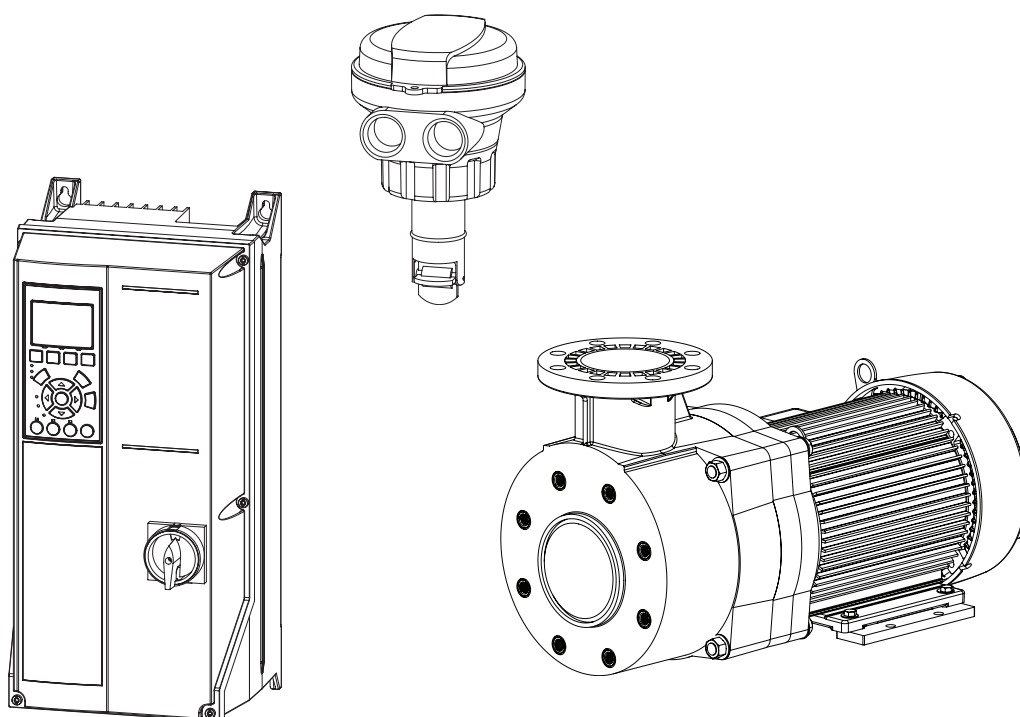**PENTAIR**

AQUATIC ECO-SYSTEMS™

VERUS™ PUMP
WITH CONSTANT FLOW TECHNOLOGY

USER'S GUIDE

IMPORTANT SAFETY INSTRUCTIONS
READ AND FOLLOW ALL INSTRUCTIONS
SAVE THESE INSTRUCTIONS

IMPORTANT WARNING AND SAFETY INSTRUCTIONS

Important Notice:

This guide provides general installation and operation instructions for the Verus™ Pump with Constant Flow Technology. Please refer to the Verus 850 Pump Installation and User's Guide (P/N 351671), the Signet 2537 Paddlewheel Flowmeter Manual and the VLT Aqua Drive FC 202 Instruction Manual for specific information regarding the installation and operation of individual pump components.
Consult Pentair Aquatic Eco-Systems™ with any questions regarding this equipment.

Attention Installer: This guide contains important information about the installation, operation and safe use of this product. This information should be given to the owner and/or operator of this equipment after installation or left on or near the pump. This pump is for use for aquaculture installations ONLY. Do not use with any type of swimming pool, hot tub, or spa.
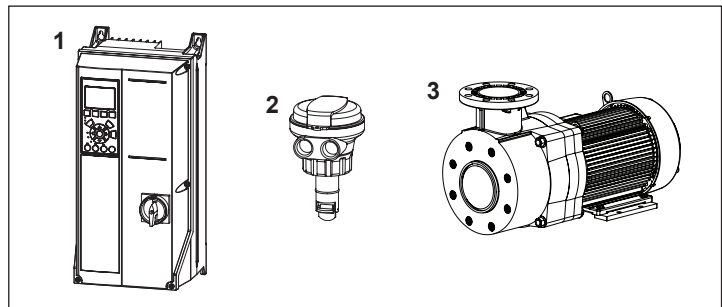
Attention User: This manual contains important information that will help you in operating and maintaining this pump. Please retain it for future reference. This pump is for use for aquaculture installations ONLY. Do not use with any type of swimming pool, hot tub, or spa.

⚠ **WARNING** Before installing this product, read and follow all warning notices and instructions which are included. Failure to follow safety warnings and instructions can result in severe injury, death, or property damage. Call (877) 347-4788 (US) or (407) 866-3939 (INT) for additional free copies of these instructions.

Components

1. Constant Flow Drive (CFD)
2. Flow Meter
3. Verus 850 Aquaculture Duty Pump

Wiring the Flow Meter to the Constant Flow Drive

Install the flow meter in accordance with the flow meter instructions provided with this product, then wire the flow meter to the drive according to the instructions below:

1. Strip the outer flow meter wiring insulation as far as needed from the intended point of connection.
2. Strip the inner flow meter wiring insulation back 3/8 in. (9.5 mm) from the intended point of connection, exposing two separate wire leads.
3. Break the outer flow meter wiring insulation 3 in. (2.5 cm) from the point of connection, exposing the ground shielding. Install the exposed ground shielding into the grounding springs. See **Figure 1**.
4. The flow meter wiring connection will consist of a brown lead and a white lead. Connect the brown lead to wiring terminal 12. Connect the white lead to wiring terminal 54.
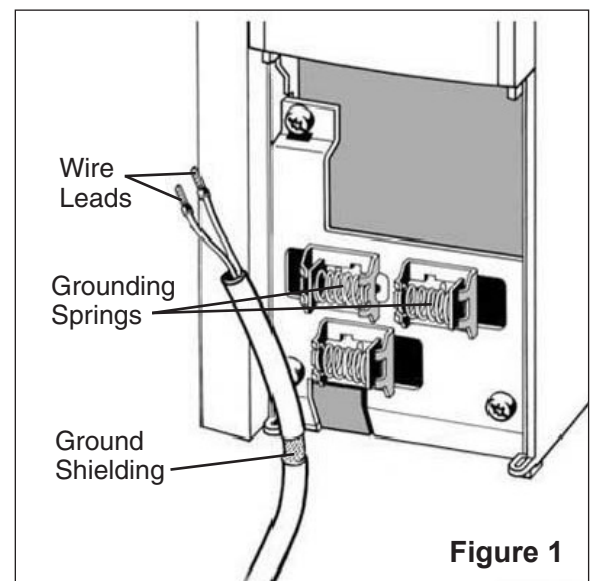

Wire Leads
Grounding Springs
Ground Shielding

Figure 1

Programming Flow Set Point

Programming Flow Set Point:

1. Press **Quick Menu**.
2. Press **OK** to select *My Personal Menu*.
3. Press **OK** to program Flow Set Point.
4. Use the **Left** or **Right** arrows to scroll between units. Use the **Up** or **Down** arrows to change a selected unit.
5. Press **OK** to save the settings.
6. Press **Auto On** to activate the system or **Status** to return to the home screen. Continue to step 7 for instructions on programming multiple flow rates.

Selecting Active Set-up:

7. Press **Quick Menu.**
8. Press **OK** to select *My Personal Menu*.
9. Use the **Up** or **Down** arrows to scroll to parameter set 0-11, *Programming Setup.* Press **OK** to select.
10. Use the **Up** or **Down** arrows to scroll to *Set-up 1* or *Set-up 2.* Press **OK** to save active set-up selection.

Programming Setup-1 or Setup-2 Flow Rate:

11. Press **Quick Menu**.
12. Press **OK** to select *My Personal Menu.*
13. Use the **Up** or **Down** arrows to scroll to parameter set *20-21 Setpoint 1*. Press **OK** to program.
14. Use the **Left** and **Right** arrows to switch between units, and use the **Up** or **Down** arrows to change the unit values.
15. Press **OK** to save settings.

Setting Run-time Parameters:

16. Press **Quick Menu**.
17. Press **OK** to select *My Personal Menu.*

ON TIME

18. Use the **Up** or **Down** arrows to scroll to parameter 23-00, *On Time*. Press **OK** to program.
19. Press **OK** to select *[0] Timed Action 1.*
20. Use the **Left** and **Right** arrows to switch between units, and use the **Up** or **Down** arrows to change the unit values.
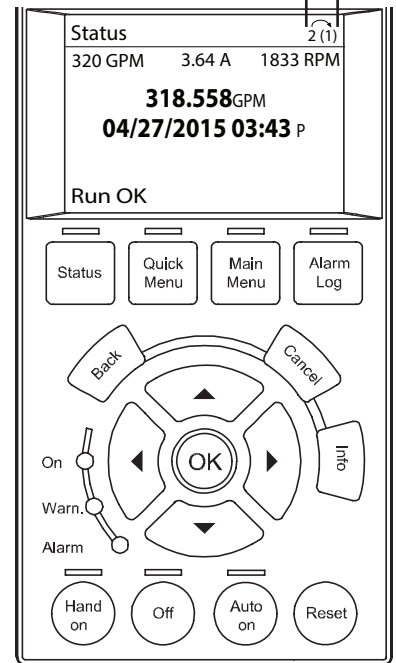21. Press **OK** to save settings.

OFF TIME

22. Press **Back** twice to return to *My Personal Menu.* Then press **OK** to select.
23. Use the **Up** or **Down** arrows to scroll to parameter 23-02, *Off Time*. Press **OK** to program.
24. Press **OK** to select *[0] Timed Action 1.*
25. Use the **Left** and **Right** arrows to switch between units, and use the **Up** or **Down** arrows to change the unit values.
26. Press **OK** to save settings.

OCCURRENCE

27. Press **Back** twice to return to *My Personal Menu.* Then press **OK** to select.
28. Use the **Up** or **Down** arrows to scroll to parameter 23-04, *Occurrence.* Press **OK** to program.
29. Press **OK** to select *[0] Timed Action 1*
30. Use the **Left** and **Right** arrows to switch between units, and use the **Up** or **Down** arrows to change the unit values.
31. Press **OK** to save settings.
32. Press **Status** to return to the home screen.

"2" = Active Setup (Value of 1 or 2)
"(1)" = Programming Setup (Value of 1 or 2)

Status   2 (1)
320 GPM   3.64 A   1833 RPM

318.558GPM
04/27/2015 03:43 P

Run OK

Status   Quick Menu   Main Menu   Alarm Log

Back   Cancel

On   Warn.   Alarm

OK   Info

Hand on   Off   Auto on   Reset

Cleaning the Flow Meter

It is recommended that the flow meter be inspected and cleaned once every thirty (30) days. The drive will display a "Flow Meter Error" alert at the end of this thirty day period (see **Figure 2**). Below are instructions for cleaning the flow meter and clearing the drive Flow Meter Error alert.

Cleaning Procedure:

1. Remove the locking nut that secures the flow meter in place with counterclockwise turns.

2. Remove the flow meter from the PVC saddle.

3. Clean the paddle wheel (see **Figure 3**) located at the bottom of the flow meter.

⚠ CAUTION	Use minimally abrasive material to carefully wipe any debris from the paddle wheel. Use of overly abrasive cleaning materials can damage the paddle wheel.

4. Insert the flow meter into its PVC saddle.

5. Tighten down the locking nut.

Clearing the Flow Meter Error:

1. Press **Quick Menu**.

2. Press **OK** to select *My Personal Menu*.

3. Use the **Up** or **Down** arrows to scroll to parameter set 23-15, *Reset Maintenance Word*. Press **OK** to select.

4. Use the **Up** or **Down** arrows to scroll to "*1-Do Reset*". Press **OK** to reset timers and clear the flow meter error alert.

   Note: The thirty (30) day period between flow meter error alerts will now be restarted.

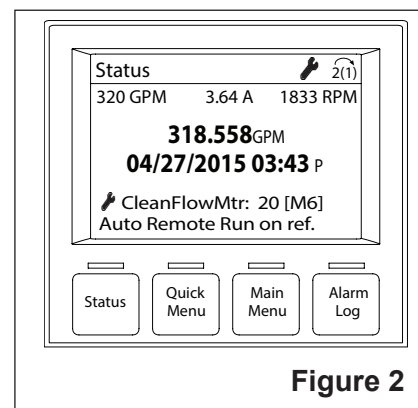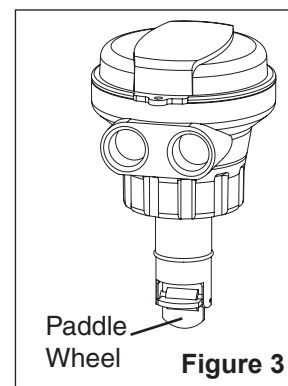5. Press **Status** to return to the home screen.

Figure 2

Status display showing:
Status   🔧 2(1)
320 GPM   3.64 A   1833 RPM
318.558GPM
04/27/2015 03:43 P
🔧 CleanFlowMtr: 20 [M6]
Auto Remote Run on ref.

Status | Quick Menu | Main Menu | Alarm Log

Paddle Wheel   **Figure 3**

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