
AQUAHEAT

H3CF

Instruction Manual



Pictured with flow switch sold separately



DESCRIPTION

The AQUAHEAT H3CF is a pump controller that controls the water flow through heat pumps or gas heaters when the water temperature is below the desired temperature limit (and is within the required run times). Once the desired temperature limit is exceeded ($+1\frac{1}{2}^{\circ}\text{C}$) then pump is stopped and will not restart until the pool is $\frac{1}{2}^{\circ}$ below the set limit. A flow switch (sold separately) on the AUX input will stop the pump if water flow in the main filtration pipe is stopped.

CONTROLLER INSTALATION

Find a suitable location to mount the control box. The controller should be installed out of direct weather and no closer than 3 meters from the water's edge. Lift up the two mounting tabs and use two appropriate screws to mount the control box to the wall, keeping in mind that the power cable is 1.8m long and should be plugged directly into a general power outlet, not into an extension lead.

The circulating pump plugs into the 240Vac socket marked as PUMP.

The pool sensor must be fitted into the **main** filtration line, as close to the pool as practical, preferably in a position out of direct sunlight. It is recommended that a 14.5mm hole be drilled in the PVC pipe, this can be carried out using a Dontek PD01 grinding drill or a small pilot hole can be drilled and a 14.0mm drill-bit used spinning in a counter clockwise direction to minimize the chance of shattering pipe. Insert the grommet into the pipe and gently push in the black sensor barb. The green sensor plug is to be fitted to the plug socket marked POOL.

DO NOT cable-tie or tape sensor wires to mains power, in some cases there is some benefit to cable tie 100mm of wire from the sensor to the pipe and insulate this section (some ambient differences can travel up the copper wire and affect the sensor reading).

No connection is made to the heater.

The Flow switch connects to the main filtration line ensuring the arrow on the switch matches normal water flow, on the controller the switch connects to the AUX input, polarity is not important.

Select the "Settings Menu" as described below and set the clock and the required run hours then select exit to save the changes, the controller will then start automatic heating mode.

SETTINGS MENU

To select the SETTINGS MENU press the SELECT button and the following will be displayed;

1)CLOCK

Press the UP or DOWN buttons to scroll to the option you wish to change. Press the SELECT button to select the sub-menu of the currently displayed menu item.

Available Settings Menu items are shown below:

- 1)CLOCK
- 2)RUNHRS
- 3)MODE
- 4)EXIT

The settable items in the sub-menus will be flashing, to change these values use the UP or DOWN button to adjust the value, if the value is correct press the SELECT button to move to the next value, once all setting have been set you will return to the settings menu, press the UP or DOWN button to scroll to EXIT and press the SELECT button to save your adjustments.

1)CLOCK

Set the time of day in 24 hour format, note there is an AM/PM indication to avoid incorrect settings. Seconds are automatically set to zero.

2)RUNHRS

The first option is to select the number of times you want the unit to run per day. Then you are prompted to set the start & end time(s) for each cycle; the pump will only be allowed to run between these hours.

Set the start time (S1 hh:mm) and end time (E1 hh:mm) in half hour steps (30 mins), repeat for the 2nd run time if required (S2 & E2).

Once the start and end time(s) are set you are prompted to set temperature limit sample time (S xx MIN), this stops the pump for the selected time period once the temperature limit has been achieved, for smaller bodies of

water running a higher temperature limit (i.e. spa) the sample time should be set shorter than larger bodies of water that run lower temperature limits (i.e. pool). If the pump runs for 3 minutes and stops frequently, then increase the sample time as the body of water is not losing much heat.

If the temperature sensor is placed directly in the water (i.e. in a continuous filtration pipe) then a sample time of 0 minutes can be selected, the pump will then turn on as soon as the temperature sensor drops 0.5°C below the desired temperature limit or will turn the pump off if the temperature is 0.5°C above the desired temperature limit.

NOTE: if a 24 hour continuous run time is required then set one cycle with the start time and end time to the same value. (E.g. S1 12:00, E1 12:00)

NOTE2: This controller should be set to have a sample time of 0.

3)MODE

Two options are available, heating and away. Heating mode performs heating during the runtime.

Away mode does not perform heating but a three minute maintenance flush occurs every day at noon (12:00).

4)EXIT

When this menu is selected push SELECT to save ALL settings, the unit will then return to automatic operation.

Note: If any of the menu items are left unattended for 3-4 mins the menu will time-out and automatically save all settings and return to automatic operation.

TEMPERATURE LIMIT

To change the pool or spa temperature limit simply press the UP button to increase and the DOWN button will decrease.

NOTES:

1. If a sensor fault is detected the controller will display POOL O/C for an open circuit fault (open circuit fault, disconnected sensor or broken cable) or POOL S/C (short circuit fault or reversed polarity sensor)
2. Should power be interrupted for any reason, the controller will resume normal operation when power is restored, all information will have been kept.
3. Temperature sensor used with this unit is digital and is accurate to 0.5°Celcius, no calibration is required.
4. The sensor cable with the thin trace is the positive and is usually fitted to the right hand side of the green plug (as viewed from the screw side), incorrect polarity will be displayed as a short circuit.
5. If the controller has stopped pumping and is displaying a higher temperature than expected it may be caused by a pump which is failing to prime, check the pump and if necessary prime the pump as per the pump manufacturers' instructions then reset the controller by turning it off/on.
6. Maximum rated output load for the 240V socket is either, 10 Amps / 2400 Watts, **or**, 15 Amps / 3600 Watts. Please refer to the unit's rating label.
7. The AUX socket is used for a flow switch, a lack of flow is displayed as 'FLOW BAD' and will stop the pump.



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WARRANTY

This range of product is covered by a limited 2 year warranty against component failure or faulty workmanship from the date of installation.

Faulty units should be returned in the first instance to the dealer from which the unit was purchased.

Damage to the unit due to misuse, power surges, lightning strikes or installation that is not in accordance with the manufacturer's instruction may void the warranty.

Valves and actuators are covered by a twelve month warranty at the discretion of their manufacturer.

Warranty does not cover travel costs to or from installation site.

If the power cord is damaged, do not use the controller; return the unit to the supplier for repair.

CUSTOMER RECORD (To be retained by the customer)

DEALER/INSTALLER NAME

SERIAL NUMBER

DATE INSTALLED

For service assistance phone 1300 130 693

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