

208 Spa.

DEALER STAMP:



AMPAC INT. SYSTEMS LTD

4 BUTTON ELECTRONIC

HOT PUMP SPA POOL

CONTROLLER

DATE INSTALLED _____
SERIAL NUMBER _____
SOLD BY _____

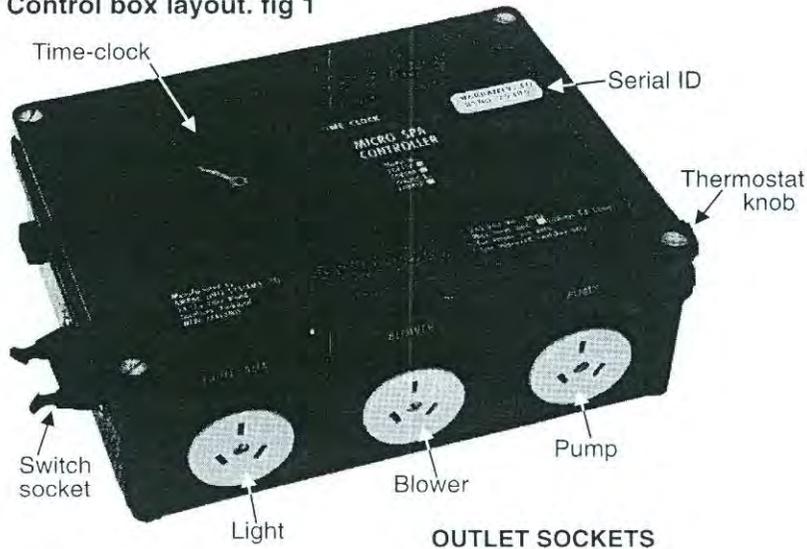
INSTALLED BY _____

STARTUP TESTING _____

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. An in built clock puts the system into a sleep mode when absolute quiet is needed.

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 rated outlet. 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.

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

Note: In some installations , severe 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.

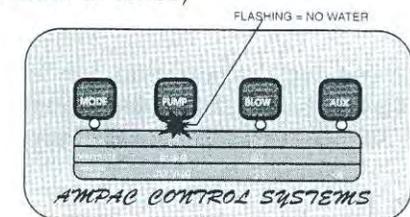
NOW-

- 1/ Turn the power supply switch on where lead is plugged into supply.
- 2/ Turn the mains switch on, at face of control box if fitted. *Note: Some models feature an Earth Leakage Circuit Breaker on the cord set and the reset switch should be in the on position. When the switch is initially turned on the pump and blower should momentary switch on. This is simply the micro-processor resetting itself*
- 3/ Turn the thermostat control knob around clockwise to high to allow system to operate (fig 9).
- 4/ The control automatically starts in demand heat mode. The switch Mode light should be orange (fig 3).
- 5/ The time clock should be adjusted to allow system to operate (pg 5). The Spa pool should now be heating. *Note: Initial heat up time will vary and is dependent on ambient temperature, type of cover, size of pool, Quality of insulation etc. If the pump is not operating refer to trouble shooting section (pg 9).*

PRIMING FUNCTION

The system will automatically run for 10 seconds to prime itself. If it fails to achieve this the lamp associated with the Pump switch will flash (fig2). The Pump switch can be further operated manually as an aid to priming. Once water is achieved the control will operate in the automatic mode. (See fault finding section for possible causes of water absence)

Lamp flashes red/green for no water fig 2:



MODE FUNCTION SWITCH

The mode function switch controls the operation of the pump and heater and selects between automatic/clock and manual modes. When in the automatic mode (default start up condition) the lamp shows orange (fig 3). The time clock will automatically turn the system on and off at preset times. (See time clock setting instructions - page 5)

During the on periods as set by the clock and 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 temperature is back to where the control was set.

The default start up mode is always automatic so that in event of a power failure, the pool always starts up in the heating mode. When switch is depressed it toggles between auto & manual modes (fig 4).

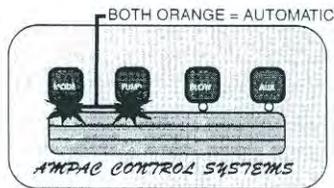


fig 3: Automatic mode

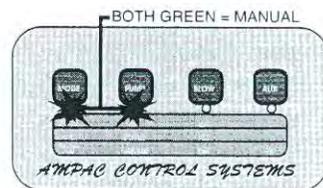


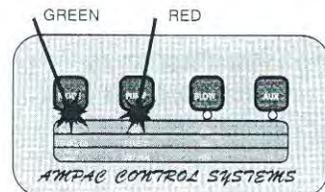
fig 4: Manual mode

PUMP SWITCH

This allows the pump to be operated manually at any time by pushing the pump on/off switch providing the Mode switch is in the manual position (fig 4). If the lamp is showing orange the Pump switch is locked out by the Mode automatic function (fig 3).

During manual operation the pump will run up to 3 hours with the heater turning on and off under thermostat control. Reprising the switch restarts the 3 hour timer. The pump lamp will indicate red (fig 5) when in the manual condition. In the standby condition both pump and mode switch lamps indicate green (fig 4).

fig 5: Manual pump operation.



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 operated the lamp will show red (fig 6). While blower is operating the pool heating is automatically turned off (Load shedding). When blower turned off 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 switch 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 7). 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.

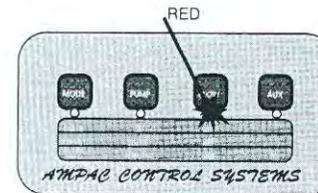


fig 6: single speed system

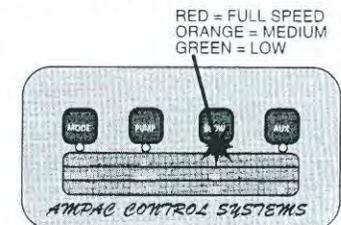


fig 7: 3 speed system

THE LIGHT/AUXILIARY SWITCH

This is a single on/off function normally used to run the pool light. When on, a red lamp (fig 8) is illuminated.

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

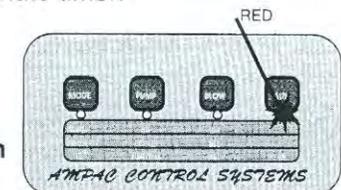


fig 8: auxiliary switch function

THE THERMOSTAT CONTROL

The thermostat adjustment (knob located on side of control box) 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 as indicated by

a pool thermometer. Turning the thermostat to maximum will not make the pool heat any quicker. (Control range Aprox. 25° - 40° 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.
- 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.

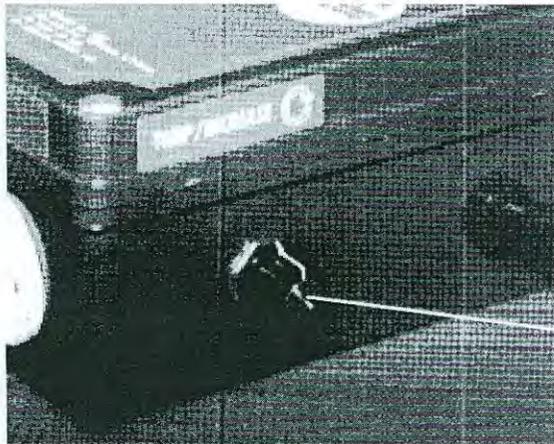


fig 9: Temperature control knob

THE TIME CLOCK FUNCTION

The time clock is used to regulate the operating times of the pool equipment. This function is used to turn all operations of the pool to standby or sleep mode. The clock is only effective in the auto mode (fig 3). Any functions left on like the pool light or blower will be terminated when controller goes to sleep. When clock allows controller to run again, pump and heating will resume however the light and blower will remain off until their switches are pressed again.

To set the time (fig 10) remove clear cover from clock. The clear lens [1] over the clock face should be rotated clockwise only to set the time. The segments each representing 10 minutes are pulled out as shown [2] to activate sleep mode. A minimum of 2 adjacent segments are needed between sleep and auto modes. Figure 10 shows the sleep mode set to switch off at midnight through to 7AM the following morning. The clock is set to 7.45AM as indicated by the hands and the white arrow [3] on the outer segments. The clock may be over-ridden at any time by entering the manual function (fig 4) or operating the override switch [4]. The indicator [5] is shown in the normal operating position "0". When settings are complete be sure to refit clock cover.

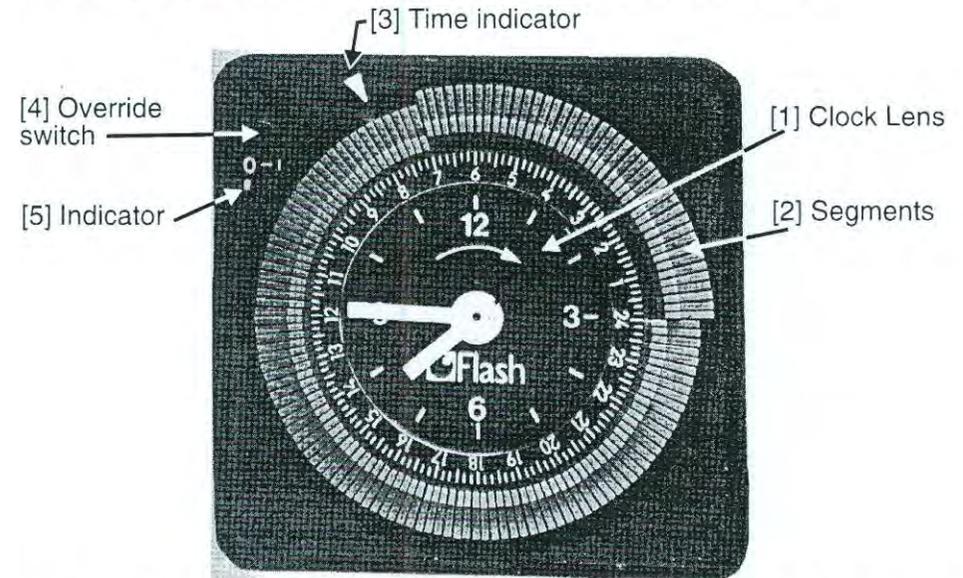


fig 10: Time clock (If time clock is different to one shown refer to insert)

INSTALLATION GENERAL

The control system has been designed so that it is easily removed for service, or that 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 11).