



PUMPS AUSTRALIA BETTER · FASTER · EASIER
REEFE DIAPHRAGM LINEAR AIR PUMP INSTRUCTION MANUAL
MODELS: RB80 – RB90 – RB100



Thank you for purchasing a REEFE Linear Air Pump. These pumps feature double air chambers to produce a high volume of air and strong air pressure. High performance and low noise; weatherproof design, suitable for indoor and outdoor use; fast heat dissipation, non-oil lubricated design to provide uncontaminated air delivery. REEFE Diaphragm Air Pumps are especially developed for a high air output, even in deep water. The pump is also suitable for aerating breeding systems, waste water treatment systems with multiple air outlets. For optimum performance and safety, please read this instruction manual carefully and keep it handy for future reference.

PRODUCT FEATURES

1. Artificial rubber diaphragms to ensure a steady air output and pressure.
2. Advanced air-delivery system and muffler for low noise.
3. Special cut-off switch if the Diaphragm splits, to avoid pump damage.
4. Compact design with long service life and low energy consumption.
5. Aluminium alloy case provides quick heat-dissipation and reduces overall weight.

INSTALLATION

1. Installation and electrical wiring must adhere to state and local codes and must be completed before using the pump. These pumps come with an earthed power plug and all electrical installations must be earthed. Any Electrical work must be performed by a licenced Electrician.
2. **IMPORTANT;** The Pump must be connected to a suitable electrical circuit, protected by a RCD (safety switch), all warranty is void if there is no RCD protection. Do not use an extension lead, the pump must be connected directly to a power outlet. All warranty is void if this instruction is not followed. Note: Use of extension leads may cause low voltage supply to the motor, causing blown fuses, tripping of motor overload, or burnt out motor, which will not be covered by the Warranty. If the pump is hard-wired to the electrical circuit, we are not responsible for the costs involved if the product needs to be replaced, as we have no control over the installation method. We do not recommend hard-wiring this product.
3. **IMPORTANT:** use a DRIP LOOP in the power cable so as any water or condensation that forms on the cable will drip off the cable and not enter the power outlet.
4. Surge Protection - We recommend that a surge protector is used to protect the electronics of this pump, as damage due to power surges is not covered by the Warranty.
5. **IMPORTANT:** ALWAYS disconnect from the power supply before touching the pump.
6. **MOUNTING:** This product must be installed on a flat, horizontal surface, protected from the weather. Mount the product on a stable, rigid surface. If necessary, additional rubber mounts will reduce noise and vibration.
7. **PLUMBING:** Remove the plug from the discharge port. Connect with pipe and fittings that are the same size or larger than the pump discharge port, suitable to your installation; ensure all pipes are secured well to prevent leakage. Using larger bore pipe and avoiding sharp bends will improve performance.
8. **AIRSTONES:** Use new and sufficiently large air stones or diffusers with suitable discharge capacity. Place them no deeper than 3m in the water body. Bends in the air pipe, air stones that are placed too deep, air stones that are too small, old or dirty air stones, will drastically reduce performance. When the pump is on, never fully close off the pump outlet. Ensure that the pump can discharge sufficient air at all times, otherwise overheating will lead to damage.
9. **ACCESSORIES:** Use only recommended air fittings and pipework or tubing that is designed for pressure not less than 0.7bar (10psi).
10. **BACKFLOW:** To prevent any water flowing back into the pump when turned off, it is critical to install the pump above water level. If a non-return valve is used on the outlet pipe, the pump may be installed lower than the waterline, at the installers risk, we do not recommend this type of installation. Pump must **NEVER BE SUBMERGED IN WATER**.
11. Install relief valve and gauge at the discharge, to allow you to monitor performance
12. To guarantee longest possible service life, install the pump in a well-ventilated, dry, moisture and dust-free place. Dirt, dust, Chlorine fumes, other gases and moisture will shorten the service life of this pump and/or can be hazardous. NEVER use the pump if it is not in a place with clean fresh air. Please note that in an ambient temperature above +40°C, the diaphragm will prematurely age and will be more likely to crack.

DIAPHRAGM BREAKAGE SWITCH

The Diaphragm Breakage Switch system stops the pump when the diaphragm is split or punctured. This causes an unusual longer stroke of the magnet, which then actuates the microswitch on top of the motor cover (inside the pump, part number 6 & 8 in the below diagram) and automatically shuts down the power. See DIAPHRAGM REPLACEMENT instructions below .

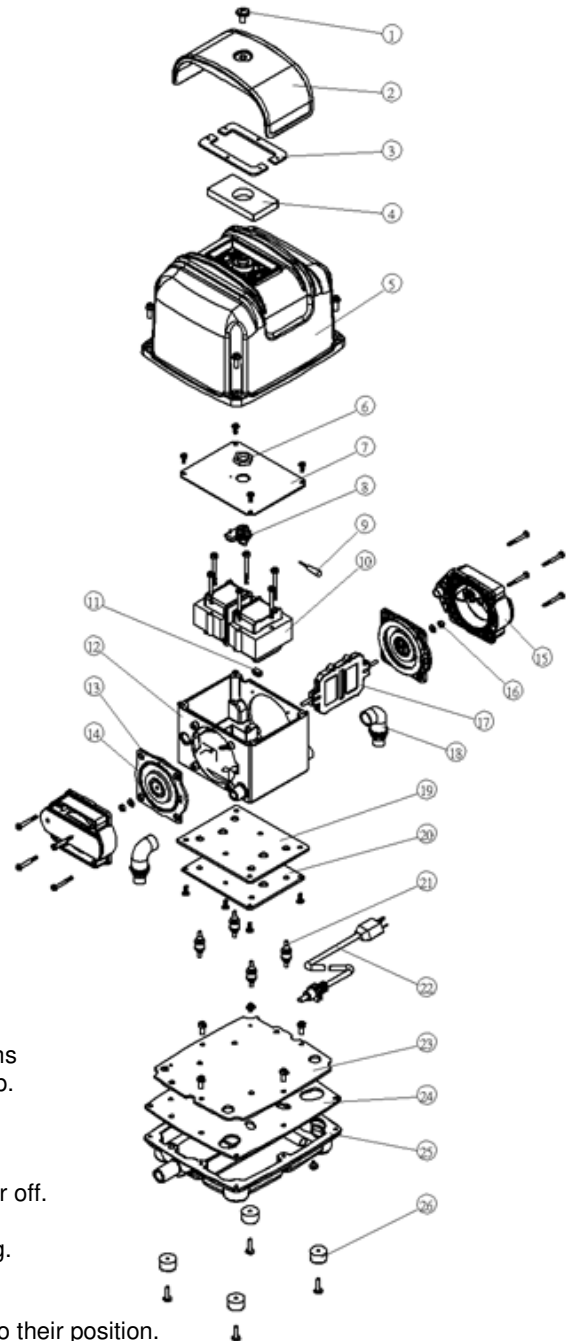
FILTER SPONGE CLEANING INSTRUCTIONS

Any dust or foreign matter lodged in the pump inlet will cause abnormal noises and/or result in failure of the pump. The filter sponge must be inspected after the first 500 hours of operation, and cleaned or replaced at least every three months.

1. Unplug the pump first before cleaning & replacement work. Remove the air inlet cover from the top of the housing.
2. Remove the filter sponge from the air inlet. At the same time, remove any dust or foreign matter from the air inlet, the air inlet cover and the filter sponge mounting surface. If the sponge is soiled, a piece of new sponge is needed or you can use a neutral detergent to wash the old sponge. Remember to rinse it thoroughly with water and dry it out in the sun before reinstalling. Detergent is detrimental to fish and other aquatic life.

EXPLODED VIEW – RB80

NO.	DESCRIPTION	QTY
1	TOP SCREW	1
2	FILTER COVER	1
3	FOAM SEAL	1
4	FILTER	1
5	UPPER HOUSING	1
6	SAFETY SYSTEM NUT	1
7	COIL COVER	1
8	SAFETY SYSTEM KIT	1
9	THERMAL PROTECTOR	1
10	ELECTROMAGNET	2
11	WIRE STOPPER	1
12	COIL FRAME	1
13	DIAPHRAGM FRAME	2
14	DIAPHRAGM	2
15	DIAPHRAGM HOUSING	2
16	U – NUT	2
17	ACTIVATING ARM	1
18	L-TUBE	2
19	GASKET - 1	1
20	STEEL PLATE - 1	1
21	VIBRATION CONTROL RUBBER	4
22	POWER CORD	1
23	STEEL PLATE - 2	1
24	GASKET - 2	1
25	LOWER HOUSING	1
26	RUBBER FEET	4



DIAPHRAGM REPLACEMENT

1. Unplug the pump and/or disconnect from the power supply before cleaning & servicing.
2. The diaphragm should be inspected every 3 months by a qualified technician.
3. It must be replaced by a qualified technician every 6 to 12 months or as soon as it is worn or cracked, to avoid damage to the pump. This damage is not covered by warranty.
4. Loosen the four screws around the aluminium upper housing, and take the housing off. (As shown in figure 2)
5. Loosen the four screws around the coil cover, and take the cover off. (As shown in figure 3)
6. Loosen the four screws and disassemble the diaphragm housing.
7. Loosen the u-nut in the centre of diaphragm.
8. Take the diaphragm off the mount.
9. Replace with a new diaphragm by mounting the rubber studs into their position.
10. Press the rim of the diaphragm into the ring.
11. Secure the magnet with a new u-nut and screw and put the diaphragm housing back with the four screws on.
12. Put the coil cover back with the four screws on.
13. Put on the aluminium upper housing and secure the four screws firmly.

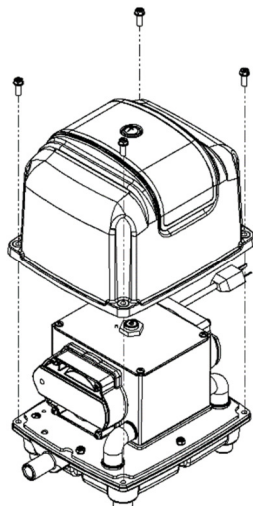


Figure 2

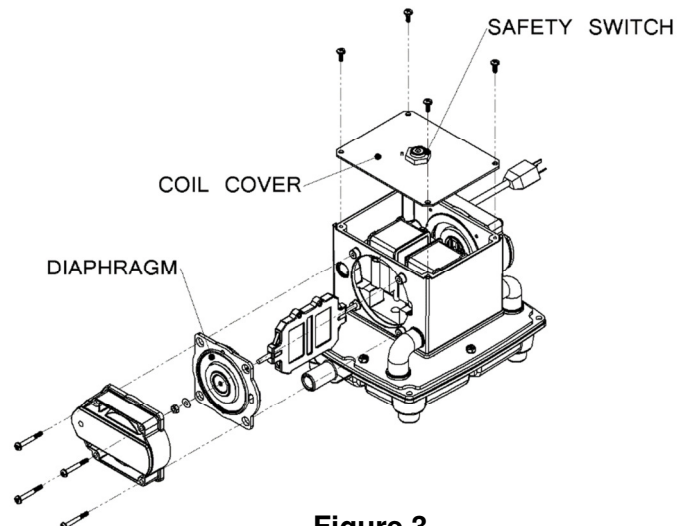
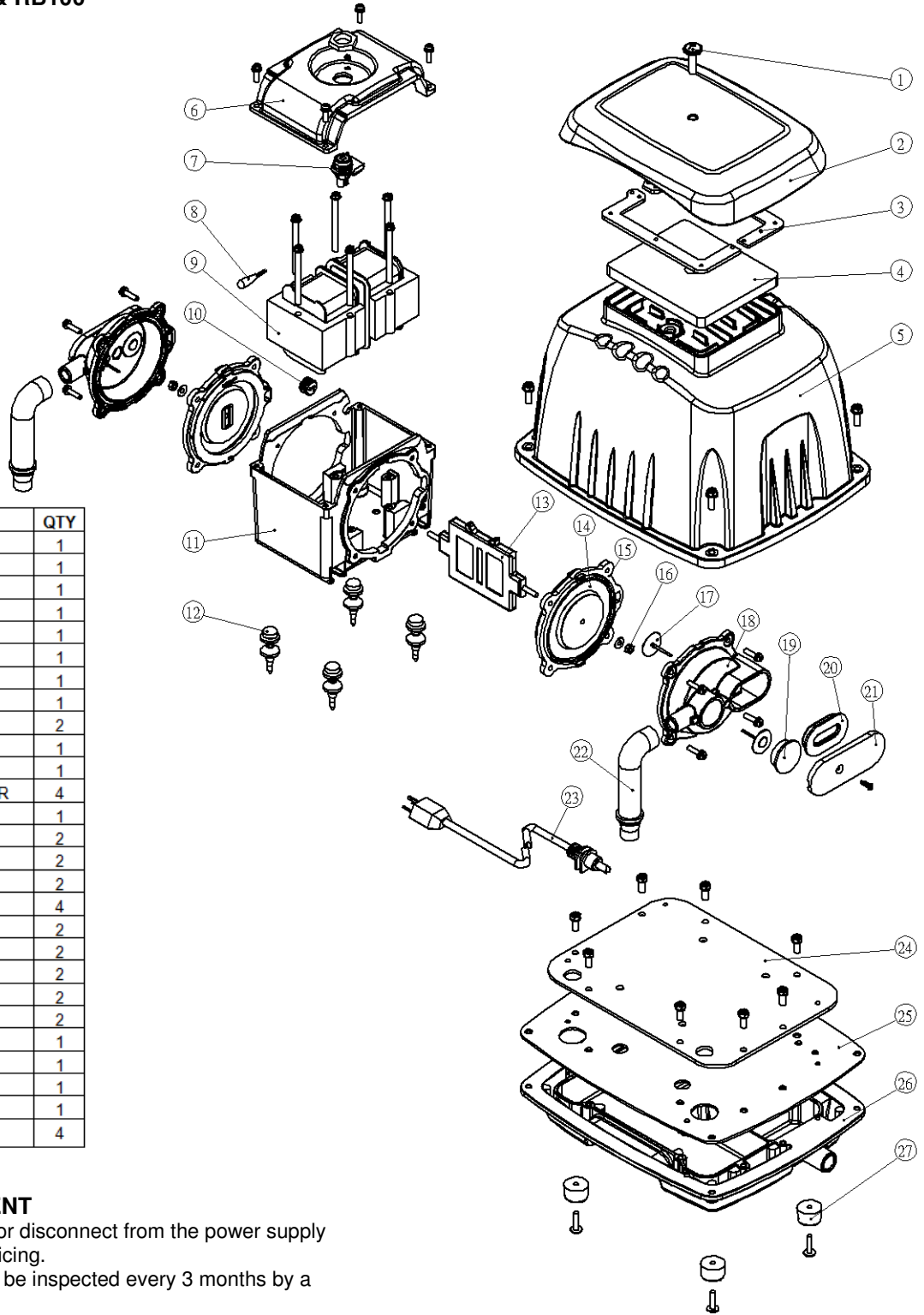


Figure 3

EXPLODED VIEW – RB90 & RB100



NO.	DESCRIPTION	QTY
1	TOP SCREW	1
2	FILTER COVER	1
3	FOAM SEAL	1
4	FILTER	1
5	UPPER HOUSING	1
6	COIL COVER	1
7	SAFETY SYSTEM KIT	1
8	THERMAL PROTECTOR	1
9	ELECTROMAGNET	2
10	WIRE STOPPER	1
11	COIL FRAME	1
12	VIBRATION CONTROL RUBBER	4
13	ACTIVATING ARM	1
14	DIAPHRAGM	2
15	DIAPHRAGM FRAME	2
16	U-NUT	2
17	CHECK VALVE	4
18	DIAPHRAGM HOUSING	2
19	CHAMBER SEAL (ROUND)	2
20	CHAMBER SEAL (OVAL)	2
21	SIDE COVER (STEEL)	2
22	L - TUBE	2
23	POWER CORD	1
24	STEEL PLATE	1
25	GASKET	1
26	LOWER HOUSING	1
27	RUBBER FEET	4

DIAPHRAGM REPLACEMENT

1. Unplug the pump and/or disconnect from the power supply before cleaning & servicing.
2. The diaphragm should be inspected every 3 months by a qualified technician.
3. It must be replaced by a qualified technician every 6 to 12 months or as soon as it is worn or cracked, to avoid damage to the pump. This damage is not covered by warranty.
4. Loosen the four screws around the aluminium upper housing, and take the housing off.
5. Loosen the four screws around the coil cover, and take the cover off.
6. Loosen the four screws and disassemble the diaphragm housing.
7. Loosen the u-nut in the centre of diaphragm.
8. Take the diaphragm off the mount.
9. Replace with a new diaphragm by mounting the rubber studs into their position.
10. Press the rim of the diaphragm into the ring.
11. Secure the magnet with a new u-nut and screw and put the diaphragm housing back with the four screws on.
12. Put the coil cover back with the four screws on.
13. Put on the aluminium upper housing and secure the four screws firmly.

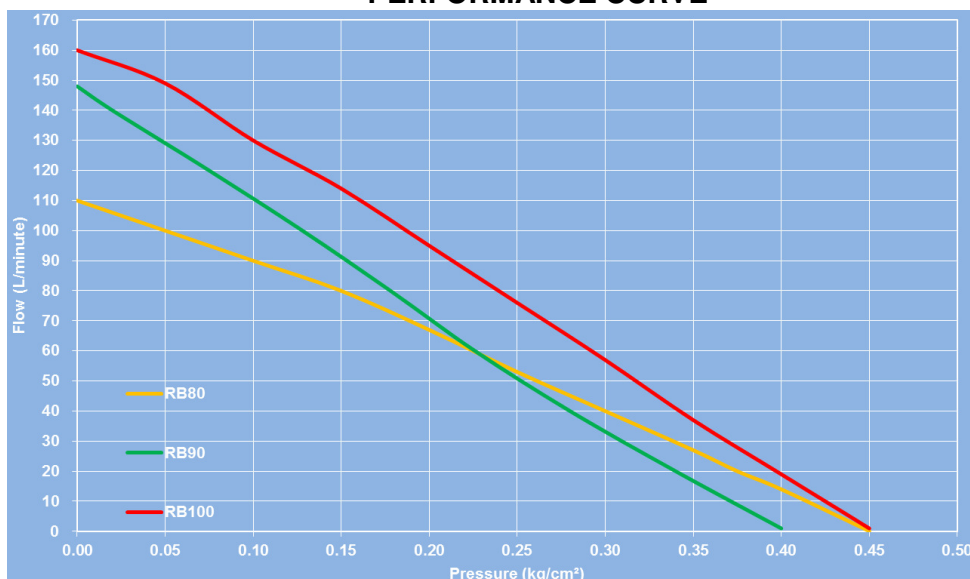
SAFETY PRECAUTIONS

1. **WARNING:** this pump contains rare earth magnets on the activating arm, be very careful when disassembling these parts — Do NOT allow the magnets to come into contact with any electronic devices, including watches, cell phones, tablets, computers or any device containing electronic instruments or parts etc. **DAMAGE TO ELECTRONIC DEVICES CAN RESULT FROM CLOSE CONTACT WITH THESE MAGNETS.**
2. Ensure that power voltage and frequency supply conforms to the power requirements specified on the product nameplate, before use. It should be 230 to 240VAC, 50Hz.
3. This pump must be earthed, do not tamper with the earthing connections.
4. If the pump falls into the water, don't try to remove it when power is on! First unplug it or turn off the main switch, and then retrieve it. If it is safe to do so, open the pump and dry it out over several days. Then you must have a qualified & licenced Electrician check your pump prior to using it again.
5. If the supply cord is damaged, it must be replaced by a qualified Electrician or a certified technician. Never carry the air pump by the power supply cord. Disconnect the power supply to the pump when not in use, and before maintenance and repairs.
6. Periodical maintenance of the appliance is necessary to maintain peak performance and safe functioning. The filter must be inspected and cleaned if necessary, after the first 500 hours of operation, and then a suitable schedule of checking be decided upon, to ensure the filter is cleaned at a suitable time, regularly. The diaphragms must be checked for wear & tear at least every 3 months, and replaced as soon as wear or tear occurs, or by 6 to 12 months.
7. During operation, if the pumps stops inexplicably or if and when anything abnormal occurs, immediately unplug the power cable from the outlet and contact your dealer or an Authorized Service Centre or qualified technician.
8. This pump is an Oil-less type requiring NO lubrication.
9. Consult your approved dealer before using at high altitudes.
10. **NEVER** have only ONE pump if your application is critical and relies upon the pump, you must have a backup pump at all times, this is a condition of warranty.

TECHNICAL DATA

Model	RB80	RB90	RB100
Power	58W	70W	87W
Voltage	230 - 240	230 - 240	230 - 240
Frequency	50Hz	50Hz	50Hz
Standard Pressure	0.014MPa	0.015MPa	0.018MPa
Max Pressure	>0.044MPa	>0.040MPa	>0.045MPa
Rated Output (at X.XXX MPa)	80L/min (at 0.014MPa)	90L/min (at 0.015MPa)	100L/min (at 0.018MPa)
Approx. Noise Level	41dB	46dB	48dB
Thermal Overload	120 °C	120 °C	120 °C
Min/Max Ambient Temp.	-10/40 °C	-10/40 °C	-10/40 °C
Weight	5.8kg	8.8kg	8.8kg
Size	202L x 177W x 186H mm	262L x 216W x 229H mm	262L x 216W x 229H mm

PERFORMANCE CURVE



REEFE AIR PUMPS 2 YEAR 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. The following conditions are in addition to your statutory rights.
2. This warranty covers failure due to manufacturing defects within a 2 year period for REEFE™ Pumps purchased and used in mainland Australia. In the case of failure due to manufacturing defects within 2 years, the pump will be replaced. Diaphragms not replaced according to the required schedule, are not covered under this warranty.
3. Faults or losses caused due to: Accidents or misuse or lack of maintenance or improper installation or not following these instructions or power surges/spikes/brownouts, or any other unforeseen event will not be covered by this warranty.
4. The Bearings, Diaphragms, Diffusers, Seals, Valves, Actuating Arms and O-rings are all wearing items and therefore are not covered by warranty for "normal wear and tear". They are covered by warranty if they are faulty.
5. Warranty will be void if any tampering or removal of identification labels or electrical cables has occurred. No warranty applies for goods sold or used for HIRE or RENT or LEASE.
6. These pumps must not be powered by a generator, unless it is certified for use with electronic devices.
7. In the case of a fault, check the instruction manual and maintenance procedures first. If these steps do not rectify the problem, you can return the faulty appliance to the original place of purchase with proof of purchase (or an acceptable substitute) for replacement or refund. Or you may call our warranty department on 1800 807 604 to arrange replacement.
8. If an exact replacement is not available, the closest equivalent product of same or better performance will be supplied, at our discretion.
9. This product is guaranteed as fit for the purpose of use as stated in these instruction manuals and for NO OTHER USE. DO NOT use for anything other than clean, fresh air. DO NOT use for gases or other chemicals.
10. Corrosion due to Chlorine gases is not covered by this warranty. It is the installers responsibility to ensure the pump is supplied with clean, normal air supply not contaminated by chlorine gases, or any other gas or gaseous substance.
11. This pump MUST NOT be installed in any manner such that if it were to leak, overheat, or have any other unforeseen event, 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. Keep out of reach of children, pets, wildlife and incompetent persons.
12. The Pump must be connected to a suitable electrical circuit, protected by a RCD (safety switch), the warranty is totally voided if the pump is not protected by a RCD. Do not use an extension lead; the pump must be connected directly to a power outlet. All warranty is void if this instruction is not followed.
13. This pump is not to be used as your sole supply. For critical applications where loss of supply could cause serious consequences, use a DUAL PUMP System so you have a backup supply. Not to be used for breathing apparatus or any such similar application.
14. WARNING: this pump contains rare earth magnets on the activating arm, be very careful when disassembling these parts — Conditions of Warranty: Do NOT allow the magnets to come into contact with any electronic devices, including watches, cell phones, tablets, computers or any device containing electronic instruments or parts etc. DAMAGE TO ELECTRONIC DEVICES CAN RESULT FROM CLOSE CONTACT WITH THESE MAGNETS and is not covered by this product warranty.
15. In the case of a fault, refer to the Instruction Manual first. If replacing the diaphragms (normal maintenance 3 to 6 months) does 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 sales@ascento.com.au with copy of your purchase receipt, 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 1800807604 with the above information; however we will always require a copy of your purchase receipt. Do not send the product to us unless we ask you to do so.
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: Conditions of Warranty: This pump MUST NOT be installed in any manner such that if it were to leak, overheat, or any other unforeseen event, that it would cause damage or loss to property or persons. It MUST be installed in a well-ventilated and drained area. DISCONNECT FROM POWER before touching the pump. Keep out of reach of children, pets, wildlife and incompetent persons. DO NOT use for anything other than clean, fresh air. DO NOT use for gases or other chemicals. DO NOT use for breathing apparatus or any such similar application. All warranty is void if these conditions are not heeded and no liability can be accepted in the case of damage or loss caused by failing to comply with these conditions.



WARNING: this pump contains rare earth magnets on the activating arm, be very careful when disassembling these parts — Conditions of Warranty: Do NOT allow the magnets to come into contact with any electronic devices, including watches, cell phones, tablets, computers or any device containing electronic instruments or parts etc. DAMAGE TO ELECTRONIC DEVICES CAN RESULT FROM CLOSE CONTACT WITH THESE MAGNETS and is not covered by this product warranty.

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