



Save  
time



**Complies with the following standards:**

Directive 2000/14/CE and 2005/88/EC: Noise Emissions of equipment designed for use inside of buildings.

NF EN 60335-1 (May 2013): household and similar electrical appliances. Safety - general requirements

NF EN 60335-2-41 +A1+A2 (July 2010): safety of pumps belonging to household and similar electrical appliances

Directive 2014/35/EU: the Low Voltage directive

Directive 2011/65/EU RoHS 2 : Reduction of Hazardous Substances in electrical and electronic devices and Directive 201/863/CE "RoH 3"

NF EN 55014-1+A2 (February 2012): Electromagnetic compatibility. Part 1, Emission

NF EN 55014-2+A2 (July 2015): Electromagnetic compatibility. Part 2, Immunity

Directive 2014/30/EC: the Electromagnetic compatibility directive

NF EN 61000-6-1 (July 2015): Electromagnetic compatibility (ECM). Immunity for residential, commercial and light-industrial environments.

NF EN 61000-6-3 (July 2015): Electromagnetic compatibility (ECM). Emissions in residential, commercial and light-industrial environments.



BWT Best  
Water Home



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# Electrical panels



BWT PEARL CONNECT

Family Key products & 1910

## Pearl Connect, FREEDOM!

**NEW** **PRODUCT**

- Controls essential equipment: the filtration pump, underwater lights (white or colour).
- Controls ancillary equipment (up to 5 equipment items).
- Integrated antifreeze protection.
- Clogging alarm (pressure gauge not included).
- SKIMMING function: automatic, user-configurable system for optimised cleaning of the water surface.



BWT Best Water Home



WiFi connection, via your home internet router

Remote control via a smartphone app

Device for private pools, single phase only



Operating indicator light (normal, connected, etc.)

**Pearl Connect, is an electrical panel that can be used to control filtration, the pump, the underwater lights and other ancillary equipment. Simple, user-friendly and so very practical ! Thanks BWT !**

The panel is installed directly, no relays required! **Quick and easy!**



### Control ancillary equipment (up to 5 equipment items):

- Counter-swim treadmill
- Booster pump
- Lighting

### Can be used to control other BWT equipment:

- Automatic cover
- Variable speed pump (3-speed control)
- Clogging alarm



In the case of an overflow pool the filtration pump can be slaved to the buffer tank electrical panel.



Code	Description
669640	BWT Pearl Connect electrical panel, 4 A, 1ph
669650	BWT Pearl Connect electrical panel, 6.3 A, 1ph
669660	BWT Pearl Connect electrical panel, 10 A, 1ph
669631	BWT Pearl Connect Urbaine connected management box, single, 2A

## Controls pool equipment and more!

Allocation of auxillary connections to devices (booster pump, terrace lighting etc.) by the user (renaming)



Tracks and logs the water temperature, filtration run time and cost of running the filtration system.

Several **BWT Pearl Connect** panels may be paired simultaneously.

> available in 5 languages  
> for Android and iOS

## An intelligent application

Several operating modes are available for each device :

- Manual.
- Automatic, runs according to a programmed schedule, during peak or off-peak hours, or depending on the water temperature (temperature sensor and thimble included).
- For a duration set by the user via a timer.
- Each device can also be set to switch on automatically while filtration is running, or inversely to force filtration on while the device is running.

## Specifications and reminders



- Front mounted timer (standard version).
- All wires are capped.
- Connection terminals for the mains.
- Connection of the transformer secondary via a fuse holder.
- The cabinets are delivered with rigid cable glands as standard.
- Removable mounting bracket to facilitate installation.
- Over-sized transformer to avoid overheating phenomena.
- Neat, colour coded wiring.
- Cabinet mounting screws and bushings are provided.
- Appropriate wire cross section (2.5 mm<sup>2</sup> for the power unit).
- Two seals, one on the glass door, and one on the cover.
- May be recessed into the wall.



The electrical panel is equipped with a mounting bracket to facilitate installation and hold the electrical panel away from the wall to prevent water from infiltrating into the panel by capillary action.

## Recommended cable cross section according to the distance in metres from the underwater light (12 V power supply)

Cable cross section in mm <sup>2</sup> for one 25 W underwater light	from	to
<b>1.50</b>	<b>0 m</b>	<b>10 m</b>
<b>2.50</b>	<b>11 m</b>	<b>16 m</b>
<b>4.00</b>	<b>17 m</b>	<b>26 m</b>
<b>6.00</b>	<b>27 m</b>	<b>38 m</b>
<b>10.00</b>	-	-
<b>16.00</b>	-	-

Cable with 2 wires (no yellow/ green wires).

## Technical data:

- Technical data: Protection rating, IP55,
- Two levels of watertight protection,
- an o-ring on the cover,
- an o-ring on the plexi-glass door,
- Hinge mounted reversible smoked plexi-glass door,
- All the controls are protected behind the plexi-glass door,
- Rocker switches,
- Indicator lights (LEDs),
- Delivered with a circuit breaker, up to 14 Amp,
- Terminal block to facilitate connection,
- Generously proportioned for easy wiring,
- A wall mounting bracket is enclosed.

Each of our electrical panels is made of top quality components carefully selected on the basis of their excellent performance data. The injected resin casings were purpose designed to satisfy the requirements of pool builders and pool users. Electrical panels come with a wall mounting bracket and a suitably rated circuit breaker. They comply with the electrical safety standard NF EN 60335-1 and the EMC safety standards NF 55014 and NF 61000-6.

Code	Reference	Description
6608X0	CFP-100	Filtration electrical panel with transformer for 2 50W or LED underwater lights
6608X1	CFP-100 / BA	Filtration ctrl panel with transfo. for 2 50 W or LED underwater lights, with automatic cleaner option

**i** Depending on the region where the pool is installed, and/or the quality of the electrical supply to the pool (end of line), it may be necessary to protect the pool's electrical installation and thus the properties of the circuit boards and components equipping the various devices.

X	Circuit breaker
3	1.6 to 2.5 A
4	2.5 to 4 A
5	4 to 6.3 A
6	6.3 to 10 A
7	9 to 14 A

In order to select the appropriate circuit breaker, simply replace the letter X, with the number corresponding to the required rating

The circuit breaker rating must be greater than the maximum current consumed by the filtration pump.

The maximum currents drawn by the pumps are set out in the pump chapter in this catalogue.



1

## Technical data:

- RED-1: Pool level regulation electrical panel, comprising an adjustable level sensor, timer, brass 20/27 electric valve. Protected by a fuse.



2

## Technical data:

- RED-2: Balance tank regulation electrical panel comprising 5 stainless steel sensors (ground, pump shut down, electrovalve open and close, overflow safety). and a brass electrovalve 20/ 27. Protected by a fuse.

	Code	Reference	Description
1	667000	RED-1	Electronic pool level controller, with electric valve
2	667200	RED-2	Balance tank level controller (with 5 stainless steel sensors and 1 electric valve)

ELECTRICAL PANELS



### Technical data:

- Hinge mounted door.
- All the controls are mounted behind a protective plexi-glass door (no controls on the outside).
- Rocker switches.
- Delivered with a circuit breaker up to 14A.
- Delivered with the necessary bushings, screws and cable glands,
- All our electrical panels are fitted with a suitably rated thermo-magnetic circuit breaker.



X	Circuit breaker
<b>3</b>	<b>1.6 to 2.5 A</b>
<b>4</b>	<b>2.5 to 4 A</b>
<b>5</b>	<b>4 to 6.3 A</b>
<b>6</b>	<b>6.3 to 10 A</b>
<b>7</b>	<b>9 to 14 A</b>

In order to select the appropriate circuit breaker, simply replace the letter X, with the number corresponding to the required rating

Code	Reference	Description
<b>6708X0</b>	<b>SRF-100</b>	<b>Filtration electrical panel with transformer for two 50 W or LED underwater lights</b>

The circuit breaker rating must be greater than the maximum current consumed by the filtration pump. The maximum currents drawn by the pumps are set out in the pump chapter in this catalogue.

Each of our electrical panels is made of top quality components carefully selected on the basis of their excellent performance data. The injected resin casings were purpose designed to satisfy the requirements of pool builders and pool users. Electrical panels come with a wall mounting bracket and a suitably rated circuit breaker. Swimline electrical panels are fitted with indicator lights and top of the line components. They comply with the electrical safety standard NF 60439-1 and the EMC safety standards NF 55014 and NF 55104.

### Technical data:

- Hinged glass cover,
- All controls protected by the glass cover (no external controls),
- Supplied with circuit breaker up to 10 A,
- Terminal block for easy connection,
- Control and power supply for one or two LED lights,
- Supplied with the necessary plugs, fixing screws and cable glands,
- All our boxes come with an appropriate circuit breaker.



**i** To choose the appropriate circuit breaker, simply replace the letter X with the number corresponding to the required rating, using the table above as a guide.

Code	Désignation
<b>6808X0</b>	Filter box P-100, with circuit breaker for one or two 50 W LED lights

All our protection and control boxes are made from components rigorously selected for their very high performance. They come with an appropriate circuit breaker.

They comply with standards NF 60439-1 for electrical safety and NF 55014 and NF 55104 for EMC\*.

X	Disjoncteur	Puissance	
		Mono	Tri
3	1,6 à 2,5A	-	3/4 à 1 CV
4	2,5 à 4 A	1/2 CV	1,5 à 2 CV
5	4 à 6,3 A	3/4 CV	3 CV
6	6,3 à 10A	1 à 1,5 CV	4 CV

ELECTRICAL PANELS



## TRANSFORMERS

Family 2030



Code	Description
<b>716450</b>	Toroidal transformer 230V/12 V 100 VA (Swimline-SR-Light)

## ANTI-FROST

Family 2000



Code	Description
	Anti-frost box
<b>688000</b>	Anti-frost box

## TWO COMPONENT GEL

Family 2000



Code	Description
<b>8492300</b>	Two component gel, 500 ml



The two component gel insulates the connections inside the connection boxes.  
 Protection rating: IP68  
 Cure time: approx 15 minutes at 25 °C.  
 The gel can be easily removed to allow for interventions on the connections.

## ACCESSORIES

Family 2000



	Code	Description
1	708100	Timer without backup power (SR-Light - Swimline Electrical panel)
2	708200	Timer without backup power (to be built in)
3	708300	Timer without backup power (modular)
4	709200	Thermal magnetic circuit breaker, 1.6-2.5 A
	709300	Thermal magnetic circuit breaker, 2.5-4.0 A
	709400	Thermal magnetic circuit breaker, 4.0-6.3 A
	709500	Thermal magnetic circuit breaker, 6.0-10.0 A
	709600	Thermal magnetic circuit breaker, 9.0-14.0 A
5	713100	Filtration electrical panel 230V contactor

Back-up power: allows the timer to continue to run in the event of a power outage.

## CIRCUIT BREAKERS AND SWITCHES

Family 2000

### D curve circuit breakers

D curve circuit breakers perform the same role as D curve circuit breakers except that they accept a higher inrush current when the motor starts (heat pump, pump, etc. )..

Code	Description
	Circuit breakers, D curve
709974	Bipolar circuit breaker, D curve, 16A
709975	Bipolar circuit breaker, D curve, 25A

### Differential circuit breaker - type AC

A differential circuit breaker detects differences in the strength of the current measured on the phase line and the current returned to the neutral line. It provides protection for people, but alone, it cannot provide protection against power surges.

The French safety standard NF C15-100 requires installation of a 30mA differential circuit breaker for swimming pool applications. AC type circuit breakers provide adequate protection for most circuits.

Code	Description
	Interrupteur différentiel type AC
709950	Bipolar differential circuit breaker, type AC, 16A
709960	Bipolar differential circuit breaker, type AC, 25A



# Pool earthing :

## THE FUNCTIONAL EARTH

### Why earth a pool?

Earthing a pool removes any stray current present in the water.

### What is stray current?

Stray currents are undesirable currents present in the pool water. They are generated by static currents, pool equipment, fault currents, etc.

### Risks and effects of stray currents

Although they are not dangerous to people, stray currents can aggravate corrosion by electrolysing the metallic elements of the pool.

Stray currents can also interfere with the sensors of pool treatment devices, this can result in the injection of the wrong quantity of pool chemicals.

It is therefore essential to have a high quality, dedicated, pool-grade functional earth.

### How to check that a sensor is not being falsified by stray currents?

Place the sensor in a bucket of water (pool water) and look to see if the measurement varies with respect to the measurement taken directly in the pool. If the measurement does not vary, stray current is not interfering with the sensor.

### How to create a good functional earth for a swimming pool?

Never connect the pool's functional earth to the home's earth.

A good functional earth has a maximum resistance of 40 Ohms.

To reduce the resistance of the functional earth, position the earth peg in a damp area (for example, near a heat pump condensate drain).

If the resistance remains above 40 ohms, add an earth peg to achieve the recommended value.

### What equipment is needed to create a functional earth?

To avoid any confusion with the home's protective earth, never use a yellow/ green wire for the pool's functional earth.

We recommend that you use a purple or white wire, cross section 25 mm<sup>2</sup>, and an earth peg at least 1 m long in order to limit electrical resistance as much as possible and so facilitate the flow of stray current to earth.

### How to measure the resistance of the functional earth?

The resistance of the functional earth can be measured using an earth loop tester.

We offer a ready to use kit that is easy to use and completely safe. The kit includes a 7 m extension cable and an IP2X clamp.



FUNCTIONAL EARTH **PRO EXCLUSIVE**

Family 5600

The functional earth must be connected using a white or purple sheathed copper wire. Do not under any circumstances use a green/yellow wire or braided wire, these should only be used for electrical safety earthing.

Reducing tees (TFP-C) are ideal for new builds, while saddle clamps (TFP-R) are useful for integration into existing pools or pool renovation projects.



Code	Description
<b>1372450</b>	Functional earth (TFP-R) for existing pools, Ø 50
<b>1</b> <b>1372463</b>	Functional earth (TFP-R) for new pools, Ø 63



**We offer various kits:**

The TFP-R or TFP-C kits adapt to the pools' PVC pipework (50 or 63mm), they are suitable for new builds or retrofitting to existing pools.

The Earth Peg kit is comprised of a 25 mm<sup>2</sup> copper cable and a 1 m long earth peg. This kit limits electrical resistance as much as possible and facilitates the flow of stray current to the earth.



ELECTRICAL PANELS