

SPECIAL NOTES

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 15amp 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.

If the controller flashes in fault condition check and operate the small **RED Over Temperature Reset Button** (Fig 6) on the heating element cover. If the controller fails to reset allow time for the Reset Device to cool down before trying again. If it still fails then Technical Service is required.

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 _____

Contents

- 1.....OPERATING INSTRUCTIONS
- 2.....SPA POOL START UP
- 2.....PRIMING FUNCTION
- 2.....MODE FUNCTION SWITCH
- 3.....FILTRATION
- 3.....BLOWER AIR SWITCH
 - Single speed version
 - Multi speed version
- 4.....THERMOSTAT CONTROL
- 5.....INSTALLATION GENERAL
- 6.....CONTROL BOX & HEATER ELEMENT INSTALLATION
- 6.....INSTALLATION OF HEATER ELEMENT
- 6.....SWITCH INSTALLATION
- 7.....SPECIAL NOTES



Fig 6: Reset button



SPA-QUIP

2 BUTTON ELECTRONIC
SPA POOL CONTROLLER
10 & 15amp versions

Manufactured & serviced by SPA-QUIP LTD
PO Box 302-114 N.H.P.C
Auckland, New Zealand
Ph (649) 415 8622 Fax (649) 415 8621
Email: postmaster@spa-quip.co.nz
Web: <http://www.spa-quip.co.nz>

Distributed & serviced in Australia by
SPA-QUIP (Australia) PTY LTD
Unit 2A, 4 Hudson Ave
Castle Hill, NSW 2154
Ph (02) 9634 5600 Fax (02) 9634 5900
Email: aqua@fl.net.au

OPERATING INSTRUCTIONS

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

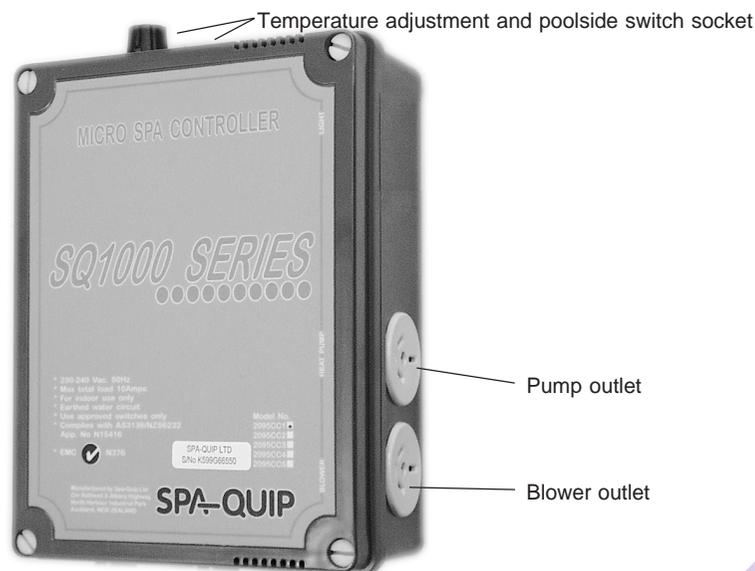


Fig 1: SQ Series 2 button controllers

Before operating the spa pool ensure the following conditions are checked:

1. The spa pool support equipment is properly plugged in. Check that each item is plugged into the correct socket (Fig 1).
2. The power supply is correctly rated, ie. a 15 amp system is plugged into a 15amp RCD protected outlet. The rating is printed on front decal of control system.
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 water can not be splashed on it, ie. 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 the end user can easily operate the thermostat control.
- c) It must be mounted so the leads can easily plug into the control box sockets.
- d) It must be positioned so the heating element can reach the heating 'T' on the pump.
- e) It must be mounted so 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 it is not subjected to vibration.

INSTALLATION OF HEATER ELEMENT

The element must be installed so the lead is not stretched and the element/control box can easily be removed for service. Pay attention to instructions on element housing ensuring 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 pool side switch 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 switch control pad. Cable access is required at base of hole. The switch is mounted on a bead of silicon with the label orientated to be read from the bathers point of view. (Please note that the Orange colour generated for the mode and 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 moisture loop in the cable to avoid moisture seeping into switch socket. The plug should be correctly 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 plug by its lead.

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 (Fig 5A) at each corner of the lid. These are designed to take a type 6PK 25mm screw or similar 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 system 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 and installed correctly.

NOW –

1. Turn the power supply switch on at the supply. When the switch is initially turned on the pump and blower should momentarily 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, wind chill factor, type of cover, size of pool, insulation quality etc.

PRIMING FUNCTION

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

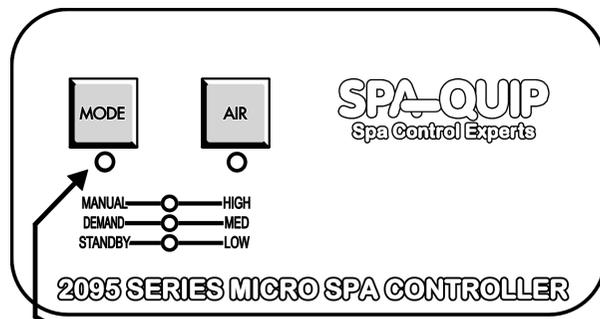
MODE FUNCTION SWITCH

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 alternates between auto, manual and standby modes with a colour coded LED indicator 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 yellow/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 LED will indicate red when in the manual condition. In the standby condition the mode LED indicates green. The controller reverts back to Auto after 3 hours when it has been left in either manual or standby modes.



LED INDICATOR
 Orange = Demand (automatic)
 Red = Manual
 Green = Standby
 Red/Orange flash = No water or priming
 Red/Green flash = Fault

Fig 2: Mode/Pump button

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 four hours daily filtering while in Auto mode. The day is divided into 3 hour blocks so ozone treated pools operate correctly.

BLOWER AIR SWITCH

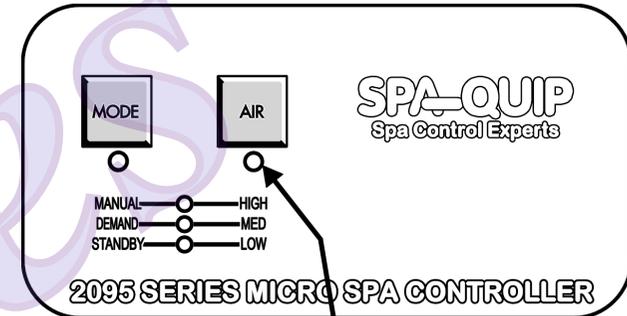
Single speed version:

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 LED indicator will show red (Fig 3) and the pool heating is automatically turned off (load shedding). When the blower is turned off the LED 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 LED indicator showing red. Each subsequent step reduces speed with the indicator 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.



LED INDICATOR
 Red = Full speed
 Orange = Medium
 Green = Low

Fig 3: Blower button

THE THERMOSTAT CONTROL

The thermostat adjustment (knob located on the top 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° - 40° Celsius approx.)

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.