

Model 37085-Series

DESIGNER STYLED MARINE TOILET WITH INTEGRAL BOWL RINSE WATER/WASTE EVACUATION PUMP

FEATURES

- Single button flush actuator
- All toilet plumbing and wiring connections are internal-out of sight
- White vitreous china bowl available in compact 14" height or standard 17" height
- Sturdy designer molded plastic seat & cover
- High capacity waste macerator and bowl discharge pump

SPECIFICATIONS

Ports	Inlet 3/4" Hose Barb Outlet 1" Hose Barb
Motor & Switch	Toilet Meets U.S.C.G. Regulation 183.410 and ISO 8846 for Ignition Protection. EMC Models Available
Normal water Consumption	1-2 Quarts (Liters)/Flush

OPERATION

The Designer Styled Toilet with integral self-priming bowl rinse water pump provides simple bowl rinse and waste evacuation functions simultaneously with the push of a single flush control button. The bowl rinse water pump supplies sea or lake water to rinse the bowl clean. The waste discharge pump includes an integral macerator to grind waste down to a size that will easily pass through the 1" discharge hose. The length of the flush cycle and the amount of water consumed to complete the flush are controlled by the user to minimize water use.

The macerating discharge pump will handle human waste and toilet tissue. It will not flush solid objects such as tampons, sanitary napkins, condoms, razor blades, razor blade wrappers, etc. It is recommended that the decal (supplied) warning against the deposit of such objects in the toilet be posted in an obvious location.



Model 37085-Series

Model Number	Description
37085-0012	Compact Toilet 14", 12 Volt DC
37085-0092*	Compact Toilet 14", 12 Volt EMC
37085-0024	Compact Toilet 14", 24 Volt DC
37085-0094*	Compact Toilet 14", 24 Volt EMC
37085-1012	Standard Toilet 17", 12 Volt DC
37085-1092*	Standard Toilet 17", 12 Volt EMC
37085-1024	Standard Toilet 17", 24 Volt DC
37085-1094*	Standard Toilet 17", 24 Volt EMC

* These models are **CE** Marked and complies with EN50081-1 for suppression of electro-magnetic interference.

Clean the toilet and seat & lid assembly with mild non-abrasive cleaners *without strong aromatics*. Cleaners having high concentrations of aromatics such as pine scented concentrated cleaners and strongly scented degreaser concentrates can cause the pump's flexible impeller to swell which may cause the pump to seize up. Should this happen, the impeller will need to be replaced.

INSTALLATION

The 37085-Series Designer Styled Toilet includes a simple single push-button flush control which should be installed in a bulkhead location that is convenient to the toilet and allows access for wiring to run from the power source and to the toilet rinse water/waste discharge pump. Because all plumbing and wiring connections at the toilet are made internally within the china bowl, all plumbing and wiring must be completed and extended to the toilet location prior to final installation of the toilet.

Install the toilet seat and lid assembly on the china bowl with the fasteners provided and position the toilet in its desired location. When locating the toilet, ensure there is adequate clearance above the bowl so the seat and lid assembly can rotate to its fully open position and remain open on its own. Once the exact position has been determined, mark the location of the two toilet mounting holes on the toilet mounting surface and move the toilet, temporarily, out of the way. When securing the toilet to a plywood underpayment below a layer of fiberglass, to avoid cracking the fiberglass, drill a 5/16" (8 mm) hole through just the fiberglass layer to provide clearance for the toilet hold-down screw threads and shank. Drill a 3/16" (5 mm) pilot hole to accept the threaded portion of the toilet hold-down screw set provided. It is best to proceed with the plumbing and electrical installation so the toilet can be tested for proper function and checked for plumbing leaks prior to securing the toilet to the mounting surface.

Plumbing

The intake hose should lead from a 3/4" (19 mm) seacock located as close as practical to the toilet. The hose should be routed to the toilet as directly as possible with a minimum of plumbing fittings. Connect the intake hose to the 3/4" (19 mm) barbed fitting in the pump intake hose.

The discharge hose should be routed to the holding tank (or, if preferred and where legal, overboard) through the most direct route possible with a minimum of 1" (25 mm) diameter quality waste compatible hose. If discharging over-

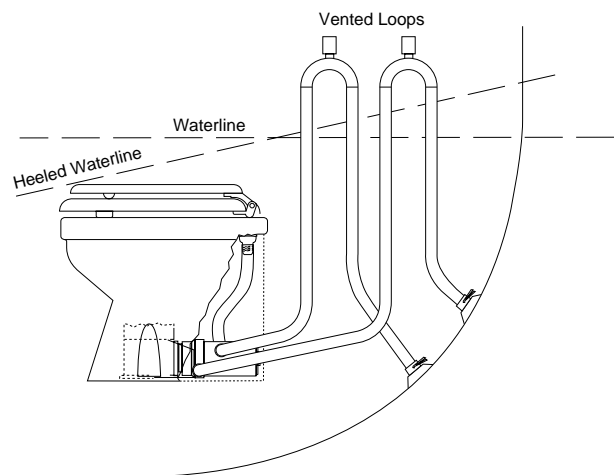
board, the discharge seacock should be located well aft and above the location of the intake seacock. Connect the discharge hose to the 1" (25 mm) barbed discharge port on the white plastic toilet base. Secure all hose connections with two marine grade S.S. band clamps at each connection.

If the toilet is installed above the waterline, to retain a small amount of water in the toilet bowl after the normal flush cycle, both the intake and discharge hoses should include a loop upward of about 8"-10" (20-25 cm) above the base of the toilet. These loops should be as close to the toilet as practical.

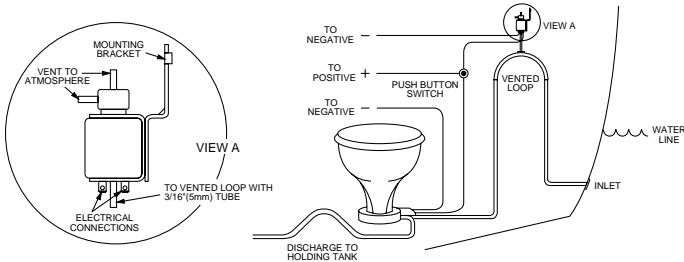


WARNING Flood hazard. If toilet is installed below the waterline or may be below the waterline at any angle of heel or trim, it must be installed with properly positioned vented loops. Failure to do so can result in flooding which can cause loss of property and life.

If the toilet is installed below the waterline, to prevent flooding, the inlet and discharge hoses should include properly positioned vented loop fittings. The vented loops should be secured to a solid surface where they will remain 6"-8" (15-20 cm) above the vessel's waterline at all angles of heel and trim.



Occasionally, the addition of a vented loop in the inlet hose can cause diminished rinse water flow or poor pump primeability. If this occurs, an electrical air vent solenoid valve (Jabsco Model # 37068-0000) should be added to the air intake of the vented loop assembly and wired in parallel with the toilet pump assembly to close the air supply to the vented loop fitting during the flush cycle (see solenoid valve installation and wiring diagram).



All runs of hose should be secured to a solid surface approximately every eighteen inches along the length of hose.

Electrical

Select a location for the switch and instruction plate ensuring that wire leads from both the toilet pump assembly and electrical power source can be routed to the rear of the switch assembly. Ensure the panel thickness where installing the switch is no greater than 1" (25 mm) and there is nothing on the opposite side of the panel that can be damaged when drilling the hole for the switch. Drill a 5/8" (16 mm) diameter hole and install the toilet push-button flush switch and instruction panel.

The toilet must be wired with a dedicated electrical circuit independent of all other accessories. This circuit must be protected by a fuse or circuit breaker of the correct size for the toilet

voltage (determined from the electrical specifications chart) and located at the power source. Use stranded marine grade copper wire of the correct size (determined from the electrical specifications chart) for the total length of wire running from the power source to the toilet pump and back to ground. Failure to use the correct size wire can cause the pump impeller to seize up and the pump to stop functioning. Run the positive lead from the positive power source to one side of the toilet flush switch and from the other side of the switch to the positive (orange) pump motor lead. Connect a negative conductor to the motor's black wire lead and battery negative. Make all wire connections with positive mechanical locking connectors such as crimp type butt connectors and terminal ends. It is recommended that these wire connections be sealed with a small amount of silicone or other moisture resistant sealer. Secure all electrical wires to a solid mounting surface approximately every eighteen inches along the run of the wiring circuit.

Once the electrical wiring is complete, test the toilet by flushing several times and blot all hose termination's completely around each connection with a white paper towel and inspect the towel for wet spots. If the towel comes away dry from each connection within the china bowl, proceed to fasten the toilet to its mounting surface.

Position the toilet in its intended mounting position and very gently, with a 10 mm wrench, screw the provided toilet hold-down fastener into the pilot hole drilled earlier. Do not over-tighten these fasteners as this may crack the china. It is only necessary to make the fasteners snug enough to prevent the toilet from sliding around. Screw the dress cap into the top of the hold-down screw.

Electrical Specifications

VOLTAGE	AMP DRAW	FUSE SIZE	WIRE SIZE PER FEET OF RUN*				
			0'-10' (0 M-3 M)	10'-15' (3 M-4,6 M)	15'-25' (4,6 M-7,6 M)	25'-40' (7,6 M-12,2 M)	40'-60' (12,2 M-18,3 M)
12 Vdc	16	25	#12 (4 mm ²)	#10 (6 mm ²)	#10 (6 mm ²)	#8 (10 mm ²)	#6 (16 mm ²)
24 Vdc	8	15	#16 (1,5 mm ²)	#14 (2,5 mm ²)	#12 (4 mm ²)	#10 (6 mm ²)	#10 (6 mm ²)

* Length of run is total distance from power source to product and back to ground.

SERVICE INSTRUCTIONS

Pump service should only be needed if signs of shaft seal water leakage appear at the rear of the toilet or if the amount of incoming bowl rinse water has diminished which would indicate the need to replace the flexible impeller. Normally, the flexible impeller should last two to three seasons before needing replacement.

Prior to performing any service work, disconnect the electric power to the toilet and take precautions to ensure it is not restored until the service is complete. Also, turn off all seacocks that connect to the toilet plumbing. It is best to sponge all residual water from the china bowl prior to moving the bowl.



WARNING Flood hazard. If toilet is plumbed to an overboard discharge, close the discharge seacock prior to disassembling toilet. Failure to do so can result in flooding which can cause loss of property and life.

Unscrew the dress cap from the top of the toilet hold-down screw. With a 10 mm wrench, unscrew and remove the toilet hold-down screw and slide the toilet away from the rear bulkhead. Disconnect the inlet hose from the barbed adaptor in the end of the 12" (30 cm) long pre-formed pump intake hose. Disconnect the electrical power leads from the pump motor leads. It is generally easiest at this stage to position the toilet assembly upside down to facilitate removal of the pump assembly.

Remove the hose from the pump discharge port that connects with the china bowl inlet adaptor. Remove the four screws and lock washers that secure the pump assembly to the toilet base. Pull the pump out of the base. The chopper will engage the macerator housing and it may be necessary to gently tap the chopper against the macerator housing to dislodge it from the base assembly. Ensure the O-ring that seals the pump wearplate to the base comes away with the pump assembly.

With the pump removed hold the motor shaft from, turning at the screwdriver slot in the back of the shaft and unscrew the lock nut that secures the chopper to the motor shaft. Remove the chopper and macerator housing. Loosen the set screw that secures the centrifugal impeller to the shaft and remove the bronze impeller. Remove the four flat head screws that secure the wearplate to the pump body along with the two sealing washers under the heads of the upper and lower screws. Remove the wearplate with the rubber shaft sealing disc from the motor shaft. Remove the gasket and pump body with impeller and seal as an assembly. It is generally not necessary to remove the slinger from the motor shaft unless the motor is being replaced. Pull the flexible impeller from pump body. From the back side of the body pry the starlock washer out of the shaft seal bore. From the impeller side of the body push the shaft seal out of the seal bore. Clean and inspect all parts for wear. If the wearplate or the bottom of the impeller bore in the body have visible wear rings from the impeller, they should be replaced to ensure proper primeability.

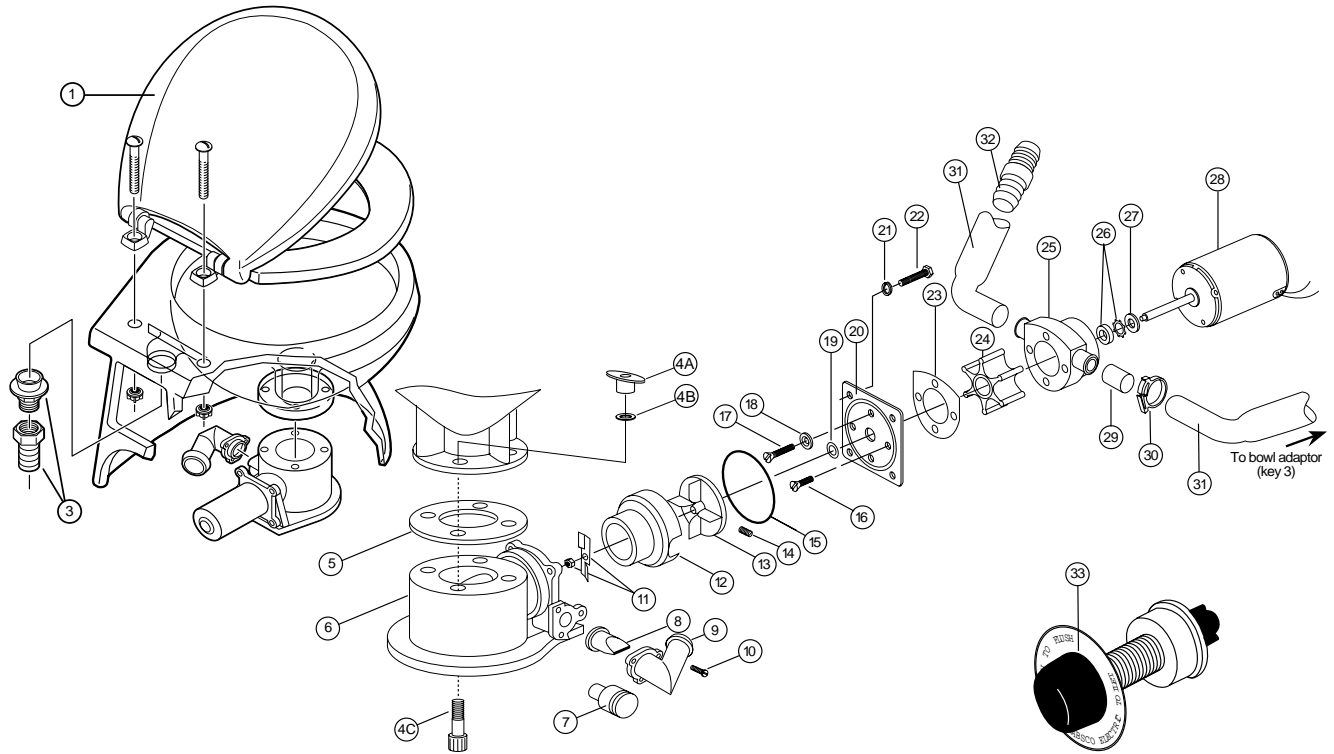
To reassemble, press the shaft seal into the seal bore with the lip facing toward the impeller bore. Press the starlock washer (concave side up) into the seal bore to retain the seal in place. Ensure the slinger is properly positioned on the motor shaft near the motor and position the pump body on the motor shaft against the motor end bell. While holding the body in place, slide the flexible impeller onto the shaft and with a counter-clockwise rotary motion push it into the impeller bore of the body. Position the end cover gasket against the body. Position the end cover against the body and gasket with the O-ring groove facing away from the motor. Secure the end cover with the four flat head machine screws ensuring the plastic sealing washers are positioned under the heads of the two longer screws that secure the body to the motor through the upper and lower holes in the body. Slide the rubber shaft sealing sleeve over the shaft and seat it in the sealing sleeve bore in the end cover.

Slide the bronze centrifugal impeller onto the shaft and position it about 1/16" from the end cover then secure it in place with the impeller set screw. Rotate the centrifugal impeller through at least one full revolution to ensure it does not rub on the end cover. Slide the black plastic macerator housing over the shaft and centrifugal impeller and position it near the wearplate. Slide the chopper plate over the shaft with the tab in the center hole pointing toward the motor and aligned with the flat of the motor shaft. Secure it in place with the S.S. lock washer. Coat the square cut O-ring with a small amount of grease to help hold it in place and position it in the O-ring groove in the wearplate. Ensure the raised rib on the macerator housing is positioned so it aligns with groove in the top of the toilet base and the notch in the side of housing aligns with the discharge port and slide the pump assembly into the toilet base. Securing the pump in place with the four brass cap head screws and lock washers. Take care when assembling the pump to the base that the O-ring in the wearplate groove does not become dislodged during the assembly process.

Reattach the electrical power leads to the motor leads ensuring the positive conductor connects with orange motor lead and negative to the black motor lead. Reattach the 1" (25 mm) waste discharge hose to the discharge port and the 3/4" (19 mm) inlet hose to the 3/4" (19 mm) barbed fitting in the 12" (30 mm) long preformed rubber intake hose. Open the toilet plumbing seacocks and restore electrical power to the toilet. Test all plumbing connections by flushing the toilet several times and with a dry paper towel blot all hose termination's completely around each connection and inspect the towel for wet spots. If the towel remains dry after each connection is tested proceed to reinstall the toilet to its mounting surface.

Position the toilet in its intended mounting position and very gently, with a 10 mm wrench, screw the provided hold-down fasteners into the toilet mounting holes. *Do not overtighten these fasteners as this may crack the china. It is only necessary to make the fasteners snug enough to prevent the toilet from sliding around.* Screw the dress cap into the top of the hold-down screw.

EXPLODED VIEW



PARTS LIST

KEY	DESCRIPTION	PART #	QTY. REQ'D
1	Seat & Cover	37078-1000	1
2	Bowl, Compact Size	37076-1000	1
	Bowl, Standard Size	37076-1001	1
3	Bowl Spud and 3/4" barbed adaptor	18753-0609	1
4	Bowl Installation Hardware	18753-0604	1
4A	Tee Nut **		4
4B	Washer, Plastic **		4
4C	Socket Head Screw **		4
5	Gasket *	37017-0000	1
6	Base Assembly **	37004-1000	1
7	1-1/2" Adaptor, Discharge Port	98023-0080	1
8	Joker Valve * **	44106-1000	1
9	1" Discharge Port **	37077-1000	1
10	Screw **	96050-0568	3
11	Chopper Plate & Lock Nut *†	37056-1000	1
12	Macerator Housing	37014-0000	1
13	Centrifugal Impeller	37006-0000	1
14	Set Screw	91084-0320	1
15	O-ring *	43990-0066	1
16	Screw †	91009-0040	2

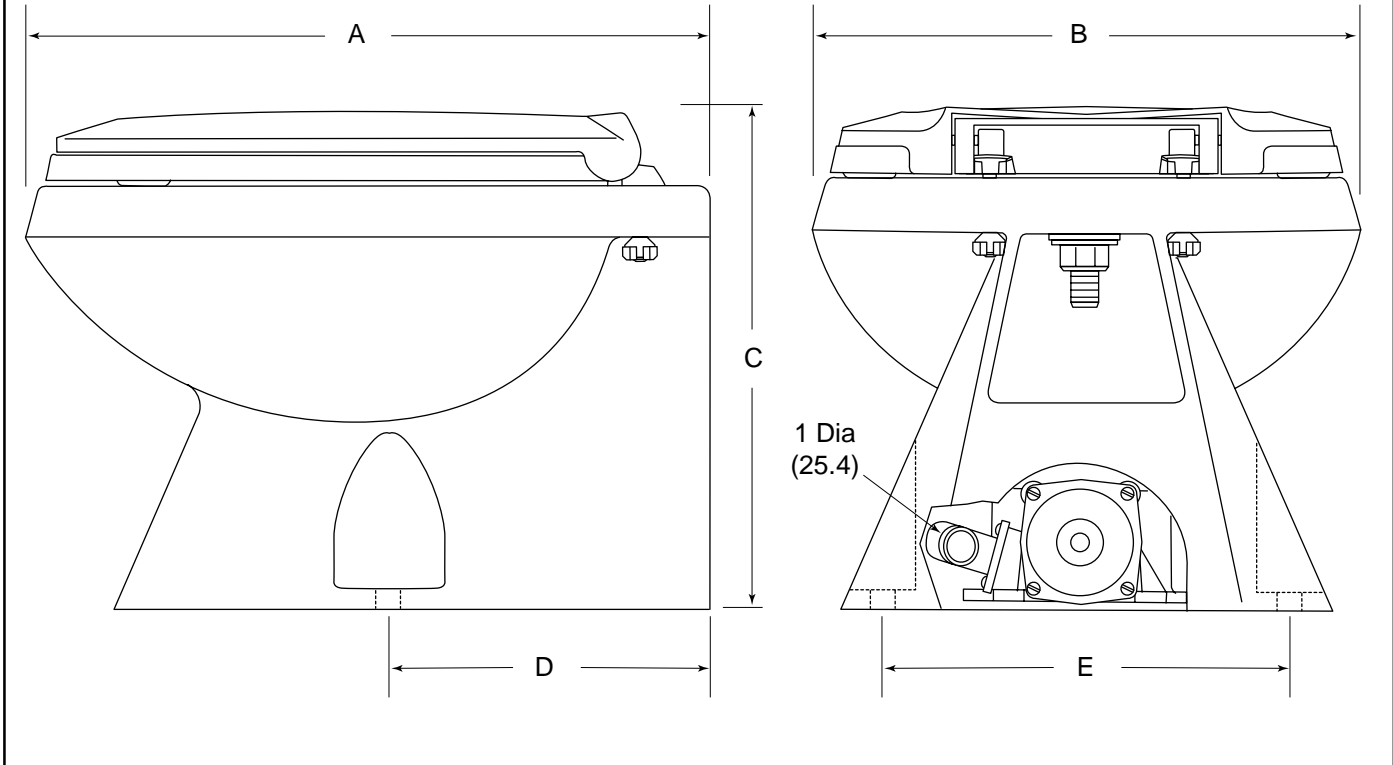
KEY	DESCRIPTION	PART #	QTY. REQ'D
17	Screw †	91009-0130	2
18	Washer, Plastic *	35445-0000	2
19	Sealing Sleeve *†	37036-1000	1
20	Wearplate *†	37018-0000	1
21	Lockwasher #10, Stainless Kit †		4
22	Screw †	91027-0011	4
23	Gasket *†	12558-0000	2
24	Flexible Impeller *†	6303-0003	1
25	Body †	12554-0000	1
26	Seal & Retainer *†	1040-0000	1
27	Slinger †	6342-0000	1
28	Motor - 12 Volt †	37064-0000	1
	Motor - 24 Volt †	37065-0000	1
29	Adaptor	93003-0240	2
30	Hose Clamp	18753-0044	4
31	Pre-formed Hose	37086-1000	2
32	3/4" Barbed Inlet Adaptor	18753-0610	1
33	Switch & Plate	37020-0000	1
	Service Kit	37040-0000	
	Motor/Pump Asst. 12V †	37041-0010	
	Motor/Pump Asst. 24V †	37041-0011	

* Parts Supplied with Service Kit.
 ** Parts included with base 37004-1000.

* Wearplate #20 includes Shaft Sealing Sleeve #19 and Pump/Base O-ring #15.
 † Parts included in Motor Pump Assembly.

DIMENSIONAL DRAWING

Inches (Millimetres)



	A	B	C	D	E
COMPACT SIZE BOWL	19.15 (486.4)	15.50 (393.7)	14.25 (361.9)	8.88 (225.5)	11.80 (299.7)
STANDARD SIZE BOWL	19.15 (486.4)	15.50 (393.7)	17.25 (438.15)	8.88 (225.5)	11.80 (299.7)

ONE YEAR LIMITED WARRANTY

A. LIMITED WARRANTY: ITT warrants that at the time of shipment, the products manufactured by ITT and sold hereunder shall be in conformity with applicable written specifications and descriptions referred to or set forth herein, free from defects in material and workmanship, merchantable, and suitable for a particular purpose, provided such is implied by State law under the circumstances of this sale.

B. WARRANTY ADJUSTMENT:

1. ITT agrees to repair or furnish a replacement for, but not to remove or install, any product or component thereof which, within one (1) year from date of purchase, shall upon test and examination by ITT prove defective within the above warranty. Receipt verifying purchase date is required to obtain adjustment.
2. Buyer shall notify ITT of any defect within this warranty no later than ninety (90) days after the defect is discovered.
3. No product will be accepted for return or replacement without the prior written authorization of ITT. Upon such authorization, and in accordance with instructions from ITT, the product will be returned to ITT, shipping charges prepaid by Buyer. Products returned to ITT will be addressed as follows:

ITT JABSCO
1485 Dale Way
Costa Mesa, California 92626-3998

Or to such alternate locations as may be designated on the product, its container, or this sheet. Repair or replacement made under this warranty will be shipped prepaid to Buyer.

C. EXCLUSIONS FROM WARRANTY AND LIMITATION OF LIABILITY:

1. The foregoing warranty is limited solely as set forth herein and applies only for the period designated above.

2. ITT SHALL NOT BE LIABLE FOR ANY LOSS, DAMAGE, SPECIAL OR CONSEQUENTIAL DAMAGE OF ANY KIND, WHETHER BASED UPON WARRANTY, CONTRACT, NEGLIGENCE, OR STRICT LIABILITY ARISING IN CONNECTION WITH THE SALE, USE, OR REPAIR OF THE PRODUCT.
3. THE MAXIMUM LIABILITY OF ITT IN CONNECTION WITH THIS WARRANTY SHALL NOT IN ANY CASE EXCEED THE CONTRACT PRICE FOR THE PRODUCT CLAIMED TO BE DEFECTIVE OR UNSUITABLE.
4. This warranty does not extend to any product manufactured by ITT which has been subjected to misuse, neglect, accident, improper installation, or use in violation of instructions furnished by ITT.
5. This warranty does not extend to or apply to any unit which has been repaired or altered at any place other than ITT's factory, or by persons not expressly approved by ITT, nor to any unit the serial number, model number, or identification of which has been removed, defaced or changed.
6. Components manufactured by any supplier other than ITT shall bear only that warranty made by the manufacturer of that product.
7. This warranty applies to products defined as "consumer products" by the Consumer Product Warranties Act as from time to time amended.

D. CONSUMER RIGHTS: This warranty gives you specific legal rights, and you may have other rights which vary from state to state. Some states do not allow exclusion or limitation of damages.

STANDARD WARRANTY: If the products manufactured and sold hereunder are not Consumer Products, the warranty extended to Buyer shall be as set forth in subparagraphs (A), (B), and (C), EXCEPT THAT ALL EXPRESS OR IMPLIED WARRANTIES OR MERCHANTABILITY OR SUITABILITY FOR ANY PARTICULAR PURPOSE ARE EXCLUDED.

ITT Jabasco

A Unit of ITT Fluid Technology Corporation



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