

SPECIAL NOTE

All equipment attached must not exceed the total rating as specified on the cover of the control box. N.B. 10 and 15 Amp versions available. It is essential that 15 Amp rated controllers be plugged into the correct mains socket. (The plug will not fit standard outlet sockets). When connecting to the power supply ensure that the lead is installed, in conjunction with all local electrical regulations. Do not install power lead where damage may be caused by people walking over it or similar. **DO NOT OPERATE CONTROL ON AN EXTENSION LEAD.** Ensure that plugs are in their correct position and fully inserted.

It should be understood that poor water chemistry will severely effect the life of the heating element. Ask your supplier for details on water maintenance.

DATE INSTALLED _____
SERIAL NUMBER _____
SOLD BY _____
INSTALLED BY _____
STARTUP TESTING _____

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Manufactured by AMPAC INT. SYSTEMS LTD
P.O. BOX 1000-33, N.S.M.C.
AUCKLAND, NEW ZEALAND

AMPAC

2081 SPA SERIES - App No N13881

ELECTRONIC HOT PUMP

SPA POOL CONTROLLER

2x Round Switch

AMPAC INT. SYSTEMS LTD

- 4/ Proper water flow through the filter, pump and heater.
- 5/ That all air bleeds where possible are turned off and the blower is not operating.
- 6/ The quality of the power supply.

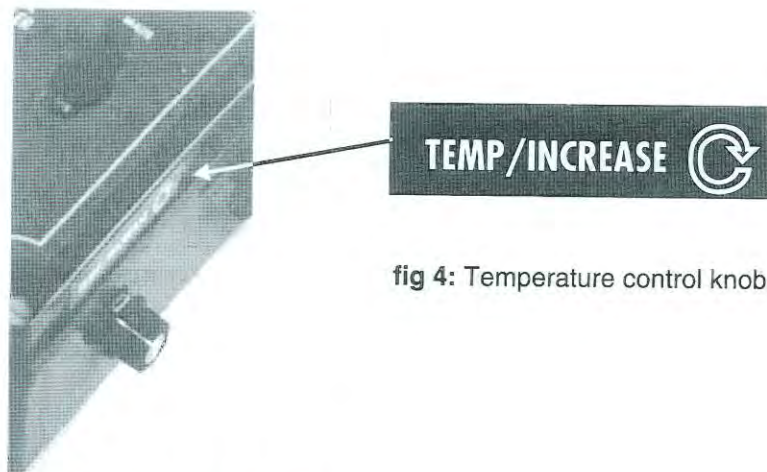


fig 4: Temperature control knob

INSTALLATION GENERAL

The control system has been designed so that it is easily removed for service, and any Spa equipment can be removed without the need of an electrician. It is recommended that the control and equipment are positioned so they are accessible. The heat pump system allows for the filter to be installed on either the suction or return lines of the heater. All other equipment including chlorinators must be installed after the heater. The control box mounting points are located below the plastic cover screws at each corner of the lid. These are designed to take a type 6PK 25mm screw or a similar type on a mounting matrix of 190 x 140mm (fig 5).

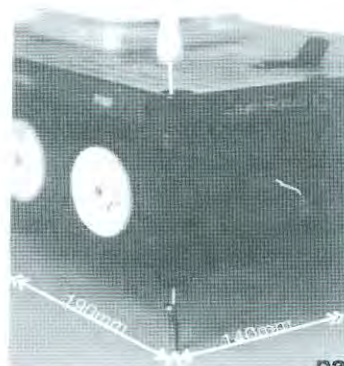


fig 5: Mounting method for control box.

- 6/ Ensure that you the Spa pool owner understand how to operate the equipment. Check with your supplier if you are having difficulty.

Note: In some installations, electrical interference can cause the control to lock into a fault condition. If this continues, check with an Electrician or with the supplier's service representative to ensure that your power supply is adequate. The manufacturer does not guarantee that all power supplies are suitable.

SPA POOL START UP

- 1/ The Spa pool must be properly filled. Ensure there is no obstruction to the skimmer (if fitted) and the water level is well above the minimum level.
- 2/ Check that all valves are in correct operating position.
- 3/ Ensure cartridge filter is properly cleaned.

NOW-

- 1/ Turn the power supply switch on at the supply.
When the switch is initially turned on the pump and blower should momentary switch on. This is simply the micro-processor resetting itself.
- 2/ Turn the thermostat control knob around clockwise to high to allow system to operate. (fig 4)
- 3/ The control automatically starts in demand heat mode. The switch Mode light should be orange. The Spa pool should now be heating.

Note: Initial heat up time will vary dependent on ambient temperature, type of cover, size of pool.

PRIMING FUNCTION

The system will automatically run for 10 seconds to prime itself. If it fails to achieve this the lamp associated with the Mode switch will flash (fig 2). The Mode switch can be pressed to give additional 10 second prime cycles. Once water is achieved the control will switch to automatic mode.

MODE FUNCTION SWITCH

The mode function switch controls the operation of the pump and heater and selects between automatic, manual and standby modes. The default start up mode is always automatic so that in the event of a power failure, the pool always restarts in the heating mode. When the mode switch is depressed it toggles between auto, manual & standby modes with a colour coded lamp showing which mode the controller is in. (fig 2)

While in automatic mode the pump and heater are controlled by the thermostat setting, commonly referred to as a demand heat system. This means that

the pump and heater switch on when the water in the heater drops approximately 2°C below the set temperature and operates until the temperature is back to where the control was set. When in the automatic mode (default start up condition) the lamp shows orange.

During manual operation the pump will run for up to 3 hours with the heater turning on and off under thermostat control. The mode lamp will indicate red when in the manual condition. In the standby condition the mode lamp indicates green. The controller reverts back to Auto after 3 hours when in either manual or standby modes.

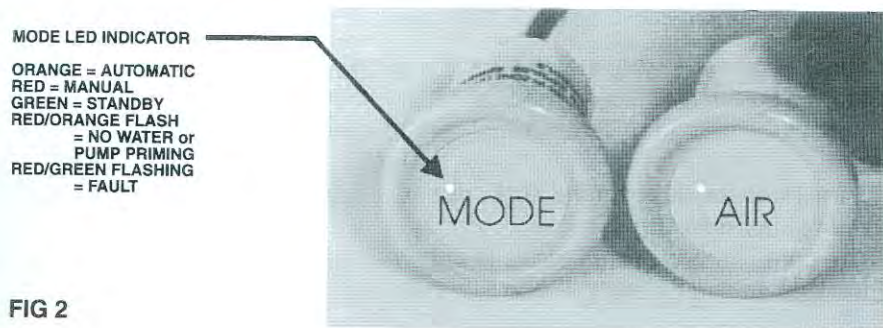


FIG 2

FILTRATION

This controller has been fitted with automatic filtration software. The controller is guaranteed to run a minimum of 30 minutes every 3 hours giving an effective 4 hours daily filtering while in Auto mode. The day is divided into 3 hour blocks so Ozone treated pools sanitise correctly.

BLOWER-AIR SWITCH

Single speed version:

The blower or turbo blows air into the spa pool water usually from the seat well or floor of the spa depending on design. Often the air will feel colder than the water and can be used as an aid to reducing water temperature as desired by the bather. When the blower is operated the lamp will show red (fig 3) and the pool heating is automatically turned off (Load shedding). When the blower is turned off the lamp extinguishes and heating resumes if required, dependent on operating mode.

Multi speed version:

The multi speed switches the blower through three different speeds. When the switch is pushed the blower starts at full speed with the lamp indicator showing red. Each subsequent step reduces speed with the lamp changing to orange for mid speed and green for low speed (fig 3). The multi speed version is available with or without air heating. As above the pool heating is switched off when the blower is operating however the pump remains running.

NOTE: The blower function has an in-built 30 minute timer.

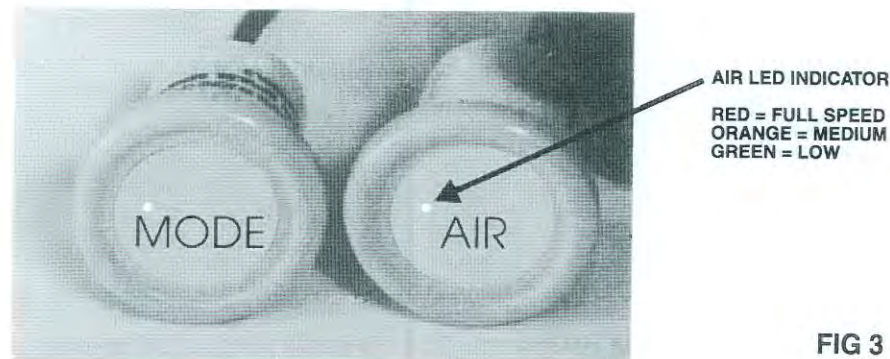


FIG 3

THE THERMOSTAT CONTROL

The thermostat adjustment (knob located on side of control box fig 4:) may need to be adjusted slightly for the first few days of operation to obtain the desired temperature of 36°C or that which is comfortable to the bather.

Turning the thermostat to maximum will not make the pool heat any quicker. (Control range 25° - 41° degrees Celsius)

NOTE: The initial heating of the water will take a number of hours dependent on various factors:-

- 1/ The quality of the insulation around the pool.
- 2/ The quality and fit of the pool cover. (While heating or when not in use it is recommended that a good fitting cover be installed)
- 3/ The ambient temperature surrounding the pool and whether it is an indoor or outdoor situation.

OPERATING INSTRUCTIONS:

The Ampac heat pump and control system has been designed so that the pool can be automatically operated maintaining pre-determined heat and filtering operations.

Control box layout. fig 1:



Before operating the Spa pool ensure that the following conditions are checked:

- 1/ That the spa pool support equipment is properly plugged in. Check that each item is plugged into the correct socket. (fig 1)
- 2/ Ensure that the power supply is correctly rated. I.E. A 15 amp system is plugged into a 15Amp RCD protected outlet. The rating is printed on front decal of control box.
- 3/ The control *must not be installed on an extension cord*. If the location of a suitable supply is further from the spa than required ensure a qualified Electrician fits a suitable power supply lead or power point.
- 4/ Fill the spa pool to the correct operating level as specified by the manufacturer.
- 5/ The Spa pool equipment must be adequately ventilated. Ensure the manufacturer has provided proper ventilation in Spa pool cabinet.

CONTROL BOX & HEATER INSTALLATION

The control box must be mounted in a position considering the following points.

A/ It must be mounted so that water can not be splashed on it. I.E. mounted above and away from the filter opening, hair and lint pot and drainage valves. The controller must be protected from rain.

B/ It must be mounted so that the end user can easily operate the thermostat control.

C/ It must be mounted so that the leads can easily plug into the control box sockets.

D/ It must be positioned so that the heating element can reach the heating "T" on pump.

E/ It must be mounted so that all Spa support equipment is accessible and can be easily removed for service.

F/ The control box must be installed on a stable platform so that it is not subjected to vibration.

INSTALLATION OF HEATER ELEMENT

The element must be installed so that the lead is not stretched and that the element/control box can easily be removed for service. Pay attention to instructions on element housing ensuring that the element is positioned properly with the correct side uppermost. The 'O' ring provided must sit properly on the shoulder of the element when tightening the lock nut. Tighten the lock nut by hand only, tools are not required.

SWITCH INSTALLATION

The Ampac 'Impulse' soft touch switches must be installed in compliance with local electrical body regulations. Particular attention should be paid to the certain zones that are part of the regulations. I.E. In certain areas the switch must be installed on the top side or outer side of the lip of the pool.

A round hole of 32mm X 40mm deep is required to mount the soft touch switches. Cable access is required at base of hole. The switches are mounted on a bead of silicon or there self adhesive pads with the Led positioned at 9 o'clock from the bathers point of view. (Please note that the Orange colour generated for the mode & blower functions can only be viewed from this perspective). The switch lead should be positioned clear of other support equipment and their power leads where possible. It is advisable to allow a rain loop in cable to prevent moisture seeping into the switch sockets. The plug should be correctly orientated and pushed firmly into its mating socket