

DieselSergeant™

Portable Refuelling Unit



“HELPING TO DEVELOP AND PROTECT THE LAND”

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Disclaimer

All information, illustrations, and specifications contained in this manual are based on the latest product information available at the time of this publication's printing. TransTank International (TTi) reserves the right to alter and substitute specifications and methods at any time, in line with our commitment to continuous improvement.

No patent liability is assumed with respect to the use of information contained within this manual. While every precaution has been taken in the preparation of this manual, TTi assumes no responsibility for errors or omissions.

Thank you for purchasing a DieselSergeant[™] Diesel Refueling Unit (DieselSergeant), which will provide many years of reliable service when operated and maintained in accordance with this manual.

TTi manufacture two DieselSergeant units, 220 and 400 litre tanks, supplied with an electric pump as standard and mounting frame options. This manual describes the operation, driving stability and maintenance procedures applicable to all units, noting additional requirements to options where necessary.

All TTi DieselSergeant tanks are rotationally moulded from quality polyethylene, purpose designed and manufactured to high standards, and complying with AS1940-2004 and AS2809.2-2008. The DieselSergeant is designed as a trailer or tray-mounted tank diesel fuel dispensing system, to deliver and refuel your equipment in the field.

The DieselSergeant unit is supplied complete, tested and ready to go. TTi recommends that only diesel be used in the DieselSergeant unit. TTi warrants that the DieselSergeant has been designed and built for its intended purpose for transporting and dispensing diesel fuel.

The owner is responsible to ensure that the equipment is operated in accordance with this manual, with Australian WorkSafe requirements, applicable road rules and local council regulations. TTi is not liable for any loss, injury or death resulting from the failure to observe all safe working regulations as required by law.

Included with your DieselSergeant unit is the following documents:

- Operator's Handbook (this manual, which includes the Warranty Registration Card)
- Dieselflo electric pump manufacturer's handbook
- Optional four-digit mechanical flow meter or 5-digit electronic flow meter manuals
- Tank Quality Check Form. This is your verification that the unit has been quality checked, and verifies the serial number affixed to the unit.

Safety

This manual is intended for use by personnel experienced in the use of this and similar equipment. Read and understand this manual before attempting to operate or perform routine maintenance on this equipment. Your safety is of prime priority.



A WARNING highlights an essential operating or maintenance procedure, practice, condition or statement, which, if not strictly observed, could result in injury or death of personnel, or long-term health hazards.



A CAUTION highlights an essential operating or maintenance procedure, practice, condition or statement, which, if not observed, could result in damage or destruction of equipment.



A NOTE highlights or clarifies an essential systems description, operating or maintenance procedure, condition or statement.

General Safety Instructions

1. This unit is designed and manufactured solely for the purpose of carrying and pumping diesel fuel for refueling duties. Under no circumstances should it be used for any other purpose. It must never be used for transporting petrol or chemicals.
2. Only authorised and trained personnel are to operate this equipment. Operators must have read and fully understood this manual before operating the DieselSergeant unit.
3. Do not operate this equipment while under the influence of alcohol or any drugs that could impair your capabilities in any way.
4. Personal Protection Equipment (PPE) must be worn when refuelling or operating the pump on the DieselSergeant. Exposure to excessive noise over an extended period can cause impairment or loss of hearing.
5. Avoid diesel contact with skin and eyes, and avoid breathing vapours or mists. Refer to the relevant Safety Data Sheet (SDS).
6. Any spillage of fuel while refilling the tank should be immediately cleaned up and the materials used in the clean-up disposed of safely and in accordance with relevant regulations applying to the safe use, storage and disposal of fuel.
7. Ensure the capacity of the vehicle is suitable for the loaded mass of the DieselSergeant. Refer to the vehicle's operator manual for safe working loads and relevant safety instructions. Do not exceed the carrying and braking capacity as specified by the vehicle manufacturer. As a guide, one litre of diesel weighs approximately 0.85 kilograms (kg), therefore a full 400 litre DieselSergeant with optional steel frame will weigh in excess of 500kg.
8. If equipped, the earth (static) lead must be unwound and attached to the vehicle's metal tray or suitably earthed object.
9. The DieselSergeant must never be left unattended while being filled with diesel.
10. Do not operate the pump when there is no diesel in the tank.
11. Do not disconnect any hoses or nozzles while the equipment is operating. Disconnecting any components while under pressure may result in uncontrolled diesel discharge which may be hazardous.
12. Care should be taken at all times, particularly when operating on rough or steep terrain. Drivers should be aware of fluid surge affecting the centre of gravity.
13. The DieselSergeant has safety labels affixed to various locations on the unit. These labels should be kept clean and legible, and replaced if damaged.



14. The tank is a confined space. Ensure compliance with AS 2865: 2001 Safe Working in a Confined Space Guidelines and relevant state legislation.
15. Any unauthorised modifications to this equipment may affect its function and create a serious safety risk. Any unauthorised modifications will void any warranty on the unit.

General Information

Specifications

Tank	Heavy duty UV resistant diesel grade polyethylene tank (220 and 400 litre capacities)
Standard features	250mm dia. lid and seal assembly
	Lockable filler cap with inlet filter
	Anti-static earth strap
	¾ inch drain bung
	Dieselflo 40L/min 12V electric pump (tank lid mounted)
Options	4m 19mm diesel hose with auto shut-off dispensing nozzle
	Fully welded and galvanised heavy duty steel frame
	4-digit mechanical flow meter
	5-digit electronic flow meter

Description

The TTI DieselSergeant is designed to carry and dispense diesel fuel using the self-contained pump and fuel dispensing hose and auto shut-off nozzle. The DieselSergeant has the following features, refer to Figure 1:



Figure 1 – Component Identification – 1,000 L DieselMajor

Tank

All TTI tanks are constructed from UV resistant, virgin material polyethylene. Due to the rotational moulding process, there may be a small variance in the overall dimensions of the tank, therefore, calibration markings should be used as a guide only.

An earth cable is fitted to the lid of the tank for connection to the vehicle's chassis or the optional steel frame. The lid of the DieselSergeant tanks incorporates an integral lockable filler cap with an inlet filter. Mounted to the top of the tank is a breather, to prevent damage to the tank structure when discharging diesel fuel.

Pump

The DieselSergeant is fitted with a Dieselflo 12V electric pump, delivering fuel at 40L/min. The pump has an integrated bypass valve, enabling the pump to run when the dispensing nozzle is not squeezed. The pump is mounted on the DieselSergeant tank's lid.

Hose and Nozzle

The DieselSergeant is supplied with a 4m 19mm diameter high quality diesel grade hose with crimped fittings as standard when supplied with a pump. The hose is fitted with an auto shut-off dispensing nozzle.

Flow Meter

As standard equipment, a mechanical 4-digit flow meter is mounted adjacent to the pump.

Pump Power Supply

Power to the 12V electric pump is supplied by the tow vehicle via integral 4m long cable and alligator clips.

Steel Frames

The 220 and 400 litre DieselSergeant tanks are available with optional skid frames, fully welded steel and hot-dip galvanised for long-lasting protection. The frames incorporate forklift pockets.

Machine Limitations

The DieselSergeant unit is subject to operating limitations. It is the operators' responsibility to ensure that this equipment is being operated safely and within these limitations.

Driving Stability

The DieselSergeant unit is heavy when filled with diesel. To maintain stability while operating this unit:

- Ensure the vehicle or trailer tyres are inflated to their correct pressure at all times. Underinflated tyres can cause excessive lateral motion of the tyre, which may cause a rollover.
- Allow extra room for braking and turning when the tank is full.
- Ensure any side gradient (slope) is accounted for, especially when the DieselSergeant tank is full, as the unit will have a higher centre of gravity.

Operating Instructions

Before first use

Your DieselSergeant Cartage Tank is delivered fully assembled. Before use, it needs to be set up using the following instructions:

- Complete the warranty registration online at www.tti.com.au/warranty-registration, or use the Warranty Registration Card at the back of this handbook.
- Store this handbook, along with the Tank Quality Check Form and pump unit's manual in the provided leather pouch, in a safe and easily accessible place for future reference.



NOTE! The operator must fully understand all aspects of this handbook. Do not operate the DieselSergeant if you are unfamiliar with its operation until you have read this handbook.

- Read and thoroughly understand this handbook, paying particular attention to all safety requirements, before using the DieselSergeant for the first time.
- Check that all fittings, hoses and electrical leads, where applicable, are secure following transit, and are not damaged in any way.
- Inspect the tank for any damage or abrasions.



CAUTION! The unit must be securely mounted to the vehicle. Failure to do so may result in the unit moving or falling off the moving vehicle. Warranty is conditional on the unit being correctly mounted.

- Position your DieselSergeant onto the vehicle and mount securely to the tray. If using tie-down straps, they must be rated to at least the total mass of the unit when filled with diesel. There are two tie-down recesses across the 400L tank, and one recess across the 220L unit. Alternatively, the tanks incorporate horizontal mounting holes on its base, to enable a bolt and bracket system to secure the unit to the vehicle.
- If the DieselSergeant is supplied with an optional steel frame, ensure the steel frame is securely mounted to the vehicle.
- Fill the DieselSergeant's tank with diesel, refer to the Filling the Tank procedure below.

Filling the Tank

The DieselSergeant tank is filled as follows:



CAUTION! The DieselSergeant unit is designed for diesel fuel use only. It must not be used for chemicals or petrol.



CAUTION! Ensure the filling area is in an open, well ventilated space. Ensure the static lead is properly connected to a metal earth point.

- Position the DieselSergeant near the diesel fuel supply point.
- If not permanently connected to the vehicle's chassis, uncoil the blue earth (static) lead and connect it to the vehicle's tray or an earthed object.
- Unscrew the filler cap from the tank's top opening, refer to Figure 2.
- Inspect the inlet filter for any sign of contaminants. If dirty, lift the filter out and clean it before reinserting it.
- Insert the diesel supply nozzle and commence filling the DieselSergeant tank.



CAUTION! To prevent overflow, do not leave the filling operation unattended.

- Observe the diesel level directly in the tank. When the tank is filled, close the diesel's supply nozzle and remove.
- Replace the DieselSergeant's filler cap.
- Disconnect, recoil and stow the blue earth lead (if not permanently connected).

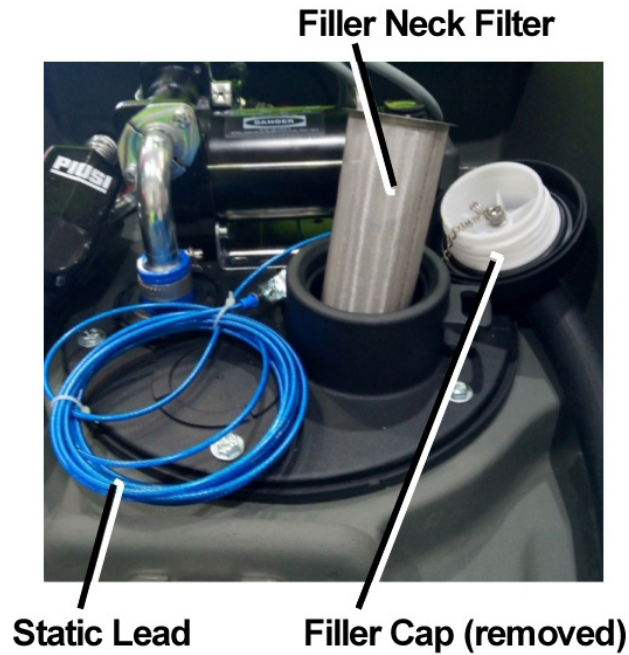


Figure 2 – Tank Filling Operation

Operation

The DieselSergeant is operated as follows, refer to Figure 3:



CAUTION! Ensure the filling area is in an open, well ventilated space. Ensure the static lead is properly connected to a metal earth point.

- Park the DieselSergeant's vehicle near the equipment to be refueled.
- Uncoil the blue earth (static) lead and connect it to the vehicle's tray or an earthed object.
- Remove the DieselSergeant's hose and nozzle from its stowed position, then insert the nozzle into the equipment's fuel tank.

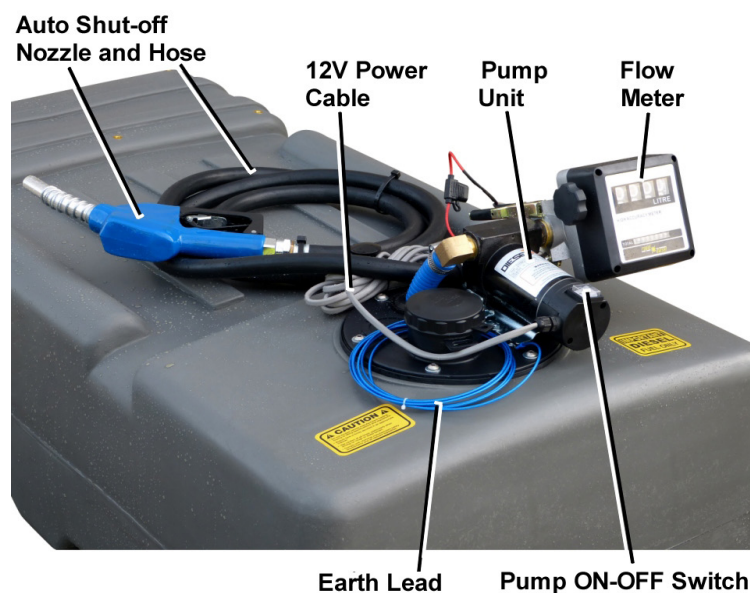


Figure 3 – Transfer Operation



CAUTION! Ensure the electrical cables are connected correctly. Always connect the negative power cable's alligator clip to the negative terminal first, followed by the positive.

- Uncoil and connect the pump's electrical cable's alligator clips to the power supply, ensuring each clip is connected to the correct terminal – black clip to NEGATIVE, red clip to POSITIVE, refer to Figure 4.
- At the rear of the pump, press the control switch to ON. The pump will start operating, with the diesel bypassing back into the DieselSergeant's tank.



CAUTION! Do not allow the pump to run in bypass mode for more than two (2) minutes.

- At the dispensing nozzle, squeeze the supply trigger. The nozzle will shut off automatically when the equipment's tank is full.



CAUTION! The pump has a maximum duty cycle of 30 minutes of continuous operation. After 30 minutes, turn the pump to OFF for at least 30 minutes before next use.

- After completing the filling operation or 30 minutes of continuous use (whichever comes first), press the pump's control switch to OFF.
- Withdraw the filling nozzle and coil the hose, taking care to prevent kinks or tangles and return it to its stowage location.



NOTE! Always disconnect the positive power cable's alligator clip from the power supply first, followed by the negative.

- Unclip the pump's electrical cable from the power supply and stow the cable.
- Disconnect, recoil and stow the blue earth lead (if not premanently connected).

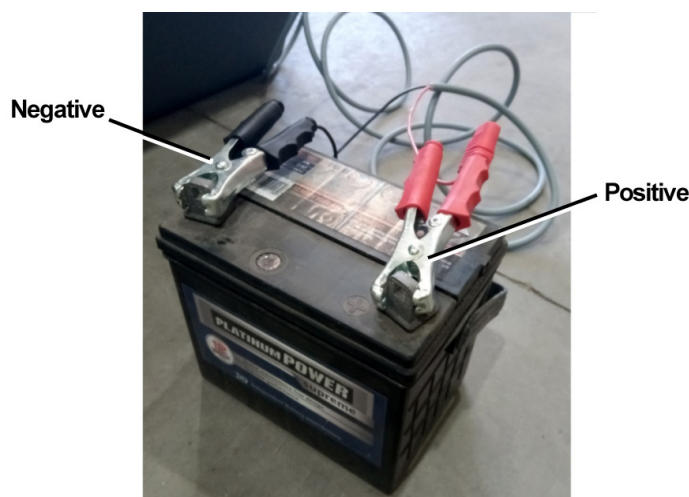


Figure 4 – Battery Connection – Electric Pump

Risk Assessment

Task	Hazard	Risk	Control Measure/Mitigation
Partially fill the tank with diesel, connect the 12V cable to the power supply (electric pump option), start the pump (electric or petrol options) and test the unit	Manual handling; slips, trips or falls; petrol; diesel fumes; fingers jammed	Medium	Concentrate on task; follow safe manual handling techniques: <ul style="list-style-type: none"> • Don't lift on your own if > 20kg, bend knees & keep back straight; Keep fingers clear; • Keep unit at least 8m away from overhead powerlines; • Fire extinguisher nearby; • Follow warning stickers on tanks; Wear PPE for petrol & diesel fumes-mask & gloves; • Tank mounting to comply with relevant codes and transport authority requirements.
Check weather conditions, select appropriate PPE for refueling operations	Manual handling; slips, trips or falls; petrol; diesel fumes	Low	<ul style="list-style-type: none"> • Wear PPE for petrol & diesel fumes • Follow safe manual handling techniques: don't lift on your own if >20kg, bend knees & keep back straight.
Fill diesel tank	As above; diesel fume drift, diesel spillage, emission of vapours or flammability; weather; untrained visitors; tank used for non-diesel products	High	As above <ul style="list-style-type: none"> • User trained in accordance with relevant requirements • Wear hearing protection if noise >85 dBA; • Follow the relevant Environment Protection Authority requirements; • Fire extinguisher present – CO2 or powder; • Keep visitors away from the job unless wearing full PPE; • Check load secure; "DIESEL ONLY" sticker on • Don't overload - diesel weighs 0.85kg for every 1 litre • Keep hose tidy
Transportation and use of unit	As above; loss of load; noise; exceed load limit of vehicle; hose entanglement; exhaust fumes; terrain & slopes	High	As above; <ul style="list-style-type: none"> • Wear hearing protection if noise > 85 dBA; • Follow the manufacturer's safe operation instruction for the vehicle and 12 volt transfer from vehicle to unit; • Don't overload – diesel weighs 0.85kg for every 1 litre; • Secure unit to vehicle; • Check earth strap; • Hoses tidy.
Clean up, maintenance & storage	As above	Low	As above; <ul style="list-style-type: none"> • Wear PPE for clean up; • follow state legislation & AS 2865: 2001 Safe Working in a Confined Space Guidelines; • Store unit in a dry, well ventilated area.

Maintenance

Your DieselSergeant Refueling Unit requires minimal maintenance but regular cleaning and checks will ensure safe and reliable service over its lifetime. Periodic checks and inspections will identify any potential issues, enabling timely rectification and minimising downtime.

Periodic Checks



CAUTION! In dusty, dirty or smoky environments, cleaning, inspection and servicing of the unit on a regular basis is essential. The cleaning, inspection and servicing must be undertaken more frequently in harsh conditions to avoid damage or destruction of equipment.

The following checks and cleaning operations should be undertaken on a regular basis. The frequency of these activities will depend on the nature of the operating environment and the operational hours of the DieselSergeant unit. Refer to the maintenance schedule tables below for details of maintenance intervals.

- Clean the unit and inspect it for any signs of damage or wear. Replace any safety labels if they are damaged or illegible.
- Check all hoses, fasteners and fittings are firmly secured, tighten if necessary.
- Unwind the hose from the optionally fitted hose reel fully to check that hose is in good order. Pressurise the line and check operation of the dispensing nozzle, including auto shut-off function. Rewind the hose onto the reel, ensuring it retracts all the way.
- Check the condition of the electrical pump's 12V cable and connectors.
- If the DieselSergeant is to be stored for an extended period, ensure the tank and all pipelines are empty and are not pressurised. Store the unit in a clean, dry and well-ventilated area.

Maintenance Schedule

The following tasks are to be conducted in accordance with each of the schedules. All scheduled tasks are to be undertaken concurrently. For example, at the three month maintenance interval, all tasks listed are to be undertaken, in addition to the daily, weekly and monthly tasks.



NOTE! Maintenance is important. Keep a record of all maintenance tasks conducted on the DieselSergeant unit.

TTi recommends photocopying these schedules in order to keep a detailed log of all maintenance tasks. A copy of these schedules will be required to support any warranty claim.

Daily Tasks

The following tasks are to be undertaken daily, or prior to each use, of the DieselSergeant unit.

No.	Task	Notes
1	Inspect the DieselSergeant for any signs of damage or wear	Clean, repair or replace
2	Inspect electric pump's cable and connectors	Repair or replace

Weekly Tasks

The following tasks are to be undertaken each week or 10 operating hours, whichever occurs first.

No.	Task	Date	Signed
1	All Daily tasks		

Monthly Tasks

The following tasks are to be undertaken each month or 20 operating hours, whichever occurs first.

No.	Task	Date	Signed
1	All Daily and Weekly tasks		
2	Check for damaged electrical cable on electric pump		
3	Check hose by unwinding fully		
4	Check security of mounting system		

Three Monthly Tasks

The following tasks are to be undertaken every three months or 50 operating hours, whichever occurs first.

No.	Task	Date	Signed
1	All Daily, Weekly and Monthly tasks		
2	Check all hoses, fasteners, nozzles and fittings		

Six Monthly Tasks

The following tasks are to be undertaken every six months or 100 operating hours, whichever occurs first.

No.	Task	Date	Signed
1	All Daily, Weekly, Monthly and 3-Monthly tasks		

Twelve Monthly tasks

The following tasks are to be undertaken every twelve months or 200 operating hours, whichever occurs first.

No.	Task	Date	Signed
1	All Daily, Weekly, Monthly, 3-Monthly & 6-Monthly tasks		
2	Drain tank and flush		

Two-Yearly tasks

The following tasks are to be undertaken every 24 months or 500 operating hours, whichever occurs first.

No.	Task	Date	Signed
1	All Daily, Weekly, Monthly, 3-Monthly, 6-Monthly and 12-Monthly tasks		

Trouble Shooting

If a fault develops with the DieselSergeant, the following trouble shooting table provides guidance to identify and rectify the problem.

Problem	Possible cause	Remedy
Motor does not run	No electrical power to pump	Ensure correct connection to battery or power supply.
		Check for blown fuse
		Check fuse holder for loose connection
Motor runs slowly with low fuel flow	Low voltage supply	Test power supply and ensure adequate voltage
Motor runs, but no fuel delivery	Tank level too Low	Add fuel to tank
	Clogged suction line	Clean suction line and filters
	Filter air leak in suction line	Check all joints for leaks
Pump makes a squealing or scratching sound while running	Dirt or debris in pump chamber	Clean impeller and vanes.

Warranty

Your rights under the law

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law.

You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

About this document

This document sets out the terms of the defects warranty that we offer to retail purchasers of our goods, including components, parts, and accessories (referred to as “products” in this document). We offer this defects warranty in addition to the consumer guarantees referred to above. Nothing in this document excludes or reduces your rights under those consumer guarantees.

What this warranty covers

This warranty covers defects in materials or workmanship (or both) which are found to be present in our products, other than the defects in the parts and components listed below.

What this warranty does not cover

This warranty does not cover defects or damage caused by your negligence, your failure to follow instructions (including incorrect assembly or mounting by you), or the improper use, maintenance, or abuse of the products.

This warranty does not cover engines, gearboxes, pumps, or regulators. These come with separate warranties from their manufacturers. By offering this defects warranty, we do not assume any additional obligations or liability on behalf of those manufacturers beyond what we must do to comply with the consumer guarantees referred to above.

How long this warranty lasts for

Except in the case of products used for rental purposes, the period of our defects warranty is as follows for our various products:

Tanks (non-diesel), excluding frames	25 Years
Steel frames	5 Years
Other T Ti Manufactured Components	1 Year

This warranty lasts for one year from the date of your retail purchase of the products, unless it is used for rental purposes, in which case this warranty is limited to 90 days.

What we will do if you make a claim under this warranty

If you make a claim under this warranty, we will consider it in good faith. If we agree that the products are covered by this warranty and are defective, we will either (at our option) repair or replace them without charge to you.

What you must do (and not do) to entitle you to a claim under this warranty

You must be able to provide proof of purchase, either by providing details of your warranty registration or a purchase receipt.

You must not repair or modify (or allow the repair or modification of) the products without prior authorisation from us. Further, you must not use any non-genuine parts with the products. Doing any of these things will void this defects warranty.

How to make a claim under this warranty

If you believe that you have a claim under this warranty, please contact your reseller, or contact us using the following details:

Name:	Trans Tank International
Postal Address:	PO Box 137 Nathalia, VIC, 3683
Physical Address:	Murray Valley Highway, Nathalia, VIC, 3638
Phone:	1800 816 277
Email:	ProductSupport@tti.com.au

You must make the defective products available for inspection by returning them to us, and (if requested to do so) by making them available for inspection by us on site beforehand. You must ensure that the products are made safe for transportation and inspection, including by cleaning them thoroughly to remove any chemical residues. All returned products must be accompanied by a completed Return Goods Note. Please contact us using the details displayed above for a copy of this document.

Who is responsible for expenses for claims made under this warranty

You are responsible for any expenses associated with the warranty claim, including transportation, charges made for service calls, and clean-up time.



TransTank[®]
INTERNATIONAL



SCAN HERE!

1800 816 277

sales@tti.com.au

PO Box 137, Nathalia, VIC, 3638

Murray Valley Hwy, Nathalia, VIC 3638

Proudly Built By:

Signature

Date

Quality Checked By:

Signature

Date

www.tti.com.au