



# IntelliFlo® vs-3050 Variable Speed Swimming Pool Pump

## Quick-Start Guide

Step-by-step instructions  
for easy set-up and operation



**Pentair Water**  
Pool and Spa®

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# Before you get started...

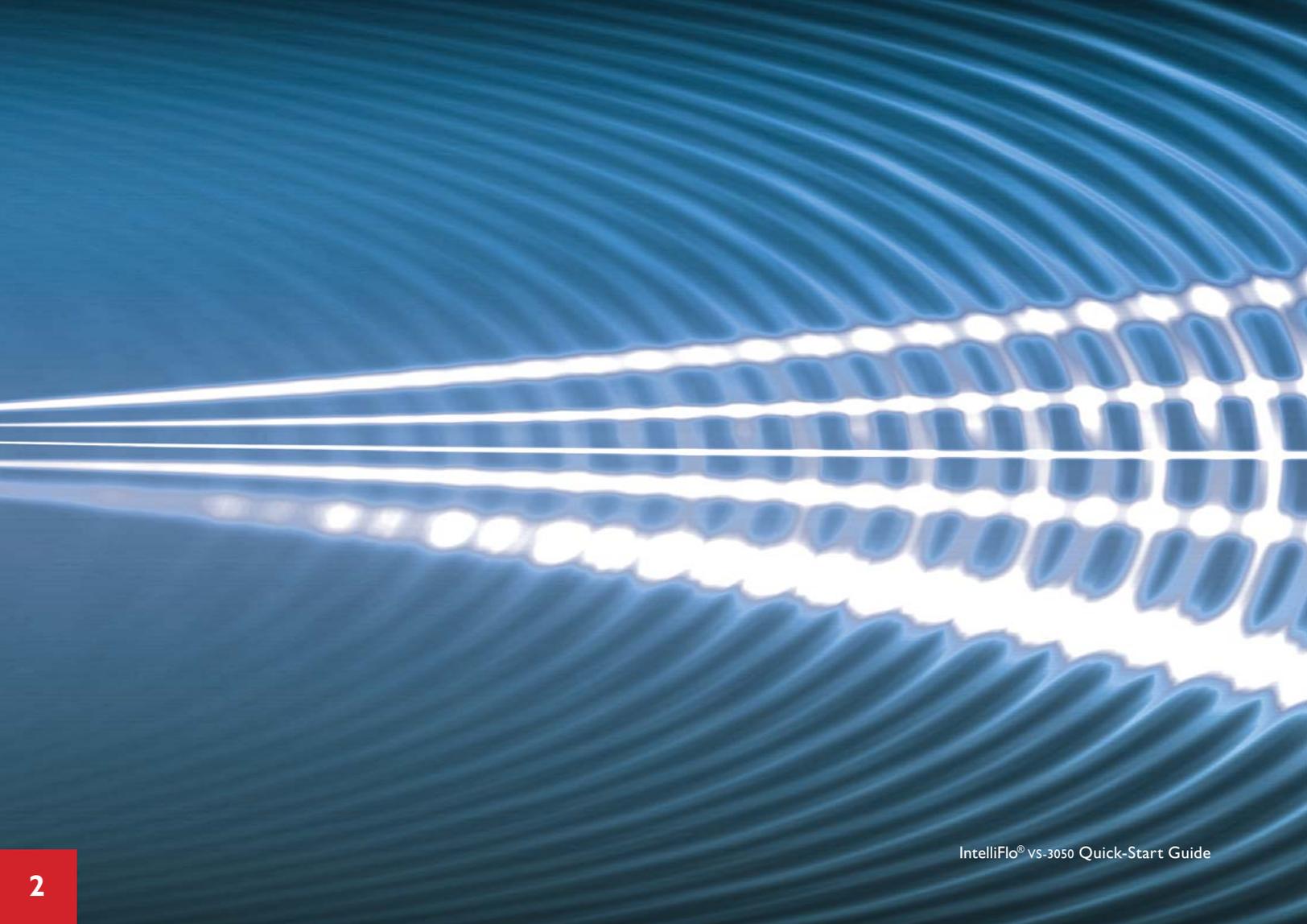
You're about to discover just how simple it is to program the IntelliFlo vs-3050 Variable Speed Pump. Within minutes, the IntelliFlo vs-3050 will be ready to:

- Slash energy costs by 30% to 90% or more
- Reduce noise to half a human whisper
- Automatically adjust for voltage irregularities and overheating

**Four simple speed settings enable the IntelliFlo vs-3050 to deliver the exact flow needed for a variety of tasks, such as filtration, spa, automatic cleaner, and waterfall.**

You'll be able to change or add equipment without having to change or add pumps, because all you'll need to do is program the new speed settings to maintain peak system performance. IntelliFlo vs-3050 is the one pump that can serve almost every application, and do it more efficiently than ever before.





## How is this incredible performance possible?



The IntelliFlo VS-3050 is the first pump to use a permanent magnet synchronous motor (PMSM). But the real secret is the IntelliFlo's four settable and adjustable speeds (from 400 to 3450 RPM). That's how you optimize pump speed for the most efficient flow possible.

While the IntelliFlo VS-3050 is incredibly advanced, it's easy to install and program.

**This guide will lead you through the set-up process. Let's get started!**

# Warnings

**Before you begin programming, please read the important safety warnings below.**



- Never go inside the drive enclosure. The capacitor bank holds a 230 volt charge, even if there is no power to the unit.
- Do not submerge the IntelliFlo VS-3050.
- The IntelliFlo VS-3050 is capable of 160 GPM or 104 feet of head. Use caution when installing and programming to limit pump performance when plumbed with old or questionable equipment.
- IntelliFlo VS-3050 can be wired for constant power, or to the load side of a mechanical time clock.
- Always stop IntelliFlo VS-3050 and disconnect the communication cable before performing maintenance.

## **Wiring**

The IntelliFlo VS-3050 should be wired line side, i.e. directly to a 220V to 240V circuit breaker with a minimum 20 amp rating or other source of “line” voltage supply. IntelliFlo is designed for 230V applications only. 115V circuits will not operate and could cause damage to the pump. If IntelliFlo is connected to a mechanical time clock or other mechanical on/off circuitry, e.g. household light switch with a 20 amp minimum rating, then “load” side voltage is acceptable.

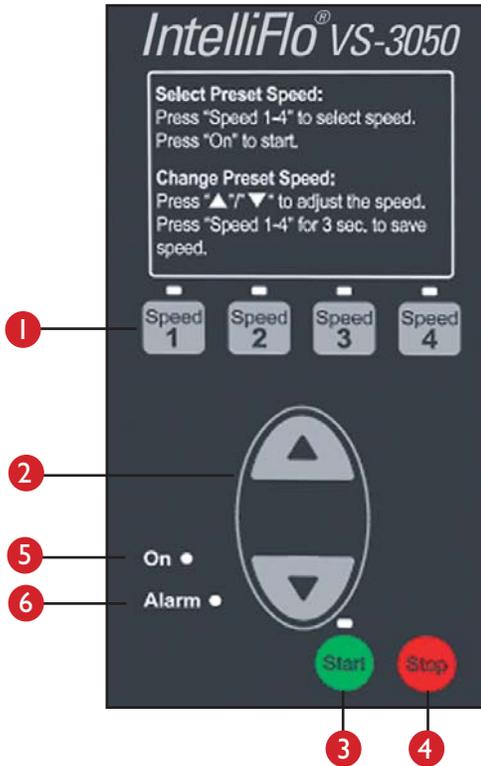
Use of a UL listed 3/4 inch FIP LB (line box) is recommended for pump side electrical connection.

When wiring the IntelliFlo to a mechanical timer or on/off switch, the included RS485 Data Communication Cable Part #340122 will not be necessary.

## **Plumbing**

When plumbing the IntelliFlo VS-3050, a 4 inch gap should be left between the top of the pump drive and any obstructions, plumbing or wiring that may hinder an authorized warranty technician in the drive removal and replacement procedure.

## Control Panel



- 1 Speed 1, speed 2, speed 3, and speed 4 button/LED:** Press one of the speed buttons to select the desired preset pump speed. The pump preset speeds are: **Speed 1 (750 RPM), Speed 2 (1500 RPM), Speed 3 (2350 RPM), and Speed 4 (3110 RPM)**. The speed button LED is on when the selected button is pressed. If the pump is running and the Up/Down button is used to adjust the speed, the selected speed LEDs will go off.
- 2 Up/Down button** – While the pump is running, press Up or Down button to increase or decrease the pump speed. To save the new pump speed, press any one of the four speed buttons for three seconds to assign the speed to the selected button (the LED be on). Four adjusted pump speeds can be assigned to the speed buttons. When the pump is using an adjusted speed and the pump is powered down, the next time, the pump is powered up, the pump will use the same speed.
- 3 Start button/LED:** Starts the pump using a selected or adjusted speed. This LED is on when the pump is running.
- 4 Stop button:** Press this button to stop the pump.
- 5 On LED:** This green power LED is on when IntelliFlo is powered up.
- 6 Alarm LED:** The red LED flashes when an error condition occurs. The green LED will flash a certain number of times indicating a specific error condition.

## Stand-Alone Set-Up

(no controller or appliance communicating with IntelliFlo VS-3050)

### Priming the pump for the first time or after service

The IntelliFlo VS-3050 must be primed before starting for the first time. It may take several minutes depending on water depth, pipe size, and length. Note: IntelliFlo VS-3050 will prime itself when used in a flooded suction system.

**Caution** – to avoid permanent damage to IntelliFlo VS-3050, before starting the pump, fill the housing strainer with water so that the pump will prime correctly. If there is no water in the strainer, the pump will not prime.

**Never run the pump dry.** Running dry may damage seals, causing leakage and flooding.

Do not add chemicals to the system directly in front of pump suction. Adding undiluted chemicals may damage the pump and will void the warranty.

### Important: Follow these steps before removing pump lid and priming

Release all pressure from pump and piping system prior to servicing. Never tighten or loosen the clamp while the pump is operating.

1. Press the stop button if the pump is running.
2. Disconnect the communication cable from the pump.
3. Close the gate valves in suction and discharge pipes.

## To Prime the IntelliFlo VS-3050

Turn the pump clamp and lid in a counterclockwise direction until they stop, and remove.

Fill the pump strainer pot with water.

Reinstall the pump clamp and lid onto the strainer pot. The pump is now ready to prime.

Make sure all electrical connections are clean and tight.

Re-open all closed valves.

Open the air release valve on the filter, and stand clear of the filter:

Switch IntelliFlo VS-3050 on at the circuit breaker. Ensure that the green power light is on.

Press the Speed 4 button to select pump speed of 3110 RPM.

Press the Start button.

Use the Up/Down button to increase speed as necessary to prime the pump.

When water comes out of the air release valve, close the valve. The system should now be circulating water back to the pool without air bubbles showing in either the hair and lint pot or at the pool return fittings.

## Starting the Pump

Ensure that the pump is powered on and the green power LED light is on.

Press the Start button to start the pump.

## Stopping the Pump

Press the Stop button.

## IntelliFlo Speed Settings

The IntelliFlo VS-3050 is a variable speed pump with four Speed buttons preset to the following:

1 = 750 RPM

2 = 1500 RPM

3 = 2350 RPM

4 = 3110 RPM

To select these preset speeds, press the Start button to start the pump – make sure green power LED light is on. Press the desired Speed button for less than three seconds to select the preset pump speed.

## Changing Pump Speeds

You can change these presets in 10 or 20 RPM increments.

Each setting can be adjusted to run at speeds between 400 RPM and 3450 RPM.

Typically the lower speeds are used for filtration and heating. The higher speeds can be used for spa jets, water features, and priming.

Press the Up/Down button to increase or decrease pump speed.

Press and quickly release to increase or decrease in 10 RPM increments.

Press and hold the Up/Down button to continuously increase or decrease the pump speed (20 RPM increments)

## Saving Adjusted Speed

Press and hold Speed button for at least 3 seconds to assign current speed.

## Resetting Speeds to Factory Default

Press the Stop button.

Press and hold all four Speed buttons simultaneously for three seconds. Power off the drive and re-energize. The default settings will be in effect.

## Setting Speeds for Various Applications

Obtaining the ideal flow for a given application is an audio-visual feedback process, and may require some trial and error. When you have eliminated cavitation, and water is flowing quietly and smoothly through the pump, you have arrived at the most efficient speed setting.

### Example: Setting Ideal Filtration Speed

Press any Speed button 1 through 4.

Press Start.

Press and hold  or  to increase or decrease RPM and flow until cavitation is eliminated.

When you reach the desired speed, press and hold the Speed button for three seconds to assign speed setting.

## Warning and Alarm Conditions

IntelliFlo alarms and warnings are indicated by flashing LED lights on the control panel.

For example, if an excessive drive temperature condition exists, the LED will blink two times, pause, and then blink again two times to indicate a “Drive Temperature” warning. The sequence is repeated until the condition is cleared.

## Warning Conditions

If a warning condition occurs, the Green LED light will begin a sequence of blinks and the pump will continue to run at a reduced speed. The Warning LED will reset when the condition clears.

# Warnings and Alarms

## Alarm Conditions

### Alarm and Warning LED Sequences

#### Drive Temperature Warning

#### Unknown Alarm

#### Drive Temperature Alarm

#### Power Out Alarm

#### Over Current Alarm

#### Over Voltage Alarm

If an alarm condition occurs, the pump will stop running and the red LED will flash continuously to indicate the presence of an alarm. The alarm LED will reset when the condition clears.

Refer to page 27 of the IntelliFlo VS-3050 Installation and User's Guide for specifications that should be followed when Alarms or Warnings are indicated.

Green LED will blink 2 times.

Green LED will blink 5 times.

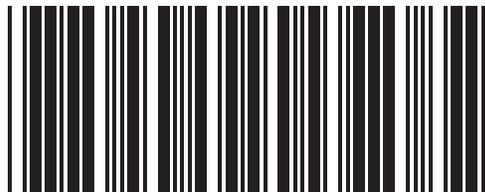
Green LED will blink 6 times.

Green LED will blink 7 times.

Green LED will blink 8 times.

Green LED will blink 9 times.





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For more detailed instructions on IntelliFlo® VS-3050 installation, operation, and troubleshooting, refer to the IntelliFlo VS-3050 Installation and User's Guide, P/N 357269. This manual can be viewed and downloaded at [www.pentairpool.com](http://www.pentairpool.com).

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