



H2FLOW CONTROLS

3545 Silica Rd

Sylvania OH 43560

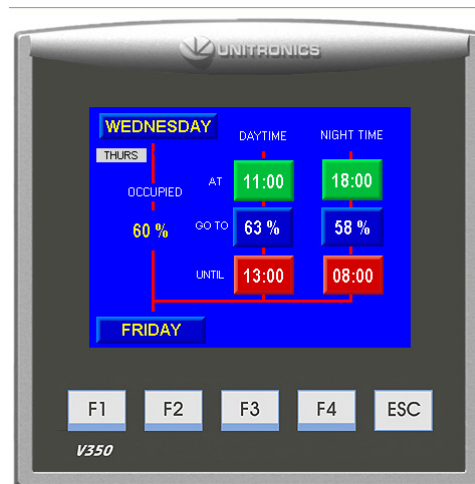
# ECOFLOW C<sub>OLOR</sub>

NEMA 12

VERSION 2.0



**Read and understand this manual  
Before Installing, Operating, or  
Servicing your Aquatic Controller**





## Safety Instructions

This Eco-Flow - C variable speed pool pump drive is intended for professional incorporation into complete equipment or systems. If installed incorrectly it may present a safety hazard.

The Eco-Flow - C uses high voltages and currents and carries a high level of stored electrical energy.

Close attention is required to system design and electrical installation to avoid hazards in either normal operation or in the event of equipment malfunction.

System design, installation, commissioning, and maintenance must be carried out only by personnel who have the necessary training and experience. They must carefully read this safety information and the instructions in this Guide and follow all information regarding transportation, storage, installation, and use of the Eco-Flow - C, including the specified environmental limitations.

### **WARNING**

#### **Installation of the Eco-flow - C must comply with all local Electrical codes and standards**

To prevent injury and property damage, follow these instructions during the installation and operation of the Eco-Flow - C. Incorrect operation due to ignoring these instructions may cause harm or damage.

Do not remove the cover while power is applied or the unit is in operation, electric shock could occur.

Do not operate the Eco-Flow - C with the front cover removed, electric shock could occur due to the exposed terminals and bus bars.

Do not remove the cover except for periodic inspections or wiring, even if the input power is not applied, electric shock can occur due to accessing capacitor banks.

**Wiring and periodic inspections should be performed at least 5 minutes after disconnecting the input power, electric shock could occur.**

Operate the switches with dry hands. Otherwise, electric shock could occur.

Install the Eco-Flow - C on a non-flammable surface. Do not place flammable materials nearby, fire could occur.

Disconnect the input power if the Eco-Flow - C has been damaged, it could result in a secondary accident and/or fire.

Do not touch the Eco-Flow - C after shutting down or disconnecting it. It will remain hot for a couple of minutes, bodily injuries such as skin-burn or damage could occur.

Do not apply power to a damaged Eco-Flow - C or to an Eco-Flow - C with parts missing even if the installation is complete. Otherwise, electric shock could occur.

Do not allow lint, paper, wood chips, dust, metallic chips, or other foreign material into the Eco-Flow - C, fire or accidents could occur.

Install the Eco-Flow - C according to instructions specified in this manual.

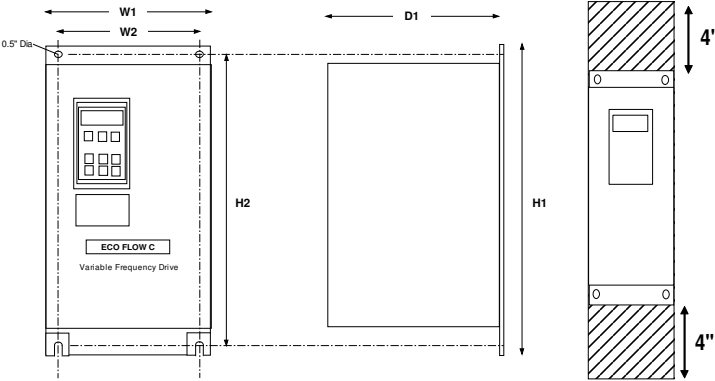
The connection orientation of the motor output cables U, V, W will affect the direction of rotation of the motor. Verify correct wiring before starting Eco-Flow - C.

Always install the Eco-Flow - C before wiring, otherwise, electric shock or bodily injury can occur.

Always apply voltage within the permissible range of each terminal as indicated in this manual. Otherwise damage may result.

# Mechanical Installation

## Eco-Flow - C Dimensions



Allow 4.00" above and below the Eco-Flow - C for air circulation

Model	W1	W2	H1	H2	D1
EF-C-04-12-x EF-C-08-12-x EF-C-13-12-x	8.0"	5.0"	16.4"	N/A	8.0"
EF-C-26-12-x EF-C-31-12-x EF-C-46-12-x	7.0"	5.0"	20.1"	19.4"	11.5"
EF-C-60-12-x  EF-C-73-12-x	8.67"	6.3"	23.2"	22.4"	10.6"



# Bypass Panel install

The following diagram shows an Ecoflow drive installed with a bypass panel.

The bypass panel may consist of:

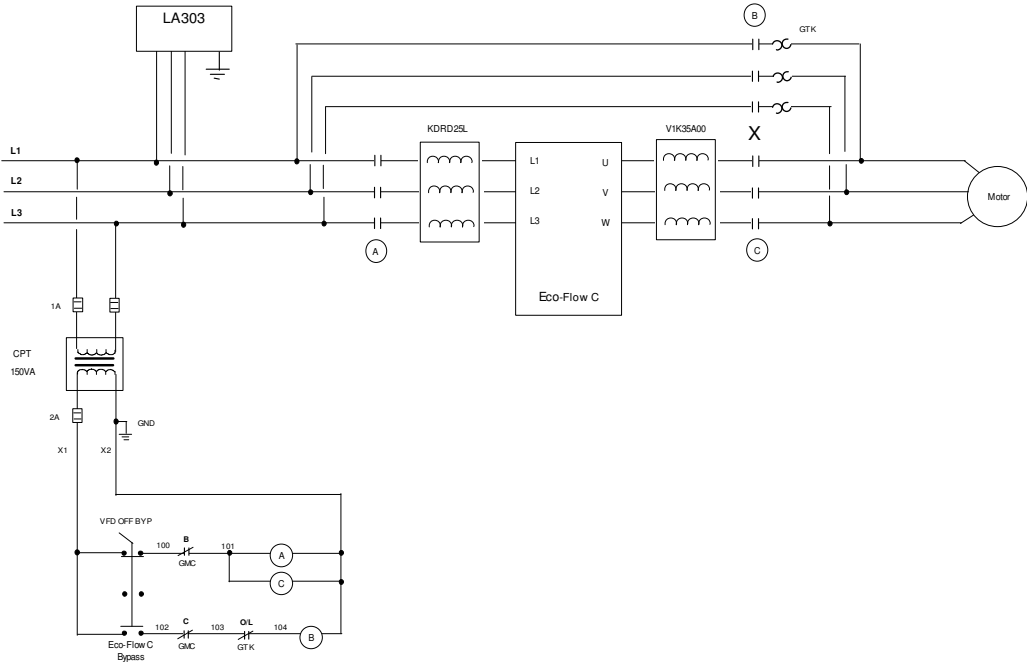
Lightening arrestor

Line reactor

Load reactor

VFD / Bypass Contactors

Control circuitry

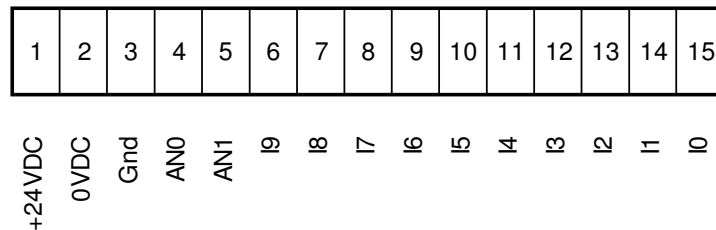


## Controller Inputs and Outputs

### Inputs

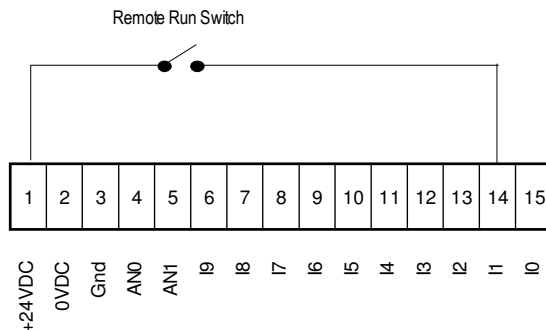
Top Plug		
Terminal Number		Description
1	24V	24Vdc Supply
2	0V	24Vdc Common
3	Ground	
4	AN0	4 – 20mA Flowmeter (-)
5	AN1	(Alternate 4-20mA Flowmeter (-))
6	I9	Not Used
7	I8	Not Used
8	I7	Not Used
9	I6	Frost Stat
10	I5	Remote Backwash Speed Selected
11	I4	Not Used
12	I3	Not Used
13	I2	Summer / Winter Switch
14	I1	Remote Run / Stop
15	I0	H2flow Meter Pulse Connection

TOP PLUG



### Input activation.

To activate an input, connect terminal (24Vdc to the input through a volt free contact



Example:



## **Input # 0**

### **Freeze Guard**

An externally mounted temperature thermostat with a dry contact output can be utilized to start the pump at any time the external ambient temperature drops below the value set on the thermostat.

## **Input # 1**

### **Remote Run / Stop**

This input can be used to control the running and stopping of the pump when in normal operation. Examples for this Input are:

Emergency pump Stop

Run / Stop from an Automatic Filtration system

## **Input # 2**

### **Summer / Winter Switch**

This input can be used to force the Aquatic Controller into a customer programmable summer or winter Program. Summer or winter selection can also be made via the touch screen depending on customer preference

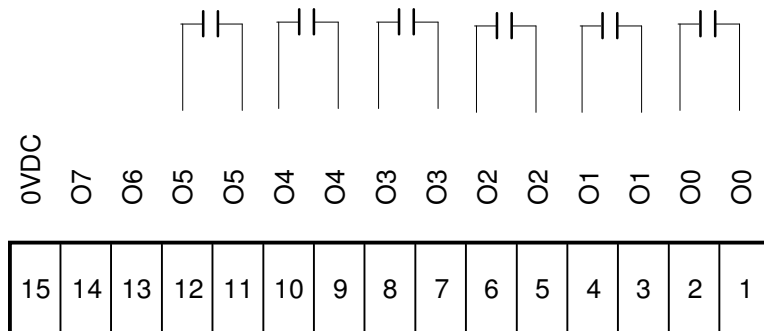
## **Input # 5**

### **Bypass Speed**

This input is to be used in conjunction with an automatic filtration system. When the filtration system calls for a backwash, turning this input 'On' will activate a customer programmed 'Backwash Speed'.

## Outputs

Bottom Plug		
Terminal Number		Description
1	0V	24Vdc Common
2	O7	Not Used
3	O6	Not Used
4	O5	Programmable
5	O5	Programmable
6	O4	Pump Running
7	O4	Pump Running
8	O3	Pump A (Multi Pump System)
9	O3	Pump A (Multi Pump System)
10	O2	Pump B (Multi Pump System)
11	O2	Pump B (Multi Pump System)
12	O1	Bypass Contactor (Future Development)
13	O1	Bypass Contactor (Future Development)
14	O0	VFD Contactor (Future Development)
15	O0	VFD Contactor (Future Development)



BOTTOM PLUG

Depending on the output chosen and its function, when activated the volt free contact (relay contact) of that output will open or close.

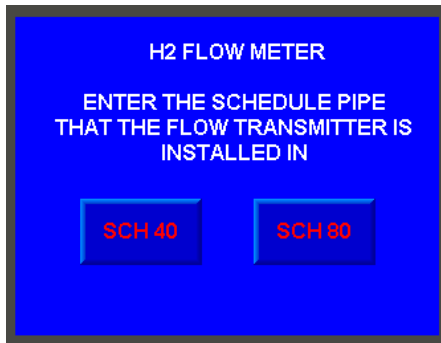
Example:

Output # 4 will close when the pump is running and open when the pump is stopped. This can be used to control the operation of a chemical feeder.

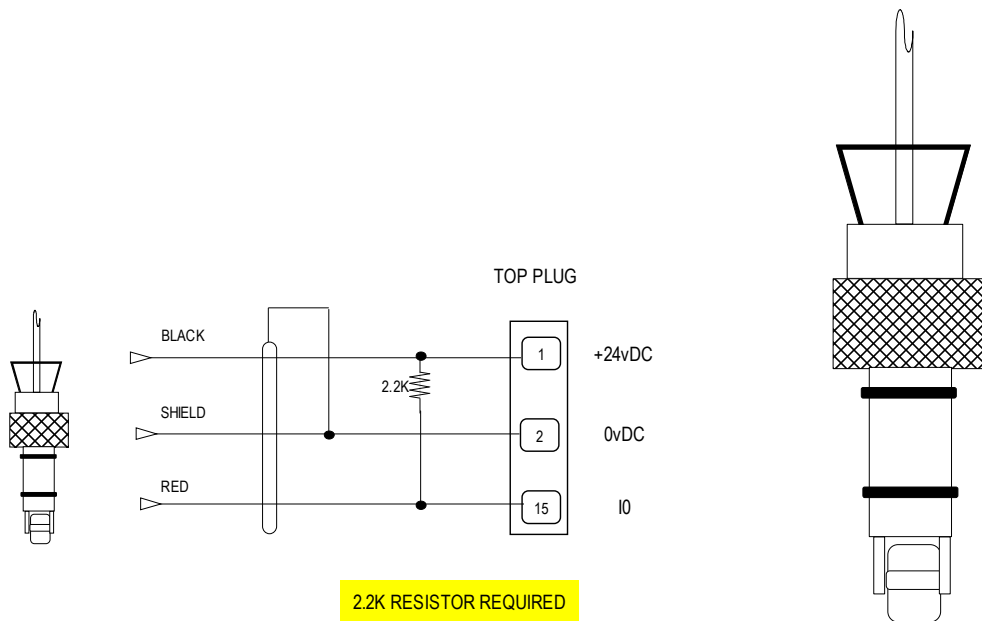
# Flow Meters

## Ecoflow Meter

The Ecoflow Meter uses a paddle wheel sensor (available from H2flow Controls Inc.). Pulses from this sensor are fed into the Ecoflow Controller and the Ecoflow Controller calculates the GPM for the system from the received pulses. This GPM is displayed during the normal system operation and is also used to maintain Constant flow.



Information regarding the pipe diameter will have been supplied to H2flow at the time of the customer order with the transmitters mounting bracket. This information will have been pre-programmed into the Ecoflow Controller prior to the system being delivered to the customer. There will be a requirement at the time of initial commissioning to enter the pipe schedule that the Flow meter transmitter is installed in.

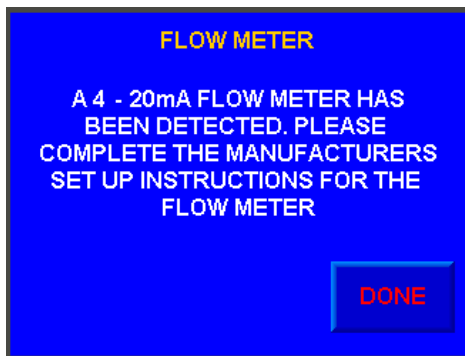


## 4 – 20mA Flowmeter

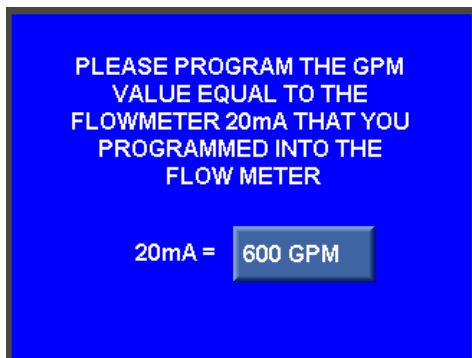
If you are using an independent flow meter with a 4 – 20mA output, the Ecoflow controller will automatically sense the 4 mA signal during initial customization. Once the 4mA signal has been detected the Ecoflow Controller will display pages allowing you to enter the data that has been programmed into the flow meter so that the Ecoflow Controller will give an accurate display of the system GPM and if required maintain the system flow to a customer selected GPM.

**H2flow Controls recommends the use of a 2 wire current loop type flowmeter. However 3 wire current loop flowmeters can be utilized if required. Please contact H2flow Controls Inc. with the details of the 3 wire flowmeter and we will provide connection drawings.**

### 2-wire Flowmeter



It will be necessary for the 4-20mA flowmeter to be programmed. Please follow the instructions provided with the flowmeter.



You must now program the Ecoflow Controller so that it correctly displays and controls to the received 4-20mA signal from the flowmeter.



# Touch Screen Operation

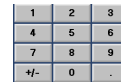


During Set Up to select a feature or move to the next screen touch the screen push button



For adding data such as 'Time' and 'Date' or, for entering a 'Password' if required, the following screen will appear.

Use the number keys to enter data

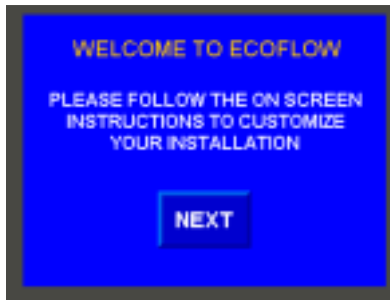


Use the Enter key to accept data



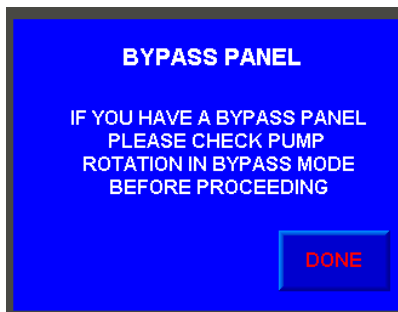
# Initial Setup

## Welcome Screen



Press Next

## Bypass Panel

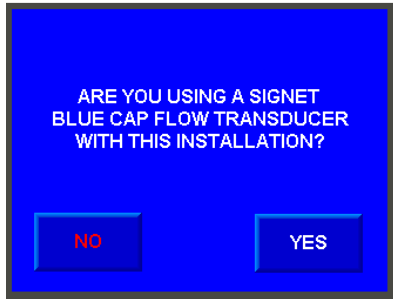


If you have a bypass panel, to ensure correct rotation of the Pump.

Switch the panel to Bypass Mode and check pump is rotating in the correct direction before proceeding.



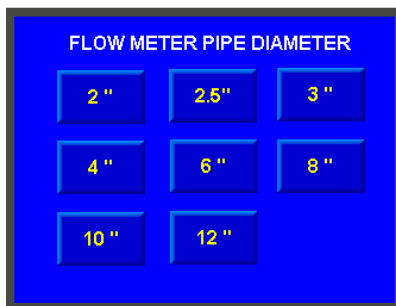
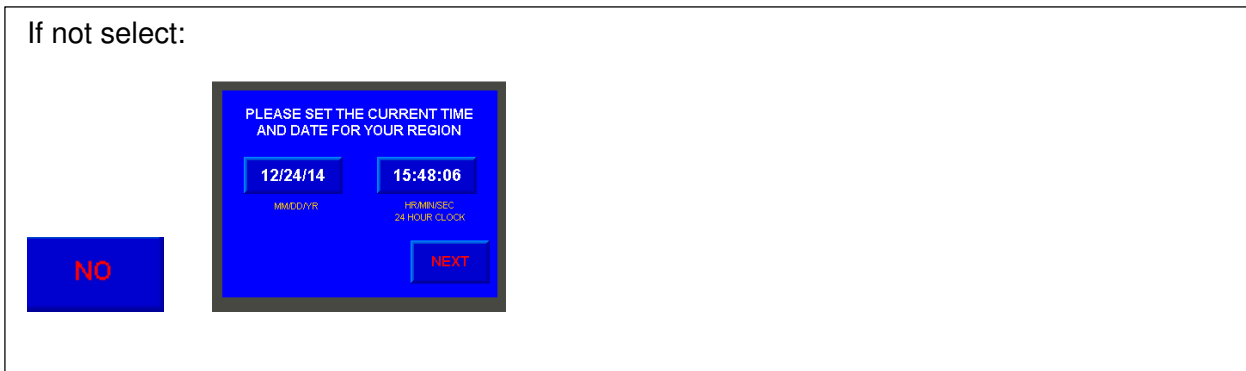
**Signet Blue Cap Flow Transducer (See Wiring Diagram Page 11)**



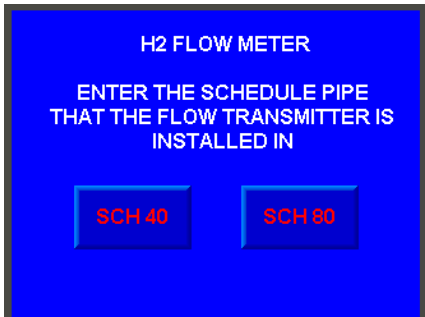
If you are using the Signet Blue Cap paddle wheel with this Aquatic Controller select:



If not select:

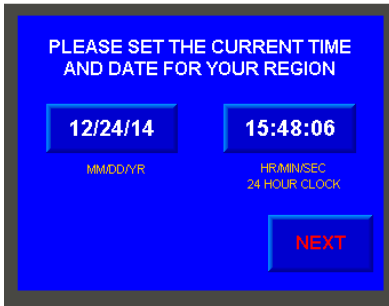


Select the pipe diameter the Blue Cap is installed in



Select the pipe schedule

### Time and Date



Program the current time and date for your time zone

12/24/14



NOTE: Date format is MM/DD/YR

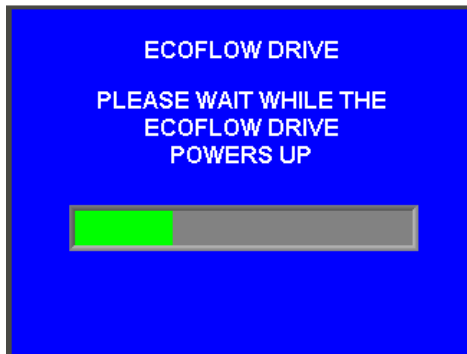
15:48:06



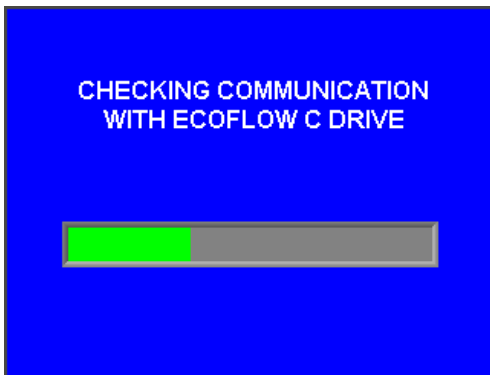
Time format is 24hr (Military Time)



## Powering up the Ecoflow Drive



## Communication



The controller will now check communications with the Ecoflow Drive

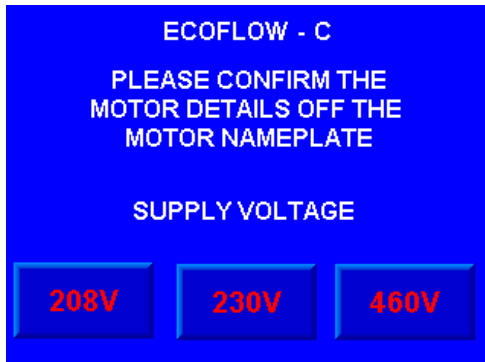
Note: If communications are not established, please contact H2flow Controls for assistance



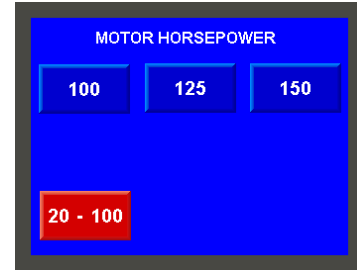
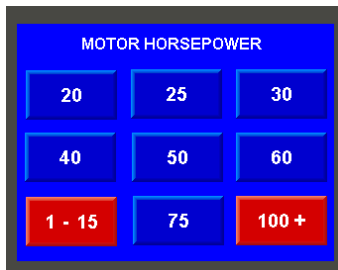
## Motor Details

Using the details on the 'motor nameplate' please enter the requested information:

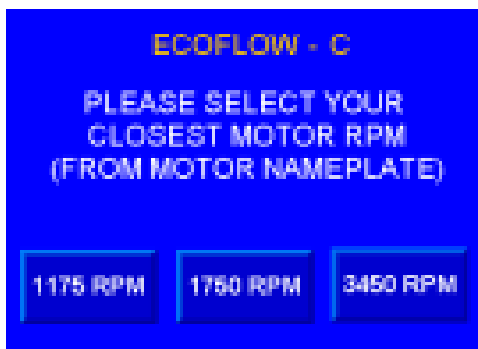
### Motor Voltage



### Motor Horse Power



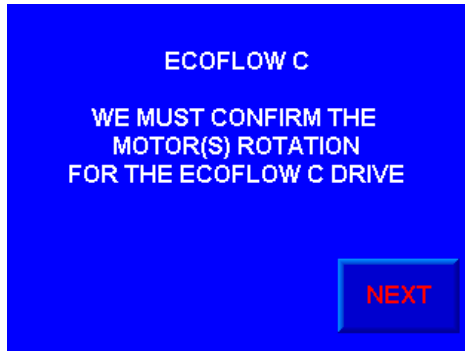
### Motor RPM



The programmed information is now sent to the Ecoflow Drive

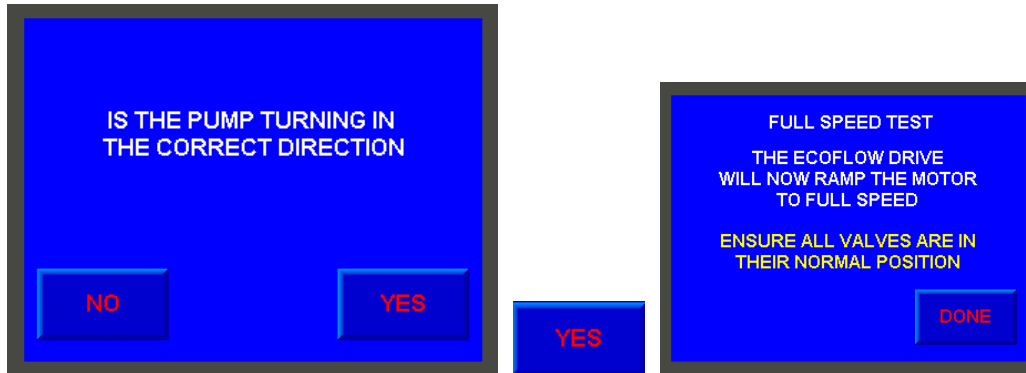


## Motor Rotation

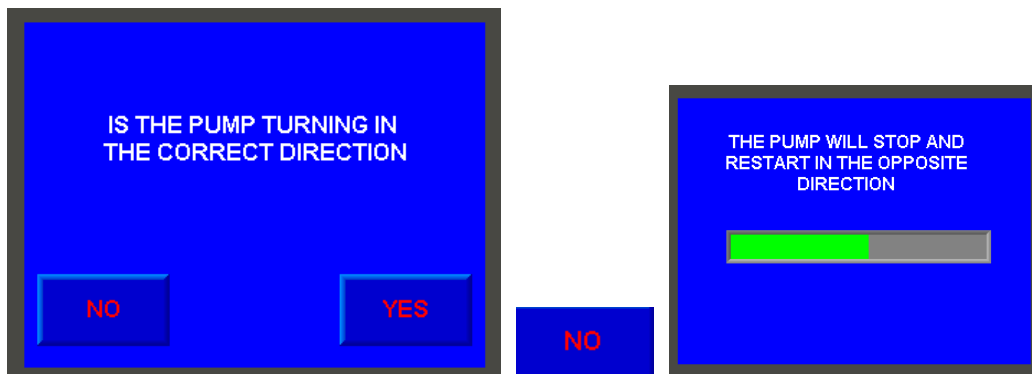


It is important to ensure that the motor is turning in the correct direction.

If the motor is turning in the correct direction press YES

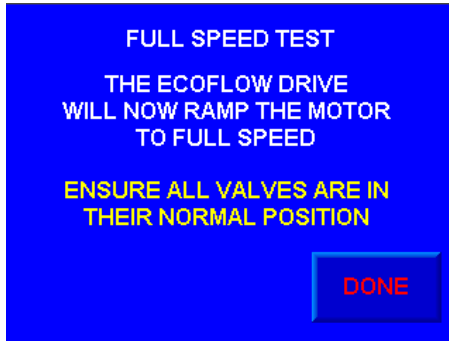


If the motor is turning in the wrong direction press NO



## Full Speed Test

To allow the Ecoflow to display the KWH (kilowatts per Hour) savings the motor must run at full speed to take some measurements.

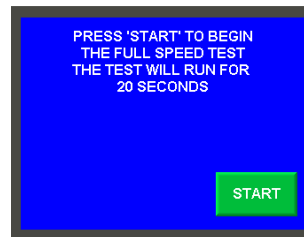
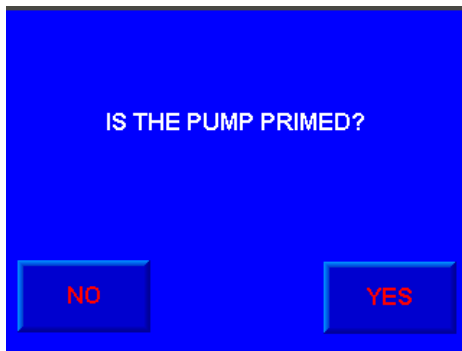


NOTE: It is important that the system valves be in the position they were in prior to installing the Ecoflow system so that an over pressurization of the system does not occur.



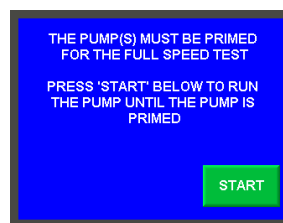
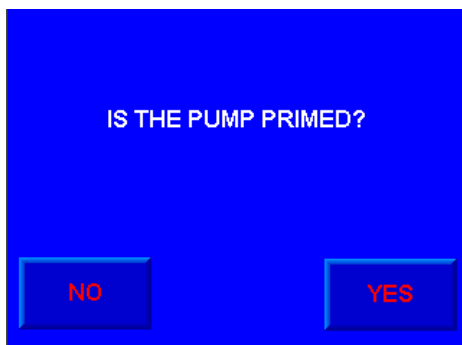
## Primed

To ensure correct measurements are taken the pump needs to be primed

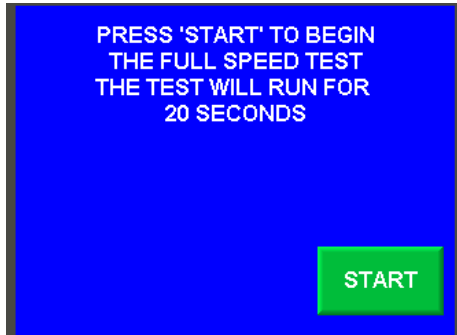


## Not Primed

To start the pump at 90% speed to enable the pump to prime press START

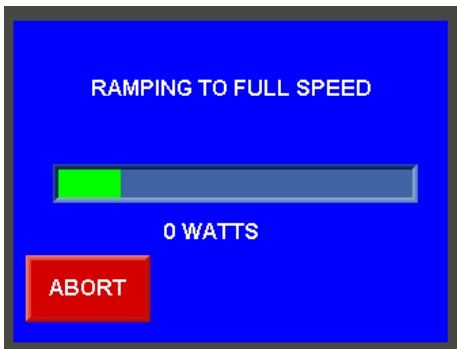


## Full Speed Test

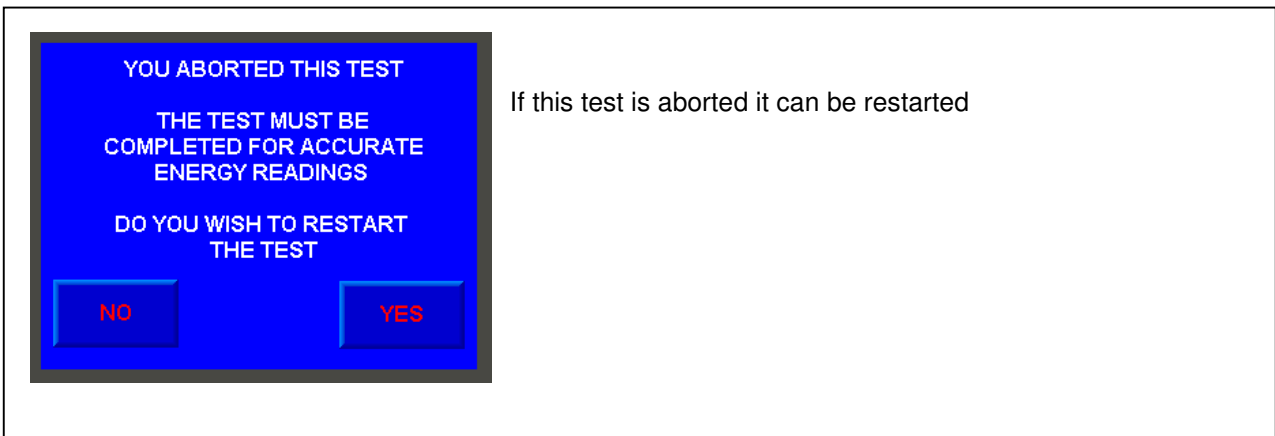


During this test the pump will Ramp up to full speed to enable controller to measure the Kilo Watts that the system is consuming

All System Valves should be in their previous running position prior to the Ecoflow System being installed



Measured 'Watts' will be displayed during this run

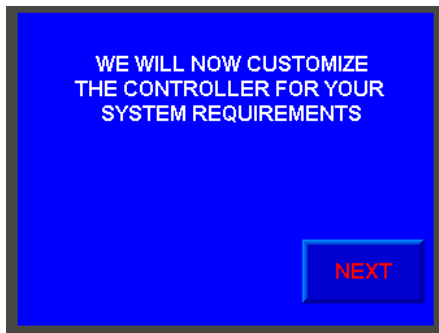


If this test is aborted it can be restarted



## Application Customization

In this section you will answer a number of questions regarding your application requirements. Advanced features that can be programmed will be available after the initial customization has been completed



The type of program for your application depends on the components that are installed.

# Controller Programs

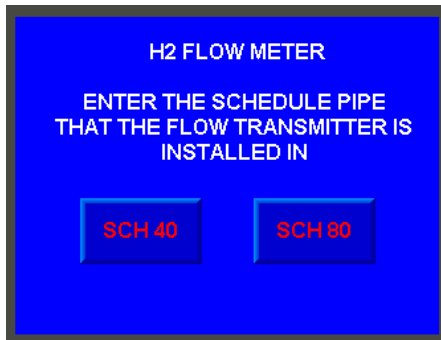
There are two types of program available:

## 1. Constant flow

A flowmeter is used as a feedback signal to allow the pump to speed up or slow down depending upon the filtration condition. There are two types of flowmeter that can be used with the Ecoflow system, a standalone flowmeter with a 4-20mA output, or, the Ecoflow Meter which uses a paddle wheel sensor to measure flow and the GPM is calculated within the Ecoflow Controller.

### Ecoflow Meter

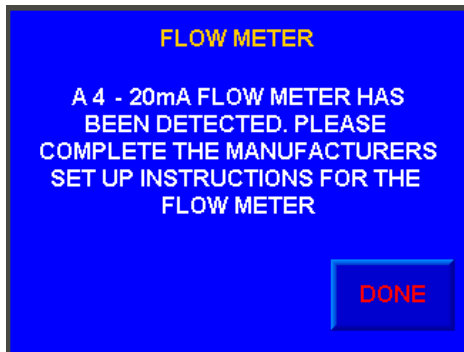
If the system includes the Ecoflow Meter the following screen will appear at this time.



Please select the pipe schedule that the Ecoflow transmitter is installed in.

### 4-20mA Flowmeter

If the system includes a 4-20mA Flowmeter the following screen will appear at this time.



It will be necessary for the 4-20mA flowmeter to be programmed. Please follow the instructions provided with the flowmeter.

PLEASE PROGRAM THE GPM VALUE EQUAL TO THE FLOWMETER 20mA THAT YOU PROGRAMMED INTO THE FLOW METER

20mA =

You must now program the Ecoflow Controller so that it correctly displays and controls to the received 4-20mA signal from the flowmeter.



The GPM value can just be displayed during normal running operation or the GPM signal can be displayed and used to maintain a constant flow in the System as the filtration changes over time.

To just display the GPM during normal operation select

**NO**

FLOW METER

DO YOU WANT TO USE THE FLOWMETER TO MAINTAIN A CONSTANT GPM

FIXED SPEED PROGRAM

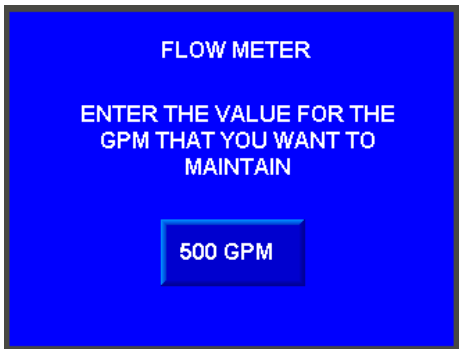
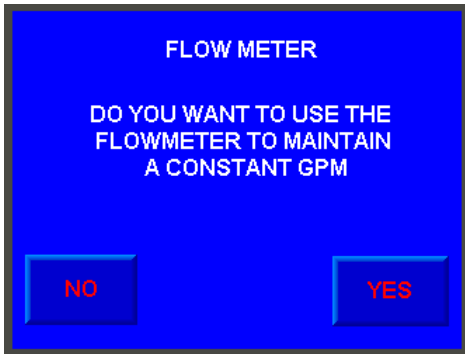
TO DETERMINE THE MAIN FIXED SPEED VALUE, THE PUMP WILL BE STARTED AT 60%. YOU WILL INCREASE AND DECREASE THE PUMP SPEED UNTIL THE REQUIRED GPM IS REACHED

**NO**

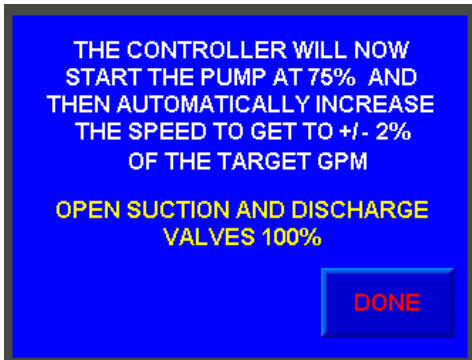
To display GPM and maintain a constant flow select

**YES**

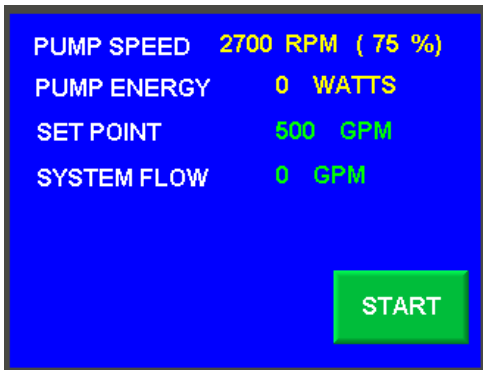




Enter the GPM that you want to maintain



Open any system valves that have been restricting system flow prior to installing the Ecoflow system, to 100%



PUMP SPEED 2700 RPM ( 75 %)  
PUMP ENERGY 0 WATTS  
SET POINT 500 GPM  
SYSTEM FLOW 0 GPM

ALLOWING FLOW TO STABALIZE

ABORT

NOTE: If this test is aborted, it can be restarted

PUMP SPEED 2700 RPM ( 75 %)  
PUMP ENERGY 0 WATTS  
SET POINT 500 GPM  
SYSTEM FLOW 0 GPM

ALLOWING FLOW TO STABALIZE

ABORT

THIS TEST HAS BEEN ABORTED

TO BE ABLE TO USE CONSTANT FLOW  
THIS TEST MUST BE COMPLETED  
OR 'FIXED SPEED' CONTROL  
MUST BE USED

FIXED SPEED RESTART

PUMP SPEED 2772 RPM ( 77 %)  
PUMP ENERGY 0 WATTS  
SET POINT 500 GPM  
SYSTEM FLOW 450 GPM

ADJUSTING SPEED

ABORT

The Ecoflow controller will monitor the feedback from the flowmeter and will adjust the Ecoflow drive speed up or down until the speed is within the target range of the desired speed 'Set point'

PUMP SPEED 2952 RPM ( 82 %)  
PUMP ENERGY 0 WATTS  
SET POINT 500 GPM  
SYSTEM FLOW 492 GPM

WITHIN TARGET RANGE

The speed is shown within the 'Target Range'

NEXT

TEST COMPLETED  
TO MAINTAIN THE FLOW RATE  
WITH THE FILTER IN ITS CURRENT  
CONDITION A SPEED OF:  
2952 RPM ( 82 %)  
IS REQUIRED

NEXT

WHAT % ADDER WOULD YOU LIKE  
TO ADD TO ALLOW FOR THE SPEED  
TO INCREASE AS THE FILTER GETS  
DIRTY?

( IF NOT SURE USE 5% )

0% 5% 10% 15%

NEXT

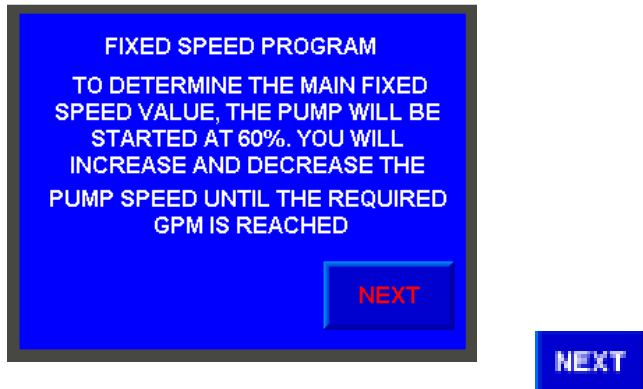
CONSTANT FLOW FOR 24 / 7  
HAS BEEN PROGRAMMED

USE ADVANCED PROGRAMMING  
TO CHANGE THE GPM SETPOINT OR  
TO ADD ADDITIONAL PROGRAMS

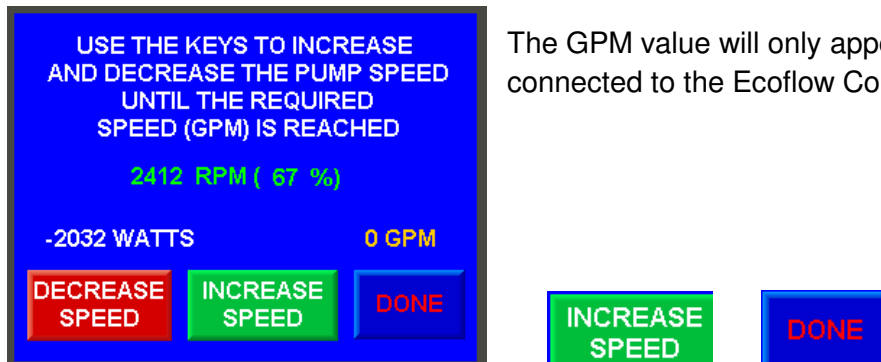
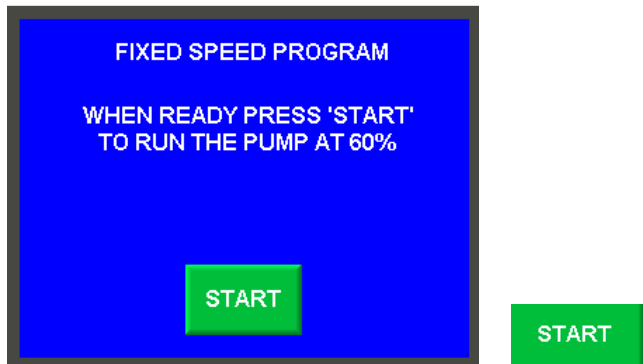
NEXT

## 2. Fixed Speed program

If the Ecoflow System does not have a flow meter connected, or, the flowmeter is just being used to display GPM on the Ecoflow Controller, the following screen will appear.



You will be required to manually raise / lower the pump speed to reach the required GPM displayed on either the flow meter connected to the Ecoflow Controller or on an independent flow meter mounted elsewhere in the system



The GPM value will only appear if there is a flow meter connected to the Ecoflow Controller



If the recorded RPM is the speed you want to run at press

YES

FIXED SPEED PROGRAM  
2232 RPM ( 62 %)  
THE ABOVE VALUE FOR RPM  
WAS RECORDED. DO YOU WANT  
TO USE THIS VALUE AS THE  
PRIMARY FIXED SPEED?

NO YES

YES

YOU HAVE PROGRAMMED  
A 24 HOUR FIXED SPEED OF  
2232 RPM ( 68 %)  
USE ADVANCED PROGRAMMING  
TO CHANGE THIS SPEED OR  
TO ADD MORE SPEEDS AND TIMES

NEXT

If you would like to use a different speed press

NO

FIXED SPEED PROGRAM  
2232 RPM ( 62 %)  
THE ABOVE VALUE FOR RPM  
WAS RECORDED. DO YOU WANT  
TO USE THIS VALUE AS THE  
PRIMARY FIXED SPEED?

NO YES

NO

FIXED SPEED PROGRAM  
ENTER THE % RPM VALUE THAT  
WILL BE USED FOR THE  
PRIMARY FIXED SPEED

77 % RPM

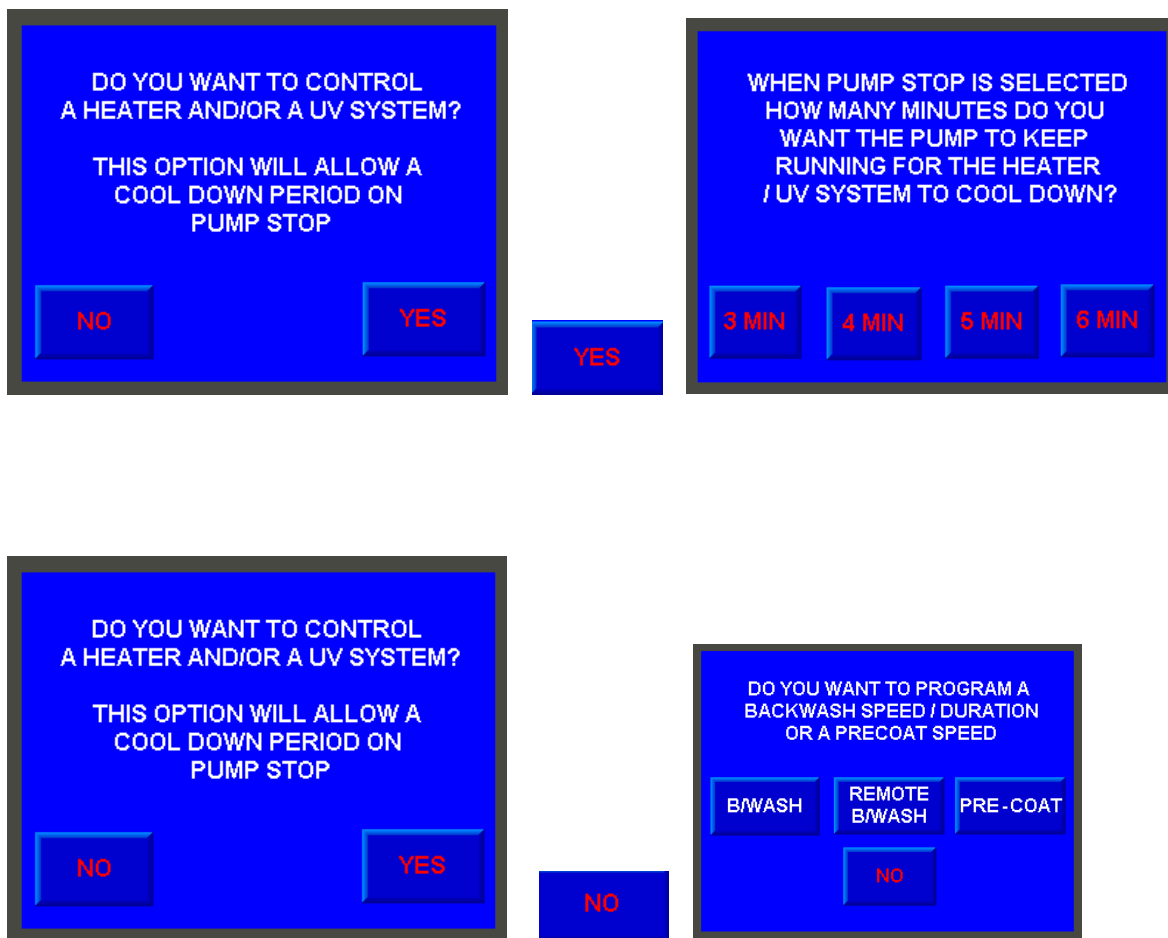


# Options

## Heater UV Control

In systems where a heater or UV system requires a cool down period prior to the pump being turned off and the heater/UV system is connected to the Ecoflow Controller selecting YES will shut down the heater/UV system and keep the pump running for the time duration selected.

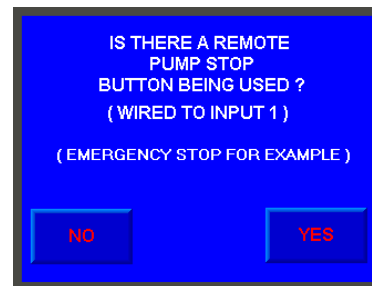
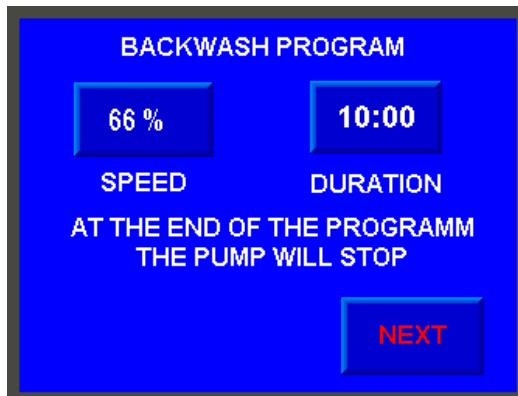
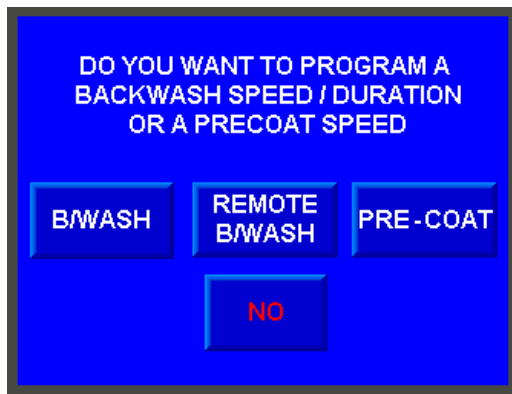
Note: To control both a Heater and a UV system (or a chemical controller) slave relays will be required. Contact H2flow for further information.



## Backwash - Remote Backwash - Pre-Coat

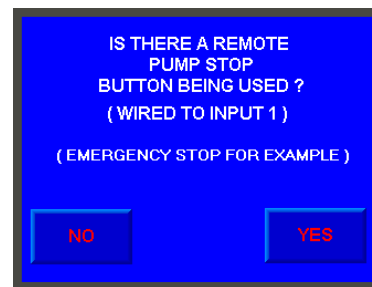
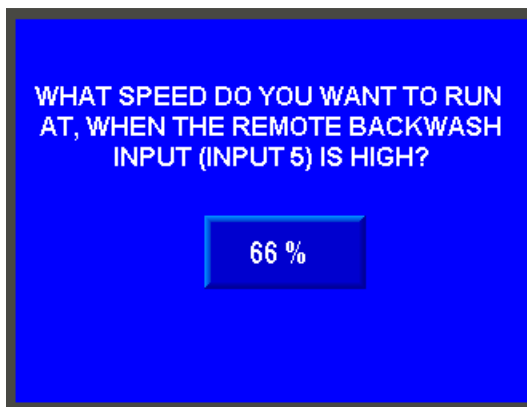
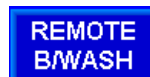
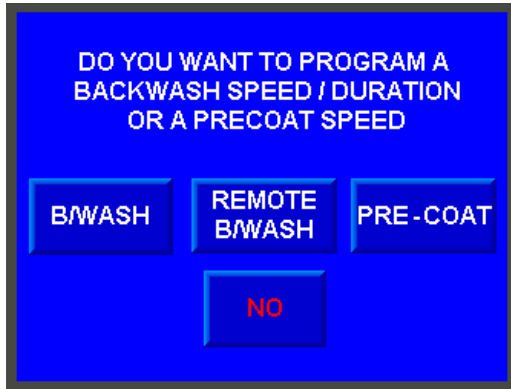
### Backwash

In systems where a standard filtration system is utilized a backwash speed and duration can be programmed. The pool operator will select backwash from the normal run screen, the backwash program will then run. This backwash program consists of a speed and a number of minutes to run at that speed. After the time duration has expired the system will then need to be manually restarted by the pool operator.



## Remote Backwash

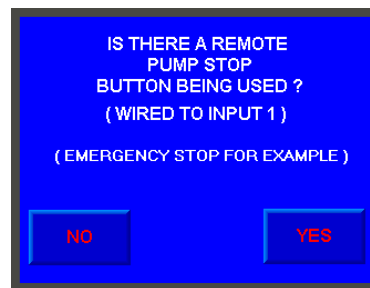
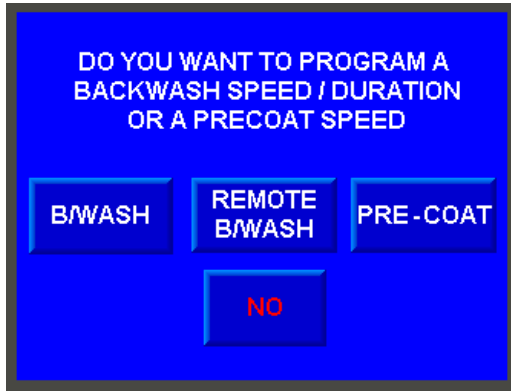
In certain systems an automated backwash controller can be used to tell the Ecoflow system to go to a programmed speed. The automated backwash system controls the stopping and starting of the Ecoflow drive via an input to the Ecoflow Controller.





## Pre-coat

For DE type filtration systems, where the filtration system can control the speed of the Ecoflow Drive during the Pre-coat period a pre-coat speed can be programmed. The filtration system controls the switch over point from the pre-coat speed to the normal running speed.



## Remote Run Stop Input

In certain applications it may be desirable to have a remote run/stop input. Providing the Ecoflow Controller is in the automatic control mode, changing the state of input #1 will stop the pump. The pump will remain stopped until the input #1 changes state again.

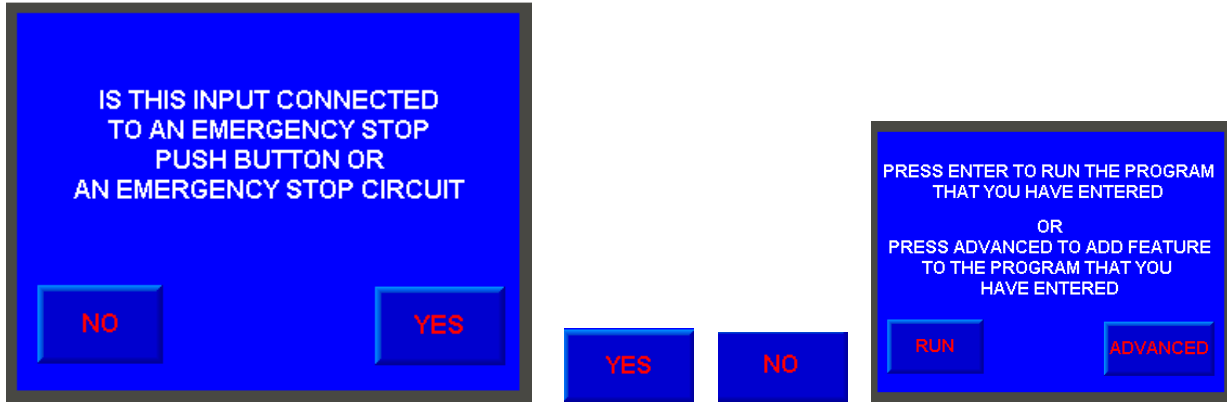
Uses for this option are:

Stopping and starting the pump from a remote location

Stopping and starting the pump from a filtration system

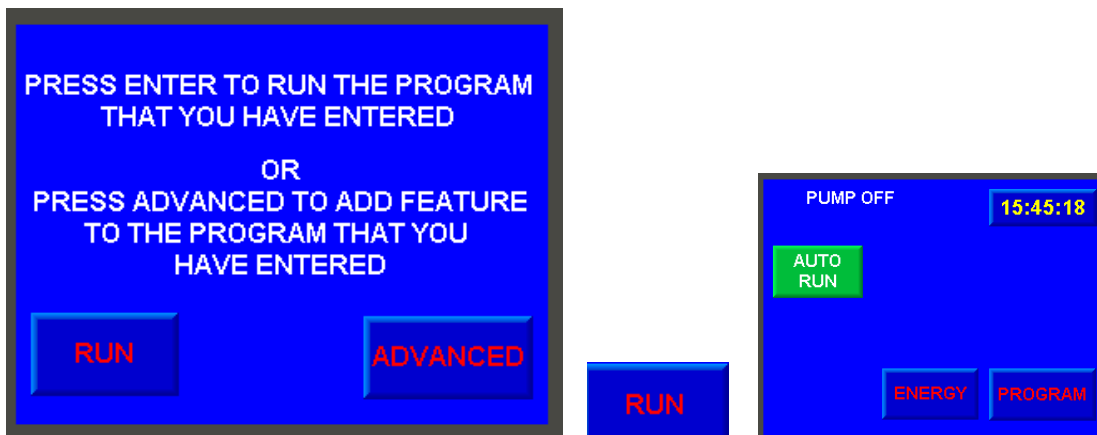
Emergency stopping the system from a remote E-Stop push button





## Basic Programming Complete

Once this point has been reached the basic programming of the Ecoflow Controller is complete. If Run is selected at this point the Pump can be started and run for 24hrs a day at the programmed constant flow GPM or a fixed speed, utilizing any of the options chosen during the Basic setup

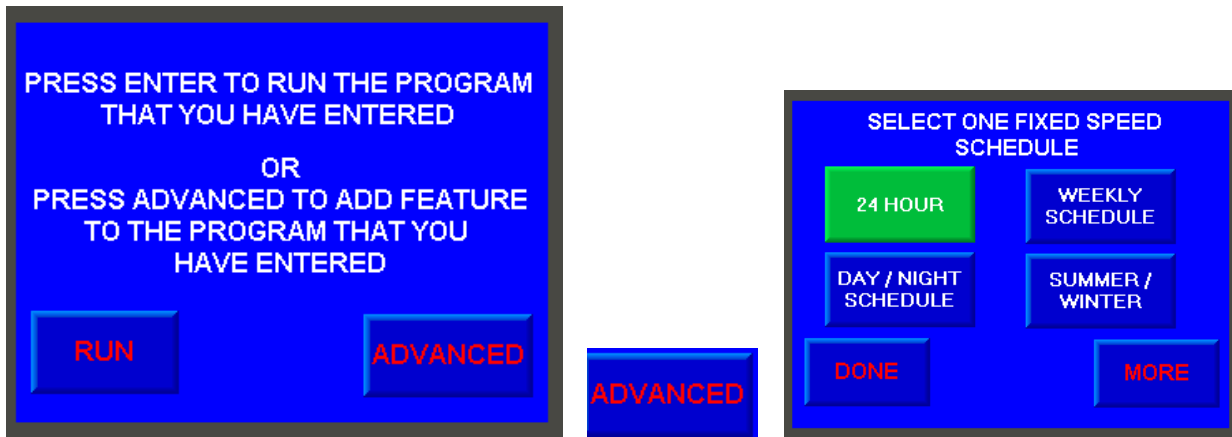


## Advanced Feature Programming

The following advanced features are shown for a Fixed Speed application. Similar advanced features are available for a Constant Flow application

### Fixed Speed Features

There are a number of additional features that can be programmed into the Ecoflow Controller




### Fixed Speed Programs

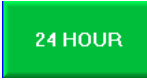
#### 24 Hour Fixed Speed

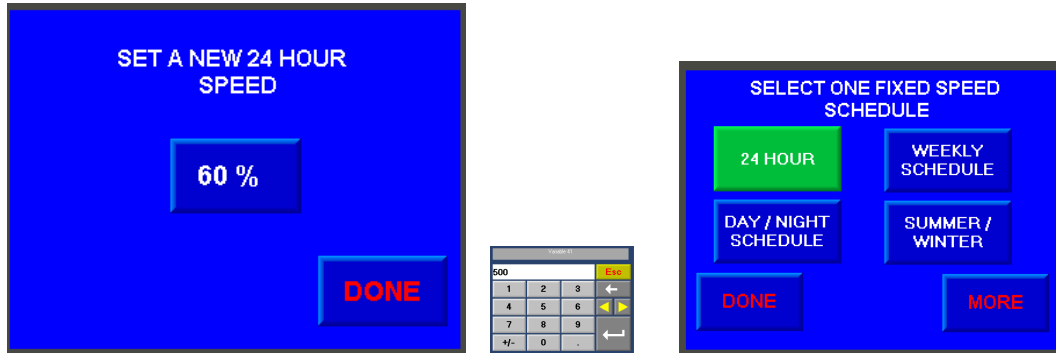


Note: The current program that the Ecoflow Controller is using will show as a green push button

 To See more Advanced options press

The 24 Hour schedule is the program that has been completed during the basic setup procedure

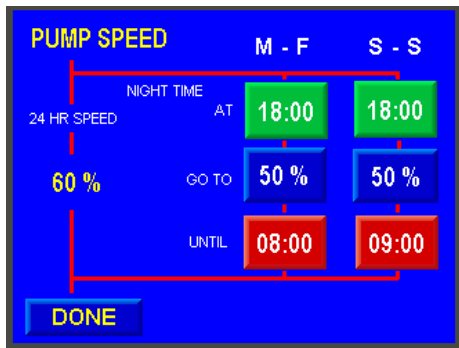
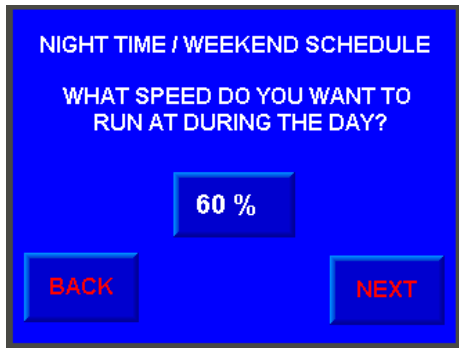
Pressing the  push button will allow you to change the programmed 24 Hour Speed



### Day / Night Schedule Fixed Speed

The Day / Night Schedule, allows the user to run at two different speeds: A daytime speed and a nighttime speed. The Ecoflow Controller will automatically switch between the daytime speed and the nighttime speed at the programmed time. Also programmable within the Day / Night Schedule is the ability to program the change time for Monday to Friday to be different to Saturday / Sunday.





Touch each Time and Speed push buttons to customize the Day/Night Weekend Schedule



### Weekly Schedule Fixed Speed

The weekly schedule allows the user to produce a schedule associated with occupied and unoccupied times per day.



**UN-OCCUPIED SCHEDULE**  
 WHAT SPEED DO YOU WANT TO RUN AT WHEN THE POOL IS OCCUPIED?

**60 %**

**BACK** **NEXT**



**NEXT**

**BACK** DAYTIME NIGHT TIME

MON

OCCUPIED AT **11:00** **18:00**

GO TO **60 %** **55 %**

UNTIL **13:00** **08:00**

**TUESDAY** **TUESDAY**

DAYTIME NIGHT TIME

AT **11:00** **18:00**

GO TO **60 %** **55 %**

UNTIL **13:00** **08:00**

Monday

Touch each Time and Speed push buttons to customize Mondays Occupied Un-Occupied Schedule



Repeat the previous procedure for Tuesday through Sunday

**MONDAY** DAYTIME NIGHT TIME

TUES

OCCUPIED AT **11:00** **18:00**

GO TO **61 %** **56 %**

UNTIL **13:00** **08:00**

**WEDNESDAY**

**TUESDAY** DAYTIME NIGHT TIME

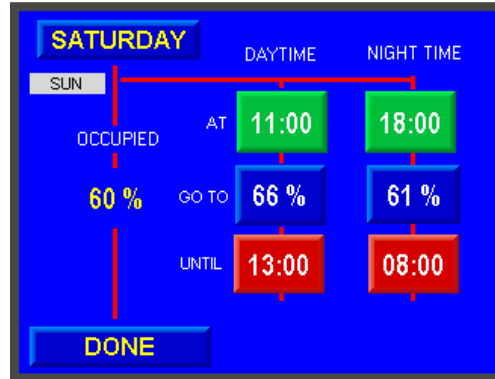
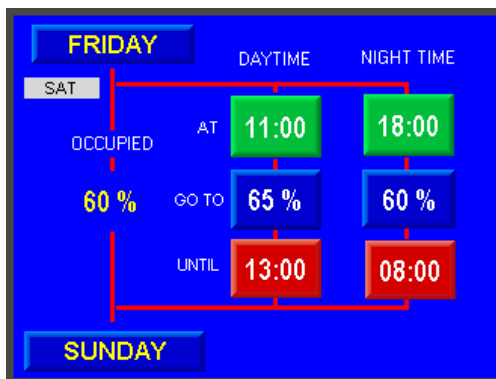
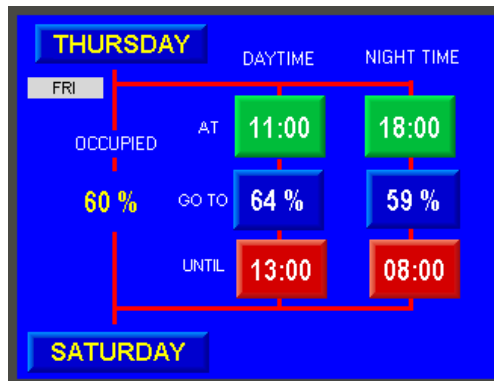
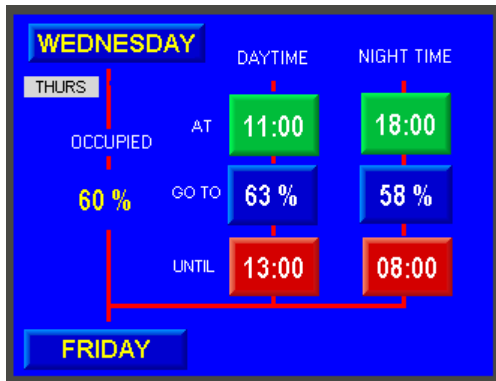
WED

OCCUPIED AT **11:00** **18:00**

GO TO **62 %** **57 %**

UNTIL **13:00** **08:00**

**THURSDAY**

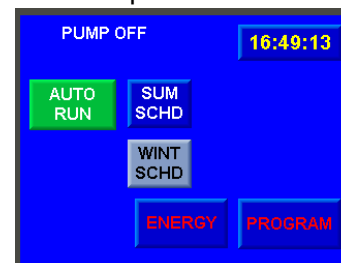


DONE

## Summer / Winter Schedule Fixed Speed

The Summer / Winter Schedule allows the user to program Day and Night time speeds for Monday to Friday and Saturday, Sunday as two different schedules, a Summer Schedule and a Winter Schedule.

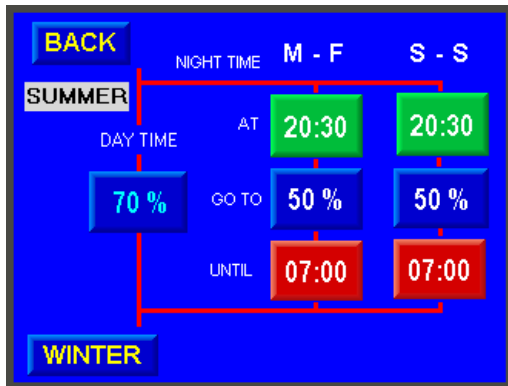
Switching between the two schedules can be done using Touch Screen push buttons or by using an external input, programmed to be Summer / Winter







SUMMER / WINTER

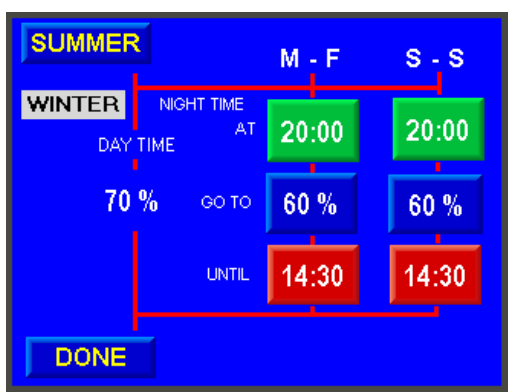


Summer

Touch each Time and Speed push buttons to customize Summers Day/Night/Weekend schedule



WINTER

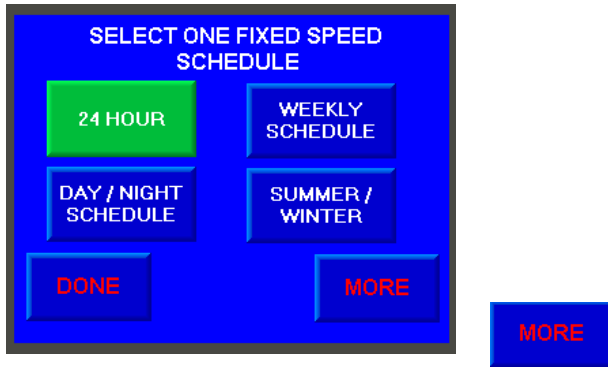


Winter

Touch each Time and Speed push buttons to customize Winters Day/Night/Weekend schedule



DONE

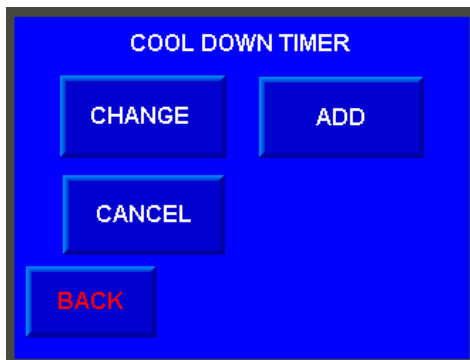


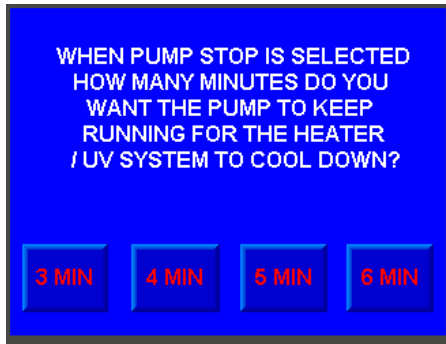
### Heater / UV



Under 'Heater / UV' changes can be made to the Heater / UV settings set during basic setup or, a Heater UV cool down period can be added or cancelled.

**Note: The Heater UV controller output is associated with output 5 (Programmable). If the Heater / UV option is chosen other options for output 5 are not available.**

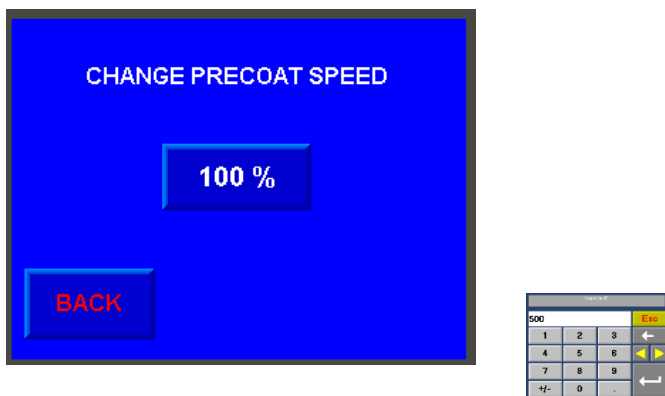




### Pre-coat



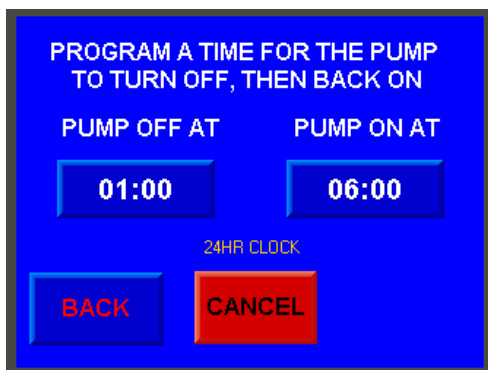
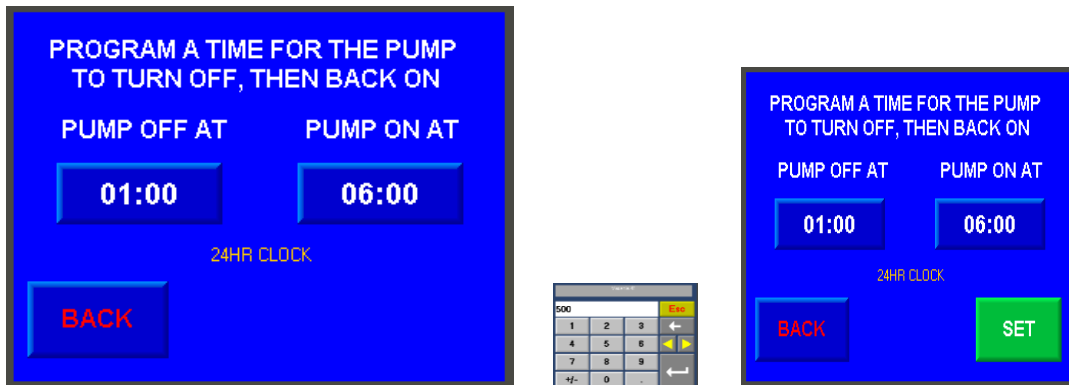
Under Pre-coat' changes can be made to the Pre-coat settings set during basic setup



## Pump On-Off



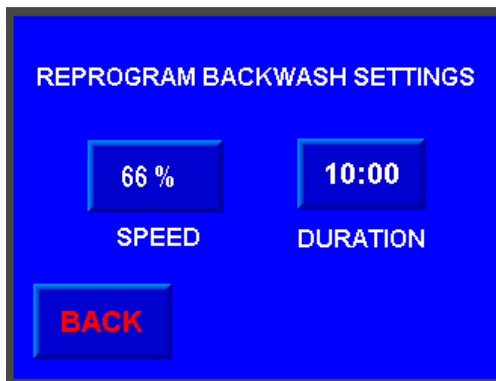
Under Pump 'On – Off', times can be set to turn the pump off and back on again. This feature is normally associated with water features that can be turned off during inactive periods.



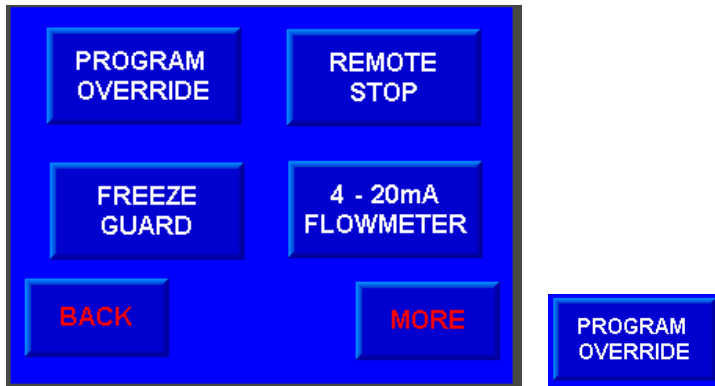
## Backwash



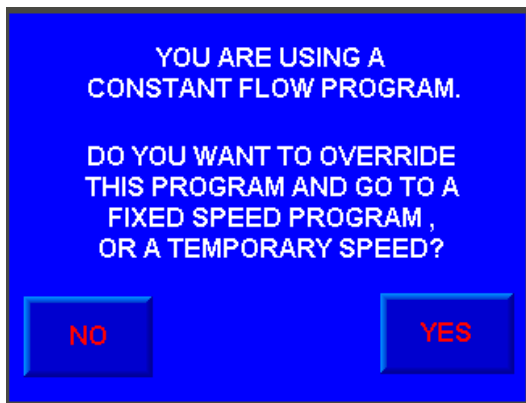
Under 'Backwash' changes can be made to the Backwash settings set during basic setup



## Program Override



Under 'Program override' changes can be made convert a Constant flow program to a Fixed Speed program for a temporary time period or to cancel Constant flow and revert to a Fixed Speed program indefinitely



TEMPORARY PUMP RUN

50 % RPM

PUMP STOPPED

START

EXIT

500			Exit
1	2	3	←
4	5	6	→
7	8	9	↵
*/	0	.	↵

TEMPORARY PUMP RUN

60 % RPM

PUMP RUNNING

STOP

TEMPORARY  
OVERRIDE

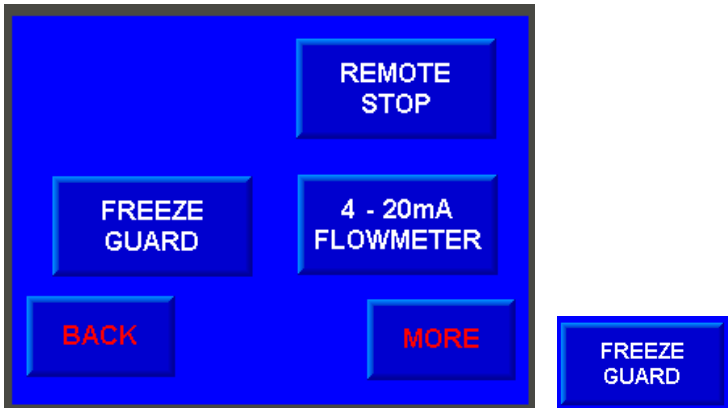
FIXED SPEED  
PROGRAM

BACK

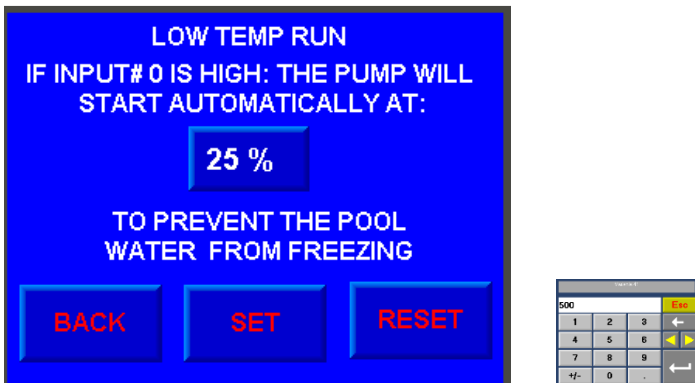
FIXED SPEED  
PROGRAM



### Freeze Guard

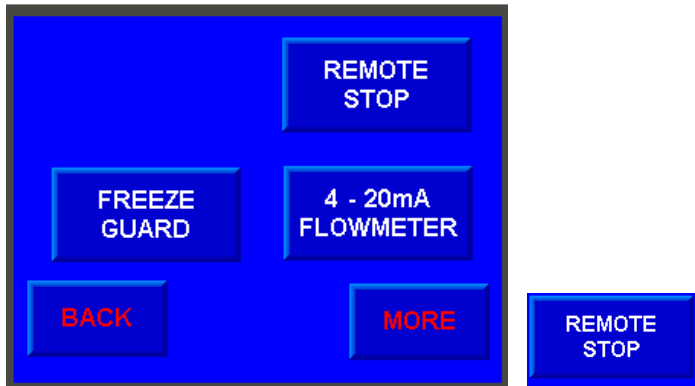


Under 'Freeze Guard' If a Thermostat is connected to Input 1 'Freeze Guard' will automatically turn the pump on and allow the pool water to circulate at the programmed speed to prevent the pool from freezing.

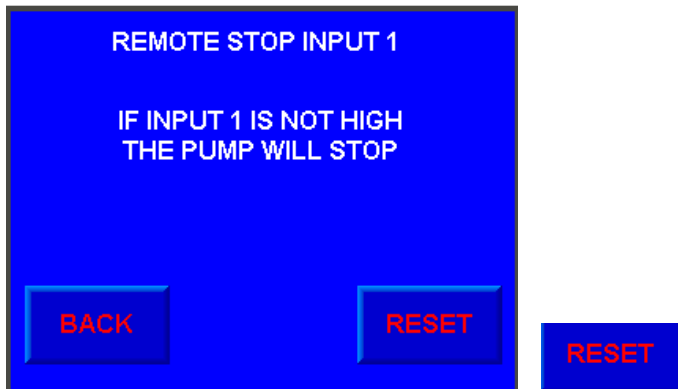
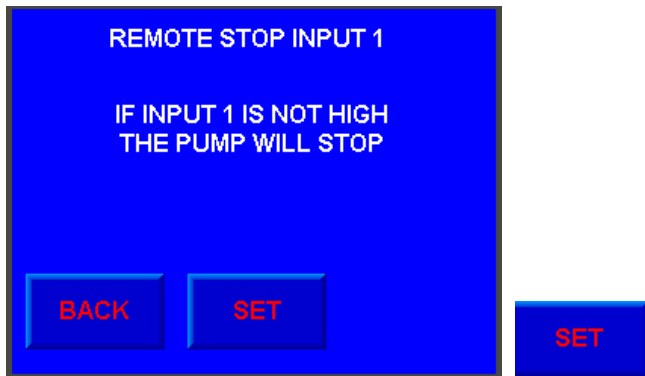




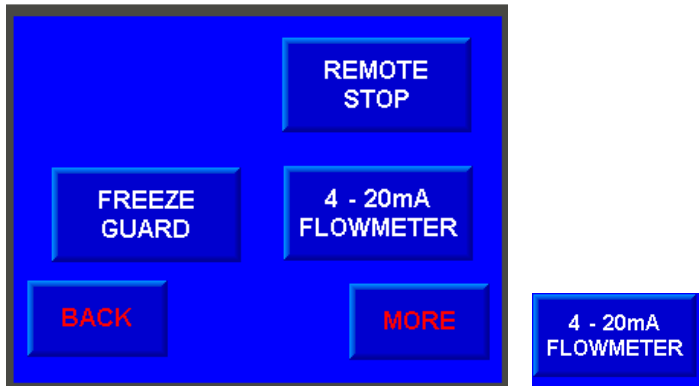
## Remote Stop



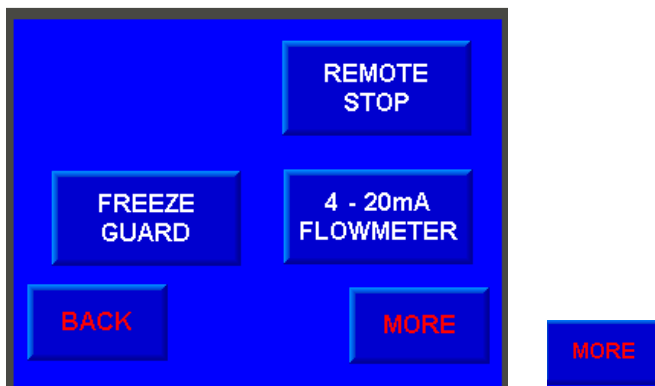
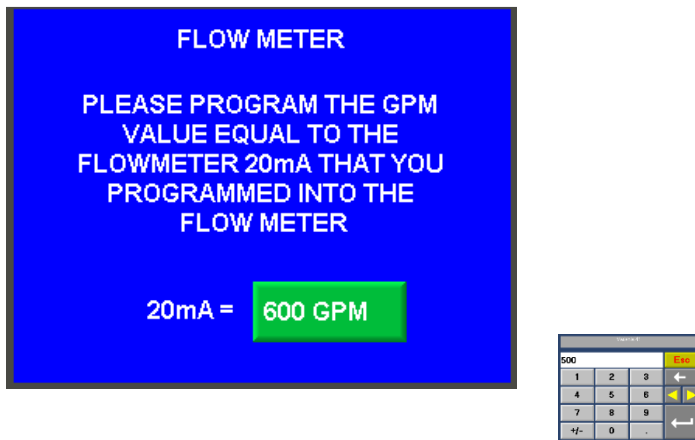
Under 'Remote Stop' A remote Start / Stop input can be added or removed. If the Remote stop is programmed Input 1 must be active for the pump to run.



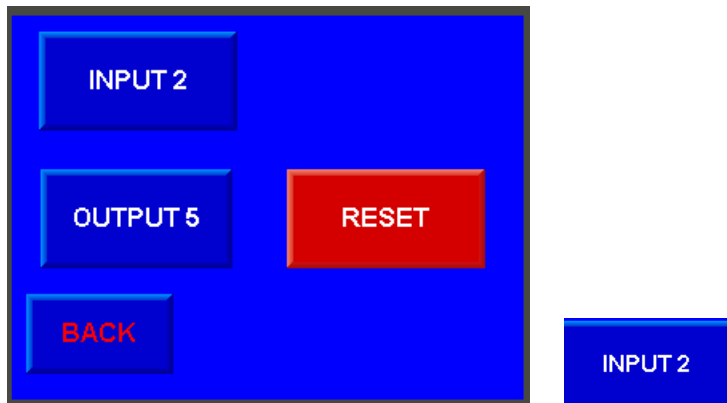
## 4-20mA Flowmeter



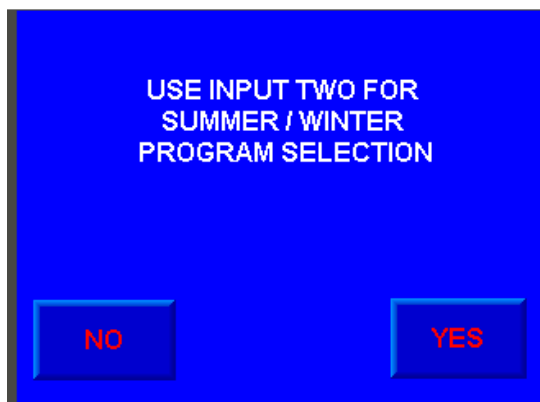
Under '4-20mA Flowmeter' changes can be made to the programmed 20mA value programmed during the Basic setup.



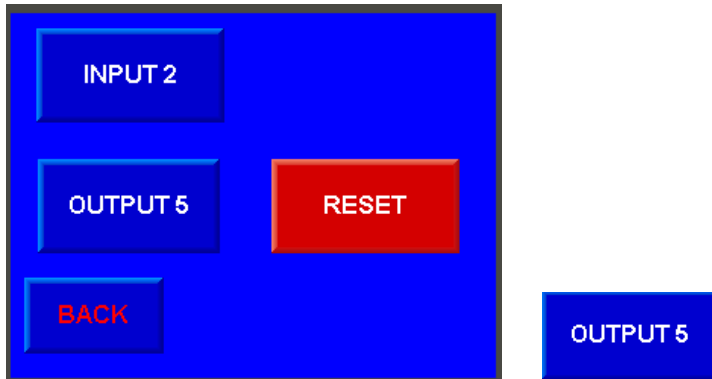
## Input 2



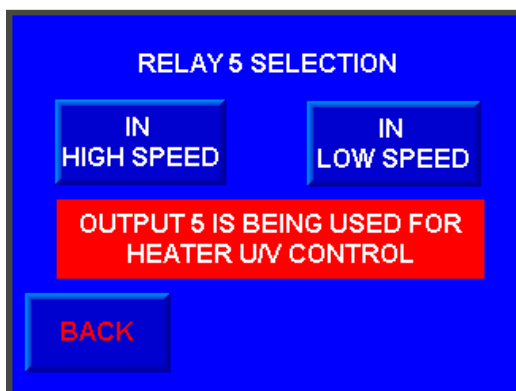
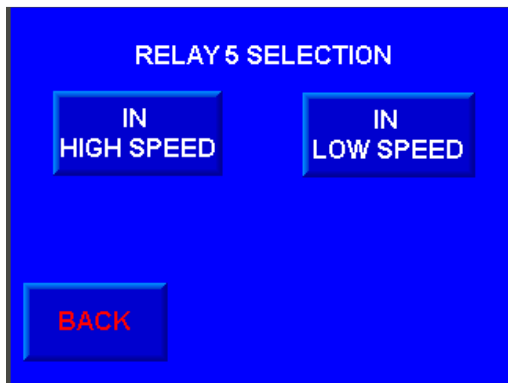
Under 'Input 2' The selection for the Summer / Winter program can be removed from the touch screen and enable a remote mounted switch to be used to make the change between the Summer and Winter schedules. Taking the Input high puts the controller into the programmed winter settings



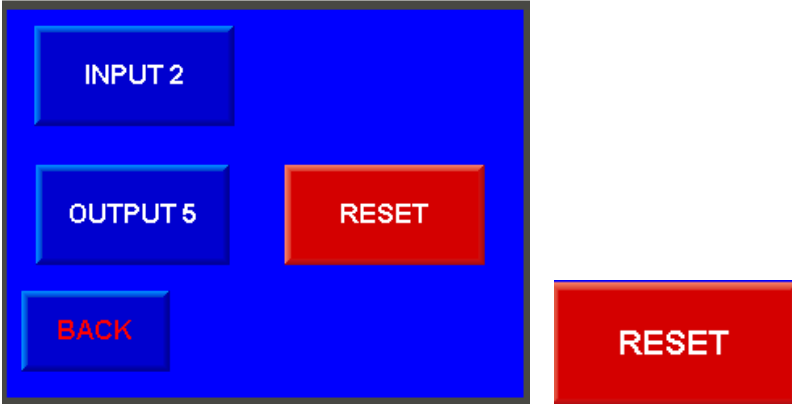
## Output 5



If output 5 is not being used for Heater / UV control, it can be programmed to change state when either in low speed or high speed. This relay output can be used for local or remote indication that the pump is running in either high speed (bathers can enter the pool) or low speed (unoccupied or nighttime speed).



**RESET**



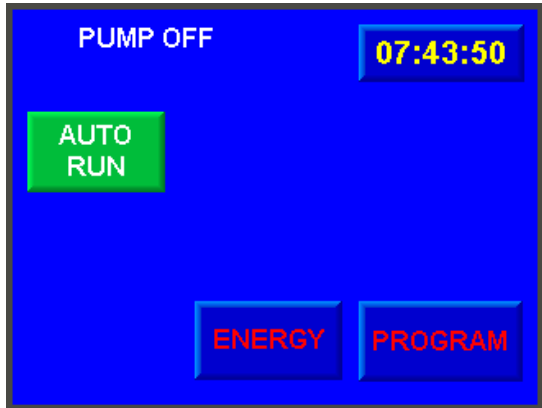
Reset allows the controller to be returned to Factory Defaults (Un-programmed controller)

If there is a requirement to Reset the controller, contact H2flow Controls for the password and to discuss the reasons that a Reset would be required.



## Daily Operation

### Auto Run



Use the AUTO RUN and the STOP buttons to run / stop the programmed schedule.

Note: If a Heater / UV Cool down program has been entered, then the following two screens will alternate

24HR FIXED

**07:49:16**

2160 RPM

60 % RPM

499 GPM

0 WATTS

STOP NOW ENERGY

24HR FIXED

**07:49:00**

2160 RPM

60 % RPM

499 GPM

0 WATTS

DELAY ACTIVE ENERGY

## Flow Meter

If a flow meter is connected to the system, while the pump is running every 5 seconds the running screen will change to display the current GPM

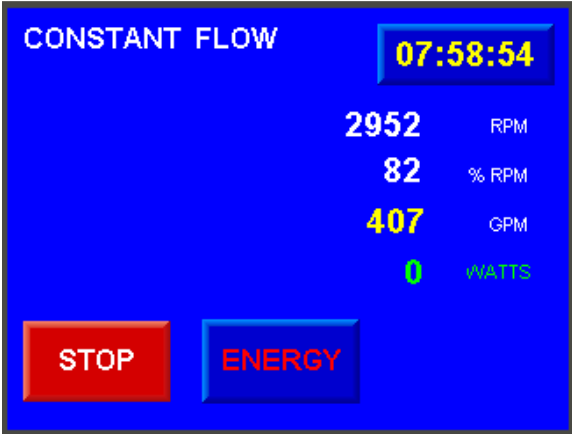


If the flow meter signal fails a warning will be shown instead of the GPM value





If a Constant Flow program is running, the flow rate set point can be adjusted from the displayed GPM screen if required



CONSTANT FLOW

07:58:54

2952 RPM

82 % RPM

407 GPM

0 WATTS

STOP ENERGY

This screen displays the 'CONSTANT FLOW' status. It shows a timer at 07:58:54. The current flow rate is 407 GPM, which is highlighted in yellow. Other metrics include 2952 RPM, 82 % RPM, and 0 WATTS. At the bottom, there are two buttons: a red 'STOP' button and a blue 'ENERGY' button.

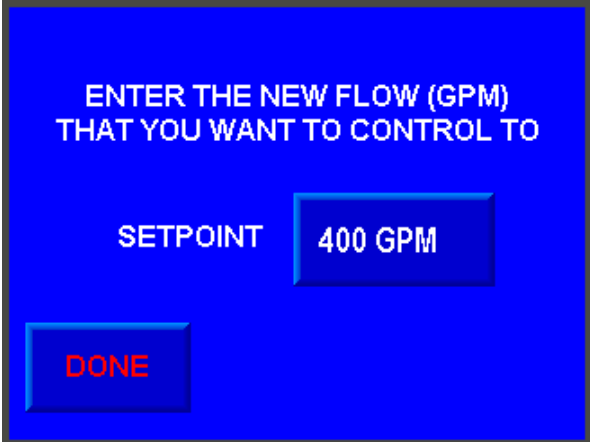


406 GPM

STOP PUMP

SETPOINT 400 GPM

This screen shows the current flow rate as 406 GPM in large white text. At the bottom left is a red 'STOP PUMP' button. At the bottom right, the text 'SETPOINT' is displayed above a blue button containing '400 GPM'.



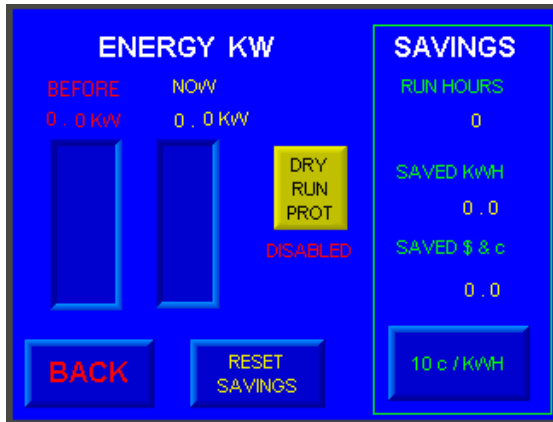
ENTER THE NEW FLOW (GPM)  
THAT YOU WANT TO CONTROL TO

SETPOINT 400 GPM

DONE

This screen prompts the user to 'ENTER THE NEW FLOW (GPM) THAT YOU WANT TO CONTROL TO'. It shows the current 'SETPOINT' as 400 GPM in a blue box. A red 'DONE' button is located at the bottom left.

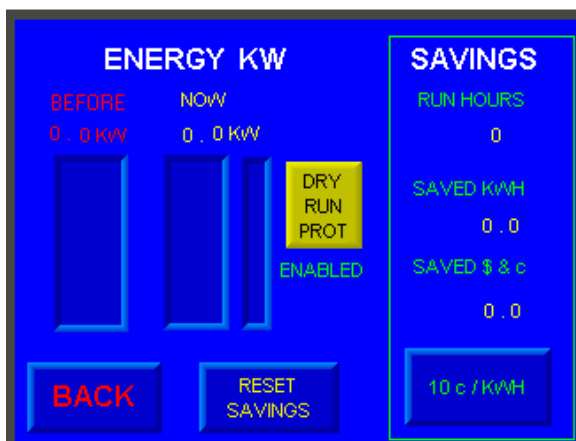
## Energy



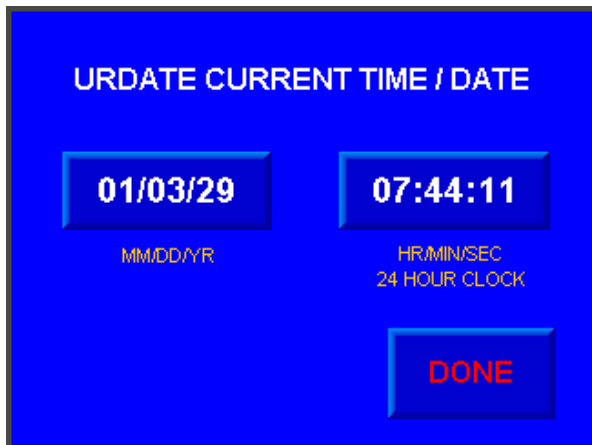
The Energy Screen enables a visual display of the energy savings that are being achieved by utilizing the Ecoflow system. Entering a value for the cost per KWH will give an actual monetary savings value to be displayed.

## Dry Run Protection

Dry Run protection can be activated / de-activated from this screen by pressing the DRY RUN PROT button (Dry Run Protection will shut down the pump, if the Ecoflow system determines that the 'shaft power' of the system when three pump is running is lower than expected).

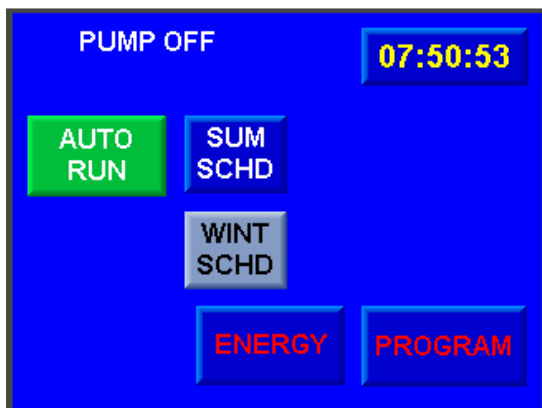


## Time / Date



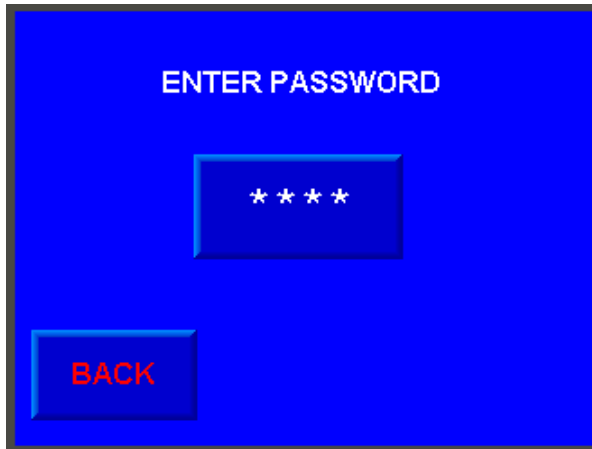
Changes can be made to the real time system clock

## Summer / winter



If a Summer / Winter program is set, selection between the summer / winter programs can be made from the Run Screen

## Program



Entering the Password 6535 will enable access to the Advanced program features discussed earlier in this Manual