Queensland Government

TREATMENT PLANT APPROVAL 13/2025

Plumbing and Drainage Regulation 2019, part 4.

Approval

- 1. The A and A Worm Farm Waste System PT 1500 (the system), as detailed in the Schedule, is manufactured and supplied by A and A Worm Farm Waste Systems Pty Ltd (ABN 16 084 822 622) ("the manufacturer"), has been assessed in accordance with:
 - (a) section 19 of the *Plumbing and Drainage Regulation 2019*, and
 - (b) the Queensland Plumbing and Wastewater Code, published on 26 April 2024.
- 2. A Treatment Plant Approval (TPA) is issued for **Secondary-quality** wastewater treatment for the system, subject to the manufacturer's compliance with the Plumbing and Drainage Act 2018 and the conditions of approval outlined below.
- 3. This approval, together with its conditions and the attached Schedule, constitutes the complete TPA document.
- 4. Any modification to the design, drawings or specifications listed in this approval must be approved by the Chief Executive.

Conditions of approval

- 5. The manufacture, installation, operation, service, and maintenance of the system must conform with the conditions of this TPA.
- 6. The system, when tested by a certification accreditation body in accordance with AS1546.3:2017, was found to comply with the **Secondary quality**, 10 EP/1500 L/day level. The system must continue to meet the following effluent criteria:

Table 2.1 (Abrev) AS1546.3:2017 Secondary effluent compliance criteria for an STS

Parameter	Secondary effluent		
	90% of Samples	Maximum	
BOD⁵	≤ 20 mg/L	30 mg/L	
TSS	≤ 30 mg/L	45 mg/L	
E. coli*	≤ 10 cfu/100 mL	30 cfu/100 mL	
FAC⁵	Minimum 0.5 mg/L [†]	N/A	
Turbidity §	N/A	N/A	

^{*} Where disinfection is required

- § Where UV light is used for disinfection
- 7. Each system must be serviced in accordance with the Certificate of Conformance, certificate number 7368-4209-01, issued by Global Certification Pty Ltd on 6 June 2025 and details supplied in the owner's operation and maintenance manual.
- 8. Each system must be supplied with
 - a. a copy of this TPA document
 - b. details of the system
 - c. instructions for authorised persons for its installation
 - d. a copy of the owner's manual to be given to the owner at the time of installation



[▶] Where chlorine disinfection is required

[†] Minimum level, not 90% of samples



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- e. detailed instructions for authorised service personal for its operation and maintenance.
- 9. At each anniversary of the TPA date, the supplier must submit to the Chief Executive a list of all systems installed in Queensland during the previous 12 months. Where the Chief Executive is notified of any system failures the Chief Executive may randomly select several installed systems for audit. The Chief Executive will notify the supplier's nominated NATA accredited laboratory which systems are to be audited for BOD⁵ and TSS. The sampling and testing of the selected systems, if required, is to be done at the supplier's expense. The following results must be reported to the Chief Executive:
 - a. Address of premises
 - b. Date inspected and sampled
 - c. Sample identification number
 - d. BOD5 for influent and effluent
 - e. TSS for influent and effluent.
- 10. The Chief Executive may, by written notice, cancel this TPA if the manufacturer/supplier fails
 - a. to comply with one or more of the conditions of approval, or
 - b. within 30 days, to remedy a breach, for which a written notice been given by the Chief Executive.
- 11. This approval may only be assigned with the prior written consent of the Chief Executive.
- 12. This approval expires on **1 July 2030** unless cancelled earlier in accordance with paragraph 10 above.

Michael Essery

Treatment Plant Approval

Approved by: Michael Essery Delegated Authority

Department of Housing & Public Works



Director

Strategic Policy (Plumbing, Drainage and Special Projects)
Date approved: 1 July 2025

Level 15, 53 Albert Street Brisbane GPO Box 2457, Brisbane Qld 4001 **Website** www.hpw.qld.qov.au

ABN 61 331 950 314





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SCHEDULE

A and A Worm Farm Waste System PT 1500

Attachment 1 - Global Certification Certificate 7368-4209-01

Attachment 2 – A and A Worm Farm Waste System PT 1500 Owner's manual Attachment 3 – A and A Worm Farm Waste System PT 1500 Schematic diagram





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Attachment 1 - Global Certification Certificate 7368-4209-01



A and A Worm Farm Waste Systems Pty Ltd

Head Office: 1/10 Trewhitt Court, Dromana, VIC 3936, Australia

Product Performance Testing

AS 1546.3:2017

Secondary Quality Effluent at 1,500 L/day (10EP level) with a Nitrogen reduction of 51.76% (soil), Nitrogen reduction of 14.38% (tank), Phosphorus reduction of 77.33% (soil) and Phosphorus reduction 9.51% (tank).

Model	Disinfection	Average Results over the Test Period	Servicing Frequency	Discharge	Manufactured and assembled
A and A Worm Farm Waste System	No	TSS (soil) 15.02 mg/L TSS (tank) 62.53 mg/L BOD5 (soil) 14.90 mg/L BOD5 (tank) 53.65 mg/L TN (soil) 31.84 mg/L TN (tank) 56.50 mg/L TP (soil) 2.24 mg/L TP (tank) 8.84 mg/L	Every 2-5 years	Pumped via internal pump.	Manufactured by Everhard / Rein Assembled: 1/10 Trewhitt Court, Dromana, VIC 3936, Australia

The system took 1 week to achieve Secondary Level.

Worms and compost were added during the test period.

The system can only be installed below ground for sub-surface, 230mm trench arch only.

This Certificate of Conformance to the Product Certificate Scheme for "Domestic Wastewater Treatment Units and Rainwater Tanks (DWTRT)" remains the property of Global Certification Pty. Ltd. and is granted subject to the terms and conditions of the Contract Application, in respect of the Product certified on this page and the attached schedule to the Certification of Conformance, bearing the same number as this certificate.

Evan Miller - General Manager

CERTIFICATION DATE:

DATE OF ISSUE:

EXPIRY DATE:

6 June 2030

CERTIFICATE #:

6 June 2025

6 June 2025

6 June 203

7368-4209-01



Global Certification Pty Ltd
1C, 60 Enterprise Place, Tingalpa, QLD 4173, Australia
1300 495 855 | www.globalcertification.com.au

Global Certification Pty Ltd is accredited by The Joint Accreditation System of Australia and New Zealand (www.jas-anz.org/register) - accreditation number: 24480410A





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Attachment 2 - A and A Worm Farm Waste System PT 1500 Owner's manual



Owner's Manual

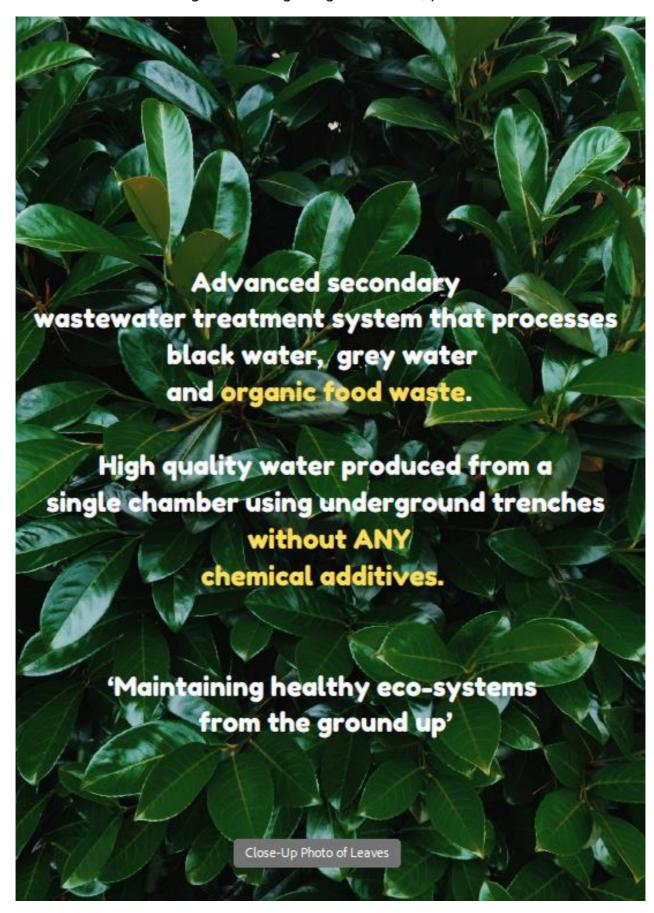
A&A Worm Farm Waste System

www.wormfarm.com.au





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System Model: PT 1500L

Installation Date:

System Number:

Owner:

Installation Address:

Contact:

Phone: (03) 5979 1887

Email: enquiries@wormfarm.com.au Website: www.wormfarm.com.au

Manual Index

- About us
- Why the frog?
- How the system works
- · Items suitable for flushing and composting
- Items to avoid when flushing and composting Customer Responsibility
- Help and troubleshooting
- Warranty







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About us

Welcome to Worm Farm Waste Systems Pty Ltd, an Australian family owned company founded by Alan Duke in 1996. We manufacture, install and service from our factory in Dromana, Victoria.

The A&A Worm Farm Waste System is very unique in the industry as it's the only Secondary Advanced Wastewater Treatment System with Nutrient Reduction accredited to Standards Australia 1546.3:2017 that doesn't require additional chemical treatment and ongoing maintenance service contracts.

The system is very simple, doesn't smell and is naturally aerated through a tall vent pipe. This passive aeration reduces power costs and the system can remain dormant for 18 months if unused. The worms will form eggs and 'hibernate' until the conditions are suitable again.

This system uses the latest worm technology and stands by it's claim to be sustainable and good for the environment.

We have an extensive list of completed commercial projects where the system has been scaled up to meet client needs. Our largest system processes 5 tonnes of horse manure daily.

Please visit the website for more information www.wormfarm.com.au

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Why the Frog

Our company logo is the frog.

Frogs cannot survive in toxic environments and are very sensitive to environmental changes. Frogs need fresh water to live and breed. Frogs drink water through their skin and as such due to the widespread chemical usage and habitat destruction they are now considered an endangered species.

It is very common to find varieties of frogs, including the Australian Green Tree Frog living in the effluent pump shute of an A&A Worm Farm Waste System.

Proof that our system is good for the environment and everyone who lives there.







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How your system works.

A&A Worm Farm Waste System is the only Aerated Wastewater Treatment System (AWTS) that processes black and grey water from your toilets, sinks dishwasher and washing machine along with food waste in one chamber.

All household wastewater enters from the house with gravity and food waste can be dropped in via the child proof compost bin.

The system works by using naturally occurring organisms found on a rain forest floor. These include worms (added at installation) and slaters, slugs and snails from the local area.

The organisms process the waste solids that land on the strong filter bed at the bottom of the tank and the liquid that is strained through is pumped out into dispersal trenching. Only 100mm depth of liquid is stored under the filter bed. The vent pipe maintains a natural airflow to this liquid preventing it from becoming anaerobic or smelly.

There isn't a need to remove scum or sludge as the worms do all the heavy lifting. The worms eat 50%-100% of their own body weight per day. The grinding and tumbling action within the worm gut reduces sludge and scum exposing particles to a range of enzymes and host aerobic bacteria. The worms have a probiotic effect in the process. After digestion and excretion, these particles continue to be exposed to the aerobic environment in the suspended filter bed ready to be washed down and pumped out into the trenches.

These particles of worm castings and worm eggs are readily taken up in the trenches opening up the soils by 100 mm vertically and 50mm horizontally per year.

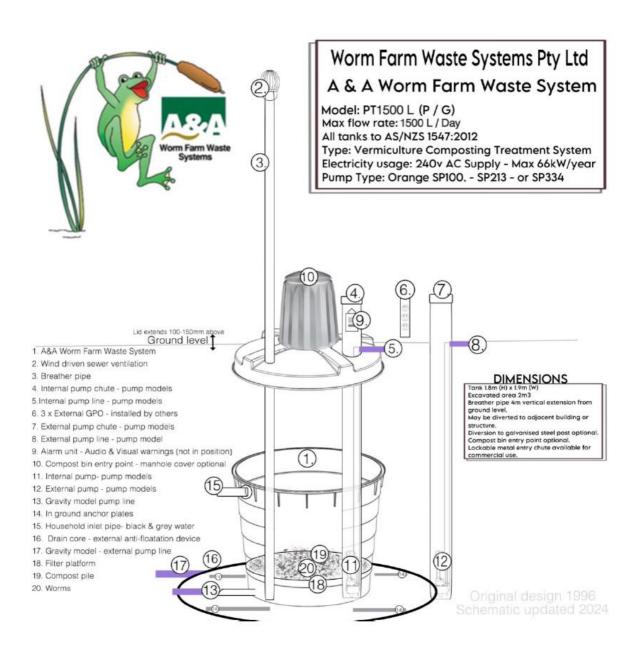
The system uses a simple natural process that is 20 times faster than a traditional septic tank and doesn't require the use of additional disinfectant chemicals and multiple chambers like other AWTS.

Approved by: Michael Essery
Delegated Authority
Department of Housing & Public Works

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Items suitable for flushing or composting

A common sense approach to organic food waste disposal is the best method when deciding what is appropriate and inappropriate for the Worm Farm Waste System. The system will still work without composting but organic food waste will promote worm health and reduce the time solids are broken down.

- · Citrus.
- · Dairy.
- Dead Flowers.
- Weeds Soft weeds like dock, thistles, ragwort and agapanthus flower heads. Shake off excess dirt.
- Slugs, snails and other natural organic material eating bugs can be placed in the system.
- · Kitchen food waste.
- All meats fresh and cooked including seafood, beef, chicken, pork etc but no bones or shell
- · Household pet manure (not cat litter)
- · Household cleaning chemicals, dishwashing detergent and laundry liquid.
- · Personal medicines

It is essential that you do not load material into the system higher than the inlet pipe to allow sufficient space for the black and grey water from your building to enter the tank and penetrate to the filter.



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Items to avoid when flushing or composting

- Woody seeds, woody garden waste, sticks.
- · Shells, bones, cartilage, hoofs
- Ants
- · Lawn clippings this can form a dense mat.
- · Aluminum foil containers.
- Building materials such as plaster board, timber off-cuts, nails, screenings, concrete, tiles, carpet, steel or stainless steel, soil, sand, etc.
- Cat litter this material will block the filter even if it is marketed as biodegradable.
- · Cans including aluminum or metal.
- Disposable nappies and feminine products
- Fruit & soft drink containers with plastic lining.
- Glass including bottles, dishes, drinking glasses, mirrors, trays, serving platters, etc.
- · Milk cartons with plastic lining.
- · Motor oil, grease, and excessive cooking fats.
- Newspapers, magazines & cardboard products.
- · Paint & non-organic chemicals.
- Plastic including drink bottles, plastic wrap, plastic bags, window face envelopes, CD's, DVD's, containers, plastic twine, plastic tape, etc.
- · Stainless steel.
- Steel.
- · Tetra packs and cardboard
- Toilet paper made with cotton or bamboo fibres such as 'Quilton', 'Who gives a Crap' or Aldi's 'Confidence'.
- · Wet wipes (even if branded flushable).

Be aware some nappies, plastic bags, plastic wrap are labelled biodegradable.

Our experience has shown these are not suitable for the Worm Farm Waste System as they need sunlight to breakdown.



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Customer Responsibilities

Please follow the items recommended and items to avoid when flushing and composting. Please have the manual available to tenants so they have the information to care for the system responsibly.

On a regular basis, a check should be made on the following:

- Wind Turbine is spinning freely. Spiders may build webs in the vent and spraying water on the turbine will break their hold.
- Worm activity should be checked by observing the pile size variations from previous inspections.
- Ensure there is no soil subsidence around the tank. If subsidence occurs, replace soild to create a shallow mound over the tank/ Soil must not exceed

100-150mm in depth over the tank.

- If the trenches are gravity fed, check that the liquid is flowing from the base to the distribution pit.
- · Livestock must be fenced away from the trench lines.
- The external pump shute should be checked regularly that the water level is low and the pump is working.

If you are unsure of anything, please contact the office for clarification.

Phone: (03) 59791887

Email: enquiries@wormfarm.com.au





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Servicing your system.

We have dedicated service technicians available if you require help.

Unlike other systems, we don't ask you sign a formal service contract which you are bound to as part of your warranty. We recommend a service within the first year to check that everything is running as it should and then every 2-5 years after that. Cost of service (March 2025) \$330 Inc GST

The following system components are checked at the time of service:

- Worm Activity is present and inputs via composting and flushing are suitable.
- The pump(s), float switches and alarm(s) are working correctly.
- The system is fly and vermin proof.
- Mains power is connected and free of weeds and long grass.
- · The effluent dispersal area is working as designed.
- Pits, inline filters and other external components are accessible and functioning.
- General area is kept clean, clear of obstructions and excess ground water.

Pump and Alarm System

External power points must be fitted by a qualified electrician and must have a weather proof cover.

All electrical plugs must be connected to the external power points and switched on at all times. We use Orange pumps within the worm farm chamber and around the base of the tank in two pump chutes.

Internal pump

The internal pump is connected to an alarm which will sound if the pump stops working and the fluid level rises. The alarm can be silenced by pressing the mute button. Please call (03) 59791887

External pump

As the tank stores only a small amount of effluent fluid at any one time, ground water needs to be kept away from the outside of the tank to prevent it floating up. Ground water is removed by the external pump, or gravity if applicable, via agi drain that sits around the base of the tank in the second pump chute.

Power to the external pump should be connected immediately after installation to maintain the warranty. Orange Pump Agents can provide 'worm farm' pumps.

Alarm System

An alarm system is fitted to indicate that the pump is not working or the chamber is flooding. Depending on the system's use there is 3-4 days of liquid capacity in the systems when the alarm sounds. You can silence the alarm by pressing the mute button. The alarm should be connected to mains power with the plug supplied. If the alarm sounds call 03 59791887 for information.





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Tank and Transpiration Area

Stormwater or any other runoff should be redirected away from the tank and the trenches. A diversion drain or cutoff should be installed where necessary to ensure no runoff enters around the tank or inlet pipes.

Fresh rainwater tank over flowers and strainers should be placed so as no overflow is directed around the worm farm and trench area.

Tree roots and other deep rooted plants should kept away from the area. Lawn and shallow rooted plants are suitable over the trench area.







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Warranty

Every A&A Worm Farm system is covered by a full manufacturer's warranty.

- 10 years on Poly or Concrete Tanks
- · 6 years on Trenches.
- · Manufacturer's warranty on pumps, floats, sewer vent and alarms.

This warranty doesn't cover damage caused by misuse, neglect, accident heavy traffic, misdirected groundwater, root entry, use of incorrect power supply or repair by unauthorised personnel.

To ensure this warranty is valid, please maintain the following:

- · Constant power connection.
- Do not allow surface water to enter the system with natural landfalls or altered landscaping.
- · Follow the owner's responsibilities as described in this manual.
- · Ensure there is only up to 200mm of soil on top of the tank.

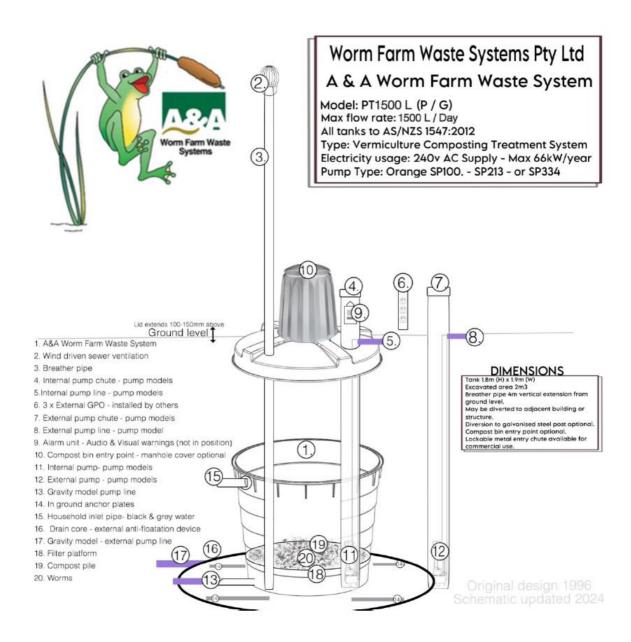






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Attachment 3 – A and A Worm Farm Waste System PT 1500 Schematic diagram





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Electrical Warnings / Advertencias Eléctricas/ Avertissements Électriques

Failure to follow these precautions could result in serious injury or death. Replace the float switch immediately if cable becomes damaged or severed. Keep these instructions with warranty after installation. This product must be installed in accordance with National Electric Code. ANSI/NEPA 70 so as to prevent moisture from entering or accumulating within baxes, conduit bodies, fittings, float housing or cable.



Disconnect power before installing or servicin this product. A qualified service person must install and service this product according to applicable electrical and plumbing codes.



A WARNING EXPLOSION OR FIRE HAZARD Do not use this product with flamm iquids. Do not install in hazardous

No obedecer estas precauciones podría resultar en lesiones serias o mortales. Reemplace el interruptor de flotador de inmediato si el cable está dañado o partido. Después de la instalación, guardar estas instrucciones junto con la garantía. Este producto debe ser instalado siguiendo el Código Eléctrico Nacional de EEUU, ANSVNEPA 70, para evitar la entrada o acumulación de humedad en cajas de conexión, conductos, acoples, la caja del indicador de nivel (flotador) o el cable.



RIESGO DE CHOQUE ELÉCTRICO



cional de Estados Unidos, ANSVNFPA 70.

Ignorer ces précautions, et ne pas les suivre attentivement peut résulter en blessures graves, voire mortelles. Remplacer immédiatement le flotteur si le câble est endommagé ou coupé. Une fois le produit installé, conserver ces instructions avec la garantie. Ce produit doit être installé conformément aux codes électriques des États-Unis (NEC), ANSÍ NFPA 70 de sorte à empêcher l'humidité de s'infiltrer ou de s'accumuler dans les boitiers, conduits électriques, raccords, à l'intérieur du flotteur, ou du câble,



RISQUE DE CHOC ÉLECTRIQUE Débrancher l'alimentation avant d'installer ou d'entretenir ce produit. Seuie une personne qualifiée est habilitée à installer et entretenir ce produit selon les codes électriques et de plomberle en vilgueur.



Float Switch

Supply Voltage

alimentación del

interruptor de

d'alimentation

de l'internunteur

á flotteur :

Boîtier

flotador:

Tension

PISQUE D'INCENDIE OU D'EXPLOSION oe d'incendie du d'explosion as utiliser ce produit avec des liquides nmables. Ne pas installer ce produit des sites dangereux tels que définis e code électrique des États-Unis (NEC),

Items Needed / Elementos Necesarios / Éléments Nécessaires

Included with Alarm Specifications Incluido con Alarma / Inclus avec Alarme Especificaciones / Spécifications



Primary Power Circuit not supervised 120 VAC, 50/60 Hz. Alimentación primaria: . Alimentation primaire :

7 watts max Circuito no supervisado 120 VAC, 50/60 Hz, máximo 7 watts Le circuit n'est pas supervisé 120 VAC, 50/60 Hz. Watts max

20 VAC. Maximum line

mpedance for initiating

naximale du circuit pour la

impedancia para dispositivo de iniciación: 100 ohmios

onde d'entrée (l'interrupteur)

levice: 100 ohms.

100 Ohms

120VAC L'impédance

20VAC, Línea MAX de

Included with Optional Float Switch Incluidos con el interruptor de flotador opciona Inclus avec interrupteur á flotteur en option



Not Included No incluidos / Non inclus



Treatment Plant Approva pproved by: Michael Essery elegated Authority Department of Housing & Public Works

Indoor/Outdoor Enclosure Interior/Exterior Intérieur/Extérieure

SIE RHOMBUS® FIVE-YEAR LIMITED WARRANTY

Five-Year Limited Warranty.

For complete terms and conditions, please visit www.sjerhombus.com.

GARANTÍA LIMITADA DE CINCO AÑOS DE SJE RHOMBUS®

Cinco años de garantía limitada. Para consultar los términos y condiciones, visite el portal www.sierhombus.com.

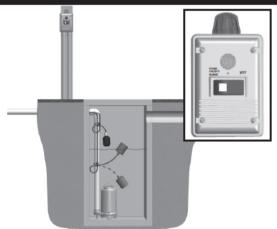
GARANTIE LIMITÉE DE CINQ ANS SIE RHOMBUS®

Garantie limitée de 5 ans. Pour en savoir plus au suiet des termes et conditions, visitez www.sjerhombus.com.



TANK ALERT® XT Alarm / Alarma / Alarme

Installation Instructions / Instrucciones de instalación / Instructions d'installation



This alarm system monitors liquid levels in lift pump chambers, sump pump basins, holding tanks, sewage, agricultural, and other water applications

The Tank Alert* XT indoor/ outdoor alarm can serve as a high or low level alarm depending on the float switch model used. The alarm horn sounds and the red beacon illuminates when a potentially threatening liquid level condition occurs. A "power on" light on the switch indicates power to the alarm panel.

The standard Tank Alert XT indoor/outdoor alarm system. has automatic alarm reset horn silence, and alarm test switch

agrícolas y otras aplicaciones applications de l'eau. de agua.

("power on") en el interruptor vers le panneau d'alarme. indica que hay alimentación Le modèle de base Tank Alert

al panel de la alarma. interior/exterior) viene con pour tester l'alarme, d'une restablecimiento automático fonction sourdine, et d'un silencio de la bocina y prueba l'alarme.

Français

Este sistema de alarma Ce système d'alarme surveille monitorea los niveles de les niveaux de liquides dans líquido en la cámara de les chambres de pompage bombas de elevación y d'élévation, les bassins de bombas de sumidero, en pompes de puisard, septiques, tanques, aguas residuales, eaux usées, agricoles et autres

L'alarme intérieur/extérieur La alarma interior y exterior TANK ALERT* XT peut servir TANKALERT*XT puede servir comme une alarme de niveau como alarma de nivel alto o haut ou has selon le modèle bajo dependiendo del modelo de commutateur de flotteur de interruptor de flotador utilisé. L'avertisseur retentit utilizado. La bocina de la et le feu de balisage rouge alarma se activa y se ilumina s'allume lorsque se produit una luz roja de aviso cuando une condition potentiellement el nivel del líquido alcanza menacante du niveau liquide. un punto potencialmente Une lumière sur l'interrupteur peligroso. La luz de encendido « allumé » indique l'alimentation

XT (Système d'alarme pour El sistema estándar de utilisation en intérieur ou en alarma Tank Alert XT (para extérieur) et équipé d'un bouton de alarma, interruptor de réarmement automatique de

SJE RHOMBUS.

Technical support: +1-800-746-6287 techsupport@sjeinc.com Technical Support Hours: Monday - Friday, 7 A.M. to 6 P.M. Central Time Soporte técnico, Horario: lunes a viernes, 7 A.M. a 6 P.M. hora del Centro Support technique, Horaires : du lundi au vendredi, de 7 h à 18 h Heure du Centre

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