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ECO-FLOW - C

NEMA 12

VERSION 2.0

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



DOC DTA 2.0 12/14/2011

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.

Operation Precautions

All Start/Stop functions must be carried out from the Aquatic controller.

If a fault condition occurs with the Eco-Flow - C drive, reset the fault by pressing the RESET key on the drive keypad.

Do not modify the Eco-Flow - C

The operation of the Eco-Flow - C is intended to be controlled by the Aquatic controller. Do not use a magnetic contactor or any other device that routinely disconnects the Eco-Flow - C and reconnects the Eco-Flow - C to the input supply power for the purpose of starting and stopping the motor.

Prior to operating the unit, be sure to restore covers and circuit protection according to specifications

Inspection

Remove Eco-Flow - C from its packing and inspect its exterior for shipping damage. If damage is apparent, notify the shipping agent and your Eco-Flow - C sales representative.

Remove the cover and inspect the Eco-Flow - C for any apparent damage or foreign objects. Ensure that all mounting hardware and terminal connection hardware is properly seated, securely fastened, and undamaged.

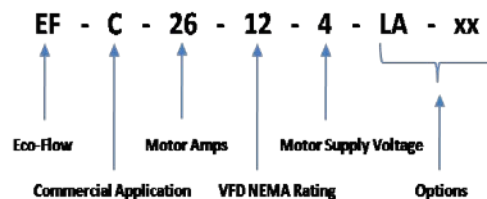
Check the nameplate on the unit. Verify that the Eco-Flow - C unit is the correct horsepower and input voltage for the application.

Model Specifications

Frame Size	Model	Max Motor HP		VFD Max Amps
		208 / 230V	480V	
A	EF-C-04-12-4		2	4
A	EF-C-08-12-4		5	8
A	EF-C-13-12-4		7.5	13
A	EF-C-26-12-4		15	26
A	EF-C-31-12-4		25	31
A	EF-C-46-12-4		30	46
B	EF-C-60-12-4		40	60
B	EF-C-73-12-4		50	73
A	EF-C-04-12-2	1		4
A	EF-C-08-12-2	2		8
A	EF-C-13-12-2	3		13
A	EF-C-26-12-2	7.5		26
A	EF-C-31-12-2	10		31
A	EF-C-46-12-2	15		46
B	EF-C-60-12-2	20		60
B	EF-C-73-12-2	25		73

Part Number	Description
PS-30	Pressure Sensor, 0-30 psi, 1/4" NPT male thread and with 4-20 mA output and 10' cable
PS-100	Pressure Sensor, 0-100 psi, 1/4" NPT male thread and with 4-20 mA output and 10' cable
LA	Lightning Arrestor
BP-A (See Note 1)	NEMA 12 Bypass Panel for Frame Size A
BP-B (See Note 1)	NEMA 12 Bypass Panel for Frame Size B

Note 1: Size may vary depending on options chosen



Introduction

Overview

The Eco-Flow - C Variable Frequency Drive is an electronic controller that adjusts the speed of an electric motor by regulating the power being delivered and by changing the frequency of that power. A motor's speed is directly proportional to the frequency supplied to it. If a motor nameplate speed is 1720 RPM at 60Hz, lowering the frequency to 30Hz will cause the motor to run at 860 RPM.

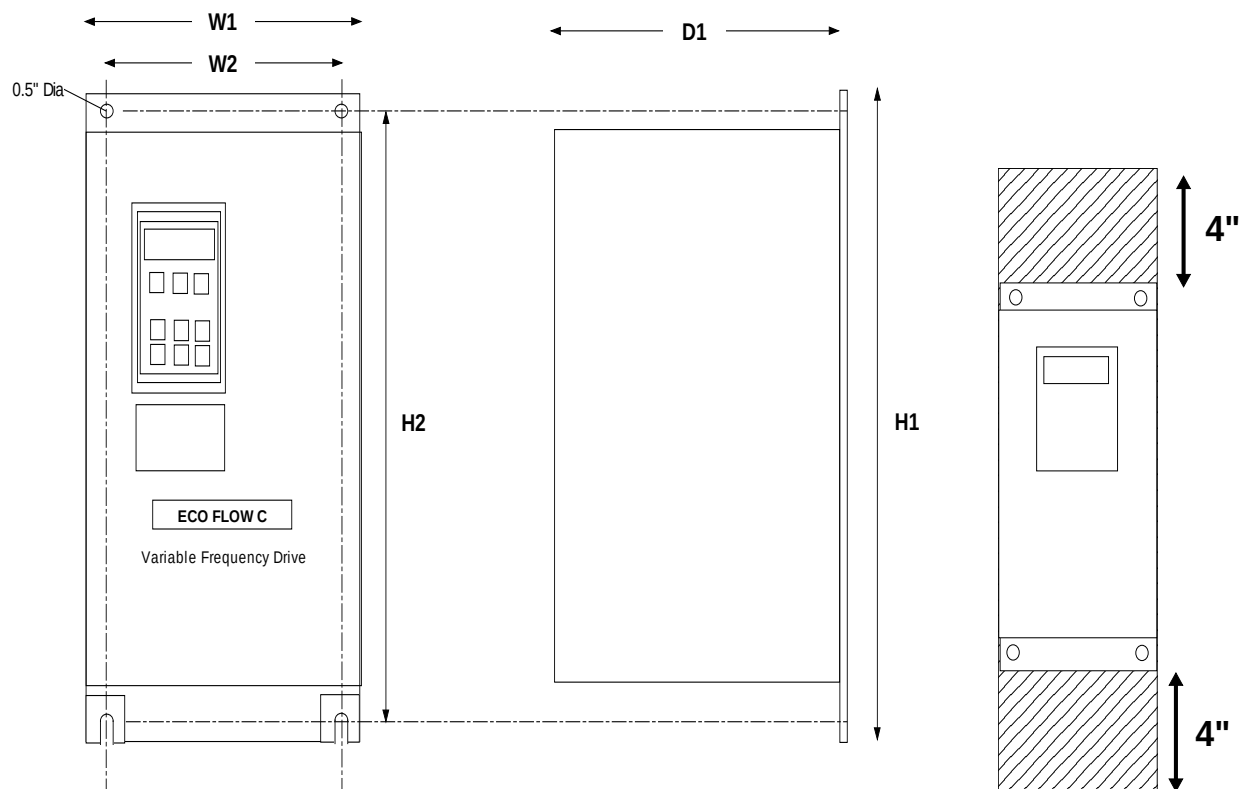
Energy Saving

Electrical energy is billed to the consumer in Kilowatt Hours (kWh) – i.e. how many kilowatts are used in one hour. A 'watt' is a measurement of power that is derived from calculating the voltage, current, and power factor.

Centrifugal Pumps (used in pool applications), use far less power when they run slower. The decrease in power is due to the Affinity Laws.

Mechanical Installation

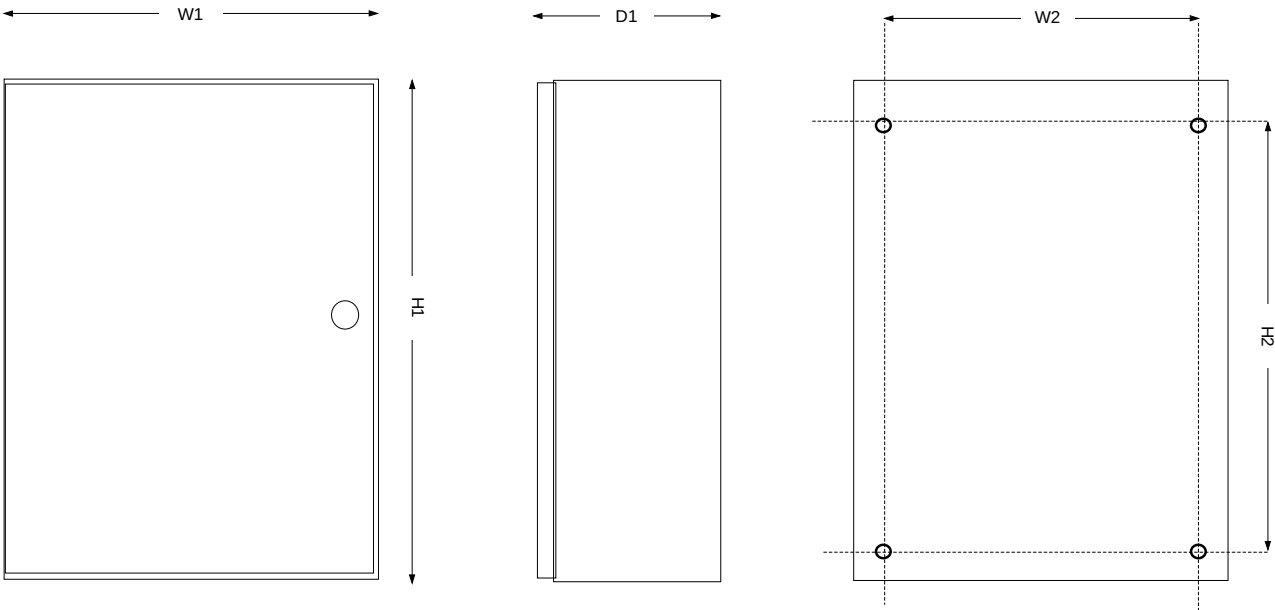
Eco-Flow - C Dimensions



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

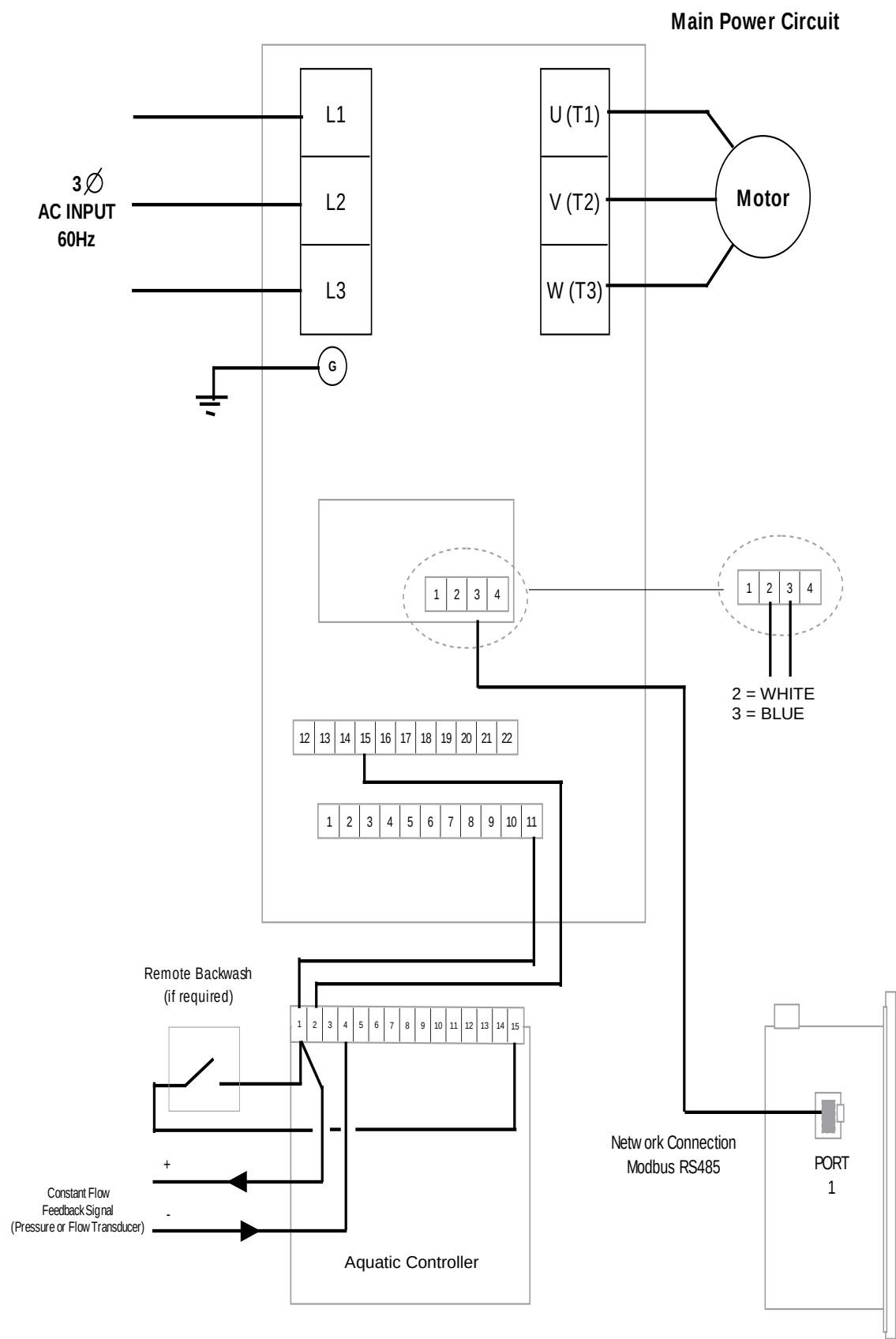
Optional Bypass Enclosure Dimensions



Model	W1	W2	H1	H2	D1
BPA	16"	14.5"	20"	18.5"	9.0
BPB	20"	18.5"	24"	22.5"	9.0"

Note: Size may vary depending on options chosen

Electrical Installation: Eco-Flow - C and Aquatic Controller



Eco-Flow - C Controller

Overview

The Aquatic controller program has been written in such a way as to intuitively walk the installer through options to enable the pump to be controlled in the way the operator requires. As questions are answered on the Aquatic Controller, information is written to the Eco-Flow - C drive.

Fixed Speeds

Objective: Running the pump at one or two programmable fixed speeds. The speeds being time of day (hh:mm) related.

Also programmable with these speeds is an off/on duration if required.

When programming the fixed speeds, it is essential that the speeds be such that the required pool turn-over times are met.

Constant Flow

Objective: Running the pump at a variable speed to maintain a constant flow in the system for a 24 hour period.

A feedback signal from either a flow or pressure transmitter is compared with a desired set point programmed within the Eco-Flow - C controller. The Eco-Flow - C will automatically vary the speed of the pump to maintain the desired flow rate within the system.

Also programmable with Constant Flow control, is an off/on duration if required.

Constant Flow with Fixed Speed

Objective: Running the pump at a variable speed to maintain a constant flow in the system for a programmable time of day period followed by a fixed speed for another part of the day.

A feedback signal of either flow or pressure is compared within the Eco-Flow - C drive to a desired set point programmed within the Eco-Flow - C controller. The Eco-Flow - C will vary the speed of the drive to maintain the desired set point. When the Constant Flow programmed time has elapsed, the Eco-Flow - C switches to a programmable fixed speed value until the next day when the Constant Flow time period begins again.

Also programmable with Constant Flow with Fixed Speed control is an off/on duration if required.

Filter backwashing

- a) **Manual Filter Backwash.** The Eco-Flow – C controller can be programmed to provide a backwashing pump speed and associated backwashing time. The pump is stopped via the controller and the filter valves are manually moved by the operator. The pump is then restarted in the backwash mode, whereupon the pre-programmed backwash speed for the pre-programmed backwash time will activate. At the conclusion of the backwash period the pump will be automatically stopped. The operator can then move the filter valves to their normal running positions and restart the pump in Automatic mode via Eco-Flow - C controller.
- b) **Automatic Filter Backwash.** In cases where a building management system controls the backwash procedure, an input from the building management systems tells the Eco-Flow - C controller to move to the programmed backwash speed. At the conclusion of the backwashing procedure, the Eco-Flow - C returns to the Automatic mode.

Programming the Aquatic Controller

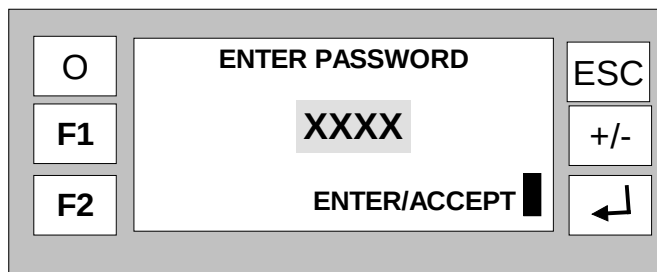
Programming Mode

The first time the Eco-Flow - C controller is powered up, it will power up in the programming Mode. Once a program has been entered, Modifications can be made to the program by entering a Password accessible from the Pump Stopped Screen.

Password Protection

The Eco-Flow - C controller program is password protected to prevent unauthorized entry into the program mode. The programmed password is **6535**. This password cannot be changed by the installer.

Note: If you input the password but are unable to access the program mode then please contact your supplier.



NOTE: The Eco-Flow - C Controller's Hours and Minutes have to be programmed using Military Time. Please refer to the table below.

AM	Enter	PM	Enter
12:00	00:00	12:00	12:00
01:00	01:00	1:00	13:00
02:00	02:00	2:00	14:00
03:00	03:00	3:00	15:00
04:00	04:00	4:00	16:00
05:00	05:00	5:00	17:00
06:00	06:00	6:00	18:00
07:00	07:00	7:00	19:00
08:00	08:00	8:00	20:00
09:00	09:00	9:00	21:00
10:00	10:00	10:00	22:00
11:00	11:00	11:00	23:00

New Un-Programmed Unit

Bypass Mode

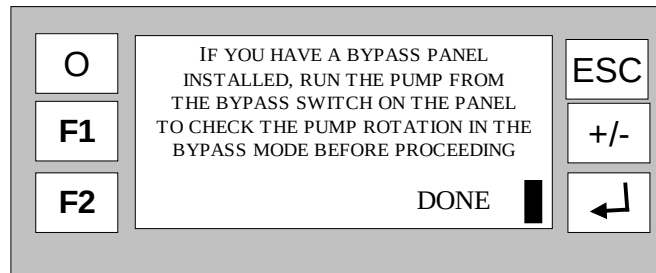
To ensure correct operation of the pump in the Bypass Mode. It is imperative that the pump be run from the Bypass/VFD switch prior to programming the Eco-Flow C Aquatic Controller.

Note: The Aquatic Controller will power down.

Switching to the Bypass Mode on the Bypass panel will start the pump instantly.

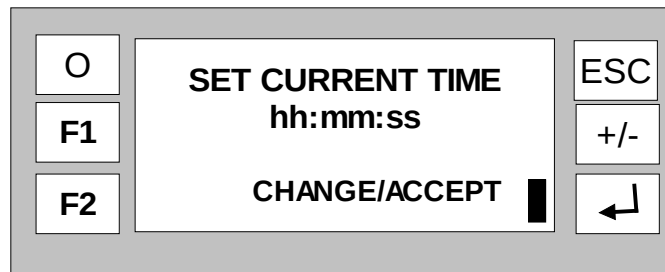
Check that the pump is rotating in the correct direction. If not swap two of the three wires going out to the pump motor.

Once the rotation has been confirmed switch the Bypass/VFD switch back to VFD



Press the ENTER key If the above step has been completed or if you do not have a bypass panel.

Setting the Aquatic Controller Time



Using the CHANGE/ACCEPT key and the number keys enter the current time

Programming the Motor Details

O	HAVE YOU PROGRAMMED THE MOTOR INFORMATION	ESC
F1		+/-
F2		YES NO
		↩

The Motor Data must be programmed. To program the motor data press NO. The Motor Data can be found on the motor nameplate.

If you have already programmed this data once, select YES to move on

O	SELECT SUPPLY VOLTAGE	ESC
F1		+/-
F2		↩
	208V 230V 460V	

Select the supply Voltage of the system

O	ENTER THE MOTOR HP TO THE NEAREST WHOLE NUMBER	ESC
F1		+/-
F2		↩
	10HP	
	NEXT CHANGE	

Use the CHANGE key and the Number keys to enter the Motor HP to the nearest whole number (7.5HP enter 8HP). Then press NEXT

O	ENTER THE MOTOR AMPS TO THE NEAREST WHOLE NUMBER 10AMPS NEXT CHANGE	ESC
F1		+/-
F2		↩

Use the CHANGE key and the Number keys to enter the Motor Amps to the nearest whole number. Then press NEXT

O	1200 -1700	SELECT MOTOR RPM RANGE	ESC
F1	1701 - 3400		+/-
F2	3401 - 3600		↩

Select the motor RPM

Checking / Changing the Motor Rotation

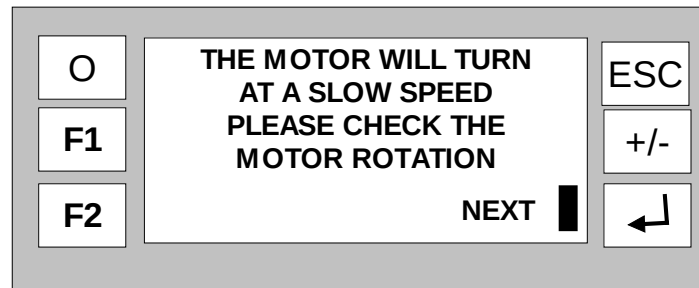
O	WE WILL NOW CHECK THE MOTOR FOR CORRECT ROTATION NEXT	ESC
F1		+/-
F2		↩

Read and Select NEXT

O	OPEN THE VALVES TO THEIR PREVIOUS RUNNING POSITION NEXT	ESC
F1		+/-
F2		↩

Read and Select NEXT

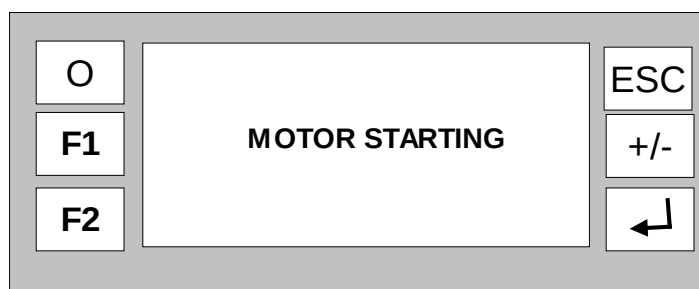
During the process of checking / changing motor rotation the motor will be run up to its full speed. It is essential that the system valves be opened to the position they were prior to installing the Eco Flow C system



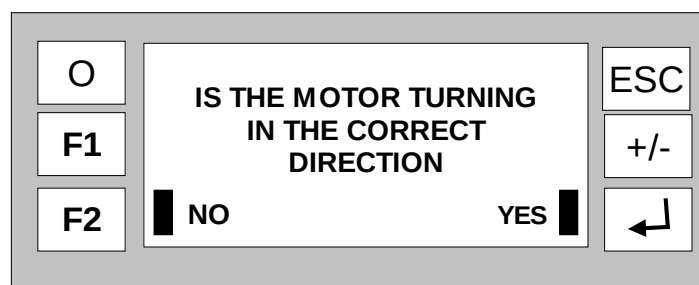
Read and Select NEXT



Press Start Motor when ready



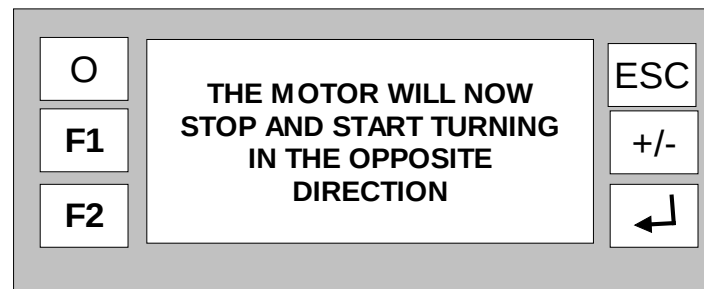
Displayed screen



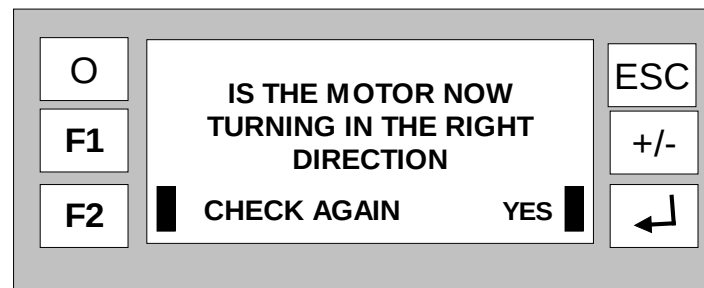
Check the motor is turning in the correct direction before proceeding.

If the motor rotation is correct press YES (Proceed to next section)

If the motor rotation is incorrect press NO



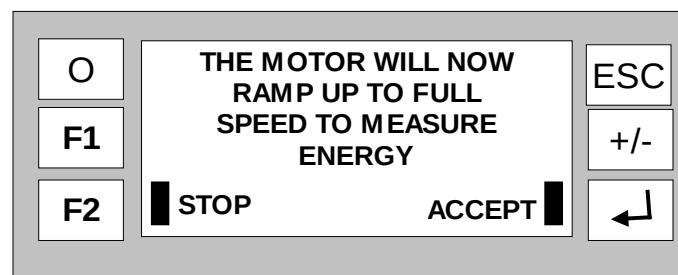
Displayed screen



If the motor rotation is correct press YES (Proceed to next section)

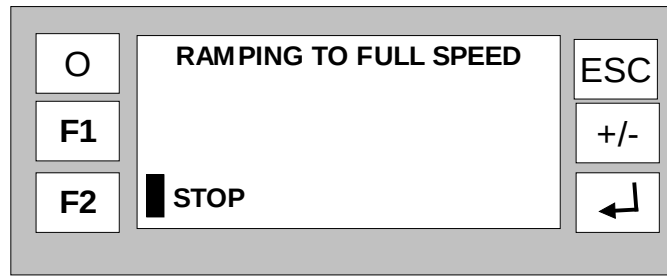
To repeat this procedure press CHECK AGAIN

Energy Measuring At Full Speed

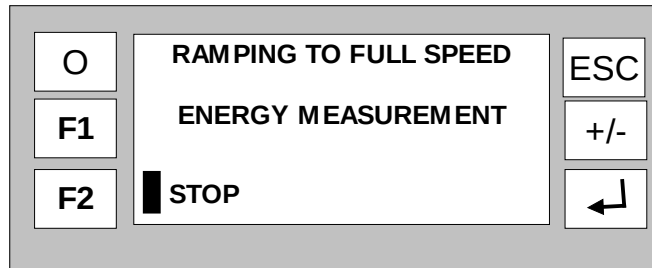


Press ACCEPT to allow the VFD to measure consumed energy at full speed (25 Second Test) This is an important test

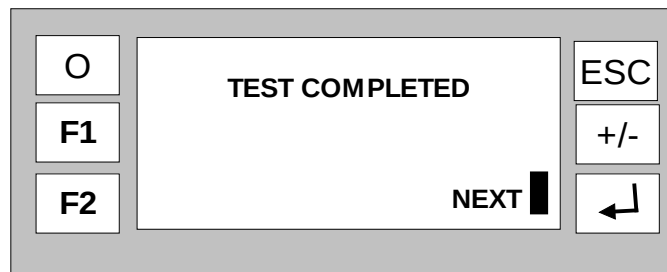
At any time press STOP to abort the tests (See Aborted Test below)



Displayed screen

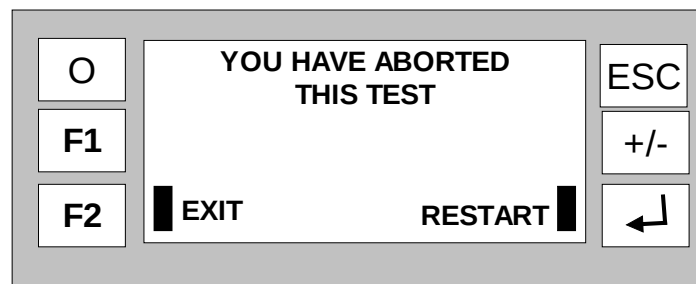


Displayed screen



Press Next to Proceed

Aborted Test



If Stop is pressed press Restart or EXIT

Programming Maximum Speed

Notes for Programming Max Speed

The flow through the system is governed by the maximum flow that can be produced by the pump and the discharge head. Any valves that are 'throttled in' to reduce flow also reduce the effectiveness of the pump and result in higher energy costs than necessary.

O	HAVE YOU ALREADY ENTERED A MAX SPEED	ESC
F1		+/-
F2		←
	YES	NO

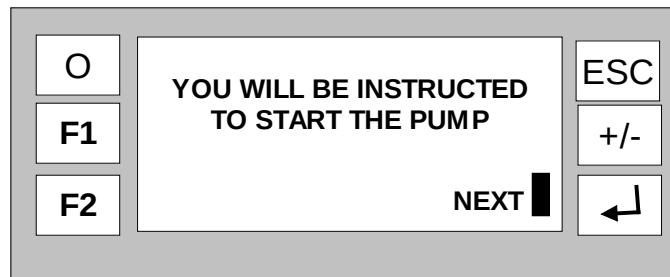
Programming a maximum speed will prevent the system from being over pressurized when the system valves are opened fully and the system is running at optimum energy savings.

O	YOU MUST MANUALLY OPEN ALL VALVES 100%	ESC
F1		+/-
F2		←
	DONE	

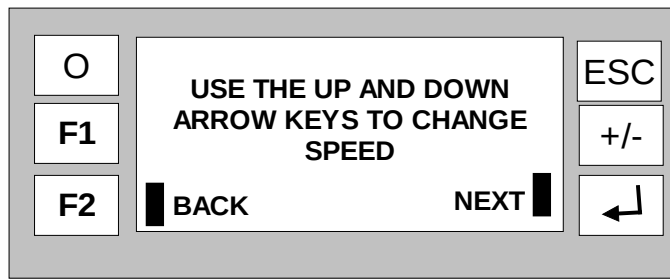
Read and Select NEXT

O	READ AND UNDERSTAND THE FOLLOWING SCREENS	ESC
F1		+/-
F2		←
	NEXT	

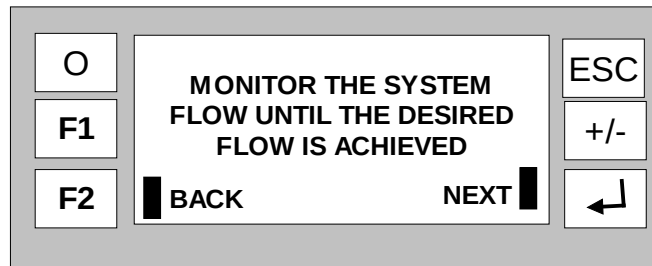
Read and Select NEXT



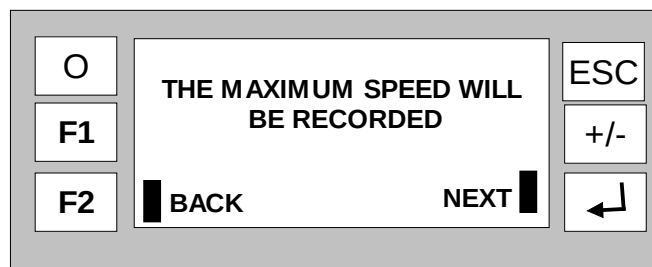
Read and Select NEXT



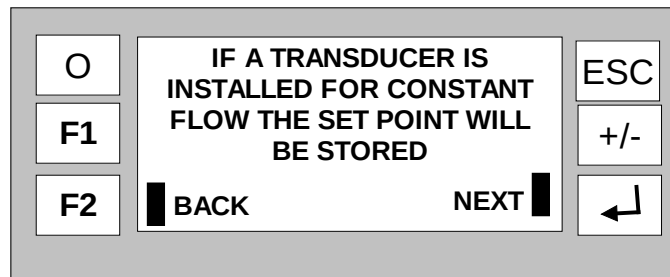
Read and Select NEXT



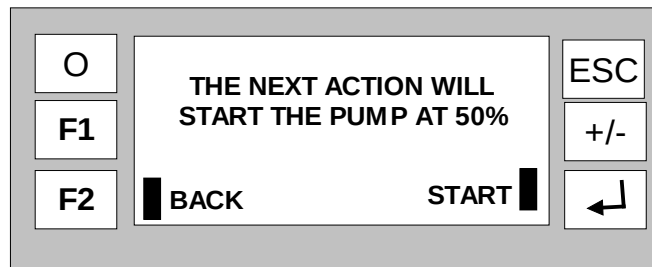
Read and Select NEXT



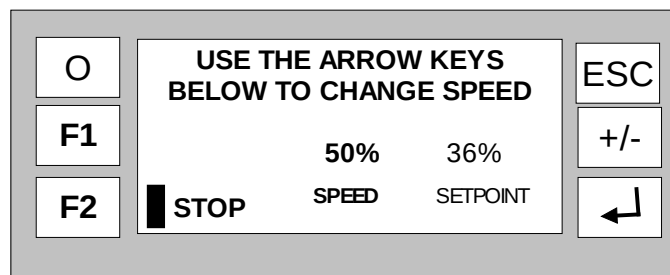
Read and Select NEXT



Read and Select NEXT



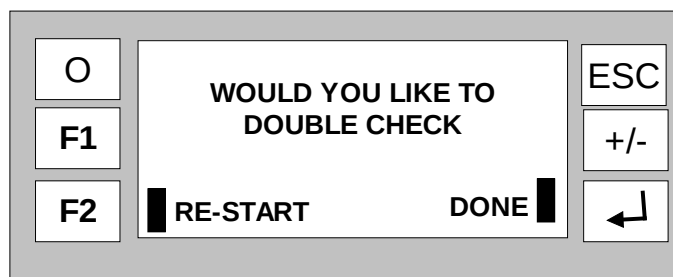
To start the pump at 50% Speed press START



Use the UP and DOWN Arrow keys to increase/ decrease the motor speed. Monitor the system flow rate on a flow meter until the correct flow rate for your system is achieved

If a transducer is installed for constant flow a % value will appear for SETPOINT

Press STOP when the correct flow rate has been achieved



To re-run the max speed test press RE-START

O	IS THE FILTER CLEAN OR DIRTY	ESC
F1		+/-
F2		CLEAN DIRTY
		↩

If a transducer is installed you will be asked to select CLEAN or DIRTY for your filter
 If your filter is dirty then the maximum speed set will allow constant flow to be maintained as the filter gets dirty

O	5% WILL BE ADDED TO THE MAX SPEED FOR CONSTANT FLOW	ESC
F1		+/-
F2		NEXT
		↩

If CLEAN was selected a 5% value will be added to the maximum speed to allow the pump to run faster to maintain a constant flow as the filter gets dirty

Read and Select NEXT

O	VALUE(S) SET AT: MAX ALLOWABLE SPEED XX% MEASURED SETPOINT XX%	ESC
F1		+/-
F2		NEXT
		↩

Read and Select NEXT

MEASURED SETPOINT will only appear if a transducer was detected

O	FULL SPEED= XXXX WATTS	ESC
F1	NEW MAX SPEED= XXXX WATTS	+/-
F2	SAVED / HOUR= XXXX WATTS NEXT █	↩

Read and Select NEXT

This screen will display the actual WATTS measured Watts recorded during the previous tests and the saved Watts per hour. This information is also available from the Auto Run Screen that will be shown later

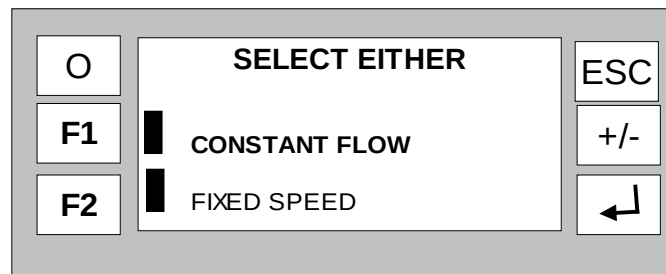
Constant Flow Control

For Constant Flow Applications

The flow rate will decrease as the filter becomes dirty. To ensure that the flow rate remains constant with a dirty filter and that the system cannot be over-pressurized by running the pump too fast with all discharge valves open 100%, it is essential that a maximum speed for the Eco-flow - C is set.

In most systems, valves are used to reduce the system flow to maintain the flow rate required by local code. As stated above, these valves cause electrical inefficiency. It is very important in order to maximize energy efficiency, that these valves are fully open. In the case of valves that are used to create a back-pressure to force water through heaters and/or chemical systems, these valves should only be throttled, such that the minimum required flow to operate the pressure switches associated with the heater and/or chemical system is obtained. With these valves throttled they will govern the flow of the whole system.

Associated with the maximum speed setting and the Constant Flow mode is an alarm level which triggers a Backwash recommended warning



Select the mode of Operation for the System

Two types of control are available under Constant Flow Control:

- 24hr control of the system flow (using a flow or pressure transmitter for feedback) varying the pump speed to maintain a constant flow, or
- Daytime control of the system flow when the pool is in use and at night time running the pump at a fixed lower speed to further reduce energy consumption.

O	TRANSDUCER NOT INSTALLED CONSTANT FLOW NOT AVAILABLE	ESC
F1		+/-
F2		↩

If Constant Flow is selected but no transducer was detected, this screen will be displayed

O	ARE YOU USING A PRESSURE TRANSDUCER?	ESC
F1		+/-
F2		↩
☐ YES ☐ NO		

If the transducer installed is a pressure transducer select YES

If the transducer installed is a flow transducer select NO

If a pressure transducer is used then the actual pressure of the system will be displayed on the Auto Run screen

O	ENTER THE TRANSDUCER RANGE	ESC
F1		+/-
F2		↩
☐ NEXT ☐ CHANGE		
0 - XXX PSI		

Use the CHANGE key and the Number keys to enter a value for the pressure transducer e.g. 0-100 PSI

Select Next

O	DO YOU WANT CONSTANT FLOW WITH A FIXED NIGHTTIME SPEED?	ESC
F1		+/-
F2		↩
☐ NO ☐ YES		

To be able to run at Constant Flow for 24 Hours select NO

To be able to reduce the speed to a fixed speed at night select YES

O

F1

F2

ENTER YOUR
DAYTIME HOURS
(USE 24HR CLOCK)

START 00:00 END 00:00

ESC

+/-

ENTER

Use the ENTER key and the Number keys to enter a Daytime Start and End times.

O

F1

F2

ENTER THE NIGHTTIME
SPEED MAX = XX %

SPEED XX %

ESC

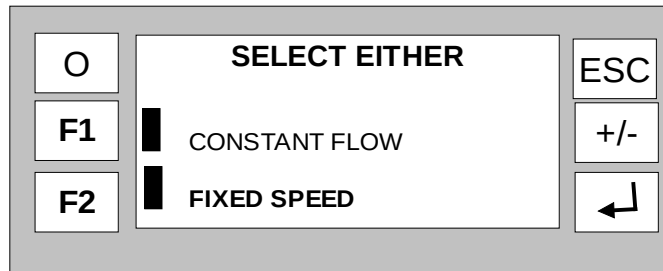
+/-

ENTER

Use the ENTER key and the Number keys to enter a value for the Night Time Speed

Fixed Speeds Control

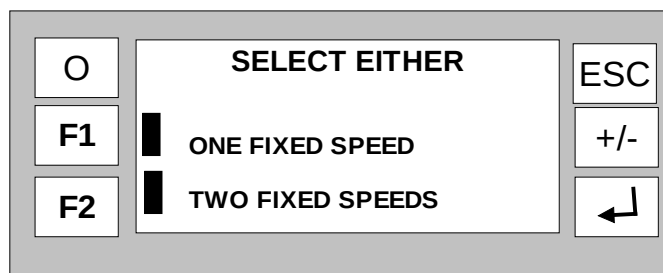
This type of control allows the pump to run at one speed for 24 hours a day or: the day can be divided into two periods. Different speeds can be programmed for each period.



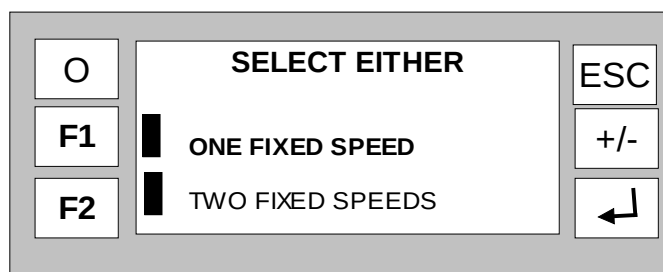
Select the mode of Operation for the System

Two types of control are available under Fixed Speed Control:

- 24hr control of the pump at one fixed speed
- Two programmable speeds with independent times



Select the mode of Operation for the System



Select the mode of Operation for the System

O	ENTER THE SPEED YOU WANT TO RUN AT MAX = XX % SPEED XX %	ESC
F1		+/-
F2		↵

Use the ENTER key and the Number keys to enter a % value for the running Speed

O	SELECT EITHER ☐ ONE FIXED SPEED ☐ TWO FIXED SPEEDS	ESC
F1		+/-
F2		↵

Select the mode of Operation for the System

O	ENTER THE SPEED YOU WANT TO RUN AT MAX = XX % SPEED XX %	ESC
F1		+/-
F2		↵

Use the ENTER key and the Number keys to enter a % value for Fixed Speed 1

O	DURING WHAT HOURS (USE 24HR CLOCK) START 00:00 END 00:00	ESC
F1		+/-
F2		↵

Use the ENTER key and the Number keys to enter Start and End times Time's for Fixed Speed 1

O	ENTER THE SPEED TO RUN AT OUTSIDE OF THESE HOURS	ESC
F1	MAX = XX %	+/-
F2	SPEED XX %	↩

Use the ENTER key and the Number keys to enter a % value for Fixed Speed 2

Programming Pump OFF / ON Times

O	DO YOU WANT THE PUMP TO TURN OFF AND BACK ON?	ESC
F1		+/-
F2		←
	NO YES	

Select YES to turn the pump Off/On at the same time every day

Select NO for the pump to run 24 hours a day

O	ENTER THE TIME FOR THE PUMP TO TURN OFF/ON (USE 24HR CLOCK)	ESC
F1		+/-
F2		←
	OFF 00:00 ON 00:00	

Use the ENTER key and the Number keys to enter Off and On time's for the pump

Programming Backwash Settings

The Eco Flow C can be programmed to have a Backwash program. This program allows for a different speed than the normal operating speed to be set for backwash and allows a duration to be programmed. Once the operator puts the Eco Flow C into Backwash Mode the pump will run at the set speed for the set duration, unless manually interrupted. At the completion of the Backwash program the pump will stop and will not restart until the Auto Run Mode is activated again by the operator

A screen display for programming a backwash program. On the left, there are three buttons labeled 'O', 'F1', and 'F2'. On the right, there are three buttons labeled 'ESC', '+/-', and a left arrow. The central display area shows the text 'DO YOU WANT TO SET A TIMED BACKWASH PROGRAM?' with 'YES' and 'NO' options indicated by black bars.

Select YES to program a speed and duration for Backwash
This is not a start time the backwash program is initiated by the operator

Select NO if Backwash will be run at same speed as Auto program and will be manually shut off by the operator, or if no back washing of the system is required

A screen display for setting backwash parameters. On the left, there are three buttons labeled 'O', 'F1', and 'F2'. On the right, there are three buttons labeled 'ESC', '+/-', and a left arrow. The central display area shows 'SET BACKWASH SPEED' with '00 %' below it, and 'SET BACKWASH DURATION' with 'XX MINS' below it.

Use the ENTER key and the Number keys to enter a % value for Backwash Speed

Use the ENTER key and the Number keys to enter a % duration for Backwash time

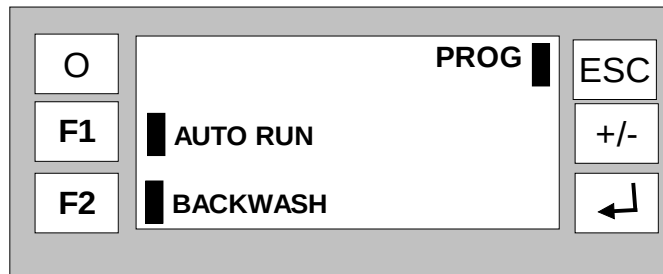
A screen display for selecting a mode. On the left, there are three buttons labeled 'O', 'F1', and 'F2'. On the right, there are three buttons labeled 'ESC', '+/-', and a left arrow. The central display area shows 'AUTO RUN MODE' and 'PROGRAM MODE' with black bars next to them.

Select AUTO RUN MODE to End Programming

Select PROGRAM MODE to return to Set Current Time

Eco-Flow - C and Aquatic Controller Operation

AUTO RUN MODE – Operator Screen

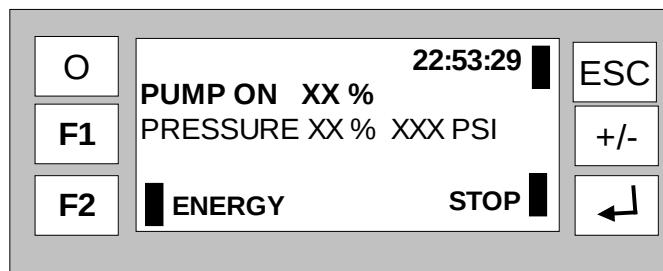
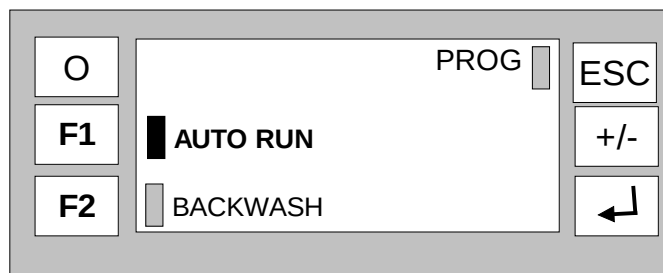


Select AUTO RUN to start the system in Auto Mode

Select Backwash to run the programmed Backwash Mode

(If No Backwash program was programmed then Backwash will not appear on the screen)

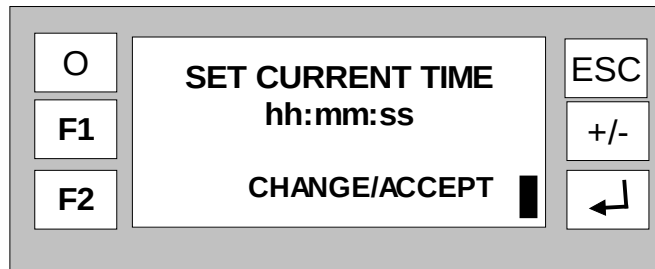
Press PROG to Enter Programming Mode (Password Required)



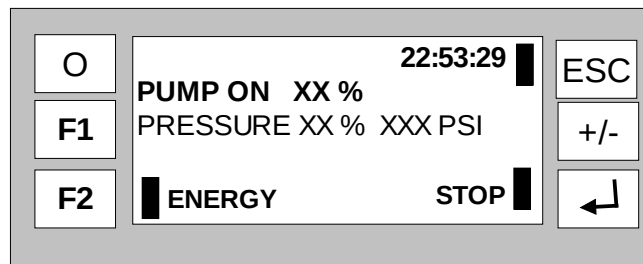
This is the screen shown when the Eco Flow C Controller is in the Auto Run Mode
If a transducer is installed the Pressure readings will appear

Changing the Display Time

Press ESC to change the current time (to adapt for Daylight Savings)

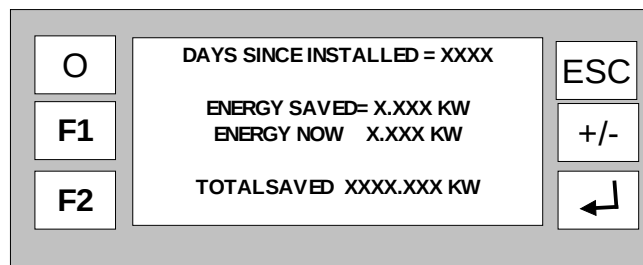


Using the CHANGE/ACCEPT key and the number keys enter the current time



Reviewing Saved Energy

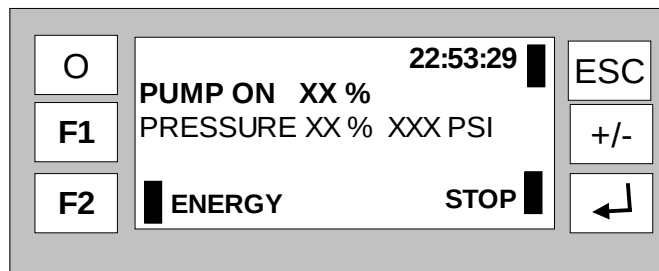
Press ENERGY to review Energy Savings



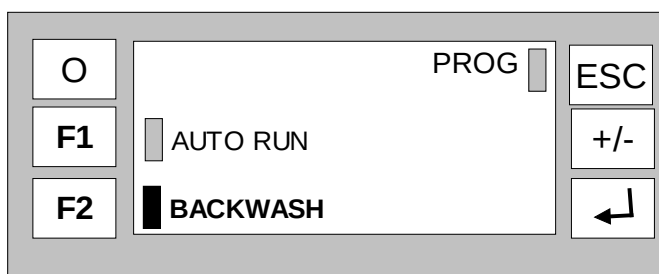
The above Screen will appear for 10 seconds

Stopping the Pump

Press STOP to stop the Pump

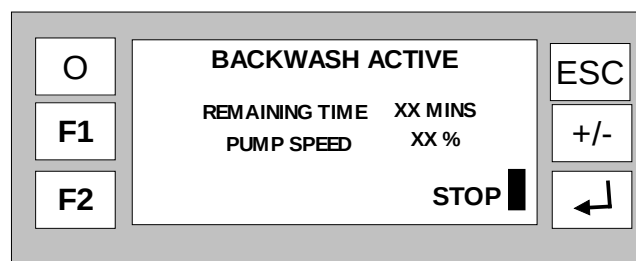


BACKWASH MODE

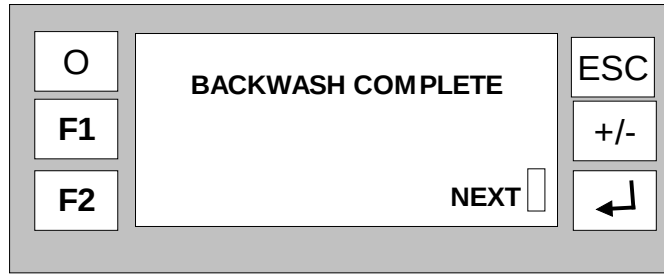


If during the system start up a Backwash Program was programmed than BACKWASH will appear on the display when the pump is stopped.

To run the Backwash Program press BACKWASH



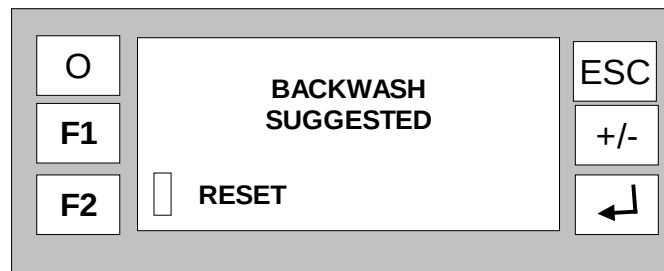
The REMAINING TIME value will count down, at the completion of the timer or if STOP is pressed the pump will stop



If the Backwash Timer times out then the above display will be shown.
Press NEXT to return to the Operator Screen

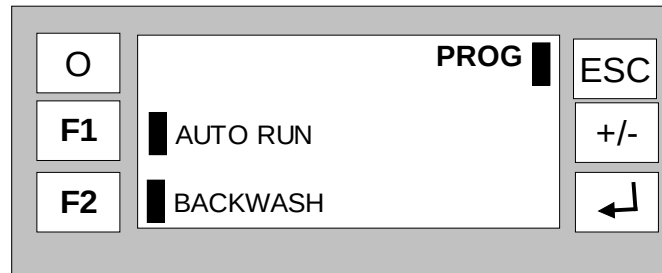
Backwash Warning

If the Eco Flow C is using a transducer for Constant Flow Control and the pump runs at the maximum speed programmed to maintain constant flow then it is likely that the filter requires cleaning. The following warning screen will appear if while in constant flow control the pump runs at the maximum speed for 1 hour



Press REST to accept the Alarm

Changing Programmed Values



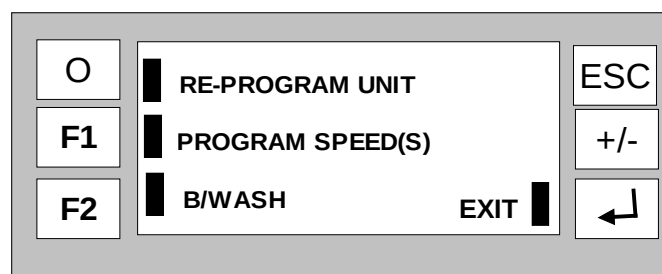
Press PROG



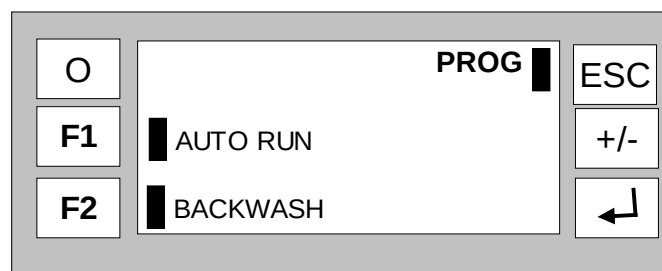
Using the ENTER/ACCEPT key and the Number keys enter the Password 6535

Note: If the password does not work, contact your Eco Flow C supplier

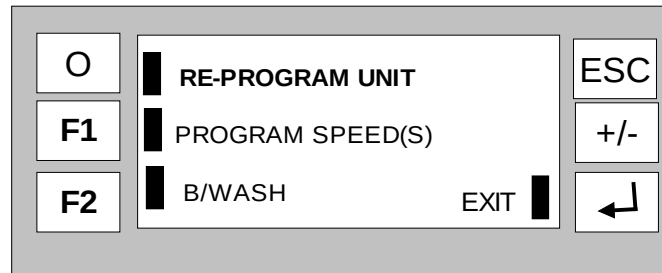
This screen will revert back to the Operator Screen after 15 seconds



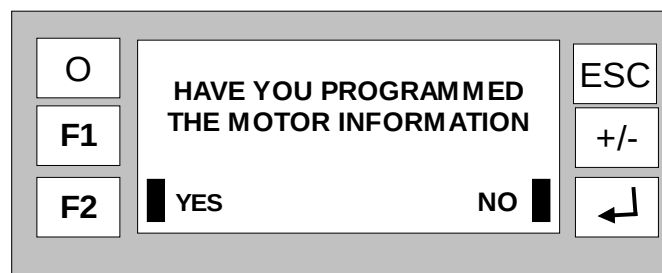
Press EXIT to Return to Operator Screen



RE-PROGRAM UNIT

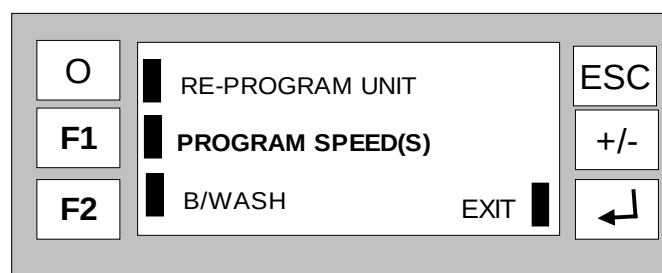


Select RE-PROGRAM UNIT to enter the full program wizard to allow you to reprogram all aspects of the Eco-Flow C Aquatic Controller



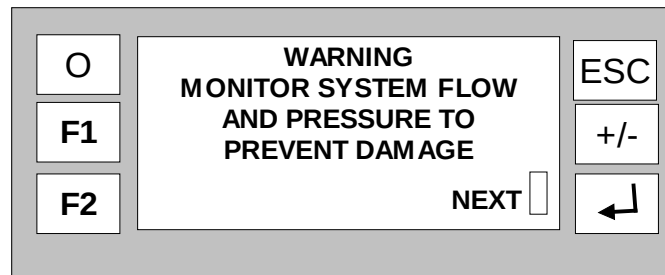
This is the first display shown. Refer to Programming an un-programmed unit

PROGRAM SPEED(S)

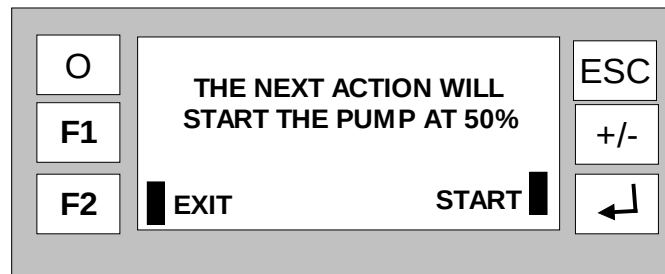


Select REPROGRAM SPEED(S) to enter a manual mode where the pump can be started manually and the speed can be adjusted manually.

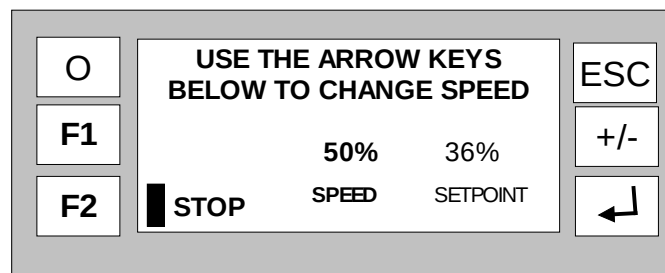
The new speed can be saved as either a fixed speed or a max speed for constant flow if desired



Read and select NEXT



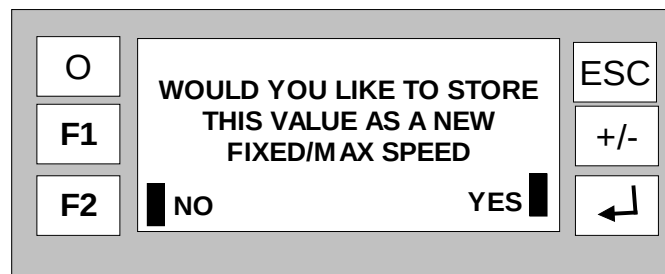
To start the pump at 50% Speed press START



Use the UP and DOWN Arrow keys to increase/ decrease the motor speed. Monitor the system flow rate on a flow meter until the correct flow rate for your system is achieved

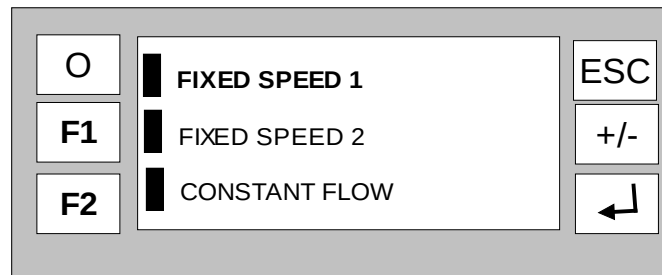
If a transducer is installed for constant flow a % value will appear for SETPOINT

Press STOP when the correct flow rate has been achieved



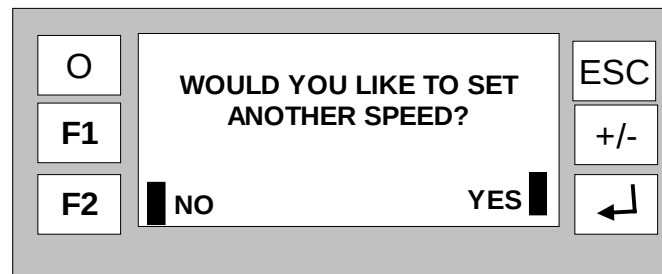
Select YES to store the new speed

Select NO to return to the Operator Screen



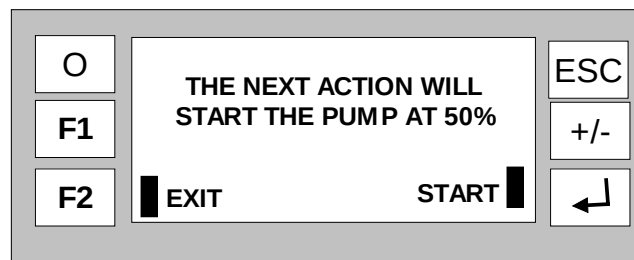
Select which speed you would like to store the new speed as

Note: Depending on the initial programming of the unit Fixed Speed 2 and/or Constant Flow may not appear and the next screen will be the Operator Screen

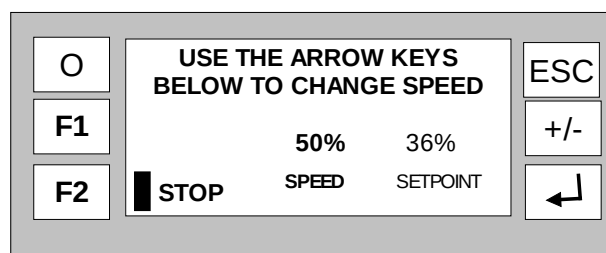


Select YES to set another speed

Select NO to return to the Operator Screen



To start the pump at 50% Speed press START



Use the UP and DOWN Arrow keys to increase/ decrease the motor speed. Monitor the system flow rate on a flow meter until the correct flow rate for your system is achieved

O	WOULD YOU LIKE TO STORE THIS VALUE AS A NEW FIXED/MAX SPEED █ NO YES █	ESC
F1		+/-
F2		↩

Select YES to store the new speed

Select NO to return to the Operator Screen

O	█ FIXED SPEED 1 █ FIXED SPEED 2 █ CONSTANT FLOW	ESC
F1		+/-
F2		↩

If a Transducer is installed CONSTANT FLOW will appear on the screen. If you want to set a new Max Speed for Constant flow press CONSTANT FLOW

O	CONSTANT FLOW █ MAXIMUM SPEED █ NIGHTIME FIXED SPEED	ESC
F1		+/-
F2		↩

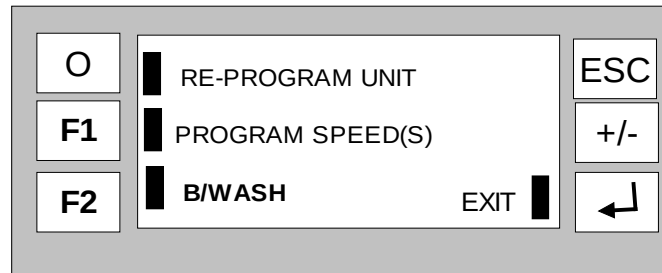
Select the speed that you would like to change

O	WOULD YOU LIKE TO SET ANOTHER SPEED? █ NO YES █	ESC
F1		+/-
F2		↩

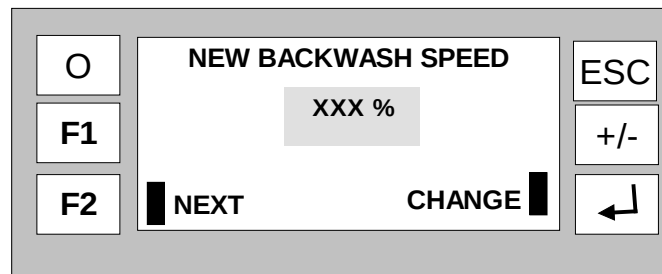
Select YES to set another speed

Select NO to return to the Operator Screen

B/WASH

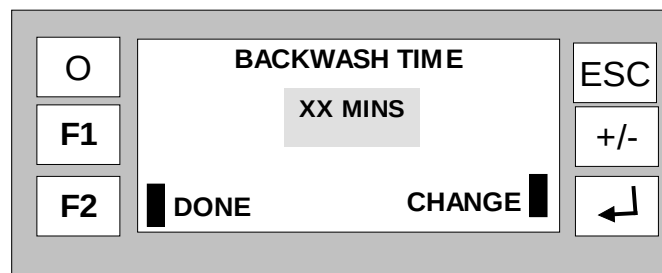


To change Values for Backwash press B/WASH



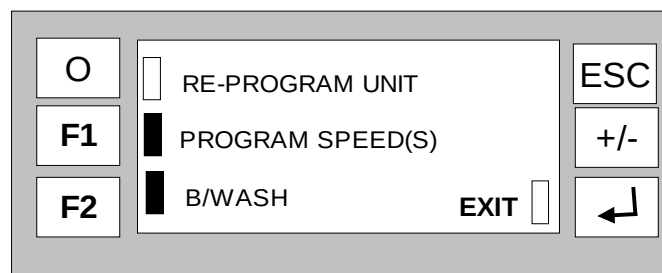
Use the CHANGE key and the Number keys to enter a new Backwash Speed

Press NEXT



Use the CHANGE key and the Number keys to enter a new Backwash Duration

Press DONE



Press EXIT to return to the Operator Screen

