



REEFE VSRM Inverter Constant Pressure System

Variable Speed REEFE Multi-Stage Pump

USER MANUAL

Read this manual carefully before installation, and also refer to the diagrammatic installation guide provided separately. If you don't have this guide, please email sales@ascento.com.au and request a copy.



REEFE® VSRM Series Pumps use the latest VVVF (Variable Voltage and Variable Frequency) AC frequency speed regulation technology. Combined with pressure sensing technology through measuring of real-time system pressure, this allows the controller to automatically adjust the motor speed and maintain a constant outlet pressure. They are very efficient, easy to install and have user friendly interface controls for quick setup. No programming is required, simply set your desired operating pressure and press RUN...let the controller save you money on your operating costs.

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1. Features & Application

1.1 Product Features

VSRM series inverter constant pressure water supply system uses the latest VVVF (Variable Voltage and Variable Frequency) AC Frequency speed regulation technology, combined with pressure sensing technology, through measuring of real-time system pressure, to automatically adjust the motor speed, to keep the outlet pressure constant.

1.2 Applications

1.2.1 Clean water supply for commercial and domestic use, with flooded suction. Not to be used for liquids other than clean fresh water. Not suitable for saltwater. Not suitable for suction lift (drawing up from an underground

tank or a tank that is below the level of the pump) the VSRM pump must have “gravity fed water supply” – otherwise known as flooded suction.

1.2.2. MAINS PRESSURE BOOSTING: This is a specialized type of application, and must be completed by a Qualified Plumber or Pump Technician who is competent to perform this type of installation. The configuration MUST include a ball-valve on the inlet pipe and compliant non-return valves on the inlet & outlet pipes, and comply with the applicable Council/Shire plumbing specifications. Request the diagrammatic installation guide for MAINS PRESSURE BOOSTING from sales@ascento.com.au

1.4 Operating Conditions

1. Liquid: unfrozen clean fresh water
2. Liquid Temperature: 5°C to 50°C

2. Safety Notices

2.1 Notice

1. Please read the manual carefully before installation and use, also read to the diagrammatic instructions in conjunction with this instruction manual.
2. Pay attention to all safety warnings.
3. Warranty does not cover loss or damage caused by improper installation, improper use or unauthorised modifications.

2.2 Pre-use Check

Every product is factory checked so it will be in good working order when you receive it. However please check;

1. Ensure the model and type is what you have ordered, and is suited to your application.
2. Check for damage caused by transportation, do not connect it to the power if it is damaged in any way.

2.3 Environmental Conditions

The installation conditions of VSRM Pumps has a direct impact on the function and service life, so the installation surroundings should conform to the following conditions;

1. The pump must be installed on a level concrete pad, or similar material that will remain level and not subside.
2. The pump must be housed in a well ventilated enclosure that protects it from sunlight and rain and it must be in a well drained area, protected from the weather, dust, dirt, leaves, insects, rodents, reptiles etc, by way of a pump cover or a weatherproof enclosure. Installation under eaves of houses is not an acceptable level of protection from the weather.
3. Ambient temperature for safe operation: 10°C to 40°C - do not allow the unit to freeze.
4. Protect from splash from pools, overflowing gutters or garden taps or any other water source.
5. Do not install near any device that might cause electromagnetic interference.
6. Do not install near radioactive material or fuel.
7. All Electrical installation must be completed by a licenced Electrician, all warranty is void if installed by an unqualified person.
8. Before operation of this product, the installer must ensure it is wired correctly, and that it is Earthed correctly to a circuit protected by a Circuit Breaker with an integral RCD (Safety Switch).
9. Pay attention to all safety warnings and instructions in the manual, failure to do so voids all warranty and may lead to harm and danger to persons.
10. Consider your bedrooms & your neighbours when installing, the VSRM are quiet in operation but installing away from these areas will minimise the risk of any disturbance.
11. The pump must be easily accessible for servicing and repairs if ever necessary – do not install in any of the following areas: confined space, crawl space, under a house with enclosed base, roof or ceiling space, or in any other area that makes it difficult or impossible to easily access the pump.



DANGER: Risk of Electric Shock: Disconnect VSD from the power supply and wait 5 minutes to allow any retained current to discharge before opening the VSD.



WARNING: If the VSD is damaged do not attempt to use the device, it may damage the pump and you may be at risk of harm.

2.4 Additional safety warnings;

 DANGER	1. Please be sure to use the correct power supply - refer to the nameplate.
	2. Disconnect power supply when installing and maintaining this product. This product must be earthed according to Australian electrical safety standards.
	3. DANGER: NOT TO BE USED IN HAZARDOUS AREAS. Not to be used with hazardous, corrosive, flammable or explosive substances, or in any area that is deemed to be a high-risk area.
	4. Don't install the VSRM underwater or in any place where water may be splashed or sprayed onto the controller, it must be in a well ventilated and well drained area, protected from the weather, dust, dirt, leaves, insects, rodents, reptiles etc, by way of a pump cover or a weatherproof enclosure. Installation under eaves of houses is not an acceptable level of protection from the weather.
	5. This pump is not to be used as your sole water supply. For critical applications where loss of water supply could cause serious consequences, use a DUAL PUMP System so you have a backup water supply or use a TOWN-WATER BACK-UP System.
	6. This 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.
	7. If the device will not be used for 18 months or more, the capacitors must be replaced by a licenced Electrician, before it is used again.
	8. Don't open the cover or touch the controller terminals when power is on, no exceptions.
	9. Always wait for 5 minutes after the power is isolated, ensure all the indicator lights are out completely, before opening the cover, otherwise there is risk of electric shock.
	10. Ensure hands are dry while operating the control panel, do not use wet hands.
	11. If the wiring is damaged or perished, it must be replaced by a licenced Electrician.

 CAUTION	12. Installation and the operation must comply with all applicable safety, electrical & plumbing regulations. It is the installer's responsibility to ensure compliance; all warranty is void if this is not followed.
	13. Installation and maintenance is only to be carried out by qualified persons, all electrical work must be performed by a licenced Electrician.
	14. The Installer takes responsibility for the correct installation, and must ensure the Owner or delegated person is competent in maintenance, and the Owner takes responsibility that maintenance is only performed by competent persons.
	15. If the motor overheats, please close the inlet valve immediately and turn off the power supply, contact your installer or dealer or service centre do not contact us as we have no knowledge of your installation. The pump is not to be used again until the fault is investigated and rectified.
	16. If you cannot eliminate the pump fault simply, please close the inlet valve immediately and cut off the power, contact your installer or dealer or service centre. Do not contact us as we have no knowledge of your installation. The pump is not to be used again until the fault is investigated and rectified.
	17. Isolation measures must be taken so as to protect the VSRM from interference by children, incompetent persons, vandals and wildlife.
	18. If the ambient temperature and/or humidity is high, the VSRM controller must be sufficiently ventilated to avoid electrical failure from condensation.

3. Installation and Operation instruction

IMPORTANT NOTICES: READ *BEFORE* INSTALLATION

3.1 IMPORTANT MANDATORY INSTALLATION REQUIREMENTS:

1. IMPORTANT: a Check-Valve must be installed in the inlet pipe
2. IMPORTANT: Install using Barrel-Union connections for easy removal for repair or servicing. Install a Y-Strainer or Pre-Filter and also a Ball-Valve on the inlet piping. REFER to the Diagrammatic Instructions for more information. No warranty applies if these are not fitted according to the instructions.
3. IMPORTANT: Pressure setting in the Pressure Tank MUST be changed, once the OPERATING PRESSURE is decided/set. Firstly set the OPERATING PRESSURE (“Setting” on the keypad), then adjust the pressure in the PRESSURE TANK, recommended to be set at 50% to 70% of the OPERATING PRESSURE (“Setting” on the keypad)

3.2 IMPORTANT NOTE: Pressure of the water at the discharge (taps, showers, irrigation etc) is affected by the pipe size. The SMALLER your pipes, the LOWER the pressure will be at discharge. Example: 13mm ID pipe over 20 metres at 30Lpm will reduce pressure at discharge by 240kPa (2.4bar) - whereas if 25mm ID pipe is used for 20 meters at 30Lpm it only reduces pressure by a miniscule 10kPa. Smaller pipe also means that more power will be used as the pump has to work harder to overcome the extra back-pressure from small pipes. A small short-term saving (in the cost of the pipes) will become a long-term liability.

Model	Pump Inlet Size	Inlet Pipe (Suction Pipe) ID	Pump Outlet Size	Discharge Pipe ID
VSRM38-72	25BSP	25 - 32mm	25BSP	20 - 25mm
VSRM48-72	25BSP	25 - 32mm	25BSP	20 - 25mm
VSRM39-102	32BSP	32 - 40mm	25BSP	25 - 32mm
VSRM58-102	32BSP	32 - 40mm	25BSP	25 - 32mm
VSRM50-270	40BSP	40 - 50mm	40BSP	32 - 40mm

The larger size is recommended for best performance.

Pipe sizes are ID (Internal Diameter). We do not recommend 18mm Copper pipe is used for the main discharge for these pumps – we recommend the larger sizes as per the chart above, is used for the main supply lines – smaller pipes then can be used to connect to the fixtures.

3.3 IMPORTANT NOTE: The higher the Pressure setting (“Setting Pressure” on the pump control panel) the more power you will use – set the pressure at the lowest pressure that is acceptable for the application. The recommended setting is 65% of the max head pressure and the MAXIMUM setting is 80% of the max head pressure (refer to the label on the pump and also the table below) IF THE PRESSURE IS SET TOO HIGH THE PUMP WILL RUN CONTINUOUSLY – this will cost you a lot of wasted power and void the warranty.

Model	Recommended Pressure Setting for flooded suction	Maximum Pressure setting for flooded suction	Maximum Pressure setting for Mains boosting
VSRM38-72	2.5Bar	3.0Bar	3.0Bar above existing mains pressure (cannot exceed 10.0Bar)
VSRM48-72	3.1Bar	4.0Bar	4.0Bar above existing mains pressure (cannot exceed 10.0Bar)
VSRM39-102	2.6Bar	3.0Bar	3.0Bar above existing mains pressure (cannot exceed 10.0Bar)
VSRM58-102	3.7Bar	4.9Bar	4.9Bar above existing mains pressure (cannot exceed 10.0Bar)
VSRM50-270	3.9Bar	4.2Bar	4.0Bar above existing mains pressure (cannot exceed 10.0Bar)

3.4 IMPORTANT NOTE: If using the VSRM Pump as a townwater booster system (mains water pressure booster) set the OPERATING PRESSURE as: Mains pressure + (65% of max pump head pressure – up to maximum of 80% of max pump pressure) refer to the table above. CONTACT sales@ascento.com.au for a diagram showing the CORRECT configuration for Mains Water boosting applications, warranty is void if it is not configured to our specifications.

3.5 IMPORTANT NOTE: If using the VSRM Pump with a townwater backup system (Rain-Mains System) you must fit a FLOAT SWITCH to the rainwater tank so that when the water level of the tank is 300mm above the tank outlet, the power to the pump is turned OFF, BEFORE the tank and pipes are dry. We recommend the RainPro Rain-Mains Valveset with a REEFE Pump Shut-Off Controller with Float Switch. Or use a “Piggy-Back” Float Switch, but ensure the installation is checked and approved by a licenced electrician.

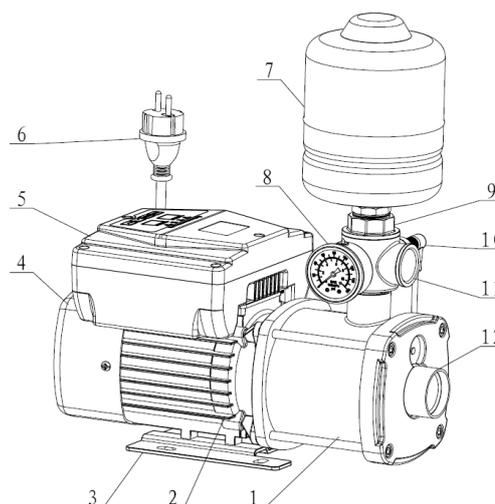
3.6 IMPORTANT NOTE: The pump ***will run on continuously*** if;

- a) There is any leaks anywhere in the pipework – do a pressure-test to rule this out – do not assume that the pump is faulty – pump running continuously is almost always due to a leak, or point c) below!
- b) If you have drip irrigation that is not set up correctly
- c) The pressure setting is too high it will not stop – this is not a pump fault – ensure pressures are set correctly refer to “3.3 Important Note”

If the pump runs continuously, and you find it is leaks or drip irrigation that you cannot find or stop, you MUST install an additional larger PRESSURE TANK between the pump and the first point of discharge, to avoid the continuous running. We suggest a REEFE Pressure Tank PT35H or larger. Warranty is voided by continuous running of the pump.

3.7 COMPONENT DIAGRAM AND INSTALLATION INSTRUCTIONS

No.	Component	No.	Component
1	Pump body Wet-End	7	Pressure tank
2	Motor	8	Pressure gauge
3	Mounting plate	9	Five-way Valve
4	Fan housing	10	Pressure Transducer
5	Inverter components	11	Water Outlet
6	Power plug	12	Water Inlet



Installation Guide – refer also to the diagrammatic instruction manual

1. Read the manual carefully before installation and use. ALSO REFER to the separate diagrammatic instructions and read them in conjunction with this manual.

2. Check the pump, motor casing and the power plug for damage before installation, do not use if it is damaged in any way.

3. Pump must be installed on a level concrete pad, or similar material that will remain level and not subside. Don't install the VSRM underwater or in any place where water may be splashed or sprayed onto the controller, it must be in a well ventilated and well drained area, protected from the weather, dust, dirt, leaves, insects, rodents, reptiles etc, by way of a pump cover or a weatherproof enclosure. Installation under eaves of houses is not an acceptable level of protection from the weather.

The pump must be easily accessible for servicing and repairs if ever necessary – do not install in any of the following areas: confined space, crawl space, under a house with enclosed base, roof space, beside bedrooms, close to neighbours bedrooms, or in any other area that makes it difficult or impossible to easily access the pump.

4. Pump must be earthed correctly, and connected to a dedicated circuit with the correct power circuit according to the power requirements of the pump, having an integral Safety Switch (RCD) having a rated residual operating current not exceeding 30mA.

5. Check the operating environment is suitable for this Pump – do not use in hazardous areas or for liquids other than clean fresh water.

6. **IMPORTANT:** Install using Barrel-Union connections for easy removal for repair or servicing. Install a Y-Strainer or Pre-Filter and also a Check Valve and Ball-Valve on the inlet piping. REFER to the Diagrammatic Instructions for more information. No warranty applies if these are not fitted according to the instructions.

7. Ensure all electrical connections conform to the applicable Electrical Regulations.

8. Prime the pump - that is fill it with water so it will start;
- Connect it to the water supply, ensuring you use the correct valves as per Diagram 1
 - Remove the bleed plug off the front of the pump (the plug is just above the water inlet part number 12 in the diagram above.)
 - Open the ball-valve between the tank and the pump to allow the water to come through
 - Wait until the water spills out the bleed hole then re-fit the plug
 - Start the pump - if the failure light flashes, repeat the process above, until it works

9. Operating Steps

- Connect power, the current pressure will display “00.00”bar, and the setting pressure will display the default pressure setting which is usually 2.0bar.
- Open a tap on the discharge side, and press **RUN** to start the pump.
- Press **STOP** to stop the pump at any time.
- Press **▲** or **▼** to check the setting pressure (the operating pressure), if you want to change the setting pressure, press and hold **▲** to increase the pressure or press and hold **▼** to decrease the pressure setting.

Open a tap after setting the pressure, the inverter will automatically adjust the speed control on the pump according to the amount of water being used. Observe whether the pump is running normally, the “Current Pressure” in the display should be fairly constant. Check the user is happy with the pressure supplied at the water outlets, adjust the pressure up or down as required (the “Setting Pressure”). Please review **IMPORTANT NOTES 1) 2) 3) & 4)**

Also refer to “4.3.3 Button and Function Instruction” below.

Set the operating pressure as per “3.3 **IMPORTANT NOTE**” above, and “3.9.2 Button and Function Instruction” below.

10. If the pump stops and flashes “Failure” repeat step 8. Above.

11. If the pump runs continuously without stopping, ensure the pressure is not set too high, refer to “3.3 **IMPORTANT NOTE**”

12. If the pump continues to run continuously refer to “3.6 **IMPORTANT NOTE**” above.

3.8 Wiring Diagram and Instruction

The pump is prewired, and any work on the wiring must only be performed by a Licenced Electrician.

Wiring Diagram	Instructions for use by LICENCED ELECTRICIAN ONLY
<p>Wiring diagram</p> <p>To sensor: Psi 24V, 10bar, 4-20mA</p> <p>To pump: U, V, W, PE, Ground, 3-220V AC 50/60Hz</p> <p>To power: L1, N, PE, Ground, 1-220V AC 50/60Hz</p>	1. Isolate the power and WAIT 5 MINUTES before opening the electrical panel.
	2. Ensure wiring is correct according to the diagram. Ground = Earth
	3. Make sure the power is off before wiring or servicing the unit
	4. Verify the rated voltage of the inverter and the input power supply voltage is consistent.
	5. Do not perform over voltage testing as this will damage the inverter.
	6. Ensure the unit is properly earthed before powering up.
	7. If any cabling is changed, the new cable must be of equal or greater capacity than the cable that was supplied from the factory. Once all parts are re-installed and checked re-connect the input power.
	8. 5. If the device will not be used for 18 months or more, the capacitors must be replaced by a licenced Electrician, before it is used again.
	9. Test for safe operation before handing over to the owner.

3.9 Operating Instructions

3.9.1 Check before Operation

1. Check the electrical and plumbing installation comply with these instructions, and also complies with applicable electrical and plumbing regulations; it is the installer’s responsibility to check compliance as we have no control over the installation.
2. Check whether the pressure transducer is connected to the right port on the 5-Way Valve – see 3.7
3. Check whether the product is firmly fixed to a level base that cannot move.
4. Check that it is in a well-drained and well-ventilated area, and protected from the weather and from children and pets.

3.9.2 Button and Function Instruction

Control Panel Diagram	NO.	Name	Description - Function
	1	CURRENT PRESSURE	Displays the current pressure in the pumpset and discharge pipework. This is not user-adjustable. The “Setting Pressure” is adjusted by the user. Unit: bar
	2	POWER	Indicator lights up when the power is connected.
	3	PUMP	<ol style="list-style-type: none"> 1) Light flashing quickly: the inverter is adjusting the speed of the pump 2) Light flashing slowly: Pump is operating at constant speed (constant pressure) or there is a water shortage, 3) Light constantly on: Pump has automatically stopped 4) Light off: Manual stop or power is disconnected. NOTE!! – some models have Pump1 & Pump2 light – ignore the Pump2 lights as these are not used.
	4	SET	<p>The light flashes while setting the working pressure</p> <p>IMPORTANT!!! If the pressure is set too high the pump will run continuously which will cost you a lot of money in wasted power, and void the warranty.</p>
	5	FAILURE	This light blinks when there is a water shortage, the pump will attempt to restart automatically within a set period. The interval times are: 8sec, 1min, 10min, 30min, 1hr, 2hr, then 2hourly ongoing. If the tank will be dry for days, turn the pump power off.
	6	SETTING PRESSURE	Displays the pressure that the pump is set to operate at, this display will change when the user/installer changes the operating pressure – refer below. Unit: bar.
	7	Decrease button	Press once, the pressure decrease 0.1bar. Press and hold and the pressure will decrease quickly.
	8	Increase button	Press once, the pressure increase 0.1bar. Press and hold and the pressure will increase quickly.
	9	STOP	<p>Stops the pump manually, also resets the Inverter when it is in the “Failure” mode, back to normal running.</p> <p>However if there is a water shortage, it will revert to Failure again.</p>

	10	RUN	Starts the pump manually, also resets the Inverter when it is in the "Failure" mode, back to normal running. However if there is a water shortage, it will revert to Failure again
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4. Maintenance

4.1 MONTHLY: The Owner/User must check the Y-Strainer or Pre-filter monthly and clean/flush it to ensure there is no restriction on the suction of the water from the tank. Also clean dust, dirt, leaves and cobwebs etc off the pump, and ensure there is no restriction to the airflow around the pump. Check for leaking pipework, taps & toilets, leaks cost you money!!

4.2 Repairs to the pump need to be conducted by qualified persons, and only genuine parts fitted. If a reduction in pressure is noticed, it could indicate debris is in the pump, check the settings, check water supply from the tank. If no cause found, a competent person should open the pump (wet-end) and clean the impellers and diffusers.

4.3 No other regular maintenance should be necessary.

4.4 **If the pump is starting frequently or not stopping**, it nearly always means something is leaking. This is wasting water, power and your money!! To easily check if it is a leak, ensure no-one is using the water, then turn the pump off at the power. Watch the pressure gauge, if it is slowly going down (pressure in the pipes is reducing) this tells you that something is leaking. Carefully and thoroughly check all outlets, turn off toilet cisterns as they are common problem. If it is certain that it is not outlets, check the backflow valve (check valve) it might have debris in it and the water is escaping backwards. The pump will run on continuously due to any minor leaks/or you have drip irrigation/or very slow use. Also check the pressure setting (if it is too high it will not stop) or if it is leaks or drip irrigation that you cannot stop, you MUST install an additional larger PRESSURE TANK between the pump and the first point of discharge, to avoid the continuous running. We suggest a REEFE Pressure Tank PT35H or larger. Warranty is voided by continuous running of the pump.

4.5 If the pump will not be used for a long time, disconnect the power and drain the pump. If it is not used for 18 months or more the capacitors must be replaced by a Licenced Electrician.

5. TROUBLESHOOTING

Check the following before requesting service or repair. A call out fee and labour cost may apply to field services.

Fault Codes;

No.	Code Name	Schematic Diagram	Instruction
1	Over-Voltage		When the voltage is higher than 270V it shows this code, once the Voltage reduces back to less than 260V, VSRM will revert to normal operation.
2	Under-Voltage		If the voltage is lower than 100V it shows this code, once the Voltage increases back above 110V, VSRM will revert to normal operation.
3	Thermal protection		When the VSRM air-cooled radiator temperature reaches 80°C it shows this code, when the temperature drops back to lower than 60°C, the VSRM will revert to normal operation.
4	Sensor error (Transducer)		If the Transducer (Pressure Sensor) is damaged or disconnected this code displays, the VSD will revert to normal operation after the problem is rectified/the Transducer is replaced.

5	Over pressure		This code displays if the pipe pressure reaches 99% of the maximum allowable pressure for the Transducer. Once the pressure reduces to less than 96% of the max pressure, the VSD will revert to normal operation.
6	Dropped Phase		When the input is three phase power, this code indicates that the power supply has dropped from 3 Phase to 2 or 1 phase. Contact your power supplier.
7	Overload		This code shows when current draw (Amps) are too high, Contact a licenced Electrician to inspect and troubleshoot.
8	Over-current or short circuit		This code shows when the motor short circuits or has seized or has some other problem to cause high current-draw (high Amperage draw) Contact a licenced Electrician to inspect and troubleshoot.

OTHER PROBLEMS & POSSIBLE CAUSES

5.1 Light Flashes “Failure”

This normally indicates that the pump has no water, either because the tank is empty or the pump has “lost prime” = run dry. The pump is fitted with an AUTOMATIC RESTART so it will attempt to re-start itself several times. This is normal, it does not mean the pump is faulty. Refer to point 3.9.2 the button instructions. Check your water supply, is the tank empty? Does the suction pipe have an airlock in it? Is the Y-Strainer or Prefilter clogged?

5.2. Pump does not run

- * Circuit breaker or Safety Switch is off or fuse has blown.
- * Water level in the tank is too low - Top up or use alternative supply
- * Electrical components have been flooded - Contact a licensed electrician to rectify.
- * Pump plug is not connected properly, or has been flooded or wet - Isolate power at main switch, remove plug & allow to dry, only plug it back in if it is safe to do so. If the problem continues, contact a licenced electrician to check the cause.
- * If all of the above are OK, the pump might have overheated and triggered the thermal overload switch. Turn it off and wait 30 minutes for it to cool down and turn it on again. If the overload switch activates again, have a licenced Electrician investigate why this has occurred before turning it back on.

5.3. Pump runs but does not deliver water.

- * Check valve is installed backwards. Arrow on valve should point in direction of flow.
- * Discharge shut-off valve (if used) may be closed.
- * Impeller or volute openings are fully or partially clogged. Disconnect from the power supply, and if you are competent to do so, disassemble pump and clean. If not, have a pump technician do it for you.
- * Pump is air-locked. Re-prime the pump by turning the power off, then removing the screw above the inlet, and allow the tank water to push the air out. If the tank water does not come out, your tank must be empty. If the water comes out, re-fit the plug , turn the power back on and test.
- * Vertical pumping distance is too high. Reduce distance or upgrade to a larger pump.

5.4. Pump runs and does not stop or runs when no taps in use

- * Leak in pipework or leaking toilet cisterns or underground pipe leak (wet soil, muddy, grass growing well!)
- * Check this problem thoroughly and carefully, as leaks can be elusive, and cost you loss of power & water = money.

See also 3.6 IMPORTANT NOTE

- * If this fails to rectify the problem, call your dealer for service, or call us.

Note that a call out fee and labour costs apply, if it is not found to be warranty.

5.5. Pump not pumping properly

- * Too high head or pump under specified - Check specifications.
- * Too low water level - Check the water levels
- * Loss of prime - Check water level in the tank - re-prime the pump, see 5.1

- * Leakage of inlet (suction) pipe - Check the inlet pipe is not taking in air, check all joints.
- * Inlet Pipe has rise and fall (Dips). Fix suction pipe so it is both perfectly straight and level, OR slightly falls all the way to the pump.

5.6. Pump runs but delivers only a small amount of water.

- * Pump is air-locked. Start and stop several times with 2 minutes between. Or re-prime the pump per 3.7 Step 8
- * Vertical pumping distance is too high. Reduce distance or upgrade to a larger pump.
- * Y-Strainer or Pre-Filter is clogged - Clean or replace – see 5.1
- * Foot valve blocked - Clean or replace the FOOT valve (if fitted)
- * Too low water level - Check the suction and water levels
- * Impeller or volute openings are damaged or fully or partially clogged. Disconnect from the power supply, and if you are competent to do so, disassemble pump and clean. If not, have a pump technician do it for you

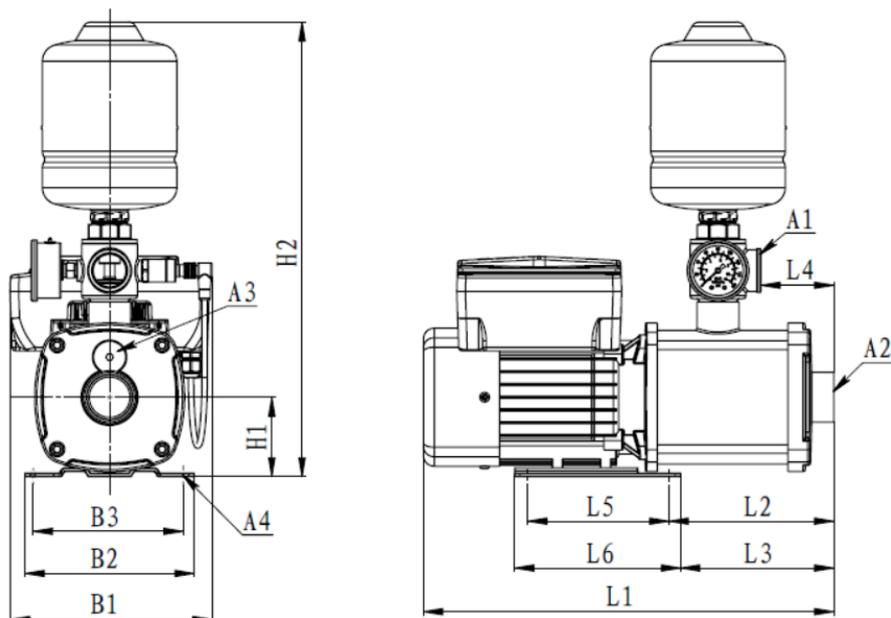
5.7. Fuse blows or circuit breaker trips when the pump starts.

- * Fuse size or circuit breaker may be too small. Have this checked by a licenced electrician – damage to the Inverter is possible if this problem is not rectified.
- * Impeller or volute opening are fully or partially clogged. Disconnect from the power supply, and if you are competent to do so, disassemble pump and clean. If not, have a pump technician do it for you.
- * If none of the above, the Motor may be defective, have it checked by a qualified technician.

5.8. Motor runs for a short time, then stops.

- * Impeller or volute opening are fully or partially clogged. Disconnect from the power supply, and if you are competent to do so, disassemble pump and clean. If not, have a pump technician do it for you.
- * See 5.1 & also the functions described in 3.9.2
- * Motor may be overheating. Ensure there is good ventilation for the motor.

6. Dimensions and Technical Data



6.1 Product Specifications

6.1.1 Pump Dimensions

Model	Dimensions(mm)														
	A1	A2	A3	A4	B1	B2	B3	H1	H2	L1	L2	L3	L4	L5	L6
VSRM38-72	G1	G1	G3/8	11	189	158	125	75	428	336	149	131	50	96	136
VSRM48-72	G1	G1	G3/8	11	189	158	125	75	428	383	167	143	68	96	136
VSRM39-102	G1	G1½	G3/8	11	189	158	125	75	428	362	149	125	50	96	155
VSRM58-102	G1	G1½	G3/8	11	189	158	140	90	443	446	243	228	104	125	155
VSRM50-270	G1½	G1½	G3/8	11	210	158	125	100	550	438	200	185	80	96	136

6.1.2 Technical Data - AC 240V/50Hz Input

Model	Rated power	Max Head	Max flow	Rated head	Rated Flow	Factory pressure setting	Operating pressure range	Pressure tank size	Pressure filled in tank
	(KW)	(m)	(Lpm)	(m)	(Lpm)	(bar)	(bar)		(bar)
VSRM38-72	0.55	37	72	33	33	2.0	1.0~3.2	2L	2.0
VSRM48-72	0.55	47	72	40	38	2.0	1.0~4.0	2L	2.0
VSRM39-102	0.75	39	130	30	66	2.0	1.0~3.0	2L	2.0
VSRM58-102	1.3	58	130	49	66	2.0	1.0~4.9	2L	2.0
VSRM50-270	2.2	50	270	39.5	200	2.0	1.0~4.0	4L	2.0

6.2 Exploded View

NO.	Name
1	Dust cap
2	Priming/Bleed Plug
3	O-ring - Priming/Bleed Plug
4	Casing bolts
5	Front Wet-End Clamp Plate
6	Pump Wet-End Casing
7	O-ring – Wet-End Casing
8	Hex Nut – Impeller Shaft
9	Spring washer – Impeller Shaft
10	Impeller Shaft Bush - Front
11	Volute - Front
12	Impeller(s)
13	Volute(s) - Middle
14	Impeller Shaft Bush - Middle
15	Volute - Rear
16	Mechanical Seal
17	Backplate – Pump Wet-end Casing
18	Motor

Quantity of Impellers;

VSRM38-72: 4

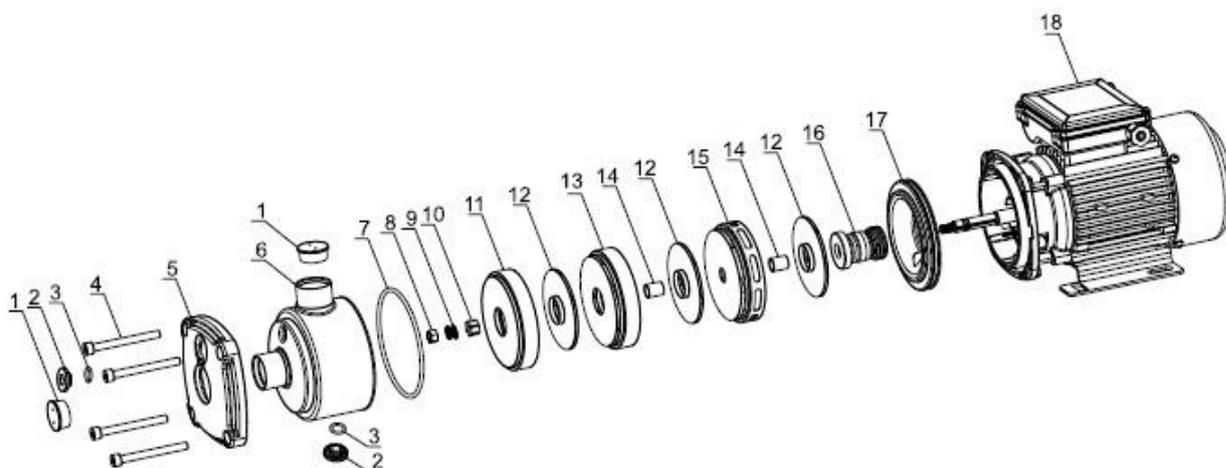
VSRM48-72: 5

VSRM39-102: 4

VSRM58-102: 6

VSRM50-270: 4

Important: not all parts are stocked, items such as bolts and O-Rings are commonly available.



(WARNING) ELECTRICAL PRECAUTIONS

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 a qualified licensed electrician to disconnect it before attempting any repairs or servicing.

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

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.....

BRAND & MODEL NUMBER OF PUMP.....BATCH/SERIAL NUMBER.....

Do NOT send this form to us, retain it for your record

INSTALLATION CHECKLIST: MUST BE FILLED IN FOR WARRANTY TO APPLY

Installer Name _____ Qualification: _____ Phone Number: _____
Wiring of Power Outlet if applicable completed by Electrician _____ Licence No: _____
Installation Address: _____

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

- I have checked that the VSRM is the correct size/power for its intended use, and is being used for appropriate purpose for which it is intended, according to these instructions.
- The Power Circuit the VSRM is connected to is RCD (Safety Switch) Protected and I have checked that it is of suitable size for the kW/Amps of the motor of the pump.
- A Y-Strainer or Pre-filter is installed in the suction pipe to prevent particles entering the pump
- A quality Check-Valve is fitted in the suction pipe near the inlet of the pump
- All swarf has been removed from the tank after cutting openings etc.
- Barrel Unions are fitted on the pipe connections for easy removal & replacement
- A Ball Valve or Gate Valve is fitted to the suction pipe (the pipe from tank to pump) and to the discharge also
- Pipe is sized appropriately for the application (suitable diameter and length)
- The installation is constructed so the pump can be easily removed or replaced.
- For Connections to Town Water: The pump is installed in accordance with National & Local Plumbing Regulations
- The Electrical Supply cable is plugged into a Power Outlet that is in accordance with the current standard of Electrical Safety Regulations AS/NZS 3000 – or the pump has been wired directly to the power circuit by a Licenced Electrician.
- The Pump has been primed (filled with water) started, tested, and operates correctly.
- The pipes and connections and the barrel-union on the pump, and toilet cisterns and irrigation (if connected) have been checked for leaks.
- The pump is protected from sunlight and rain and from interference by children or vandals, with a suitable vented pump-cover or enclosure.
- The Owner/Resident has been shown how to re-prime and re-set the pump (re-fill the pump with water if it runs dry) and if it is a suction-lift application (not recommended) the Owner/Resident has been shown how to check if the suction pipe has lost prime and how to re-prime the suction pipe.
- The Owner/Resident has been shown how to reset the pressure settings and explained that if the pressure is set too high the pump will never turn off (run continuously) and explained that the higher the pressure is set to the more electricity and water is used.
- If the pump starts & stops or runs continuously I have checked the Pressure settings and if that does not resolve the issue I have checked for leaks by performing a Pressure-test on ALL the pipework including the SUCTION pipework.

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

3 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. If you (the purchaser) do not fall within the meaning of 'consumer' in the Australian Consumer Law the provisions of the Australian Consumer Law will not apply to you. 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 Pumps purchased from Ascento 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, you must return the item to the original place of purchase.
3. Faults or losses or failure caused due to: Accidents, misuse, lack of maintenance, not following these instructions, damage caused by lightning strike/power surges/spikes/brownouts/operating the pump on power other than 240volts 50Hz mains power/operating the pump on power supplied by a domestic generator - are not covered by warranty.
4. Where fitted: The complete Impeller set (including shaft), Pre-filter Sponge, Seals, Mechanical Seals, Bearings 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
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 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 FRESH WATER in normal domestic household use, and for NO OTHER USE. 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. 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. Install the pump (and the pump controller if fitted) using Barrel-Union fittings so that the owner can EASILY remove the pump and/or controller for service or replacement. Warranty is void if there is no Barrel Unions used and the pump and pump controller cannot be EASILY removed for service. NEVER install pumps such that persons need to get inside a tank to remove/work on the pump. Warranty is VOID if persons have to get inside the tank to remove or repair the pump or controller. Warranty replacement does not normally include costs of removal and re-installation as we have no control over the method of installation. A check-valve must be fitted to the outlet of the pump to avoid backflow; warranty is void if not fitted. A Prefilter or Y-Strainer must be fitted between the tank and the pump, warranty is void if not fitted. Also ball-valves or gate-valves must be fitted on the discharge to avoid loss of water during servicing. WARNING: Penetrations through metal tanks for the power cable must conform to electrical code and be approved by a licenced electrician. WARNING: Swarf from cutting tank penetration (plastic or metal) may lead to pump failure which is not covered by warranty. Remove ALL SWARF before installing the pump.
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 could cause serious consequences, use a DUAL PUMP System so you have a backup water supply or use a TOWN-WATER BACK-UP System.
11. This 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 its own separate circuit, with an integral RCD (safety switch) having a rated residual operating current not exceeding 30mA, in the circuit breaker.
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 customerservice@ascento.com.au with a photo of the faulty item, 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 1800 807 604 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.
14. If an exact replacement is not available, the closest equivalent product will be supplied at our discretion.
15. 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.

PRIVACY STATEMENT: We will not use your address or phone or fax number, or email address for marketing without your express permission. We will not sell or provide it to any other third party for the purpose of marketing.

Thank you for purchasing our product. We trust it gives you years of trouble-free pumping!

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