

DESCRIPTION

The PSC7S is a controller for the automatic operation of an ECOFLO V3 variable speed pump and automatic valves to perform the following functions; Filtration, High Speed Cleaning, Chlorination, Solar heating. If no solar collector is available the solar function can also be turned off.

SETTINGS MENU

To enter the SETTINGS MENU push either the up or down buttons and the following will be displayed;

```
SETTINGS MENU
1) BACKWASH
```

All the flashing items in the menu are selectable or changeable items.

Use the *Up* or *Down* buttons to scroll to the menu option you wish to change. Press the *Select* button to enter into the selected items sub-menu. Any value that is flashing can be modified by pressing the *Up* or *Down* buttons, To accept the value press the *Select* button, repeat until all values are accepted and you will return to the settings menu. All menu items are shown below;

```
SETTINGS MENU
1) BACKWASH
2) FILTER CYCLES
3) TEMPERATURE
4) SOLAR MODE
5) SYSTEM SETUP
6) OVERRIDE
7) SAVE & EXIT
```

1) BACKWASH MODE

```
BACKWASH MODE
UP=ON DOWN=OFF
```

When entering BACKWASH MODE the pump state is toggled. Pressing the *Up* button will force the pump to speed 3, pressing the *Down* button will force the pump to turn off. Pressing the *Select* button will return you to the settings menu. BACKWASH MODE will automatically turn off the pump after 5 minutes.

NOTE: BACKWASH will never revert to automatic operation.

2) FILTER CYCLES

The Pump & Chlorinator will run for the time(s) set for filtration, the pump will also activate if heat demand is on and heat is required and will always run when in SPA or AUX feature mode.

When FILTER SETUP is selected you will be prompted with the following options;

```
FILTER CYCLE SELECTION:          SINGLE CYCLE SUB MENU'S:          SINGLE CYCLE
SINGLE CYCLE                      SINGLE CYCLE                      END TIME HH:MM
DUAL CYCLE                        START TIME HH:MM
DUAL CYCLE SUB MENU'S:          FILTER CYCLE                      2nd FILTER CYCLE          2nd FILTER CYCLE
FILTER CYCLE                    END TIME HH:MM                  START TIME HH:MM          END TIME HH:MM
START TIME HH:MM                END TIME HH:MM
```

When you enter the FILTER SETUP menu you will need to select SINGLE CYCLE or DUAL CYCLE:

SINGLE CYCLE will run the filter pump and chlorinator once per day.

DUAL CYCLE will run the filter pump twice per day (care must be taken to ensure the 2nd filter cycle does not overlap the 1st filter cycle).

Once you select the required cycle you will be prompted to set the cycle START TIME and END TIME.

When filter times have been selected you will be prompted to select high speed cleaning times;

```
HISPEED CLEANING
RUN HOURS HH:MM
```

High speed cleaning time is selectable in 2 hour blocks up to the maximum filtration time, selecting 0:00 hours will disable high speed cleaning.

When single filter cycle is selected the high speed cleaning will run at the start and at the end of the filter cycle.

When dual filter cycles are selected the high speed cleaning will run at the start of each cycle only.

High speed cleaning has priority over solar (i.e. cannot solar heat during high speed cleaning).

If the chlorinator has been on then the pump will run for 3 minutes without the chlorinator to flush the system before stopping the pump.

**Factory Default is SINGLE CYCLE from 09:00 to 21:00 with 2 hours of high speed cleaning

3) TEMPERATURE

```
SET TEMPERATURE
SOLR LIMIT XX.X°
```

When you enter the TEMPERATURE menu you may change the temperature limit that the pool is heated to (Range OFF, 20°C to 40°C).

SOLR LIMIT is the temperature limit for solar heating when in pool mode.

NOTE: SOLR LIMIT is not shown if SOLAR MODE is set to SOLAR OFF.

**Factory defaults is 30°C.

4) SOLAR MODE

```
SOLAR OPERATION:
SUMMER MODE / WINTER MODE / SOLAR OFF
```

When you enter the SOLAR MODE menu you will be prompted to change the mode of operation for solar heating.

SUMMER MODE: In this mode, the unit will divert water to the solar collector to heat the pool to SOLR LIMIT (if solar gain is available) in cases of high solar gain, the heat pump or gas heater will also be disabled to save energy. Once summer mode is selected you are prompted for a start and end time

```
SOLAR START          SOLAR END
HOUR (24) HH         HOUR (24) HH
```

Solar start and end time sets the lockout period for solar, it has a limit range to ensure the part of the day with maximum gains can never be locked out (start from 06:00 to 12:00, end from 15:00 to 21:00)

WINTER MODE: In this mode the unit will not attempt to heat the pool with solar, it will however perform a 3 minute flush of the collector at 12:00 (noon). Setting the solar limit (SOLR LIMIT) to OFF also activates winter mode. Solar heating will not activate during high speed cleaning cycles and if spa mode is selected.

SOLAR OFF – Select this mode ONLY if solar is *not fitted*, if no heating is required, select WINTER MODE.

**Factory default is SUMMER MODE

5) SYSTEM SETUP

```
SET SYSTEM CLOCK / FACTORY SETTINGS / EXIT
```

When you enter the SYSTEM SETUP menu you can set the date & time of day, choose factory settings which will restore all settings as marked by ** in this manual or you can choose EXIT which will take you back to the main menu without changes.

6) OVERRIDE

```
OVERRIDE SELECT:
HISPEED CLEANING / SOLAR SYSTEM / OVERRIDE TIME / EXIT
```

When you enter the override menu you will be prompted to select which feature to override. You can override the automatic operation and force high speed cleaning to run with the chlorinator for a default period of 4 hours or you can force the solar system to run for a default period of 1 hour. You can also select the number of hours you want the override feature to run for, if you select 0:00 hours then the above default values are used. Any button returns you to the menu after the valves have turned. Note that the feature to override the solar system is provided for maintenance operations; automatic operation for pool heating is recommended, if there is a problem with the solar system not running in automatic mode then check the LCD screen for sensor fault messages and repair if necessary. Solar can also be locked out at night or if the high speed cleaning is to operate or if in spa mode. You can also choose EXIT which will take you back to the main menu without changes.

Note: solar system override is not available if solar mode is set to solar off.

7) SAVE & EXIT

When this menu is selected, push *Select* to save ALL settings, the unit will return to normal operation automatically. If any of the menu items are left unattended for 3 minutes the menu will time out and automatically save all settings and return to operation. In the event of a power failure, the clock and settings are retained for up to 14 days.

The *Select* button.

Pushing the Select button while in auto run mode will bypass any delays.

INSTALLATION INSTRUCTIONS

PSC7 FHC CONTENTS

The ECOMmand carton will include the following items.

- 1 ECOMmand Power Centre
- 2 Temperature Sensor Pool & Rubber Grommet
- 3 Temperature Sensor Roof
- 4 Installation Screwdriver
- 5 Instructions

On the bottom edge of the PSC7 FSC, you will find 1 Power Lead, 1 x Power Outlet, 1 x Pump Control Connector wire and Two Green and One White connector socket.

Valve Connection

The Solar valve plugs directly into the White connector socket.

Pool Sensor

The Pool Temperature Sensor will be pre wired to a Green 2 pin Terminal Bar. This plugs into the socket marked POOL. Using a 14.5mm drill bit, Drill a hole in the suction line coming from the Pool / Spa suction valve and the pump. Insert the supplied rubber grommet, and then press the temperature sensor into the grommet.

Roof Sensor

Roof sensors must be fitted into a small piece of solar collector or equivalent and attached to the roof. The best location is within arm's length of the gutters edge of the house or shed as long as the sensor end is not shaded and is on a roof of similar aspect of the main collector. It **must not** be fitted on top of the solar collector or fitted to high points on the roof like Ridge Capping as false readings will be detected.

Keep in mind that it is of the utmost importance to keep the roof sensor as short as possible as this will assist in the longevity of the sensor and controller in the event of electrical storm activity and power surges. Sensor cables **must not be run parallel to power cables** and run lengths should be less than 50m. Cable ties should be used to fasten the sensor cable to the cold water inlet pipe making sure that the ties are approximately 10mm from PVC fittings. Cable ties should be tightened only firm, over tightening can cause breaks in the outer PVC if not careful. If the cable is to be run under ground a conduit must be used to protect the wire and there is to be no cable joins within, conduit ends **must** be sealed to prevent water ingress. **Any excess cable should be removed and re-fitted ensuring that the wire ends are tinned with solder.** The sensor plug is to be fitted to the right hand socket marked ROOF.

Notes

All excess cable must be removed; coils of cable are not permitted under any circumstances and **must not** be tied to 240V wiring. If the cable is to be extended with non genuine cable a size of 14/020 should be used. **Any cable joins should be soldered and this includes where the cable enters the terminal block at the case base.** Heat shrink is to be used over soldered joints to eliminate moisture ingress. If the cable end is to be refitted to the plug sockets then the polarity must be observed as incorrect polarity will show an error as stated in Fault Diagnosis. The sensor cable with the thin white trace is the positive and should be fitted to the right hand cable entry when the screws are in a vertical position. Once cables have been correctly fitted the unit can be turned on.

Pump Setup:

With the pump disconnected from the controller, power up the pump and select speed 1, then turn off the pump for 10 seconds and power on the pump, ensure the pump does not start, press speed 1 and ensure the pump does not run at speed 3, if it runs at speed 3 consult the pump manual and turn off the auto-priming function (push and hold the stop button for 5 seconds, repeat above test).

Set the pump speeds according to requirements;

ECO – Low speed filtration/Chlorination speed.

MED – Medium speed for solar heating and auxiliary heating (Gas/Heat-pump – *ensure that the heaters requirement for water flow rate is achieved). (On the controller you may wish to select OVERRIDE/SOLAR SYSTEM to turn the valves to the roof so the speed can be set accordingly.

HIGH – High Speed Cleaning and SPA mode (Solar heating is locked out)

Connect the pump to the controller, on the controller select **6) OVERRIDE** and select **HISPEED CLEANING**, verify that all speeds can be controlled then exit the settings menu to return to automatic operation. The pump is now ready for the controller to use.

WARRANTY

This product is covered by a limited 3 year warranty against component failure or faulty workmanship from the date of installation.

A faulty unit should be returned in the first instance to the dealer from which the unit was purchased.

Valves and actuators (if supplied) are covered by a twelve month warranty at the discretion of their manufacturer.

Damage to the unit due to misuse, power surges, lightning strikes or installation that is not in accordance with the manufacturer's instruction may void the warranty.

Warranty does not cover travel costs to or from installation site. Unit must be returned to manufacturer for repairs.

If the power cord is damaged, do not use the controller; return the unit to the supplier for repair.

Customer Record. (To be retained by the customer);

Dealer/Installer Name _____

Serial Number _____

Date Installed _____

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