

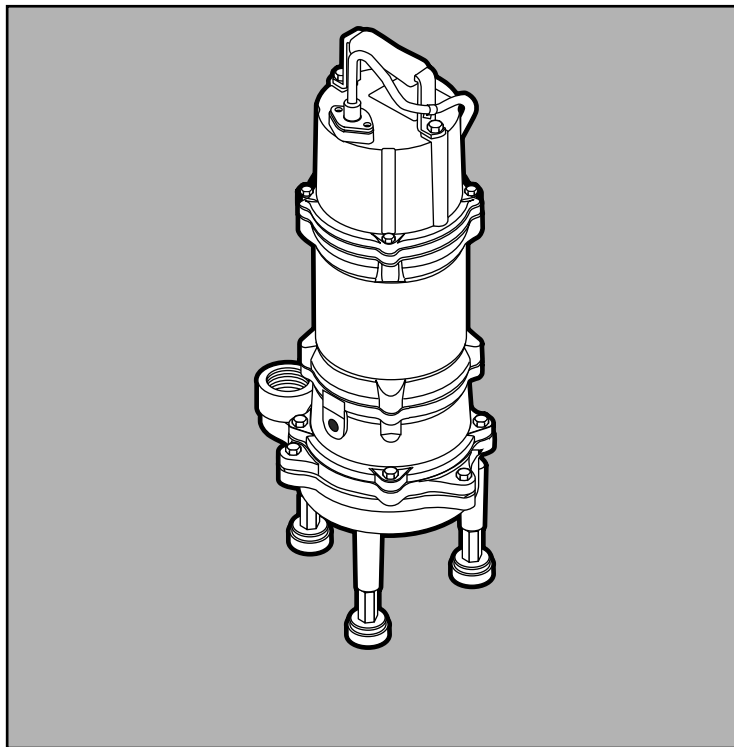


## OWNER'S MANUAL

### **Submersible Pumps**

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Models: CSM240  
CSM500  
CSM650  
CSM850  
CSM160  
CSM300



### **Installation/Operation/Parts**

For further operating, installation,  
or maintenance assistance:

**Call 1800 664 266 (Australia)**  
**Call 0800 664 269 (New Zealand)**

## UNPACKING AND INSPECTION

Handle with care. Check the items received against the packing list to be sure that all equipment has been received. Inspect the pump for shipping damage. If any is found, file a claim with the carrier immediately.

## GENERAL SAFETY INFORMATION

### READ AND FOLLOW SAFETY INSTRUCTIONS!

**⚠** This is the safety alert symbol. When you see this symbol on your pump or in this manual, look for one of the following signal words and be alert to the potential for personal injury.

**⚠ DANGER** Warns about hazards that **will** cause serious personal injury, death, or major property damage if ignored.

**⚠ WARNING** Warns about hazards that **can** cause serious personal injury, death, or major property damage if ignored.

**⚠ CAUTION** Warns about hazards that **will** or **can** cause minor personal injury or property damage if ignored.

**NOTE:** Indicates special instructions which are important but not related to hazards.

**NOTE:** Install the pump in the vertical position only. Installing the pump in any other position will void the warranty.

1. To avoid serious injury and/or property damage, read these rules and instructions carefully.
2. Check your local codes before installing. You must comply with their rules.
3. Vent any sewage or septic tank according to local codes.
4. Do not install the pump in any location classified as hazardous by AS2380 or ANSI/NFPA 70-1984.

5. The pump can run hot. To avoid burns when servicing the pump, allow it to cool for 20 minutes after shut-down before handling it.
6. Do not run the pump dry. Dry running can overheat the pump and will void the warranty.
7. The pump is permanently lubricated. Check the oil level in the seal plate periodically. Check for water in the oil in the seal plate.

**⚠ WARNING** Hazardous voltage. Can shock, burn, or kill. During operation the pump is in water. To avoid fatal shock, proceed as follows if the pump needs servicing:


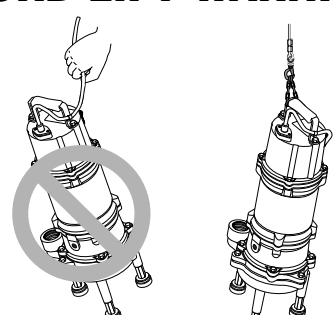
**⚠** Electrically ground the pump to a suitable ground such as a grounded water pipe, a properly grounded metallic raceway or a ground wire system.

**⚠** Do not remove cord or strain relief.

**⚠** Do not connect conduit to pump.

**⚠** Do not lift the pump by the power cord (See "Cord Lift Warning", below).

- A. Ground the pump according to all applicable codes and regulations.
- B. Disconnect the power to the outlet box or circuit breaker before servicing.
- C. To reduce the risk of electric shock, take care when changing fuses or resetting the circuit breaker. Do not stand in water when working on the control box or with the circuit breaker.
- D. For hard-wired installations, provide a strain relief at the control box for the power supply cord connection to box. All control components must be suitable for end use application. Only qualified personnel should install the pump and associated control equipment.

<p><b>⚠ WARNING</b></p>  <p><b>Risk of electrical shock. Can burn or kill. Do not lift pump by power cord.</b></p>	<p style="text-align: center;"><b>CORD LIFT WARNING</b></p> 	<p><b>Risk of electrical shock and fire.</b></p> <ol style="list-style-type: none"> <li>1. Attempting to lift or support the pump by the power cord can damage cord and cord connections, expose bare wires, and cause a fire or electrical shock.</li> <li>4. Use handle on top of pump for all lifting or lowering of pump. Disconnect the power to the pump before doing any work on it or attempting to remove it from the pit.</li> <li>3. Lifting or supporting the pump by the power cord will void the warranty.</li> </ol>
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## INSTALLATION

Selected pump models may be installed on a guide-rail lift-out system for ease of inspection and service. Guide rails allow removal of the pump without disturbing the piping or requiring personnel to enter the wetwell (most regulations require protective equipment and training before entering the wetwell). If installed with a guide-rail system, place the pump opposite the influent opening to prevent stagnant areas where solids can settle.

Install the pump on a hard, level surface (cement, asphalt, etc.). Never place the pump directly on earth, clay, or gravel surfaces.

The pump's feet are shipped loose in the crate with the pump. Install them before putting the pump in the pit. (Applicable to selected grinder pump models only).

### Pump Mount

Install the pump as a free standing unit.

Set the pump on the floor of the basin. Install a pipe union in the discharge piping to allow removal for servicing.

### Piping

The piping must not be smaller than the pump discharge.

## ELECTRICAL

**▲WARNING** Hazardous voltage. Can shock, burn, start a fire, or kill. When installing, operating, or servicing this pump, follow electrical safety instructions below. Only trained service personnel should install or service this pump.

1. DO NOT splice the power cord.
2. DO NOT handle or service the pump while it is connected to the power supply.
3. DO NOT operate the pump unless it is properly grounded. Wire the pump directly into a grounded terminal block in an automatic float or pump controller box for automatic operation. Connect the pump according to all applicable codes. For continuous operation, wire the pump directly into the switch box.
4. Incorrect voltage can cause a fire or seriously damage the motor and voids the warranty. Make sure that the frequency and voltage shown on the nameplate corresponds to the frequency and voltage of the electrical supply. The supply voltage must be within + 10% of the nameplate voltage. If in doubt consult a licensed electrician.
5. The pump rotation must be clockwise (↻ viewed from the top of the pump). NEVER operate it in reverse.
6. Connect the pump (single-phase only) to a general purpose outlet, or use a control panel sized to match the pump. Refer to the control panel installation instructions (provided with the control panel) for wiring connection information.
7. Install the pump in accordance with all electrical codes that apply. Install a fused disconnect switch or circuit breaker in accordance with local codes.
8. If a three phase unit runs backwards, interchange two of the three power supply wires to reverse the motor's direction of rotation.

## CSM160XGS & CSM160XGT

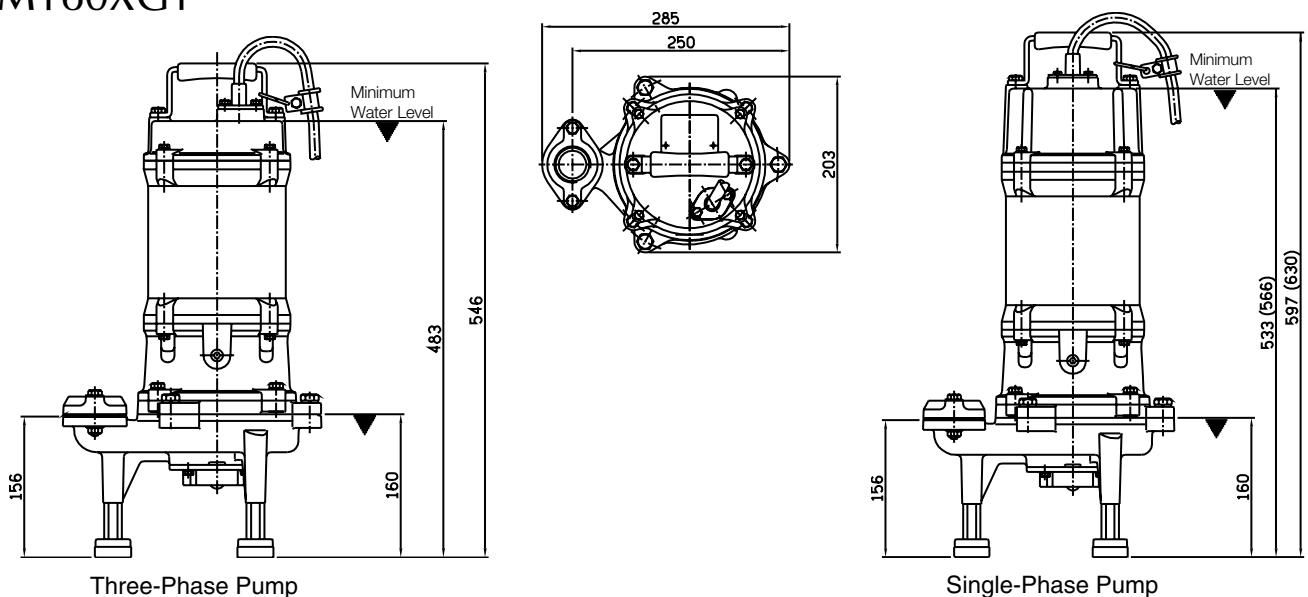
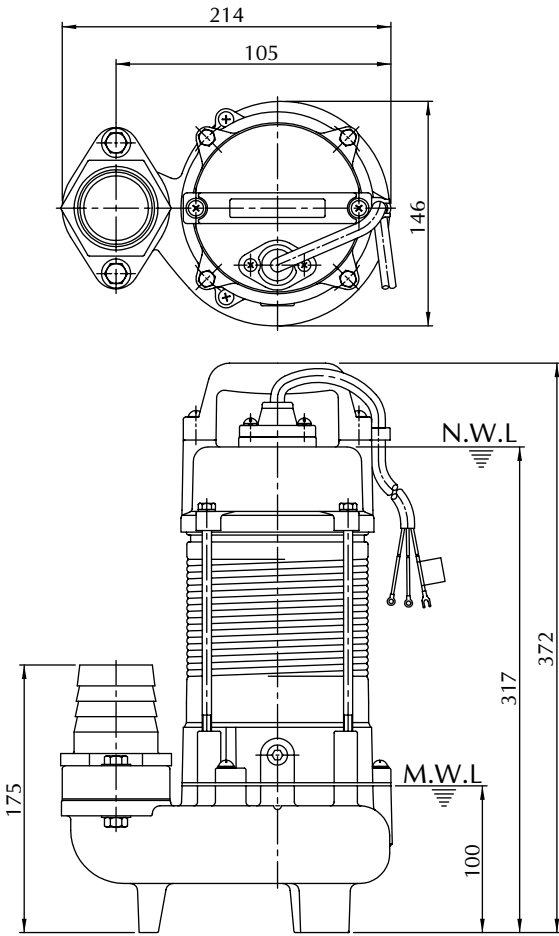
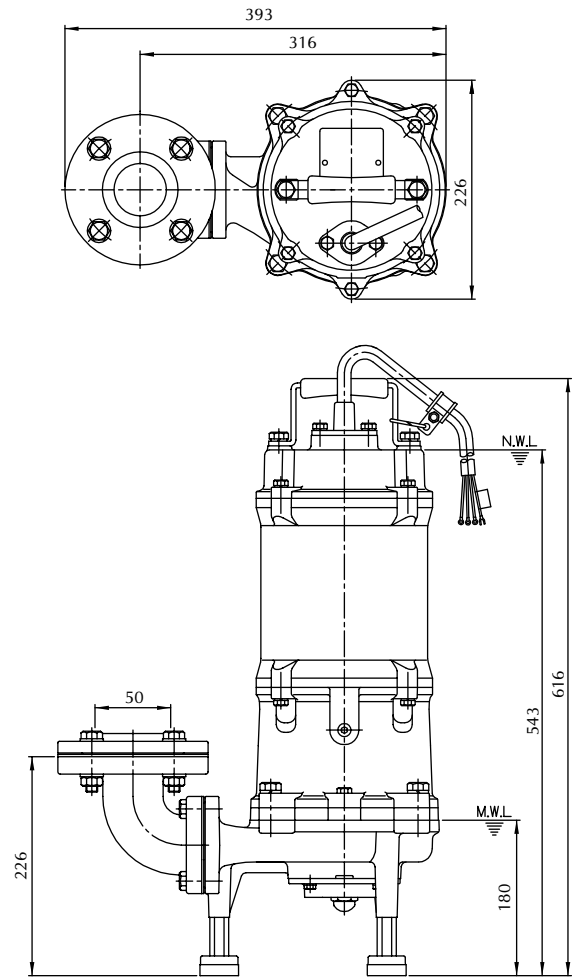


Figure 1: Dimensions in mm

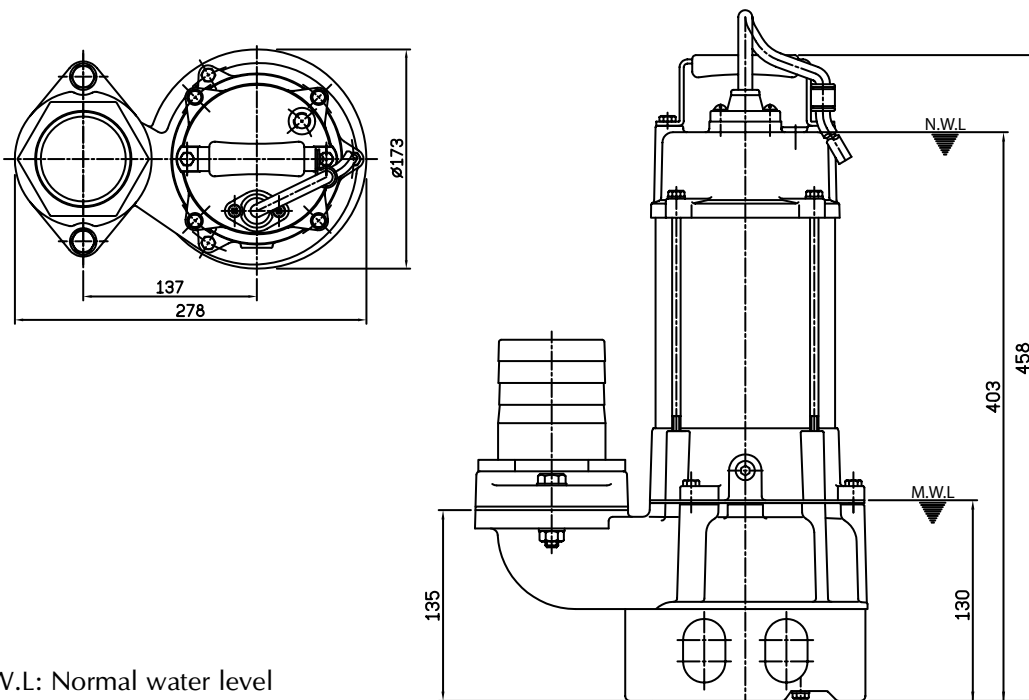
## CSM240VF



## CSM300XGT

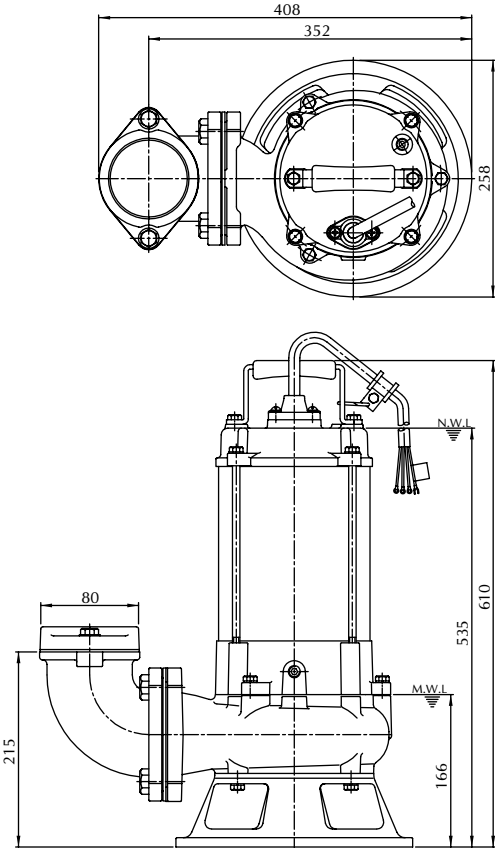


## CSM500VF & VT



N.W.L: Normal water level  
M.W.L: Minimum water level

CSM650VS &  
CSM850CS



CSM650VT &  
CSM850CT

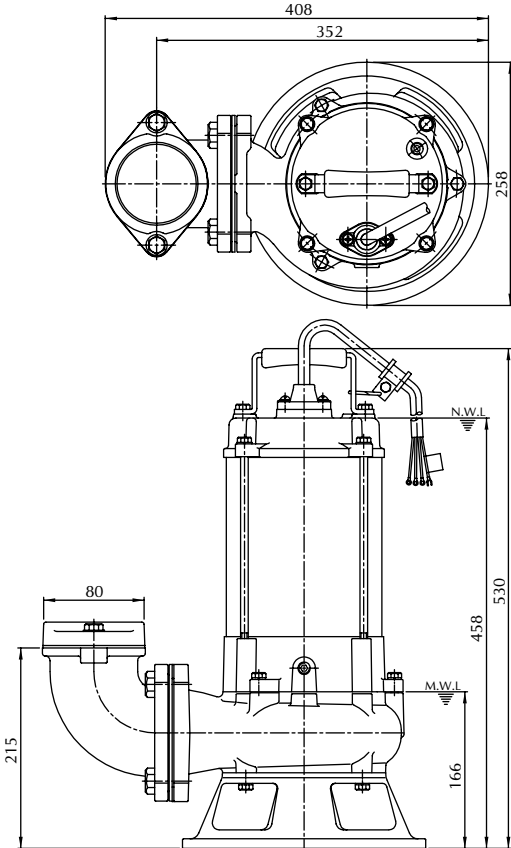


TABLE I: TECHNICAL SPECIFICATIONS

Model Number	Motor HP	kW	Voltage	Rated Current	Starting	Speed	Cable length	Cable type	Discharge size	Max Temp Rating		Motor Protection
										Intermittent	Continuous	
CSM-240VF	1/2	0.4	230-1-50	2.8A	PSC	2 pole / 2850rpm	10m	H07RNF	50mm	50	40.6	Thermal
CSM-500VF	1	0.75	230-1-50	5.2A	PSC	2 pole / 2850rpm	10m	H07RNF	50mm	50	40.6	Current & Thermal Auto-Reset
CSM-500VT	1	0.75	415-3-50	1.9A	DOL	2 pole / 2850rpm	10m	H07RNF	50mm	50	40.6	
CSM-650VS	2	1.5	230-1-50	9.6A	PSC	2 pole / 2850rpm	10m	H07RNF	80mm	50	40.6	
CSM-650VT	2	1.5	415-3-50	3.3A	DOL	2 pole / 2850rpm	10m	H07RNF	80mm	50	40.6	
CSM-850CS	2	1.5	230-1-50	9.6A	PSC	2 pole / 2850rpm	10m	H07RNF	80mm	50	40.6	
CSM-850CT	2	1.5	415-3-50	3.3A	DOL	2 pole / 2850rpm	10m	H07RNF	80mm	50	40.6	
CSM-160XGS	2	1.5	230-1-50	10.2A	PSC	2 pole / 2850rpm	10m	H07RNF	32mm	50	40.6	
CSM-160XGT	2	1.5	415-3-50	3.6A	DOL	2 pole / 2850rpm	10m	H07RNF	32mm	50	40.6	
CSM-300XGT	3	2.2	415-3-50	5.3A	DOL	2 pole / 2850rpm	10m	H07RNF	50mm	50	40.6	

## Control Panels

**⚠ WARNING** Risk of electric shock. Ground pump and motor before connecting controls or power supply. Adhere to local electrical codes governing pump and control installations.

A control panel is not included with the pump.

Install simplex or duplex control panel (purchase separately) for proper pump operation.

Install a control panel with circuit breaker or fused disconnect as required by local code. Use magnetic starters with ambient compensated overload protection. Three phase units require three line protection; single phase units require only one line protection. Inadequate protection voids the warranty.

## Control Panel Overload Adjustment - Three Phase

**NOTICE:** See your control panel installation and operating instructions before adjusting overload setting.

Set the overload protective device to the nameplate full load current.

Size the overload protective device so that the trip current is 115% of the nameplate full load current.

## Switch Installation

Install the float switch so that it swings clear of all obstructions.

## OPERATION



**Hazardous cutter and possible unexpected starts. Rotation of the cutter with hands in the cutter area can cause loss of fingers.**

Disconnect the electrical power and keep your hands away from the pump inlet opening when

working on or handling the pump for any reason. Do not use automatic reset controls with this pump.

Single phase units have an automatic overload protector in the motor which will protect the motor from burning out due to overheating/overloading. When the motor cools down, the overload protector will automatically reset and start the motor. This can happen at any time.

Three phase units require external overload protection.

If the overload trips frequently, check for the cause. It could be:

- stuck impeller
- wrong/low voltage
- bad thermal overload protector
- electrical failure in the motor. If the motor has electrically failed, replace the pump.

**Grinder Assembly:**The grinder unit consists of a rotary cutter inside a stationary cutter ring. Persistent jamming and clogging of the pump indicates dull or worn grinder parts. If either the cutter ring or the rotary cutter is dull, replace both (for Grinder models only).

**NOTICE:**Normal domestic sewage will cause very little dulling or wear of the grinder parts. However, pumping abrasives (such as fine sand) will increase wear and tear on the grinder and may make it necessary to replace the grinder assembly frequently.

**Lubrication:**The pump is permanently lubricated and the motor bearings are sealed. No oiling or greasing is required.

The pump is not equipped with thermostats or a leak sensor probe. Check the seal condition quarterly in heavy duty service or annually in light duty service.

**NOTE:**Failure to monitor the seal condition voids the warranty. Motors damaged by flooding of the motor cavity due to seal or O-Ring failure may not be covered under warranty.

**NOTE:**Reduce the number of bends in the discharge piping to keep the outlet flow as smooth as possible.

Verify the capacity of the pump, by checking the discharge. Verify that the pump is free from any vibration and noise.

For continuous operation, the liquid level must be above the minimum water level (M.W.L) specified in the pump dimension diagrams.

Do not allow the pump to run in a dry sump. It will void the warranty and may damage the pump.

## Sta-Rite Product Warranty

Sta-Rite warrants that when this product is used for the purpose it was designed, is correctly housed and vented against the weather, vermin, dust etc., that it will be free of material and manufacturing defects at the time of the original purchase.

**This warranty is limited to the cost of the product and does not cover third party costs including the costs of electricians, plumbers, etc. unless authorised by Onga Pty. Limited.**

### TERMS AND CONDITIONS APPLICABLE IN AUSTRALIA AND NEW ZEALAND

1) YOU SHOULD CAREFULLY READ THE INSTRUCTIONS SUPPLIED PRIOR TO USING THIS STA-RITE PRODUCT.

**This product is to be installed and operated in accordance with the instructions provided. This warranty will not apply if it is used in a manner other than in accordance with the instructions.**

What the warranty covers:

**Sta-Rite warrants its products to be free of defects in material and workmanship during the warranty period. If a product proves to be defective in material or workmanship during the warranty period, then Sta-Rite will, at its sole discretion, repair or replace the product with a like product. Replacement product or parts may include re-manufactured or refurbished parts or components.**

How long the warranty is effective:

- 1) This Sta-Rite product is warranted for 3 years for all parts from the date of the first consumer purchase.
- 2) Where this Sta-Rite product is sold for commercial application as defined in the relevant Trade Practices and Consumer Protection legislation the warranty shall be for a period of six months from the date of purchase by the end user.

Who the warranty protects:

**This warranty is valid only for the consumer purchaser.**

What the warranty does not cover:

- 1) **Damage, deterioration or malfunction resulting from:**
  - a) accident, misuse, negligence, fire, water, lightning, or other acts of nature, unauthorised product modification or failure to follow instructions supplied with the product;
  - b) repair or attempted repair by anyone not authorised by Sta-Rite;
  - c) any damage to the product due to shipment;
  - d) removal or installation of the product;
  - e) causes external to the product such as electric power fluctuations or failure;
  - f) use of supplies or parts not meeting Sta-Rite specifications;
  - g) normal wear and tear;
  - h) water ingress or exposure to abnormal corrosive conditions or "run dry" conditions;
  - i) any other cause which does not relate to a product defect.
- 2) **Damage caused to the product as a consequence of use of another manufacturer's product used in conjunction with this Sta-Rite product.**



Spare Parts:

**Spare parts are usually stocked for a reasonable period of time following last production.**

Sta-Rite does not warrant that spare parts will be made available for the whole of the reasonable period and reserves its right to cease supplying spare parts or providing facilities for repair of spare parts in circumstances which are beyond its control including the requirement to remove spare parts from sale as a consequence of changes in the law or otherwise as it deems fit.

**How to get service:**

In Australia please contact 1800 664 266. In New Zealand please contact 0800 664 269.

Claims under this warranty must give evidence of date of purchase, model and serial number of the product and the claimants name, address and telephone number.

- 1) **To obtain warranted service, you will be required to provide to either Onga state office or recommended service agent:-**
  - a) the product;
  - b) confirmation in writing specifying the nature of your claim;
  - c) proof providing date of original purchase;
  - d) full contact details including name and address;
  - e) the serial number of the product if any.
- 2) **The product is to be forwarded by the customer freight paid to an Authorised Sta-Rite service agent. Infield service by an authorised Sta-Rite Service Agent will incur a travel, removal & reinstallation fee to adjudicate on warranty issues. Authorised warranty will be free of charge for the first 12 month period from date of the first consumer purchase.**
- 3) **Warranty service work will be denied or suspended, on equipment not readily accessible to service personnel, that is products that are behind barriers, tiled or bricked in, installed in roofs or second storey external walls including inaccessible power points.**
- 4) **Any service of any product which is found to be faulty due to abuse, fair wear & tear, misuse or improper installation will be charged to the owner at the service agents current servicing hourly rate.**

Limitation of implied warranties:

THERE ARE NO WARRANTIES, EXPRESSED OR IMPLIED, WHICH EXTEND BEYOND THE DESCRIPTION CONTAINED HEREIN INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Exclusion of damages:

STA-RITE'S LIABILITY IS LIMITED TO THE COST OF REPAIR OR REPLACEMENT OF THE PRODUCT. STA-RITE SHALL NOT BE LIABLE FOR:

- 1) DAMAGE TO OTHER PROPERTY CAUSED BY ANY DEFECTS IN THE PRODUCT, DAMAGES BASED UPON INCONVENIENCE, LOSS OF USE OF THE PRODUCT, LOSS OF TIME, LOSS OF PROFITS, LOSS OF BUSINESS OPPORTUNITY, LOSS OF GOODWILL, INTERFERENCE OF BUSINESS RELATIONSHIPS, OR OTHER COMMERCIAL LOSS, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
- 2) ANY OTHER DAMAGES, WHETHER INCIDENTAL, CONSEQUENTIAL OR OTHERWISE.
- 3) ANY CLAIM AGAINST THE CUSTOMER BY ANY OTHER PARTY.

Effective law:

**This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Nothing in this warranty limits or restricts, or is intended to derogate from, any right or remedy which the purchaser or ultimate user of the product may have pursuant to Australian state and/or Australian federal consumer protection legislation, New Zealand Sale of Goods Act, Consumer Guarantees Act, Fair Trading Act or any other relevant and applicable New Zealand legislation or authority and where necessary shall so be read and construed.**

**IMPORTANT**

Please attach your sales invoice/docket here as proof of purchase should warranty service be required.

Please do not return Warranty - Retain for your records.

Purchased From \_\_\_\_\_

Purchase Date \_\_\_\_\_ Serial No. \_\_\_\_\_ Model No. \_\_\_\_\_

**Asia Pacific & Australia****Australia**

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