



PUMPS AUSTRALIA

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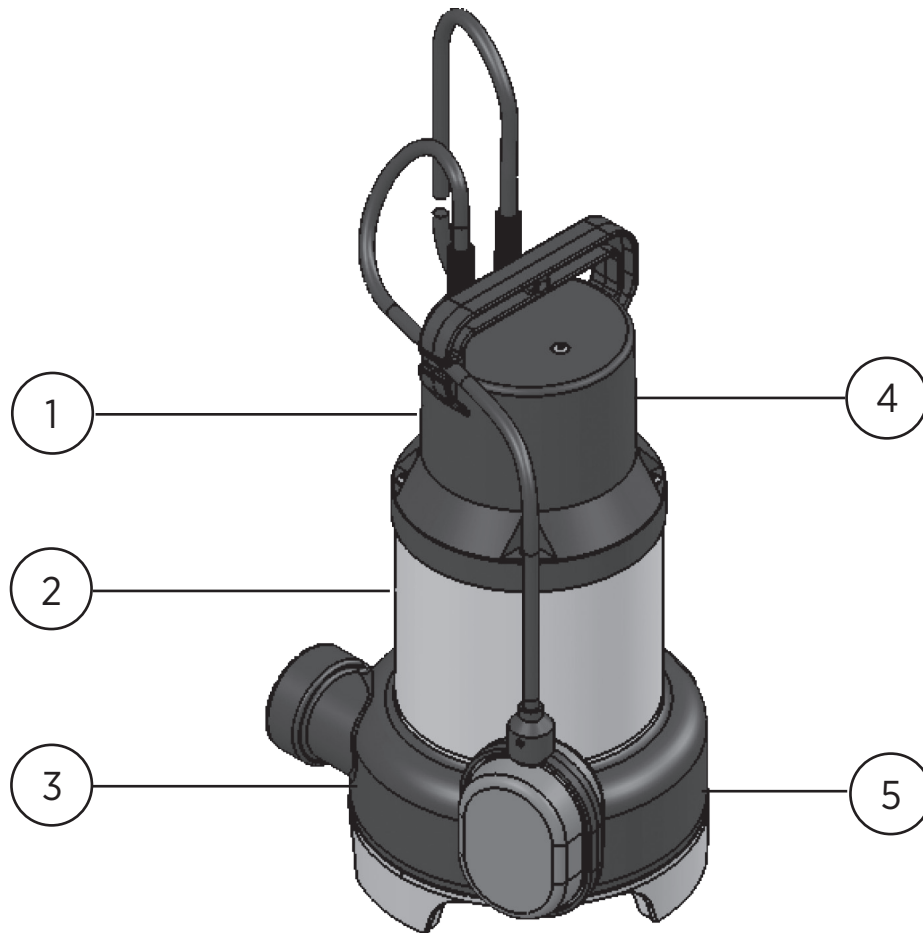


VORTEX SUBMERSIBLE PUMP

EXPLODED VIEW &
INSTRUCTION MANUAL

MODEL: RVE160
CODE: 20685

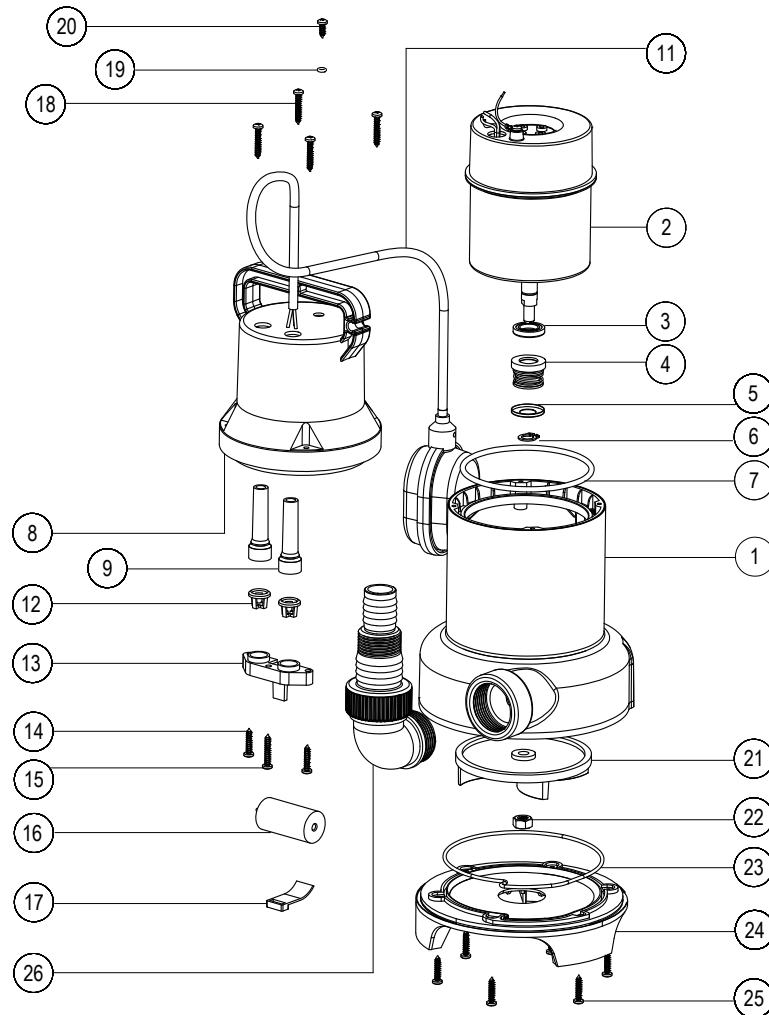
COMPONENTS & MATERIALS



VORTEX SUMP PUMP RVE160

POSITION	COMPONENT	MATERIAL
1	Pump Shaft	Stainless Steel
2	Pump Motor Casing	Stainless Steel
3	Pump Base	NORYL PPO Polymer (Corrosion-proof)
4	Pump Head	NORYL PPO Polymer (Corrosion-proof)
5	Impeller	NORYL PPO Polymer (Corrosion-proof)

PARTS LIST & EXPLODED VIEW



VORTEX SUMP PUMP RVE160

POSITION COMPONENT

- 1 Pump Body
- 2 Motor
- 3 Mechanical Seal (1)
- 4 Mechanical Seal (2)
- 5 Mechanical Seal (3)
- 6 Shaft Ring
- 7 O-ring
- 8 Pump Head
- 9 Cable Gland
- 11 Float Switch
- 12 Cable Gland Screw (1)
- 13 Cable Gland Bracket
- 14 Cable Gland Screw (2)

POSITION COMPONENT

- 15 Cable Gland Screw (3)
- 16 Capacitor
- 17 Capacitor Clamp
- 18 Screw (For Vertical Float)
- 19 O-ring
- 20 Pump Head Screw
- 21 Impeller
- 22 Shaft Nut
- 23 Sealing O-Ring
- 24 Pump Base
- 25 Base Screw
- 26 Discharge Connection Elbow

WARRANTY | INSTRUCTION MANUAL

Please take the time to read the instructions carefully before using this appliance. We recommend that you keep this instruction manual in a safe place for future reference.

This instruction manual covers DRS, DSE, RTE130, RHS, RPP, RVE, RVE, RHV, RDC & RDP Series of Pumps and any similar models that we supply.

SPECIFICATIONS

Specifications are approximate and subject to change without notice. Amps and wattage vary according to the operating load. Refer to the nameplate of the pump for the performance data. Image shown is an example only. Do not exceed the given specifications in the use of your pump, or use for purposes for which the pump is not designed. It is the users responsibility to ensure that the product is suitable for the intended application.

PERFORMANCE CURVE

Refer to the nameplate of the pump then search our website www.reefe.com.au for the current tech data sheet.

WARNING: MANDATORY INSTALLATION CONDITION: THE PREMISES WHERE THE PUMP IS INSTALLED MUST BE PROTECTED BY A SAFETY SWITCH (RCD) – DO NOT INSTALL PUMPS WITHOUT THIS PROTECTION

DANGER: Keep the pump equipment protected from interference by children or pets! The appliance is not intended for use by children or infirm or incompetent persons.

WARNING: This pump is designed for water only. It must NOT be used for Hazardous or flammable liquids. It must NOT be used in locations classified as hazardous.

LIMITATIONS: This pump is suitable to pump fresh water, stormwater and greywater, with soft particles of a size as designated on the data sheet for that model. Refer to the nameplate of the pump then search our website www.reefe.com.au for the current tech data sheet. These pumps are not intended for pumping potable water, and have not been tested for pumping potable water. They are not intended for fire-fighting. The water temperature may be from + 5°C to the maximum as stated on the pumps nameplate.

WARNING: The pump cannot be used for salt water and flammable, corrosive, explosive or dangerous liquids, nor in hazardous areas. Ensure that the pump never runs without water.

INSTALLATION GUIDELINES

- 1. POWER OFF!** Before installing or while handling, repairing, cleaning or servicing this pump, be certain the electrical power is disconnected from the pump at all times.
- 2. SUITABLE APPLICATIONS:** This product is for the purpose of pumping CLEAN WATER and STORM WATER/RAIN WATER and GREY WATER in normal domestic household use, and for NO OTHER USE. It is not intended nor designed to be used in highly critical installations or for continuous pumping (for example a situation where power failure or pump failure could lead to flooding, do NOT use this pump for those purposes). Performance data quoted is generally from test data and is approximate and does not take into account factors in the installation such as loss of pressure and flow due to pipework & pipe-fittings & valves. It is the purchaser's and/or users responsibility to ensure that the product is fit for their purpose and of sufficient size & performance for their application.
- 3. IMPORTANT INSTALLATION REQUIREMENT:** No electrical appliances last forever. Therefore ALL installations of pumps must be constructed to allow the owner to easily remove the pump for servicing, and to easily remove the pump for replacement, warranty replacement or upgrading. The installation must NOT be constructed in such a manner that specialized tools, or paid tradespersons, or external paid contractors, are required to be engaged in order to remove and/or replace and/or refit the pump. Warranty replacement does not normally include costs of removal and re-installation as we have no control over the method of installation.
- 4. IMPORTANT RE TANK ACCESS:** Ensure that the pump can be removed from the tank without having to enter the tank. NEVER install pumps such that persons need to get inside the tank to remove/work on the pump. Warranty is VOID if persons have to get inside the tank to remove or repair the pump and/or controller. DO use a rope or chain to lift the pump out, DO NOT use the electrical cable.
- 5. CHECK-VALVE:** A quality swing-check-valve (non-return valve) must be fitted to the outlet of the pump to avoid backflow, warranty is void if not fitted. It is also best practice to fit a Ball-Valve or Gate-Valve.
- 6. FLOAT SWITCH MUST MOVE FREELY:** Do not position the pump where the float switch (where fitted) could get caught as this will cause the pump to run without stopping, and subsequently fail. For standard float type, adjust the water height that the pump stops pumping, by loosening the clamp on the float cable, and lengthening or shortening the swing of the float. WARNING: If you adjust it so the cable is too long the float will lie on the bottom and the pump will not stop until it overheats and burns out. Too short and the float might not go up and down as it should, with the result the pump not working. For vertical float type (as per the pump on the right in the image at top of the page) the float activation point can usually be adjusted by moving the rubber stopper up or down on the shaft (depending on the type) WARNING: Ensure that the float can operate freely or the pump will not work or will not stop, and burn out. This is not covered by warranty. For the manual type (model with no float switch) the pump must be controlled in some manner by the user to ensure it does not run dry and turns off when the liquid level drops to the level of the impeller.
- 7. USE BARREL-UNIONS CONNECTIONS:** All pumps must be installed using barrel-union connections to facilitate easy servicing or replacement. Ensure all fittings and joints are watertight.
- 8. PIPE SIZING:** ENSURE that a suitable pipe size is used – typically pipe the same size as the pump outlet for short run, go up a size for longer piping distances, up to 10m. For piping that is longer than 10m please confer with your dealer or pump specialist to be certain you do not restrict the pump as this will reduce the performance and the lifespan of the pump. BE AWARE that a long pipe that is too small has the same effect as trying to “lift” the water too high and the performance of the pump is greatly reduced or may stop altogether (for example a 20mm pipe over 30m would severely restrict the performance of most sump pumps, and the result would be a very small amount of water discharging out the end of the pipe).

9. ELECTRICAL CIRCUIT & WIRING:

- a. Installation and electrical wiring must adhere to state and local codes and must be completed before using the pump. All Electrical wiring must be performed by a Licenced Electrician.
- b. Pump must be connected to a circuit of suitable size for the power requirement of the pump, with a RCD (safety switch) having a rated residual operating current not exceeding 30mA – recommended type is a circuit breaker with integrated RCD.
- c. Plugging into shared outlets or extension leads may cause low voltage supply to the motor, causing blown fuses, tripping of motor overload, or burnt out motor. The recommended method is to have the pump on its own separate circuit.
- d. Surge Protection - We recommend that a surge protector is used to protect the electronics of the pump, as damage due to power surges is not covered by the Warranty
- e. All electrical installations must be earthed in accordance with Electrical Regulations
- f. The voltage of the power supply must match the voltage of the pump – 230 to 240 volt AC except for 3-Phase pumps which are 415Volts. We do not recommend generator power.

10. WARRANTY VOIDED: The following may cause severe damage to the pump and automatically voids the warranty:

- a. Using an extension cable for power supply.
- b. Cutting the earth pin off the plug or using an adapter fitting or double adapter.
- c. Working on the pump while it is connected to the power supply.
- d. Removing/opening the cable entry point, or the motor housing, unscrewing impellor, or otherwise removing impellor seal (except if this work is one by a qualified Pump Technician)
- e. Pumping chemicals, corrosive liquids or flammable liquids.
- f. Pumping hot liquids (Exceeding the temperature on the nameplate)
- g. Lifting or moving the pump using the power cable.
- h. Dry operation which will destroy the pump seals.
- i. Installing the pump inside a tank (enclosed space) in such a manner as you cannot remove the pump without getting inside the tank – this is against best practice and no warranty cover applies in this case.

11. PUMP NOT PUMPING

If the pump does not pump water, check the discharge pipework is free from airlocks or other obstructions. Check that any non-return valves are fitted with the arrow in the correct direction of flow, and are not jammed shut with glue or debris. For further help, refer to the TROUBLE-SHOOTING section.

12. OVERLOAD PROTECTION – most models have a built in thermal protection switch. The pump stops if an overload condition occurs. The motor restarts automatically after it has cooled down when the built in thermal protector resets itself. If this problem reoccurs - check as per Trouble Shooting

13. IMPORTANT NOTES

- a. Do not switch the pump on and off frequently, as this will cause damage to the electronics and void warranty.
- b. If the pump is idle for a long period of time or in very low temperature, it should be removed, washed clean and stored in a dry & safe place.

14. COMMERCIAL &/OR INDUSTRIAL USE: specific applications in commercial or industrial situations require specialist advice which may not be covered in this instruction manual. It is the installer & user's responsibility to obtain specialist advice and to ensure that the pump used is suitable for their application. Warranty is limited to replacement only, of pumps that are proved to have a manufacturing defect, when used in SUITABLE commercial or industrial applications. No warranty applies when used in unsuitable applications.

TROUBLESHOOTING CHECKLIST

CAUTION: SHUT OFF POWER TO THE PUMP BEFORE HANDLING

Check the following before requesting service or repair.

A call out fee normally applies for field services and additional labour cost may apply.

PROBLEMS & POSSIBLE CAUSES & RESOLUTIONS

(A) Pump does not run;

1. Check if the water level in tank too low to lift the float switch > this is the normal operation of the pump.
2. Circuit breaker or Safety Switch is off or the fuse has blown > Turn all Power OFF before attempting service - if it trips again after turning on, the pump might be burnt out – replacement is normally the most economical option.
3. Pump plug is not connected properly, or has been flooded or wet > Isolate power at main switch, remove plug and allow to dry. If the problem continues, contact a licenced electrician to fix the power outlet so as it is protected from the weather.
4. If all of the above are OK, then check pump for clogged impellor > clean the impeller
5. Thermal overload switch in the pump has activated > investigate why this has occurred before turning it back on, check that the pump is not clogged, check that the outlet pipework is not clogged.

(B) Pump runs but does not deliver water;

1. Check Valve is installed backwards. Arrow on valve should point in direction of flow.
2. Check Valve is jammed due to debris or glue etc.
3. Discharge shut-off valve (Ball-Valve or Gate-Valve) may be closed.
4. Impeller or volute openings are fully or partially clogged > clean the impeller
5. Pump is air-locked. Start and stop a couple of times. If this is not successful, you might need to remove the pump to check for blockages.
6. Vertical pumping distance is too high > Reduce distance or upgrade to a larger pump.

(C) Pump runs and does not stop;

1. Float is stuck in up position > Be sure float operates freely in the sump, premature failure will occur if the pump runs continuously, which is not covered by warranty.
2. If the pump continues to run when the float is in the “Fully down” position (as per the image on the left at the top of page 1 of this manual) – the pump must have a defective float switch > Call our warranty dept on 1800 807 604 for a replacement, if it is within the warranty period. (Note, the float on the VF (Vertical Float) series may be different to the image on the right hand side of page 1)

(D) Pump not pumping properly;

- 1. Too high head or pump under specified > Check specifications.
- 2. Too low water level > Check the water levels
- 3. Pipework is too long > refer to PIPE SIZING:
- 4. Pipework is too small > both these factors (3 & 4) will severely reduce the output of any pump > the longer and smaller the pipe, the lesser the flow you will get.

(E) Pump runs but delivers only a small amount of water;

- 1. Pump is air-locked > Start and stop several times – see (B)
- 2. Vertical pumping distance is too high > Reduce distance or upgrade to a larger pump.
- 3. Too low water level > Check the suction and water levels
- 4. Serious damage to the impeller > Inspect and have it repaired or replaced by a pump technician.
- 5. Pump impeller is partially clogged with particles, causing motor to run slow and overload > Disassemble pump and clean.
- 6. Pipework is too long or too small > refer to PIPE SIZING:

(F) Fuse blows or circuit breaker trips when pump starts;

- 1. Turn all power OFF before attempting service
- 2. Motor may be defective. If you have checked and ascertained that it is definitely the pump (by process of elimination) we recommend that the pump be replaced. It is not usually economical to repair a pump that is tripping the circuit breaker or safety switch.
- 3. Fuse size or circuit breaker may be too small > Recommended to be a dedicated circuit with Integral RCD
- 4. Impeller or volute opening are fully or partially clogged > Disassemble pump and clean.

(G) Motor runs for a short time, then stops;

- 1. Pump impeller is partially clogged with particles, causing motor to run slow and overload > Disassemble pump and clean.
- 2. Motor stator may be overheating > Ensure there is water and float switch is not jammed in the up position.
- 3. Impeller or volute openings are fully or partially clogged > Clean the impeller

If after checking all of the above, and the fault continues, CALL our WARRANTY DEPARTMENT on 1800 807 604 who will issue authorisation of repair or replacement for pumps that are still under warranty. We will require a copy of your purchase receipt and the below installation checklist, sent by Email, MMS or Fax.

Alternatively, you can return the pump to the place of purchase for a refund, if it is still in warranty.

WARRANTY RECORD – FILL IN AND RETAIN THIS WITH YOUR ORIGINAL PURCHASE RECEIPT

PURCHASER NAME..... PHONE NO.....
 DATE OF PURCHASE/...../..... DEALER/STORE NAME.....
 DEALER SUBURB/TOWN.....PHONE NO.....
 MODEL NUMBER OF PUMP..... SERIAL NUMBER.....

INSTALLATION CHECKLIST: MUST BE FILLED IN FOR WARRANTY TO APPLY

Installer Name _____ Qualification: _____ (write Owner if applicable)
 Phone Number: _____ If installed by a Plumber or Electrician, Licence No: _____

Tick the boxes as the item is completed/correct, put n/a if not applicable;

- The Pump is being used for an appropriate purpose for which it is intended, according to the instructions
- The Power Circuit the Pump is connected to is RCD (Safety Switch) Protected
- For Permanent Installations: Barrel Unions are fitted on the pipe connections for easy removal & replacement
- For Permanent Installations: a Swing Check Valve is fitted to the discharge pipe to prevent back-flow
- Pipe is sized appropriately for the application (suitable diameter and length)
- Float Switch (if fitted) of the Pump is free to move with no obstructions
- For a Pump that is installed inside a tank or other enclosed space: The installation is constructed so the pump can be removed without persons having to enter the tank/enclosed space.
- If applicable: The pump is installed in accordance with National & Local Plumbing Regulations
- For Permanent Installations: The Electrical Supply cable is protected in an appropriate manner in accordance with the current standard of Electrical Safety Regulations AS/NZS 3000 – have it checked by a Licenced Electrician if unsure.
- If the pump is “hard wired”, there is an isolation switch included (this must only be done by a Licenced Electrician)
- The pipes and connections and the barrel-union on the pump, have been checked for leaks.
- If applicable: The Owner has been shown how to access & clean & re-set the pump

Signed by the Installer: _____ Date Installed: ____/____/____

WARRANTY CONDITIONS

- 1. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. If you are a consumer as defined by the Australian Consumer Law, you are entitled to a replacement or refund for a major failure and for 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. If you (the purchaser) do not fall within the meaning of “consumer” in the Australian Consumer Law the provisions of the Australian Consumer Law may not apply. The following conditions form part of the instructions and do not over-ride your statutory rights.
- 2. This warranty covers failure due to manufacturing defects for Sump Pumps (including but not limited to the series listed below, according to our interpretation as to what is and is not covered) that are purchased and used in mainland Australia. We shall repair or replace faulty goods when we ascertain that the fault is due to manufacturing defects, within the period of time as advised by us for any particular item. If you require a refund, return the item to the original place of purchase.

3. Faults or losses or failure or damages are not covered by warranty where caused due to: Accidents, misuse, lack of maintenance, using with unsuitable substances, not following these instructions, damage caused by lightning strike/power surges/spikes/brownouts, operating the pump on power other than 230-240volts 50Hz mains power, or any other unforeseen or unexpected event or cause that is beyond our control.
4. Where fitted and where applicable: The complete Impeller set (including shaft), Pre-filter Sponge, Seals and O-rings are all wearing items and therefore are not covered for "normal wear and tear". They are covered by this warranty if they are faulty due to a manufacturing defect.
5. Warranty will be void if any tampering or removal of identification labels or electrical cables has occurred, or any non-genuine parts have been fitted, or repairs have been carried out by unqualified persons. No warranty applies for goods sold or used for HIRE or RENT or LEASE. No warranty applies, and no liability is accepted, if the pump is used in circumstances that we define as: HAZARDOUS SITUATIONS, MINE SITE, REMOTE AREA, INDUSTRIAL APPLICATION, or any other UNSUITABLE APPLICATION, all of these circumstances are defined by us at our sole discretion.
6. The Warranty excludes accidental or deliberate breakages, normal wear and tear, fading or breakdown due to the effect of exposure to sunlight or chemicals, corrosion due to chlorine in the water, or any other external factor that may affect the life of the product.
7. This product is guaranteed as fit for the purpose of pumping CLEAN WATER, STORM WATER and GREY WATER in normal domestic household use, and for NO OTHER USE. This pump is not intended for Potable Water, it has not been tested for Potable Water. Performance data quoted is generally from test data and is approximate and does not take into account factors in the installation such as loss of pressure and flow due to pipework & pipe-fittings & valves. It is the purchaser's responsibility to ensure that the product is fit for their purpose and of sufficient size & performance for their application.
8. IMPORTANT: No electrical appliances last forever. Therefore ALL installations of these pumps must be constructed to allow the owner to easily remove the pump for servicing, and to easily remove the pump for replacement, warranty replacement or upgrading. Warranty replacement does not include costs of removal and re-installation as we have no control over the method of installation.
9. Before installing or servicing disconnect from the power supply.
10. This pump is not to be used as your sole water supply. For critical applications where loss of water supply for pump failure could cause serious consequences, use a DUAL PUMP System so that you have a backup pump.
11. This pump must be installed in accordance with these instructions, and the Installation Checklist must be filled in and signed for warranty to apply. The Pump MUST NOT be installed in any manner that if it were to leak, or fail to work, that it would cause damage or loss to property or persons. It MUST be installed in a well-ventilated and drained area. All warranty is void if this condition is not heeded and no liability can be accepted in the case of damage or loss caused by failing to comply with this condition.
12. The Pump must be correctly earthed and connected to a circuit with an integral RCD (safety switch) in the circuit breaker, in accordance with the Electrical Regulations or Standards that are applicable.
13. In the case of a fault, refer to the Trouble Shooting Guide first. If these steps do not rectify the problem, then return the faulty appliance to the original place of purchase with proof of purchase for replacement or refund. Alternatively you can mail us at PO BOX 650 MORNINGSIDE QLD 4170 or send an email to csv@ascento.com.au with a photo of the faulty item, copy of your purchase receipt, a copy of the installation checklist, a description of the problem, and your name and address and phone number - we will review your request and send you a replacement directly if we accept your warranty claim. Or call us on 1800 807 604 with the above information; however we will always require a copy of your purchase receipt and the installation checklist. Do not send the product to us unless we ask you to do so. Please note that guarantees and warranties only apply when the installation and use of the product is suitable according to our definition. Prior to processing or accepting any claim against us, of any type, we reserve the right to inspect either in person (with owners permission), or by use of a drone or any other method of our choice (with owners permission), or request photographs and/or video evidence, or request for the product to be returned to our premises for inspection. If the owner does not allow us these rights of inspection, we are unable to process any claim.
14. Pumps used in SUITABLE commercial or industrial applications are covered by a replacement warranty only, when proved to have a manufacturing defect that has caused the pump to fail. No warranty applies when used in unsuitable applications, which shall be defined by us, at our sole discretion.
15. If an exact replacement is not available, the closest equivalent product will be supplied at our discretion.
16. This warranty does not exclude any non-excludable rights according to Australian Law. However any condition that is made void by Australian Law does not void the remaining conditions, which shall stand unaltered.

WARNING: ELECTRICAL PRECAUTIONS

Do not install pump if there is no RCD (Safety Switch) on the power circuit. Before servicing a pump, always shut off the power supply and then make sure you are not standing in water and that there is no risk of electrical shock. If the pump is direct-wired to the electrical circuit, contact your qualified licensed electrician to disconnect if required.

DO NOT ATTEMPT ELECTRICAL REPAIRS OF ANY SORT UNLESS YOU ARE A LICENSED ELECTRICIAN

Brand	Model/Series which includes Vertical Float Versions	Warranty Period
REEFE	DRS160	12 Months
REEFE	RHS125	12 Months
REEFE	RHS750	2 Years
REEFE	RPP Series	12 Months
REEFE	RVS Series	2 Years
REEFE	RHV Series	2 Years
REEFE	RDC Series	2 Years
REEFE	RDP Series	12 Months
REEFE	All other types	12 Months
Rain&Town	RC150	2 Years
WaterPro	DV150	2 Years

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