# SONNY'S
## Enterprises, Inc.

## *SRC201 Reclaim Unit*
*(EATON PANEL)*

## Installation & Operation

# Product Specifications

- Reclaim skid
- 2 – UV lamps
- 2 – 2" swing foot valves w/ 3" bells
- Low water float switch

# Installation & Operation

Installation:

- Place the reclaim skid in an area not subject to direct water spray or freezing.
- Locate the skid as close as possible to suction lines coming from underground reclaim settlement tanks.

THE CUSTOMER'S PLUMBER IS TO PROVIDE, INSTALL AND INTERCONNECT:

ODOR CONTROL PUMP SECTION:
(2 hp pump; left pump)

- Foot/Check valve located in reclaim tank - 2" valve has a 3" bell that should be pointed down. Keep foot valve a minimum of 12" away from tank walls and other suction lines, 10" minimum (max-12") off of tank bottom. Do not install any type of screen or strainer to foot valve down inside of tank. See figure 5 & 6.
- Pump inlet - 2" sch 80 PVC pipe from reclaim underground tank to ODOR CONTROL in-line basket strainer. ODOR CONTROL basket strainer is the left basket when facing skid. See figure 5.
- Pump discharge - 2" sch 80 PVC pipe from black venturi discharge to center trench. New construction drops this line into the 6" sch 40 PVC pipe that flows to the center trench. For retro-fit installation; run 2" sch 80 PVC pipe down leg of car wash equipment on conveyor side and drop into center trench. Restriction from this discharge affects the flow rate of the odor control pump. Short pipe runs are required. Otherwise increase discharge line to 3" to reduce flow restrictions. ODOR pump gauge 1 maximum operating pressure is 5 PSI or less. See Figure 1.

FILTER PUMP SECTION:
(5 hp pump; right pump)

- Foot/Check valve located in reclaim tank - 2" valve has a 3" bell that should be pointed down. Keep foot valve a minimum of 12" away from tank walls and other suction lines, 10" minimum (max-12")off of tank

bottom. Do not install any type of screen or strainer to foot valve down inside of tank. See figure 5 & 6.

- Pump inlet - 2" sch 80 PVC pipe from reclaim underground tank to FILTER PUMP in-line basket strainer. The FILTER PUMP basket strainer is the right basket when facing the skid. See figure 4.
- Reclaim water discharge - 2" sch 80 PVC pipe located on right side of unit. See figure 4.
- Back flush discharge - 2" sch 80 PVC pipe located on right backside of unit. See figure 4.
- Compressed Air Line: ½" hose or pipe (if tubing is used, increase one size larger.) 90 psi @ 1/2 CFM minimum. See figure 4.

THE CUSTOMER'S ELECTRICIAN IS TO PROVIDE, INSTALL AND INTERCONNECT:

CONTROL VOLTAGE

- Control voltage 120 vac, 1 phase, 60 Hz power to terminals labeled L= 120-vac hot & N= 120-vac neutral
- Ground to ground terminals.
- 120-vac signal from car wash controller to terminal SE(system enable) & N1.
- Low water float switch from pump suction tank to terminals I6a and I6. Float switch by SONNY'S. See figure 7.

ODOR CONTROL PUMP

- High voltage 208-240 VAC or 480 VAC, 3-phase, 60 Hz power to the terminals labeled 1L1-1L2-1L3 (2 hp motor). See figure 7.

FILTER PUMP

- High voltage 208-240 VAC or 480 VAC, 3-phase, 60 Hz power to terminals labeled 2L1-2L2-2L3 (5 hp motor). See figure 7.
- Signal from car wash controller to reclaim unit. 120-vac from the car wash controller to terminal labeled **SE**(system enable) & **N1**, this circuit is protected by 3CB breaker. This cycles the system on and off with car wash controller. See figure 7.

## INSPECTION OF TERMINALS

- **When equipment is shipped by over-the-road carriers, terminals can work their way loose. Recheck all terminal screw connections.**

BEFORE START-UP

**Pressure test ALL suction lines**

- Turn on compressed air to unit
  - Set regulator at 60 psi
  - Inspect all ¼" compressed air lines for leaks
  - Tighten as required

- Install the 2 ultra violet (UV) lamps in gray UV chambers located behind control panel. Lamps set approximately 1" down inside of PVC chamber. UV lamps are shipped separately not installed, in white cardboard boxes. UV lamps are fragile. See figure 8.

- **Set clock in easy819 control relay located in control panel. See attachment A.**

- PRIME PUMPS
  - Remove lids from both basket strainers
  - Fill to top with a fresh water supply
  - Replace lid to strainers

CONFIRM MOTOR/PUMP ROTATION

- Turn on 3-phase and 120 vac control circuit power
  - Turn on ODOR PUMP, (small pump) switch to HAND position and quickly shut off, while inspecting fan rotation on backside of motor. Fan must rotate clockwise direction (CW). See arrow on motor.

- Turn on FILTER PUMP, (larger pump) switch to HAND position and quickly shut off while inspecting fan rotation on backside of motor. Fan must rotate clockwise direction (CW). See arrow on motor.

START-UP

ODOR PUMP

- Turn ODOR PUMP selector switch to HAND. ODOR PUMP GAUGE 1 should read under 5 PSI, GAUGE 2 should read 20 – 25 PSI.
  - If pump does not come up to prime, you may have to refill basket strainer again. PUMP WILL NOT OPERATE MORE THAN 45 SECONDS BEFORE SHUTTING DOWN. **LOW FLOW FAULT.** Turn off selector switch, re-prime inlet basket strainer. Turn selector switch to HAND. Pump can not run dry. Permanent seal damage will occur. **Seal damage is not covered under warranty.**
  - Operate ODOR PUMP switch in HAND position for 3 days or until reclaim odor is eliminated. Switch to AUTO (automatic) or leave in HAND. AUTO = on 6:00 am and off 10:00 pm.
  - **IMPORTANT TO SET THE PLC CLOCK!**

FILTER PUMP

- Open solenoid valve on one piece of equipment that will be fed with reclaim water.
- Switch FILTER PUMP selector switch to AUTO (automatic). System will turn on and off by functions of car wash controller.
- Turn function switch on car wash controller to manual. FILTER PUMP should turn on and spray reclaim water out of the equipment that was turned on.
- If pump does not come up to prime, you may have to refill basket strainer again. DO NOT LET PUMP OPERATE WITHOUT WATER FLOW FOR LONGER THAT 45 SECONDS. Permanent seal damage will occur. **Seal damage is not covered under warranty.**
- Pump operating pressure should be
  - Gauge 1 = Pressure feeding car wash equipment 20-50 psi range

- Gauge 2 = Pump head pressure before primary filter 40-60 psi range.
- Press the P1 (9:00 o'clock position) switch on EASY 819 programmer to manually back flush the filter. See Figure 9.

- Turn car wash controller switch to off.
- FILTER PUMP should shut off.
- Program car wash controller to turn on and off as needed with car wash equipment. This output should be programmed as a sequential setting.

MAINTENANCE

- Daily
  - Inspect and clean the in-line basket strainers to ODOR and FILTER Pump. (CLEAN SEVERAL TIMES A DAY AFTER INITIAL INSTALLATION & START-UP, FOR A FEW DAYS,)
  - Inspect ODOR pump gauge 1 and gauge 2. Gauge 1 psi should be under 5 psi. Gauge 2 operating pressure is 20 – 25 psi. Higher or lower pressure readings indicate a restriction in the venturi system
  - Inspect the optic fiber lens to see purple glow from UV lamps. See figure 9.
  - Compressed air turned on to the system, 60 PSI reading on air gauge.
  - Inspect FILTER pump gauge 1 and gauge 2. Gauge 1 pressure should be between 20-50 psi. This is the pressure feeding to the car wash equipment. Gauge 2 pressure should be between 40-60 psi. This is the pump head pressure before any filters.
  - Initiate manual back flush to backwashing filter. Push the P1 button on the EASY819 CONTROL RELAY. See figure 9.

**WEEKLY OR AS NEEDED - IMPORTANT**

**Remove and clean backwashing filters. Even though these filters are self- cleaning micro fibers from the cloth will and can build up on the 25-micron filter basket. Use a pressure washer to clean the filters from the inside out. SONNY'S offers a backwashing filter**

**pressure wand. SONNY'S HIGH PRESSURE FILTER CLEANER *PART NUMBER SRCHPWAND.***

Filter Pump seal flush tube. Remove brass connector at pump head and turn on pump. Water should flow out both blue tube and brass fitting.

FEATURES ON THE SRC201 RECLAIM SYSTEM.

This system is operated by a control relay, EASY819. This unit keeps you informed as to the systems operation. An easy to read display screen keeps you informed. The default screen is:

Sonny's
800-327-8723
Odor Off/On/Auto
Filter Off/On/Auto

The Odor Off/On/Auto lets you know at a glance what setting the ODOR pump is set at. The Filter Off/On/Auto gives you the same information for the FILTER pump. The display reading will read what position the selector switch is at on the front control panel.

On the front of the EASY819 there is a gray disc. This disc has four positions or switches. The switches are located at 9:00, 12:00, 3:00 and 6:00 o'clock of a clock face.
P1 (9:00) = initiate manual back flush
P2 (12:00) = changes the default screen to the input/output screen (service screen)
P3 (3:00) = alternates the default screen and UV lamp hour timer. Lamp hour life is 6,000 hours or change every year.
P4 (6:00) = resets the UV lamp hour timer. See figure 9.

SYSTEM FEATURES:

ODOR PUMP: low flow shut-down. turns off ODOR pump and Filter Pump in the event of no flow. This protects the system and pump seals.

FRESH WATER OVERRIDE:. This will turn on fresh water in the event of the post filter pump pressure dropping below 20 psi.

LOW WATER FLOAT: If the reclaim tank water drops to an unsafe level, the system will shut down to protect the pumps from operating without water.

ALARM LIGHT: In the event of any of the three fore-mentioned malfunctions, the red alarm light will flash on & off to indicate a problem. The PLC inside the control panel will display the specific malfunction. The light will reset automatically when the Low water issue is resolved and the float is functioning properly. The fresh water override solenoid operates on a pressure switch, when the fresh water override pressure switch is satisfied and the solenoid closes, the alarm light shuts off.. The Odor pump low flow shut down however will not reset the Alarm light automatically when corrected. You must turn the Odor pump switch off then back to the "Hand" or "Auto" mode to reset the alarm light.

# SET PLC CLOCK IN SYSTEM

# IMPORTANT!

ATTACHMENT: A

## Setting clock in easy819 control relay

1) Turn on the 120-vac control circuit.
2) The default screen of "Sonny's, 800-327-8723,Odor Off, Filter Off' should be displayed.
3) Push "OK" button located on the lower right side under the gray disc.
4) New screen should appear. "PASSWORD..." should be flashing.
5) Using the gray disc in the center of the CONTROL RELAY, push at the 6:00 o'clock position to advance to "SET CLOCK...". Push "OK".
6) A new screen should appear, "SET CLOCK" should be flashing. Push "OK".
7) New screen should appear.
    a. "HH:MM:" = hours and minutes
    b. "DD.MM:" = day and month
    c. "YEAR:" = what year it is
8) You can scroll through this screen by using the gray disc to advance from left to right and up and down. Press "OK", the hour number value should start flashing. The clock settings are based on a 24-hour clock, NOT 12-hours.
9) Once the time is set push "OK".
10) Arrow down to "DD.MM." (NOTE: day first then month.)
11) Push "OK". The day value should start flashing.
12) Scroll to set the current day and month.
13) Push "OK".
14) Arrow down to "YEAR:".
15) Scroll to the current year. Push "OK".
16) The hour should be flashing again.
17) Push "ESC", "SET CLOCK" should appear and start flashing.
18) Push "ESC", "PASSWORD..." should appear and start flashing.
19) Push "ESC", the Input/Output (I/O screen) will appear and then the default screen will appear.
20) Clock setting is now complete.

The clock setting is important for the operation of the system.

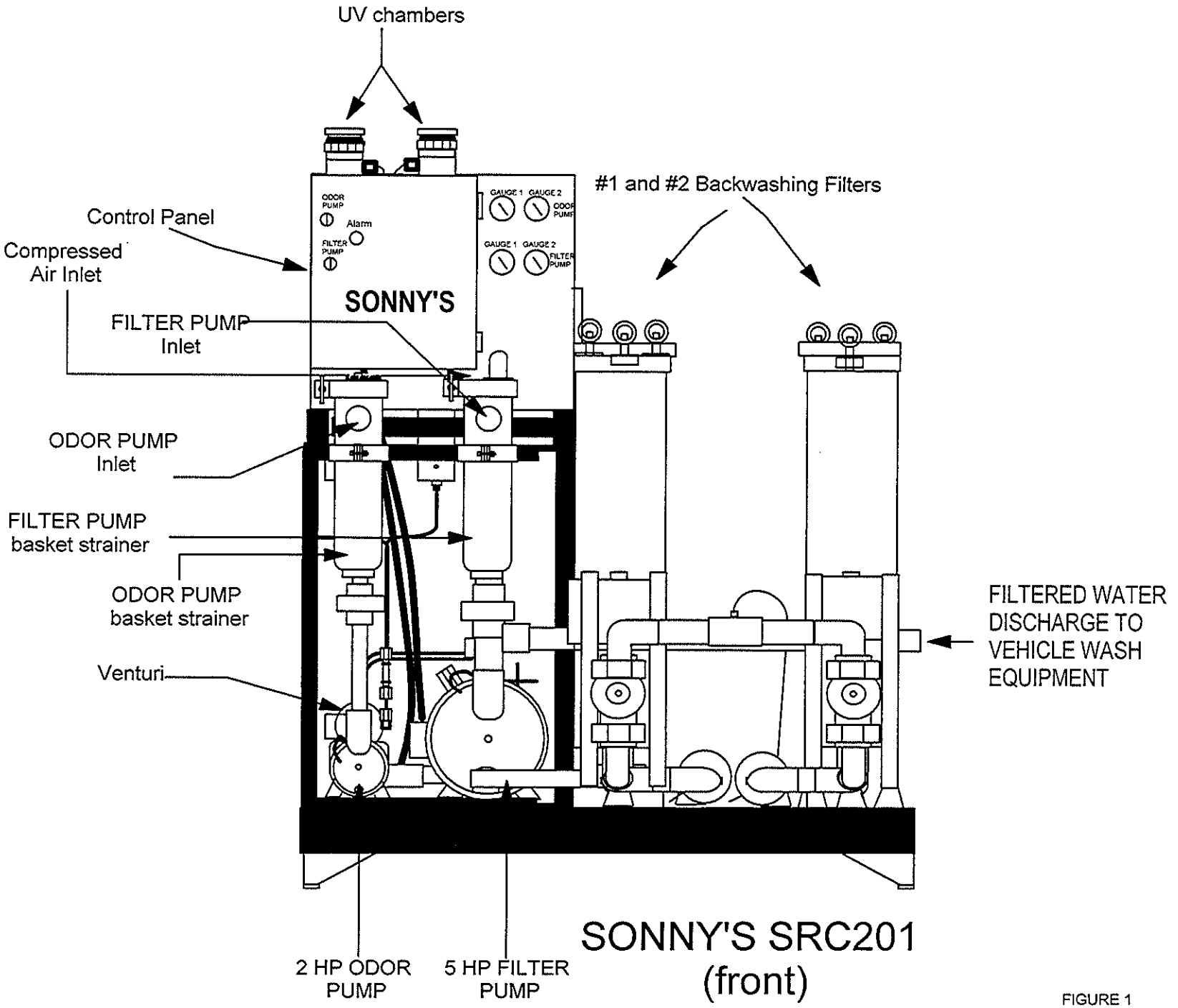



FIGURE 1
03-04-09

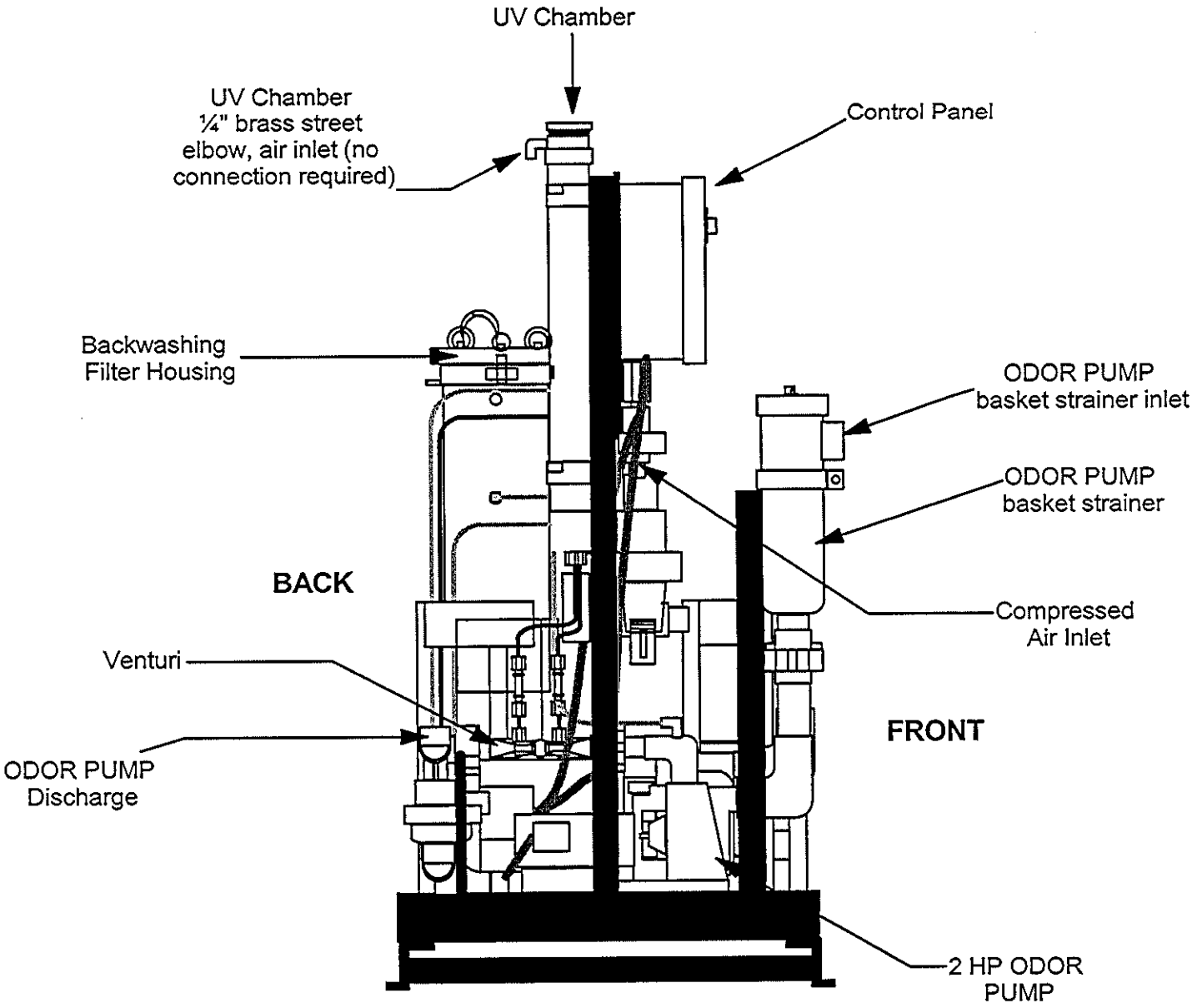
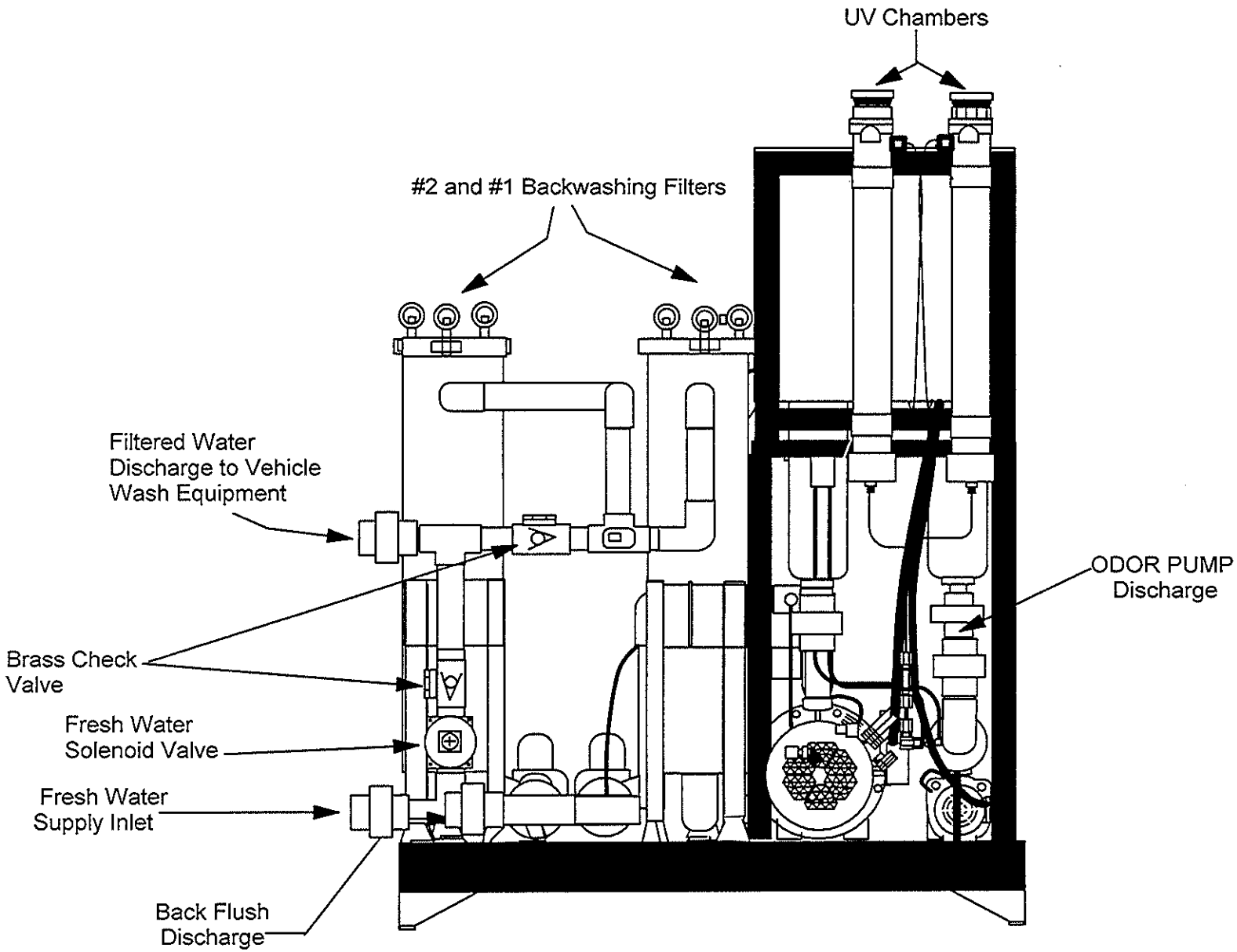



FIGURE 2
03-04-09

# SONNY'S SRC201
# (left end view)




# SONNY'S SRC201
# (back)

FIGURE 3
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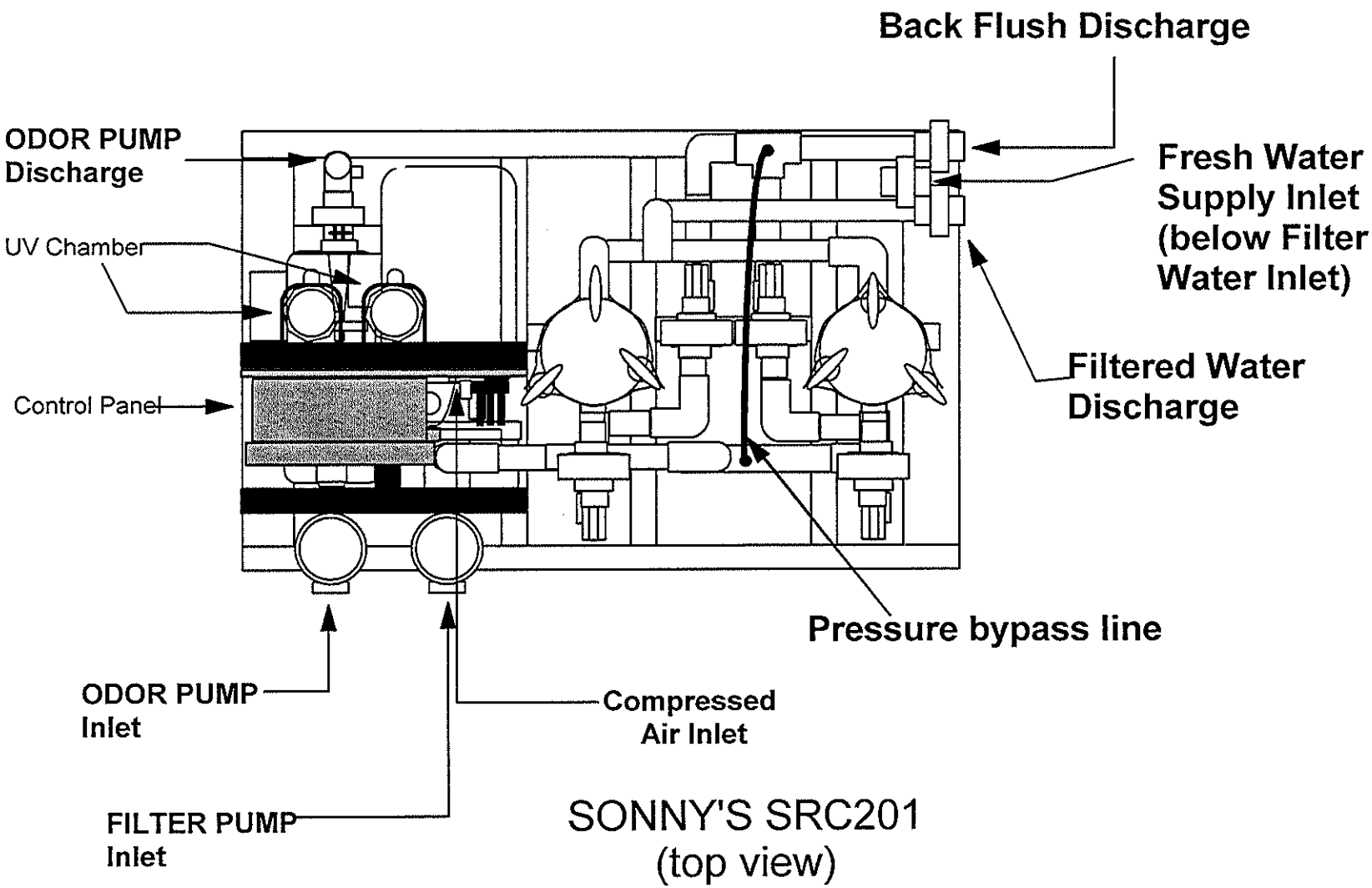



FIGURE 4
03-04-09

# 2 COMPARTMENT TANK PLUMBING
## retro fit design

TYPICAL 6" pvc piping underground

- 6" tees and elbows help control floating oils and heavy solids
- Installing Tee pipe fittings create siphon breaks
- Tee into pick-up & overflow tank distributes water evenly in tank

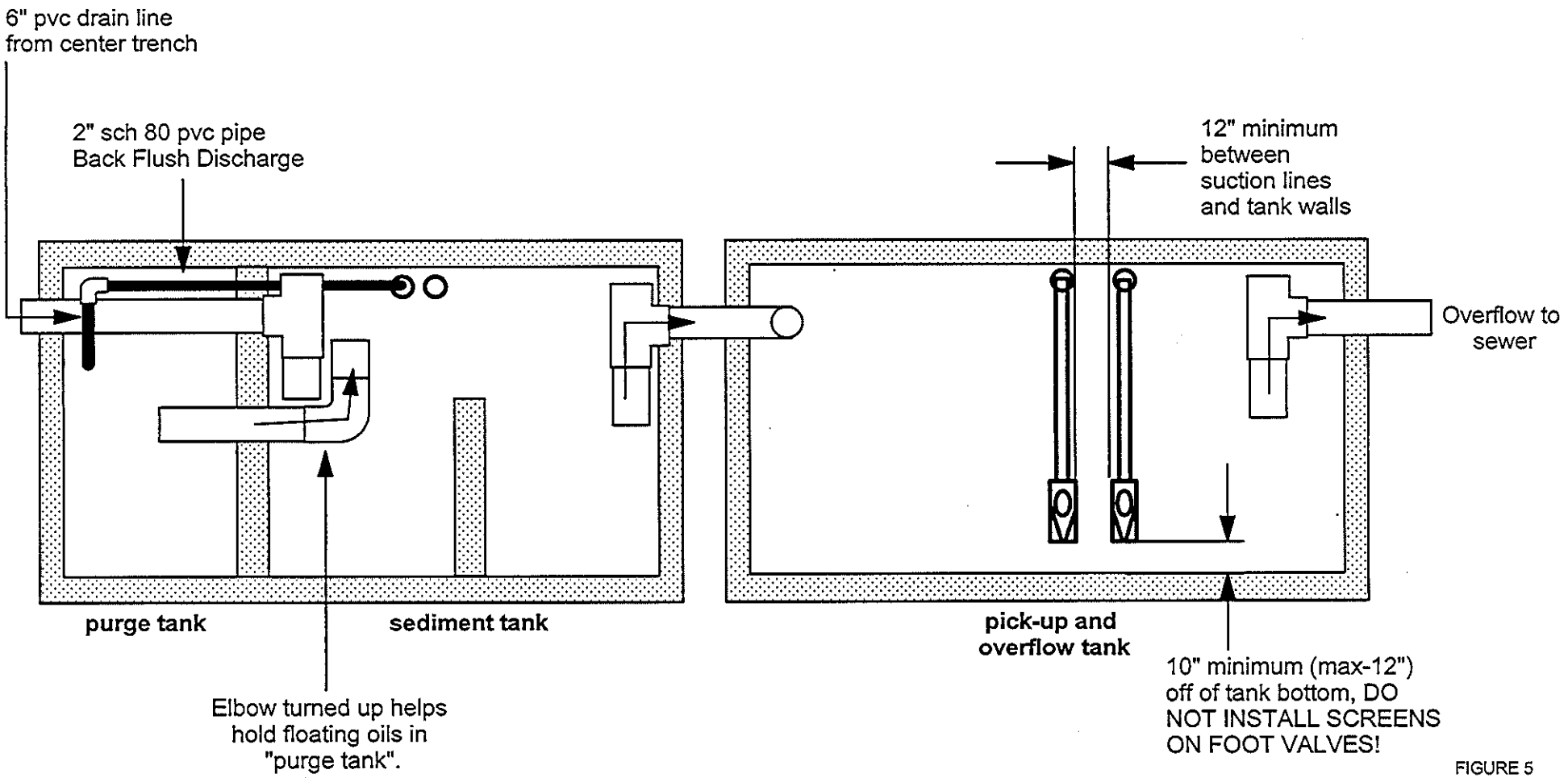



FIGURE 5
03-04-09

# 3 COMPARTMENT TANK PLUMBING

TYPICAL 6" pvc piping underground

- 6" tees and elbows help control floating oils and heavy solids.
- Installing Tee pipe fittings create siphon breaks
- Tees into sediment and pick-up & overflow tanks distributes water evenly in tanks

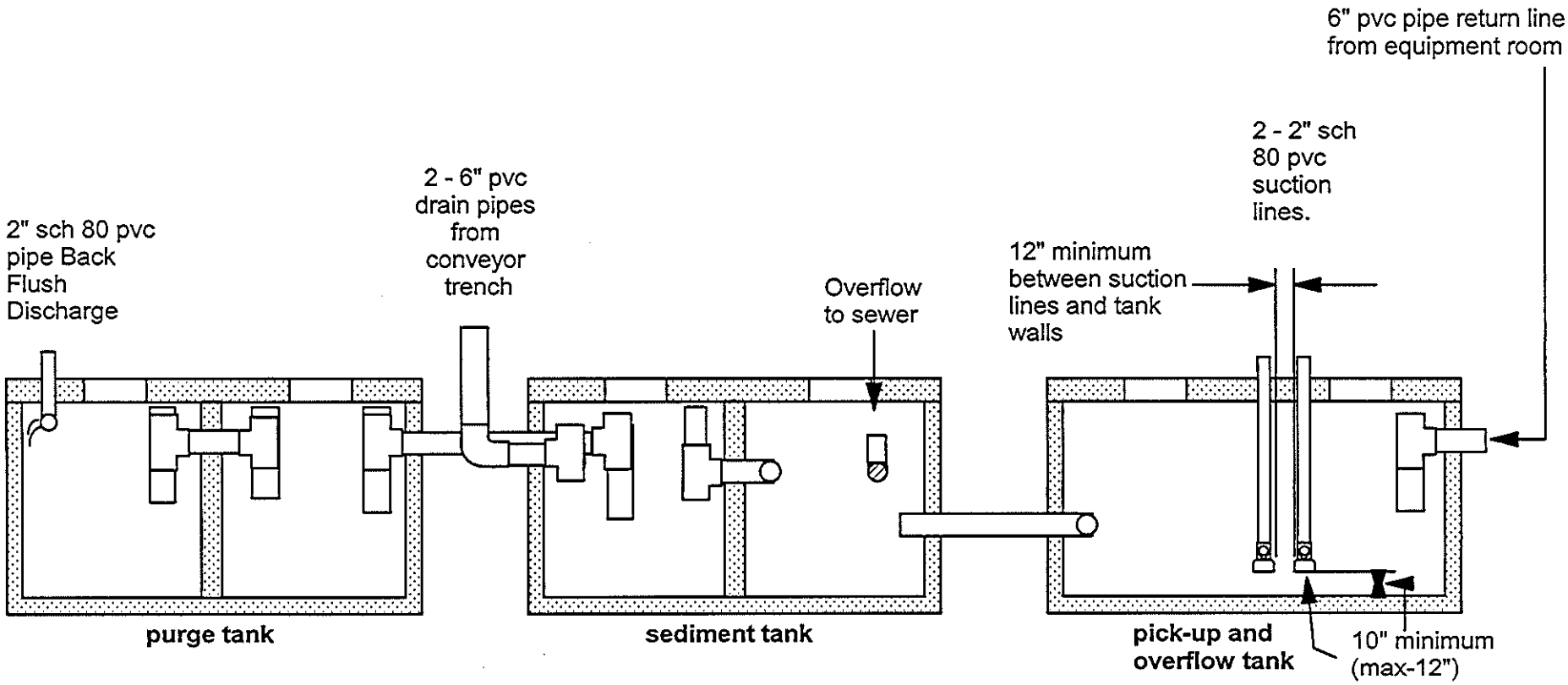


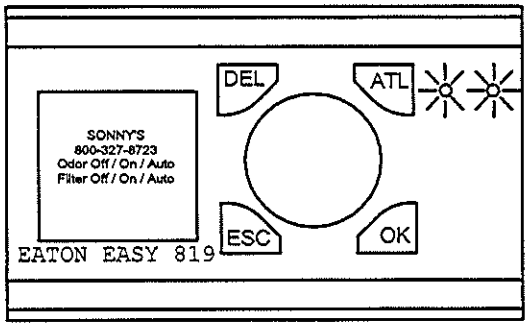

FIGURE 6
03-04-09

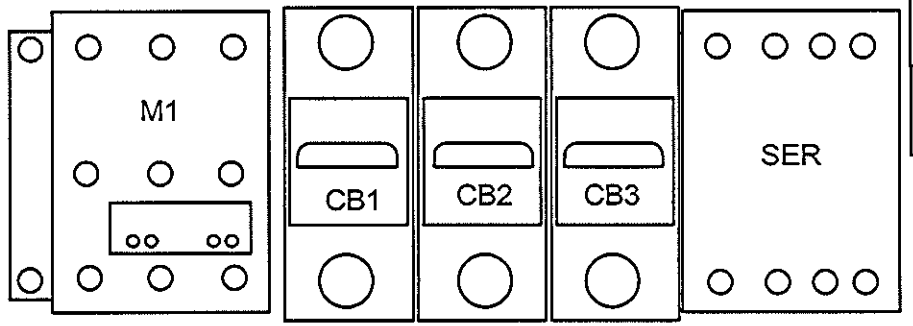
# ALL FIELD CONNECTIONS

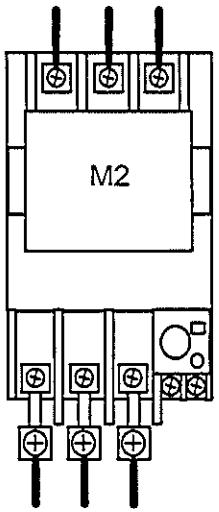
Field connections are to only be made at terminal strip. Factory wiring connects terminal strip to components.

**Component Legend**

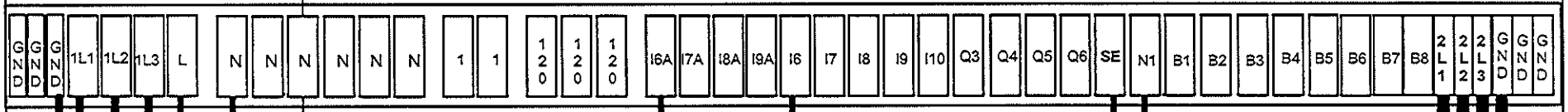
EASY819 = Control Relay
CB1 = Main Control Circuit Protector
CB2 = Ballast Circuit Protector
CB3 = 120-vac Signal From Car Wash Controller
SER = System Enable Relay
M1 = Odor Pump Motor Starter
M2 = Filter Pump motor starter




**CHECK ALL TERMINAL CONNECTIONS BEFORE STARTING SYSTEM**




SE = 120 vac car wash controll signal

Control neutral

120 vac control circuit feed

5 hp Filter Pump Motor 3 Phase Feed

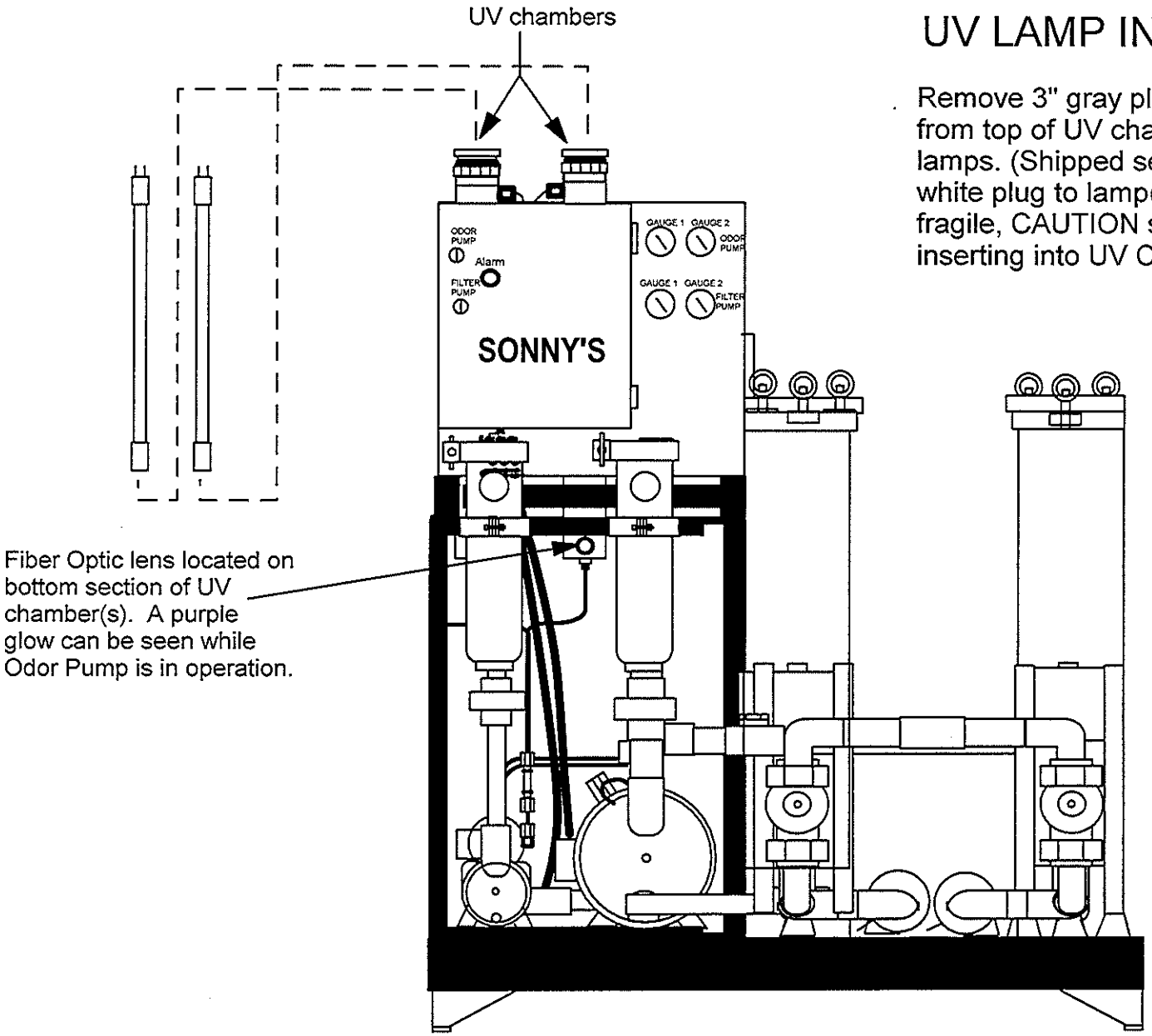
2hp Odor Pump Motor 3 Phase Feed

Low Water Float: locate in suction tank, float by SONNY'S

| SONNY'S |
| --- |
| Job: SRC201 Control Panel |
| Comments: FIGURE 7.key |
| Date: 03-04-09 Rev. 0 Drawn by: bpr |

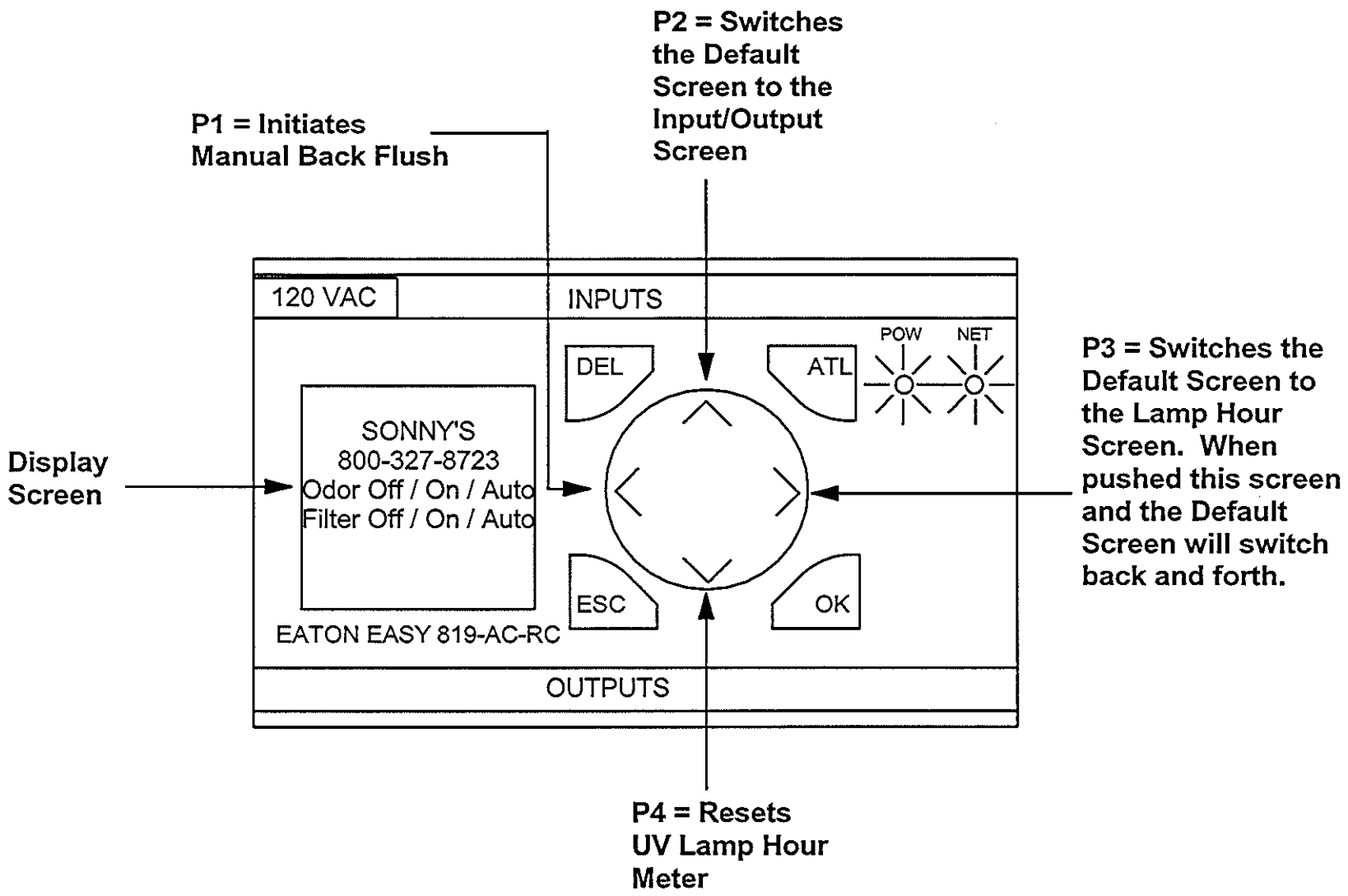
# UV LAMP INSTALLATION

Remove 3" gray plastic threaded plug from top of UV chamber. Install the UV lamps. (Shipped separately) Connect white plug to lamp(s). Lamps are fragile, CAUTION should be used when inserting into UV Chamber tube.



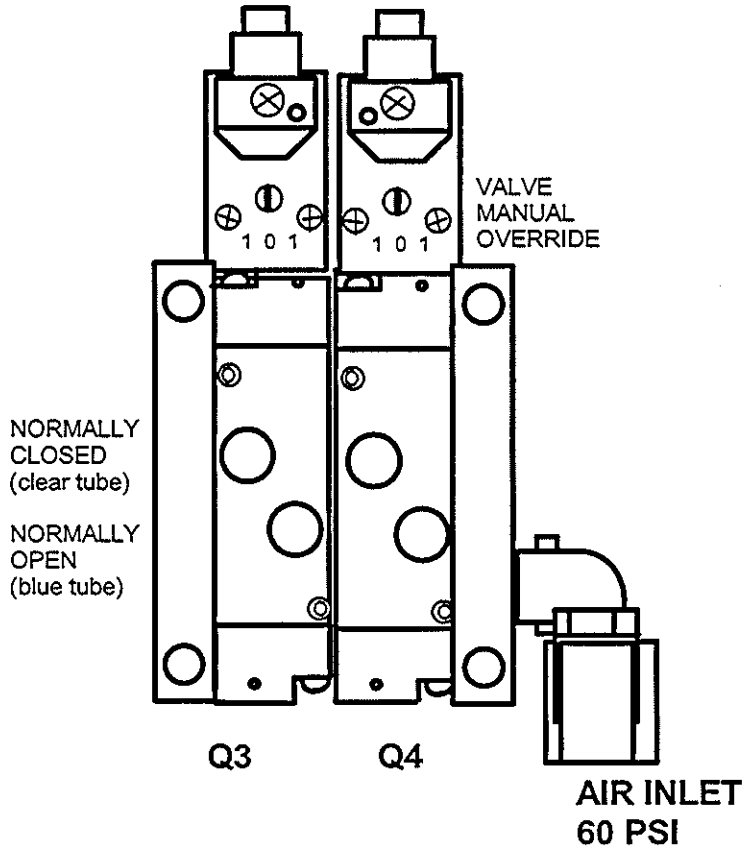

SONNY'S SRC201
(front)

FIGURE 8
03-04-09




| SONNY'S |
| --- |
| Job: EASY 819 Control Relay -SRC201 |
| Comments: FIGURE 9.key |
| Date: 03-04-09 Rev. 0 Drawn by: bpr |

# SRC 201
# AIR VALVE STATION

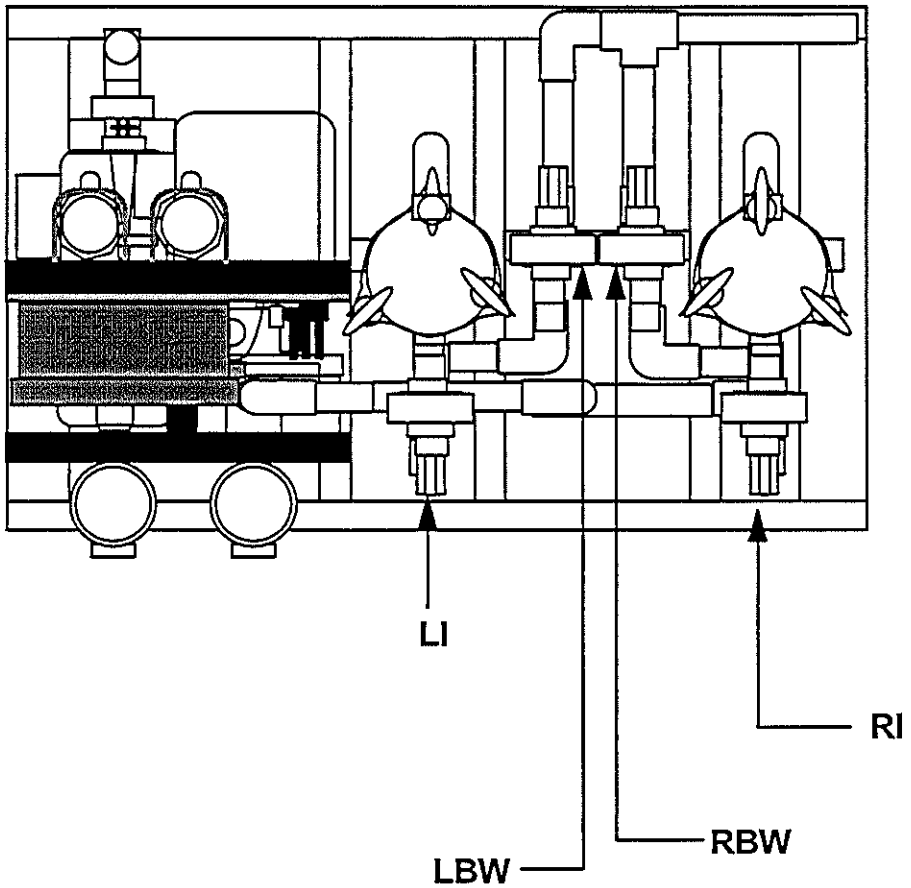



Q3 = LEFT BACKWASH

Q4 = RIGHT BACKWASH

FIGURE 11
03-04-09

# SRC 201
# AQUAMATIC VALVE LOCATIONS

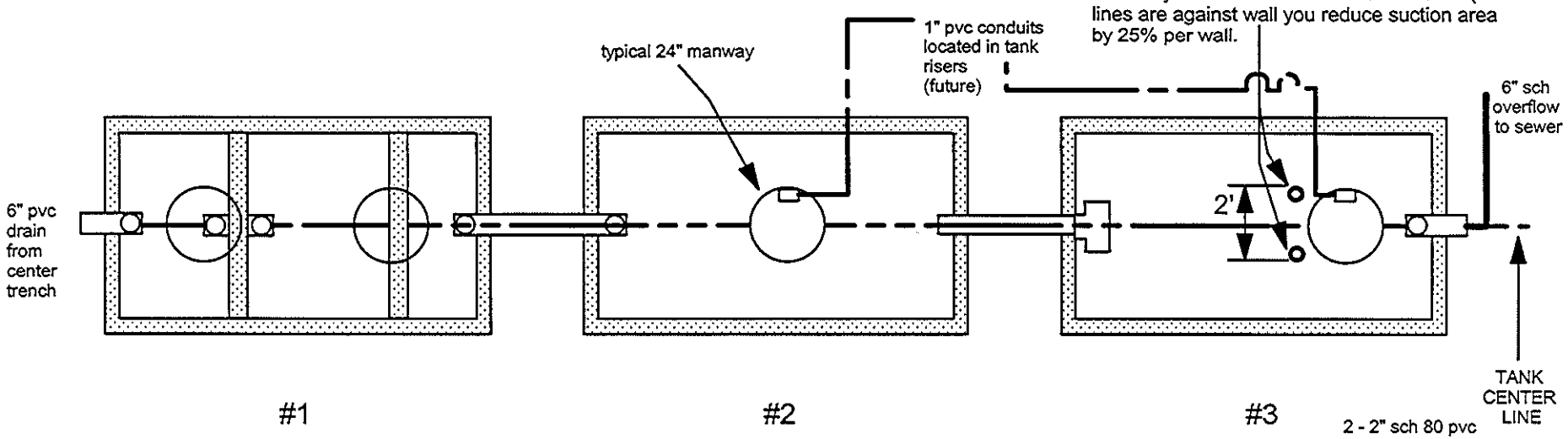



LI = LEFT INLET (HIGH)
LBW = LEFT BACK WASH (LOW)
RBW = RIGHT BACK WASH (LOW)
RI = RIGHT INLET (HIGH)

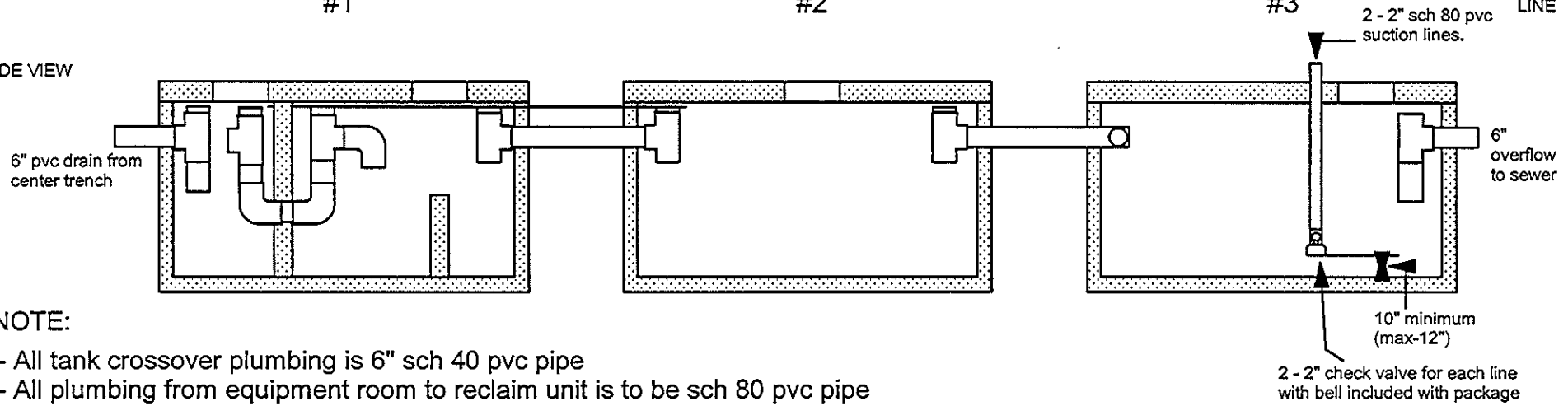
FIGURE 12
03-04-09

# SONNY'S SRC201
# 3 Tank Conversion

TOP VIEW




SIDE VIEW

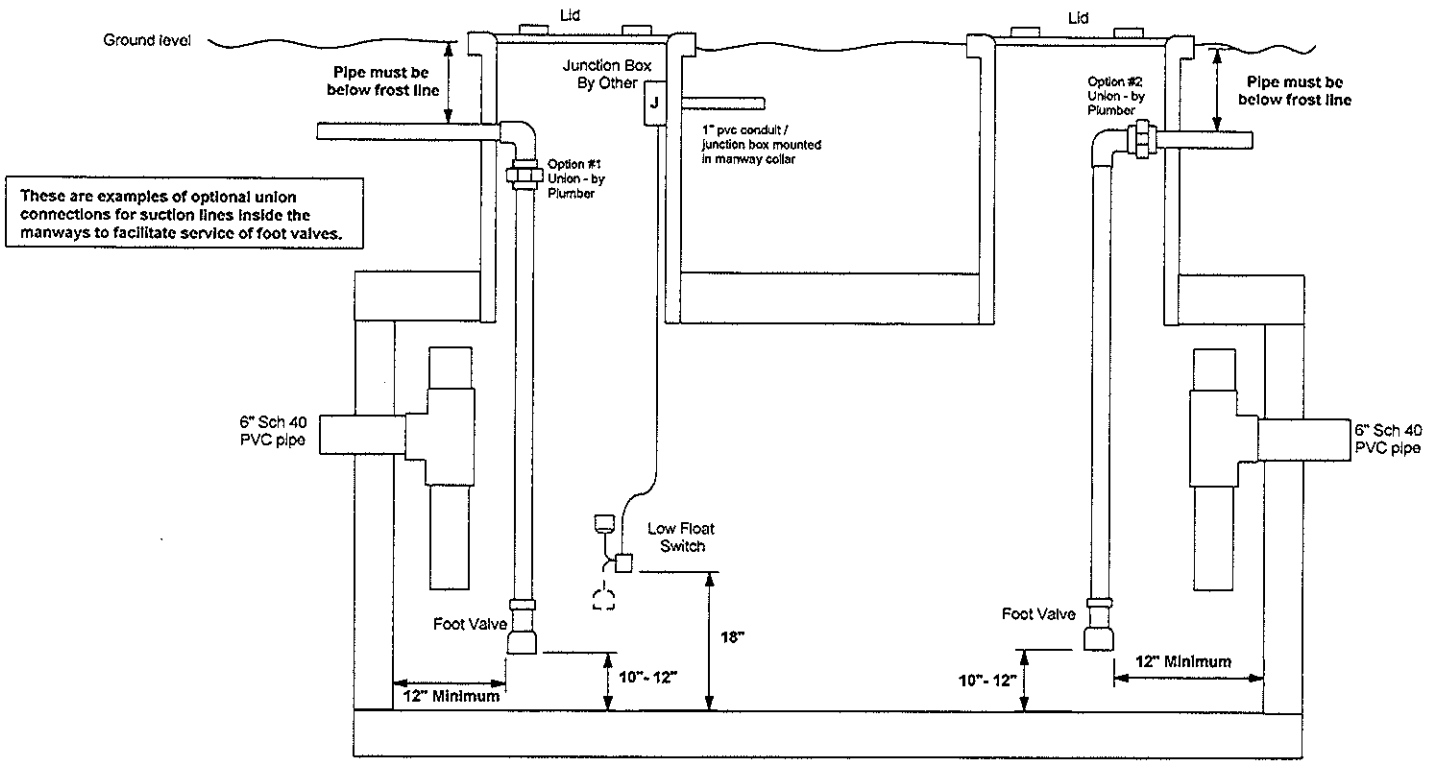



NOTE:

- All tank crossover plumbing is 6" sch 40 pvc pipe
- All plumbing from equipment room to reclaim unit is to be sch 80 pvc pipe
- Tank internal plumbing is designed to use full flow of tanks. Plumbing elbows and tee fittings allow for such flows
- Odor control discharge is to be located at opposite end of the 6" pvc drain pipes in center trench to settlement tanks. Full flow of ozone water in center trench.
- All tank bottoms are on same plane.
- Tank size 1,500 / 2,000 gallons typical
- 1" pvc conduit in last two tanks

SONNY'S
SRC201 3 Tank Conversion
sm3conv.key 03-04-09

# UNION CONNECTION OPTIONS FOR SUCTION LINES & TYPICAL JUNCTION BOX LOCATION




NOTE:

**Foot valves "MUST" be at least 12" from other suction lines and tank walls.**

**Foot valves minimum 10" / maximum 12" off of tank floor.**

**"DO NOT" Install screens on foot valves!**

file: TNKOPTN2.KEY
03-04-09