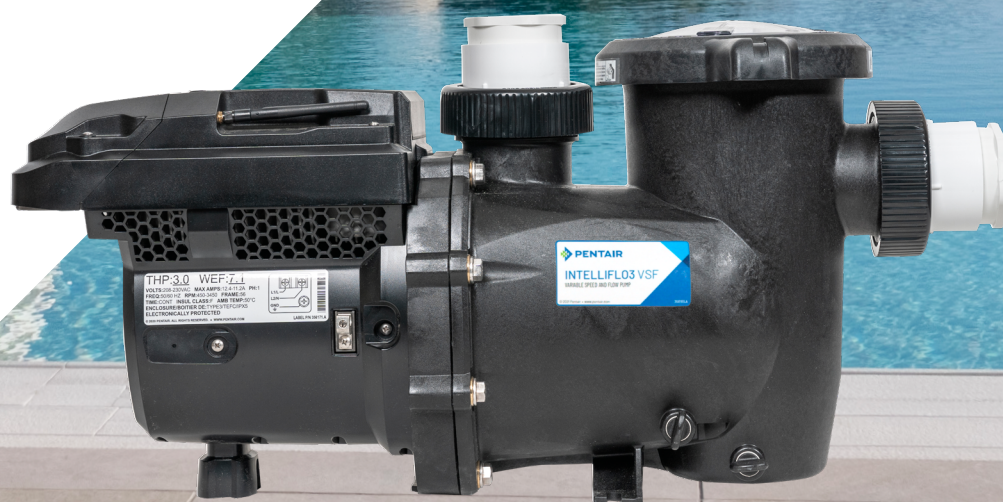# UPGRADE YOUR CLIENTS' POOLS WITH BEST-IN CLASS VARIABLE SPEED PUMP PENTAIR INTELLIFLO3 VSF

The easy way to replace your client's pump by an energy-efficient Pentair IntelliFlo 3 VSF and wire it to the existing electrical box.

NEW TECHNOLOGIES BRING BETTER EFFICIENCY AND SAVINGS.

But how to choose the best variable speed pump to replace a single speed pump… and how to make it work properly and efficiently? We will explain it all.

Why choose a variable-speed pump (VS pump)?

The filtration pump allows water to circulate through the pool's filter.
The more often and regularly this happens, the better the water quality will be.

The variable-speed pump operates continuously for long periods at a low flow rate. Adjusting its speed according to the pool's needs in terms of temperature, filtration, and usage. It results in:

+ Improved water quality
+ Silent operation
+ Energy consumption reduced by approximately 70%

How to pick the perfect VS pump for your pool: rely on our calculator!

To choose the optimal solution for replacing your clients' pool's single-speed pump, Pentair provides **an easy-to-use calculator** on their website.

This tool helps you not only select the best model but also calculate the energy savings it brings.

No doubt, the top-notch choice on the table is the groundbreaking Pentair IntelliFlo3 VSF pump!

Great! Now, all that's left is to install it. How do we go about the electrical connection in an existing installation?
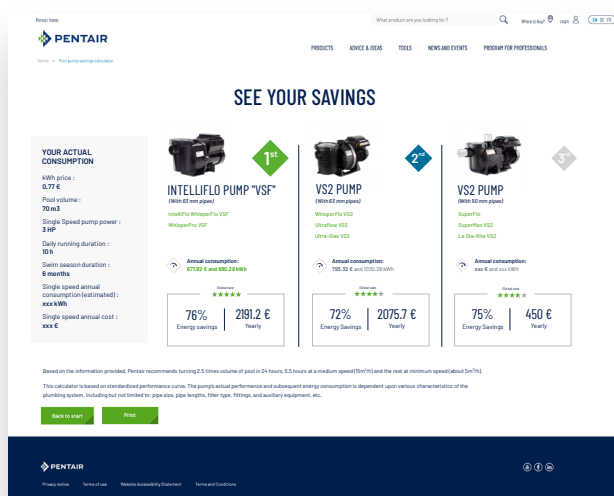
What about the pool timer?

As a pool professional, you are definitely familiar with mechanical **pool timers**. They have a dial that you can set to the desired time, and the timer will automatically control the time that your single speed pool pump and equipment runs.

Typically pool timer will be set in a way that pool equipment, including single speed pump, will run between 8 and 12 hours per day.

In order to maximise the benefits of variable speed pumps, it is recommended to run them for full day at lower speeds by programming the timer internal to their control unit.

Therefore, the variable speed pump will have to:

+ Run independently of the mechanical pool timer.

+ When pool timer is ON, VS pump must run, to avoid turning on equipment like a salt chlorine generator with no water moving in the system. This is not a pure timing issue, it's a safety issue as a pH pump injecting acid with circulation stop, could lead to excess acid being thrown in the pool.

Therefore, when replacing a single speed pump with a variable speed pump, pool professionals must look for ways of making the two timers co-exist, in order to maximize benefit of variable speed pumps while running pool equipment only when needed.

How?
Ensure that Intelliflo 3 VSF takes control of the equipment

Controlling pool equipment through IntelliFlo 3 VSF requires use of pump relay.

Clever but not complicated.

It is a simple connection that allows IntelliFlo3 VSF to trigger ON/OFF other equipment in the pool. You will be able to control and change your programs from anywhere thanks to the Pentair Home App.

So, before we begin

Therefore, the variable speed pump will have to:

+ Thermal magnetic circuit breaker correctly sized for the VS pool pump (magnetotermique in French) **Example** – correctly sized depending on max current (I1) on pump nameplate.
  ▶ On IntelliFlo3 VSF 1.5HP (SKU: P-011069) a 6A curve C thermal magnetic circuit breaker is recommended.

Input Voltage Nominal	115/208-230 VAC
Input Current	12.0/6.4-5.9 Amps
Input Frequency	1PH, L1-L2 or L-N, 50 or 60 Hz
Max Input Watts	1350 W
Max Shaft Horsepower	1.5 HP
Speed Range	400 - 4000 RPM

Figure 1: IntelliFlo3 VSF 1.5HP nameplate values

(!) RISK OF ELECTRICAL SHOCK OR ELECTROCUTION.

This connection must be installed by a licensed or certified electrician or a qualified service professional in accordance with the National Electrical Code and all applicable local codes and ordinances. Improper installation will create an electrical hazard which could result in death or serious injury to users, installers, or others due to electrical shock, and may also cause damage to property. Always disconnect power to the pumps at the circuit breaker before commencing work. Failure to do so could result in death or serious injury to service people, pool users or others due to electric shock and/or property damage. Read all manuals for both devices before attempting the connection.

STEP BY STEP GUIDE

> ! Refer to each appliance manual before working on the installation

1. Turn off the main power to the pool electrical panel.

2. Remove the old single speed pump by disconnecting the electrical wiring and plumbing connections. See Figure 2.
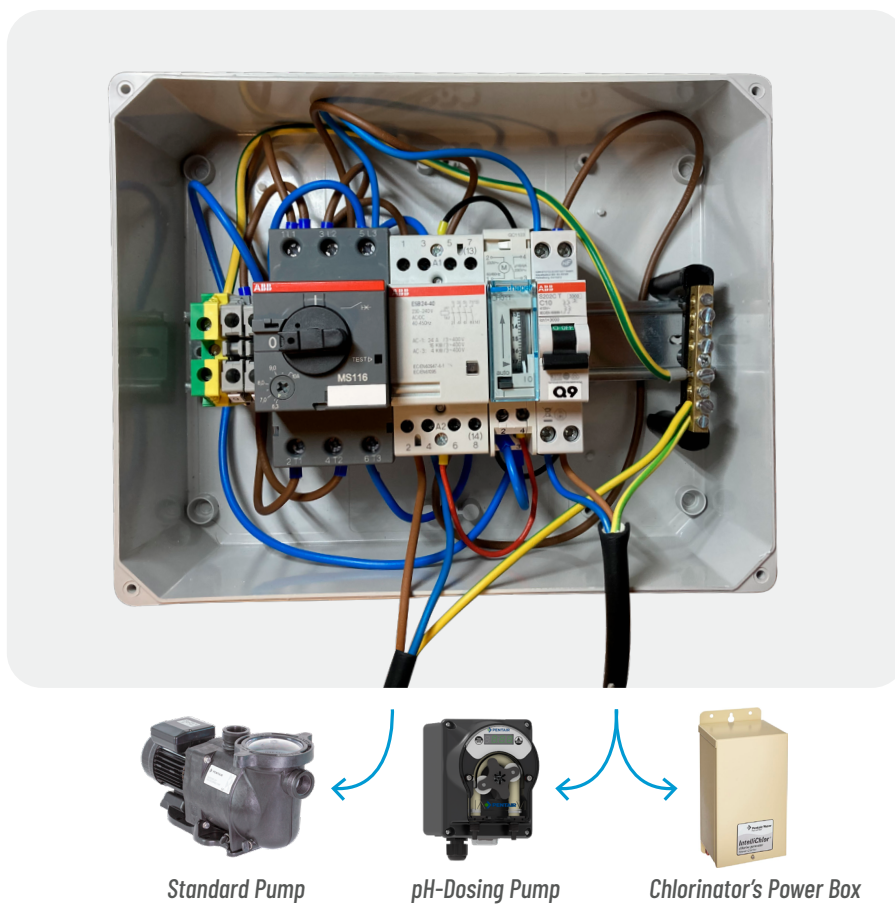

Standard Pump   pH-Dosing Pump   Chlorinator's Power Box

Figure 2 Remove the wires from motor protector to the pump.

3. Remove the motor protector, the contactor and the pool timer. Remove unused wires. See Figure 3.

4. Install IntelliFlo3 VSF pump by following the instructions. Make sure to plumb connections correctly.

STEP BY STEP GUIDE
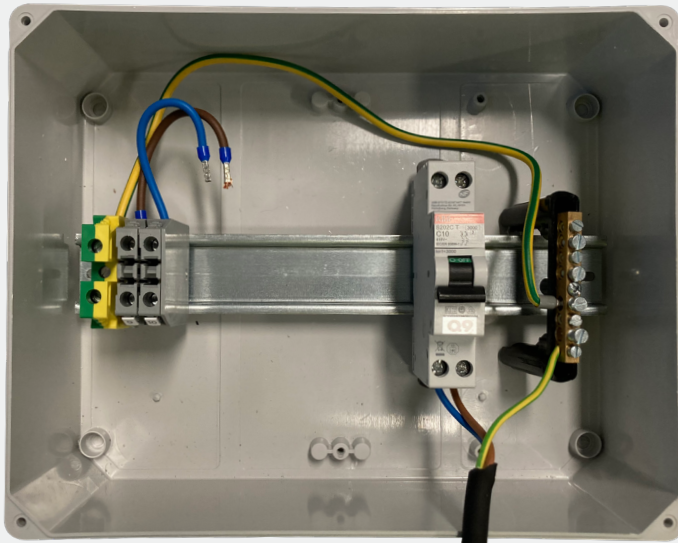
Figure 3

pH-Dosing Pump
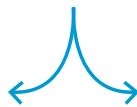
Chlorinator's Power Box

5. Connect power supply cable to the pump directly to **thermal magnetic circuit breaker**. See Figure 5.
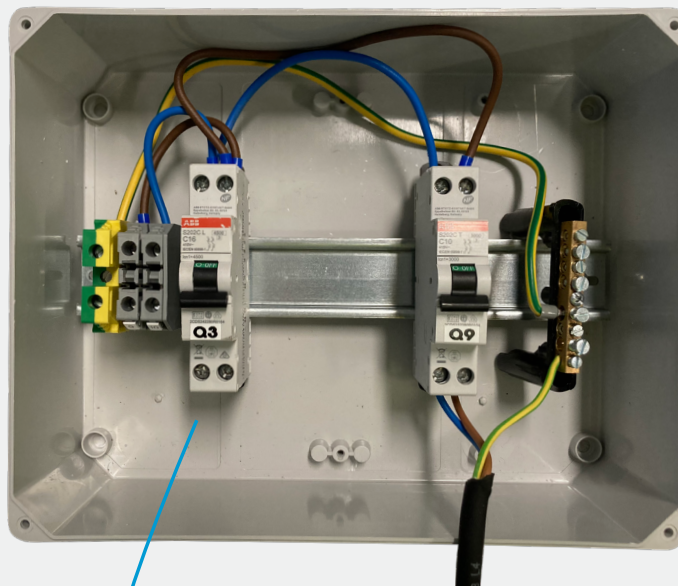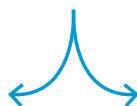

Figure 4

IntelliFlo3 VSF

pH-Dosing Pump

Chlorinator's Power Box

STEP BY STEP GUIDE

6. IntelliFlo3 VSF relay can replace the pool timer. Connect the power cable to auxiliaries (salt chlorine generator, pH/Rx regulation) from the electrical box to IntelliFlo3 VSF 16A relay, see Figure 6.
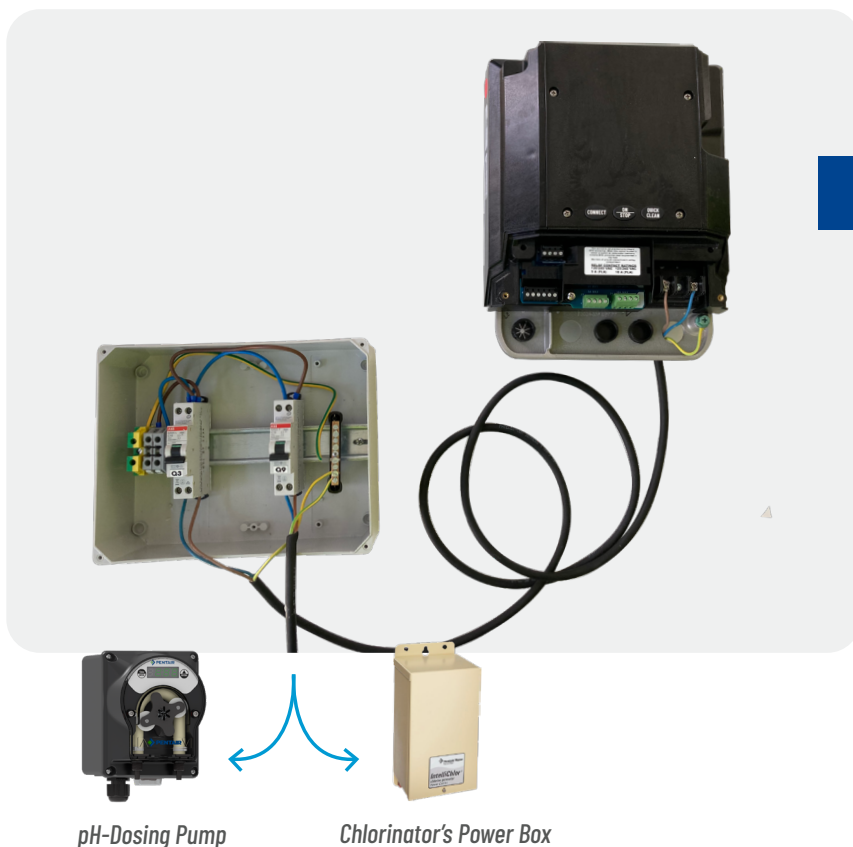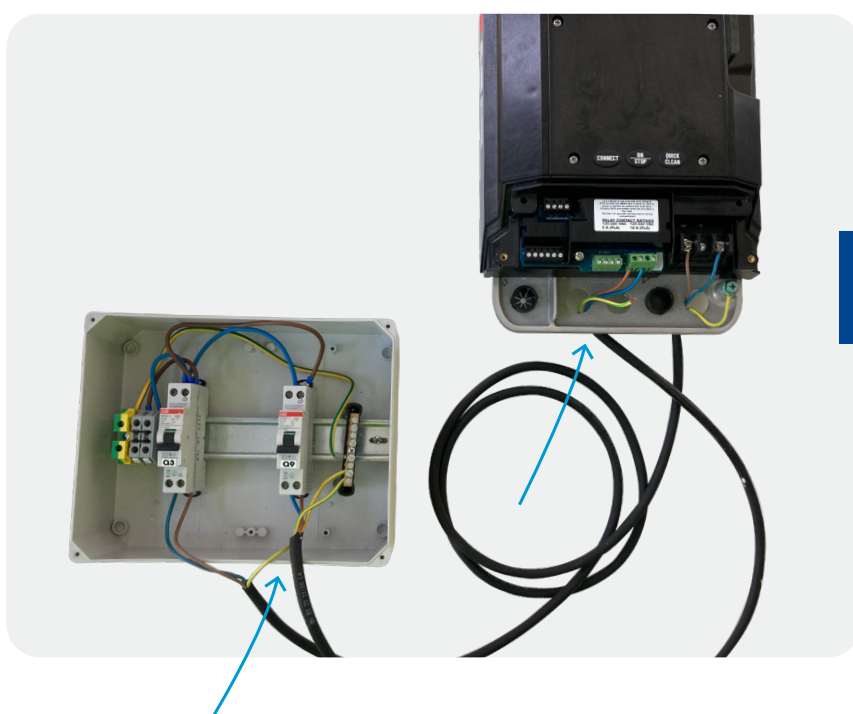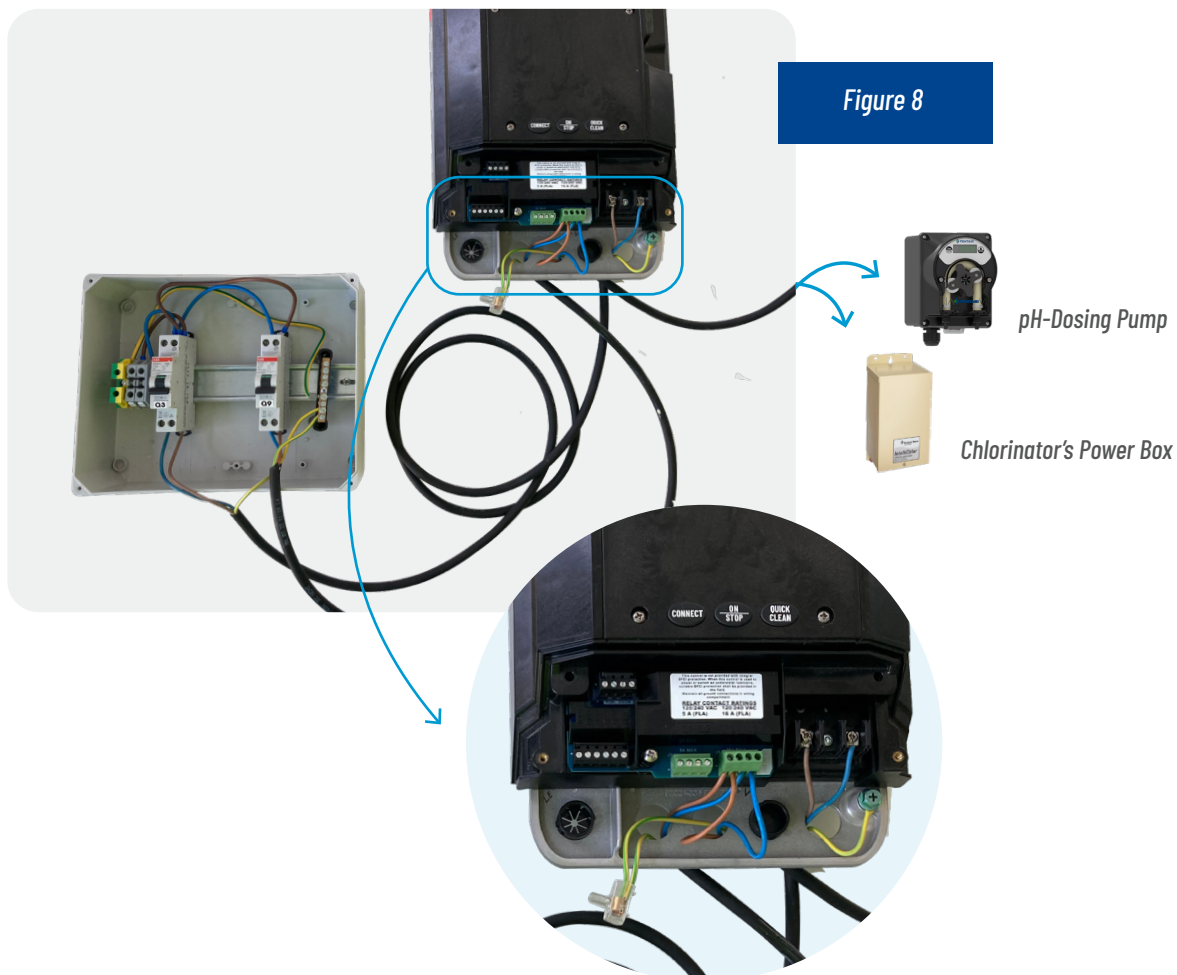

Figure 5

pH-Dosing Pump   Chlorinator's Power Box

Figure 6 Detail of IF3 relay connection to switchboard contactor

STEP BY STEP GUIDE

7. Connect auxiliary devices (pH/Rx regulation pumps or salt chlorine generators) to contactor output, Figure 8.

Figure 8

pH-Dosing Pump

Chlorinator's Power Box

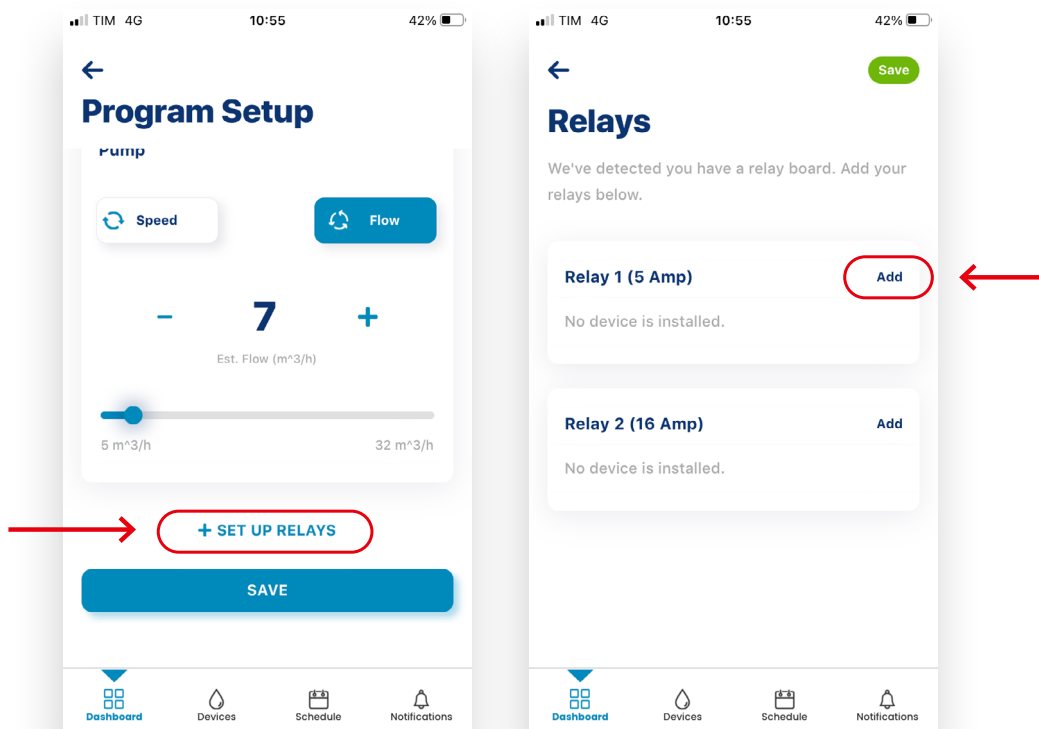**8.** IntelliFlo3 VSF is powered on. In order to make sure auxiliary devices such as a salt chlorine generator will run at desired time follow steps below.
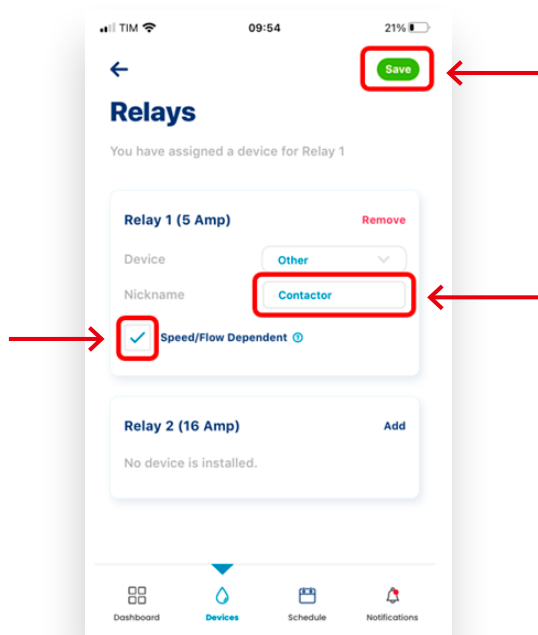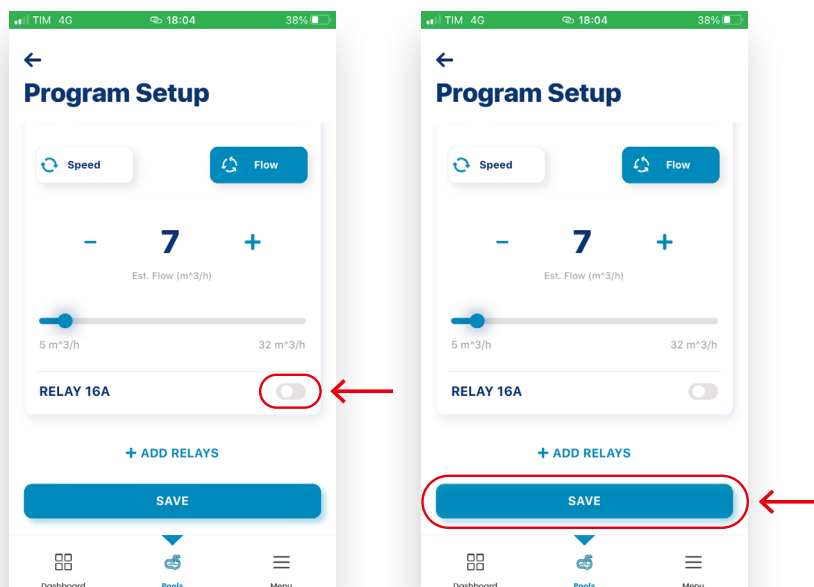
- **Create a new program and setup relays**

- **Add flow dependent tick (relay will close only when pump is running)**

STEP BY STEP GUIDE

- **Activate relay and save**

9. Test the pump to ensure it is working correctly. Turn on the main switch of the electrical panel. Verify supply to the pool pump and check that the pump is powered on.

10. Run the program configured at step 6. Verify auxiliary devices connected to contactor are active.

11. Set the IntelliFlo3 programs to the desired schedule for running and standby mode.

12. IntelliFlo 3 allow to create up to 8 different programs. On each program you can set relay on or off:

If relay is set ON, all device connected to the contactor will stay active during that program.

If relay is set OFF, pump will run its schedule and auxiliary devices will be turned off

Interested in learning how to upgrade your pool with a Pentair VS2 pump? Follow **our blog** (**Linkedin**, **Website**) we will soon publish a similar dedicated guide.

Optimize the efficiency of a smart & sustainable pool with the Pentair Speedeo Connect

The **Pentair Speedeo Connect** is the first step towards pool automation as well as its equipment.

It provides :

+ **Control of the variable-speed pump** by adjusting filtration according to the water temperature
+ **Control of the heat pump** by programming its remote activation
+ **Control of other equipment**, such as lighting

Speedeo Connect, the ideal companion for any variable speed pump.

When connected, it allows real-time and remote monitoring of the water and air temperature. It enables your clients to check whether all the equipment is functioning correctly and if the cover is closed from their couch or workplace...

Pool equipment automation allows for a more efficient use and improves their durability.

PENTAIR

PENTAIR POOL EUROPE

www.pentair.eu