ECOJOHN®

OWNER'S MANUAL

Waterless Incinerating Toilet

- **TinyJohn-P12, P120, P240**
  PROPANE AND GAS FIRED MODELS

ECOJOHN MODEL: _____

SERIAL NUMBER: _____

DATE OF PURCHASE: _____

FOR YOUR SAFETY
DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS AND LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.

TABLE OF CONTENTS

1. INTRODUCTION

Thank you for purchasing an ECOJOHN® product. Please take a few minutes to read this manual, then keep it in a safe place where it can be easily located if needed by your professional service technician.

The TINYJOHN models are waterless toilets that efficiently incinerate liquid and solid waste. Through the incineration process the waste gets burned by use of propane - the only remains will be a small amount of sterile ash. Maintenance and emptying of ash only needs to be done periodically.

TECHNICAL SPECIFICATIONS

ITEM	TINYJOHN-P12	TINYJOHN-P120	TINYJOHN-P240
Fuel	Propane	Propane	Propane
Operating Voltage	12V DC	120V AC	240V AC
Electrical Load	1.5 AmpH	0.15 AmpH	0.075 AmpH
Dimension	25"L x 14 3/4"W x 22 1/2"H	25"L x 14 3/4"W x 22 1/2"H	25"L x 14 3/4"W x 22 1/2"H
Weight	62 lbs	62 lbs	62 lbs
Capacity	30 Flushes/Day	30 Flushes/Day	30 Flushes/Day
Ambient Operating Temperature	-40 F to 150 F	-40F to 150 F	-40F to 150 F
Fuel Consumption	Urine Cycle: 0.03 Gal Propane Waste Cycle: 0.05 Gal Propane	Urine Cycle: 0.03 Gal Propane Waste Cycle: 0.05 Gal Propane	Urine Cycle: 0.03 Gal Propane Waste Cycle: 0.05 Gal Propane
Max Manifold Pressure Propane	0.5 psi	0.5 psi	0.5 psi
Min Manifold Pressure Propane	11 in w.c.	11 in w.c.	11 in w.c.
Max Hourly BTU Input	5,500	5,500	5,500

TABLE 1-1. TECHNICAL SPECIFICATIONS

2. SAFETY

The TINYJOHN is a safe, convenient appliance when assembled and used properly. However, as with all gas-fired products, certain safeguards must be observed. Failure to follow these safeguards may result in damage or injury. If you have questions concerning assembly or operation, consult your dealer, gas appliance serviceman, or ECOJOHN® tech support.

HAZARD DEFINITIONS

DANGER

Denotes presence of a hazard which, if ignored, will result in severe personal injury, death, or substantial property damage.

WARNING

Denotes presence of a hazard which, if ignored, could result in severe personal injury, death, or substantial property damage.

CAUTION

Denotes presence of a hazard which, if ignored, could result in minor personal injury or property damage.

NOTICE

Intended to bring special attention to information, but not related to personal injury or property damage.

WARNING

Read all instructions before proceeding. Follow all instructions completely. Failure to follow these instructions could result in equipment malfunction, causing severe personal injury, death or substantial property damage.

NOTICE

Concealed damage – If you discover damage to the TINYJOHN, notify the carrier at once and file the appropriate claim.

NOTICE

When contacting ECOJOHN® for service information – Please record the incinerator Serial Number located on the front of the Owner's Manual.

DANGER

OWNER'S RESPONSIBILITY
Incorrect installation, adjustment, and use of the incinerator could result in severe personal injury, death, or substantial property damage from fire, carbon monoxide poisoning, soot or explosion

WARNING

DO NOT ALTER THE ORIGINAL DESIGN
Tampering with or altering the burner design could seriously impair performance, resulting in loss of static pressure, damage to the system components, reduced air volume, heavy smoke, flame impingement, appliance sooting, hot gas puff-back, and asphyxiation or fire hazards

LP-gas containers with their control valves shall be installed in compliance with the requirements of NFPA 1192/ANSI A119.2 or Title 24 CFR Part 3280.

SPECIAL CARE MUST BE TAKEN TO KEEP SMALL CHILDREN AWAY FROM HEATED SURFACES

CAUTION

ELECTRICAL CAUTION

1. If any accessory is used on this appliance that requires an external electrical power source, the accessory when installed must be electrically grounded in accordance with local codes. In the absence of local codes, the following standards apply:

(U.S.) ANSI/NFPA No. 70-Latest Edition.

2. Do not cut or remove the grounding prong from the plug.
3. Keep the electrical supply cord and fuel supply hose away from any heated surface.

3. INSTALLATION

PRE-INSTALLATION

Before installing the TINYJOHN, read all the instructions and cautionary markings located in the manual. The unit should be installed in a dry and clean protected environment.

1. The installation must conform with the following, as applicable.
   a. ANSI Z223.1-Latest Edition National Fuel Gas Code.
   b. The Manufactured Home Construction and Safety Standard, Title 24 CFR, Part 32-80 (formerly the Federal Standard for Mobile Home Construction and Safety. Title 24, HUD (Part 280), 1975.
   c. Local codes or, in the absence of local codes, the Standard for Recreational Vehicles, ANSI/NFPA 501C-1977, or ANSI A119.2/NFPA 1192.

2. Keep the area surrounding the appliance free of combustible materials, gasoline, and all flammable liquids and vapors.

The appliance and its individual shutoff valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of ½ psig (3.45 kPa).

In areas where LP-gas containers are being used, a manual main shutoff valve must be installed in the rear of the appliance. It shall be connected in between the LP-gas container and the appliance.

It is imperative to comply with all applicable installation codes, when installing this appliance.

COMBUSTION AIR SUPPLY

WARNING

Do not restrict the flow of air to the appliance
If the toilet is not supplied with a reliable combustion air source, the burner cannot properly burn the fuel. This would result in incomplete combustion, and also emission of carbon monoxide. Severe personal injury, death or substantial property damage could occur.

NOTICE

If the room where the toilet is being installed is small, or if the room has a ventilation fan, it is recommended that the combustion air be supplied to the burner room through intakes from the outside of the building. The intakes must terminate facing down in order to avoid obstruction from rain, snow, leaves, etc. Openings must have one square inch of free area per 1,000 Btu.

VENTILATION SYSTEM

SAFETY
The vent system is build up by 3'' single wall modules that are very easy to handle and mount.

CURVED CHIMNEY
It is possible to curve the chimney by 15, 30, 45 (standard), 60, or 90 degrees - Check with your local building codes.

NOTICE

Periodic examination of the venting system is required.

VENTILATION INSTALLATION

Before connecting any Propane or power to the unit, the vent system needs to be installed. Please refer to the layouts below.

3" Single Pipe Venting
The vent system connects in the back of the toilet and the distance from the floor to the center of the 3" vent is 4 ½". The distance from the left side (facing the toilet) to the center of the vent is 4 ½". The toilet comes with an adapter that connects to the internal vent. A standard single wall vent pipe then gets connected to the adapter. One has a choice of installing the vent out through a wall and then vertically up along the wall, or it can go vertically up along the wall on the inside.

If installing it through the wall, a T-pipe gets installed outside the wall. From there, the pipes run vertically up along the wall and attaches to wall pipes before installing the cap. It is also possible to run the vent inside a wall, as long as there is a minimum of 1" clearance around the vent.

Please refer to figures 3-1 to 3-3 below.

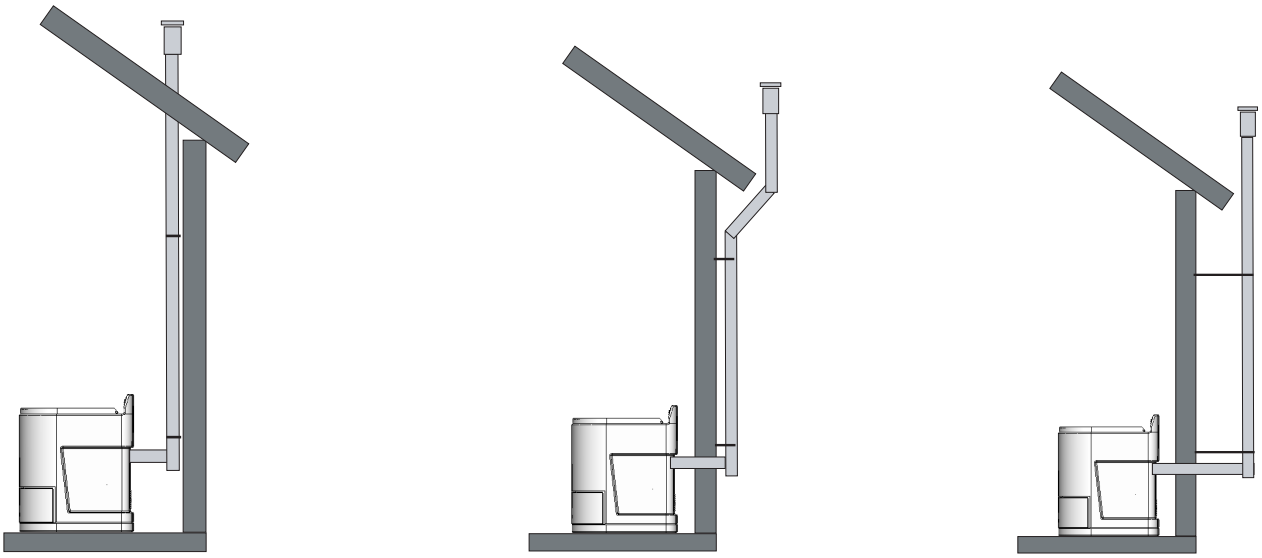

FIGURE 3-1-3-3. LAYOUT OF VENT INSTALLATION

POWER INSTALLATION

The next step after installing the vent system is to connect the power.

PROPANE INSTALLATION

Connect propane source to toilet, the standard propane connection is 3/8” and the connection is 4” from the bottom and 3” from the left side (if you stand behind the toilet). Make sure the connection is tight and there is no gas leak (do a leakage test, see page 17). If you need to extend the hose or use another connection, you will need to connect to a 3/8” NPT (flare). If the propane source is further away than 10ft, a larger propane hose may be required.

PRE-START CHECKS

1. Ensure all electrical wires are connected properly (check with electrical diagram)
2. Connect power cables to power source
3. Check for power light on the display panel.
4. Check propane connections, so it agrees with safety rules and regulations
5. Do a leakage check on the Propane connections. Use leakage spray.
6. Check vent system
7. TINYJOHN is now ready to use.

4. LP GAS CYLINDER

QCC-1 QUICK CLOSING COUPLING

The TINYJOHN is designed to be used with an LP gas cylinder equipped with the new QCC-1 Quick Closing Coupling system.

The QCC-1 system incorporated new safety features required by the Canadian Standards Steering Committee and the American National Standards Institute (ANSI).

- Gas will not flow until a positive connection has been made.
- A thermal element will shut off the flow of gas between 240 degrees and 300 degrees F.
- When activated, a flow Limiting Device will limit the flow of gas to 10 cubic feet per hour.

The LP gas cylinder is not included with the TINYJOHN. Be sure to purchase one with the QCC-1 valve. This valve is recognized by the external threads on the inlet port of the valve.

QCC-1 equipped cylinders are available from your gas dealer.

Any attempt to connect the regulator, by use of adapters or any other means, to any other valve could result in damage, fire or injury and may negate the important safety features designed into the QCC-1 system.

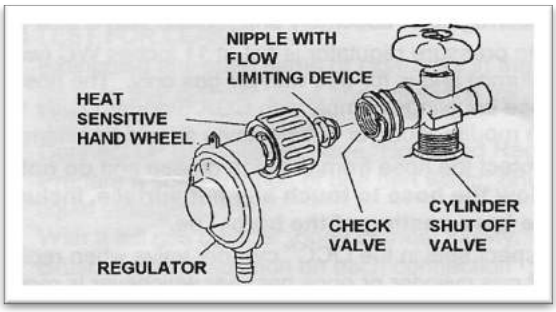

FIGURE 4-1. CONNECTING PROPANE REGULATOR

SPECIFICATION:

1. All LP gas cylinders used with this appliance must be constructed and marked with the specifications for LP Gas Cylinders in accordance with the Canadian Transport Commission (CTC) for use in Canada, or the U.S. Department of Transport (DOT) for use in the U.S.A.
2. All LP gas cylinders used with this appliance should be inspected at every filling and re qualified by a licensed service outlet at the expiry date (10 years), in accordance with the DOT (USA) and CTC (Canada) codes for LP Gas Cylinders.
3. All LP gas cylinders used with this appliance must be provided with a shutoff valve terminating in a cylinder valve outlet No. 510, specified in the Standard for Compressed Gas Cylinder

   Valve Outlet and Inlet Connection (USA) ANSI/CGA-V-1-1977 (Canada) CSA B96.

- The cylinder supply system must be arranged for vapor withdrawal.
- The cylinder must include a collar to protect the cylinder valve.
- The cylinder valve must include a safety relief device having direct communication with the vapor space of the cylinder.

HANDLING

1. Government regulations prohibit shipping full LP gas cylinders. You must take your new cylinder to a LP gas dealer for filling.
2. A filled LP gas cylinder is under very high pressure. Always handle carefully and transport in the upright position. Protect the valve from accidental damage.
3. Do not tip the LP gas cylinder while connecting it to the regulator. Fasten the cylinder securely during transport, use and storage.

4. If the cylinder is tipped after it is connected to the regulator, shut off the gas, disconnect the regulator and have it checked before using again.

STORAGE

1. Store LP gas cylinder outdoors in a well ventilated place.
2. Do not store LP gas cylinder in direct sunlight, near a source of heat or combustion.
3. Keep out of the reach of children.

OPERATION

1. Do not connect your TINYJOHN to an LP gas cylinder without the regulator provided, and NEVER TO AN UNREGULATED LP GAS SUPPLY.
2. Always leak test the LP gas cylinder to regulator connection when connecting the LP gas cylinder to the appliance. See “Leak Testing”.
3. Do not operate appliance if smell of LP gas is present. Extinguish all flame and determine source of LP gas before proceeding. Do not use the appliance until the LP gas leak has been found and sealed.
4. Always shut off LP gas cylinder valve when the appliance is not in use.

5. OPD EQUIPPED CYLINDER

OVERFILL PREVENTION DEVICE

Effective January 1, 1998, the standard for outdoor gas appliances, ANSI Z21.58/CAN/CGA-1.6, requires that appliances are to be used with cylinders equipped with an Overfill Prevention Device (OPD).

The OPD is designed to reduce the potential for the overfilling of propane cylinders, thus reducing the possibility of relief valve discards of raw propane.

The new OPD causes a slower purge/fill operation. Some consumers have been advised by filling stations that these cylinders are “defective”. This is not a defect. Some propane filling stations may not be aware of this new device and its effect on the purge/fill operation. New OPDs coming onto the market have new technology that allows for much greater Btu outputs which will decrease the amount of time it takes to purge a cylinder.

IDENTIFICATION

To identify these cylinders, the new OPD hand wheel has been standardized to the shape shown.

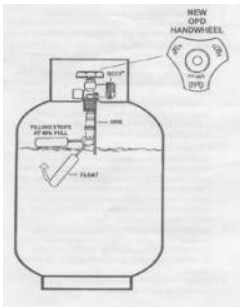

FIGURE 5-1. ODP EQUIPPED CYLINDER

6. HOSE & REGULATOR

The TINYJOHN is equipped with a ¼" **hose and regulator** with a QCC-1 Quick Closing Coupling. **If the propane source will be located more than 10ft away from the toilet, a bigger size propane hose may be required.**

1. The QCC coupling contains a magnetic Flow Limiting device that will limit the flow of gas if there should be a leak between the regulator and the appliance valve. This device will activate if the cylinder valve is opened while the appliance valves are open. Be sure the appliance valves are off before the cylinder valve is opened to prevent accidental activation.
2. The QCC coupling incorporates a heat sensitive hand wheel that will cause the back check module in the QCC cylinder valve to close when exposed to temperatures between 240 degrees and 300 degrees F. Should this occur, do not attempt tot reconnect the nut. Remove hose/regulator assembly and replace with a new one.
3. The pressure regulator is set at 11 inches WC (water column) and is for use with LP gas only. The hose and hose couplings comply with CGA Standard CAN1.83. No modifications or substitutions would be attempted.
4. Protect the hose from dripping grease, and do not allow hose to touch any hot surfaces.
5. Inspect seal in the QCC cylinder valve when replacing LP gas cylinder or once per year whichever is more frequent. Replace seal if there is any indication of cracks, creases, or abrasion.
6. Inspect hose before each use of the TINYJOHN. If the hose is cracked, cut, abraded or damaged in any way, the appliance must not be operated.
7. For repair or replacement of hose/regulator assembly, contact your dealer, gas supplier, or GII's service department.

CONNECTION

1. Be sure cylinder valve and appliance valves are "off".
2. Place full LP gas cylinder in a safe place nearby TINYJOHN.
3. Connect Propane hose with connection on the rear of the TINYJOHN. Tightened it with a wrench.
4. Center the nipple in the cylinder valve and hold in place. Using other hand, turn the hand wheel clockwise until there is a positive stop. Do not use tools. Hand tighten only. When making the connection, hold the regulator in a straight line with the cylinder valve, so as not to cross thread the connection.
5. Leak test connections. See "Leak Testing" below.

7. LEAK TESTING

All factory-made connections have been thoroughly tested for gas leaks. However, shipping and handling may have loosened a gas fitting.

AS A SAFETY PRECAUTION:

- **TEST ALL FITTINGS FOR LEAKS BEFORE USING YOUR TINYJOHN.**
- **TEST THE CYLINDER VALVE FOR LEAKS EACH TIME THE CYLINDER IS FILLED.**
- **TEST FOR LEAKS EVERY TIME YOU CONNECT A GAS FITTING.**
- **DO NOT SMOKE NEAR THE TOILET!**
- **NEVER TEST FOR LEAKS WITH A LIGHTED MATCH OR OPEN FLAME.**

HOW TO TEST FOR LEAKS:

1. Extinguish any open flame or cigarettes in the area.
2. Make sure that cylinder valve and appliance valves are "off".
3. Connect LP gas cylinder. See "Hose and Regulator".
4. Prepare a soap solution of one part water, one part liquid detergent.

5. With a full gas cylinder, open cylinder slowly.
6. Brush the soap solution on each connection.
7. A leak is identified by a flow of bubbles from the area of the leak.
8. If a leak is detected, close the gas cylinder “shut-off” valve, tighten the connection and retest (step 5).
9. If the leak persists, contact your ECOJOHN dealer for assistance. Do not attempt to operate appliance if a leak is present.

8. OPERATION

HOW THE TINYJOHN OPERATES

The first step before using the toilet is to add a bowl liner that comes with the toilet. One bowl liner must be used before each flush.

After the toilet has been used, close the lid and press one of the two flush buttons on the display panel (urine or waste). This will open the trap doors and drop any waste and bowl liner into the burn chamber. In order for the trap door to open, the toilet seat has to be closed. Thereafter, burner will ignite and incineration process automatically begins. At this time, the exhaust fan also starts up. If burner fails to ignite (i.e. out of Propane), the display panel will show an error code on the display panel.

The burner operates very quietly, one will only hear the small fan running. The toilet may be used during the incineration cycle. Once lid is open, the burner automatically shuts off its incineration process. It will automatically start up again once the toilet lid is closed. There is no “downtime” if several people use it in a row. However, if toilet has been used more than 6 times (urine flush) or 3 times (waste flush), it will reach Max Capacity, and the toilet should not be used until the toilet has burned through its burn cycles and a Green LED comes on and the display shows “READY”. A red LED and message will appear on the display panel (Max Capacity) to signal that it needs to burn a longer cycle and toilet shouldn’t be used.

For cleaning purposes, this model is equipped with a small water container (located under the toilet bowl). By pressing a rinse button, water will rinse the bowl. The bowl can be filled through a cap from the outside.

The difference between a short cycle (urine) and a longer cycle (waste) is the length of the burn. A *short burn cycle* will burn for approximately 30 minutes. A *waste burn cycle* operates in several short cycles, which takes about 1 hour before it is complete. Once the cycle is complete, a green LED will come on and the display panel will say “READY”

Should any bowl liner or paper get jammed in the trap door, one can manually open the trap door by pressing and hold urine button for 3 seconds (display will say maintenance). The doors will stay open until urine button has been pressed again. This function should only be used for maintenance.

In summary, after toilet has been used it is imperative to use a bowl liner, close lid and press one of two flush buttons after each usage. The incineration process is automatic and upon completion, display panel shows a green LED. When the burner is operating, an orange LED is on. If there is a problem with ignition, a red LED will come on and the display panel will show the error message.

Should overheating occur, or the gas supply fails to shut off, do not turn off or disconnect the power to the appliance. Instead, shut off the manual gas control to the appliance.

If TINYJOHN fails to operate, see troubleshooting or contact your dealer. If replacement parts are needed, contact your dealer.

9. CLEANING & MAINTENANCE

EXTERIOR CLEANING

Clean the surface area with a damp towel. Use mild cleaning detergent or non-abrasive detergent.

FIGURE 10-1. EXTERIOR VIEW

INTERIOR CLEANING

Push the rinse button after usage to clean the bowl – use a brush if necessary. Clean the toilet bowl periodically with a standard commercial toilet cleaner.

WARNING

- **Never use flammable cleaning detergent when cleaning TINYJOHN.**
- **REMOVAL OF ASH**
  The removal of ash should be done when refilling the Propane cylinder (5 gallon cylinder).
- **In order to avoid burns - wait at least 5 hours after the last burn cycle or before attempting to remove ash.**

CLEANING BURN CHAMBER

1. Remove burn chamber cover located in the front of the unit
2. Slide out the tray
3. Clean out the ash
4. When done, slide bowl back inside and connect the safety latch
5. Connect the burn chamber cover
5. The TINYJOHN is now ready to use again.

TINYJOHN DIMENSIONS & WEIGHT

Dimensions & Weight	Shipping Dimensions & Weight
23” L	26” L
14” W	17” W
22” H	25” H
55 lbs.	62 lbs.

10. LAYOUT

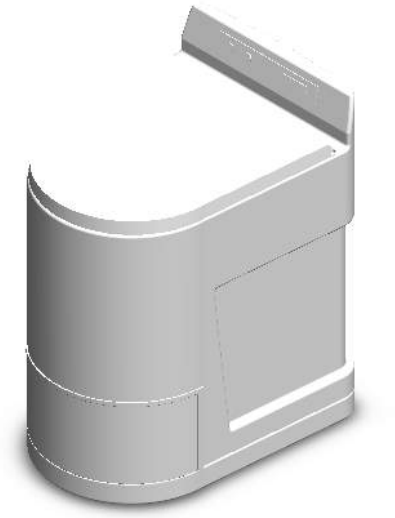

FIGURE 10-1. EXTERIOR VIEW

11. WARRANTY

One (1) Year Limited Warranty – Worldwide Warranty Coverage ECOJOHN® warranty obligations are limited to the terms set forth below:

LIMITED WARRANTY
Global Inventive Industries, Inc., hereby called GII, warrants its ECOJOHN® products to be free from significant defects in material and workmanship under normal use and service for a period of one (1) year from the date of purchase, by the original purchaser. THE OBLIGATIONS OF GII UNDER THIS WARRANTY are limited to the repair or replacement, at GII's option, of defective parts of the product which shall, within one (1) year from the date of purchase, be returned with proof of purchase to GII's factory, Fountain Valley, CA, TRANSPORTAION CHARGES PREPAID. When it is impractical to return the defective parts of such products to GII's factory, then GII shall be liable solely for supplying the material necessary to replace or repair the defective parts. WHILE GII WILL NOT CHARGE FOR LABOR IN CONNECTION WITH WARRANTY REPAIRS OF REPLACEMENTS MADE AT ITS FACTORY, GII AT ITS SOLE DISCRETION MAY CHARGE FOR LABOR AND EXPENSE INCURRED BY IT IN CONNECTION WITH WARRANTY REPAIRS MADE AT THE CUSTOMER'S PLANT OR LOCATION. In any event, GII reserves the right to determine whether or not a defect exists for which it is responsible under this warranty. A returned material authorization must be obtained from GII Customer Service prior to the return of any merchandise. This warranty is void if the product has been damaged by customer prior to acceptance or as a result of unreasonable use, neglect, alteration, improper service, improper installation or other causes not arising out of defects in material or workmanship or if any serial number on the product has been altered or defaced.

GII SHALL NOT BE RESPONSIBLE FOR LOSS OF USE OF PRODUCT OR OTHER INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES INCURRED BY PURCHASER INCLUDING BUT NOT LIMITED TO PERSONAL INJURY AND PROPERTY DAMAGE.

This warranty is in lieu of all other warranties express or implied, including without limitation, any implied warranties of merchantability or fitness for a particular purpose, and GII neither assumes nor authorizes any representative or any other persons to assume for it any other liability in connection with the sale of its products. GII makes no warranties, express or implied, with respect to parts, accessories, components or other goods not manufactured by GII.

CONTRACT WITH CUSTOMER
No terms and conditions of a customer's order at variance with GII's General Terms and Conditions and/or its invoice shall be binding upon GII unless specifically agreed to by GII in writing. In acknowledging any order, any and all terms and/or conditions of customer's order or correspondence contrary to those of GII are to be deemed waived by customer.

PATENTED PRODUCTS
Certain ECOJOHN® products and processes are patented (or are pending) under U.S. and foreign patents. Manufacturer, reproduction or practice of such products, or processes without prior written authorization from GII may result in liability for patent infringement.

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