



COMPACT II MARINE TOILET

Installation & Maintenance Instructions

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 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 equipment, or injury or death to personnel, that may result from improper installation or operation of this product.*

WARNING:  **Hazard of Flooding** - Any installation made below the waterline must have vented loops positioned properly and all hose connections should be double-clamped. Both intake and discharge seacocks should always be in the closed position when the toilet is not in use. Failure to do so may result in flooding, property damage and loss of life.

INTRODUCTION

The **Compact II** is a manually operated marine toilet. Its vertically mounted double-action piston type pump can be changed from right hand to left hand operation. Its size and simple installation make it best suited where space is limited. Space requirements are:

Height 13 3/4"(34.9cm)

Width 17 1/2"(44.5cm)

Depth: 17"(43.2cm)

The **Compact II** is suitable for use with Raritan's Lectra/San[®] MC[™], U.S. Coast Guard certified Type I Marine Sanitation Device (MSD) and/or holding tank installations.

OPERATION

1. With the shutoff handle in the *wet bowl* position, pump the handle up and down. This will allow water to be pumped into the bowl and forced through the discharge at the base of the pump. It is advisable to flush the toilet briefly before using, to minimize staining of the bowl.
2. The pump is designed to pump *in* rinse water and pump *out* waste water at the same time. If the water level in the bowl rises, move the shutoff handle to the *dry bowl* position, then pump for several strokes as needed. After doing this, flush the toilet several strokes with the intake valve in the wet bowl position to clear all lines.

CAUTIONS: Hard objects or stringy substances (paper towels, feminine hygiene products, filter tip cigarettes, etc.) thrown into the toilet will cause damage. These objects MUST NOT BE PLACED IN THE TOILET.

MAINTENANCE

With normal use very little maintenance is required other than inspection and periodic replacement of rubber parts. Using C.P., a bio-enzymatic toilet bowl cleaner (available from Raritan Engineering), will keep the bowl clean and fresh smelling. Introducing Raritan Concentrate into the flush water through a Toilet Water Kit (#TWK) will deodorize and lubricate the unit.

Super Lube[®] (#SL) applied to the piston rod will prolong the life of the seal. This should be done every spring and fall or more regularly if the head is used frequently.

CAUTIONS: Using improper deodorants or cleaners can result in damage to rubber and plastic parts. DO NOT USE pine oil, formaldehyde, ammonia, ethyl acetate, phosphoric acid, chlorine bleach or solvent based products.

Before attempting repairs, refer to the Troubleshooting section of this manual.

STORAGE

Short Term Storage

If the toilet is not going to be used for up to one week, flush the toilet several strokes with the shut off handle in the *wet bowl* position to clear all lines, then switch to the *dry bowl* position.

Long Term Storage

If the toilet is not going to be used for over a week, follow the short term storage, then switch to the *dry bowl* position and purge the toilet with at least two gallons of fresh water added to the bowl.

Super Lube[®] is a registered trademark of Synco Chemical Corp.

Lectra/San[®] is a trademark of Exceltec.

¹LST/MC[™] is a trademark of Raritan Engineering Co., Inc.

WINTERIZING

Improper winter lay up is a major cause of marine toilet failures.

1. Close the intake and discharge seacock. Disconnect and drain the intake and discharge hoses. Winterize seacocks and hoses.
2. You will need two buckets, three feet (9M) of 3/4" (19mm) hose, three feet (9M) of 1 1/2" (38mm) hose and a quart (.95liter) of non-toxic antifreeze.
3. Prepare one half gallon (1.9 liters) of non-toxic antifreeze/water mixture in a bucket (refer to the antifreeze instructions for antifreeze/water ratio). Place intake hose in this bucket. Place discharge hose into the empty bucket. Pump toilet until antifreeze has circulated and is being discharged.
4. Antifreeze should remain in the toilet until recommissioning. This will protect both intake and discharge sides of the pump. Pouring antifreeze into the bowl will only protect the discharge side of the pump, allowing the intake side to possibly freeze.

NOTE: Holding tanks, seacocks and treatment systems need to be independently winterized, stored and recommissioned (see manufacturer's instructions).

RECOMMISSIONING

1. Lubricate piston rod with Super Lube® (#SL).
2. Using the buckets, hoses and a gallon (3.8 liters) of clean water, flush the antifreeze out of the toilet. Dispose of antifreeze properly, in accordance with local and federal regulations.
3. Reconnect the hoses and open both seacocks.
4. Check all connections for leaks with several test flushes.

INSTALLATION

To install the Compact II marine toilet several installation accessories are required:

1. A nominal 3/4" (19mm) thru-hull fitting and seacock (shutoff valve).
2. 3/4" (19mm) I.D. reinforced intake hose and hose clamps.
3. 1 1/2" (38mm) I.D. reinforced sanitation discharge hose (#SH) and hose clamps.

4. A nominal 1 1/2" (38mm) discharge thru-hull fitting with seacock may be required, depending on the specific installation.

MOUNTING

The Compact II may be mounted above (Fig. #1) or below (Fig. #2) the waterline. For below waterline installations, vented loops (#VL3/4 and #VL1 1/2) are required and hose connections must be double clamped. Mount the unit securely on a flat solid deck using stainless steel bolts backed up with nuts and large washers or stainless steel lag screws long enough not to pull out.

PLUMBING

WARNING: Below waterline installations require vented loops. The top of the loops must be above the waterline at the greatest angle of heel. Intake vented loops must be installed between the pump and the back of the bowl. Discharge vented loops must be installed between the discharge of the toilet and the seacock. See Fig. #1 and #2.

1. Route the discharge hose above the discharge outlet with a vented loop. This will enable the toilet to discharge more efficiently and will help to prevent backflow.
2. A In-Line Strainer (#163000) or equivalent is recommended. This will help minimize odors and help prevent clogging.
3. Intake and discharge thru-hull fittings should be located far enough apart and in such a manner as to prevent discharge water from being drawn through the intake. One means of accomplishing this is to place them on opposite sides of the hull. Intake thru-hull should be located so that during shallow water conditions sand and other debris are not drawn into thru-hull fitting.
4. The optional Raritan Toilet Water Kit (#TWK) permits use of Raritan Concentrate (#CON22) with the Compact II toilets. Raritan Concentrate deodorizes the bowl and lubricates internal parts.
5. Test flush and check for leaks.

TROUBLESHOOTING

Before attempting repairs be sure you have studied this manual and parts list thoroughly and have checked the terms of the Limited Warranty.

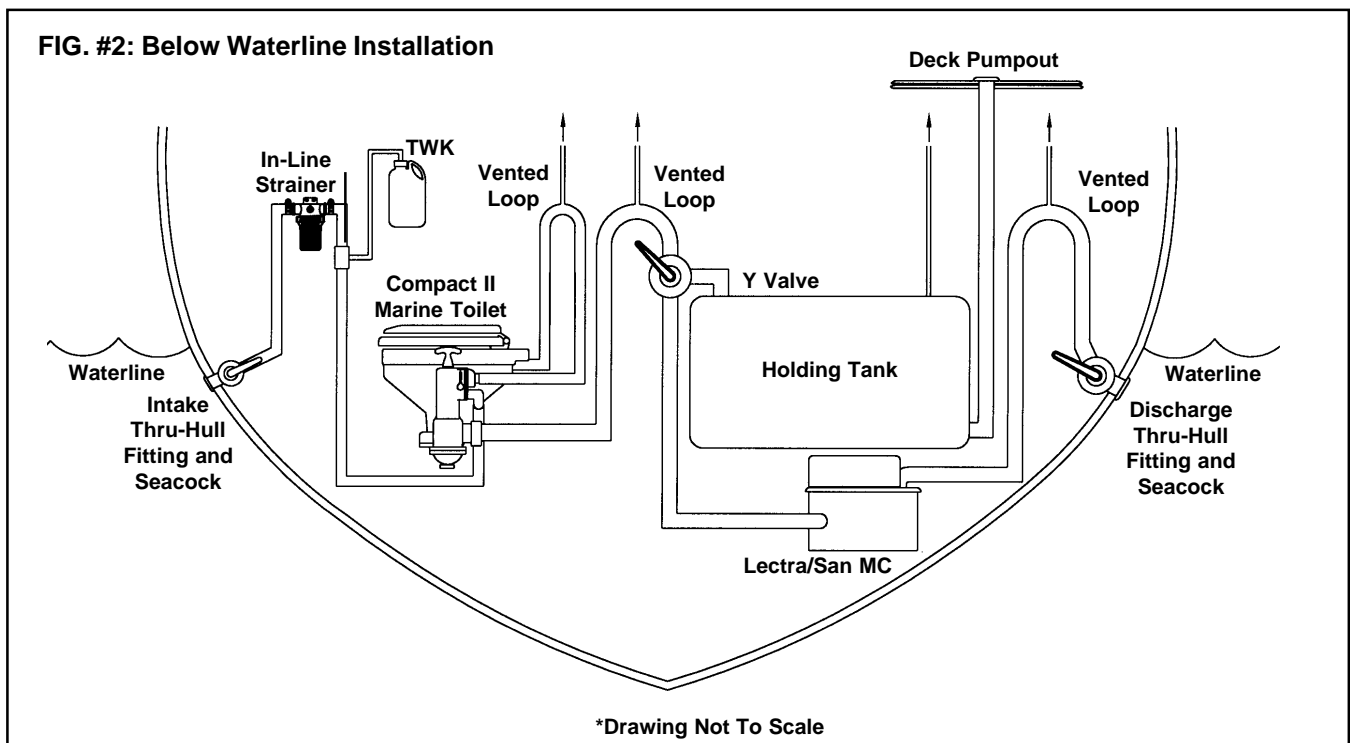
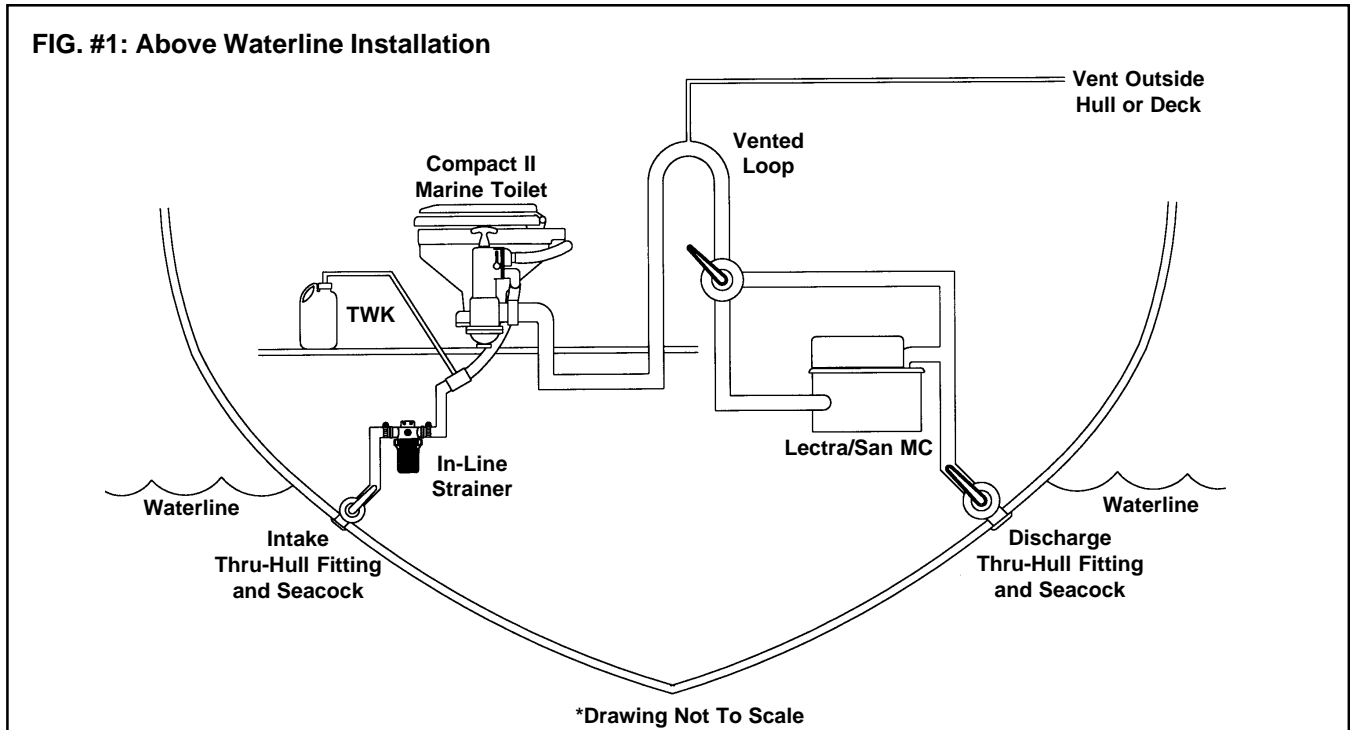
If you have questions please contact our Technical Support Department in either Millville, NJ or Ft. Lauderdale, FL.

CAUTION: Before working on toilet or whenever leaving the boat unattended be sure that both intake and discharge seacocks are closed.

Ordering replacement parts: Repair Kit (#CPRKII) contains parts normally required to repair each unit.

In addition, individual parts for your toilet may be ordered through your dealer or direct from Raritan. To speed delivery, please specify part number and description.

Units requiring extensive repairs may be returned to Millville, N.J. or Fort Lauderdale, FL. office. Instructions, including name, address and phone number must accompany units to ensure proper handling.



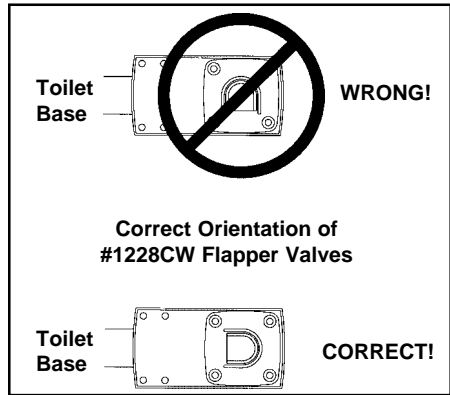
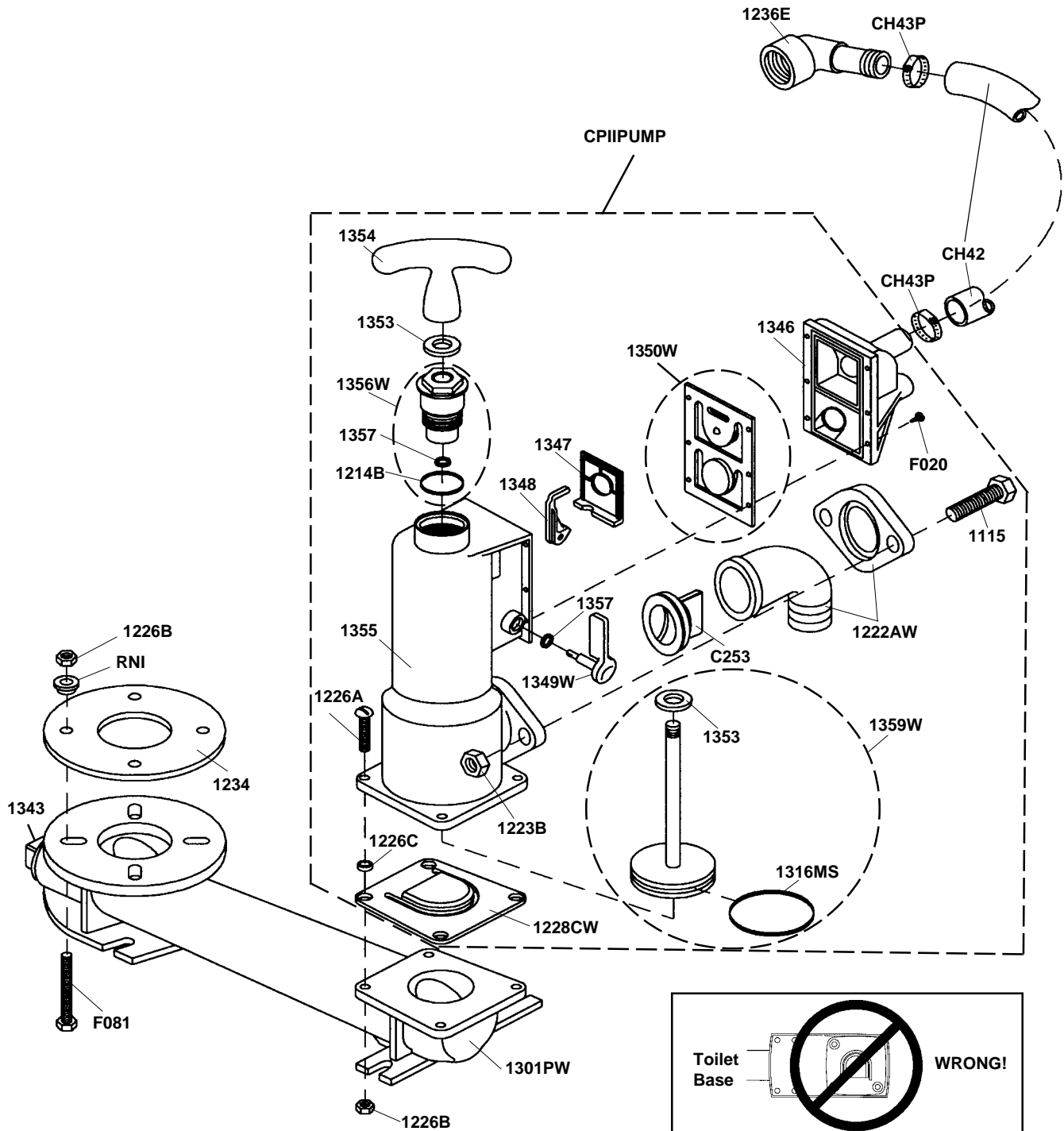
TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	CORRECTION
A. Water accumulates in the bowl faster than it pumps out.	A1. Lodged debris. A2. Flapper not seating properly. A3. Joker Valve not closing. A4. Holding Tank is pressurized. A5. Scored pump housing or worn piston "O" ring.	A1. Check discharge lines for obstructions. Clear any lodged debris. See #2 under "Operation". A2. If the flapper is worn or swollen, replace it. Be sure improper cleaners are not being used. A3. Check Joker Valve for wear and debris. Clean or replace. A4. Clogged holding tank vent or vented loop; clean vent(s). A5. If pump housing is scored both housing and "O" ring must be replaced. If "O" ring is worn, replace it.
B. Water rises in the bowl when the boat is at dockside.	B1. Clogged vented loop. B2. Improperly installed vented loop.	B1. Clean vented loop. B2. Refer to Fig. #2 in installation.
C. Intake water flow is poor.	C1. Intake line clogged.	C1. Clear intake line, check for build up in hose. Clean strainer.
D. Leak around piston shaft.	D1. Seal leaking.	D1. Replace piston U-Cup seal (#1357) or Seal Cartridge Assy. (#1356W). Refer to literature (#L190) for seal replacement instructions.
E. A persistent odor comes from the toilet bowl.	E1. Organic material lodged in bowl rim. E2. Foul intake water. E3. Full holding tank. E4. Worn piston "O" ring. E5. Discharge line clogged. E6. Improper or contaminated discharge hose.	E1. Connect a garden hose to the spud at the back of the bowl and flush it out under pressure. Install In-Line Strainer (#163000). E2. Add a Raritan (#TWK) to deodorize intake water. E3. Empty Holding tank, be sure vents are clean and functional. E4. If the Piston "O" ring is worn, replace it. E5. Clear any debris lodged in discharge. E6. If hose has foul odor, replace with proper sanitation hose (#SH).

PARTS FOR COMPACT II MARINE TOILETS

Part No.	Part Name	Part No.	Part Name
1115	3/8 - 16 x 1 1/2 Hex HD S/S	CH42	Hose (3/4" I.D.)
1214B	"O" Ring	CH43P	Hose Clamp, Nylon (2)
1222AW	90° Discharge Ell w/flange	F020	#10 Self-Tapping Screw (6)
1222B	Discharge Fitting - Straight (Optional, not shown)	F081	Hex head Cap S/S Screw (1/4-20 x 2") (4)
1223B	3/8 - 16 S/S Nut (2)	MAJOR SUBASSEMBLIES	
1226A	1/4 - 20 x 1 1/4", RH S/S Screw(4)	CPIILBA	Compact II Pump and Base Assy, Complete
1226B	1/4 - 20 Nut, S/S (8)	CPIIPUMP	Compact II Pump Assy. Complete
1226C	Plastic Spacer Washer (4)	BOWL AND SEAT	
1228CW	Flapper Valve Assembly	1234	Bowl Gasket
1301PW	Toilet Base Assembly (w/drain plug)	1236AW	Spud Assembly (supplied w/bowls) (not shown)
1316MS	Piston "O" Ring	1236E	Bowl Elbow
1343	Plastic Drain Plug, 1 1/2" NPT	1237W	Marine-size Bowl Assembly (w/1236AW spud assy.)
1346	Check Valve Housing	1238A	Marine-size Seat and Cover
1347	Separator Plate	163000	In-Line Strainer
1348	Cam	1PCP22	C.P., Cleans Potties, Bio-enzymatic, 22 oz.
1349W	Shutoff Handle w/seal	RNI	Shoulder Washer (4)
1350W	Check Valve Assy. (1350,1351 & 1352)	TWK	Raritan Toilet Water Kit. Allows Raritan "Concentrate" to be metered into the flush water.
1353	Bumper Washer (2)	CON22	Raritan "Concentrate" head deodorant and lubricant. Used with TWK. Replacement bottle 22oz.
1354	Flushing Handle	CPRKII	Compact II Repair Kit
1355	Pump Housing, Compact II	SH	1 1/2" I.D. Sanitation Hose (sold by the foot)
1356W	Seal Cartridge Assy. (1214B & 1357)	SL	Super-Lube 1/2 oz. tube
1357	U-Cup Seal (2)		
1359W	Piston Rod Assy.(1316MS, 1353 & 1359A)		
C253	Joker Valve		

EXPLODED PARTS VIEW, COMPACT II MARINE TOILET



SPECIFICATIONS

Space Requirements: height 13 3/4"(34.9cm), width 17 1/2" (44.5cm) and depth 17" (43.2cm)
Manually Flushed Toilet: salt water or fresh water
Fitting Sizes: 3/4" (19mm) intake and 1 1/2" (38mm) discharge

Maximum Intake Hose Lift: 36" (1m)
Maximum Intake Hose Length: 15' (4.6m)
Maximum Discharge Hose Lift: 5' (1.5m)
Maximum Discharge Hose Length: 15' (4.6m)

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, 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.



RARITAN
Engineering Company, Inc.

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