

# PURASAN®

## OPERATION, MAINTENANCE AND INSTALLATION INSTRUCTIONS

(Models PST\*02 and PST\*03 [\*specify 12,24,32] Manufactured after September, 2004)

### THE FOLLOWING ARE CAUTIONARY STATEMENTS THAT MUST BE READ AND FOLLOWED DURING BOTH INSTALLATION AND OPERATION

**WARNING:** *Raritan Engineering Company, Inc. recommends that a qualified person or electrician install this product. Equipment damage, injury to personnel or death could result from improper installation. Raritan Engineering Company, Inc. accepts no responsibility or liability for damage to equipment, or injury or death to personnel that may result from improper installation or operation of this product.*



**WARNING: HAZARD OF SHOCK AND FIRE**



Always use recommended fuse or circuit breaker and wire size.

**WARNING: HAZARD OF FLOODING** - When leaving the boat unattended always be sure seacocks are closed. Any installation made below waterline should have double hose clamps securing lines. **The halogen disinfectant is corrosive to aluminum, copper and steel. The plumbing system must not include any aluminum, copper or steel fittings, piping or holding tanks.**



### IMPORTANT SAFETY INSTRUCTIONS FOR HANDLING PURASAN® TABLETS AND SOLUTION

**WARNING: HAZARD OF DANGEROUS CHEMICAL REACTION**

1. Use ONLY Purasan Tablets.
2. DO NOT add any other chemicals or cleaning products to the toilet or the treatment system. Raritan C.P. - Cleans Potties and R.C. Raritan Concentrate are the only factory-recognized cleaning product that may be used in the toilet.

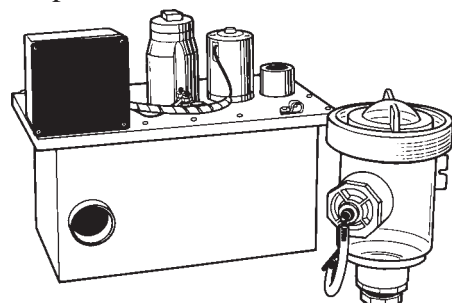
**WARNING: HAZARD OF SEVERE INJURY**

1. DO NOT allow tablets to come in contact with skin, eyes or clothing. If contact occurs, immediately wash affected area with fresh water. Remove and wash any affected clothing.
2. Use a well ventilated area when handling Purasan Tablets. DO NOT breathe dust from tablets - severe damage to mucous membrane of the respiratory passages could occur.
3. Do not ingest.
4. Follow all cautions and warnings associated with handling of tablets.
5. When reloading the Tablet Dispenser, ventilate area well and wear chemical resistant protective gloves and eye protection.
6. **DO NOT ATTEMPT TO REFILL EMPTY CARTRIDGES.**

The Purasan is a U. S. Coast Guard Certified Type I Marine Sanitation Device for use on inspected and uninspected vessels 65 feet and under. It must be operated within areas that are not declared a Federal No Discharge Zone (NDZ) by the U.S. Environmental Protection Agency (EPA). This is applicable for all U.S. territorial waters inside the three mile limit. Other countries - check with local authorities.

The Purasan is designed for recreational use and accommodates most marine toilets it can be used with one or, in some cases, two toilets. The Purasan is available in 12, 24 or 32 V DC.

The system consists of a Treatment tank, Tablet dispenser and Switch panel with cable. A portion of incoming water passes over the halogen tablets creating a solution that is then dispensed into the treatment tank and mixes with the macerated waste sanitizing it for discharge.



(depends on installation chosen)

## Single Button operation -

Both toilet and Purasan are operated by one of the following options:

### Option #1:

#### Switch Panel

"Push to Cycle" button activates both the toilet and treatment cycle.

**Note:** Toilet flush time is set at 10 seconds, after initial 10 seconds holding the button down will momentarily flush the toilet.

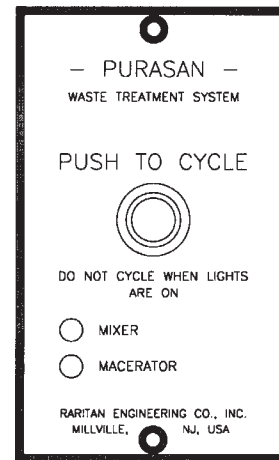
### Option #2:

#### Toilet Push Button -

Flushing toilet will activate treatment cycle.

**Note:** Toilet may be flushed as often as necessary, do not exceed recommended flush volume.

## SWITCH PANEL



## Independent Button operation -

1. Press "Push to Cycle" button
2. Flush toilet as often as necessary, do not exceed recommended flush volume.

## Recommended Flush Volume -

**Total flush volume must not exceed 1.5 gallons (5.7 liters) per cycle.**

## After Toilet is flushed:

- Water is diverted to the tablet dispenser and must rise to the water level line (dotted line) but no higher.
- The Purasan should not be activated again until the cycle is complete.

## How it works -

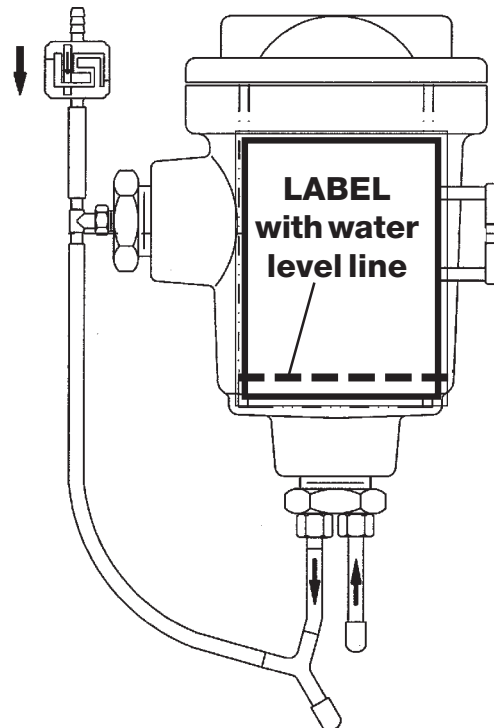
Each time toilet is flushed an equal amount of previously treated waste is discharged. The Purasan does not pump waste out, the flushing action of the toilet moves the waste through the Purasan.

Water is diverted to the tablet dispenser during the flush cycle and should rise to the water level line (dotted line), this creates a solution that drains into the treatment unit.

The first chamber macerates to reduce particle size and uniformly mix the waste with injected halogen solution. The second chamber mixes to ensure uniform treatment of contents.

When activated both motors come on and run for the entire cycle of two minutes.

## TABLET DISPENSER



Use **ONLY Purasan Tablets**.

**DO NOT** add any other chemicals or cleaning products to the toilet or the treatment system. **Raritan C.P. - Cleans Potties and R.C. Raritan Concentrate** are the only factory-recognized cleaning products that may be used in the toilet.

## MAINTENANCE

**WARNING:** Read and understand all safety instructions (including Material Safety Data sheet) for handling Purasan Tablets before performing any work on the Purasan.

### Recommended Visual Inspection

- √ Tablet level in cartridge monthly
- √ Tubes to and from dispenser are unobstructed
- √ Tubes to treatment tank are unobstructed

Replace tablet cartridge only when completely empty. Clean or replace tubes if any obstruction is found.

### REPLACING TABLET CARTRIDGE (#41-135)

#### Remove used tablet cartridge -

1. With adequate ventilation available - Unscrew tablet dispenser lid and lift out used tablet cartridge.
2. Rinse thoroughly with water to remove any residual tablet particles.
3. Clean plug assembly

**CAUTION:** Never dispose of tablets in a dry state refer to MSDS for proper disposal.

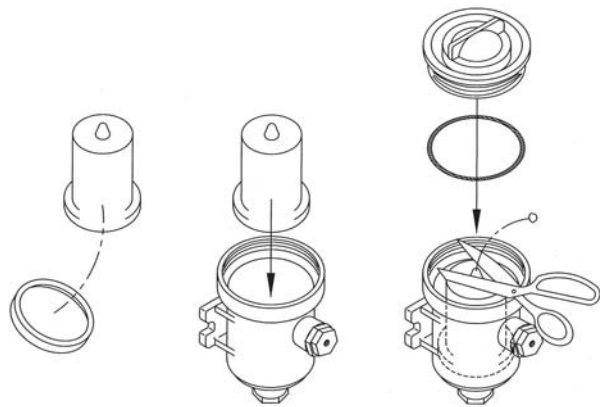
4. Dispose of empty cartridge with other recyclable plastics.

#### Loading new tablet cartridge in dispenser

1. Hold new tablet cartridge over tablet dispenser with large end down. Remove tablet cartridge cap and allow any loose tablet particles to drop into the tablet dispenser. Slide tablet cartridge down into tablet dispenser.
2. Cut nipple off top of tablet cartridge to create an air hole.
3. Replace lid on tablet dispenser.

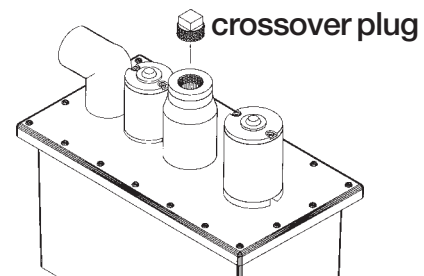
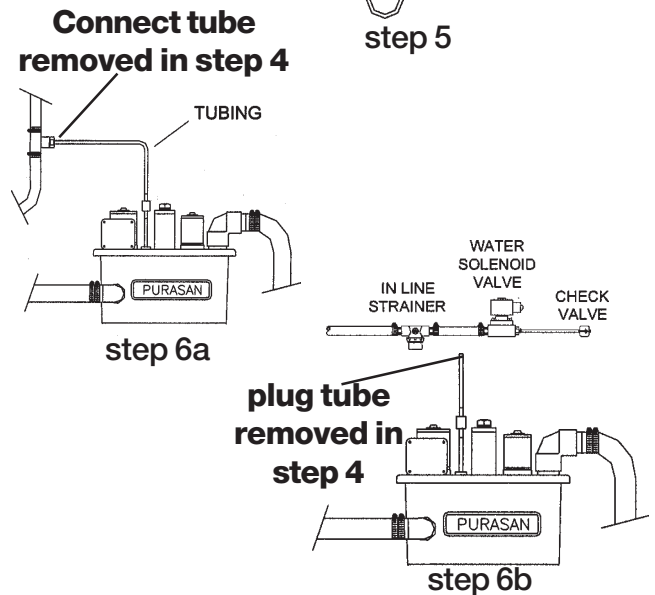
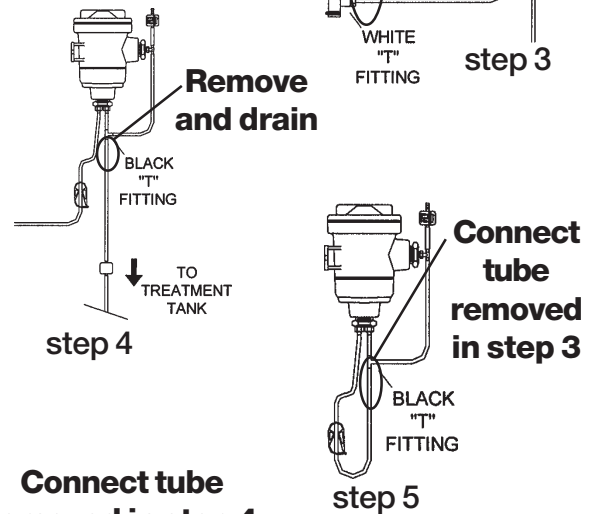
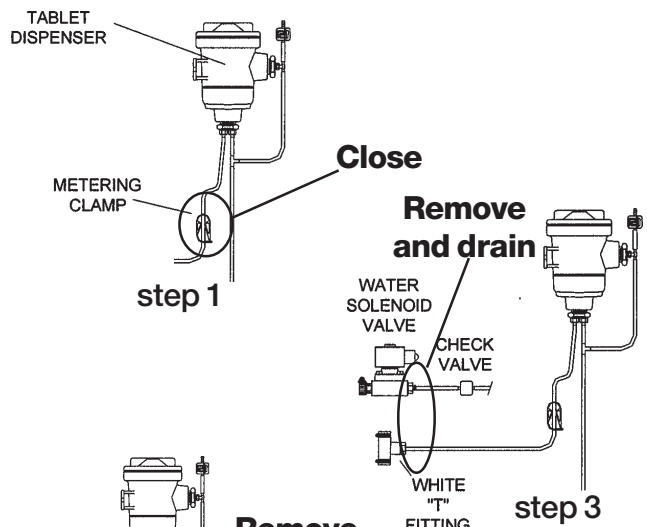
**CLEANING:** Do not add any other chemicals or cleaning products to the toilet or the treatment system.

### INSTALLING TABLET CARTRIDGE



## Tablet Dispenser

1. Close flow metering clamp and disconnect power to water solenoid, if used, to prevent intake water from entering tablet dispenser.
2. Flush toilet and activate treatment cycle several times to leave just water in tank.
3. Carefully remove small tube from white "T" fitting or check valve from water solenoid valve. Drain tube into a clean plastic container.
4. Carefully remove the small tube at the bottom of the black "T" fitting. Drain tube into a clean plastic container.
5. Connect Tube removed in step 3 to black "T" fitting
- 6a. White "T" fitting:  
Connect tube removed in step 4 to white "T"
- 6b. Water Solenoid Valve
  - plug tube removed in step 4
  - shut off water to valve
  - drain water from valve, hoses and strainer
7. Take solution collected in plastic container and pour into toilet bowl. Rinse container and dispose of properly.
8. Flush toilet several more times to dilute solution and clear it from system.



## Treatment Unit

**WARNING: DO NOT** use anti-freeze of any kind to winterize the Purasan system.

1. Turn off power and disconnect wires to Purasan
  2. Close seacocks.
  3. Slowly open crossover plug
- Caution:** Open plug slowly if treatment tank is at the lowest point water will spill out
5. Using a pump, remove water from both sides of the treatment tank through crossover cap.
  6. Disconnect and drain hoses.

**Winterizing the Toilet** - Follow the instructions in the Owner's Manual for that particular toilet.

**IMPORTANT:** If toilet requires anti-freeze or other chemicals for winterizing, **DO NOT** allow these chemicals to enter the Purasan system.

## Recommissioning

### IMPORTANT:

- **Do not load Tablet Cartridge into Dispenser until system is powered and operational.**
- **Do Not Operate Purasan until Treatment Unit is filled with water.**

### Treatment Tank

1. Reconnect hoses and open seacocks.
2. Reconnect wires and turn power on.

NOTE: Purasan treatment tank must be full before activating a cycle.

IMPORTANT: Do Not connect Tablet Dispenser at this time.

3. Fill the treatment tank:
  - Single button operation - Remove crossover plug from Treatment Unit and fill with a minimum of three gallons of water, replace crossover plug and O-ring.
  - Independent operation - flush toilet allowing three gallons of water to pass into Purasan
4. Turn on power to Purasan.
5. Check for leaks.

### Reconnecting the Tablet Dispenser

#### IMPORTANT

- Make sure everything is working properly before proceeding.
  - These instructions are the reverse operation outlined in winterizing the Tablet Dispenser, steps 3 through 6.
1. Remove tube from the bottom of the black “T” fitting and re-attach to the white “T” fitting or solenoid valve.
  2. Reconnect hose on tank to the black “T” fitting on dispenser.

### START UP

1. Remove Crossover Cap from treatment unit tower. Pour 3 gallons (11.5 liters) of water into Treatment Unit. Replace Crossover Cap.
2. Turn on power to unit.
3. Fill toilet bowl half full of water before beginning.
4. Close metering clamp completely, then open slightly.
5. Flush toilet. Check water level in Tablet Dispenser during flush cycle. Water level should rise to water line marked on Tablet Dispenser while toilet is flushed, then drain out.
6. Adjust clamp until water reaches the line; opening clamp allows more water into Tablet Dispenser. Flush toilet each time clamp adjustment is changed to be sure water continues to be at the proper level.
7. Load Tablet Cartridge.

# SPECIFICATIONS

## U.S.C.G. Type I MSD Certification # 159.015/106/0

Maximum Roll/Pitch Angle: 30°

Maximum Temperature Exposure: 120° F (49° C)

Maximum Total Flush Volume: 1.5 gallons/flush (5.7 liters/flush)

Water - fresh, salt or brackish

### NOTES: for Wiring

1.	Distances are from source to unit and back to source.
2.	Recommended conductor wire minimum AWG (mm <sup>2</sup> ) for 3% voltage drop.
3.	Recommended conductor sizes are based on 105°C rated insulation. Refer to ABYC Standards for other insulation ratings.

### Recommended Wire and Fuse/Circuit Breaker Size

Units Voltage	Circuit Breaker/fuse size (amps)	Amp. draw @ nominal voltage	10 feet	15 feet	20 feet	25 feet	30 feet	40 feet	50 feet
12 VDC	20	10	12 AWG	12 AWG	10 AWG	10 AWG	10 AWG	8 AWG	6 AWG
24 VDC	15	8	14 AWG	14 AWG	14 AWG	12 AWG	12 AWG	10 AWG	10 AWG
32 VDC	15	8	14 AWG	14 AWG	14 AWG	14 AWG	14 AWG	12 AWG	12 AWG

### Fuse Specifications

	12 VDC Fuse type Maximum amperage part number	24 VDC Fuse type Maximum amperage part number	32 VDC Fuse type Maximum amperage part number
<b>FUSE A Mixer Motor</b>	MDL 6 1/4 5 amp draw 32-218	MDL 6 1/4 4 amp draw 32-218	MDL 5 4 amp draw 34-218
<b>FUSE C Macerator Motor</b>	MDL 12 5 amp draw 42-220	MDL 6 1/4 4 amp draw 32-218	MDL 5 4 amp draw 34-218

### CONVERSIONS

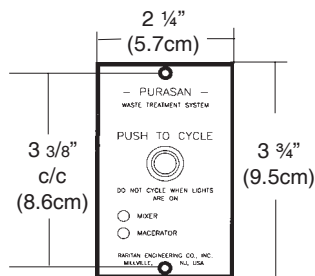
#### Wire - AWG to mm<sup>2</sup>

AWG	16	14	12	10	8	6	4	2
mm <sup>2</sup>	1.5	2.5	4.0	6.0	10.0	16.0	25.0	35.0

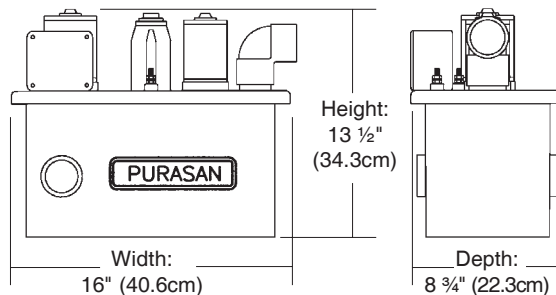
#### Feet to Meters

Feet	10	15	20	25	30	40	50
Meter	3.1	4.6	6.1	7.6	9.2	12.2	15.2

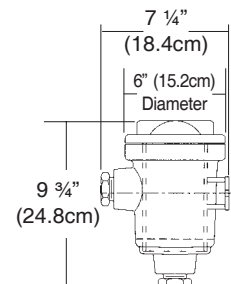
### SWITCH PANEL DIMENSIONS



### TREATMENT UNIT DIMENSIONS



### TABLET DISPENSER DIMENSIONS



## MOUNTING

### Treatment Tank

**WARNING: DO NOT** locate in an area where ambient temperature exceeds 120° F (49° C).

1. Locate top of treatment tank at or below discharge of toilet and within six feet (1.5 m).  
**Note:** If mounting treatment tank higher than discharge. Contact Raritan
2. Make and secure mounting frame to flat surface.
3. Secure tank to frame using 3/4" (1.9 cm) mounting straps.

**Note:** Placing a 3/8" (.9 cm) rubber pad under tank will help to reduce vibration and noise.

### Switch Panel

**Note: Cable supplied is 12 feet.**

1. Locate in head compartment where indicator lights will be visible.
2. Using template provided, mark the cutout for the panel.
3. Route cable between Switch Panel and Purasan Treatment Unit.
4. Attach wires per wiring section to back of switch panel.
5. Mount panel using 4 screws. Apply a bead of nonpermanent sealant around rear edges of panel if located in shower area.

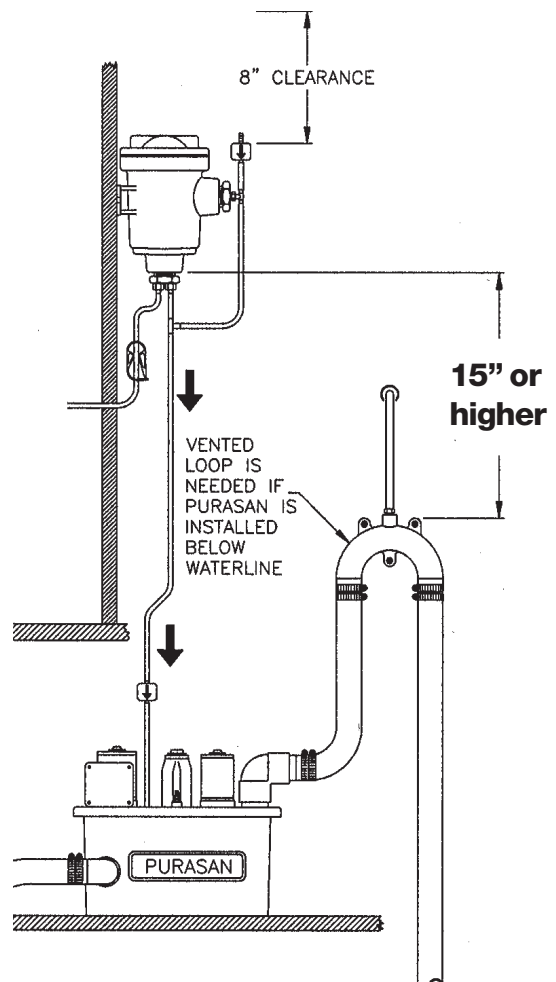
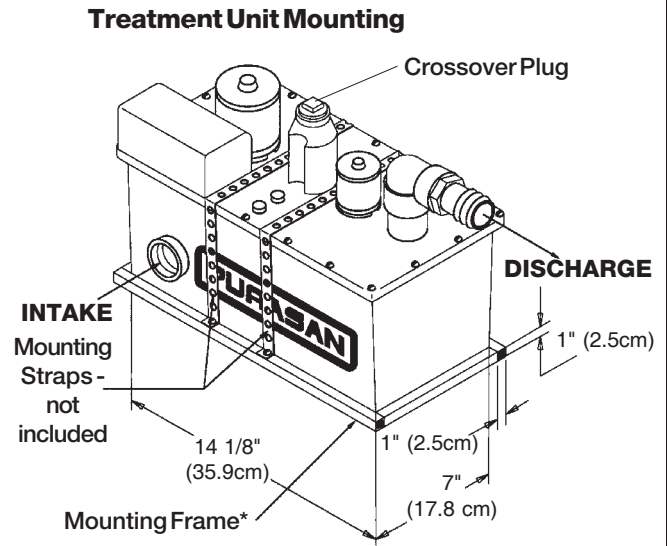
### Purasan Tablet Dispenser

1. Locate bottom of Tablet Dispenser a minimum of 15" (38 cm) above the top surface of the Treatment Unit or top of vented loop (if used).
2. Locate Tablet Dispenser with a minimum of 8" (20 cm) of clearance for removing the lid and periodically changing the cartridge.

**Note: Supplied tubing to connect intake water to dispenser is 6 feet (1.8 m) in length.**

3. Attach to wall or suitable structure using 1/4" (6 mm) bolts.

**IMPORTANT: Do Not load Tablet Cartridge into Tablet Dispenser at this time. Load Tablet Cartridge after completing Start Up procedure.**



## Raw Water Toilets -

1. Turn off power to toilet.
2. Close intake and discharge seacocks and drain water from toilet system.
3. Disconnect intake hose from bowl elbow.
4. Remove existing bowl elbow and install new bowl elbow supplied with Purasan.
5. Insert the "T" fitting in the hose between the output of the pump and the new bowl elbow.

## Fresh Water/Manual Toilets -

1. Connect reducer bushing to incoming side of solenoid valve.
2. Connect 1/4" nipple fitting to outgoing side of solenoid valve.
3. Install supplied strainer between water source and solenoid
4. Check valve MUST be installed between solenoid valve and tablet dispenser.

## WARNING:

- All installations made below the waterline **MUST** be protected by installing vented loops
- Always double clamp fittings below waterline
- Do Not use metal fittings

**NOTE:** Use teflon tape or nonpermanent thread sealing compound on threaded PVC fittings and connections. Avoid low areas in hose that would allow untreated waste to collect.

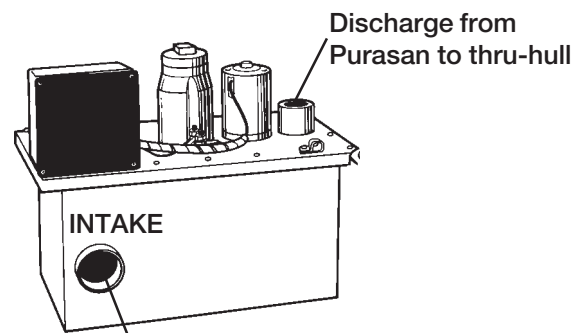
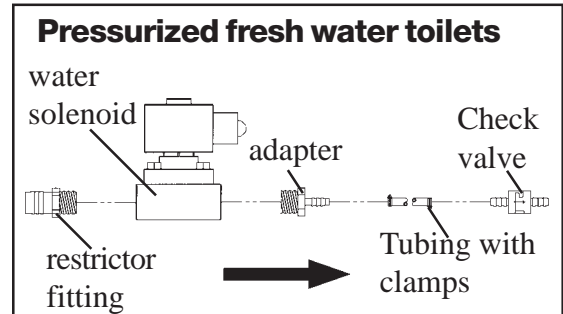
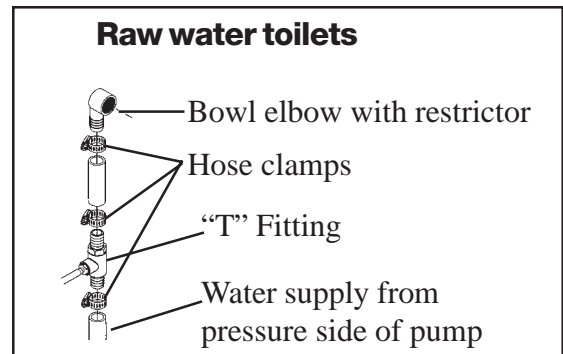
1. Connect discharge of toilet to one intake port.
2. Insert plug or second toilet discharge into other intake port.
3. Determine position and glue discharge elbow to top of tank using PVC cement.
4. Connect discharge hose from elbow to thru hull fitting.

**IMPORTANT:** Be certain that the discharge elbow is in the correct position before gluing.

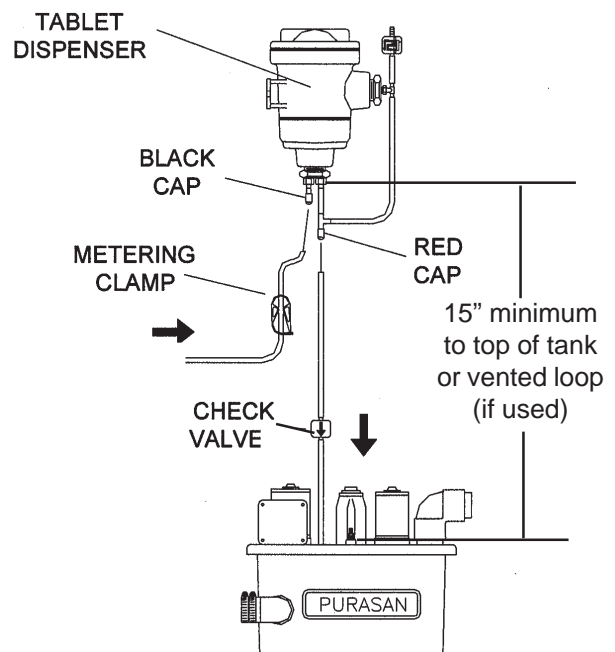
## Tablet Dispenser

**IMPORTANT:** 1/4" Tube to treatment tank must run downward with no loops, kinks or upward turns.

1. Connect 1/4" tubing from the black "T" fitting at the dispenser (red cap) to the check valve on the top of the treatment unit.
2. Slide flow metering clamp onto remaining tube
3. Install tube with flow metering clamp from White "T" (in raw water installation) or Solenoid valve (in pressurized freshwater installation) to bottom of tablet dispenser (black cap).



Discharge from toilet to either side - Install plug in side not used



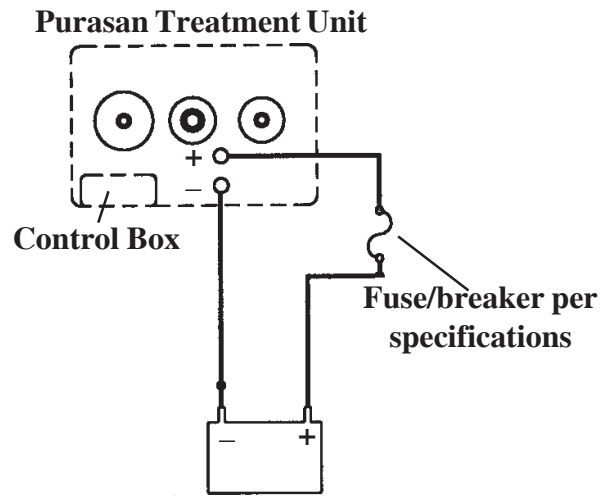


## WIRING

### WARNING: Hazard of Shock and Fire

- Always use proper wire, wire connectors and fuse/circuit breaker. See Specification Chart.
- Secure wire properly.
- Do not connect other appliances to Purasan circuit.
- Make sure power is off before proceeding.
- Improper wiring can damage the Circuit Board and void warranty.

**NOTE: Raritan recommends that the electric toilet be installed for single touch operation.**

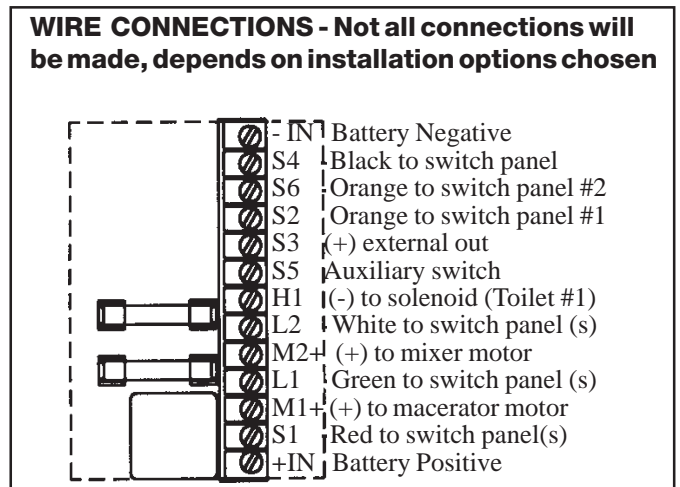
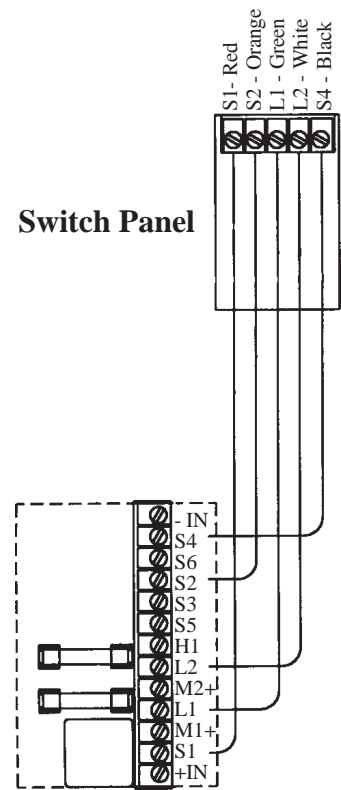


### Treatment Unit

1. Determine proper wire size from wire chart on specifications page.
2. Run supply wire from source to Positive (POS) and Negative (NEG) terminals on Treatment tank.
3. Fuse or circuit breaker must be installed between source and Purasan on positive wire.

### Switch Panel

1. Connect cable from Switch Panel to Circuit Board as follows:
  - S1 to S1 - red wire
  - S2 to S2 - orange wire
  - L1 to L1 - green wire
  - L2 to L2 - white wire
  - S4 to S4 - black wire



## Flushing Option #1:

"Push to Cycle" button activates both the toilet and treatment cycle.

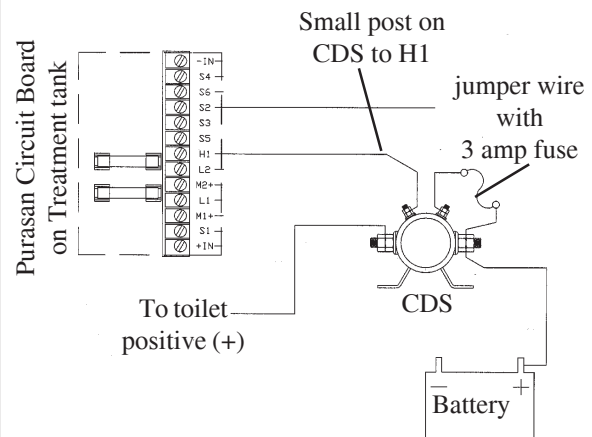
**Note:** Toilet flush time is set at 10 seconds, after initial 10 seconds holding the button down will momentarily flush the toilet.

1. Mount Switch Panel near toilet.

**CAUTION: Use only the Raritan #CDS (failure to do so will damage to the Control Board, voiding warranty).**

2. Run 16 ga. wire from terminal H1 on Circuit Board to one of the small relay terminals.
3. Run a wire from the other small relay terminal to the Positive supply from battery with a 3 amp fuse.

## TYPICAL INSTALLATION - Flushing Option #1 "Push to Cycle" also activates toilet - single toilet installation



## Flushing Option #2:

### Toilet Push Button -

Flushing toilet will activate treatment cycle.

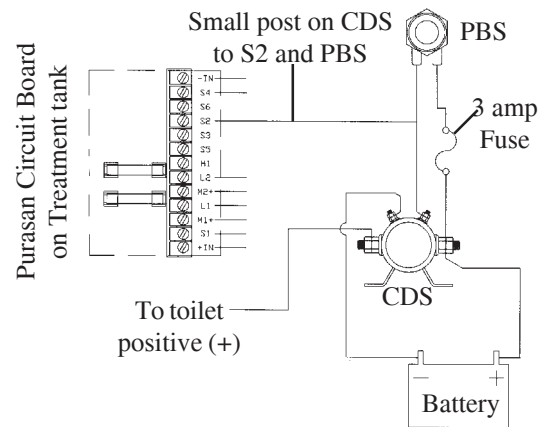
**Note:** Toilet may be flushed as often as necessary, do not exceed recommended flush volume.

1. Mount Switch Panel near toilet.

**CAUTION: Use only the Raritan #CDS (failure to do so will damage to the Control Board, voiding warranty).**

2. Run 16 ga. wire from small relay terminal to S2 on Circuit board and one post of the PBS (push button switch)

## TYPICAL INSTALLATION - Flushing Option #2 "Push Button" also activates Purasan - single toilet installation

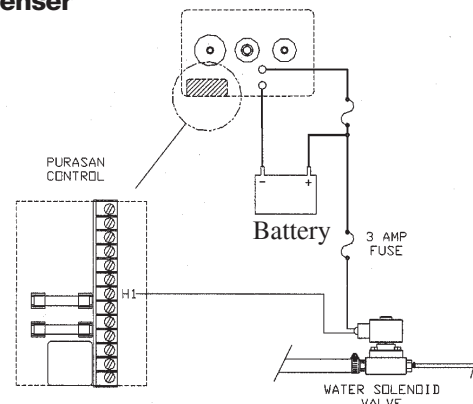


## Freshwater, dual installation and manual toilets:

### Solenoid valve supplies water to tablet dispenser -

1. Mount Switch Panel near toilet.
2. Run 16 ga. wire from battery positive to one of the wires on the solenoid with 3 amp fuse in line.
3. Run 16 ga. wire from wire on solenoid not used to H1 on Purasan Circuit Board.

## TYPICAL INSTALLATION - freshwater, dual installation and manual toilets Solenoid required to supply water to tablet dispenser



## No Water to tablet dispenser

- **Clogged check valve (T-fitting #41-200)**  
Clean or replace check valve
- **Clogged intake fitting to dispenser**  
Clean plug assembly
- **Intake pump or solenoid valve not functioning**  
Check pump or solenoid for proper operation
- **Intake tubing clogged**  
clean or replace intake tubing
- **Bowl Elbow was not changed**  
install bowl elbow with restrictor, supplied

## Overflow or water level too high in dispenser

- **Metering clamp not adjusted properly**  
Adjust clamp (see start up)
- **Clogged discharge fitting in tablet dispenser**  
Clean plug assembly
- **Clogged Check valve (41-111)**  
Clean or replace check valve
- **Tablet dispenser not mounted correctly**  
Tablet dispenser must be 15” or higher from top of vented loop or treatment lid

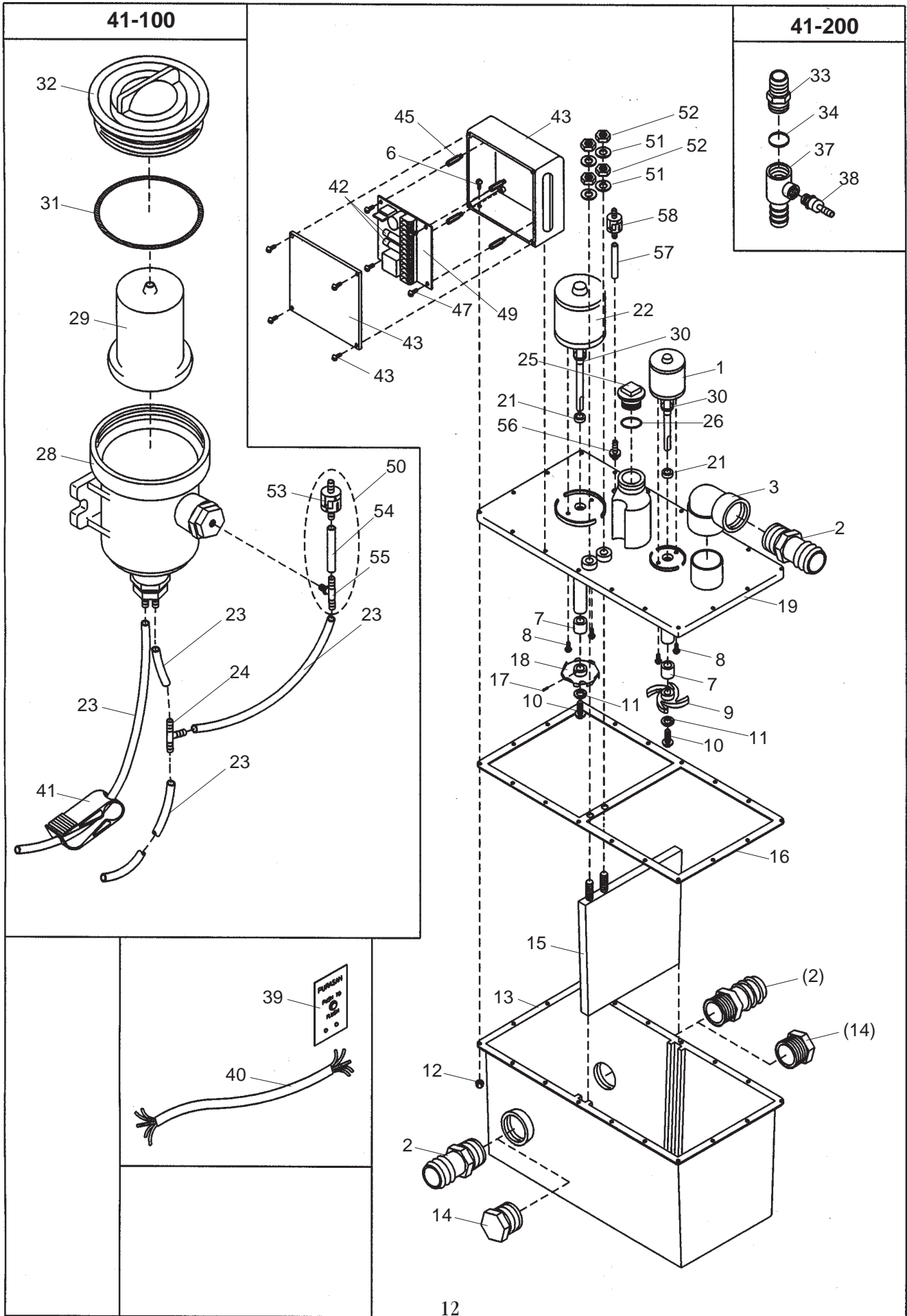
## Nothing happens when button is pushed

- **Fuses blown**  
Check fuses
- **Switch panel bad**  
Replace switch panel

## TROUBLESHOOTING

**WARNING:** After the tablet dispenser has had water added, it contains a very strong halogen solution. Always wear protective gloves and ventilate well to work on tablet dispenser. Before doing any maintenance or repairs, follow WINTERIZING/STORAGE procedures

# EXPLODED PARTS



## PURASAN PARTS LIST

<u>Item</u>	<u>Part #</u>	<u>Description</u>	<u>Item</u>	<u>Part #</u>	<u>Description</u>
1	32-102AW	Mixer Motor 2 1/2" Dia. 12 V DC	50	41-110	Vent Kit for Tablet Dispenser (Incl. #53, 54, & 55)
1	33-102AW	Mixer Motor 2 1/2" Dia. 24 V DC			
1	34-102AW	Mixer Motor 2 1/2" Dia. 32 V DC	51	M31	#14 Brass Flat Washer (4)
2	31-121	Hose Fitting (2)	52	M30	1/4"-20 Brass Nut (4)
3	31-120	Discharge Elbow 90°		<b>41-100</b>	<b>Tablet Dispenser Complete</b> (less cartridge)
6	31-106	Cover Hold down Bolt, 10-32 x 7/8", S/S (18)		<b>41-200</b>	<b>T-Fitting (Incl. #33, 34, 37 &amp; 38)</b>
7	31-103	Motor Shaft Bushing (2)		<b>42-1000</b>	<b>Treatment Unit Complete 12 V DC</b>
8	31-113-3	Motor Hold down Bolt, 10-32x1", S/S (4)		<b>43-1000</b>	<b>Treatment Unit Complete 24 V DC</b>
9	31-109	Mixer Impeller		<b>44-1000</b>	<b>Treatment Unit Complete 32 V DC</b>
10	31-110-1	Impeller Bolt, 12-24 x 5/8", S/S (2)		CDS*	<b>Continuous Duty Solenoid</b>
11	31-110-2	Impeller Lock Washer, #12, S/S (2)		<b>PSTDC03</b>	<b>Purasan Dual Control</b>
12	31-114	Cover Hold down Nut, 10-32 (18)	53	41-111	Check Valve
13	31-115	Treatment Tank	54	31-305	2" (5cm) long 1/4" I.D. Tubing
14	31-122	Intake Plug	55	41-106	"T" Fitting
15	41-102	Tank Divider	56	31-325	Adapter
16	31-112	Cover Gasket	57	31-319	3/8" x 1 3/4" Tubing
17	31-108	Macerator Set Screw	58	41-111	Check Valve
18	31-107	Macerator Impeller		F087	Screw: 4 x 1/2 phil oval T-A 18-8 S/S (not shown)
19	31-101W	Treatment Cover			Front Cover O-ring (not shown)
21	31-102	Motor Shaft Seal (2)		CH25	
22	33-101AW	Macerator Motor 12 V DC		CH42	Hose, 3/4 reinforced PVC high gloss white (not shown)
22	34-101AW	Macerator Motor 24, 32 V DC			
23	31-305	1/4" I.D. Tubing		CH43P	Nylon hose clamp 1 1/32 (not shown)
24	41-115	Union Tee 1/4" Barbed		AM141	Atlantes Cover O-Ring (not shown)
25	31-104C	Crossover Plug		41-260	Bowl Elbow with restrictor (not shown)
26	31-105	O-Ring			
27	41-125	Bottom Plug Assy.			
28	41-130	Dispenser Body (PVC)			
29	41-135	Cartridge (refill) PURASAN Tablets			
		<b>Note: Cartridge must be shipped in a separate container, call 856-825-4900.</b>			
30	31-101-2	Slinger (2)		<b>Pressurized Kit Part # 41-254</b>	
31	RWS5	"O" Ring		190601	In-line Strainer
32	41-131	Dispenser Cap		31-305	1/4" tubing
33	31-307D1	Outlet Adapter		41-111	Cartridge check valve
34	31-307E	O Ring		41-261	fitting with restrictor
37	31-307D	T-Check Valve Body		41-280	hose clamps
38	41-205	Check Valve Assy.		PLA14	adapter: 1/2" MNPT X 3/4"
	41-200	T-Check Valve, Complete (33,34,37,38)		PLA15	adapter: 3/8" x 1/4"
39	41-350	Switch Panel Complete		PLA16	adapter: female 1/2" x 1/4"
40	41-355	Control Cable			
41	31-304C	Flow Metering Clamp		<b>Pump Kit Part # 41-253</b>	
42	32-218	Fuse: F1, MDL 6 1/4 (12 V DC, 1 Req'd.)		31-305	Tubing
	42-220	Fuse: F2, MDL 12 (12 V DC, 1 Req'd.)		41-200	T-fitting
	32-218	Fuse: F1/F2, MDL 6 1/4 (24 V DC, 2 Req'd)		41-260	Bowl elbow with restrictor
	34-218	Fuse: F1/F2, MDL 5 (32 V DC, 2 Req'd.)		PLA15	Adapter: 3/8" x 1/4"
43	41-301	Control Box w/Cover and Screws			
45	F41-312	Standoff (4)			
47	CH46VT	Circuit Board Mounting Screw (4)			
49	42-303	Circuit Board, 12 V DC			
	43-303	Circuit Board, 24 V DC			
	44-303	Circuit Board, 32 V DC			
	<b>42-300</b>	<b>Electronic Control Complete*, 12 V DC</b>			
	<b>43-300</b>	<b>Electronic Control*, 24 V DC</b>			
	<b>44-300</b>	<b>Electronic Control*, 32 V DC</b>			
		*Incl. #43, 45, 47, 49			

\* Specify Voltage (12, 24 and 32 VDC)

# DUAL INSTALLATION

## IMPORTANT:

- Dual toilet installations require either independent operation of toilet and treatment cycle or activation from the toilet of the treatment cycle.
- Dual installations require only one dispenser, water to fill dispenser **MUST** be supplied using a freshwater solenoid.

## WIRING

### Switch Panel (2nd one)

1. Connect cable from Switch Panel to Circuit Board as follows:
  - S1 to S1 - red wire
  - **S2 to S6 - orange wire**
  - L1 to L1 - green wire
  - L2 to L2 - white wire
  - S4 to S4 - black wire

### Toilet activation starts treatment cycle

Flushing toilet will activate treatment cycle.

**Note:** Toilet may be flushed as often as necessary, do not exceed recommended flush volume.

1. Mount Switch Panel near toilet.

**CAUTION:** Use only the Raritan #CDS (failure to do so will damage to the Control Board, voiding warranty).

2. Run 16 ga. wire from small relay terminal to S2 on Circuit board and one post of the PBS (push button switch)
3. Run 16 ga. wire from small relay terminal on second solenoid to S6 on Circuit board and one post of the second PBS.
4. Wire freshwater solenoid see below.

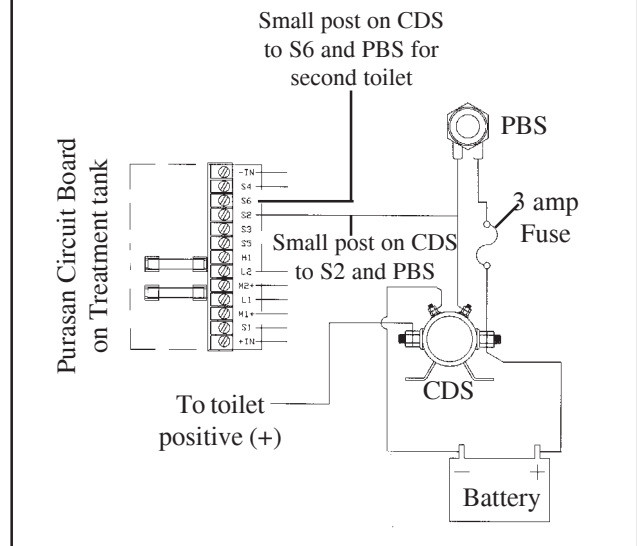
### Freshwater Solenoid valve wiring

1. Run 16 ga. wire from battery positive to one of the wires on the solenoid with 3 amp fuse in line.
2. Run 16 ga. wire from wire on solenoid not used to H1 on Purasan Circuit Board.

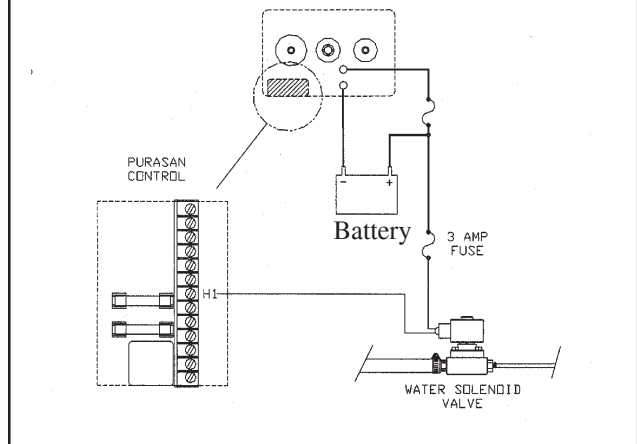
## PLUMBING

Follow installation instructions on page 8 and connect second toilet to second intake port

### DUAL INSTALLATION - "Push Button" also activates Purasan -



### Freshwater Solenoid valve wiring

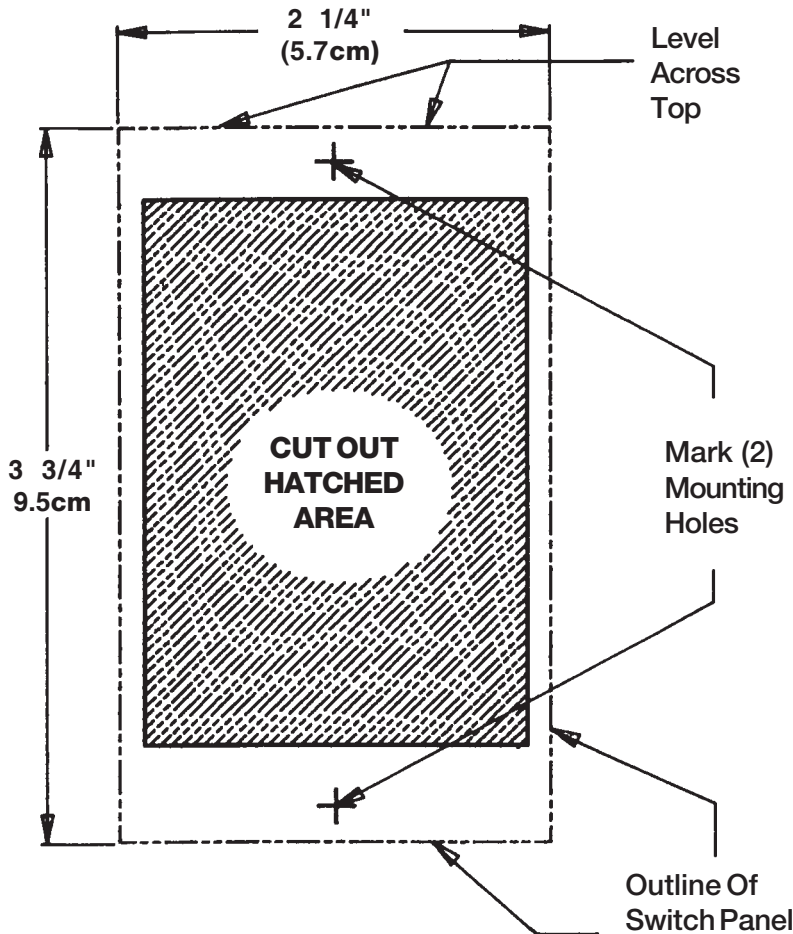


**NOTE:**

**Discharge of raw, untreated sewage is prohibited in all U.S. waters inside the three mile limit except in the Gulf of Mexico where the limit is nine miles. "Y" valves, if installed, must direct toilet discharge to a U.S.C.G. approved treatment system or holding tank and must be secured in that position while inside the three-mile limit.**

The EPA standards state that in freshwater lakes, freshwater reservoirs or other freshwater impoundments whose inlets or outlets are such to prevent the ingress or egress by vessel traffic subject to this regulation, or in rivers not capable of navigation by interstate vessel traffic subject to this regulation, marine sanitation devices certified by the U.S. Coast Guard installed on all vessels shall be designed and operated to prevent the overboard discharge of sewage, treated or untreated, or any waste derived from sewage. The EPA standards further state that this shall not be construed to prohibit the carriage of Coast Guard-certified flow-through treatment devices which have been secured so as to prevent such discharges. They also state that waters where a Coast Guard-certified marine sanitation device permitting discharge is allowed including coastal water estuaries, the Great Lakes and interconnected waterways, freshwater lakes and impoundments accessible through locks, and other flowing waters that are navigable interstate by vessels subject to this regulation (40 CFR 140.3)

## Template for Switch Panel



### LIMITED WARRANTY

Raritan Engineering Company warrants to the original purchaser that this product is free of defects in materials or workmanship for a period of one year from the product's date of purchase. Should this product prove defective by reason of improper workmanship and/or materials within the warranty period, Raritan shall, at its sole option, repair or replace the product.

1. TO OBTAIN WARRANTY SERVICE, Consumer must deliver the product prepaid, together with a detailed description of the problem, to Raritan at 530 Orange St., Millville, N.J. 08332, or 3101 SW 2nd Ave. Ft. Lauderdale, FL 33315. When requesting warranty service, purchaser must present a sales slip or other document which establishes proof of purchase. THE RETURN OF THE OWNER REGISTRATION CARD IS NOT A CONDITION PRECEDENT OF WARRANTY COVERAGE. However, please complete and return the owner Registration Card so that Raritan can contact you should a question of safety arise which could affect you.
2. THIS WARRANTY DOES NOT COVER defects caused by modifications, alterations, repairs or service of this product by anyone other than Raritan; defects in materials or workmanship supplied by others in the process of installation of this product; defects caused by installation of this product other than in accordance with the manufacturer's recommended installation instructions or standard industry procedures; physical abuse to, or misuse of, this product. This warranty also does not cover damages to equipment caused by fire, flood, external water, excessive corrosion or Act of God.
3. ANY EXPRESS WARRANTY NOT PROVIDED HEREIN, AND ANY REMEDY FOR BREACH OF CONTRACT WHICH BUT FOR THIS PROVISION MIGHT ARISE BY IMPLICATION OR OPERATION OF LAW, IS HEREBY EXCLUDED AND DISCLAIMED. ALL IMPLIED WARRANTIES SUCH AS THOSE OF MERCHANTABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE, IF APPLICABLE, AS WELL AS ANY IMPLIED WARRANTIES WHICH MIGHT ARISE BY IMPLICATION OF LAW, ARE EXPRESSLY LIMITED TO A TERM OF ONE YEAR. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG A LIMITED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.
4. UNDER NO CIRCUMSTANCES SHALL RARITAN BE LIABLE TO PURCHASER OR ANY OTHER PERSONS FOR ANY SPECIAL OR CONSEQUENTIAL DAMAGES, WHETHER ARISING OUT OF BREACH OF WARRANTY, BREACH OF CONTRACT, OR OTHERWISE. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.
5. No other person or entity is authorized to make any express warranty, promise or affirmation of fact or to assume any other liability on behalf of Raritan in connection with its products except as specifically set forth in this warranty.
6. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.



530 Orange Street, P.O. Box 1157, Millville, NJ 08332 USA  
 Telephone: 856-825-4900 FAX: 856-825-4409  
 Website: [www.raritaneng.com](http://www.raritaneng.com)  
 Southern Office and Plant:  
 3101 SW Second Avenue, Fort Lauderdale, FL 33315 USA  
 Telephone: 954-525-0378 FAX: 954-764-4370