



Installation and
Operating Instructions
Aquasource®
Automatic Rainwater Utilisation

For use with submersible pumps featuring their own
in-built level sensor (eg. Davey D42A/B)

IMPORTANT
PLEASE READ CAREFULLY

Please pass these instructions on to the operator of this equipment

Congratulations on your purchase of a high quality, Australian built Aquasource® controller. All components have been designed and manufactured to give trouble free, reliable operation.

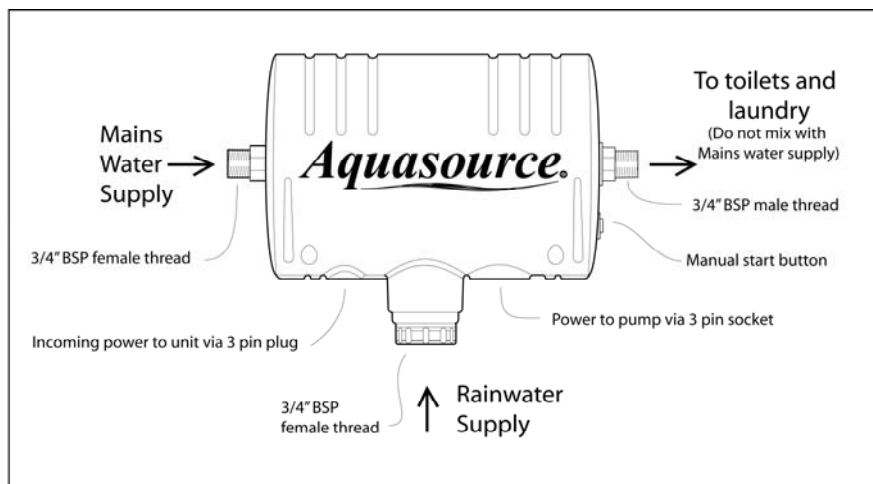
Your Aquasource® controller is a dual source control device – a product that enables the use of two different water supplies. Aquasource® will automatically and on demand source rainwater from your rainwater tank, via a pump. A back-up source, generally the municipal mains water supply, is seamlessly used when the rainwater supply has been exhausted.

The Aquasource® controller can help you reduce your usage of potable (drinking) water, thus helping reduce the need for new major capital water works such as dams or reservoirs.

Before installing your Aquasource® controller please read all instructions carefully as failures caused by incorrect installation or operation are not covered by the guarantee. Your Aquasource® controller is designed to handle clean water. The system should not be used for any other purpose without specific referral to Silvan H2O Pty Ltd. The use of the system to pump flammable, corrosive and other materials of a hazardous nature is specifically excluded.



Some insects, such as small ants, find electrical devices attractive for various reasons. If your controller and/or pump enclosure is susceptible to insect infestation you should implement a suitable pest control plan.



Water freezing inside the Aquasource® controller will damage the unit. Locate your Aquasource® controller and pump so that they are not susceptible to freezing.

Installation Requirements

The main application for Aquasource® is to supply clean rainwater via an existing or new pump to toilets and/or laundry in a single dwelling. Aquasource® will not allow a sufficient flow rate to operate whole of house or multiple garden sprinklers.

As a back up, mains or municipal water is connected to the Aquasource®. For very low flows the mains water is used, thus overcoming the possibility of pump cycling (frequent pump start-stops). When the rainwater is exhausted the Aquasource® reverts to mains supply only.

This version of Aquasource® is especially designed for use with pumps which have their own level switch. This level switch should ensure that Aquasource® will only allow the pump to operate when the level of rainwater available is acceptable.

AS/NZ 3500.1.2-1998 defines rainwater collected directly from a roof and stored in an above ground tank as a low level hazard. Aquasource® includes a dual check valve to protect against cross connection between the mains supply and the rainwater. Your local water supply authority may have additional requirements. Your licensed plumber can advise you.

If you are connecting Aquasource® to a buried tank then you may be required to install backflow protection suited to a higher hazard level. Your licensed plumber can advise you if this is the case.

Your rainwater tank may be required to be installed with a first flush diverter. Installing a first flush device is essential to reduce the introduction to the rainwater tank of sediment and other materials which can pollute the water. Even where it is not a requirement of your local water authority, Silvan H₂O recommends the use of a suitable first flush diverter and/or rainwater inlet strainers.

Pump Selection

Do not use pressure systems or accumulators with Aquasource®.

The pump supplied and controlled by the Aquasource® is matched to the performance requirements.

Maximum flow through the Aquasource® should not exceed 50lpm. The maximum pump pressure at no flow should not exceed 400kPa.



NOTE: The above assumes the pump is installed submerged in the rainwater tank.

Fitment of the Aquasource® controller

The Aquasource® controller is designed to be mounted remotely from the pump.

The Aquasource® controller is designed to be used in place of other types of automatic controllers eg. pressure switch etc. Do not fit secondary control devices to pump.

The use of pipe unions and flexible pipework between the pump and the Aquasource®/s inlet is highly recommended.

Fitting Aquasource® directly to a pump

The Silvan H₂O accessory wall mount bracket can be used to safely mount your Aquasource/s on a nearby wall or structure.

Mount the wall mount bracket in position using appropriate fasteners, and then place the Aquasource/s controller in the bracket in the required orientation for your plumbing.



MUST BE INSTALLED AND SERVICED BY A LICENSED PLUMBER.



DO NOT USE THREAD SEALING COMPOUNDS, HEMP OR PIPE DOPE!

Inlet from rainwater pump

The Aquasource® controller has an in-built non-return (check) valve fitted on the inlet from the rainwater pump. In submerged pump installations there is no need to have another non-return valve fitted to the pump.



Always brace Aquasource® fittings with a second spanner when tightening pipework to Aquasource®.



Abrasive Materials - The pumping of abrasive materials will cause damage to the Aquasource® system which will then not be covered by the guarantee.



An in-line strainer to trap foreign matter fitted between the pump and Aquasource® is recommended on underground and wet above ground systems (supplied in Aquasource Plus kit).

Inlet from the mains or municipal water supply

The Aquasource® comes complete with a 3/4" BSP female threaded dual check valve on the incoming mains connection. This is the side that is connected to the mains water supply.

It is highly recommended that an isolation valve is installed on this pipe to facilitate easier servicing if required.

Discharge connection to the toilet and / or laundry outlet

The Aquasource® has a 3/4" male connection to supply water to the toilet and / or laundry outlet.



IMPORTANT: All pipework and outlet fittings from Aquasource® must be labeled to AS 3500.

Pipe Connections

(Follow AS3500.1 guidelines for pipework and tap ware markings for rainwater).

For best performance use flexible pipes directly in and out of the Aquasource®, at least the same diameter as the Aquasource® connections.

Larger diameter pipe may be used to minimise resistance to flow when pumping longer distances.

Flexible pipe will help alignment during installation, as well as reduce noise transfer during operation.

Maintenance

The Aquasource® does not require any regular maintenance.

It is advisable to periodically clean your rainwater tank of debris, which may from time to time find its way into the tank. The fitting of a "first flush diverter" system to your rainwater tank inlet can dramatically reduce the need for such action.

Should the controller, pump or any pipework leak water it should be immediately checked and the leak rectified.

The dual check valve internal mechanism on the mains water inlet should be replaced every 10 years.

Water quality cannot be guaranteed with rainwater collected from a roof. The Aquasource® modular system is fitted with a leaf strainer to guard and reduce the amount of foreign material entering the tank. In addition, empty plugs and a cleaning entry are available for removing residue from inside the tank at approximately six to eight year intervals. In other above ground installations, appropriate leaf screening must be fitted. In underground installation, all foreign matter including grit and sand must be removed prior to fitting the pump and Aquasource® controller. You may also wish to keep gutters and down pipes clear of leaves and debris. The removing of overhanging tree branches that drop leave / debris and encourage possums onto your roof will also help.

Important Information

The Aquasource® controller is designed for use with rainwater only. Defined as roof run off water collected via normal leaf guarded standard down pipes plumbed in accordance with AS3500.1.2003.

If additional filter systems are fitted on the downstream side of the controller, correct fitting and maintenance will apply to this warranty.

All plumbing work should be thoroughly flushed out prior to activation of the Aquasource® system. Bore water, dam water, grey water, storm water and recycled water are **NOT** suitable to be used with Aquasource® and mains water.

Aquasource® will supply flow rates and pressures in accordance with AS3500.1.2003.

Product Specification

Our commitment to continuous improvement may change product specifications without notice.

Priming your System



Failure to prime the submersible pump prior to connection of the pump discharge plumbing to the Aquasource®, may result in an air lock in the pump. This air lock may prevent the pump from operating correctly.

On Aquasource® modular and water tower systems the tank will require filling to above the high float level and will normal self prime.

Electrical Power Surge Protection

An electrical power surge or spike can travel on the supply lines and cause serious damage to your electrical equipment.

If the installation is subject to electrical power surges or lightning we strongly recommend the use of a suitable surge protection device on ALL electrical equipment.

In accordance with AS/NZS 3350.2.41-1997 we are obliged to inform you that this controller and any pump controlled by it is not to be used by children or infirm persons and must not be used as a toy by children.



NOTE: For protection, the Silvan H₂O pump motors are fitted with an automatic reset thermal overload, constant tripping of this overload indicates a problem e.g. low voltage at pump, excessive temperature (above 50°C) in pump enclosure.



WARNING: Automatic reset thermal overloads may allow the pump to restart without warning. Always disconnect the controller and/or pump motor from the electrical supply before maintenance or repairs.



WARNING: When servicing or attending pump and/or controllers, always ensure power is switched off and lead unplugged. Electrical connections should be serviced only by qualified persons.



Care should also be taken when servicing or disassembling pump to avoid possible injury from hot pressurised water. Unplug pump, relieve pressure by opening a tap on the discharge side of the pump and allow any hot water in the pump to cool before attempting to dismantle.



IMPORTANT:
DO NOT USE petroleum based fluids or solvents (e.g. Oils, Kerosene, Turpentine, Thinners, etc) on the plastic pump components or seal components.



WARNING: Do not use hydrocarbon based or hydrocarbon propelled sprays around the electrical components of this controller.

Noise Reduction

While the Aquasource® unit does not make noise, the pump to which it is connected may emit sound levels, which may under some circumstances create inconvenience to you or your neighbours. Submersible pumps are usually extremely quiet in operation, but even so noise should be considered.

To reduce such inconvenience it is advisable to consider the positioning of your pump, so as to reduce the possibility of inconvenience. If the pump is submersible, placing it inside the rainwater tank is ideal.

Flexible discharge pipes on your pump can dramatically reduce the transfer of pump noise to your homes internal pipework.

Power Connection



Connect lead to power supply designated on pump/controller label, do not use long extension leads as they cause substantial voltage drop, poor pump performance and may cause motor overload.



The mains electrical connections and checks must be made by a qualified electrician and comply with applicable local standards.

Trouble Shooting Check List

This is a short guide to help you ascertain the probable cause of system malfunctions. If you are uncertain as to the cause of your system malfunction, consult your Silvan H₂O customer service centre or your nearest Silvan H₂O dealer.

a) PUMP HAS STOPPED OR MOTOR RUNS FOR SHORT PERIOD ONLY WHEN SWITCHED ON OR MANUAL START BUTTON PUSHED, BUT DOES NOT PUMP

1. Suction inlet and pump body not filled with water.
2. Air trapped in discharge pipework between pump and Aquasource® lines (also possible with flooded suction due to uneven rise in piping; eliminate humps and hollows).
3. No water at source or water level too low.

b) PUMP SWITCHES ON AND OFF FREQUENTLY (CYCLING)

1. Leak in pipe work system.

c) MOTOR DOESN'T START WHEN SWITCHED ON

1. Low water level in rainwater tank. This is normal as the Aquasource® will now be using mains water until rainwater supply is restored.
2. Float level switch on pump not operating correctly.
3. Power not connected or no power available from supply outlet.
4. Mains water line valve is not open.

d) MOTOR STOPS

1. Motor "over temperature" cut-out tripped. Consult Silvan H₂O dealer.
2. Motor not free to turn - e.g. a jammed impeller. Consult Silvan H₂O dealer.

e) PUMP WILL NOT STOP

1. Water leaks on discharge side of pump.
2. Debris caught inside Aquasource®

f) PUMP WILL OPERATE NORMALLY INITIALLY BUT WILL NOT RESTART ON WATER DEMAND

1. Power supply problem - see c) 3.

g) THERE IS A MAINS WATER INTERRUPTION, I HAVE RAINWATER, BUT THE PUMP WON'T START

1. Aquasource® uses mains pressure to automatically initiate a pump start. You can manually initiate a start - see "Manual Start Button" section.
2. Low rainwater level - see c) 1.
3. Mains water supply failure or valve closed - check mains water supply / open valve.

After Sales Service

For professional after sales service or repair contact your Silvan H₂O Dealer.

For assistance in locating your nearest dealer contact the Silvan H₂O Customer Centre on (03) 9791 9933 or visit Silvan H₂O Pty Ltd on-line at www.silvanh20.com.au

Aquasource® Operating Limits

Max flow rate (mains)	31 ipm
Max flow rate (pump)	40 ipm
Mains water pressure settings	300 kpa
Max pump pressure D42A/B	330 kpa
Max water temperature continuous	50°C
Min water temperature	1°C
Mains water inlet size via dual check valve	¾" BSP (F)
Outlet size	¾" BSP (M)
Water mark license	IPC 20009
Enclosure class	IP23
Supply Voltage	220 – 250 volt
Supply frequency	50 HZ

Aquasource® controllers are matched for use with the D42A/B pump supplied.

SILVAN H2O PRODUCT GUARANTEE FOR AUSTRALIA & NEW ZEALAND

Silvan H₂O Aquasource® controller is guaranteed for a period of two years from the date of original purchase to be free of material or manufacturing defects. Should any part fail as a result of such defects within this period, the controller will be repaired free of charge.

TERMS AND CONDITIONS

1. This guarantee applies to all states and territories of Australia and New Zealand only and is subject to the provisions of the Trade Practices Act (Aust.), the Goods and Consumer Protection Legislation of the various Australian states and the Consumers Guarantee Act 1993 (NZ) as applicable.
2. The guarantee period commences on the date of original purchase of the equipment. Evidence of this date of original purchase must be provided when claiming repairs under guarantee. It is recommended you retain all receipts in a safe place.
3. This guarantee covers parts and workshop labour only. Goods should be forwarded, with proof of date of original purchase, to an Authorised Silvan H₂O Service Centre freight paid.
4. This guarantee is subject to due compliance by the original purchaser with all directions and conditions set out in the Installation and Operating Instructions. Failure to comply with these instructions, damage or breakdown caused by fair wear and tear, negligence, misuse, incorrect installation, chemical or additives in the water, inadequate protection against freezing, rain or other adverse weather conditions, corrosive or abrasive water, lightning or high voltage spikes or through unauthorised persons attempting repairs are not covered under guarantee. The product must only be connected to the voltage shown on the nameplate.
5. Without limiting the original purchaser's entitlements under the Trade Practices Act (Aust.), the Goods & Consumer Protection Legislation of the various Australian states, or the Consumers Guarantee Act 1993 (NZ), Silvan H₂O shall not be liable for any loss of profits or any consequential, indirect or special loss, damage or injury of any kind whatsoever arising directly or indirectly from the product or any defect.
6. Where the Trade Practices Act (Aust.), the Goods and Consumer Protection Legislation of the various Australian states and the Consumers Guarantee Act 1993 (NZ) does not apply, Silvan H₂O shall not be liable for any loss of profits or any consequential, indirect or special loss, damage or injury of any kind whatsoever suffered by the purchaser arising directly or indirectly from the product or any defect and the purchaser shall indemnify Silvan H₂O against any claim by any other person whatsoever in respect of any such loss, damage or injury.
7. Nothing in this guarantee is intended to have the effect of contracting out of the provisions of the Trade Practices Act (Aust.), the Goods and Consumer Protection Legislation of the various Australian states and Consumers Guarantee Act 1993 (NZ) except to the extent permitted by the various Acts and this guarantee is to be modified to the extent necessary to give effect to that intention.
8. Silvan H₂O may be collecting personal information from you in order to provide you with a service. Silvan H₂O Pty Ltd promises only to use this information in accordance with the Provisions of the Privacy Act 1988 (Cth) and the Privacy Policy of Silvan H₂O Pty Ltd which is available at www.silvanh2o.com.au.

Aquasource® is a registered trademark of Silvan H₂O Pty Ltd.

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