

IntelliFlo® Pump Demo Kiosk

Operation and Set Up Instructions



Pre-Installed Live Pump Demo



Demo Kiosk Technical Support

For questions about the demo kiosk set up or for additional copies of this manual, please use the following contact information:

Thermal Solutions, Inc.

1074 Classic Drive
Apex, NC 27539

Phone: (919) 362-4575 (8 A.M. to 5 P.M. ET)

Email: thermalsol@mindspring.com

Software downloads available at:

<http://www.thermal-solutions.com/customerdata/pentair/PumpDaqSetupUS/>.

Go to page 11 for instructions on how to install the latest software version.

Technical Support for IntelliFlo® Operation

If you have questions about Pentair Water Pool and Spa ("Pentair") IntelliFlo® pump operation, please use the following contact information:

Sanford, North Carolina (8 A.M. to 5 P.M. ET)

Phone: (919) 566-8000

Fax: (919) 566-8920

Moorpark, California (8 A.M. to 5 P.M. PT)

Phone: (805) 553-5000 (Ext. 5591)

Fax: (805) 553-5515

Web site:




visit www.pentairpool.com or www.staritepool.com

IMPORTANT WARNING AND SAFETY INSTRUCTIONS

READ AND FOLLOW ALL INSTRUCTIONS SAVE THESE INSTRUCTIONS

Attention Installer: This manual 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. Additional copies of this manual are available at: <http://www.thermal-solutions.com/customerdata/pentair/Kiosk%20Instructions/>

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. When installing and using this electrical equipment, basic safety precautions should always be followed, including the following:

-  **WARNING** Always disconnect power to the pump at the circuit breaker and disconnect the communication cable before servicing the pump. Failure to do so could result in death or serious injury to service people, users or others due to electric shock. Read all servicing instructions before working on the pump.
-  **WARNING** To reduce the risk of injury, service should only be performed by a qualified service professional. To reduce the risk of injury, do not permit children to use this product.
-  **WARNING** DO NOT open the strainer pot if pump fails to prime or if pump has been operating without water in the strainer pot. Pumps operated in these circumstances may experience a buildup of vapor pressure and may contain scalding hot water. Opening the pump may cause serious personal injury. In order to avoid the possibility of personal injury, make sure the suction and discharge valves are open and strainer pot temperature is cool to touch, then open with extreme caution

IMPORTANT! READ BEFORE TURNING ON THE PUMP

The pump can draw up to 3000 watts of power during priming and start up (typical 120V 20 Amp circuit is limited to 1800 watts maximum). Check to be sure the pump watt and power usage does not exceed the rated capacity of the electrical outlet.

For continued, safe operation, **set the pump's maximum speed prior to operation. The pump should not run on a high speed for an extended length of time.** Refer to the IntelliFlo® installation and user's guide for instructions on how to set the pump's maximum speed.

© 2012 Pentair Water Pool and Spa, Inc. All rights reserved.

1620 Hawkins Ave., Sanford, NC 27330 • (919) 566-8000
10951 West Los Angeles Ave., Moorpark, CA 93021 • (805) 553-5000

This document is subject to change without notice.

IntelliFlo® and Pentair Water Pool and Spa® are trademarks and/or registered trademarks of Pentair Water Pool and Spa, Inc. and/or its affiliated companies in the United States and/or other countries. Unless noted, names and brands of others that may be used in this document are not used to indicate an affiliation or endorsement between the proprietors of these names and brands and Pentair Water Pool and Spa, Inc. Those names and brands may be the trademarks or registered trademarks of those parties or others.

Table of Contents

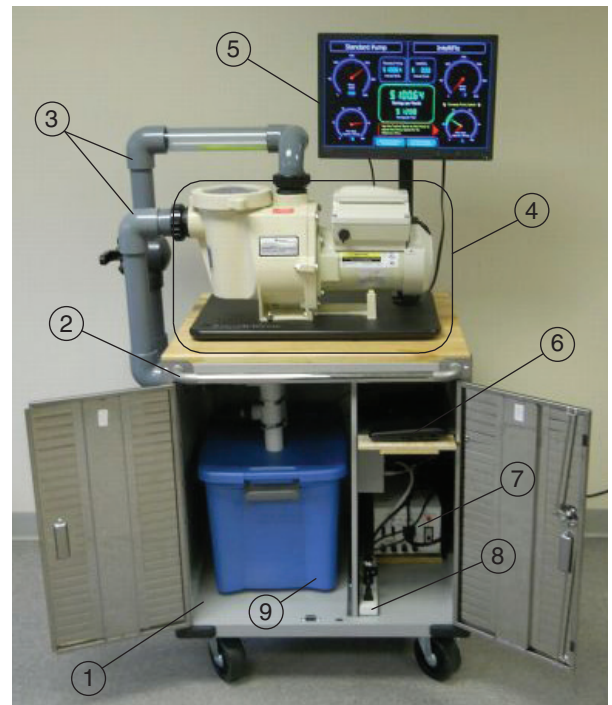
Important Warning and Safety Instructions	i	LCD Monitor	8
Shipping Contents	1	Connecting Laptop Computer	8
Quick Reference Guide: Connection Diagram	2	Setting up Wireless Mouse	8
Cabinet Set Up	3	Pressure Tube Set (Optional)	9
Front Handle Installation	3	Finished Demo Unit	9
Base Cabinet and Pump Module Assembly	3	Start Up and Operation	10
Connecting Pump to Power Supply	3	Water Fill and Priming	10
Installing the Piping	4	Start Up Sequence	10
Gray PVC Suction and Discharge	4	Purging Pressure Sensing Hoses	11
White PVC Suction and Discharge	5	Computer Program Operation	11
Flexible Coupling Connections	5	Using the Computer Program	12
Installing Electronics Equipment	6	Troubleshooting	14
Connection Diagram	6	Pump and Computer Operation	14
120V/240V A/C Transformer	7	Draining the Pump	14

Shipping Contents

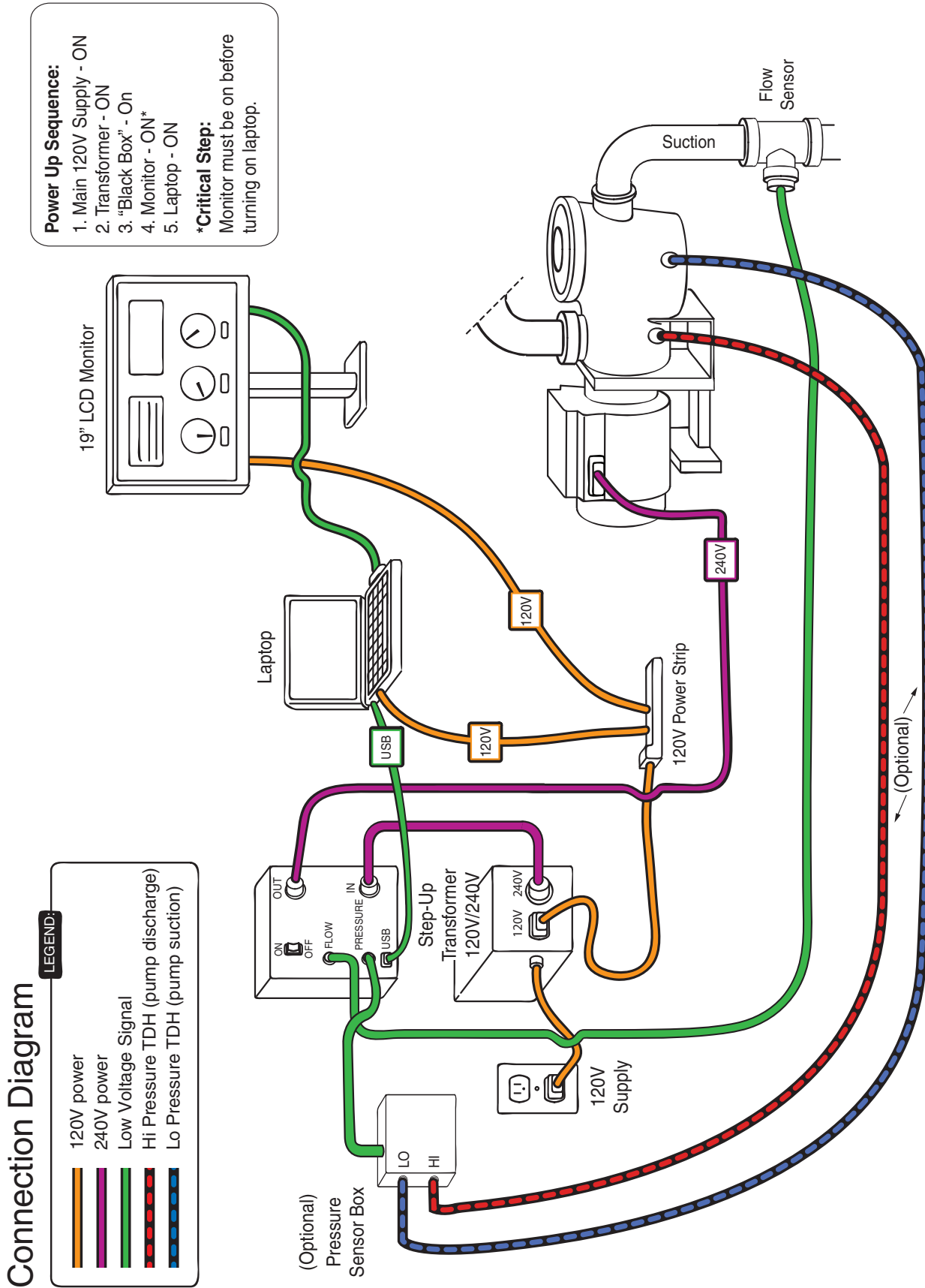
Required tools: Tools that will be required to complete the KIOSK Demo Unit assembly (not included with kit) are a 5/16" nut driver and a medium-tip (#2) Phillips head screw driver.

Before starting assembly, please inspect and verify all individual items and hardware listed below are included.

- 1 Base Cabinet
 - DAQ-202 Black Box Unit
 - A/C Ventilation Fan
- 2 Cabinet Front Handle
- 3 Piping Set
 - Discharge Piping w/ Integrated Valve (2)
 - Suction Piping w/ Integrated Flow Sensor & Cable (2)
 - Flexible Coupling Adapters (2)
 - Diffusers (2)
- 4 Pump Module Assembly w/ Pump
 - IntelliFlo Pump mounted on board
 - Threaded union adapters on pump
 - LCD Monitor Stand
- 5 19" LCD Monitor and Cables
- 6 PC Laptop and Cables
- 7 120V/240V "Step Up" Transformer
- 8 A/C Power Strip
- 9 10 Gallon Water Tub w/ Lid



Quick Reference Guide: Connection Diagram



Cabinet Set Up



Base Cabinet and Pump Module Assembly

Unpack the cabinet and place close to the designated final location. Be sure to leave room for the front door to open and close for normal service access.

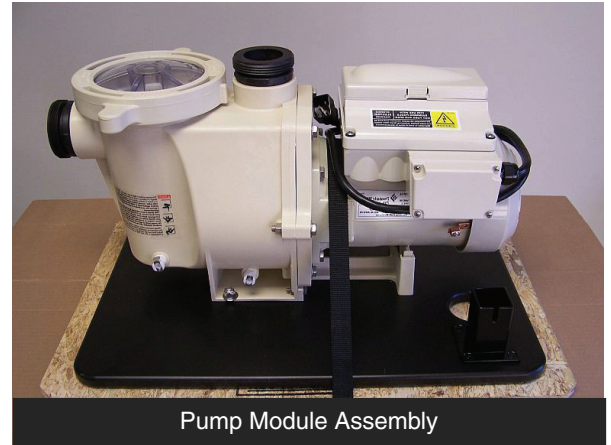
The following items come installed in the cabinet:

- Cabinet cooling fan
- DAQ-202 “BLACK BOX” Unit

Remove the pump module assembly from the plywood, remove the shipping strap, and place on top of the cabinet. The black mounting board has 5 rubber feet to grip to the cabinet surface.

The pump module assembly includes:

- IntelliFlo pump
- Threaded union adapters (attached to pump)
- Pump mounted on mounting board
- LCD monitor stand
- Power cord



Front Handle Assembly

Using a Philips head screw driver, attach the front handle to the cabinet with the screws provided. See image to the right.



Connecting the Pump to the Power Supply

1. Route the pump power cord down through the opening in the pump mounting board, into the cabinet computer shelf area and down through the opening at the back of the shelf.
2. Plug the 3-Prong connector into the socket labeled “PUMP IN” on the DAQ-202 “Black Box” Unit.



Installing the Piping



Installing Gray PVC Piping (Outside Cabinet)

Suction Section

1. Before installing, find the **gray gasket** and install into the pipe flange.
2. Place the lower end of the Pipe into Hole #1.
3. Connect to the front threaded union adapter of the pump.



TIP:
Be sure flanges of union and gasket are flush *before* tightening the union nut.

Discharge Section w/ Flow Valve

1. Locate the large **clear gasket** and install into the available recess on the pipe flange end; flange must align (see picture).
 2. Locate and install (may already be installed) the Tassel Flow Assembly into the clear pipe end of the assembly.
 3. Start by placing the tasselled end into the opening and continue by pushing into the pipe until the metal ring is flush out inside the gasket (see picture).
 4. Shake the pipe slightly to allow the tassels to be visible inside the clear section of piping.
 5. Place the bottom end of the pipe into Hole #2.
 6. Connect to the top threaded union adapter on the pump. Tighten the union nut securely, be sure pipe is centred in Hole #2.
- **Note:** Be sure gaskets do not fall off during assembly of discharge and suction pipes - the pump will leak.





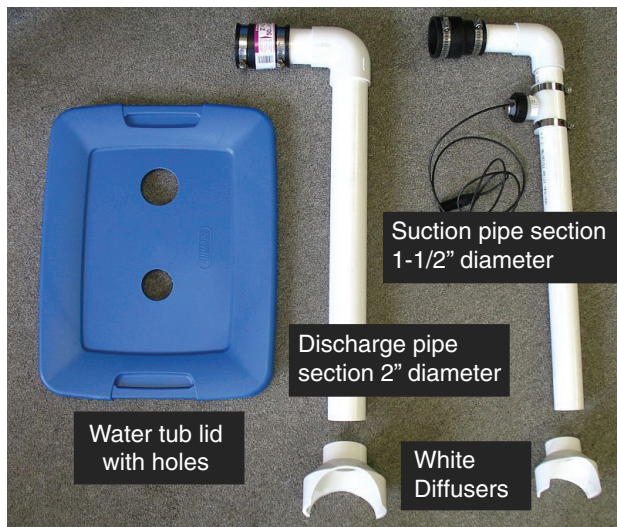
Installing White PVC Piping (Inside Cabinet)

Discharge Foot Section

1. Install the lower end through the corresponding 2" Diameter opening in the top water tub by feeding the leg down through the top lid openings.
2. Install the large white diffuser onto the bottom end of the pipe.

Suction Foot Section

1. Install the lower pipe end through the corresponding 1-1/2" diameter opening in the top of the water bucket by feeding the leg down through the lid openings.
2. Install the small white diffuser onto the bottom end of the pipe. Do not glue the diffusers. The diffusers will need to be removed if cleaning or replacing the water tub.
3. Slide the water tub, lid, and pipes into the open area on the left side of the kiosk cabinet with the 1 1/2" suction pipe section facing toward the front.



Flexible Coupling Connections

1. Install both ends of the coupling connections onto corresponding white PVC and gray PVC piping.
2. Align each pipe to be sure pipe ends are flush. Tighten with a 5/16" nut driver. (Do not over-tighten; clamps may strip and possibly cause leaking).
3. Route the flow sensor connector through the divider wall, and plug into the DAQ-202 "Black Box".



Installing the Electronics Equipment



Connection Diagram

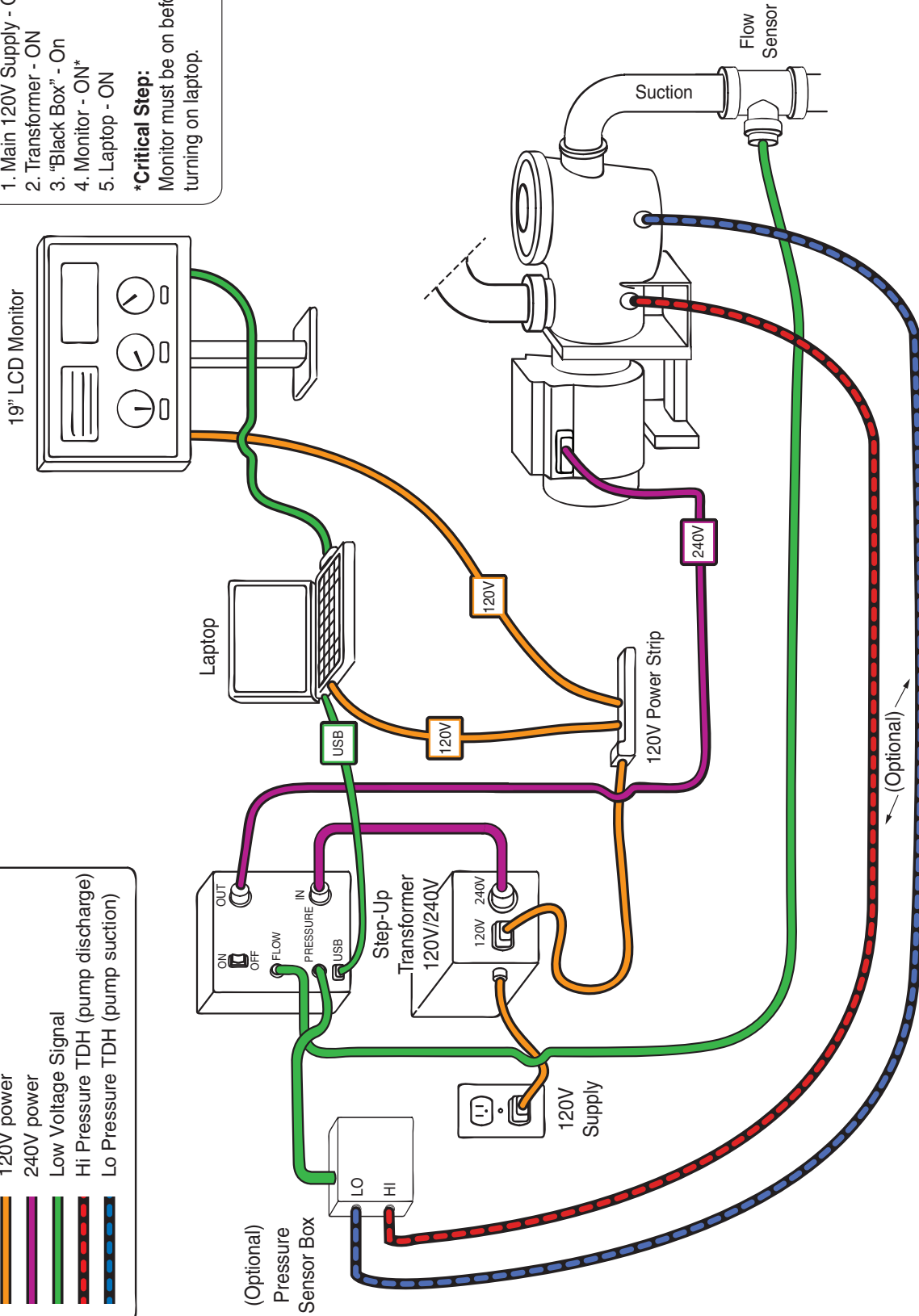
LEGEND:

- 120V power
- 240V power
- Low Voltage Signal
- Hi Pressure TDH (pump discharge)
- Lo Pressure TDH (pump suction)

Power Up Sequence:

1. Main 120V Supply - ON
2. Transformer - ON
3. "Black Box" - On
4. Monitor - ON*
5. Laptop - ON

***Critical Step:**
Monitor must be on before turning on laptop.





120V/240V A/C Step-Up Transformer

The kiosk transformer should be the only equipment connected to the outside of the kiosk. It should connect to a 20 amp circuit.

1. Be sure the voltage “tap-plug” selector to the 110V on the back of the transformer voltage is in the 110V position.
2. The external power cord may be routed through the 2” diameter opening located in the back wall of the cabinet.
3. The transformer “Power On” switch should be facing the front of the cabinet. Plug A/C power strip into the left-hand side 110V socket of the Step-Up Transformer.
4. Plug the 12 gauge power cord into the 220V socket Plug the other end into the DAQ-202 “black box”; at the “line in” socket (be sure the on/off switch on the DAQ-202 is in the OFF position).





LCD Monitor

1. Connect the monitor power cord and video cable, as shown in the picture below.
2. Use the (2) supplied Velcro straps to route the wires along the monitor stand and down into the top of the cabinet.
3. Route the power cord and video cable down through the hole in the pump board, and plug into laptop computer.
4. Route the monitor A/C power cord through the opening in the back of the computer shelf, and plug into the A/C power strip at the bottom of the cabinet.



Connect to Laptop Computer and DAQ-202 “Black Box” Unit

(The Pentair Pump Demonstration Software and companion Cost Comparison Calculator is an installed application available via the Windows Desktop Icon)

1. Install the A/C power cord w/ adapter into the computer. Connect the monitor video cable. Then plug the USB into the laptop.
2. Route the A/C Power adapter cord through the opening at the back of the top shelf and plug into the A/C power strip.
3. Plug the USB into the laptop and the black box unit.
4. Place the computer into the cabinet on the upper right shelf. Do not turn on the computer. Follow the start up sequence on page 16.



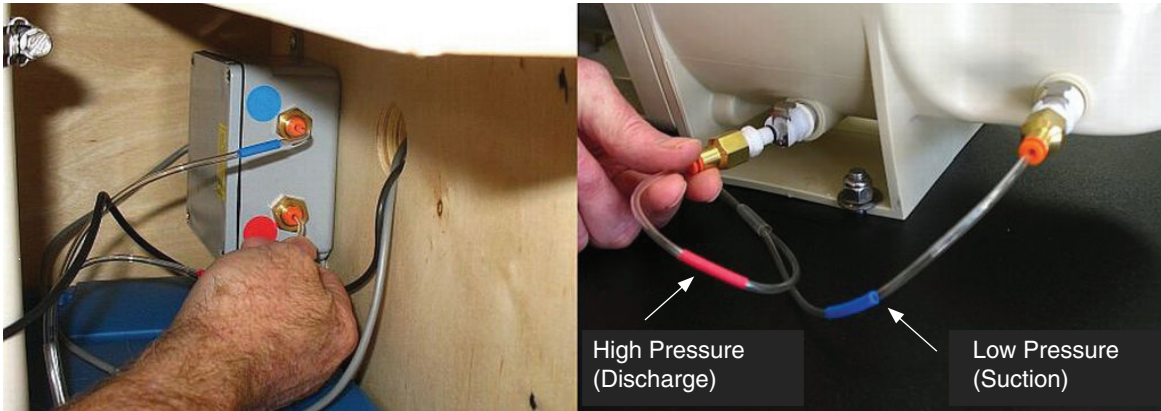
Setting up the Wireless Mouse

1. Be sure to plug in USB adapter for wireless mouse. The adapter may be located inside the mouse for shipping.
2. The ON/OFF switch is located on the bottom of the mouse.



Pressure Tube Set (Included with optional Pressure Sensor Unit)

1. Install the tube ends into the corresponding marked connections (orange flanged adapters) on the pressure sensor box, as shown below.
2. Route the pressure tube quick disconnect ends through the opening in the cabinet divider wall and up through the pump board.
3. Connect to the pump by pushing the quick release metal tabs on the connectors at the pump when installing the tube ends.
4. **RED** end goes to the HIGH pressure connector (discharge).
BLUE goes to the LOW pressure connector (suction).



IMPORTANT!

Note: When connecting sensor tubing to Pressure Sensor Box Unit, insert tubing into orange flanged adapter, then push firmly another 1/4" until tube "bottoms out" in the socket to prevent leakage.

Note: To disconnect – slide orange shoulder flange back while pulling on tube.

Finished Demo Unit



Start Up and Operation



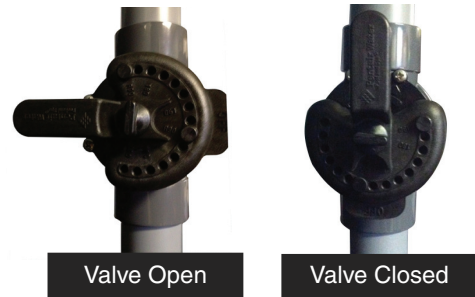
Water Fill and Priming



DO NOT ADD ADDITIONAL WATER AFTER THE INITIAL START-UP.

Water in pipes could drain downward and cause an overflow into the water tub and cabinet.

1. Be sure the Flow Valve on discharge piping is OPEN (lever 90° to pipe).
2. Add water to the system by removing the top lid of the pump and filling the pump stainer basket with water.
3. Add water until the water level in the tub is 2" to 3" from the top lip. Securely fasten the lid after the tub is full.
4. Check the water level periodically - water can evaporate over time. Be sure the water level in the tub is at least half full.



Start Up Sequence

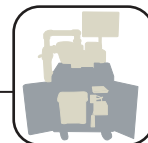
IMPORTANT! READ BEFORE TURNING ON THE PUMP

Pump can draw up to 3000 watts of power during priming and start up (typical 120V 20 Amp circuit is limited to 1800 watts maximum). Check to be sure the pump watt and power usage does not exceed the rated capacity of the electrical outlet.

For continued, safe operation, **set the pump's maximum speed prior to operation. The pump should not run on a high speed for an extended length of time.**

Refer to the IntelliFlo® installation and user's manual for instructions on how to set the pump's maximum speed.

1. Switch ON the transformer (red light means power is on). Be sure switch on power strip is ON.
2. Switch the DAQ-202 "Black Box" Unit ON. The keypad will light up on the pump.
3. Be sure to read important instructions above. Turn the pump ON. (Press Stop/Start button on pump keypad). Look for any sign of leaking water. If this occurs, press the Stop/Start button to turn the pump off.
4. Look inside the kiosk and inspect flexible connections for leaks. If leaks are found, press the Stop/Start button on the pump keypad, tighten loose connections, and resume start up.
5. Turn the monitor ON (**Note:** Turn on monitor before turning on the computer).
6. Turn the wireless mouse ON.
7. Turn on computer. The computer should automatically boot up into pump start up screen. If LCD monitor screen does not display in full screen, verify screen settings are set to 1440 x 900. (See troubleshooting on page 18 for more information).



Purging the Pressure Sensing Hoses

(If pressure sensor box is installed)

1. Disconnect the high pressure (RED) tube to vent air out of line (use lower pump speed while bleeding the line).
2. Disconnect the low pressure (BLUE) tube, allowing air to flow through tube until dry (about 15 seconds).

Computer Program Operation

The computer shipped with this Kiosk Demo Unit has pre-installed software. To be sure you have the most updated software version, a flash drive with a software update may be included. The software version is listed in the bottom right corner of the program start up window. Follow the instructions below to install the software update, if applicable.

First uninstall the current version (to be sure you have latest software update):

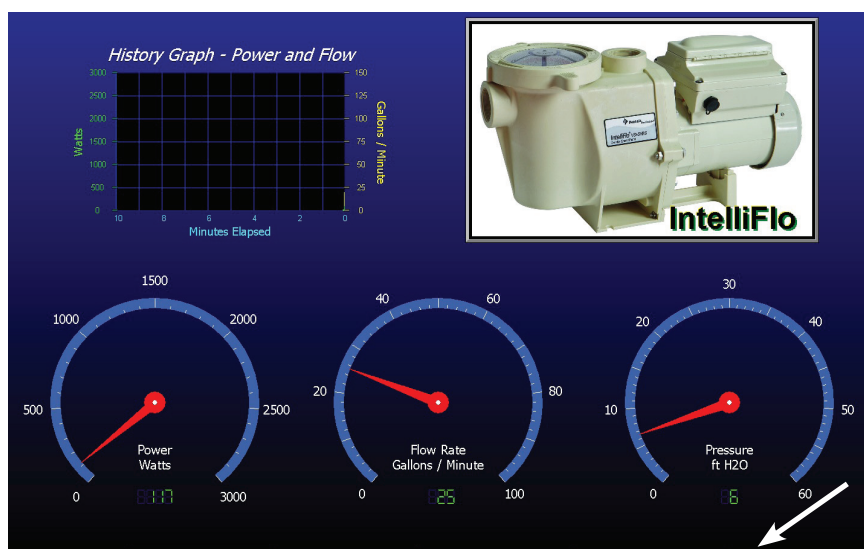
1. Click the 'Start' menu (lower right corner of tool bar) and click 'Control Panel'.
2. Select 'Programs and Features'.
3. Select "Pentair Pump Data Acquisition System" and click 'Uninstall' to uninstall the previous version.

To install and run the updated the program software:

1. Insert the flash drive into the laptop USB port.
2. Open the flash drive file from 'My Computer'.
3. Open file "DAQ Set Up (Version number)"
4. Follow the on-screen instructions to successfully install and run the program.
5. Open the "Pentair Pump Data Acquisition System" file to begin.

Using the Program

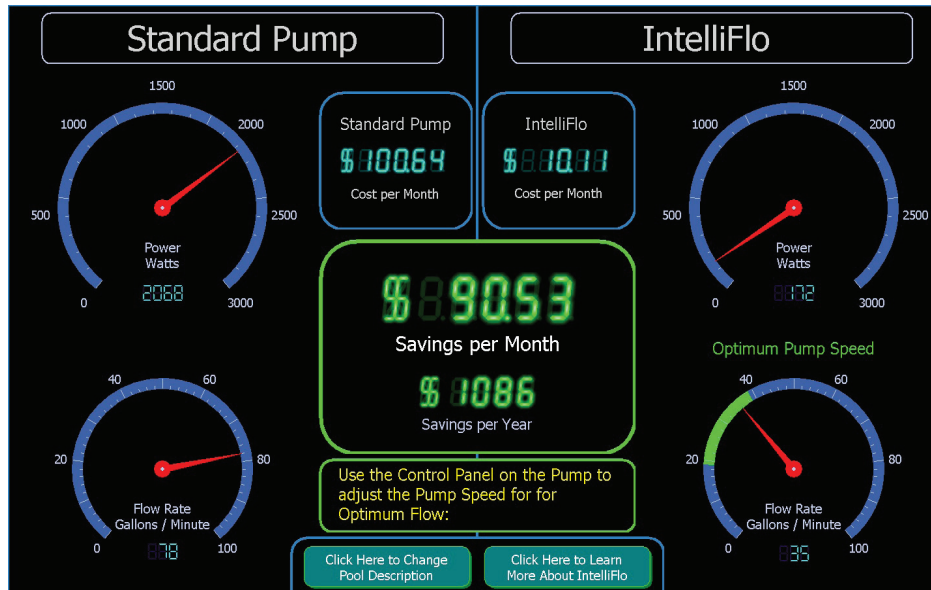
1. Open the "Pentair Pump Data Acquisition System" by clicking the Pentair icon on the desktop.
2. The "3 Meter Screen" (shown below) appears. To show screen options, move the mouse to the bottom of the screen. Click on the tabs to navigate the various screen options.





Using the Program, Continued

- Click on the Cost Comparison Calculator tab to view operating cost scenarios. The screen will show the energy savings for a Standard vs. IntelliFlo Variable Speed pump using the default values.



- To input your savings scenario, click "Click Here to Change Pool Description" and follow the on-screen instructions to customize your data. If pool size is unknown, follow the instructions to go to the "Pool Size Calculator" screen. Click "Click Here to Begin" to go to the Cost Comparison Calculator screen.

Cost Comparison Calculator

Step 1: Describe your Pool (Adjust sliders to change values) Click Here to Calculate Pool Volume from Shape

Pool Size (Gallons) = **20,000**

Pump Size (Horsepower) = **1.5**

Run Time (Hours per Day) = **10**

Pool Use (Months per Year) = **12**

Electricity Rate (\$/kWh) = **0.16**

Step 2: Compare the IntelliFlo Pump with your Current Pump

Using the IntelliFlo control panel, adjust the pump speed until the actual flow rate matches the optimum value calculated for your pool: Click Here to Begin

Pool Size Calculator

Step 1: Select Your Pool Shape:

Rectangular, Triangular, Circular, Oblong

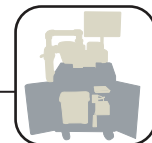
Step 2: Set the Dimensions (Adjust sliders to change values) Click Here When Done

Dimension A (feet) = **18**

Dimension B (feet) = **12**

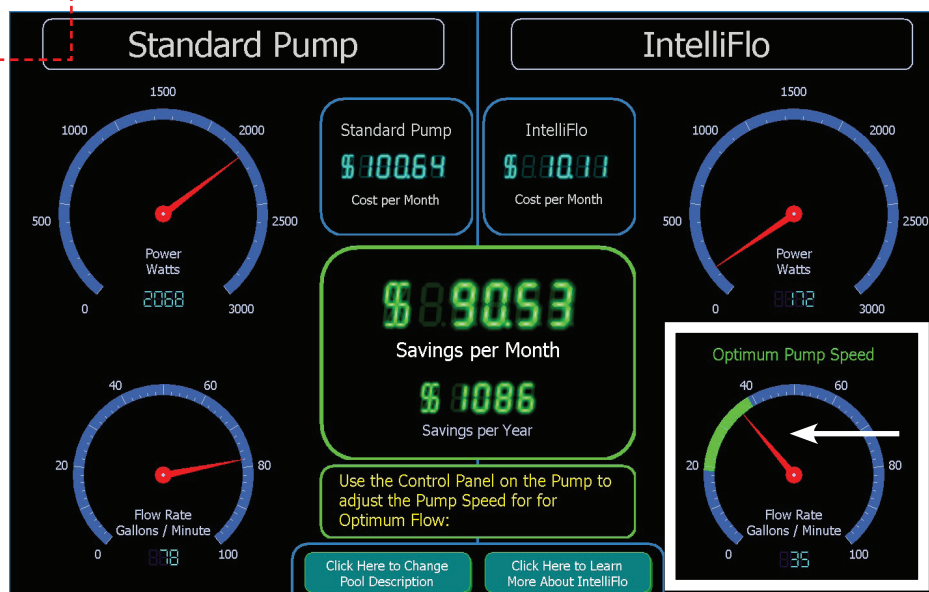
Shallow End Depth (feet) = **4.0**

Deep End Depth (feet) = **8.0**

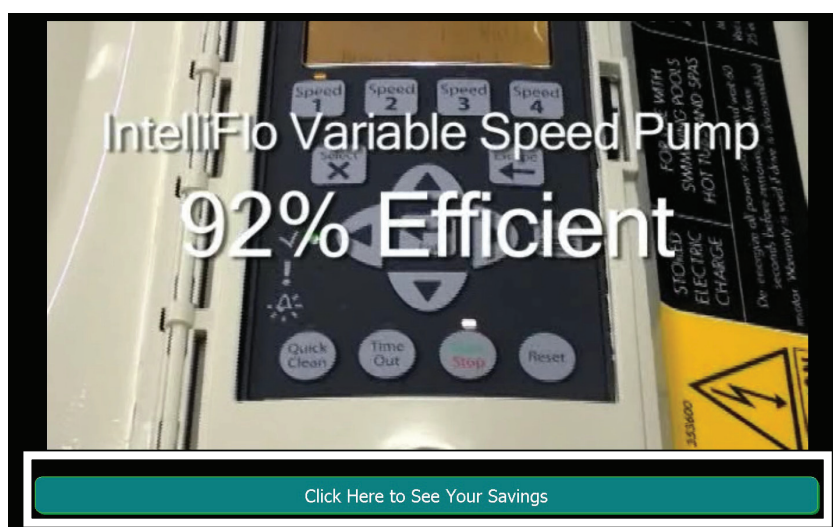


- The screen will show the energy savings for a Standard vs. IntelliFlo Variable Speed pump. Adjust the IntelliFlo pump speed until the flow rate needle is in the green “Optimum Pump Speed” zone - indicating an ideal flow rate for a 12 hour turn on the selected pool size.

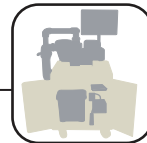
Right click
here to exit



- To exit this screen and return to the 3 Meters Screen, right click on the upper left corner of the screen.
- From the “3 Meter Screen”, there is also an informational video on the IntelliFlo. Click the “Play Video” tab to launch the video. To exit the video and return to the Cost Comparison Calculator, click the tab “Click Here to See Your Savings” at the bottom of the screen. To exit the program, right click on the bottom of the 3 Meter Screen and select EXIT.



Troubleshooting



Pump Operation

- Diffusers on feet, inside water bucket, must rest flat in tub to prevent stress on unions and possible leakage.
- When pump is running at very high speeds, water may splash excessively, especially during priming (to purge air within the piping and pump). Be sure to maintain water level in the tub to avoid splashing water in cabinet area.
- Be sure not to exceed the rated capacity of the electrical outlet. Refer to warning on page 15 for more information.
- If the pump lid is opened, and the water level in the tub is sufficiently high, there is a possibility that the water in the piping (4+ gallons) will drain into the tub and cause an overflow inside the cabinet.
- Be sure that a sufficient amount of water is removed from the water tub prior to opening the top lid (basket section) on the pump.
- Be sure to read and follow the start up sequence instructions carefully.

Computer Operation

- To keep presentation on monitor only (laptop a blank screen), press FN button and F8 key at same time.
- To keep presentation centered and focused, go to Control Panel; then click "Display". Click last tab settings and under screen resolution, set to 1440 x 900 resolution.
- To switch between Calculator and pool size selection screen, press "Alt" and "Shift" at the same time.
- Demo kiosk shipments may include a flash drive with the latest software update. Please follow the instructions on pages 11-13 to install and run the latest software version.

Periodically check the following web site to verify the most recent software version:

<http://www.thermal-solutions.com/customerdata/pentair/PumpDaqSetupUS/>.

Draining the Pump

1. **IMPORTANT:** before draining the pump, be sure that all the power to the demo kiosk is off
2. Loosen the pump "basket" section cover, this will allow the water in the upper piping to drain down into the water bucket section.
3. Place a bucket or other medium size container on the floor as close to front of the demo kiosk.
4. Place the open end of the drain hose assembly into the bucket.
5. Insert the other end ('white barb' fitting) into one of the quick disconnects on the front of the pump. Water will start flowing out of the pump and into the bucket.
6. When the water stops flowing, remove the drain hose by pressing on the metal clip on the quick disconnect.
7. Repeat this process on the other quick disconnect fitting.
8. When the water stops flowing, remove the drain hose assembly, draining is complete.
Note: There will be a small amount of water remaining in the bottom of the pump.



Drain tube assembly