

User manual SWIMEO prototype


DISTRIBUTION

NAME	Department / Position
P MOUYON	R&D

Change history	
Index	Description of the change
00	Creation

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01		04		07		10		BE18045		
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No.: A4-NT-5191-1-00										

1. Intended use of product.

The product delivered is a prototype which is intended to be assembled and tested by the customer. This product is intended to be used in a test environment only. It has no CE mark. It cannot be sold.

The product is a demonstrator which presents the performances of the standard equipment; however, modifications may be made to the series design. Among others:

- Removal of the control touch screen
- Addition of a turbine height adjustment.

Therefore, all improvement suggestions and comments are welcome.

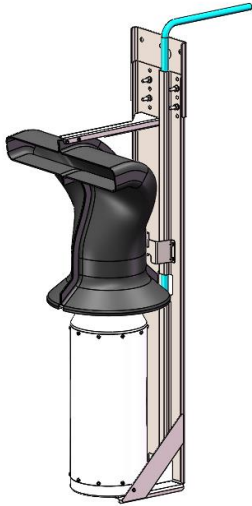
IMPORTANT:

The customer must carry out a risk assessment and put the necessary safety measures in place.

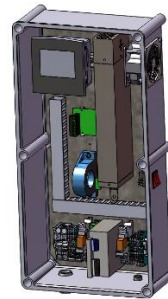
2. Components:

The Kit is made up of two components:

- The swimming turbine Ref X1943940001
- The control box Ref X05-0799401



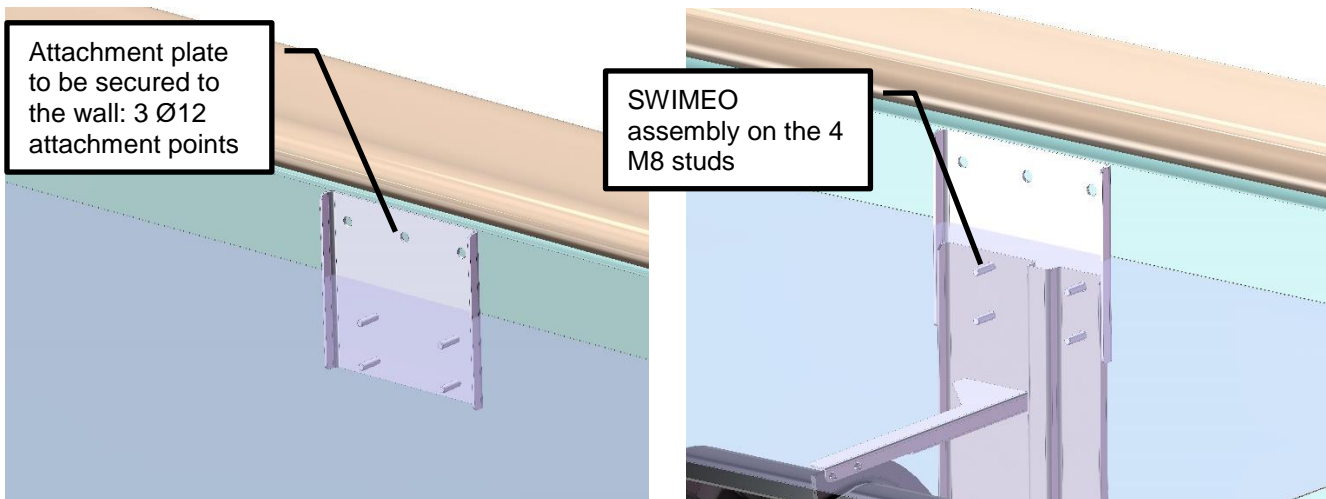
Turbine X1943940001




Box X05-0799401

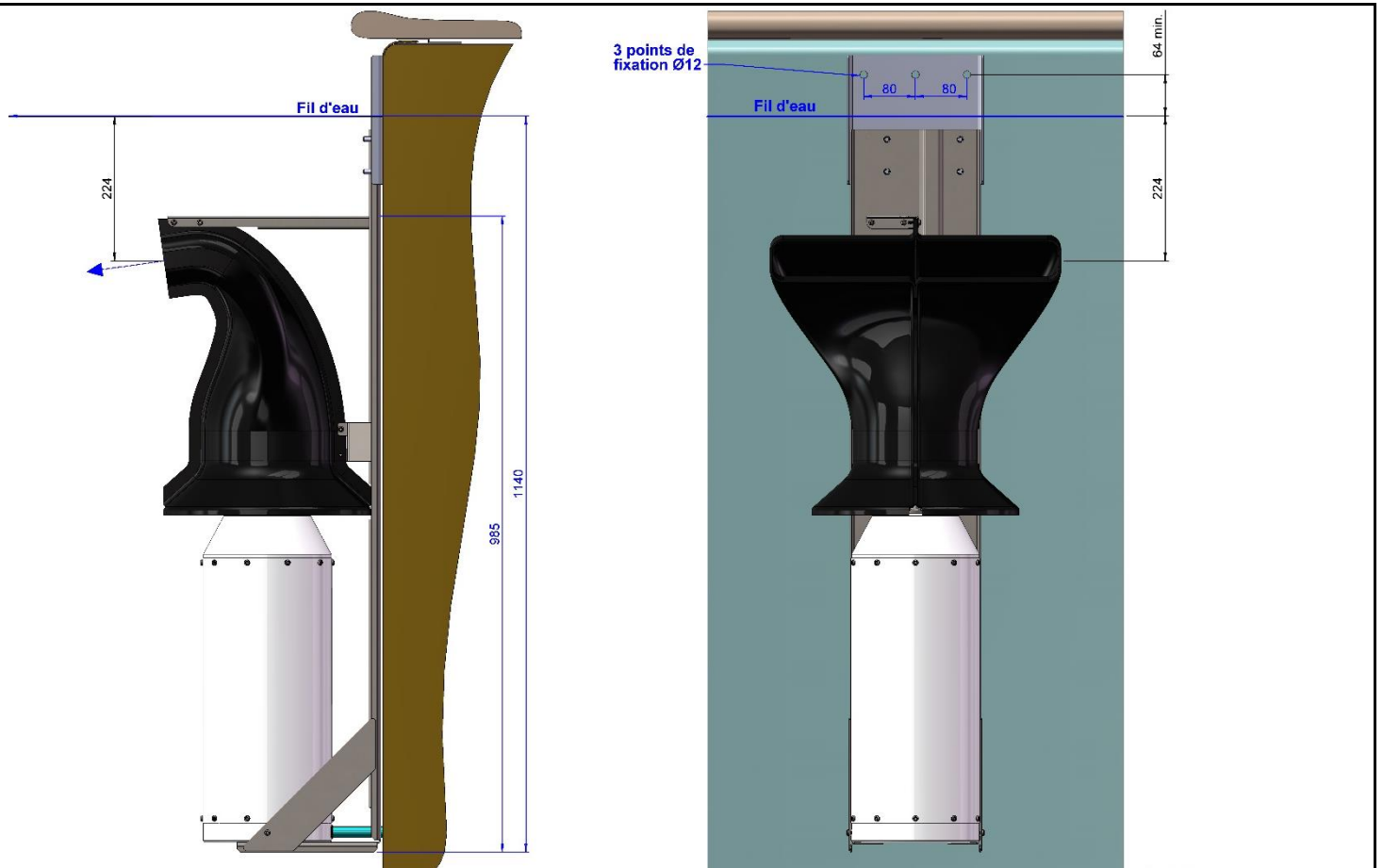
3. Installing the turbine in the pool:

The turbine must be assembled on a vertical pool wall using the attachment plate. As shown below:




The recommended assembly dimensions are provide below:

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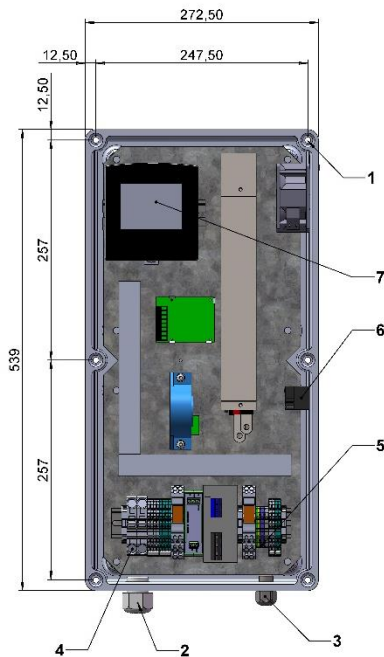


IMPORTANT:

- The turbine must always be handled by the metal frame.
- The turbine must be attached to the pool so as to prevent any movement during use
- The installer must put protective measures in place. The following in particular must be noted:
 - o The risks of injury by contact with the moving blade
 - o The risks of drowning due to being caught or pulled in.

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4. Installing and connecting the electrical box



- (1) Ø7 attachment points (x6)
- (2) Turbine cable M25 gland
- (3) Power supply cable M16 gland
- (4) Turbine terminal block: max cross section 16mm²
- (5) Power supply terminal block: max cross section 1.5mm²
- (6) Switch
- (7) Touch screen

Wiring must be done to current standards in the country of installation: EN60335-1 (January 2012), NF P90-308 (December 2013), NFC 15100 (December 2002), IEC60364-1 (2005), IEC60364-7 (2006)....

4.1. Connection to the mains

The box will be connected to a 30mA residual current device.

4.2. Connection to the earth

Protection against over-voltages will only be fully effective if the connection to earth has a resistance of less than 20 ohms. If the building's main earthing is a long way from the installation site, this may not be the case. Under these circumstances, it may be necessary to separate the main building earthing from this installation. A residual current device MUST then be installed specifically for the pool, in accordance with standard NF C15-100 or IEC 60364. See: http://www.activite-piscine.com/art-334-la_mise_a_la_terre.html?p=14

4.3. Fixing the box

The box is intended for installation in a location sheltered from the weather (not exposed to sunlight or rain). It should be secured to a vertical wall (1) at a height of at least 1.5 m from the ground with the cables connected at the bottom. The screws and pins needed to attach the box are not provided with it.

4.4. Cable passage and connection


The glands are delivered mounted on the box.

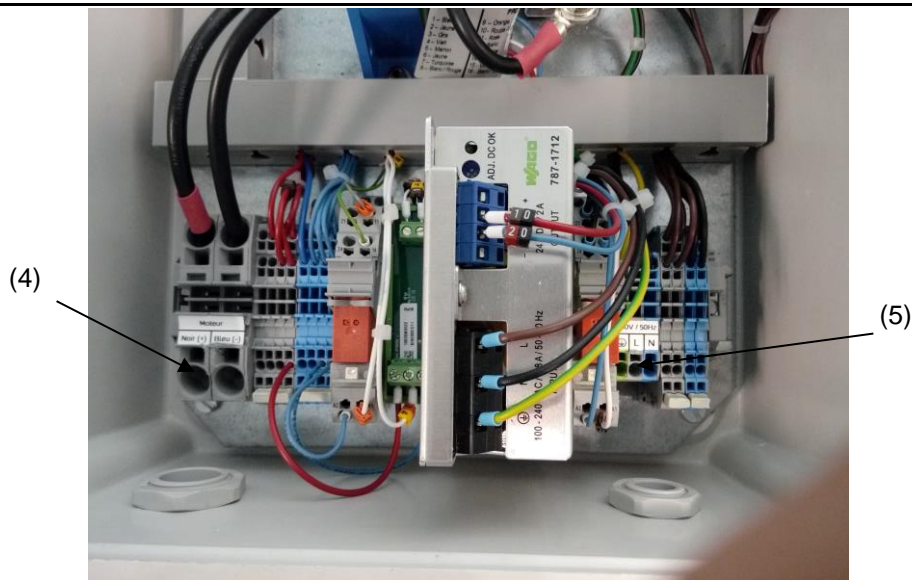
All cables connected to the box must pass through the glands:

- The motor cable is fitted through an M25 plastic gland (2). Its cross section will be between 12 and 18 mm. The cables are connected to the terminal blocks (4)
- The 230V power supply cable is fitted through the M16 gland (3). The cross section will be between 8 and 13 mm.

The box must be cabled with the power off. As follows

- The turbine cable connects to the terminal block (4) according to the colour code indicated in the box.
- The 230V power supply connects to the terminal block (5)

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The turbine is supplied with around 2m of cable. The customer may add an additional length of cable to adapt to their constraints. In this case, the connection must be made in a waterproof connection unit filled with gel or resin.

The copper cross sections to be used for the motor cable are:

- 10mm² for an additional length < 5m
- 16mm² for an additional length > 5m

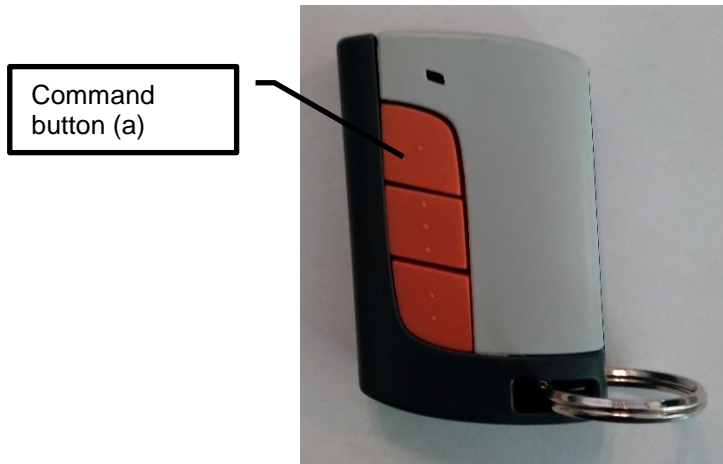
5. Use

After the turbine and the box are installed and connected. The power is turned on via the switch (6). The turbine is then ready for use. Two control resources are available to the customer:

- The touch screen (7)
- A remote control provided with the box

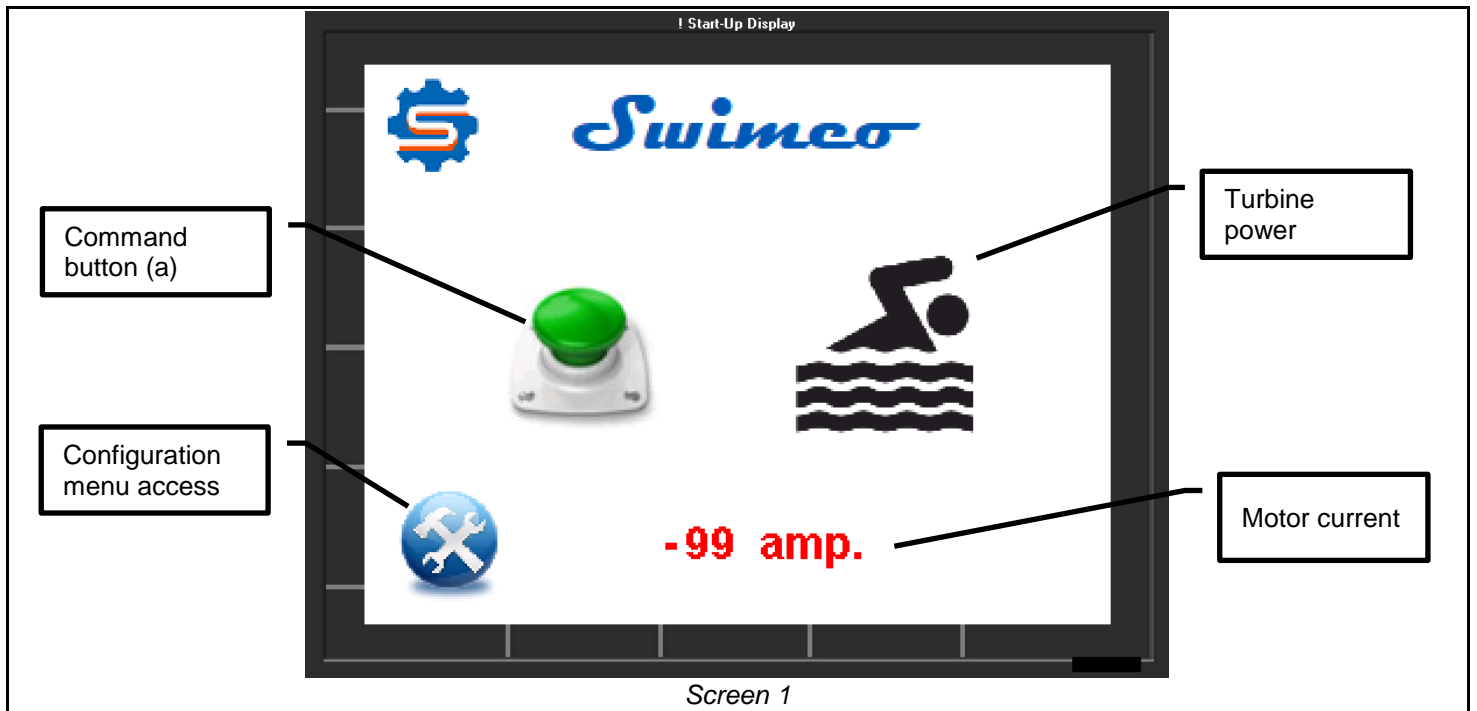
IMPORTANT:

The touch screen must only be used by people who have the necessary authorisation to work under voltage.



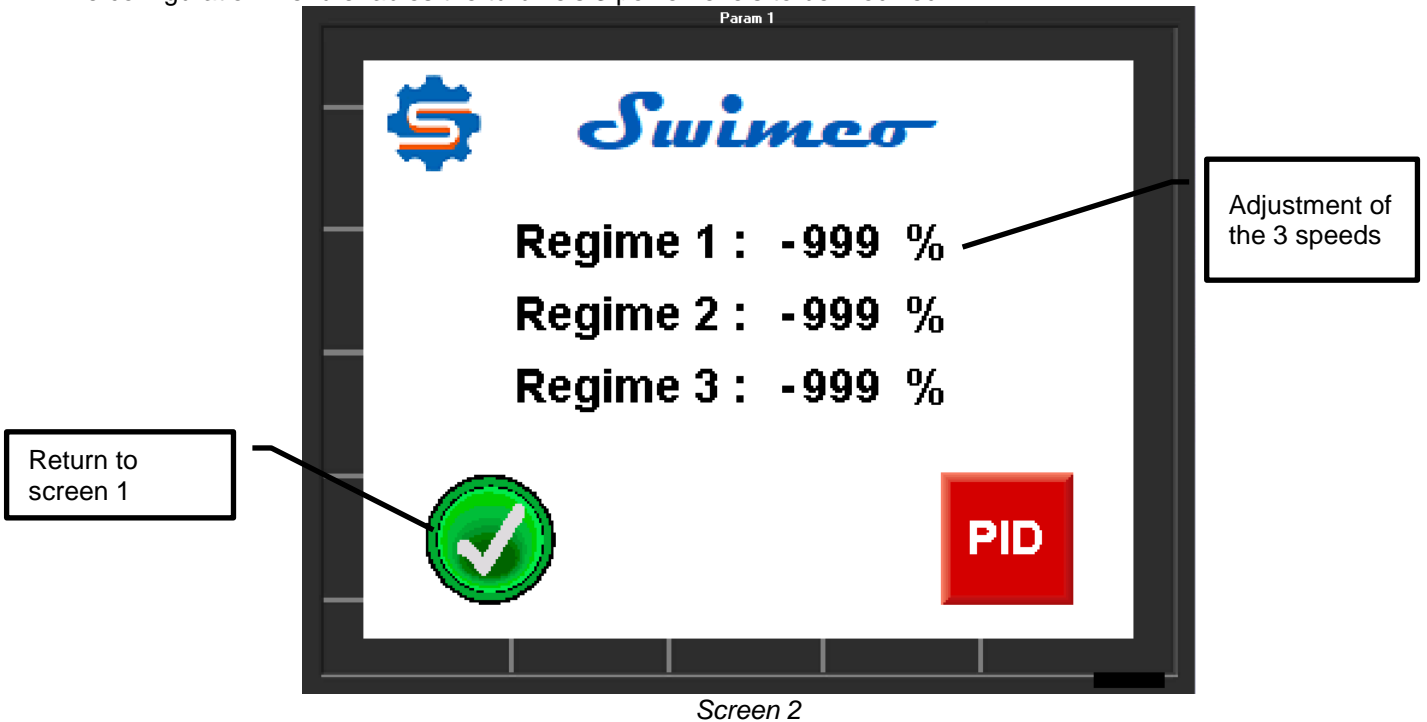
Remote control

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Pressing the button (a) on the touch screen or the remote control several times enables the turbine's speed to be modified (off, level 1, level 2, level 3, off, etc.)

The configuration menu enables the turbine's 3 power levels to be modified:



The turbine stops automatically after one hour of continuous operation.

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6. Electro-mechanical characteristics.

- Supply voltage: 220Vac-240Vac/50Hz.
- Motor supply voltage: 30V dc max. Regulation via the board.
- Max. motor current: 36Adc
- Box current requirement:
 - Under maximum load: 5 Aac
 - On start-up: 8 Aac
- Over-current protection:
 - 16A circuit breaker.
- Protection against over-voltages as per standards EN 61000-4-4 and EN 61000-4-5: **Not certified.**
- Electrical safety: compliance with standard EN60335-1 (2010): **Not certified**
- Electromagnetic emissions compliance with standards NF EN 61000-6-3 (residential environment) and NF EN 61000-6-4 (industrial environment): **Not certified**
- Box weather-proofing: IP**XX**.
- IP68 turbine weather-proofing
- Box weight: 8 kg.
- Turbine weight: 33 kg

7. Environment

The pool in which the turbine is placed has the following characteristics:

- Chemical:
 - Bleach concentration: < 5 mg/l (pH<=7.4) NaOCl
 - Chlorine concentration: < 1.5 mg/l (pH<=7.4) Cl2
 - Bromine concentration: < 5 mg/l (pH<=7.4) Br2
 - Hydrogen peroxide concentration: < 10 mg/l H2O2
- Water temperatures: between 0°C and +40°C.
- Air temperatures in storage: between -20°C and + 40°C

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