A0 – General Instructions

Manufacturer:

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General prescriptions :

The installer should read this manual carefully. The end user of the product specifically needs to read chapter A0, F and. The manual needs to stay with the end user of this product.

T&A manufactures high end automatic covers as per customer's specifications and ready to install. The installation needs to be executed by professionals according to local quality and safety standards. T&A products comply with the European standards EN_16582-1/2/3. The installer needs to install the product according to the instructions in this manual.

A pool cover is a tool to enhance safety but can never replace the surveillance of a responsible adult!

The expected life time of the cover strongly depends on way of installation, maintenance and service.

Electrical prescriptions :

- The electric motors of AquaTop covers are low voltage DC motors. Nevertheless, the current supply to the control box is 230V AC and needs to be secured respecting local laws and regulations.
- A differential switch guarantees the protection of people.
- In order to avoid galvanic corrosion because of stray current, T&A strongly advices to earth the pool. We recommend a separate earth connection (R<30Ω) different from the earth connection of the main building/circuit unless otherwise specified by local electricity suppliers and/or regulations.

Influence of water quality on stainless steel components :

- All parts of a submerged cover are manufactured of stainless steel 1.4404 (AISI 316L). Following pool water values need to be respected :
  - 7 < pH <7,6
  - 0,5 < Cl < 3 mg/l
  - Total salt content (= Chlorides) < 5000 ppm
  - Pool water temperature < 35°C
  - EC < 2,1 mS/cm
  - Fe < 0,2 mg/l ! A swimming pool should never be filled with water straight from a natural well.

  Pool water values outside these tolerances are the most common cause for decolouring and/or rust- and corrosion building. Both automatic and manual dosing are not without errors. Therefore, we recommend frequent control of the measured values. Moreover, the only way to decrease too high Chloride content is the addition of fresh tap water; once a year half of the pool water content should be replaced.
- Parts that are just above water level are more likely to corrode because of the combination of splash water, condensation and evaporation that will result in higher Chloride concentration (This phenomenon is even more present with indoor pools). The supply of fresh water plays an important role in this process. Also submerged parts in areas with lower water circulation need to be investigated regularly as contaminating parts may set on these parts. A thorough and frequent cleaning and rinsing with fresh (tap) water can avoid problems such as pitting corrosion. Never use pool water to rinse stainless steel parts. ATTENTION : the use of inappropriate cleaning detergents, esp. sulpheric acid containing detergents needs to be avoided !
- Please also avoid :
  - Superficial dammage to the stainless steel parts during transport and installation.
  - Post processing without passivation afterwards.
  - The use of common steel tools on stainless steel parts → Carbon contamination.
  - Overdosing of Chlorine or Chlorine tablets/powder in the immediate proximity of stainless steel parts.
- Despite all precautions, surface corrosion can occur. We strongly recommend cleaning the affected parts with ScotchBrite © (3M) in combination with an appropriate stainless steel cleaning detergent.
- In case of pitting corrosion, affected parts must be replaced.
- Corrosion is always caused by uncontrolled water treatment and incorrect use of materials and is therefore never covered by Manufacturer's liability !

Influence of water quality on plastic parts, more specific slats :

- T&A slats are made of high quality PVC and PC. Overdosing Chlorine and/or other pool related chemicals might shorten the life time of parts and slats.
- All slats, with the exception of white and beige (sand color) PVC, require protection from direct sun exposure at all times when not in contact with the pool water.
- PVC- as well as PC solar slats require cooling at all times whenever the cover is closed, i.e. on the pool water surface. As such, the pool circultation/filtration pump needs to be in operation from the moment the cover is closed.
  T&A control boxes for covers can easily be used to control the pool circulation/ filtration pump.
  ATTENTION : Variable speed pumps require a minimum capacity sufficient to circulate the water underneath the cover. Otherwise, low circulation might overheat solar slats. Overheating of slats might cause deformation of the slats that is irreversible once started.
- Because of differences in pool water- and ambient temperature, a bi-metal effect might occur. This will result in having the ends of the slats bend downwards (when the ambient air is warmer than the pool water) or in having the ends bend upwards (when the pool water is warmer than the ambient air). This effect occurs more frequently in case of darker (slat)colors.
- Plastic slats are extruded products. A deviation in straightness (both horizontally and vertically) of 2 mm/m is within tolerance.
- In case of partial replacement or add-ons at a later date, slight color differences might occur.
- When using a pump with adjustable speed, make sure the water circulation under the closed cover is still high enough to avoid the slats from burning
- The slats may only be exposed to sunlight when they are in full contact with the water. Sole exception to this rule : white and sand coloured (beige) slats

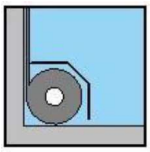
The use of natural tropical wood as a finishing material :

- T&A uses premium quality IPE tropical wood which is a 100% natural product. As such; colour differences, minor cracks and deformation are characteristic to the product and impossible to foresee. T&A cannot be held responsible or liable for this natural process.
- Tropical IPE wood will turn grey in time. In case you wish to keep the original colour, it is recommended to regularly treat the wood with a suitable product.
- Tropical IPE wood will release a natural oil that combined with rain or pool water can spread over the terrace or edge stones and leave stains. It is therefore wise to thoroughly rinse the wood before mounting.

The use of panels and benches made out of fiberglass/composite

- T&A uses fibreglass with different layers of Polyester + Vinylester.
- The standard colour is white but a limlited choice of other colours is available.
- The products made out of fibreglass/composite meet the European standard. For more details please consult the standard EN 16582-1 annex D.

Our standard plugs are made out of polyamide. These need to be fixed in full concrete or masonry. It is the responsibility of the installer to check the stability and if needed replace with chemical anchoring.



A4 - Constructional preparations: Underwater mount – On pool floor (Reno line)

General:

- Level control is necessary to install and use an automatic slatted cover. Provide an overflow and a refilling system to guarantee the correct level in case of a skimmer pool.
- Do not place any obstacles in the back or side walls which can interfere with the slats. For example: skimmer covers, ladders, etc…
- Roman ends, rectangular ends and other particular shapes cannot always be rolled up completely.
- To comply with the European standard EN_16582-1/2/3, you need to cover the rollo cover pit.
- A bench is necessary to comply with the European standard EN_16582-1/2/3!
- Standard width of the bench is B2 – 14mm. The bench should be mounted symmetrically to limit the gap between the bench and the side walls of the pool. Width of the gap/side ≤ 8mm.
- The bench should not be used as an entry tot he pool. If you decide to use the bench as an entry to the pool, you need to comply with the European standard EN_16582-1
- Not compatible with prefab liner because of the radius in the corners.
- In case of skimmer: Thickness max 10mm rounded (d1)
- In case of overhanging coping stone: min. 30mm between copingstone and waterlevel (d2)

Concept:

- The Rollo cover is mounted on the pool floor.
- Drive: external electric, external hydraulic or in-roller motor.

Options:

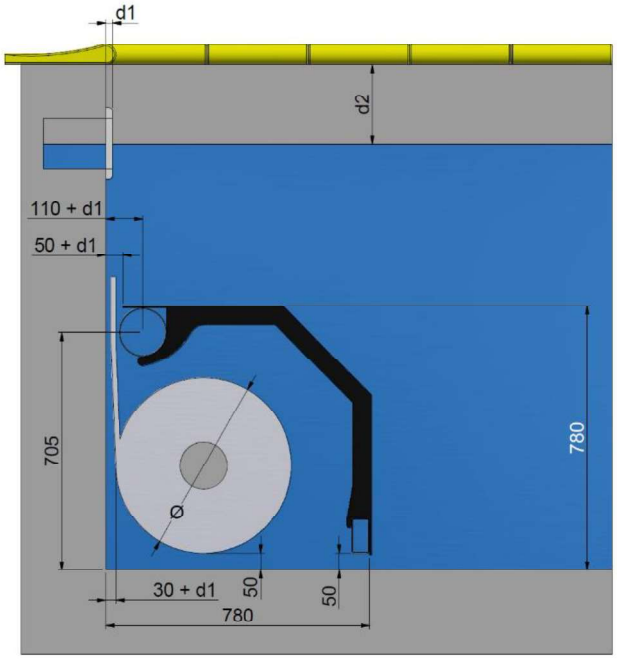
- **See c**hapter "*O4 – Finishing: Underwater mount – On pool floor: Bench*"
- The Rollo cover can be covered with a single piece fibreglass bench (< 7m).
- The bench will be made in 2 parts when poolwidth exceeds > 7m.

Target values:
(Valid for pools till 6m width – exact diameter can be found on the quotation of T&A and the first page of the manual of each project)

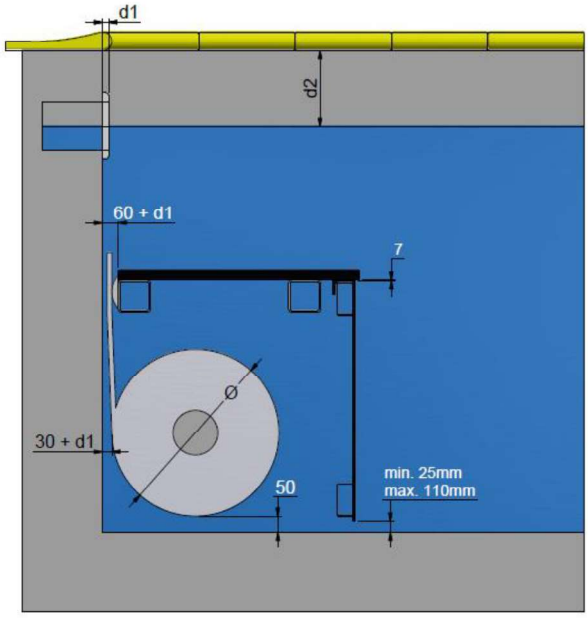
Cover length (m) (stairs incl.)	6	8	10	12	14	16	20	25
Diameter (ø) Rollo cover (mm) Slat dimension : 60 x 14 mm	420	480	520	580	610	640	705	780
Diameter (ø) Rollo cover (mm) Slat dimension : 67,5 x 16,5 mm	440	500	540	600	640	680	720	820

Dimensions:

Width pool <7m
Max diameter 610mm



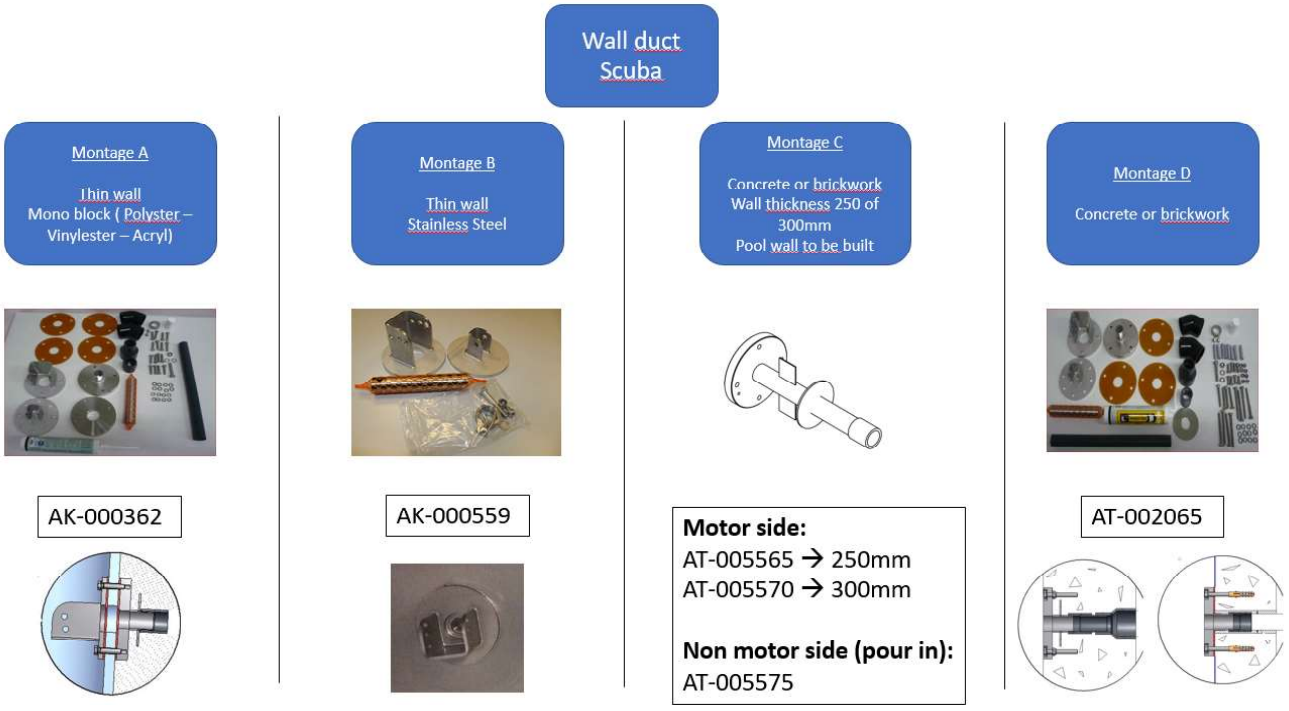
Width > 7m



A7 – Constructional preparations: Cable duct for SCUBA-drive®

General:

- De SCUBA-drive® tubular or in-roller motor is being delivered with a 10m long motor cable, connected tightly to the motor.
- Guide the motor cable outside of the pool, through a conduit to a connection box. The conduit fills-up with water, we strongly recommend to use our cable connection kit (see AT-MAN-B4 : Electrical preparations)
- This connecting box/kit must be accessible at all times, it makes it easy for the motor to be removed or replaced in case of failure.
- The center of the wall duct is also the center of the roller shaft.



Choose the Type of mounting who suits your project.

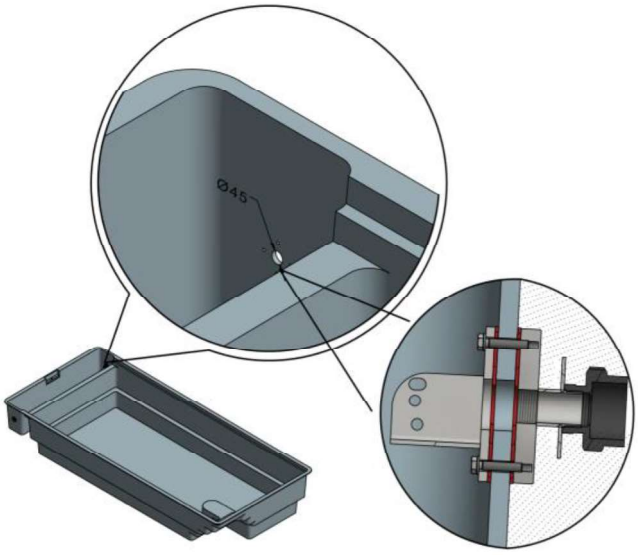
Contact T&A in case of any doubts.
We will help you to choose the correct wall duct in function of your type of pool.

Montage A
Thin wall (Mono block or element pool)

Before back filling the swimming pool

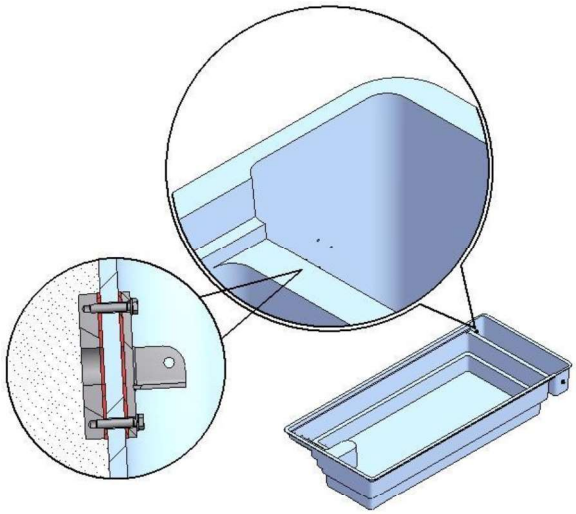
Motor side:

- Drill a hole of Ø45mm at the exact position of the roller shaft.
- On the built-in flange you can find a connection (50mm) to fix a conduit. In this way the motor cable can be guided in to the connection box beside the pool.
- The conduit fills-up with water and must always be kept above the water level of the pool to avoid emptying of the swimming pool, we strongly recommend to use our cable connection kit (see AT-MAN-B4 : Electrical preparations)



Non motor side:

- Drill fixing holes (Ø 9mm) for the flange through the wall, in line with the roller shaft. Use the flange as a mould to mark the holes.

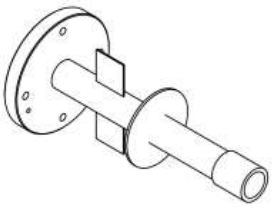


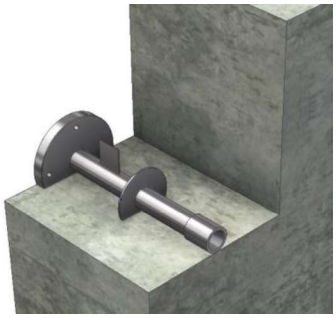
Montage B
Thin wall Stainless Steel

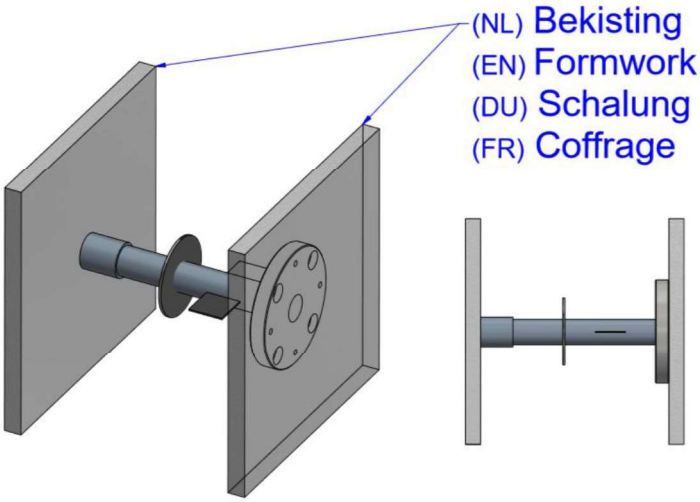
- For stainless steel pools we have a specific set of flanges which can be welded directly on the pool wall (AK-000559 - 1.4404 - AISI 316L)
- On the built-in flange you can find a connection (50mm) to fix a conduit. In this way the motor cable can be guided in to the connection box beside the pool.
- The conduit fills-up with water and must always be kept above the water level of the pool to avoid emptying of the swimming pool, we strongly recommend to use our cable connection kit (see AT-MAN-B4 : Electrical preparations)

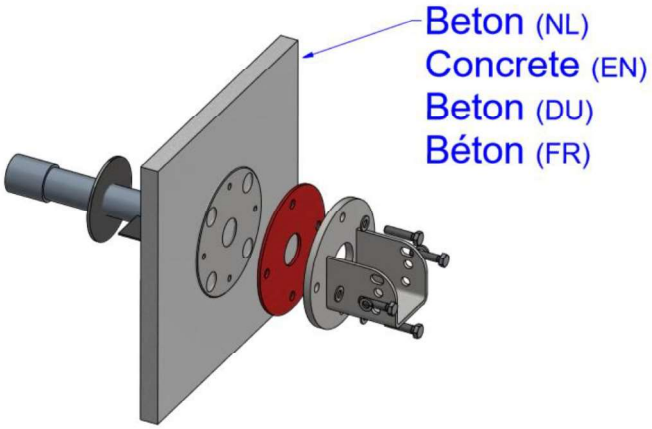
Montage C
Concrete or brickwork - Wall thickness 250 of 300mm
Pool wall to be built

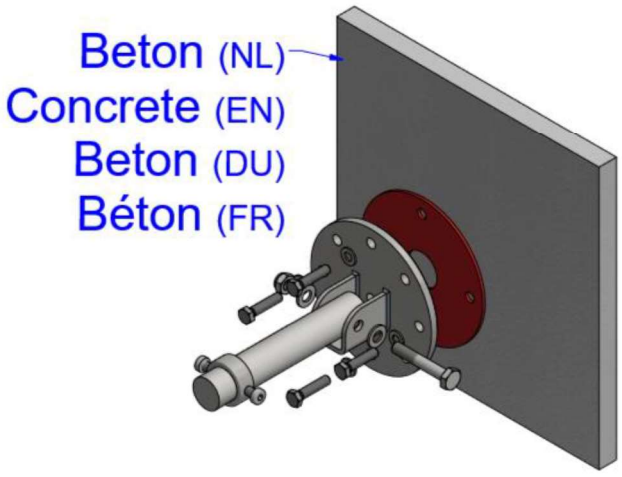
- We can offer you a wall duct completely from Stainless Steel to pour in.
- This is available in a length of 250mm (AT-005565) and 300mm (AT-005570)
- It's also possible to order a flansh for the non-motor side (AT-005575) to install in the formwork
- On the built-in flange you can find a connection (50mm) to fix a conduit. In this way the motor cable can be guided in to the connection box beside the pool.
- The conduit fills-up with water and must always be kept above the water level of the pool to avoid emptying of the swimming pool, we strongly recommend to use our cable connection kit (see AT-MAN-B4 : Electrical preparations)






(NL) Bekisting
(EN) Formwork
(DU) Schalung
(FR) Coffrage


Beton (NL)
Concrete (EN)
Beton (DU)
Béton (FR)

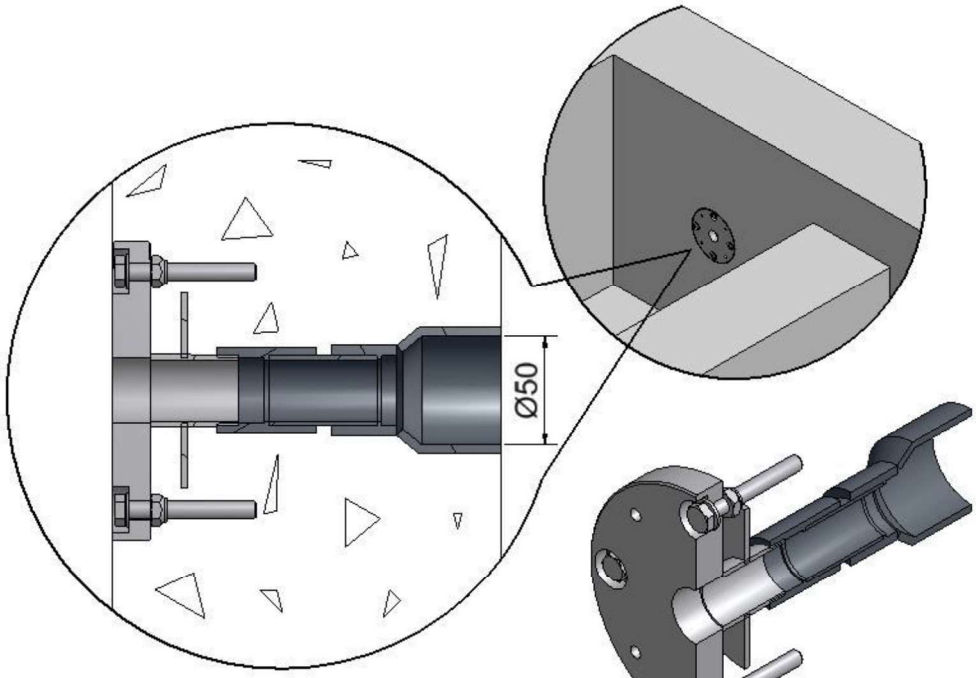

Beton (NL)
Concrete (EN)
Beton (DU)
Béton (FR)

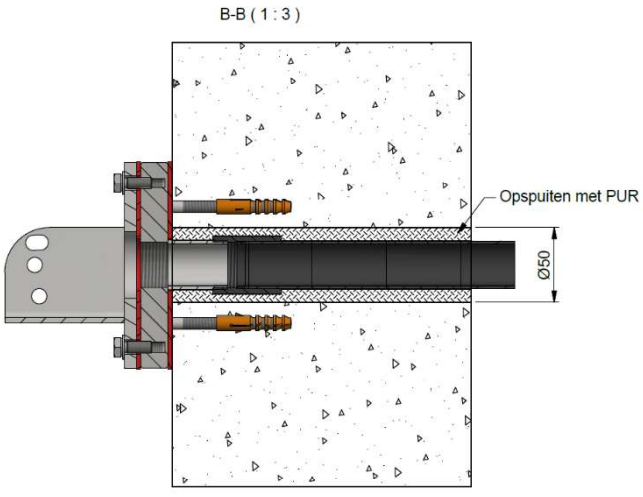
Montage D
Concrete or brickwork – Other Wall thickness as 250 of 300mm
Pool wall to be built

Motor Side

Pool wall to be built:

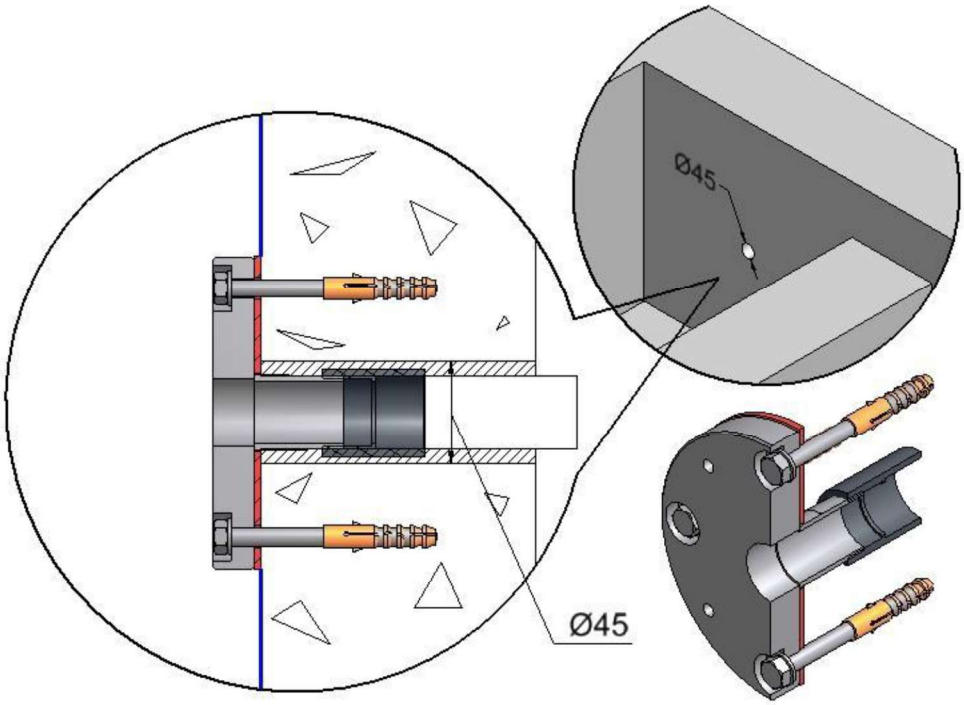
- Build or cast the built-in flange at the same time as erecting the wall so the flange will be anchored properly in the wall.
- On the built-in flange you can find a connection (50mm) to fix a conduit. In this way the motor cable can be guided to the connection box at the outside the pool.
- The conduit fills-up with water and must always be kept above the water level of the pool to avoid emptying of the swimming pool, we strongly recommend to use our cable connection kit (see AT-MAN-B4 : Electrical preparations).





Pool wall already built:

- Drill a hole of Ø45mm through the wall, at the exact position of the roller shaft.
- The built-in flange is being mounted on top and being anchored on the wall with bolts and plugs. In order to guarantee a perfect connection in brickwork, we recommend a chemical anchor (this is not supplied from the manufacturer).

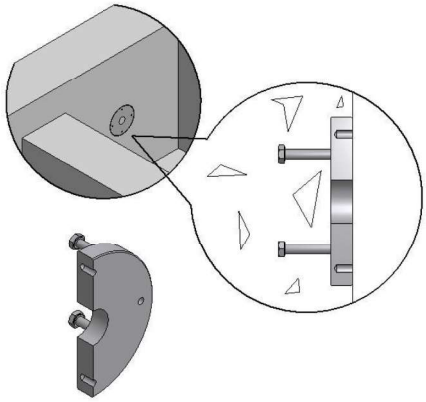


Non motor side

Pool wall to be built:

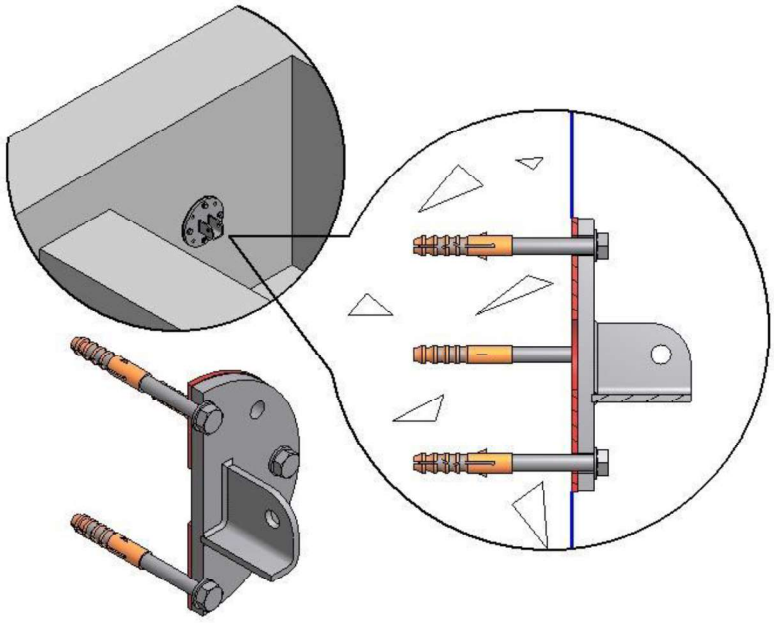
- Cast concrete (min. 25cm x 25cm) at the non-motor side, to make sure you have a solid mounting of the flange. In order to guarantee a perfect connection in brickwork, we recommend a chemical anchor (this is not supplied from the manufacturer).

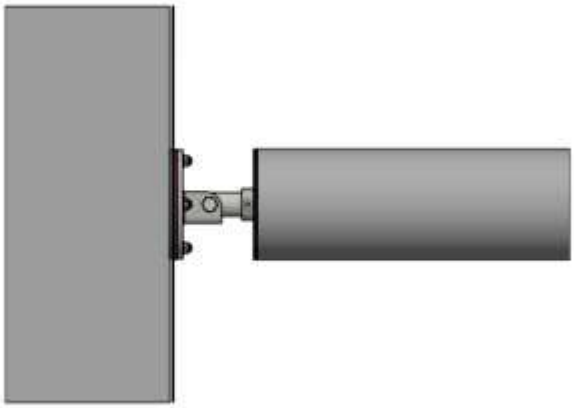
- You can work with our pour-in flange. Build or cast the built-in flange at the same time as erecting the wall so the flange will be anchored properly in the wall. (AT-002598)



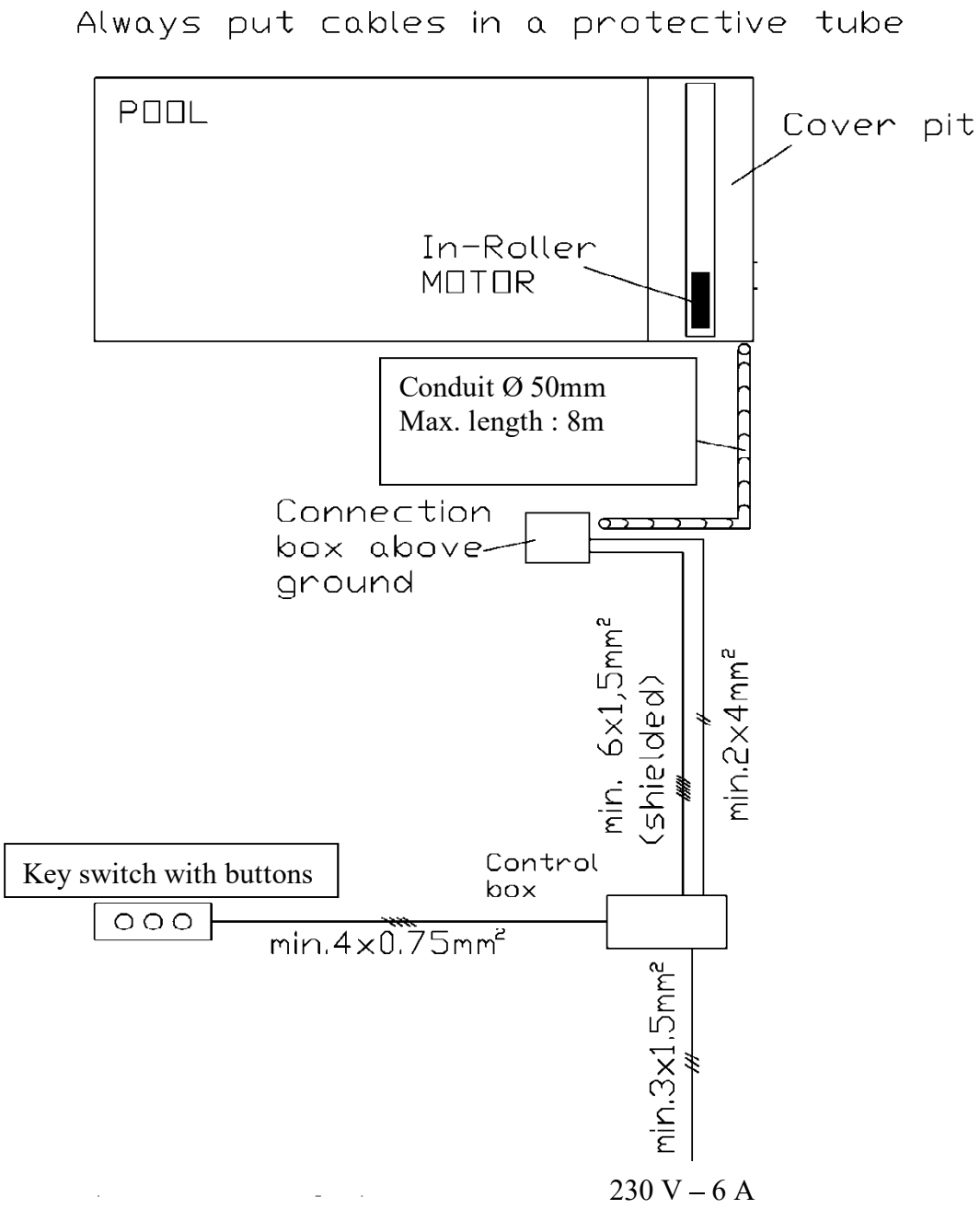
Pool wall already built:

- The flange is being mounted on top and being anchored on the wall with bolts and plugs. In order to guarantee a perfect connection in brickwork, we recommend a chemical anchor (this is not supplied from the manufacturer).
- As an option, a counter flange con be provided, AT-002605 See Chapter O9





B4 – Electrical preparations: Underwater mount - SCUBA-drive®

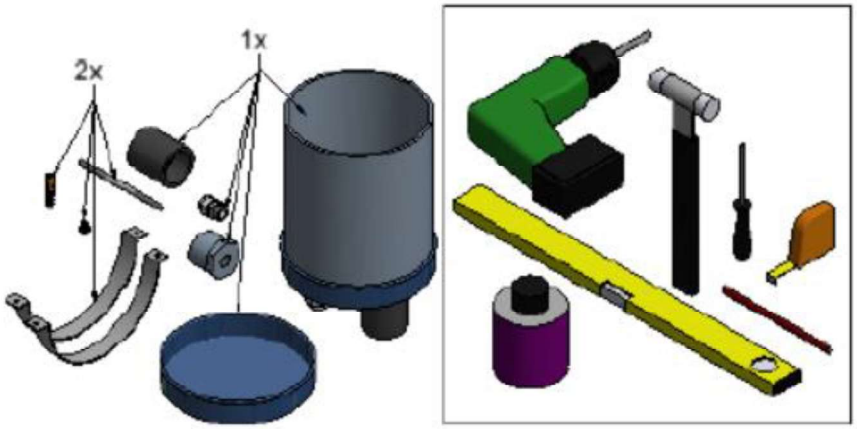


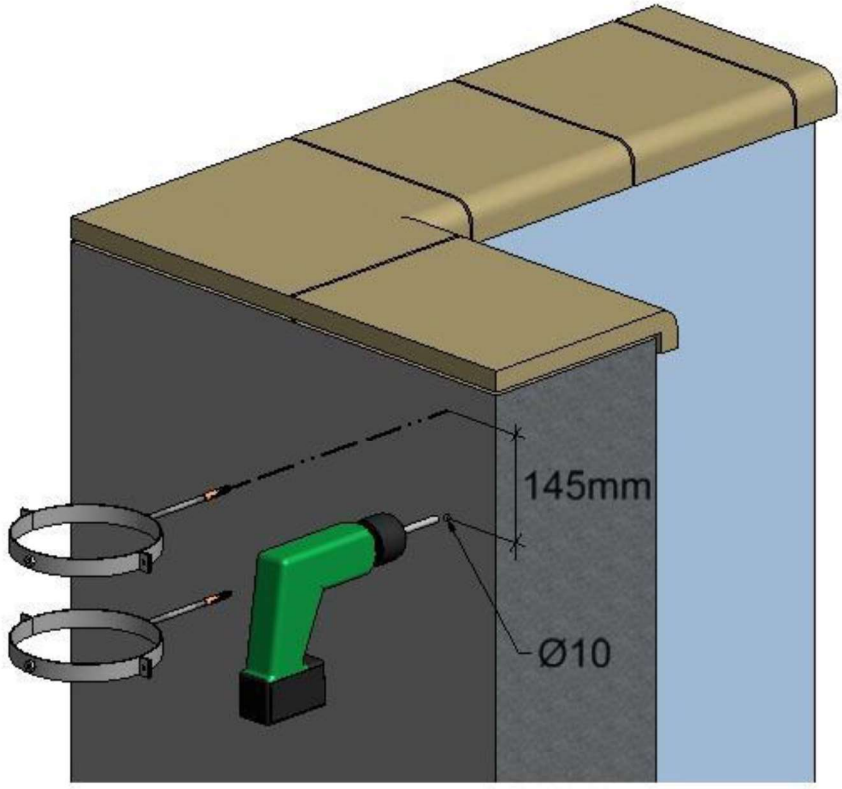
- Distance between motor and control box > 25m → 2 x 6mm². Maximum length of motor cable : 35m
- Electric cables should always be guided through a conduit / protective tube.
- To avoid interference, never install control cables in the proximity of electric cable !
- It is recommended to install a lightning protection
- T&A offers extension cable on rolls of 100m (article no. = AT-002564)
- T&A strongly advices the use of a cable extension kit to extend the motor cable. This makes service easy. Inside the housing of this kit, there is plenty of space to stock at least 2m of motor cable.

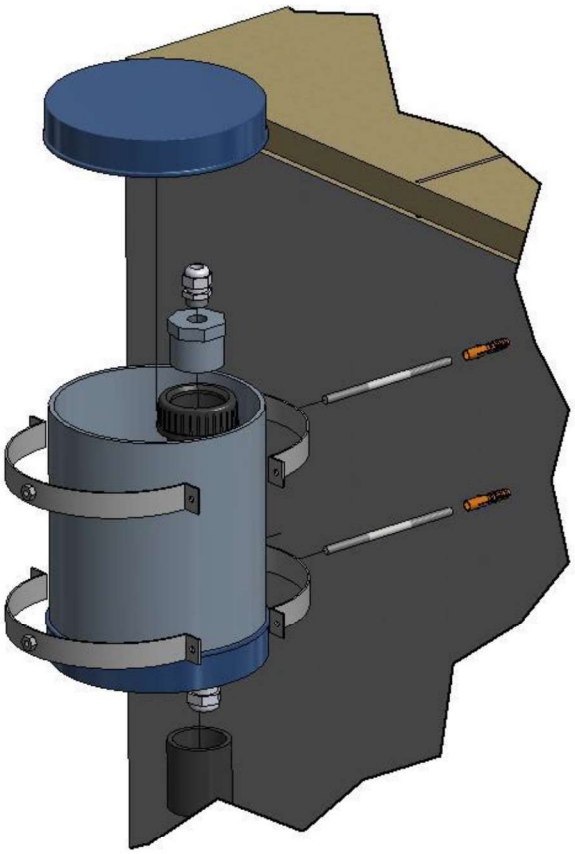
Shaft for utilities, esp. cable extension

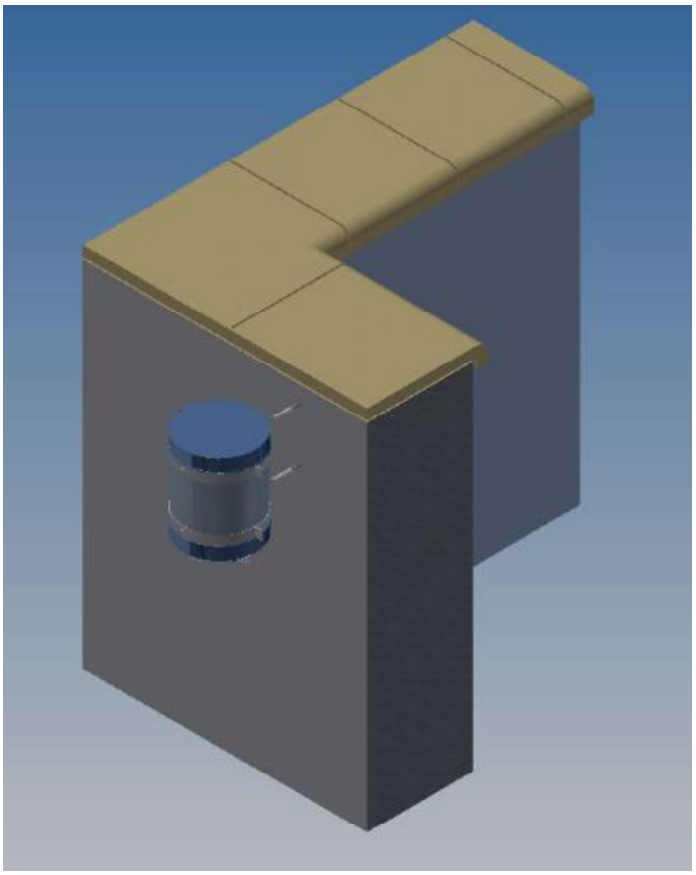
In order to facilitate service on a Scuba motor, it is recommended to have at least 2m of cable rolled in the extra shaft.

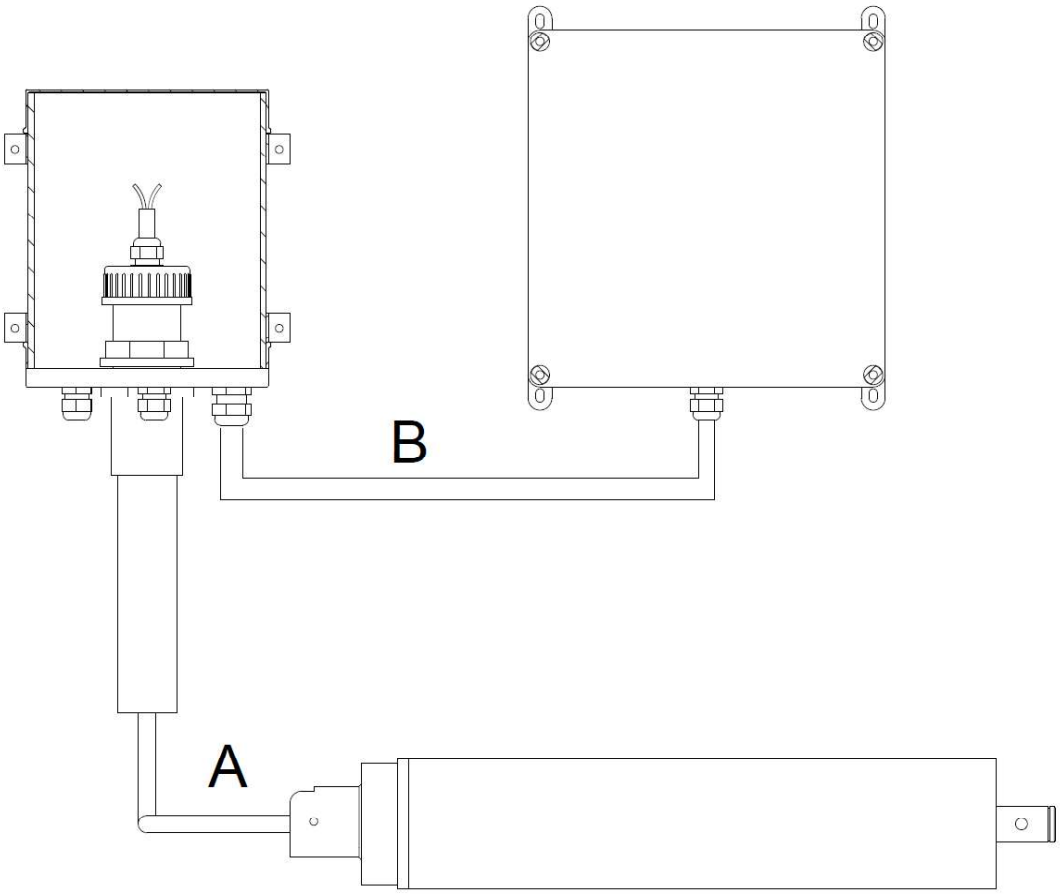
Attention : T&A also offers extension cable for easy connection of automatic covers, packed in rolls of 100 m (Article number : AT-002564)











Cable A : Blue cable pre-installed at motor. Length 10m

Cable B: Till 25 meter: Cable 2 x 4^2 + (6 x $1{,}5^2$ shielded) → AT-002564
Cable Longer than 25 meter: Kabel 2 x 6^2 + (6 x $1{,}5^2$ shielded)
Max. Length 35 meter

C5-2 – Mounting of mechanism: Underwater mount: SCUBA-drive® with cable duct with thin wall (Mono block or element pool)

General:

- The SCUBA-drive® tubular motor is being delivered with a 10m long motor cable, connected to the motor.
- Bring the motor cable outside the swimming pool, above water level, through a conduit to a connection box.
- This connection box must be accessible at all times, so the motor can be demounted during maintenance.
- It is extremely important to use the supplied polyester resin in the connection box in order to avoid water damage to motor and/or control box. In case the supplied resin is not used; warranty will be void.
- we strongly recommend to use our cable connection kit (see AT-MAN-B4 : Electrical preparations)
- In case of a composite pool or a pool made out of plastic (PP, PE) we recommend to connect the outside stainless steel flanges to the earth to avoid galvanic corrosion.

1. Installation of the flanges

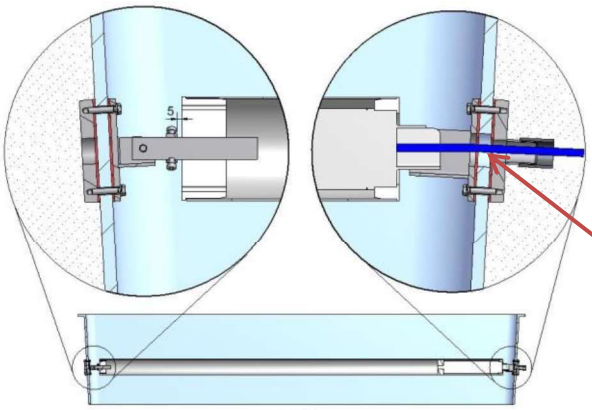
- Mount the flange and anchor it with bolts through the wall. Mount the motor flange over the hole and anchor it with bolts through the wall. Don't forget the flat sealings!
- See chapter "*A7 – Constructional preparations: Cable duct for SCUBA-drive®*"

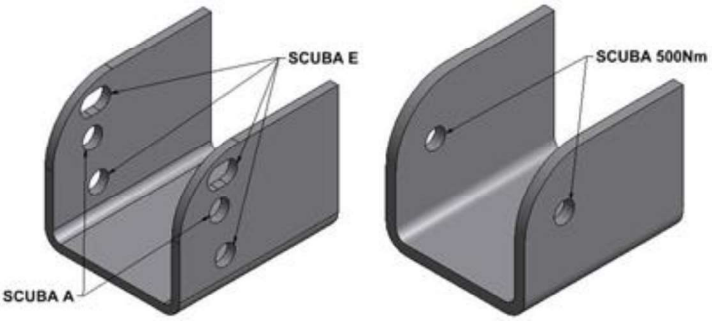
2. Installation of the roller shaft

Before installing the shaft, remove the grey cable guard.
Make sure that the cable is not damaged by the stainless steel during this operation.

- Push the roller shaft on to the shaft end at the flange. Do not tighten the setting ring with the screws too much at this moment. Always grease the bearings using Vaseline.
- Put the motor in the motor flange and anchor it. Make sure the motor cable doesn't get damaged during conducting through.
- Fasten the setting ring with the screws on the flange, but leave a space of 5mm between the roll-up shaft and the setting ring. In this way the shaft will not get jammed in case of expansion.

Alternatively; a cable gland can be used at this position, as such there is no water in the conduit.
Art. no. AT-002883




SCUBA E
SCUBA 500Nm
SCUBA A

D – Slats

filled slats (Origin – Premium – Quadro)

The slats may only be exposed to sunlight when they are floating on the water surface and have full contact with the water !!
All activities on the slats must be executed under a canvas, protected from direct sun exposure !!
Condensate in slats with a transparent top layer is a fully normal phenomenon and caused by the diffence in temperature between the pool water and the ambient air !!

Slats with glued end caps may only be mounted and exposed to water and UV 8 days after production. In addition, the slats should always be protected from direct sunlight if not in contact with the swimming pool water.
During the installation of the roller shutter, be careful not to damage or detach the end caps. It takes an average of 6 weeks for the glue to dry 100%.

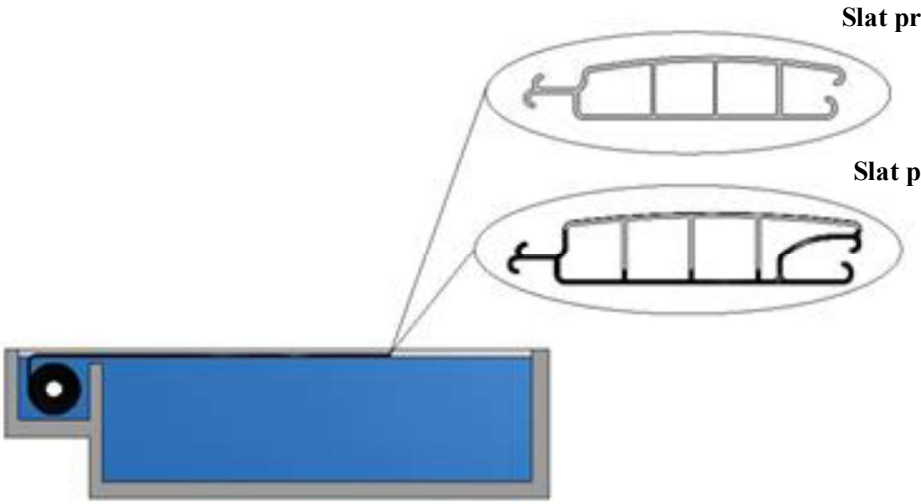
1. Installation

General:

- Respect the order of the slats in the box: on top you will find the slats for the pool end, this is the opposite side of where the cover will be installed.
- Avoid friction on the end caps and bending of the slats during transport of the box to the pool, by rolling up the bundles.



- Orientation of the slats: the curved side is the upper side of the slat; the open side is pointed to the pool end. The slat has a male (lip) and female (open chamber) side.



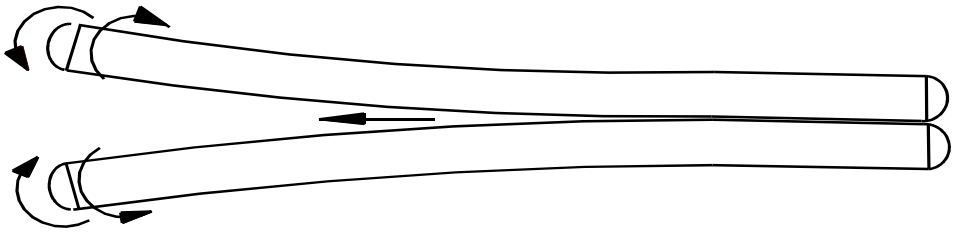
The front of the first slat could cause damage to the opposite pool wall because of the slight movement of the pool water. We advise to order a silicone strip which you can insert into the open front of the first slat to avoid this problem.

2. Mounting of the slatted cover

Click method

- Click the slats at one side in each other.

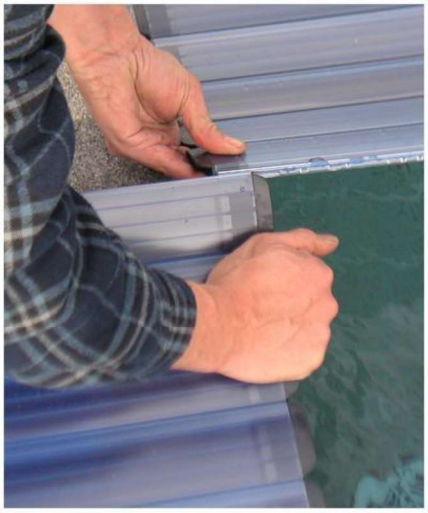

- Make an opposite rotating move with both slats at the other end in order for the slats to connect automatically towards you.



Remark:
Pay attention to the order of the operations; do not apply this method on both sides of the cover at the same time. The slats will get stuck!!

Slide method

- Put the male side of the slat into the female side.
- Now push the rest of the slats in each other carefully.

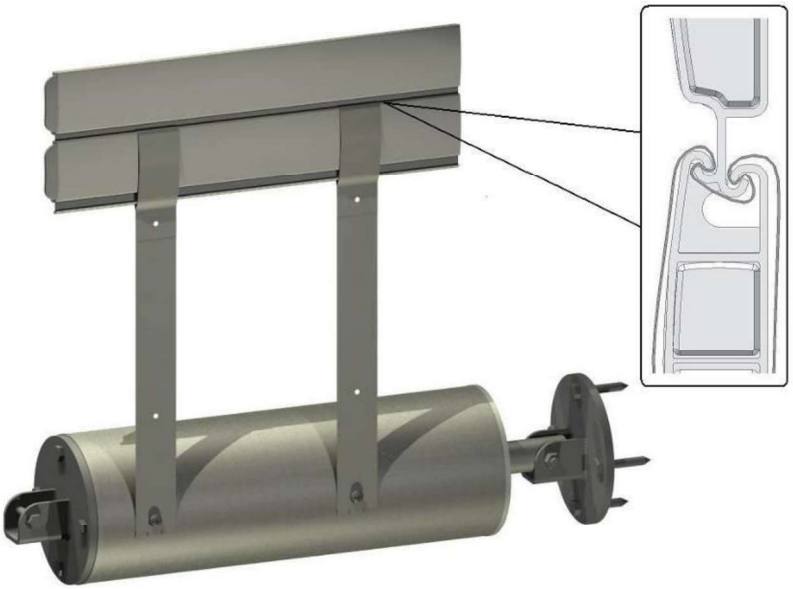


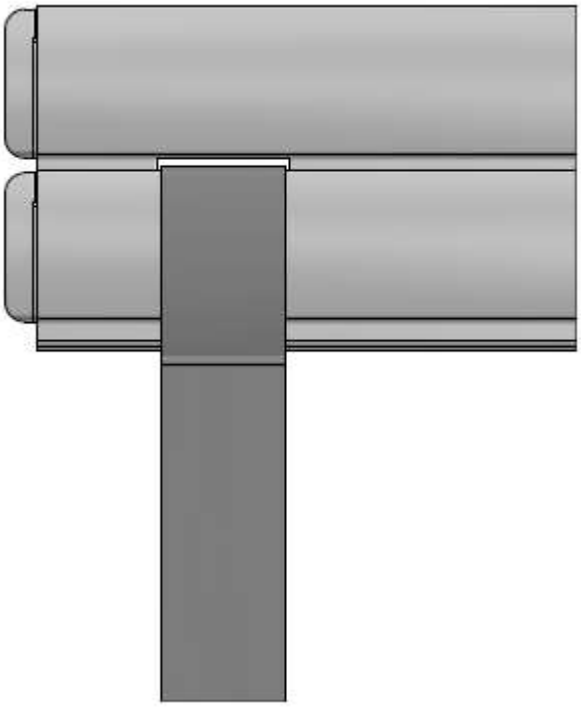


<u>ATTENTION :</u> Slats with welded endcaps can also be clicked or slided. You require to attach the missing endcaps immediately afterwards. Please NEVER roll the cover on the shaft before installing the endcaps !!! Endcaps can easily be removed carefully using a small screwdriver.

3. Fixing the cover on the roller shaft.

- There are threaded holes on the roller shaft on a regular distance. You require to screw the polyester ribbons (supplied) to the shaft. Do not use longer screws as they might damage an incorporated motor.
- Cut the <u>remainder</u> of the ribbon. Make equally long!
- Push the first slat through all the loops of the ribbons. Then click the next slat on the first one, so that the ribbon gets <u>stuck</u> between the slats.
- In case if the shaft is mounted on a big depth, make a cutout in the second slat





Remark:
Don't use longer bolts with a SCUBA-drive® to attach the ribbons on the roll-up shaft; you could damage the tubular motor!

4. Accessories related to slatted covers

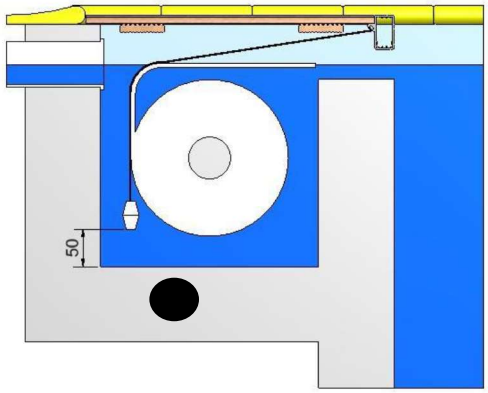
1. Guiding

General:

- The slats must be guided in the right direction whenever the cover is being closed.
- Therefore we have the following solutions:
  - Ballast tube
  - Spoiler
  - Triangles
  - Overflow set

Ballast tube

The ballast tube will be attached to the crossbeam (SS or ALU) and hung over the roll.
For ALU beam (110x65) and the stainless steel beam 100x100, always make use of the provided bracket.
For the stainless steel beam 80x60, directly attach the straps to the beam.

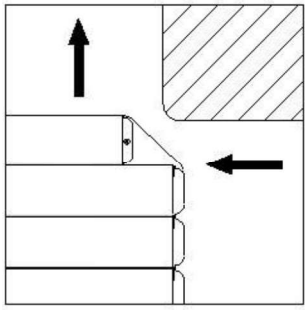


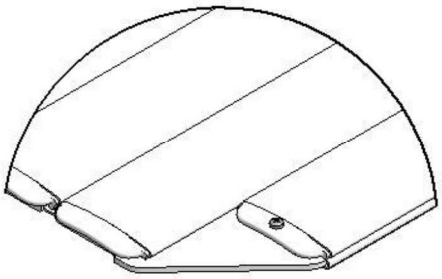
Correct the length of the ribbons such way that the tube hangs 50mm above the bottom of the niche when the cover is fully rolled. The ballast tube always guides the cover in the right direction while unrolling and slightly pushes the slats towards the shaft while rolling-up.

Remark:
A mark of the ribbons on the cover is inevitable, but certainly does not have any effect on the functionality of it. This option/solution is recommended above all others.

Triangles

If the cover has the tendency to ‘hit’ somewhere, e.g. the outer corner of the roman staircase or the sidemounted skimmers, you better use the PVC triangles. The triangles will push the cover in the right direction and away from the obstacle. In case you mention this during the order process, T&A will provide the triangles.

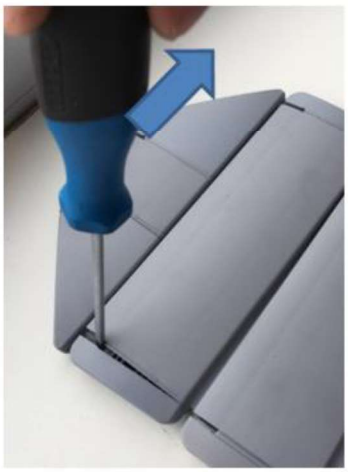


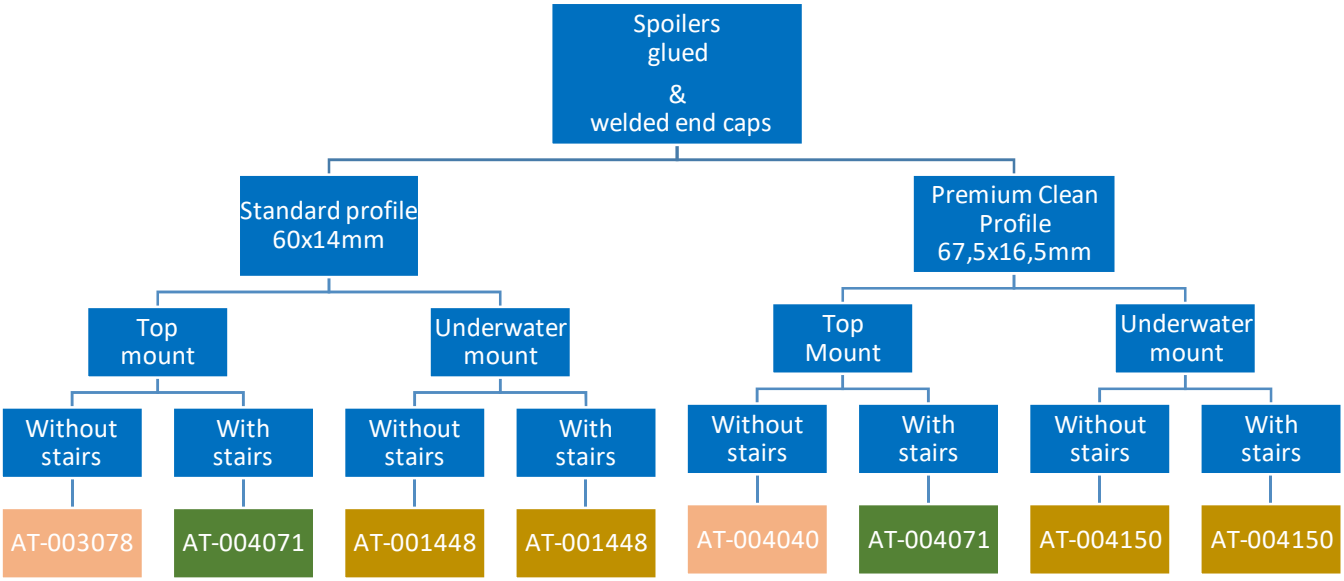


The triangles acan be fixed to the lip of the end cap with a screw.

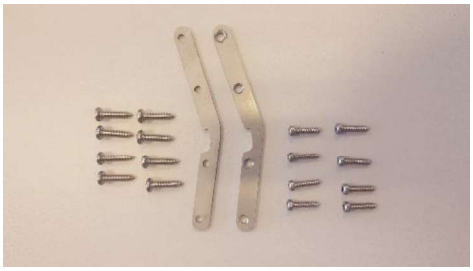
Welded endcaps:

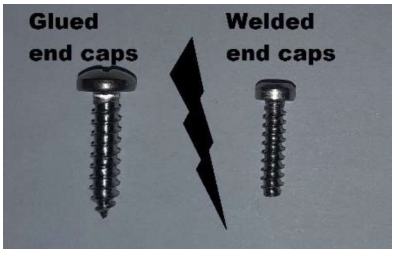
- Except the standard caps, there are 2 different sizes (Small & Large). By using these caps you can make small changes in the length of the slats
- You can easily remove the caps with a small screwdriver.





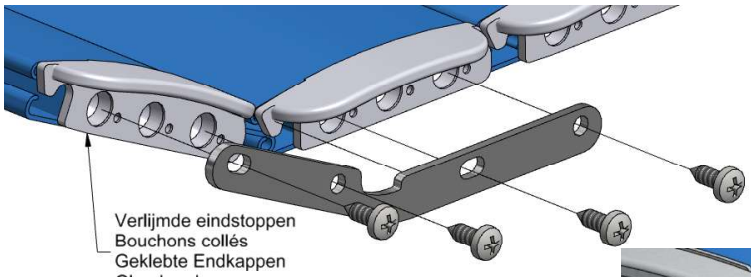
AT-003078

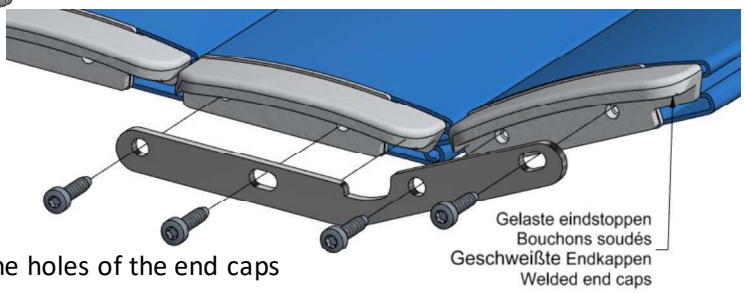




Always use the correct screws! Use of incorrect screws can cause damage.

Top mount without stairs – Welded and glued end caps (Profile 60 x 14mm):

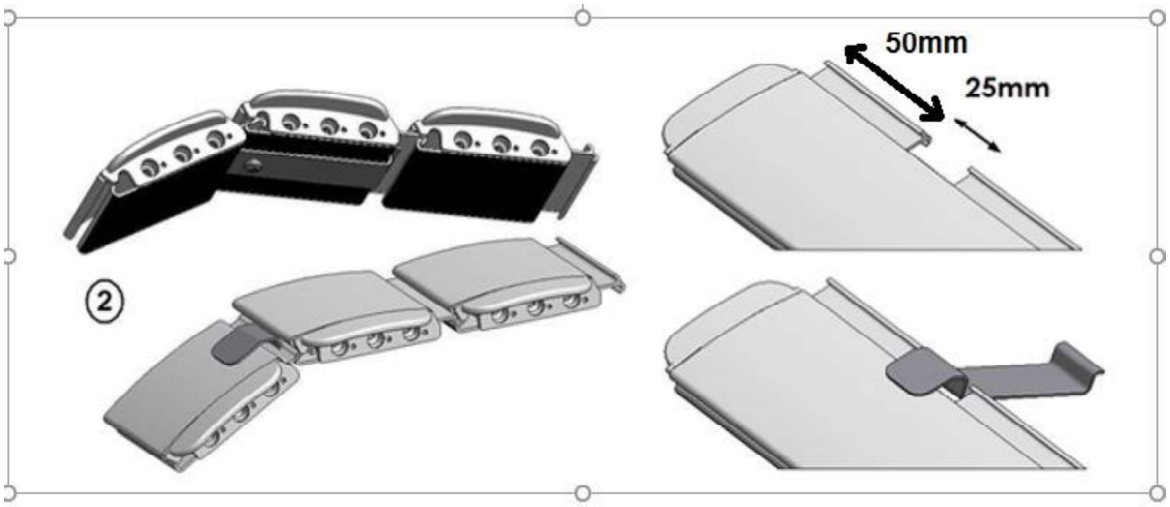




- The spoilers are attached with screws into the holes of the end caps

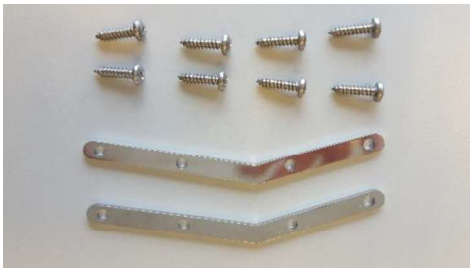
AT-001448

Underwater mount: rectangular and special shape – glued and welded end caps:
(Profile 60 x 14mm)



- Cut 25mm from the mail part of the first slat
- Install the spoiler as shown on the drawing
- Screw the spoiler into the open chamber of the second slat

AT-004040



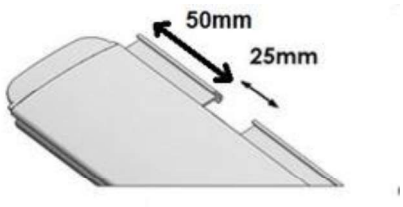
Top mount without stairs – glued end caps
(Profile 67,5 x 16,5mm):

- The spoilers are attached with screws into the holes of the end caps

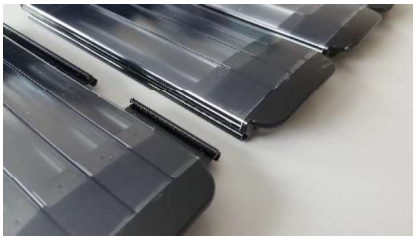
AT-004150

Underwater mount: rectangular and special shape – glued end caps (Profile 67,5 x 16,5mm)

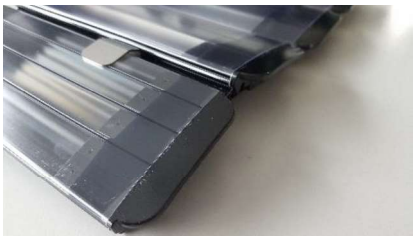
- Cut 25mm from the mail part of the first slat



- Install the spoiler as shown on the pictures

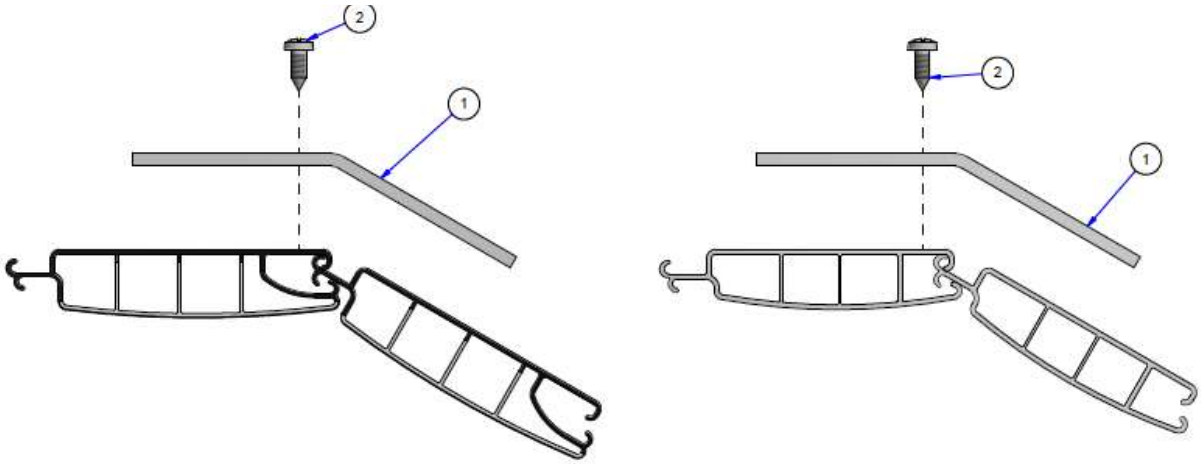


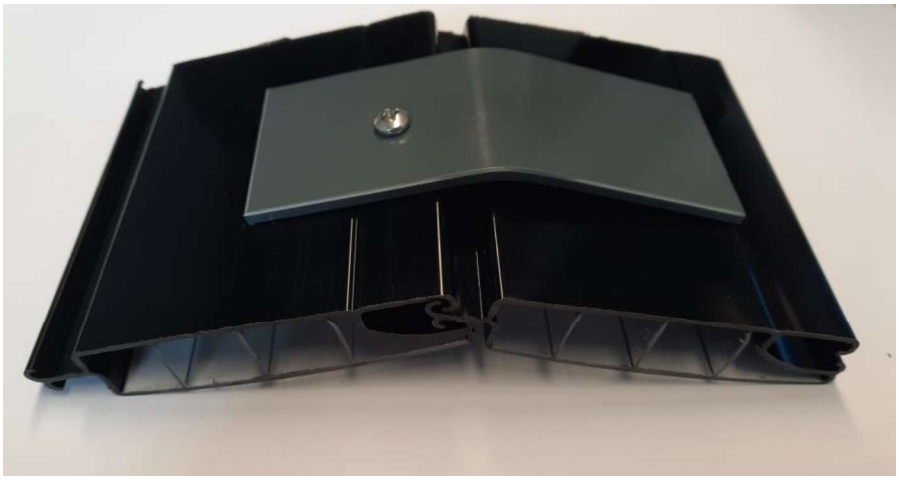
- Screw the spoiler into the open chamber of the second slat



AT-004071

Top mounted with stairs or special shape – glued and welded end caps (Profile 67,5 x 16,5mm & 60 x 14mm):





- Fix the screws in the open chamber of the slats

Overflow set

If you have an overflow pool, you can use the overflow set to avoid the cover floating over the edge of the pool. This set contains guiding wheels to install at both outsides underneath the first slat (in-line with the outside of the cover) and the stainless steel brackets to be equally devided over the full length of the cover.

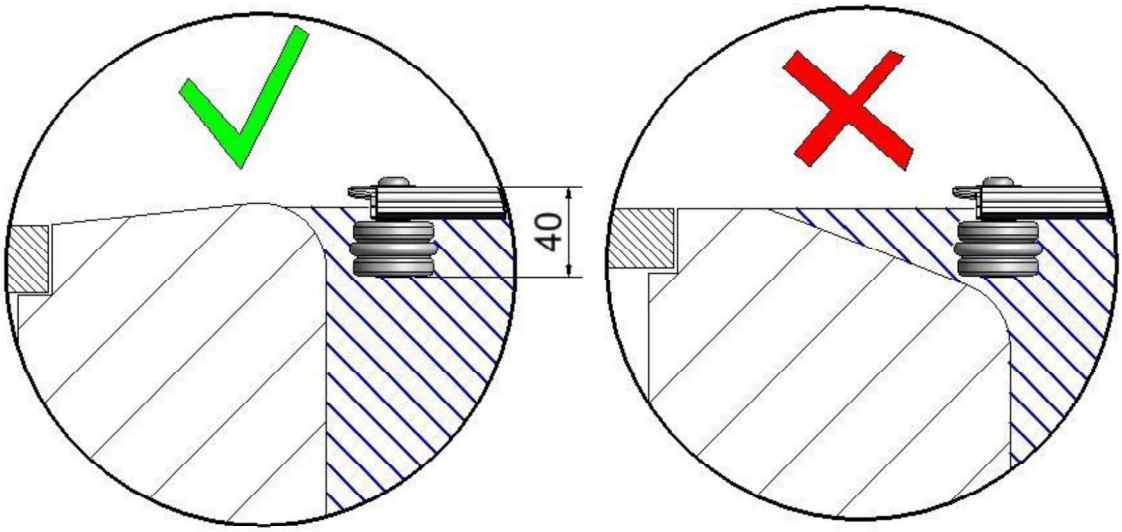
Remark:

The first slat (including the guiding wheels) cannot be rolled on the cover in following situations :

- Underwater mount in the pool floor (underwater panel)

- Underwater mount on the pool floor (underwater bench)

The overflow set cannot be used for every kind of edge/coping stone (see sketch below).



ATTENTION : The overflow set is never a guarantee to prevent your cover (whenever closed) from blowing off the pool in case of heavy (side) winds, the only correct solution would be to (automatically) lower the pool water level. This also offers a positive influence on the evaporation over the overflow channel.

AT-005010

Overflow set slats with welded end caps

- Install the wheel on the fixation plate

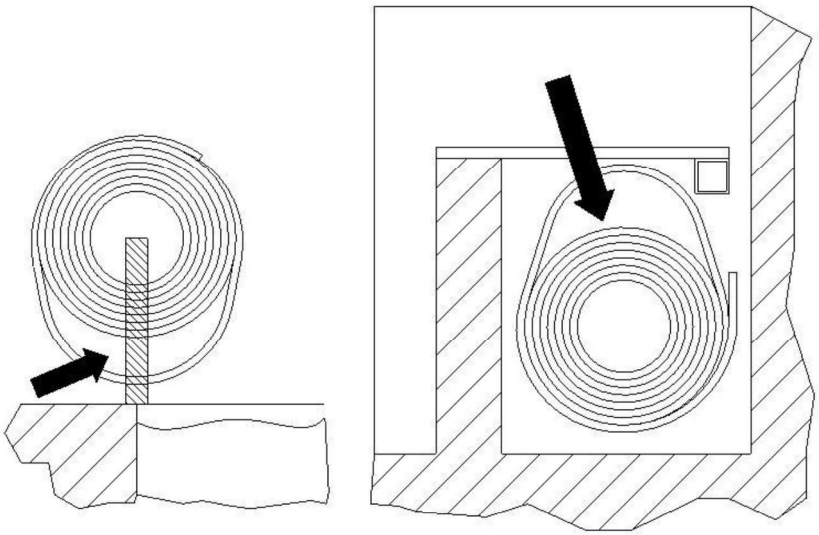
- Screw the fixation plate on the first slat

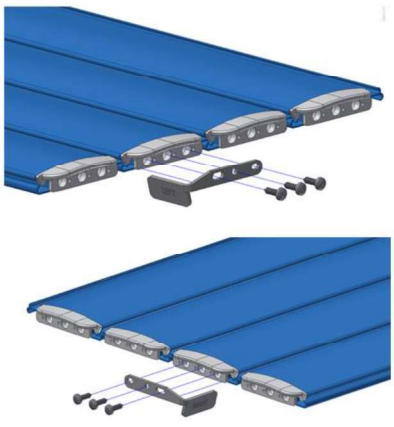
- Install the bracket at the side of the open chamber in case of an underwater mounted cover
  (The bracket needs to be able to pivot under the end cap)

- Install the bracket at the side of the tail in case of a top mounted cover
  (The bracket needs to be able to pivot under the end cap)

2: Slipping of the slats

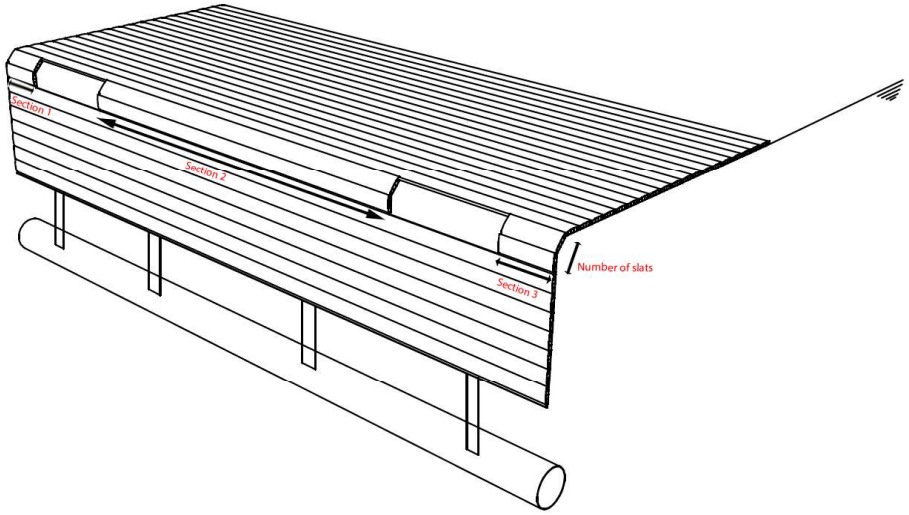
General:
In case of an irregular pool shape the cover can 'slip'. The last winding might slip of the roll (without the motor activated), this will result in not respecting the end positions of the cover. This phenomenon is caused by the weight difference of the slats in case of a top mounted cover or by the upward driving power in case of an underwater mounted cover.
You can reduce this risk by leaving a part of the cover on the water surface. Alternatively, you could use the anti-slip clamps (AT-003090). Please be aware that these clamps might scratch the cover at other positions which are often in contact with the clamps.
It is important to consider this problem during the design-process of the pool.





In case of particular pool shapes it issometimes impossible to fully roll the cover !

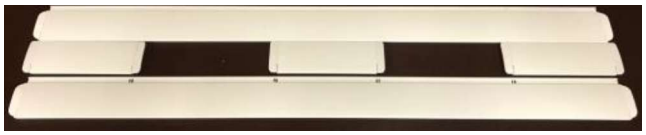
In case ther are skimmers installed at the rear of the pool, it's possible to order custommade skimmerslats.



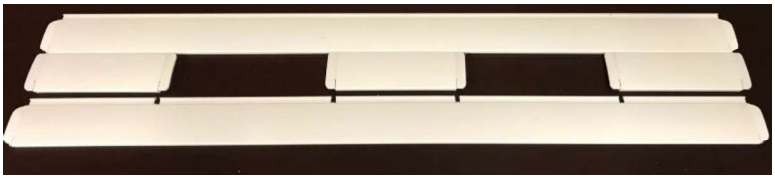
Installation skimmerslats
(Solar / Transparent slats needs to be protected from the sun!)

Put the slimmerslats at the right place

Put a long slat at front of the skimmerslats to drawn the cutouts



Drawn at the male part of the slats the cutout at the point of the endcap of the skimmerslat



Cut carefully the cutouts and install the slats.

Install thes in the cover so the openings are at front of the skimmers in closed situation of the cover.

Foam filled slats (Covrex)

1. Mounting

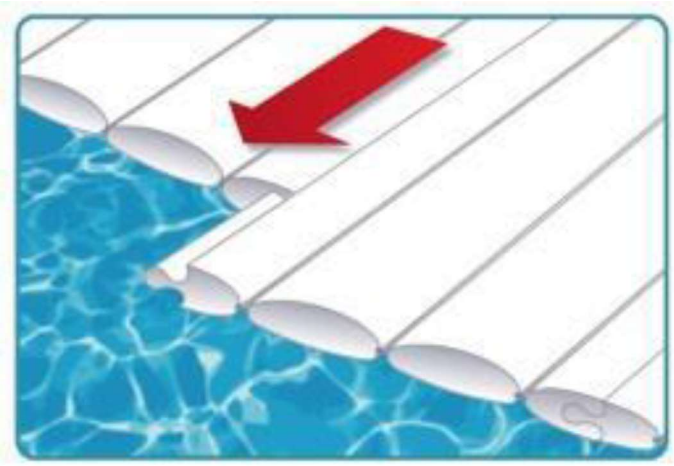
We recommend not mounting (or dismounting) at least 2 coping stones on both longitudinal sides of the pool before installing the slats.
Lowering the water level can be an alternative for this.

The liner protection caps are obligatory for liner pools.
Since the slats have no end caps, the ends are sharp and might damage the liner. If you have ordered the loose, non-installed liner protection caps, you can easily install them by following these steps :

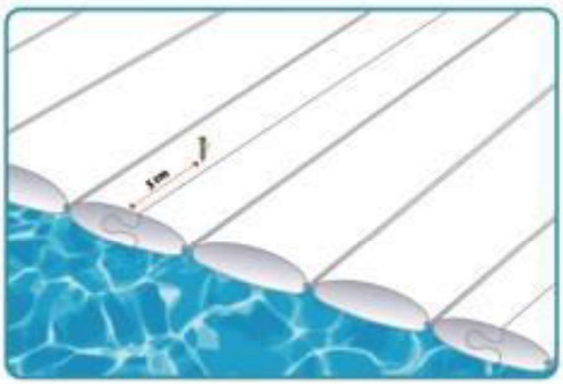
- Each layer, 3 slats are already inserted into each other in the package from T&A
- In the first and third slat of each layer, drill a 3mm hole on each side
- Insert the cap and push it into the hole
- Use a rubber mallet if necessary
- Length 10mm - Diameter pin 3.8mm - Thickness 1mm - Diameter head10mm

.

Slide the slats together on the water surface. To facilitate sliding, you may use a lubricant like for ex Vaseline.
Slats should be installed on the correct side: the slightly rounded side on top and the flat side on the bottom.



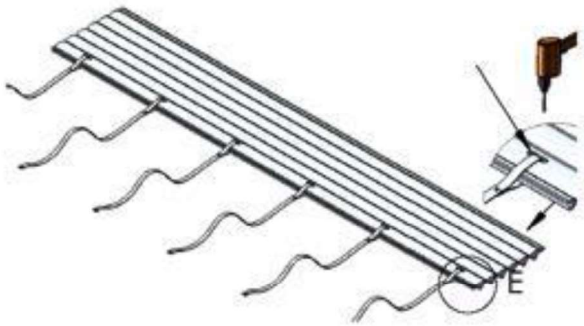
Put a screw at the end of **each slat** to fix them together. The screw can be installed on top or below the cover. If it is used on top it will always remain visible.
If you want to screw it from the underside,you need to fold the slats on the already installed slats.
Keep at least a distance of 3cm from te side of the slat

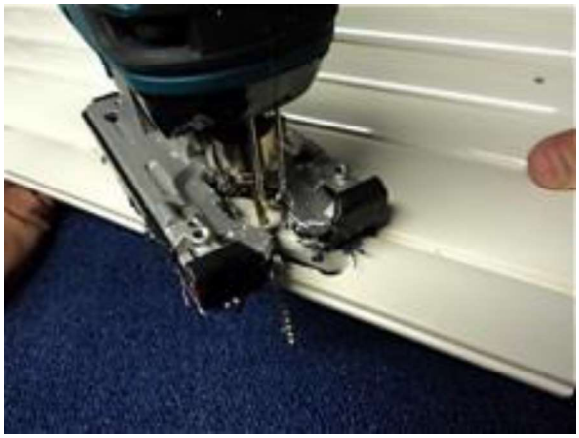


2. Straps

To attach the straps, please :
1. Place 1 slat near the schaft on the water and align the straps on the slats.
2. Mark the spot where the opening to fix the straps must be made.
3. Cut an opening – using a drill (diameter 10mm) and a jigsaw – 2 cm wider than the straps (1 cm on each side).
4. Loop the straps through the opening and secure together using the provided screws. One washer is used on the top side under the screw, another washer is used at the bottom side next to the locking nut

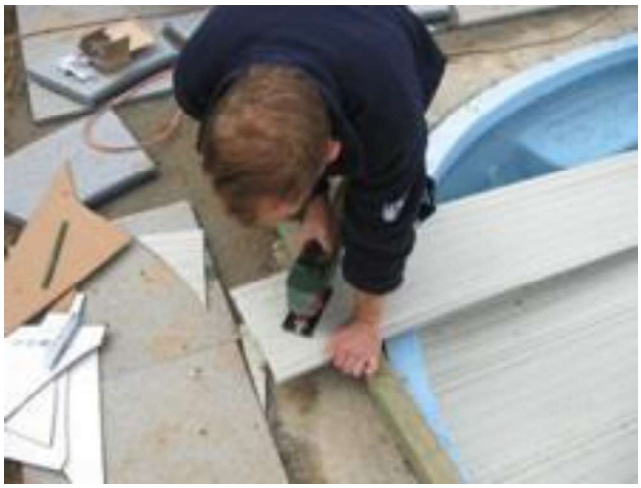
.





3. Special shapes

In case there is a special shape to be cut (roman stairs, round corners, etc.), draw the shape on the **backside** of the slats, and use a jigsaw to cut the slats.
.



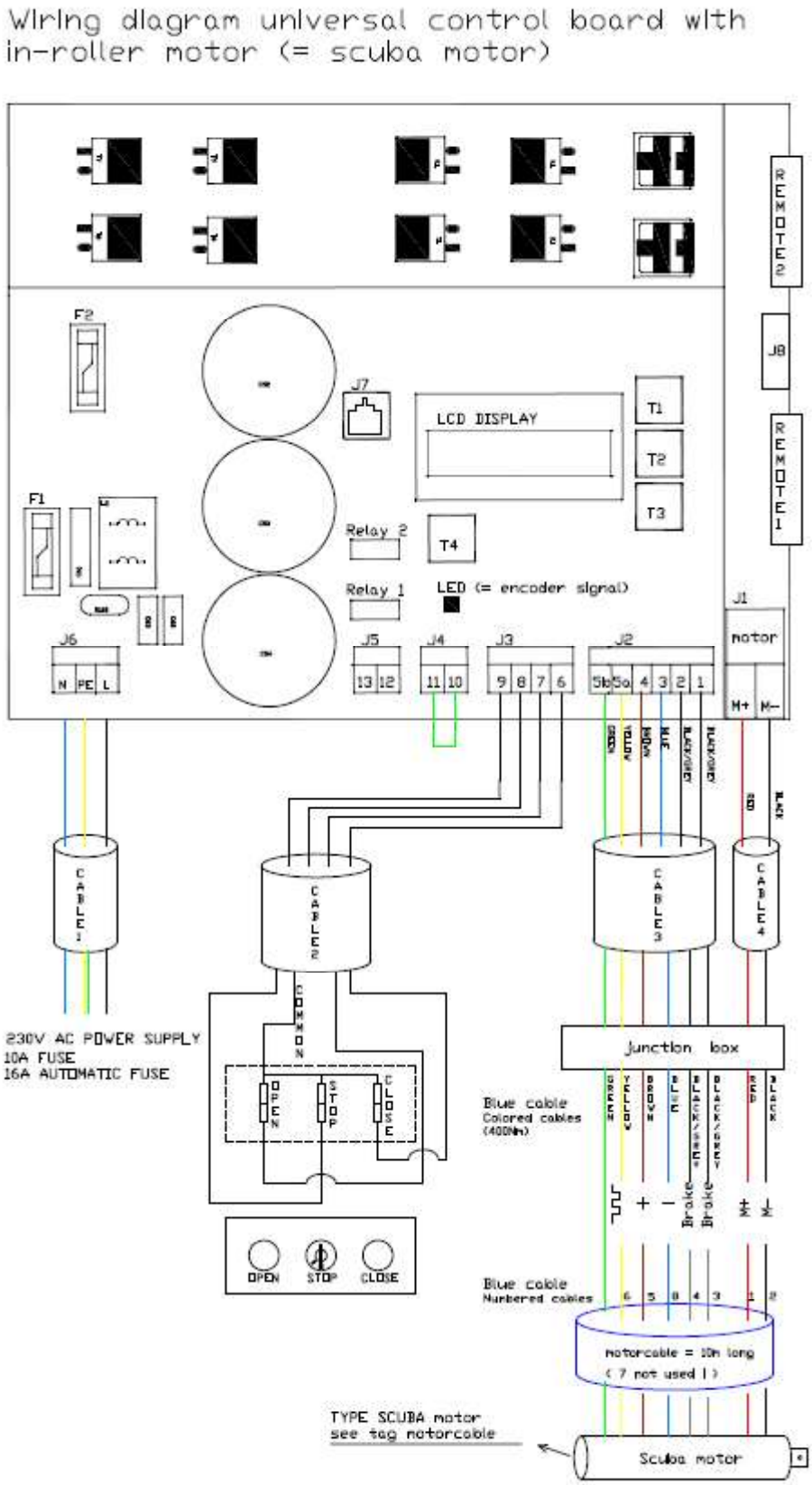
4. Guiding plates

These guiding plates will determine the direction of the slats when you close the cover.
Fix the little stainless steel plates on the bottom of the first slat.
Slightly bent the first slat to force the direction

5. Guiding wheels for overflow pools

If the cover is meant for an overflow pool, guiding wheels are required to prevent the cover from following the waterflow
The guiding wheels must be installed on the underside of the first slat. In case you also have guiding plates, make sure the wheel is on the outer side

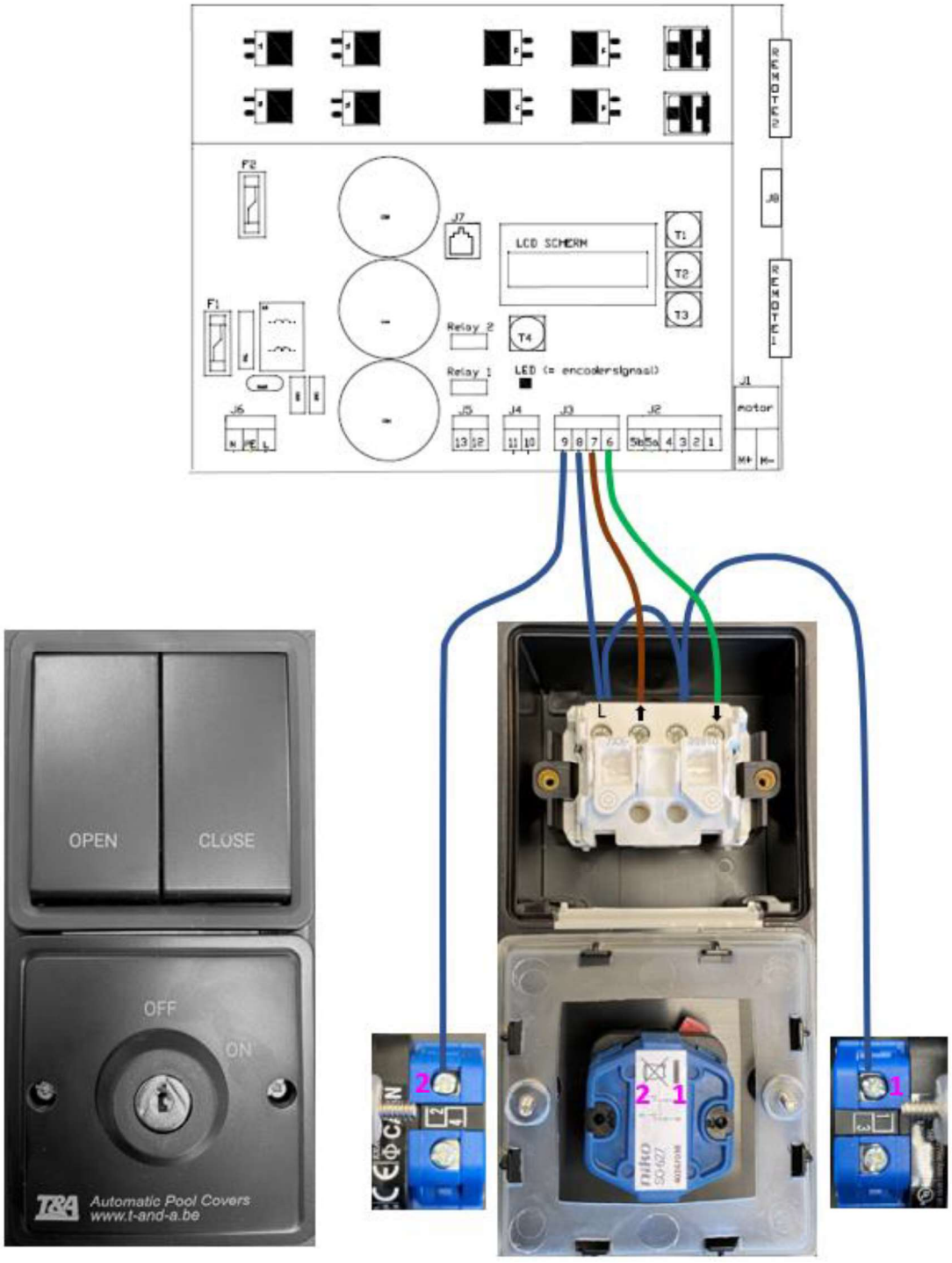
E3 – Connecting control: SCUBA-drive® 140, 250 & 500Nm

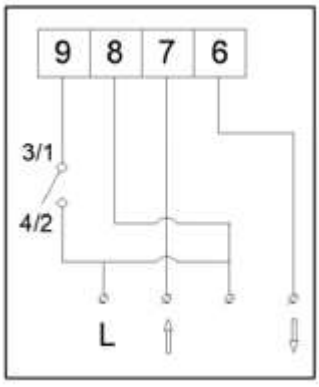


Black = Grey

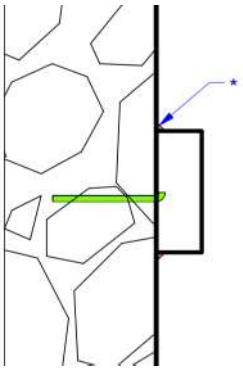
Code		Technical description	
CABLE1		Min. 3 x 1,5 mm²	**Flexible wire!**
CABLE2		Min. 4 x 0,75 mm²	**Flexible wire!**
CABLE3		Min. 5 x 1,5 mm² covered	**Flexible wire!**
CABLE4		Min. 2 x 4 mm²	**Flexible wire!**
Remote 1		Connector receiver print remote control	
Remote 2		**NOT USED**	
Relay1		connector relay print 1 (relay 1-4)	
Relay2		connector relay print 2 (relay 5-8)	
J1	M1	Motor + or -	
	M2	Motor + or -	
J2	1	Brake	
	2	Brake	
	3	Sensor -	
	4	Sensor +	
	5a	Sensor signal A	
	5b	Sensor Signal B	
J3	6	Push button CLOSE	**Attention : no external voltage on 6-7-8-9 !**
	7	Push button OPEN	
	8	Common	
	9	Key switch STOP	
J4	10	Bridge or water level contact	
	11	Bridge or water level contact	
J5	12	Programmable input	
	13	Programmable input	
J6	L	Power supply 230V	
	PE	Earthing	
	N	Power supply 230V	
J7		Ethernet connection	
J8		Additional connector remote control	
F1		Glass fuse 2A	
F2		Fuse 20A	
T1		Scroll up / OPEN	
T2		Enter (confirmation of the choice)	
T3		Scroll down / CLOSE	
T4		Menu / return	

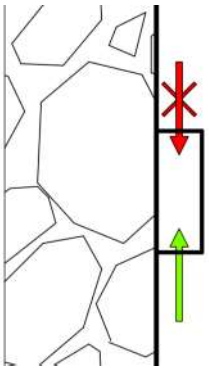
Specifications Control Box (IP55)		
L x W x H	mm	300 x 300 x 140
T min	C°	0
T max	C°	40
Primary voltage	V	230 ~ 50/60 Hz


LCD SCHERM
Relay 2
Relay 1
LED (= encodersignaal)
motor
OPEN
CLOSE
OFF
ON
Automatic Pool Covers
www.t-and-a.be
L
2
1
niko


9
8
7
6
3/1
4/2
L

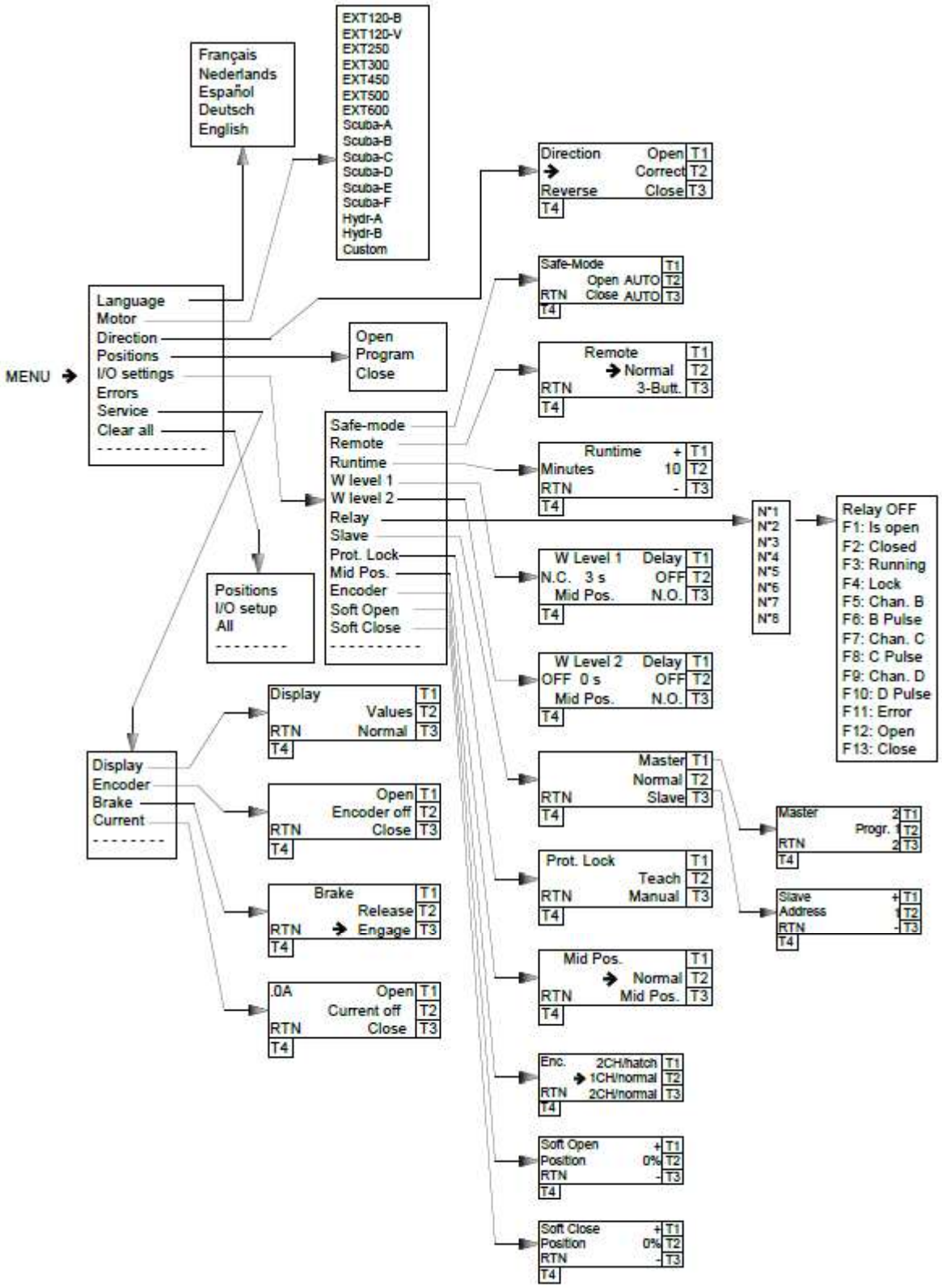
In case of a top mount electrical switch, wires shoud be connected either from the back side (through wall) or from the underside.





E4 – Adjusting control: External motor & SCUBA-drive® (Universal control box)

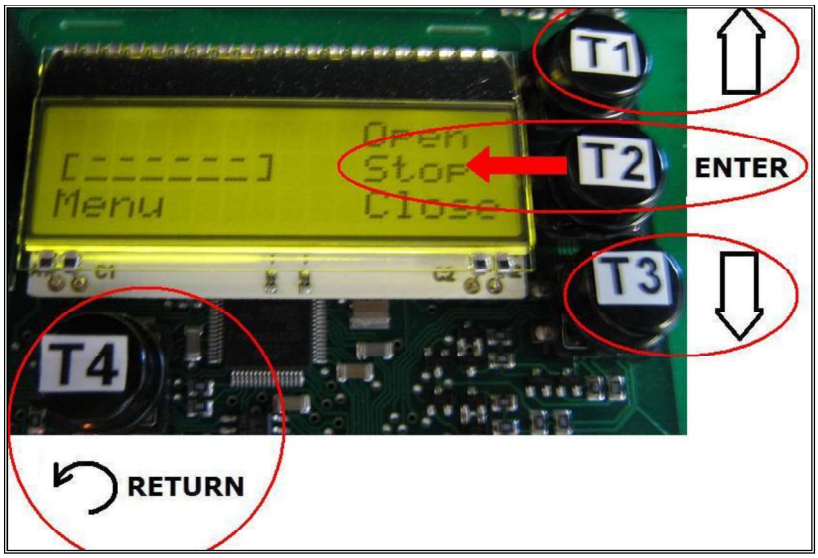
1. Tree diagram



(After connecting the control box according to the flow chart (see chapter E1), you can start initializing the control box.)

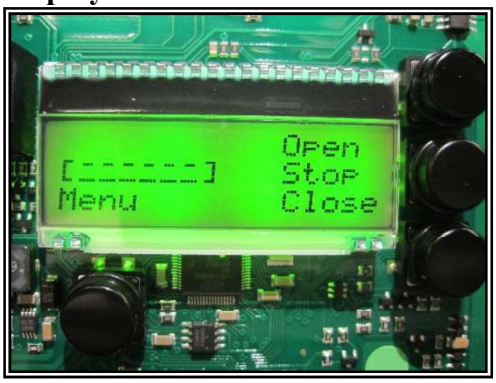
General instructions:

- **T1** and **T3**: to scroll through the menu.
- **T2**: to confirm your choice = **ENTER** (note: the action appearing in the middle position, next to T2 will be selected when entering)
- **T4**: to go into the menu, or to go back to the previous step = **RETURN**



T1 = key 1 T2 = key 2 T3 = key 3 T4 = key 4

1st display: Select **MENU**



Press T4 (MENU).

2nd display: Choose a **LANGUAGE**

Scroll to the LANGUAGE you prefer as your programme language.
When the chosen LANGUAGE appears next to T2, you confirm your choice by pressing T2.

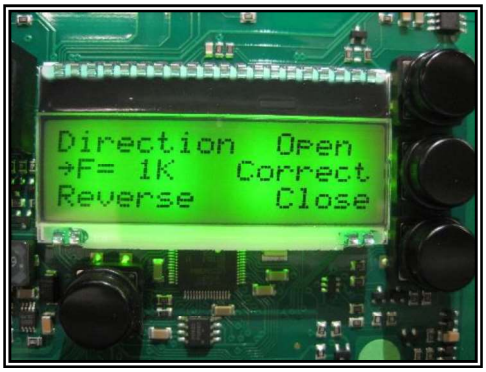
3rd display: Select the **MOTOR**

Scroll to the MOTOR which you mounted and confirm with T2.
In order to control the motor type, consult the table in the technical description.

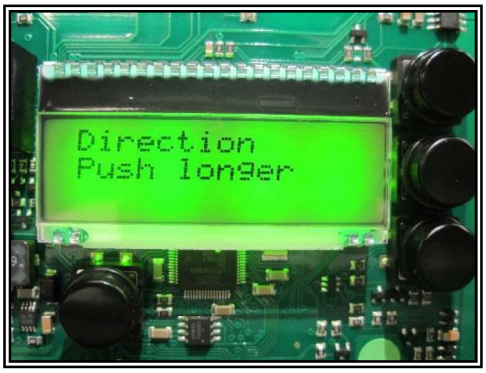
NOTE: In case of a hydraulic motor an additional step will have to be taken : the air needs to be removed from the tubes first! Have the motor run in 1 direction until the counter reaches “0”.

EXT120-B	**External motor 120Nm – Bosch (old model)**
EXT120-V	**External motor 120Nm – Valeo (since 2007)**
EXT250	**External motor 250Nm**
EXT300	**External vertical pit motor 300Nm**
EXT450	**External vertical pit motor 450Nm**
EXT500	**External motor 500Nm**
EXT600	**External vertical pit motor 600Nm**
SCUBA-A	**Scuba motor 250Nm**
SCUBA-B	**Scuba motor 500Nm**
SCUBA-C	**Scuba motor 180Nm**
SCUBA-D	**Scuba motor 400Nm**
SCUBA-E	**Scuba motor 140Nm**
SCUBA-F	**Scuba motor 140Nm (100% soft start)**
HYDR-A	**Hydraulic motor 500/1000Nm**
HYDR-B	**Not used**
CUSTOM	**Only use in consultation with T&A**

4th display: Control the rotating **DIRECTION** of the motor

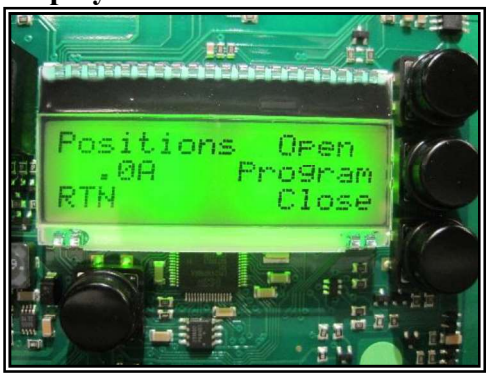


Check if the rotating DIRECTION of the roll-up shaft is the same as the one shown on the control box by pressing T1 or T3 and correct the rotating DIRECTION if necessary by pressing T4. As soon as the rotating DIRECTION is correct, turn the shaft for at least 5 seconds. The control box will detect if 1 or 2 channels of the encoders are connected. confirm with T2.



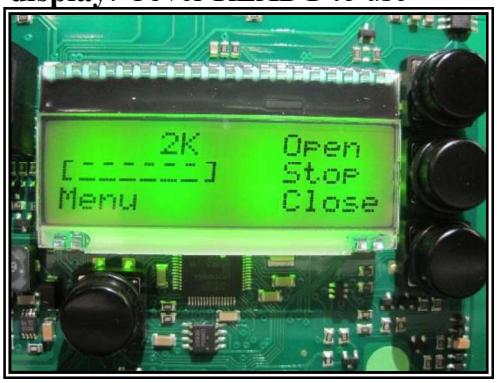
This screen appear if you didn't push long enough in one direction.
In this step the control box detects if one or two channels of the encoder are connected.

5th display: Fix the **END POSITIONS**



Keep pressing T1 until the 'open' POSITION is reached. Press T2 and then T1 (both buttons together) to confirm the 'open' POSITION. The confirmation will appear on the display. Keep T3 pressed until the 'closed' POSITION is reached. Press T2 and then T3 (both buttons together) to confirm the 'closed' POSITION. The confirmation will appear on the display.

6th display: Cover **READY** to use



The cover is now READY for use. To reprogram the end positions or to change other settings, see "*E4 – Adjusting control: External motor & SCUBA-drive® (Universal control box) 3. Extension*".

If two channels are connected and detected, 2K appears on the display. If not, only one chanel is connected or detected.

After initializing the control box you can reprogram the following settings:

MENU
(*) = Press T4 to go back

- **LANGUAGE**: **Choose your language and confirm with T2. Press T4 to go back**

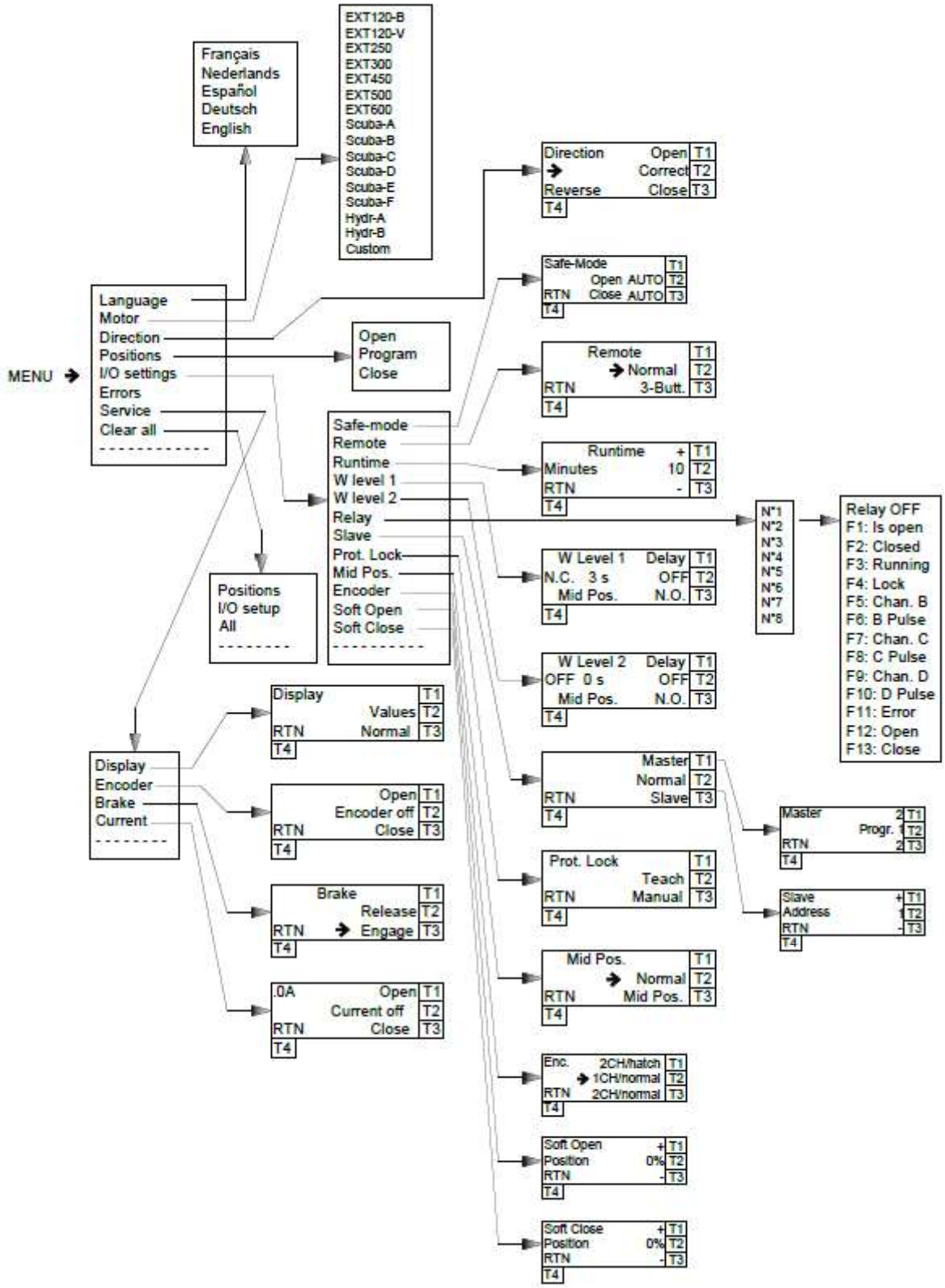
- **MOTOR TYPE**: **Select the mounted motor and confirm with T2. Press T4 to go back**

Remark: When you change the motor type, you must reprogram the end positions.

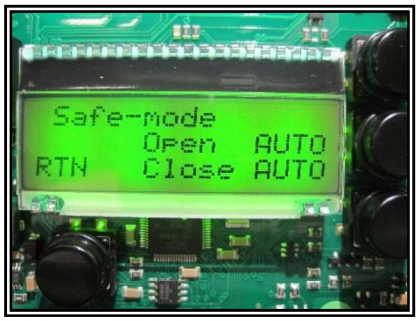
- **ROTATING DIRECTION**: **Check the turn direction by pressing T1 or T3 and correct if necessary with T4. As soon as the turn direction is ok, confirm with T2.**

Remark: When you change the turn direction, you must reprogram the end positions.

- **END POSITIONS**: **Keep T1 pressed until the 'open' POSITION is reached. Press T2 and then T1 (both buttons together), to confirm the 'open' POSITION. The confirmation will appear on the display. Keep T3 pressed until the 'closed' POSITION is reached. Press T2 and then T3 (both buttons together), to confirm the 'closed' P OSITION. The confirmation will appear on the display. Press T4 to go back**
-


MENU
Language
Motor
Direction
Positions
I/O settings
Errors
Service
Clear all
Français
Nederlands
Español
Deutsch
English
EXT120-B
EXT120-V
EXT250
EXT300
EXT450
EXT500
EXT600
Scuba-A
Scuba-B
Scuba-C
Scuba-D
Scuba-E
Scuba-F
Hydr-A
Hydr-B
Custom
Open
Program
Close
Positions
I/O setup
All
Display
Encoder
Brake
Current
Safe-mode
Remote
Runtime
W level 1
W level 2
Relay
Slave
Prot. Lock
Mid Pos.
Encoder
Soft Open
Soft Close
Direction Open T1
Correct T2
Reverse Close T3
T4
Safe-Mode T1
Open AUTO T2
RTN Close AUTO T3
T4
Remote T1
Normal T2
RTN 3-Butt. T3
T4
Runtime + T1
Minutes 10 T2
RTN - T3
T4
W Level 1 Delay T1
N.C. 3 s OFF T2
Mid Pos. N.O. T3
T4
W Level 2 Delay T1
OFF 0 s OFF T2
Mid Pos. N.O. T3
T4
N°1
N°2
N°3
N°4
N°5
N°6
N°7
N°8
Relay OFF
F1: Is open
F2: Closed
F3: Running
F4: Lock
F5: Chan. B
F6: B Pulse
F7: Chan. C
F8: C Pulse
F9: Chan. D
F10: D Pulse
F11: Error
F12: Open
F13: Close
Display T1
Values T2
RTN Normal T3
T4
Open T1
Encoder off T2
RTN Close T3
T4
Brake T1
Release T2
RTN Engage T3
T4
.0A Open T1
Current off T2
RTN Close T3
T4
Master T1
Normal T2
RTN Slave T3
T4
Master 2 T1
Progr. 1 T2
RTN 2 T3
T4
Slave + T1
Address 1 T2
RTN - T3
T4
Prot. Lock T1
Teach T2
RTN Manual T3
T4
Mid Pos. T1
Normal T2
RTN Mid Pos. T3
T4
Enc. 2CH/hatch T1
1CH/normal T2
RTN 2CH/normal T3
T4
Soft Open + T1
Position 0% T2
RTN - T3
T4
Soft Close + T1
Position 0% T2
RTN - T3
T4

- Menu → IO-setup → Safe-Mode
- Setting related to the operation method. For each direction the active mode is displayed:
  You can change the method by pushing T2 (opening) or T3 (closing)



Opening and closing happens automatically

The opening takes place in dead man's function. The button must remain pressed.
Closing is done automatically

The closingtakes place in dead man's function. The button must remain pressed.
Opening is done automatically

Both opening and closing are done in dead man's function. The button must remain pressed.

➔ Operation by the pulse contact only works in AUTO mode
➔ Operation with a remote control configured in 3-button functionworks only in AUTO mode

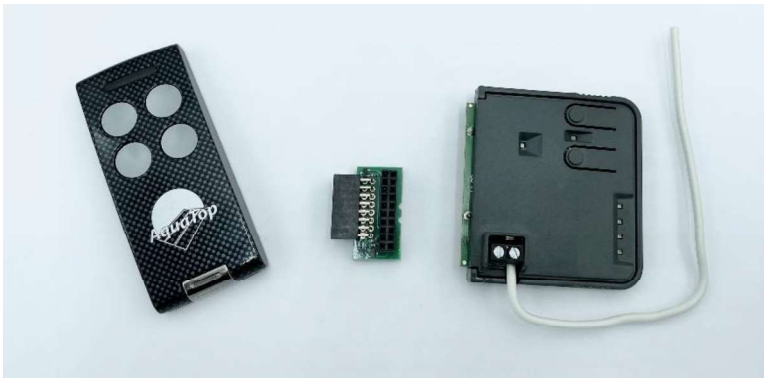
5.1 Remote control

General

- The remote control gives you the comfort of operating the cover from a distance.
- The control box will therefore be extended with a relay card with 4 outputs.
- Together with the relay card(s) you can use the remote control for e.g. driving the following equipment from a distance:
    - Swimming pool light
    - Garden light
    - Jetstream

  PLEASE NOTE: The maximum current intensity of the relay with 230Vac is 16A! Never drive pumps and/or motors via this relay because of the starting power. Always install extra power contactors.
- **The relays are potential free contacts.**

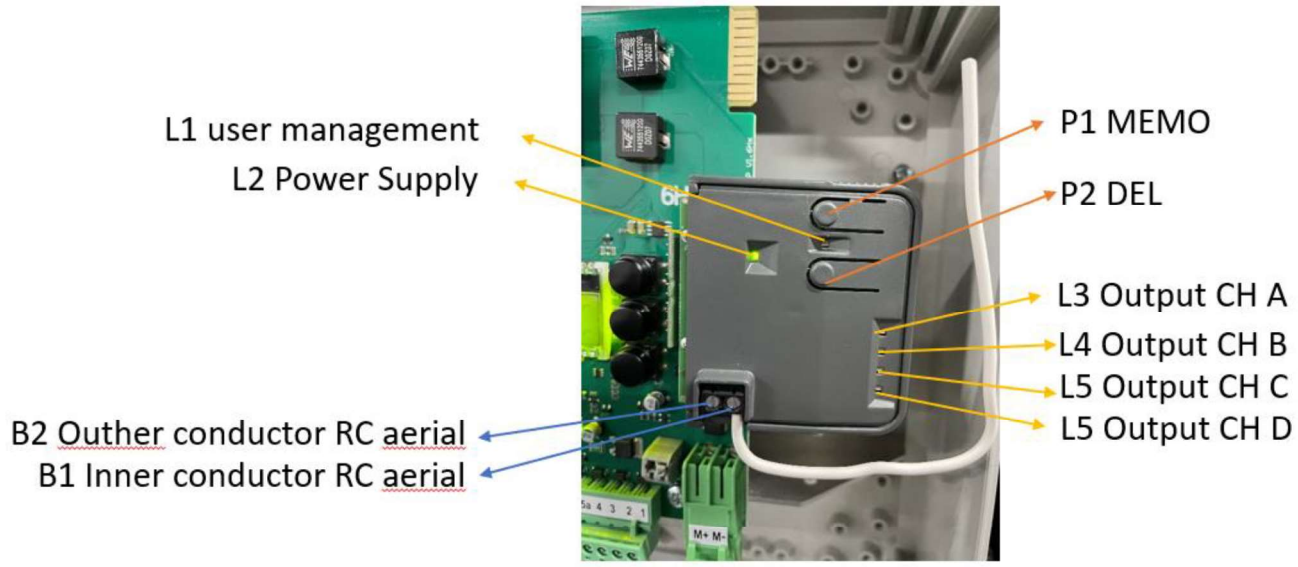
Remark:
With a hydraulic drive relay No. 1 and 2 are not available as they are driving the pump group.



Installation: 2022

- STEP 1: Install the receiver on the small connector delivered with the set remote control

- STEP 2: Connect these assembly to the control board on the connector at the front side.



OPTION; The receiver is supplied with a wire antenna (range 50m) connected to binding post B1. To increase the range (max 100-150m) a tuned antenna connected using coaxial cable RG58 (impedance 50 Ohm) with a maximum length of 15m can be installed. In this case the antenna should be positioned outdoors, visiblile and away from metal structures.
B1: Inner conductop for the radio receiver aerial
B2 outer conductor for the radio receiver aerial

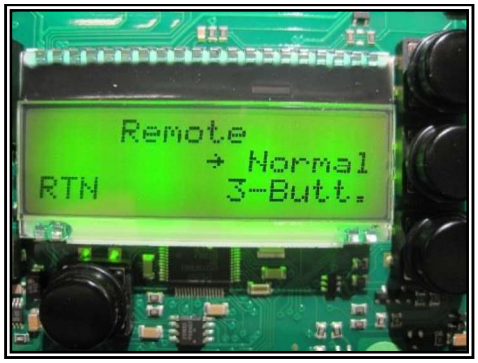
Once a button has been pressed, a signal can be heard and a bleu LED will light up.
Once the signal has been received, a red LED will light

EXTRA: Programming sender/receiver : Only necessary in case of a replacement- or additional remote control.

- Keep the transmitter ner the receiver
- Press and hold **P1 MEMO** button on the receiver
  LED L1 will flash slowly
- Press the button you wish to memorize on the transmitter
- The LED L1 on the receiver will flash rapidly
- Press the button you wish to memorize on the transmitter a second time
- LED L1 on the receiver will glow continuously. After a few moments LED L1 will switch off
- Release the P1 MEMO button → End of operation

Programming sender/receiver is only necessary in case of a replacement or extra sender/receiver. In case of senders and receivers delivered together, the connection is already established so no need for programming.

- Menu → IO-Setup → Remote control
- Setting of the remote control. The active setting will be displayed with an arrow (→).Press T4 to return.

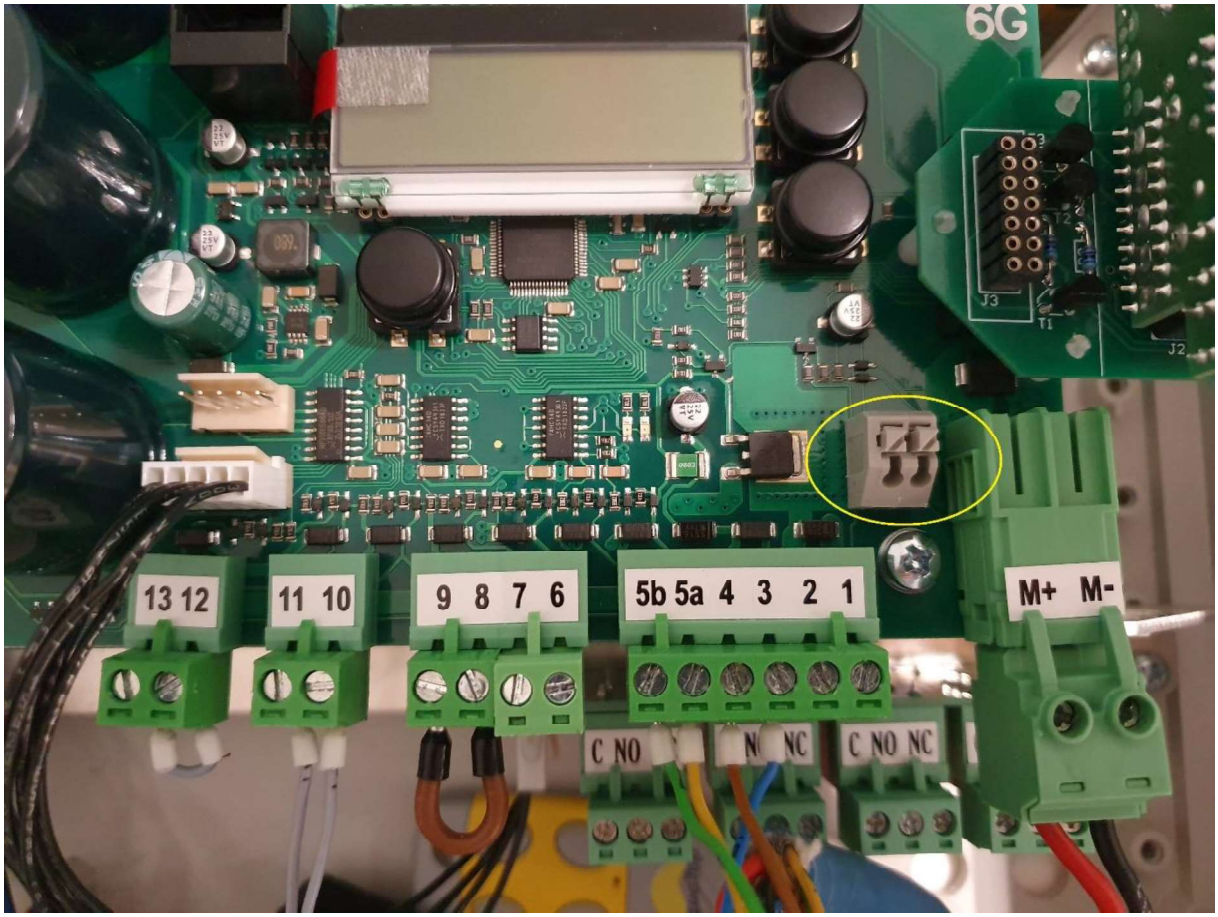


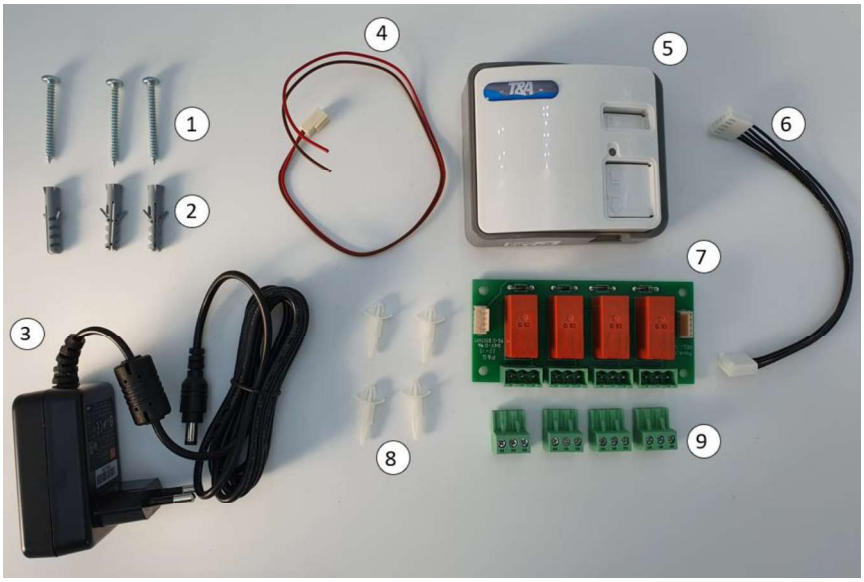
Normal (T2):
(*Standard*) Only one button to Open/Stop/Close the cover.

3-buttons (T3):
Every order (Open – Stop – Close) has its own button.
Button A: Open
Button B: Close
Button C: Stop
Button D: No function for cover

General

- When making using use of the pulse contact, you can have other peripheral devices control the rollo cover, e.g. a switch
- **The pulse on the contact must be potential free**





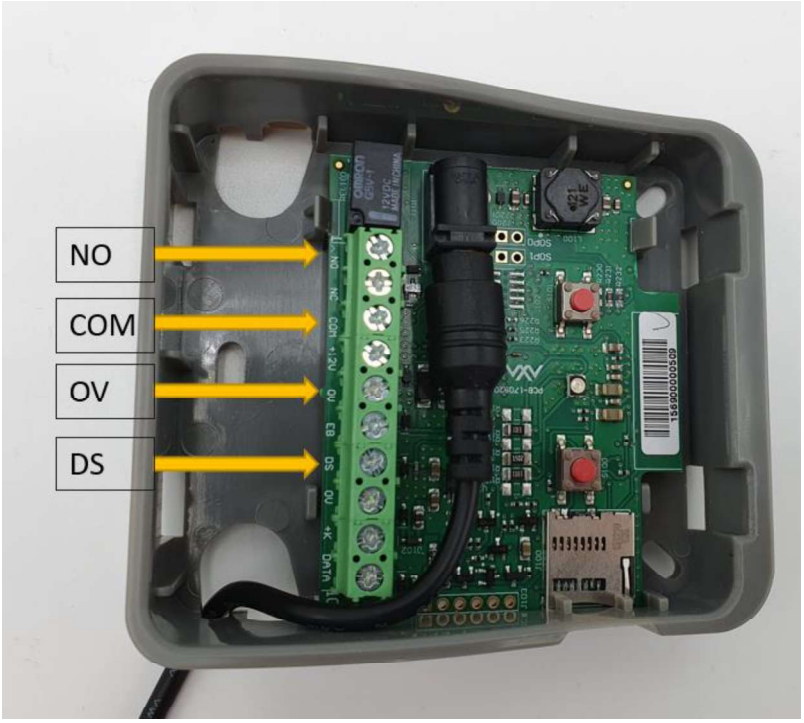
1	Fixing screws
2	Plugs
3	Adaptor INPUT: 100-240V AC 50/60Hz 031A (Cable length 1.75m) OUTPUT 12V DC 1.0A
4	Cable for pulse control (Not necessary for prints from type 6G and up)
5	CoverU-unit
6	Data cable relay card
7	Relay card
8	Fixing plugs relay card
9	Relay Connector

Preparation:

- **The CoverU-unit should be installed within reach of a WIFI network**
- It is best to have a socket close to the CoverU unit for power supply.
- Open the CoverU-unit by pushing the 2 lips on each side with a screwdriver
- Connect the adaptor cable before fixing the CoverU-unit against the wall and also cut out the necessary cable holes at the top and bottom.
- Mount the CoverU-unit against the wall using the screws and plugs provided. In case the plugs are not suited for the type of wall, please use the most suitable plugs. (drill holes ø6mm)

Wiring:

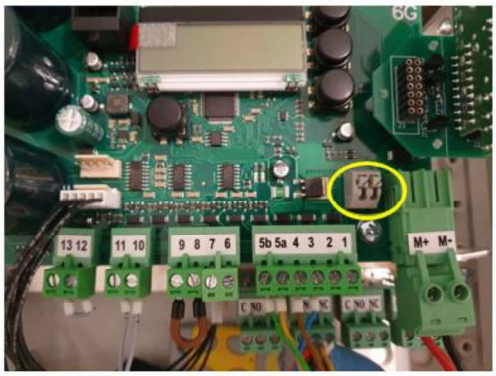
- Install the relay card as described in the AquaTop manual.
- Make the 4 connections below:



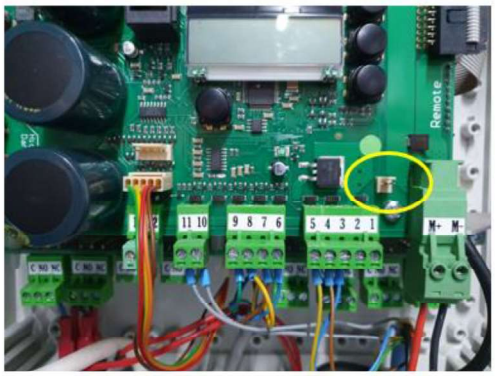
CoverU	Aquatop stuurkast
NO	Pulse contact
COM	Pulse contact
OV	Connection C Relay
DS	Connection NC Relay

- Use a 4 core cable: min 0.75mm² , max 1.5mm²
- The slatted cover is activated through a potential free impulse.
  This pulse is generated by the CoverU.
  The Aquatop control box will receive this pulse on the pulse contact (see drawing below indicating the contact)
  In case necessary, extend the cable.

REMARK: In case a remote control is used as well, make sure not to program it on 3-button control.

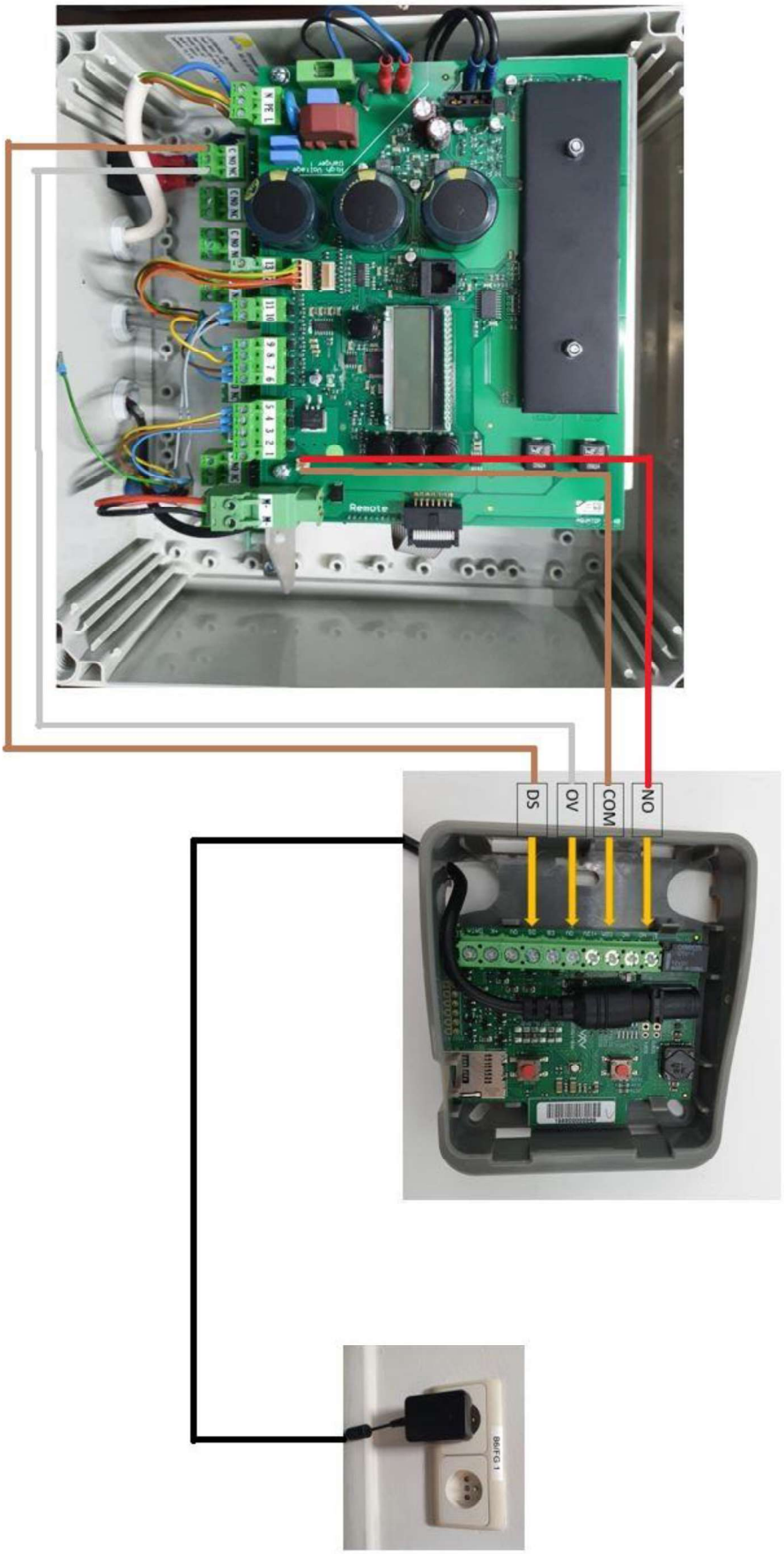


Cable pulse control not necessary



Cable pulse control necessary

- The CoverU-unit receives feedback from the AquaTop control box through the relay card.
  Connect the CoverU-unit to connection C (Common) and NC (Normal Closed) of a free relay.
  Program the relay with the option COVERU
  (If this option is not available, you can also use the function “CLOSE”)

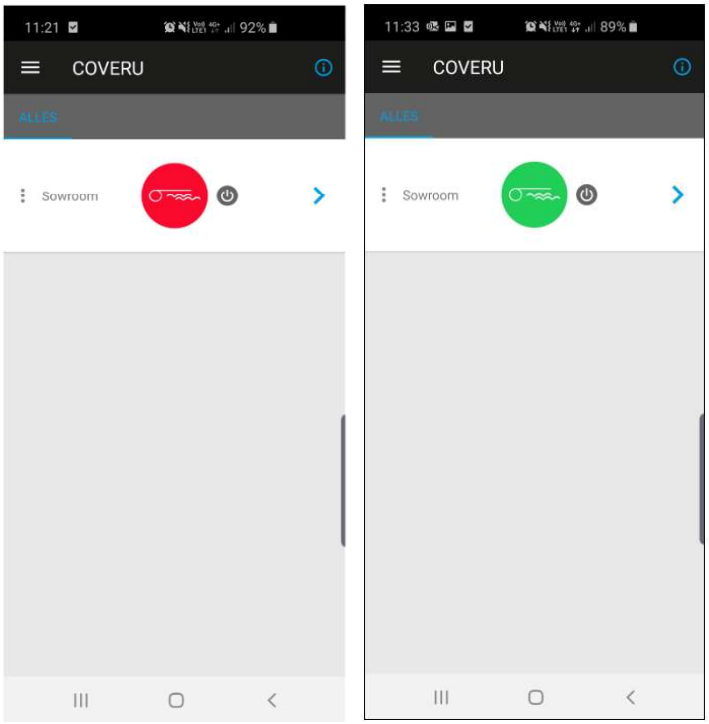

DS
OV
COM
NO
Remote

Programming:

- **Make sure your smartphone is connected to the same WIFI network as that you connect the COVERU to.**
- Download the CoverU-App in the Play Store (Google Play - Android) or Appstore (IOS).

- Open the APP on your smartphone
- Follow the steps in the APP
- Make sure to save the administrator password well as you will need it to add other users.

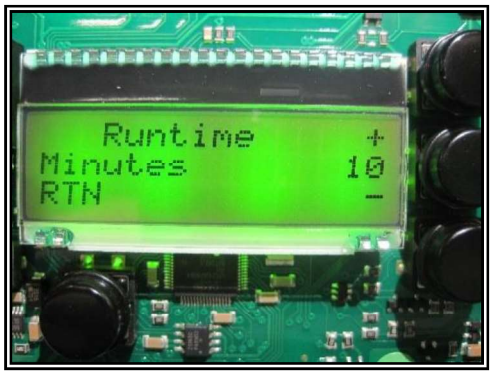
- A red pictogram indicates an unsafe situation. (Cover not completely closed)
  A green pictogram indicates a safe situation. (Cover completely closed)
  A grey pictogram indicates a wrongly programmed configuration making it impossible to get any feedback.



Control:

- **Only control the cover when you have the pool in eyesight!**
- Press the coloured pictogram (Green or red)
- Push it until the bar has coloured blue completely.
- Make sure to have a clear view of the pool.
- Optionally: unlock your phone with a pin code, pattern, fingerprint, …)

- Menu → IO Setup → Runtime
- Setting of the maximum time that the cover can be run non stop.
  Press T4 to go back



‘+’ (T1):
Increases the max time with one minute.

Minuten:
(*Standard* = 10 min.) Displays the maximum time (min.).

‘-‘ (T3):
Decreases the max time with one minute.

The setting “0” minutes bridges this protection. There is a unlimited duration of use of the motor.

7. Water level 1

- Menu → IO Setup →W Level 1
- Setting of input J4 (water level 1). Make your choice by scrolling to the desired setting and confirm with T2. The active setting will be displayed left. Press T4 to return.

OFF:
J4 is not being used

N.O.:
Contact J4 must be 'open' to let the cover run

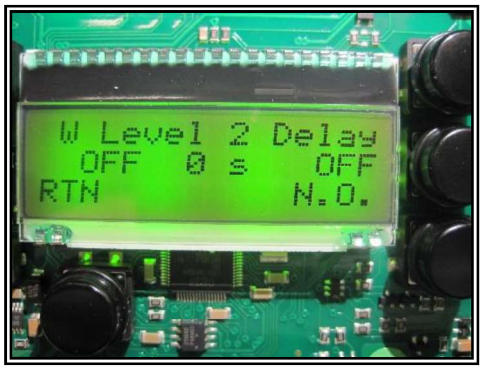
N.C.:
Contact J4 must be 'closed' to let the cover run.

Tijd:
In case the N.O./N.C.-contact gives a time deceleration (sec.) (To be set as: "Max time" – *see above*).

When the conditions are not met and cover gets activated, an error message will occur. This resets itself automatically as soon as the condition is met.

Remark:
In case of an external motor this input will be connected to the overheating protection of the motor (Sk-Sk).

- Menu → IO Setup →Niveau 2
- Setting of input J5 (water level 2). Make your choice by scrolling to the desired setting and confirming with T2. The active setting will be displayed left. Press T4 to go back



OFF:
J5 is not being used.

N.O.:
Contact J5 must be 'open' to let the cover run.

N.C.:
Contact J5 must be 'closed' to let the cover run.

Tijd :
In case the N.O./N.C.-contact gives a time deceleration (sec.) (To be set as: "Max time" – *see above*).

When the conditions are not met and cover gets activated, an error message will occur. This resets itself automatically as soon as the condition is met.

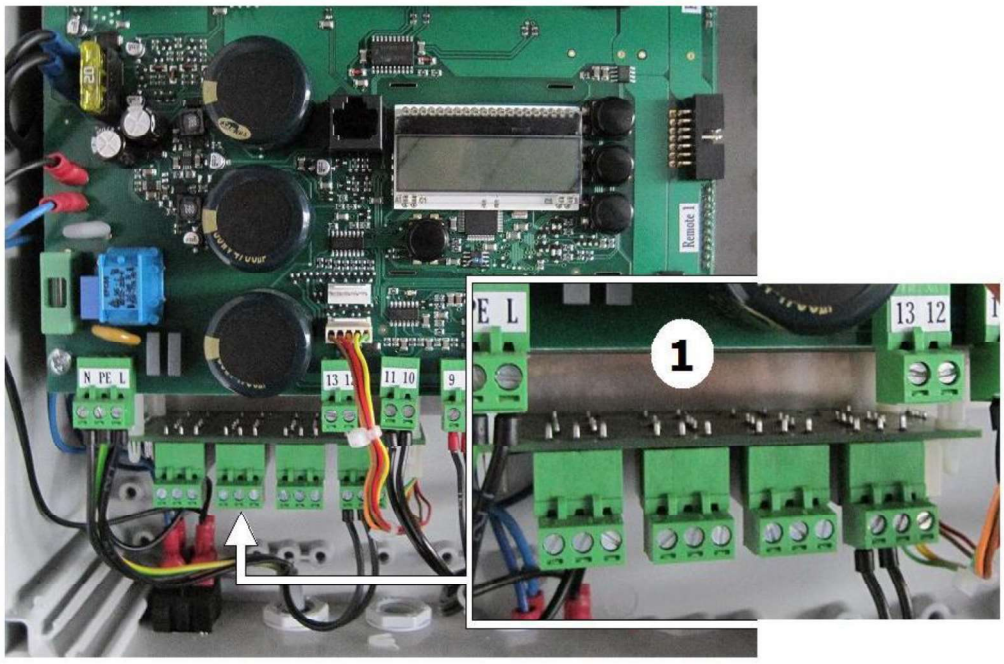
General:

- The circuit board can be extended with 1 or 2 relay cards, with 4 output relays each.
- The extra outputs can be used for e.g. driving the following accessories :
  - Swimming pool lights
  - Garden lights
  - Jetstream
  - …

- **PLEASE NOTE:** The maximum current intensity of the relay with 230Vac is 16A! Never drive pumps and/or motors via this relay because of the increased starting power. Always install extra power contactors.
- **The relays are potential free contacts.**

Remark:
With a hydraulic drive relay No. 1 and 2 are not available, because these are driving the pump groups.

Installation:

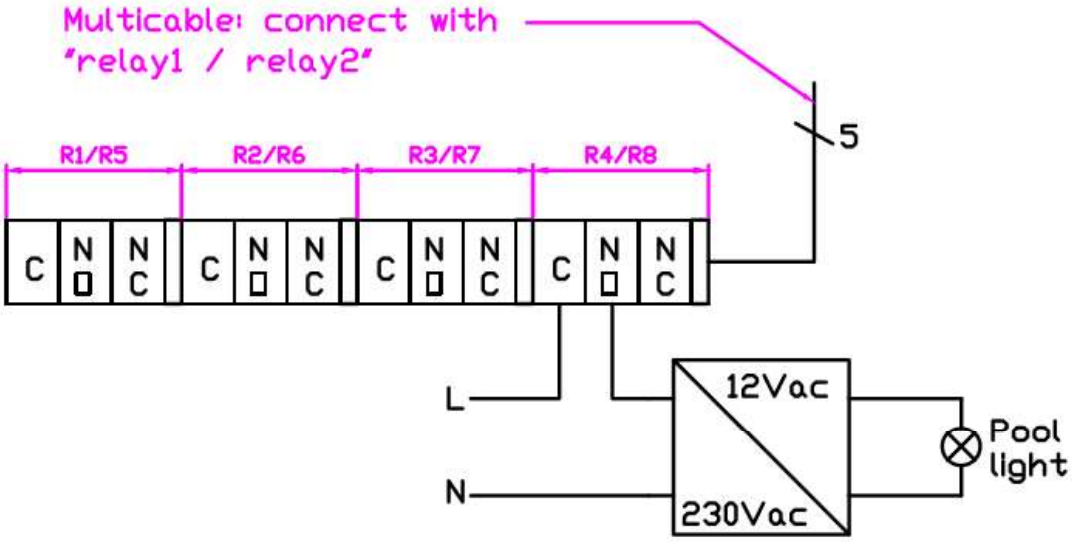


- STEP 1: Place the relay card and connect the card with “Relay 1” on the circuit board.
- STEP 2: (Place a 2nd relay card and connect this one with “Relay 2” on the circuit board)
- STEP 3: The programming of the relay happens in the MENU (*see 3. Extension: I/O-settings – Relay*)
- Below some examples of connection schemes which are possible with the extra relay card(s).

* Straight switching of a lightingcircuit.

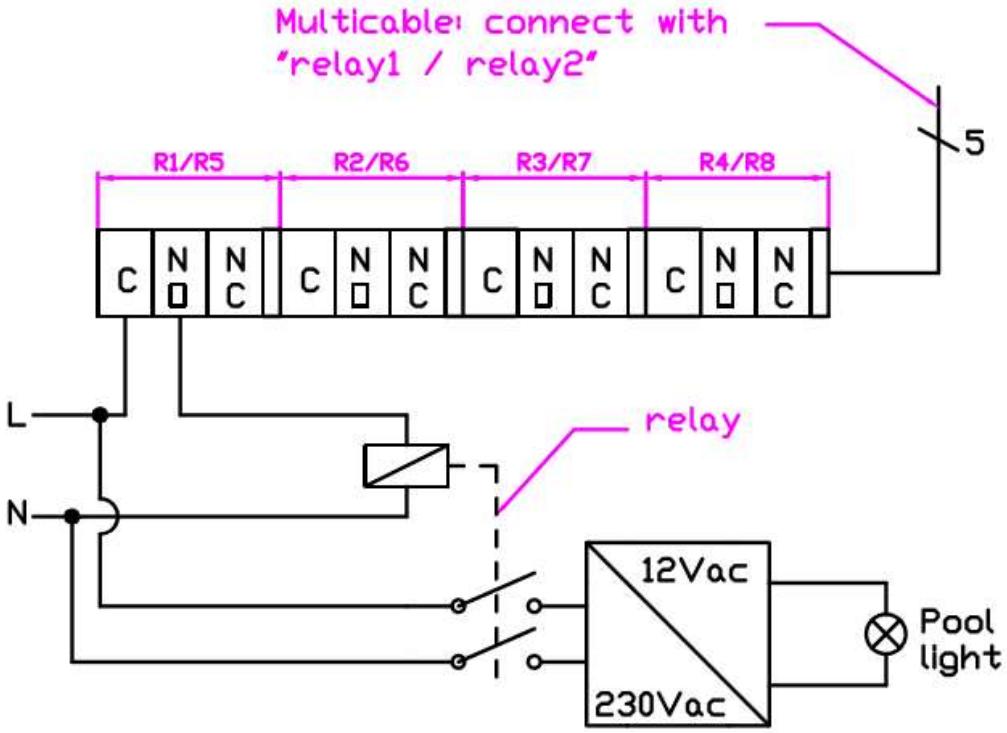
* Max. load per relay = 16A.

* Under MENU -> I/□ Settings -> Relays : you will find all possible options to control the relay.



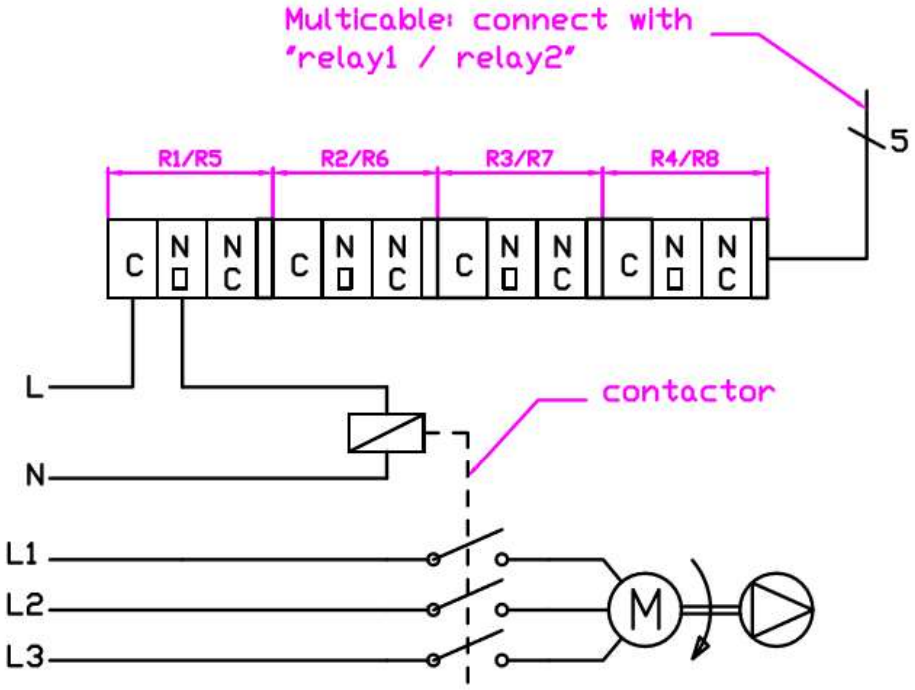
* Switching of a lightingcircuit with a relay.

* Under MENU -> I/□ Settings -> Relay : you will find all possible options to control the relay.



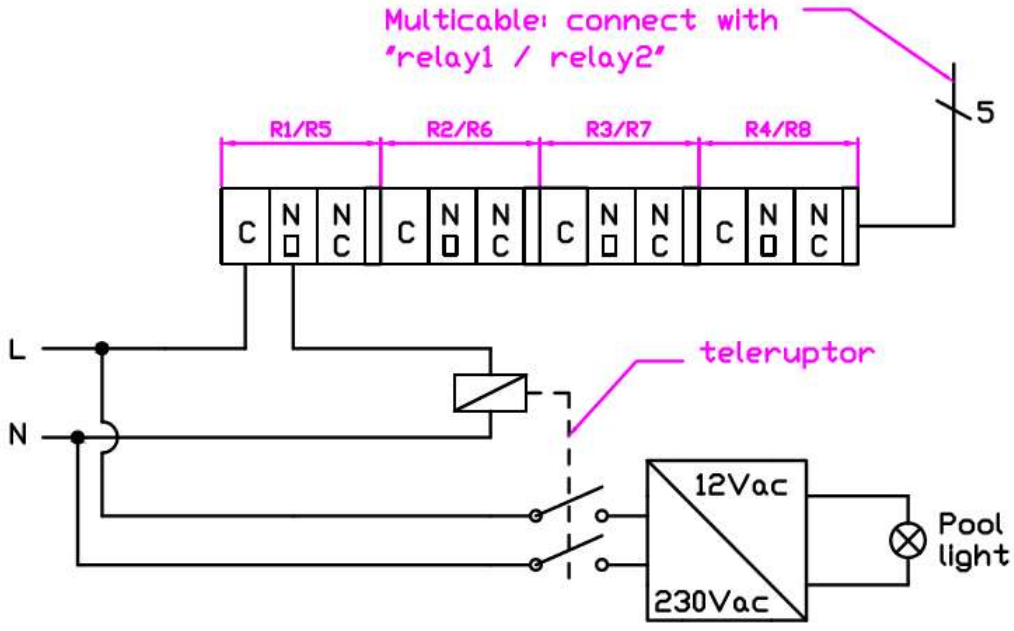
* Controlling an external device (eg. filterpump, jetstream, ...) with a power relay (contactor).

* Under MENU -> I/O Settings -> Relay : you will find all possible options to control the relay.



* Switching of a lightingcircuit with a teleruptor.

* Setting:
MENU -> I/O Settings -> Relay : Connect the relevant relay with 'B pulse', 'C pulse' or 'D pulse'. Only possible in combination with the 'Plug-and-Play' remote controle.



Programming

- Menu → IO Setup → Relay
- Setting of the 8 output relays. Make your choice by scrolling to the desired output (Nos. 1 - 8) and confirming with T2. Then scroll through the different functions and confirm with T2. The active setting will be displayed left. The following 12 functions can be allocated per output. Press T4 to return.

Relay OFF: (*Standard*) The relay will not be used.

F1 – Is open: The relay switches as soon as the cover is 'open'.

F2 – Closed: The relay switches as soon as the cover is 'closed'.

F3 – Running: The relay switches as soon as the cover is running.

F4 – Lock:NOT USED

F5 – Channel B.: They relay is connected to channel B of the remote control.

F6 – B Pulse: The relay is connected to channel B of the remote control. The relay switches only temporarily = pulse contact.

F7 – Channel C.:The relay is connected to channel C of the remote control.

F8 – C Pulse: The relay is connected to channel C of the remote control. The relay switches only temporarily = pulse contact.

F9 – Channel D.: The relay is connected to channel D of the remote control.

F10 – D Pulse: The relay is connected to channel D of the remote control. The relay switches only temporarily = pulse contact.

F11 – Error: The relay switches as soon as an error occurs on the display.
F12 – Opening : Relay switches when the cover opens
F13 – Closing : Relay switches when the cover closes

Remark:

F5 till F10 only possible with 1-button operation - *see I/O-settings: Remote control*

FROM SOFTWARE VERSION D6.5T1:
Timer function and change in function F2 Close.
The functions B Pulse - C Pulse and D Pulse are no longer available !!

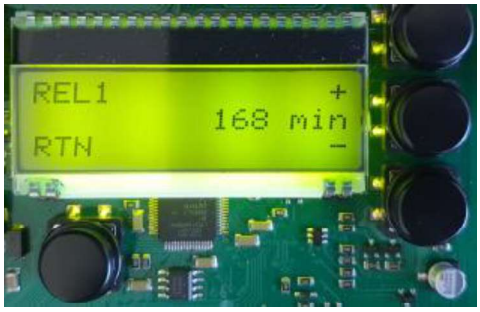
Function	Sitiuation Cover	Contact between
F1 Is Open	100% Open	C - NO
	Openen / Closing	C - NC
	100% Closed	C - NC
F2 Closed	100% Open	C - NC
	Openen / Closing	C - NC
	100% Closed	C - NO
F3 Running	100% Open	C - NC
	Openen / Closing	C - NO
	100% Closed	C - NC
F12 Opening	100% Open	C - NC
	Opening	C - NO
	Closing	C - NC
	100% Closed	C - NC
F13 Closing	100% Open	C- NC
	Opening	C- NC
	Closing	C- NO
	100% Closed	C- NC

• After selecting the functions Open - Close - Channel b - Channel C - Channel D or Error, you can set how long the relay should remain switched on. (200ms – 168min)
For a Teleruptor the time must be setted between 500ms and 1 seconde (depending of the type)
The relay switches back after this time has elapsed.
If you set “0”, the relay remains switched until the condition is no longer met.

The relay remains switched

The relay switches back after 26 seconds

The relay switches back after 45 minutes



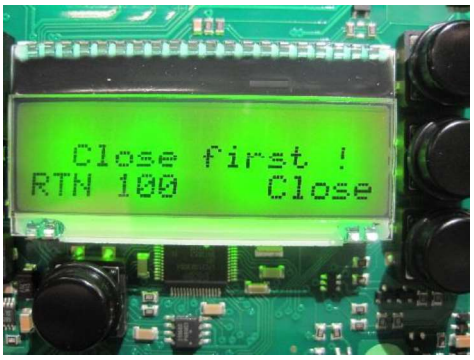
The relay switches back after 168 minutes (Max)

- Menu → IO Setup – prot.lock
- Setup to protect the slats if safety locks are used.
- Make sure the cover is closed if you configurate this function

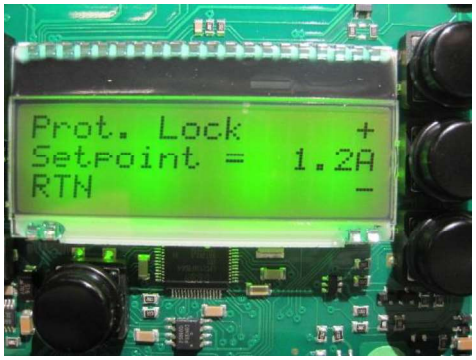
Scroll to PRTO LOCK.
When this is next to T2, you confirm your choice by pressing T2.

Press T2 TEACH

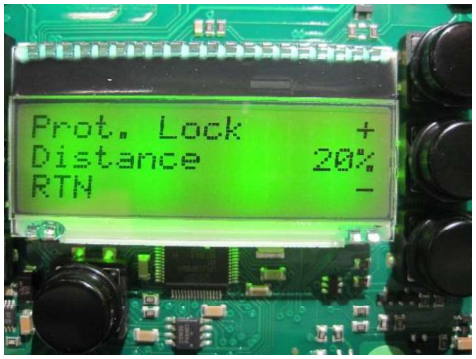
NOTE:
In case the cover is closed, the control box will ask you to do this first.



Press T3 to close the cover.
In case of Master Slave or dead man's function is programmed, retunr with T4 and press T3 to close.
Return to “protection lock” as described above.



Increase this suggested value with 1A
Press T2.
This is the maximum current limit during the first part of opening the cover to check whether the locks are open or not.

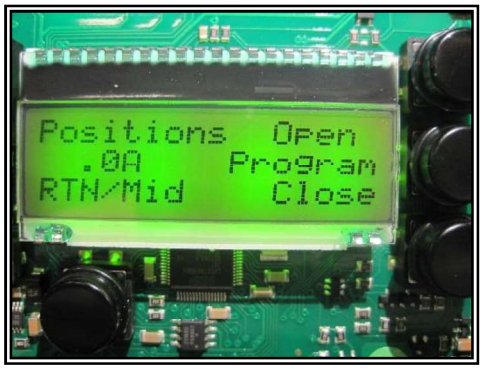


Confirm this value with T2
It is over this distance that the control box checks the set Amperage to check whether the locks are open or not.

11. Middle position

- Menu → IO Setup → Mid Pos.
- Setting to give the cover a 2nd ‘closed’ position. The active setting is indicated with an arrow (→).

Select Mid Pos. Press T4 to return to the standard menu.
Go to positions (MENU → POSITIONS) and move the cover to the desired position (T1/T3)



Press T2 (**program**) and then T4 (**RTN/Mid**) (both buttons together) to confirm the ‘middle’ POSITION

If you push shortly on open or close the cover will stop at the middle position.
If you push for 3 sec. the cover will pass the middle position without stopping.

- MENU → I/O SETUP → Encoder
- The active setting is indicated with an arrow (→)

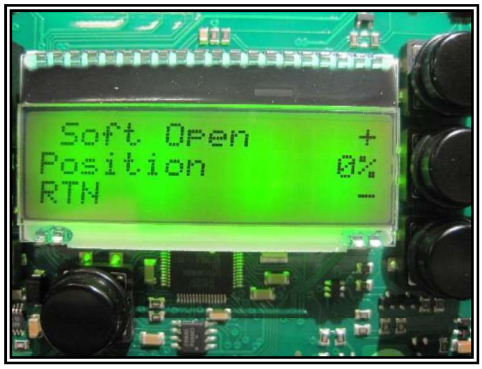
2CH / hatch: To use in combination with a movable panel – Motor turns at ¼ of his normal speed

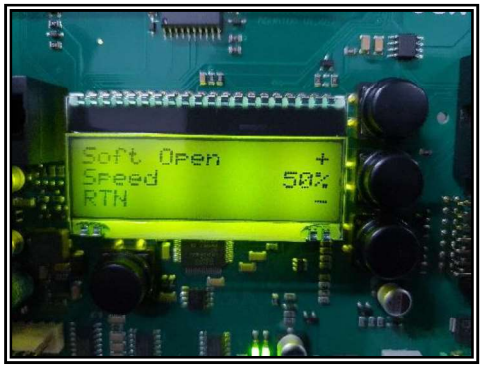
1CH/normal: To use if only 1 chanel of the encoder is available
The control box checks only 1 Chanel of the encoder

2CH/normal: To use if 2 chanels of the encoder are available.
The conrol box will check both signals of the encoder

13. Soft Open

- Menu → IO Setup → Soft open
- Makes the last part the cover opens slowly.





Set the desired percentage with T1 and T3 for which you want the cover to run slower during opening.

If you have e.g. Setting 20% the last 20% of the opening will be slower.

If you press T1 for 5 seconds, the current position of the cover will be set as value.

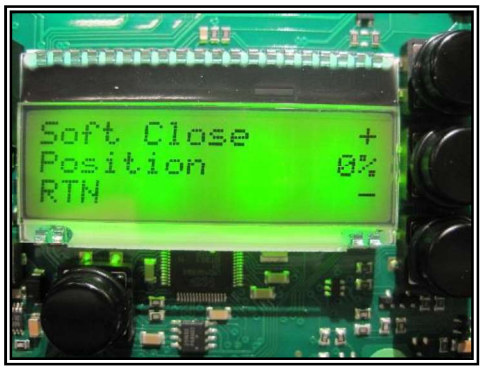
Confirm with T2

Set the needed speed between 50 and 100%

Confirm with T2

14. Soft Close

- Menu → IO Setup → Soft close
- Makes the first part of the cover closes slowly.



Set the desired percentage with T1 and T3 for which you want the cover to slow down more slowly during closing.

If you have e.g. Setting 20% the first 20% of the closing will be slower.

If you press T1 for 5 seconds, the current position of the cover will be accepted as value.

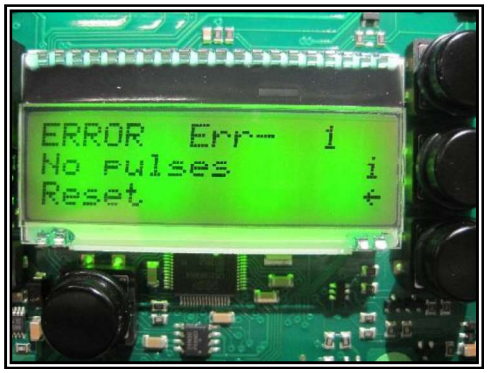
Confirm with T2

Set the needed speed between 50 and 100%

Confirm with T2

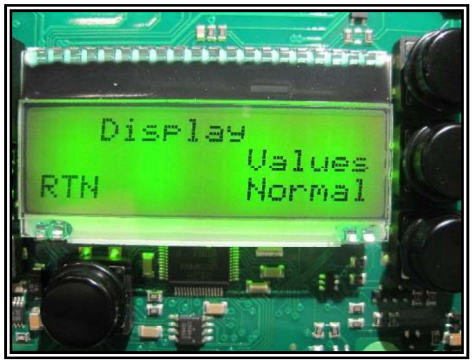
- Menu → errors
- The last 200 error messages will be stored in the memory of the circuit board.
  In this menu the history of the error messages can be consulted.
  Press T2 (i) to get more information about the error message (s). Press T4 to return.

The last error will be displayed under last err



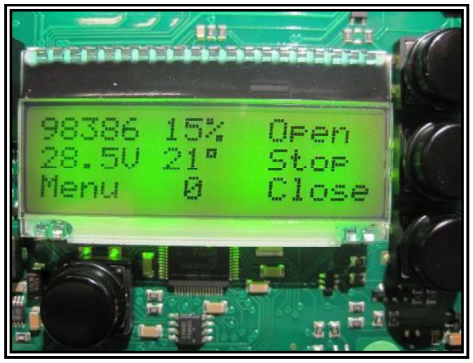
You can consult the previous error messages by pressing T3.
In this example Last error -1, the penultimate error message

- Menu → Service → Display
- Settings related to the information that will be displayed on the display. Press T4 to return



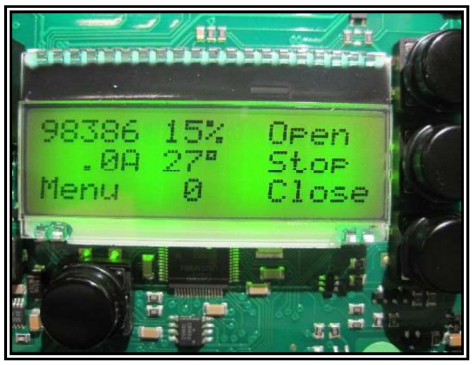
Values (T2: Shows more informations about some parameters

Normal (T3): Standard Display



Displayed values:

- Counter encoder
- Percentage wich the cover is open
- Voltage *
- Temperature brake module **
- PWM-value



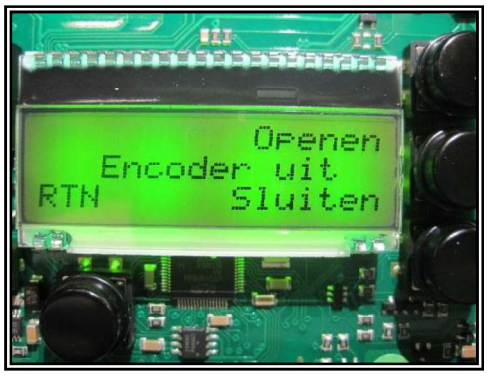
Displayed values:

- Counter encoder
- Percentage wicht he cover is open
- Amperage M- M+ *
- Temperature PCB **
- PWM-Value

* Current and Amperage alternate

** Temperature brake and PCB alternate

- Menu → Service → Encoder
- Function to use the cover, by ignoring the 'encoder signal'. This function can be used to manually operate the cover if the encoder is defective or a cable break has occurred.
  Note: Dead man's operation.
  Press T4 to return.
  (Contact your dealer before using this function)



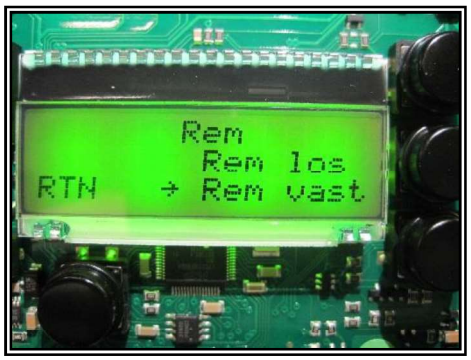
Open (T1): Opens the cover

Close (T2): Closes the cover.

After using this function, it is recommended to re-program the positions.

18. Brake

- Menu → Service → Brake
- Function to manually operate the brake of the motor. The active setting is indicated by an arrow →. Only applicable for tubular motors.
  Press T4 to return.
- (Contact your dealer before using this function)

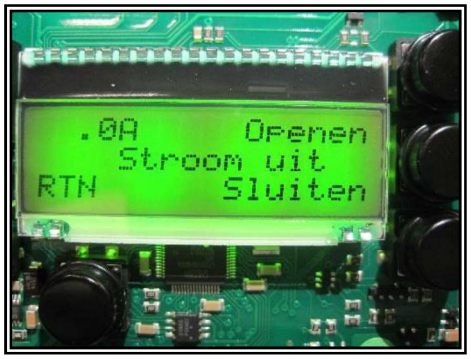


Release (T2): The brake is off

Engage (T3): The brake is on

19. Current

- Menu → Service →Current
- Function to view the motor current 'real-time' during opening / closing of the cover. The current value is shown on the left.
  Press T4 to return
- (Contact your dealer before using this function)

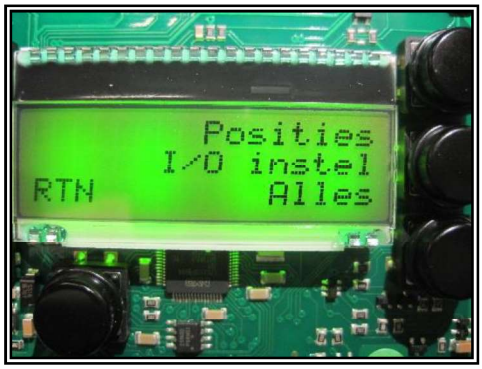


Open (T1): The cover opens

Close (T3): The cover closes

20. Clear all

- Menu → Clear all
- Function to return only the end positions or I / O settings to the factory settings. Scroll to the desired choice and confirm with T2.
- Press T4 to return.



I/O set:
The I / O settings are deleted.

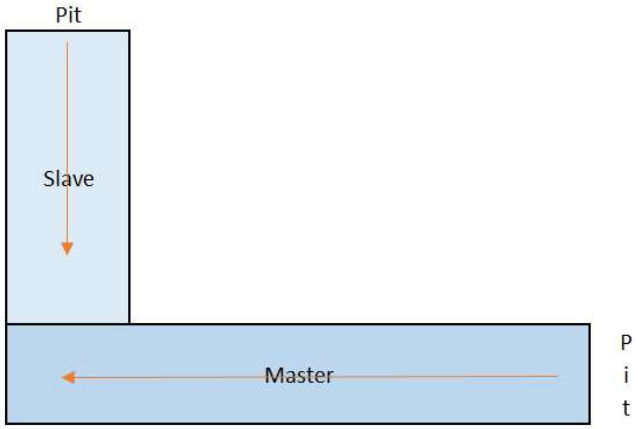
- Remote control
- Safe mode
- Runtime
- Waterlevel 1
- Waterlevel 2
- Relay

Positions:
The end positions are deleted.
possibly also the middle position.

All: All settings are deleted

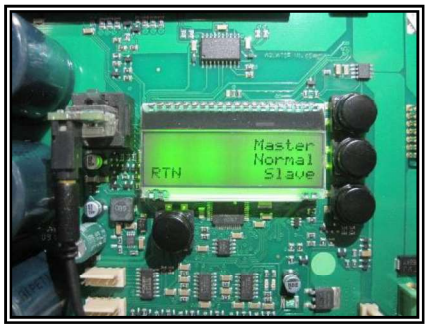
The error log will not be deleted with any option.

Check at each controlbox the software version!
This MUST be the same for both.
You find this information trough the service menu in the left upper corner.



- ➔ The keyswitch is only connected to the master.
- ➔ Make a bridge between connection 8 & 9 at the control box of the slave
- ➔ Program each cover as written in chapter E2 – Initializing – basics
- ➔ **Switch off both control boxes!**
- ➔ Connect both control boxes to each other with the delivered Communication set Aquatop (AT-005332)
  It's not that important wich connector on wich control box)
- ➔ Switch on both control boxes

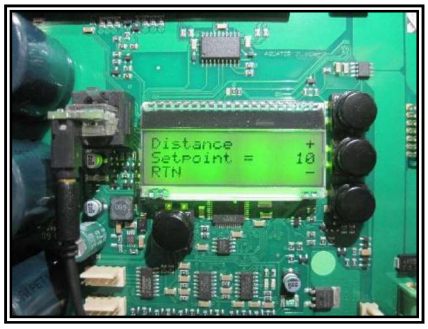
- ➔ **Make following steps at the control box of the master:**



➔
Go into the menu
→ I/O Setup
→ Slave
→ select “Master”

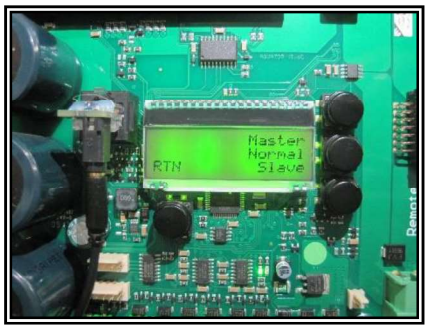
→ Select “progr. 2”

→ If you select “0” as distance setpoint, both covers will start at the same time

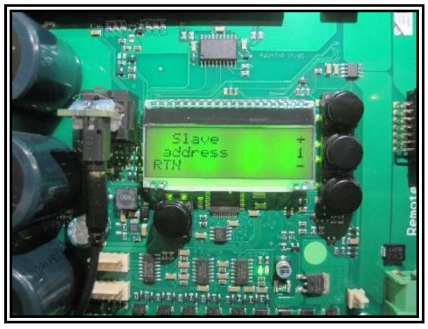


→ Increase or decrease the setpoint with T1 & T3
→ The value shown indicates the time lapse in % after which the slave will start moving compared to the master

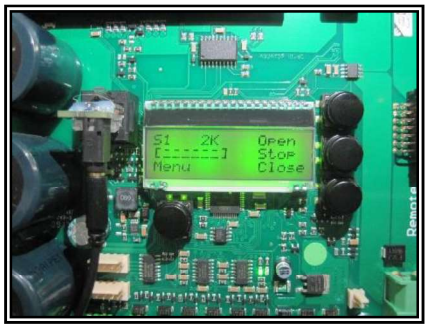
➔ **Make following steps at the control box of the slave:**



Go into the menu
→ I/O Setup
→ Slave
→ select “Slave”



→ Select “1” as the slave address



➔ You can now operate both covers by the key switch of the master.
Depending of the “Distance setpoint” you selected the following will happen:

Program 2		
Setpoint = 0		
Command	Master	Slave
Open	Opens	Opens
Close	Closes	Closes
Open	Opens	Opens
Close	Closes	Closes

Program 2		
Setpoint = 10 (*)		
Command	Master	Slave
Open		Opens
	Opens if slave is 10% open	
Close	Closes	Closes
		Stops if Slave is still 10% open
		Closes further is master is 100% closed
Open		Opens
	Opens if slave is 10% open	
Close	Closes	Closes
		Stops if Slave is still 10% open
		Closes further is master is 100% closed

* =Adjustable value during selection of program 2

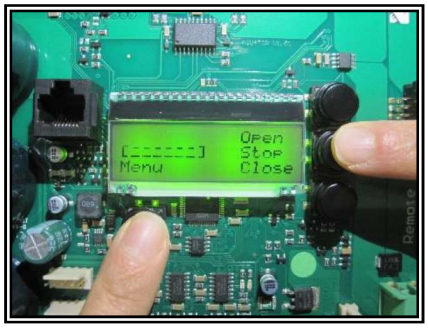
Check at each controlbox the software version!
This MUST be the same for both.
You find this information trough the service menu in the left upper corner.

After installing all mechanical parts, do some test before filling the pool with water.
After the water level is ok, you can adjust the end positions of the cover as usual.

IMPORTANT	
MASTER	SLAVE
Cover	Movable Panel
Keyswitch	Bridge between 8-9

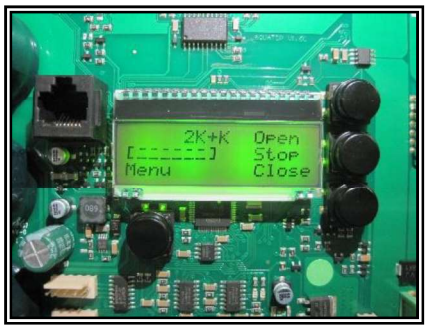
➔ Program the cover as written in chapter E2 – Initializing – basics

➔ **Before** programming the movable panel follow the next steps!



→ Push "stop" (T2) and "menu" (T4) together for 4 sec.
You'll enter the menu without programming

→ Go to I/O setup
→ Select "encorder"
→ Select 2CH/hatch

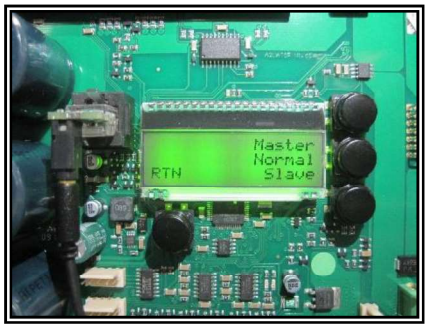


→ Go Back with RTN (T4)

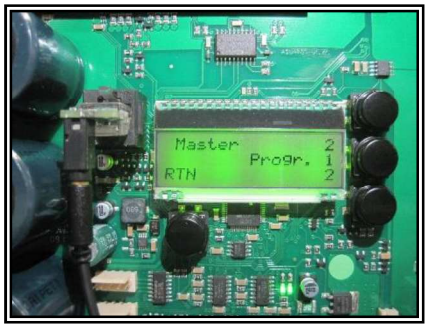
➔ Program the movable panel as written in chapter E2 – Initializing – basics

➔ Note that the Panel will turn slowly
➔ **Switch of both control boxes!**
➔ Connect both control boxes to each other with the delivered Communication set Aquatop (AT-005332)
It's not that important wich connector on wich control box)
➔ Switch on both control boxes
➔ Make sure the cover and panel are in a logical situation:
For ex: cover open, panel closed,
or cover closed and panel open

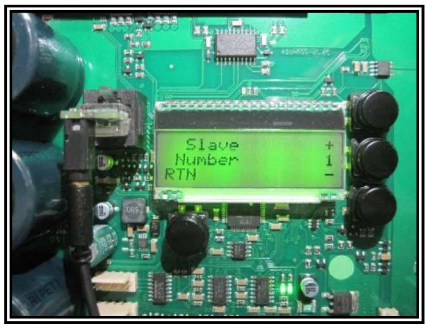
➔ **Make following steps at the control box of the master:**



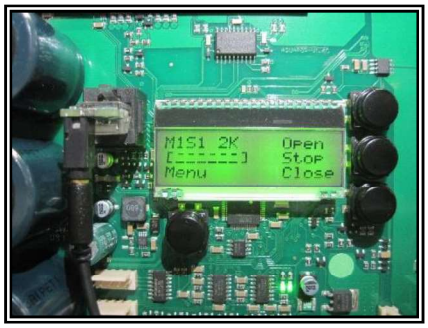
➔
Go into the menu
→ I/O Setup
→ Slave
→ select "Master"



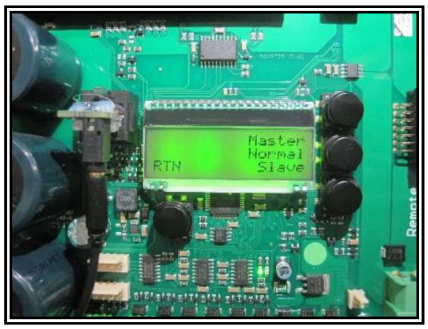
→ Select "progr. 1"



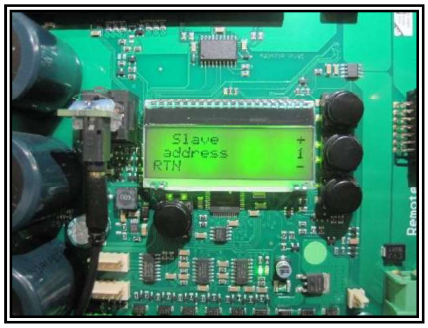
→ Confirm "slave number" 1 (T3)



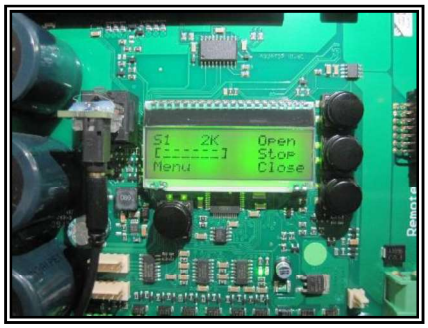
➔ **Make following steps at the control box of the slave:**



Go into the menu
→ I/O Setup
→ Slave
→ select “Slave”



→ Select “1” as the slave address



➔ Now you can operate the cover
If you push on open, the cover will open, and after the cover is completely open, the panel will be closed.
If you push on close, the panel will be opened, the cover will closes after the panel is completely open.

➔ If this works fine, you cann fill the pool with water and adjust the end positions of the cover as written in chapter E2 Initializing - basics

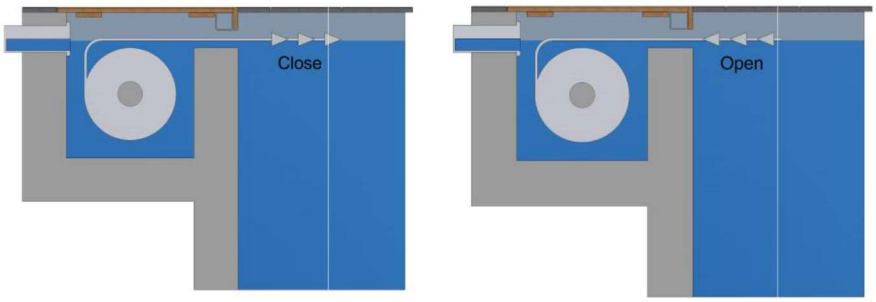
23. Analysis based on the errors - Basic

ERROR	EXPLANATION	ACTION
RU N TIME	-THE MAXIMUM RUN TIME OF THE MOTOR IS EXCEEDED. -STANDARD SETTING = 10 MIN. -CAN BE CHANGED VIA MENU I/O SETUP – RUNTIME (AFTER CONTACT WITH YOUR DEALER)	WAIT 10 MINUTES – RESET THE ERROR BY TURNING THE KEY ON "0" AND THEN BACK ON "1"
STOP ENGAGED	-KEY SWITCH IS ON "0"	TURN THE KEY ON "1" IF NOT SOLVED: CONTACT YOUR DEALER
LEVEL 1	-WATER LEVEL IS NOT OK (IN CASE OF LEVEL SENSOR) -MOTOR IS T00 WARM (IF SK-SK OF THE MOTOR IS CONNECTED ON 10-11)	CHECK WATER LEVEL AND RESET THE ERROR BY TURNING THE KEY ON "0" AND THEN BACK TO "1". WHEN NO LEVEL SWITCH IS CONNECTED MOTOR IS WARM, WAIT FOR ONE HOUR. IF NOT SOLVED: CONTACT YOUR DEALER
OVER CURRENT	-MAXIMUM POWER OF THE MOTOR IS EXCEEDED.	CHECK IF THE COVER IS NOT BLOCKED, IN CASE EVERYTHING IS OK, RESET THE ERROR BY TURNING THE KEY ON "0" AND THEN BACK TO "1" IN CASE THE ROLL CAN MOVE , THERE MIGHT BE A DEFECT: CONTACT YOUR DEALER
NO PULSES	-THE CIRCUIT BOARD DOES NOT RECEIVE PULSES FROM THE ENCODER -THE MOTOR DOES NOT RUN.	CONTACT YOUR DEALER
TEMP	-MAXIMUM TEMPERATURE OF THE PRINT IS EXCEEDED.	WAIT 20 MINUTES – RESET THE ERROR BY TURNING THE KEY ON "0" AND THEN BACK TO "1" WHEN THE ERROR KEEPS COMING BACK THERE MIGHT BE A PROBLEM WITH THE PRINT IN THIS CASE CONTACT YOUR DEALER
NO CURRENT	-MOTOR DOESN'T RUN AND PULLS NO CURRENT	CONTACT YOUR DEALER
POSITIONS ERROR ENCODER	-RUNNING DIRECTION OF MOTOR DOESN'T CORRESPOND WITH PROGRAMMED END POSITIONS	CONTACT YOUR DEALER
LOCK	THE SETTED VALUE OF MENU/PROT.LOCK EXCEEDED LOCKS NOT OPEN (MANUAL OR AUTOMATIC)	CHECK THE SITUATION OF THE LOCKS; OPEN THE LOCKS – RESET THE ERROR AND TRY AGAIN IF PROBLEM RETURNS? CONTACT YOUR DEALER

F – Use and maintenance

1. Opening & closing

- Clear the pool first.
- Only install the pool cleaner after the cover has been closed!
- The water should be in rest.
- Make sure there are no persons, animals or objects in or around the pool which can disturb the normal operation of the cover.
- Check if the water level is within the accepted levels. An automatic level control and overflow are necessary.
- Always observe the movement of the cover during 'opening/closing'.



In case of irregularities, turn off the cover immediately with the key switch on the operation panel.

- Never force the cover during 'opening/closing'.
- **A pool cover is a tool to raise the safety , but can never replace the surveillance of a responsible adult!**

2. Maintenance

Slats

Remove at least 2 times a year the scale and dirt of the slats with a high-pressure cleaner. (Special decalcifier is available from your AQUATOP® supplier)
The open side of a solar- or a transparent slat can contain algae. Treat this by applying anti-algae product on the cover.
The chemical pool water balance should always comply with the normal values of Chlorine and pH
The water temperature can be 32°C maximum.
Slats become more sensitive at lower temperatures (frost), please handle them with care.
In case of a serious hailstorm, it is strongly recommended to open the cover to avoid damage.
Organic and vegetal material, such as leaves, pine-needles, grass, etc. must be removed from the cover. Rotting material can cause irremovable spots and stains on the slats. Keep the niche clean and avoid dirt between the different windings of the slatted cover.
Don't set foot on the cover if not necessary, the cover is not a playing area for kids.
Never bring the cover in contact with hard objects. Prominent skimmers in the back wall may cause scratches on the slats.
During exposure to sunlight, all slats must always (in every situation) keep full contact with the pool water or must be covered from the sunlight.
It is important to run your filtration or circulation pump at all times whenever the cover is closed as this is required to cool the slats whenever they are on the water. Having no circulation can seriously damage and burn the slats. Temperatures can rais high right underneath the cover.
Condensation in the closed chambers of the slats is inevitable and as such visible through the upper transparent layer of solar- and transparent slats. This condensate is caused by the differences in temperature between the pool water and the ambient air. It is a fully natural process and will disappear or appear whenever temperatures change.
When using a pump with adjustable speed, make sure that the water circulation under the closed cover is still high enough to avoid the slats from burning.
The slats may only be exposed to sunlight when they are in full contact with the water.
Sole exception on this rule : white and sand coloured (beige) slats.

External motor

The motor pit needs to remain totally dry. Check every time after rainshower or high groundwater if there is water inside the pit. (You can secure the motor pit in several ways.)
Dismount the motor after the swimming season to store it inside in a dry place in order to avoid unnecessary damage to the motor during the winter period. The roller shaft needs to be blocked before removing the motor to avoid the slats from unrolling. (Key for blocking the shaft is available from your AQUATOP® supplier. See chapter "***O9 – Option: Preparation and maintenance: Key for external electrical motor***".)

Winter

No use during the winter period:

First clean the cover thoroughly and roll the cover into the pit using streps to prevent the cover from unrolling. Protect the cover from direct sun exposure.
Lower the water level under the injectors/inlets.
Close the filter installation.
Aternatively, you can leave the water in the pool at normal level depending on the set-up of the pool and/or depending on the local weather conditions during winter time. Always protect the cover from direct sun exposure.
For top mounted covers, leave the cover rolled on the roller shaft and very important; prevent the cover from direct sun exposure by covering it !
Use during the winter period:
Make sure there is no frost on the cover/slats should not be frozen.
Keep an eye on all above mentioned precautions !!

ECOTOP®

- Make sure there is always enough sunlight on the photovoltaic solar panel of the ECOTOP® cover. Therefore clean the panel regularly with a moist cloth.

- If the cover is not used for a longer period (>2 months), we recommend to store the batteries in a dry room at 20°C. Temperatures below 0°C will shorten the life span of the batteries

Errors

In case of defect or malfunction of the cover, always contact your AQUATOP® installer.

3. Ambient temperatues

Technical area

The control box and powerpack must be placed in a frost-free room.
Minimum temperature 0 ° C
Maximum temperature 40 ° C

Ambient temperature

External electric motor	→ -10 ° C to + 40 ° C
Scuba tube motor (water temperature)	→ 0 ° C to + 40 ° C
External hydraulic motor	→ -10 ° C to + 40 ° C
Ecotop (without solarpanel)	→ -10 ° C to + 40 ° C
Ecotop (with solarpanel)	→ 0 ° C to + 40 ° C
TopMoov	→ 0 ° C to + 40 ° C

At temperatures below freezing → Store batteries in a frost-free environment.

The use of natural tropical wood as a finishing material :

- T&A uses premium quality IPE tropical wood which is a 100% natural product. As such; colour differences, minor cracks and deformation are characteristic to the product and impossible to foresee. T&A cannot be held responsible or liable for this natural process.
- Tropical IPE wood will turn grey in time. In case you wish to keep the original colour, it is recommended to regularly treat the wood with a suitable product.
- Tropical IPE wood will release a natural oil that combined with rain or pool water can spread over the terrace or edge stones and leave stains. It is therefore wise to thoroughly rinse the wood before mounting.

Statement of delivery *Copy customer*

The installer / dealer…
Company: ……
Address: ……..
…herewith declares to have installed or delivered the following goods, produced by T&A in Geel …
(Please fill in as much as possible.)
* Pool cover:
- Project n° T&A: P . . . . . Installed at: . . / . . / . . . .
- Type: AQUATOP® / AQUAGUARD®
- Type of construction: Top mount / Underwater mount
- Colour: …….
- Dimensions: ……...
- Options: ……

* ELIOS® solar panel:
- Project n° T&A: P . . . . . Installed at: . . / . . / . . . .
- Type: …….
- Dimensions: ……..
- Regulator / Options: ……..

…**at the customer**:
Name: ……
Address: ……

Herewith the customer declares to have received the goods in good condition and to be satisfied with the installation and the working.
(Please mark what is correct.)

- ☐ The installation is being tested.
- ☐ The installation has run a trial.

Remarks concerning the goods or the installation:
……..
…….....
The customer has received and understands:
- The instructions how to use
- The instructions how to maintain

Hereby the customer clearly declares to be informed about the necessary maintenance. He will take care of this maintenance himself or take the initiative to contact the installer to do this.

For agreement,

Date: . . / . . / . . . .

The installer / dealer **The customer**

Statement of delivery *Copy installer*

The installer / dealer…
Company: ……
Address: ……..
…herewith declares to have installed or delivered the following goods, produced by T&A in Geel …
(Please fill in as much as possible.)
* Pool cover:
- Project n° T&A: P . . . . . Installed at: . . / . . / . . . .
- Type: AQUATOP® / AQUAGUARD®
- Type of construction: Top mount / Underwater mount
- Colour: …….
- Dimensions: ……...
- Options: ……

* ELIOS® solar panel:
- Project n° T&A: P . . . . . Installed at: . . / . . / . . . .
- Type: …….
- Dimensions: ……..
- Regulator / Options: ……..

…**at the customer**:
Name: ……
Address: ……

Herewith the customer declares to have received the goods in good condition and to be satisfied with the installation and the working.
(Please mark what is correct.)

- ☐ The installation is being tested.
- ☐ The installation has run a trial.

Remarks concerning the goods or the installation:
……..
…….
The customer has received and understands:
- The instructions how to use
- The instructions how to maintain

Hereby the customer clearly declares to be informed about the necessary maintenance. He will take care of this maintenance himself or take the initiative to contact the installer to do this.

For agreement,

Date: . . / . . / . . . .

The installer / dealer **The customer**

G - Guarantee

GUARANTEE CERTIFICATE

Technics and Applications bvba, Klaus-Michael Kuehnelaan 9, 2440 Geel, Belgium, guarantees its delivered goods as follows:

The general guarantee period is 3 years for the AQUATOP® slatted pool cover.

Conditions (valid from 01/01/2013)

The invoice serves as proof of guarantee. The guarantee covers the costs of replacing rejected or defective materials, to the extent that these form part of the delivery itself and are not the consequence, either directly or indirectly, of misuse, unusual weather conditions or force majeure. If the complaint is shown to be justified and accepted by T&A, we are only required to replace or provide compensation for the articles or components to which the complaint relates. The complaint should be submitted to us in writing within 7 days of the development of the problem.

Consequential damage and the costs of assembly, dismantling and transport are not covered by the guarantee. The manufacturer's responsibility ceases to apply if the defect arises as a result of injudicious behaviour by the user or failure to comply with the instructions regarding installation, connection and use.

Changes of colour may not be regarded as a defect, and are inherent to the product. Water seepage in components which are not presumed to be watertight may not be used as the basis for a guarantee claim under any circumstances.

O9 - Option: Preparation and maintenance

1. Tool for PVC nut of the wall duct

General:

- The PVC nut of the wall duct has no standard dimensions, thanks to our own design.
- To fix the big PVC nut you can order a tool that suits perfectly around the nut.

2. Tool for external electric motor

General:

- It is advisable to store the external electric motor inside after the swimming period, in order to avoid damage during winter.
- You place the tool in order to avoid the roller shaft to revolve or unroll.
- Attention : only for diameter 30 mm.

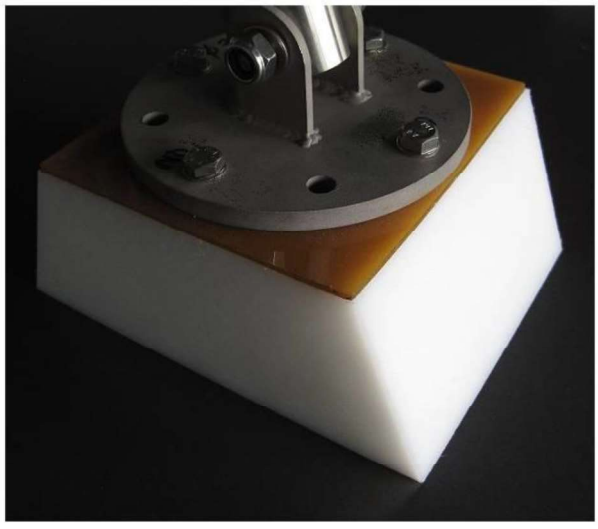
3.1 *PE underwater mount block*

General:

- The PE underwater mount block sees to an optimal fixing possibility in the pool wall, for e.g. next parts:
    - Anchoring positions (Dividing panel, Underwater panel, …).
    - Flange.
    - Fixing positions manual lock.
    - …
- These must be built in already during the preparations.
- The PE underwater mount block has a kind of conical contour, to improve the anchoring in the wall.
- The underwater mount block will be delivered together with a self-adhesive sealing, which will see to a watertight finishing.

Description:

- Material: Polyethylene (PE)
- Dimensions:
    - Pool side: 200x190mm (WxH)
    - Thickness of the block: 80mm
    - Width of the block: 250mm
    - Height of the block: 200mm
    - Thickness of the sealing: 3mm



Installation:

- Place the block on the desired position with the smallest surface to the pool.
- Make sure there will be enough consolidation (concrete) around the block.
- If you want you can place some more anchorings in the block before it is being casted in. In case you are unsure about the anchoring.

During the finishing of the pool you can place the self-adhesive sealing on the visible surface of the PE underwater mount block.

3.2 Universal counterflange (for beams) AT-002998

General:

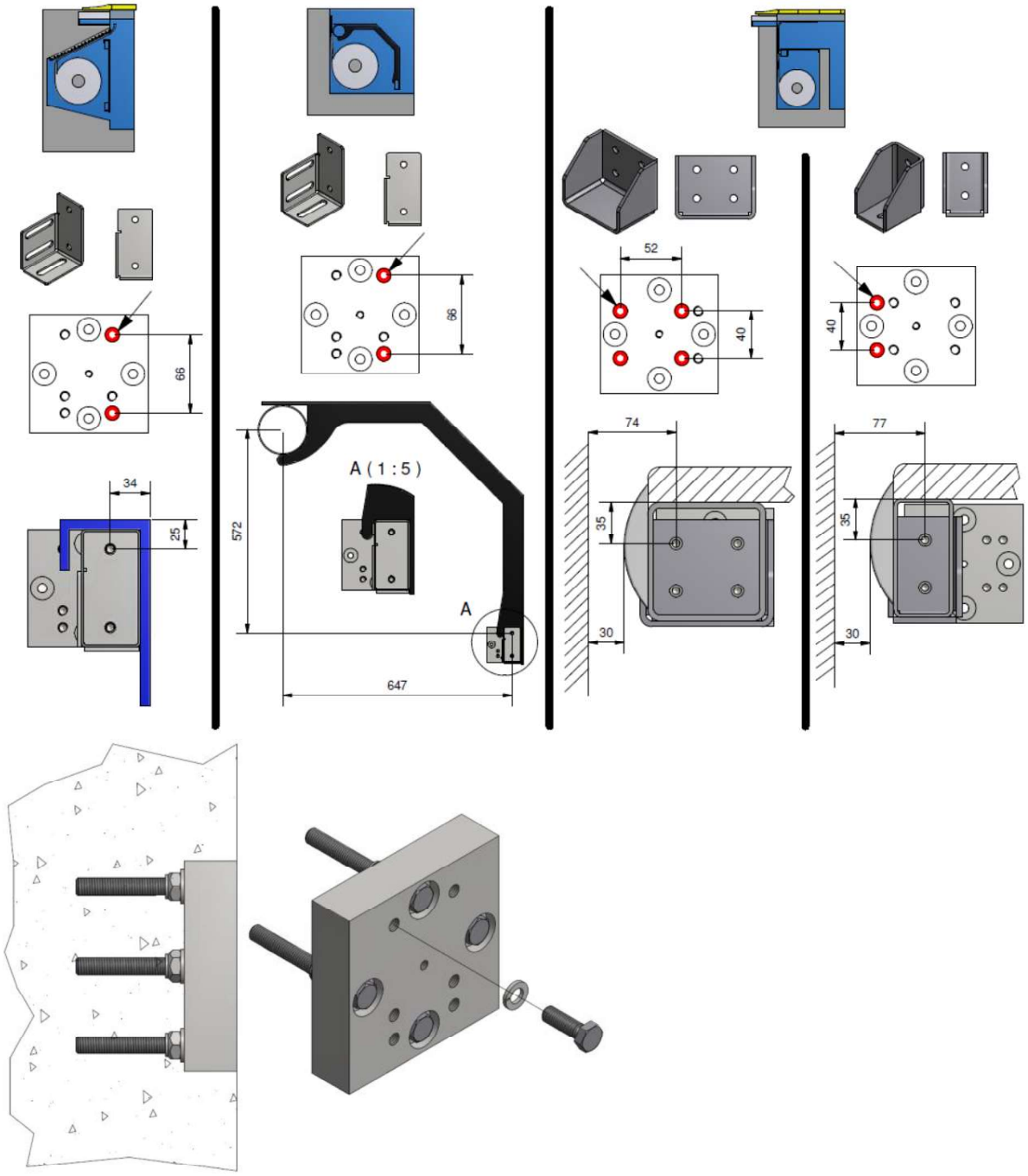
- These must be built in already during the preparations.

Description:

- Material: SS 316L
- Dimensions:
    - 100x100mm (BxH)
    - Thickness 25mm

Insllation

- Make sure there will be enough consolidation (concrete) around the block.


66
34
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572
A (1 : 5)
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647
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74
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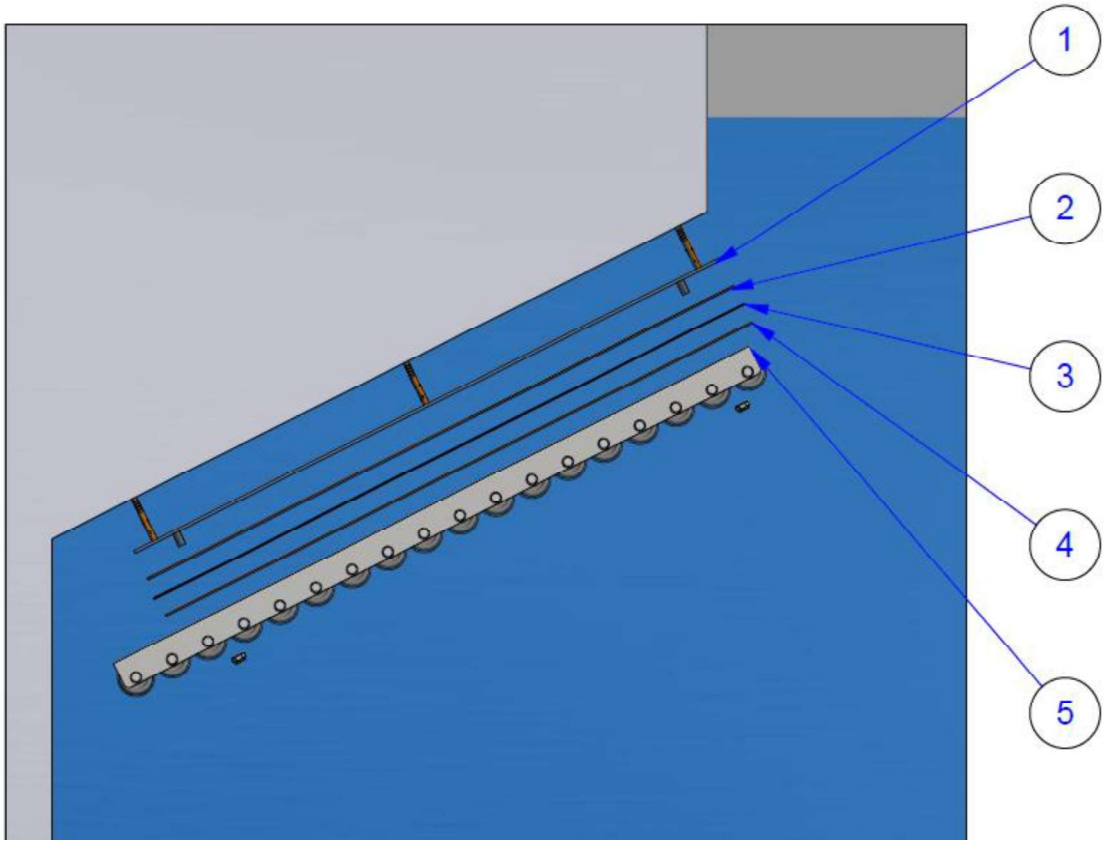
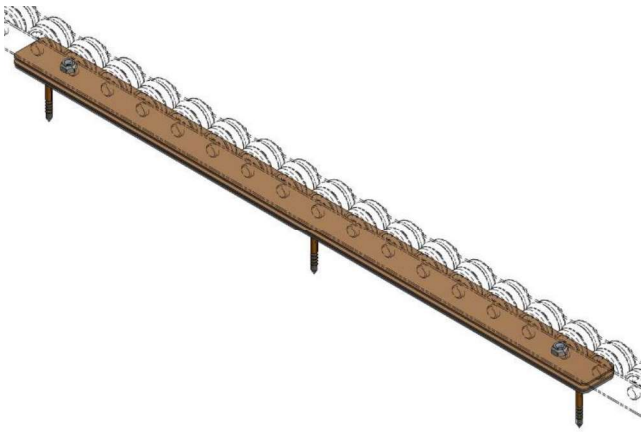
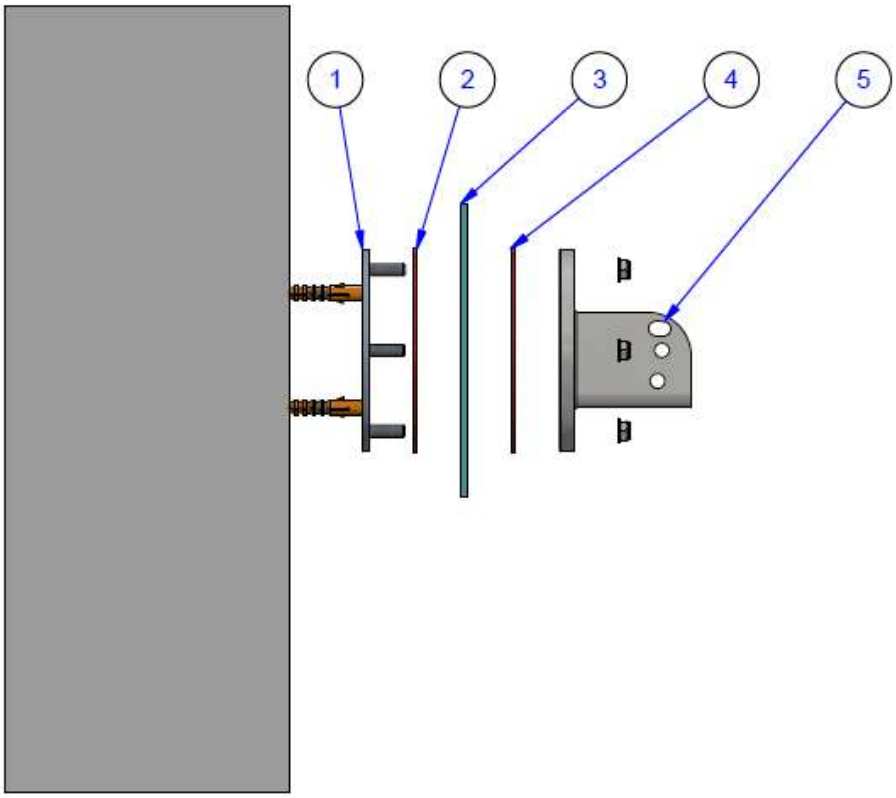
Set: Counter flange for wheelstrip (AT-002411)



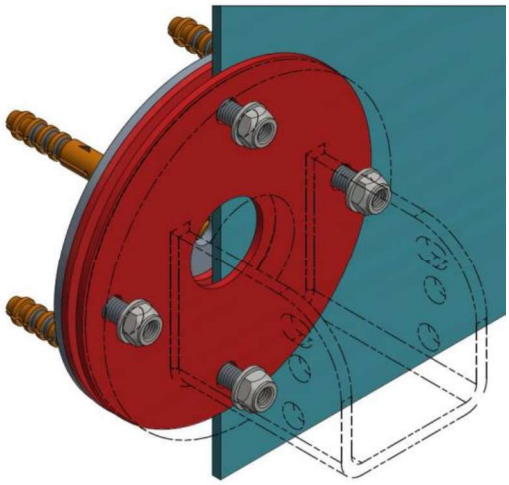
1 = Liner flange
2 = self-adhesive seal
3= Liner
4= Sealing
5 = Wheelstrip



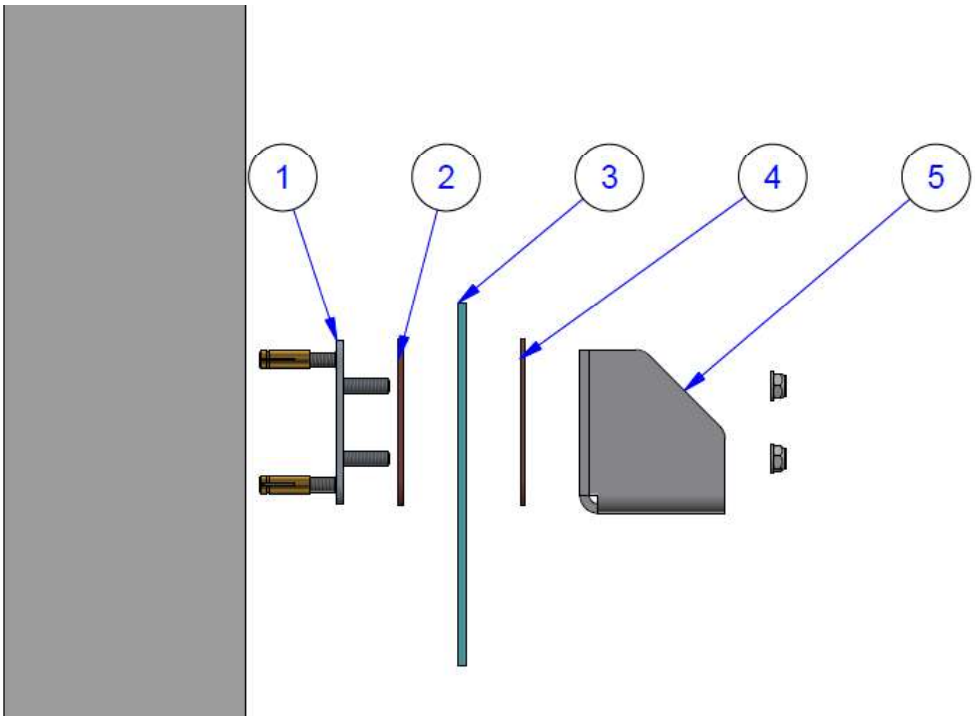
Set Liner flange non-motor side (Round) (AT-002605)



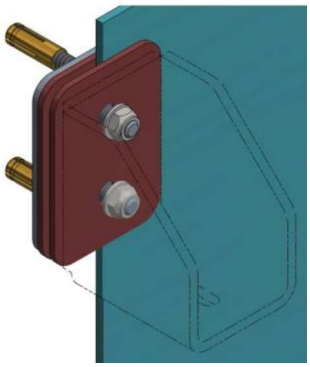
1 = Liner flange
2 = self-adhesive seal
3= Liner
4= Sealing
5= Flange (ex Motorflange)



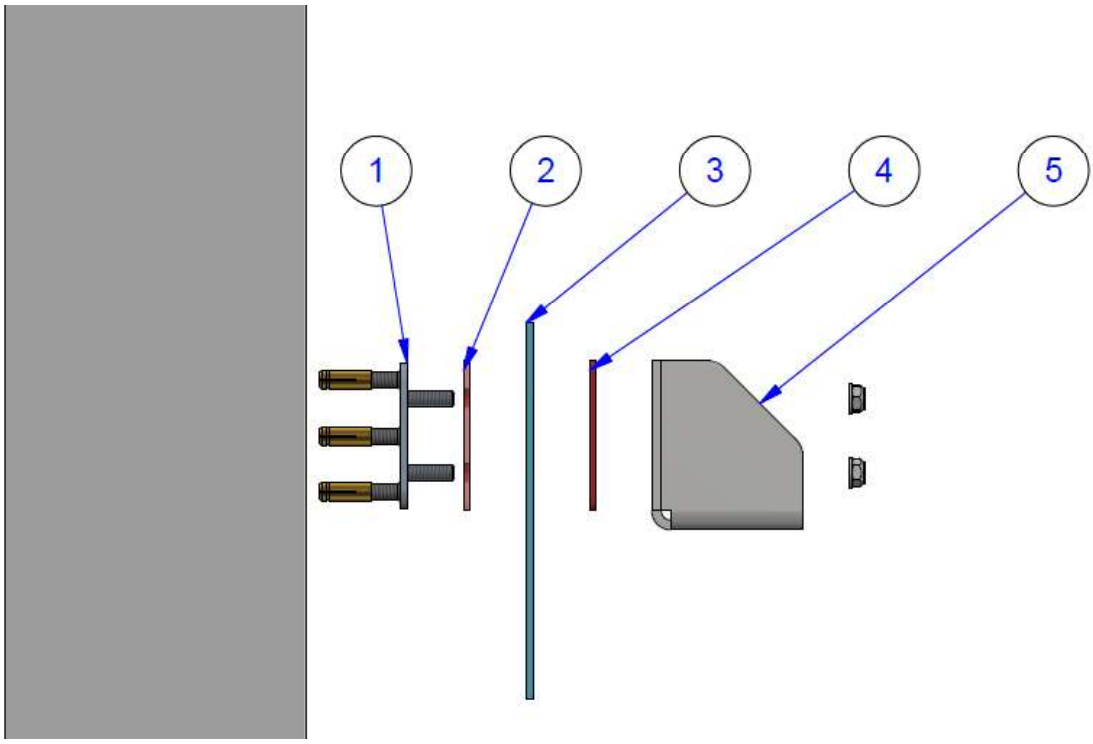
Set Liner flange beam 100 x 50mm (AT-002609)



1 = Liner flange
2 = self-adhesive seal
3= Liner
4= Sealing
5= Support beam 100x50 / Support Seperation wall



Set Liner flange beam 100 x 100mm (AT-002604)



1 = Liner flange
2 = self-adhesive seal
3= Liner
4= Sealing
5= Support beam 100 x 100