

## Installation and Operation Manual

The following guidelines should be followed to achieve optimum pump performance.

### Mounting Location

1. Locate in a dry position with adequate ventilation and no more than 3 metres from the tank. Ensure the pump cannot be submerged in water in normal use and not likely to be sprayed.
2. Pump can be mounted horizontally or vertically (we recommend the pump head is below motor level).
3. Feet positions are adjustable to allow replacement of other pump types. Use No. 8 stainless steel screws to fasten pump to solid surface, which supports the pump securely.

### Electrical

1. Use specified fuse, as indicated on motor label, in the circuit.
2. Connect red wire to positive, black wire to negative - recommended wire size is 2.5mm<sup>2</sup> (AWG 13).
3. Fit an isolating switch with adequate current rating on the positive side of the supply.
4. To prevent the pump running continuously, turn off at isolating switch when vehicle is left unattended or water supply has been allowed to empty.

### Plumbing

1. Ensure that the strainer provided is attached to the pump head inlet (as shown below).
2. Check pump flow direction (as indicated on pump body).
3. Never use pipe sealant or sealing tapes on

threaded adaptors, as these may enter the pump and cause failure.

### Winterizing

- If water is allowed to freeze in the system, serious damage to the pipework and pump may occur. To best avoid this damage, completely drain the water system.
1. Drain the tank either using the pump or a drain valve.
  2. Open all the faucets (including drain valve) and allow pump to purge the water from the system, then turn the pump off.
  3. Disconnect the pump and turn on to purge into an adequate basin. Only reconnect the pump when the water system it is to be used.
  4. Remember to leave all faucets including showers open to avoid any damage.

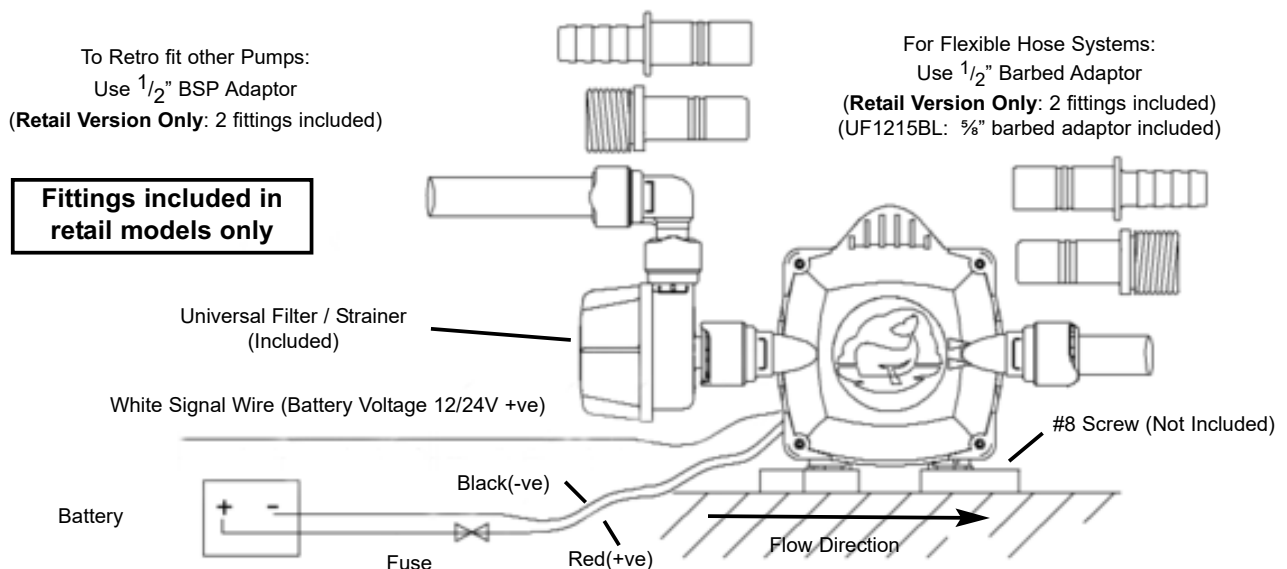
### Service Kits

- AK1316- Replacement Head Service Kit
- AK1317- Microswitch Service Kit
- AK1319- Replacement Strainer

### Declaration of Conformity

We herewith declare that the Universal Pump range conforms to the requirements of the EMC directive 89/336/EEC, and to the CE Marking Directive 93/68/EEC

### AK1318 - Replacement Head Service Kit



## Trouble Shooting

Fault	Cause	Solution
Pump does not run	No power to pump	Check power supply Attach leads/clean connections Check faucet microswitch if present
	Fuse has blown	Replace fuse
	Blockage in pipework	Check pipework for kinks
Pump runs but no water appears	No water getting to pump	Check that water tank is not empty Check strainer is not blocked Check all connections from tank to inlet of pump are secure - any air leaks will prevent prime
	Water leaking at outlet side of pump	Check pipework/fittings for leaks and repair Check system drain plugs are closed
Pump runs but will not switch off	Water leaking at outlet side of pump	Check pipework/fittings for leaks and repair Check system drain plugs are closed
	No water	Check water supply level
Pump cycles on and off periodically when all the taps are closed. (Normal with a partially opened tap)	Water leaking at outlet side of pump	Check pipework/fittings for leaks and repair Check system drain plugs are closed
Pump cycles on and off excessively when tap/s are open	Excessive back pressure	Check pipework for kinks and filters etc. are clear Check shower rose/taps for blockage and repair
Noisy operation	Pump drawing air	see cause 'No water getting to pump' (see above)
	Noise created by vibration	Check pump is secured to solid surface Check pump body is not in contact with hard surfaces Locate away from interfering surfaces Check pipework is securely supported
Low flow	Bore of pipework connection too small	For 8 litre versions 8.5mm minimum bore recommended For 10 and 12 litre versions use 10mm minimum bore recommended Check for kinks in pipework Check pipework is not blocked
	Power supply to the pump	Check power supply to pump uses correct gauge wire (2.5mm <sup>2</sup> /AWG 13) to give full voltage at pump Check battery is not discharged
	Pipework / connections crushed due to overtightened jubilee clips	Replace damaged connections
	Pump too far from water tank	Pump should be situated beside water tank
	Water leaking at outlet side of pump	Check pipework/fittings for leaks and repair Check system drain plugs are closed
	Pump strainer clogged	Remove clear lid, rinse and replace to main strainer body (retain strainer mesh to lid)