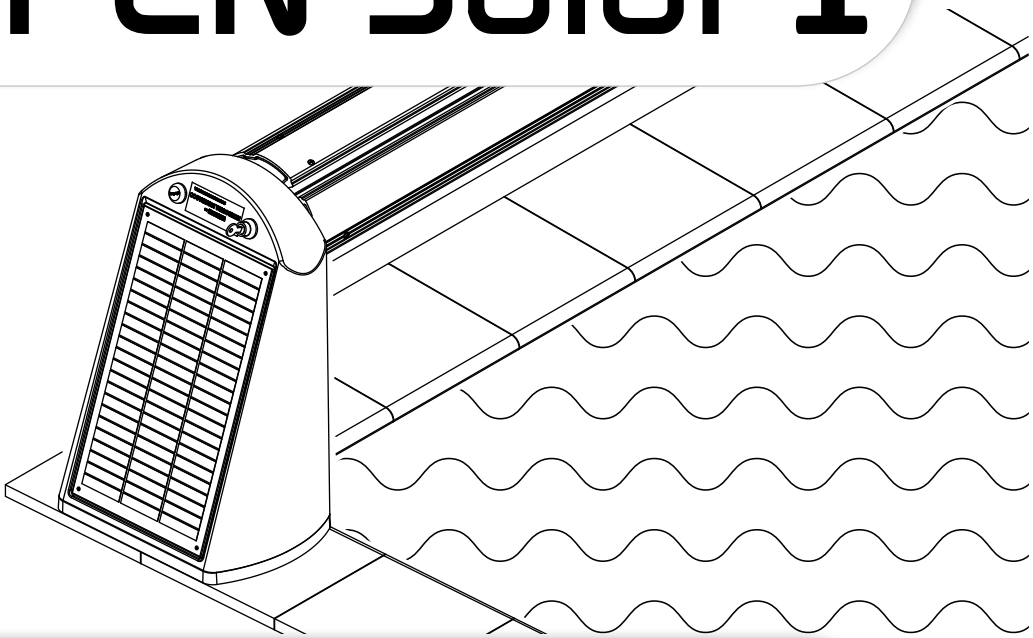
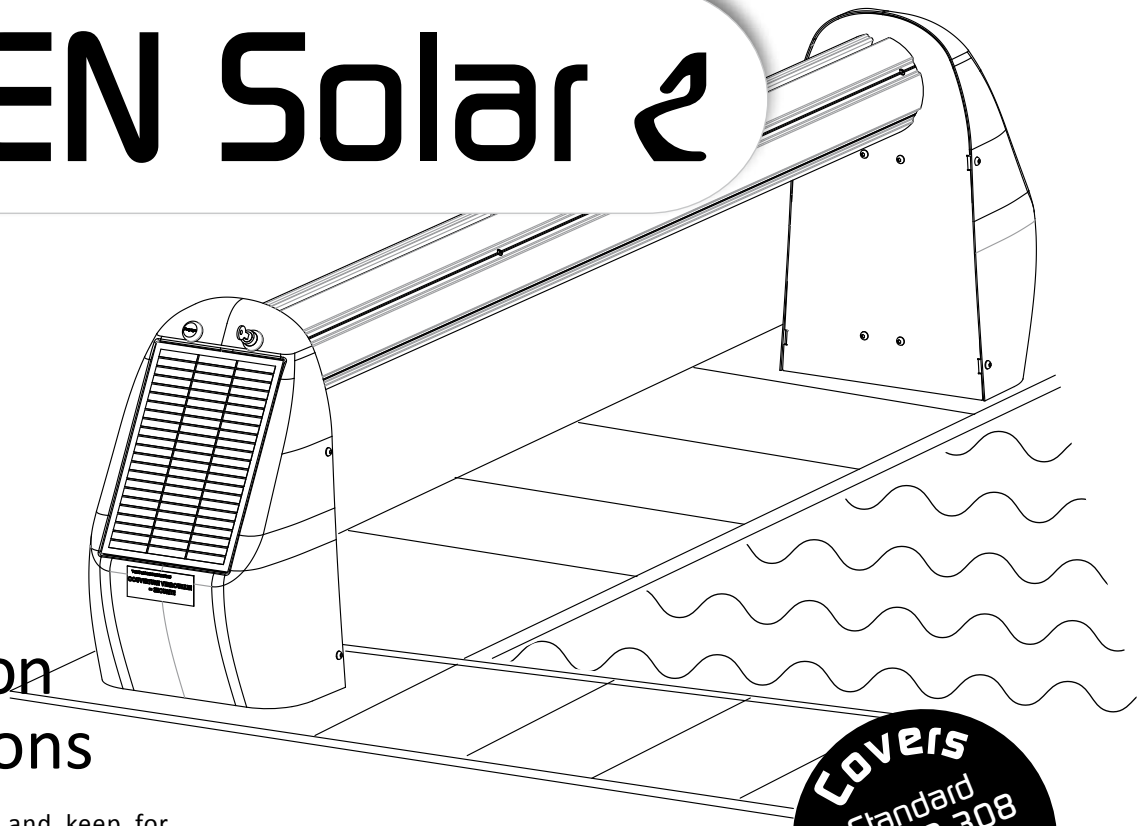
OUT OF POOL AUTOMATIC SAFETY COVER

OPEN Solar 1



OPEN Solar 2



Installation instructions

Please read carefully and keep for subsequent consultation
Version 10/2015

Covers Standard NF P 90-308 compliant

NEXT POOL

Abriblue

AE-12-229-2/10-2015

FOREWORD

This instruction manual is intended for the person who installs and commissions an ABRIBLUE automatic slatted cover.

This manual must then be given to the pool owner along with the safety and user instructions so that it is available for subsequent use.

The advice given in this leaflet is taken from the experience of AS POOL (ABRIBLUE): with over 70,000 automatic covers since 1995. The advice will allow the user to make the best use of this product which should give compete satisfaction to its users.

Compliant with the highest requirements, our safety cover was designed to prevent children younger than 5 years old from accessing the pool when it is unrolled and locked.

WARNING
The floating safety cover is not a substitute for your common sense or your responsibilities. It does not replace the vigilance of a responsible adult, which remains the essential factor in the protection of young children.

USEFUL ADDRESS

Your retailer (stamp):

CONTENTS

1. Preparing the pool

1.1 Building work

1.1.1 Concrete belt

Fig 1

Plan a concrete belt using a 350 Kg cement per m^3 concrete mix of a size of w 25 cm x h 40 cm x l 100 cm using at least 0.10 m^3 to stabilise the fixture of the roller.

1.1.2 Overflow

Fig 2

Plan to control the water level at 12 cm below the edge using a ø 50 mm overflow which is independent of the skimmers, and automatic filling.

1.1.3 Skimmer

When possible, plan to place the skimmers on the pool widths and not on the lengths in order to facilitate the movement of the cover.

1.2 Squaring checks

Fig 3

1.2.1 In order to correctly place your roller perpendicular to the pool lengths: measure the diagonals.

1.2.2 Make a mark (1) on the pool liner at the level of the edge opposite the cable exit.

1.2.3 Measure a precise length "A" of 1 m less than the length of the pool and make a mark (2), at the end of A on the pool liner.

1.2.4 On the opposite length make a mark (3) opposite mark (1).

1.2.5 Carry over the "A" measurement from (3) in order to place mark (4).

1.2.6 Measure the distance "B1" between (1) and (4).

1.2.7 Measure the distance "B2" between (2) and (3).

1.2.8 If B1 and B2 are equal continue with the next step, otherwise correct the position of marks (3) and (4) and start the operation again until B1 = B2.

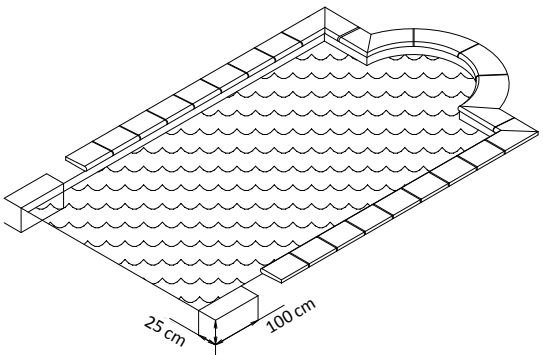


Fig 1

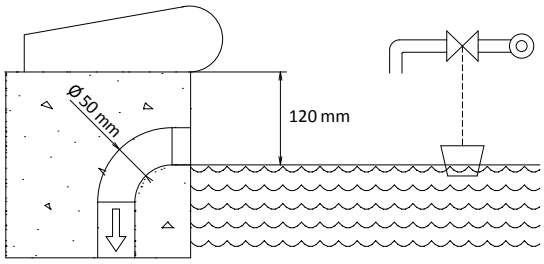


Fig 2

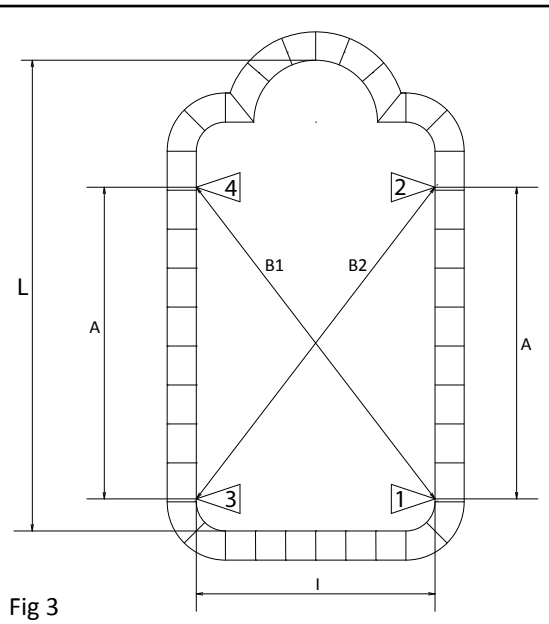


Fig 3

I	4.2	4.7	5.2	6.2	7.2	8.2	9.2	10.2	11.2	12.2
X	4.6	5.1	5.6	6.6	7.6	8.6	9.6	10.6	11.6	12.6

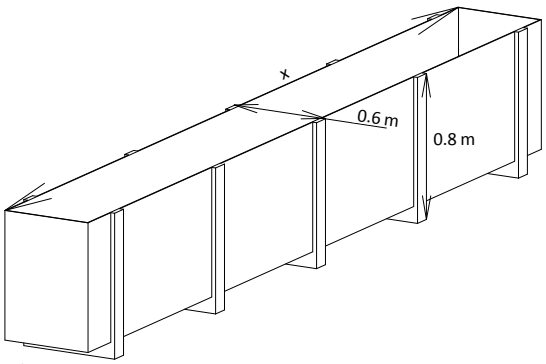
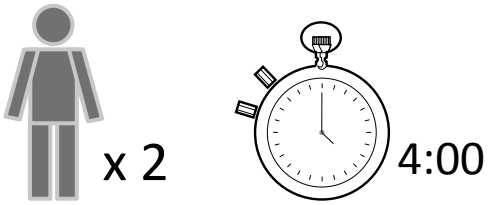


Fig 4



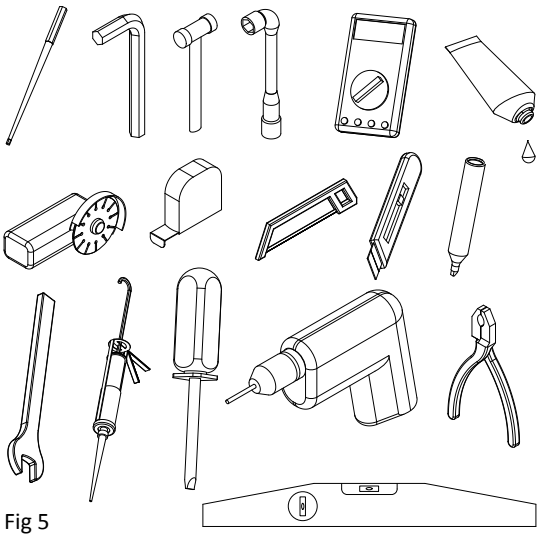


Fig 5

2. Delivery and Reception

2.1 Delivery

Fig 4

2.1.1 Plan the presence of 2 to 6 persons, or use a handling device to handle the cover. The cover is delivered in a non-recoverable wooden container measuring at least 40 cm more than the width of the pool. It is heavy and fragile.

2.1.2 For a 4 x 8 m pool, the container weighs 290 Kg and measures 4.6 x 0.6 x 0.8 (h).

2.1.3 For a 5 x 10 m pool, the container weighs 390 Kg and measures 5.6 x 0.6 x 0.8 (h).

2.2 Reception

2.2.1 Open the container in the presence of the delivery staff and check the condition of the goods and their compliance. Keep the original packing.

2.2.2 If there is any damage or missing parts, write down your reserves on the transport documents (e.g.: container open on delivery). The words "subject to unpacking" alone are null and void. Send a registered letter (with acknowledgement of receipt) to the transporter within 2 days. It is heavy and fragile. Send a copy of the letter to AS POOL for information.

2.2.3 Store the parts in the container which should not be left in full sunlight, but should be placed in a cool place if the assembly is not carried out on the same day.

2.2.4 Make the inventory compared to the order.

2.2.5 Read the instructions completely before starting the assembly.

2.2.6 The installation requires 2 persons for 4 hours.

2.3 Items in the container

- A slat apron
- A roller shaft
- A solar support kit for the shaft (only one support will hold the solar panel)
- A fixture kit
- An instruction manual

2.4 Necessary tools

Fig 5

Plan the equipment necessary for the assembly: a perforator, a set of flat spanners, socket wrenches and hex keys, a set of screwdrivers, a mallet, pliers, a level, a glue gun, a cutter, a multimeter, a tape measure, a grinder, a marker and a saw.

3. Assembling the roller

Note: For the Open Solar 2, all the following roller assembly steps are to be carried out with the counter-plates fixed to the stands.

3.1 Fitting the shaft onto the posts

Fig 6

3.1.1 Lubricate the contact parts using a silicone-based grease.

3.1.2 Assemble the motorised tube to the post on the motor side by inserting the motor end into the white shaft bearing taking care to place the motor cable exit towards the ground and the end of run adjustment screws towards the sky.

3.1.3 Pin the motor end to the shaft bearing using the M8x80 bolt and tightening the nut onto the washers above the shaft bearing.

3.1.4 Pass the white motor cable through the pre-drilled hole half way up the post to connect it inside the support.

3.1.5 Uncoupling the roller involves freeing the cable and unpinning the M8x80 bolt while accompanying the unrolling.

3.1.6 Fig 7

Assemble the motorised tube to the post at the opposite end to the motor by inserting the shaft into the white shaft bearing and placing the bolt inside the post.

3.1.7 Fig 8

Make sure that the posts are placed against the shaft.

3.1.8 Fig 9

If the posts cannot be placed tightly, install a blocking ring which should be ordered from us.

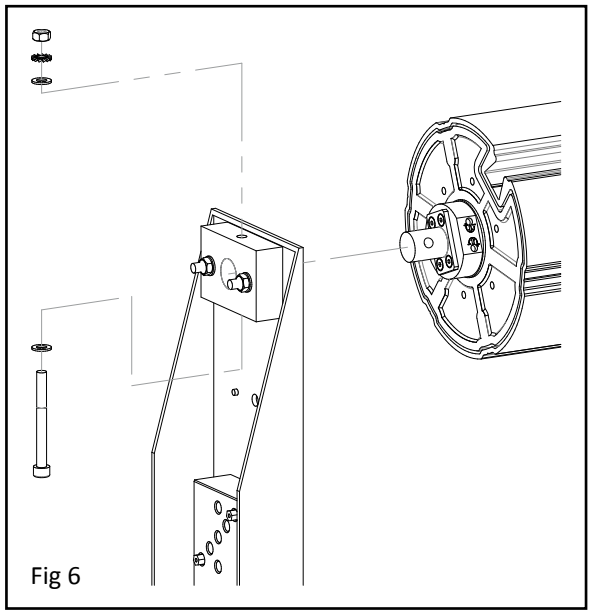


Fig 6

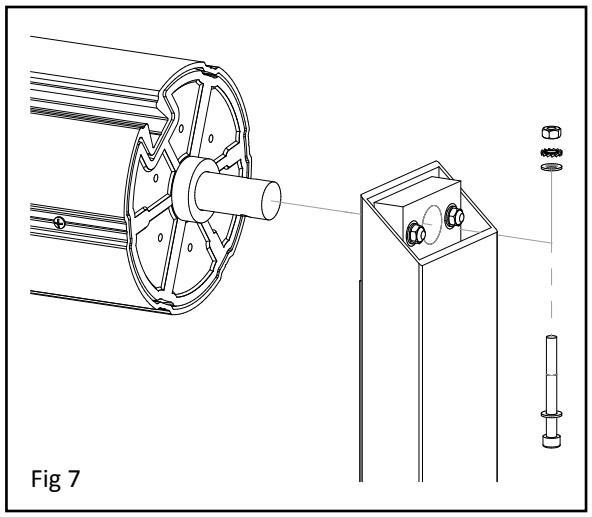


Fig 7

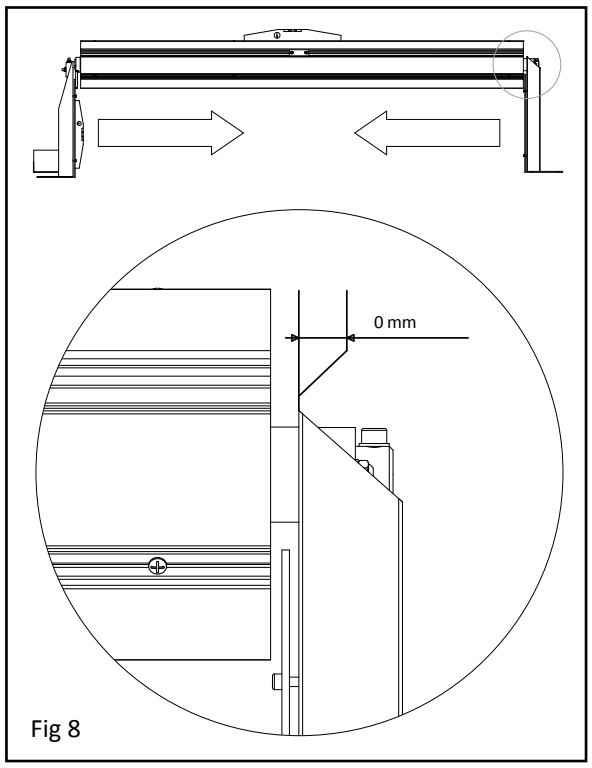


Fig 8

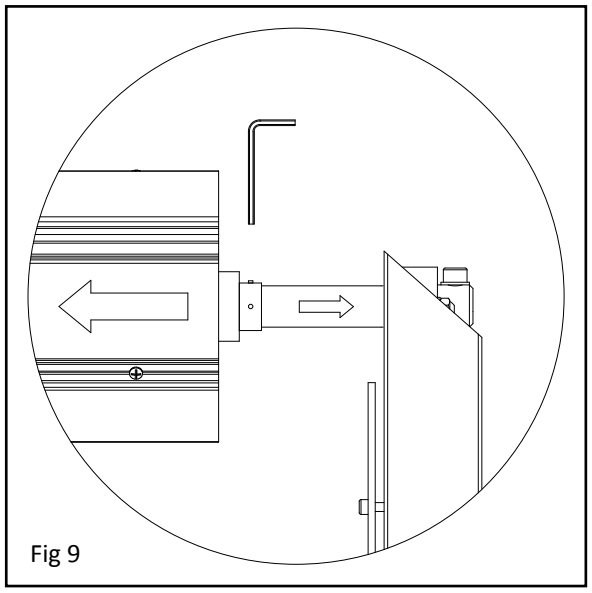


Fig 9

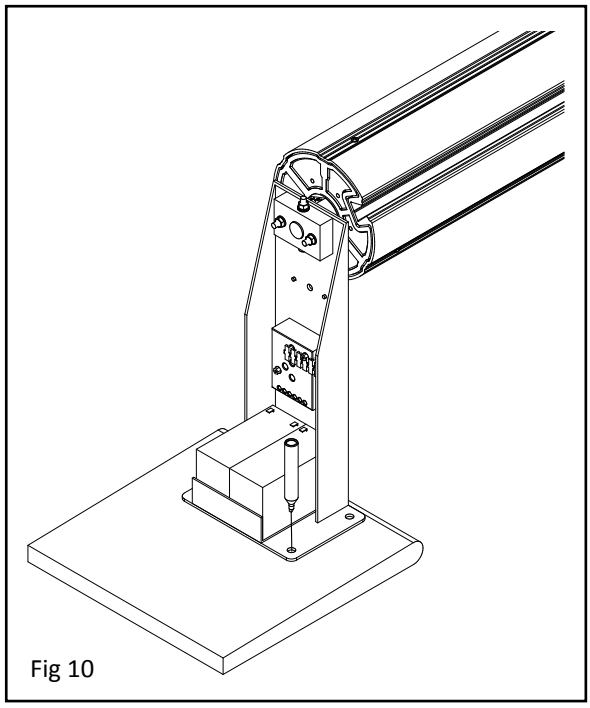


Fig 10

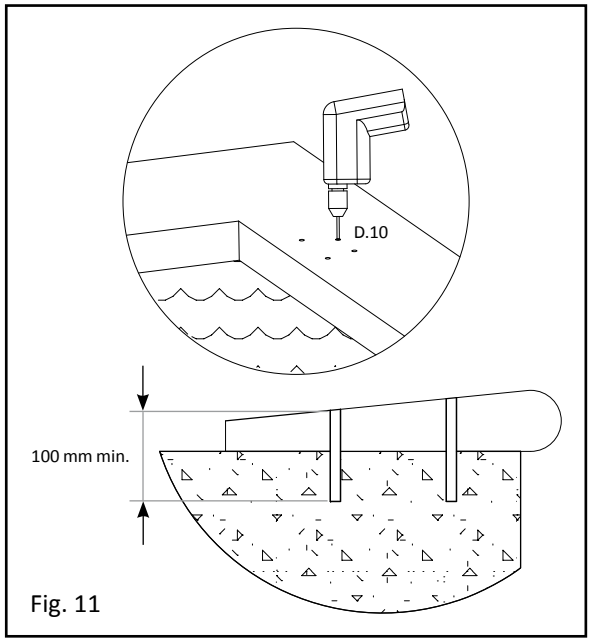


Fig. 11

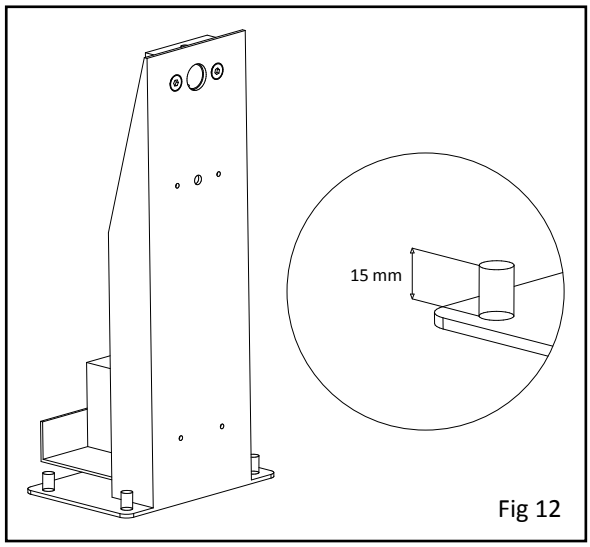


Fig 12

3.2 Placing the roller on the pool

Fig 8

3.2.1 Check that the shaft and the posts are level (horizontally and squared) and that the rolling tube is centred on the line formed by 1 and 3 (see Fig. 3).

3.2.2 Choose the side most exposed to sunlight for the motor post.

3.2.3 Fig 10

After having correctly positioned the cover on the pool, mark the position of the 8 fixing points for the posts using a marker. Then shift the roller.

3.3 Preparing the fixtures

Fig 11

Drill 10 mm diameter holes penetrating the concrete belt 100 to 120 mm.

3.3.1 Clean the holes by blowing.

3.4 Placing the threaded rods

Fig. 12 et 13

Prepare the threaded rods so that they protrude 15 mm above the post plate. If the pool copings are sloping or rounded, use the M8 nuts to adjust the level.

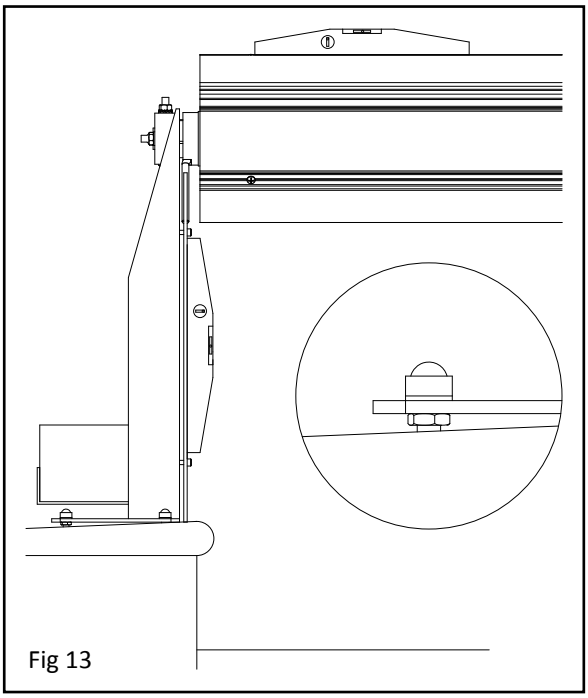


Fig 13

3.5 Sealing the threaded rods

Fig 14

3.5.1 Press the chemical sealing cartridge until an even mixture is obtained.

3.5.2 Inject a dose of one sealing graduation into each drilled hole and place the threaded rods as you go.

3.5.3 Respect the drying time indicated on the cartridge.

3.6 Cutting the pool copings

Fig. 15 and 16

Cut the ends of the pool copings (if they overhang the pool) for a length "x" depending on the length of the pool "L" in order to allow the slats to move from the shaft to the pool.

3.7 Adjusting and tightening the posts

3.7.1 Fig 17

Mount the lower M8 nuts (for the level adjustment if the coping is sloping or rounded) on the posts, the flat washers and the M8 nuts.

3.7.2 Fig 13

Adjust the verticality of the posts and the horizontality of the tube using the lower nuts.

3.7.3 Fig 17

Tighten using a torque wrench set at 40 Nm.

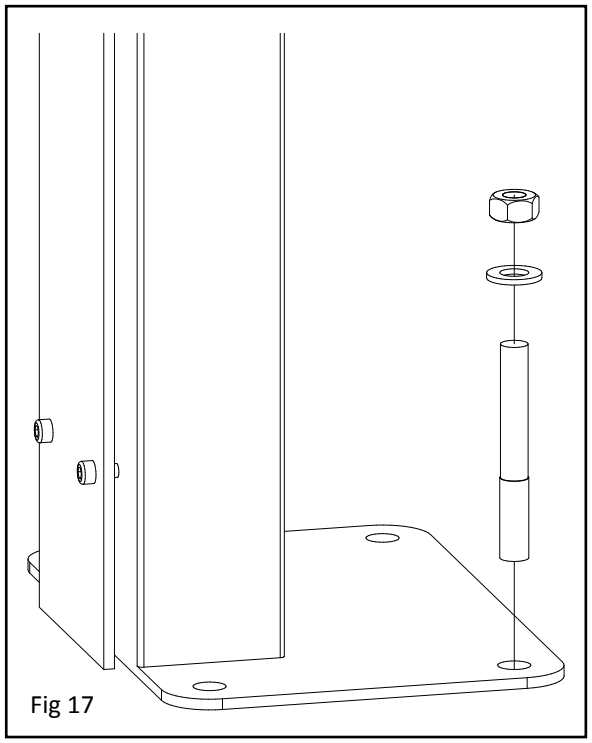


Fig 17

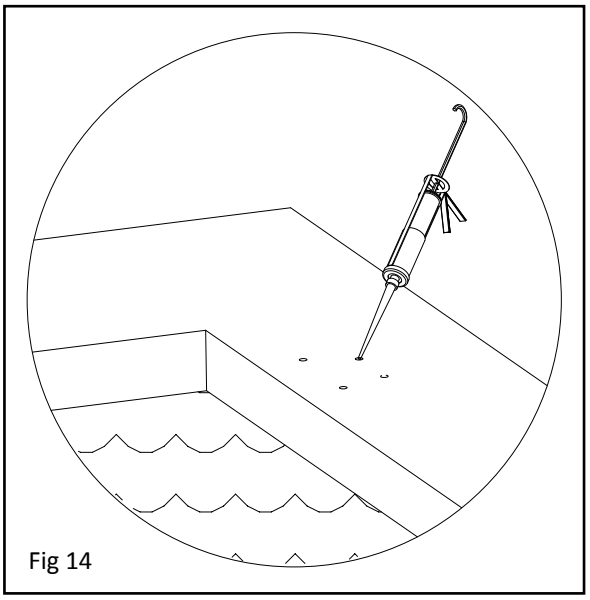


Fig 14

L	4	5	6	7	8	9	10	11	12	13	14	15
X	290	300	310	320	330	340	350	360	370	380	390	400

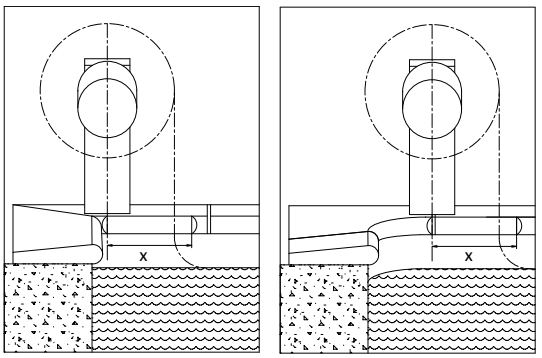


Fig 15

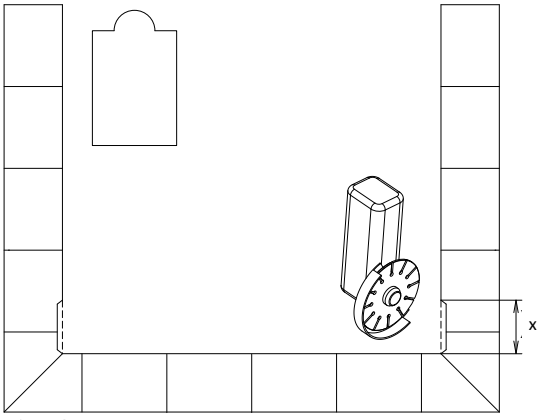


Fig 16

3.8 Installing the casing

3.8.1 Open Solar 1

Fig 18

Slide the casing fitted with the panel onto the stand on the motor side. It must be positioned between the stand and the casing clamp. Then screw the casing clamp.

3.8.2 Open Solar 2

Fig 19

Place the Open Solar 2 casing on the stand. Then fix the casing on either side against the counter-plate using 4 TRHC M6 screws.

Note: The counter-plate is pre-fitted to the stand in the factory using 4 TRHC M6 screws.

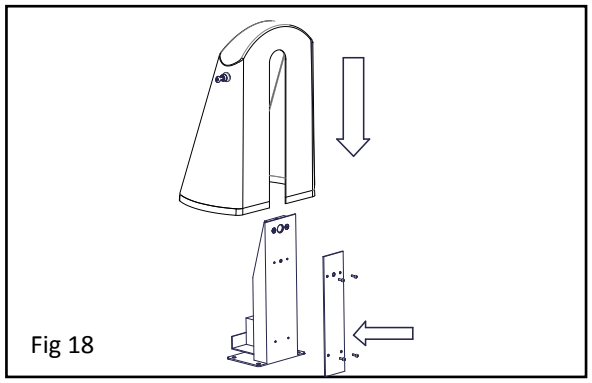


Fig 18

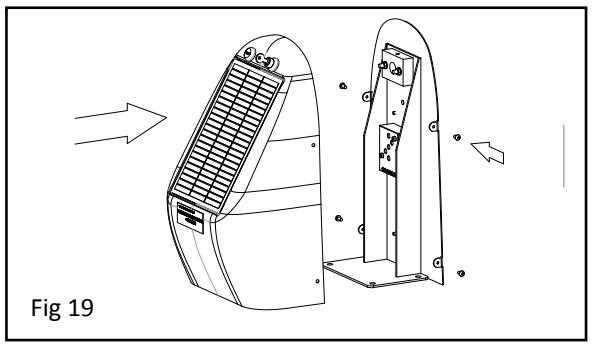
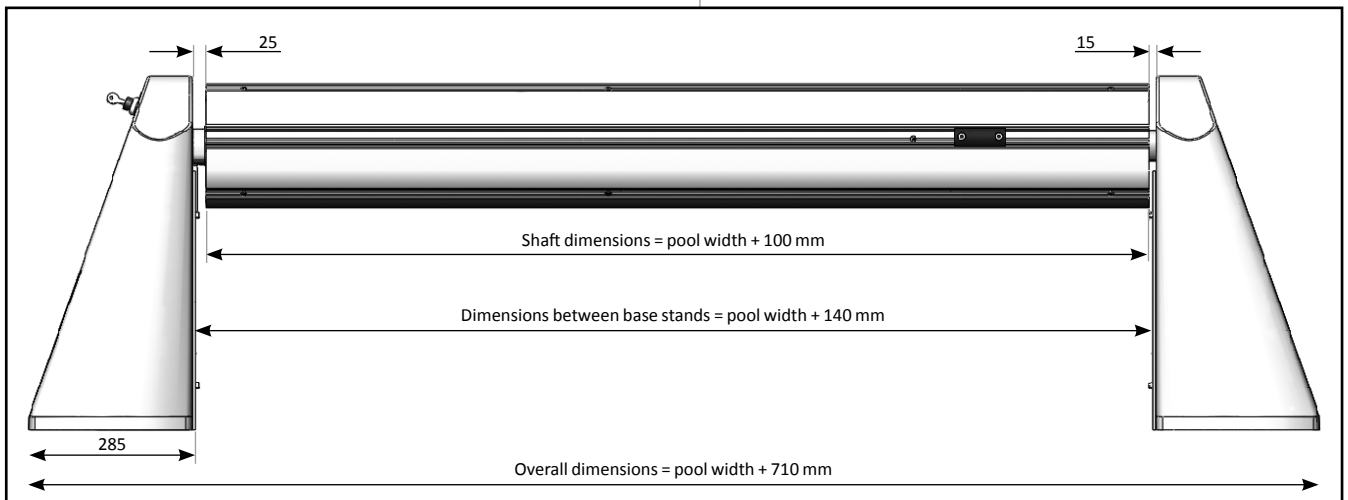


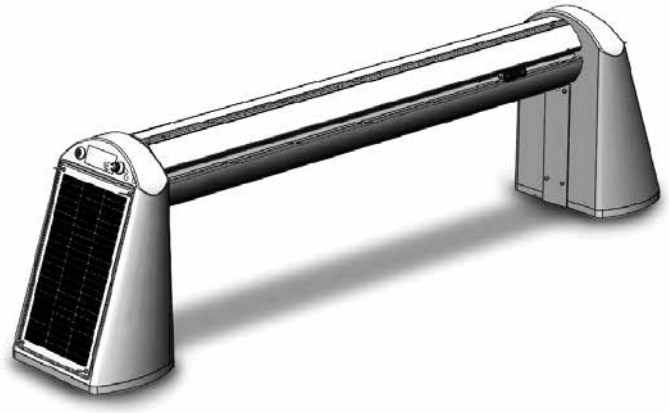
Fig 19

3.9 Final overall dimensions of the pool cover

Fig. 20 et 21



Pool length	D: min. diameter needed
8 m	560 mm
10 m	660 mm
12 m	660 mm
14 m	680 mm
16 m	720 mm



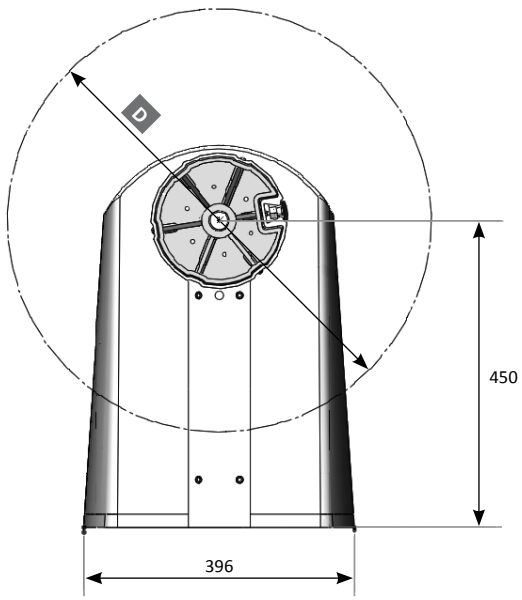
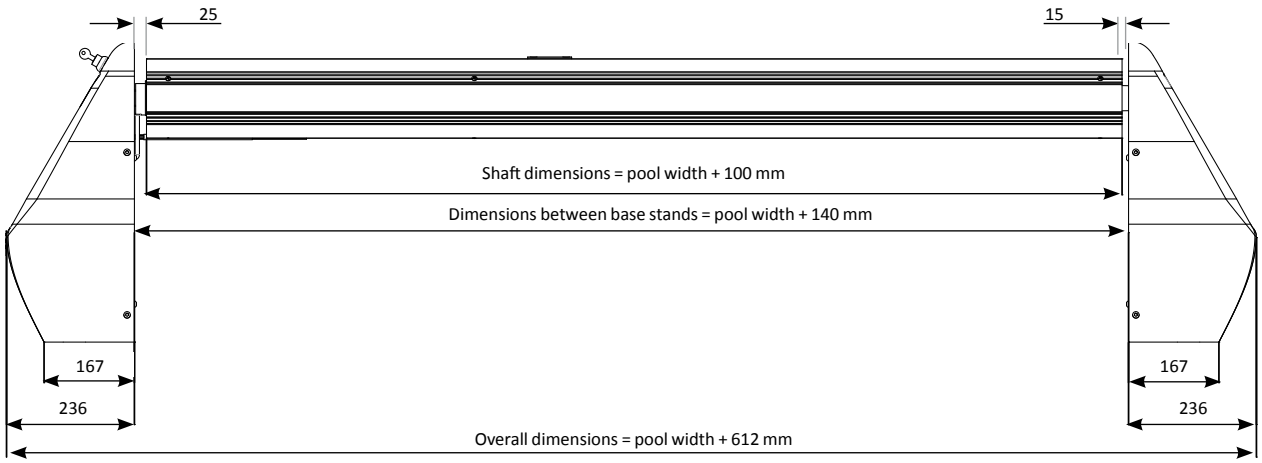
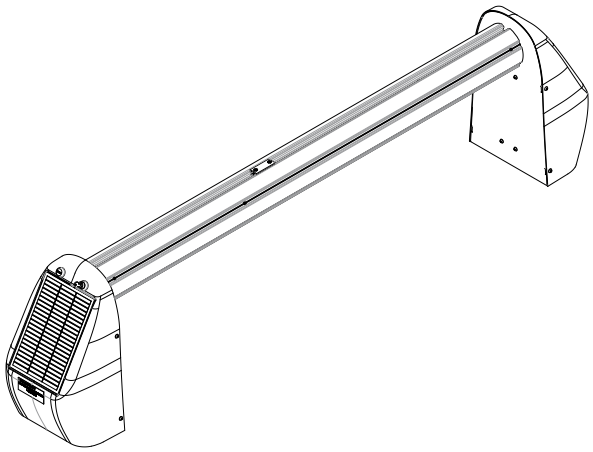


Fig 20 **Open Solar 1**



Pool length	D: min. diameter needed
8 m	560 mm
10 m	620 mm
12 m	660 mm
14 m	680 mm
16 m	720 mm



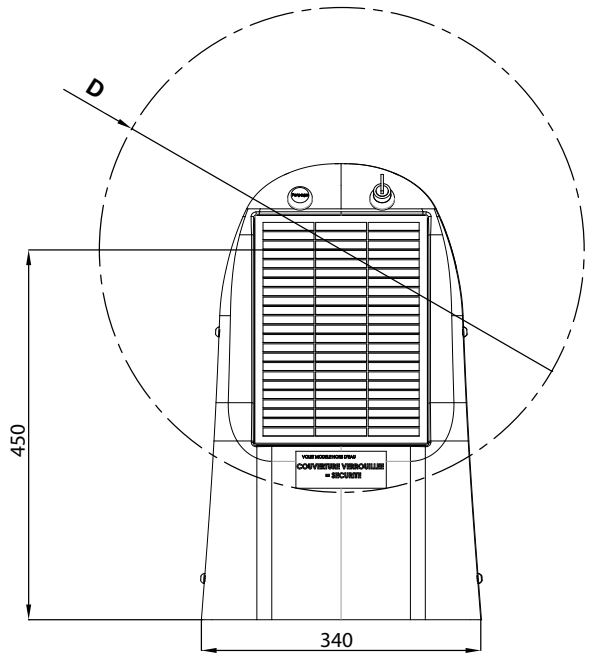


Fig. 21 **Open Solar 2**

4. Electric connections

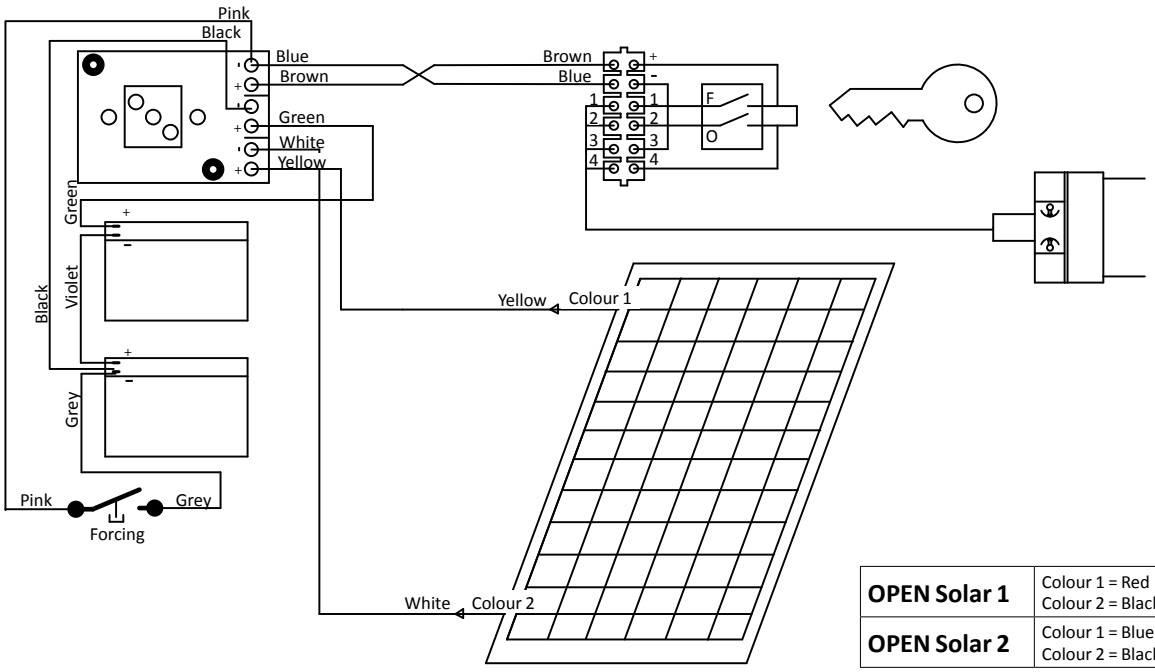
4.1 Motor and key switch

Fig 22

4.1.1 Place the batteries on the support.

4.1.2 Complete the wiring as shown on the diagram below.

Have the electric connections made by a qualified technician in compliance with current standards.
Fix the transformer box in the technical room.



OPEN Solar 1	Colour 1 = Red Colour 2 = Black
OPEN Solar 2	Colour 1 = Blue Colour 2 = Black

Fig 22

4.2 Roller rotation test

Fig 23

4.2.1 Test the tube's rotation in both directions. The slats roll by passing over the shaft. If the movement does not correspond to the correct direction, invert wires 1 and 2.

4.2.2 Let the tube turn in the unrolling direction until the motor stops (end of run stops, unrolling).

4.2.3 Finish the adjustment of the end of run stops once the cover's slats have been assembled.

4.3 Uncoupling

4.3.1 Switch off the box.

4.3.2 Block the rotation of the shaft while keeping the slats rolled around.

4.3.3 Loosen the composite cover and remove it. Disconnect wires 1, 2, 3 and 4 of the motor cable so as to slide it completely towards the shaft and remove the locking screw present in the white Technyl bearing.

4.3.4 Manually accompany the unrolling of the cover, making sure that the motor cable does not get entangled.

4.3.5 Lock the safety mechanisms.

4.3.6 When commissioning the roller, a new adjustment of the motor end of run stops will be needed.

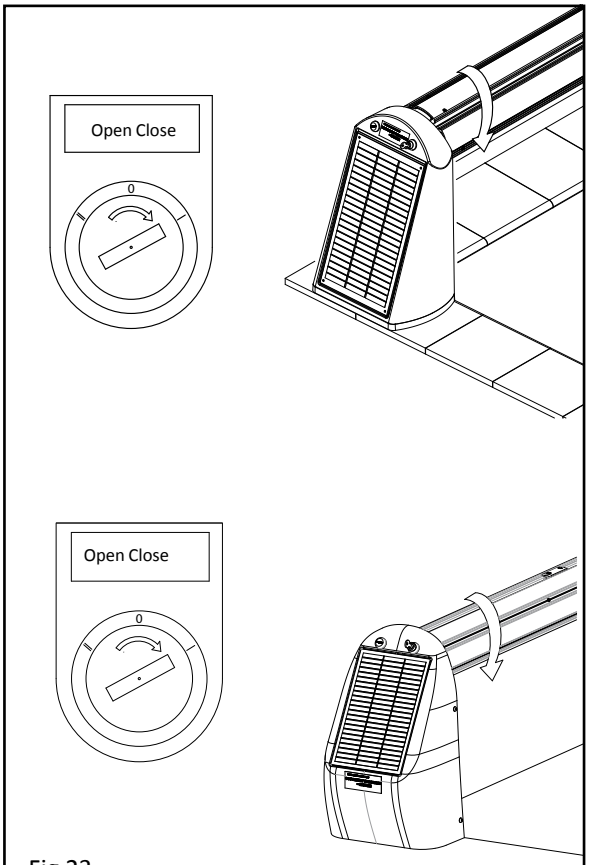


Fig 23

5. Assembling the slats

Special care needs to be taken when handling the slats. Shearing can cause irreparable damage to the caps. This is why they must not be assembled by threading.

5.1 Placing the slats on the water

Fig 24

5.1.1 Transfer the slats directly from the container to the pool water avoiding all mechanical contacts. Prevent the slats from rubbing against the ground.

5.1.2 Place the packets of slats directly onto the water, curved side towards the sky and the double male hook on the side opposite the roller. Place the specific groups of slats (the group fitted with straps to hook to the shaft on the roller side, the group fitted with the other anti-lifting mechanisms on the side opposite the roller, and the slats for the stairs).

5.2 Assembling the slats

Fig 25

5.2.1 Assemble the slats by clipping them together by inserting the double male hook into the female part of the preceding slat and then by pushing the slats up into a "V" shape towards the sky.

5.2.2 Make oscillating movements in order to cause click-fitting along the whole length of the slat.

5.3 Adjusting the number of slats

Fig 26

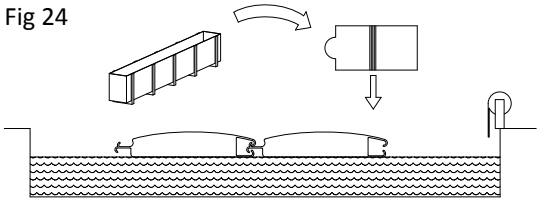
Only keep the slats needed to cover the entire surface of the water when joined in the pool, any extra slats should be put away.

5.4 Controlling the fit

Fig 27

Place the cover against a length of the pool. Check that there is a gap greater than 2.5 cm between the ends of the wings and the sides of the pool (needed for operation) and less than 7 cm (otherwise the cover is no longer compliant). 10, 20, 25 and 30 mm wings are available on order.

Fig 24



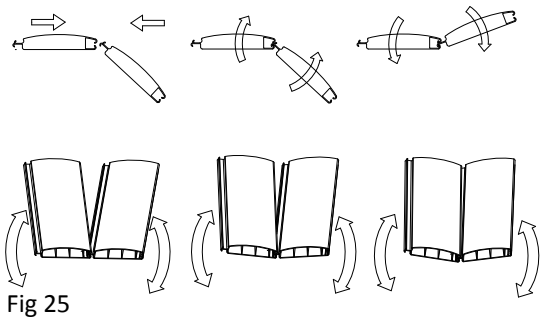


Fig 25

Fig 26

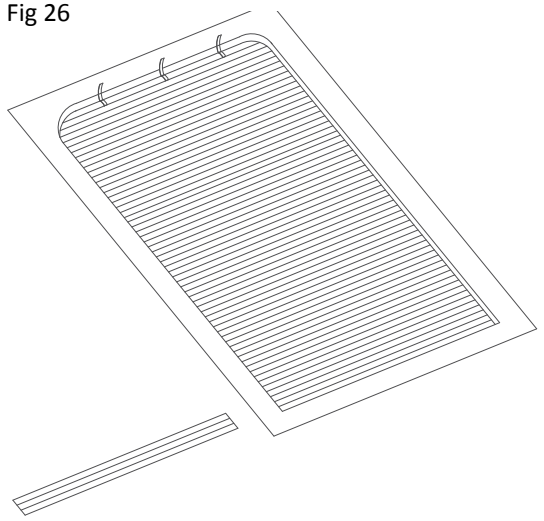
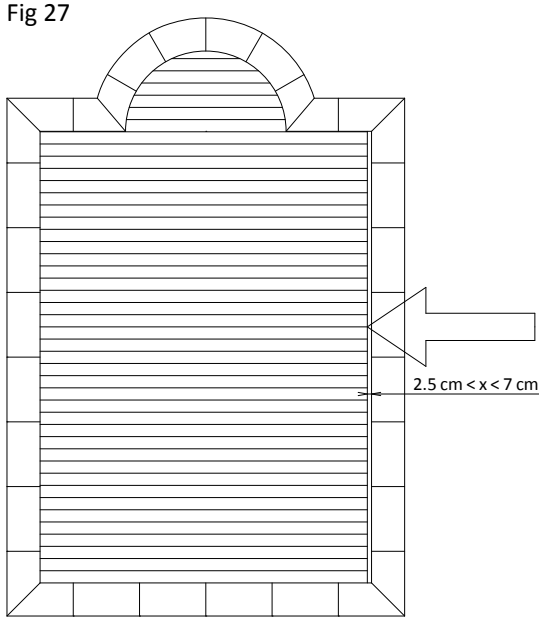


Fig 27



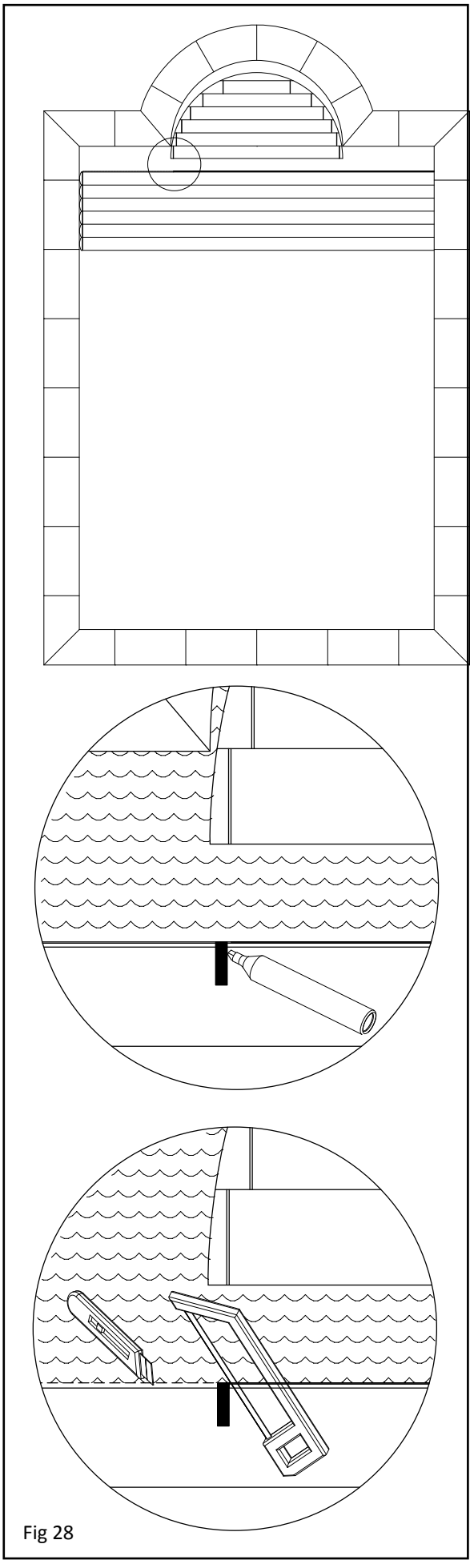


Fig 28

5.5 Installing the stair slats

Fig 28

Centre the stair cover in its housing and assemble it to the rest of the cover by making a notch in the double male hook on either side of the stairs in order to leave the space for the cap on the base stair slat.

5.6 Slat orientation ski

Fig 29

So that the slats unroll towards the opposite side of the pool, place the orientation ski on the lower face of the cover between the slat the furthest from the roller and the next one after having flattened it. Reshape it to its curved shape in order to raise the first slat which drops down into the water in order to ease the unrolling and prevent the cover from going backwards.

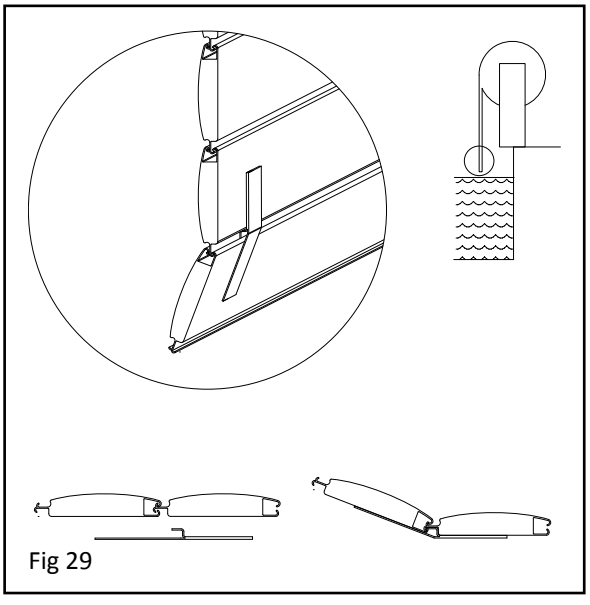


Fig 29

5.7 Fixing the apron to the pool

Fig. 30

For IMM'AX, IMM'AX Solar Energy, IMM'BOX, VEESIO, NO STRESS, BANC Classic and BANC Solar Energy slatted covers, place the safety systems only on the width opposite the roller.

However, for the MANU, OPEN One, OPEN Classic, OPEN Solar Energy, OPEN SURF System, BANC SURF System and DIVER slatted covers, place the safety systems on both widths of the pool (i.e. on the roller side and the side opposite the roller).

5.8 Fixing the anti-lifting buckles

5.8.1 Fig. 31 & 33

Fix the female loops on the sides 40 mm above the water line, opposite the anti-lifting mechanisms pre-installed on the slats.

5.8.2 Fig. 32 & 34

Option for fixing to the pool edge, fix the bracket support into the concrete belt, under the coping, applying the bracket against the pool side.

5.8.3 Carry out a clipping and unclipping test on all mechanisms.

Tighten the straps to press (flatten) the slats against the wall and provide good pool safety.

All of the anti-lifting devices must be unlocked to handle the cover and adjust the run stops.

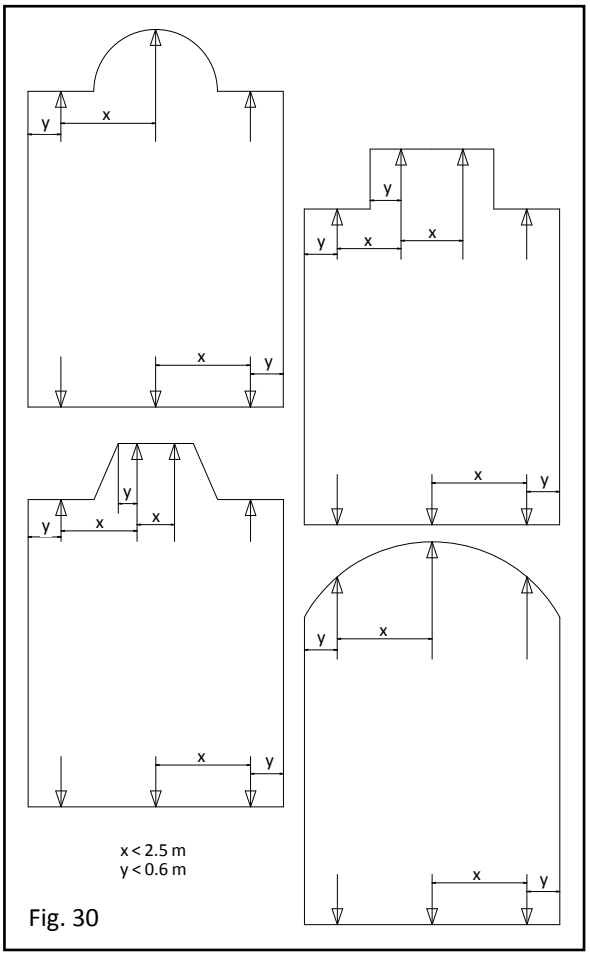


Fig. 30

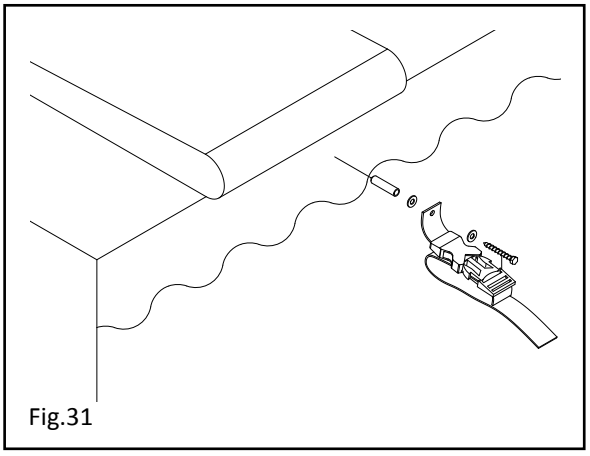


Fig.31

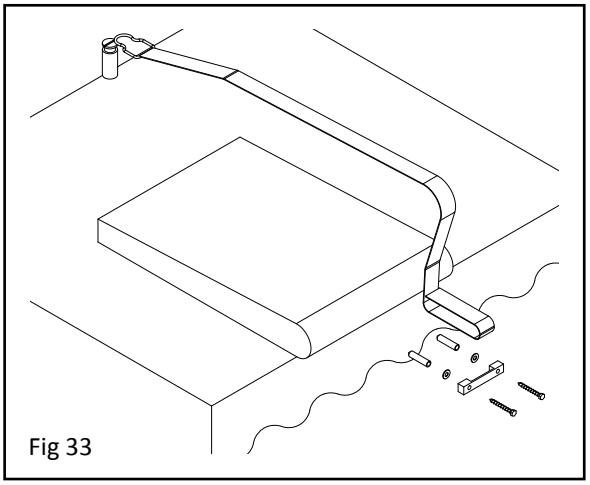


Fig 33

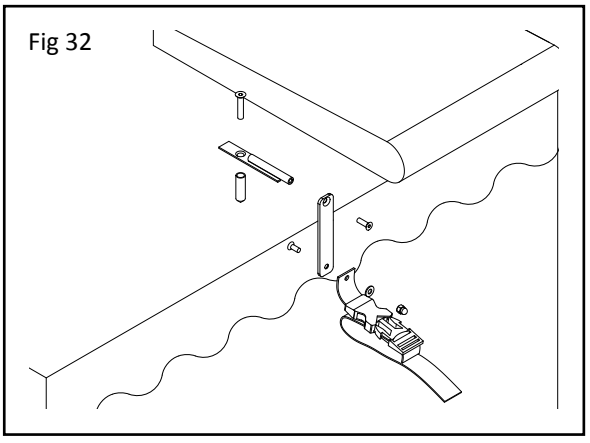


Fig 32

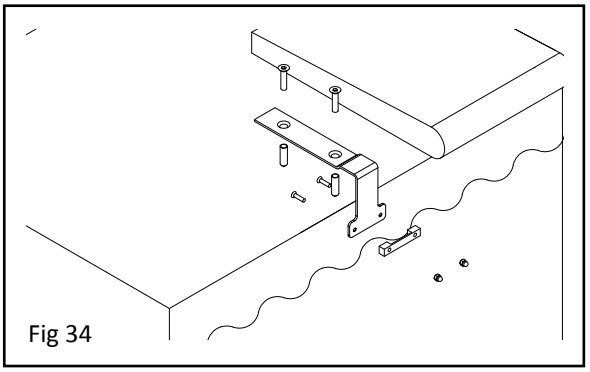
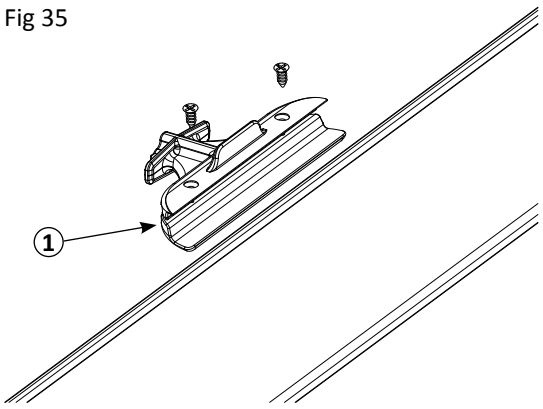


Fig 34

Fig 35



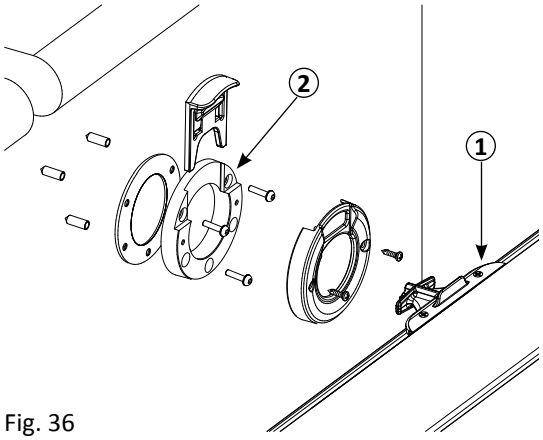


Fig. 36

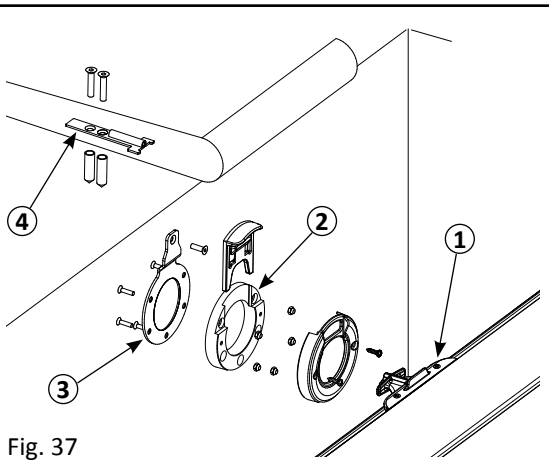


Fig. 37

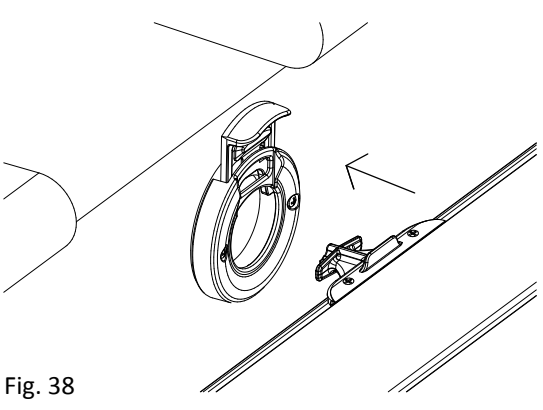


Fig. 38

5.9 Fixing with the Coverlock system.

Make sure to position the harpoons and triggers in relation to one another to obtain perfect alignment and correct operation.

5.9.1 Fig 35

Position each front harpoon ① on the male part of the last slat of the apron using two TFPZ 3x16 mm screws.

Once all of the necessary harpoons have been installed, cut the remaining male part of the slat using a cutter and a metal saw. This will protect the liner from any damage.

5.9.2 Fig. 36: Fixing the triggers in the wall

Mark out the holes by placing the part ② in the centre of the harpoon. Drill to a diameter of 6 mm and depth of 35 mm.

Fix the part ② using the TRHC M5x30 mm screws and M5 brass plugs. Make sure that this is horizontally level.

Fix the face on the part ② using the TRPZ 4x16 mm screws.

5.9.3 Fig. 37: Option for fixing the triggers on the edge

Fix the part ② on the support ③ using the TFHC M5x16 mm screws and the M5 nuts.

Then, assemble the support ③ on the edge plate ④ using the TFHC M5x16 mm screw, the whole forming an angle bracket.

Centre the whole on the harpoon, then correctly flatten the support and the edge plate against the pool wall and edge.

Mark out the holes and drill to a diameter of 8 mm and depth of 35 mm.

Finally, fix using the TFHC M6x30 mm screws and M6 brass plugs.

The front face of the trigger is fixed on the part ② using the two TRPZ 4x16 mm screws.

5.9.4 Fig 38

Close the cover to connect the system.

5.9.5 Fig 39

Secure the pool by pressing on the trigger.

5.9.6 Fig. 40

Before opening, press on the lug and pull simultaneously upwards to remove the trigger.

5.9.7 Fig. 41

Open the cover to disconnect the system.

5.9.8 Fig 42

Install the rear harpoon by jamming it in the female part of the last slat.

5.9.9 Fig 43

In the case of trapeze or roman stairs, a strap is provided instead of the harpoon in the sloped or rounded areas.

Therefore you need to:

Unclick the two slats in the place provided, make a two centimetre wide notch on the male part, pass the strap through this notch taking care to leave a washer under the slat, and clip the two slats. The strap is blocked between the slats via these two end washers.

The upper washer is used for fastening in the Coverlock.

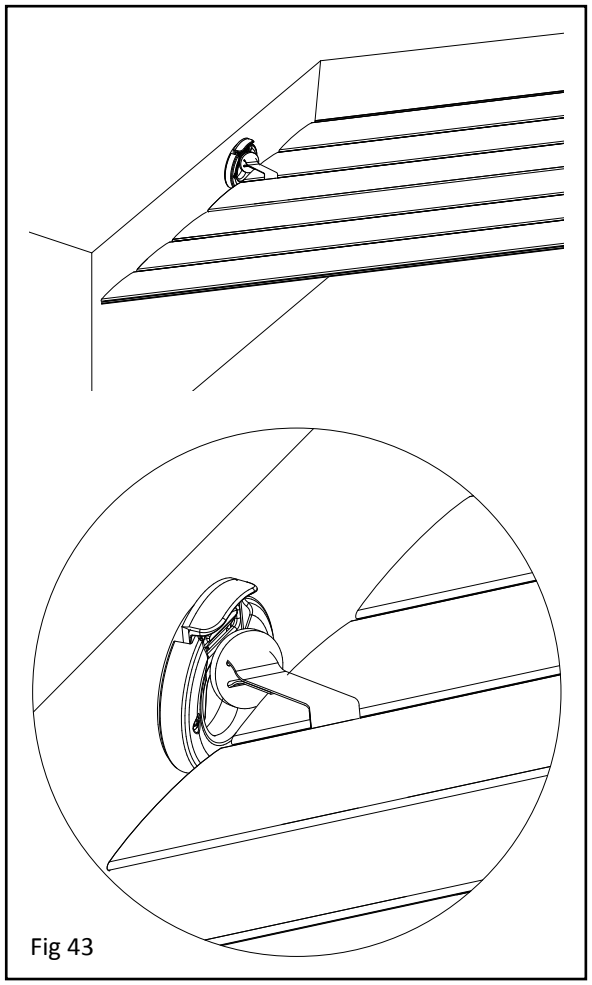


Fig 43

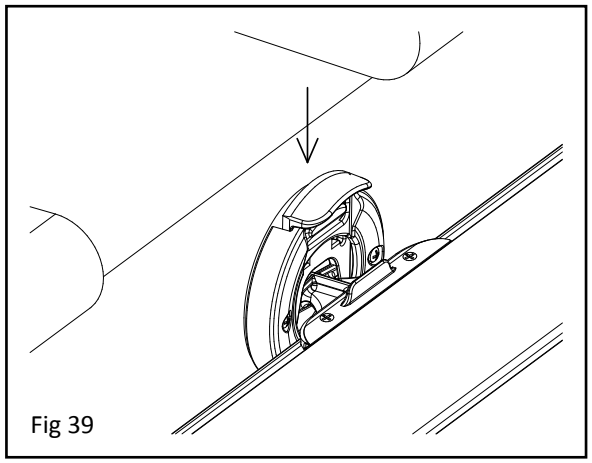


Fig 39

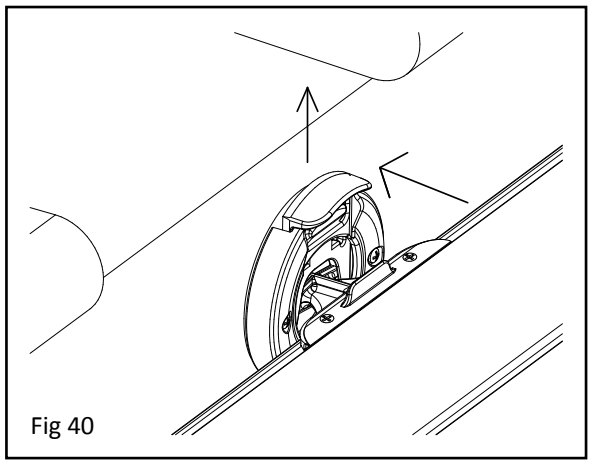


Fig 40

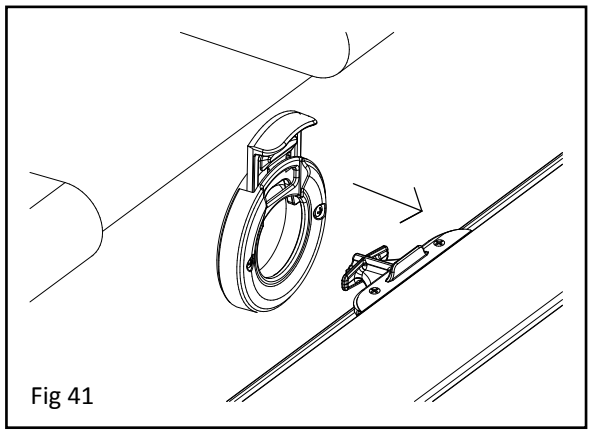


Fig 41

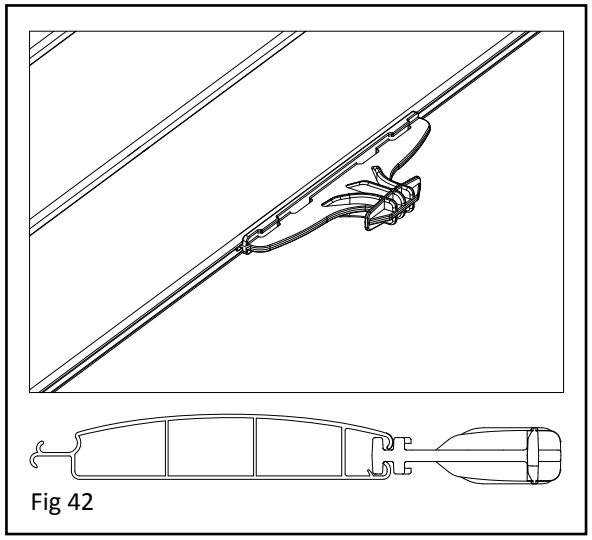


Fig 42

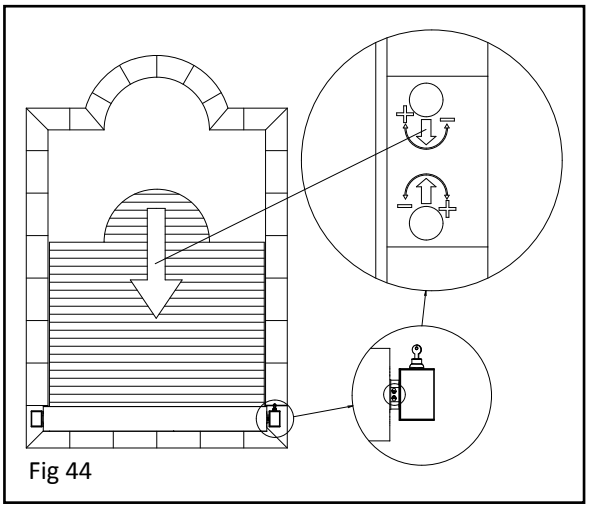


Fig 44

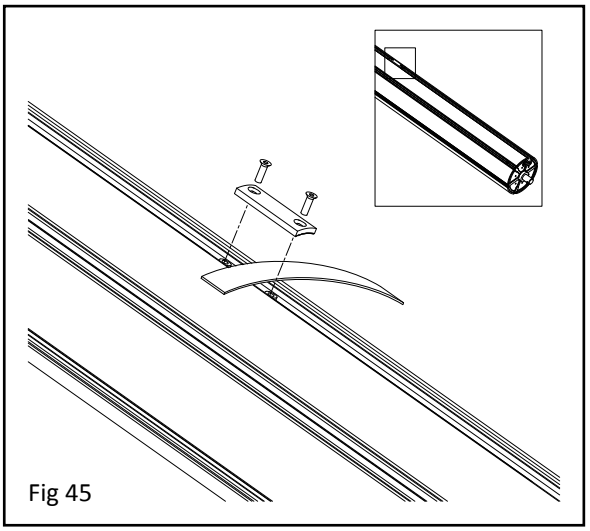


Fig 45

6. Run stop adjustments

6.1 End of unrolling

Fig 44

6.1.1 Find the 2 end of run adjustment screws on the motor located between the post and the roller tube by pivoting the end of run cover.

6.1.2 The screw on the pool deck side adjusts the end of unrolling stop. Using the key switch, rotate the motorised tube in the unrolling direction until the motor stops automatically. (This is the end of run position).

6.2 Fixing the apron to the shaft

Fig 45

6.2.1 Slide the black strap fixtures onto the shaft opposite the fixture straps which are on the slats and then fix the straps between the black 30 x 80 fixtures by tightening the screws. Check that the gaps around the cover in the pool are evenly spaced on either side as soon as the rolling starts.

6.2.2 Correct the position of the strap fixtures if the spacing is not even.

6.3 Adjustment of the end of rolling stop

Fig 44

Use the key switch to roll in the cover: if the gear motor stops by itself before the entire cover has been rolled in, adjust this using the adjustment screw on the pool side by turning it clockwise to lengthen the run using the blue hex key provided.

- If the entire cover is rolled in before the gear motor stops, unroll 1 m, then adjust the run using the adjustment screw on the poolside by turning it anti-clockwise to reduce the run, then begin the rolling run stop adjustment from the beginning.

7. Test instructions in the event of a malfunction

The following list has been drawn up in order to help diagnose and correct malfunctions that may occur during installation. This guide is exclusively for the professional authorised to install the cover in order to maintain the validity of the guarantee. If, after having followed these instructions, the cause of the malfunction has not been found, the professional must contact the cover retailer or manufacturer.

Read completely before carrying out the operations. Refer to figures 22 and 23.

Respecting the poles between the power supply and the roller is important because the rotation of the motor depends on wires 1 and 2 and not directly the power supply + and -.

Check the condition and the correct tightening of the electric connections.

7.1 Measure the voltage output from the solar panel

7.1.1 Disconnect the green wire from the battery "+".

7.1.2 Disconnect the yellow and white wires from the regulator. Measure the direct voltage between these two wires (a panel correctly positioned receiving direct sunlight supplies a voltage > 24 V and < 50 V).

7.1.3 There must be a voltage greater than 24 V DC, if this is the case, go to step 2.

7.1.4 If the voltage is less than 24 V, measure it again directly between the black and red wires of the solar panel.

7.1.5 If the voltage measured is greater than 24 V, check the connections and the condition of the wires.

7.1.6 If there is no voltage or a very low voltage (< 24 V), this indicates a defect on the solar panel. This can be the result of a faulty connection, or a defective component. The panel must be returned to AS POOL for analysis.

7.2 Measure the voltage output from the batteries

7.2.1 Disconnect the batteries for the test. The voltage of each one should be 12 V.

7.2.2 Reconnect the batteries, disconnect the green and black wires from the regulator, there should be a 24 V DC voltage between these wires.

7.2.3 If the voltage is less than 22 V, this voltage will not be sufficient to correctly operate the motor; check all the connections and the condition of the wires.

7.2.4 If there is no voltage or a very low voltage (< 24 V), this indicates that the batteries are low. This can be the result of a faulty connection, an incorrect positioning of the panel or a defective component.

7.3 Measurement of the voltage output from the regulator

7.3.1 Without disconnecting the blue and brown wires from the regulator, measure the DC voltage between these wires. It should be 24 V DC. This voltage should be found between the terminals of dominoes 3 and 4 (check the wires and connections if this is not the case).

7.3.2 If there is no voltage here, but there is output voltage from the batteries, keep the forcing button pressed down and turn the key.

7.3.3 If the cover reacts to turning of the key, this indicates a regulator fault. This can be the result of a power surge due to a thunder storm, a faulty connection, or a defective component. The regulator must be returned to AS POOL for analysis.

7.4 Checking the key switch

7.4.1 Use the continuity measurement of your multimeter to check that the contacts (NO) located behind the switch close one after the other when the key is turned first in one direction and then in the other.

7.4.2 On the screw terminals marked +, -, 1, 2, 3, 4,

7.4.3 Measure 24 V DC between the "+" and "-",

7.4.4 Measure 24 V DC between the 3 and the 4,

7.4.5 Measure 24 V DC between the 3 and the 1 when the key is turned in one direction

7.4.6 Measure 24 V DC between the 3 and the 2 when the key is turned in the other direction

7.5 Direct check of the motor

7.5.1 Take 2 screw terminals

7.5.2 Connect + 24 V DC to a screw terminal, and the "-" (0) to the second screw terminal.

7.5.3 Take the motor cable and connect wire 4 to the "+" and wire 3 to the "-". The direction of polarity is important.

7.5.4 Place wire 1 in contact with wire 4 (+ 24 V): the motor should turn in the other direction.

7.5.5 Remove wire 1

7.5.6 Place wire 2 in contact with wire 4 (+ 24 V): the motor should turn in the other direction.

7.5.7 Inverting wires 1 and 2 inverts the rotational direction of the motor.

7.5.8 To make sure that the motor is not at the end of run stop, turn the adjustment screws of the end of run clockwise towards the + indication.

7.5.9 If, after these tests, the motor will still not run, this indicates a motor defect. This can be the result of a power surge due to a thunder storm, a faulty connection, or a defective component. Replace it or request its return to AS POOL for analysis.

8. Checks

Check the following points relating to standard NF P 90-308 and check that the cover operates correctly:

- When turning the key switch for the cover, the entire pool is visible and check that there are no bathers in the pool when closing the cover. The unrolling operation stops when the key is released. The key can be removed from the control box.
- The cover rolls and unrolls correctly.
- The safety mechanisms are easily handled for the recommended water levels and are sufficient (number and position). Check that they are locked on completion of the installation.
- The gaps along the length between the slats of the apron and the pool wall are less than 7 cm and the apron does not rub "abnormally" against the wall.
- The voltage powering the cover is less than 30 V DC.
- The end of run stops are operational.
- The site is cleaned after installation of the cover and the packaging and waste is removed.

9. Reception of the cover by the end user

- The installer explains the operation of the ABRIBLUE cover to the end user and informs him/her of the safety, usage, upkeep and winterisation advice.
- He gives him/her the cover instructions: '"Installation instructions" and "Safety instructions and user guide for the automatic cover".
- He demonstrates the use of the cover and shows the functional limits of the cover.
- The installer and end user fill in and sign the guarantee form attesting to the compliance of the installation, the reception of the documents for the cover and the information given to the end user.

10. Appendix: Solar regulator

- The power supply to the motor comes from two electronically regulated batteries supplied by a high yield photovoltaic panel which provides an autonomy of 10 cycles (on full load).
- The solar panel must be placed outside and pointing in the **right direction**, due north is to be excluded! A minimum **direct exposure** of 5 hours allows normal use everywhere in France all year round.
- A beep signal indicates a low battery charge, while guaranteeing a complete final opening/closing cycle.

10.1 Regulation operation

10.1.1 The regulator emits sound signals to warn the user of a change in the state of the batteries:

- 1 beep: the battery charge is under 75%.
- 3 beeps: the battery charge is under 25%.
- 5 beeps: the battery charge is under 10%.
- 25 beeps: the system is going into safety mode (see troubleshooting).

10.1.2 The regulator emits light signals to warn the user of a change in the state of the batteries:

10.2 Troubleshooting

Order of tests	
Forcing	By pushing on the "forcing" push button, the user powers the cover directly with the batteries and independently of the regulator. And can operate it using the key.
Connections	Loosen the connections one by one and tighten them carefully on the conductor part of the wire.
Regulator	Charging is permanent except when: - Insufficient light - Deteriorated panel - Batteries fully charged - Bad connection Red LED on: batteries empty, leave to charge.
Switch	Simulate the use of the key switch by making a shunt between 4 and 1 and then between 4 and 2 (never power 1 and 2 at the same time).
Gear motor	Power the motor directly using the batteries: 4 on the + and 3 on the - and then in turn 1 or 2 on the + to rotate.

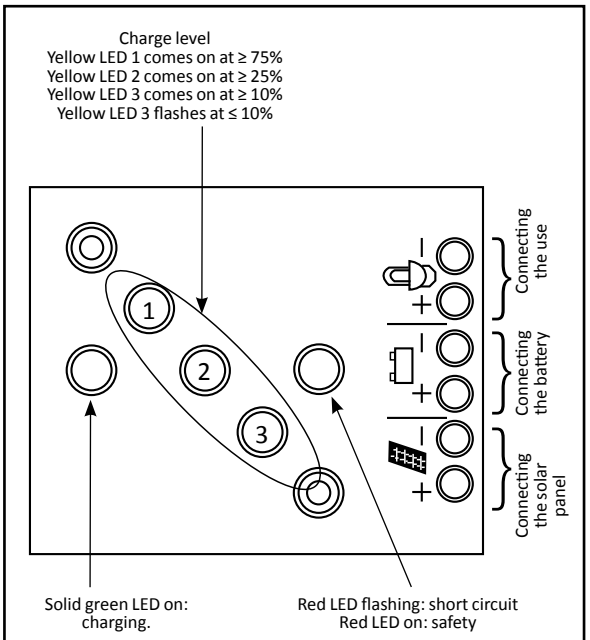


Fig 46

Product: OPEN Solar Energy
Company: AS POOL
Address: ZAC de la Rouvelière
F-72700 SPAY - LE MANS
Tel.: +33 (0)811 901 331
Fax: +33 (0)243 479 850
contact@abriblue.com
www.abriblue.com