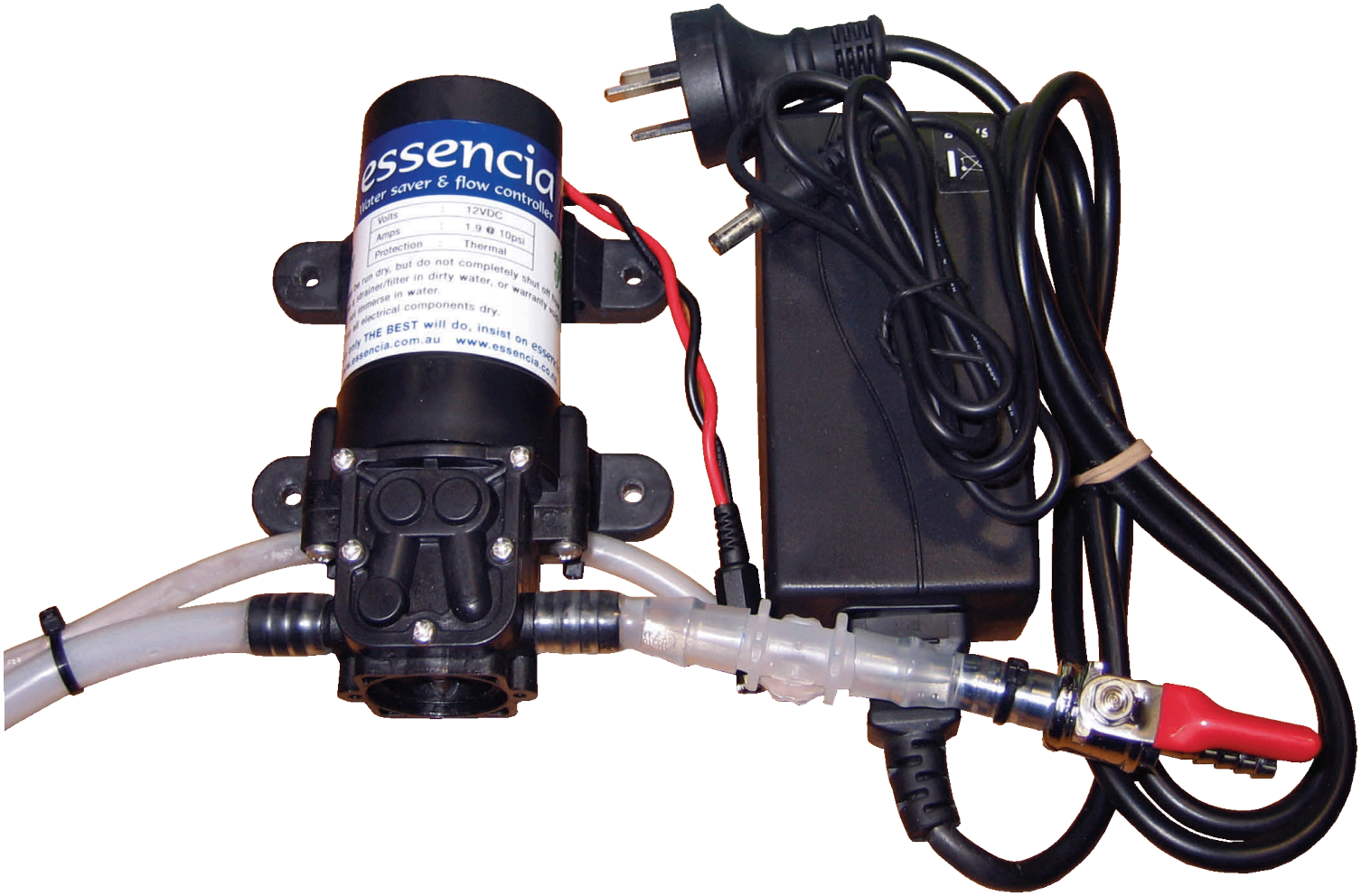
THE

essencia

ULTIMATE CONDENSER PUMP



WATER SAVER & FLOW CONTROL SYSTEM

The *essencia* Condenser Pump is a quality pump specifically developed to supply cooling water to condensers.

Although it has been designed around the *essencia* Express Condenser, the *essencia* Condenser Pump will operate with any condenser that requires up to 4 litres per minute of cooling water flow.

The *essencia* Condenser Pump serves two primary functions.

1. Water Conservation.
2. Eliminating water flow fluctuations.

The Condenser Pump kit.

- Pump unit with power lead.
- Power supply with mains lead and pump power lead attached.
- Ball valve flow control valve.
- Barbed tee piece
- 2 x 45mm lengths of 8mm tubing
- 10 tubing ties
- Approx 90cm each of 8mm & 5.5mm tubing
- These instructions

The Pump unit.

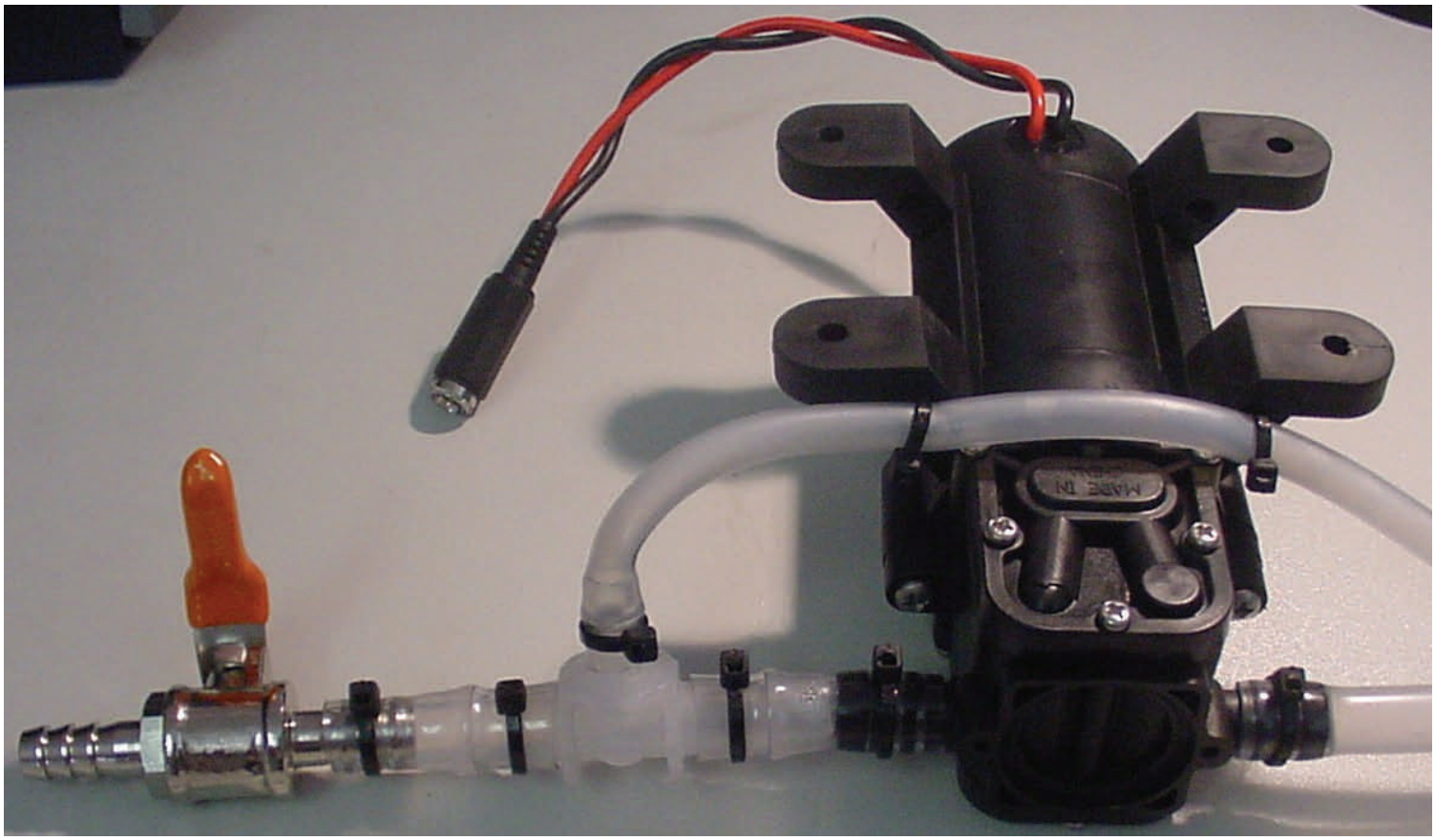
- Has a limited 12 month warranty
- Will pump up to 2 litres of water per minute. (4.3 Litres without bypass)
- Will easily pump to a head height of at least 2 metres.
- Will run for up to 6 hours continuously.

Specifications

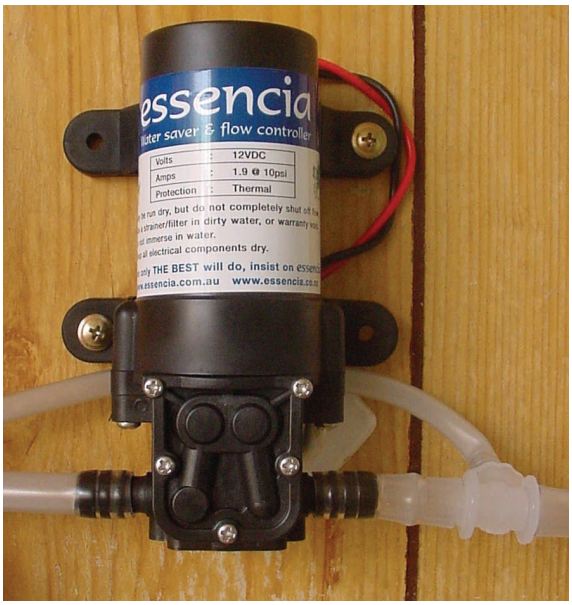
- **Motor**: Permanent Magnet, Thermally Protected.
- **Pump**: Two chamber opposed double diaphragm design. Self-priming up to 1.2 metres suction lift. Pump able to run dry without damage.
- **Port**: Pump housing inlet & outlet are 3/8” hose barb

Assembly & Setup.

- Remove shipping caps from pump ports. Some water from factory testing may spill out
- Using hot soapy water to soften the tubing supplied, assemble the tubing, valve, and tee as shown in the drawing below. (Note: The pump is shown on its back)
- Clamp all joints with the ties provided. It is recommended that the 5.5mm bypass tubing be tied to the feet through the holes in the feet—as shown



- Mount pump vertically, with pump head down, or horizontally in a convenient location. Do not compress feet with mounting screws.



- If there is any risk of debris entering the pump, install a 40 mesh filter (a garden irrigation filter is suitable) into the inlet hose. This strainer or equivalent is required for pump warranty to be valid.

- Cut the existing tap connector from the end of the condenser cooling water inlet tube.
- Connect the condenser tube to the outlet of ball valve.

Operation.

1. Immerse the pump inlet tube (8mm) AND the bypass tube (5.5mm) in a suitable water source.
2. Connect the pump power lead to the power lead from the power supply. **Ensure the connectors are kept clear of any water.**
3. Make sure the flow control valve is open by turning the ball-valve so that the handle is in-line with the body.
4. Plug in the power supply and switch it on. The pump will start and water will start flowing through the system.
5. Check all connection points for any leaks and if there are any, switch off the power supply immediately and fix any leak before proceeding further.
6. Use the ball valve and adjust the flow rate to approximately 1 litre per minute. To do this, run the cooling water outflow from the condenser into a 2 litre (or larger) measuring jug for 1 minute.
7. Turn the pump off.
8. **Do not** run the pump for the whole time that the boiler is heating up. Turn the pump on approximately 10 -15 minutes before the condenser head temperature starts to rise dramatically. (Your boiler instructions should give an indication of the time taken to get up to temperature. In the case of the *essencia* Express this is around 1 hour, therefore you would turn the pump on 45 - 50 minutes after turning on the boiler).
9. Once the boiler is up to temperature, **readjust the flow rate to maintain the required condenser head temperature.**

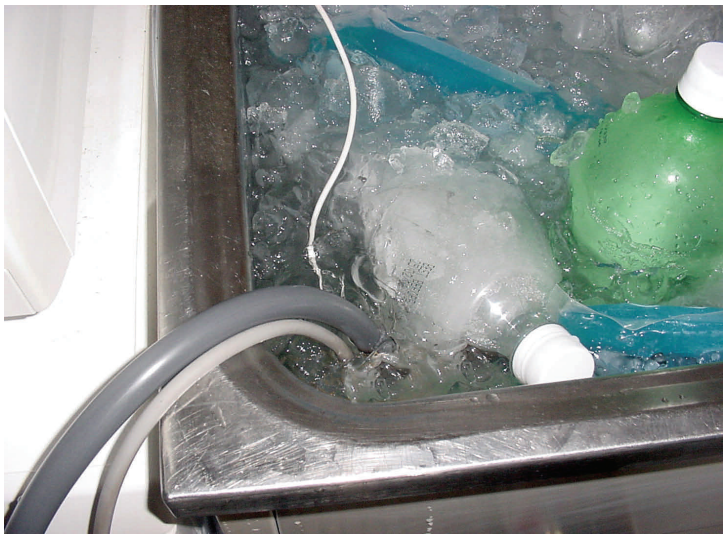
Notes:

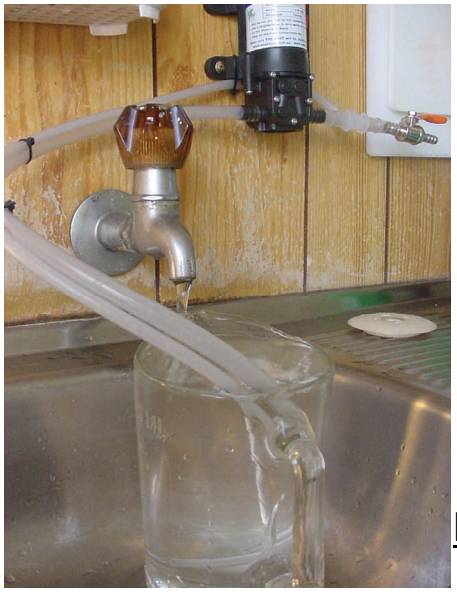
- **Observe safe practices at all times when using electricity near water.**
- **Never allow the pump power lead connection to become immersed in water.**
- **The pump will be warm after a few hrs use. This is normal.**
- **Never insert a shut-off valve in the condenser outlet.**
  Should the condenser cooling water outlet become blocked for some reason, there is a risk of a pressure build-up in the condenser.
- **Do not allow the pump water inlet to become blocked.**
- **Do not use excessively dirty water -** this may clog your pump and/or condenser.
- **Do not operate the pump continuously for extended periods (more than 6 hrs).**
- **Moving water longer distances is possible with this pump.**

Some suggested ways to use the *essencia* Condenser Pump.

- **Pump water from a swimming pool**, through the condenser and return the heated water to the pool. This is a great way to conserve water.
  If this method is used, the standard tubing may have to be changed to a larger diameter depending on the pumping distances required. Also, extreme caution must always be exercised when operating mains powered equipment around water. An RCD protection device or similar should always be used.
  Alternatively, a large fermenter or tank could be used

- **Pump heavily iced water from a tub** or large container (a large chilli bin or esky is ideal), through the condenser and return the heated water into the iced water.
  The key with this method is to keep the water **cold.**
  As the water gets warmer the condenser will become less efficient and the cooling water flow rate will need to be increased.
  If the water gets too warm the correct head temperature will not be able to be maintained even at maximum flow rate.





- **Use a large jug or similar as a reservoir** to pump from. The heated water from the condenser returns to a drain.
  Cold water from the tap flows into the jug etc at such a rate as to keep it full at all times.

  This method of operating the pump does not save any water. It is purely used to achieve a constant and stable water flow rate.
  This is particularly useful in situations where water pressure is variable or where a tap cannot maintain a constant flow.

Note: The pump is shown vertically mounted

To keep up to date with the latest products and information, or if you need questions answered, visit the website at **www.essencia.co.nz** or **www.essencia.com.au**

TROUBLESHOOTING

WARNING: BEFORE SERVICING PUMP, TURN OFF PUMP AND DRAIN WATER FROM SYSTEM!

Problem	Solution
Failure to Prime –Motor operates, but no pump discharge	1. Restricted intake or discharge line. Open all fixtures, check and clean clogged inline strainer. 2. Air leak in intake line 3. Punctured pump diaphragm (water leak) 4. Defective pump check valve 5. Crack in pump housing 6. Debris in check valves
Motor fails to turn on	1. Power disconnected 2. Loose wiring connection 3. Defective motor 4. Blown Fuse (in power supply) 5. Thermal Overload (let cool)
Low Flow and Pressure	1. Air leak at pump intake 2. Accumulation of debris inside pump and/or plumbing 3. Worn pump bearing (excessive noise) 4. Punctured pump diaphragm (water leak) 5. Defective motor

SERVICE

Check Valve and Diaphragm Replacement:

Remove 5 screws from top or bottom of pump. But not both top and bottom at the same time. Pry cover loose and lift straight up.
Remove spring and inlet valve. Lift front of diaphragm up and remove outlet poppet and smaller spring.
Clean the seats and seals and replace them back as they were.

Take care when replacing screws not to strip out threads in plastic pump housing.

NOTE: Service beyond this is not recommended. Return to *essencia* for repair or replacement.

Both the Pump head and Motor/Housing are able to be replaced.