



Water, the Liquid of Life  
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Water, the Liquid of Life

**OWNERS MANUAL**

**Portapac Electronic Spa Pumps**

|           |                       |             |      |
|-----------|-----------------------|-------------|------|
| 4555100E  | Portapac Demand       | 1.0HP/1.6kW | 10 A |
| 4555101E  | Portapac Demand DE    | 1.5HP/2.4kW | 15 A |
| 455560E   | Portapac Demand DE/ T | 1.5HP/2.4kW | 15 A |
| 45551001E | Portapac Demand/ LED  | 1.0HP/1.6kW | 10 A |

**Portapac Electronic Spa Side Control Pumps**

|          |                                 |             |     |
|----------|---------------------------------|-------------|-----|
| 4555130E | Portapac SSC Electronic (Air)   | 1.0HP/1.6kW | 10A |
| 4555133E | Portapac SSC Electronic (Boost) | 1.0HP/1.6kW | 10A |
| 4555135E | Portapac SSC Electronic (Air)   | 1.5HP/2.4kW | 15A |
| 4555137E | Portapac SSC Electronic (Boost) | 1.5HP/2.4kW | 15A |
| 4555150E | Portapac SSC 2 Speed (Air)      | 2.0HP/2.4kW | 15A |

**If the supply cord is DAMAGED it must be replaced by the manufacturer, service agent or similarly qualified person in order to avoid HAZARD.**

Portapac Spa Pumps Manual 19/09/2003

## OPERATION

The Waterco Limited **Portapac 4555100E, 4555101E & 455560E** spa pumps is controlled by a four stage sequential air button.

**This unit automatically defaults into demand mode when switched on at the power supply. (Demand mode is also the fourth (4) press of the button).**

The air button that controls the pump sequence is generally located on the spa coping or timber cabinet. **(refer to spa manufacturer).**

Simply press the air button and hold for one (1) to (2) seconds and the pump will change into a different mode.

- 1<sup>ST</sup> PRESS is standby mode.** Power is supplied to the pump. The power indicator light on the control box will be lit.
- 2<sup>ND</sup> PRESS is pump mode.** Pump is switched on, the heater is controlled by the setting of the temperature control knob located on the control box. **(function recommended when the spa is in use).**
- 3<sup>RD</sup> PRESS is blower mode.** Pump and blower is switched on and the heater is automatically switched off. The heater is switched off to compensate for the extra current drawn (power usage) by the blower. It is commonly called load shedding.
- 4<sup>TH</sup> PRESS is demand mode.** At the demand mode the pump and heater are on and controlled by the setting of the temperature control knob on the control box. The blower is then switched off. Adjust the temperature to the desired level you wish to maintain the spa at while the pump is either in demand or pump modes.

- **NOTE : Demand mode is recommended when the spa is not in use.**

Demand mode maintains a set temperature (24) hours a day (7) days a week. This mode is the most economical setting for power consumption. The spa pump has a temperature sensor which will automatically switch the pump and heater on if the water temperature drops approximately (2) degrees C. The heater heats the spa water back to the preset temperature. Set to demand mode either by switching the power off and then on again or press the right number of presses from the mode the pump is on. e.g One press when pump is on blower mode.

- **NOTE : The use of a spa cover or blanket will help maintain spa temperature and greatly improve the efficiency of the spa pump.**

## TIME CLOCK OPERATION FOR PORTAPAC DEMAND ELITE (455560E) ONLY

### Standard time clock version

The Portapac Demand Elite is supplied with a Time Clock to switch the pump on as desired by the Spa user. The Portapac will switch on in DEMAND mode whenever the timer cuts in.

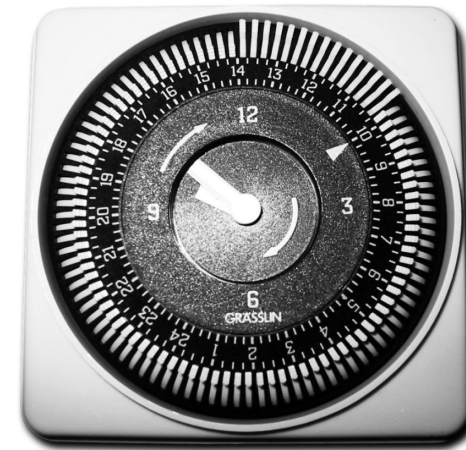
### Setting the Time Clock

Set the Time Clock by rotating the outer ring in a clockwise direction until the white arrow head on the clock face points to the correct time on the outer clock face.

The clock is in 24 hour time sequence and needs to be reset if the power is interrupted.

### Setting Portapac Demand Elite times

Operation times for the Portapac Demand Elite is set by pulling out the appropriate pins corresponding to actual time on the outer clock face. Pulling the yellow pin out will switch the power on. On the timer shown below the Portapac will switch on at 10:15 am and switch off at 14:00 (2:00pm). Each pin represents 15 minutes of clock time.



The Portapac can be switched on to pump or blower modes with the air button even if the timer is on the " off " position. It should be set back to DEMAND mode after used.

- **NOTE : 455560E and 45551001E are supplied with a remote LED to indicate the Portapac is in demand mode when the LED is lit.**

## OPERATION

A four-stage sequential air button controls the Waterco Limited **Portapac 45551001E**.

**This unit automatically defaults into demand mode when switched on at the power supply. (Demand mode is the fourth (4) press of the button).**

The air button that controls the pump sequence is generally located on the spa coping or timber cabinet. (refer to spa manufacturer).

Simply press the air button and hold for one (1) to (2) seconds and the pump will change into a different mode.

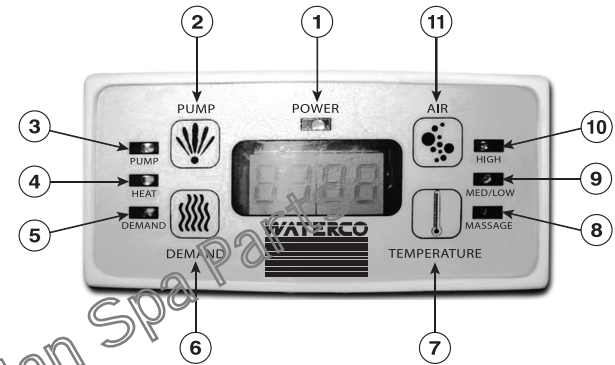
- 1<sup>ST</sup> PRESS is standby mode.** Power is supplied to the pump. The power indicator light on the control box will be lit.
- 2<sup>ND</sup> PRESS is pump mode.** Pump is switched on, the heater is controlled by the setting of the temperature control knob located on the control box. (function recommended when the spa is in use).
- 3<sup>RD</sup> PRESS is standby mode.** Power is supplied to the pump. The power indicator light on the control box will be lit.
- 4<sup>TH</sup> PRESS is demand mode.** At the demand mode the pump and heater are switched on and controlled by the setting of the temperature control knob on the control box. The blower is then switched off. Adjust the temperature to the set level you wish to maintain the spa while the pump is either in demand or pump modes. The remote LED is lit on demand mode.

● **NOTE :** Demand mode is recommended when the spa is not in use.

Demand mode maintains a set temperature (24) hours a day (7) days a week. This mode is the most economical setting for power consumption. The spa pump has a temperature sensor which will automatically switch the pump and heater on if the water temperature drops approximately (2) degrees C. The heater heats the spa water back to the preset temperature. Set to the demand mode by either switching the power off and then switching it on again or pressing the air button twice to activate demand mode. The remote LED should be lit on demand mode.

● **NOTE :** The use of a spa cover or blanket will help maintain spa temperature and greatly improve the efficiency of the spa pump.

## PORTAPAC ELECTRONIC SPA SIDE CONTROL PUMPS (AIR) 4555130E, 4555135E & 4555150E



- 1. **Power indicator light.** Indicates mains power is on.
- 2. **Pump on / off button.** Turns the pump on and off. For Model 4555150E. Second press turns the pump on high and the 3rd press turns the pump off.
- 3. **Pump on / off indicator light.** Indicates the pump is on or off.
- 4. **Heater on / off indicator light.** Indicates if the heater is on or off.
- 5. **Demand cycle on / off indicator light.** Indicates if the spa is in demand mode.
- 6. **Demand on / off button.** Turns demand cycle on or off.
- 7. **Temperature high / low button.** Adjusts the temperature settings.
- 8. **Blower on massage cycle indicator light.** Indicates if the blower is on massage cycle. High indicator light will blink on massage mode.
- 9. **Blower on med / low cycle indicator light.** Indicates if the blower is on med / low cycle.
- 10. **Blower on high cycle indicator light.** Indicates if the blower is on high.
- 11. **Blower high / medium-low / massage cycle button.** Adjusts the blower functions.

## HOW TO OPERATE THE SPA PUMP?

- **NOTE :** It is always a good idea to be familiar with all the touch pad settings available to you. Please familiarise anyone else who intends to use your spa.

1. Always ensure the correct power is supplied to the spa pump.
2. Position the spa in the chosen position. Then fill the spa with water and while the spa is filling. Check the spa plumbing for leaks. Are generally wet tested for leaks at the factory before delivery.
3. Switch the power on when the spa is filled with water. The touch pad power indicator light (1) will turn on.
4. **Set the temperature bias on the touch pad.** This may be required because the actual water temperature may differ from the displayed temperature. To set the temperature bias allow the pump to run to the **preferred spa temperature** on **Demand** mode **until preferred spa temperature is displayed on the touchpad and the pump stops.**
  - (a) Use a thermometer to take the spa water temperature and compare the reading with the temperature reading displayed on the touch pad.
  - (b) **IF THE TEMPERATURE DIFFERS RESET THE BIAS.**
  - (c) To reset the bias ensure that the pump and demand modes are **off**. Only the power indicator light should be **on**. Press the temperature button (7) and hold for approximately **30 seconds**. The factory set bias "5" will blink on the touch pad.
  - (d) Press the temperature button (7) (each press will increase the bias setting by 1°C to a maximum of **5 and then drop to minus 5**).

**Ensure the Display temperature matches the temperature shown on thermometer.**

- **EXAMPLE :** Touch pad display shows 30°C and the thermometer in the spa shows 28°C the bias needs to be adjusted down by (2).

## OPERATION

### PUMP BUTTON (2).

1. **First Press :** Turns on the pump. (After 20 seconds the heater will turn on if required). The heater is thermostatically operated and will run until it reaches the desired preset temperature. The Pump Mode would revert to Demand mode after 30 minutes from pressing the pump button.

### DEMAND BUTTON (6).

1. **First Press :** Selects the demand cycle. The pump and heater will operate until the spa water has reached the desired preset temperature and then automatically switch off. The pump and heater will switch back on when the water temperature level drops approximately 2°C.
2. **Second Press :** Will turn off the pump and heater demand cycle.

- **NOTE :** The pump turns off approximately 20 seconds after you have pressed the button.

The demand cycle is to be used when the spa is not being used. The demand cycle maintains the spa water at a constant temperature (24) hours a day (7) days a week.

### AIR BUTTON (7).

1. **First Press :** Turns the blower on and at the same time turns the heater off.
2. **Second Press :** Medium / Low speed. The setting you select is indicated by the lights (8) (9) (10) on the touch pad.
3. **Third Press :** Massage function varies the air speed of the blower. Ranging from high speed to low speed. This creates a massage effect.
4. High speed runs the air through the blower at maximum force. (Does not vary).
5. Medium / Low speed allows for a nice gentle massage affect. The top air LED will blink when the blower is in massage mode.
6. **Fourth Press :** A quick press of the button and the blower functions turn off.
7. The air function has a time out feature, which will stop the blower from operating after 30 minutes.

**ALL OTHER MODES WOULD REVERT TO DEMAND AFTER 30 MINUTES**

### TEMPERATURE BUTTON (7).

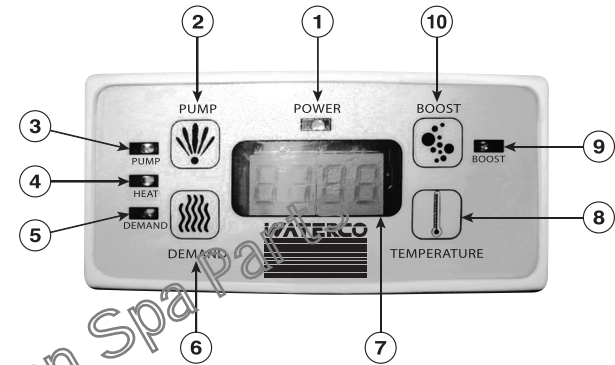
**First Press and Hold** : This allows you to adjust the temperature of the spa water. The range is between 10 degrees C and 40 degrees C.

1. Press and hold the button and the degrees (displayed) will increase in increments of (1) degree C until it tops out at 40 degree C.
2. Release the temperature control button when the desired temperature setting is reached.
3. To verify the set temperature at any time, simply press the temperature button and the temperature setting will be displayed.



● **NOTE** : All Portapacs are supplied with stainless Steel Probe and Housing.

### PORTAPAC ELECTRONIC SPA SIDE CONTROL PUMPS (Boost) 4555133E & 4555137E



1. **Power indicator light.** Indicates power to the unit.
2. **Pump on / off button.** Turns the pump on and off.
3. **Pump on / off indicator light.** Indicates if the pump is operating.
4. **Heater on / off indicator light.** Indicates if the heater is on or off.
5. **Demand cycle on / off indicator light.** Indicates if the demand cycle is operating.
6. **Demand cycle on / off button.** Turns demand cycle on or off.
7. **Digital display.** Displays the temperature
8. **Temperature high / low button.** Adjusts the temperature.
9. **Boost on / off indicator light.** Indicates if ancillary unit is on or off.
10. **Boost on / off button.** Turns ancillary unit on or off.

## OPERATION

### PUMP BUTTON (2).

1. **First press** : Turns the pump on. (After 20 seconds the heater will turn on if required.). The heater is thermostatically operated and will run until it reaches the preset temperature. The pump will continue to operate until you press the pump button again.

### DEMAND BUTTON (6).

1. **First press** : Selects the demand mode. The pump and heater will operate until the spa water has reached the preset temperature and then will automatically switch off. The pump and heater will switch back on when the water temperature level drops approximately 4 to 5 degrees.
2. **Second Press** : Will turn off the pump and heater demand cycle.

● **NOTE** : The pump turns off approximately 20 seconds after you have pressed the button.

The demand cycle is recommended when the spa is not being used. The demand cycle maintains the spa water at a constant temperature (24) hours a day (7) days a week.

### BOOST BUTTON (10).

1. **First Press** : Turns on either a blower or secondary pump.
2. **Second Press** : Turns off either a blower or secondary pump.

### TEMPERATURE BUTTON (8).

**First Press and HOLD**: This allows to adjust the temperature of the spa water between 10°C and 40°C.

1. Press and hold the button and the degrees (displayed) will increase in increments of (1°C) until it tops out at 40°C.
2. Release the temperature control button when the desired temperature setting is reached.
3. To verify the set temperature at any time, simply press the temperature button and the temperature setting will be displayed.

## FAULT TROUBLESHOOTING

The spa pump should only be serviced by qualified service technicians, however some problems can be checked and rectified by the owner before making a service call.

| FAULT                      | POSSIBLE CAUSE                    | ACTION  |
|----------------------------|-----------------------------------|---|
| Pump will not run.         | No power                          | Check the flexible electrical cable is not damaged and plugged in.  |
|                            | Blown fuse                        | Check the power circuits fuse or circuit breaker has not blown or tripped.  |
|                            | R.C.D. tripped                    | Check the RCD has not tripped out. Reset if tripped out.  |
|                            | Pump impeller jammed              | Check that impeller has not jammed with debris.   |
|                            | Motor burnt out                   | Check that the electric motor has not burnt out. A strong smell of plastic will be present if burnt out.                            |
|                            | Air control                       | Check that the air tube between the pump and the air button is connected or hasn't kinked. <b>(models with air activation only)</b> |
| Heater will not operate    | Touch pad                         | Check that the electronic touch pad has been connected to the pump.   |
|                            | Thermal cut out activated         | Allow to cool down. Reset   |
|                            | Water temp exceeds safety cut out | Check over temp manual reset button   |
|                            | Faulty element                    | <b>Call service</b>   |
| Water temp too low         | Water level too low               | Add water to operate pressure switch  |
|                            | Thermostat setting too low        | Rotate clockwise to increase temperature.   |
|                            | Faulty thermostat                 | <b>Call service</b>   |
| Blower will not start      | Faulty element or switch          | <b>Call service</b>   |
|                            | No power                          | Check flexible power cable is not damaged.  |
| Blower will not work cont. |                                   | Plug another device into the blower power supply and turn on to check power point. (ie. Radio or light).                            |
|                            | Motor burnt out                   | Check that water has not got into blower motor and burnt out the motor.   |