4-SELECTION SERIES 1840
OPEN STORAGE TANK
MODEL 1840
WATER VENDING MACHINE
(VMC)

OPERATOR'S & PARTS MANUAL

DO NOT USE OR OPERATE THIS EQUIPMENT UNTIL THIS MANUAL
HAS BEEN READ AND THOROUGHLY UNDERSTOOD

PART NUMBER 62502117 Rev. F

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62502117RevF **10/17** **Coster/62502117RevF**

TO THE PURCHASER

This product is designed and manufactured to give years of dependable service when properly maintained and used for the purpose for which it was intended. Never allow anyone to operate this equipment until they fully understand the complete contents of this manual. For owners who do not operate this equipment, it is their responsibility to ensure that the operator has been properly instructed and is fully aware of the contents of this manual. The owner is also responsible to ensure that the operator is physically and mentally capable of operating this equipment. Information contained in this manual is important in the safe handling of this equipment, and also achieving an efficient operation. If there are any questions about information in this manual, it is important to contact your dealer for clarification.

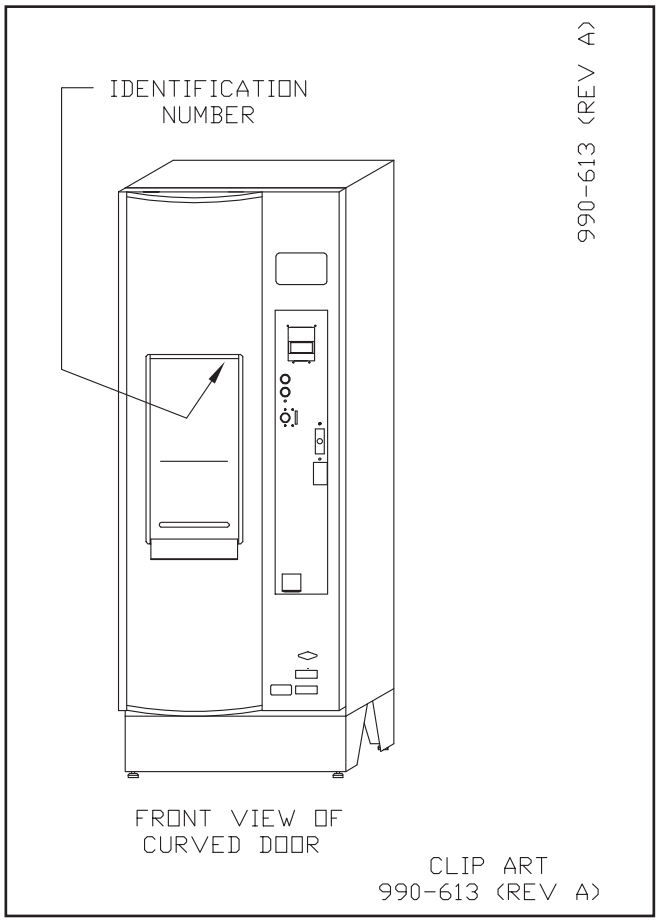
This is the safety alert symbol, it is used to alert the operator to instructions concerning the personal safety and risk factor of this equipment. Always observe and heed these very important instructions to promote a safe operation with good preventive maintenance habits.

<u>Always obtain original equipment service parts from Coster Engineering</u>. Never accept any type of substitute items, as this could affect the equipment performance.

A registration card is to be filled out by your dealer with your name and address and promptly returned to the factory. The form provides a ready reference to help in answering questions that you may have at a later date. You will need to furnish the same information to your dealer when obtaining service parts. This equipment is warranted as STATED ON REAR COVER OF THIS BOOK.

We urge you to make certain that your completed registration card has been sent in so that you will receive maximum service benefits. This form does not put you on any mailing list nor is the information on the card available to anyone else.

The location of the identification number plate on this equipment is as shown.



Please fill in the following information for your records:

DATE OF PURCHASE _____

OWNER'S NAME _____

DEALER'S NAME _____

IDENTIFICATION NUMBER _____

IMPORTANT: Never operate this machine until the user fully understands the complete contents of the owners instruction manual. For owners who do not operate this equipment, it is their responsibility that the user has been properly instructed and fully aware

of the manual contents. This is important in the safe handling and in obtaining an efficient operation of the machine.

Please retain this manual for future reference.

Please read this manual in its entirety before using this machine.

DISCLAIMER

The information contained in this document is subject to change without notice.

Coster Engineering shall not be liable for technical or editorial omissions made herein; nor for incidental or consequential damages resulting from the furnishing, performance, or use of this material.

SAFETY

TAKE NOTE! THIS SAFETY ALERT SYMBOL FOUND THROUGHOUT THIS MANUAL IS USED TO CALL YOUR ATTENTION TO INSTRUCTIONS INVOLVING YOUR PERSONAL SAFETY AND THE SAFETY OF OTHERS. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN INJURY OR DEATH.

This symbol means ATTENTION: BECOME ALERT, YOUR SAFETY AND OTHERS IS INVOLVED.

SAFETY SIGNAL WORDS

DANGER: Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations typically for machine components which, for functional purposes, cannot be guarded.

WARNING: Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices.

CAUTION: Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

WARNING: Read and understand operator's manual prior to making any repair, adjustments, or performing any maintenance on this machine.

WARNING: Install and operate this machine only in accordance with all applicable labeling, licensing, testing and inspection, installation, electrical, plumbing, heath and safety, food water and vending machine codes.

WARNING: Never allow unauthorized or improperly supervised personnel to operate or service this machine. They must be responsible, properly trained and qualified.

WARNING: Unplug this machine prior to making any repairs. Failure to take proper precautions may result in electrical shock and death.

WARNING: Do not make any alteration or modification in the wiring or plumbing of this machine. Such alterations can result in damage to your machine, and/or cause injury, illness, or death to maintenance personnel, operators, and users of this machine.

WARNING: Use only sanitary FDA approved piping and filters in this machine. Failure to do so may result in illness, injury, or death to users of this machine.

WARNING: Flush system before use to remove all chemicals present.

The preservative, sodium bisulfite (SBS), is used to prevent microbiological growth during storage and shipment. Some individuals may experience a severe allergic reaction if machine is not flushed before start up.

WARNING: Do not look directly into the ultraviolet light or eye damage may result. Always wear UV safety goggles and cover all exposed skin when securing UV bulb.

WARNING: This machine must be connected to an inspected, approved, potable water system only containing 500 parts per million (PPM) of total dissolved solids (TDS) or less.

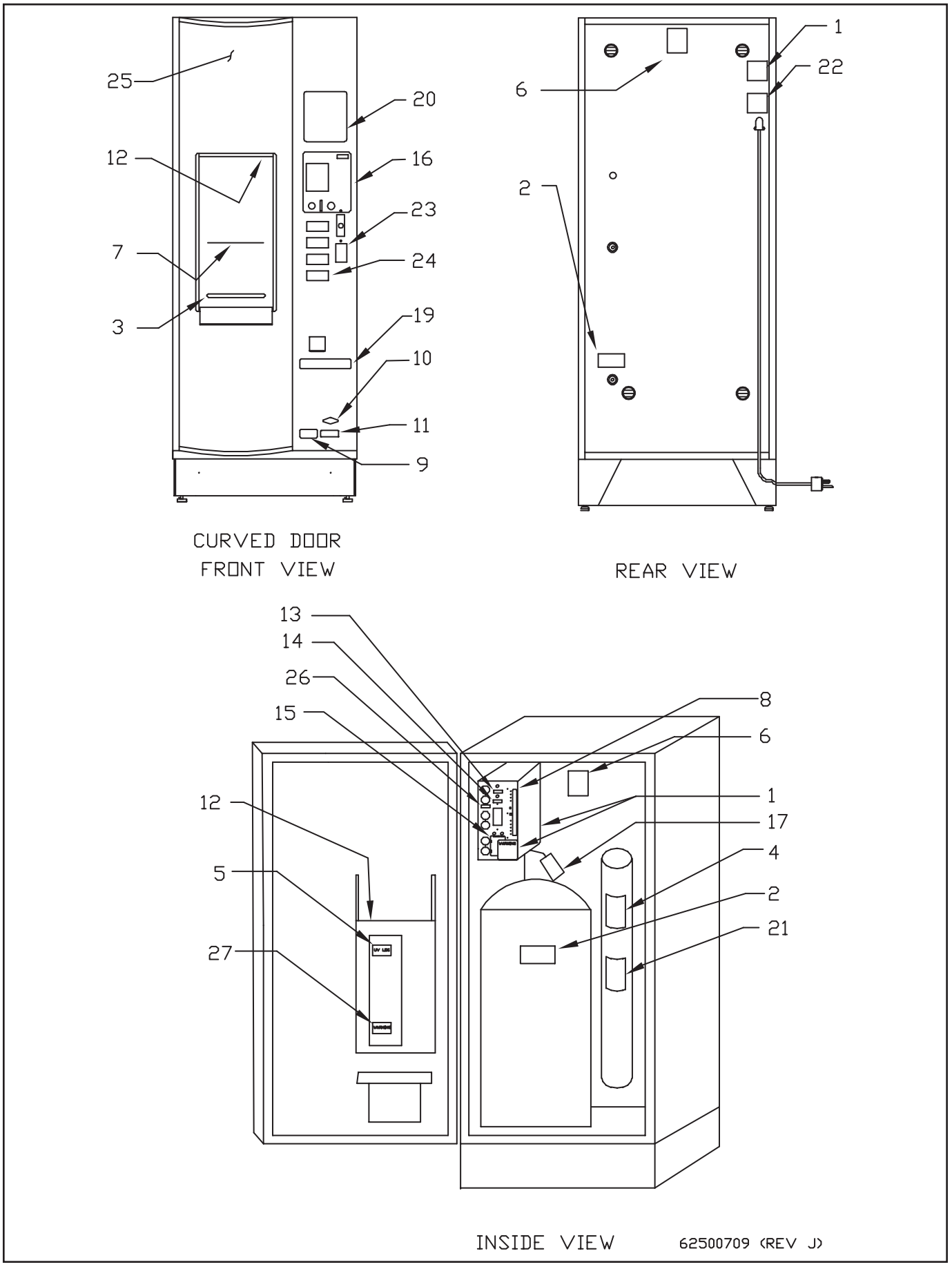

25
12
7
3
20
16
23
24
19
10
11
9
CURVED DOOR
FRONT VIEW
1
22
6
2
REAR VIEW
13
14
26
15
12
5
27
8
6
1
17
4
2
21
INSIDE VIEW
62500709 (REV J)

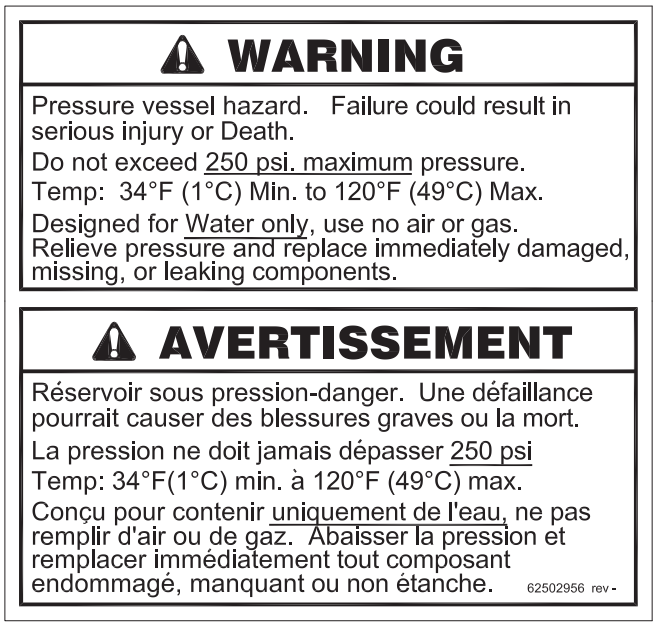
FIGURE 1

Decal Locations

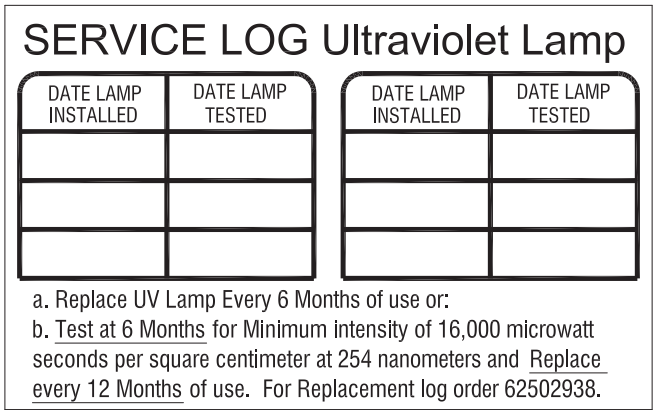
1. Decal 62502954 electrocution warning located on inside and on rear (French).

2. Decal 625-002-085 potable water warning located on inside and on rear (Figure 1).

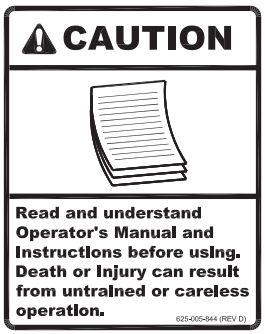
3. 62501730 On dispenser door.



4. 62502956 Located on both sides of pressure vessel (Figure 1).



5. Decal 62502938 service log decal located by ultraviolet light (Figure 1).



6. Decal 625-005-844, Read Manual located on rear inside, (Figure 1)

7. 625-004-044 Decal, “Lower This Shelf” Located in dispenser housing (Figure 1)

8. 62500633 Decal, Electrical Box LED

9. 625-004-045 Decal, Water Quality-NAMA Located lower left on front door (Figure 1)

10. 625-001-030 Decal, Coster Logo, (Figure 1)

11. 625-001-025 Decal, Coster Address, Located on lower right (Figure 1)

12. Decal, Serial Number Plate, Top of dispenser housing

13. 625-004-083 Decal, “Flush / Operate”, Located inside on electrical box (Figure 1)

14. 625-001-022 Decal, “Pressure Pump”, Located inside on electrical box (Figure 1)

15. 62500632 Decal, “Fuse - Pump” (Figure 1)

16. 62502110 Decal, Instruct (Non-Coin) VMC Control
    62502109 Instruct Coin (Early Style)
    62502673 Instruct Coin (Current)

17. 625-004-512 Tag, Flush Warning (See 625-004-513 for text)

18. N/A

19. 625-004-471 Decal, Fluoride Info (State of Mass.) (Figure 1)

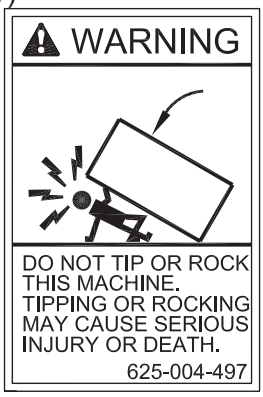
20. 62501044 Decal, Pictorial,
    RO Only Description (Figure 1).

21. 62502958, Decal located inside cabinet on pressure vessel (Figure 1).

22. 625-004-488 Decal Caution 120VAC located on rear(Figure 1).

22. 62502959 Decal Caution 120VAC located on rear (French)

22. 625-004-490 Decal Caution, 240 VAC 50 Hz Located on rear (Figure 1) (240 VAC 50 Hz Units Only)



23. 625-004-497, Located on front (Figure 1).

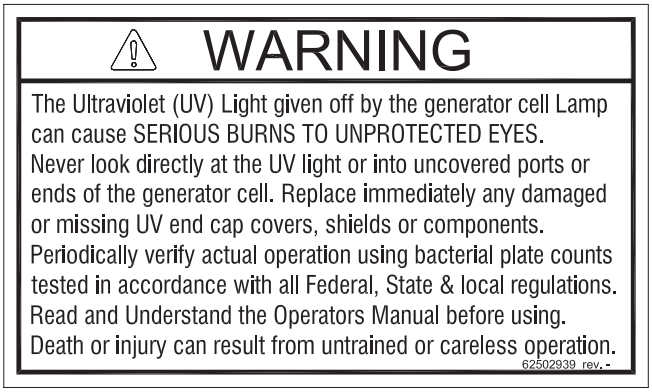
24. 62500687, Button Tag Set, Gallons.

    62500688, Button Tag Set, Litres.

    62500689, Button Tag Set, Purified Water.

25. 62502156 Panel, Rinse, Refill, Refresh

26. 62502944 Label, Upper outlet locked on electrical box (Figure 1).



27. 62502939 Decal U.V. Warning located on U.V. light (Figure 1).

SAFETY FEATURES

The vending machine provides the needed safety shut offs should certain conditions exist.

The machine will not dispense if:

1 . The ultraviolet light is burned out.

2. The TDS in the deionized water exceeds 10 PPM (NAMA approved models only).

3. The sump float switch on the cabinet floor has been activated as a result of a leak.

4. The drain bucket upper float switch has been activated. (non coin operated models only)

The machine will not charge (process water) if:

1. The feed pressure is less than 5 psi.

2. The sump float switch on the cabinet floor has been activated as a result of a leak.

The machine incorporates a ground fault circuit interrupter (GFC I) device, and a 5 amp fast blow fuse.

TECHNICAL SPECIFICATIONS

DIMENSIONS:

Height: .....74 Inches
Depth: .....32 Inches
Width : .....28 Inches

WEIGHT:

Dry Shipping: 665 Lbs Pressure Pump Units

OPERATING PRESSURE:

Pressure Pump: .....100-125 psi Max.

PRODUCT WATER DISPENSING PRESSURE:

Pressure: .....5-40 psi

PLUMBING CONNECTIONS:

Feed: .....1/2 Inch FNPT
Drain: .....1/2 Inch FNPT

ELECTRICAL:

Electrical: .Standard Unit 10A 110 VAC 60HZ
GFCI Curcuit

CAPACITY	
	Pressure Pump Units
Element	XLE
Operating Pressure (psi)	125
Product Flow (GPM)*	1
Product Flow (GPD)*	1500
Concentrate Flow (GPM)	1
% Recovery (Nominal)	50
* Approximate initial product flow based on properly pretreated feed water of 1000 ppm TDS (As NACI). 15° C (59F) and silt density less than 3. Production capacity may very due to feed water temperature, pressure, quality and product back pressure.	

GENERAL INFORMATION

The Coster Engineering Water Vending Machines are designed to supply a drinking (reverse osmosis) water and an optional purified (deionized) water from an approved potable water supply.

PURIFICATION PROCESS

The Coster Engineering Water Machines use a seven step process for water purification and storage. These separate steps allow for consistent economical water treatment of both drinking and purified water.

1. PARTICLE PREFILTRATION

The first step is a ten inch one (1) micron sediment cartridge filter composed of spun polypropylene. The particle filter removes any suspended particles that are greater than one micron in size, such as, silt, fine sand, and grit.

2. CARBON PREFILTRATION

The second step is a carbon briquette filter. This filter removes chlorine that would otherwise destroy the reverse osmosis membrane.

3. REVERSE OSMOSIS

Next, a reverse osmosis (RO) membrane removes up to 98% of the water's Total Dissolved Solids (TDS). Reverse osmosis is the process which produces the DRINKING WATER product available to the consumer.

The amount of DRINKING WATER produced by the machine will drop if...

A. The feed water temperature drops.
   For every 1 degree centigrade drop in feed water temperature, RO product will fall 3 percent.

B. The RO membrane becomes fouled. In normal operation, minerals and biological materials may build up on the membrane.
   In most cases the membrane can be cleaned to increase its water production.

C. The feed water TDS increases.
   If the TDS of the feed water to the machine rises, production of water will decrease.

4. THE RO WATER STORAGE TANK

The Coster Engineering vending machines contain a 45 gallon storage tank which is specially constructed to store reverse osmosis processed water.

5. POST CARBON FILTRATION

Prior to ultraviolet sterilization and dispensing, a final carbon impregnated filter cartridge polishes the product water, removing any remaining odors, tastes, or discolorations.

6. ULTRAVIOLET STERILIZATION

The final water treatment process is ultraviolet sterilization. While the product water is being dispensed, it passes through a chamber which irradiates the flow with ultraviolet light.

The Water Vending Machines will not dispense water if the UV bulb is burned out.

Water is flushed thru the UV light for approximately 3 seconds every hour **ONLY** when the unit **HAS NOT** dispensed water. This reduces the peak temperature experienced after the unit has set idle for an extended time, such as the first vend in the morning.

CONSTRUCTION

The water vending machines have a sheet metal construction with a durable polyeurathane epoxy finish. The dispenser housing is made of stainless steel to provide an easy to clean rust-free dispensing area. The control system takes care of the charge and post flushes and is equipped with several shut down conditions should any maintenance be required.

FEATURES

- Choice of direct vend or coin mechanism.
- Coin mechanism can be set for “Free” vends.
- Automatic shut off on occurrence of an internal leak. (Charging and vending)
- Automatic shut off when the ultraviolet lamp fails.
- Shut down when feed pressure drops too low. (Pressure pump units only)
- Four (4) selection push buttons standard on all units.

1. RO Non-Coin. 3 Volumes plus “Stop” & “Hold”.
2. RO, Coin Mech, 4 volumes, plus 18 second “Pause”.

- Preset starting volumes, 1,2,3, & 5 gallons. (All volumes field adjustable).
- Removable drain tank for ease of service.
- Adjustable legs.
- Small cabinet size.
- Ease of component access and repair.

OPTIONS

- Dollar bill and coupon validators.
- Auxiliary water port - Mister System.
- Auxiliary water meter.
- Security lock kits.
- Prepaid Debit Card reader.
- Wireless Remote Monitoring.
- Wireless Cashless Payment System.

INSTALLATION AND SETUP

PRELIMINARY SITE INSPECTION

WATER SERVICE

The vending machine can only be connected to an approved potable water source that will provide a 4 GPM feed minimum.

Obtain or measure the following parameters from the water source.

- TDS (See Measuring TDS)
- Chlorine (See Measuring Chlorine)
- Hardness
- Iron (Total)

NOTE: Values for hardness and iron can be obtained from your local municipality, sending a sample to Coster, or obtaining and testing your own sample. Should the hardness of the feed water source exceed 150 ppm, and/or the iron level exceed .05 ppm, softener pretreatment will be required. Consult your local dealer or Coster Engineering for pretreatment recommendations.

WARNING: Chlorine can damage the reverse osmosis membrane. Feed water, Free chlorine must be 0 to 0.1 ppm maximum. Carbon filters must be replaced when the residual free chlorine approaches 0.1 ppm. Failure to maintain proper chlorine levels may void your warranty. If the chlorine level in the supply water is unusually high (greater than 1.0 ppm) additional pretreatment devices may be required. Consult your local dealer or Coster Engineering for pretreatment recommendations.

ELECTRICAL

A 15 AMP, 110 VAC. 60 HZ grounded power supply will be required. (Required North America)

WARNING: Verify grounding continuity before operation.

WARNING: The cord connected Ground - Fault Circuit - Interrupter (GFCI) must be readily accessible and be capable of being reached quickly for operation.

Be sure no other equipment is connected to the vending machine power line circuit.

PLUMBING

The vending machine should not exceed 100 feet from access to the nearest water source and drain connection.

WARNING: Use only sanitary approved FDA materials for plumbing connections.

SET-UP

SERVICE CONNECTIONS

1. Water feed line - 1/2 inch FNPT connection (see figure 2).
2. Plumbing connections should be a minimum of 1/2 ID. (3/4 ID if distances greater than 50 feet are needed.)
3. The feed pressure should not be less than 40 psi at the vending machine.
4. Drain line - 1/2 inch FNPT connection.
5. Electrical service will be a 15 AMP minimum, 110 VAC, 60 HZ grounded supply. (Required North America)

MACHINE SETUP

NOTE: Do Not plug machine in or apply power until all of the required installation procedures have been completed.

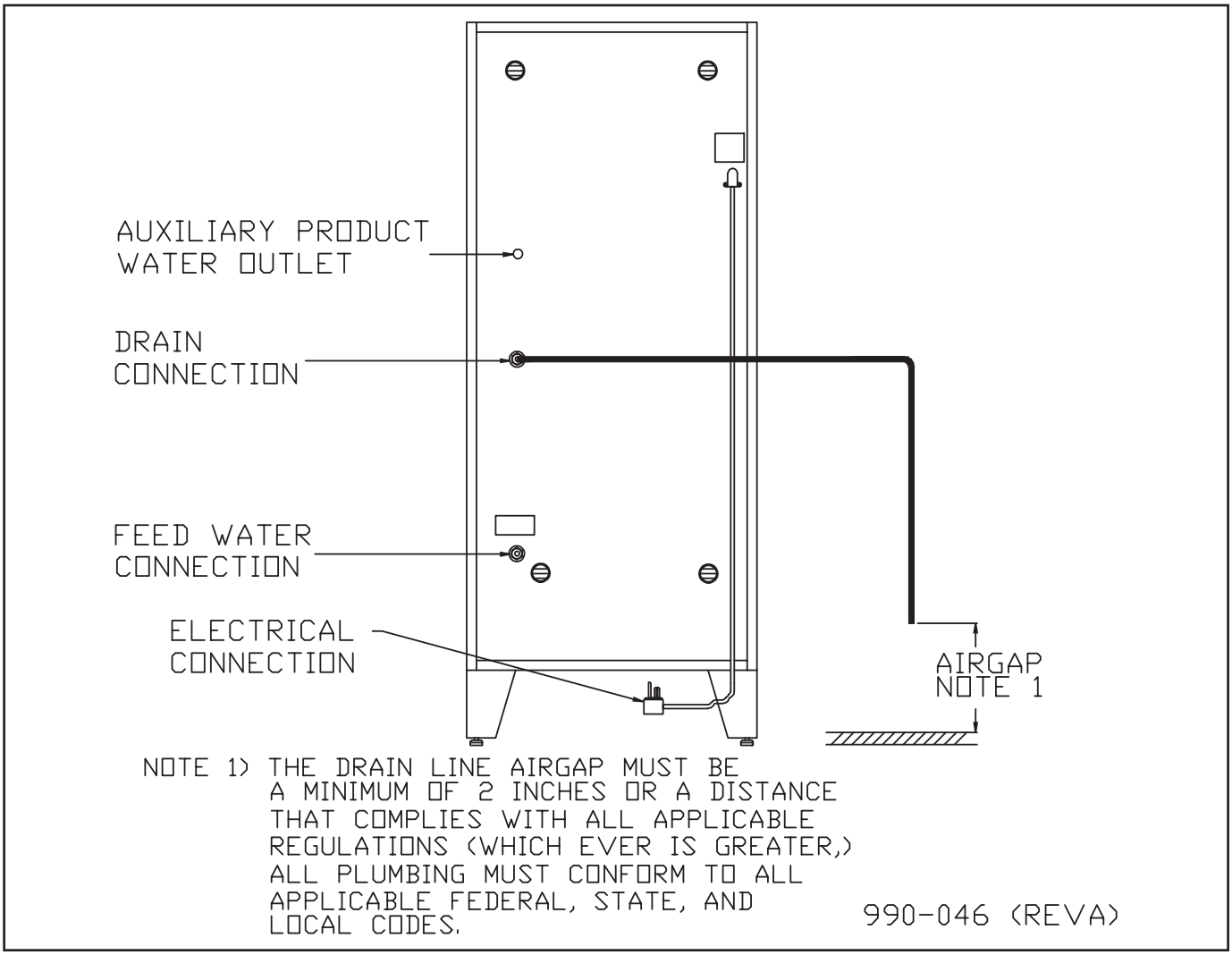
NOTE: Be sure that installation of this machine complies with all Federal, State and local electrical and plumbing codes and with all applicable federal, state, county and local standards for food and drinking water installations. The machine must be installed in a location free of dust and debris.

1. Move the vending machine to desired setup location. Cut the banding and remove cardboard shell; inspect the machine for any damages that may have occurred in transit.
2. Place machine on floor, adjust legs (hand adjustable) to prevent rocking.
3. Connect plumbing inlet and outlet lines. Use guidelines specified in: “Service Connection,” Figure 2.
4. Check all fittings for tightness.

NOTE: This will prevent water leakage caused by loosening of fittings during shipment.

5. Install carbon and sediment filters (See Filter Maintenance Section).

SERVICE CONNECTIONS



The rear view of the water vending machine showing the service connections.

FIGURE 2

FLUSHING / CHARGING

FLUSHING PRESSURE PUMP UNITS

WARNING: Your reverse osmosis element will contain a storage solution made up of Sodium Bisulfite (SBS). Some individuals may experience allergic reactions to SBS. Please make sure the system is flushed thoroughly. The element may also contain a Propylene Glycol solution to prevent freezing in winter months.

Refer to Figure 3.

1. Turn flush toggle switch, Item 1, to OFF.

2. Turn pressure pump toggle switch, Item 2, to OFF.

4. Open (counter clockwise) the pressure regulating valve, Item 7.

NOTE: Be careful not to turn the valve handle too far or the handle will come off.

5. Open feed shut off valve, located in lower rear corner, Item 4.

6. Plug in machine and allow filter 5 and 6 to fill with water.

7. Turn on pressure pump toggle switch, Item 2.

8. Run for 5 minutes at low pressure (approximately 50 psi) then increase to 120 psi on gauge, Item 8.

9. After a period of 30 minutes, take a sample of product water from the drain bucket on door. Smell the water to see if any odors may be present. Continue to flush until the water is free of odor.

IMPORTANT: Take a sample of water from sample cock (No. 9) during this time. Test it for chlorine. (See Measuring Chlorine Section). Do this during the first five (5) minutes of operation. Free chlorine must be 0 to 0.1 ppm maximum.

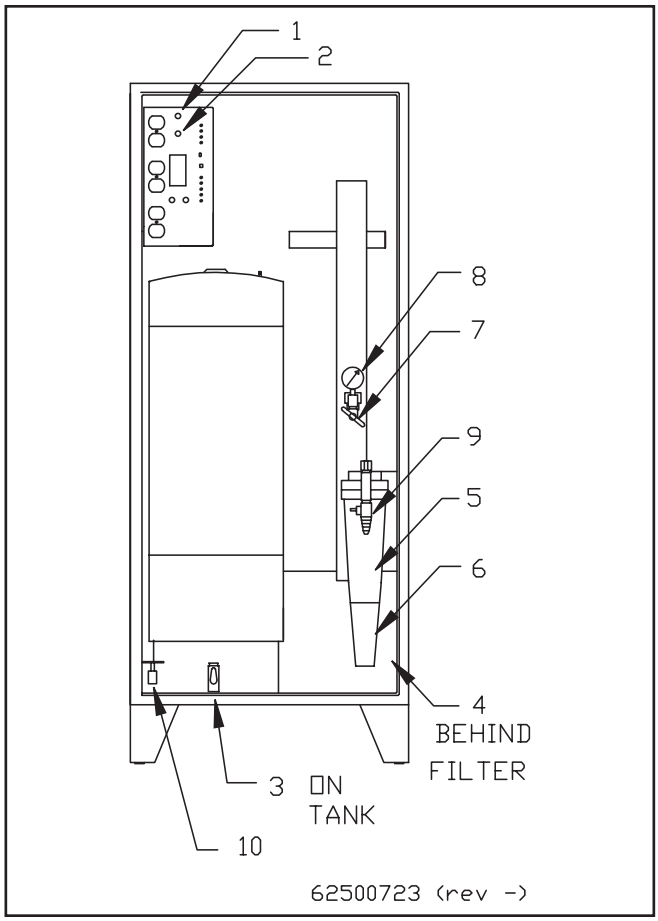


FIGURE 3

SYSTEM CHARGING PRESSURE PUMP UNITS

Refer to Figure 3.

1. Turn flush toggle switch, Item 1, to ON, operate, position.

2. Test the emergency shut off level switch, Item 10, located in sump of machine. Lift up float by hand, machine should shut down. If machine is still running, float is defective and must be replaced. Release float to continue charge cycle.

NOTE: Unit has a built in time delay on.

3. After 10 minutes, push a drinking water selector switch on front of door. A steady stream should appear at the dispensing nozzle.

4. Let machine charge for approximately 5 minutes then empty tank by holding selector button to on position, alternating between drinking water and purified water.

5. Triple rinse storage tank by repeating Step 6 three times.

6. Machine is now ready for customer use.

DISPENSING / VENDING WATER

(Refer to Figure 5)

This section will detail the different modes in which the machine will dispense water, how to set each mode, and how the selection button will react for each mode.

NON-COIN, DRINKING WATER

Slide switch “A” up to “MANUAL VEND” position. Slide internal switch “B” left to “RUN” position. J1 jumper is between 1 and 2.

Top Button: One (1) gallon drinking water
2nd Button: STOP
3rd Button: Three (3) gallons drinking water
4th Button: Five (5) gallons drinking water

COIN OPERATED, DRINKING WATER

Slide switch “A” down to “COIN VEND” position. Slide internal switch “B” left to “RUN” position. J1 jumper is between 1 and 2.

Top Button: One (1) gallon drinking water
2nd Button: Two (2) gallons drinking water
3rd Button: Three (3) gallons
4th Button: Five (5) gallons drinking water

IMPORTANT: All factory calibrated volumes are nominal only. They must be verified on site when the unit is put into service. Use the calibration procedure to adjust volumes as required. Seal electrical box after calibration, if required by local or state regulations.

NOTE: When operating in Coin Mode, the red “pause” button, on front of door, may be pressed to interrupt a vend. The vend will continue after eighteen (18) seconds or when the pause button is pressed a second time. This allows several smaller containers to be used for a larger selection volume.

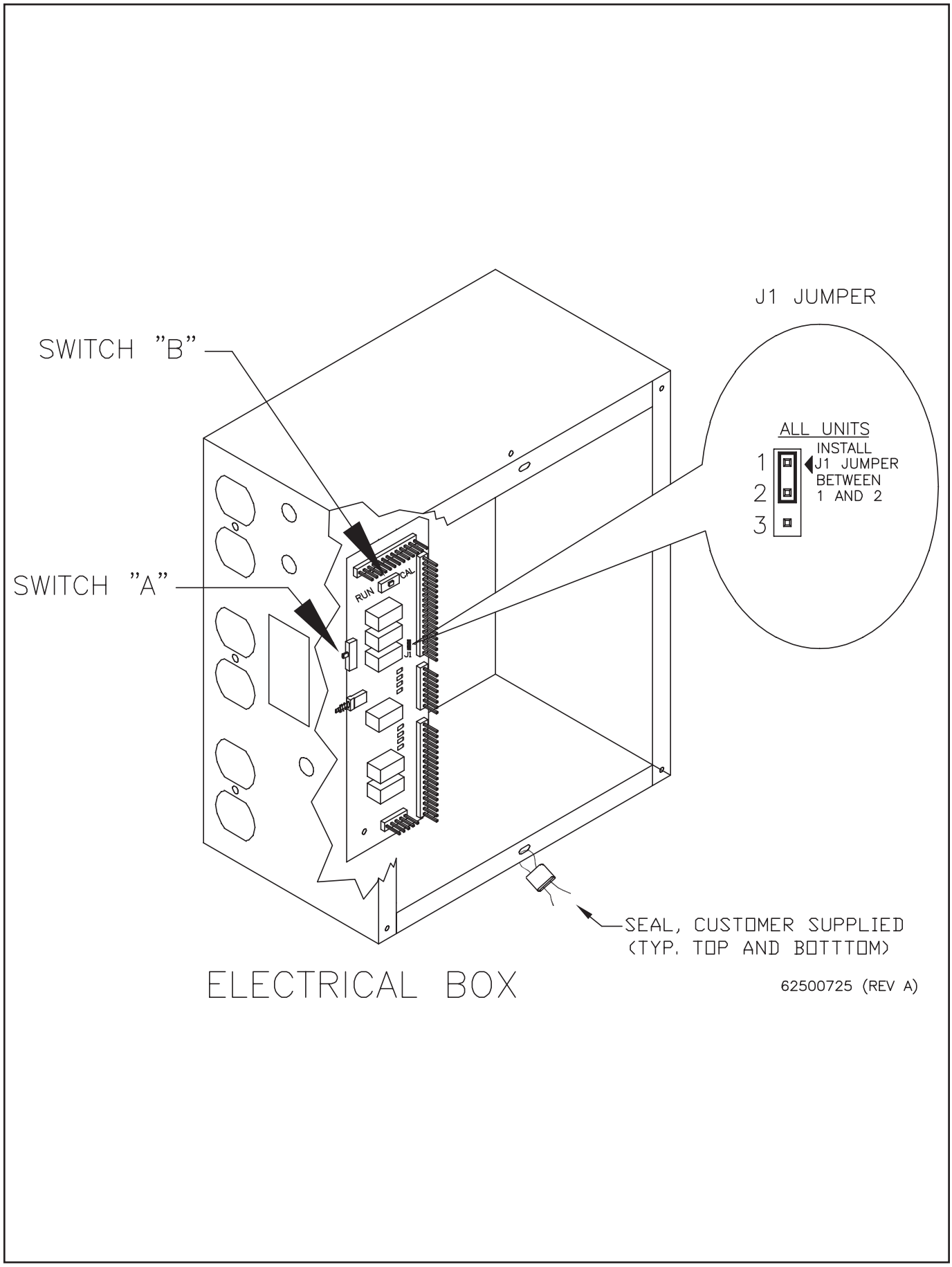

J1 JUMPER
SWITCH "B"
SWITCH "A"
ALL UNITS
INSTALL
J1 JUMPER
BETWEEN
1 AND 2
1
2
3
RUN
CAL
J1
SEAL, CUSTOMER SUPPLIED
(TYP. TOP AND BOTTTOM)
ELECTRICAL BOX
62500725 (REV A)

FIGURE 4

CALIBRATION

(Refer to Figure 4)

IMPORTANT: Vending in the "calibration" mode will cause the existing volume calibration of that button to be changed. All button volumes should be verified after returning the internal calibration switch "B" left to the "RUN" position. All buttons are "Hold to Vend" in calibration mode.

WARNING: Turn off power before removing electrical box cover to access slide switch "B" or "J1" jumper. replace electrical box cover before restoring electrical power in all steps.

TO CALIBRATE A DESIRED VOLUME:

1. Slide switch "A" up to "MANUAL VEND" position. **NOTE: This is the normal position of non-coin units.**

2. Slide internal switch "B" right to "CAL" position. Refer to Figure 4.

3. Press and hold the red "PAUSE VEND" button and simultaneously push the desired selection button to reset the respective internal counter. Release both buttons. **(Note: Coin mech unit red pause button is on outside of door. Non-coin unit red pause button is on inside of door.)**

4. Position empty container of the correct desired volume under spout.

5. Press and hold individual selection button until container holds the desired volume of water. **(Note: The selection button can be pressed and released as many times as it takes to fill the container, but once a container is over filled, the container must be emptied, and then steps 3, 4 and 5 repeated.)**

6. Repeat steps 2, 3, and 4 for other selections.

7. Return internal calibration slide switch "B" left to "RUN" position.

8. Coin-operated machines and D.I.Non Coin only. Slide switch "A" down to "COIN VEND" position.

9. Verify all calibrated volumes by filling a container for each selection button.

TO INCREASE THE VOLUME OF A CALIBRATED SELECTION (COIN AND NON-COIN UNITS:

1 . Leave partially filled container under spout.

2. Slide switch "A" up to "MANUAL VEND" position. NOTE: This is normal position of non-coin units.

3. Slide internal switch "B" right to "CAL" position.

4. Press and hold individual selection button until container holds desired amount of water.

5. Return internal calibration slide switch 'B" left to "RUN" position.

6. Coin-operated machines only. Slide switch "A" down to "COIN VEND" position.

7. Verify correct volumes by filling a container for each selection button.

TO DECREASE VOLUME:

Once a container is overfilled, the calibration process must be restarted from the beginning. (See "To calibrate to a desired volume").

"HOLD TO VEND" BUTTON CONVERSION (NON-COIN UNITS):

1. Leave slide switch "A" up in "MANUAL VEND" position. **NOTE: This is the normal position of Non-Coin units.**

2. Slide internal switch "B" right to "CAL" position.

3. Press and hold the selection button and the red "PAUSE VEND" button to reset the internal counter. Release both buttons.

4. Press and quickly release same selection button, to dispense as small amount of water as possible.

5. Slide internal switch "B" left to "RUN" position.

6. Turn off power to machine.
   IMPORTANT: Selection buttons must not be pushed before power is turned off.

7. Turn on power and verify "HOLD TO VEND" button operation. **NOTE: If button does not properly function as "Hold to Vend" repeat steps 1 through 7.**

TO RETURN CALIBRATION TO PRESET NOMINAL 1,2,3, AND 5 GALLONS:

1. Slide switch "A" up to "MANUAL VEND" position. **NOTE: This is the normal position of non-coin units.**

2. Slide internal switch "B" right to "CAL" position.

3. Press and hold the red "PAUSE button and simultaneously push and release all selection buttons one at a time to reset the respective internal counters. Release "pause button" last.

   NOTE: (Coin-Op.) Red Pause Button is on outside of door. (Non-Coin) Red Pause Button is on inside of door.

4. Slide internal switch "B" left "RUN" position.

5. Turn off power to machine.
   IMPORTANT: Selection buttons must not be pushed before power is turned off.

6. Slide SW "A" down to "COIN VEND" (coin-op. units.

7. Return power to unit.

8. Verify all calibrated volumes by filling a container for each selection button.

MAINTENANCE

General maintenance depends upon the feed water quality and use of the machine. To build a proper maintenance schedule, a log sheet, as shown in the rear of this manual, should be prepared for each machine. The log sheet will contain information about feedwater and drinking water. Periodic analysis of water quality and system parameters, will help track the performance of the machine and indicate if any replacement parts are needed. Additionally, the log sheet will track replacement dates of any components, system repairs, or comments concerning operation.

The following schedule is a “Rule-of-Thumb” guide to performing general maintenance and service on the water vending machines. For additional maintenance information addressed in the schedule below, please refer to the appropriate sections in the manual.

TESTING GROUND FAULT CIRCUIT INTERRUPTER (GFCI) DUPLEX RECEPTACLE

Push in black test button. Red reset button will pop out and machine power is shut OFF. Push red reset button firmly in to latch and reset power.

If GFCI fails to pop out or reset properly, **DO NOT USE**. Call a qualified electrician.

MAINTENANCE SCHEDULE

Daily

- Clean and disinfect the customer contact surfaces.
- Clean exterior of cabinet.
- Check the machine for good working order.

Weekly Or Bimonthly

- Clean and disinfect the drain tank (See Cleaning-Sterilization Section).
- Measure and record the TDS of the feed and drinking water (See Measuring TDS Section).
- When any of the above TDs readings are out of specification, perform required service to bring them back to normal. (See Reverse Osmosis Maintenance Section).
- Test and record the chlorine level after the precarbon filter. Use the test cock on filters to collect sample. The carbon filter must be replaced when the residual free chlorine approaches 0.1 ppm maximum. Free chlorine will destroy the membrane (See Filter Maintenance and Measuring Chlorine Section).
- Check filters, replace if dirty.
- Log pressure gauge readings.
- Check softener salt tank level (where applicable).
- Test ground fault interrupter duplex receptacles and power cord GFCI.

90 Days

- Replace the precarbon filter.
- Replace the postcarbon filter.
- Replace the sediment filter.
- Coliform test.
  NOTE: Must conform to all state and local regulations

6 Months

- Test UV bulb intensity or replace bulb.
- Check Quartz Sleeve and clean if necessary.

Yearly

- Replace UV bulb
- Clean UV Quartz Sleeve

Periodic (As Required)

- Sterilization as required.

- Reverse osmosis membrane replacement for cleaning. When drinking water TDS rises to more than 10% of the feed water TDS (See measuring TDS).

NOTE: Must conform to all state and local regulations.

CAUTION: Your actual maintenance schedule may vary according to water quality, machine usage, and must conform to all state and local requirements. Please adjust the maintenance schedule to best suit your needs. However, for any filter replacement please do not exceed the maximum period of time or volume of water recommended for their respective replacement.

FILTER MAINTENANCE

NOTE: Coster Engineering recommends frequent replacement of the prefilters in order to minimize any possible fouling of the reverse osmosis element. It is Coster Engineering's belief that such replacements will save you money in membrane replacement in the long run.

General

The following points should be observed when changing filters.

1. Filter housings are to be screwed on only hand tight.

2: Relieve line pressure before attempting to unscrew filter housing.

3. Unscrew filter cartridge housing (counter clockwise) by hand.

4. Discard old filter.

5. Clean filter housing and rinse with clean water.

NOTE: If the interior of the filter housing gets slimy, a cleaning and disinfection will be required. (See Sterilization Section).

6. Insert new cartridge.

   Make sure cartridge filter is lined up on top and bottom posts before screwing cartridge housing tight.

7. Replace cartridge housing.

   Check to make sure O-ring is clean, properly seated and lubricated before assembling filter housing. Tighten hand tight, check for leaks.

NOTE: Use only food grade grease for lubrication.

Sediment Filter

This filter catches any of the sediment in the feed water. It should be inspected and changed according to the maintenance schedule. The frequency of changes can be adjusted according to the appearance of the interior of the sediment filter.

Pre-Carbon Filter (Feed Filter) (CBC Carbon Briquette)

This filter removes chlorine before the feed water is fed to the membrane. With sediment filter installed always flush a new filter using sample port until water runs clear with no visible trace of carbon fines.

NOTE: Chlorine will attack the membrane, destroying the membrane and it's ability to reject contaminants. Carbon filters must be replaced when the residual free chlorine approaches 0.1 ppm maximum. Test for free chlorine using 'low range" 0-.7 mg/1 test kit instructions, if available. If feed chlorine levels are unusually high (greater than 1.0 ppm) additional carbon pretreatment devices may be required.

Post Carbon Filter (Product Water)

The post carbon filter is for the removal of any remaining tastes and odors from the dispensed water. This also must be changed according to the maintenance schedule.

NOTE: Position a large open container under the 10" postcarbon filter on door when changing. This will reduce time spent cleaning up drain down water spillage on floor.

FILTER CHANGE SCHEDULE			
	Check/ Test	Replacement	Max Time
Pre Carbon	1-2 weeks	As required/ 1500 gal.	90 days
Sediment	1-2 weeks	As required	90 days
Post Carbon	– – – –	3000 gal.	90 days
Storage Tank Air Filter (Open Tank Only)	1-2 weeks	– – – – –	12 months

R.O. MAINTENANCE

Reverse Osmosis Membrane Performance

R.O. membranes may get fouled depending on feed water conditions. The sooner a fouled membrane is cleaned, the better the chances of returning it to its original performance characteristics. Completing the following steps in accordance with the maintenance schedule will help indicate when cleaning is necessary.

1. Vend one (1) gallon of drinking (reverse osmosis) water. Discard

2. Vend another gallon of drinking (reverse osmosis) water.

3. Take a TDS reading with your TDS meter. (See measuring TDS).

NOTE: Make sure readings have been temperature compensated.

4. Collect a sample of the feed water through the sample port located directly after pre-filters.

NOTE: If the machine is not charging, then vend two (2) gallons of water. This will start the charging cycle and enable you to collect a feed sample.

5. Take a TDS reading:

6. Calculate rejection of the minerals with the following formula:

$$\text{Rejection \%} = \frac{\text{TDS (Feed Water - TDS (Product Water)}}{\text{TDS (Feed Water)}} \times 100$$

7. Compare current rejection reading with the first entry on the log sheet.

- If the vending machine is running on unsoftened water, then a 10% drop in rejection can be tolerated before cleaning.

- If the vending machine is running on softened water, then a 15% drop in rejection can be tolerated before cleaning.

NOTE: If any valves have been adjusted or membranes cleaned since installation, then the rejection comparisons must be made with the TDS values obtained after these adjustments.

UV LIGHT MAINTENANCE

WARNING: Ultraviolet light given off by the UV lamp can cause serious burns to unprotected eyes. Never operate ultra violet unit with the end cap covers removed and never look directly into the cell's ports while the unit is in operation.

WARNING: When testing UV intensity, always wear UV safety goggles (available from Coster Engineering). Exposure may result in irreversible eye damage.

WARNING: Cover all exposed skin surfaces or skin damage may result. Perform test during closed or quiet times. Keep all unprotected persons away from direct view of the UV lamp.

IMPORTANT: A dirty quartz sleeve will reduce UV light transmission to the water and reduce disinfection performance of the UV light. When feeding a UV light with water containing higher mineral content than RO water, such as alkaline water, the Quartz Sleeve coating buildup is accelerated and requires more frequent cleaning. Initially, check sleeve monthly or bimonthly and adjust cleaning procedure to suit the type of water that you are vending. Refer to vending machine operators manual and UV light manufacturer operators manual quartz sleeve cleaning instructions.

TESTING LAMP INTENSITY/REPLACEMENT

Option 1. Replace UV Lamp every 6 months of use.

Option 2. Test at 6 months and replace every 12 months of use. A minimum intensity level of 16,000 UWs/cm2 at 254 nm wave length shall be maintained for the life of the lamp.

Readings are obtained with a commercially available portable UV intensity meter. Consult Coster Engineering for recommended meter type. Follow all instructions and safety procedures included with meter.

An LED monitor located on the side of the UV assembly will indicate whether the UV bulb is lit. If this monitor light is not on, it will prevent the machine from dispensing water.

If the LED monitor goes out, shut off water supply to sterilizer immediately and disconnect power supply. Replace UV lamp with a new one by following installation directions. Regularly inspect the unit to ensure that the monitor light is still glowing.

QUARTZ JACKET CLEANING/ REPLACEMENT

1. Disconnect power to vending machine.

2. Shut off the water supply.

3. Remove UV chamber from mounting clamps.

4. Disconnect the lamp connector at the end of the UV chamber and remove lamp from chamber.

5. Remove Quartz Sleeve as follows:

a. Unscrew retaining nuts, remove floating spring, and carefully slide sleeve out of UV chamber.

b. Clean sleeve with vinegar or some other mild acidic solution, then rinse with water.

c. Clean and lubricate O-rings with food grade lubricant or replace with new O-rings.

6. Reinstall Quartz Sleeve in UV chamber as follows. **NOTE:** Be sure no marks or fingerprints are on sleeve or lamp.

a. Position sleeve in chamber allowing sleeve to protrude an equal distance at both ends of chamber.

b. Slide O-rings onto each end of sleeve.

c. Reinstall retaining nuts and floating spring.

IMPORTANT: Glass Quartz Sleeve is fragile, hand tighten nuts only.

7. Install UV lamp, lamp connector, and secure UV chamber in mounting clamps.

8. Test the unit by plugging it into the electrical outlet. The indicator light on the side of the housing should glow steadily within a few seconds. If the light does not come on or continue to glow steadily, check lamp electrical connection. Replace lamp if necessary

9. Turn on water supply and check all connections for leaks. Allow the water to run for a few minutes to clear out any air or dust that may be in the cell.

CLEANING - STERILIZATION CUSTOMER CONTACT SURFACES

Cleaning and disinfecting of the customer contact surfaces must conform to state and local codes. However, it is recommended that daily cleaning and disinfecting of the customer contact surfaces be performed.

The customer contact surfaces of the machine are the dispenser housing and nozzle. The following steps outline their cleaning and disinfection procedure.

1. Wash off any dirt or debris in or around the dispenser housing and dispensing nozzle with a mild detergent solution. Rinse with clean water.

2. Spray a chlorine based disinfecting solution at 100 ppm onto the dispenser housing and nozzle. Allow to air dry.

NOTE: Prepare 100 ppm chlorine based cleaning solution as follows:

- **Mix one (1) Tablespoon standard household bleach containing 5.25% sodium hypochlorite with one (1) gallon clean R.O. water (or other low TDS water).**

NOTE: Stronger more concentrated solutions of chlorine may cause rusting and damage to stainless steel and other components.

PLUMBING

This procedure should be used if a bacterial contamination is suspected in the machine. Bacteria may grow in the machine if it is taken out of service and stored. This growth can sometimes occur in a one to two week period depending upon the conditions. No matter the cause, if you suspect bacterial contamination of a vending machine, this contamination should be eliminated through the following sanitization procedure.

1. The following materials will be needed for the disinfection of the plumbing system.

   - Two (2) 5 gallon pails.

   - 6 to 9 pints of 3% hydrogen peroxide.

2. Obtain potable drinking water in two (2) five gallon pails.

3. Add 3 pints of a 3% hydrogen peroxide solution to the water in each pail.

4. Discard all filters.

5. Disconnect water inlet on rear of unit.

6. Fill all plumbing, filter housings and UV light with disinfection solution by use of gravity or a portable feed pump.

7. Allow the sterilization solution to set for 3 to 12 hours. The longer the time, the greater the killing effectiveness of the sterilization solution.

8. Flush all sterilization solution from machine by reconnecting inlet and holding vend button.

CAUTION: Run sufficient water to ensure total flushing of unit.

9. Install new filters.

Auxiliary RO Product Ports
Bladder Tank Air Precharge

Check Tank Air Pre-Charge at 6 Months, Minimum

Step 1. Remove electrical power to unit, (unplug).
Step 2. Open outlet and drain water from tank.
Step 3. Measure tank air pressure at Schrader valve. Add compressed air to maintain 25-30 psi. Note: Tank will discharge water when adding air.
Step 4. Reconnect tank outlet. Restore power.

ELECTRICAL SECTION

TESTING GROUND FAULT CIRCUIT INTERRUPTER (GFCI) DUPLEX RECEPTACLE

Push in test button. Reset button will pop out and machine power is interrupted. Push reset button firmly in to latch and reset power.

If GFCI fails to pop out or reset properly, DO NOT USE. Call a qualified electrician.

ELECTRICAL CONTROL OVERVIEW

Charging cycle (processing water to fill the storage tank):

When the “Tank” indicator (Located on the electrical box) is lit continuously for 10 seconds or more (meaning the level switch in the storage tank is indicating the water is low), a charging cycle is initiated as follows: (Note: In order for the “Tank” indicator to be lit, the “Power”, cabinet “Sump” leak level, and “Feed” pressure indicators also need to be lit).

- One (1) minute pre-flush with pressure pump off. During this time, product (processed) water is diverted into the drain tank.

- Pressure pump starts. The pump will not start during a vend, but will wait for the vend to be completed. When the pump is running, water can be vended or dispensed normally and the pressure pump will continue to run.

- 1 minute post-flush with pressure pump off. During this time, product (processed) water is diverted into the drain tank.

Dispensing Cycle

Before water can be vended or dispensed, the following indicators must be lit:

1. Cabinet “Sump” leak level

2. “UV #1” (for drinking water)

3. “UV #2” (not used)

If the “Vend Water Supply” indicator is lit, this will prevent credit from being accepted (coin-op units only) and water from being dispensed or vended.

Refer to “Vending Operation” for the different settings for dispensing or vending water.

Drain Tank

The lower float in the drain tank must be in the “up” position for (3) seconds (continuous) to turn the drain pump on. When the float is down for 4 seconds (continuous), the pump will turn off.

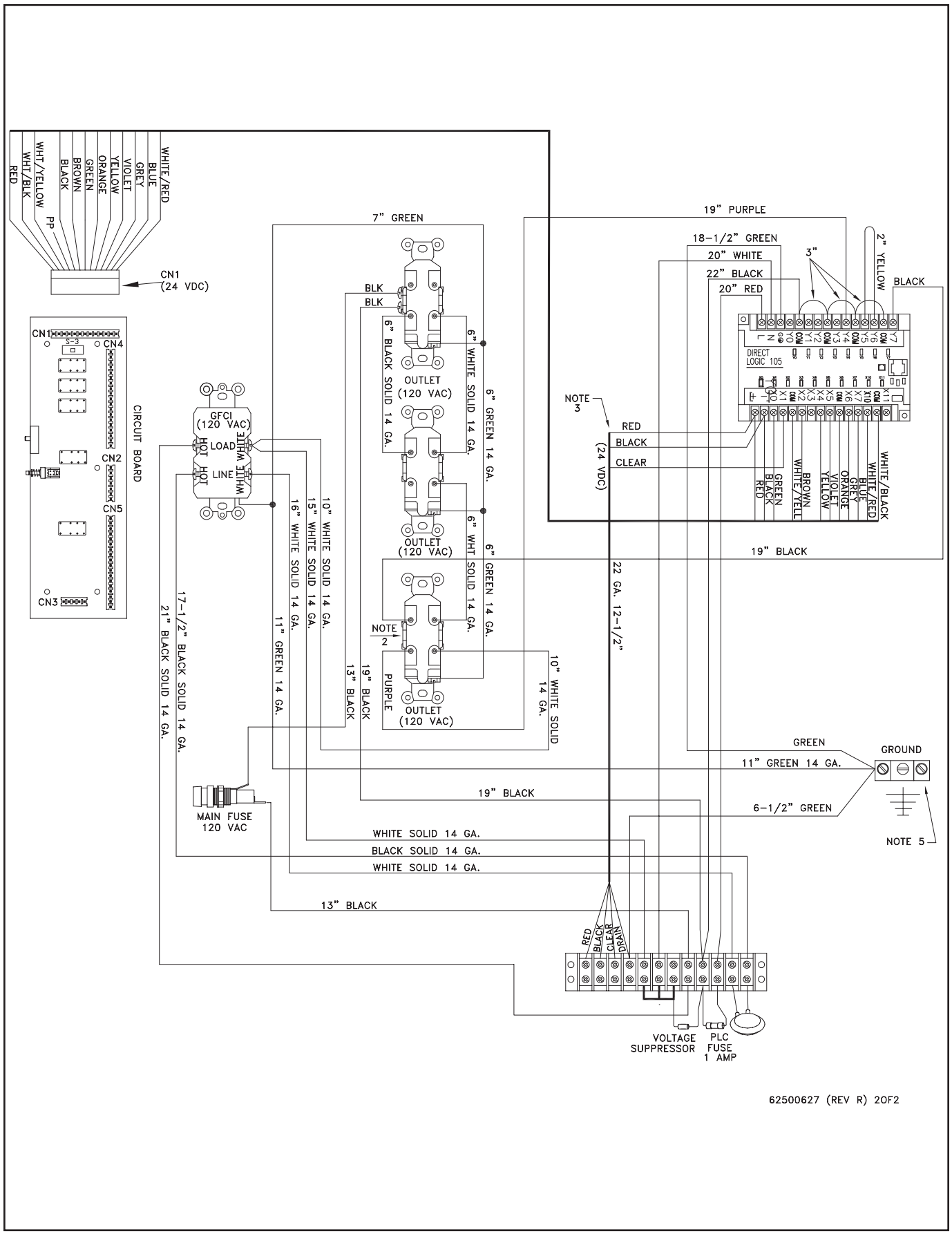
UV Temperature Flush

Water will be flushed through the UV for approximately (3) seconds every hour (only when the unit has not dispensed) to reduce the UV peak temperature. Every time water is vended or dispensed, the (1) hour timer will be reset, so that water is not wasted during times of normal usage.

Tank Recirculation, Open Tank

Water recirculates through the UV for approximately 0.1 minute every hour to keep the water in the tank fresh. The (1) hour timer will be reset every time water is vended or dispensed.

WIRING DIAGRAM
ELECTRICAL BOX



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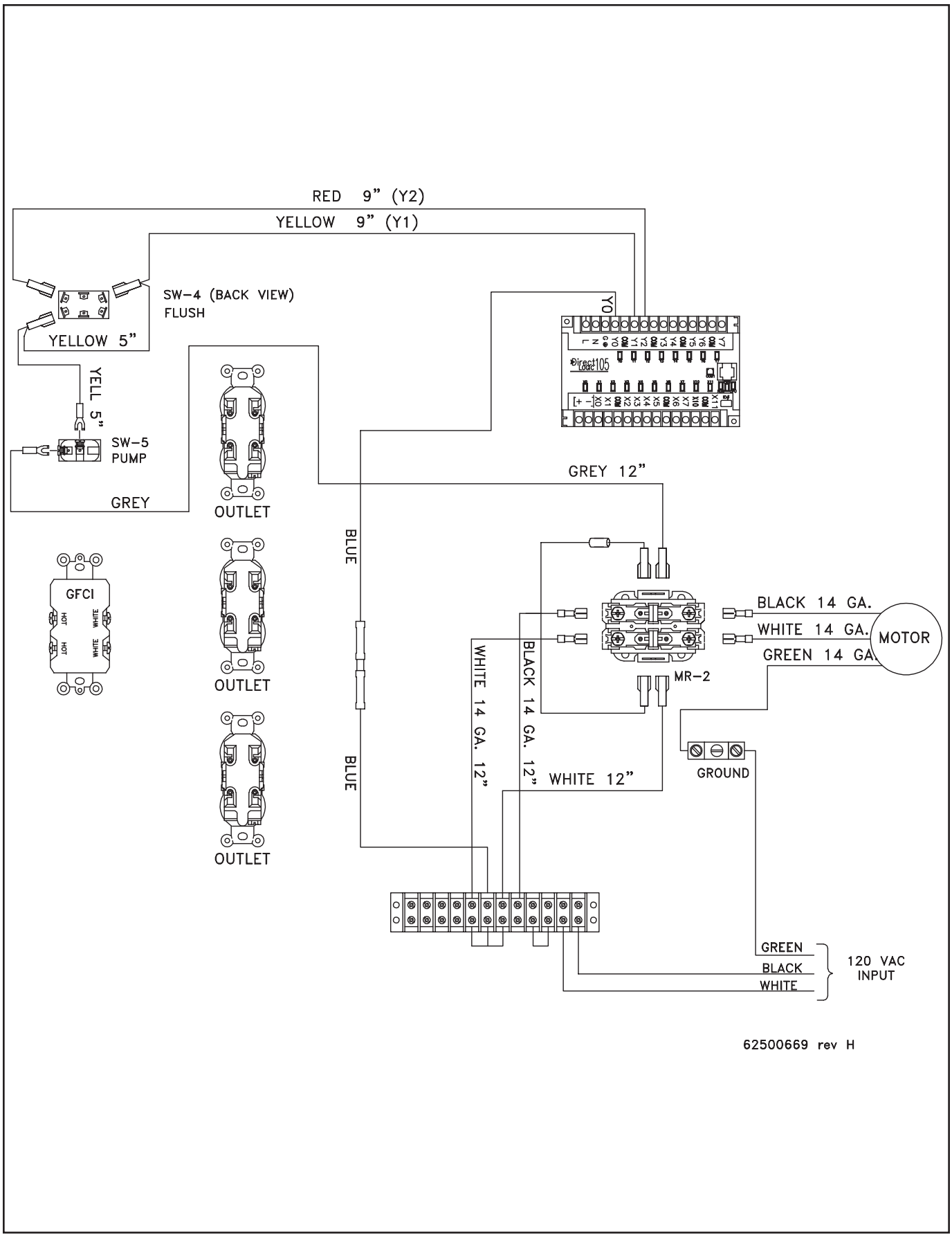
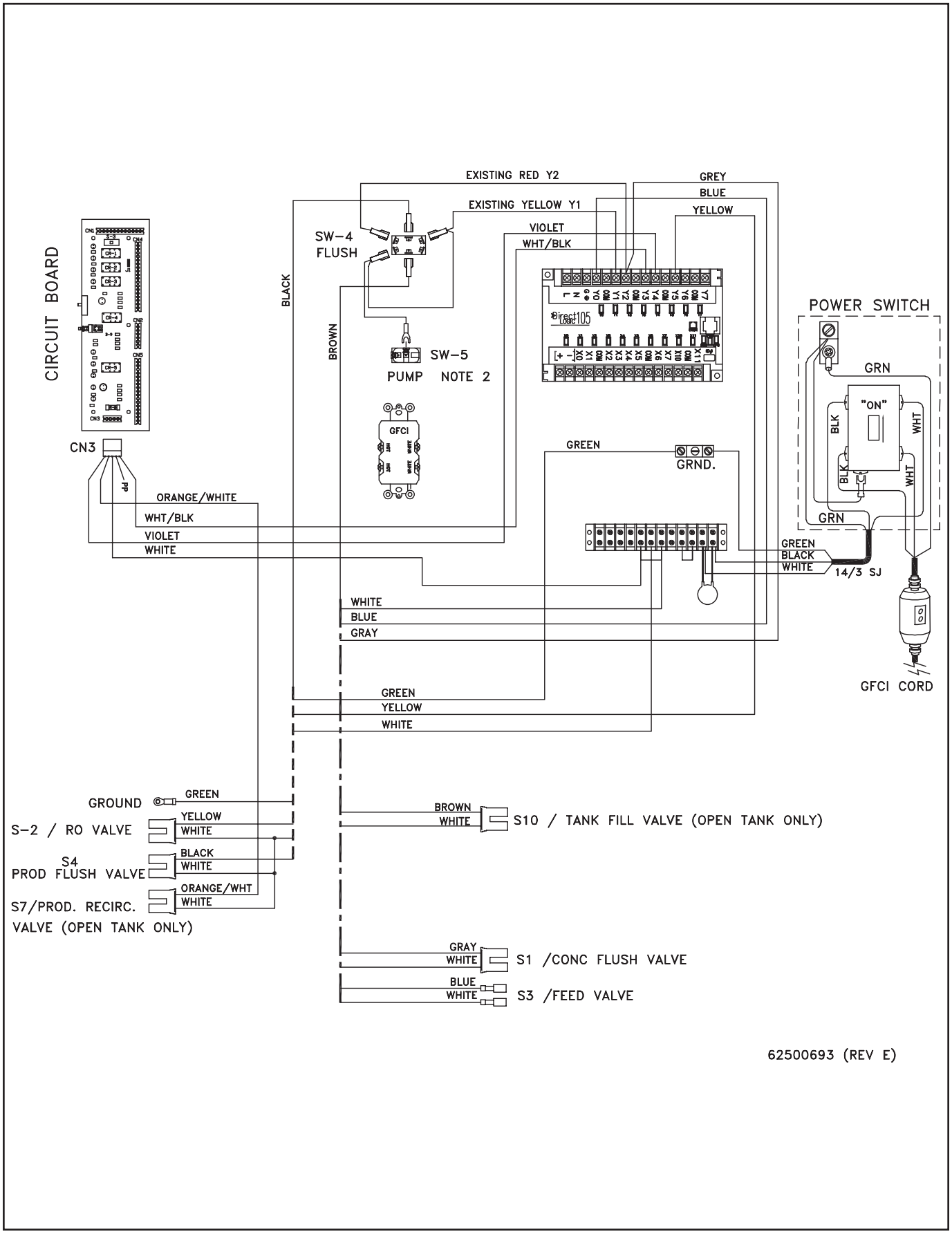
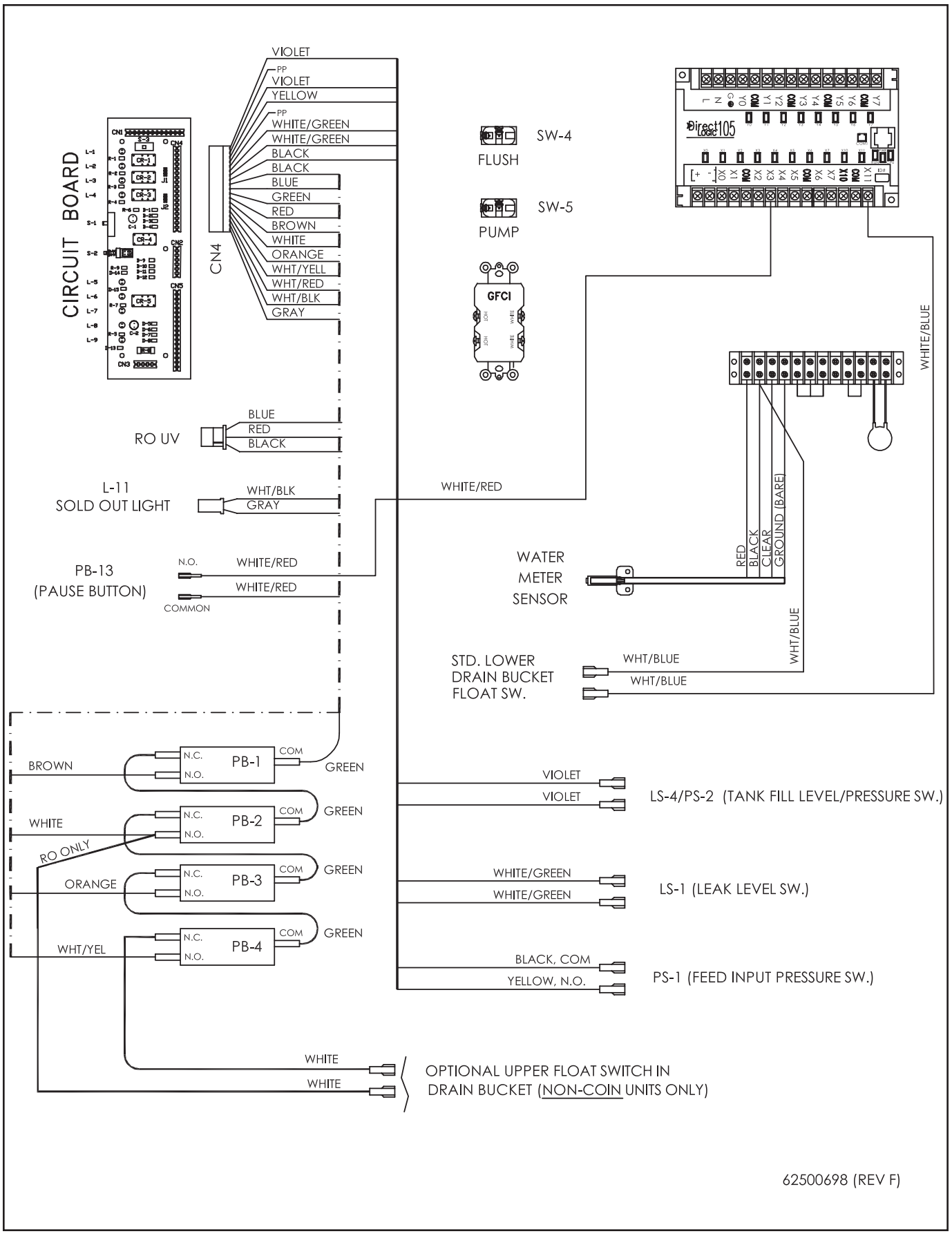
WIRING DIAGRAM
PRESSURE PUMP MODE



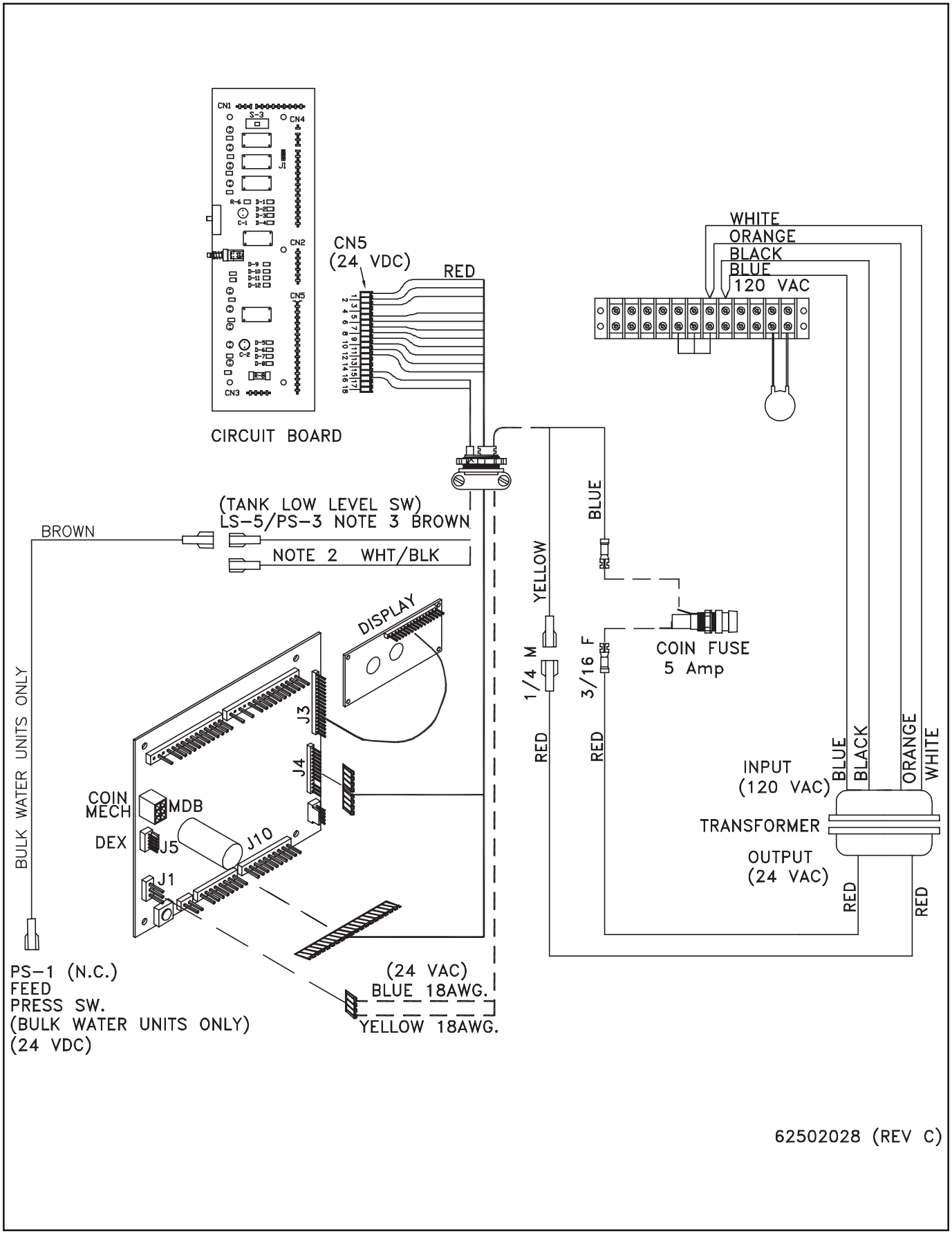
WIRING DIAGRAM
120 VAC HARNESS (ALL UNITS)



WIRING DIAGRAM
24 V DC HARNESS (ALL UNITS)



WIRING DIAGRAM
4 SELECT COIN MECH HARNESS (COIN MECHANISMS UNITS ONLY)



SOLENOID VALVES

FEED SOLENOID VALVE

1. The solenoid valve will be inoperative if the coil is defective or if no power is reaching the valve. Fix or replace as required.

2. The valve seat should be inspected and cleaned during conditions that are preventing a positive seal when off.

3. Any dripping fittings should be immediately tightened to avoid a potentially serious leak.

PLASTIC DISPENSER SOLENOID VALVE

1. The dispenser solenoid valve contains no field replacement internal components.

2. The solenoid valve inlet screen protects it from particles. This screen can be cleaned by flushing with clean water.

3. The solenoid valve will be inoperative if the coil is defective or if no power is reaching the valve.

4. Any dripping fittings should be immediately tightened to avoid a potentially serious leak.

MEASURING TDS

When taking a TDS reading, follow the specific instructions included with your meter. The following are general instructions for taking a TDS reading.

1. Rinse a cup with drinking or purified water.

2. Rinse your TDS meter probe with drinking or purified water. Shake off excess water.

3. Fill cup with sample water.

NOTE: In order to sample the feed water, the machine must be in a charging cycle. Vending two gallons from the dispenser will place the machine in a charging mode and allow sampling to be completed.

NOTE: When testing drinking or purified water, vend one gallon prior to taking samples.

4. Insert thermometer probe into sample. Take the temperature reading in degrees Celsius.

5. Push the temperature button on the TDS meter.

6. Adjust the temperature in the display to that of the thermometer by turning the temperature compensation knob.

7. Push the conductivity button on the meter, the TDS level will be displayed.

MEASURING CHLORINE

WARNING: Chlorine can damage the reverse osmosis membrane. Feed water, free chlorine must be 0 to 0.1 ppm maximum. Carbon filters must be replaced when the residual free chlorine approaches 0.1 ppm. Failure to maintain proper chlorine levels may void your warranty. If the chlorine level in the supply water us unusually high (greater than 1.0 ppm) additional pretreatment devices may be required.

1. Test Strips Packet #625-005-983

   Package of 50 strips that are dipped in sample. Follow instructions included with packet. Range 0.0-5.0 ppm free chlorine.

2. Hach Test Kit #625-002-070

WARNING: Chlorine Test Kit #625-002-070. The chemicals in this kit may be hazardous to the health and safety of the user if inappropriately handled. Please read all warnings before performing the tests and use appropriate safety equipment.

IMPORTANT:

- Use free chlorine (low range) test instructions 0-0.7 mg/L included with kit.

- To insure accurate results, read carefully before proceeding.

- The free chlorine concentration must be read within one minute of adding the DPD Free Chlorine Reagent.

NOTE: In order to sample the feed water, the machine must be in a charging cyle. Vending two (2) gallons from the dispenser will place the machine in a charging cycle and allow sampling to be completed.

1. Rinse the square mixing bottle thoroughly with the water to be tested. Fill the bottle to the 25-ml mark with the sample.

2. Use the clippers to open one DPD Free Chlorine Reagent Powder Pillow. Add the contents of the pillow to the mixing bottle. Swirl to mix as shown in Figure 5. The powder does not have to dissolve completely to obtain accurate results.

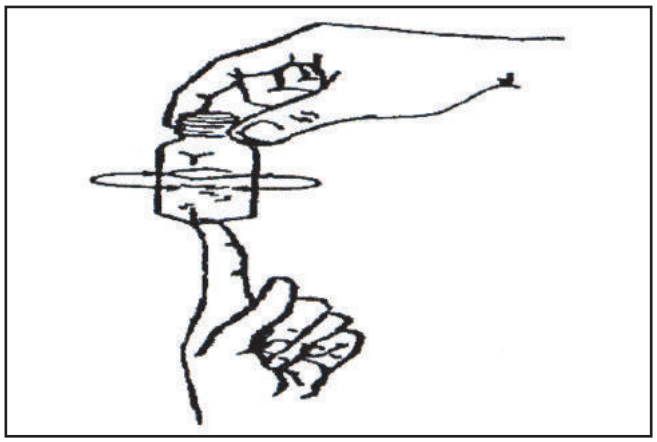


FIGURE 5

3. Fill one viewing tube within 1/16 inch of the top with the prepared sample. Stopper the tube carefully to exclude air bubbles.

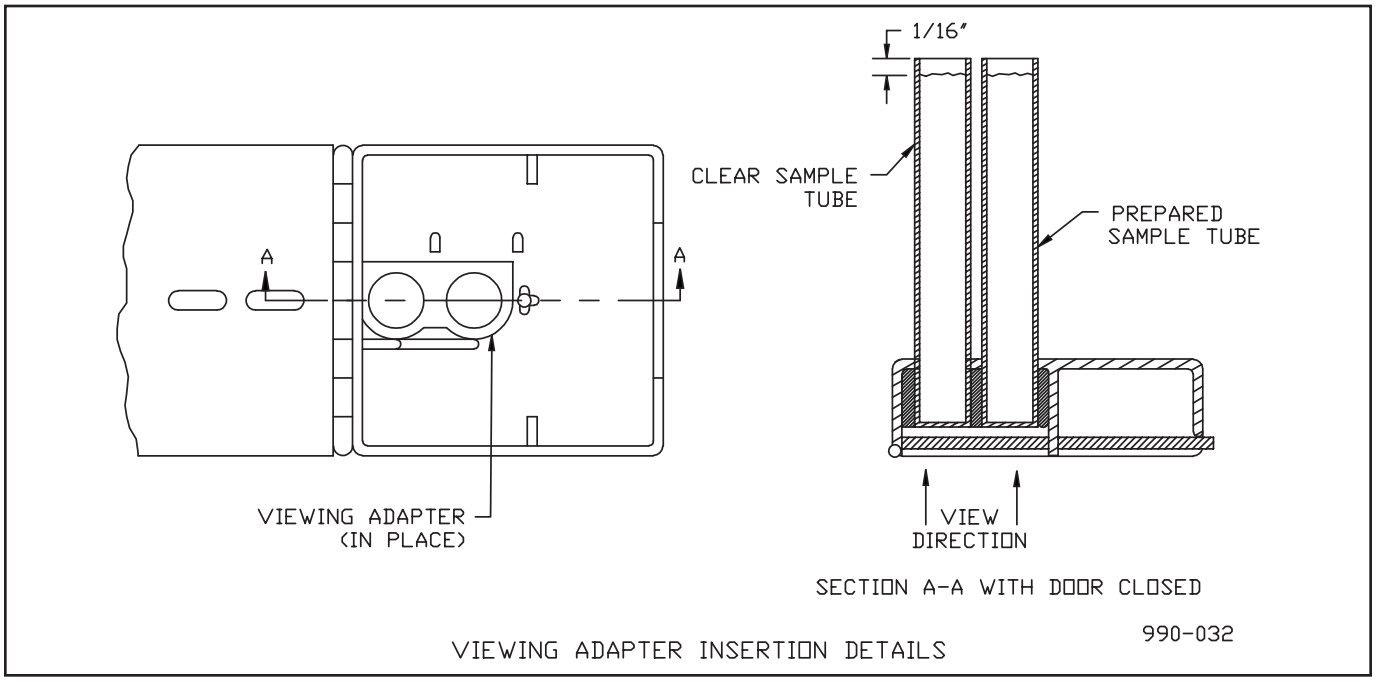
4. Place the lengthwise viewing adapter in the color comparator as shown in Figure 6.

5. Insert the tube of prepared sample into the comparator opening labeled Prepared Sample Position in Figure 6.

6. Fill the other viewing tube with an untreated water sample. Stopper the tube to exclude air bubbles. Insert this tube into the comparator opening labeled Clear Sample Position in Figure 6.

7. Hold the comparator up to a light source such as a window, the sky or a lamp and view through the openings in front. Rotate the disc to obtain a color match.

8. Read the chlorine concentration from the scale window within one minute of the addition of the powder. Divide the value by 5 to obtain the mg/L free chlorine.



VIEWING ADAPTER INSERTION DETAILS
FIGURE 6

CLEANING - SANITIZATION

CUSTOMER CONTACT SURFACES

Cleaning and disinfecting of the customer contact surfaces must conform to state and local codes. However, it is recommended that daily cleaning and disinfecting of the customer contact surfaces be performed.

The customer contact surfaces of the Water Vending Machines are the dispensing chamber and nozzle. The following steps outline their cleaning and disinfection procedure.

1. Wash off any dirt or debris in or around the dispensing chamber and dispensing nozzle with a mild detergent solution. Rinse with clean water.

2. Spray a chlorine based disinfecting solution at 100 ppm into the dispensing chamber and nozzle. Allow to air dry.

NOTE: Prepare 100 PPM chlorine based cleaning solution as follows:

- Mix one (1) gallon of clean RO water with one (1) tablespoon of standard household bleach containing 5.25 % sodium hypochlorite.

NOTE: Stronger more concentrated solutions of chlorine may cause rusting and damage to stainless steel and other components.

DRAIN TANK

The drain tank can get bacterial growth within a few days. Therefore, a regular cleaning procedure should be completed.

1. Remove drain tank from bracket.

2. Wash, rinse and disinfect internal surfaces using cleaning solutions above.

3. Fill drain tank with a gallon of clean R.O. water to verify prime of drain pump, and proper operation of float switches.

PLUMBING

This procedure should be used if a bacterial contamination is suspected in the vending machine. This contamination may occur when poorly treated water containing a high coliform count is fed into the machine. Although bacteria should not pass through the membrane, bacteria colonies may start to grow on the membrane surface coating it with a slimy film. Bacteria may also grow in the machine if it is taken out of service and stored without sodium metabisulfite membrane preservative. This growth can sometimes occur in a one to two week period depending upon the conditions. No matter the cause, if you suspect bacterial contamination of a vending machine, this contamination should be eliminated through the following sanitization procedure.

NOTE: Ideally, the membrane should be cleaned before sanitization. All membranes that have been in use for any period of time will have some degree of fouling. This may mask any attempts for complete sanitization.

WARNING: The temperature of your hydrogen peroxide sanitization solution should not exceed 75° Fahrenheit (24° centigrade) or damage to the membrane may occur.

- **Use only drinking (reverse osmosis) water to mix the .2% (by volume) sterilization solution.**

- **The maximum concentration of hydrogen peroxide (H202) that should come in contact with a R.O. membrane is .25% (by volume).**

- **If a R.O. membrane has been in operation for several months, it should be cleaned with an acid and/or alkaline cleaner before the sterilization procedures are completed.**

EQUIPMENT

The following materials will be needed for the disinfection of the vending plumbing system.

- Two (2) 5 gallon pails.

- 6 to 9 pints of 3% hydrogen peroxide.

MIXING INSTRUCTIONS

Vend 4.5 gallons of reverse osmosis water into two five gallon pails.

Add 3 pints of a 3% hydrogen peroxide solution to the water in each pail.

IMPORTANT: Always allow sanitizing solution to remain a minimum of 2 hours to 12 hours. The longer your exposure, the greater your killing time.

A. All Units - Before Next Sanitation Step

1. Empty storage tank.

2. Remove power (unplug unit).

3. Remove and discard ALL sediment and carbon filters.

4. Clean filter housing. Fill with sanitizing solution and replace on unit.

   NOTE: Do not install new filters at this point.

B. Storage Tank

1. Open Tank

a. Clean any debris from inside of tank.

b. Wash and rinse internal tank with a chlorine based disinfectant solution at 100 ppm. Drain chlorine base solution completely.

c. Add approximately 5 gallons of hydrogen peroxide sanitizing solution to tank.

d. Pump disinfectant solution through system by pushing vend button.

e. Allow solution to set in system for 2 to 12 hours. The longer your exposure time the greater the killing effectiveness.

f. Pump out all disinfectant solution from tank by holding vend button.

g. Install new post carbon filter.

   Let machine charge approximately 5 minutes then empty pressure tank by holding selector button to the “on” position, alternating between drinking and purified water option (if included).

   Triple rinse tank by repeating above step 3 times.

C. Pump/Membrane Cleaning

1. <u>Line Pressure Series (Open Tank).</u>

a. Add 5 gallons premixed sanitizing solution to storage tank. Cleaning tank inside as required.

b. Empty prefilters. Discard filters.

c. Disconnect the feed line from the outside rear of machine.

d. Remove the 3/8” hose from RO output solenoid located after UV light. Connect a hose from RO output solenoid to rear feed port of machine.

e. Plug in machine.

f. Vend approx. 3 gallons of tank solution into membrane pressure vessel.

NOTE: Vend pump will cycle on/off during this time.

g. Remove electrical power (unplug machine).

h. Allow this sanitizing solution to set for 2 to 12 hours of time. The longer your exposure time the greater the killing effectiveness if the solution.

i. Reconnect feed (input) and RO output solenoid valve.

j. Discard all sanitizing solution in tank and filter housings.

k. Install new sediment and carbon filters.

2. Pressure Pump Systems.

a. Disconnect the feed and drain (discharge) lines from the outside rear of machine.

b. Attach a 1/2 inch diameter plastic hose extension (approx. 3') to the feed (inlet) and discharge (drain) ports on rear outside of machine, place the ends of these two hoses in the 5 gallon sanitizing solution. You will be recirculating the solution to your 5 gallon container.

c. Unhook spade electrical terminals at low pressure input switch located at lower rear corner of machine. Connect with jumper the terminals together.

NOTE: This will temporarily bypass low pressure switch and allow pressure pump to run. Do not allow the 24 VDC terminals to contact metal cabinet or components.

d. Plug in machine and turn on pressure pump switch.

NOTE: Do not allow pressure pump to run dry. If pump does not prime in 15 - 20 seconds, shut off power. Recheck all hoses, 5 gallon sterilization solution and then retry pressure pump switch.

Recirculate this solution through the reverse osmosis membrane for 15 - 20 minutes.

IMPORTANT: Recirculate at low pressure <u>50 psi or less</u>.

e. Remove electrical power (unplug machine).

f. Allow this sanitizing solution to set for 2 to 12 hours of time. The longer your exposure time the greater the killing effectiveness of the solution.

g. Discard all sanitizing solution in storage tank and filter housings.

h. Install new sediment and carbon filters.

COIN MECHANISM

COIN MECHANISM OPERATING FEATURES

NOTE: The coin control board supports 24 volt standard multi-drop bus (MDB) changers with a six (6) pin connector. Contact Coster Engineering for a correct list of MDB peripherals which have been tested and found to work in conjunction with the Coster 4-Select Electronics Package.

CREDIT ACCUMULATION

Credit acceptance will be disabled when the accumulated credit equals or exceeds the highest price item. Bill acceptance is enabled when the coinage currently held in the changers coin tubes is greater than the bill to be accepted and the correct change light is off.

EXACT CHANGE

"Please Use Exact Change" is displayed when Coin Changer tubes fall below a minimum level. Bill acceptance is not allowed when "Please Use Exact Change" is displayed.

SERVICE MODE

Various Features and Options are accessed through the Service Mode of the Vending Machine Controller, (VMC). The Service Mode is comprised of three functional areas or "Menus":

-System Errors Menu
-Main Menu
-Help Menu (accessed through Main Menu)

ENTERING THE SERVICE MODE:

1. Vending machine must be in "Coin Mode" with the power on.

2. Press the round yellow push button on the VMC (See figure 7). An audible "beep" signals the service mode has been accessed. Either the System Errors Menu (If system errors are present) or the Main Menu (if no errors are present) will be displayed.

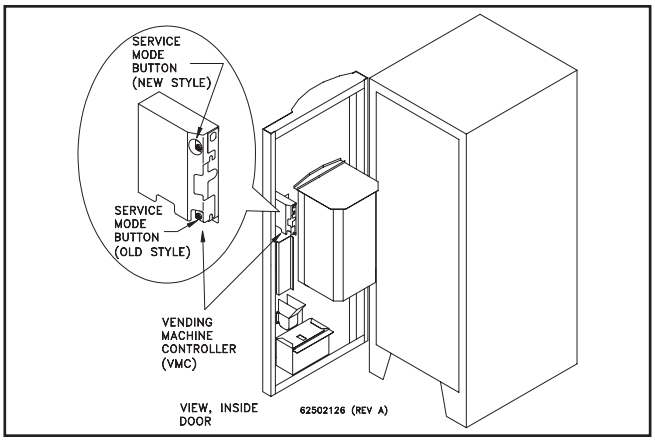


FIGURE 7

SERVICE MODE NAVIGATION

The front push buttons are used to navigate (or scroll) through the service mode.
PB-1 (Selection Push Button #1) = KEY 1 = **"Scroll UP"** in screen menu
PB-2 (Selection Push Button #2) = KEY 2 = **"Scroll DOWN"** in screen menu
PB-3 (Selection Push Button #3) = KEY 3 = **"Execute"** Function
PB-4 (Selection Push Button #4) = KEY 4 = **"Cancel"** / exit service mode

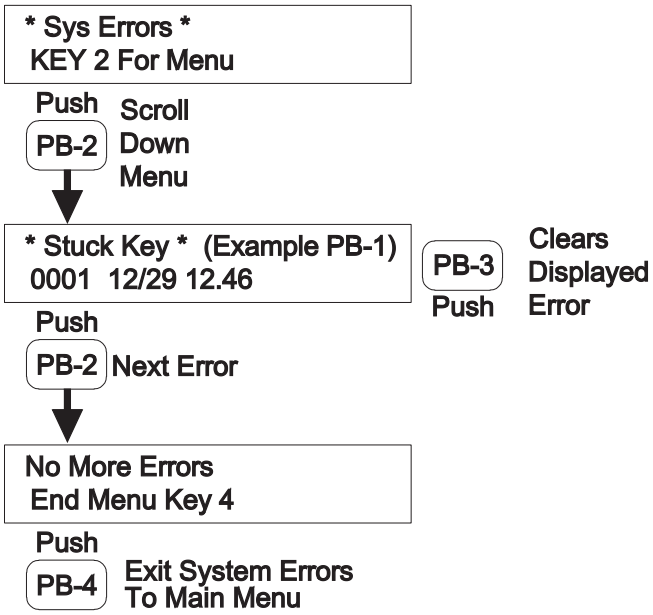
SYSTEM ERRORS MENU:

Displayed only if System Errors are present. Note: Displayed errors will list error type, date, and time the error was detected.

1. Record (write down) all errors before to aid in future troubleshooting.

2. Clear each displayed error by pushing PB-3. Note: Errors which are not cleared will again be displayed next time the service mode is entered. In the case of Motor Errors, any locked out selection buttons will remain locked out.

System Errors Menu



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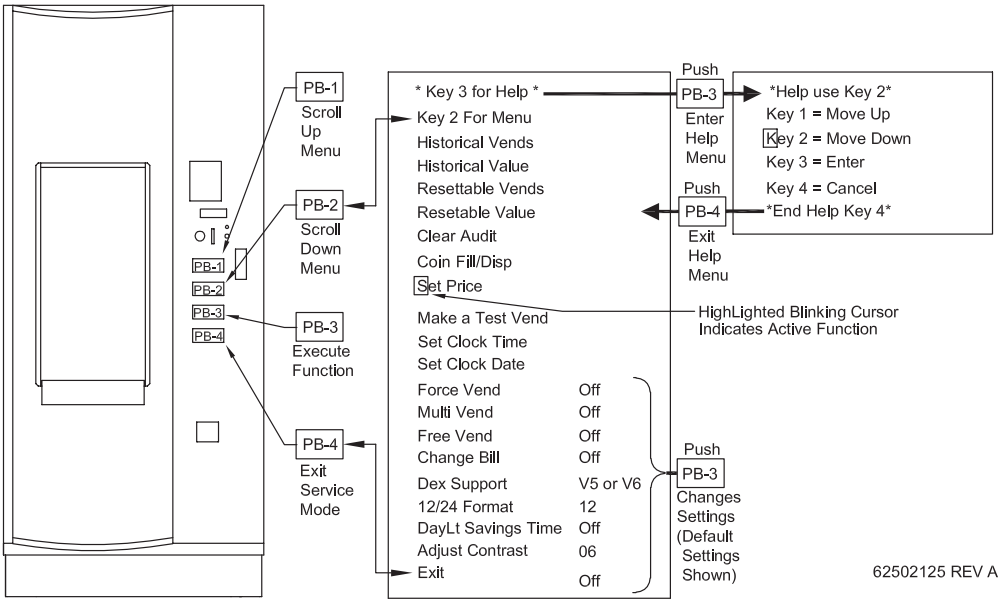


SETTING PRICE

1. Enter Service Mode.
2. Scroll through menu to “Set Price”, push “PB-3”
3. Push desired selection button for price change.
4. Change price as follows:

a. PB-1 = Increases Price

b. PB-2 = Decreases Price

c. PB-3 = Saves Price change.

d. PB-4 = Cancels Price change.

MAKE A TEST VEND

1. Enter Service Mode.
2. Scroll through menu to “MAKE A TEST VEND”, push “PB-3”
3. Push desired selection button for Test Vend.
4. Unit will;

a. Start Vending if all conditions are OK.
VMC automatically returns to Main Menu.

b. Display Sold Out, which indicates a component needs repair.

COIN FILL/DISPENSE

1. Enter Service Mode.
2. Scroll through menu to “Coin Fill/Disp”, push “PB-3”
3. Select coin type to be dispensed.

Note: Some Coin Changers feature coin dispense buttons, allowing coin dispensing without entering the service mode.

SET CLOCK TIME/CLOCK DATE

1. Enter Service Mode.
2. Scroll through Main Menu to “Set Clock Time” or “Set Clock Date” Push “PB-3”.
3. Change Clock Time or Date::

a. PB-1 = Increases Time/Date parameter

b. PB-2 = Decreases Time/Date parameter.

c. PB-3 = Scrolls to next parameter to change.

d. PB-4 = Cancels Changes, returns to Main Menu.

ADJUST CONTRAST

1. Enter Service Mode.
2. Scroll through menu to “Adjust Contrast” Push “PB-3”.
3. Adjust Contrast

a. PB-1 = Increase Contrast (Lighter Display).

b. PB-2 = Decrease Contrast (Darker Display).

c. PB-3 = Save Contrast Setting.

Important: Do not save (Push PB-3) when the display is either to dark or to light to read. To adjust or recover from a unreadable contrast display setting:

1. Enter The Service Mode (1 Audible Beep).
2. Press PB-2 Eighteen Times (18 Audible Beeps).
3. Press PB-3 One Time (1 Audible Beep).
4. Press PB-1 To Increase Contrast (Lighter Display) or PB-2 to Decrease Contrast (Darker Display) as required.

Note:

1. The VMC has a battery backup and retains the correct time when power is removed. If correct time is not retained, replace battery.

2. **Important:** Correct time setting is required for accurate DEX function reports.

ACCOUNTABILITY

1. Enter Service Mode.

2. Scroll through Menu to desired accounting parameter, push PB-3.

a. Historical Vends: Total Number of paid vends.

b. Historical Value: Total Value of paid vends.

c. Resettable Vends: Number of paid vends since “Clear Audit” was last used.

d. Resettable Value: Value of paid vends since “Clear Audit” was last used.

e. Clear Audit: Clears Resettable Vends and Resettable Value simultaneously

3. VCM will;

a. Display Vend, Value Count, or

b. Clear Resettable Vends and Resettable Value.

VEND OPTIONS

FORCE VEND OPTION

Default Setting: **Off**

When “Off”, (disabled) this option allows the customer to return coins using the coin return button without first attempting a vend selection.

Note: When the “force vend” option is “Off”, (disabled) it will allow your machine to be used as a bill changer (i.e. customer inserts bills into acceptor, presses the “coin return button”, and gets coins in return with out making a selection.) This may cause your coin tubes to be prematurely depleted.

When “Force Vend” is “On” (enabled) the customer must attempt a selection before coins will be returned. Force vend does not apply to credit from card reader.

MULTI-VEND OPTION

Default Setting: **Off**

Prevents automatic credit return following a successful vend. Remaining credit is shown on the display, and the customer can add credit, make a selection, or return credit using Coin Return button.

Free Vend Option Default Setting: Off When “Free Vend” is “On”, (enabled) all selection buttons will vend without the customer establishing credit. “Free Make Selection” will be displayed and all credit acceptance will be disabled.

Note: Setting an individual selection button price to “0” (Zero), will enable that selection button to vend without establishing credit (Free).

CHANGE BILL OPTION

Default Setting: **Off**

When “Change Bill” is “On”, Bill credit will be returned as coins.

Note: This allows the unit to be used as a Bill Changer, which may deplete coin tube inventory below minimum levels, causing “Please Use Exact Change” to be displayed

DEX SUPPORT OPTION

Default Setting: **V5 Or V6**

Only used if a DEX reporting device (optional) is connected to VMC. Setting may very.

12/24 FORMAT

Default Setting: **12**

This option changes the Clock Setting between 12 and 24 hour formats.

DAYLIGHT SAVINGS TIME

Default Setting: **Off**

When “Daylight Savings Time” is “On”, automatic USA Daylight Savings Time correction is enabled.

Vending Machine Controller Error Codes

ERROR NAME	ORIGIN	RESOLUTION
BV Check Sum	Bill Validator: internal problem has occurred in the firmware.	Repair or replace bill validator.
BV Communication	Bill Validator, VMC, or cabling: communications between VMC and validator stopped unexpectedly.	Ensure cabling between VMC and validator is secure, with no broken wires. In unusual cases, bill validator or VMC may need to be replaced.
BV Jammed Bill	Bill Validator: a bill has jammed in the acceptance path.	Remove the jammed bill.
BV Motor	Bill Validator: one of the motors has failed.	Repair or replace bill validator.
BV Open Box	Bill Validator: cash box was removed while the machine door was closed.	Ensure that the cash box is firmly seated on the validator. Check that the main door switch is connected properly to the VMC. Ensure that the machine door switch is not stuck closed.
BV Sensor	Bill Validator: one of the sensors has failed.	Repair or replace bill validator.
BV Stalker Full	Bill Validator: cash box is full.	Empty the cash box.
CC Check Sum	Coin Mech: internal problem has occurred in the firmware.	Repair or replace coin mech.
CC Communication	Coin Mech, VMC, or cabling: communications between VMC and coin mech stopped unexpectedly.	Ensure cabling between VMC and coin mech is secure, with no broken wires. In unusual cases, coin mech or VMC may need to be replaced.
CC Jammed Tube	Coin Mech: a payout tube has jammed.	Check for coin jams. On mechs with removable cassettes, ensure that the cassette is seated properly.
CC Sensor	Coin Mech: one of the payout tube sensors is behaving abnormally.	Repair or replace coin mech.
CC Unplugged	Coin Mech: the acceptor module seems to be missing.	Repair or replace coin mech.
CR Card Error	Card Reader: the payment media is defective.	This is an informational message; the problem may be limited to one particular card.
CR Communication	Card Reader, VMC, or cabling: communications between VMC and card reader stopped unexpectedly.	Ensure cabling between VMC and card reader is secure, with no broken wires. In unusual cases, card reader or VMC may need to be replaced.
CR Invalid Card	Card Reader: payment media problem.	This is an informational message; the problem may be limited to one particular card.
CR Jammed Card	Card Reader: payment media has jammed inside the reader.	Clear the jam.
CR Service Soon	Card Reader: reader device requires maintenance.	Perform maintenance as recommended by reader's manufacturer.
CR Tamper	Card Reader: a security breach has been detected.	This is an informational message.
Motor Error (s)	VMC: a vend motor is missing, jammed or defective home switch	Correct fault and "make a test vend" to reset VMC motor error.
Stuck Key	VMC: A selection button or keypad key has been depressed for an abnormally long time.	Repair or replace selection button or machine keypad.

TROUBLE SHOOTING GUIDE

The trouble shooting section is divided into three guides. The first explains the indicator lights located on the front of the electrical box and should be your first resource when trouble shooting the machine. The second is a general guide to some of the more common problems in the machine and how to fix them. The third and final guide explains the function of the PLC input/output lights, and should only be used if the previous guides have failed.

ELECTRICAL BOX INDICATOR LIGHTS

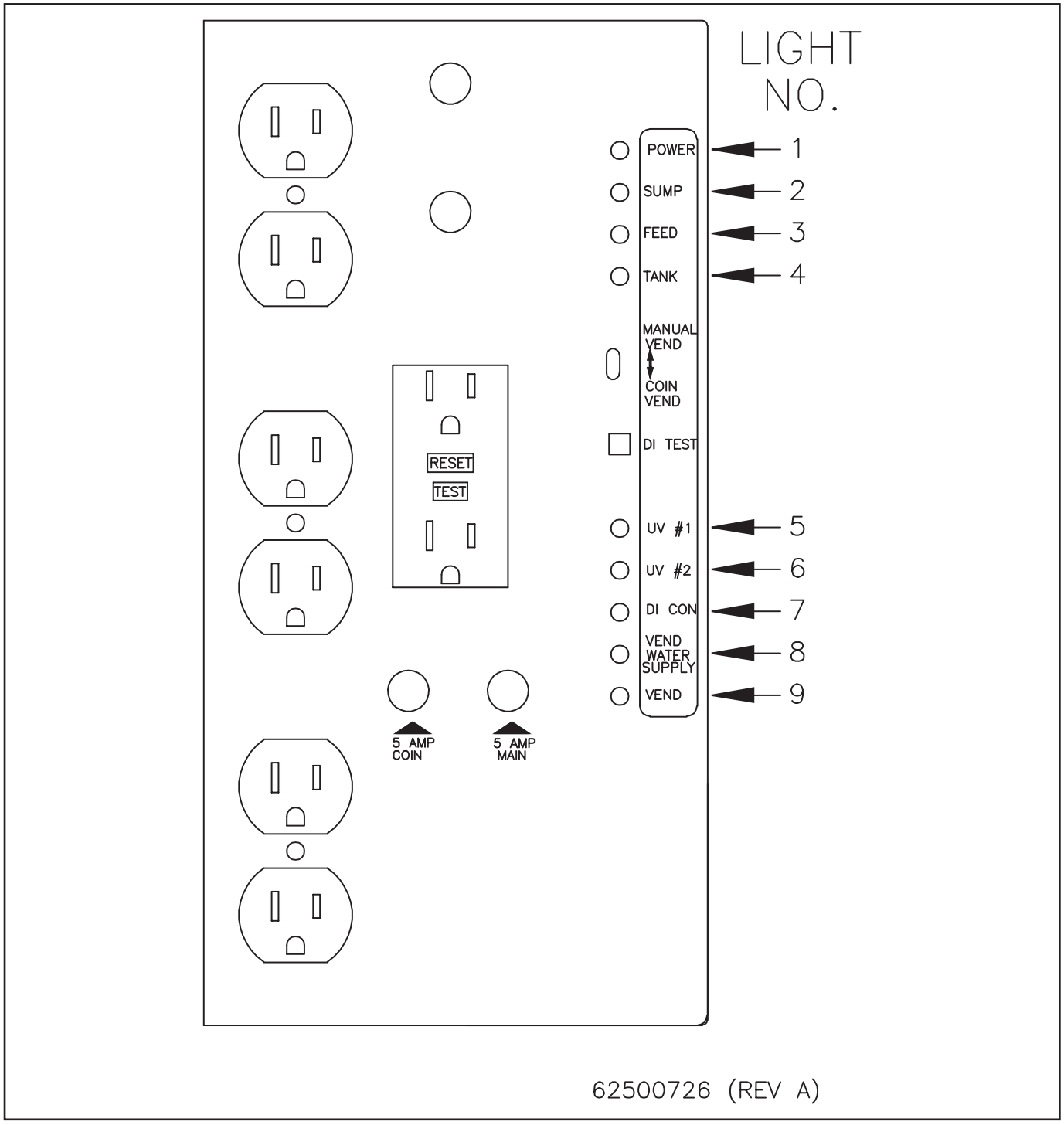
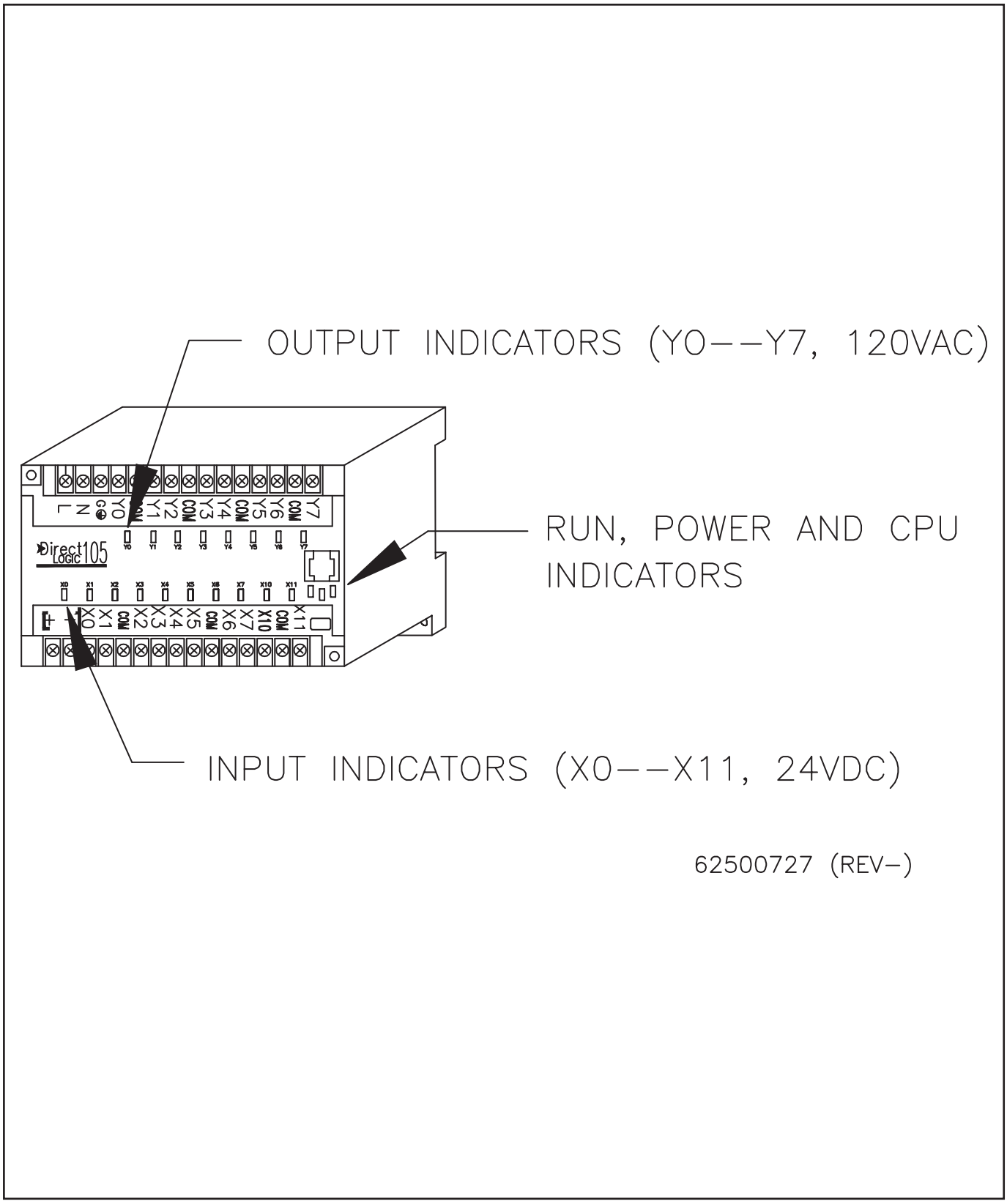


FIGURE 8

ELECTRICAL BOX INDICATOR LIGHTS
(Refer to Figure 8)

DESCRIPTION	"ON" INDICATES	"OFF INDICATES	PROBLEM CORRECTION
1. Green Main "power"	No problem Power on	Problem Unit unplugged Main 5 amp Fuse blown PLC 1 amp fuse blown (Refer to wiring diagram page 28.) Tripped GFCI	---- Plug in Check for shorted voltage suppressor (Refer to Electrical Box Wiring Diagram and Electrical Box Component Location) Check for shorted wires. Replace fuse. If fuse blows again, replace PLC. Reset, check for ground faults and loose wires.
2. Green Cabinet "sump"	No problem Sump dry	Problem Machine flooded Bad level switch	---- Check for leaks, fix, remove water. Replace level switch (Ls-1)
3. Green "Feed" pressure	No problem Sufficient water supply pressure	Problem Insufficient water supply pressure Bad pressure switch (ps-3)	---- Open supply valve, fix supply line restriction, repair or replace supply pump Replace pressure switch
4. Green Storage "Tank"	Storage tank needs to be filled.	Storage tank is full/or light 1, 2, and/or 3 are also off.	**NOTE: Lights #1, 2, 3 must be on.**
5. Green "UV #1 light"	No problem UV working	Problem UV assembly not working Drinking water will not vend	---- Check UV cord/plug connections, replace bulb, ballast if needed. **NOTE: Light NO. 1 and NO. 2 must be on.**
6. Green "UV #2 Light" (Optional DI)	No problem Unit is on line.	Problem UV is either not present or defective. Purified water (DI) will not vend.	---- Check UV cord/plug connections, replace bulb, ballast if needed. **NOTE: Light NO. 1 and NO. 2 must be on.**
7. Red Purifed water "(DI)" conductivity.	Problem DI test button pushed. DI tank exhausted.	Problem DI tank NOT present. DI tank OK	---- Push DI test button. Replace DI tank.
8. Red "Vend water supply"	Problem Insufficient water supply pressure. Bad presure switch	No problem Sufficient water supply pressure	---- Open supply valve, fix supply line restriction, repair or replace supply pump. Replace pressure switch
9. Green "vending"	Unit is vending (light is slightly delayed)	Unit is not vending	----

PLC AND GENERAL TROUBLE SHOOTING



PLC INDICATOR LIGHTS FIGURE 9

GENERAL TROUBLE SHOOTING

PROBLEM	CAUSE	CORRECTION
1. Machine will not charge or Pressure pump will not start **NOTE:** **A. Electrical Box Indicator Lights # 1, 2, 3, and 4, Fig. 8 and PLC Indicator Light Fig. 9 XO Input, and YI Output must be ON for pressure pump to start.**	Pressure pump switch on the electrical box in off position. Water in sump of machine. Feed line shut off valve closed. Supply pressure too low. Inlet solenoid valve closed. Fuse Blown. Low input voltage. Faulty relay MR-2. Defective inlet pressure switch. Defective tank press/level switch.	Turn on switch. Drain water. Open valve. Check that all supply valves are open, and no obstructions in line. Dissassembly and clean and/or check for power to coil (see electrical sect.). Replace/reset. Check external supply circuit. Replace, check polarity of receptacle (see electrical sect.). Replace. Replace.
2. Pressure pump cycling rapidly on and off. NOTE: Indicator Lights see #1 above.	Supply pressure too low/supply line overloaded.	Increase the I.D. of supply line. Shorten distance to supply hookup. Decrease loading of supply line (i.e. remove other electrical devices).
3. Pressure pump noisy.	Pre-carbon or sediment filter dirty. Drawing air in through loose fittings.	Replace Tighten.
4. Drain pump won't start or stop.	Defective switch. Dirt in check valve.	Check and replace if necessary (see electrical sect.). Remove pump head and clean or replace.
5. Purified water TDS too high.	DI resins exhausted.	Replace DI tank (see DI tank sect.).
6. Drinking water TDS too high	Membrane fouled. TDS of feed water in- creased	Clean membrane (see R.O. element sect.). Consult factory.
7. Chlorine detected after pre-carbon filter.	Pre-carbon filter exhausted.	Replace carbon filter (see filter sect.).
8. Dispenser nozzle leak.	Dirt or worn seal in solenoid valve.	Clean or replace seal in solenoid valve (see solenoid valve sect.).

GENERAL TROUBLE SHOOTING

PROBLEM	CAUSE	CORRECTION
9. Water will not dispense. **NOTE:** **A. Indicator Light # 1, 2, and 5, Fig. 8 must be On to dispense water.** **B. Coin Mech. Option:** **Red Light #8 Fig. 8 must be Off.** **C. Purified (DI) Option:** **Green Light #6 On; Red Light #7 Off Fig. 8.**	Dispenser solenoid valves. Pressure storage tank shut off valve. System not charged. UV light bulb burnt out. Dispensor Pump (open tank units only).	Check power to valve and/or disassemble and clean (see solenoid sect.). Open valve. Charge up system. Replace bulb (see UV light sect.). Check plug in or replace.
10. UV light will not light.	Dirt in check valve. Defective UV lamp	Remove pump head and clean or replace. Replace.
11. Low UV output reading.	Old or defective lamp. Dirty lamp or quartz.	Replace. Remove and clean carefully.
12. Excessive system operating pressure.	Valve closed too much. Obstruction in concentrate drain line.	Open pressure regulating valve. Clean lines.
13. Long vends.	Defective water meter or volume incorrectly set.	Check for needle rotation while vending. Rotation should be smooth and continuous. Recalibrate volume.
14. Short vends.	Low field pressure or volume incorrectly set.	Increase pump or feed line size. Recalibrate volume.
15. Multiple electrical problems on a NEW machine.	Low voltage or switched polarity. Check voltage and polarity.	Call electrician to correct problem.
16. Coin mechanism will not accept money.	Coin mechanism defective. “Out of Service” light is on.	Replace. See #18.
17. Out of Service” light is on.	Defective UV. No water in storage tank. Water flooding bottom of machine.	Replace UV or ballast. Refer to #1 , #10. Remove water and fix leaks.

PLC INDICATOR LIGHTS. (Ref. Fig. 9)

The PLC is the heart of the control system, and each input and output has a corresponding LED which is lit when the input or output is energized. The following table lists each LED, a short description of its function and how it relates to other functions in the machine. In general, if an output is lit, but the corresponding component is not working, a wire or component failure has probably occurred. If an input should be lit, but isn't then again, it can probably be traced to a failed component or wire. Use the wiring diagrams in electrical section to help trace specific component or wiring problems. In rare instances, the PCB controller or PLC may have failed.

INDICATOR	DESCRIPTION	FUNCTION
PWR	Power	Should always be on. If not; check PLC 1 amp fuse, power wiring to PLC or replace PLC. (Refer to wiring diagram to page 28.)
Run	Run Mode	Should always be on in the field. If not; replace PLC.
CPU	CPU Fault	If lit; cycle power to unit. (Off for at least 5 seconds.)If still lit; replace PLC. **NOTE: Thoroughly test all functions of machine after a CPU fault is cleared.**
INPUTS	(Fig. 9)	
XO	Call for Water	When the first four green indicators (power, feed, sump, tank) on electrical box are lit, this input should be energized, and the charging (tank filling) process should begin with Y0, the Y1 energizing.
X1	Water Meter	This LED should flash rapidly while water is vending, if not then adjust water meter sensor, check wiring, or replace sensor.
X2	Run/Calibrate Switch	LED should be lit when switch "B" is in "calibrate" position, Fig. 5 or in the "manual" (non-coin) mode, when the stop button on front of machine is pushed or upper drain float is activated.
X3	Pause Button	Should light when red pause button (PB-13) is pressed.
X4	PB-1	Lit when first selection button is pressed.
X5	PB-2	Lit when second selection button is pressed.
X6	PB-3	Lit when third selection button is pressed.
X7	PB-4	Lit when fourth selection button is pressed.
X-10	DI Test	Lit when the DI test switch is pressed.
X-11	Drain Tank Float	Lit when drain tank level goes above lower float switch.
OUTPUTS	(Fig. 9)	
YO	Feed Inlet Valve	When lit, feed valve should be open.
Y1	Pressure Pump/Prod . Flush Valve	When lit, motor contactor/pressure pump should be energized, and product flush valves (S4 & S10) should be directing water to storage tank.
Y2	Conc . Flush Valve	When lit, concentrate flush valve (S-1) should be open. (charging post flush sequence).
Y3	Master Vend Relay	When lit, machine should be dispensing water. (locks out coin mech. until completion of current vend)
Y4	Vend Pump/Recirc. Valve	When lit, vend pump should be energized, and storage tank recirc. valve S-7 should (except when vending) be open.

INDICATOR OUTPUTS	DESCRIPTION	FUNCTION
Y5	RO Solenoid Valve	When lit, RO valve S-2 should be open in response to either the first or second selection button (PB-1 or PB-2) being pressed.
Y6	R.O. Solenoid Valve	When lit, RO valve S-2 should be open in response to either the third or fourth selection button (PB-3 or PB-4) being pressed.
Y7	Drain Pump	When lit, drain pump should be energized.

SERVICE PARTS

It is the policy of Coster Engineering to constantly improve its products whenever it is practical to do so.

Coster Engineering must therefore reserve the right to redesign or change its equipment or component parts thereof without incurring the obligation to install or furnish such changes on equipment previously delivered.

INSTRUCTIONS FOR ORDERING PARTS

1. The reference numbers in the illustrations correspond to the numbers shown in the "Reference Number" column in the parts listing. The quantity in the "number required" column is the number of parts used in the accompanying illustration. The term "A/R" for number required indicates "as required" where the quantity may vary. Order all parts by their part number and description.

2. Always mention the identification number of the code and serial numbers found on the name plate of the unit on which the part is to be used. Much delay and confusion can be avoided when correct numbers are specified on parts order and correspondence.

3. Owner, order all parts through your local dealer.

4. Dealers must indicate how to ship; whether by truck, rail freight, express, or parcel post.

5. Collect phone calls are not accepted.

6. Address all orders for parts as follows:

COSTER ENGINEERING
58766 240th St.
P.O. BOX 3407
MANKATO, MN 56002-3407
PH (507) 625-6621
FAX (507) 625-9124

INSTRUCTIONS FOR RETURNING PARTS FOR ADJUSTMENT

1. To assure prompt handling of claims, your dealers should follow standard claim and forward claim procedures within thirty (30) days, of any part failure or malfunction believed to be a warranty claim.

2. No returned part will be accepted unless they are transportation prepaid and accompanied by the packing list, copy of the returned goods authorization form, or the packing list copy of the warranty claim form.

3. Parts returned should have a tag attached with sender's name and address clearly printed.

DISCLAIMER

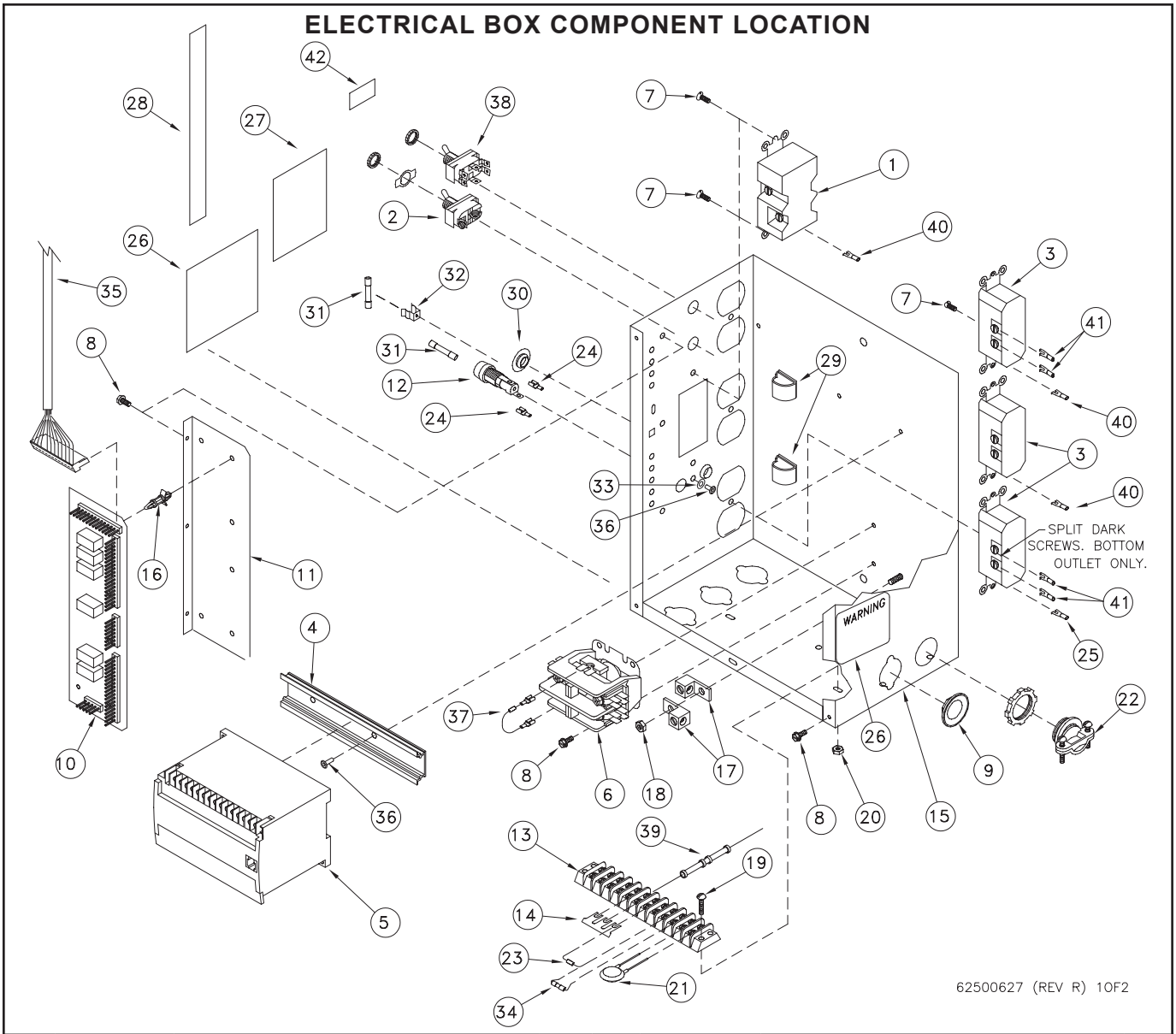
This supplement contains additional information that is specific to units. It is used in conjunction with the basic machine operator's manual which includes safety and operational information.

Retain all manuals for future reference. Read all and understand all manuals in their entirety before operation or service.

The information contained in this manual is subject to change without notice.

Coster Engineering shall not be liable for technical or editorial omissions made herein; nor for incidental or consequential damages resulting from the furnishing, performance, or use of this material.

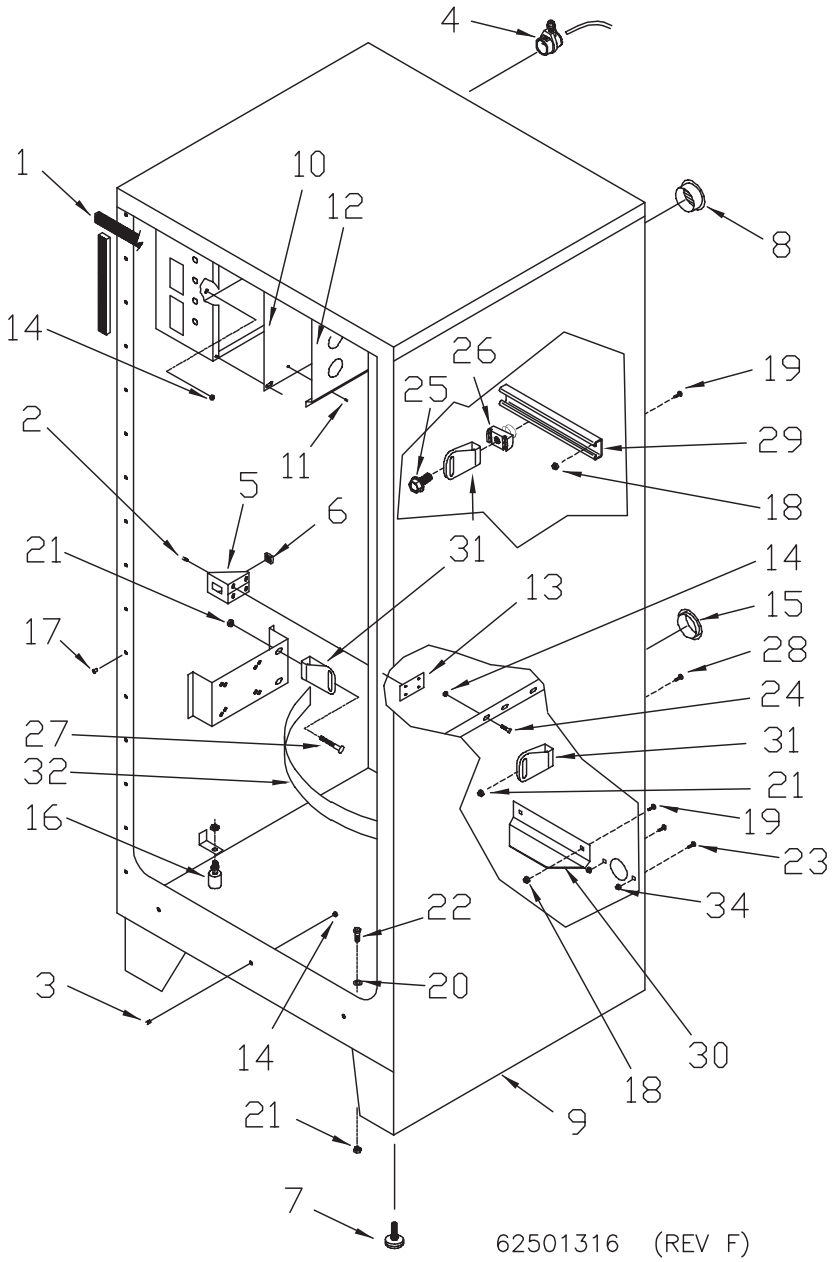
ELECTRICAL BOX COMPONENT LOCATION



REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	*625-004-068	Receptacle, 125 15 Amp GFCI	1	22	625-001-312	Fitting Electrical,Romex Connect 3/4	1
2	625-001-232	Switch, Toggle Single Pole 20A	1	23	*62501684	Suppressor, 200V BIDIR TVS	1
3	625-004-252	Receptacle, 15 Amp 110 VAC	3	24	62500631	Terminal, 3/16 F SDRL 22/18	2
4	625-900-334	DIN Rail, Electrical Box	1	25	62502962	Terminal, Spade #10 Flanged	1
5	**62501824	Kit, PLC Replacement	1	26	62502954	Decal, Warning Electrocution	2
6	62500549	Relay, Contactor 2 Pole 30/40a	1	27	62500632	Decal, Fuse-pump	1
7	950-004-024	Machine Screw #6-32 x 3/8 Slotted Pan Head	5	28	62500633	Decal, CB Led Display	1
8	950-005-006	Self-Tap Screw #8-36 x 3/8 SHW HD	7	29	62500156	Clamp, 3/4 Self Adhesive	2
9	625-004-073	Seal, Knockout 3/4 Steel	1	30	625-004-189	Plug, 1/2 Black Plastic	1
10	**36120000	Circuit Board, Vend	1	31	*62500634	Fuse, 5A 3AG 250V Fast Acting	2
11	62500612	Bracket, Board Mount	1	32	62500635	Fuse, Metal Clip 3AG	1
12	39207034	Fuse Holder, 3AG 1/4" Q-Conn.	1	33	952-004-068	Washer SS	1
13	625-001-265	Term Block, 12 Pole, High Barrir	1	34	*62501400	Fuse, 1A 2AG Fast Acting	1
14	625-004-051	Jumper, Snap Off Strip Style	3	35	62500611	Harness, Wire ECB/PLC	1
15	62500624	Weldment, CB Electrical Box	1	36	954-002-010	Rivet 1/8 x 1/8 SS	3
16	39200010	Standoff, Circuit Board	6	37	62501402	Assembly, Surge Suppressor	1
17	625-001-266	Term Block, Gnd Lug Al 4-14 Wire	2	38	62501531	Switch, Toggle DPDT	1
18	951-001-002	Nut-Hex #10-24	1	39	62501886	TVS Assembly W/Flying Leads	1
19	950-004-086	Machine Screw #8-32 x 5/8 Slotted Round Head	2	40	62502964	Terminal, Spade #10 Yellow Flanged	3
20	951-001-012	Hex Nut #8-32	2	41	62502963	Spoade #10 Stud 22-18Ga Flanged	4
21	39207032	Varistor, Surge Absorber 6500a	1	42	62502944	Label, Upper Outlet	1

* Recommended Spare Parts ** Additional Recommended Spare Parts

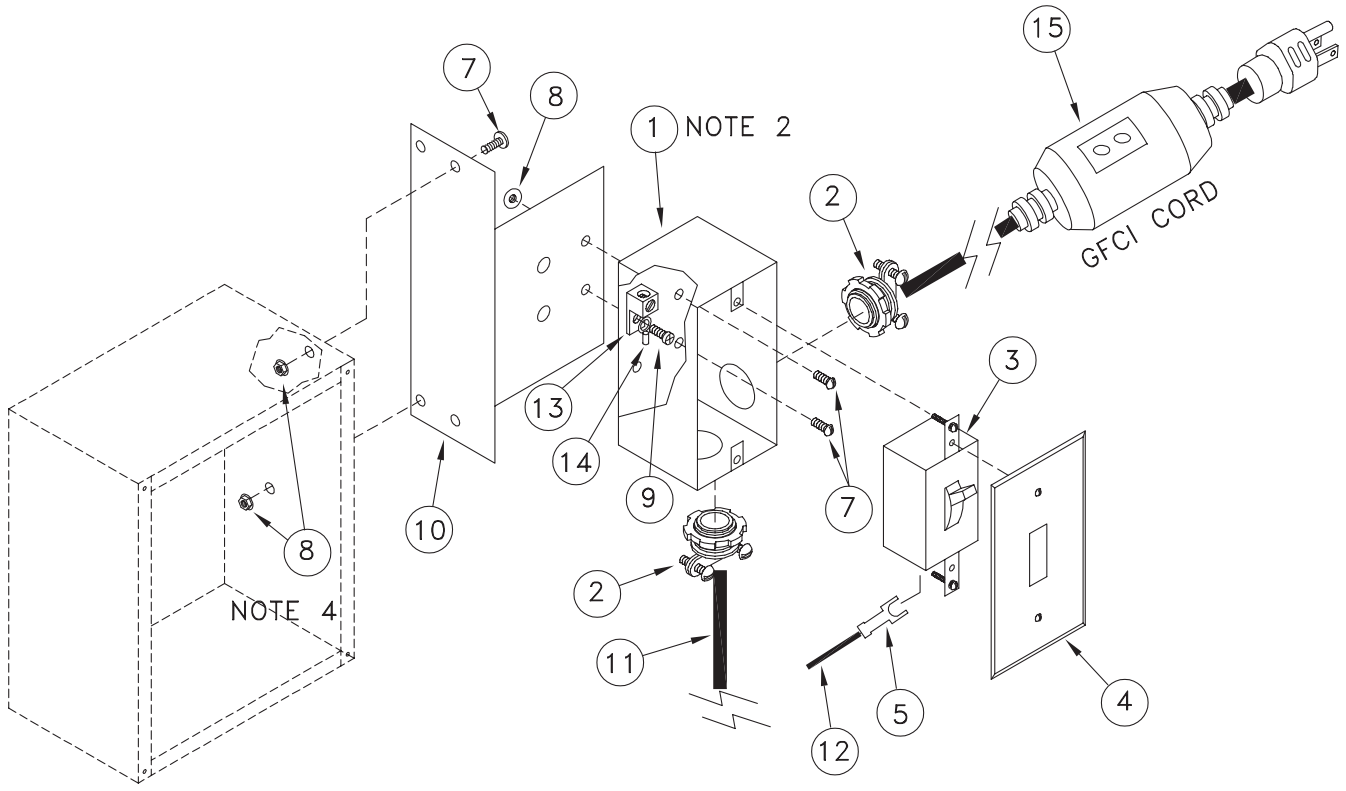
BASIC CABINET



REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	921-001-041	Weather Strip 5/8 x 3/8	16	18	951-002-002	Nut 5/16-18 Flanged Whiz Lock	4
2	060905	Self-Tap Screw #10-24 x 1/2 Shw Head	4	19	950-003-002	Carriage Bolt 5/16-18 x 1/2	4
3	950-004-002	Machine Screw 1/4-20 x 3/8 Slotted Tr Head	3	20	625-001-509	O-Ring	2
4	62500498	Strain Relief	1	21	951-002-003	Hex Nut 3/8-16 Whiz Lock	5
5	625-001-070	Vend Part, Bracket	1	22	031-09103	Hex Head Cap Screw 3/8 x 3/4 SS	2
6	625-001-075	Vending Part, Nut 1/2-13	1	23	950-003-081	Carriage Bolt #10 x 3/4 SS	8
7	625-001-950	Leg, 3/8-16 Rubber Leveler	4	24	950-002-003	Hex Bolt 1/4-20 x 3/4 Flanged Whiz Lock	5
8	625-001-965	Vent, 2" Dia Aluminum Louvered	4	25	950-001-089	Hex Head Cap Screw 3/8-16 x 3/4	1
9	62501310	Cabinet, Weldment	1	26	625-004-161	Nut, Unistrut 3/8 W/Spring	1
10	625-900-333	Cover, Electrical Box	1	27	030-16072	Carriage Bolt 3/8-16 x 2 Gr. 5 Full Thread	2
11	954-002-010	Pop Rivet 1/8 x 1/8 Stain OEDH	4	28	030-16067	Carriage Bolt 3/8-16 x 3/4	1
12	625-900-774	Bracket, Literature	1	29	62500966	Channel Unistrut	1
13	625-901-099	Plate, Door Latch	1	30	62501311	Bracket, Vessel Support	1
14	951-002-001	Nut 1/4-20 Flanged Whiz Lock	7	31	616606	Tank Belt Anchor	8
15	625-004-325	Plug, 1 1/8 Plastic	2	32	625-900-367	Strap, 1 3/4 x 32"	2
16	*625-001-325	Level Switch, N/C Float & Stem	1	33	N/A	N/A	N/A
17	954-002-007	Pop Rivet 1/4 x 1/4 S-S	16	34	951-002-012	Hex Nut #10-24 Whiz Lock	8

* Recommended Spare Parts ** Additional Recommended Spare Parts

ELECTRICAL POWER SWITCH



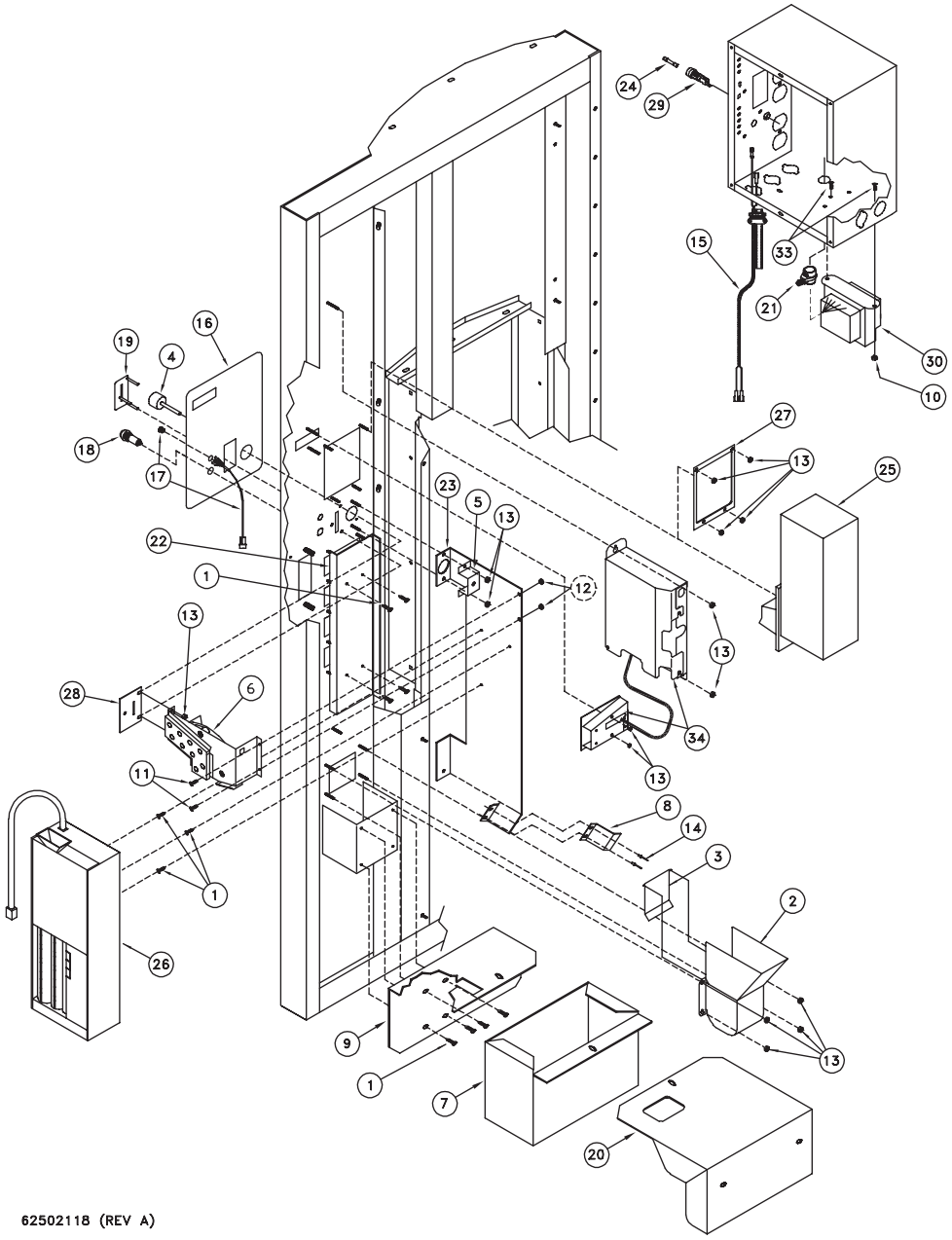
ELECTRICAL CONTROL BOX

62502965 (REV –)

REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	62501576	Electrical Box, Outlet RACO 670SM	1	9	950-004-097	Screw, 10-32 x 1/2 Phillips Pan Head	1
2	625-001-314	Fitting, Elec Romex Conn 3/8	2	10	62502967	Bracket, Power Switch	1
3	62502966	Switch, 2 Pole 20 Amp	1	11	625-001-285	Wire, 14/3 Type SJ	1.8
4	62502968	Cover, Switch Plate	1	12	N/A	N/A	N/A
5	62502962	Spade Flanged 14-16AWG	1	13	625-001-266	Ground Lug	1
6	N/A	N/A	N/A	14	625-004-162	Terminal, 1/4 Ring	1
7	031-10599	Mach Screw 10-24 x 1/2	4	15	62502175	GFCI Inline Power Cord	1
8	951-002-012	Whiz Loc Nut 10-24	4				

* Recommended Spare Parts ** Additional Recommended Spare Parts

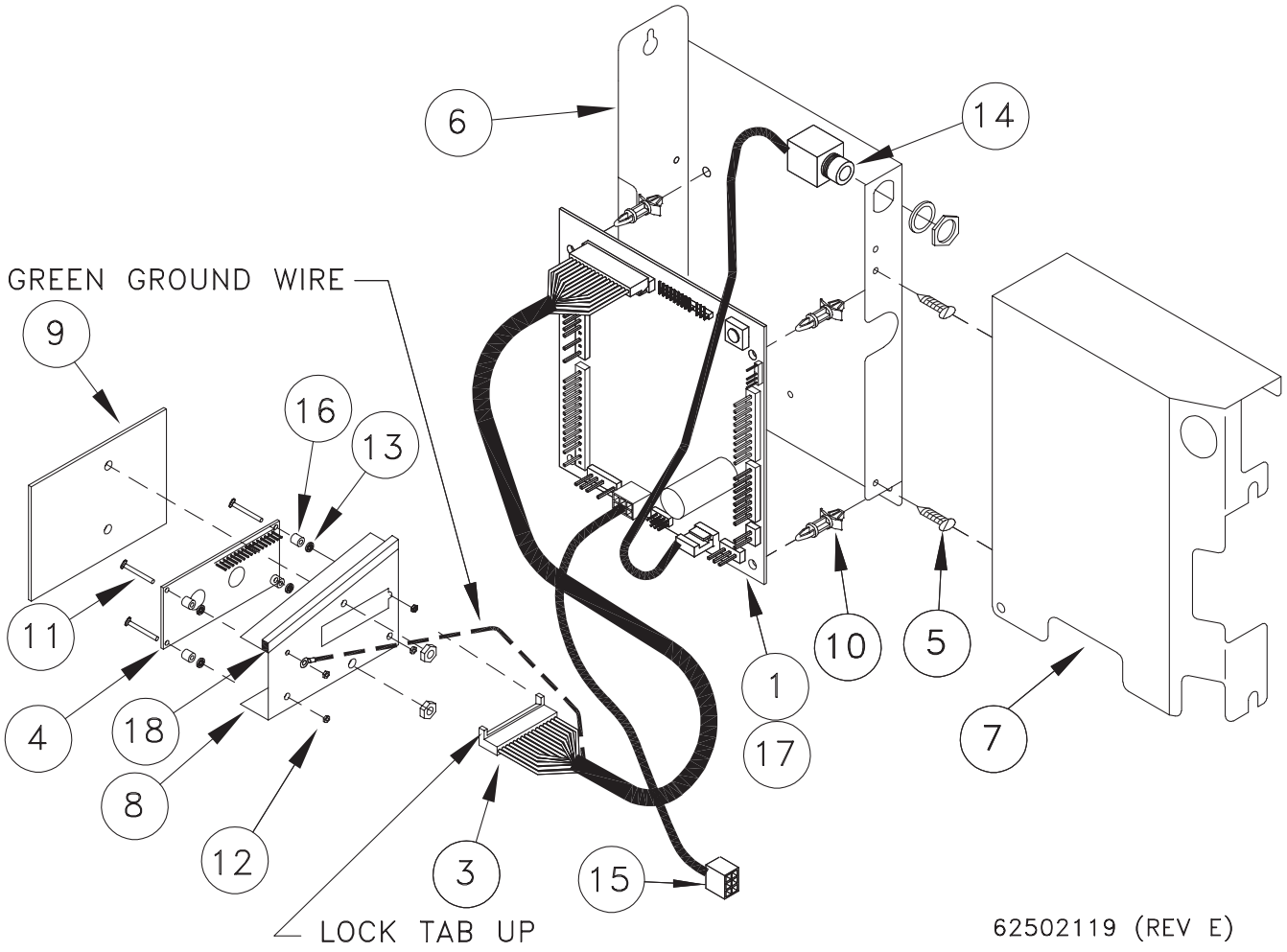
DOOR, COIN MECHANISM ACCESSORIES



REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	392-010-028	Self Tap Screw #8-18 x 1/2 Shw Head	11	18	62502009	Switch, Spst Red	1
2	62501484	Coin Return, SS (Includes Item 3)	1	19	62500647	Coin Slot Guard	1
3	625-004-766	Coin Return Door SS	1	20	NA	NA	NA
4	625-004-768	Button, Coin Return	1	21	62500498	Strain Relief	1
5	625-004-769	Coin Return Bracket Support	1	22	62500652	Guard, Coin Mech.	1
6	62501280	Bracket Assembly Coin Return	1	23	62500653	Bracket, Coin Mech.	1
7	625-900-777	Wld, Large Cash Box	1	24	62500634	Fuse 5A 3Ag	1
8	625-900-900	Chute, Coin	1	25	*62501893	Feature List, Bill Validator	0
9	625-900-936	Bracket Cash Box	1	26	*62501892	Feature List, Coin Mech	0
10	951-003-011	Hex Lock Nut 8-32	2	27	62500666	Cover, $ Bill Hole	1
11	950-004-024	Mach Screw, #6 x 3/8 Sl Pan Head	2	28	625-901-091	Coin Slot, SS	1
12	951-001-001	Hex Nut 6-32	2	29	39207034	Fuse Holder	1
13	951-001-012	Hex Nut #8-32	18	30	62501526	Transformer, Control 75Va	1
14	954-002-010	Pop Rivet 1/8 x 1/8 SS OEDH	2	31	62500631	Terminal, 3/16 Sdrl	1
15	62502093	Harness, Coin 1840 VMC	1	32	62500691	Terminal, 1/4M 22-18	1
16	62502673	Decal, Instruction Coin VMC 1840	1	33	950-004-032	#8-32 x 1/2 Sl Pan Head	2
17	62500642	Light, Red Led	1	34	62502119	1840 VMC Coin Board Assembly (See Page 54)	1

* Recommended Spare Parts ** Additional Recommended Spare Parts

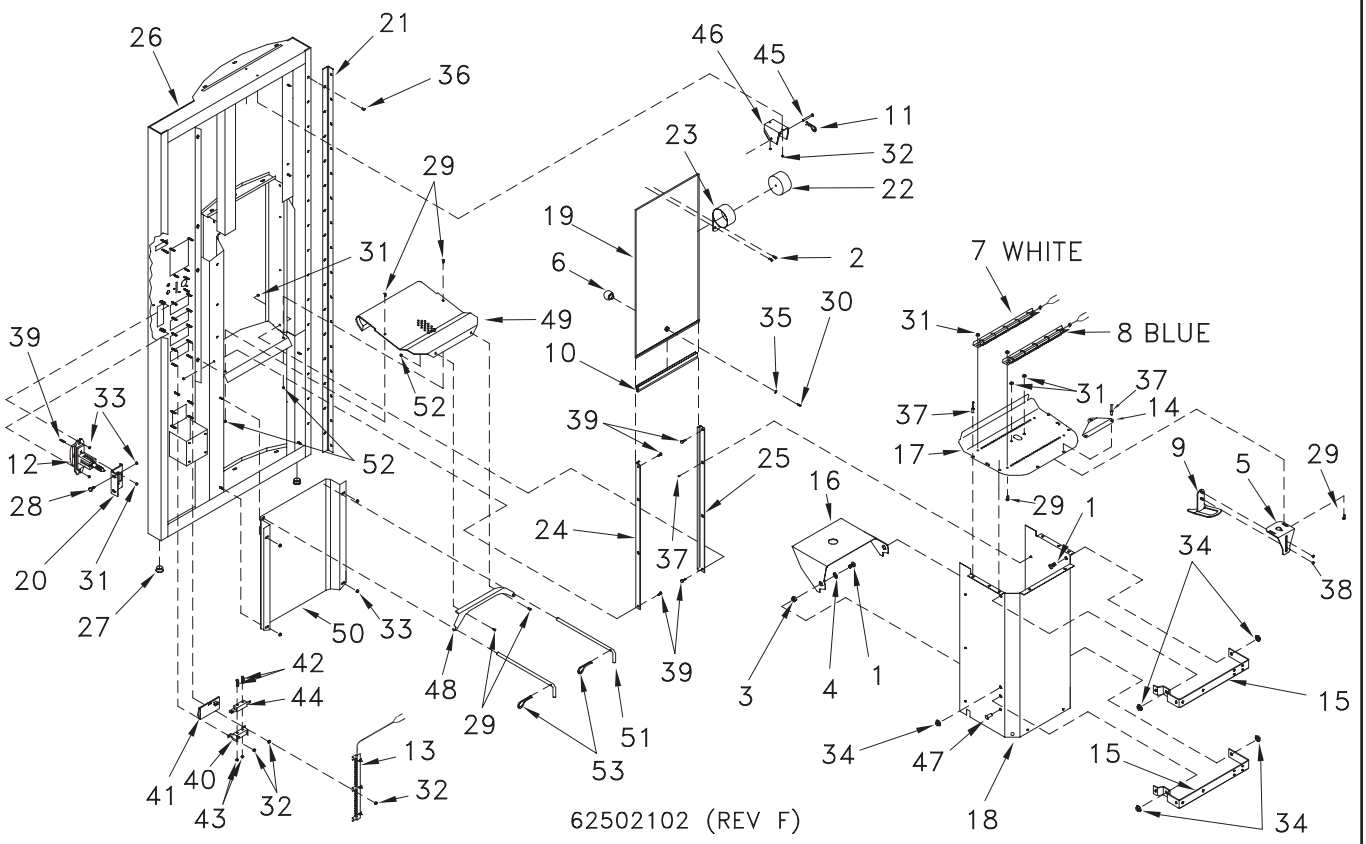
VENDING MACHINE CONTROLLER



REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	**62502004	VCM, Complete Includes Items 3 & 4	0	10	39200014	Standoff, Circuit Board 1/4	4
2	N/A	N/A	N/A	11	950-004-116	Machine Screw, #2-56 x 5/8 SS Phillips Head	4
3	62502006	Connector Cord, Only	1	12	951-001-033	Nut, Hex Ms #2-56 SS	4
4	62502672	Display Only	1	13	62502203	Retainer, Nylon #2	4
5	392-010-028	Self Tap Screw #8-32 x 1/2 SHWHD	2	14	62502120	Harness, Dex Cable (Optional)	1
6	62502095	Bracket, Cb Mt. 1840	1	15	62502131	Harness, MDB 12” Extender	1
7	62502094	Bracket, Cb Cover 1840	1	16	62502200	Bushing, Nylon Spacer	4
8	62502204	Bracket, Display (Early Straight)	0	17	62502678	VMC, Includes Board & Cable #3	1
8	62502676	Bracket, Display (Shown)	1	18	62500458	Foam 1/8 x 1/4	.3
9	62502199	Window, Clear (Early 1 7/8 x 5 3/8)	0				
9	62502675	Window, Clear (Shown 2 7/8 x 5 5/8)	1				

* Recommended Spare Parts ** Additional Recommended Spare Parts

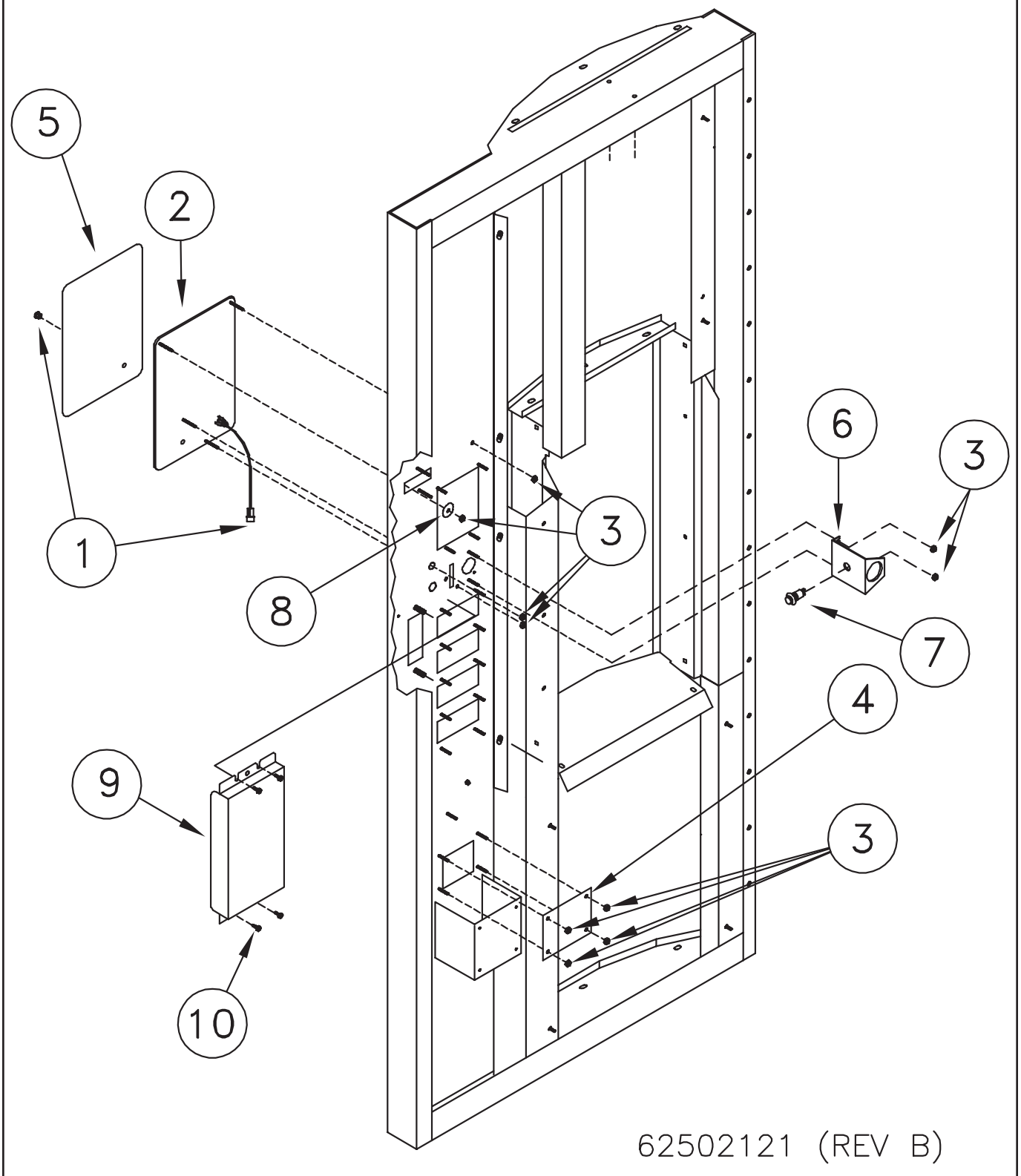
DOOR, WIDE DISPENSER



REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	950-011-063	Socket Head Cap Screw 3/8-16 x 3/4 SS	6				
2	950-005-031	Self Tap Screw #6 x 1/4 Type B	2	28	950-003-065	Carriage Bolt 1/4-20 x 5/8 Gr. 5	2
3	061910	Hex Nut 3/8-16 SS	4	29	950-003-071	Carriage Bolt #10-24 x 1/2 SS	10
4	061916	3/8 Flat Washer SS	2	30	950-004-099	Machine Screw #8-32 x 3/8	1
5	62501122	Bracket, Upper Guide	1	31	951-002-012	Hex Nut #10-24 Whiz Lock	12
6	625-001-967	Knob-Chrome Belwith	1	32	951-001-012	Nut-Hex #8-32	15
7	62502152	Sec. LED White Light	1	33	951-002-001	Flanged Whiz Lock Nut 1/4-20	8
8	62502154	Sec. LED Blue Light	1	34	951-002-003	Hex Nut 3/8-16 Whiz Lock	6
9	62501121	Bracket, Lower Guide	1	35	952-002-020	Flat Washer 3/4 x 11/64 SS	1
10	**625-004-053	Trim,Edge Guard 3/16"	1.1	36	954-002-007	Rivet-Pop 1/4 x 1/4 S-S Oedh	15
11	953-005-004	Cotter Pin	1	37	954-002-013	Pop Rivet 3/16X1/4 Closed End Sl	12
12	625-005-166	T-Handle Lock Flush Mount	1	38	061605	Nut 1/4-20 SS Nylon Lock	2
13	62502153	Sec. LED Button Light	1	39	950-003-081	Bolt #10 x 3/4 CRG SS	6
14	62502100	Bracket, Water Meter	1	40	62500618	Bracket, Rect. Button Mount	5
15	625-900-300	Bracket,UV Light	2	41	*62500617	Switch, Rect. Push Button	4
16	625-900-303	Shelf,Dispenser	1	42	700-10904	Machine Screw #6-32 x 1 Slotted Pan Head	8
17	62502099	Panel, Led Dispenser	1	43	951-001-001	Hex Nut #6-32	8
18	62500878	Housing, S.S., Wide Dispenser	1	44	*62500615	Switch, Spst, Cherry Micro	4
19	**62500883	Door, Wide Dispenser	1	45	953-002-039	Clevis Pin, 3/16 X 1-3/4	1
20	625-900-957	Bracket, Door Lock Retainer	1	46	62500884	Bracket, Spring Drum	1
21	625-901-100	Hinge, Vending Door	1	47	62500922	Plug, 3/8 Locking Hole, Black Plastic	2
22	62500886	Drum, C.F. Spring	1	48	62500140	Bracket, Drain Bucket	1
23	**62500885	Spring, 2 Lb Constant Force	1	49	62500872	Drain Pan Wide	1
24	62500890	Track R.H., Wide Disp	1	50	62500185	Shield Lower	1
25	62500889	Track L.H. Wide Disp	1	51	62500349	Pin Drain Bucket	2
26	62502101	Weldment, VMC Door 4 Sel.	1	52	951-001-002	Nut 10-24 SS	4
27	62500347	Vent 7/8 Dia Plastic	2	53	060854	Cotter Pin 1/8 x 3/4	2

* Recommended Spare Parts ** Additional Recommended Spare Parts

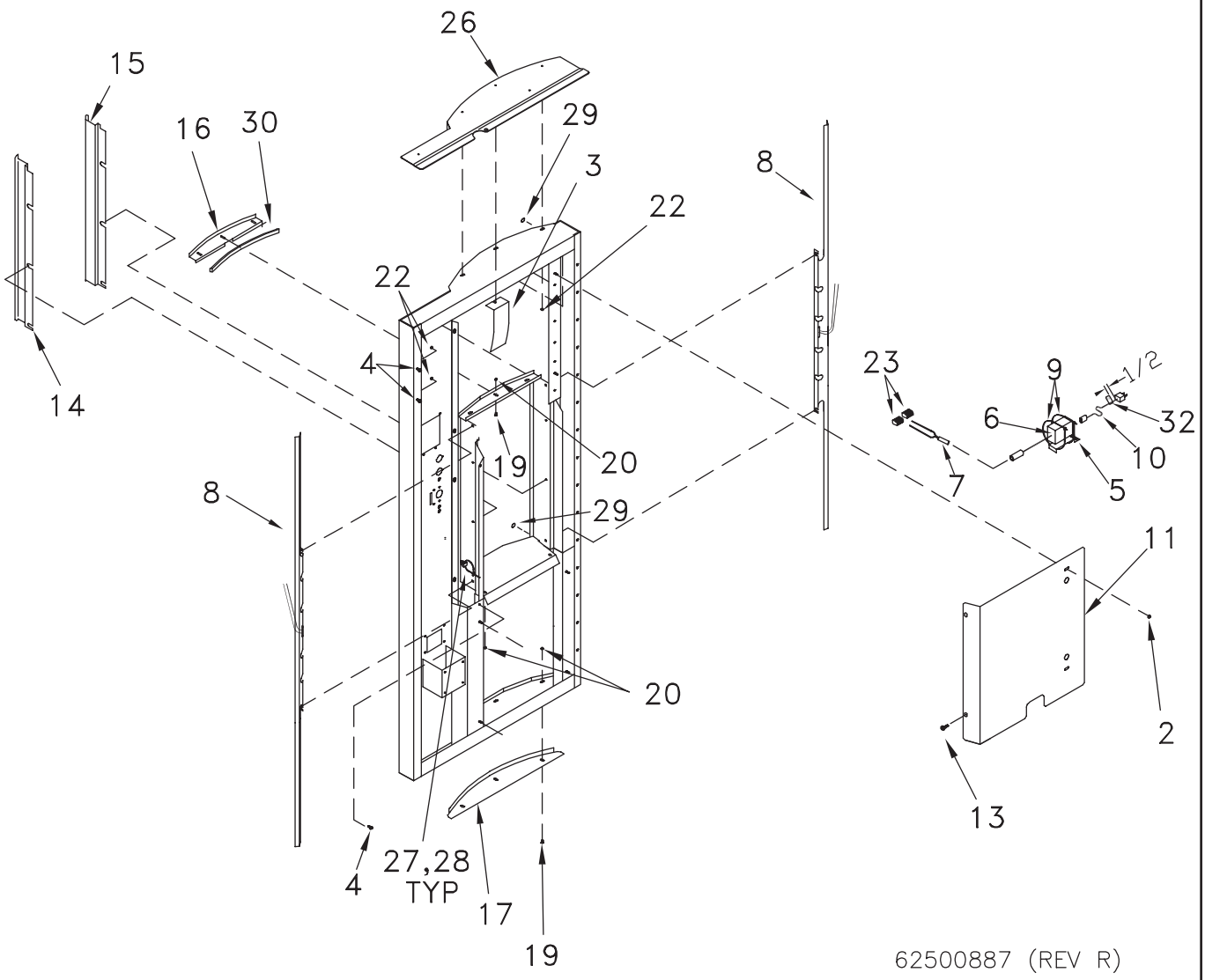
DOOR, NON-COIN MECHANISM ACCESSORIES



REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	62500642	Assembly, Service Light	1	6	62500686	Bracket, Button	1
2	62502097	Cover Plate, Non-Coin VMC Door	1	7	62502009	Switch, SPST Red Push Button	1
3	951-001-012	Hex Nut #8-32	10	8	952-004-066	Washer, .28 ID x 1.25 OD	1
4	62500636	Cover Plate, Coin Return	1	9	62502948	Cover, Push Button	1
5	62502110	Decal, Instructions, 4 Select, N-C, Di	1	10	392-010-028	#8 x 1/2 Self Tapping Screw	4

* Recommended Spare Parts ** Additional Recommended Spare Parts

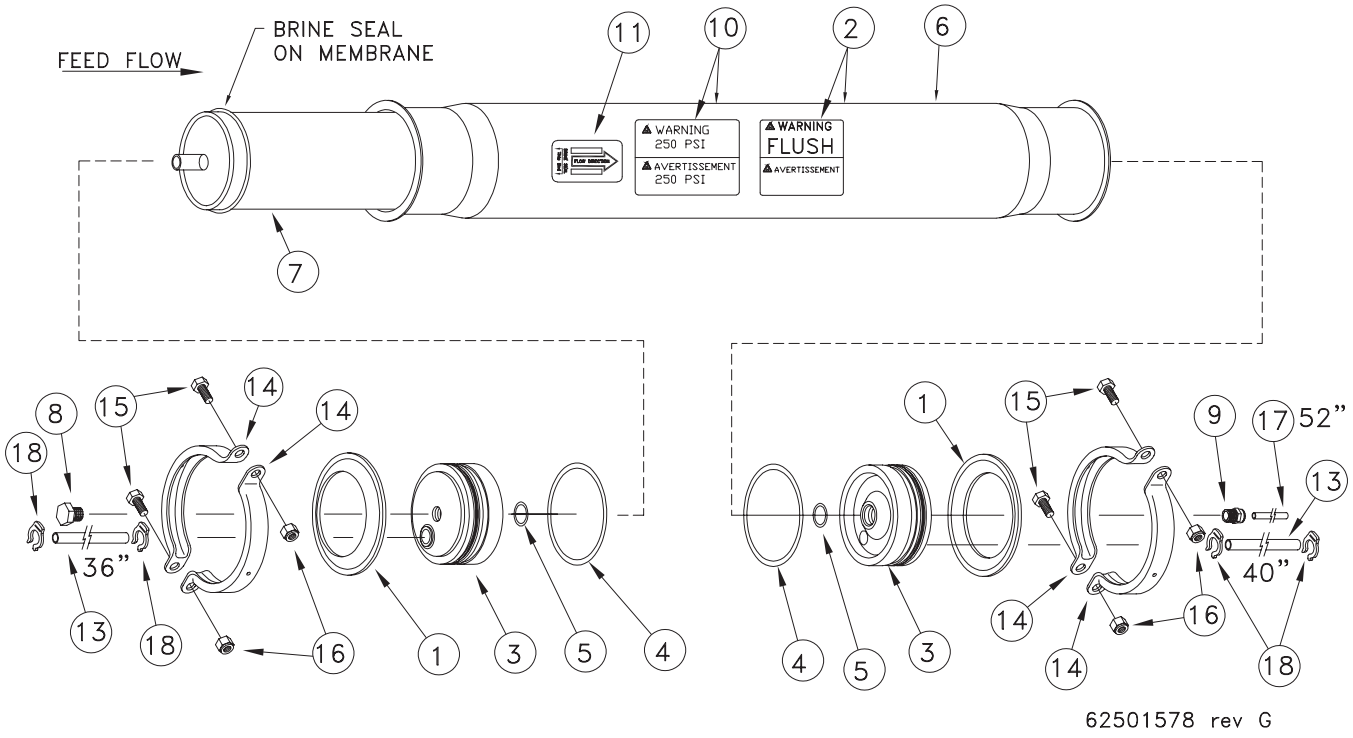
DOOR, TRIM WIDE DISPENSER



REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	N/A	N/A	N/A	17	62500321	Weld End Cap	1
2	951-002-001	Whiz Nut 1/4-20	2	18	N/A	N/A	N/A
3	62501139	Bracket, Wide Disp Door Guide	1	19	950-003-071	Carriage Bolt #10-24 x 1/2 SS	6
4	392-010-028	Self-Tap Screw #8-18 x 1/2 Shw Head	3	20	951-001-002	Hex Nut #10-24 SS	6
5	62502951	Bracket, Power Supply	1	21	N/A	N/A	N/A
6	62502950	Power Supply, LED Lights	1	22	951-001-012	Hex Nut #8-32	7
7	62502151	Adapter, Power Supply	1	23	62502986	Connector, Lever Nut	2
8	62502149	LED Strip Light Assembly	2	24	N/A	N/A	N/A
9	367-001-011	Cable Tie, 14”	2	25	N/A	N/A	N/A
10	62502949	Power Cord, 6 Foot	1	26	62501333	Wld, Top Door Cover	1
11	62502604	Shield, Upper Curved Door	1	27	625-001-469	Tywrap, 1/6-5/8 Dia 5L	18
12	N/A	N/A	N/A	28	62501582	Wire Tie Down, Push In 1/4”	8
13	950-005-004	Self Tapping Screw 1/4-20 x 1/2	2	29	62501362	Felt, Disc 1/2 x 1/16 Self Stick	12
14	62500869	Trim L.H., Wide Disp.	1	30	921-001-507	Weather Strip, 3/8 x 1/4 D	1
15	62500870	Trim R.H., Wide Disp	1	31	625-002-305	Adhesive Wire Tie Down	1
16	62501740	Trim, Top, Wide Disp.	1				

* Recommended Spare Parts ** Additional Recommended Spare Parts

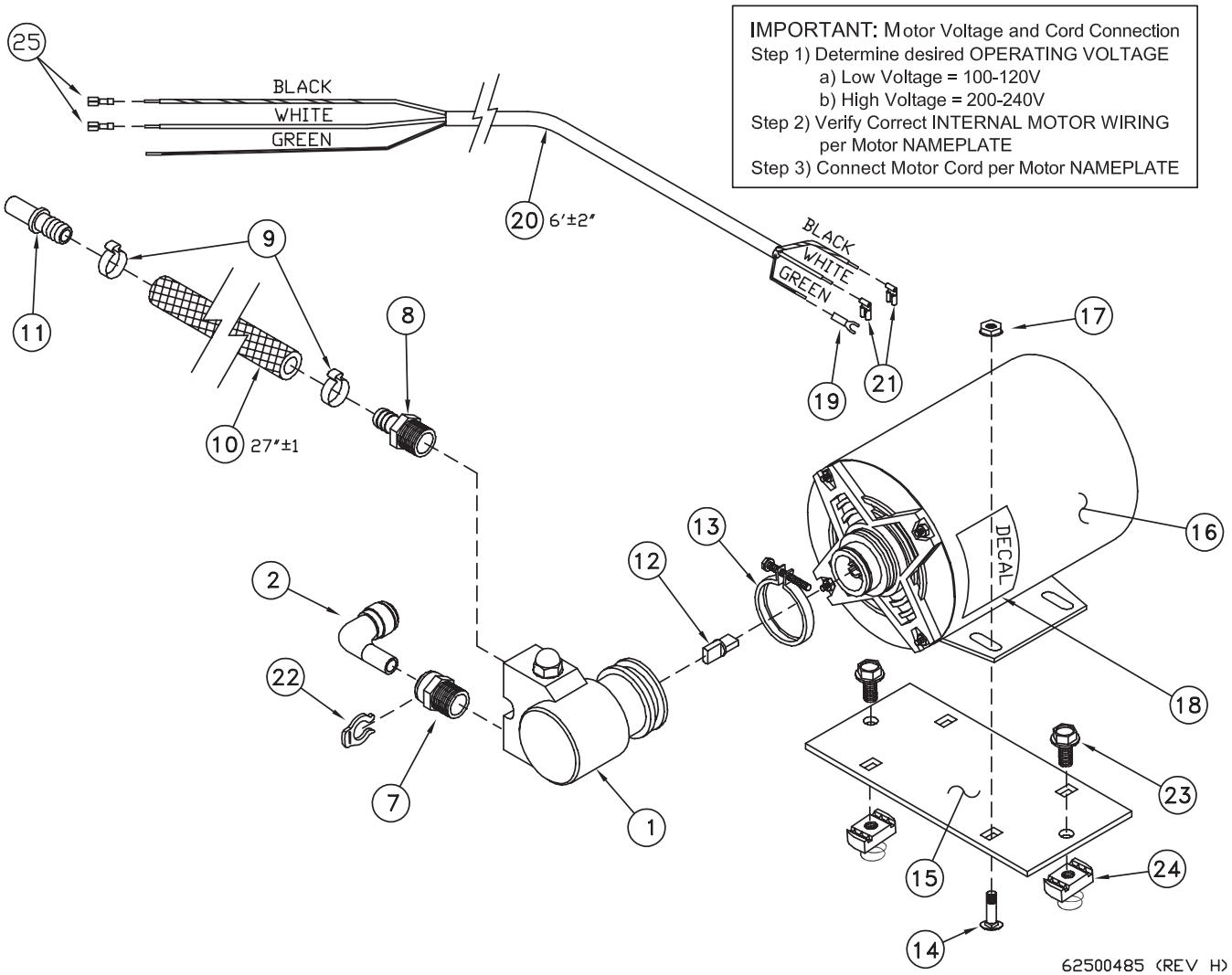
4” VESSEL/RO MEMBRANE



REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	62501497	Ring, End Cap Retainer	2	11	62501209	Decal, Brine Seal Flow Direct	1
2	62502598	Decal, SBS Flush	2	12	N/A	N/A	N/A
3	62501645	Assembly, End Cap 4 W/john Quest	2	13	62501570	Tubing, 1/2 OD x 3/8 ID Poly.	6.4
4	625-001-506	O-Ring 342 Buna	2	14	62501496	Clamp, Formed Flange	4
5	625-001-502	O-Ring 116 Buna	2	15	031-09103	Hex Head Cap Screw 3/8-16 x 3/4 SS	4
6	62501493	Vessel, SS 4” (Includes (1) #10)	1	16	951-003-013	Lock Nut 3/8-16 SS	4
7	62501113	Membrane, Filmtec XLE 4040	1	17	625-001-903	Tubing, PE 1/4 OD	4.4
	625-001-634	Membrane, Filmtec TW30-4040	1	18	62501721	Clip 1/2 Lock	4
8	625-003-230	Fitting, PVC Sch 80 Plug 3/8	1	19	62501528	Vessel With End Caps (W/O Membrane, Item 7, 8, 9, 13, 17, 18)	1
9	625-005-940	Fitting, Conn 3/8 MPT x 1/4 T	1				
10	62502956	Decal, Vessel Warning	1				

* Recommended Spare Parts ** Additional Recommended Spare Parts

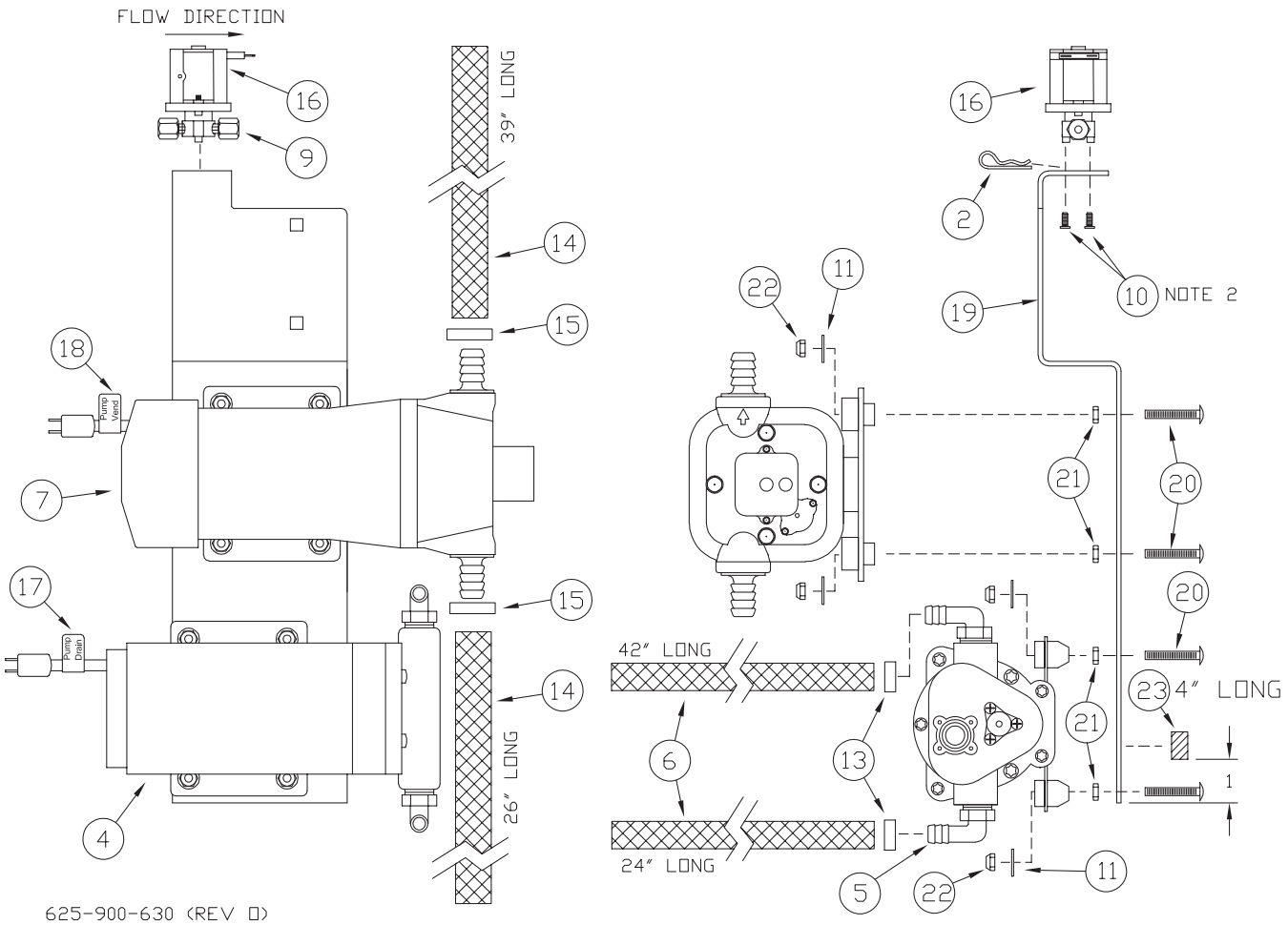
PRESSURE PUMP ASSEMBLY



REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1**	62502600	Pump, Procon 240 GPH V-Band MT LF	1	14	030-16041	Carriage Bolt 5/16-18 x 3/4 G5	4
2	62500556	Fitting, John Guest 1/2 Plug Elbow	1	15	625-900-504	Bracket, Motor Mount	1
3	NA	NA	NA	16	62500484	Motor, 1/2 HP	1
4	NA	NA	NA	17	951-002-002	Nut 5/16-18 Flanged Whiz Lock	4
5	NA	NA	NA	18	62500527	Decal, Pump Oper. Press	1
6	NA	NA	NA	19	62502962	Spade 16-14 GA Insulated #10 Stud	1
7	625-001-672	Fitting 1/2 MPT x 1/2 T John Guest	1	20	625-001-285	Wire #14/3 Type SJ	6'
8	62500417	Fitting, Nylon ST 1/2 MPT x 1/2 Barb	1	21	62500553	Terminal Solderless 1/4 Flag	2
9	625-002-881	Hose Clamp .76 - .89 Stepless	2	22	62501721	Clip 1/2 Lock	1
10	625-001-929	Hose, PVC Braided 1/2 ID .85 OD	2.3	23	950-002-008	Hex Head Cap Screw 3/8-16 x 3/4	2
11	62500522	Fitting, 1/2 Stem x 1/2 Barb	1	24	625-004-161	Nut, Unistrut 3/8 with spring	2
12	62500488	Pump, Shaft Coupling #1143	1	25	625-002-276	Terminal Solderless 1/4 F	2
13	625-001-585	Pump, Coupling, V-Band Clamp 1500	1				

* Recommended Spare Parts ** Additional Recommended Spare Parts

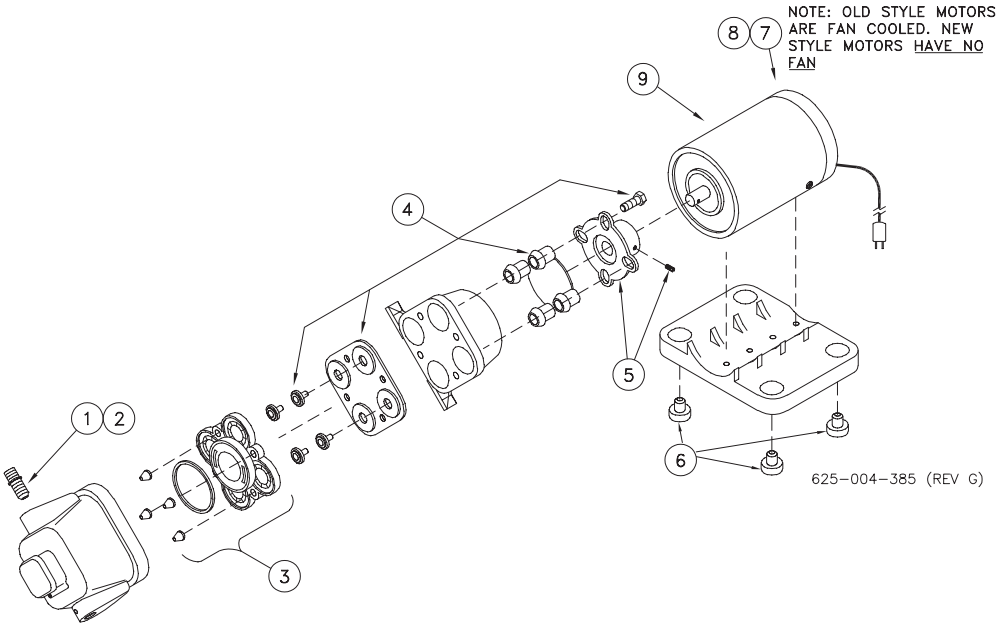
DISPENSER/DRAIN PUMP ASSEMBLY



REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	N/A	N/A	N/A	13	625-002-876	Hose Clamp, 14.5Mm-17Mm OD SS	2
2	953-005-004	Cotter Pin	1	14	625-001-929	Hose, PVC Braided 1/2 ID .85 OD	5.4
3	N/A	N/A	N/A	15	625-002-881	Hose Clamp .76-.89 Stepless	2
4	62501748	Pump 5884, 115 VAC Aquatec	1	16	625-004-383	Solenoid Valve	1
5	62500419	Fitting, Nylon Elbow 3/8 MPT x 3/8 Barb	2	17	62502819	Decal, Drain Pump	1
6	625-001-920	Hose, PVC Braided 3/8 ID x 5/8 OD	5.5	18	62502820	Decal, Vend Pump	1
7	625-004-385	Pump 3.5 GPM Flojet	1	19	62502872	Bracket, Drain/Disp Pump	1
8	N/A	N/A	N/A	20	950-003-086	Carriage Bolt, 10-24 x 1-1/4	8
9	625-001-717	Fitting, 1/4 Ferrule Nut	2	21	951-001-002	Hex Nut 10-24 SS	8
10	392-010-028	Self-Tapping Screw 8-18 x 1/2	2	22	392-010-010	Lock Nut, 10-24	8
11	952-004-068	Washer-Flat #10 SS	8	23	921-001-041	Weather Strip 5/8 x 3/8	0.33
12	N/A	N/A	N/A				

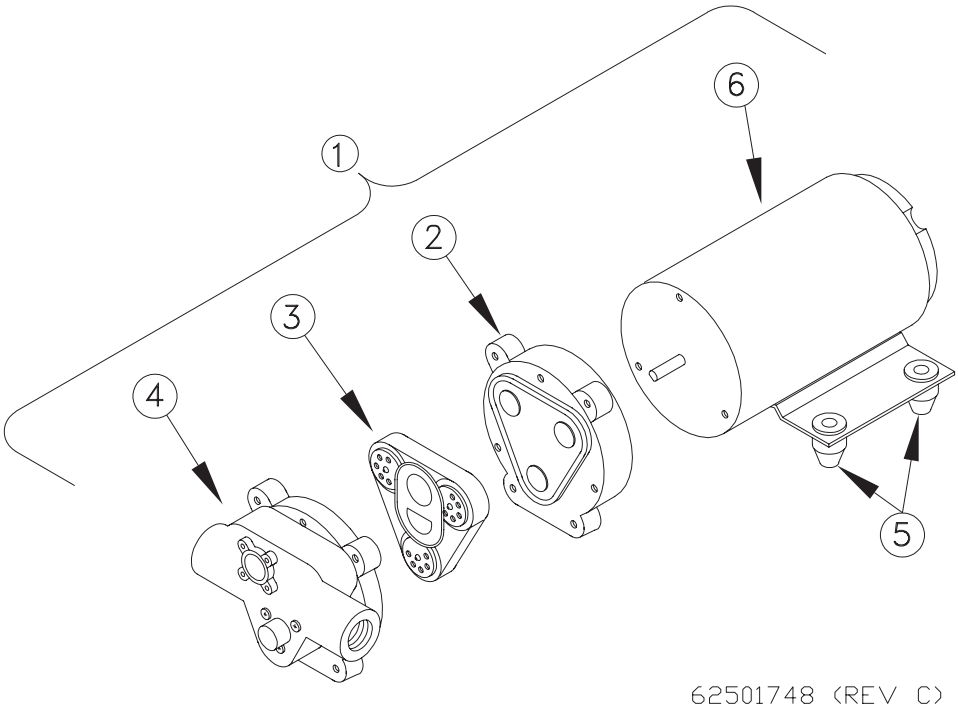
* Recommended Spare Parts ** Additional Recommended Spare Parts

FLOJET DISPENSING PUMP REPAIR PARTS/REBUILD KITS



REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
–	*625-004-385	Pump Assembly, Flojet 3.5 Gpm	1	6	62500801	Kit, Grommet (4)	1
1	62500454	Fittings, Standard 1/2	2	7	62502510	Kit, Brush (New Style Pump W/O Fan)	1
2	62500508	Fittings, Optional 3/8	2	7	625-006-011	Kit, Brush (Old Style Pump W/Fan)	1
3	62500456	Kit, Check Valve W/O-rings & Ferrles	1	8	62502511	Kit, Brush And End Bell	1
4	62500455	Kit, Diaphragm W/Piston & Screws	1	9	62502512	Kit, Fan & Shroud	1
5	62500802	Kit, Cam Bearings W/Screw	1				

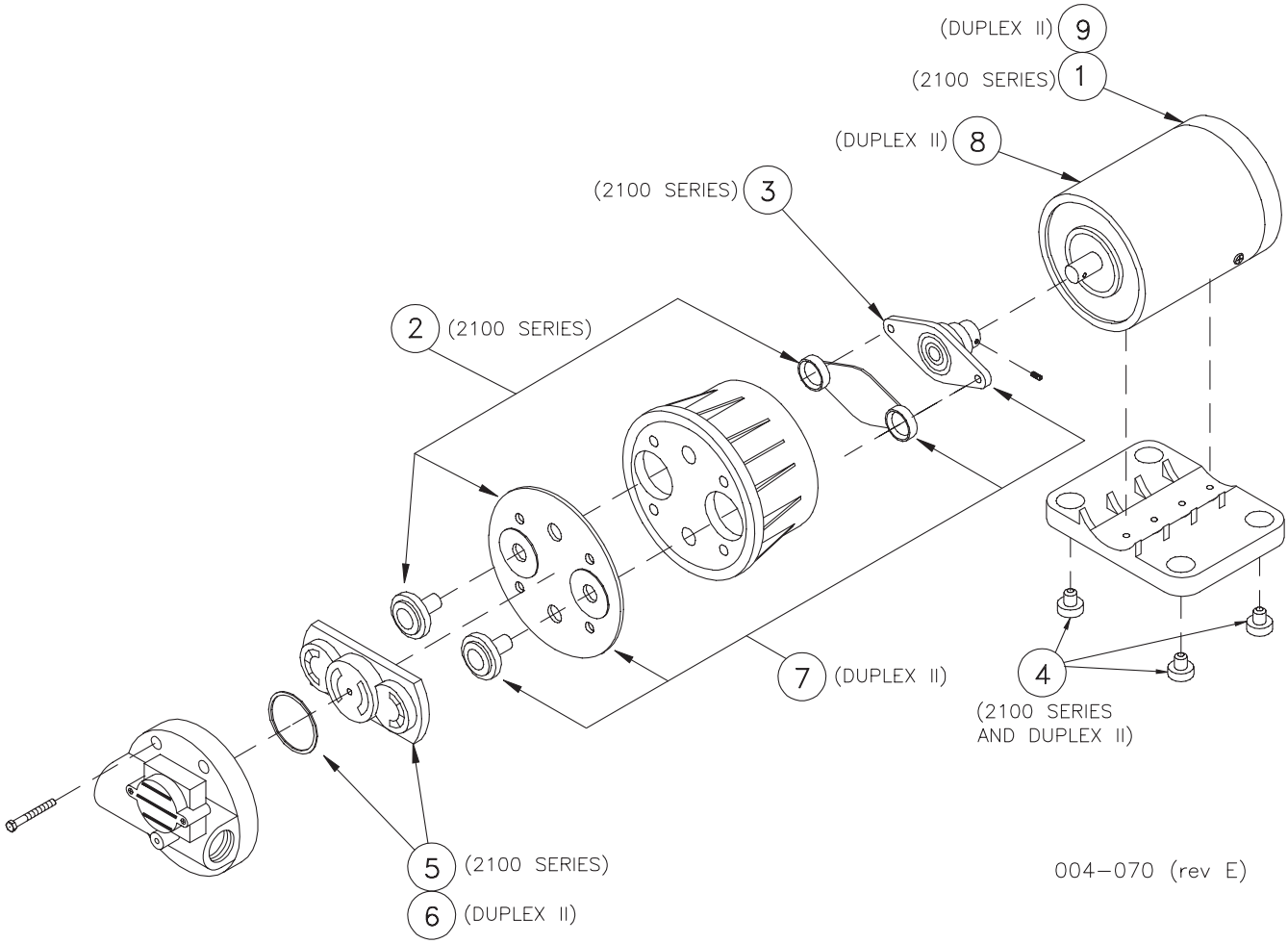
AQUATEC DRAIN PUMP REPAIR PARTS/REBUILD KITS



REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	62501748	Pump Assembly	1	4	62501761	Kit, Pump Housing Aquatec 5884	1
2	62501763	Kit, Cam Bearing, Aquatec 5884	1	5	62501770	Grommet Isolator (Kit, 4 Pieces)	1
3	62501762	Kit, Check Valve, Aquatec 5884	1	6	62501850	Motor, Electrical N52UL	1

* Recommended Spare Parts ** Additional Recommended Spare Parts

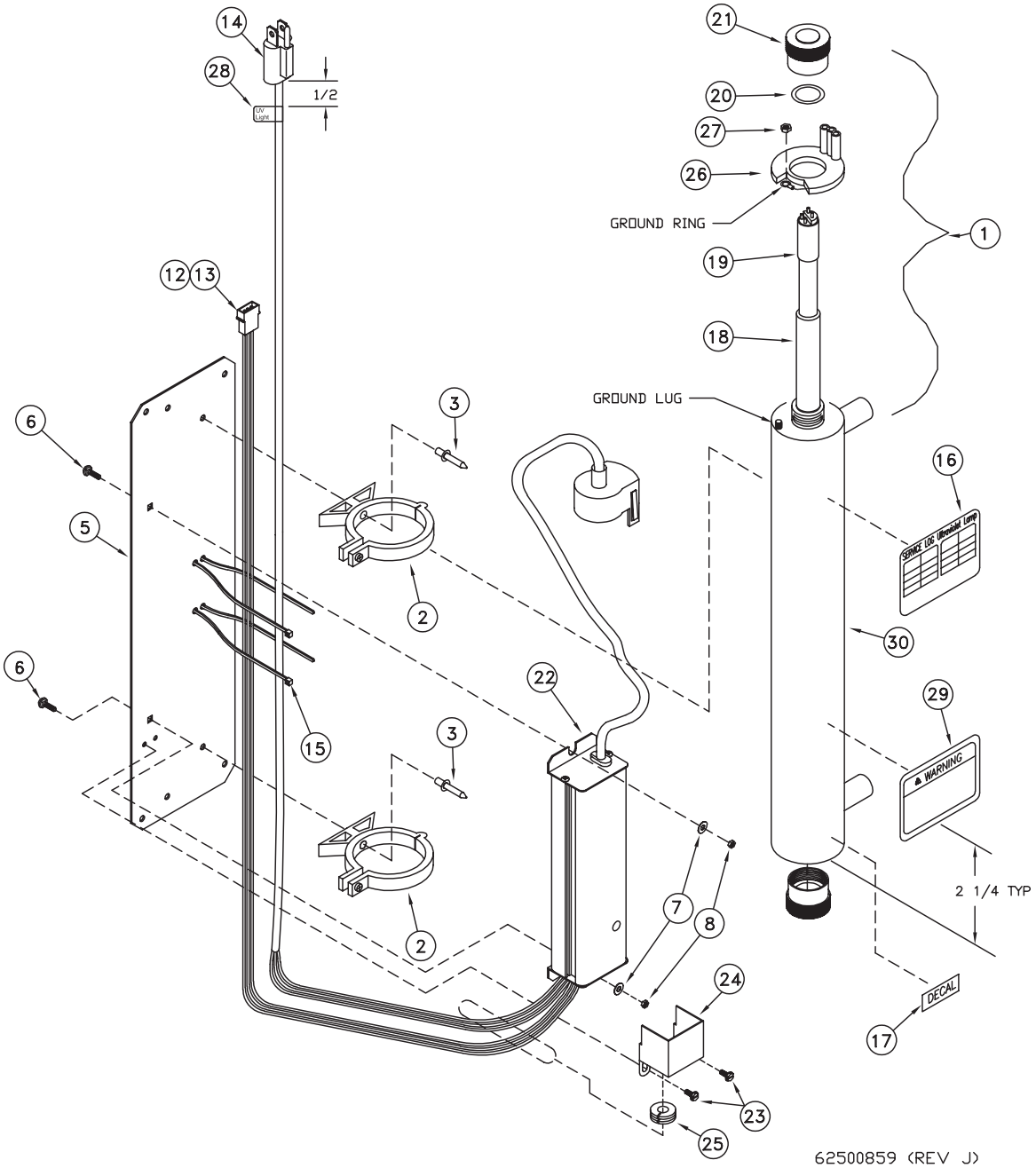
FLOJET DRAIN PUMP REPAIR PARTS/REBUILD KITS



REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
-	625-004-070	Pump Assembly	1	5	625-004-439	Kit, Check Vlave, (2100 Series)	1
1	625-006-011	Kit, Brush (2100 Series)	1	6	62502054	Kit, Check Valve (Duplex II)	1
2	625-004-440	Kit, Diaphragm, (2100 Series)	1	7	62502055	Kit, Cam/Diaphragm (Duplex II)	1
3	62500800	Kit, Cam Bearing, (2100 Series)	1	8	62502056	Kit, Motor (Duplex II)	1
4	62500801	Kit, Grommet(4)	1	9	62502057	Kit, Endbell Assembly (Duplex II)	1

* Recommended Spare Parts ** Additional Recommended Spare Parts

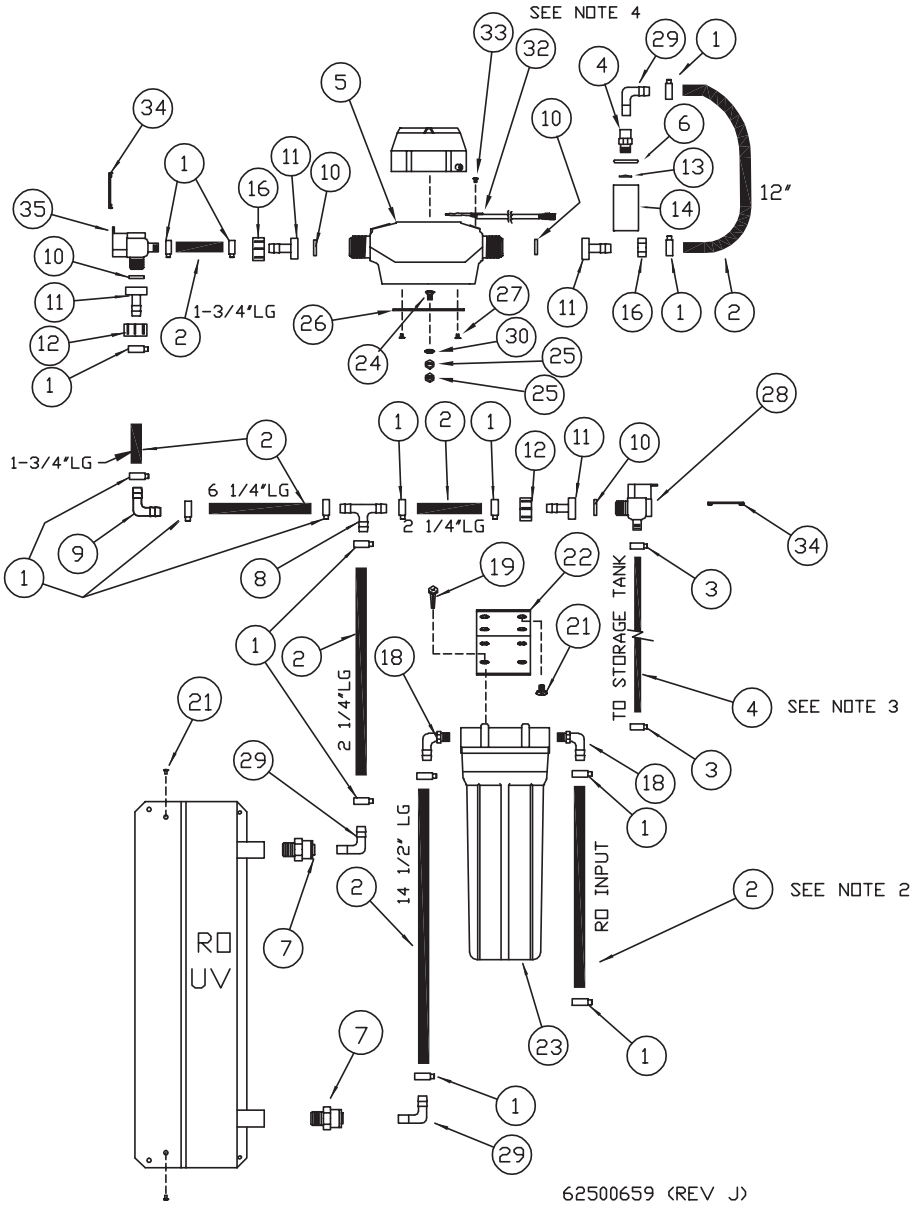
U.V. ASSEMBLY, R-CAN ICE



REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	62502822	Light, 5 GPM UV R-Can (Includes 16, 17, 22 & 29)	1	16	62502938	Decal, Service Log	1
2	N/A	Clip Included W/Item 1	2	17	62500940	Decal, Bulb Replacement	1
3	954-002-003	Pop Rivet 3/16 x 3/8 Stain OEDH	2	18	*62500855	Sleeve, Quartz UV QS-463	1
4	N/A	N/A	N/A	19	*62500854	Light, UV S463RL R-Can	1
5	625-901-072	Bracket 5 GPM Trojan Mount	1	20	62500853	O-Ring, 5 GPM UV OR-212	2
6	950-003-071	Carriage Bolt #10-24 x 1/2 SS	2	21	62500857	Nut, UV AL Gland RN-001	2
7	952-004-062	Washer, 1/4 SS	2	22	62500856	Ballast Electronic BA-ICE-VI	1
8	951-001-002	Hex Nut #10-24 SS	2	23	061034	Self Tap Screw, 6-32 x 3/16	2
9	N/A	N/A	N/A	24	62501719	Elec Cover, UV Light	1
10	N/A	N/A	N/A	25	62501720	Grommet, Rubber 3/5 x 5/8	1
11	N/A	N/A	N/A	26	N/A	N/A	N/A
12	62500641	Pin, 24-18 Awg Mate-N-Lok	3	27	N/A	N/A	N/A
13	62500682	Housing, 3 Pin Mate-N-Lok	1	28	62502930	Label UV Cord	1
14	62500690	Plug, W/18-3 SJT 110 V 59” Cord	1	29	62502939	Decal, Warning (Included With 1)	1
15	625-001-469	Tywrap, 1/6-5/8 Dia. 5 L	2	30	62503053	Canister (Includes 16 & 29)	1

* Recommended Spare Parts ** Additional Recommended Spare Parts

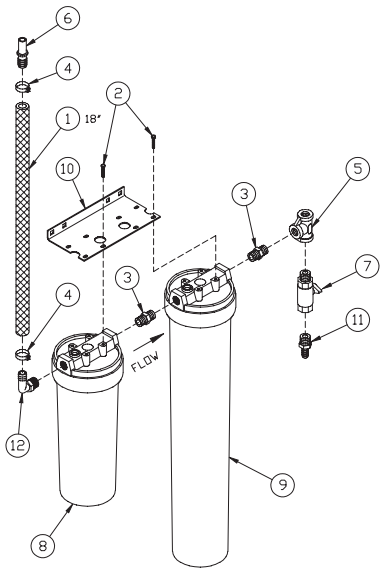
PLUMBING COMPONENTS OPEN TANK RO ONLY



REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	625-002-881	Hose Clamp, .76 x .89	16	18	62500430	Elbow Adapter 3/8 x 1/2	2
2	625-001-929	1/2 PVC Braided. Hose	3.4	19	950-005-020	Self-Tap #10-3/4 Hex	4
3	625-002-876	Hose Clamp, 14.5mm 17mm OD SS	2	20	N/A	N/A	N/A
4	625-001-672	Fitting, 1/2 M x 1/2 T JG	1	21	392-010-028	Self-Tap Screw 8-18 x 1/2 Hex Head	6
5	62500658	Water Meter, (Standard)	1	22	625-900-941	Bracket NT. Filter	1
	62500790	Water Meter, Metric (Optional)	1	23	625-001-560	Filter HSG Ametek 10 WO/PR	1
6	39212011	Seal Ring 1/2	1	24	950-003-065	Carriage Bolt 1/4-20 x 5/8 Gr. 5	1
7	625-005-976	Fitting, John Guest, Conn. 3/8 M x 1/2 T	2	25	951-002-001	Nut 1/4-20 Whiz Lock	2
8	62500446	Tee 1/2 x 1/2 x 1/2 Barb Tee	1	26	62500657	Bracket, Water Meter	1
9	62500439	90° Hose Barb 1/2 H x 1/2 H NY	1	27	950-005-027	Self-Tap Screw 8-18 x 3/8 Hex Head Ab	4
10	625-004-467	Washer, GHT WHT. Rubber	4	28	625-004-483	Solenoid Valve 3 GPM	1
11	62500423	Barb Swivel, 1/2 Hose	4	29	625-005-993	Barb, 1/2 x 1/2 90° Parker	3
12	62500443	Nut-SW., 3/4 GHT	2	30	033-12007	Flat Washer, SAE 5/16 PL	1
13	62501815	Screen, Nozzle 1/2"	1	31	N/A	N/A	N/A
13	62501871	Old Style Nozzle 3/8 With Screen	1	32	*62500661	Assembly, Water Meter Sensor	1
14	62501818	Current Style Nozzle Assembly W/Screen 1/2"	1	33	392-010-019	Self-Tap Screw #6-20 x 3/8 Phillips Pan Head	2
15	N/A	N/A	N/A	34	62500675	Surge Suppressor	2
16	625-002-955	Hex Nut SW 3/8 BLK 3/4 FPS	2	35	62501392	Solenoid Valve, 5 GPM	1
17	N/A	N/A	N/A				

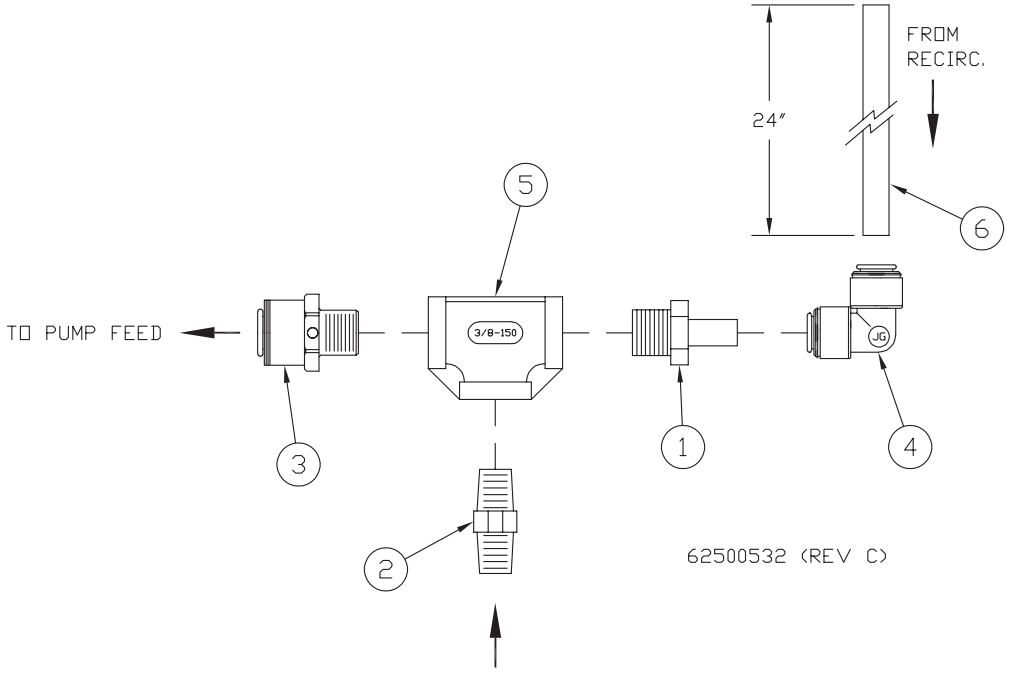
* Recommended Spare Parts ** Additional Recommended Spare Parts

PLUMBING COMPONENTS PRE-FILTER ASSEMBLY



REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	625-001-929	Hose, PVC Braided 1/2 ID .85 OD	1.5'	7	625-005-193	Valve 2 Way Ball PVC 3/8 F x 3/8 M	1
2	950-005-020	Self Tapping Screw #10 x 3/4	8	8	625-001-560	Filter Housing, Ametek Slim Line	1
3	625-005-935	Fitting Nylon 3/8 x 3/8 Nipple	2	9	625-004-588	Filter, #20 Slim Line Blue 3/8	1
4	625-002-881	Hose Clamp .76-.89 Stepless	2	10	625-900-803	Bracket, Filter	1
5	62500544	Fitting, Tee, 3/8 FNPT, 304 SS, 150 LB.	1	11	62500413	Fitting, Nylon ST 3/8 MPT x 3/8 Barb	1
6	62500522	Fitting, 1/2 Stem x 1/2 Barb, QD	1	12	62500430	Fitting, Nylon EL 3/8 MPT x 1/2 Barb	1

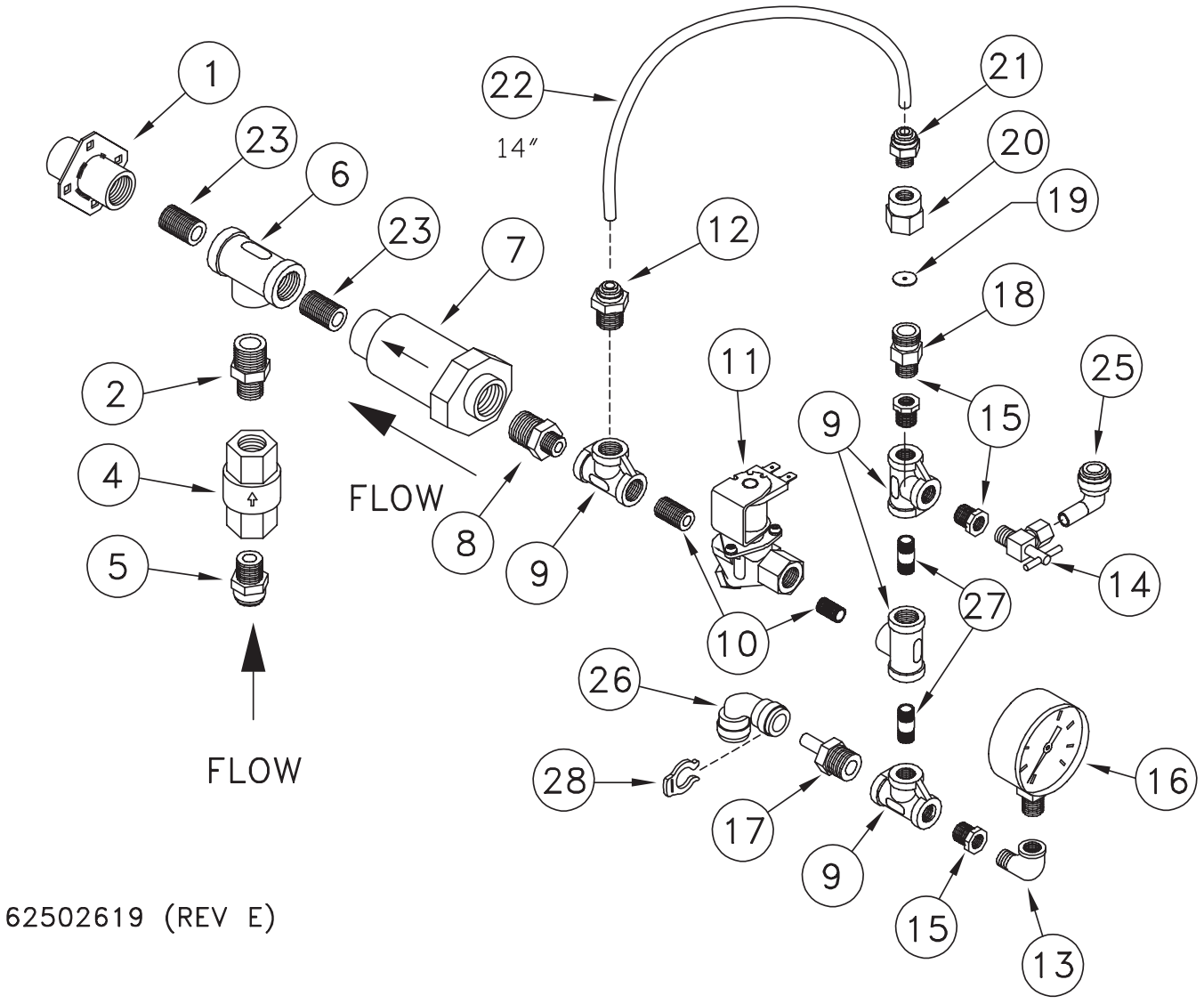
ADDITIONAL PRE-FILTER FITTINGS



REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	625-001-715	Fitting, Comp 3/8 M x 3/8 Stem	1	4	625-005-999	Fitting Union El 3/8"	1
2	625-005-935	Fitting Nylon 3/8 x 3/8 Nipple	1	5	62500544	Fitting, 304 SS 150 Lb Tee 3/8 FNPT	1
3	625-005-976	Fitting 3/8 M x 1/2 T John Guest	1	6	625-001-901	TUBING PE 3/8	2

* Recommended Spare Parts ** Additional Recommended Spare Parts

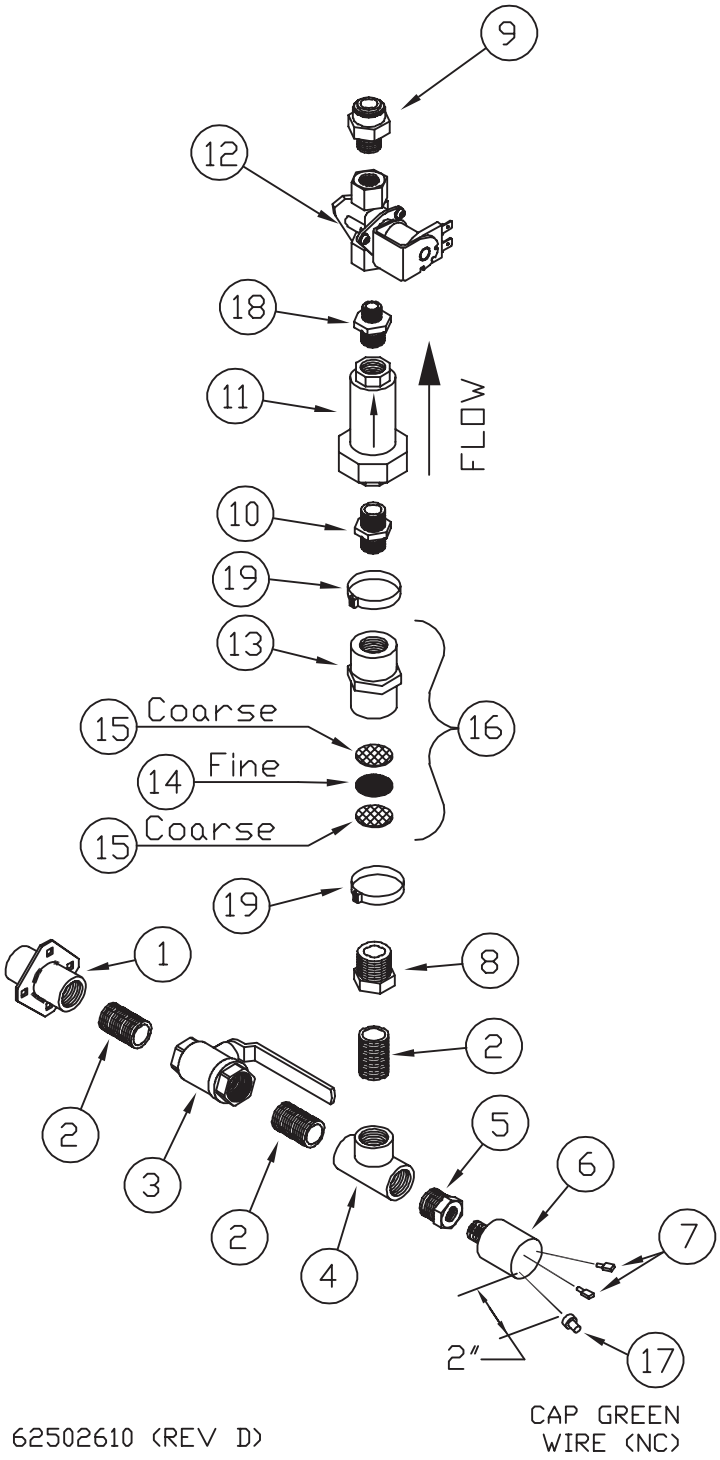
PLUMBING COMPONENTS 1840 WASTE MANIFOLD



REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	62502608	Weldment, SS Bulkhead 1/2”	1	15	62502633	Fitting, 3/8 x 1/4 SS RB	3
2	62501020	Fitting, Nylon 1/2 x 3/8 Nipple	1	16	62502622	Press Gauge 0-300 PSI Liquid Filled	1
3	NA	NA	NA	17	62500731	Fitting, 1/2 Stem x 3/8 Jg	1
4	62501963	Check Valve, 3/8 Poly	1	18	62502616	Body, SS 1/4 MNPT	1
5	625-005-949	Fitting Male Conn 3/8T x 3/8 NPT Jg	1	19	62501142	Orifice Plate #75 (XLE Mem Standard)	1
6	62502606	Fitting, SS Tee 1/2 x 1/2 x 1/2	1	19	625-004-270	Orifice Plate #55 (TW30 Mem)	1
7	62502594	Dual Check Valve, 1/2	1	20	62502617	Adapter, 1/4 NPT SS	1
8	62502620	Fitting, SS 1/2 x 3/8 Hex Nipple	1	21	625-004-944	Fitting, 1/4M x 1/4T Jg	1
9	62500544	Fitting, SS 3/8 Tee FNPT	4	22	625-001-903	Tubing, 1/4 Pe	1.2
10	62502621	Fitting, SS 3/8 Close Nipple	2	23	62502603	Fitting, SS Nipple 1/2	2
11	62502626	Solenoid, Lf Solenoid 3/8	1	25	62500496	Fitting, 3/8 Plug In Elbow, Jg	1
12	625-005-940	Fitting, 3/8M x 1/4T Jg	1	26	62500524	Fitting, 1/2 Union Elbow Jg	1
13	62502669	Fitting, 1/4 Street Elbow SS	1	27	62502634	Fitting, SS Nipple 3/8 x 1 1/2	2
14	62502632	Valve, 1/4 x 3/8T LF Brass	1	28	62501721	Clip 1/2 Lock	1

* Recommended Spare Parts ** Additional Recommended Spare Parts

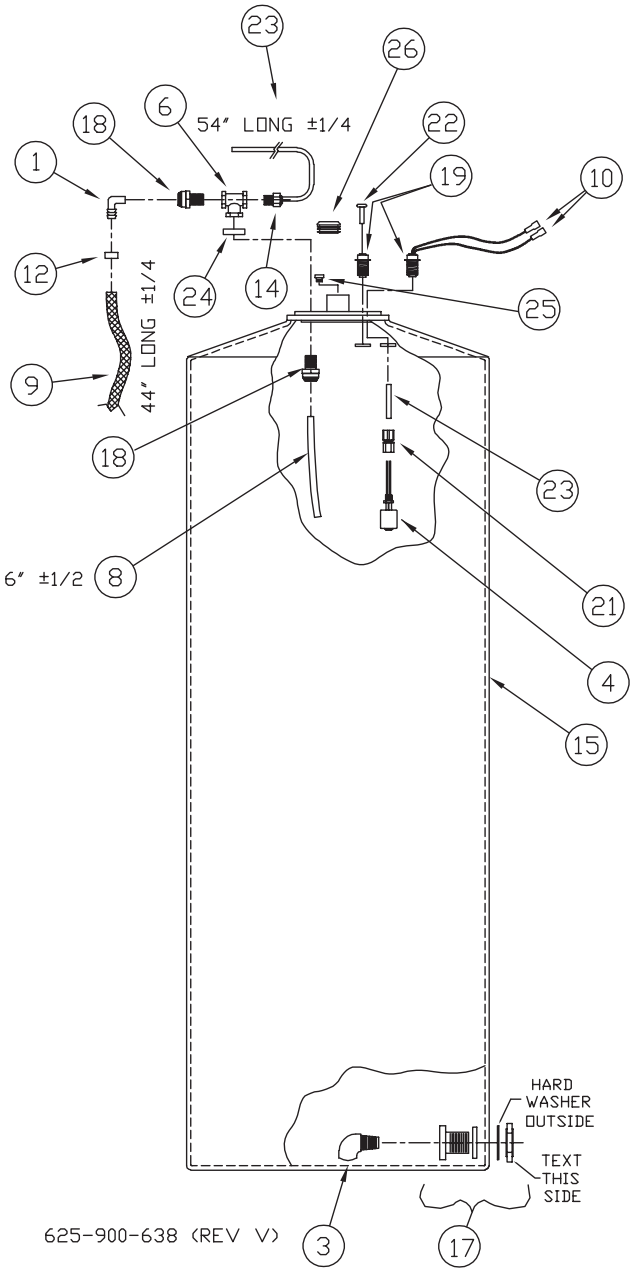
PLUMBING COMPONENTS INLET ASSEMBLY



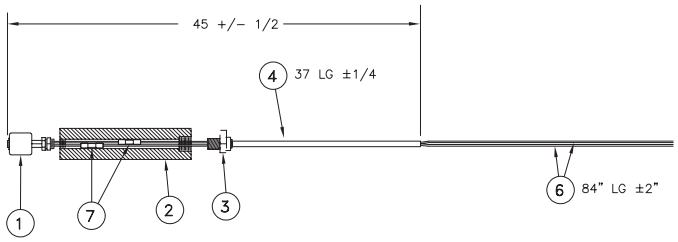
REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	62502608	Weldment, SS Bulkhead, 1/2 Flanged	1	11	62502594	Valve, LF Dbl Check 1/2"	1
2	62502603	Fitting, SS Close Nipple 1/2 MNPT	3	12	*62502626	Valve, 3/8 Solenoid 120 VAC LF	1
3	62502596	Valve, SS 2 Way Ball, 1/2 F	1	13	62502611	Fitting, Nylon Reducer Coup 3/4 x 1/2	1
4	62502606	Fitting, SS Tee 1/2 FNPT	1	14	62501752	Strainer, Fine 100 Mesh	1
5	62502716	Fitting, SS RB 1/2 x 1/4	1	15	62501753	Strainer, Coarse 20 Mesh	2
6	62502593	Press Switch, SPDT	1	16	62502612	Strainer Assembly, Inc 13 Thru 15	1
7	62500691	Terminal, Solderless 1/4 M	4	17	62500123	Term, Solderless Cap 22-16 Ga	1
8	62502602	Fitting, SS RB 3/4 x 1/2	1	18	62502620	Fitting, SS 1/2 x 3/8 Nipple	1
9	625-005-976	Fitting, JG 1/2 T x 3/8 M	1	19	62502873	Hose Clamp 1 7/16 Diameter	2
10	62502715	Fitting, SS Nipple 1/2 x 1/2	1				

* Recommended Spare Parts ** Additional Recommended Spare Parts

45 GALLON TANK ASSEMBLY



COIN MECH. UNITS ONLY

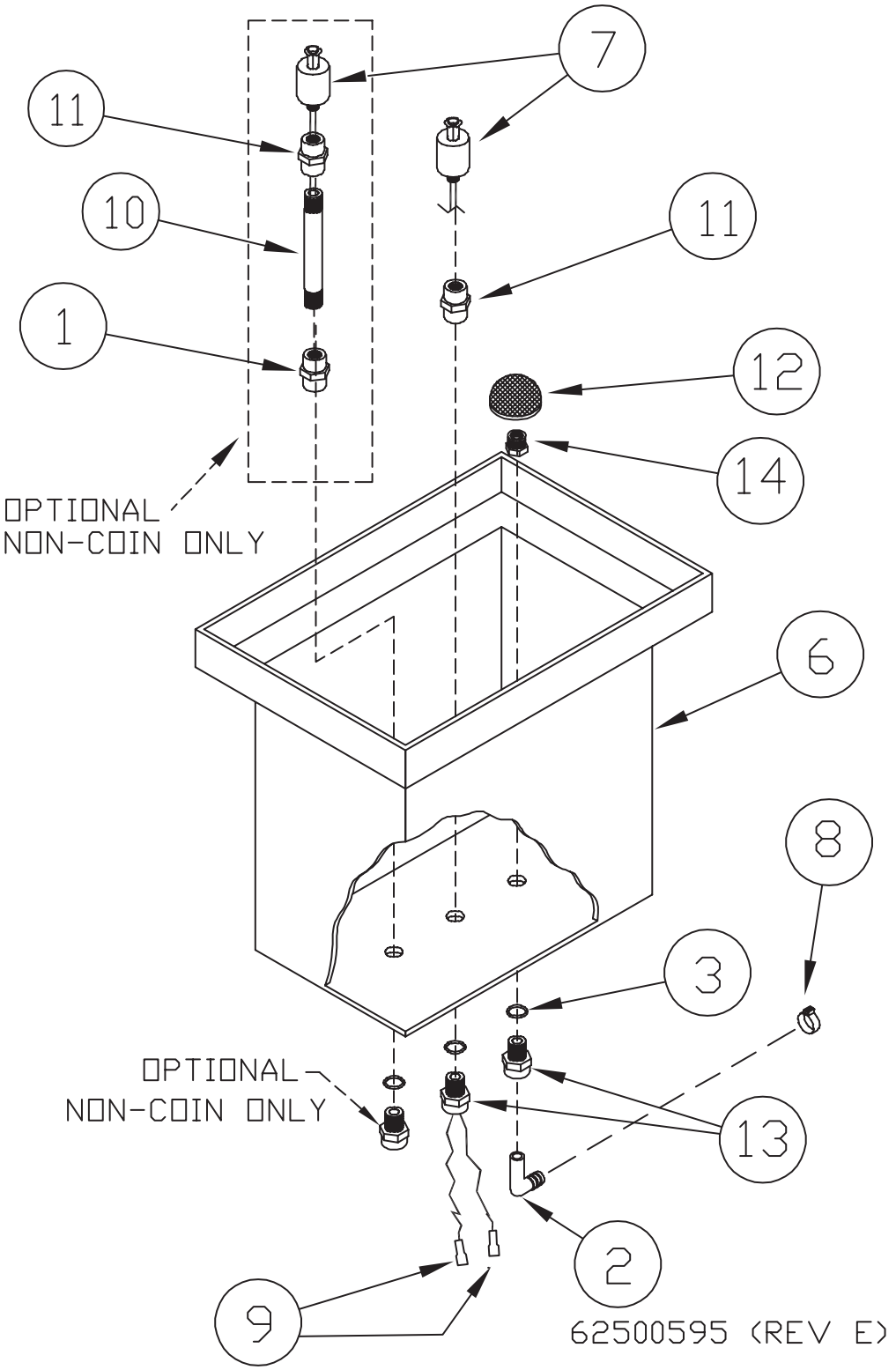


REF. NO.	PART NUMBER	DESCRIPTION	QTY.
	625-900-694	Complete Float Switch Assembly	1
1	625-001-325	Level SW. N/C Float & Stew	1
2	625-900-693	Adapter PVC	1
3	625-004-944	Fitting Male Connector 1/4 T x 1/4 MNPT	1
4	625-001-903	Tubing PE 1/4 O.D.	3.1
5	NA	NA	NA
6	625-002-294	Wire 20 GA. Brown STRD	14 Ft.
7	625-001-262	Solderless Butt Connector. #22	2

REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	625-005-998	Fitting, Barb 3/8 x 3/8 90°	1	14	625-004-944	Fitting, Connector 1/4 T x 1/4 NPT	1
2	NA	NA	NA	15	625-900-637	Tank, Drilled	1
3	62501655	Adapter-Street 90° 1/2 NPT	1	16	NA	NA	NA
4	*625-001-325	Level Switch	1	17	62502749	Bulkhead 1/2 x 1/2 NPT	1
5	NA	NA	NA	18	62500493	Fitting, 1/4 M x 3/8 T	2
6	625-002-956	Fitting, 1/4 Nylon Tee TT4	1	19	62501722	Fitting, Bulkhead 1/4 T x 1/4 T	2
7	NA	NA	NA	20	62501723	Foam, 1-1/4 SQ x 1-1/2 (Old Style)	2
8	625-001-901	Tubing, PE 3/8 OD	0.5	21	62501724	Fitting 1/4 T x 1/8 FNPT	1
9	625-001-920	Hose, PVC Braided 3/8 ID x 5/8 OD	3.7	22	62500582	Fitting, 1/4 Plug John Guest	1
10	62500691	Quick Slide, 1/4 M 18-22 AWG	2	23	625-001-903	Tubing, PE 1/4	4.7
11	NA	NA	NA	24	625-004-467	Rubber Washer	1
12	625-002-876	Hose Clamp,14.5mm-17mm OD SS	1	25	62502174	Filter, Tank Breather 1/8 MNPT	1
13	NA	NA	NA	26	62502858	Plug, Plastic 1 3/8 OD	1

* Recommended Spare Parts ** Additional Recommended Spare Parts

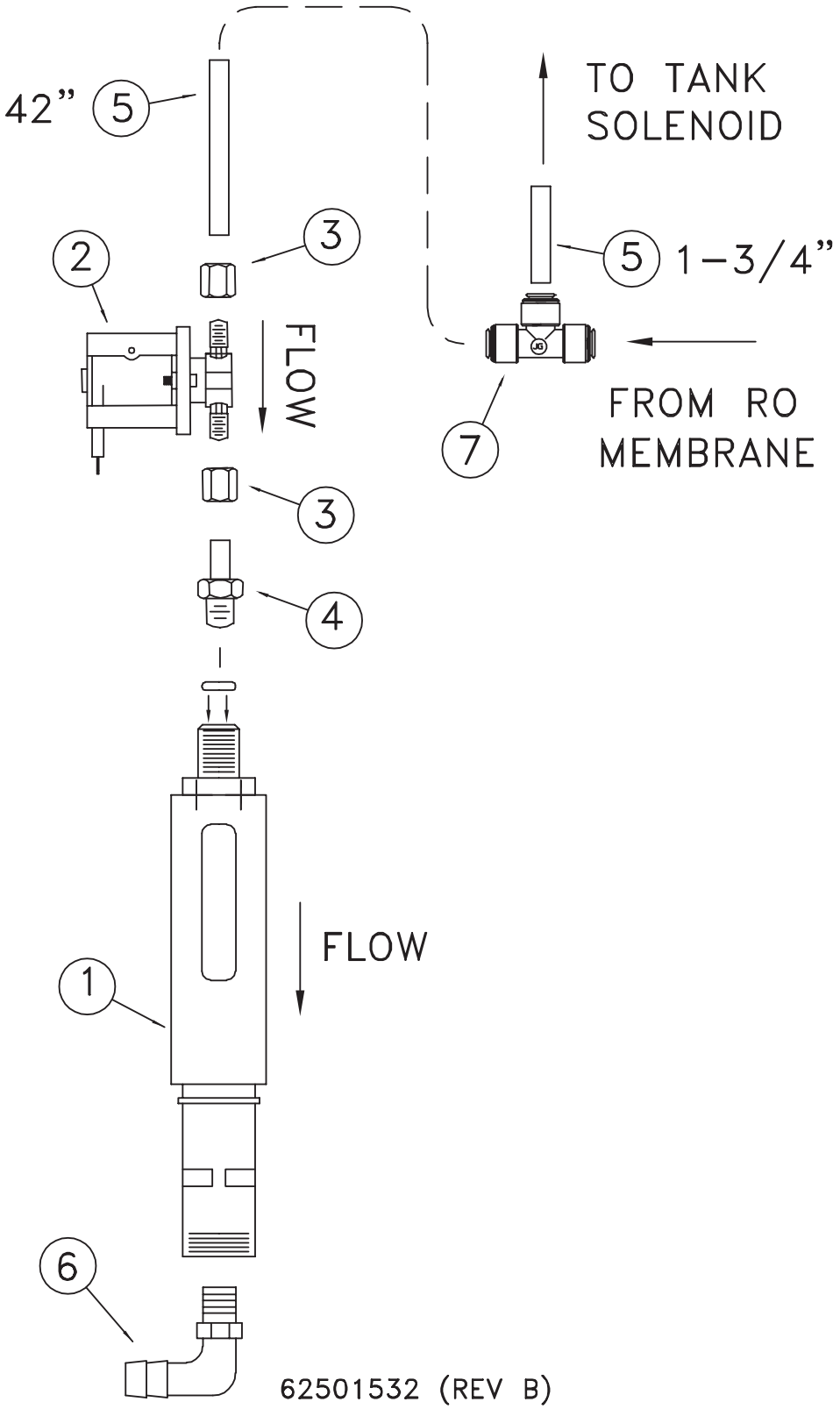
DRAIN TANK ASSEMBLY



REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	62502747	Fitting, Nylon 1/4 F x 1/4 F	1	8	625-002-875	Hose, Clamp .69-.59 OD Plastic	1
2	625-005-998	Fitting, 3/8 Stem x 3/8 Barb Jg	1	9	62500691	Terminal, 1/4 M 22-18 Full Ins	2
3	625-001-500	O-Ring, 014 70HD Buna-N	2	10	625-001-811	Fitting PVC Sch 80, Nipple 1/2 x 4	1
4	N/A	N/A	N/A	11	62502748	Fitting, Nylon 1/4 F x 1/8 F	1
5	N/A	N/A	N/A	12	62500984	Strainer	1
6	625-001-121	Tank, Drain 2 Gal (W/O Holes)	1	13	62500493	Fitting, 3/8 T x 1/4 M NPT, Jg	2
7	625-001-325	Level Switch	1	14	62500578	Fitting, 3/8 x 1/4 Rb	1

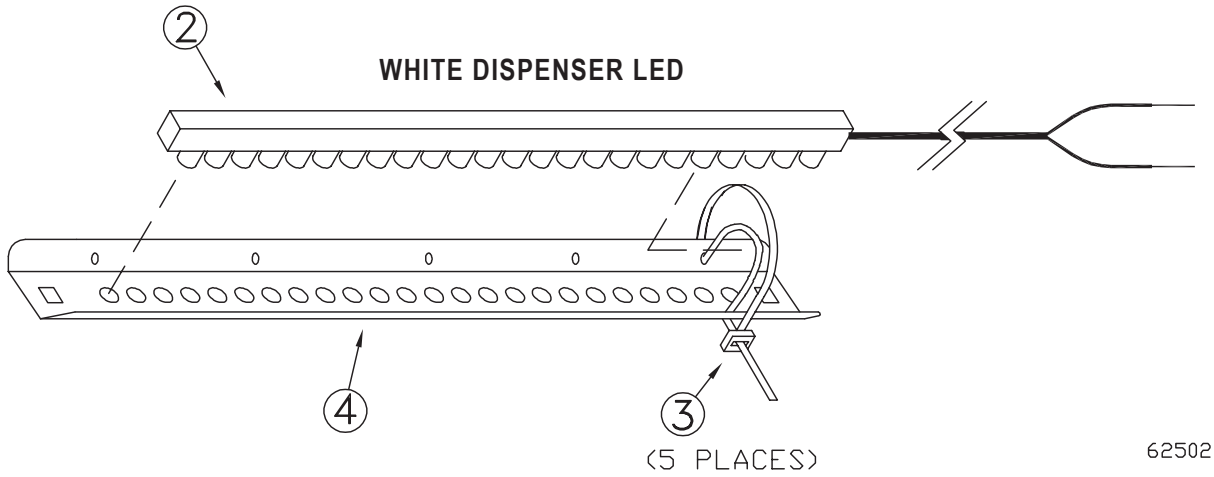
* Recommended Spare Parts ** Additional Recommended Spare Parts

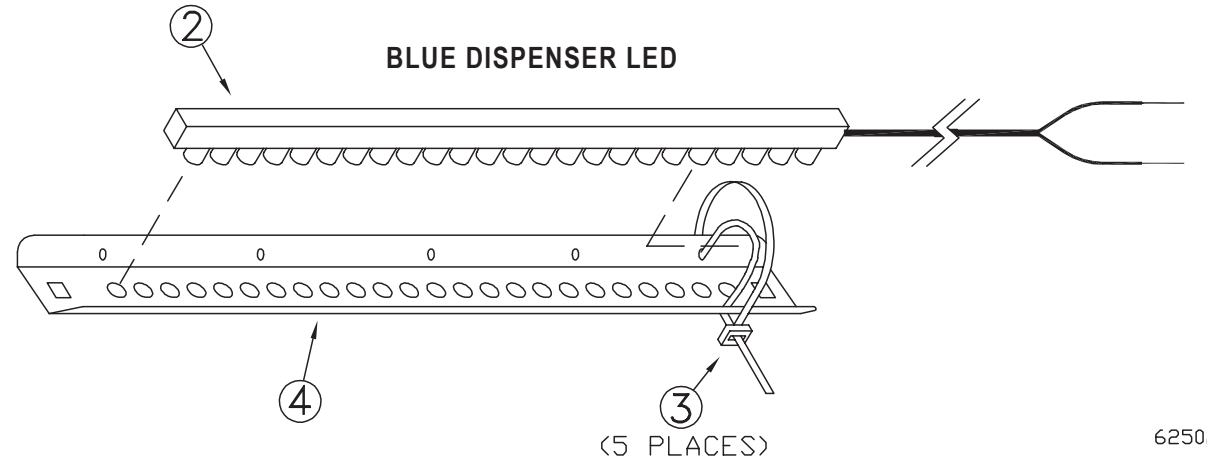
AIR GAP PLUMBING

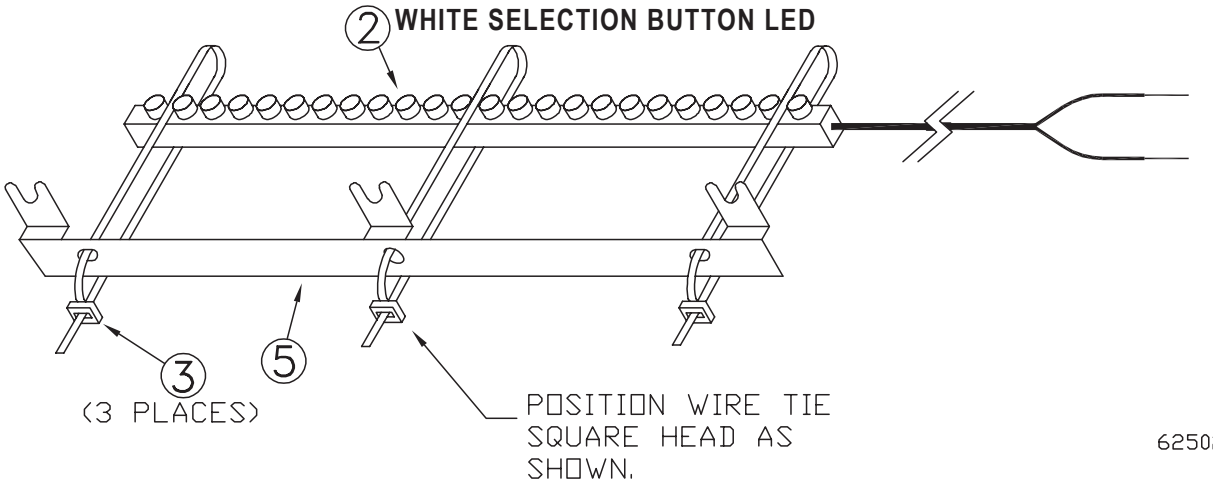


REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	625-004-287	Fitting, Plastic Air Gap	1	5	625-001-903	Tubing, 1/4 OD PE	3.7
2	625-004-383	Valve, Solenoid NC Plastic	1	6	62500430	Fitting, 3/8 MNPT 1/2 Barb	1
3	625-001-717	Fitting, 1/4 Ferrule	2	7	625-004-942	Fitting, 1/4 x 1/4 x 1/4 T Tee	1
4	62501530	Fitting, 1/4 Stem x 1/4 MNPT	1				

* Recommended Spare Parts ** Additional Recommended Spare Parts







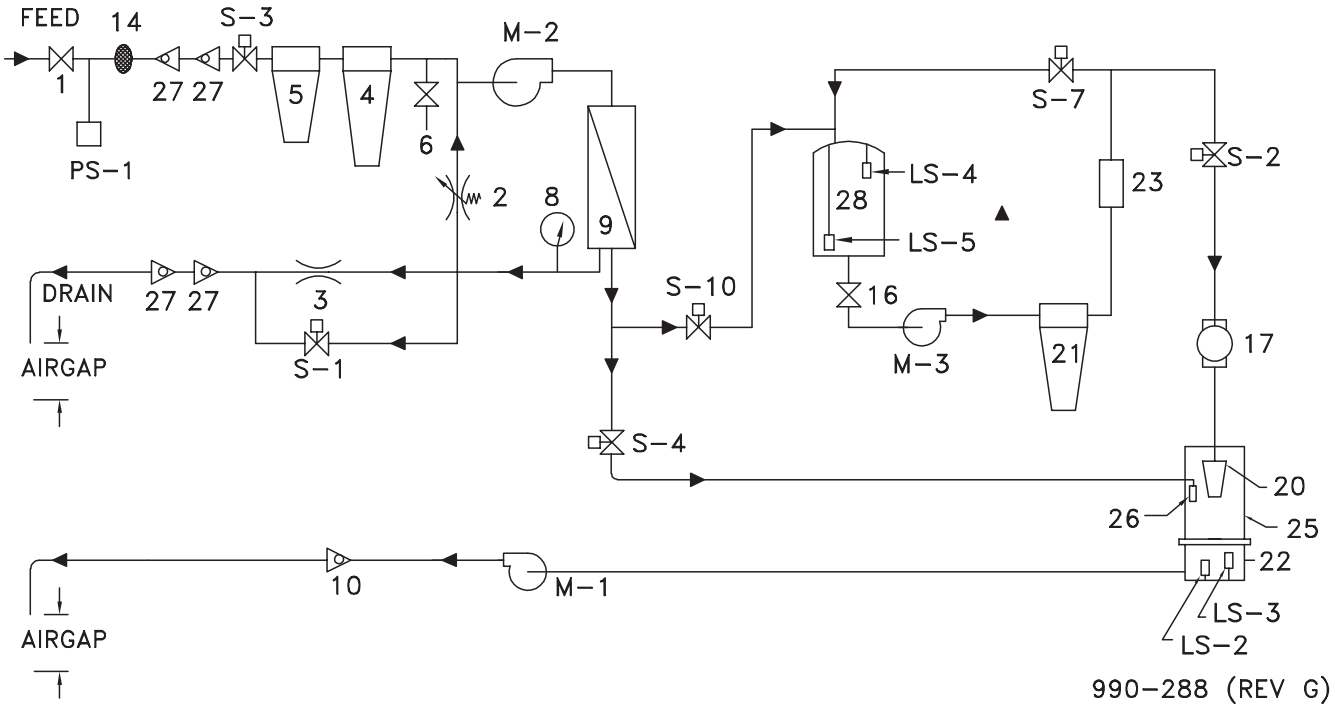
REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	N/A	N/A	N/A	3	625-001-469	TS Wrap, Nylon	5
2	62502071	Blue LED Strip 9.5 “	1	4	62502073	Bracket, Dispenser Light LED	1
	62502070	White LED Strip 9.5”	2	5	62502072	Bracket, Selection Button LED	1

* Recommended Spare Parts ** Additional Recommended Spare Parts

PRESSURE PUMP/OPEN TANK UNITS

FLOW DIAGRAM

PRESSURE PUMP / OPEN TANK



REF. NO.	PART NUMBER	DESCRIPTION	REF. NO.	PART NUMBER	DESCRIPTION
1	*62502596	Ball Valve 1/2" FNPT LF	22	625-001-121	Dispenser Drain Tank, W/O Holes
2	62502632	Needle Valve 1/4 M x 3/8 Comp Lead Free	23	62500859	UV Light 5 GPM R-Can (120 VAG 50/60HZ)
3	625-004-270	Orifice Plate #55 (w/TW-4040 Element)		*62500854	Replacement Bulb, 5 GPM R-Can
	62501142	Orifice Plate #75 (w/XLE-4040 Element)	24	N/A	N/A
4	625-004-588	Filter Housing #20	25	62500883	Plastic Door
	*625-005-822	Filter Cartridge, Carbon 20"		625-001-967	Knob
5	625-001-560	Filter Housing #10		952-004-062	SS Flat Washer
	*625-002-392	Filter Cartridge, Sediment 1 Micron 10"		950-004-050	M.S. #8 x 3/4 Slot SS
6	625-005-193	Drain Valve, PVC 3/8 Dia.	26	625-004-287	Device, Air Gap
7	N/A	N/A	27	62502594	Check Valve, Double 1/2" FNPT LF
8	62502622	Pressure Gauge 0-300 PSI Liquid Filled LF	28	625-900-637	Tank 45 Gallon
9	62501528	Vessel Assembly W/O Membrane	29	N/A	N/A
	625-001-634	Membrane, TW30-4040	30	N/A	N/A
	62501113	Membrane, XLE-4040	LS-2	*625-001-325	Level, Float Switch NC
10	62501963	Check Valve, 3/8 FNPT Poly	LS-3	625-001-325	Level, Float Switch NC
11	N/A	N/A	LS-4	625-001-325	Level, Float Switch NC
12	N/A	N/A	LS-5	625-001-325	Level, Float Switch NC
13	N/A	N/A	M-1	**62501748	Drain Pump
14	62502612	Strainer Assembly, 1/2 FNPT Nylon	M-2	62500484	Motor, 1/2 HP (1840 Series, V-Band Mount)
15	N/A	N/A		**62502600	Pump, LF Brass 4 GPM V-Band Mount
16	625-005-193	Ball Valve PVC, 3/8	M-3	625-004-385	Dispenser Pump, Flowjet 3.5 GPM
17	62500658	Water Meter, Plastic (Gallon)	PS-1	62502593	Pressure Switch 1/4 MNPT 5 PSI
	62500790	Water Meter, Plastic (Metric Optional)	S-1	62502626	Solenoid Valve LF 3/8 FNPT (w/Spade Connector)
	62500661	Sensor Assembly W/Cord	S-2	**62501392	Solenoid Valve 1/2" 5 GPM
18	N/A	N/A	S-3	62502626	Solenoid Valve LF 3/8" FNPT
19	N/A	N/A	S-7	625-004-383	Solenoid Valve 1/4" NC Plastic
20	62501818	Nozzle Assembly, W/Screen 1/2"	S-10	625-004-483	Solenoid Valve 3/8" NC Plastic w/Flow Control
	62501815	Screen		625-004-383	Solenoid Valve 1/4 NC Plastic
21	625-001-560	Filter Housing 10"		625-001-717	Nut 1/4" Jayco
*	625-001-574	Filter Carbon 10"			

* Recommended Spare Parts ** Additional Recommended Spare Parts

NOTES:

LOG SHEET

LOCATION:

DATE:					
TDS FEED (ppm)					
TDS R/O (ppm)					
SYSTEM PRESSURE					
TANK PRESSURE (Charged)					
WATER METER READING (Gal.)					
D.I. TANK READING (Gal.)					
GALLONS VENDED					
UV INTENSITY					
CHLORINE LEVEL					

MACHINE MAINTENANCE (check ✓ when serviced)

DATE:					
UV LIGHT CHANGED					
PRE-CARBON FILTER					
SEDIMENT FILTER					
R.O. POST CARBON FILTER					
SALT TANK LEVEL (water softener pretreatment)					
CLEAN DRAIN SCREEN (1800 Series)					
CLEAN & SANITIZE VENDING NOZZLE/DISPENSER HOUSING					
CHECK LEVEL SWITCH (safety float)					
CLEAN DRAIN TANK					
EXTERNAL: CARBON TANK CHANGED (Gal.)					
OPERATOR INITIALS					

COSTER ENGINEERING WARRANTY

The only warranty Coster Engineering gives is as follows:

Coster Engineering warrants each product it manufactures to be in accordance with our published specifications or those specifications agreed to by us in writing at time of sale. Our obligation and liability under this warranty is expressly limited to repairing or replacing, at our option, within one year from the date of shipment, to the original purchaser, any product not meeting the specification. **WE MAKE NO OTHER WARRANTY, EXPRESS OR IMPLIED AND MAKE NO WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR ANY PARTICULAR PURPOSE.** Our obligation under this warranty shall not include any costs or any liability for direct, indirect or consequential damage or delay. If requested by Coster Engineering, products or parts for which a warranty claim is made are to be returned freight prepaid to our factory. Any improper use, operation beyond rated capacity, substitution of parts not approved by Coster Engineering, or any alteration or repair by others in such manner as in our judgment affects the product materially and adversely shall void this warranty. **NO EMPLOYEE OR REPRESENTATIVE IS AUTHORIZED TO CHANGE THIS WARRANTY IN ANY WAY OR GRANT ANY OTHER WARRANTY.**

Coster Engineering reserves the right to make improvement changes, alter features, specifications, options and standard equipment on any of our products without notice and incurrence of obligation on prior manufactured machines.

WARRANTY DOES NOT APPLY to depreciation, parts replacement, maintenance, damage and service necessitated by **NORMAL WEAR**, misuse, lack of proper maintenance, accident, negligence or failure to follow specified operational instructions. Products not covered include, but are not limited to: filters, lamps, reverse osmosis membranes, and deionization resin which normally require perodic replacement or regeneration.

Products not manufactured by Coster Engineering may or may not be covered under warranties supplied by the original manufacture and shall be subject to their warranty limitations.

Repair or replacement of a product does not extend the original warranty.

No reimbursement will be made for labor for repair of any kind without prior authorization from Coster Engineering.

A DELIVERY REPORT FORM must be completed and received by Coster Engineering to initiate the warranty coverage.

COSTER ENGINEERING
DIVISION OF HINIKER COMPANY
58766 240th St.
P.O. BOX 3407
MANKATO, MN 56002-3407