



Aquagation

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SPECIFICATION DATA SHEET

Installation Instructions for Aquagation Water Chillers

1. Location of Chiller

It is essential that the chiller be placed in a well-ventilated location. The chiller will not function correctly if it is even partially confined. If placing the chiller under an overhang to protect the unit from the elements, you should allow at least 5 feet between the top of the chiller condenser (fan) and the underside of the overhang as the chiller will exhaust warm air upwards. There also should be no side enclosures as they will prevent the warm air from being exhausted away from the chiller, which will significantly reduce the efficiency of the unit.

2. Electrical Hook-up

The water chiller requires a 208/230-volt connection. Wiring should be done only by a qualified electrician.

3. Plumbing the Chiller (User-supplied pump required)

As with all plumbed aquarium devices, it is strongly recommended that you install union & ball valves on both the inlet and outlet for easy removal of the chiller. For best results and most efficient cooling the chiller should be plumbed so that water flows directly from the chiller to the aquarium, not in a "loop" from the sump back to the sump. The chiller has a marked inlet and outlet, although these can be reversed as it does not matter what direction the water flows through the evaporator tubes. The pump should be connected to the chiller so that it is pushing water into the chiller, not pulling it. The pump should have a pre filter to prevent debris from building up inside the chiller. Once the chiller has been plumbed, and before the power is turned on, it is recommended that you start the water pump supplying water to the chiller to check for leaks in your plumbed fittings. When plumbing the chiller, it is recommended that you minimize the amount of 90° elbows used to avoid air pockets and to minimize the restriction of the flow rate.



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4. Flow Rate

The following flow rates refer to the water flow through the chiller. It is important to consider head pressure and PVC diameter requirements for the pump you are using to supply water to the chiller. The pump manufacturer should be able to assist you in determining if the flow rate with your specifically plumbed system falls within the range listed for your chiller.

1 1/2hp	30-60 gpm (1800 - 3600 gph)
2hp	35-70 gpm (2100 - 4200 gph)
3hp	40-75 gpm (2400 - 4500 gph)
4hp and 5hp	45-80 gpm (2700 - 4800 gph)

5. Maintenance

The chiller requires little or no maintenance depending upon the location where it is installed. If installed outdoors, dirt and other debris may accumulate on the condensing fins which will reduce the chiller's efficiency. A shop type vacuum can be used to remove debris, or you may use a water hose. Do not spray water into the condenser fins from the outside; instead, spray water through the top of the condenser (fan area) so that the debris is forced out from the fins. Do not spray the compressor motor or any electrical parts. A damp cloth can be used to clean the other portions of the chiller however care must be taken around the refrigeration connections and controller areas.

Programming Procedure for Single Stage Controllers

Steps	Procedure	Annunciator	Description	Display
Step 1	To start programming, press the SET key once to access the Fahrenheit/Celsius mode. The display will show the current status, either F for degrees Fahrenheit or C for degrees Celsius. Then Press either up or down arrow key to toggle between the F or C Designation.	F or C	Fahrenheit or Celsius Scale	
Step 2	Press SET key again to access the setpoint. The LCD will display the current setpoint and S1 annunciator will be blinking on and off to indicate that the control is in the setpoint mode. Then press either the up key to increase or the down key to decrease the set point to the desired setting.	S1 (blinking)	Setpoint Temperature	
Step 3	Press SET key again to access the differential. The LCD will display the current differential and DIF1 annunciator will be blinking on and off to indicate that the control is in the differential mode. Then press either the up key to increase or the down key to decrease the differential to the desired setting.	DIF 1 (blinking)	Differential Temperature	
Step 4	Press SET key again to access the cooling or heating mode. The LCD will display the current mode, either C1 for cooling H1 for heating. Then press either the up key or the down key to toggle between the C1 or H1 designation. Press the SET key once more and programming is complete.	C1 / H1	Cooling or Heating Mode	



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Troubleshooting Error Messages

Display	Messages	To correct
E1	Appears when either the up or down key is pressed when not in the programming mode	If the E1 message appears even when no keys are being pressed, replace control.
E2	Appears if the control settings are not properly stored in memory.	Check all settings and correct if necessary.
EP	Appears when the probe is open, shorted, or sensing a temperature that is out of range.	Check to see if the sensed temperature is out of range. If not, check for probe damage by comparing it to a known ambient temperature between -30°F and 220°F. Replace the probe if necessary.
EE	Appears if the EPROM data has been corrupted.	This condition cannot be field repaired. Replace the control.
CL	Appears if calibration mode has been entered.	Remove power to the control for at least five seconds. Reapply power. If the CL message still appeared, replace the control.

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