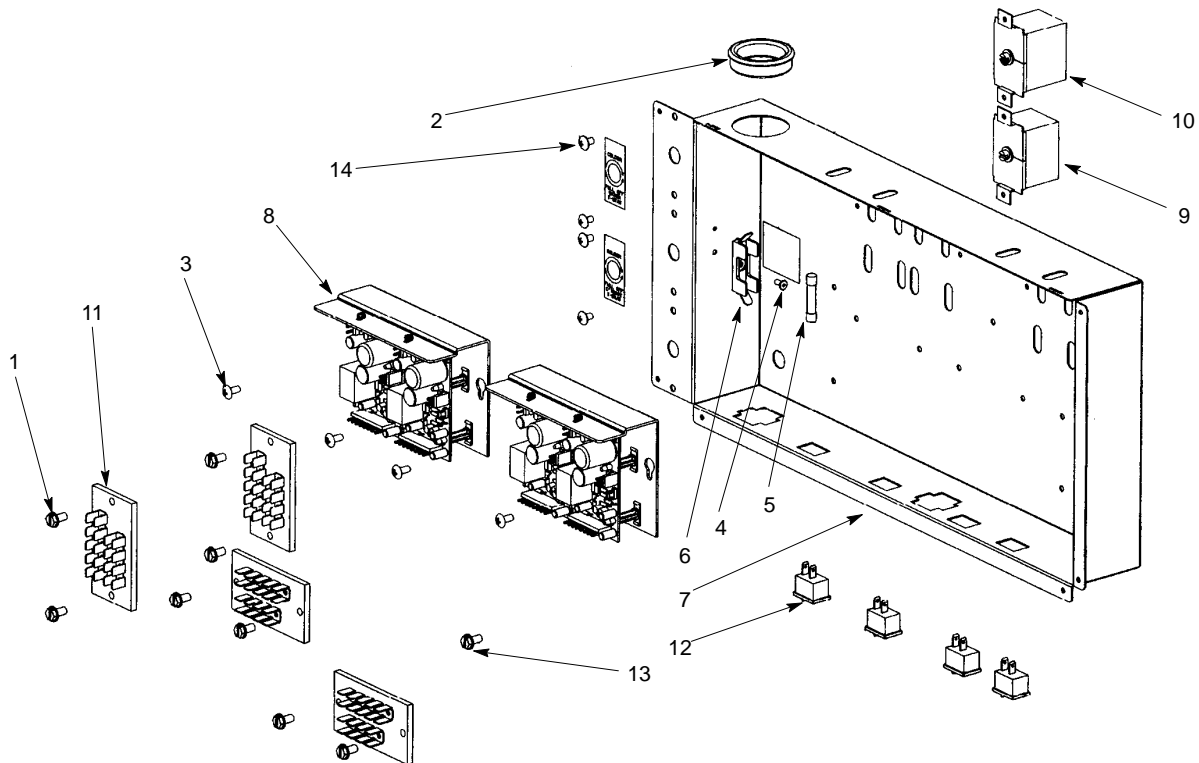


FIGURE 11. ELECTRICAL BOX (DC) ASSEMBLY

Item No.	Part No.	Name
		Box Elec Asy
1	07061001	Screw No. 10 x 3/8"
2	0733903	Bushing Snap
3	07115001	Screw TF 8-32 TRPH 12
4	0734801	Rivet Pop
5	59328001	Fuse 6.25 Amp
6	7245059	Fuseholder
7	45106	Box Elec (1000 and 2000 Series)
	45673	Box Elec (3000 Series)
	45414	Box Elec (4000 Series)

Item No.	Part No.	Name
8	45138	Reg Voltage Asy (1000 Series)
	45238	Reg Voltage Asy (2000 and 4000 Series)
	45674	Reg Voltage Asy (3000 Series)
9	46306	Thermostat Concentrate
10	46307	Thermostat Water Evap
11	49273	Block Term
12	45432	Switch
13	07061003	Screw No. 10 x 3/8" HHWF
14	348871	Screw No. 8-32 x 1/4"



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Item No.	Part No.	Name
		Box Elec Asy
1	45110	Box Elec (1000 and 2000 Series)
	45668	Box Elec (3000 Series)
	45410	Box Elec (4000 Series)
2	07061001	Screw No. 10 x 3/8"
3	49273	Block Term
4	46308	Relay Start 115V 60HZ
	463081	Relay Start 220V 50HZ
5	0735201	Bushing
6	07061003	Screw No. 10 x 3/8"
7	45028	Transfrmr 115V 60HZ (Not Shown)
	45028001	Transfrmr 240V 50HZ (Not Shown)
8	60600002	Ballast (Not Shown)

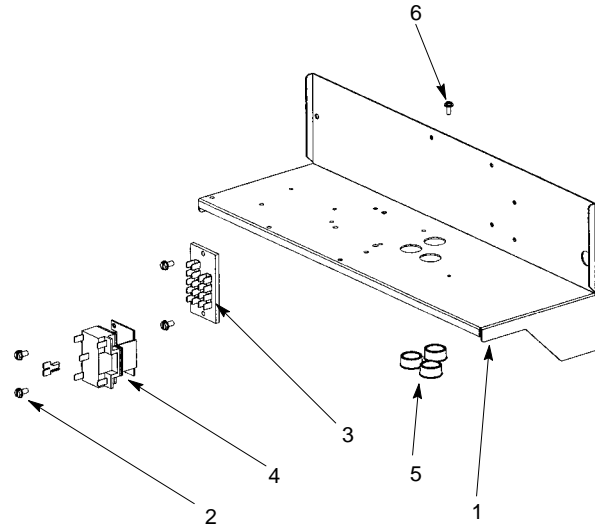


FIGURE 12. ELECTRICAL BOX (AC) ASSEMBLY



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### QUANTUM SERIES JUICE DISPENSER

Item No.	Part No.	Name
	45138	Reg Voltage Asy (1000 Series)
	45238	Reg Voltage Asy (2000 and 4000 Series)
	45338	Reg Voltage Asy (3000 Series)
1	45162	Brkt Voltage Regulator
	45675	Brkt Voltage Regulator (3000 Series)
2	45056	Support P.C. Board
3	45012002	Board Voltage Regulator
4	45004	Kit Mounting
5	45004001	Insulator Voltage Reg

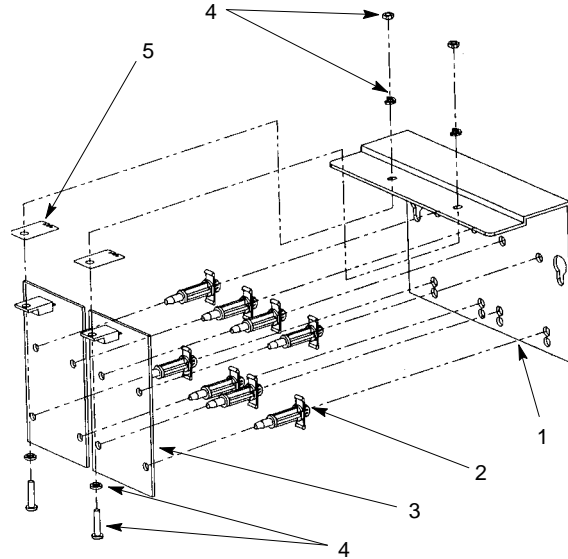


FIGURE 13. VOLTAGE REGULATOR ASSEMBLY

Item No.	Part No.	Name
	45190	Tank Asy
1	46433	Retainer
2	463571	Tank Ball Check
3	7229192	Gasket Adaptor
4	31525010	O-Ring .737 I.D.
5	1836701	Spring Adapter
6	7245246	Fitg Adaptor Tank
7	45260001	Lid Tank
8	45260	Tank
9	45248	Adaptor Asy Tank

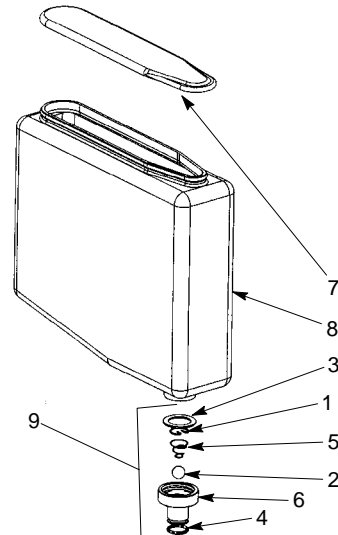


FIGURE 14. TANK ASSEMBLY