IMPORTANT SAFETY INSTRUCTIONS
READ AND FOLLOW ALL INSTRUCTIONS
SAVE THESE INSTRUCTIONS

INSTALLATION AND USER’S GUIDE

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INTELLIFLO® and INTELLIPRO® Variable Speed Pump Installation and User’s Guide
IMPORTANT PUMP WARNING AND SAFETY INSTRUCTIONS

This guide provides installation and operation instructions for the IntelliFloXF® and IntelliProXF® Variable Speed Pumps. Consult Pentair 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.

Attention User: This manual contains important information that will help you in operating and maintaining this product. Please retain it for future reference.

READ AND FOLLOW ALL INSTRUCTIONS
SAVE THESE INSTRUCTIONS

This is the safety alert symbol. When you see this symbol on your system or in this manual, look for one of the following signal words and be alert to the potential for personal injury.

WARNING

WARNS ABOUT HAZARDS THAT CAN CAUSE DEATH, SERIOUS PERSONAL INJURY, OR MAJOR PROPERTY DAMAGE IF IGNORED.

CAUTION

WARNS ABOUT HAZARDS THAT MAY CAUSE DEATH, SERIOUS PERSONAL INJURY, OR MAJOR PROPERTY DAMAGE IF IGNORED.

NOTE

Indicates special instructions not related to hazards.

Carefully read and follow all safety instructions in this manual and on equipment. Keep safety labels in good condition; replace if missing or damaged.

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

WARNING

Do not permit children to use this product.

WARNING

RISK OF ELECTRICAL SHOCK. Connect only to a branch circuit protected by a ground-fault circuit-interrupter (GFCI). Contact a qualified electrician if you cannot verify that the circuit is protected by a GFCI.

WARNING

This unit must be connected only to a supply circuit that is protected by a ground-fault circuit-interrupter (GFCI). Such a GFCI should be provided by the installer and should be tested on a routine basis. To test the GFCI, push the test button. The GFCI should interrupt power. Push the reset button. Power should be restored. If the GFCI fails to operate in this manner, the GFCI is defective. If the GFCI interrupts power to the pump without the test button being pushed; a ground current is flowing, indicating the possibility of an electric shock. Do not use this pump. Disconnect the pump and have the problem corrected by a qualified service representative before using.

CAUTION

This pump is for use with permanent swimming pools and may also be used with hot tubs and spas if so marked. Do not use with storable pools. A permanently-installed pool is constructed in or on the ground or in a building such that it cannot be readily disassembled for storage. A storable pool is constructed so that it is capable of being readily disassembled for storage and reassembled to its original integrity.

General Warnings

• Never open the inside of the drive motor enclosure. There is a capacitor bank that holds a 230 VAC charge even when there is no power to the unit.
• The pump is not submersible.
• The pump is capable of high flow rates; use caution when installing and programming to limit pumps performance potential with old or questionable equipment.
• Code requirements for the electrical connection differ from state to state. Install equipment in accordance with the National Electrical Code and all applicable local codes and ordinances.
• Before servicing the pump; switch OFF power to the pump by disconnecting the main circuit to the pump.
• This appliance is not intended for use by persons (including children) of reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning the use of the appliance by a person responsible for their safety.

DANGER

FAILURE TO FOLLOW ALL INSTRUCTIONS AND WARNINGS CAN RESULT IN SERIOUS BODILY INJURY OR DEATH. THIS PUMP SHOULD BE INSTALLED AND SERVICED ONLY BY A QUALIFIED POOL SERVICE PROFESSIONAL. INSTALLERS, POOL OPERATORS AND OWNERS MUST READ THESE WARNINGS AND ALL INSTRUCTIONS IN THE OWNER’S MANUAL BEFORE USING THIS PUMP. THESE WARNINGS AND THE OWNER’S MANUAL MUST BE LEFT WITH THE POOL OWNER.

DANGER

SUCTION ENTRAPMENT HAZARD: STAY OFF THE MAIN DRAIN AND AWAY FROM ALL SUCTION OUTLETS!

This pump produces high levels of suction and creates a strong vacuum at the main drain at the bottom of the body of water. This suction is so strong that it can trap adults or children under water if they come in close proximity to a drain or a loose or broken drain cover or grate.

The use of unapproved covers or allowing use of the pool or spa when covers are missing, cracked or broken can result in body or limb entrapment, hair entanglement, body entrapment, evisceration and/or death.

The suction at a drain or outlet can cause:

Limb Entrapment: When a limb is sucked or inserted into an opening resulting in a mechanical bind or swelling. This hazard is present when a drain cover is missing, broken, loose, cracked or not properly secured.

Hair Entanglement: When the hair tangles or knots in the drain cover, trapping the swimmer underwater. This hazard is present when the flow rating of the cover is too small for the pump or pumps.

Body Entrapment: When a portion of the body is held against the drain cover trapping the swimmer underwater. This hazard is present when the drain cover is missing, broken or the cover flow rating is not high enough for the pump or pumps.

Evisceration/Disembowelment: When a person sits on an open pool (particularly a child wading pool) or spa outlet and suction is applied directly to the intestines, causing severe intestinal damage. This hazard is present when the drain cover is missing, loose, cracked, or not properly secured.
IMPORTANT PUMP WARNING AND SAFETY INSTRUCTIONS

Mechanical Entrapment: When jewelry, swimsuit, hair decorations, finger, toe or knuckle is caught in an opening of an outlet or drain cover. This hazard is present when the drain cover is missing, broken, loose, cracked, or not properly secured.

NOTE: ALL SUCTION PLUMBING MUST BE INSTALLED IN ACCORDANCE WITH THE LATEST NATIONAL AND LOCAL CODES, STANDARDS AND GUIDELINES.

**WARNING**

TO MINIMIZE THE RISK OF INJURY DUE TO SUCTION ENTRAPMENT HAZARD:

- A properly installed and secured ANSI/ASME A112.19.8 approved anti-entrapment suction cover must be used for each drain.
- Each suction cover must be installed at least three (3') feet apart, as measured from the nearest point to nearest point.
- Regularly inspect all covers for cracks, damage and advanced weathering.
- If a cover becomes loose, cracked, damaged, broken or is missing, replace with an appropriate certified cover.
- Replace drain covers as necessary. Drain covers deteriorate over time due to exposure to sunlight and weather.
- Avoid getting hair, limbs or body in close proximity to any suction cover, pool drain or outlet.
- Disable suction outlets or reconfigure into return inlets.

**WARNING**

A clearly labeled emergency shut-off switch for the pump must be in an easily accessible, obvious place. Make sure users know where it is and how to use it in case of emergency.

The Virginia Graeme Baker (VGB) Pool and Spa Safety Act creates new requirements for owners and operators of commercial swimming pools and spas. Commercial pools or spas constructed on or after December 19, 2008, shall utilize:

(A) A multiple main drain system without isolation capability with suction outlet covers that meet ASME/ANSI A112.19.8a Suction Fittings for Use in Swimming Pools, Wading Pools, Spas, and Hot Tubs and either:
   (ii) A properly designed and tested suction-limiting vent system or
   (iii) An automatic pump shut-off system.

Commercial pools and spas constructed prior to December 19, 2008, with a single submerged suction outlet shall use a suction outlet cover that meets ASME/ANSI A112.19.8a and either:

(A) A SVRS meeting ASME/ANSI A112.19.17 and/or ASTM F2387, or
(B) A properly designed and tested suction-limiting vent system, or
(C) An automatic pump shut-off system, or
(D) Disabled submerged outlets, or
(E) Suction outlets shall be reconfigured into return inlets.

For Installation of Electrical Controls at Equipment Pad (ON/OFF Switches, Timers and Automation Load Center)

**CAUTION**

Install all electrical controls at equipment pad, such as on/off switches, timers, and control systems, etc. to allow the operation (startup, shut-down, or servicing) of any pump or filter so the user does not place any portion of his/her body over or near the pump strainer lid, filter lid or valve closures. This installation should allow the user enough space to stand clear of the filter and pump during system start-up, shut down or servicing of the system filter.

**DANGER**

HAZARDOUS PRESSURE: STAND CLEAR OF PUMP AND FILTER DURING START UP

Circulation systems operate under high pressure. When any part of the circulating system (i.e. locking ring, pump, filter, valves, etc.) is serviced, air can enter the system and become pressurized. Pressurized air can cause the pump housing cover, filter lid, and valves to violently separate which can result in severe personal injury or death. Filter tank lid and strainer cover must be properly secured to prevent violent separation. Stand clear of all circulation system equipment when turning on or starting up pump.

Before servicing equipment, make note of the filter pressure. Be sure that all controls are set to ensure the system cannot inadvertently start during service. Turn off all power to the pump. **IMPORTANT:** Place filter manual air relief valve in the open position and wait for all pressure in the system to be relieved.

Before starting the system, fully open the manual air relief valve and place all system valves in the “open” position to allow water to flow freely from the tank and back to the tank. Stand clear of all equipment and start the pump.

**IMPORTANT:** Do not close filter manual air relief valve until all pressure has been discharged from the valve and a steady stream of water appears. Observe filter pressure gauge and be sure it is not higher than the pre-service condition.

General Installation Information

- All work must be performed by a qualified service professional, and must conform to all national, state, and local codes.
- Install to provide drainage of compartment for electrical components.
- These instructions contain information for a variety of pump models and therefore some instructions may not apply to a specific model. All models are intended for use in swimming pool applications. The pump will function correctly only if it is properly sized to the specific application and properly installed.

**WARNING**

Pumps improperly sized or installed or used in applications other than for which the pump was intended can result in severe personal injury or death. These risks may include but not be limited to electric shock, fire, flooding, suction entrapment or severe injury or property damage caused by a structural failure of the pump or other system component.

**WARNING**

The pump can produce high levels of suction within the suction side of the plumbing system. These high levels of suction can pose a risk if a person comes within the close proximity of the suction openings. A person can be seriously injured by this high level of vacuum or may become trapped and drowned. It is absolutely critical that the suction plumbing be installed in accordance with the latest national and local codes for swimming pools.

Warnings and safety instructions for Pentair Aquatic Systems pumps and other related products are available at: http://www.pentairpool.com/pool-owner/safety-warnings/ or call (800) 831-7133 for additional free copies of these instructions.

Please refer to http://www.pentairpool.com/pool-owner/safetywarnings/ for warning and safety instructions related to the this product.

SAVE THESE INSTRUCTIONS
The IntelliFlo® and IntelliPro® Variable Speed Pump can be programmed to run at specific speeds and time intervals for maximum operating efficiency and energy conservation for in-ground pools.

- The pump can operate from 450 RPM to 3450 RPM with four preset speeds of 750, 1500, 2350 and 3110 RPM
- The pump can be adjusted from the control panel to run at any speed between 450 RPM to 3450 RPM for different applications
- Up to 8 programmable speeds
- Pump control panel alarm LED and error messages warn the user against under and over voltage, high temperature, over current and freeze protection
- Communicates with EasyTouch®, IntelliTouch®, or SunTouch® Control Systems or IntelliComm® Communication Center via a two-wire RS-485 cable connection
- Self-priming for easy start-up
- Totally enclosed fan-cooled (TEFC) motor design
- UL/CUL/NSF

**Union Adapter Installation**

Installing the locking union onto the pump:

1. Glue the PVC union adapter fitting to the PVC pipe. The adapter accepts 2.5" PVC pipe internally or a 3" PVC coupling externally.
   **Note:** Be sure that the groove for the retainer ring is on the end opposite your glue joint.
2. Slip the nut onto the fitting.
3. Place the flat side of the retainer ring against the adapter on the grooved end.
4. Gently flex the locking clip union nut retainer ring into its place in the groove on the adapter.
5. Start snapping it in at one end of the ring and work your way around.
   The tab features should point out away from the nut and the glue joint towards the sealing surface.
6. Slide the nut over the ring and attach it to the pump.
INSTALLATION

Only a qualified plumbing professional should install the IntelliFloXF® and IntelliProXF® Variable Speed Pumps. Refer to “Pump Warning And Safety Instructions” on pages ii - iv for additional installation and safety information.

Location

Be sure the pump location meets the following requirements:

Note: Do not install this pump within an outer enclosure or beneath the skirt of a hot tub or spa unless marked accordingly.

1. Install the pump as close to the pool or spa as possible. To reduce friction loss and improve efficiency, use short, direct suction and return piping.
2. Install a minimum of 5 feet (1.52 meters) from the inside wall of the pool and spa. Canadian installations require a minimum of 9.8 feet (3 meters) from the inside wall of the pool.
3. Install the pump a minimum of 3 feet (.9 meters) from the heater outlet.
4. Do not install the pump more than 10 feet (3 meters) above the water level.
5. Install the pump in a well ventilated location protected from excess moisture (i.e. rain gutter downspouts, sprinklers, etc.).
6. Install the pump with a rear clearance of at least 3 inches (7.6 cm) so that the motor can be removed easily for maintenance and repair.

Piping

1. For improved pool plumbing, it is recommended to use a larger pipe size. When installing the inlet and outlet fittings (male adaptors), use thread sealant.
2. Piping on the suction side of the pump should be the same or larger than the return line diameter.
3. Plumbing on the suction side of the pump should be as short as possible.
4. It is recommended that a valve, elbow or tee installed in the suction line should be no closer to the front of the pump than five (5) times the suction line pipe diameter.

Example:
A 2.5 inch pipe requires a 12.5 inch (31.8 cm) straight run in front of the suction inlet of the pump. This will help the pump prime faster and last longer.

Fittings and Valves

1. Do not install 90° elbows directly into pump inlet.
2. Flooded suction systems should have gate valves installed on suction and discharge pipes for maintenance, however, the suction gate valve should be no closer than five times the suction pipe diameter as described in this section.
3. Use a check valve in the discharge line when using this pump for any application where there is significant height to the plumbing after the pump.
4. Be sure to install check valves when plumbing in parallel with another pump. This helps prevent reverse rotation of the impeller and motor.

Electrical

• Install all equipment in accordance with the National Electrical Code and all applicable local codes and ordinances.
• A means for disconnection must be incorporated in the fixed wiring in accordance with the wiring rules.
To connect the pump to an AC power source:

1. Be sure all electrical breakers and switches are turned off before wiring motor.

2. Be sure that the supply line voltage matches the motor voltage listed on the motor plate (example 230 VAC or 115 VAC). If they do not match, permanent motor damage may occur.

3. For wiring sizes and general guidelines for proper electrical installation, please follow the specifications defined in the National Electric Code and any local codes as required.

4. Use strain relief and be sure all electrical connections are clean and tight.

5. Cut the wires to the appropriate length so they do not overlap or touch when connected.

6. Permanently ground the motor using the green ground wire. Use the correct wire size and type specified by National Electrical Code. Make sure the ground wire is connected to an electrical service ground.

7. Bond the motor to the pool structure in accordance with the National Electrical Code. Use a solid copper bonding conductor not smaller than 8 AWG. Run a wire from the external bonding screw or lug to the pool bonding structure.

8. Connect the wire from the accessible bonding lug on the motor to all metal parts of the swimming pool, spa, or hot tub structure and to all electrical equipment, metal conduit, and metal piping within 5 feet (1.52 meters) of the inside walls of the swimming pool, spa, or hot tub. For Canada, a 6 AWG or larger solid copper bonding conductor is required.

9. The pump should be permanently connected to either a circuit breaker, 2-pole timer or 2-pole relay. If AC power is supplied by a GFCI circuit breaker, use a dedicated circuit breaker that has no other electrical loads.

10. **IMPORTANT:** When connecting the pump to an automation system (IntelliTouch®, EasyTouch®, SunTouch® Control Systems and IntelliComm® Communication Centers), continuous power must be supplied to the pump by connecting it directly to the circuit breaker. When using an automation system, be sure that no other lights or appliances are on the same circuit.

**Note:** When the pump is started and stopped by removing power with a relay or timer, a two-pole device should be used to apply and remove power to both POWER LINE TERMINALS.

**Pentair offers 2-Pole 20 Amp GFCI breakers (P/N PA220GF) which offer 6 milliamp personnel protection while meeting 2008 to current NEC Standards for Pool Pumps.**
OPPERATING THE PUMP

NOTE: Speed 1 is the default filtration speed. When setting up the INTELLIFLO® Variable Speed Pump, the user must set the pump’s internal clock and establish an operation schedule by following the steps in this manual. Please refer to user’s guide sections: ‘Set Time’ (page 8) and ‘Set Speeds 1-8 in Schedule Mode’ (page 12) to schedule a time to run the pump.

This pump is shipped with Priming mode ENABLED. Unless the Priming settings are changed in the menu, be aware that the pump will speed up to the maximum speed when the pump is powered on for the first time, and the start/stop button is pressed. To change the maximum speed of the pump, refer to page 9.

Before turning the pump ON, be sure the following conditions are met:
1. Open filter air relief valve.
2. Open valves.
3. Pool return is completely open and clear of any blockages.
4. Water in the pump basket.
5. Stand clear of the filter or other pressurized vessels.

Priming the Pump

Prime the pump before starting the pump for the first time. To avoid permanent damage to the pump, remove the lid and fill the basket with water. The pump basket must be filled with water before initial start up or after servicing.

Follow the steps below to prime the pump for start up:
1. Press Start/Stop to stop the pump. Disconnect the pump main power supply and communication cable.
2. Close all gate valves in suction and discharge pipes. Relieve all pressure from the system.
3. Remove the pump lid and locking ring.
4. Fill the pump strainer pot with water.
5. Reassemble the pump lid and locking ring onto the strainer basket. The pump is now ready to prime.
6. Open the filter air relief valve and stand clear of the filter.
7. Connect power to the pump. Be sure green power light is on.
8. Press Start/Stop to start the pump. The pump will enter into priming mode (if enabled) and speed up to the maximum speed set in the pump menu settings.
9. When water comes out of the filter air relief valve, close the valve. The system should now be free of air and recirculating water to and from the pool.
10. Do not allow your pump to run longer than 30 minutes time without developing full flow. If the pump does not prime, check your priming settings on the control panel or see the “Troubleshooting” section on pages 24-25.

DO NOT run the pump dry. If the pump is run dry, the mechanical seal will be damaged and the pump will start leaking. If this occurs, the damaged seal must be replaced. ALWAYS maintain proper water level in your pool (half way up skimmer opening). If the water level falls below the skimmer opening, the pump will draw air through the skimmer, losing the prime and causing the pump to run dry, resulting in a damaged seal. Continued operation in this manner could cause a loss of pressure, resulting in damage to the pump case, impeller and seal and may cause property damage and personal injury.

Priming Features

The default priming setting is ENABLED.
The pump also allows you to set the following from the operator control panel:
- Maximum priming time
- Maximum and Minimum speed
- Priming sensitivity (1-100%)
- Priming delay

Set up instructions on page 14.
Using the Operator Control Panel

Use the operator control panel to start and stop the IntelliFloXF® Variable Speed Pump, program, set, and change speeds (RPM), and access pump features and settings.

Controls and LEDs on Key Pad

1. **Speed 1**: Press to select Speed 1 (750 RPM). LED on indicates Speed 1 is active.
2. **Speed 2**: Press to select Speed 2 (1500 RPM). LED on indicates Speed 2 is active.
3. **Speed 3**: Press to select Speed 3 (2350 RPM). LED on indicates Speed 3 is active.
4. **Speed 4**: Press to select Speed 4 (3110 RPM). LED on indicates Speed 4 is active.
5. **Select**: Press to select the currently displayed option on the screen.
6. **Escape**: Goes one step back in menu; exits without saving current setting.
7. **Menu**: Accesses the menu items when and if the pump is stopped.
8. **Enter**: Saves current menu item setting. Press this button to acknowledge alarms and warning alerts.
9. **Arrow buttons**:
   - **Up arrow**: Move one level up in the menu or increase a digit when editing a setting.
   - **Down arrow**: Move one level down in the menu or decrease a digit when editing a setting.
   - **Left arrow**: Move cursor left one digit when editing a setting.
   - **Right arrow**: Move cursor right one digit when editing a setting.
10. **Quick Clean**: Pump ramps up to higher RPM for vacuuming, cleaning, adding chemicals, and after a storm for extra skimmer power. LED light is on when active.
11. **Time Out**: Pump is not running on preset schedule. This can be used to allow newly glued pipe joints time to dry before circulation of water starts. LED is on when active.
12. **Start/Stop button**: To start or stop the pump. When LED is on, the pump is running or in a mode to start automatically.
13. **Reset button**: Reset alarm or alert.
14. **LEDs**:
   - **On**: Green light when pump is powered on.
   - **Warning**: On if warning condition is present.
   - **Alarm**: Red LED on if alarm condition occurs. See “Alerts and Warnings” on page 23.
15. **Control Panel LCD Screen**:
   - **Line 1**: Key icon indicates password protect mode is active. If password protect is not enabled, no key icon is displayed. Also shows current time of day.
   - **Line 2**: Displays current pump speed (RPM).
   - **Line 3**: Countdown time and watts
   - **Line 4**: Current pump status and current feature.
Stopping and Starting the Pump

Starting the Pump
1. Be sure the IntelliFloXF® Variable Speed Pump is powered on and the green power LED is on.
2. Select one of the speed buttons, then press the Start/Stop button (LED on) to start the pump. The pump will go into priming mode if priming feature is enabled.

Stopping the Pump
1. Press Start/Stop to stop the pump.
When servicing equipment (filters, heaters, chlorinators etc.), disconnect the communication cable, and switch OFF circuit breaker to remove power from the pump.

Note: The pump can automatically restart if the communication cable is connected.

To Adjust and Save a Pump Speed
1. While the pump is running, press the Up or Down arrow to adjust to desired speed setting.
2. Press and hold down a Speed button (1-4) for three (3) seconds to save speed to the button or press Enter to save the speed.

Operating the Pump at Preset Speeds
The pump is programmed with four default speeds of 750, 1500, 2350 and 3110 RPM. Speed buttons 1-4 are for each of the preset speeds.
1. Be sure the pump is powered on and the green power LED is on.
2. Press the Speed button (1-4) corresponding to the desired preset speed and release quickly. The LED above the button will turn on.
3. Press Start/Stop. The pump will quickly change to the selected preset speed.

Pump Operating Modes
The pumps can be programmed in three different modes: Manual, Schedule, and Egg Timer.

Speeds 1-4 can be programmed in all three modes. Speeds 5-8 can only be programmed in Schedule mode since there are no buttons on the control panel for Speeds 5-8. The default setting for Speeds 5-8 is “Disabled”.

To operate in Manual mode, press one of the four speed buttons and then press Start/Stop. The pump will run the assigned speed for that speed button.

To operate in Egg Timer mode, press a speed button and then press Start/Stop. The pump will run that speed for the set amount of time and then turn off.

3. Schedule: Program speeds 1-8 start and stop at a specific time during a 24 hour period. Speeds programmed in Schedule mode will override any manually selected speed (speeds set by manually pressing any of the speed buttons on the control panel).

Control Panel Language
The default language is English.
1. Check that the green power LED is on.
2. Press Menu and press Select to select “Settings”.
3. Use the Up or Down arrows and scroll to “Language”.
4. Press Select. Press Select again to highlight current language in use.
5. Press Enter to select the control panel language. To cancel any changes, press Escape to exit without saving.
6. Press Escape to exit.
Operator Control Panel: Pump Menu Guide

Press MENU button to access menus

**SETTINGS** (pages 8-10)

- **Pump Address**
  - (1-16) Default: ADDRESS 1

- **Set Time**
  - (hr:mm) Default: 12:00 AM

- **Set AM/PM**
  - AM/PM 24 hr.

- **Temperature Unit**
  - Fahrenheit - Default: °F
  - °C Celsius

- **Screen Contrast**
  - (1-5) Default: 3

- **Language**
  - English - Default: English
  - Français
  - Español
  - Nederlands
  - Italiano
  - Deutsch
  - Português

- **Set Min Speed**
  - (450 RPM - 1700 RPM) - Default: 450 RPM

- **Set Max Speed**
  - (1900 RPM - 3450 RPM) - Default: 3450 RPM

- **PASSWORD**
  - Disabled/Enabled - Default: Disabled
  - Password Time Out (1 min. - 6 hours) Default: 10 minutes
  - Enter Password (xxxx) Default: 1234

**SPEED 1-8** (pages 11-12)

- **Speed 1 (1-4)**
  - Manual
  - Schedule
  - Set Speed - Default: MANUAL
  - Set Speed
  - Set Start Time
  - Set Stop Time
  - Egg Timer
  - Set Speed
  - Time

- **Speed 5 (5-8)**
  - Disabled
  - Default: Disabled
  - Schedule
  - Set Speed
  - Set Start Time
  - Set Stop Time

**EXT CONTROL** (page 12)

- **Program 1**
  - Speed - Default: 750 RPM

- **Program 2**
  - Speed - Default: 1500 RPM

- **Program 3**
  - Speed - Default: 2350 RPM

- **Program 4**
  - Speed - Default: 3110 RPM

**FEATURES** (page 13)

- **Time Out**
  - Time Out Duration (1 min. to 10 hrs.) Default: 3 hours

- **Quick Clean**
  - Set Speed (450 - 3450 RPM) Default: 3450 RPM
  - Time (1 min. to 10 hrs.) Default: 10 minutes

**PRIMING** (pages 13-15)

- **DISABLED/ENABLED**
  - Default: Enabled

- **MAX PRIMING TIME**
  - (1 min. to 30 min.) Default: 11 minutes

- **PRIMED SENSITIVITY**
  - (1 - 100%) Default: 1

- **PRIMING DELAY**
  - (1 second - 10 minutes) Default: 20 seconds

**ANTI FREEZE** (page 16)

- **DISABLED/ENABLED**
  - Disabled / Enabled - Default: Enabled

- **SET SPEED**
  - Set Speed (450 RPM - 3450 RPM) Default: 1000 RPM

- **PUMP TEMPERATURE**
  - 40° F - 50° F (4.4° C - 10° C) Default: 40° F (4.4° C)
Set Temperature Unit
The default setting is Fahrenheit (°F). The pump can be set to either Celsius (°C) or Fahrenheit (°F). The Anti Freeze protection feature (see page 16) can be set to either Fahrenheit or Celsius.

1. Check that the green power LED is on.
2. Press Menu.
3. Press Select to select “Settings”.
4. Use the Up or Down arrows to scroll to “Temperature Units”.
5. Press Select to change the setting.
6. Press Enter to save. To cancel any changes, press Escape to exit without saving.
7. Press Escape to exit.

Set AM/PM or 24 Clock
To change the time from a 12 hour clock (AM/PM) to a 24 hour clock:
1. Press Menu.
2. Press Select to select “Settings”.
3. Use the Up or Down arrows to scroll to “AM/PM.”
4. Press Select to change the setting.
5. Press Up or Down arrows to choose between 24 hr. and AM/PM.
6. Press Enter to save. To cancel any changes, press Escape to exit without saving.
7. Press Escape to exit.

Set Screen Contrast
The default setting for the LCD screen is 3. Screen contrast levels can be adjusted from 1 to 5 units for low or high lighting conditions.
1. Check that the green power LED is on.
2. Press Menu.
3. Press Select to select “Settings”.
4. Use the Up or Down arrows to scroll to “Contrast Level”. Press Select.
5. Use Up or Down arrows to choose the desired contrast level.
6. Press Enter to save. To cancel any changes, press Escape to exit without saving.
7. Press Escape to exit.
Pump Menu: Settings

Language
To access the language menu:
1. Check that the green power LED is on.
2. Press the Menu button. “Settings” is displayed.
3. Press the Select button. “Pump Address” is displayed.
4. Use the Up or Down arrow button to scroll to “Language”.
5. Press the Select button to access the language menu.
6. Press Select to highlight current Language in use.
7. Press the Enter button to select the desired language for the control panel. To cancel any changes, press the Escape button to exit edit mode without saving.
8. Press the Escape button to exit.

Set Maximum Speed (RPM)
The maximum speed can be set from 1900 RPM to 3450 RPM (default is 3450). Use this setting to set the maximum running speed of the pump.
When the IntelliFloXF® Variable Speed Pump is set to Priming “Enabled”, the pump will speed up to and run at this speed to prime. A service professional must set the Maximum Speed of the pump to not exceed the maximum flow rate of the system on which it will operate.

1. Check that the green power LED is on.
2. Press Menu.
3. Press Select to select “Settings”.
4. Use the Up or Down arrows to scroll to “Set Max Speed”.
5. Press Select to change. The cursor will appear in the first number column.
6. Press Up or Down arrows to change the maximum speed setting from 1900 to 3450 RPM.

Set Minimum Speed (RPM)
The minimum pump speed can be set from 450 RPM to 1700 RPM. The default setting is 450 RPM.
1. Check that the green power LED is on.
2. Press Menu.
3. Press Select to select “Settings”.
4. Use the Up or Down arrows to scroll to “Set Min Speed”.
5. Press Select to change the setting. The cursor will appear in the first number column.
6. Press the Up or Down arrows to change the minimum speed setting from 450 to 1700 RPM.
7. Press Enter to save. To cancel, press Escape to exit edit mode without saving.
8. Press Escape to exit.

Password Protection
The default setting for password protection is disabled. When this feature is enabled, the pump display will prompt for the password before allowing access to the control panel and buttons.
The entered password is any combination of four (4) digits.
- Password protection can always be turned off by pressing Start/Stop.
- Password protection cannot be turned back on with Start/Stop while running in manual mode.
- Pressing Start/Stop when the pump is off will return it back to the Running Cycles Mode and run at the next scheduled run time. If the present time is within the scheduled run time, the pump will run the scheduled speed.
- All functions including programming are disabled in Password Protection Mode.
- Screen will read “Enter Password” if any button other than the Start/Stop button is pressed.
- Key icon displayed in the upper left side of the screen when Password Protection is on.

![Password Protection Enabled](image)

Language
To access the language menu:
1. Check that the green power LED is on.
2. Press the Menu button. “Settings” is displayed.
3. Press the Select button. “Pump Address” is displayed.
4. Use the Up or Down arrow button to scroll to “Language”.
5. Press the Select button to access the language menu.
6. Press Select to highlight current Language in use.
7. Press the Enter button to select the desired language for the control panel. To cancel any changes, press the Escape button to exit edit mode without saving.
8. Press the Escape button to exit.

Set Maximum Speed (RPM)
The maximum speed can be set from 1900 RPM to 3450 RPM (default is 3450). Use this setting to set the maximum running speed of the pump.
When the IntelliFloXF® Variable Speed Pump is set to Priming “Enabled”, the pump will speed up to and run at this speed to prime. A service professional must set the Maximum Speed of the pump to not exceed the maximum flow rate of the system on which it will operate.

1. Check that the green power LED is on.
2. Press Menu.
3. Press Select to select “Settings”.
4. Use the Up or Down arrows to scroll to “Set Max Speed”.
5. Press Select to change. The cursor will appear in the first number column.
6. Press the Up or Down arrows to change the maximum speed setting from 1900 to 3450 RPM.

Set Minimum Speed (RPM)
The minimum pump speed can be set from 450 RPM to 1700 RPM. The default setting is 450 RPM.
1. Check that the green power LED is on.
2. Press Menu.
3. Press Select to select “Settings”.
4. Use the Up or Down arrows to scroll to “Set Min Speed”.
5. Press Select to change the setting. The cursor will appear in the first number column.
6. Press the Up or Down arrows to change the minimum speed setting from 450 to 1700 RPM.
7. Press Enter to save. To cancel, press Escape to exit edit mode without saving.
8. Press Escape to exit.
Setting Password
1. Check that the green power LED is on.
2. Press Menu. Press Select to select “Settings”.
3. Use the Up or Down arrow to scroll to “Password”.
4. Press Select. The default setting is “Disabled”.
5. To change this setting, press Select. Press Up or Down arrow to change the setting to “Enabled” and press Enter to save.
6. Press the Down arrow. “Password Timeout” is displayed.
7. The factory default time is 10 minutes. This means the IntelliFloXF® Variable Speed Pump will go into Password Protection mode 10 minutes after the last control panel key is pressed.
8. Press Select to change time setting from 1 minute to 6 hours and press Enter to save.
9. Press Down arrow and then press Select on “Enter Password” to change the password.
10. Press the Left or Right arrows to move cursor and press Up or Down arrow to change the password.
11. Press Enter to save. To cancel any changes, press Escape to exit without saving.

Entering Password
1. Press any button (besides the speed button) to prompt the screen for a password.
2. To enter password, use the Left and Right arrows to move the cursor and the Up and Down arrow button to scroll through the digit then press Enter to confirm.
Pump Operating Modes

The IntelliFloXF® and IntelliProXF® Variable Speed Pumps can be programmed in three different modes: Manual, Schedule, and Egg Timer.

Speeds 1-4 can be programmed in all three modes. Speeds 5-8 can only be programmed in Schedule mode since there are no buttons on the control panel for Speeds 5-8. The default setting for Speeds 5-8 is “Disabled”.

**Manual**
Assigns a speed to one of the four Speed buttons on the control panel. This mode can only be used for speeds 1-4.

To operate in Manual mode, press one of the four speed buttons and then press the Start/Stop button. The pump will run the assigned speed for that speed button.

**Egg Timer**

Speeds 1-4 can be programmed to run for a duration of time once a speed button is pressed.

To operate in Egg Timer mode, press a speed button and then press Start/Stop. The pump will run that speed for the set amount of time and then turn off.

**Schedule**

Program speeds 1-8 start and stop at a specific time during a 24 hour period. Speeds programmed in Schedule mode will override any manually selected speed (speeds set by manually pressing any of the speed buttons on the control panel).

Set Speeds in Manual or Egg Timer Mode (Speeds 1-4 Only)

1. Press Menu.
2. Use Up or Down arrows to scroll to “Speed 1-8”, then press Select.
3. Use Up or Down arrows to find the speed (1-4) you wish to program.
4. Press Select. Speeds 1-4 default setting is Manual. To set a speed in Manual mode, press the Down arrow (“Set Speed” will display) and press Select to change. Use the Up or Down arrow to adjust speed.
5. Press Enter to save the new speed setting.
6. Continue below to Step 6 to set a speed in Egg Timer mode.
8. Press the Down arrow to display “Time”.
9. Press Select and use arrow keys to adjust time.
10. Press Enter to save the new time setting.
11. Press Escape to exit.
Pump Menu: Speeds 1-8

Set Speeds 1-8 in Schedule Mode

In Schedule mode, Speeds 1-8 can be programmed to run a certain speed at a certain time of day. To run a scheduled speed, press Start/Stop. The screen will display “Running Schedules” when it is ready to run a scheduled speed. If Start/Stop is pressed while a scheduled speed is running, “Running Speed _” will be displayed (see far left image).

1. Press Menu.
2. Use Up or Down arrows to scroll to “Speed 1-8”, then press Select.
3. Use Up or Down arrows and press Select for the speed you wish to set and schedule.
4. Press Select (display will be highlighted) and scroll to “Schedule”.
5. Press Enter.
6. Press Down arrow (“Set Speed” will display) and press Select to change. Use the Up or Down arrow to adjust speed.
7. Press Enter to save the new speed.
8. Press the Down arrow again, “Set Start Time” will display. Press Select - the cursor will highlight the minute column.
9. Use the Up or Down arrow to change the time and the Left or Right arrow to move cursor from minutes to hours.
10. Press Enter to save the new start time setting.
11. Press Down arrow - “Set Stop Time” will display. Press Select. Repeat Steps 8-9 to set stop time.
12. Press Enter to save the new stop time setting.
13. Press Start/Stop.

The IntelliFloXF® Variable Speed Pump will prime and begin to run the programmed schedule at the specified start time.

When running in Schedule or Egg Timer mode, the countdown time (T 00:01) showing the hours and minutes remaining is displayed.

Programming Schedule for Constant Run

A speed cannot be programmed with the same start and stop times. To run a speed without stopping, set the Start time one minute after the stop time.

Example: A single speed will run non stop if programmed with a Start Time of 8:00 AM and a Stop time of 7:59 AM.

Note: The pump will not run the scheduled speeds until the Start/Stop button is pressed (LED on) to place the pump in Schedule mode.

Note: When two speeds are scheduled during the same run time the pump will run the higher RPM Speed regardless of Speed # in use.

Note: The most recent command, Manual or Schedule, takes priority regardless of speed number RPM.

External Control

This function is for programming speeds that will run when the IntelliComm® Communication Center sends it a command. For example, Terminal 3 and 4 in IntelliComm system will correspond to External Control Program #1. (5 and 6 to Ext Ctrl #2). Use the External Control feature to program the IntelliComm system power center.

To access the External Control menu:

1. Check that the green power LED is on.
2. Press the Menu button.
3. Use Up or Down arrow to scroll to “Ext. Ctrl.”.
4. Press Select. “Program 1” is displayed.
5. Press Select to change the speed. The “RPM” number will highlight.
6. Press Up or Down arrow to change the RPM setting.
7. Press Enter to save the setting.

Note: To cancel any changes, press the Escape button to exit without saving.

10. Use Up or Down arrow to scroll to “Program 2”.
11. Repeat Steps 6 through 10 to set Program 2, 3, and 4.
Quick Clean

NOTE: Quick Clean is the only high-speed override feature of the IntelliFlo XF® and IntelliPro XF® Variable Speed Pumps.

This feature can be used to ramp the pump up to a higher RPM for vacuuming, cleaning, adding chemicals, after a storm for extra skimming capability.

Press the Quick Clean button (LED on) and then Start/Stop to start. When the Quick Clean cycle is over, the pump will resume regular schedules and be in “Running Schedule” mode.

To access the Quick Clean menu:
1. Check that the green power LED is on.
2. Press Menu.
3. Use Up or Down arrows to scroll to “Features”, then press Select.
4. Press the Down arrow and press Select for “Quick Clean”.
5. Press Select to choose “Set Speed”.
6. Press Select to choose “Time Duration”.
7. Press Select to change the time. The cursor will highlight the minutes column.
8. Press the Left arrow to move cursor to the hours column. Time out can be set from 1 minute to 10 hours.
9. Press Enter to save the setting.
   Note: To cancel any changes, press Escape to exit without saving.
10. Press Escape to exit the menu.

Time Out

This feature can be used to allow newly glued pipe joints time to dry before circulation of the pool water resumes. The Time Out feature keeps the pump from running it’s programmed speeds.

Once Time Out is finished, the pump will be in “Running Schedule” mode, the Start/Stop LED will be lit and ready to turn on at the next scheduled run time.

To access the Time Out menu:
1. Check that the green power LED is on.
2. Press Menu.
3. Use Up or Down arrows to scroll to “Features”, then press Select.
4. Press Select to choose “Timeout”.
5. Then press Select again to choose “Timeout Duration”.
6. Press Select to change the time. The cursor will highlight the minutes column.
7. Press Select to change the time. The cursor will highlight the minutes column.
8. Press the Left arrow to move cursor to the hours column. Time out can be set from 1 minute to 10 hours.
9. Press Enter to save the setting.
   Note: To cancel any changes, press Escape to exit without saving.
10. Press Escape to exit the menu.

Continue onto the next page for Priming Features
Setting Priming Features

1. Press Menu.
2. Use Down arrow to scroll to “Priming” and press Select.
3. The factory default is set to priming “Enabled”. To disable, press Select.
4. Press Enter if you have changed the setting - this will save the selection.
5. Press the Down arrow - the screen will read “Max Priming Time”.
6. To change from factory default, press Select. The cursor will highlight.
7. Use the Up or Down arrows to change the time from 1 minute to 30 minutes.
8. Press Enter to save.
9. Press the Down arrow - the screen will read “Primed Sensitivity”. Default is “1”.
10. Press Select to change the priming sensitivity. The cursor will highlight the number.
11. Use the Up or Down arrows to change from 1% to 100%. Increasing the number makes the Priming less sensitive.
12. Press Enter to save.
13. Press the Down arrow - the screen will read “Max Priming Time”. Default is 11 minutes.
14. Press Select to change the priming delay time.
15. Use the Up or Down arrows to change from 1 second to 10 minutes. Caution: Increasing the time causes the pump to stay in the priming mode longer.
16. Press Select to change the priming delay time.
17. Use the Up or Down arrows to change from 1 second to 10 minutes.
18. Press Enter to save the setting.
19. Press Escape to exit.
Pump Menu: Priming

Disabling Priming with an Automation System

When the IntelliFloXF® Variable Speed Pump is connected to an automation control system, (IntelliTouch®, EasyTouch® or SunTouch® Control Systems), the priming feature on the pump cannot be disabled by the external automation control system only. It must also be disabled on the pump itself.

If priming is enabled on start up, the pump responds to its internal settings before responding to commands from an automation control system.

If the pump is connected to an automation control system and priming is not desired, disable the priming feature on both the pump and the automation control system.

Refer back to page 14 for instructions on accessing the priming menu and features.

To disable priming with an automation system:

1. Disable the priming feature on the automation control system at the load center or using an IntelliTouch or EasyTouch system remote. (Refer to the automation control system user’s guide for additional information).
2. Temporarily disconnect the RS-485 communication cable.
3. Open the lid to the control panel to disable priming on the pump. Press Menu, use the arrow buttons to scroll and select “Pumping”, then select “Disabled” (the factory default is set to “Enabled”). Press Escape to exit the menu.
4. Once priming is disabled, reinstall the RS-485 communication cable.
The sensor for Anti Freeze is in the drive, on top of the motor. This feature allows you to set a speed (450 RPM - 3450 RPM) that runs when the IntelliFloXF® Variable Speed Pump goes into anti freeze mode. The temperature level that you wish anti freeze mode to start can also be set.

**IMPORTANT NOTE:** This feature is for protection of the pump. Do not depend on the anti freeze feature for freeze protection of the pool. Certain situations could cause the pump to sense a different temperature than actual air temperature.

Your automation systems air temperature sensor should be used to sense actual temperature. For example, if the pump is located indoors, the temperature of the room does not indicate the outdoor temperature. The pump does not sense the water temperature.

**To access the Anti Freeze menu:**

1. Check that the green power LED is on.
2. Press Menu.
3. Use the Down arrow to scroll to “Anti Freeze” and press Select.
4. The factory default for Anti Freeze is “Enabled”. To disable Anti Freeze, press Select to highlight “Enabled”.
5. Press the Up arrow - “Disabled” is displayed.
6. Press Enter to save.

**To Set Anti Freeze Speed and Pump Temperature:**

1. With Anti Freeze displayed on the screen, press the Down arrow - “Set Speed” is displayed. The factory default is 1000 RPM.
2. Press Select to change the speed. The cursor will highlight the first column (ones).
3. Use the Up or Down arrows to set speed (450 - 3450 RPM).
4. Press Enter to save the speed.
5. Press the Down arrow to Pump Temperature (the temperature the pump will activate AntiFreeze, default is 40° F/4.4° C).
6. Press Select to change the setting. The cursor will highlight the first column. Can be set 40° F to 50° F (4.4° C - 10° C).
7. Press Enter to save the temperature setting.
8. Press Escape to exit.

**Note:** To cancel any changes, press Escape to exit without saving.

**Anti Freeze Menu Options**

- **Anti Freeze:** Disabled / Enabled - Default: Enabled
- **Set Speed:** Set Speed (750 RPM - 3450 RPM) Default 1000 RPM
- **Pump Temperature:** 40° F - 50° F (4.4° C - 10° C) Default: 40° F (4.4° C)
External Control with IntelliComm® Communication Center

Use the RS-485 communications cable to remotely control the IntelliFloXF® Variable Speed Pump from an IntelliComm communication center. The IntelliComm communication center provides four (4) pairs of input terminal connections. These inputs are actuated by either 15 - 240 VAC or 15 - 100 VDC. Use the device inputs, to control the programmed pump speeds.

**Note:** For the pump to accept commands from the IntelliComm communication center, the pump must be in the “Running Schedules” mode (LED above Start/Stop button is on). If more than one input is active, the highest number will be communicated to the pump. The IntelliComm communication center will always communicate to pump using ADDRESS #1.

**Program Number Priority**

If programs 1 and 2 are activated, program 2 will run, regardless of the assigned speed (RPM). The higher program number will always take priority.

Refer back to page 12 for instructions for setting up Programs in the External Control menu.

External Control is for programming speeds that will run when the IntelliComm communication center controller sends it a command.

For example, Terminal 3 and 4 in IntelliComm system will correspond to External Control Program #1. (5 and 6 to Ext Ctrl #2). Use the External Control feature to program the IntelliComm communication center.

Connecting to EasyTouch® and IntelliTouch® Control Systems

The pump can be controlled by an EasyTouch or IntelliTouch control system via the RS-485 communication cable. The EasyTouch and/or IntelliTouch control system starts, stops and controls the speed of the pump.

EasyTouch and/or IntelliTouch systems rewrite the pump memory when a command is given. This can take several seconds and can cause a delay until the pump physically responds.

The pump control panel is disabled when communicating with an EasyTouch and/or IntelliTouch system. The EasyTouch and/or IntelliTouch system will not start communicating with the pump until the pump is assigned to a circuit. The default pump address is “1” (only address for EasyTouch system).

**Wiring Terminal Descriptions for IntelliComm Communication Center**

<table>
<thead>
<tr>
<th>Terminal Number</th>
<th>Terminal Name</th>
<th>Voltage</th>
<th>Max. Current</th>
<th>Phase Type</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2</td>
<td>Power Supply</td>
<td>100 - 240 VAC</td>
<td>100 mA</td>
<td>1 Input</td>
<td>50/60 Hz</td>
</tr>
<tr>
<td>3-4</td>
<td>Program 1</td>
<td>15 - 240 VAC or 15 - 100 VDC</td>
<td>1 mA</td>
<td>1 Input</td>
<td>50/60 Hz</td>
</tr>
<tr>
<td>5-6</td>
<td>Program 2</td>
<td>15 - 240 VAC or 15 - 100 VDC</td>
<td>1 mA</td>
<td>1 Input</td>
<td>50/60 Hz</td>
</tr>
<tr>
<td>7-8</td>
<td>Program 3</td>
<td>15 - 240 VAC or 15 - 100 VDC</td>
<td>1 mA</td>
<td>1 Input</td>
<td>50/60 Hz</td>
</tr>
<tr>
<td>9-10</td>
<td>Program 4</td>
<td>15 - 240 VAC or 15 - 100 VDC</td>
<td>1 mA</td>
<td>1 Input</td>
<td>50/60 Hz</td>
</tr>
<tr>
<td>11</td>
<td>RS-485 + Data: Yellow</td>
<td>-5 to +5 VDC</td>
<td>5 mA</td>
<td>1 Output</td>
<td>N/A</td>
</tr>
<tr>
<td>12</td>
<td>- Data: Green</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Ground

See page 8 for details about how to check and or set the pump address. For more information, refer to the IntelliTouch (P/N 520100) or EasyTouch automation system User’s Guide (P/N 520584).

To connect the IntelliFloXF® Variable Speed Pump communication cable to EasyTouch® or IntelliTouch® Control System load center:

1. Switch the main power off to the load center.
2. Unlatch the two enclosure door spring latch, and open the door.
3. Remove the two retaining screws securing the high voltage cover panel, and remove it from the enclosure.
4. Loosen the two access screws securing the control panel.
5. Lower down the hinged control panel to access the EasyTouch or IntelliTouch system circuit board.
6. Route the communication cable into the plastic grommet (located on the lower left side of the load center), up through the low voltage raceway to the EasyTouch or IntelliTouch system circuit board.
7. Strip back the cable conductors 6 mm (1/4”). Insert the two wires into the COM port screw terminals on the EasyTouch and/or IntelliTouch system circuit board. Secure the wires with the screws.
8. **EasyTouch COM port (J20):** Connect the GREEN (#2) and YELLOW (#3) wires to the COM port screw terminals (#2 and #3). Be sure to match the color coding of the wires; YELLOW to YELLOW and GREEN to GREEN. The Red wire is not connected. Secure the wires with the screws.

**Note:** Multiple wires may be inserted into a single screw terminal.

9. Close the control panel into its original position and secure it with the two screws.
10. Install the high voltage cover panel and secure it with the two retaining screws.
11. Close the load center front door. Fasten the spring latch.
12. Switch the power on to the load center.
Connecting the Pump to a SunTouch® Control System

The IntelliFloXF® and IntelliProXF® Variable Speed Pumps can be controlled by a SunTouch control system via the RS-485 communication cable.

To connect the pump RS-485 communication cable to the SunTouch control system circuit board:

1. Unlatch the front door of the SunTouch system power center and open the door.
2. Loosen the retaining screw on front panel. Open the hinged front panel to access the electronics compartment.
3. Route the two conductor cable up through the power center grommet opening located on the left side, and up through the low voltage raceway to the motherboard.

4. Strip back the cable conductors 6 mm (1/4”). Insert the wires into the screw terminals (provided). Secure the wires with the screws. Be sure to match the color coding of the wires; YELLOW to YELLOW and GREEN to GREEN.
5. Insert the connector on the COMPORT (J11) screw terminal on the SunTouch system circuit board.
6. Close the control panel and secure it with the retaining screw.
7. Close the front door. Fasten the spring latch.
MAINTENANCE

Pump Strainer Basket
The strainer basket (or ‘strainer pot’), is located in front of the IntelliFloXF® Variable Speed Pump housing. The strainer basket must be kept clean and free of debris. Inspect basket through the lid on the top of the housing. Be sure to visually inspect the strainer basket at least once a week. Dirty strainer baskets reduce filter and heater efficiency and put abnormal stress on the pump motor.

Cleaning the Pump Strainer Basket
1. Press Start/Stop button on the pump and turn off the pump at the circuit breaker. Disconnect communication cable from pump.
2. Relieve pressure in the system.
3. Turn the lid and clamp counter-clockwise and remove from the pump.
4. Remove debris and rinse out the basket. Replace the basket if it is cracked.
5. Put the basket back into the housing. Be sure to align the notch in the bottom of the basket with the rib in the bottom of the volute.
6. Fill the pump pot and volute up to the inlet port with water.
7. Clean the lid and clamp, O-ring, and sealing surface of the pump pot.
   Note: It is important to keep the lid O-ring clean and well lubricated.
8. Reinstall the lid by placing the clamp and lid on the pot. Be sure the lid O-ring is properly placed.
   Seat the clamp and lid on the pump then turn clockwise until the locking ring handles are horizontal.
9. Turn the power “ON” at the circuit breaker. Reconnect communication cable from pump.
10. Open the manual air relief valve on the top of the filter. Stand clear of the filter.
11. Wait until all pressure is relieved. Start the pump.
12. Bleed air from the filter until a steady stream of water comes out of the filter air relief valve. Close the manual air relief valve.

Winterizing
To protect the pump electronics from freeze damage, the pump will switch on to generate internal heat as the temperature drops below freezing. The Anti Freeze feature is not intended to protect the system plumbing from freezing.

- In mild climate areas, when temporary freezing conditions may occur, run your filtering equipment all night to prevent freezing.
- You are responsible for determining when freezing conditions may occur. If freezing conditions are expected, take the following steps to reduce the risk of freeze damage. Freeze damage is not covered under warranty.

To prevent freeze damage, follow the procedures below:
1. Shut off electrical power for the pump at the circuit breaker.
2. Drain the water out of the pump housing by removing the two thumb-twist drain plugs from the housing. Store the plugs in the pump basket.
3. Cover the motor to protect it from severe rain, snow and ice.

Note: Do not wrap motor with plastic or other air tight materials during winter storage. The motor may be covered during a storm, winter storage, etc., but never when operating or expecting operation.

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 build up 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.

CAUTION
To prevent damage to the pump and for proper operation of the system, clean pump strainer and skimmer baskets regularly.

THIS SYSTEM OPERATES UNDER HIGH PRESSURE.
When any part of the circulating system (e.g., Lock Ring, Pump, Filter, Valves, etc.) is serviced, air can enter the system and become pressurized. Pressurized air can cause the lid to separate which can result in serious injury, death, or property damage. To avoid this potential hazard, follow above instructions.

Strainer Pot Assembly

INTELLIFLOXF® and INTELLIPROXF® Variable Speed Pump Installation and User’s Guide
1. Turn off the pump circuit breaker at the main panel.
2. Drain the pump by removing the drain plugs.
3. Disconnect the RS-485 communication cable from the pump (if connected to pump).
4. Disconnect supply power in the field wiring compartment.
5. Remove (3) Phillips head screws from the top of the device located under the keypad cover.
6. Remove the drive by lifting upward to pull off the motor.
7. Using a 9/16 inch wrench, remove the six (6) nuts that secure the main pump body (strainer pot/volute) to the rear subassembly.
8. Gently pull the two pump halves apart, removing the rear subassembly.
9. Remove the three hex head screws holding the diffuser in position with a 9/64 inch hex key wrench.
10. Hold the impeller securely in place by hand. Remove the impeller lock screw located at the center of the impeller. The screw is a left-handed thread and loosens in a clockwise direction. A deep well 3/4 inch socket and ratchet will fit the impeller screw. Remove the impeller screw o-ring. Inspect the o-ring for damage, cracks etc. Replace if damaged. Remove the (3) screws on the fan cover and remove fan cover.
11. Using locking pliers to hold the motor shaft, twist the impeller counter-clockwise to remove it from the shaft.
12. Remove the four (4) nuts from the seal plate to the motor using a 9/16 inch wrench.
13. Place the seal plate face down on a flat surface and press out the ceramic part of the mechanical seal.
14. Clean the seal plate, seal housing, and the motor shaft.

Pump Disassembly

Tools required:
- Locking pliers
- Flat blade and Phillips head screwdriver
- 9/16 inch wrench
- 3/4 inch socket wrench
- 9/64 inch hex key wrench

To remove and repair the motor subassembly, follow the steps below:
1. Turn off the pump circuit breaker at the main panel.
2. Drain the pump by removing the drain plugs.
3. Disconnect the RS-485 communication cable from the pump (if connected to pump).
4. Disconnect supply power in the field wiring compartment.
5. Remove (3) Phillips head screws from the top of the device located under the key pad cover.
6. Remove the drive by lifting upward to pull off the motor.
7. Using a 9/16 inch wrench, remove the six (6) nuts that secure the main pump body (strainer pot/volute) to the rear subassembly.
8. Gently pull the two pump halves apart, removing the rear subassembly.
9. Remove the three hex head screws holding the diffuser in position with a 9/64 inch hex key wrench.
10. Hold the impeller securely in place by hand. Remove the impeller lock screw located at the center of the impeller. The screw is a left-handed thread and loosens in a clockwise direction. A deep well 3/4 inch socket and ratchet will fit the impeller screw. Remove the impeller screw o-ring. Inspect the o-ring for damage, cracks etc. Replace if damaged. Remove the (3) screws on the fan cover and remove fan cover.
11. Using locking pliers to hold the motor shaft, twist the impeller counter-clockwise to remove it from the shaft.
12. Remove the four (4) nuts from the seal plate to the motor using a 9/16 inch wrench.
13. Place the seal plate face down on a flat surface and press out the ceramic part of the mechanical seal.
14. Clean the seal plate, seal housing, and the motor shaft.

Motor Care

Protect from heat
1. Shade the motor from the sun.
2. Any enclosure must be well ventilated to prevent overheating.
3. Provide ample cross ventilation.

Protect against dirt
1. Protect from any foreign matter.
2. Do not store (or spill) chemicals on or near the motor.
3. Avoid sweeping or stirring up dust near the motor while it is operating.
4. If a motor has been damaged by dirt it may void the motor warranty.
5. Clean the lid and locking ring O-ring, and sealing surface of the pump pot.

Protect against moisture
1. Protect from continuous splashing or continuous sprayed water.
2. Protect from extreme weather such as flooding.
3. If motor internals have become wet - let it dry before operating. Do not allow the pump to operate if it has been flooded.
4. If a motor has been damaged by water it may void the motor warranty.

The Mechanical Seal

The mechanical seal consists primarily of two parts, a rotating ceramic seal housed in the impeller and a stationary spring seal in the sealplate. The pump requires little or no service other than reasonable care. A mechanical seal may occasionally become damaged and must be replaced.

Pump Illustrated parts view on the next page
### Pump Reassembly/Seal Replacement

1. Install the **spring end** of the mechanical seal onto the impeller shaft. Be sure **black/carbon** face is facing outward.
2. Remount the seal plate to the motor using the four (4) lock washers and four (4) nuts.
3. With the white ceramic face facing outward, press the seal into the seal plate with your thumbs and wipe off the ceramic with a clean cloth. Do not lubricate seal faces.
4. Hand tighten impeller onto the motor shaft.
5. Screw in the impeller reverse lock screw (counterclockwise to tighten).
6. Install the rear plastic cover on the back of the motor.
7. Remount the diffuser onto the seal plate. Make sure the plastic pins and holding screw inserts are aligned (see “TOP” indicator).
8. Assemble the motor subassembly to the housing. Do not tighten the nuts and washers until all four (4) motor bolts are in place. Using a torque wrench, install and tighten the four nuts to a torque value of 100 in-lbs (maximum). Do not overtighten the nuts.
9. Reinstall the drive onto the top of the motor.
10. Fill the IntelliFloXF® Variable Speed Pump with water.
11. Reinstall the pump lid and locking ring; see “Cleaning the Pump Strainer Basket” on page 20.
12. Prime the system. See page 4 for priming instructions.

### Drive Assembly Removal and Installation

**WARNING**

To avoid dangerous or fatal electrical shock hazard, switch OFF power to motor before working on pump or motor.

**CAUTION**

To avoid electrical hazard, do not remove the four tamper proof screws from the motor assembly.

**To remove the drive and control panel from the motor assembly:**

1. Be sure all electrical breakers and switches are turned off before removing the drive.
2. Disconnect the RS-485 communication cable from the pump.
3. Open the control panel cover.
4. Remove the three Phillips head screws securing the drive to the motor assembly as shown.
5. Lift up the drive assembly and remove it from the motor adapter located on top of the motor assembly.

**Note:** Be careful not to remove the gasket between the drive and motor; it is critical in keeping moisture out of the drive and motor. Replace the gasket if damaged. Do not reassemble with a damaged or missing gasket.
Drive Assembly Removal and Installation

**CAUTION** Before installing this product, read and follow all warning notices and instructions on pages ii - iii.

To install the drive assembly onto the motor assembly:

1. Be sure all electrical breakers and switches are turned off before installing the drive.
2. Be sure that the gasket between the drive and motor is in place. It is critical in keeping moisture out of the drive and motor. Replace the gasket if damaged. Do not reassemble with a damaged or missing gasket.
3. Verify that the three (3) orange motor post caps are in position before placing the drive on the motor assembly.
4. Align the drive assembly with the motor adapter and seat the drive on the motor assembly.
5. Secure and tighten the drive assembly with the three Phillips head screws.

---

**Alerts and Warnings**

The IntelliFloXF® Variable Speed Pump displays all alarms and warnings on the control panel display. When an alarm or warning condition exists, the corresponding light will be lit on the display.

All control panel buttons are disabled until the alarm or warning is acknowledged with the Enter button. Press the Reset button to clear the alarm once the fault condition has been resolved.

**Note:** The pump will not start if the impeller is rotating.

**Power Out Failure**

The incoming supply voltage is less than 170 VAC. The drive faults to protect itself from over current. The drive contains capacitors that keep it powered up long enough to save the current run parameters. If power is restored during this process, approximately 20 seconds, the drive will not restart until completed.

**Priming Error**

If the pump is not defined as primed within the “Max Priming Time” it will stop and generate a “Priming Alarm” for 10 minutes, then attempt to prime again. The “Max Priming Time” is set by the user on the priming menu as discussed on page 14. If the pump cannot prime within five attempts it will generate a permanent alarm that must be manually reset.

**Overheat Alert**

If the drive temperature gets above 54.4° C (130° F) the pump will slowly reduce speed until the over temperature condition clears.

**Anti-Freezing**

When active, the motor will run at the preset RPM until the drive temperature increases above the minimum. The pump’s internal antifreeze protection is disabled when connected to an automation system. Freeze protection is provided by selecting YES at the ON WITH FREEZE portion of the circuit function menu in the IntelliTouch® Control System. To re-enable the internal antifreeze protection, the power to the drive must be cycled off then back on. **Important: See explanation of Anti-Freeze mode on page 16.**

**Over Current**

Indicated that the drive is overloaded or the motor has an electrical problem. The drive will restart 20 seconds after the over current condition clears.

**Over Voltage**

Indicates excessive supply voltage or an external water source is causing the pump and motor to rotate thereby generating an excessive voltage on the drives internal DC buss. The drive will restart 20 seconds after the over voltage condition clears.

If restarting the pump after service or maintenance, please follow the priming instructions on page 4.
## Troubleshooting

Always disconnect power to the IntelliFloXF® Variable Speed 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 serviceman, pool users or others due to electric shock. DO NOT attempt to adjust or service without consulting your dealer or a qualified pool technician. Read the entire Installation & User’s Guide before attempting to use, service, or adjust the pool filtering system or heater.

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Cause</th>
<th>Corrective Action</th>
</tr>
</thead>
</table>
| **Pump failure.** (For alert display messages, refer to Alerts and Warnings on page 23). | Pump will not prime - Air leak in suction. PRIME ERROR may be displayed.  
Pump will not prime - Not enough water.  
Pump does not come out of prime.  
Pump strainer gasket is clogged.  
Pump strainer gasket is defective. | Check suction piping and valve glands on any suction gate valves. Secure lid on pump strainer pot and be sure lid gasket is in place. Check water level to be sure skimmer is not drawing air.  
Be sure the suction lines, pump, strainer, and pump volute are full of water.  
Adjust prime sensitivity to a higher setting (default setting is 1%).  
Clean pump strainer pot.  
Replace gasket. |
| **Reduced capacity and/or head.** (For alert display messages, refer to Alerts and Warnings on page 23). | Air pockets or leaks in suction line. PRIME ERROR may be displayed.  
Clogged impeller. PRIME ERROR may be displayed.  
Pump strainer pot clogged. PRIME ERROR may be displayed. | Check suction piping and valve glands on any suction gate valves.  
Turn off electrical power to the pump.  
Remove the (6) bolts that holds the housing (strainer pot/volute) to seal plate. Slide the motor and seal plate away from the volute.  
Clean debris from impeller. If debris cannot be removed, complete the following steps:  
1. Remove diffuser and o-ring.  
2. Remove left hand thread anti-spin bolt and o-ring.  
3. Remove, clean and reinstall impeller.  
4. Reinstall anti-spin bolt and o-ring.  
Reinstall diffuser, and o-ring.  
Reinstall motor and seal plate into volute.  
Reinstall clamp band around seal plate and volute and tighten securely.  
Clean suction trap.  
Clean pump strainer pot. |
| **Pump trips and restarts constantly.** | Air in system.  
Suction lift above design limits.  
Blocked suction  
Blocked discharge  
System flow too high. System changing flow too quickly. In floor cleaning system issues.  
Priming not enabled.  
Issues related to other equipment, such as Heat Pumps and Heaters with internal valves that vibrate. | Bleed air from filter. Be sure air bubbles are not visible coming into pump pot.  
Insert vacuum gauge into pump port connection port. Confirm vacuum level is 25 in. mercury (hg) or less.  
Stop pump and clear blockage.  
Reduce system flow. Change speed. Reduce water flow. In floor cleaning systems must be designed with balanced hydraulic losses on all legs.  
Enable priming from the “PRIMING” menu.  
Lowering ramp speed below 200 RPM may resolve the issue or addition of external manual valve controls, may resolve issue. |
<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Cause</th>
<th>Corrective Action</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inadequate circulation.</strong> (For alert display messages, refer to Alerts and Warning on page 23).</td>
<td>Filter or pump basket dirty.</td>
<td>Check trap basket; if plugged, turn pump off and clean basket.</td>
</tr>
<tr>
<td></td>
<td>Suction/discharge piping is too small.</td>
<td>Check and clean pool filter.</td>
</tr>
<tr>
<td></td>
<td>Speed is set too slow for proper filtration cycle.</td>
<td>Increase piping size.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Increase filtration run time.</td>
</tr>
<tr>
<td><strong>Electrical problem.</strong> (For alert display messages, refer to Alerts and Warning on page 23).</td>
<td>Could appear as a “Low Voltage” alarm.</td>
<td>Check voltage at motor terminals and at panel while pump is running. If low, see wiring instructions or consult power company.</td>
</tr>
<tr>
<td></td>
<td>PRIME ERROR may be displayed.</td>
<td>Check for loose connections.</td>
</tr>
<tr>
<td></td>
<td>Could appear as “Over Heat” alert.</td>
<td>Check line voltage; if less than 90% or more than 110% of rated voltage consult a licensed electrician.</td>
</tr>
<tr>
<td></td>
<td>PRIME ERROR may be displayed.</td>
<td>Increase ventilation.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reduce ambient temperature.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tighten any loose wiring connections.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Motor internal terminal overload protector is open.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Motor runs too hot. Turn power to motor off.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Check for proper voltage.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Check for proper impeller or impeller rubbing.</td>
</tr>
<tr>
<td><strong>Mechanical Troubles and Noise.</strong></td>
<td>The pump motor is running but with loud noise.</td>
<td>If suction and discharge piping are not adequately supported, pump assembly will be strained. Do not mount pump on a wooden platform! Securely mount on concrete platform for quietest performance.</td>
</tr>
<tr>
<td></td>
<td>Foreign matter (gravel, metal, etc.) in pump impeller.</td>
<td>Disassemble pump, clean impeller, follow pump service instructions for reassembly.</td>
</tr>
<tr>
<td></td>
<td>Cavitation.</td>
<td>Improve suction conditions.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Increase pipe size.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Decrease number of fittings.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Increase discharge pressure.</td>
</tr>
<tr>
<td><strong>Pump does not respond to IntelliTouch, EasyTouch, SunTouch, IntelliComm system commands.</strong></td>
<td>Improper automation setup.</td>
<td>1. Be sure that the communication cable is connected at both ends.</td>
</tr>
<tr>
<td></td>
<td>Communication network inoperative.</td>
<td>2. Check that the pump local address matches with the address used in the IntelliTouch control system.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Check that the pump has been assigned a circuit name on the IntelliTouch control system.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Ensure that the pump display says “DISPLAY NOT ACTIVE”.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A defective device on the network can inhibit the proper operation of other network device. Devices should be disconnected sequentially until the network starts working.</td>
</tr>
</tbody>
</table>
### REPLACEMENT PARTS

#### IntelliFloXF® and IntelliProXF® Variable Speed Pump Replacement Parts

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Description</th>
<th>IntelliFloXF</th>
<th>IntelliProXF</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Wet End Assembly</td>
<td>400000</td>
<td>401000</td>
</tr>
<tr>
<td>2</td>
<td>Union Kit Without Tap</td>
<td>400100</td>
<td>401100</td>
</tr>
<tr>
<td>3</td>
<td>Power End Assy. w/ Drive</td>
<td>400605</td>
<td>401605</td>
</tr>
<tr>
<td>4</td>
<td>Lid/Locking Ring Assy. - Black</td>
<td>400006</td>
<td>401006</td>
</tr>
<tr>
<td>5</td>
<td>XF Replacement Basket</td>
<td>400007z</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Lid/Locking Ring O-Ring</td>
<td>35505-1440</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Drain Plug</td>
<td>071131</td>
<td>357161</td>
</tr>
<tr>
<td>8</td>
<td>Drain Plug O-Ring</td>
<td>192115</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>2.5&quot; Union Nut</td>
<td>411000</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>2.5&quot; C-Clip Locking Ring</td>
<td>410001</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>2.5&quot; Union Adapter w/o Tap</td>
<td>410002</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>2.5&quot; Diamond Seal Kit (Includes two)</td>
<td>410016z</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Motor Base</td>
<td>400004z</td>
<td>401004z</td>
</tr>
<tr>
<td>14</td>
<td>Motor Support Insert</td>
<td>070429</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Acorn Nut</td>
<td>071413</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Split Lock Washer</td>
<td>U43-12SS</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Flat Washer</td>
<td>072184</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Diffuser O-Ring</td>
<td>350336</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Description</th>
<th>IntelliFloXF</th>
<th>IntelliProXF</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>Diffuser Screw</td>
<td>353323</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Diffuser</td>
<td>400010</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Impeller Reverse Screw</td>
<td>37337-6080</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Seal Plate O-Ring</td>
<td>351446</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Impeller Assembly</td>
<td>400015</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>Mechanical Seal Assembly</td>
<td>37400-0028s</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>Seal Plate</td>
<td>400002</td>
<td>401002</td>
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<tr>
<td>26</td>
<td>Motor Kit</td>
<td>350105s</td>
<td>357294s</td>
</tr>
<tr>
<td>27</td>
<td>Drive Hardware and Gasket Kit</td>
<td>350612</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>Variable Spd Drive Assy. Kit</td>
<td>353251</td>
<td>353252</td>
</tr>
<tr>
<td>29</td>
<td>Field Wiring Comp Kit w/ Gasket</td>
<td>350621</td>
<td>353310</td>
</tr>
<tr>
<td>30</td>
<td>Control Cover Assy. Kit</td>
<td>350601</td>
<td>350701</td>
</tr>
<tr>
<td>Not Shown</td>
<td>Riser Plate XF to Challenger</td>
<td></td>
<td>400012</td>
</tr>
<tr>
<td>Not Shown</td>
<td>Seal Plate Kit With Mech Seal</td>
<td>400031z</td>
<td>400032z</td>
</tr>
<tr>
<td>Not Shown</td>
<td>Hardware and O-Ring Kit</td>
<td>400030z</td>
<td></td>
</tr>
</tbody>
</table>
**Pump Performance Curves**

![Graph of pump performance curves showing speeds at different RPMs and corresponding flow rates and head pressures.]

**Pump Dimensions**

- **Height to 1/2" NPT conduit receptacle**: 205 mm (8.1 in)
- **Anchor bolt mounting locations**: Various dimensions indicated with annotations for precision installation.

---

INTELLIFLOXF® and INTELLIPROXF® Variable Speed Pump Installation and User's Guide
Press MENU button to access menus

**SETTINGS**
- **Pump Address** (1-16) Default: ADDRESS 1
- **Set Time** (hr:mm) Default: 12:00 AM
- **Set AM/PM** AM/PM
- **Temperature Unit** 24 hr.
- **Screen Contrast** Fahrenheit - Default: °F
- **Language** Celsius
- **Set Min Speed** (1-5) Default 3
- **Set Max Speed** (450 RPM - 1700 RPM) - Default: 450 RPM
- **Set Password** (1900 RPM - 3450 RPM) - Default: 3450 RPM
- **Password Time Out** Disabled/Enabled - Default: Disabled
- **Enter Password** Password Time Out (1 min. - 6 hours) Default: 10 minutes
- **Enter Password** Enter Password (xxxx) Default: 1234

**SPEED 1-8**
- **Speed 1** (1-4)
  - **Manual Schedule** Speed - Default: MANUAL
  - **Set Speed** Speed - Default: 750 RPM
  - **Set Start Time** Speed - Default: 1500 RPM
  - **Set Stop Time** Speed - Default: 2350 RPM
  - **Egg Timer** Speed - Default: 3110 RPM
  - **Set Speed** Time - Default: 450 RPM
  - **Set Speed** Time Out Duration (1 min. to 10 hrs.) Default: 3 hours
  - **Egg Timer** Time Out Duration (1 min. to 10 hrs.) Default: 3 hours

**EXT CONTROL**
- **Program 1** Speed - Default: 750 RPM
- **Program 2** Speed - Default: 1500 RPM
- **Program 3** Speed - Default: 2350 RPM
- **Program 4** Speed - Default: 3110 RPM
- **Set Time** Time Out Duration (1 min. to 10 hrs.) Default: 3 hours
- **Set Speed** (450 - 3450 RPM) Default: 3450 RPM
- **Time** (1 min. to 10 hrs.) Default: 10 minutes

**FEATURES**
- **Quick Clean** Set Speed (450 - 3450 RPM) Default: 3450 RPM
- **Time** (1 min. to 10 hrs.) Default: 10 minutes

**PRIMING**
- **DISABLED/ENABLED** Default: Enabled
- **MAX PRIMING TIME** (1 min. to 30 min.) Default: 11 minutes
- **PRIMED SENSITIVITY** (1 - 100%) Default: 1
- **PRIMING DELAY** (1 second - 10 minutes) Default: 20 seconds
- **DISABLED/ENABLED** Disabled / Enabled - Default: Enabled
- **SET SPEED** Set Speed (450 RPM - 3450 RPM) Default: 1000 RPM

**ANTI FREEZE**
- **DISABLED/ENABLED** Disabled / Enabled - Default: Enabled
- **SET SPEED** PUMP TEMPERATURE
  - **PUMP TEMPERATURE** 40° F - 50° F (4.4° C - 10° C) Default: 40° F (4.4° C)