

DEALER STAMP:

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



SPA-QUIP LTD

3 BUTTON ELECTRONIC

STANDARD SPA POOL

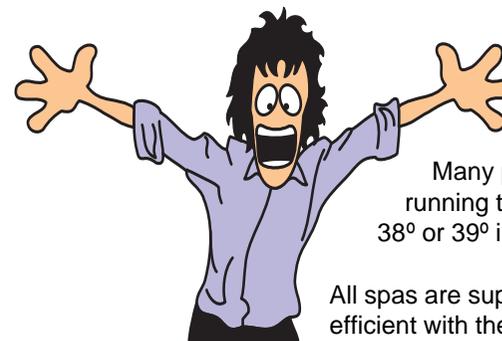
CONTROLLER

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MY SPA IS TOO HOT IN SUMMER!!

Many people would like to reduce the normal running temperature of their spa, which is usually 38° or 39° in winter to 26° or less in summer.

All spas are supplied with an efficient heater, made more efficient with the insulation around spa. This is what spas are all about - HOT WATER and the therapeutic effects of hot water and massage jets.

Manufacturers make no attempt to supply a system that cools water.

Please consider this.....

a) In the winter your spa gets cold because the air temperature is cold. To combat this we heat the water and keep the spa covered when not in use. If the spa is turned off and the ambient temperature is 15°, eventually the spa will lose heat until it too is 15°.

b) In the summer the same applies – you can turn the heater down, even turn the pump off, but if the daytime temperature is 38° - 42° then the spa will also remain at that temperature.

Here are a few suggestions.....

The quickest way is to change the water. However, eventually even this new water will also heat up to the air temperature and need changing to cooler water.

Turn the heater down, but you also have to reduce the pump running times as well, as the pump alone adds heat to the spa. Pump running time is controlled by both heating and filtration requirements. Some control can be obtained by adjusting the sleep times to longer periods and the on times for night running where the ambient temperatures are cooler.

If the nighttime temperature is low, leave the cover off the spa to let heat escape, but put it back on during the day to keep heat out. Make sure the spa is shaded from direct sunlight.

You are lucky to live in a semitropical climate, but when it is hot EVERYTHING IS HOT, unless air conditioned.

OPERATING INSTRUCTIONS:

The Intuitive Series heat pump and control system has been designed so that the pool can be automatically operated maintaining predetermined heat and filtering operations. An in built clock puts the system into a sleep mode when absolute quiet is needed.

Fig 1: Control box with analogue time clock



Before operating the spa pool ensure 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 as marked on the controller's label.
- 2/ Ensure that the power supply is correctly rated, ie. a 15 amp system is plugged into a 15 amp 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 understand 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.

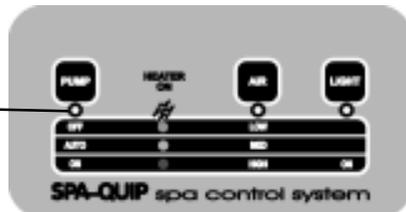
NOW-

- 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 momentarily switch on. This is simply the microprocessor resetting itself.
- 3/ Turn the thermostat control knob around clockwise to high to allow system to operate (Fig 6).
- 4/ The control automatically starts in demand heat mode. The switch mode light should be yellow/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 (page 9).

PRIMING FUNCTION

The system will automatically run for 10 seconds to prime itself. While unprimed the lamp associated with the pump switch will flash (Fig 2). 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 - page 9).

Fig 2: Lamp flashes red/
green for no water



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WARRANTY POLICY

1. We undertake to repair, or at our option, replace without cost to the purchaser either of materials or labour, any part which within 12 months from the date of purchase is found to be defective, provided that the product has been used in accordance with the Instruction Book, under normal domestic use and has not been subject to misuse, neglect or accident or dismantled, repaired or serviced by any other than an authorised Spa-Quip Ltd or Spa-Quip (Australia) Pty Ltd service agent.
2. All claims for warranty must be done through the retailer or supplier from whom the product was purchased. Proof of purchase or the warranty card stamped by the supplier must be supplied.
3. This warranty is a "return to base" warranty which means the item must be returned to the manufacturer for repair. An exchange unit may be provided in this case. If replacement or service under this Warranty Policy is required and distance prevents you calling personally, forward your product FREIGHT PREPAID to the nearest authorised Spa-Quip Ltd or Spa-Quip (Australia) Pty Ltd service agent.
4. Any costs incurred to repair a unit that is not covered by warranty will be passed on to the consumer including cost incurred to remove the faulty unit and replace with an exchange unit. Spa-Quip Ltd or Spa-Quip (Australia) Pty Ltd are not responsible for any on site costs for goods not covered by warranty.

Model _____ S/No _____ Date purchased _____

SPA WATER TREATMENT



RECOMMENDED CHEMICAL VALUES

CHLORINE..... 1.5 - 3.0 PPM (PARTS PER MILLION)
pH..... 7.4 - 7.6
TOTAL ALKALINITY... 100 - 120 PPM

FAILURE TO MAINTAIN YOUR SPA WATER CHEMISTRY TO THE ABOVE VALUES CAN BE UNHEALTHY BOTH TO YOU AS BATHERS, AND TO YOUR SPA POOL EQUIPMENT.

pH

This is a measure of how acid or alkaline the spa water is (below 7.0 is acid, above 7.0 is alkaline). Low pH will cause corrosion of any metalwork in the water (element, thermostat pockets). High pH will cause scale formation and cloudy water.

TOTAL ALKALINITY

This is a measure of how resistant your spa water is to change of pH. A low TA (0 - 80 ppm) will allow the pH to fluctuate rapidly, normally to the acid end, and will make it very hard to correct the pH back to the ideal range.

CHLORINE

Levels of sanitiser are important to prevent the build up of bacteria and algae in the pool water. Chlorine is not the only sanitiser available to do this. Other sanitisers are Bromine, Ozone.

DAMAGE TO THE ELEMENT, THERMOSTAT POCKETS AND ASSOCIATED METALWORK DUE TO THE POOR MAINTENANCE OF WATER CHEMISTRY IS NOT COVERED BY WARRANTY.

PUMP FUNCTION SWITCH

When the pump switch is depressed it toggles between auto, manual and standby modes. The default start up mode is automatic so that in event of a power failure, the pool always starts in the heating mode.

When in the automatic mode, the indicator shows yellow/orange (Fig 3). The time clock will automatically turn the system on and off at preset times (see time clock setting instructions - page 6).

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. The controller will switch the pump and heating on and off as well as the intelligent filtration cycling when required.

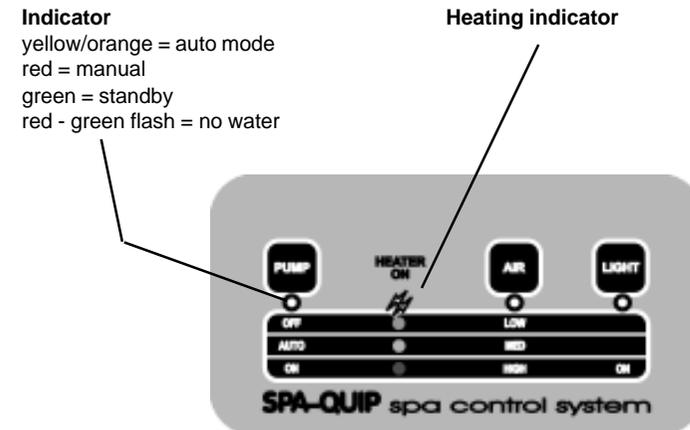


Fig 3: Automatic mode

The pump can be operated manually at any time by pushing the switch until the lamp indicates red. 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. At the completion of the manual running time the controller will revert to automatic mode.

Standby mode switches the pump functions off if absolute quiet is required. This function is also on a timer reverting to automatic mode after 3 hours.

AIR SWITCH

Single speed version:

The air blower injects 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. While the 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:

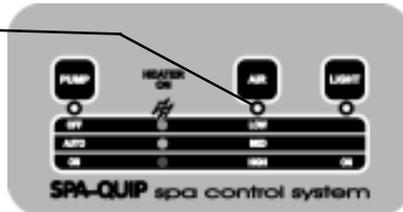
The multi speed switches the blower through three different speeds. When switch pressed the blower starts at full speed with the lamp indicator showing red. Each subsequent step reduces speed with the lamp changing to yellow/orange for mid speed and green for low (Fig 4). The multi speed version is available with or without air heating. As above the pool heating is switched off when the blower is operating, however the pump will remain running.

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

Fig 4: Air control switch and indicator

LED indicator
Single speed = red

Multi speed high = red
medium = yellow/orange
low or ramping = green

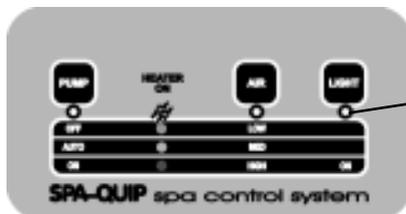


THE LIGHT/AUXILIARY SWITCH

This is a single on/off function normally used to run the pool light. When on, a red lamp (Fig 5) is illuminated.

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

Fig 5: Auxiliary switch function



LED indicator = red when on

FAULT	CAUSE	REMEDY
No power (LEDs not on)	Supply fault.	Check fuse or circuit breaker at switch board. Check switch plugged into control box. Check RCD on cord set.
Power available but will not run.	Air lock in plumbing.	Re-plumb system to eliminate air-locks.
No water (LED lamp flashes on pump switch)	Valves shut. Air lock. Insufficient water. Probe requires cleaning.	Open valves. Correct plumbing. Make sure water above skimmer minimum level. Call serviceman to clean water probe.
Pump will not switch on.	Pump switch in time clock mode.	Switch to manual mode. Check time clock also override switch on clock face. Make sure pump is plugged in securely. Check overload switch on motor if fitted.
Pump operates but no pressure.	Jets turned off (if fitted). Water level low. Suction blocked. Air leak on suction line. Filter dirty.	Turn jets on. Top up pool to correct level. Unblock suction. Repair air leaks. Clean filter.
Blower/Aux will not go.	Accessory not plugged in.	Make sure accessory plugged into socket on control box.
No Light.	Light not plugged in. Lamp blown.	Check plug is secure in correct socket on control box. Replace blown lamp.
Spa will not reach heat or has trouble maintaining heat.	Temperature control set to low. Blower operating. Excessive heat loss. Spa not operated long enough. Clean filter - check for obstructions.	Adjust temperature control clockwise to increase heat. Turn blower off (heating is disabled while operating). Fit pool cover. Check time clock settings (sleep mode). Dependent on pool insulation & site location, heating performance may be effected.
LEDs flashing	High temperature cut out. Electronic failure.	Turn power off at mains switch for 5 seconds. Refer Fig 9: page 8 for reset information.

IF ANY OF THE ABOVE MEASURES FAILS TO RECTIFY THE LISTED FAULTS CONTACT YOUR DEALER OR THE NEAREST SERVICE CENTRE LISTED ON INSIDE FRONT COVER.

SWITCH INSTALLATION

The Intuitive control pad 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, ie. in certain areas the switch must be installed on the top side or outer side of the lip of the pool.

A rectangular hole of 93mm x 40mm x 35mm deep is required to mount the Intuitive control pad. Cable access is required at base of hole. Switch is mounted on a bead of silicon with label right reading from the bathers point of view. (Please note that the yellow/orange colour generated for the mode function 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 drip loop in cable to avoid water/condensation seeping into the controller's socket. The switch cable plug should be orientated and pushed firmly into its mating socket where the locking tabs will close about it. In case of removal use locking tabs which act as ejectors in reverse. Do not try to remove switch plug by its lead.

SPECIAL NOTE

All equipment attached must not exceed the total rating as specified on the cover of the control box. NB. 10 and 15 amp versions available. It is essential that 15 amp rated controllers are 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 there correct position and fully inserted. If the controller flashes in fault condition check and operate the small **RED Over Temperature Reset Button** (Fig 9) on the heating element cover. If the controller fails to reset allow time for the Reset Device to cool down (20 - 30 mins) before trying again. If it still fails then Technical Service is required.

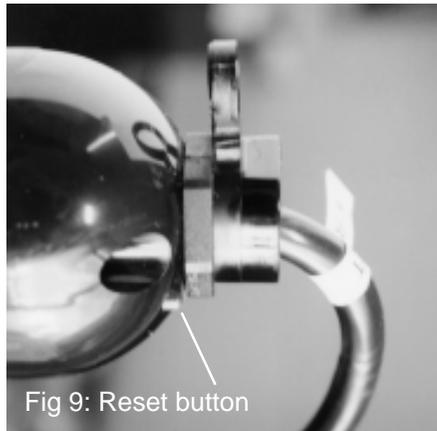


Fig 9: Reset button

THE THERMOSTAT CONTROL

The thermostat adjustment knob (located on the top of control box - Fig 6) 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 approx. 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 air blower is not operating.
- 6/ The quality of the power supply.



Fig 6: 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 the controller goes to sleep. When the clock allows the 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 7) 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 overridden at any time by entering the manual function (Fig 3) 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.

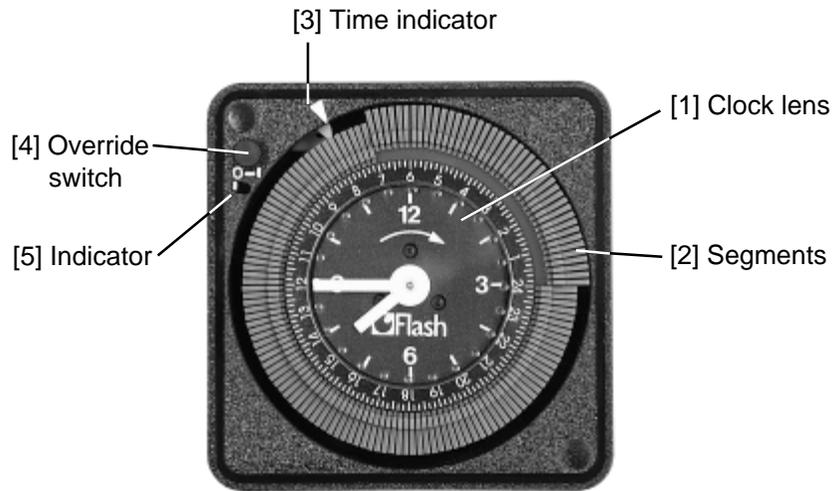


Fig 7: Time clock (If time clock is different to one shown refer to insert)

INSTALLATION GENERAL

The control system has been designed so that it is easily removed for service, or so that any ancillary 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 (Fig 8A) 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 8).

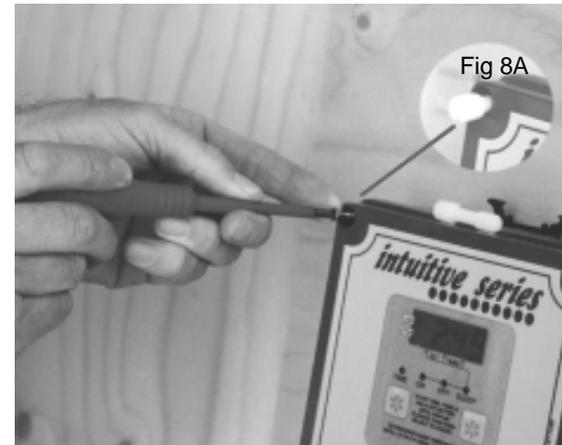


Fig 8: Mounting method for control box.

CONTROL BOX & HEATER INSTALLATION

The control box must be installed in a position considering the following matters.

- A/** The control box must be mounted in a vertical plane so that the front label is right reading. The ventilation holes in the controller lid must have unrestricted air flow.
- B/** It must be mounted so that water can not be splashed on it or its connections, ie. mounted above the filter opening, hair and lint pot or drainage valves. The controller must be protected from rain & splashing.
- C/** It must be mounted so the end user can easily operate the time clock.
- D/** It must be mounted so the leads of the support equipment can be easily plug into the control box sockets.
- E/** It must be positioned so the heating element can reach the heating "T" on pump.
- F/** It must be mounted so that all spa support equipment is accessible and can be easily removed for service.
- G/** The control box must be installed on a stable platform so that it is not subjected to vibration.
- H/** The control box is designed so that the pump/s, blower and light where fitted can be plugged into the box. The sockets are clearly marked.

INSTALLATION OF HEATER ELEMENT

The element must be installed so that the lead is not stretched and the element/control box can be easily removed for service. Pay attention to instructions on element cover ensuring the element is positioned correctly. 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.