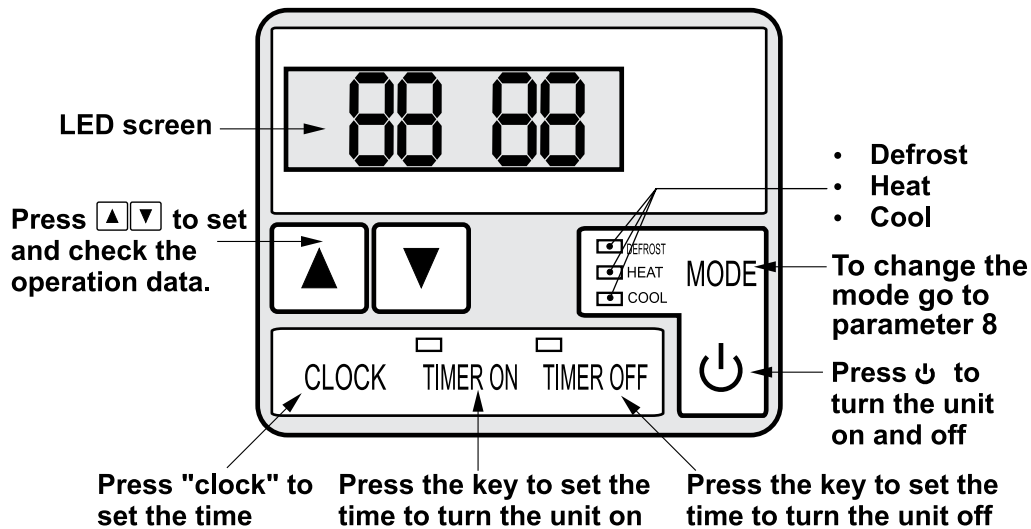


## THE KEYPAD



### MODE

There are 3 modes:-

- Defrost:** The LED will be illuminated whilst the machine is busy defrosting (normally in very cold, winter conditions).
- Heat:** The LED will be illuminated when the machine is set for heating the water.
- Cool:** The LED will be illuminated when the machine is set for cooling the water.



### ON / OFF switch

(OFF = STANDBY; ON = RUNNING)

In the "OFF" position the display shows the time, i.e. 12.34.

In the "ON" position the display shows current pool temperature, i.e. 22.0.

It is important to remember that whilst the machine is in the "ON" position, i.e. showing temperature, you can only view the settings.

In order to change the settings the machine must be in the "OFF" position, i.e. showing time.

The rate of heating the water will be the same, it does not matter what the required set temperature is, i.e. by setting the temperature very high, this won't increase the rate of heating.

By setting the required temperature too high, this will only cause a higher electricity consumption and not a quicker heating time.

### HOW TO SET THE REQUIRED TEMPERATURE

1. Set the machine to "OFF/STANDBY" (the LED will show time).
2. Press ▲ or ▼ to Parameter 1.
3. Quick press and release the "MODE" and "ON/OFF" simultaneously.
4. The current set temperature will flash.
5. Use the ▲ or ▼ to set the required temperature.
6. Wait until the LED returns to time.
7. Switch the machine "ON".

## CLOCK

The clock, if set, will show the time of the day (24 hour clock).

To set the clock

The machine must be in the “OFF” position.

1. Press “CLOCK” once – the first two digits on the LED screen will flash. Using the ▲ or ▼ scroll to the required hours.
2. Press “CLOCK” again – the second two digits on the LED screen will flash. Using the ▲ or ▼ scroll to the required minutes.
3. Press “CLOCK” again to set the time.

Note: It is not necessary to set the time, unless you want the machine to show the correct time of day or should you make use of the “TIMER ON” and “TIMER OFF” function.

## TIMER

You can only switch the machine “ON” and “OFF” once in a 24 hour cycle, i.e. the timer has only one setting, therefore the timer is not used to switch the heat pump “ON” and “OFF” several times a day, but merely used to stop the heat pump from starting up for a set time in a 24 hour cycle, e.g. during the night should the heat pump be close to a bedroom window.

- **How to Set The Timer “ON”** (time when machine needs to start up in a 24 hour cycle)

Whilst the machine is in the “OFF” position, i.e. showing time, press “TIMER ON” twice. The first two digits on the LED screen will flash. Use the ▲ or ▼ to set the required hours. Press “TIMER ON” again. The last two digits on the LED screen will flash. Use the ▲ or ▼ to set the required minutes. Once the minutes have been set, press “TIMER ON” again to save the time setting.

- **How to Set The Timer “OFF”** (time when machine need to run in 24 hour cycle)

Whilst the machine is in the “OFF” position, i.e. showing time, press “TIMER OFF” twice. The first two digits on the LED screen will flash. Use the ▲ or ▼ to set the required hours. Press “TIMER OFF” again. The last two digits on the LED screen will flash. Use the ▲ or ▼ to set the required minutes. Once the minutes have been set, press “TIMER OFF” again to save the time setting.

Once the “TIMER ON” and “TIMER OFF” is activated, the LED above the “TIMER ON” and “TIMER OFF” will light up.

If the “TIMER ON” is activated, but the “TIMER OFF” is not activated the heat pump will run continuously, as if the timers are not set. However, if the “TIMER ON” is not activated and the “TIMER OFF” is activated, the heat pump will run until the “TIMER OFF” time is reached and the machine will switch off permanently.

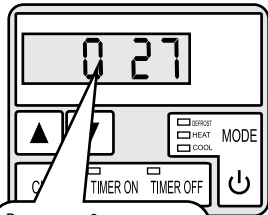
- **How to deactivate “TIMER ON” and “TIMER OFF”**

The heat pump must be in the “ON” or “OFF” position. Press “TIMER ON” twice. The LED above “TIMER ON” will flash. Press “CLOCK”. The LED above “TIMER ON” will not be illuminated. “TIMER ON” is now deactivated.

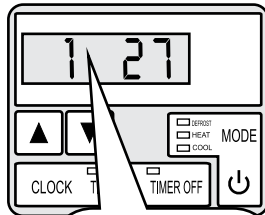
To deactivate “TIMER OFF”, the heat pump must be in the “ON” or “OFF” position. Press “TIMER ON” twice. The LED above “TIMER ON” will flash. Press “CLOCK”. The LED above “TIMER ON” will not be illuminated. “TIMER OFF” is now deactivated.

## PARAMETERS

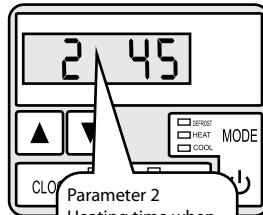
There are 10 variable parameters (0 – 9) which can be set. There are 5 fixed parameters (A – E) which are for information only.



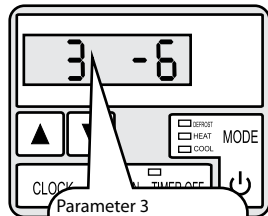
**Parameter 0**  
To set the inlet water temperature when in cooling mode (8 – 28°C). Default setting: 27°C.



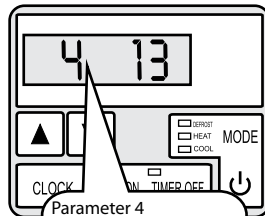
**Parameter 1**  
To set the inlet water temperature when in heating mode (15 – 40°C). Default setting: 27°C.



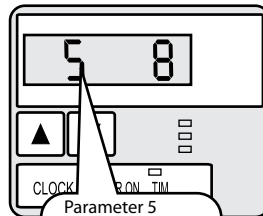
**Parameter 2**  
Heating time when in defrost mode



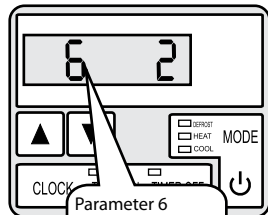
**Parameter 3**  
Defrost starting temperature. Defrosting function (-30 – 0°C). Default setting: -6°C.



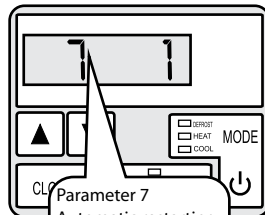
**Parameter 4**  
Defrost exit temperature. Defrosting function (0 – 30°C). Default setting: 13°C.



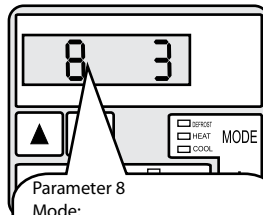
**Parameter 5**  
Maximum time of defrosting (0 – 15min). Default setting: 8 min.



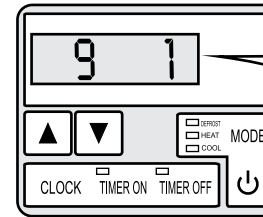
**Parameter 6**  
System Quantity (don't set).



**Parameter 7**  
Automatic restarting  
0 – No  
1 – Yes



**Parameter 8**  
Mode:  
0 (cooling only)  
1 (cooling & heating)  
2 (auxiliary elec. heating)  
3 (heating only)



**Parameter 9**  
Pump:  
0 (always open)  
1 (10 sec. start before compressor starts. 30 sec. stop after compressor stops)

## HOW TO SET THE PARAMETERS

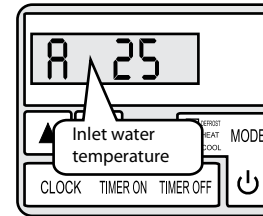
The machine must be in the “OFF” position.

Press ▲ or ▼ to scroll until you reach the required parameter.

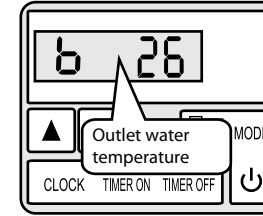
Press “MODE” and “ON/OFF” switch simultaneously and release. (NB quick press and release!).

The parameter value will start flashing. Use the ▲ or ▼ to change the value to the required setting. Wait until the LED has reverted back to time. A new parameter setting is programmed.

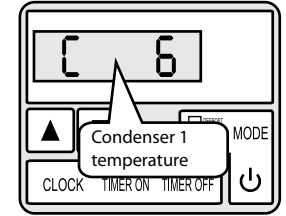
Press ⏻ to restart the machine.



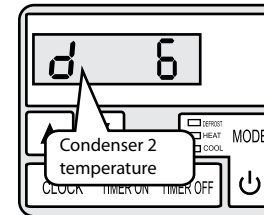
**Inlet water temperature**



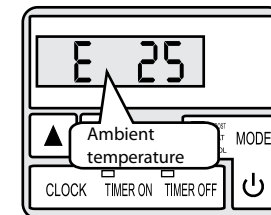
**Outlet water temperature**



**Condenser 1 temperature**



**Condenser 2 temperature**



**Ambient temperature**

## OPERATIONAL STATUS

Digit	Meaning	Range	Default	Adjust (yes/no)
0	Inlet water temperature when in cooling mode	8 - 28°C	27°C	Yes
1	Inlet water temperature when in heating mode	15 - 40°C	27°C	Yes
2	Heating time when in defrost mode	30 – 90 Min	45 Min	Yes
*3	Defrosting start temperature	0 – 30°C	-6°C	Yes
4	Time of exiting defrost mode to temperature	0 - 30°c	13°c	Yes
5	Time of exiting defrost mode to heating mode	1 – 12 Min	8 Min	Yes
6	System quantity	1 – 2	2	Yes
7	Automatic restarting after power failure / disconnection	0 (no) 1 (yes)	1	Yes
8	Mode: 0 cooling only 1 cooling / heating 2 auxiliary electrical heating 3 heating	0 1 2 3	3	Yes
*9	Pool pump supply from heat pump “1” Pool pump supply from the remote supply / DB “0”	0/1	1	Yes

Notice: Above data setting “0” is relevant to cooling mode only. All other data, (i.e. 1 – 8) is relevant to heating.

\*Remark:

Parameter 3:

0-30°C means from (-30°) to (0°)

6°C means -6°C

Parameter 9:

0: always open

1: The pool pump will start 10 seconds before compressor has started

The pool pump will stop 30 seconds after the compressor has stopped

## TROUBLE SHOOTING GUIDE

LED Controller	Malfunction	Reason	Solution
PP1	Water inlet temp. sensor failure	The sensor doesn't detect a reading	Switch power supply off for 5 minutes, then switch on again
PP2	Water outlet temp sensor failure	The sensor is open or short circuit	Check or change the sensor
PP3	Coil 1 sensor failure (C)	The sensor is open or short circuit	Check or change the sensor
PP4	Coil 2 sensor failure (D)	The sensor is open or short circuit	Check or change the sensor
PP5	Ambient temperature sensor failure (E)	The sensor is open or short circuit	Check or change the sensor
PP6	Temp differential between water-in and water-out is too high	Water flow volume too low, water pressure difference is too low	Check the water flow volume/pressure
PP7	Machine in defrost mode	Ambient or inlet water temp is very low	Wait for machine to return to heating mode
EE1	Malfunction of system 1	System 1 protection has failed	Switch power supply off for 5 minutes, then switch on again. If failure continues, call agent
EE2	Malfunction of system 2	System 2 protection has failed	Switch power supply off for 5 minutes, then switch on again. If failure continues, call agent.
EE3	Flow switch failure	No water flow/insufficient water in water system	Check the water flow volume, replace water flow switch
EE4	Power supply connections wrong (for TF 100/3 and 130/3)	Wrong connections or lack of connection	Check connection of power supply
No display	Power supply connections wrong (for SF060/3, 080/3, 130/3, 200/3)	Wrong connection or lack of connection	Check for gas leaks and check pressure switches
EE4	Overheating of compressor/system (for SF012/015/020/030/050 & 060/3)	Gas charge too low or high. Possible system blockage	Check for gas leaks and check pressure switches
EE5	Difference between inlet water temperature and outlet water temperature too high	Water flow rate too low or no water	Check the water flow rate and repair
EE8	Communication failure	LED and PLC connection failure	Check wiring

## MAINTENANCE AND INSPECTION

1. The machine must be cleaned regularly (twice a month) and kept free of debris, i.e. leaves, grass cuttings, plastic bags, etc.
2. The evaporating coils must be hosed down at least once a month to prevent build-up of dust particles which can block the air flow through the coils.  
N.B. When hosing do not use a high pressure as this can damage the aluminium fins.
3. The heat pump must be serviced yearly by an approved AQUAHEAT technician.

## GENERAL INFORMATION

### DO I NEED A THERMAL BLANKET?

We recommend the use of a heat blanket at all times that your swimming pool is not in use.

In most cases, when calculating the suitable heat pump size, the calculation is based on the use of a heat retaining blanket.

Heat loss in a pool is caused by evaporation. Therefore, if you don't prevent the evaporation with a heat retaining blanket you will not be able to maintain a constant temperature in your swimming pool.

A good example to think of, is driving your car with the air-conditioning on, and all the windows down.

### WHY IS THERE WATER DRIPPING FROM UNDER THE HEAT PUMP?

When the heat pump is running (in the heating mode), condensation build-up on the evaporating coils will cause water dripping under the heat pump.

This is a normal occurrence and is not a sign of leaking pipes.

A simple test is to actually taste your swimming pool water and the water dripping from under the heat pump – this will indicate that the water under the heat pump is not swimming pool water.

### DO I NEED A HEAT PUMP COVER?

Heat pump covers are available for the different models. These can be ordered directly from Aquaheat.

It is normally not necessary to cover your heat pump if it's used on a regular basis. We however recommend that if your machine is not used for long periods of time, i.e. at holiday homes, we recommend that a cover is fitted to protect the heat pump against the elements.