



# INSTALLATION GUIDE 2023

## AQUATOP SLATTED COVER



Technics & Applications  
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## *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 advises to earth the pool. We recommend a separate earth connection ( $R < 30\Omega$ ) 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 :
  - $7 < \text{pH} < 7,6$
  - $0,5 < \text{Cl} < 3 \text{ mg/l}$
  - Total salt content (= Chlorides)  $< 5000 \text{ ppm}$
  - Pool water temperature  $< 35^\circ\text{C}$
  - $\text{EC} < 2,1 \text{ mS/cm}$
  - $\text{Fe} < 0,2 \text{ mg/l}$  ! 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 damage 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 circulation/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

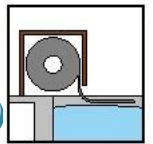
### **The use of natural tropical wood as a finishing material :**

- 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 limited 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.



## A1 - Constructional preparations: Top mount (Top Comfort – Top Premium)

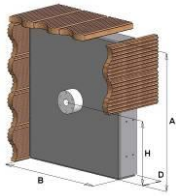
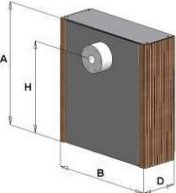
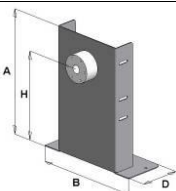
### General:

- 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...
- The area where the supports for the roller have to be installed should be horizontal and strong enough to hold the fixation.
- In the area where the slats go in and out of the pool, the coping stone should not overlap the pool wall. If necessary cut the coping stone in this particular area.
- Roman ends, rectangular ends and other particular shapes cannot always be rolled up completely.

### Concept:

- Two SS brackets (1 on each side of the pool) support the roller shaft.
- There are different types of supports depending on the type of cover for the roller shaft.

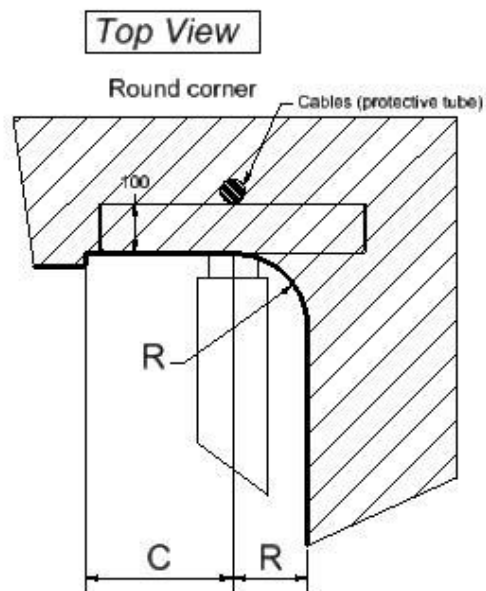
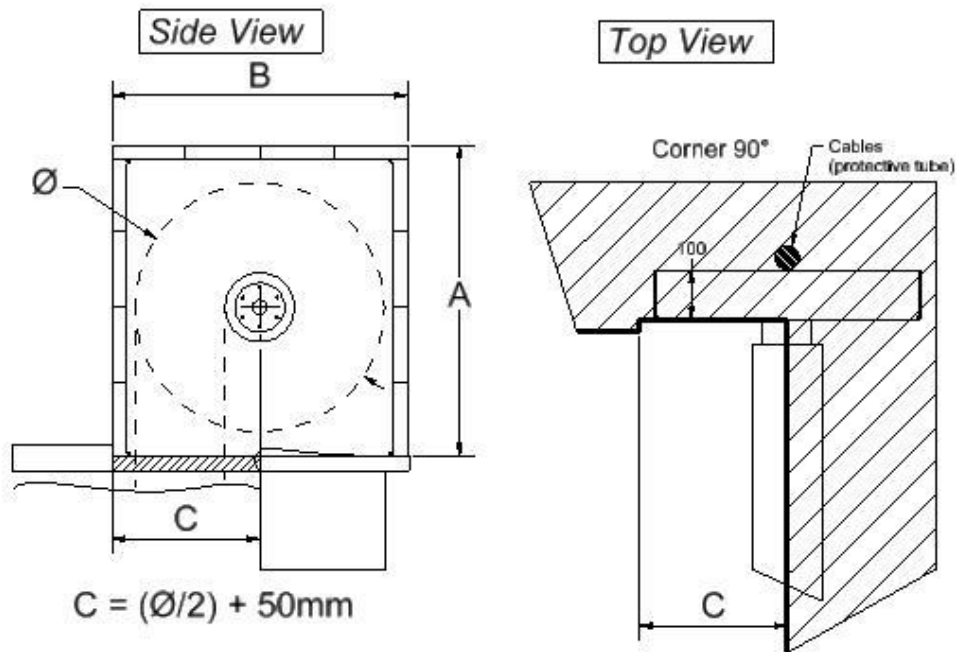
### Options:

Cover roller shaft	Max. cover length	A	B	C	D	H	Shape of the support
WOOD	10 m 15 m	595 745	540 690	Diameter roll + 50mm	105 105	300 375	
NO COVER: Finished support	15 m 25 m	440 520	415 440		145 210	350 430	
NO COVER: Unfinished support	15 m	450	390		150	350	

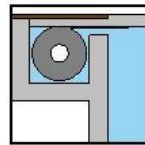
**Target values:**

<i>Cover length (m) (stairs incl.)</i>	6	8	10	12	14	16
<i>Diameter (∅) Rollo cover (mm)</i> <i>Slat dimension : 60 x 14 mm</i>	420	480	520	580	610	640
<i>Diameter (∅) Rollo cover (mm)</i> <i>Slat dimension : 67,5 x 16,5 mm</i>	440	500	540	600	640	680

Dimensions:







## A2-1 - Constructional preparations: Underwater mount - In niche

(Classic 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.

### Concept:

- The Rollo cover is integrated in a niche behind the pool.
- The roller needs to be minimum 3cm under the water level.
- Drive: external electric, external hydraulic or in-roller motor.

### Options:

- SCUBA-drive® plates avoid the use of wall duct.
- See chapter “O2 – Finishing: Underwater mount – In niche / in pool”
- The niche can be covered with wooden or plastic **gratings** in combination with a beam or adjustable brackets.
- A **Coverwash®** system can be installed at the backside of the beam.

### Target values:

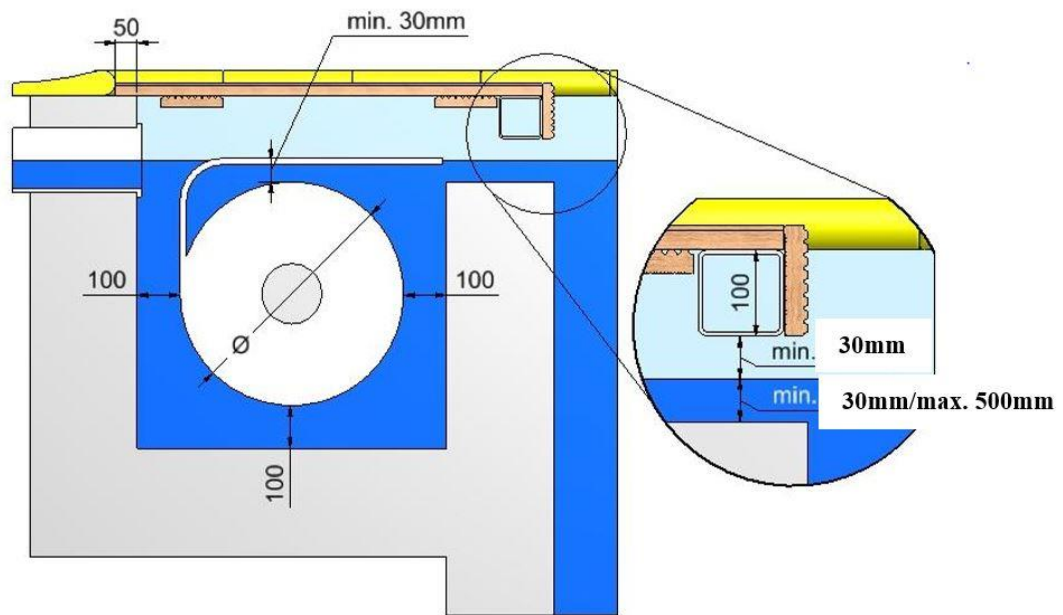
(Valid for pools till 6m width – exact diameter can be found on the quotation of T&A and the first page of the manual of each project)

Cover length (m) (stairs incl.)	6	8	10	12	14	16	20	25
Diameter (∅) Rollo cover ( mm) Slat dimension : 60 x 14 mm	420	480	520	580	610	640	705	780
Diameter (∅) Rollo cover ( mm) Slat dimension : 67,5 x 16,5 mm	440	500	540	600	640	680	720	820
SCUBA wall plates can be used?	YES	YES	YES	YES	YES	*	*	*

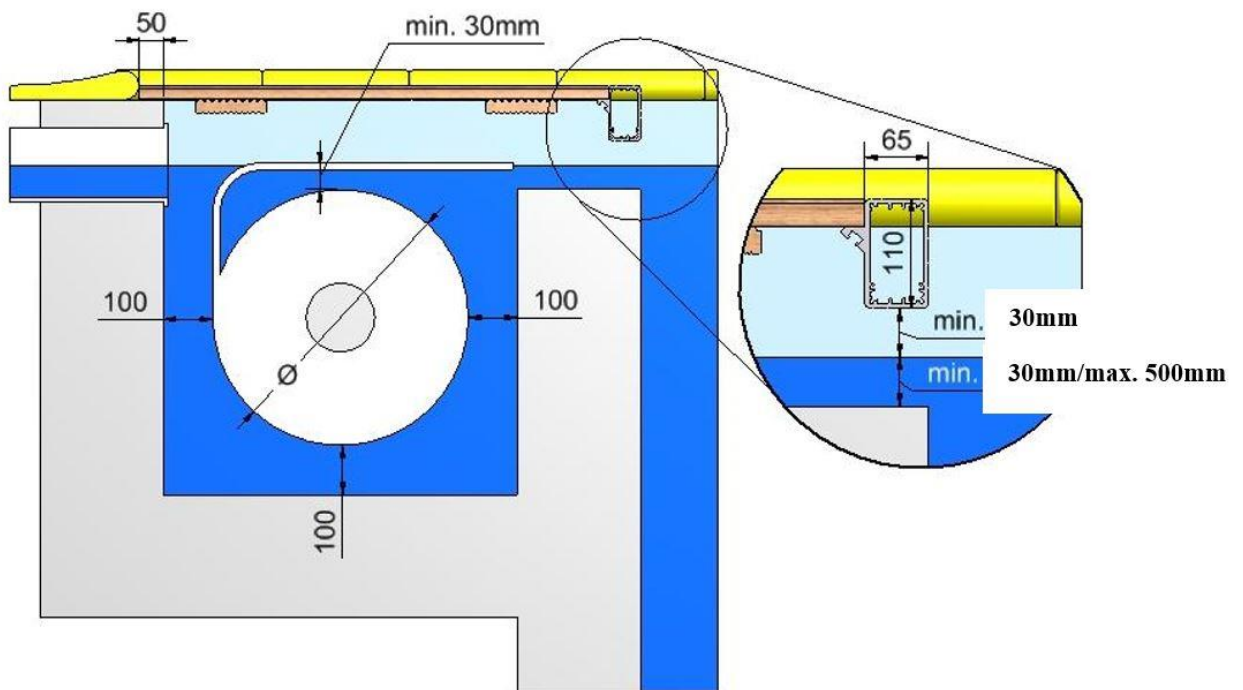
\* On demand

**Dimensions:**

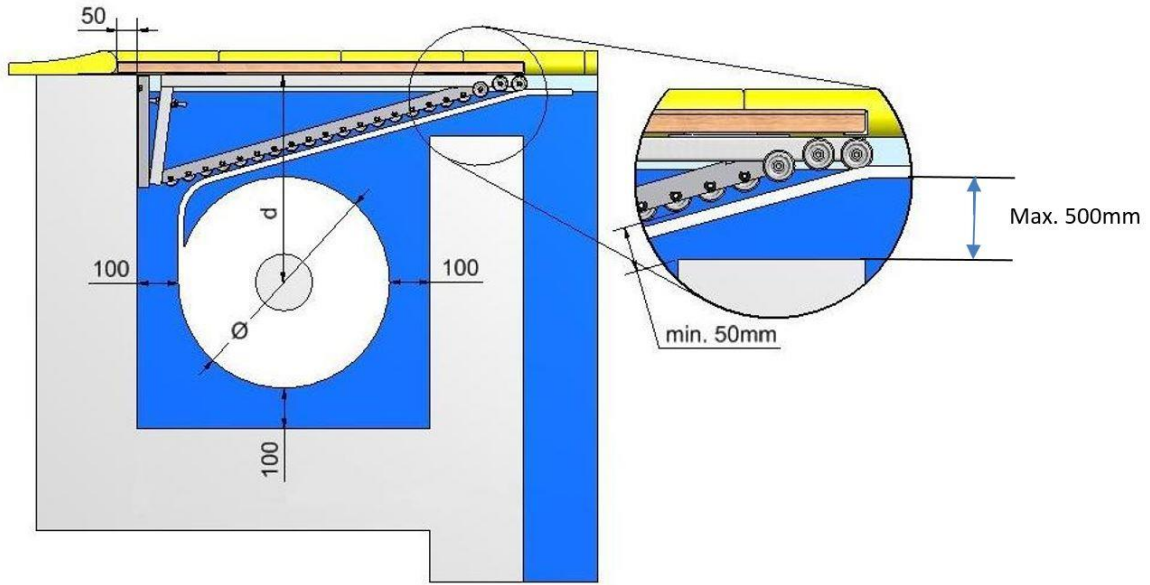
***SS beam 100 x 100 x 5 mm (1.4306 - AISI 304)***



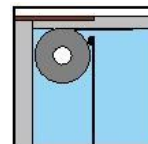
***ALU beam 110 x 65 mm (anodized 25 $\mu$ m)***



**Adjustable brackets**



<b>Cover length (m) (stairs incl.)</b>	6	8	10	12	14	16	20	25
<b>Diameter (∅) Rollo cover ( mm) Slat dimension : 60 x 14 mm</b>	420	480	520	580	610	640	705	780
<b>Diameter (∅) Rollo cover ( mm) Slat dimension : 67,5 x 16,5 mm</b>	440	500	540	600	640	680	720	820
<b>Depth (d) versus pool wall (mm)</b>	500	500	500	550	550	600	600	600



## A2-2 - Constructional preparations: Underwater mount – In pool

### (Classic 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 panel between cover and pool according to the drawing is necessary to comply with the European standard EN\_16582-1/2/3!
- Standard width of the panel is B2 – 14mm. The panel should be mounted symmetrically to limit the gap between the panel and the side walls of the pool. Width of the gap/side  $\leq 8\text{mm}$ .

#### Concept:

- The Rollo cover is integrated in the swimming pool.
- Drive: external electric, external hydraulic or in-roller motor.

#### Options:

- SCUBA-drive® plates avoid the use of wall duct.
- See chapter “*O2 – Finishing: Underwater mount – In niche / in pool*”
- The niche can be covered with wooden or plastic **gratings** in combination with a beam or adjustable brackets.
- A **Coverwash®** system can be installed at the backside of the beam.
- See chapter “*O3-1 – Finishing: Underwater mount – In pool: Panel*”
- The front of the cover pit can be covered with a fibreglass or PVC separation wall
- On demand, the panel/wall can be ordered ready to be tiled.

#### Target values:

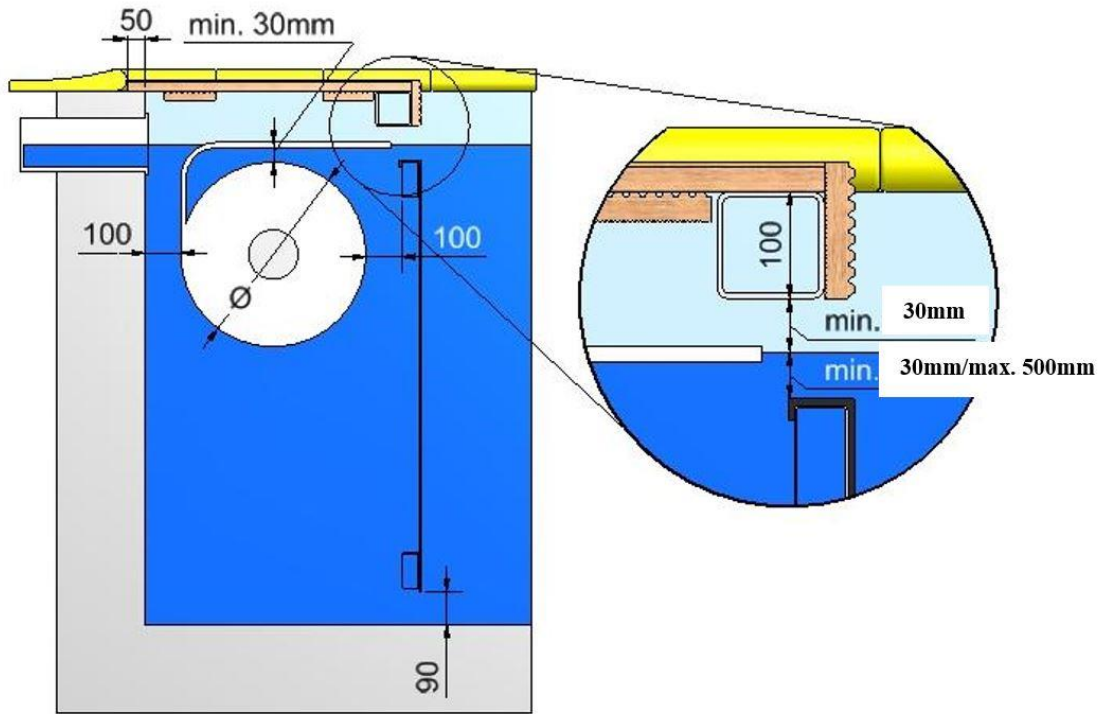
(Valid for pools till 6m width – exact diameter can be found on the quotation of T&A and the first page of the manual of each project)

<b>Cover length (m) (stairs incl.)</b>	6	8	10	12	14	16	20	25
<b>Diameter (∅) Rollo cover ( mm) Slat dimension : 60 x 14 mm</b>	420	480	520	580	610	640	705	780
<b>Diameter (∅) Rollo cover ( mm) Slat dimension : 67,5 x 16,5 mm</b>	440	500	540	600	640	680	720	820
<b>SCUBA wall plates can be used?</b>	√	√	√	√	√	√	*	*
<b>Depth (d) versus pool wall (mm)</b>	500	500	500	550	550	600	600	600

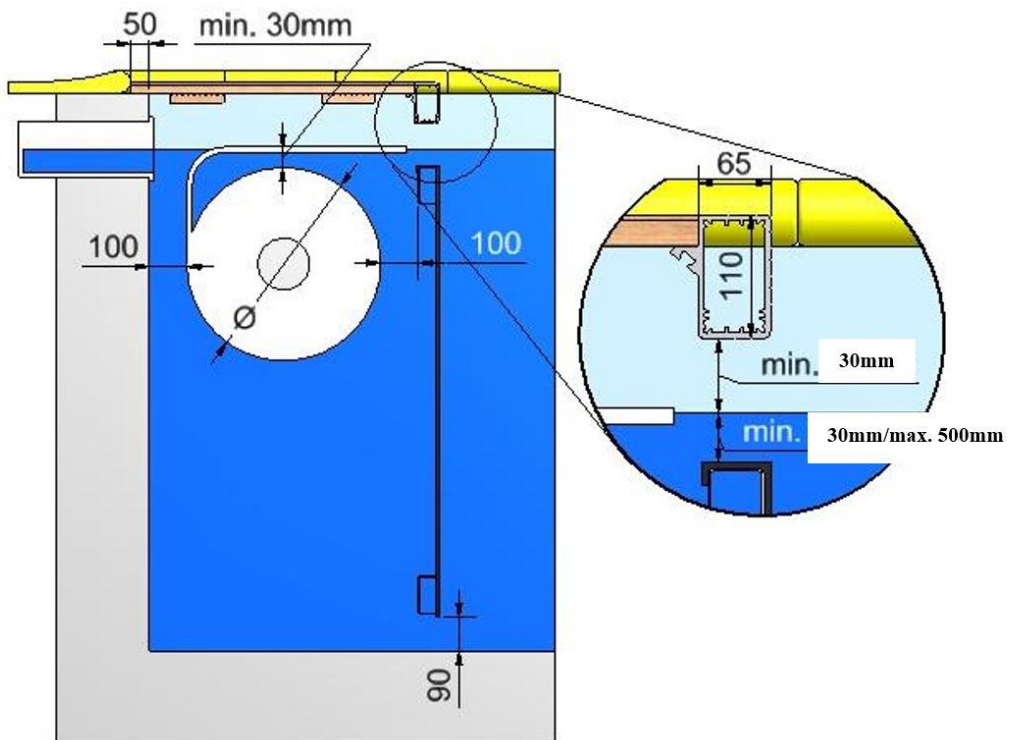
\* On demand

**Dimensions:**

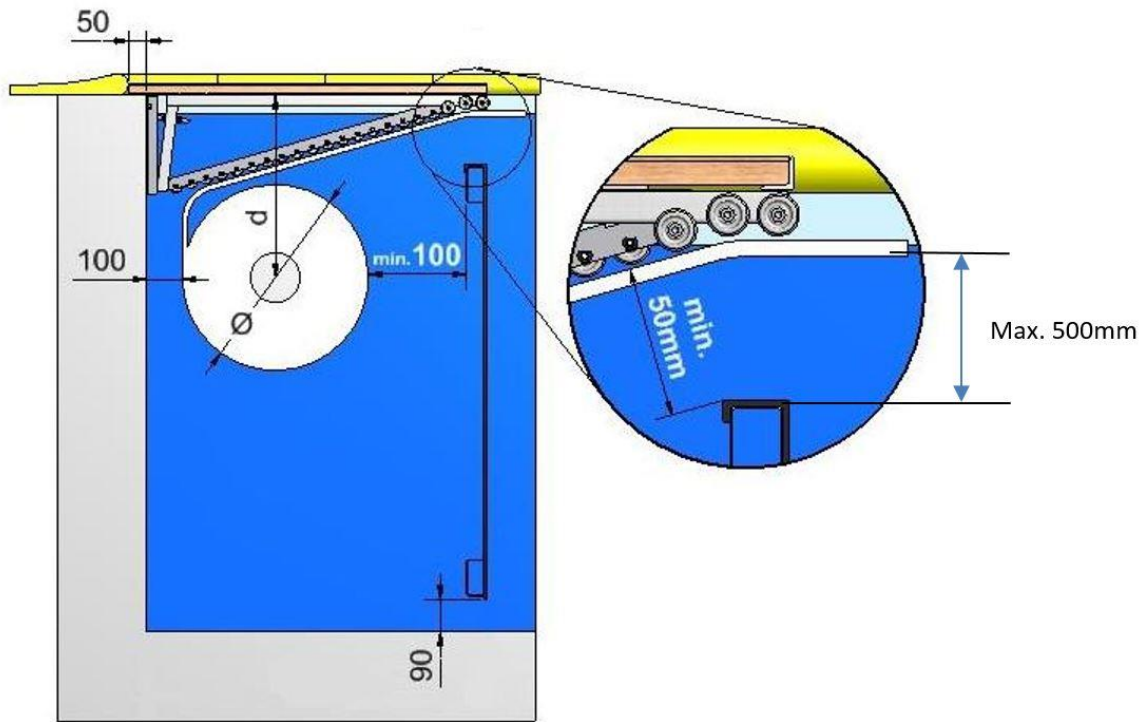
*SS beam 100 x 100 x 5 mm (1.4306 - AISI 304)*

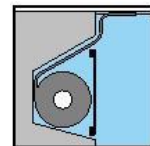


*ALU beam 110 x 65 mm (anodized 25 $\mu$ m)*



*Adjustable bracket*





### *A3 - Constructional preparations: Underwater mount – In wall*

*(Elegant 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.
- A panel between cover and pool according to the drawing is necessary to comply with the European standard EN\_16582-1/2/3!
- Standard width of the panel is B2 – 14mm. The panel should be mounted symmetrically to limit the gap between the panel and the side walls of the pool. Width of the gap/side  $\leq 8\text{mm}$ .
- In the closed position of the cover: It's necessary to have slats into the pit!
- Not compatible with prefab liner because of the radius in the corners.
- In case of overhanging coping stone: min. 30mm between copingstone and waterlevel (d2)

#### **Concept:**

- The Rollo cover is integrated in a niche in the back wall of the swimming pool.
- Every 70 cm rollers have to be mounted to guide the slats.
- Drive: external electric, external hydraulic or in-roller motor.

#### **Options:**

- See chapter “*O3-1 – Finishing: Underwater mount – In pool: Panel*”
- The front of the cover pit can be covered with a fibreglass or PVC separation wall.
- On demand, the panel can be ordered ready to be tiled.

**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)

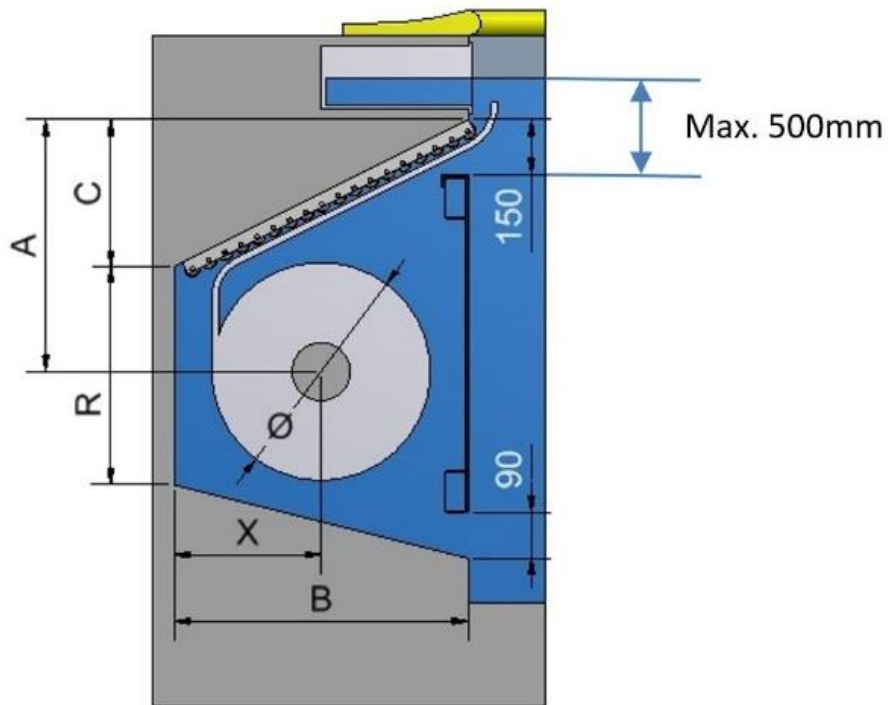
<i>Cover length (m) (stairs incl.)</i>	6	8	10	12	14	16	20	25
<i>Diameter (∅) Rollo cover ( mm) Slat dimension : 60 x 14 mm</i>	420	480	520	580	610	640	705	780
<i>Diameter (∅) Rollo cover ( mm) Slat dimension : 67,5 x 16,5 mm</i>	440	500	540	600	640	680	720	820
<i>B in mm</i>	600	600	700	700	800	800	900	900

**Dimensions:**

$$C = X = B/2$$

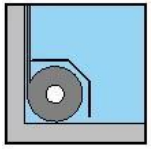
$$A = C + (R/2)$$

$$R = \varnothing + 100$$





## 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  $\leq 8\text{mm}$ .
- The bench should not be used as an entry to the 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 chapter “*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:**

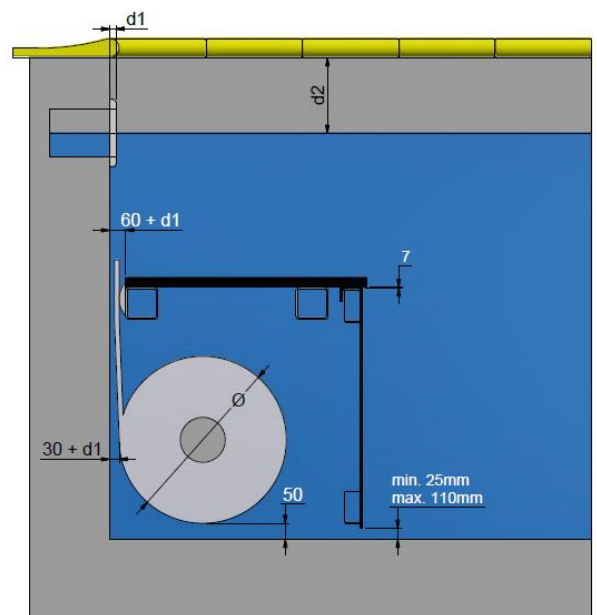
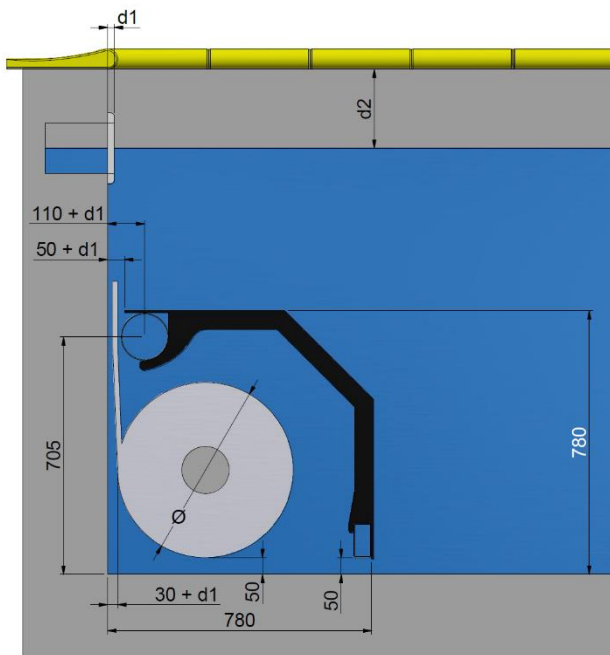
(Valid for pools till 6m width – exact diameter can be found on the quotation of T&A and the first page of the manual of each project)

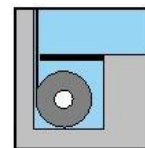
<i>Cover length (m) (stairs incl.)</i>	6	8	10	12	14	16	20	25
<i>Diameter (∅) Rollo cover ( mm) Slat dimension : 60 x 14 mm</i>	420	480	520	580	610	640	705	780
<i>Diameter (∅) Rollo cover ( mm) Slat dimension : 67,5 x 16,5 mm</i>	440	500	540	600	640	680	720	820

**Dimensions:**

*Width pool <7m  
Max diameter 610mm*

*Width > 7m*





## A5-1 - Constructional preparations: Underwater mount – In pool floor

### Exclusive line – fixed panel)

#### 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. The gaps between the cover and the pool wall and the gaps between the different cover panels should not be bigger than 8mm.
- 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 in a pit integrated in the pool floor.
- Drive: external electric, external hydraulic or in-roller motor.

#### Options:

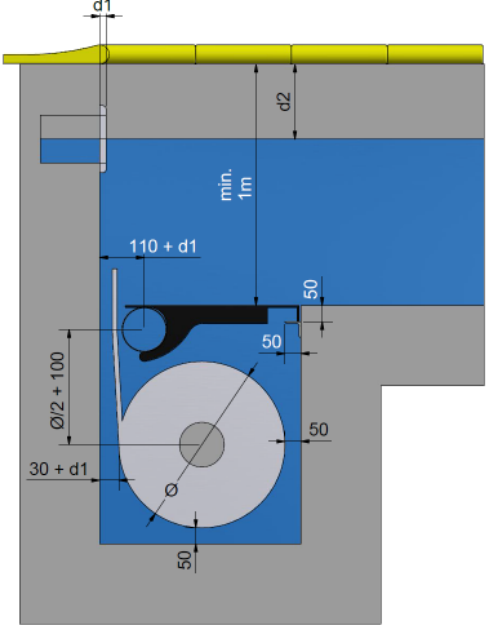
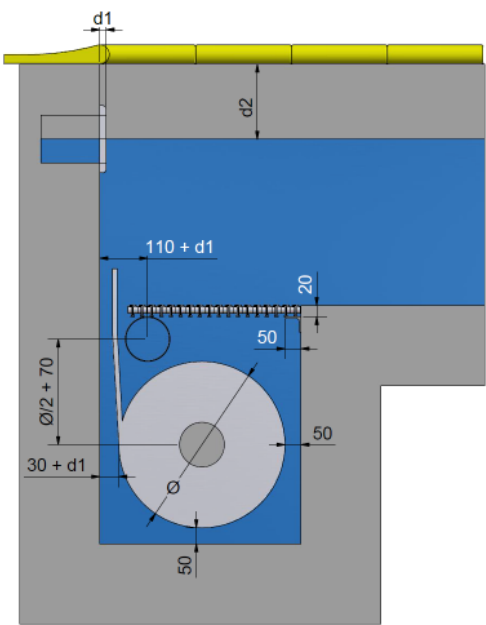
- See chapter “*O5-1 – Finishing: Underwater mount – In pool floor: Fixed underwater panel*”
- The Rollo cover can be covered with PVC plates or a fiberglass moveable panel.
- Different beams and supports are available, without the panel.

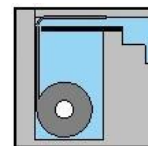
#### Target values:

(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)

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

**Dimensions:**





## A5-2 - Constructional preparations: Underwater mount – In stairs

### (Beach 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. The gaps between the cover and the pool wall and the gaps between the different cover panels/stones should not be bigger than 8mm.
- 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 in a niche integrated in the first step of the stairs.
- Drive: external electric, external hydraulic or in-roller motor.

#### Options:

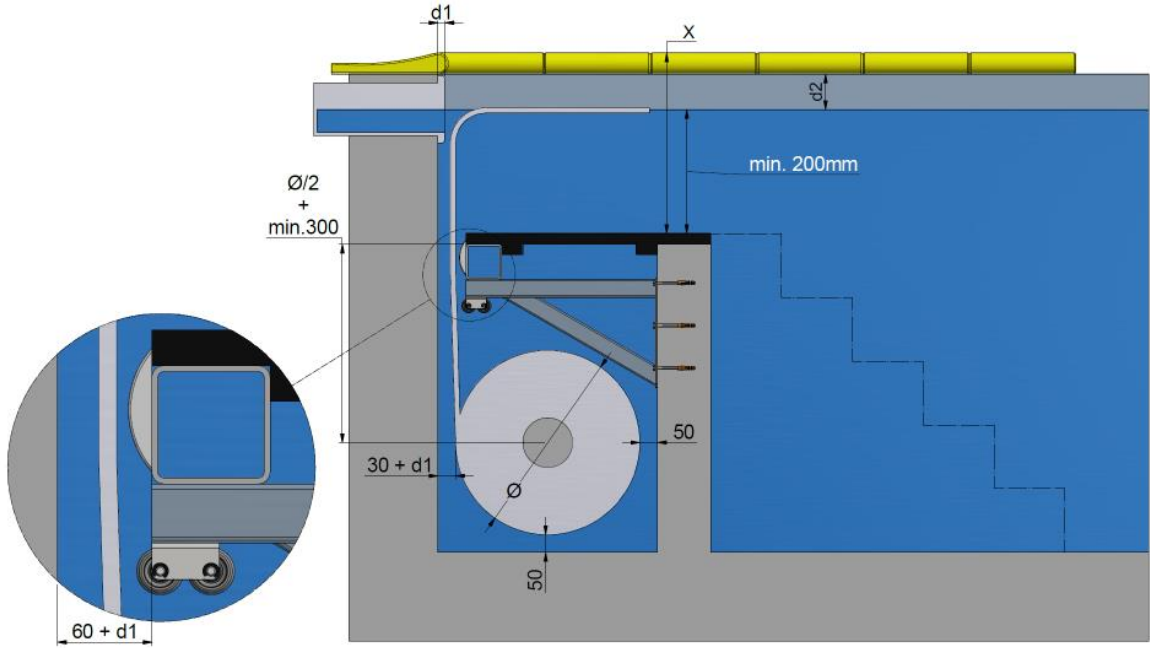
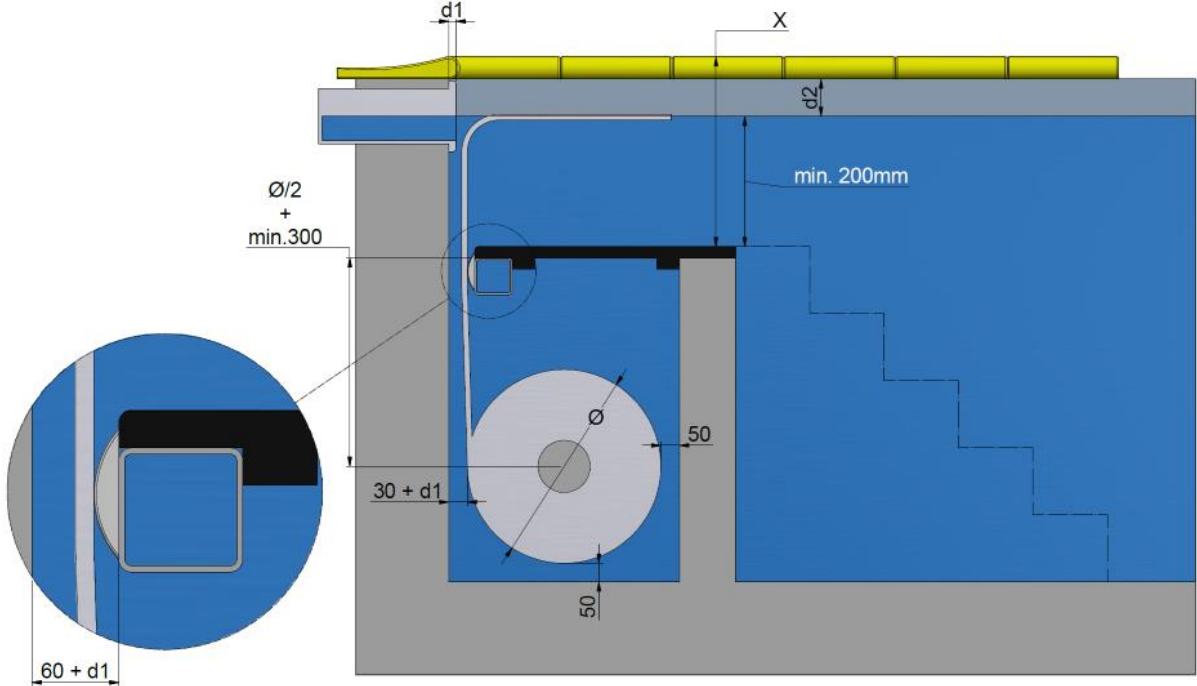
- See chapter “*O5-2 – Finishing: Underwater mount - In pool floor/stairs: Underwater beam*”
- The Rollo cover can be covered on the top with PVC plates (20 mm) or stone in combination with a SS beam with guidings.
- Different beams and supports are available.

#### 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 (∅) Rollo cover ( mm) Slat dimension : 60 x 14 mm	420	480	520	580	610	640	705	780
Diameter (∅) Rollo cover ( mm) Slat dimension : 67,5 x 16,5 mm	440	500	540	600	640	680	720	820

**Dimensions:**



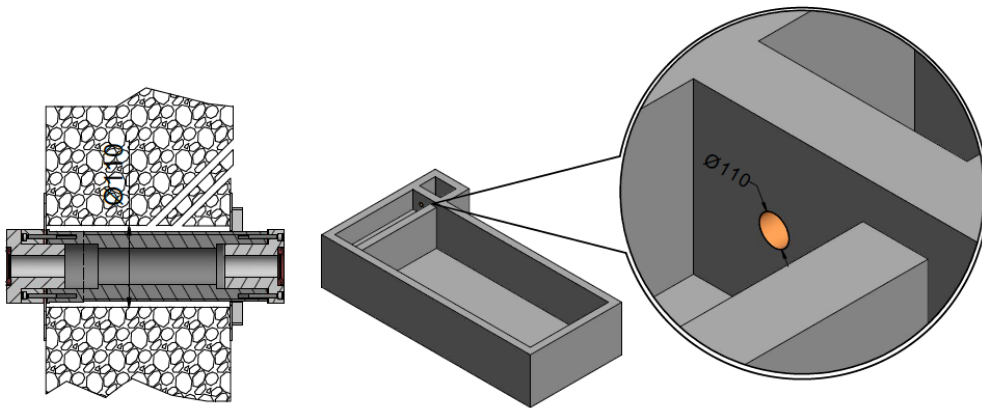
If the „beach“ is used as an entry tot he pool,  $X \leq 400\text{mm}$  !

## *A6 – Constructional preparations: Underwater mount – Wall duct and motor pit for external drive*

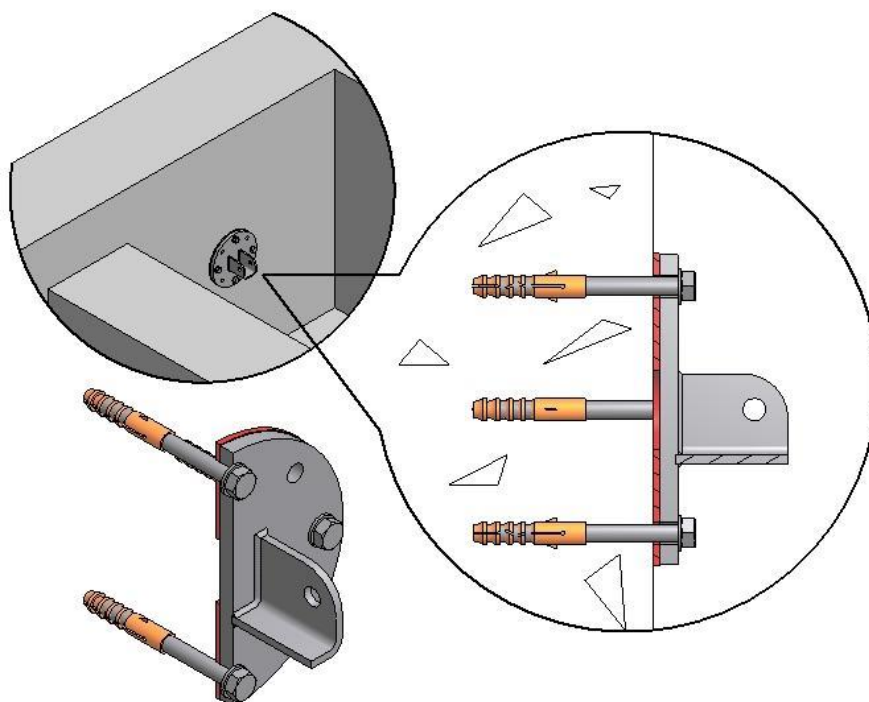
### **Pool wall in concrete or (full) brickwork**

#### **General:**

- Drill a hole of Ø110mm for the wall duct at the side of the motor.  
or pour a PVC-tube into the concrete or full brickwork.  
Make 2 holes to this tube: 1x for resin, 1x for ventilation



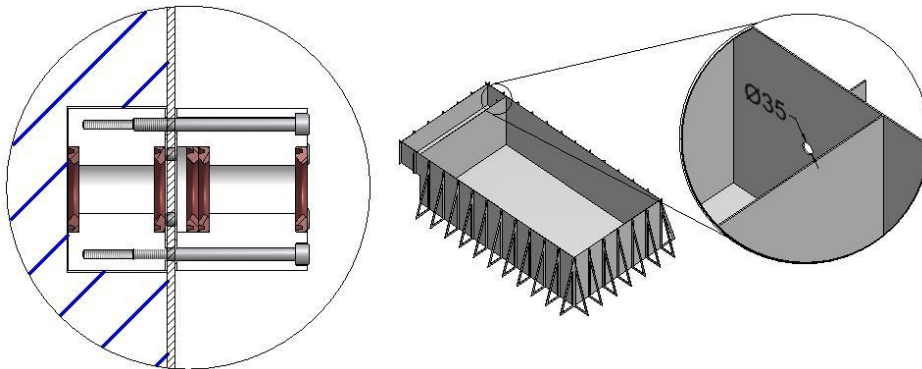
- Pour concrete (min. 25cm x 25cm) at the side opposite the motor to allow a good mounting of the flange.



## **Thin wall : mono block or element pool**

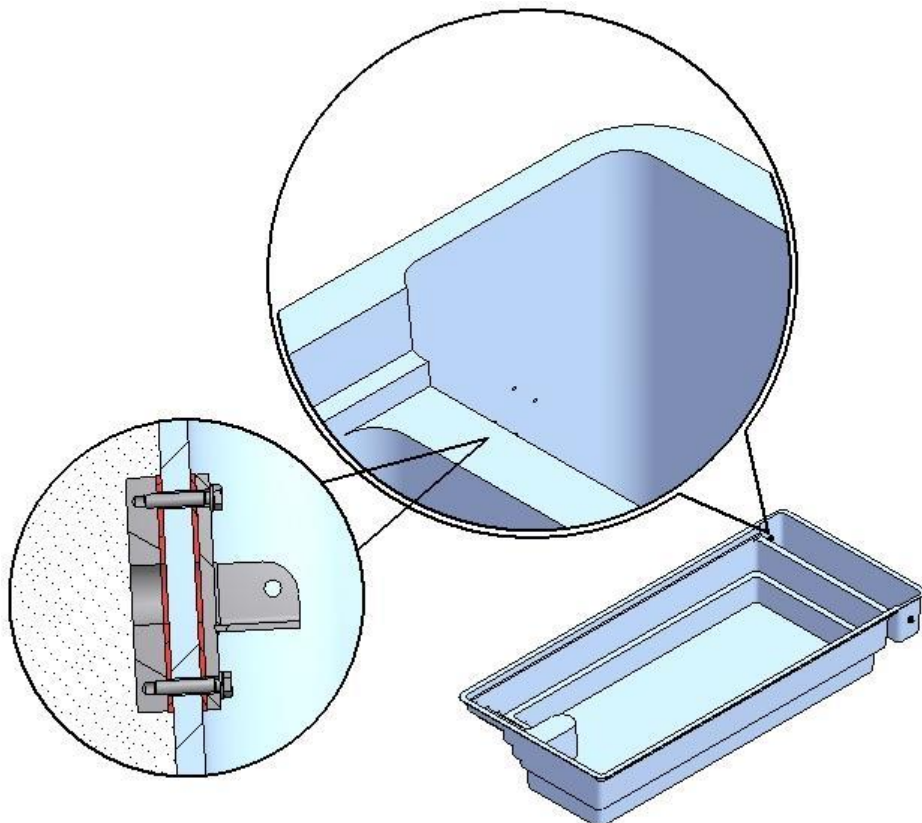
### **Motor side:**

- Drill a hole of  $\text{Ø}35\text{mm}$  at the exact position of the roll-up shaft, through the wall.



### **Non motor side:**

- Drill fixing holes for the flange through the wall, in line with the roller shaft and the motor flange.
- Use the flange as a reference for this.



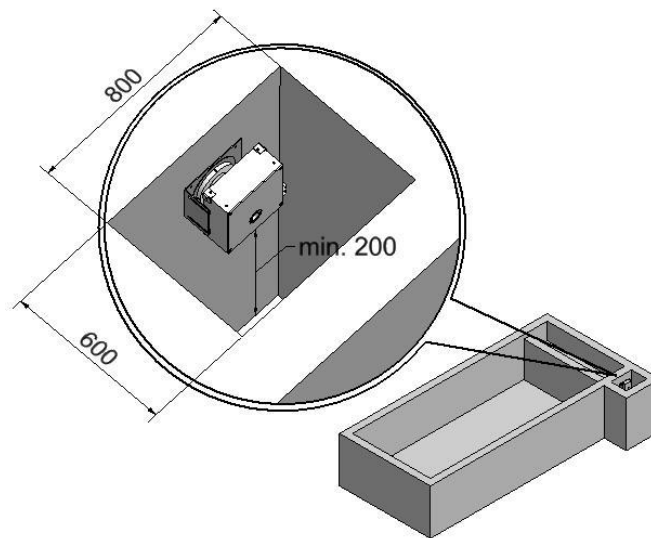


## *Motor pit*

### Concrete or (full) brickwork

#### **General:**

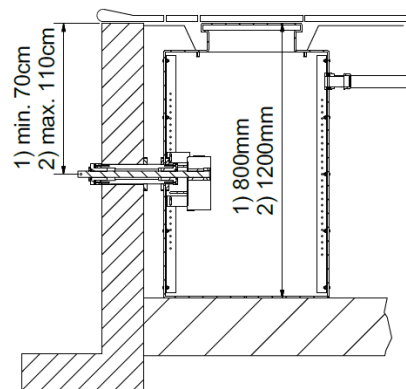
- Build a motor pit with a min. width of 60cm. In this way the motor will stay accessible for the (de)mounting and electrical connection. Leave at least 200 mm free space underneath the motor.
- The motor pit requires to be dry at all times. Do this by means of an evacuation pump or a drainpipe (Ø25mm) at the bottom of the pit.
- Aeration of the motor pit is recommended in order to avoid motor damage through condensate.
- See chapter “*O7 – Option: Safety - System*”.



### Polyethylene

#### **General:**

- Position the shaft between min .70 – max. 110cm from the top lid of the motor pit.
- The polyethylene pit should sit on a concrete slab or stabilized sand.
- Provide a groove around the lid in order to avoid water leaking into the pit.
- Fix the duct waterproof on the motor pit.
- Equip the motor pit with a pipe connection, this can be used for ventilation and cables.
- The lid of the motor pit can be covered with a tile.



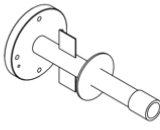

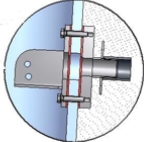

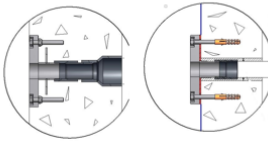


## A7 – Constructional preparations: Cable duct for SCUBA-drive®

### 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.

**Wall duct  
Scuba**

Montage A	Montage B	Montage C	Montage D
Thin wall Mono block (Polyster – Vinylester – Acryl)	Thin wall Stainless Steel	Concrete or brickwork Wall thickness 250 of 300mm Pool wall to be built	Concrete or brickwork
			
AK-000362	AK-000559	<b>Motor side:</b> AT-005565 → 250mm AT-005570 → 300mm  <b>Non motor side (pour in):</b> AT-005575	AT-002065
			

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.

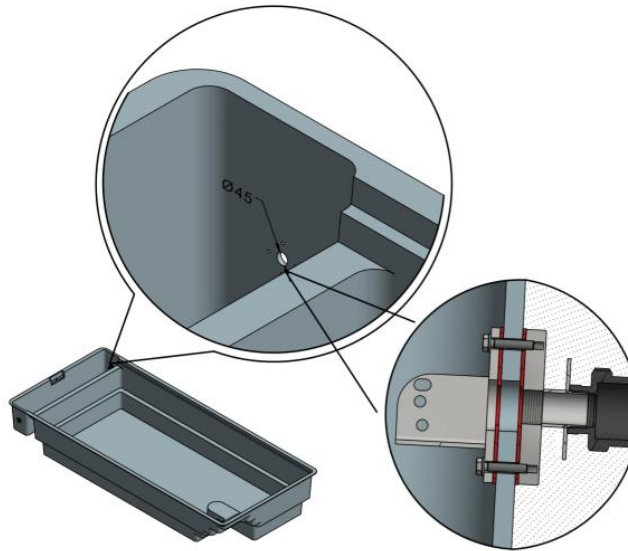
## Montage A

### *Thin wall (Mono block or element pool)*

#### **Before back filling the swimming pool**

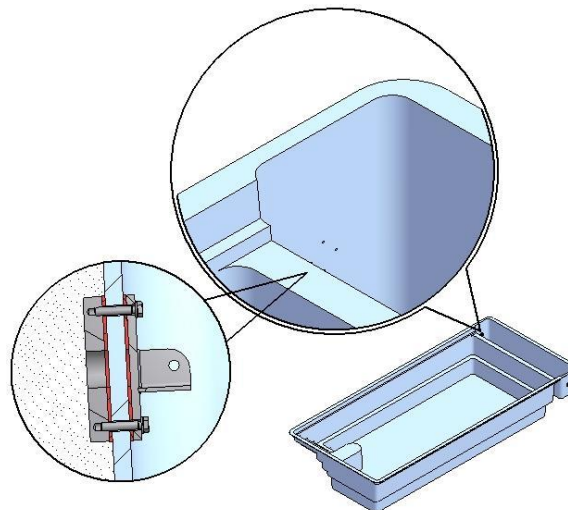
##### **Motor side:**

- 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.



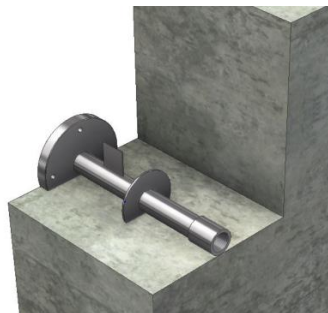
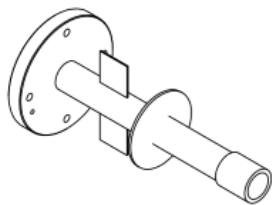
## **Montage B** ***Thin wall Stainless Steel***

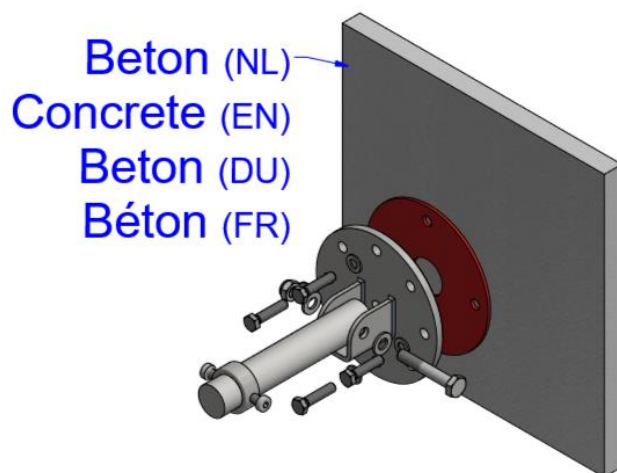
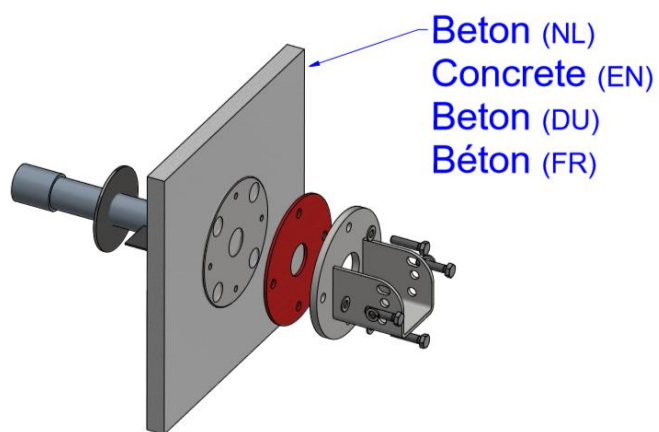
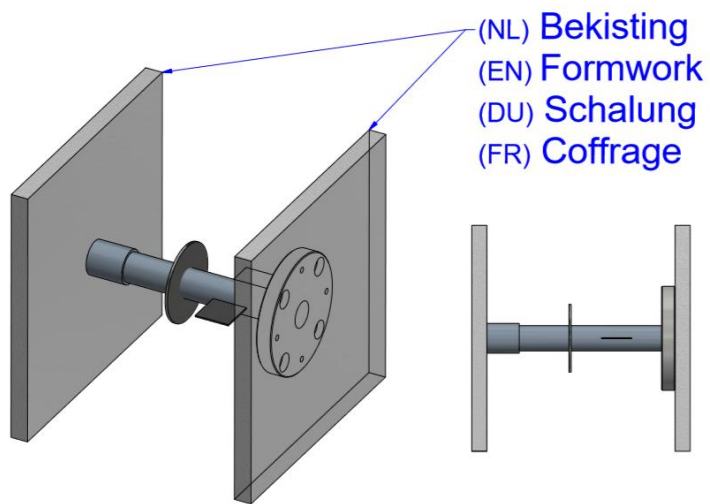
- For stainless steel pools we have a specific set of flanges which can be welded directly on the pool wall (AK-000559 - 1.4404 - AISI 316L)
- On the built-in flange you can find a connection (50mm) to fix a conduit. In this way the motor cable can be guided in to the connection box beside the pool.
- 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)





## Montage D

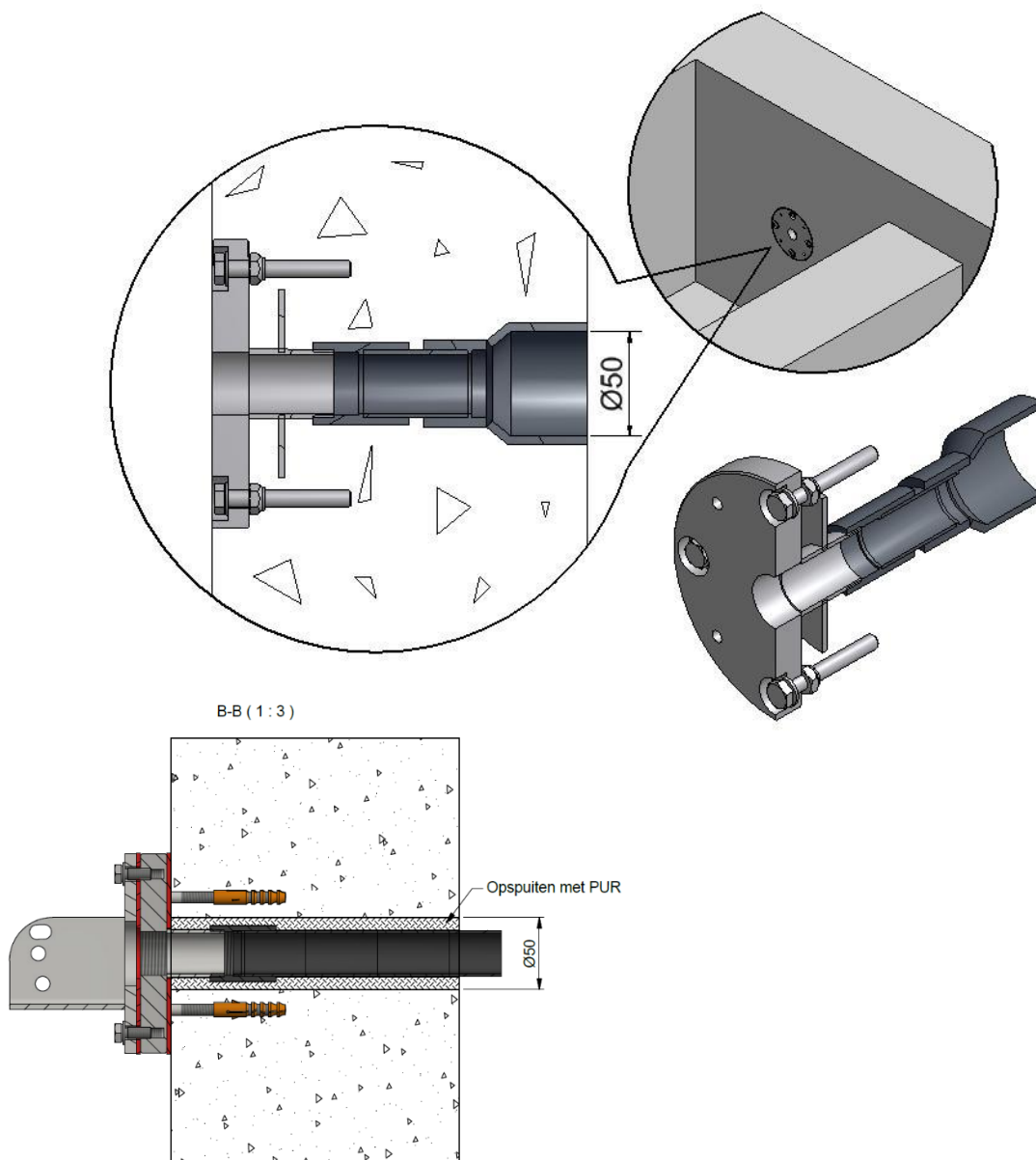
**Concrete or brickwork – Other Wall thickness as 250 of 300mm**

**Pool wall to be built**

### Motor Side

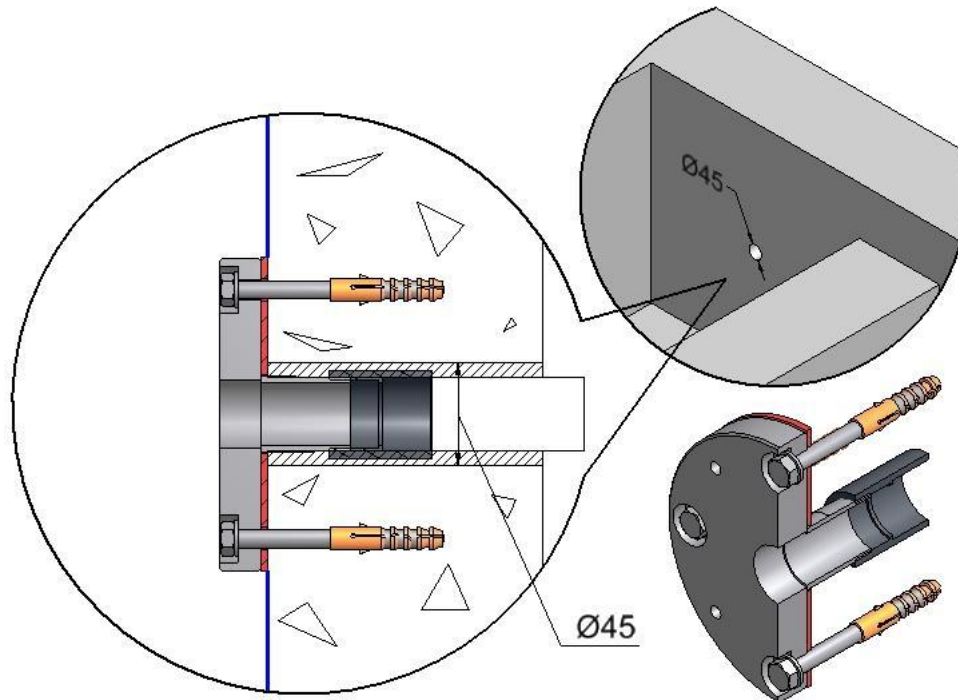
#### **Pool wall to be built:**

- 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:**

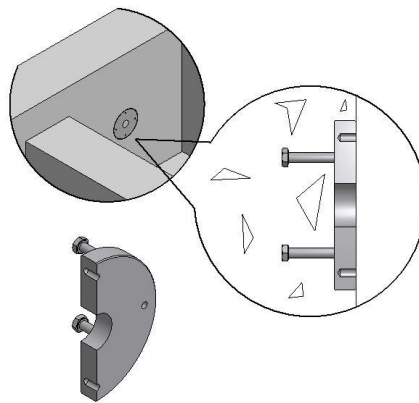
- Drill a hole of Ø45mm through the wall, at the exact position of the roller shaft.
- The built-in flange is being mounted on top and being anchored on the wall with bolts and plugs. In order to guarantee a perfect connection in brickwork, we recommend a chemical anchor (this is not supplied from the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



## Non motor side

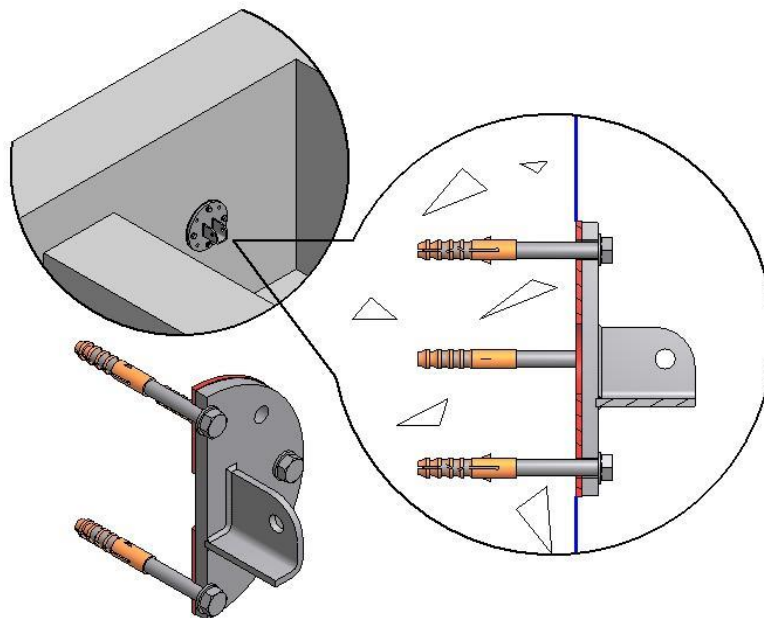
### **Pool wall to be built:**

- 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)

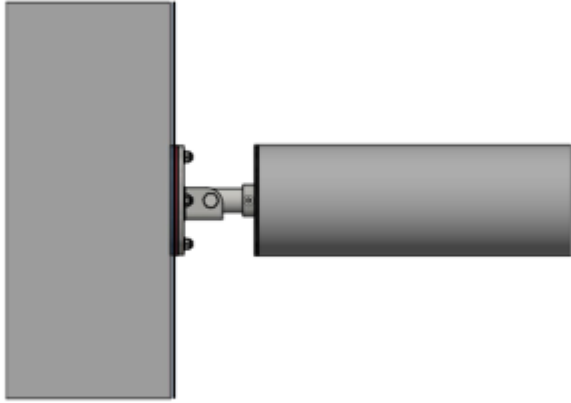


### **Pool wall already built:**

- 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 can be provided, AT-002605 See Chapter O9







## A8 – Constructional preparations: ECOTOP®

### General:

- Level control is essential to be able to install and use an automatic slatted cover.
- Please do not place any obstacles which can obstruct the course of the cover. E.g. skimmers, ladders, ...
- The position where the supports are being fixed requires to be a flat surface solid enough for anchoring.
- At these exact position of the supports, the slats will enter and leave the pool. The coping stone cannot exceed the wall distance. In case the coping stones will obstruct free movement of the slats, coping stones should be cut.
- Roman ends, rectangular ends and other particular shapes cannot always be rolled up completely.
- EcoTop is only available in combination with white and sand color slats.
- Supports made from Stainless Steel in White, Shaft made from Aluminum.
- The cover is driven by a tubular motor with electronic end positions.
- Operation by key switch

### With solar panel:

- Place the support with the photovoltaic panel at that side of the pool which is orientated most to the south.
- The battery will be charged best by ‘direct sunlight’, try to put the support at a place where you will have as less shade as possible.
- The solar driven version is equipped with 2 solar panels and 2x 12V batteries.

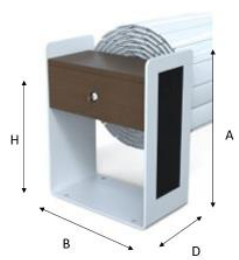
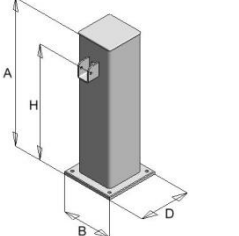
### Operation:

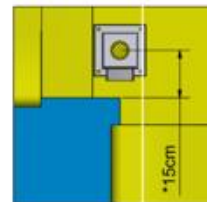
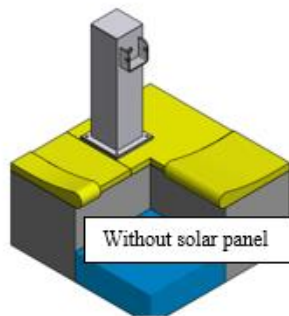
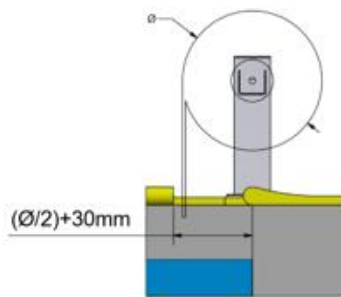
- Two supports, mounted on the swimming pool border, will carry the roll-up shaft.
- Max. dimensions ECOTOP®: 15 x 6 m.

### Indicating values:

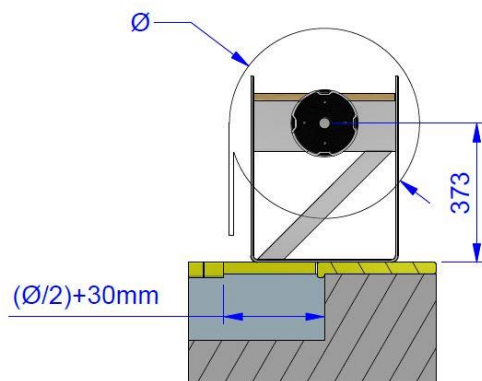
<i>Cover length in m (stairs incl.)</i>	6	8	10	12	14
<i>Diameter roll (∅) in mm</i>	430	500	530	560	590

**Dimensions:**

<i>Support shaft</i>	<i>A</i>	<i>B</i>	<i>D</i>	<i>H</i>	<i>Shape of the support</i>
ECOTOP SOLAR	500	396	220	373	
ECOTOP without SOLAR	470	170		385	



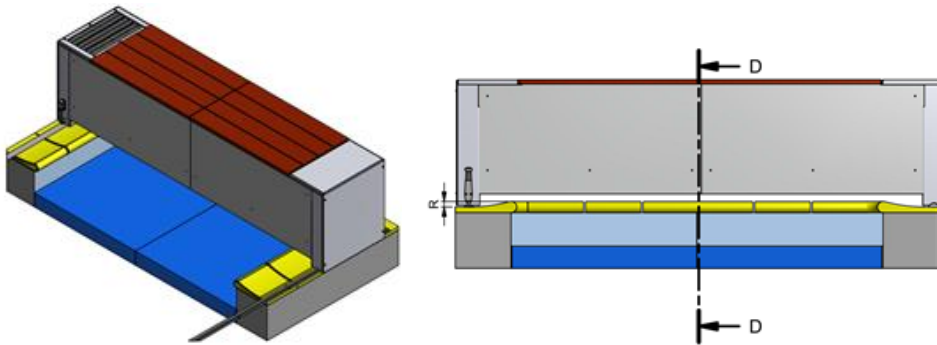
\* electric supply cable (24 Vdc)



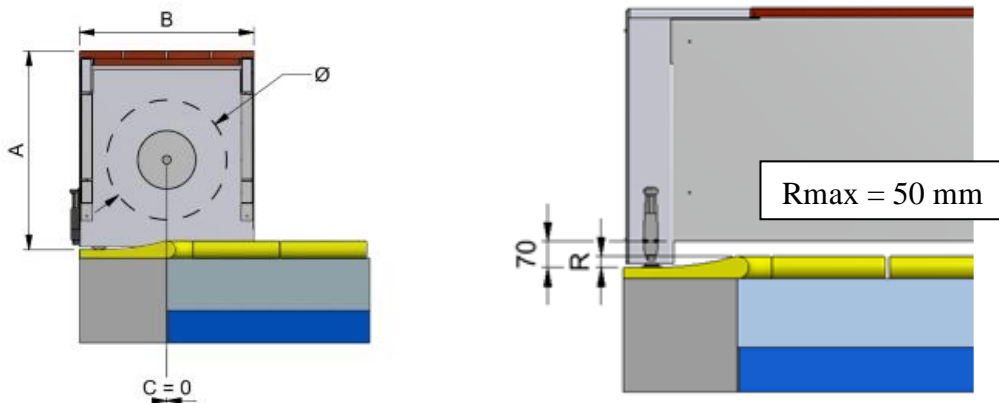
## A9 - Constructional preparations: Top'Moov

### General:

- Level control is essential to be able to install and use an automatic slatted cover.
- Please do not place any obstacles which can obstruct the course of the cover.  
E.g. skimmers, ladders, ...
- The position where the supports are being fixed requires to be a flat surface solid enough for anchoring.
- At these exact position of the supports, the slats will enter and leave the pool.  
The coping stone cannot exceed the wall distance. In case the coping stones will obstruct free movement of the slats, coping stones should be cut.
- If the Top'Moov is installed in an environment with much and strong wind, ask for an additional brake on T & A



Dimensions		
	A	B
TopMoov	687mm	600mm
TopMoov XL	835mm	755mm



**Concept :**

- Top'Moov is the mobile version of the EcoTop above ground positioned cover and is always equipped with a solar panel.
- Place the support with the photovoltaic solar panel at that side of the pool which is orientated most to the south.
- Optionally, an emergency power supply can be provided.
- Install near the cover a power outlet of 230V (16A - IP55) and in accordance with local laws and regulations.

**Working**

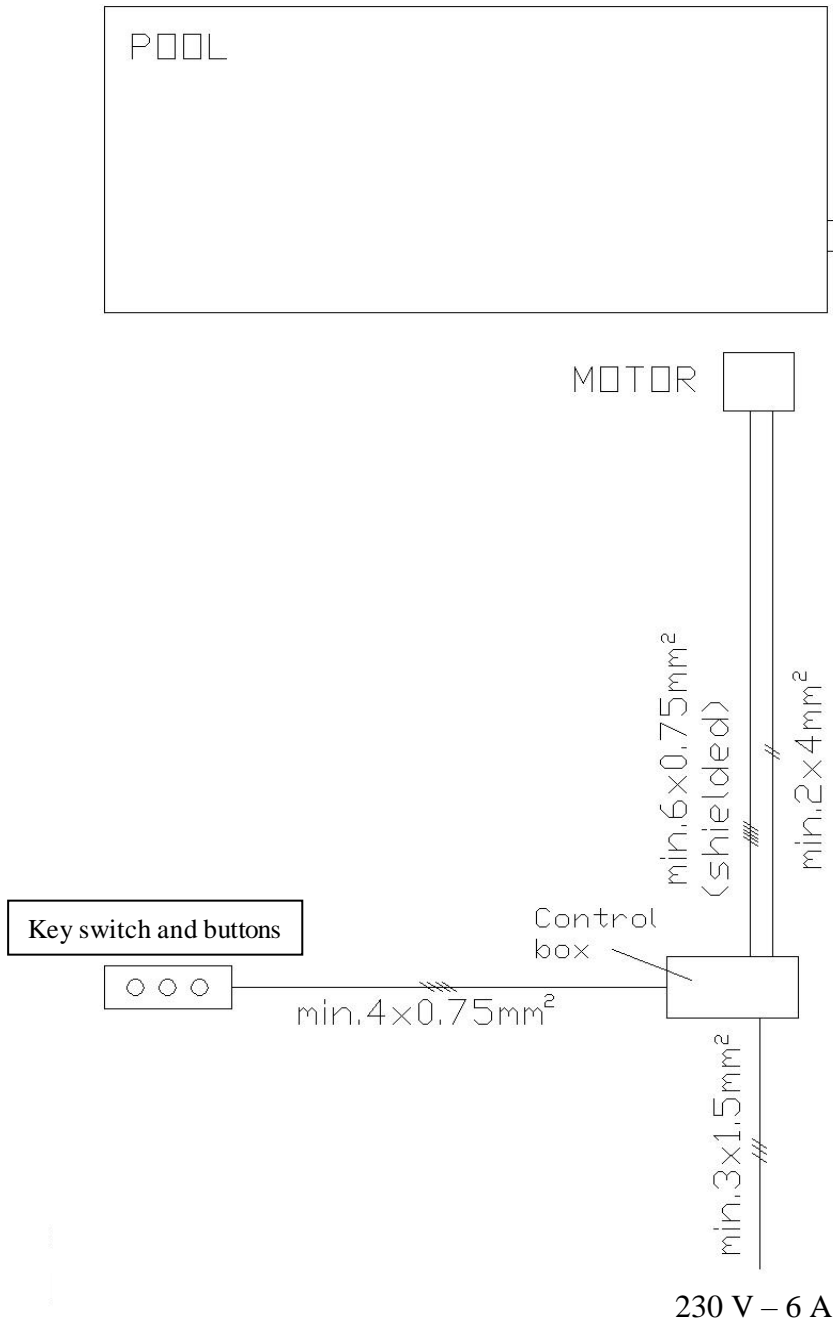
- Two supports mounted on tracks carry the shaft
- Max. Dimensions Top'Moov 12 x 5.85 meter (Distance track center – center)
- Max width Pool: 5550mm
- Length tracks: Standard 3 meter

**Distance tracks**

- Pool width + 2x150mm (min)
- In case of a raised coping stone: 2x 150mm starting at the flat part of the stone!

## B1 – Electrical preparations: Top mount

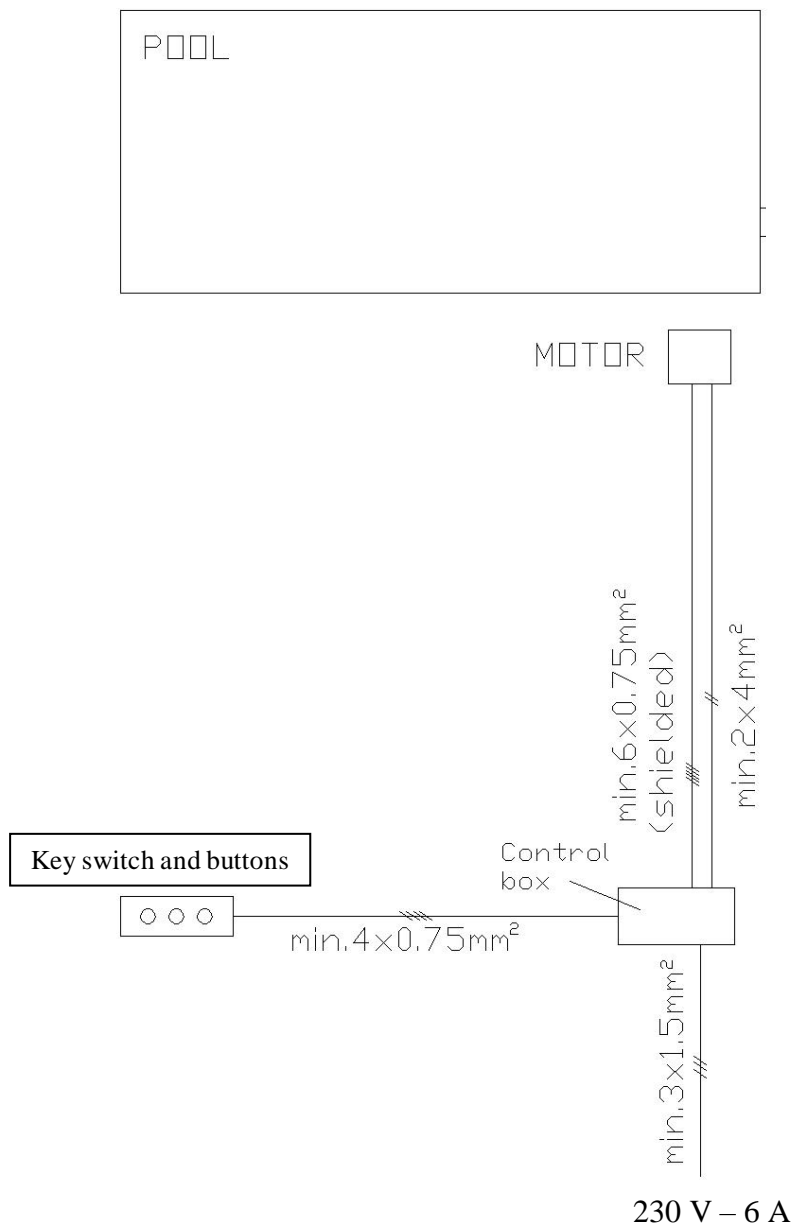
Always put cables in a protective tube



- Distance between motor and control box  $> 25\text{m}$   $\rightarrow$   $2 \times 6\text{mm}^2$ . 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)

## B2 – Electrical preparations: Underwater mount – External electric

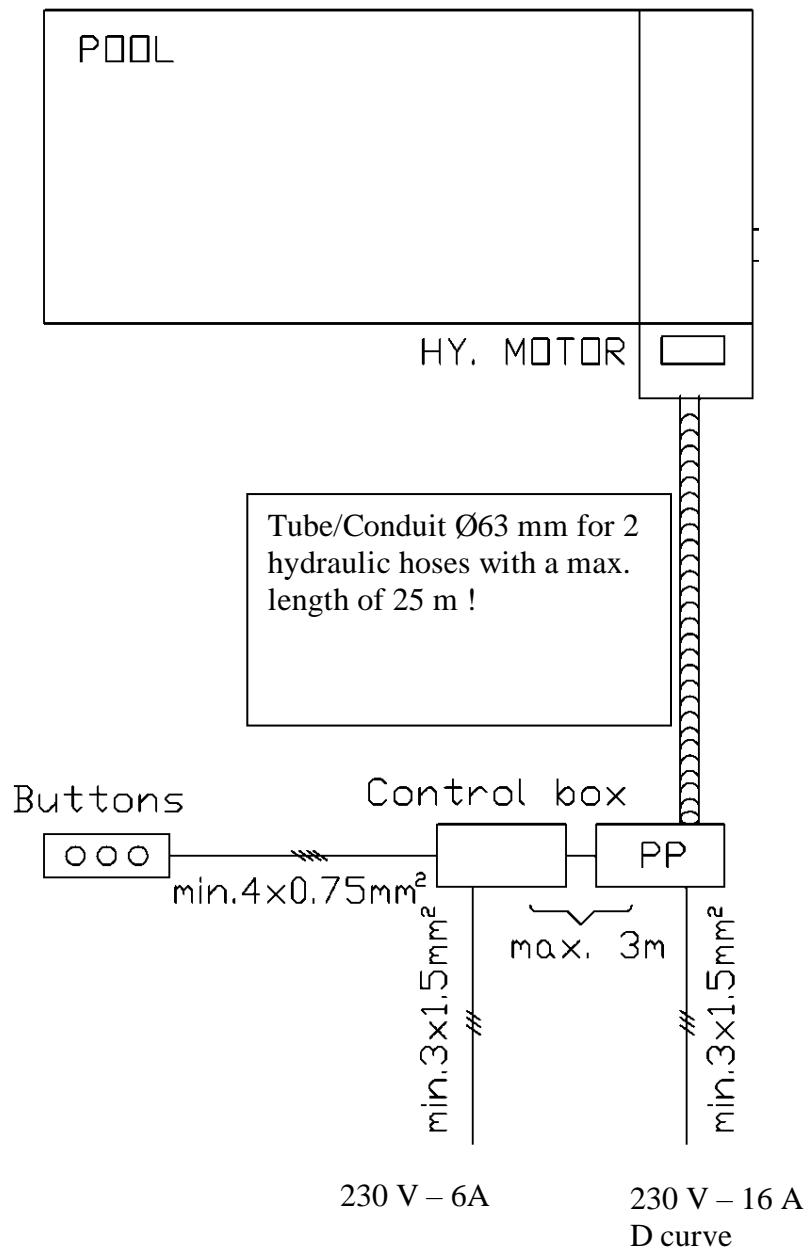
Always put cables in a protective tube



- Distance between motor and control box > 25m → 2 x 6mm<sup>2</sup>. 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)

### B3 – Electrical preparations: Underwater mount - External hydraulic

Always put cables in a protective tube

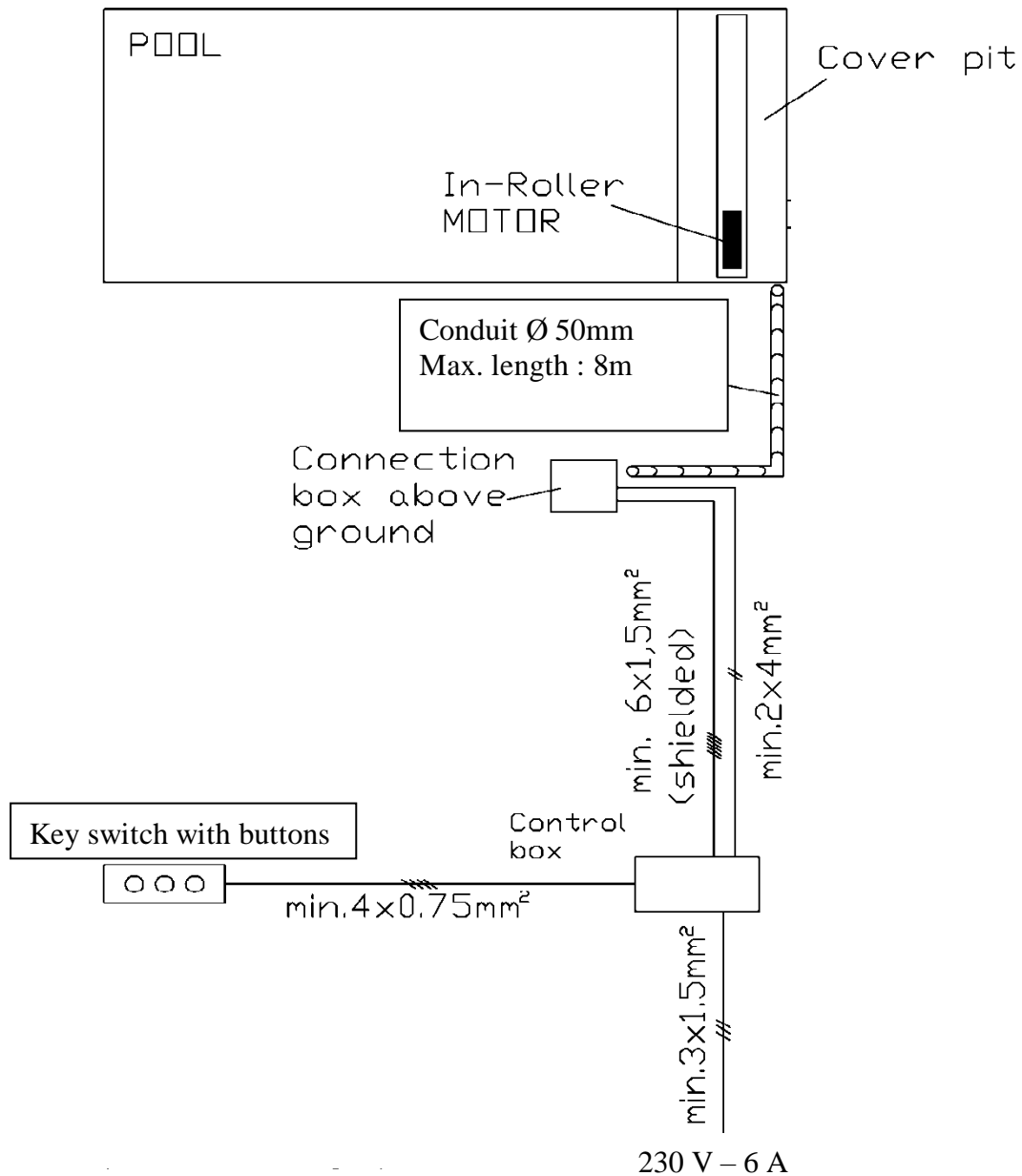


- The powerpack (Hydraulic power pump) is supplied with a 1,5 m cable including European power plug.
- Electric cables should always be guided through a conduit /protective tube.
- To avoid interference, never install control cables in the proximity of electric cable !
- It is recommended to install a lightning protection.



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

Always put cables in a protective tube

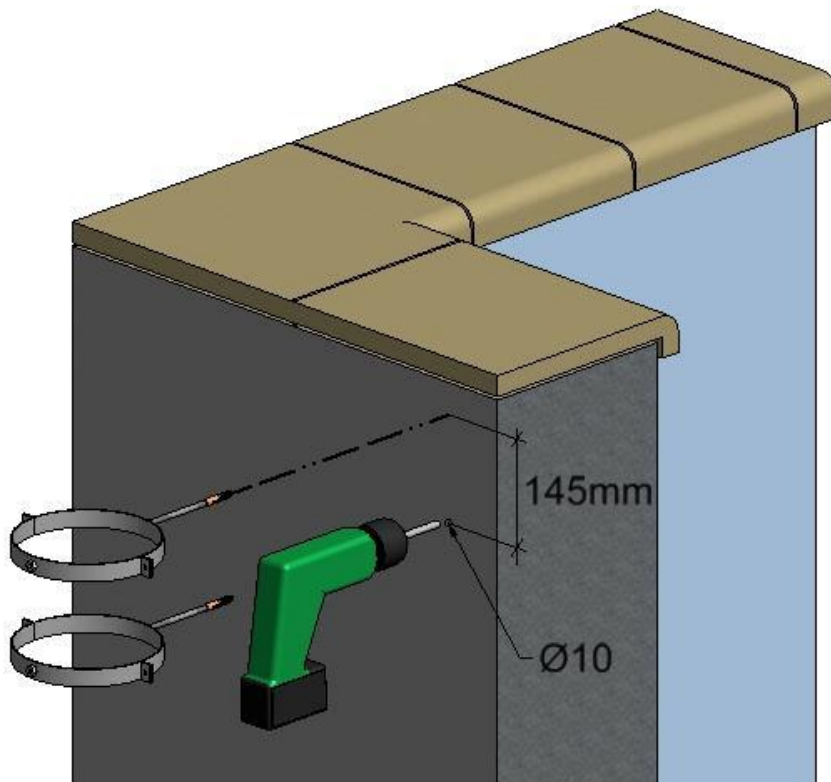
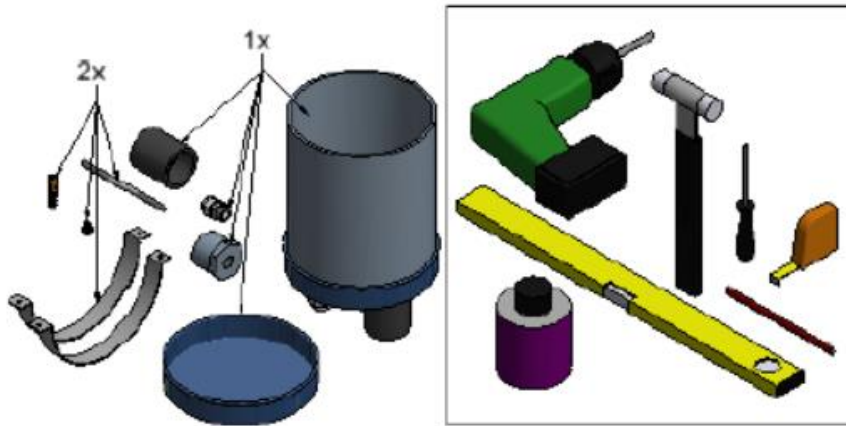


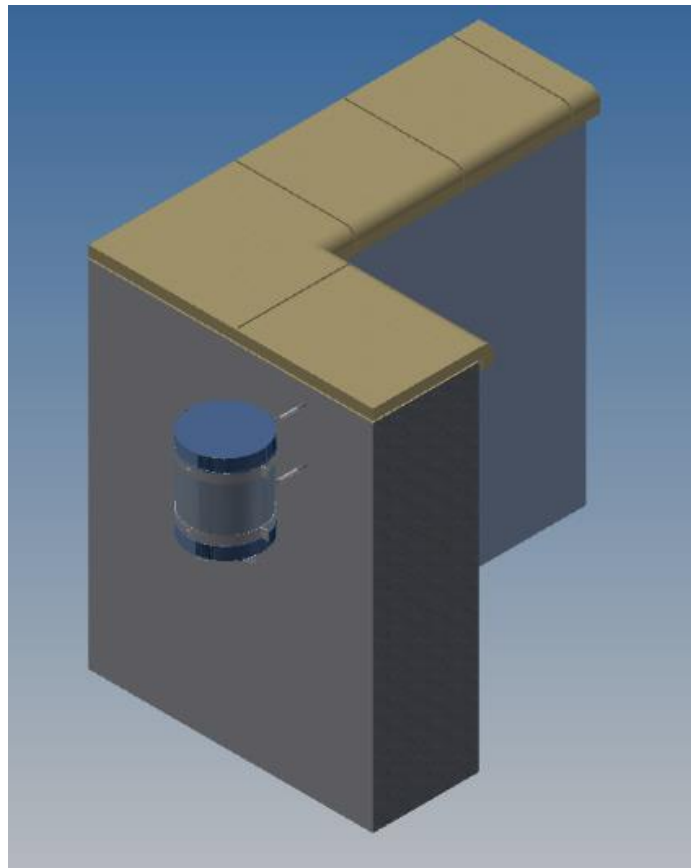
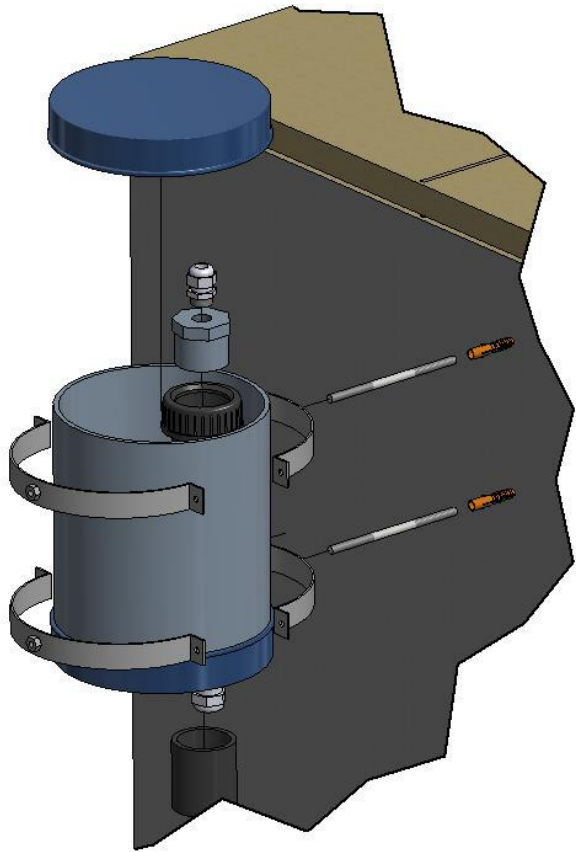
- Distance between motor and control box > 25m → 2 x 6mm<sup>2</sup>. Maximum length of motor cable : 35m
- Electric cables should always be guided through a conduit / protective tube.
- To avoid interference, never install control cables in the proximity of electric cable !
- It is recommended to install a lightning protection
- T&A offers extension cable on rolls of 100m (article no. = AT-002564)
- T&A strongly advises 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.

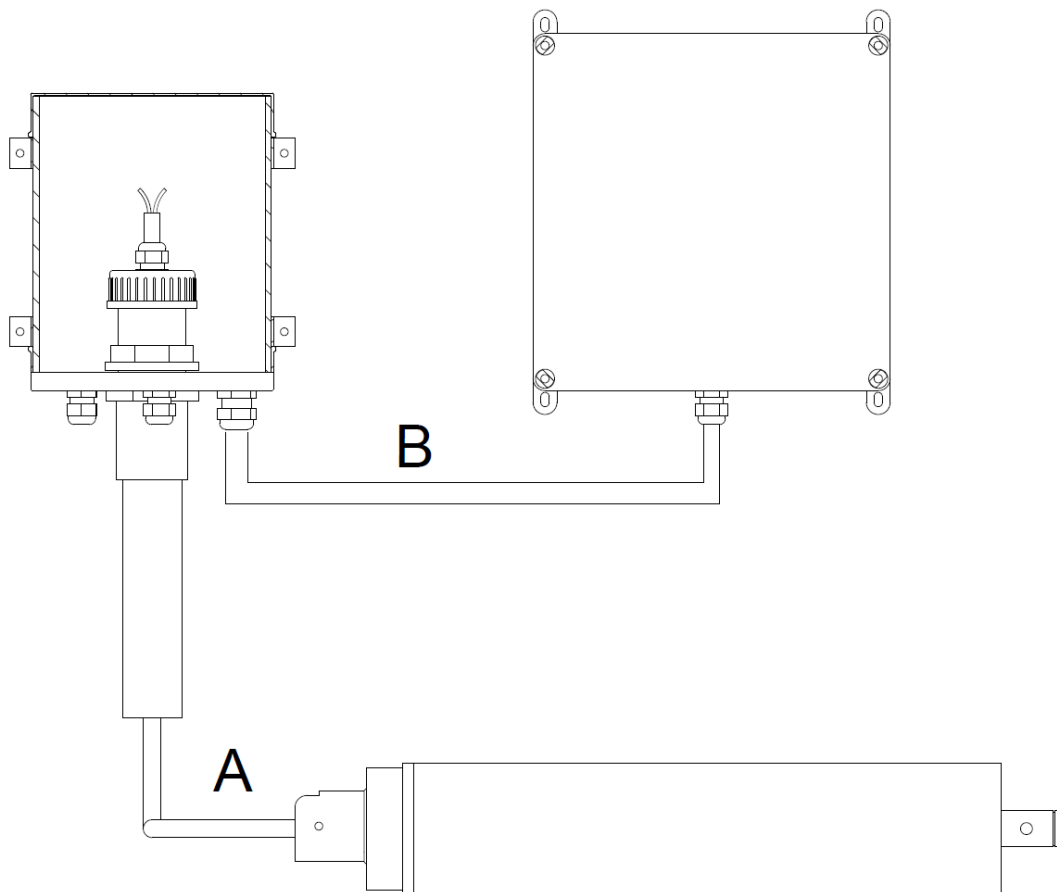
### Shaft for utilities, esp. cable extension

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  $2 \times 4^2 + (6 \times 1,5^2 \text{ shielded}) \rightarrow \text{AT-002564}$   
 Cable Longer than 25 meter: Kabel  $2 \times 6^2 + (6 \times 1,5^2 \text{ shielded})$   
 Max. Length 35 meter

## B5 – Electrical preparations: ECOTOP®

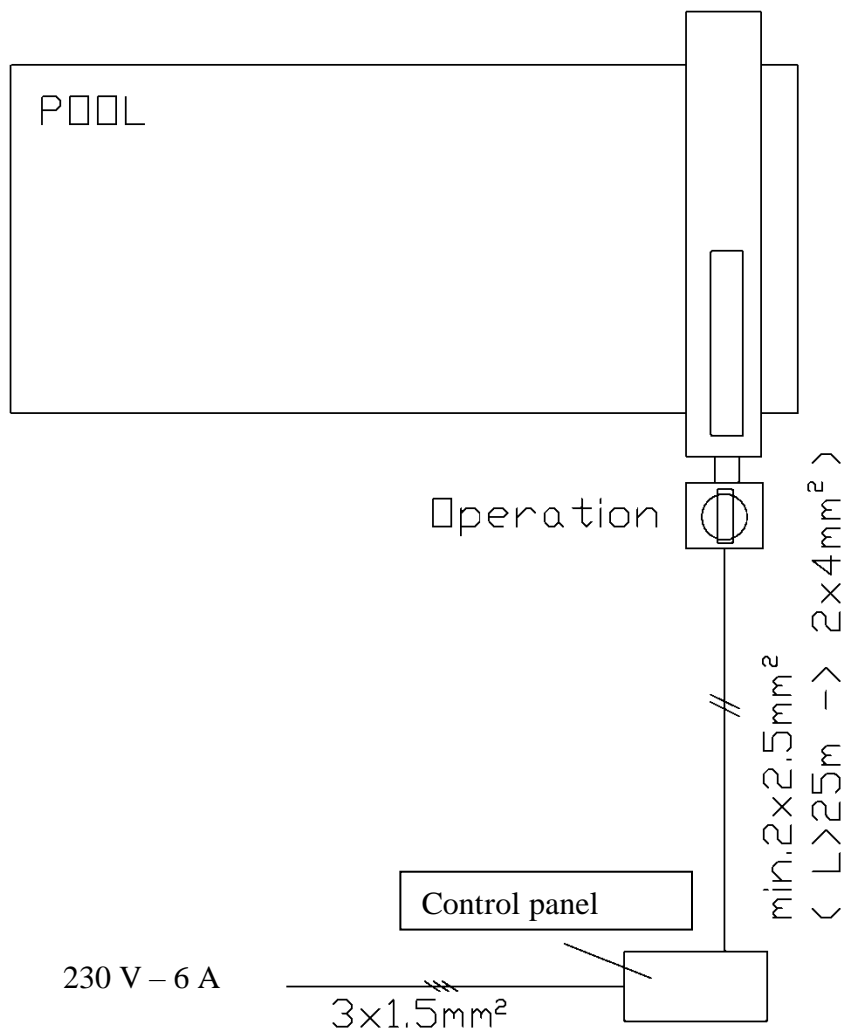
### Supply cable: 230V AC

A key switch is installed directly on the support.

You are required to provide power supply to the EcoTop cover.

The maximum distance between the motor and the power supply is 35 m.

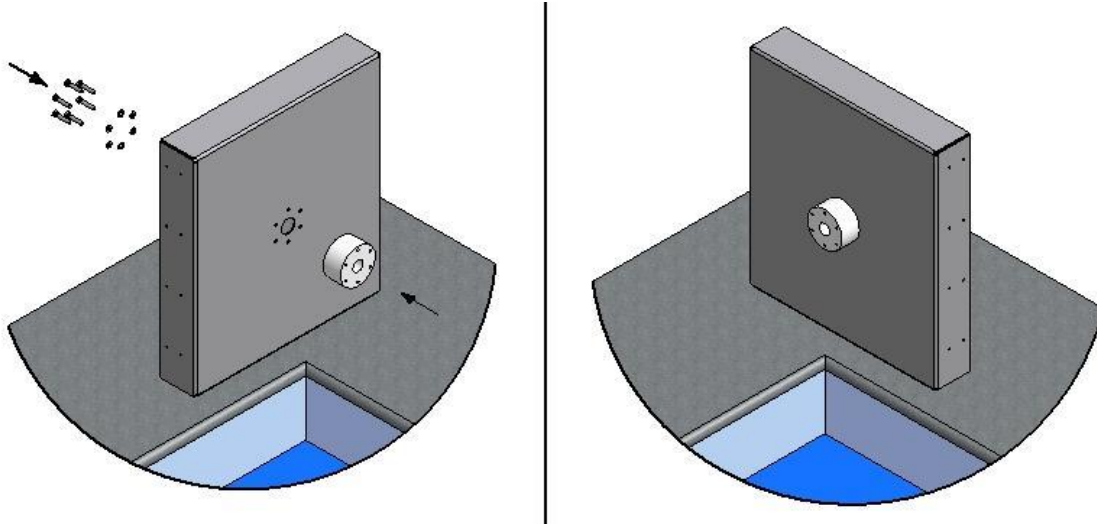
Powersupply cable between fuse box and control box: max 3x 1.5mm<sup>2</sup>



## C1 – Mounting of mechanism: Top mount

### 1. Installation of the roll-up shaft

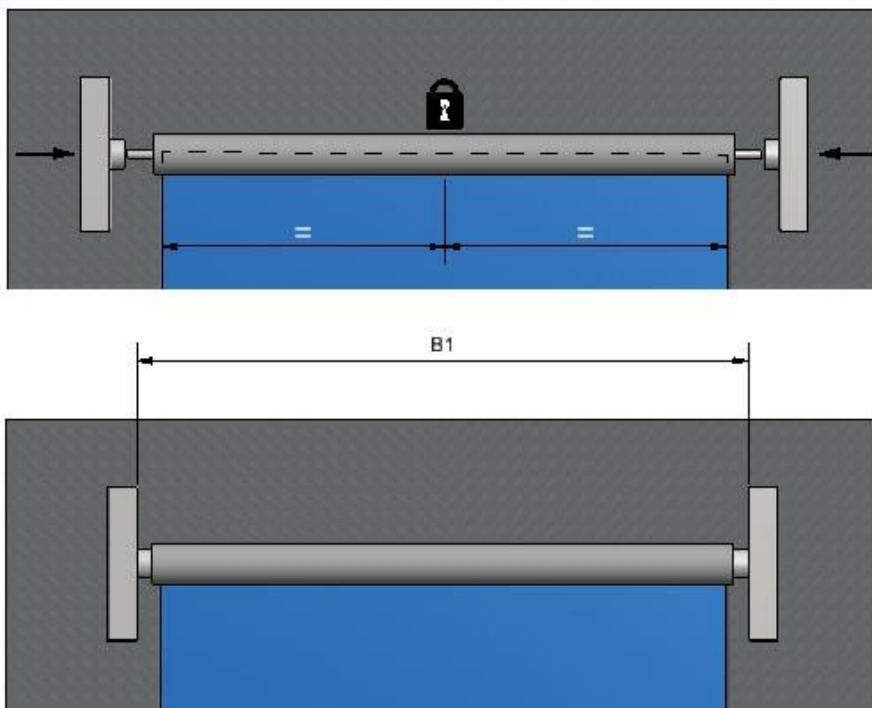
- Mount (if necessary) the synthetic bearings at the outside of the SS support.



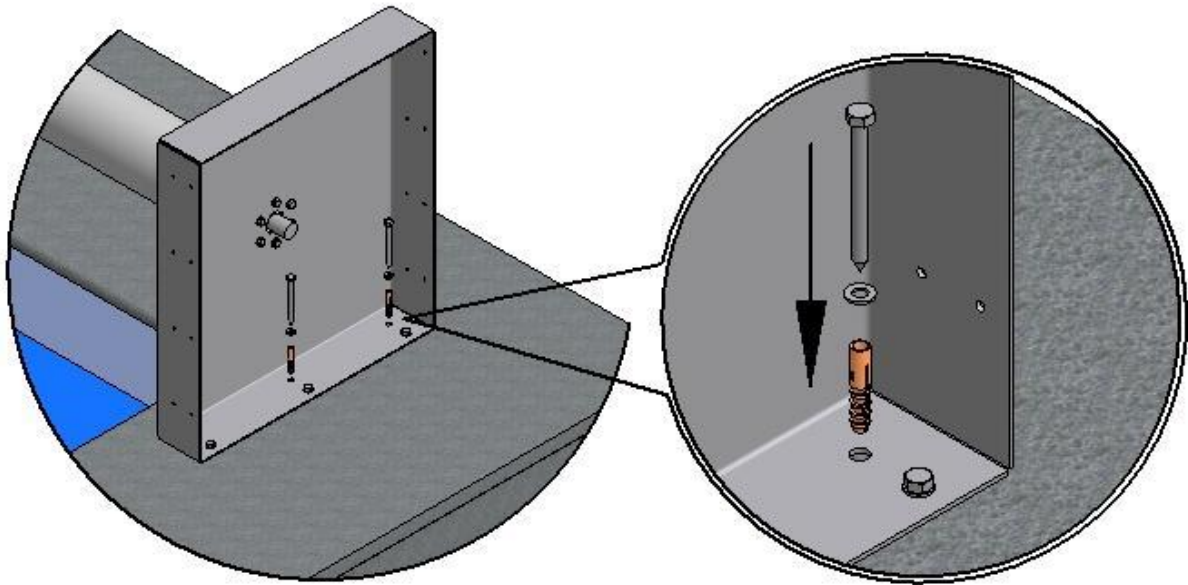
- Place the supports so that you can push the ends of the roller shaft through the bearings. Turn the supports so that the bearings are at the pool side, in other words to the roller shaft.

### 2. Installation of the supports

- Push the supports towards each other so that the bearings touch the bearing blocks in the roller shaft.
- Position the roller shaft and supports symmetrically regarding to the middle of the pool above the pool end.

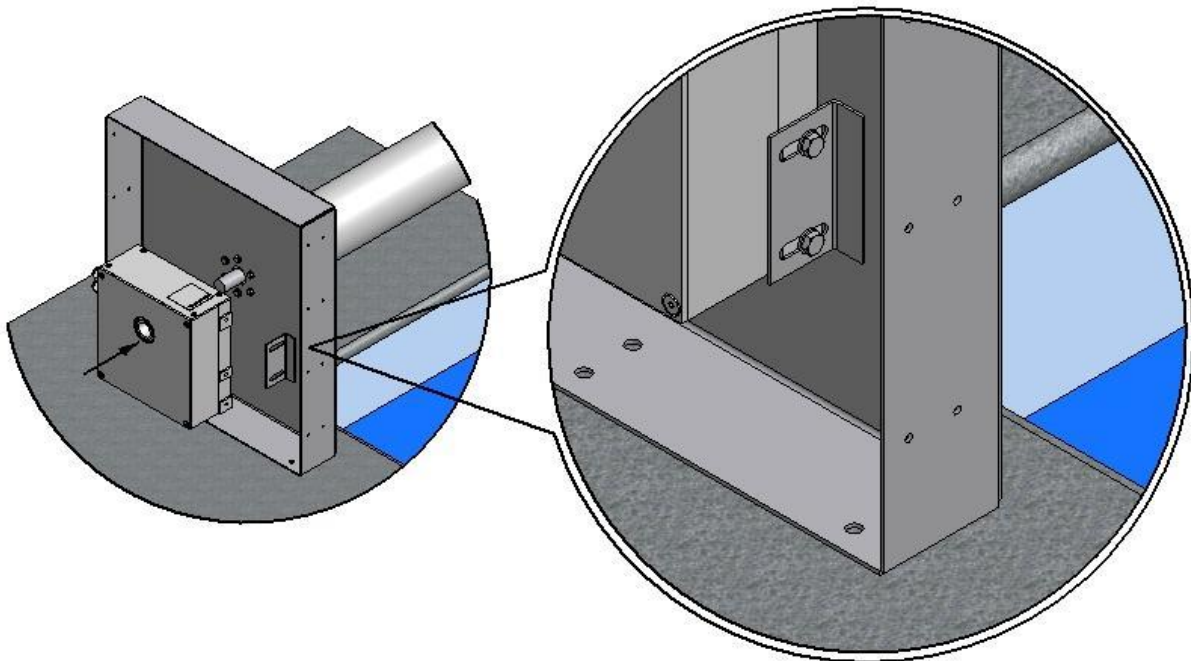


- Anchor the supports with the delivered plugs and bolts.



### 3. Installation of the motor

- Place the electrical motor on the support using the motor bracket.



#### Finishing:

##### Wooden bench

- The SS supports is the frame for the bench.
- See chapter “*01 – Finishing: Top mount – Bench*”.

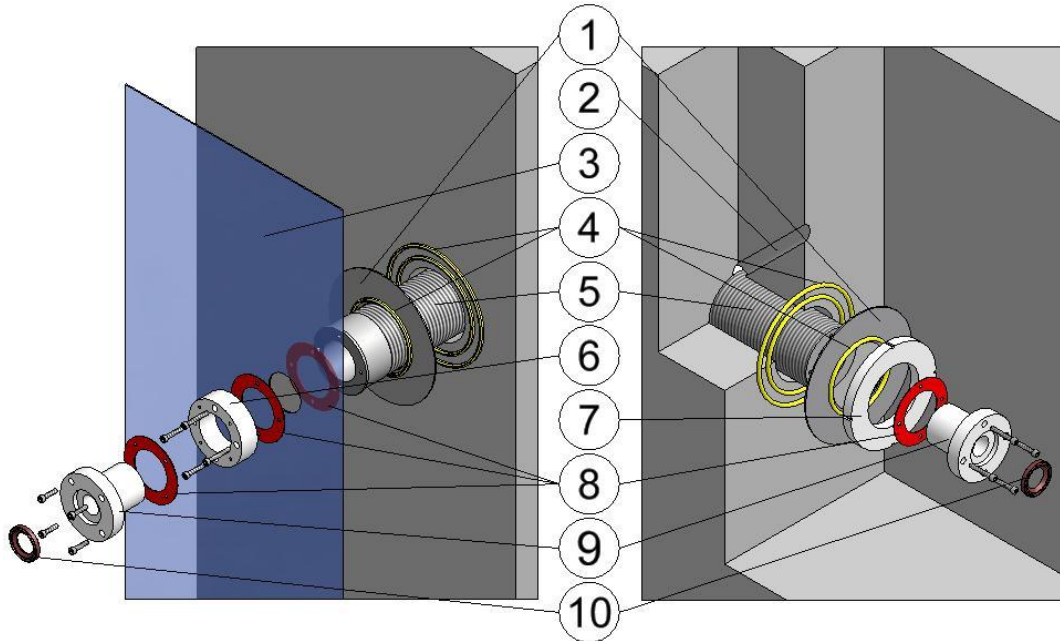
##### Aluminium + PVC bench

- See chapter “*01 – Finishing: Top mount – Bench*”.

## C2-1 – Mounting of mechanism: Underwater mount: External motor – Pool with liner

### General:

- Mount the wall duct before applying the lining according to chapter “A6 – *Constructional preparations: Underwater mount – Wall duct and motor pit for external drive*”.
- The most important thing, before pouring the polyester resin during the installation of the wall duct is the sealing of- and the aligning with the roller shaft.



N°	Description	N°	Description
1	Flange	6	Liner ring
2	Pouring channel	7	PVC nut
3	Liner	8	Flat seal
4	Silicon	9	Bearing
5	Wall duct tube	10	Water seal ring

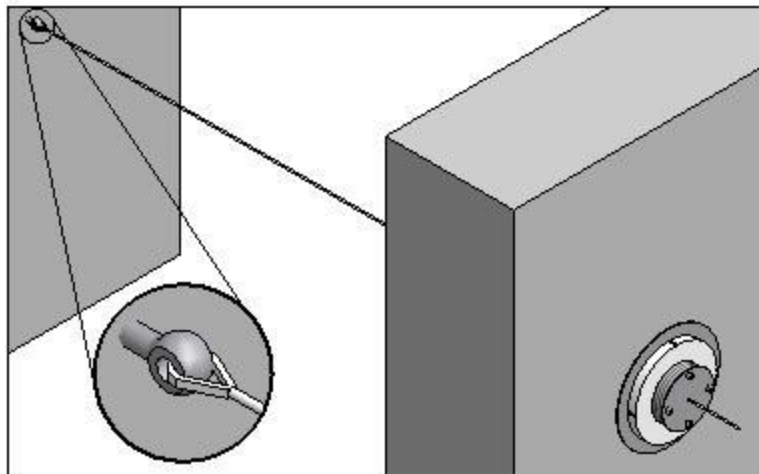
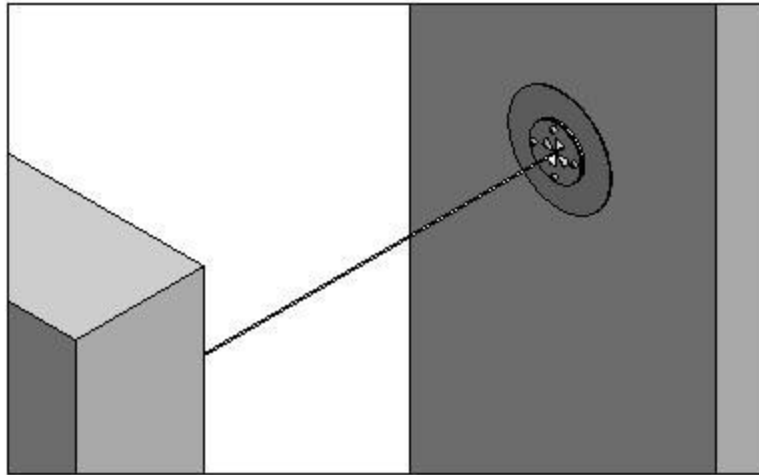
### 1. Installation of the wall duct tube

- Remove the casted PVC tube (Ø110mm) and make a channel in a 45° angle in order to pour the resin to fix the wall duct.
- Apply min. 2 closed circles of silicon around the hole (Ø110mm), as well at the pool side as the motor pit side. Use plenty of silicon in order to set off all the irregularities of the wall.
- Mount the 2 stainless steel flanges on both sides using plenty of silicone. Further screw the PVC-nut on the wall duct, also using plenty of silicone.
- Therefore you can use the key for the PVC-nut of the wall duct, see chapter “09 – *Option: Preparation – Key for PVC-nut of the wall duct*”. – (art. no. AT-001738)



## 2. *Aligning of the wall duct tube*

- Fix the plates of the aligning set on the wall duct tube, with the “star” at the pool side.
- Fix the aligning rope in the centre of the bearing at the opposite side of the pool (e.g. eye bolt) and put it then through the star, through the wall duct tube and through the hole of the plate of the aligning set.
- Correct the position of the wall duct tube until the aligning rope goes through the middle of the star, and as such will be in line with the roller shaft and the bearing flange. Keep the aligning rope stretched constantly.

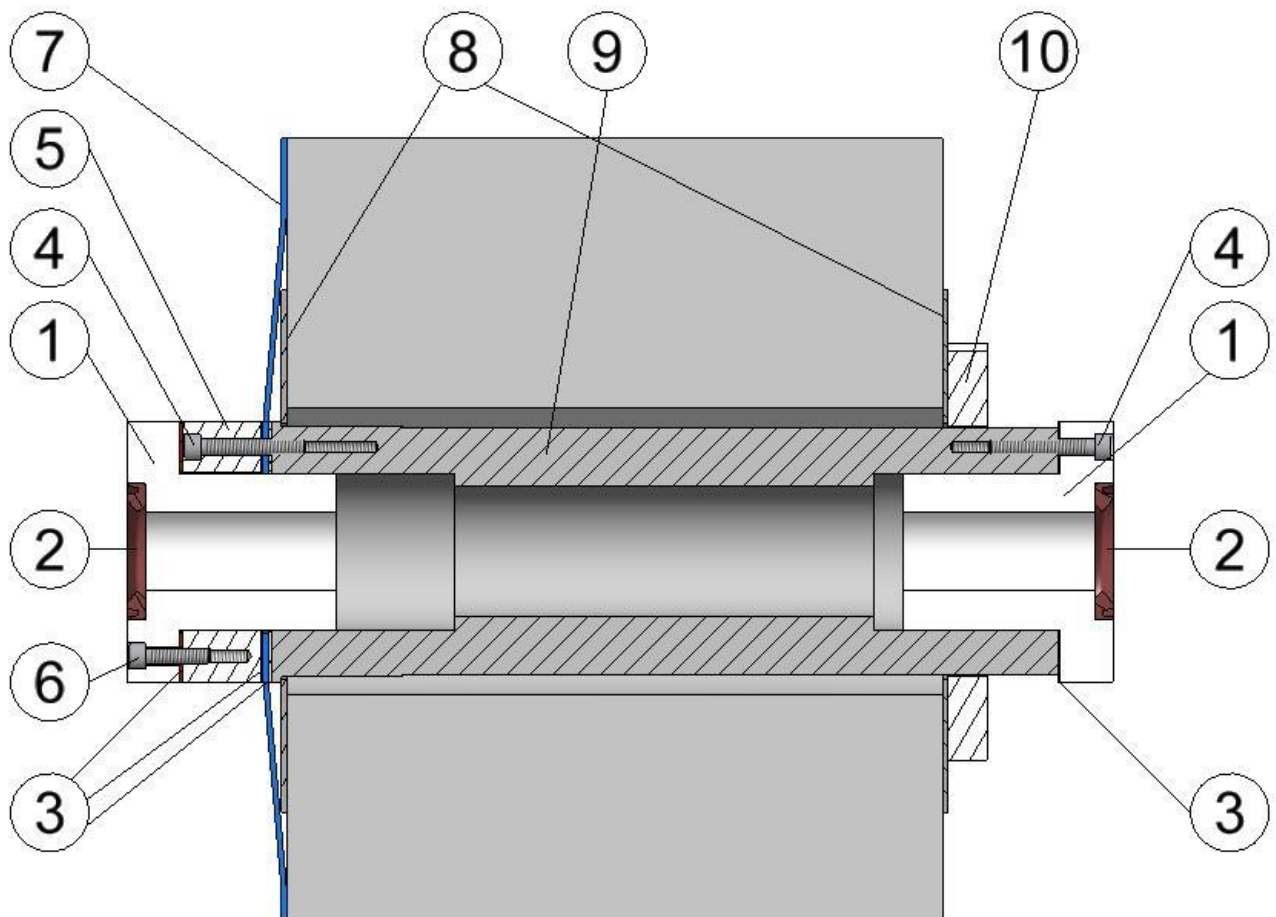


## 3. *Fixing of the wall duct tube*

- Mix the polyester resin and the hardener intensively (these are always delivered in the right mixing proportion) and pour in the gaps around the wall duct tube until completely full.
- Let the mixture harden at 20°C for about 2 hours. The hardening time depends on the (ambient) temperature.
- Make sure to stock and use the resin at room temperature to avoid the mixture from hardening too quickly

#### 4. Installation of the bearings

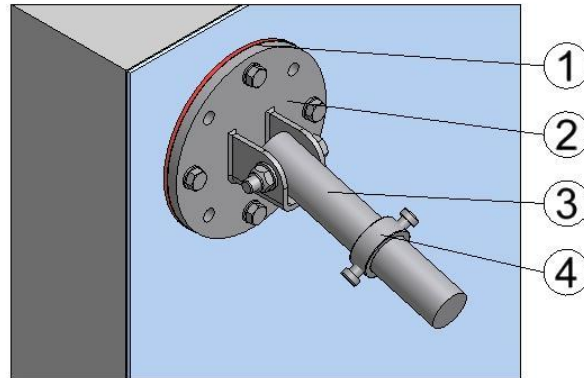
- Please note that the resin mixture does not make sure that your pool is watertight, the liner should take care of this.
- The bearing is being fixed on the wall duct tube by means of 4 bolts (M6).  
On poolside, the bearing fits into the wall duct tube. On motor pit side, the part is bolted directly onto the wall duct tube. Do not forget to place the flat sealing rings.
- Now mount the water seal ring in the dedicated space (fully inline) at the bearings.  
The open side of the water seal ring faces the pool. Please use a rubber hammer as well as the supplied Vaseline for positioning. The water seal ring should be 100% in line.



N°	Description	N°	Description
1	Bearing	6	Bolt
2	Water seal ring	7	Liner
3	Flat sealing	8	Flange
4	Bolt	9	Wall duct tube
5	Liner ring	10	PVC nut

## 5. Installation of the flange

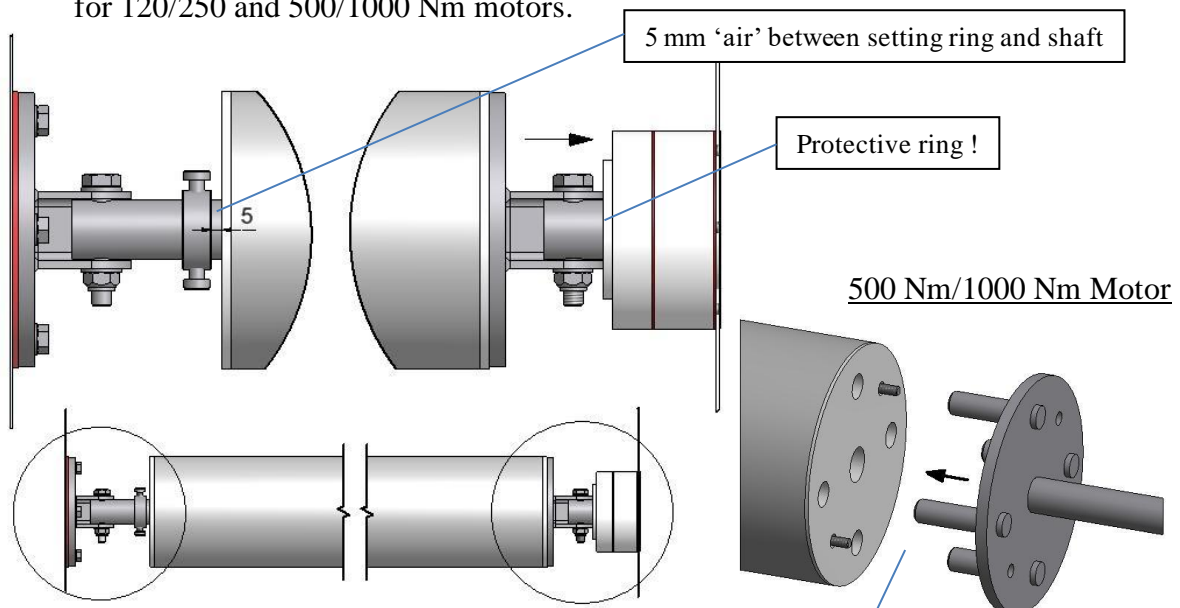
- Mark and drill the holes and fix the flange on the pool wall using the 4 supplied bolts (8 mm).
- Use enough silicon in the fixing holes as an extra sealant.
- The flange can only be placed after applying the liner.



N°	Description	N°	Description
1	Flat sealing	3	Shaft end
2	Flange	4	Setting ring

## 6. Installation of the roller shaft

- At non-motor side, insert the shaft end into the roller tube and fix the locking ring. The shaft end requires to be screwed on to the flange. Then, insert the drive shaft through the wall duct and connect it to the roller shaft. Do not forget to mount the protection ring. **ATTENTION :** The connection between the drive and roller shaft is different for 120/250 and 500/1000 Nm motors.



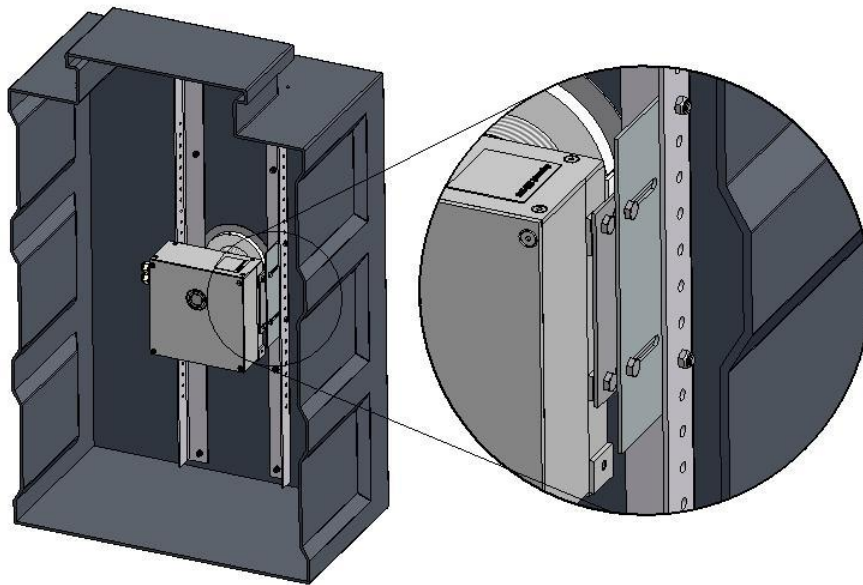
The 4 rods drive the shaft !  
 The 2 bolts only take care of the connection between driving shaft and roller shaft.  
 Do not tighten bolts too much !  
 The 1000 Nm motor comes with a 42 mm driving shaft (instead of 30 mm).

## 7. Installation of the motor

- Apply Vaseline to the motor shaft and lock this shaft on the motor using the appropriate key.
- **NOTE:** An adjusted key will be delivered with a hydraulic motor. Use this one to secure the motor.
- Fix the motor to the motor bracket.
- The motor bracket is adjusted to the type of motor pit.

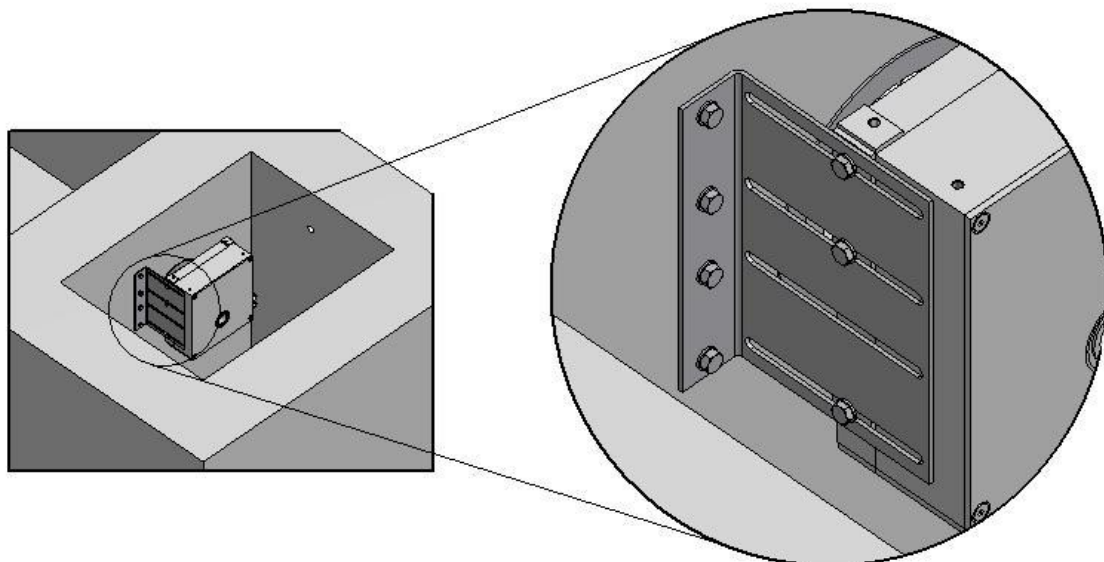
### *Polyethylene motor pit*

- The motor bracket is being fixed on an internal L-profile of the pit.



### *Concrete motor pit*

- The motor bracket is being fixed on to the pool wall.



Option: With a liner, there is a risk the liner get damaged in case the cover gets stuck. To protect the liner we propose to install a protection on the wallduct. The protection will be fixated with silicone.

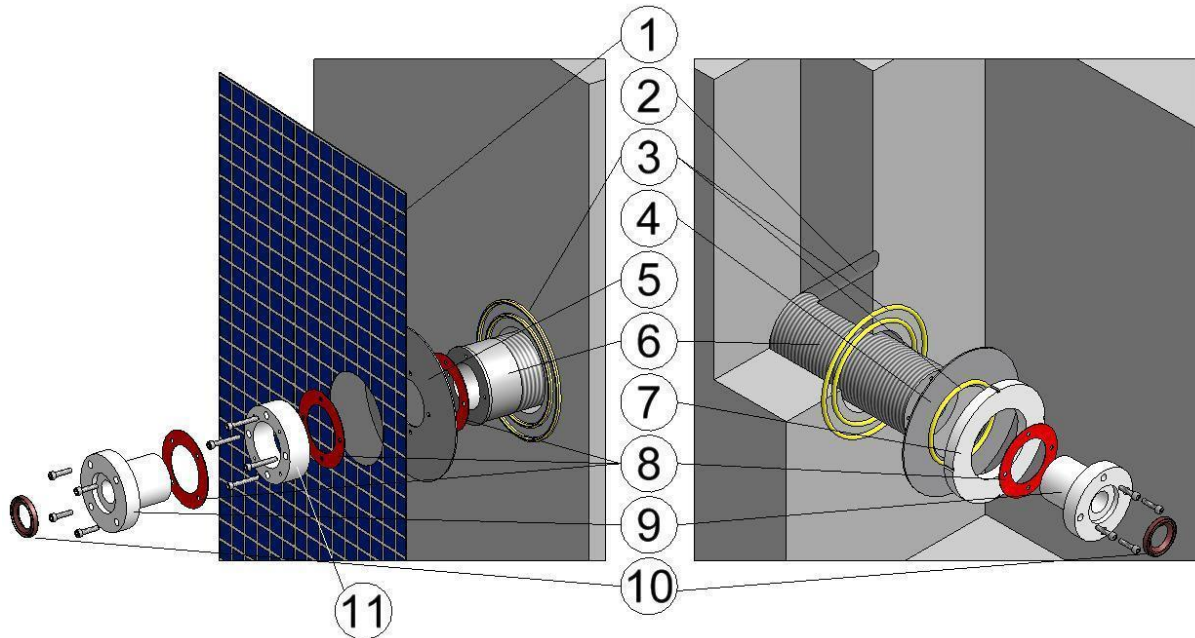
Article AT-002763:



## C2-2 – Mounting of mechanism: Underwater mount: External motor – Pool with tiles or fiberglass

### General:

- Mount the wall duct before applying the lining according to chapter “A6 – *Constructional preparations: Underwater mount – Wall duct and motor pit for external drive*”
- The most important thing, before pouring the polyester resin during the installation of the wall duct is the sealing of- and the aligning with the roller shaft.



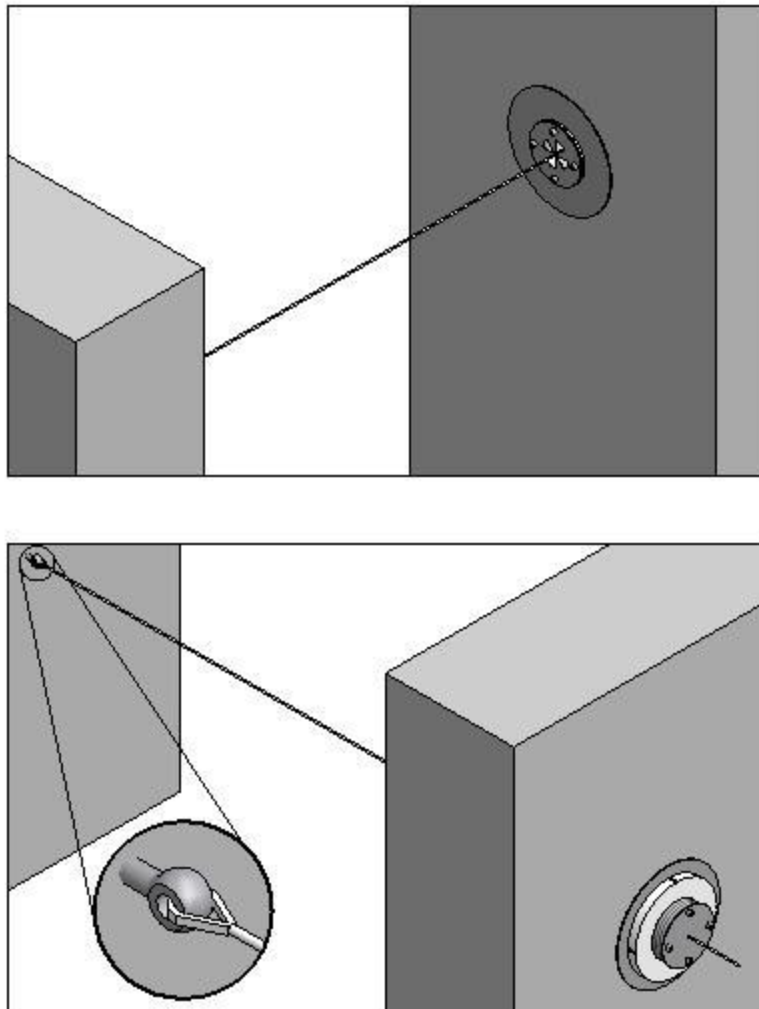
N°	Description	N°	Description
1	Tile / Fiberglass	7	PVC nut
2	Pour channel	8	Flat sealing
3	Silicon	9	Bearing
4	Flange – motor side	10	Water seal ring
5	Flange – pool side	11	Liner ring
6	Wall duct tube		

### 1. Installation of the wall duct tube

- Remove the casted PVC tube (Ø110mm) and make a channel in a 45° angle in order to pour the resin to fix the wall duct.
- Apply min. 2 closed circles of silicon around the hole (Ø110mm), as well at the pool side as the motor pit side. Use enough silicon in order to set off all the irregularities of the wall.
- Mount the 2 stainless steel flanges on both sides using enough silicone. Further screw the PVC-nut on the wall duct, also using enough silicone.
- Therefore you can use the key for the PVC-nut of the wall duct, see chapter “O9 – *Option: Preparation – Key for PVC-nut of the wall duct*”. – art. no. AT-001738

## 2. *Aligning of the wall duct tube*

- Fix the plates of the aligning set on the wall duct tube, with the star at the pool side.
- Fix the aligning rope in the centre of the bearing at the opposite side of the pool (e.g. eye bolt) and put it then through the star, through the wall duct tube and through the hole of the plate of the aligning set.
- Correct the position of the wall duct tube until the aligning rope goes through the middle of the star, and as such will be in line with the roller shaft and the bearing flange. Keep the aligning rope stretched at all times.

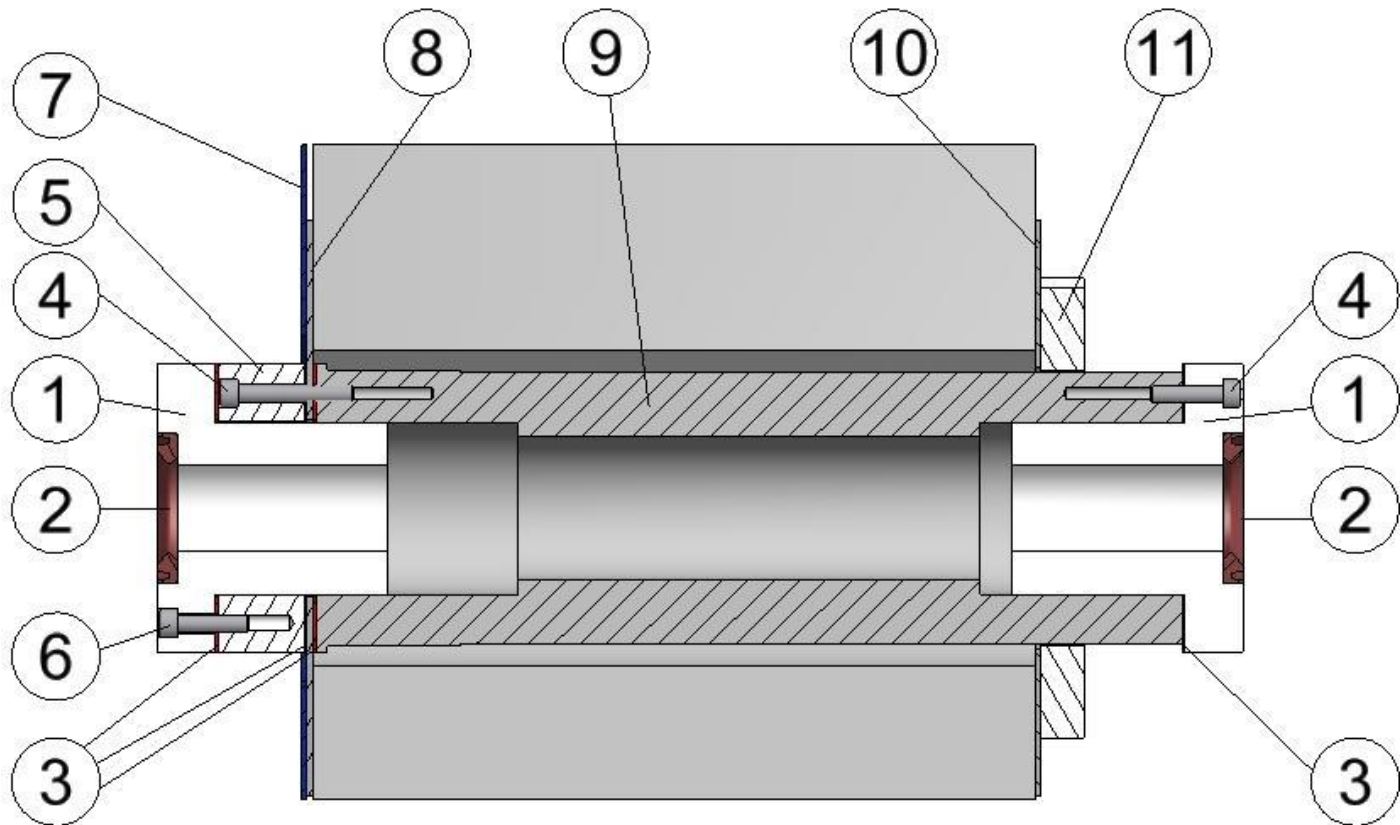


## 3. *Fixing of the wall duct tube*

- Mix the polyester resin and the hardener intensively (these are always delivered in the right mixing proportion) and pour in the gaps around the wall duct tube until completely full.
- Let the mixture harden at 20°C for about 2 hours. The hardening time depends on the temperature.

#### 4. Installation of the bearings

- Please note that the resin mixture does not make sure that your pool is watertight, this is the task of the lining !
- The bearing is being fixed on the wall duct tube by means of 4 bolts (M6).  
On poolside, the bearing fits into the wall duct tube. On motor pit side, the part is bolted directly onto the wall duct tube. Do not forget to place the flat sealing rings.
- Now mount the water seal ring in the dedicated space (fully inline) at the bearings.  
The open side of the water seal ring faces the pool. Please use a rubber hammer as well as the supplied Vaseline for positioning. The water seal ring should be 100% in line.

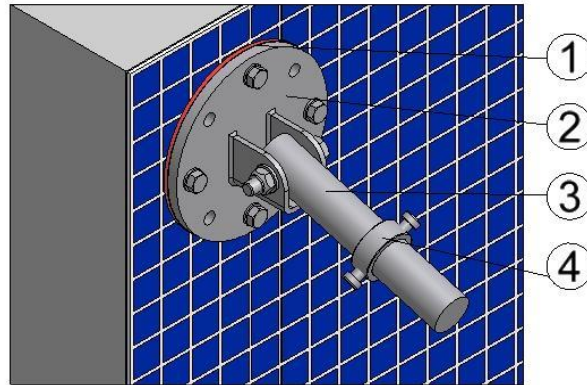


N°	Description	N°	Description
1	Bearing	7	Tile / Fiberglass
2	Water seal ring	8	Flange – pool side
3	Flat sealing	9	Wall duct tube
4	Bolt	10	Flange – motor side
5	Liner ring	11	PVC nut
6	Bolt		



## 5. Installation of the flange

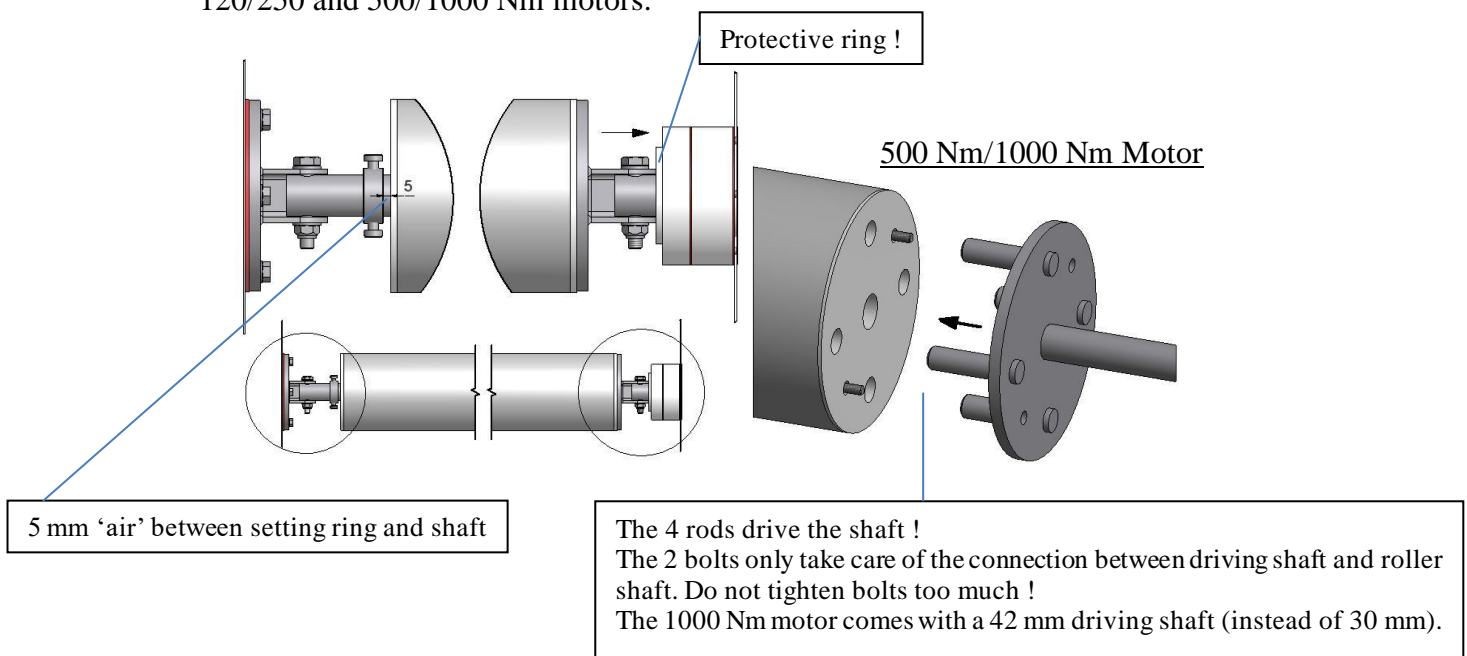
- Mark and drill the holes and fix the flange on the pool wall using the supplied bolts (8 mm). Use enough silicone in the fixing holes as an extra sealing.
- The flange can only be placed after applying the wall cladding.
- For pools with mosaic tiles, we recommend to have the flange mounted before the mosaic tiles are being applied as such makes the installation watertight on the concrete rather than on the mosaic tiles.



N°	Description	N°	Description
1	Flat sealing	3	Shaft end
2	Flange	4	Setting ring

## 6. Installation of the roller shaft

- At non-motor side, insert the shaft end into the roller tube and fix the locking ring. The shaft end requires to be screwed on to the flange. Then, insert the drive shaft through the wall duct and connect it to the roller shaft. Do not forget to mount the protection ring. ATTENTION : The connection between the drive and roller shaft is different for 120/250 and 500/1000 Nm motors.

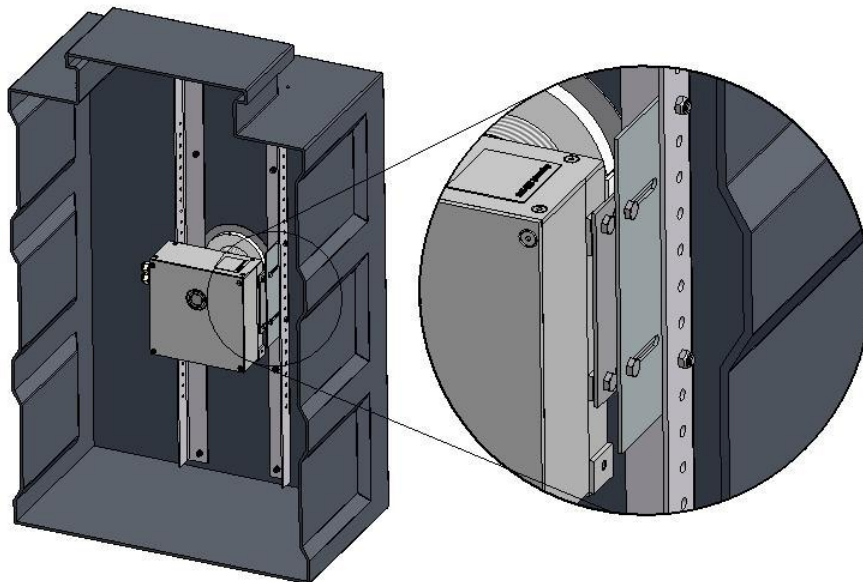


## ***7. Installation of the motor***

- Apply Vaseline to the motor shaft and lock this shaft on the motor using the appropriate key.
- **NOTE:** An adjusted key will be delivered with a hydraulic motor. Use this one to secure the motor.
- Fix the motor to the motor bracket.
- The motor bracket is adjusted to the type of motor pit.

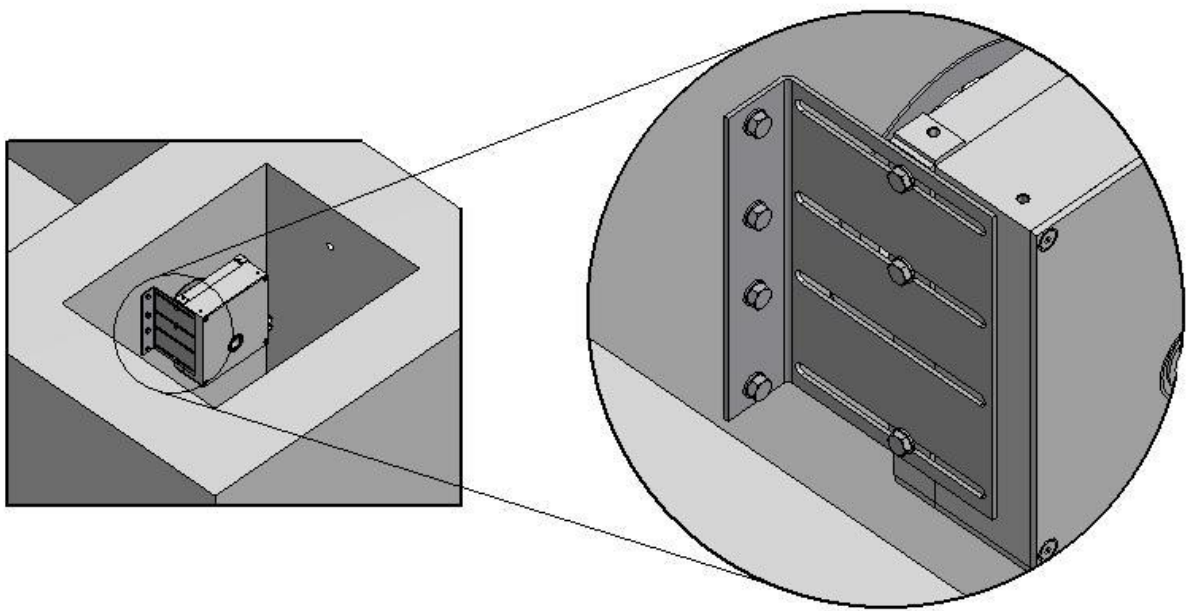
### ***Polyethylene motor pit***

- The motor bracket is being fixed on an internal L-profile of the pit.



### ***Concrete motor pit***

- The motor bracket is being fixed on the pool wall.



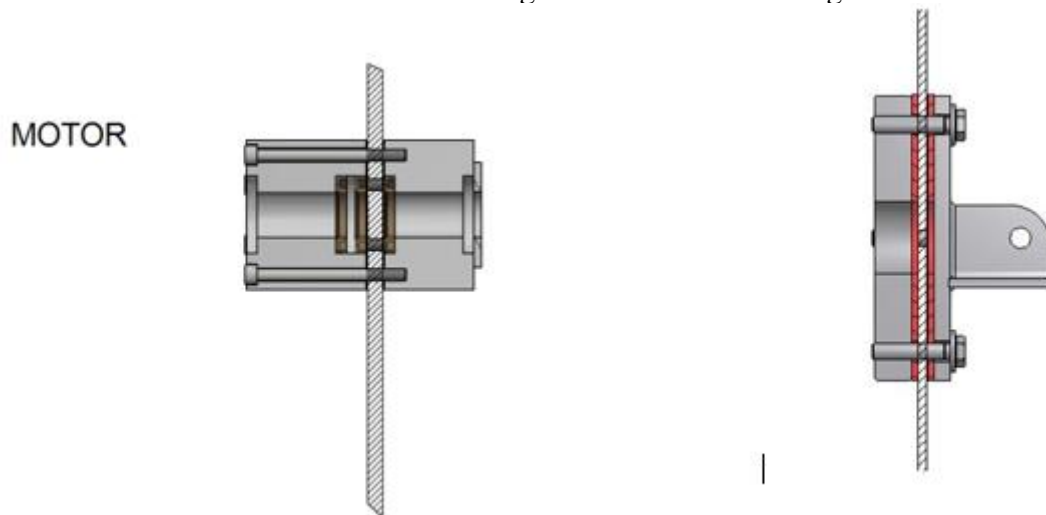
## *C3 – mounting of mechanism: Underwater mount: External motor – Pool with thin wall*

### **General:**

- Install the bearing blocks and the flange before filling up the pool.
- Use water seal rings to assure the water tightness.

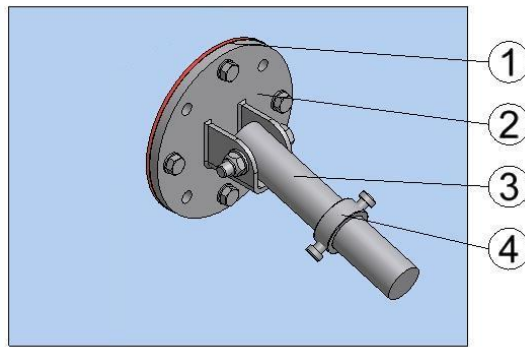
### **1. Installation of the bearings**

- Mark and drill holes ( $\text{Ø}7\text{mm}$ ) for the bearing block. Use the flat sealing as a drawing mould.
- Drill the wall duct hole of  $\text{Ø}35\text{mm}$  in the centre (120-250-500 Nm) or  $\text{Ø}42\text{mm}$  (1000 Nm)
- Place the water seal rings in the bearing blocks with the open side of the ring facing the pool. The ring must be positioned 100% in line/sunk.
- Bolt the pool wall between the pool bearing block and the outer bearing at the outside of the pool. Put flat sealings between the bearing block and the wall at both sides of the pool wall.
- In case of a composite pool or a pool made out of plastic (PP, PE) we recommend to connect the outside stainless steel flange to the earth to avoid galvanic corrosion.



### **2. Installation of the flange**

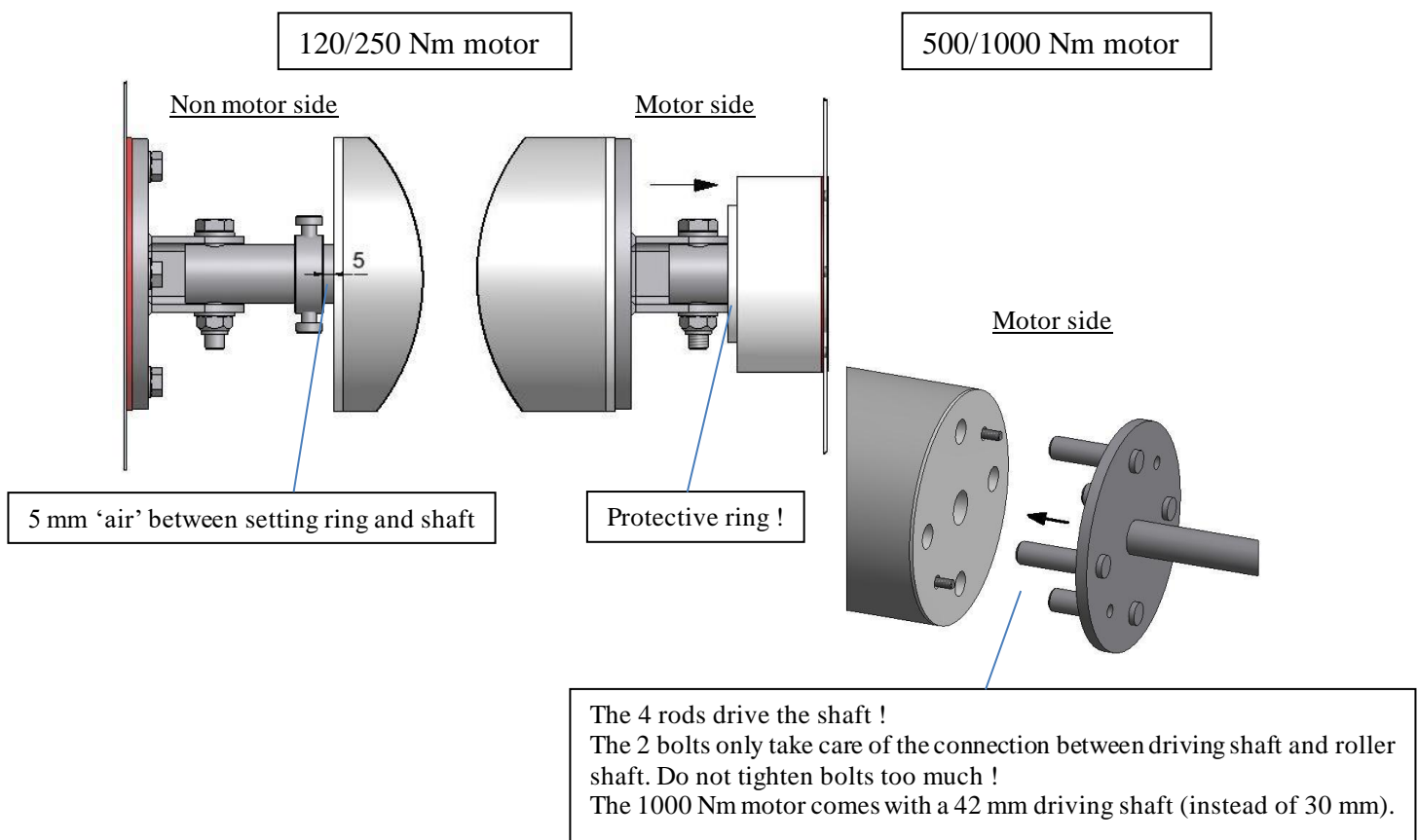
- Mark and make the boring holes ( $\text{Ø}7\text{mm}$ ) for the flange in the wall. Use the flat sealing as a drawing mould.
- Bolt the pool wall between the flange and the outer flange with blind holes. Put flat sealings between the flange and the wall at both sides of the pool wall.



N°	Description	N°	Description
1	Flat sealing	3	Shaft end
2	Flange	4	Setting ring

### 3. Installation of the roll-up shaft

- Push the drive shaft (Ø 30mm) with setting ring into the roller shaft and immediately make the connection with the en flange (Bolt/nut M10). Now insert the drive shaft into the wall duct. Do not forget to apply the protective ring. Now you can make/tighten the connection carefully. Do not damage any parts !
- Attention : There are different connections for the 120/250 Nm motors and the 500/1000 Nm motors !
- Push the roll-up shaft up against the wall duct so that the driving flange will touch the protection ring.
- 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.



#### ***4. Installation of the motor***

- Rub Vaseline on the motor shaft and in the hollow shaft of the motor.
- Put in the key and push the motor over the motor shaft.  
**Note:** in case of a hydraulic motor, a different key is supplied. This is attached to the motor.
- Anchor the motor.

## *C4 – Mounting of mechanism: Underwater mount: SCUBA-drive® with wall plates*

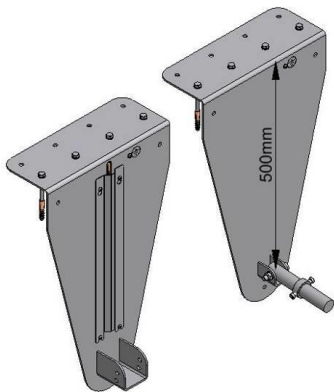
### **General:**

- 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, through a conduit to a connection box.
- This connection box must be accessible at all times, as such the motor can be dismantled 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.
- There are several kinds of wall plates, depending on how to implement the cover.
- 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 plates to the earth to avoid galvanic corrosion.

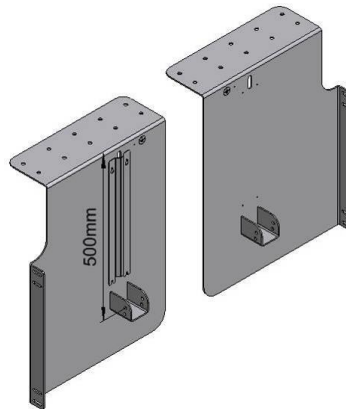
**Remark:** If the standard wall plates do not offer you a solution, you can always contact T&A for tailor-made plates.

### *Choice of wall plates*

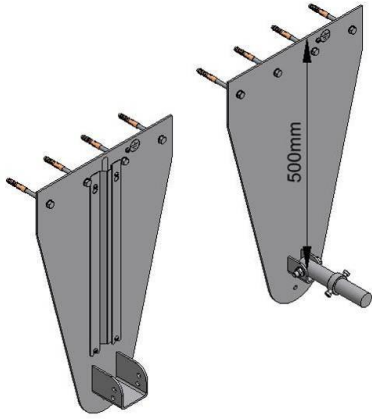
#### **Folded**



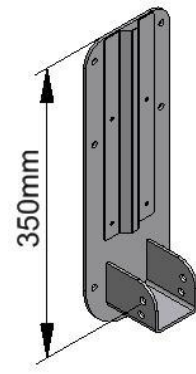
#### **Folded with option: Dividing wall**



## Flat

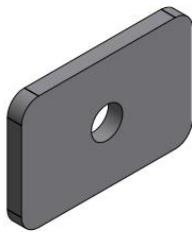


## Deep mounting

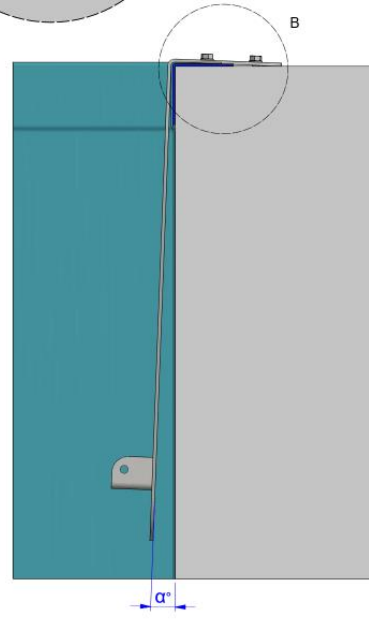
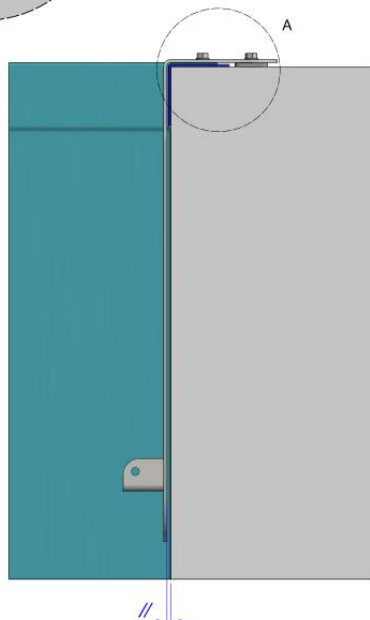
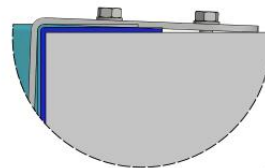
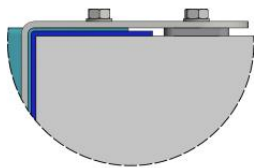


### **1. Installation of the wall plates**

- Place the wall plates against the wall tightly, so that both flanges of the roller shaft are at the desirable depth, and of course in line with the plate on the opposite side.
- Apply enough silicon after drilling the holes in order to assure the water tightness.
- When using a liner, this will create a slight level difference. This difference can be compensated using a filler plate



Spacer plate : AT-001923



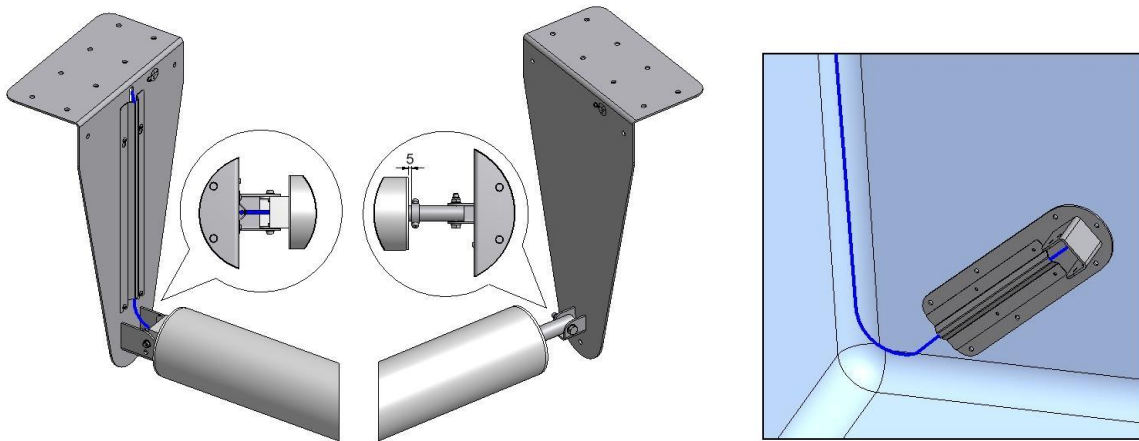


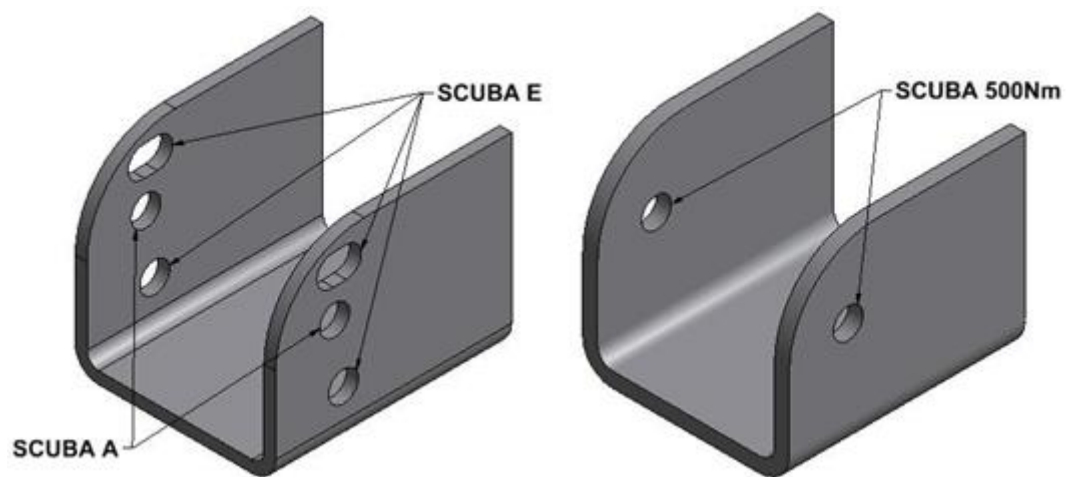
## 2. Installation of the roller shaft



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

- Remove the cable gutter.
- Push the roller shaft on to the shaft end at the flange. Do not tighten the setting ring with the screws too much at the moment. Always apply enough Vaseline to improve the bearing.
- Put the motor in the motor flange and fix it.
- Put the motor cable in position so that you can remount the cable gutter, this will avoid the interference of the course of the slats.
- 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.





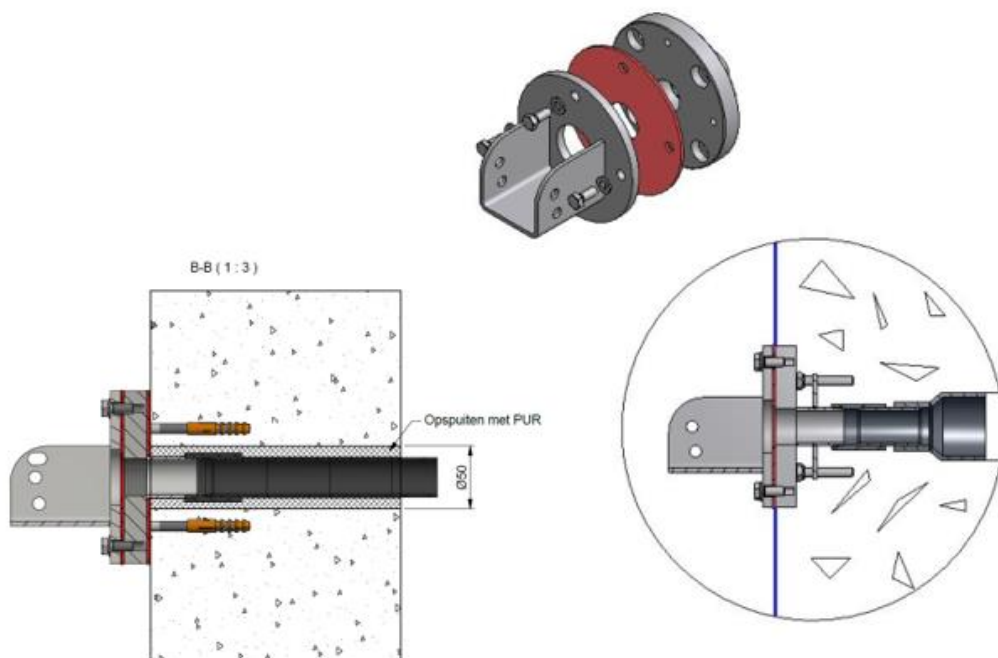
## *C5-1 – Mounting of mechanism: Underwater mount: SCUBA-drive® with cable duct with wall in concrete or brickwork*

### **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 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.
- T&A strongly recommends to use the cable extension set : AT-002738

### **1. Installation of the flanges**

- Bolt the flange on the built-in flange, which has already been placed during the preparations, at the motor side. Don't forget the flat sealing!
- See chapter “*A7 – Constructional preparations: Cable duct for SCUBA-drive®*”



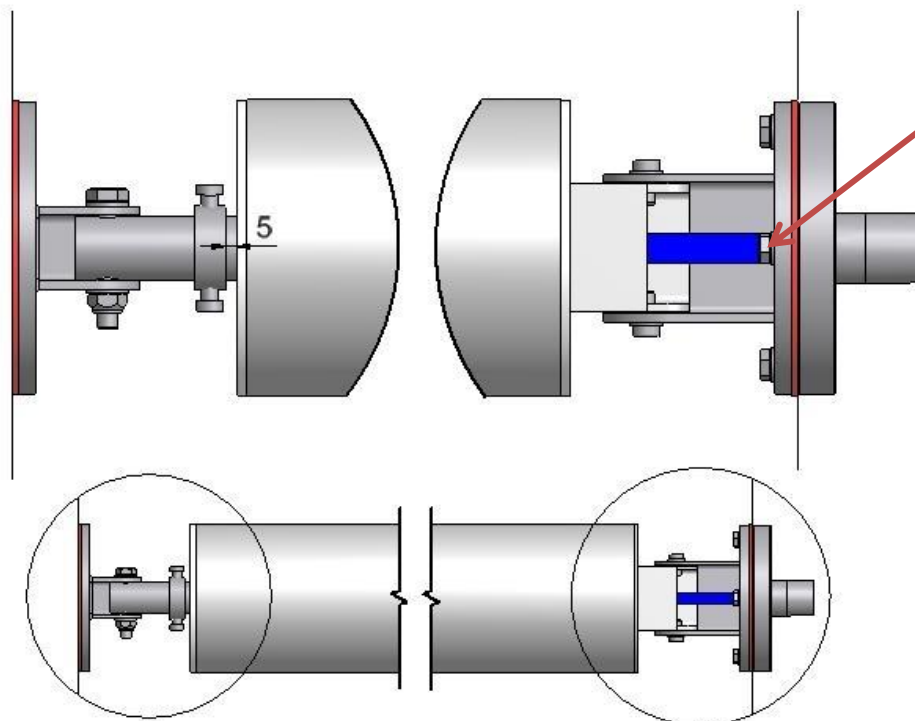
Drill a 50mm hole. After placing the passage, spray with PUR to prevent damage to the PVC tube.

## 2. Installation of the roller shaft



**Before installing the shaft, remove the gray 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 apply enough Vaseline to improve the bearing.
- Put the motor in the motor flange and anchor it. Make sure the motor cable does not get damaged during conducting through.
- Fasten the setting ring with the screws on the flange, but leave a space of 5mm between the roller shaft and the setting ring. In this way the shaft will not get jammed in case of expansion.
- In case the flange with connection for the tube is installed on the wall and not in the concrete, the setting ring must not be installed.



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

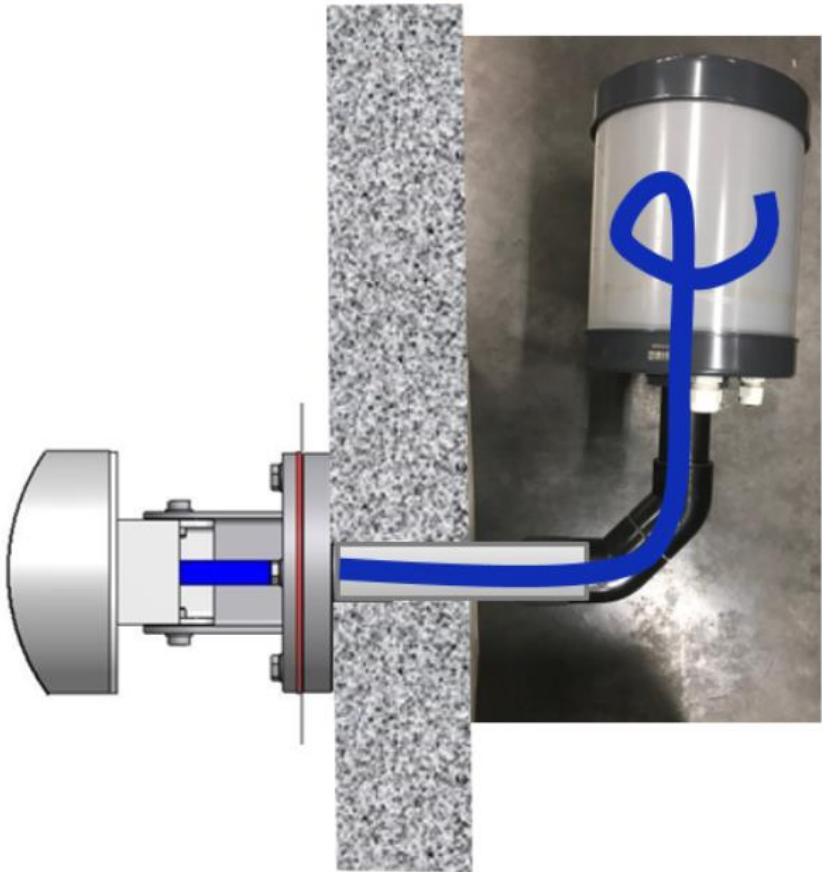
There are 2 ways to stop the water:

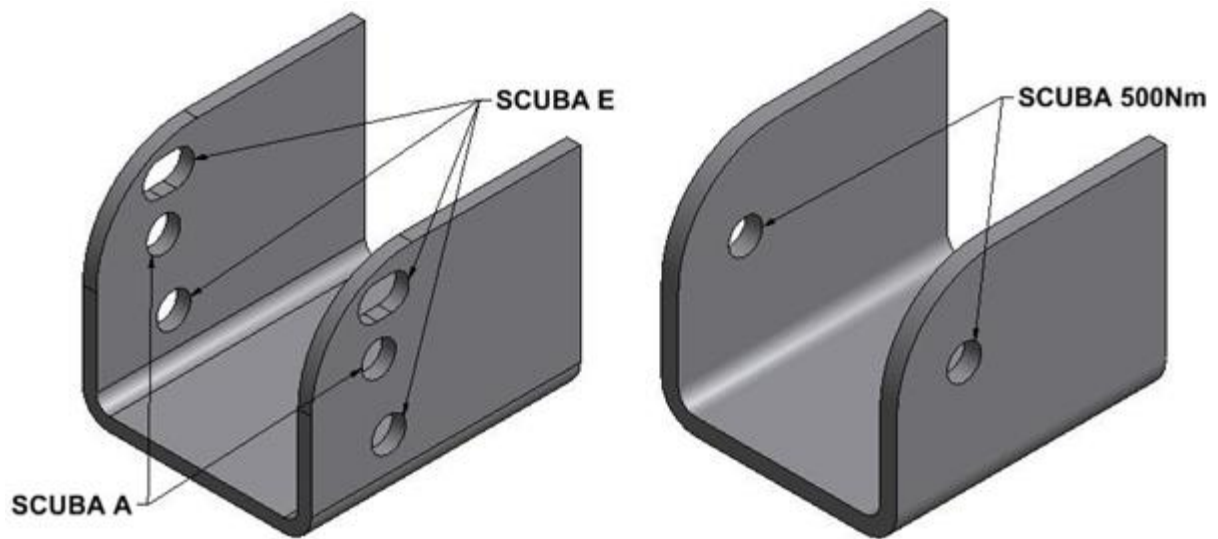


Pit for cable connection  
AT-002738 (PREFERRED)



Cable gland screwed into the flange AT-002883





Option: With a liner, there is a risk the liner get damaged in case the cover gets stuck. To protect the liner we propose to install a protection on the wallduct. The protection will be fixated with silicone.

Article AT-002763:



## *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®**”

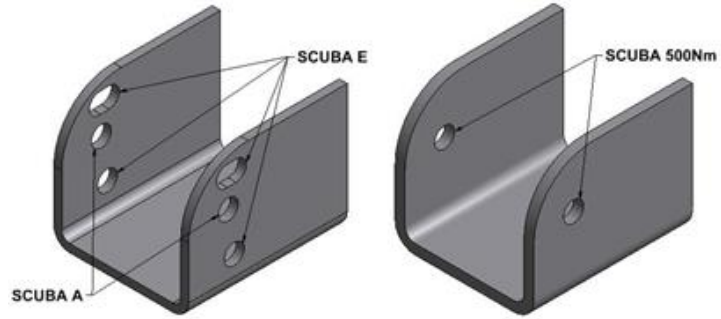
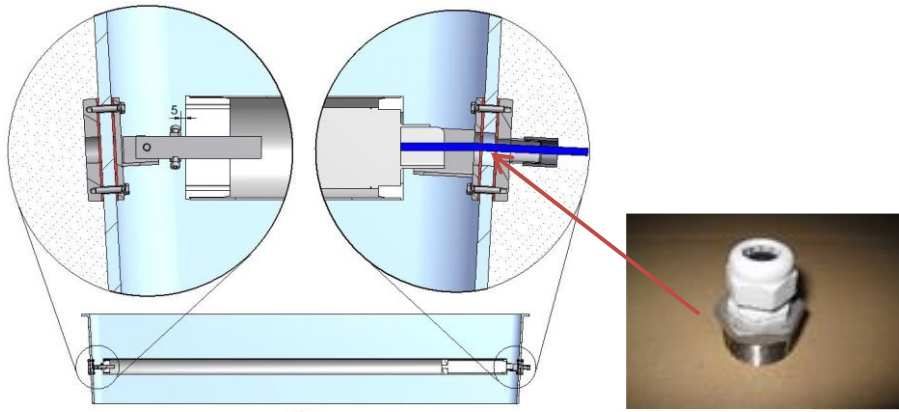
### **2. Installation of the roller shaft**



**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



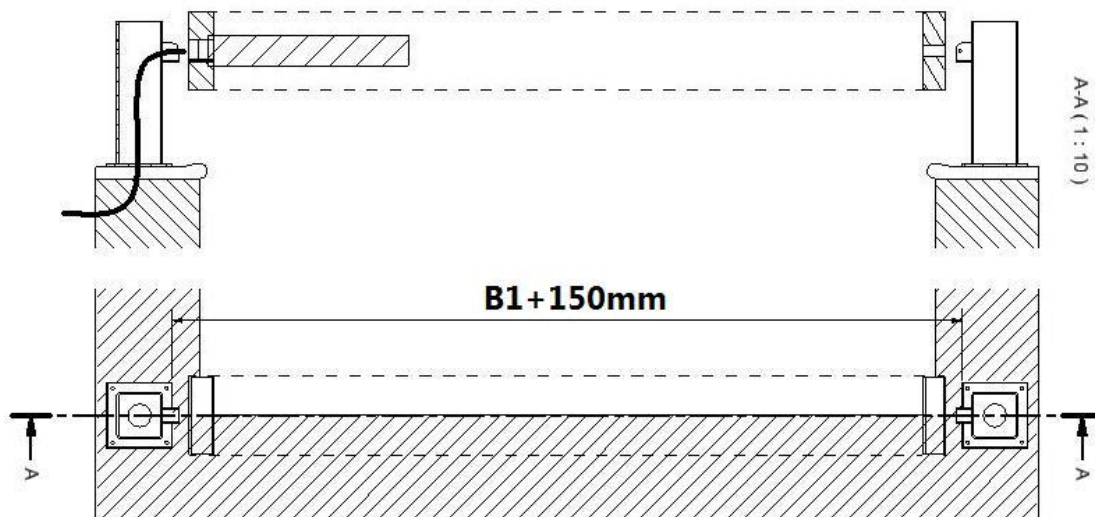


## C6 – Mounting of mechanism: ECOTOP®

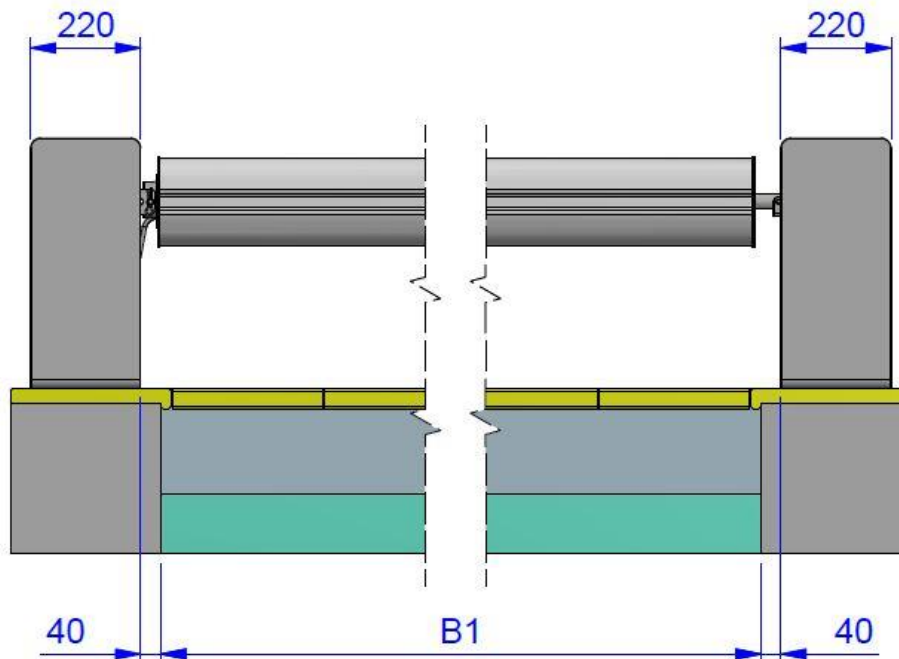
### 1. Installation of the supports

- Position the supports on a flat pool border.
- Make sure the middle of the support is set equal with the back wall, so that the centre of the roller shaft is right above the back wall.
- Anchor the supports with the delivered plugs and bolts.
- Please note the overhanging border. See chapter “**A8 – Constructional preparations: ECOTOP®**”

#### Standard Version:



#### Solar Version:



### **Mechanical fastening of the stainless steel supports:**

- Mark the 4 drill holes/support, remove the support and drill the hole.  
ATTENTION: never drill directly through the holes of the support.  
Risk of damage to the support!
- Fasten the supports with dowels and the delivered 316L stainless steel screws.  
ATTENTION: Attach plastic dowels to avoid contact corrosion!

### ***2. Installation of the roller shaft***

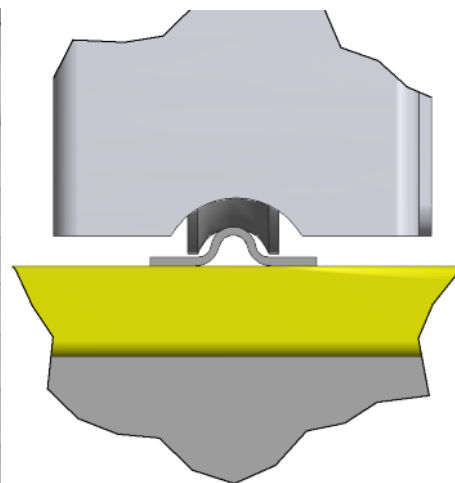
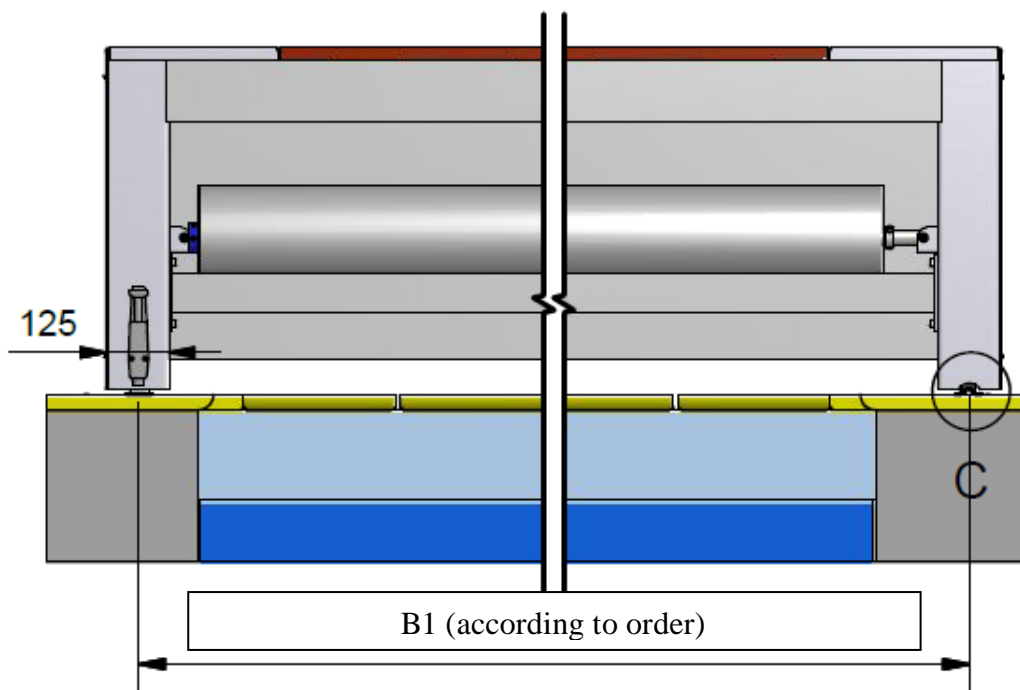
- Push the roller shaft on to the shaft end at the flange. Always apply enough Vaseline to improve the bearing.
- Put the motor, in the motor support and anchor it.



## C7 – Mounting of mechanism: Top'Moov

### 1. Installation of the supports

- Position the supports on a flat pool border.
- The flat track combines with the normal wheel, the  $\Omega$ -track combines with the convex wheel. The supplied tracks have a length of 3m !
- Orient the support with the photovoltaic panel at that side of the pool which is orientated most towards the south. Try to avoid excess shadow on the solar panel.
- Install the tracks (center/center) at distance B1 according to your order.
- Fix the tracks with the delivered plugs and bolts.
- Place the track stopper (see picture below).



## 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 difference 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%.*

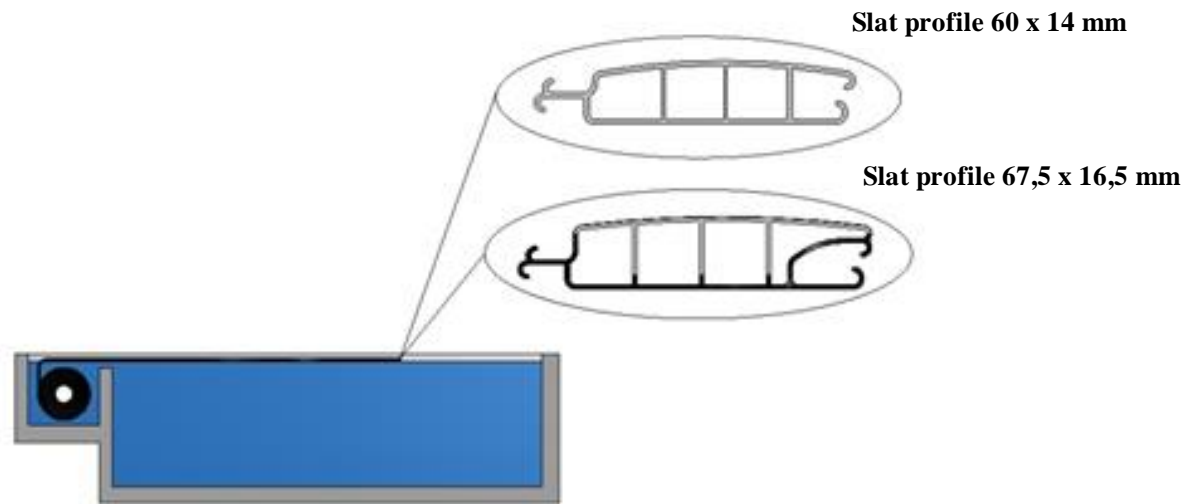
### 1. Installation

#### 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.*

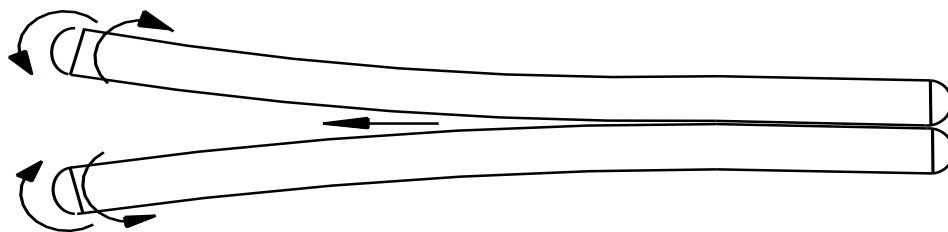
## 2. Mounting of the slatted cover

### 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

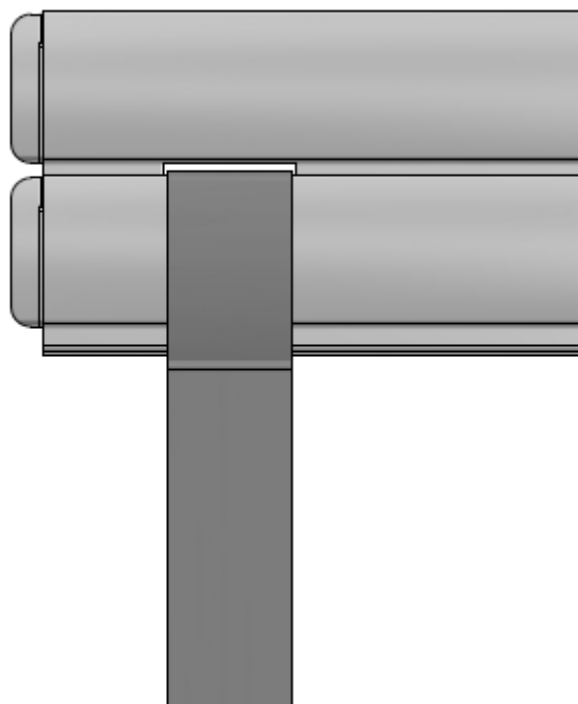
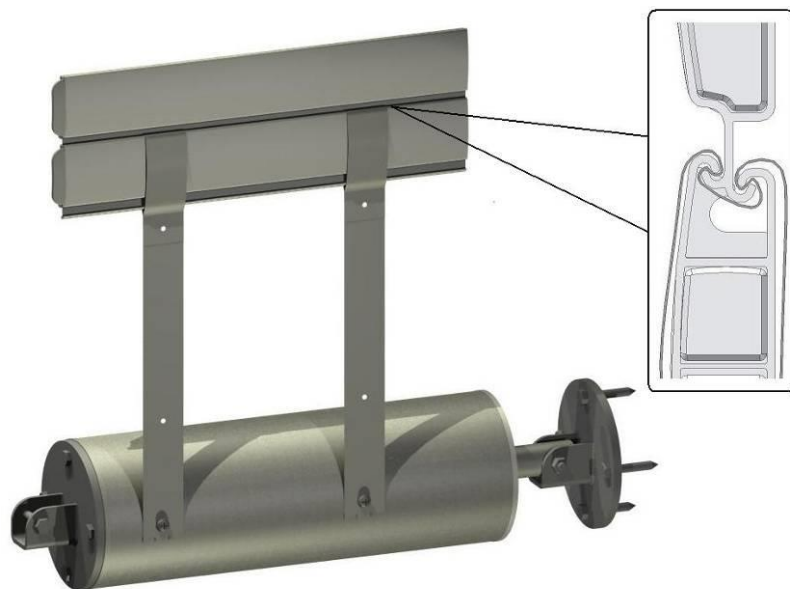
- Put the male side of the slat into the female side.
- Now push the rest of the slats in each other carefully.



***ATTENTION : 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 remainder 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 stuck 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

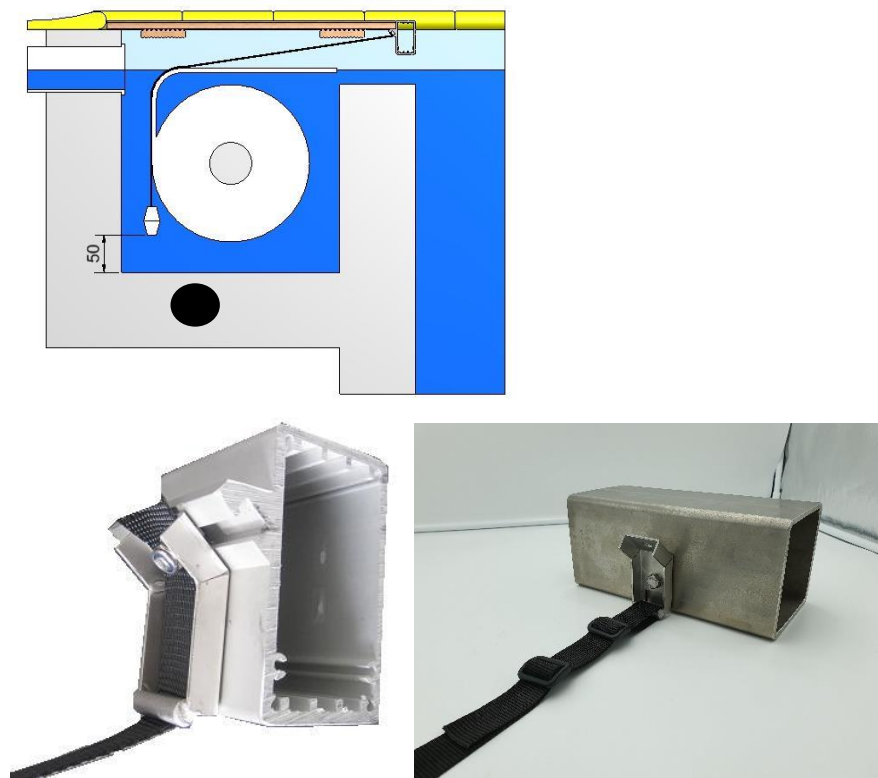
#### General:

- 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.

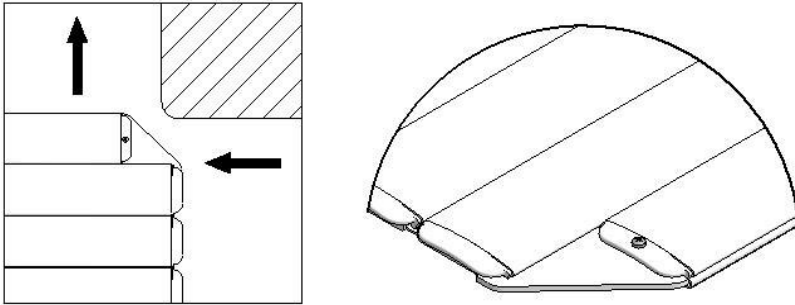
#### **Remark:**

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*



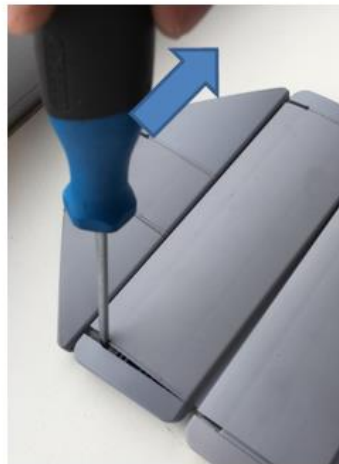
If the cover has the tendency to ‘hit’ somewhere, e.g. the outer corner of the roman staircase or the sidemounted skimmers, you better use the PVC triangles. The triangles will push the cover in the right direction and away from the obstacle. In case you mention this during the order process, T&A will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

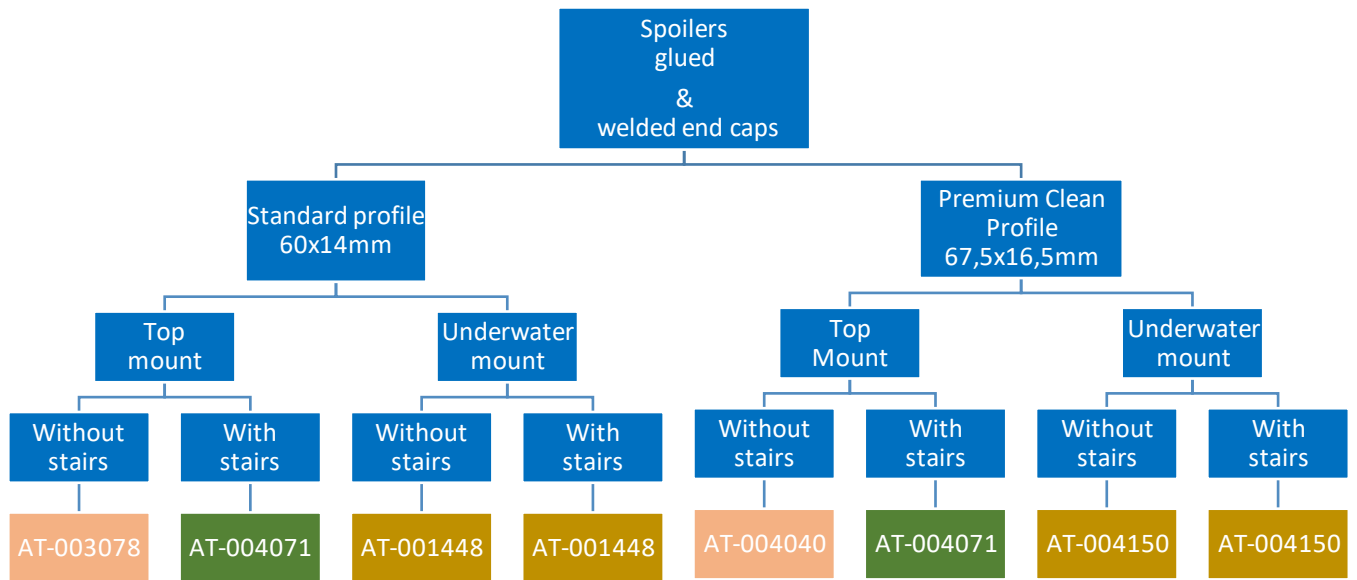


The triangles can be fixed to the lip of the end cap with a screw.

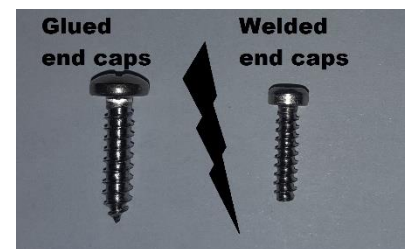
***Welded endcaps:***

- 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.



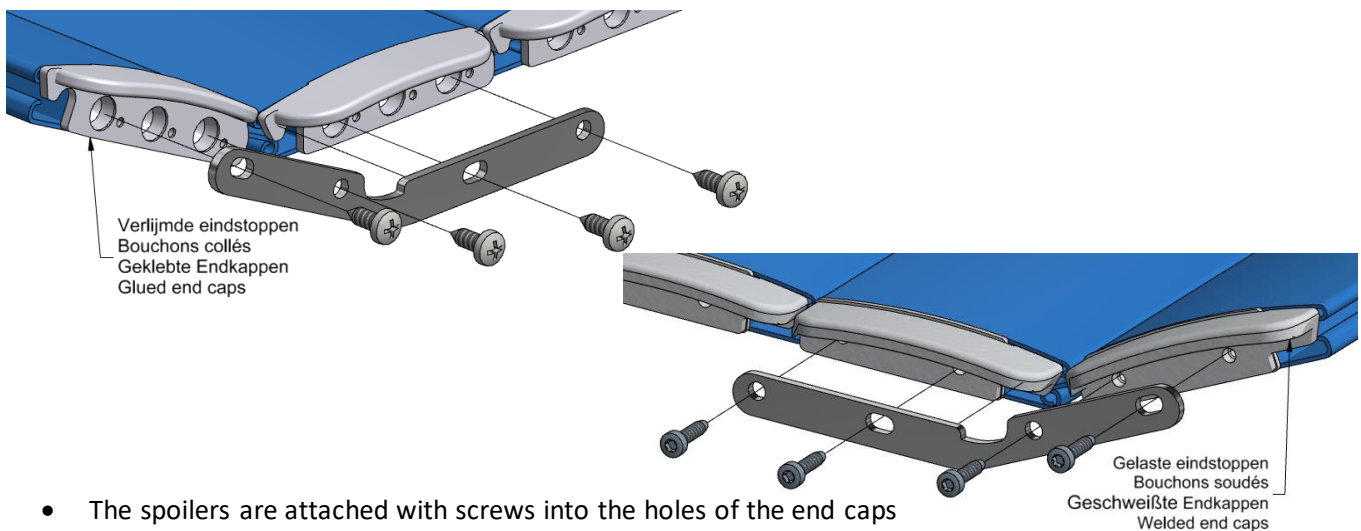


## AT-003078



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

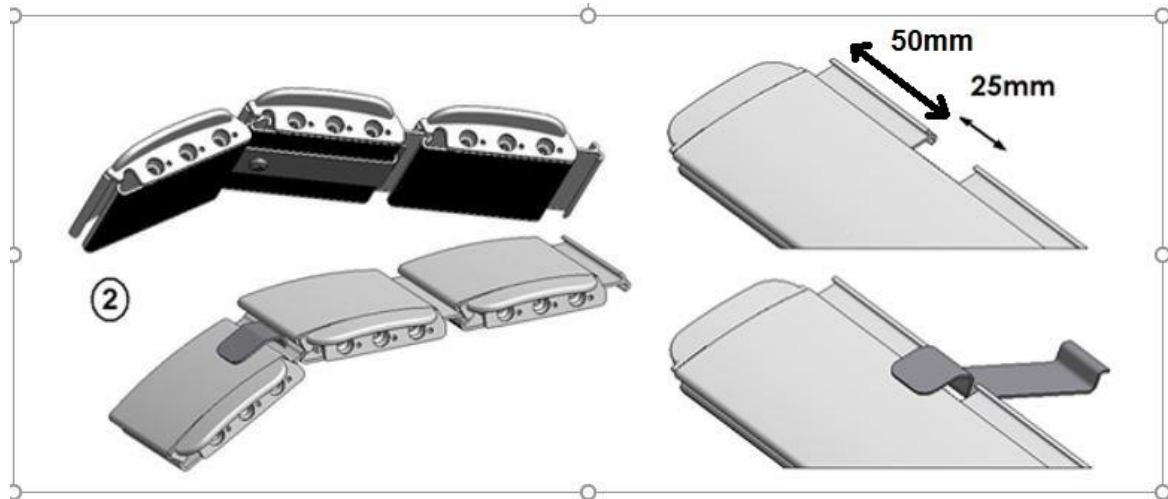
**Top mount without stairs – Welded and glued end caps  
(Profile 60 x 14mm):**



# AT-001448

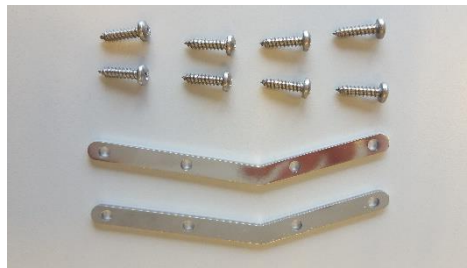


**Underwater mount: rectangular and special shape – glued and welded end caps:**  
**(Profile 60 x 14mm)**



- 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

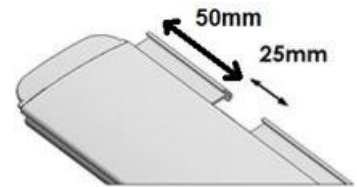


# AT-004150

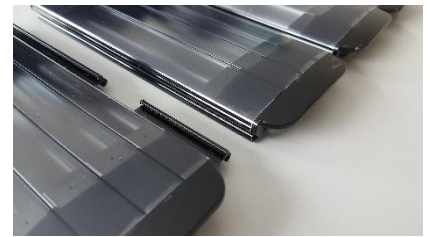


**Underwater mount: rectangular and special shape – glued end caps**  
**(Profile 67,5 x 16,5mm)**

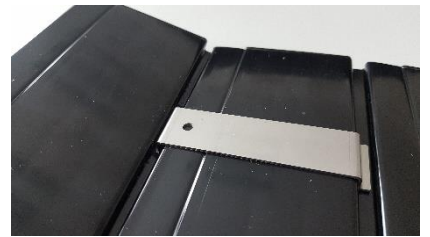
- Cut 25mm from the mail part of the first slat



- Install the spoiler as shown on the pictures

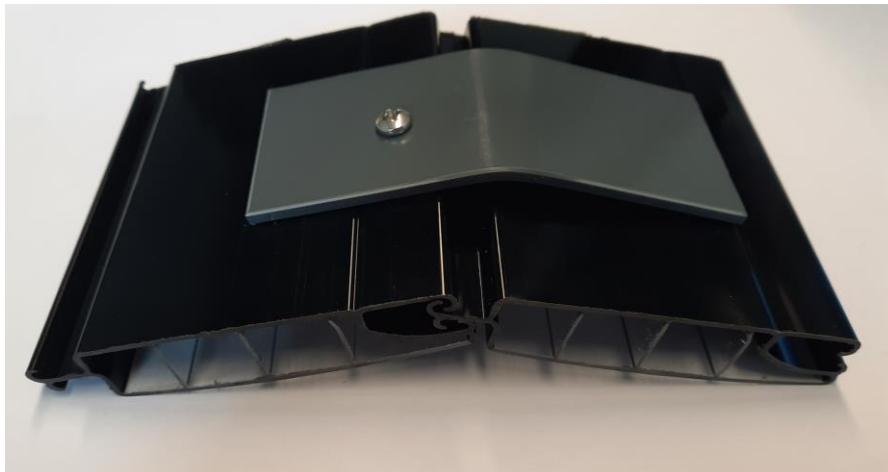
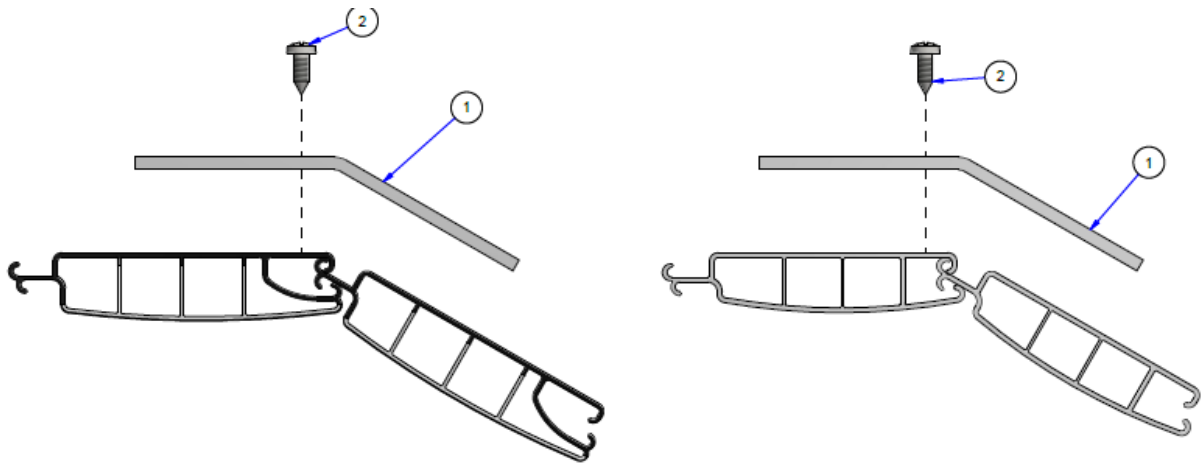


- Screw the spoiler into the open chamber of the second slat



# 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 divided over the full length of the cover.

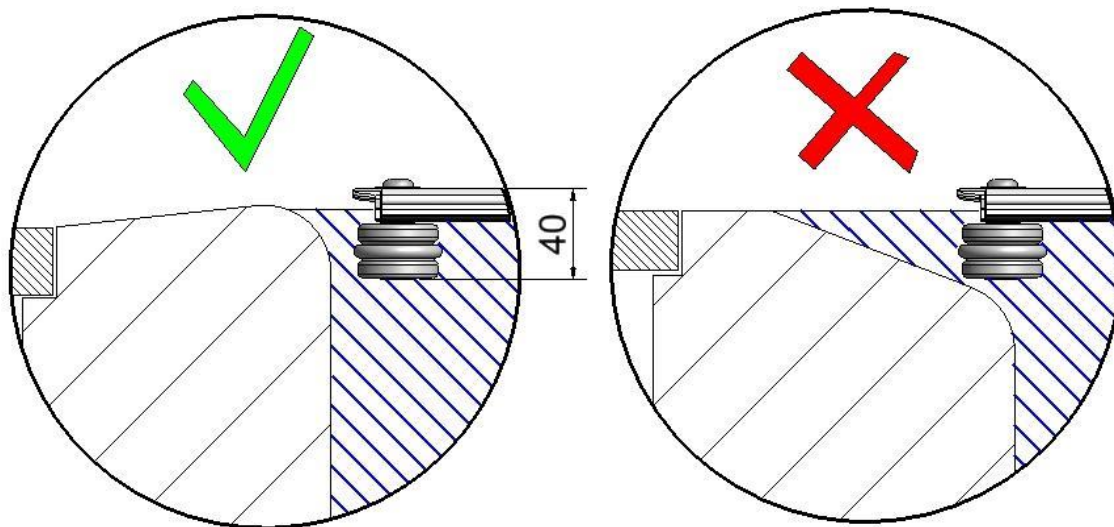


### Remark:

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)





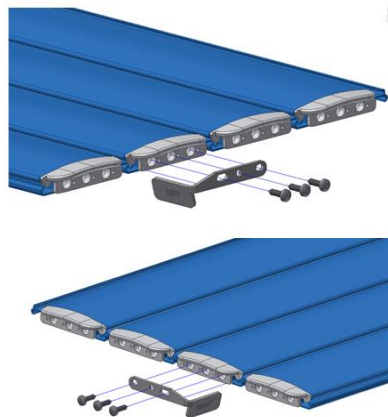
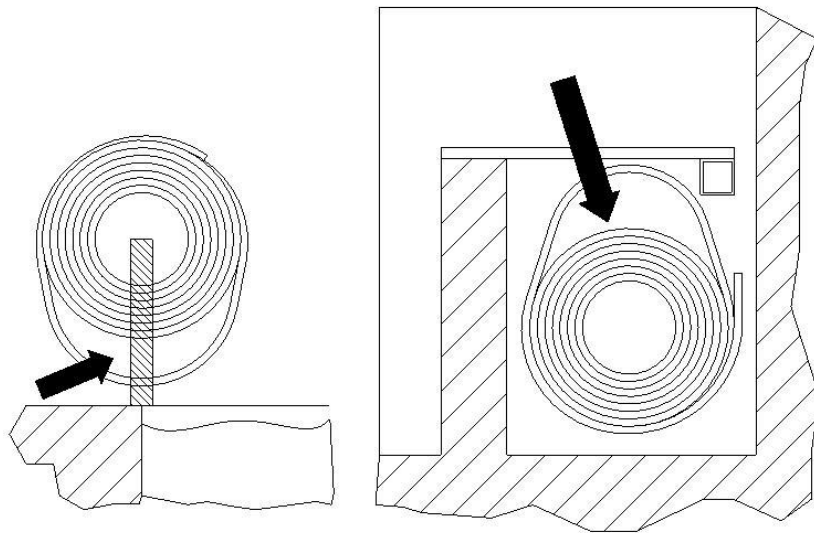
## **2: Slipping of the slats**

### **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.

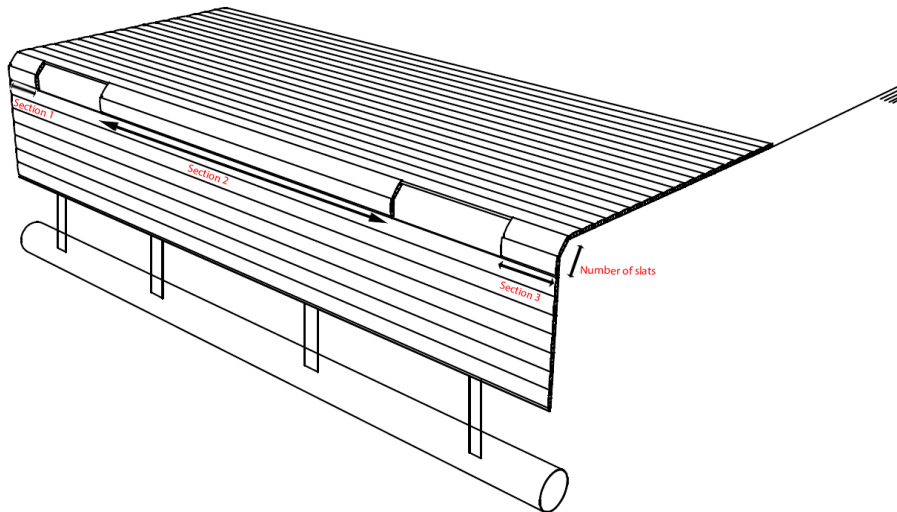
You can reduce this risk by leaving a part of the cover on the water surface. Alternatively, you could use the anti-slip clamps (AT-003090). Please be aware that these clamps might scratch the cover at other positions which are often in contact with the clamps.

It is important to consider this problem during the design-process of the pool.



***In case of particular pool shapes it is sometimes impossible to fully roll the cover !***

In case there 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 draw 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.**

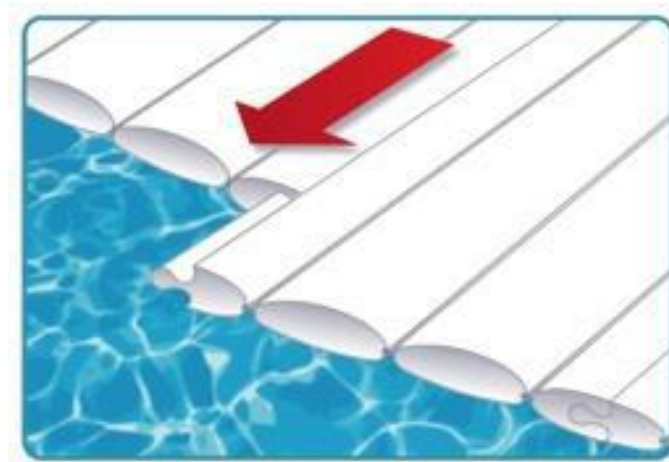
Since the slats have no end caps, the ends are sharp and might damage the liner. If you have ordered the loose, non-installed liner protection caps, you can easily install them by following these steps :

- 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 head 10mm



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.

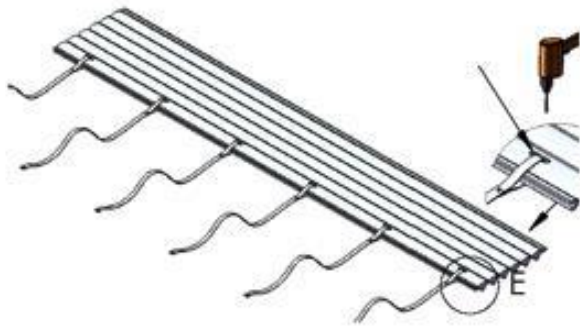
Keep at least a distance of 3cm from the side of the slat



## 2. Straps

To attach the straps, please :

1. Place 1 slat near the shaft 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***

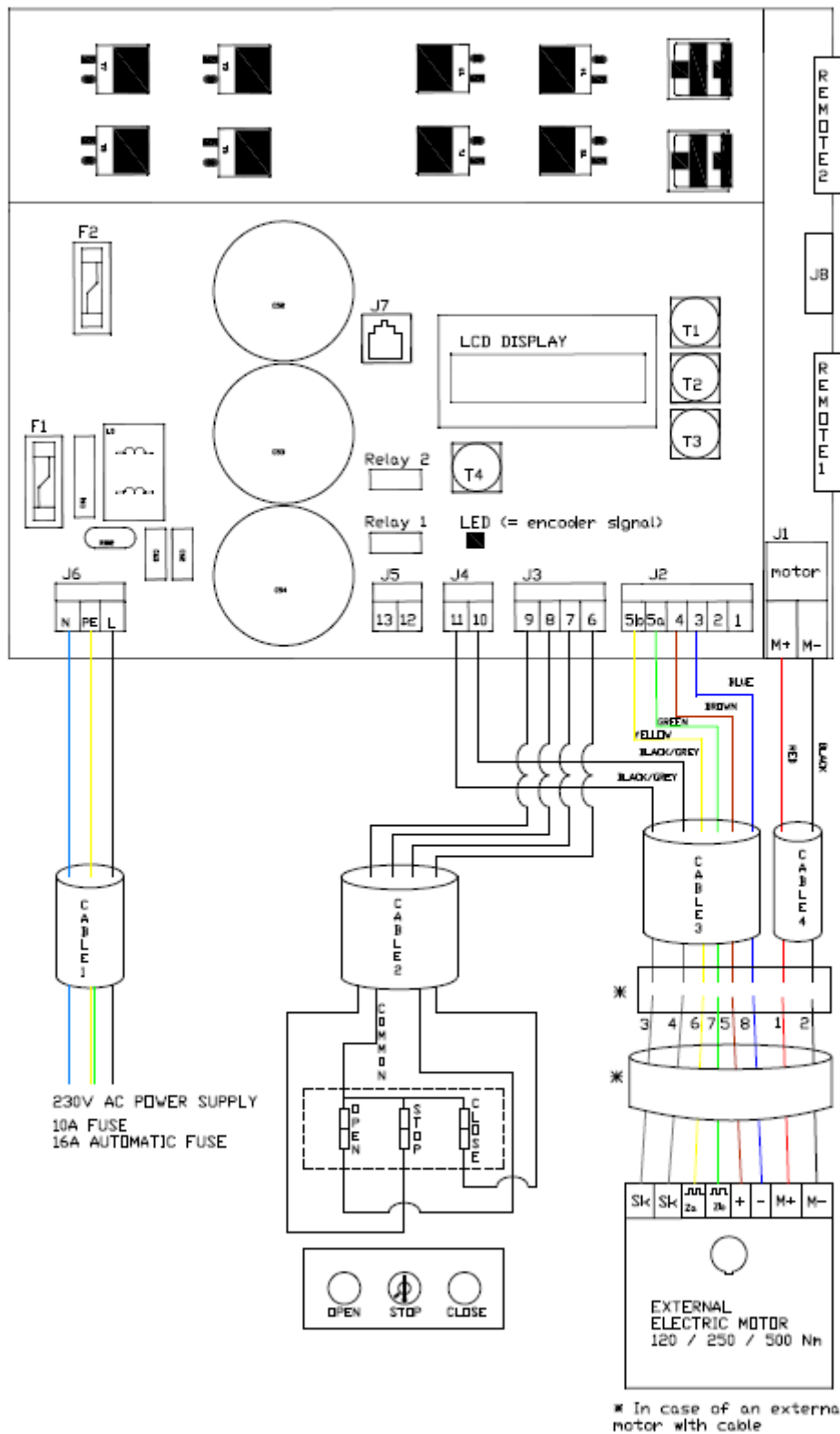
If the cover is meant for an overflow pool, guiding wheels are required to prevent the cover from following the waterflow

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



## E1 – Connecting control: External motor – Electrical 120, 250 & 500Nm

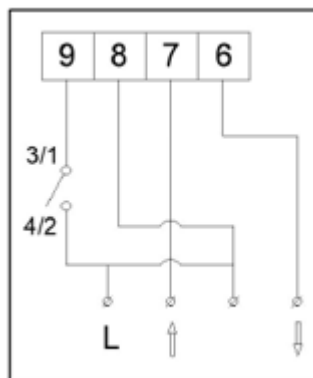
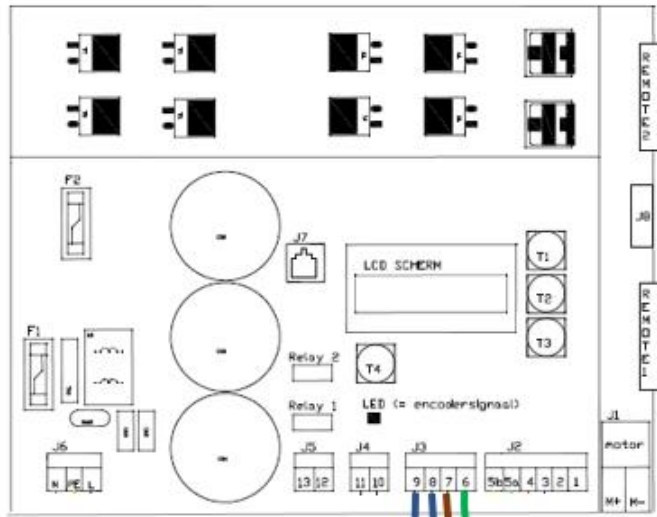
Wiring diagram universal control board with external electric motor



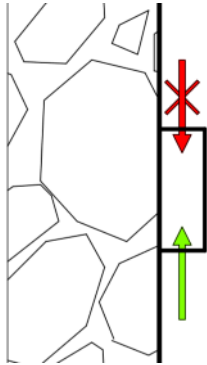
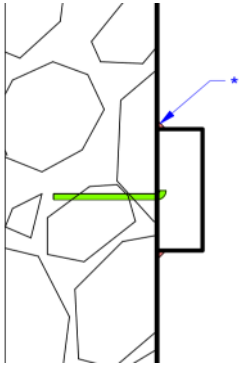


Code		Technical description	
<b>CABLE1</b>		Min. 3 x 1,5 mm <sup>2</sup>	<b>Flexible wire!</b>
<b>CABLE2</b>		Min. 4 x 0,75 mm <sup>2</sup>	<b>Flexible wire!</b>
<b>CABLE3</b>		Min. 6 x 0,75 mm <sup>2</sup> covered	<b>Flexible wire!</b>
<b>CABLE4</b>		Min. 2 x 4 mm <sup>2</sup>	<b>Flexible wire!</b>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

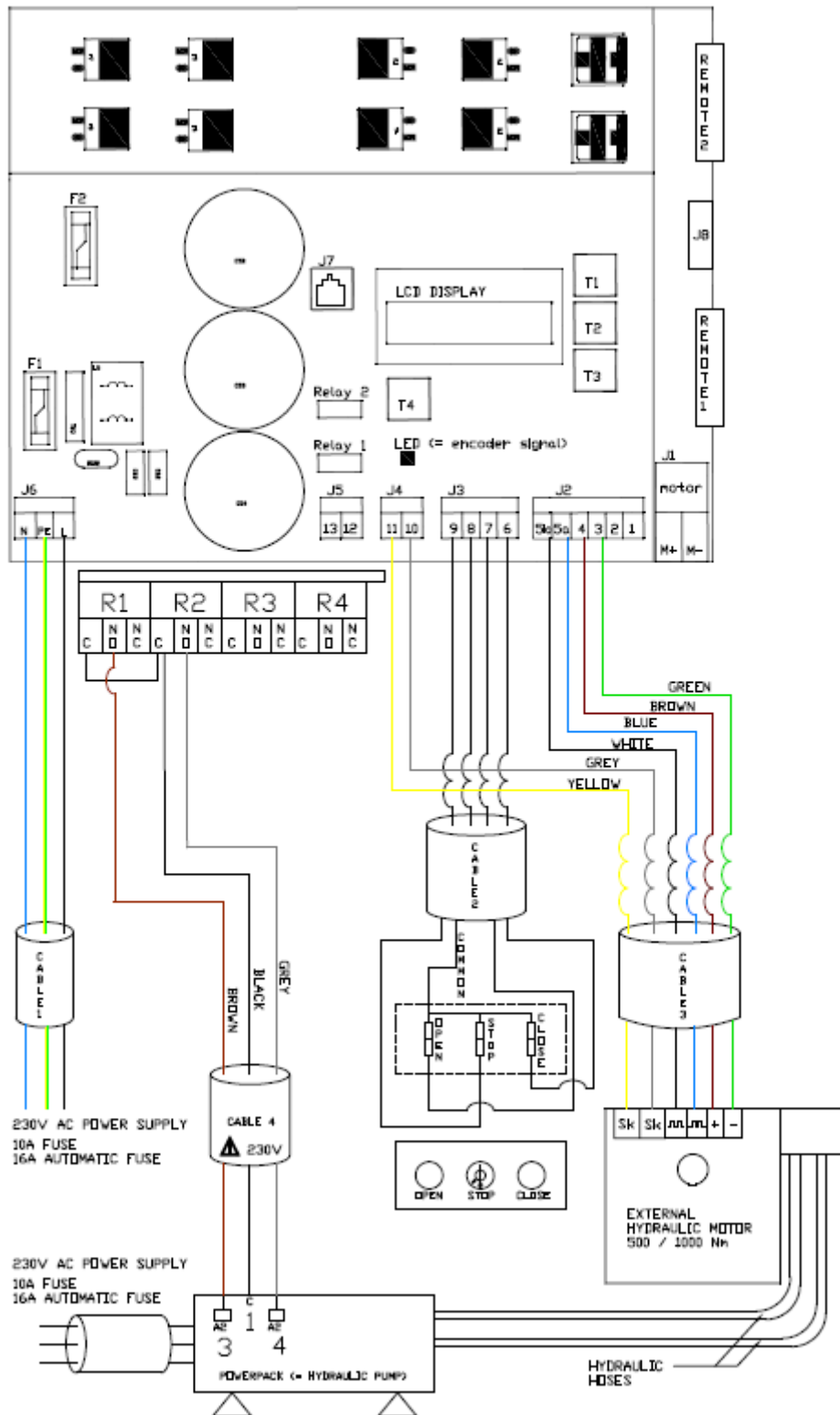


In case of a top mount electrical switch, wires should be connected either from the back side (through wall) or from the underside.



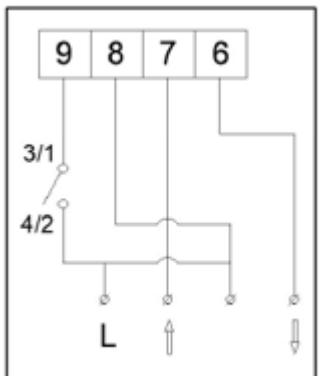
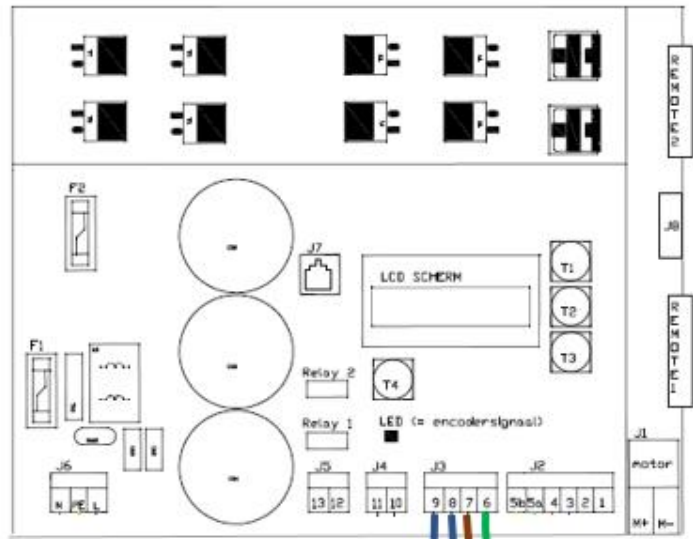
## E2 – Connection control: External motor – Hydraulic 500 & 1000Nm

Wiring diagram universal control board with external hydraulic motor

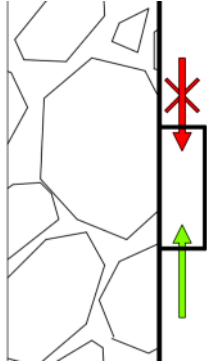
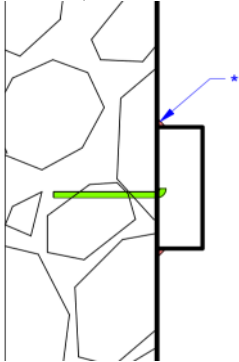


Code		Technical description	
<b>CABLE1</b>		Min. 3 x 1,5 mm <sup>2</sup>	<b>Flexible wire!</b>
<b>CABLE2</b>		Min. 4 x 0,75 mm <sup>2</sup>	<b>Flexible wire!</b>
<b>CABLE3</b>		6 x 0,34 mm <sup>2</sup> covered	<b>25m long</b>
<b>CABLE4</b>		5 x 1,5 mm <sup>2</sup>	<b>3m long</b>
<b>Remote 1</b>		Connector receiver print remote control	
<b>Remote 2</b>		<b>NOT USED</b>	
<b>Relay1</b>		connector relay print 1 (relay 1-4)	
<b>Relay2</b>		connector relay print 2 (relay 5-8)	
<b>J1</b>	M1	<b>NOT USED</b>	
	M2	<b>NOT USED</b>	
<b>J2</b>	5b	Sensor signal B	
	5a	Sensor signal A	
	4	Sensor +	
	3	Sensor -	
			<b>Attention : no external voltage on 6-7-8-9 !</b>
<b>J3</b>	6	Push button CLOSE	
	7	Push button OPEN	
	8	Common	
	9	Key switch STOP	
<b>J4</b>	10	Water detection (sensor on motor)	
	11	Water detection (sensor on motor)	
<b>J5</b>	12	Programmable input	
	13	Programmable input	
<b>J6</b>	L	Power supply 230V	
	PE	Earthing	
	N	Power supply 230V	
<b>J7</b>		Ethernet connection	
<b>J8</b>		Additional connector remote control	
<b>F1</b>		Glass fuse 2A	
<b>F2</b>		Fuse 20A	
<b>T1</b>		Scroll up / OPEN	
<b>T2</b>		Enter (confirmation of the choice)	
<b>T3</b>		Scroll down / CLOSE	
<b>T4</b>		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

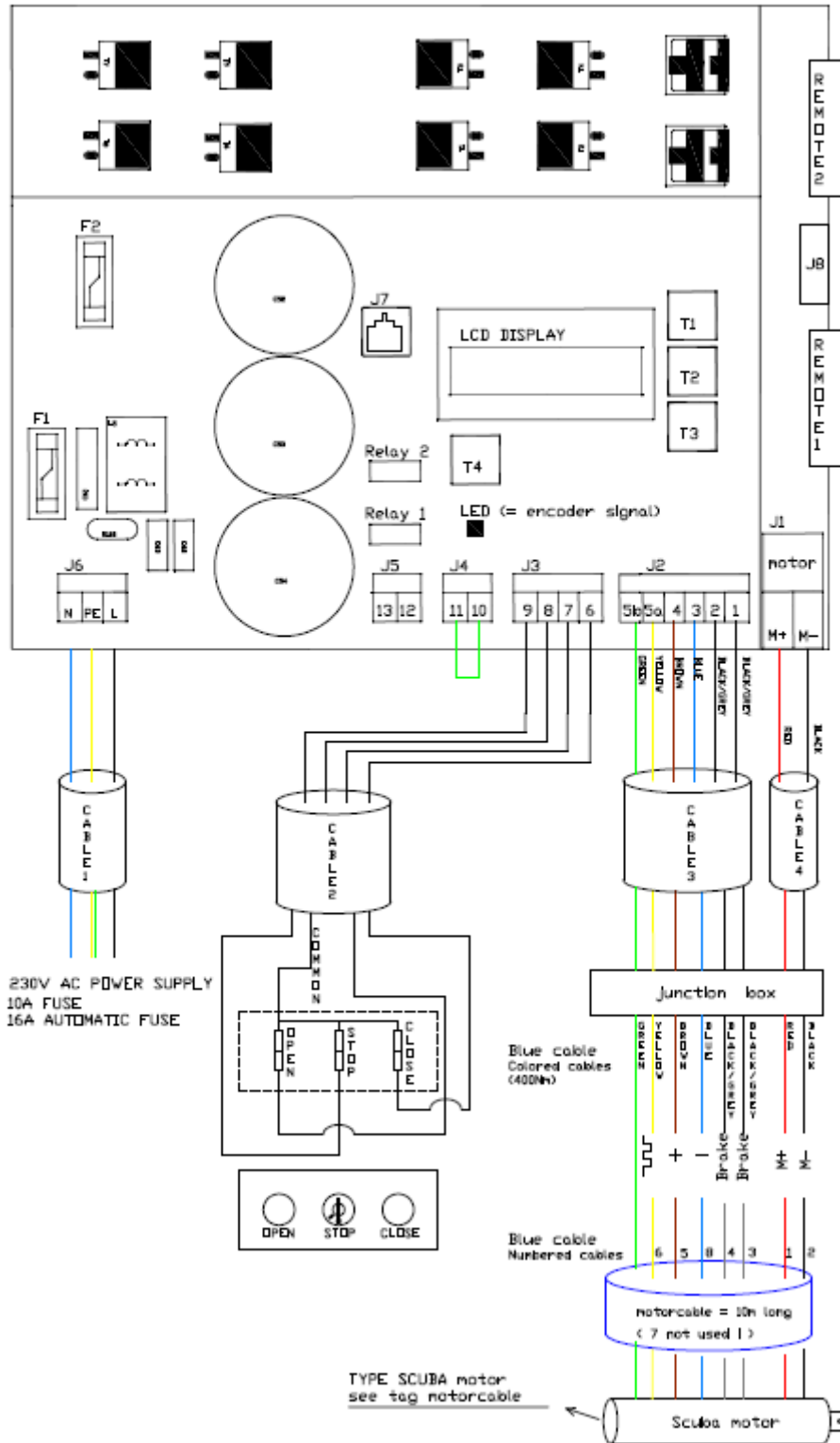


In case of a top mount electrical switch, wires should be connected either from the back side (through wall) or from the underside.



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

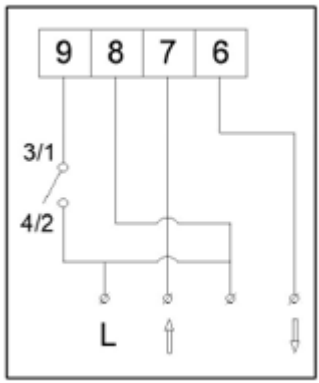
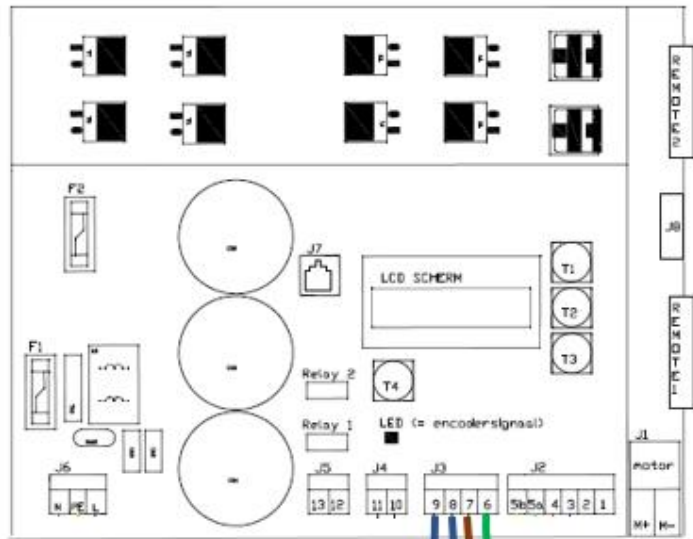
Wiring diagram universal control board with in-roller motor (= scuba motor)



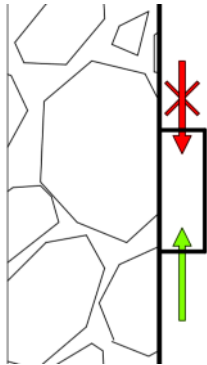
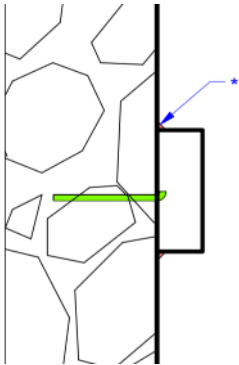


Code		Technical description	
<b>CABLE1</b>		Min. 3 x 1,5 mm <sup>2</sup>	<b>Flexible wire!</b>
<b>CABLE2</b>		Min. 4 x 0,75 mm <sup>2</sup>	<b>Flexible wire!</b>
<b>CABLE3</b>		Min. 5 x 1,5 mm <sup>2</sup> covered	<b>Flexible wire!</b>
<b>CABLE4</b>		Min. 2 x 4 mm <sup>2</sup>	<b>Flexible wire!</b>
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

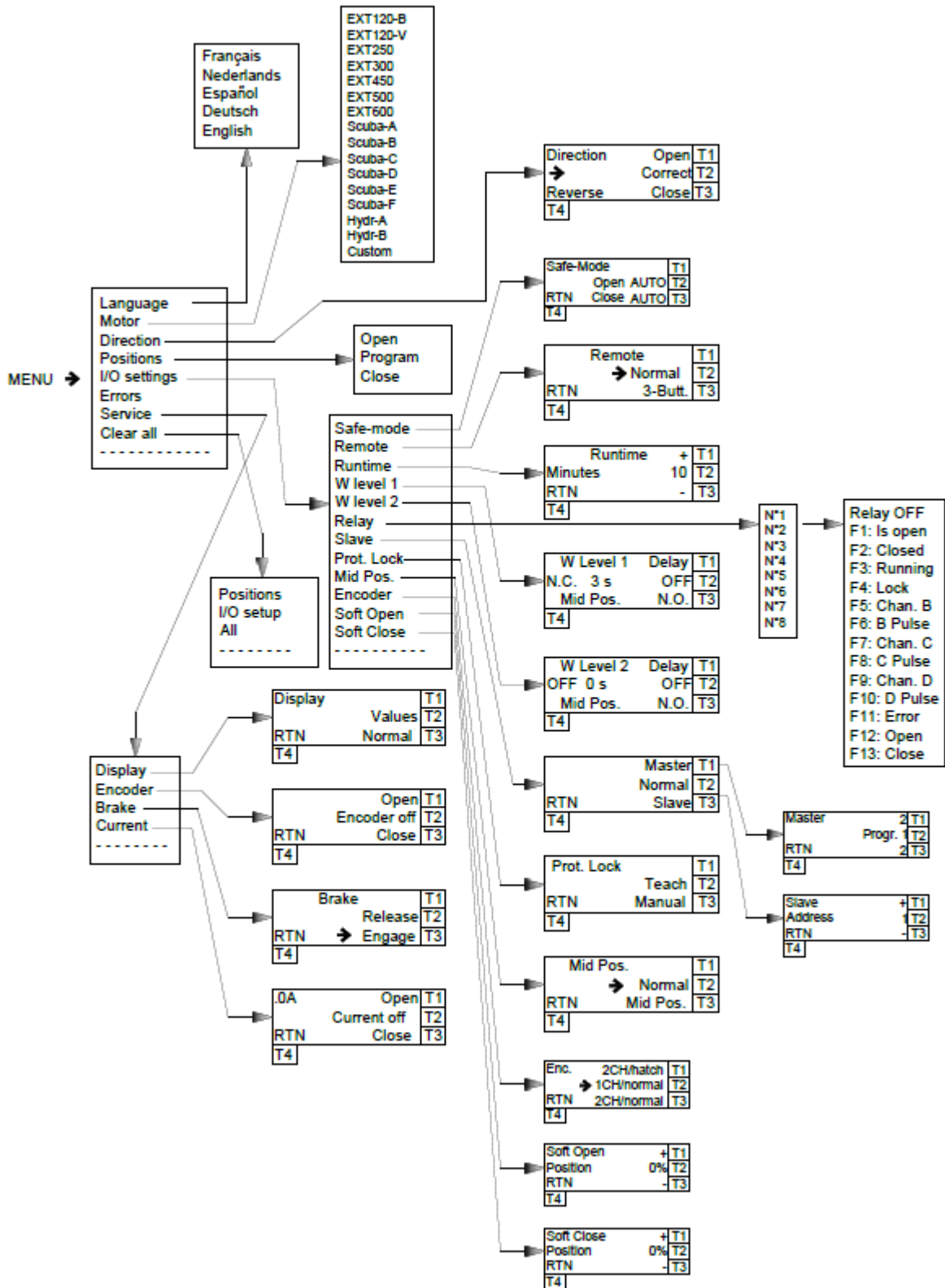


In case of a top mount electrical switch, wires should be connected either from the back side (through wall) or from the underside.



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

## 1. Tree diagram

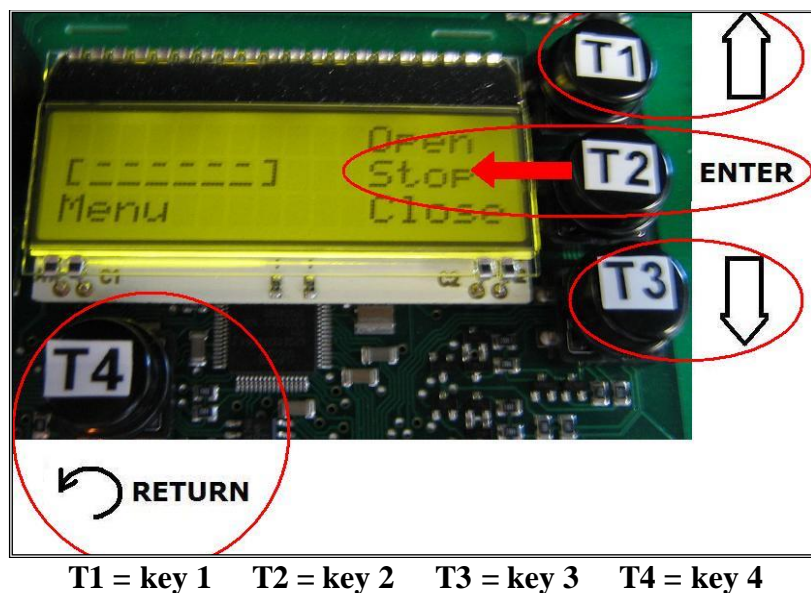


## 2. Initializing – First programming

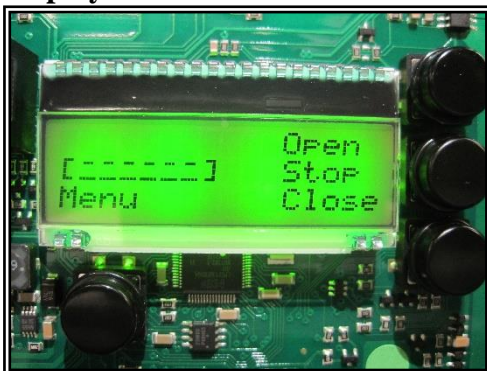
(After connecting the control box according to the flow chart (see chapter E1), you can start initializing the control box.)

### 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**

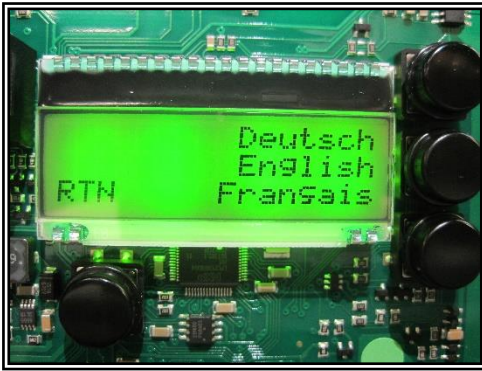


**1<sup>st</sup> display:** Select MENU



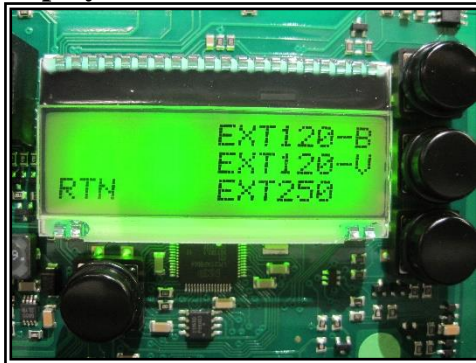
**Press T4 (MENU).**

**2<sup>nd</sup> 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.

**3<sup>rd</sup> display:** Select the **MOTOR**



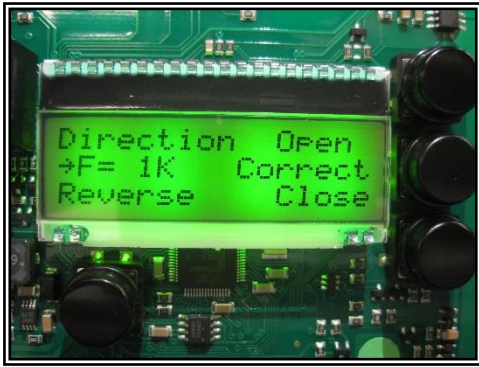
Scroll to the **MOTOR** which you mounted and confirm with T2.  
In order to control the motor type, consult the table in the technical description.



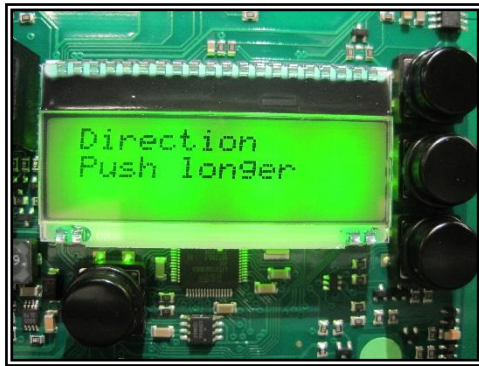
**NOTE:** In case of a hydraulic motor an additional step will have to be taken : the air needs to be removed from the tubes first! Have the motor run in 1 direction until the counter reaches "0".

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

**4<sup>th</sup> display:** Control the rotating **DIRECTION** of the motor

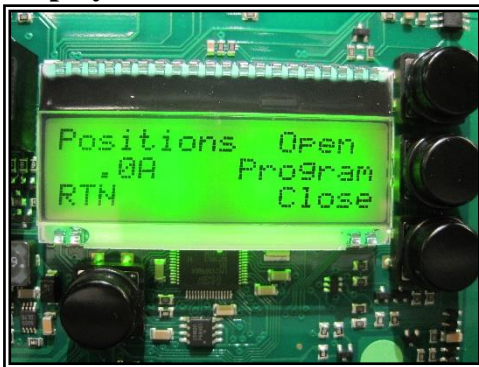


Check if the rotating **DIRECTION** of the roll-up shaft is the same as the one shown on the control box by pressing T1 or T3 and correct the rotating **DIRECTION** if necessary by pressing T4. As soon as the rotating **DIRECTION** is correct, turn the shaft for at least 5 seconds. The control box will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



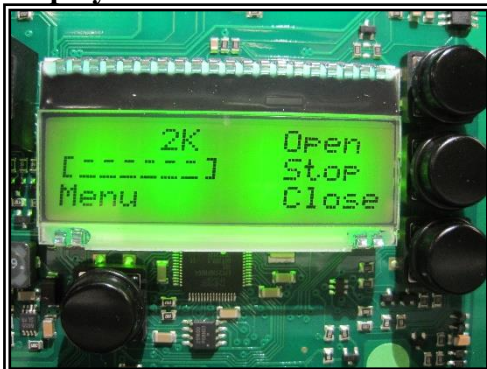
This screen appear if you didn't push long enough in one direction. In this step the control box detects if one or two channels of the encoder are connected.

**5<sup>th</sup> 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.

**6<sup>th</sup> 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 channel is connected or detected.

### 3. Re-programming settings

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.

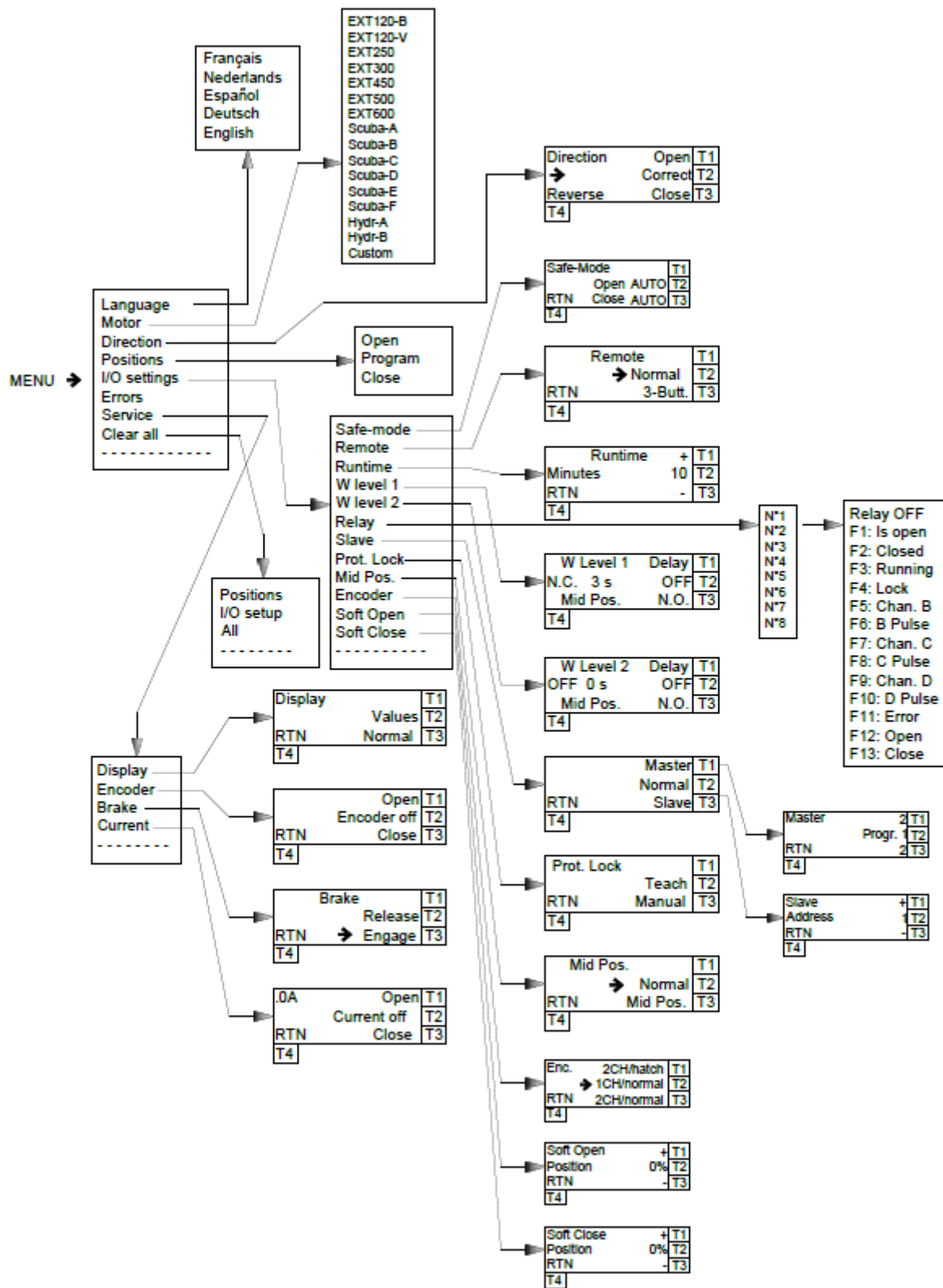
#### **Remark:**

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' POSITION. The confirmation will appear on the display. Press T4 to go back
-

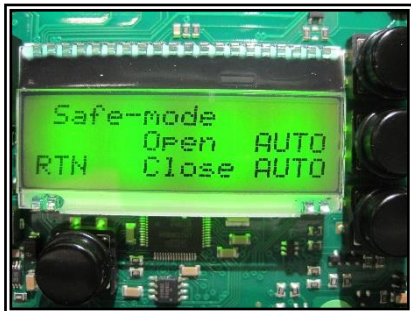


Boomstructuur

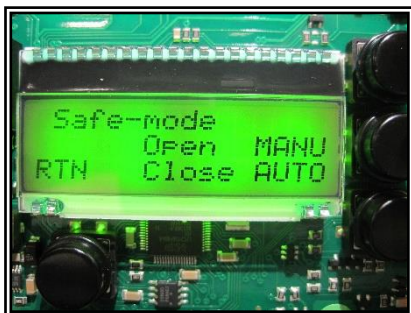


#### 4. Safe-mode

- 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 closing takes 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 function works only in AUTO mode

## 5. Extra control options

### 5.1 Remote control

#### General

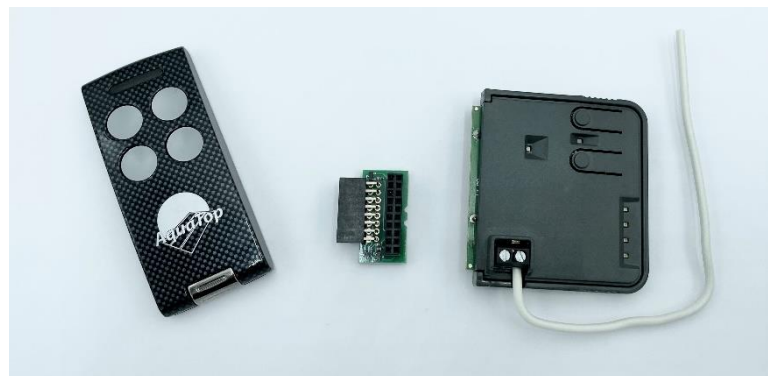
- The remote control gives you the comfort of operating the cover from a distance.
- The control box will therefore be extended with a relay card with 4 outputs.
- Together with the relay card(s) you can use the remote control for e.g. driving the following equipment from a distance:
  - Swimming pool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

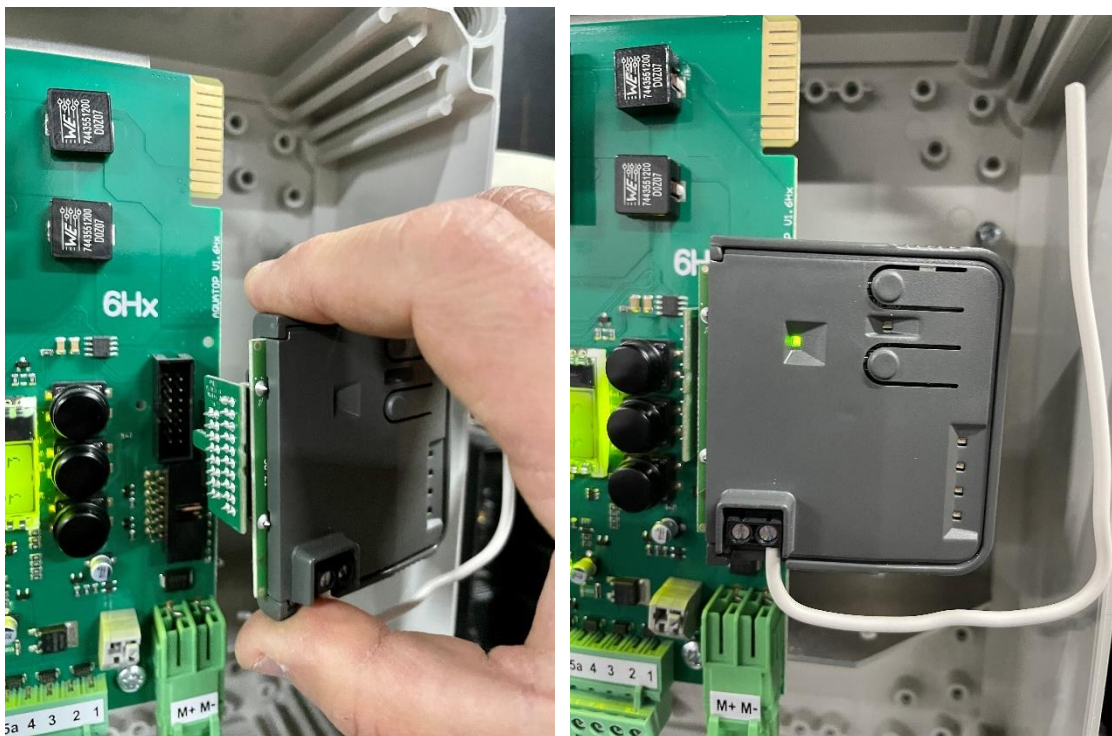


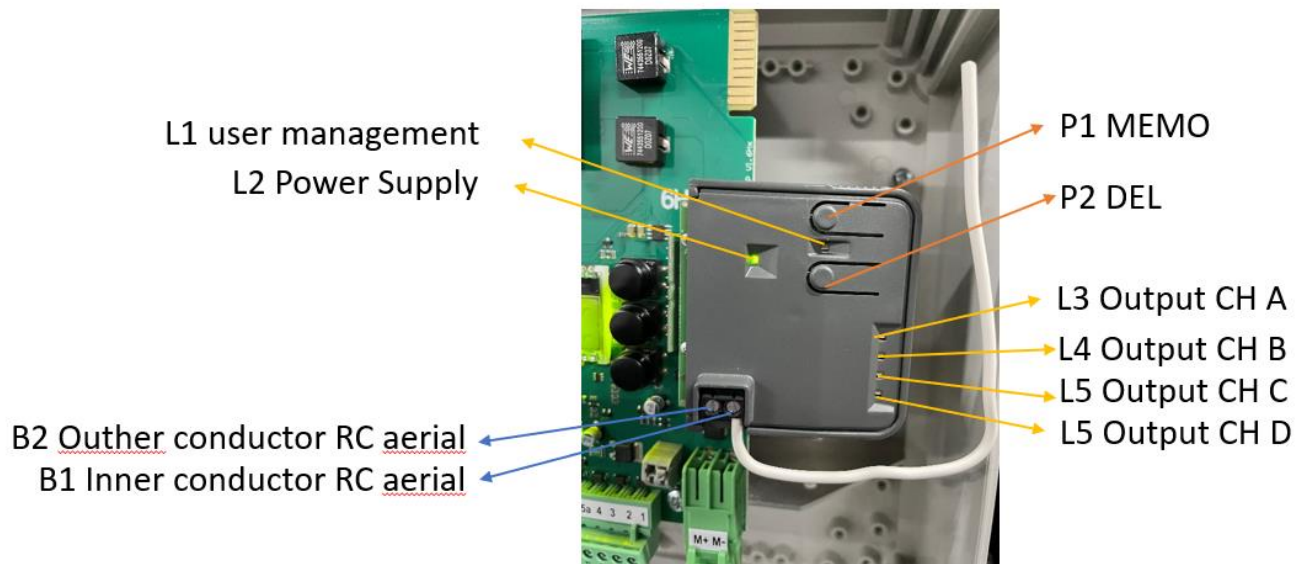
## Installation: 2022

- 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, visible and away from metal structures.

B1: Inner conductor for the radio receiver aerial

B2 outer conductor for the radio receiver aerial





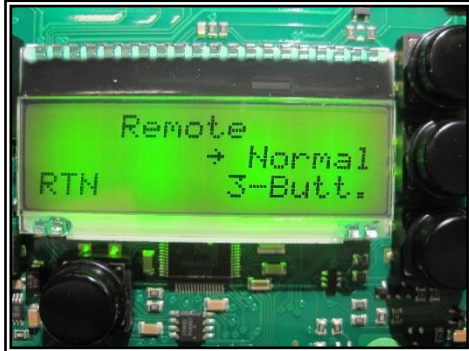
Once a button has been pressed, a signal can be heard and a blue LED will light up.  
Once the signal has been received, a red LED will light

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

- Keep the transmitter near 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

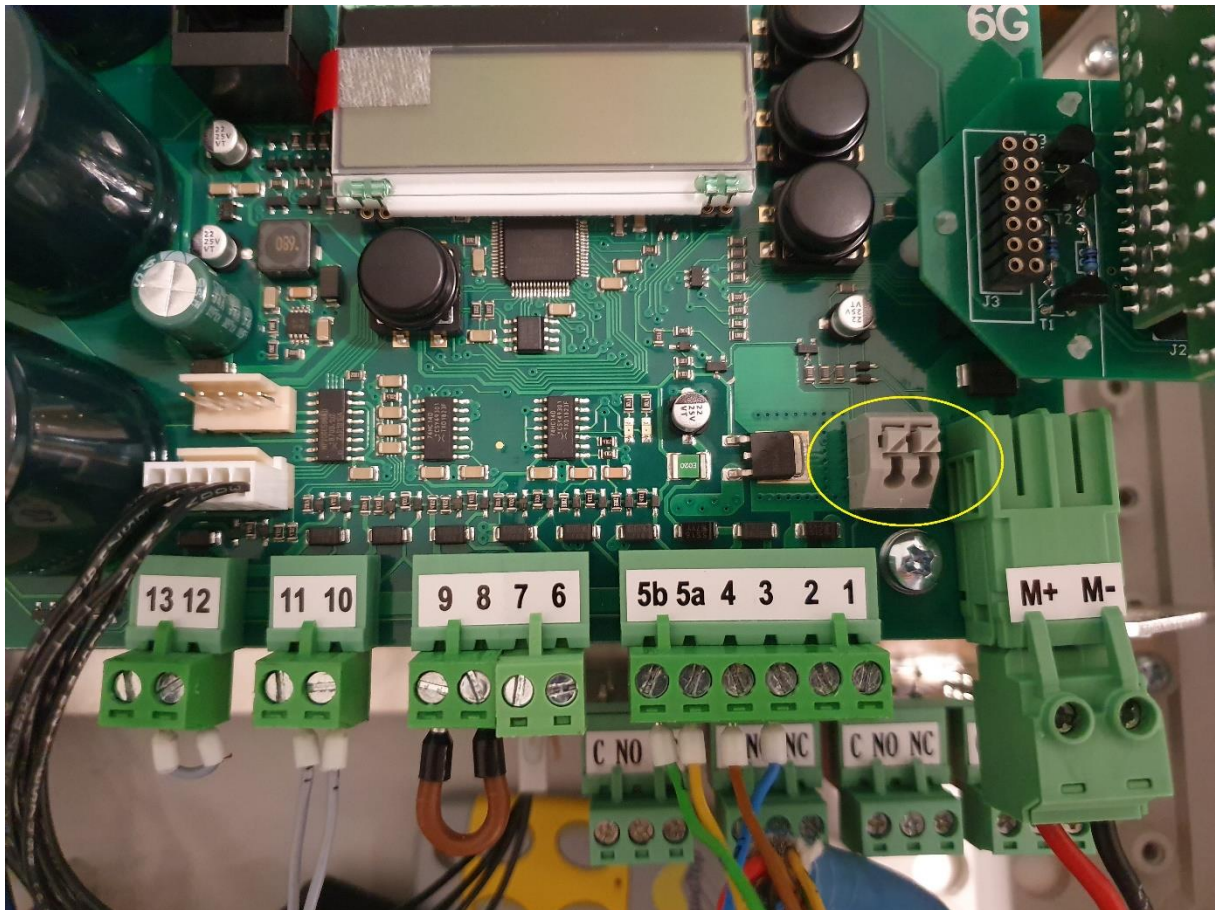
**Button C:** Stop

**Button D:** No function for cover

## 5.2 Pulse contact

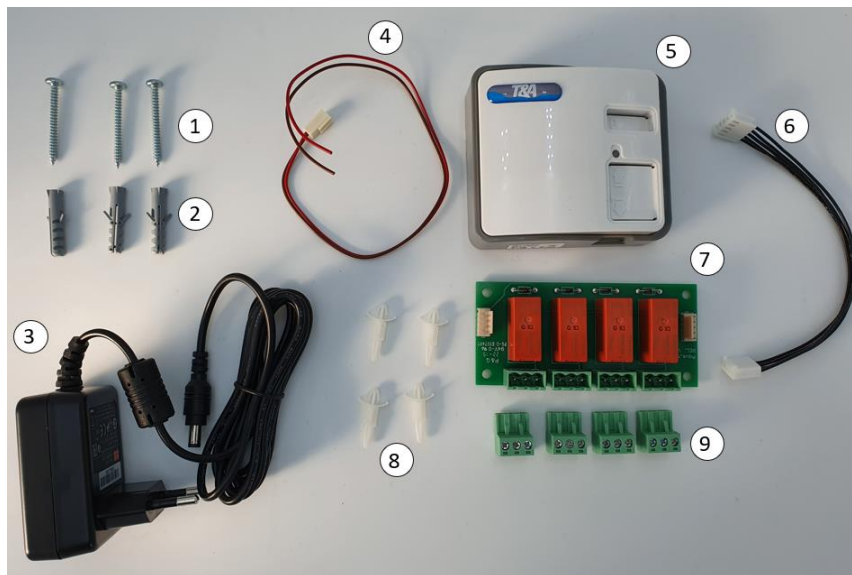
### General

- When making 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**





### 5.3 CoverU – App



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

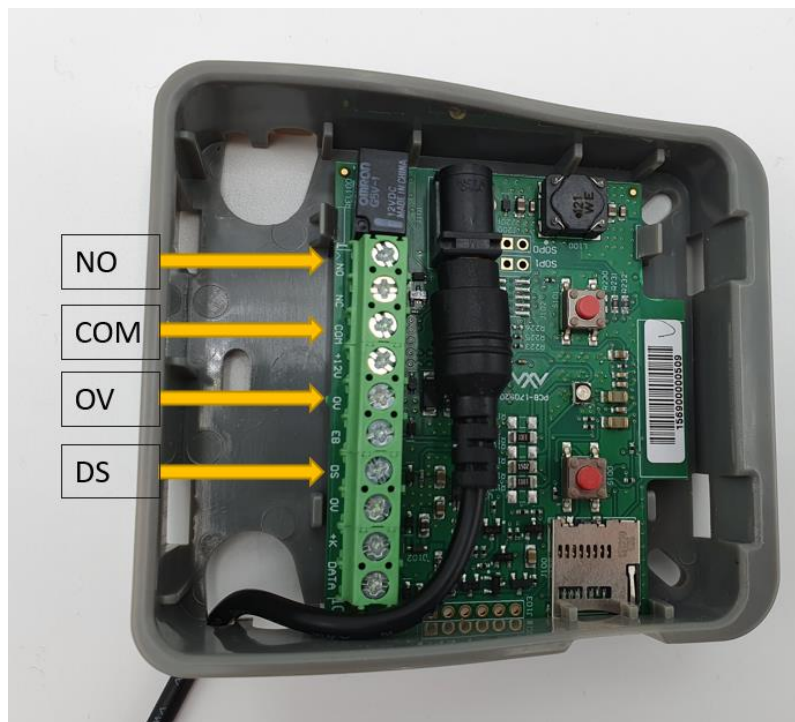
#### Preparation:

- **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  $\varnothing$ 6mm)



**Wiring:**

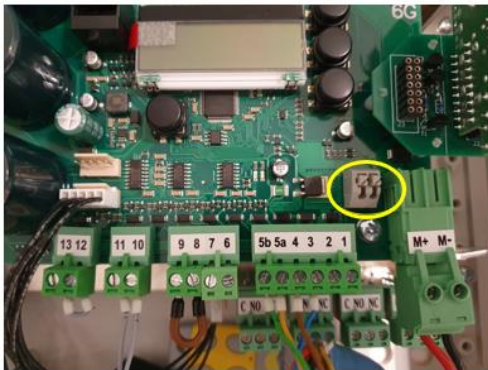
- Install the relay card as described in the AquaTop manual.
- Make the 4 connections below:



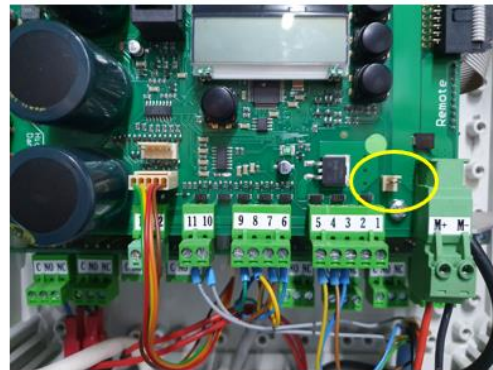
CoverU	Aquatop stuurkast
NO	Pulse contact
COM	Pulse contact
OV	Connection C Relay
DS	Connection NC Relay

- Use a 4 core cable: min 0.75mm<sup>2</sup> , max 1.5mm<sup>2</sup>
- 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

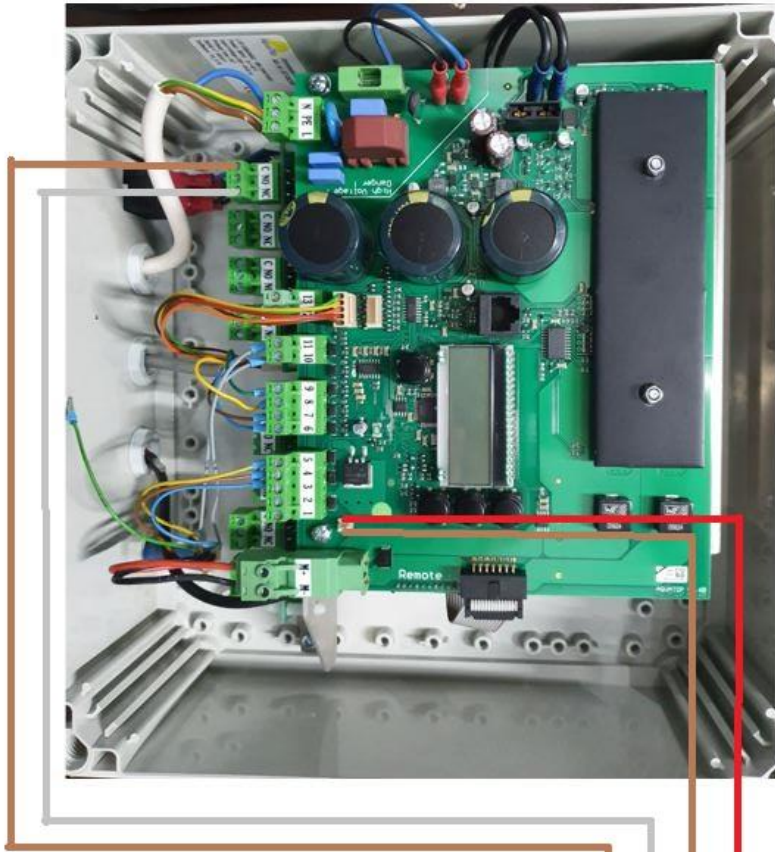


Cable pulse control necessary

- 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”)

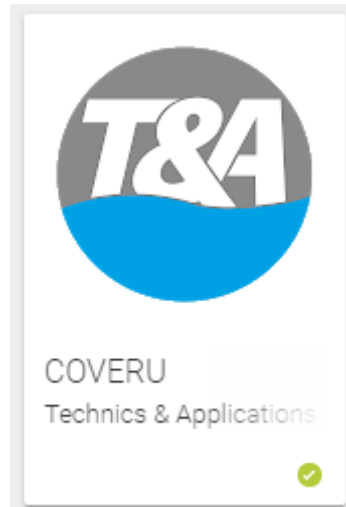






## Programming:

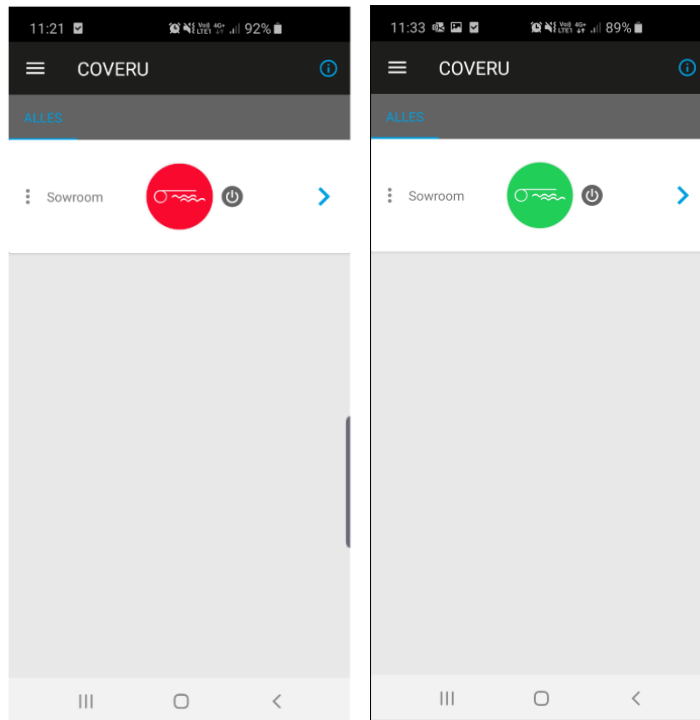
- **Make sure your smartphone is connected to the same WIFI network as that you connect the COVERU to.**
- Download the CoverU-App in the Play Store (Google Play - Android) or Appstore (IOS).



- 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, ...)





## 6. Runtime

- 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).

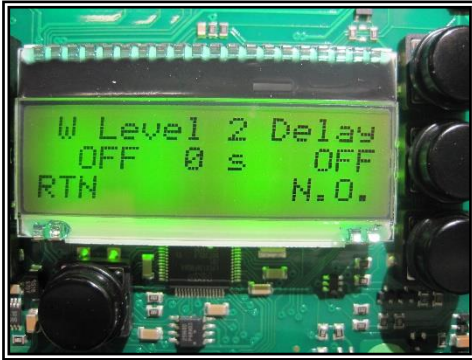
When the conditions are not met and cover gets activated, an error message will occur. This resets itself automatically as soon as the condition is met.

**Remark:**

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

## 8. Water level 2

- 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.

## 9. Relay

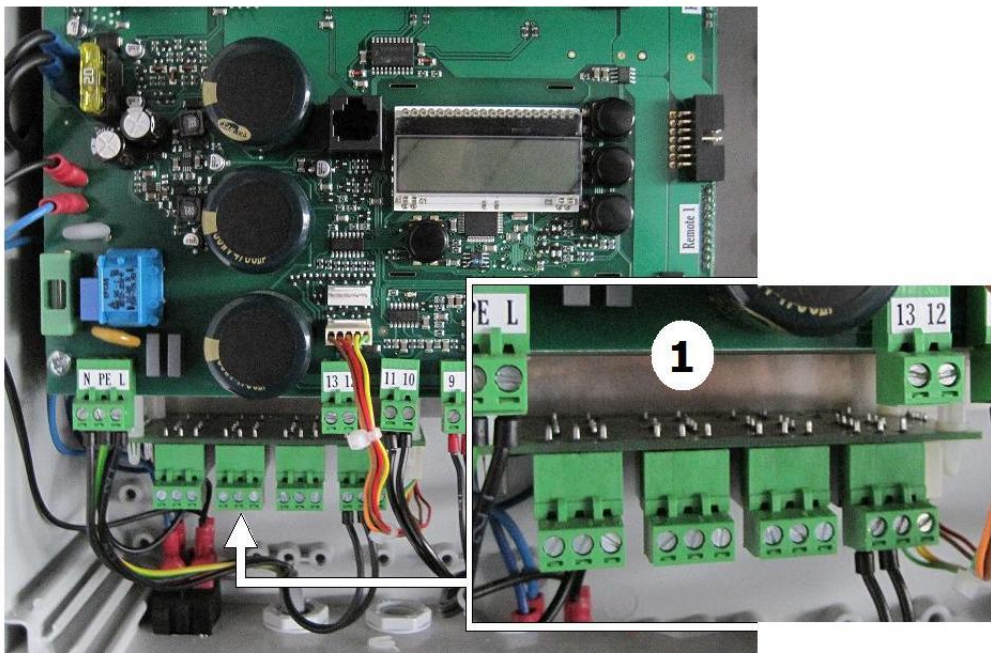
### General:

- 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.

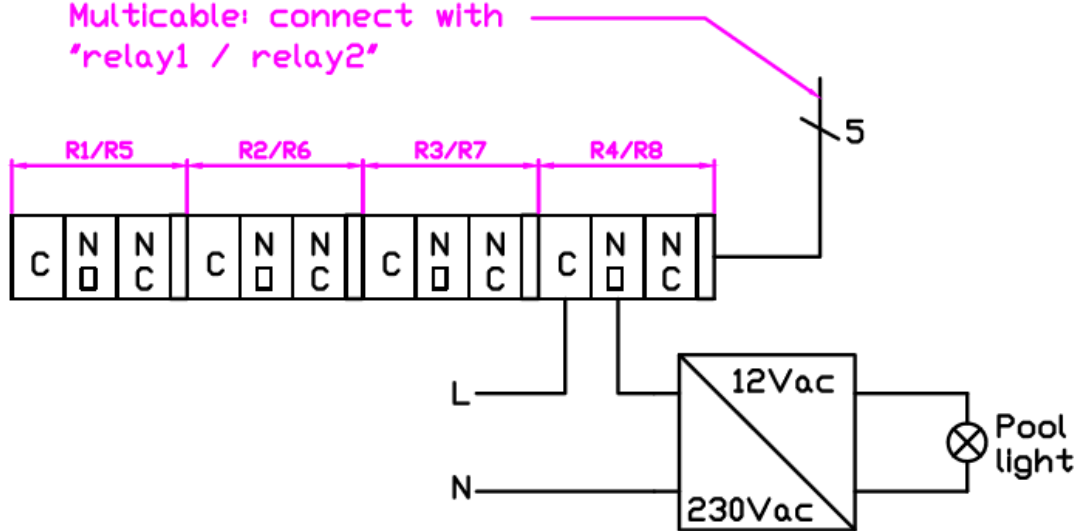
### Installation:



- STEP 1: Place the relay card and connect the card with “Relay 1” on the circuit board.
- STEP 2: (Place a 2<sup>nd</sup> 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).

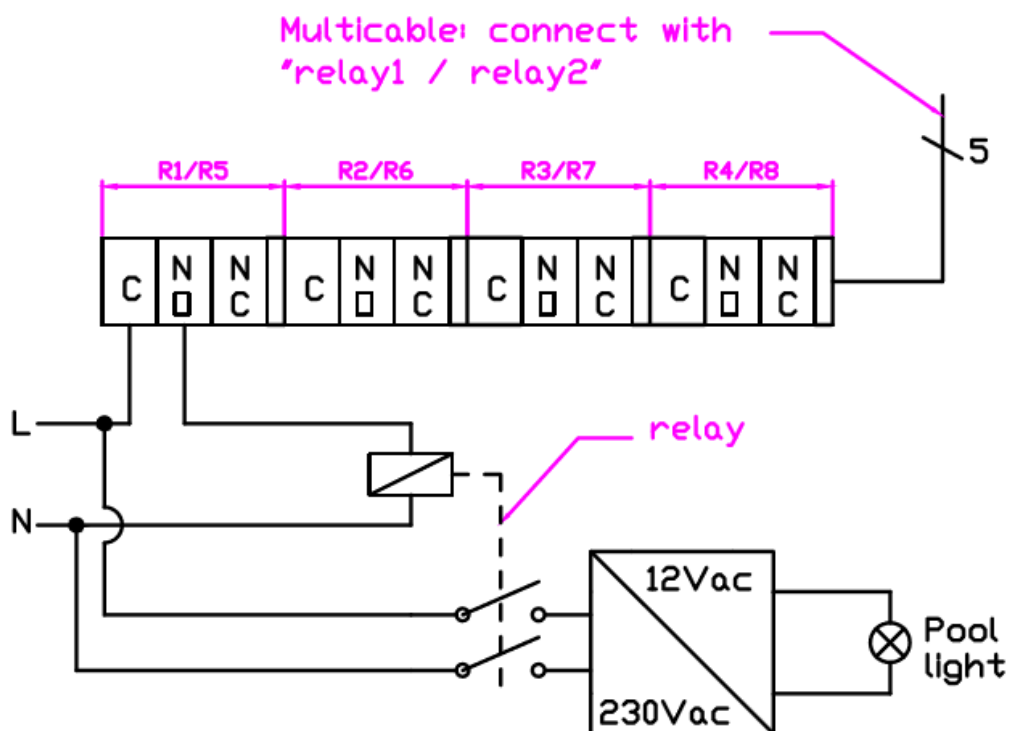
- \* Straight switching of a lighting circuit.
- \* Max. load per relay = 16A.
- \* Under MENU -> I/O Settings -> Relays : you will find all possible options to control the relay.

Multicable: connect with "relay1 / relay2"

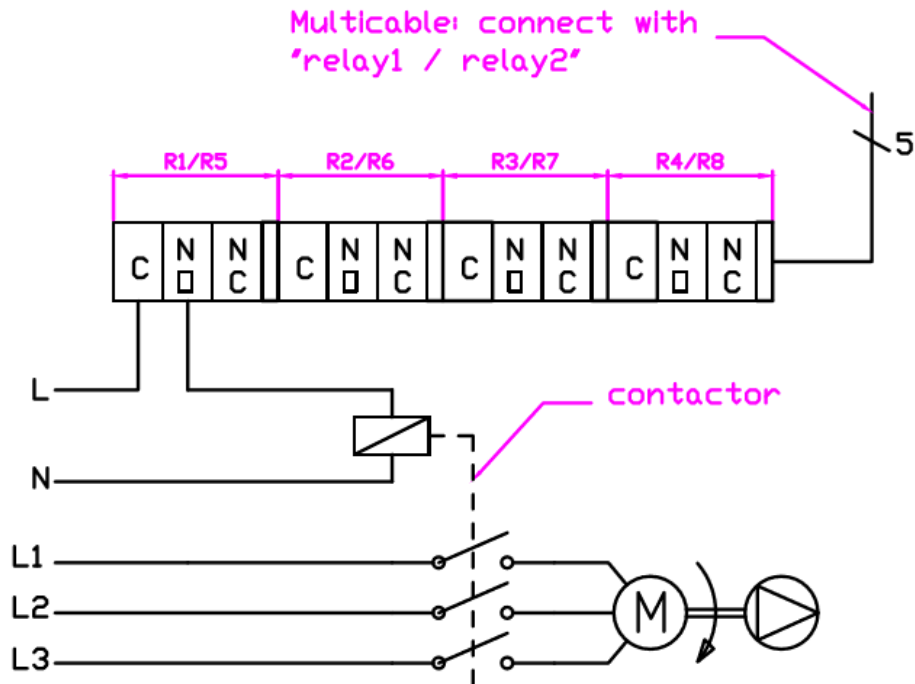


\* Switching of a lighting circuit with a relay.

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



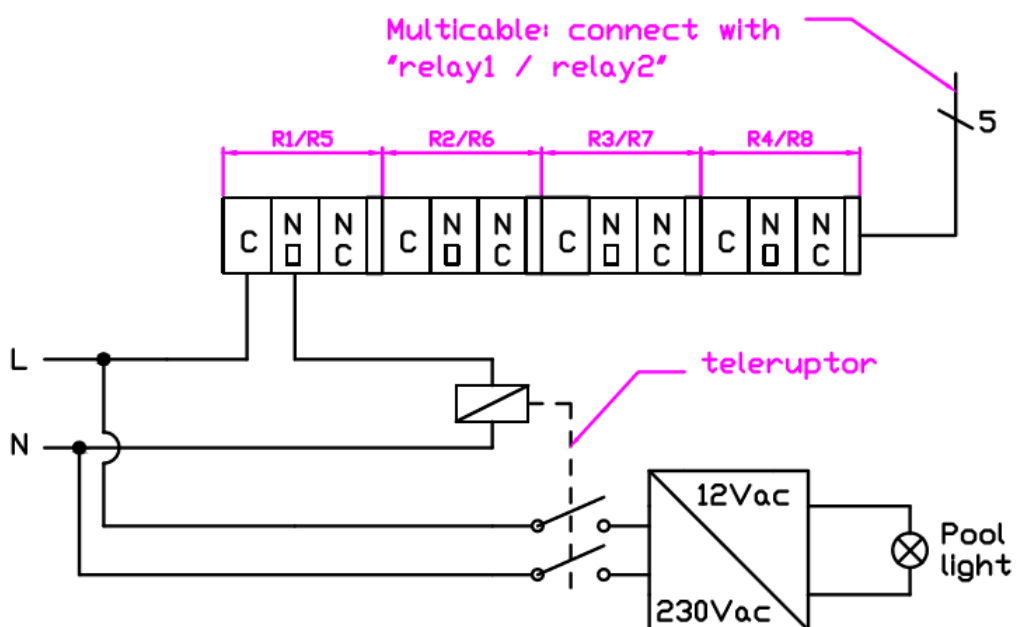
- \* Controlling an external device (eg. filterpump, jetstream, ... ) with a power relay (contactor).
- \* Under MENU -> I/O Settings -> Relay : you will find all possible options to control the relay.



- \* Switching of a lightingcircuit with a teleruptor.

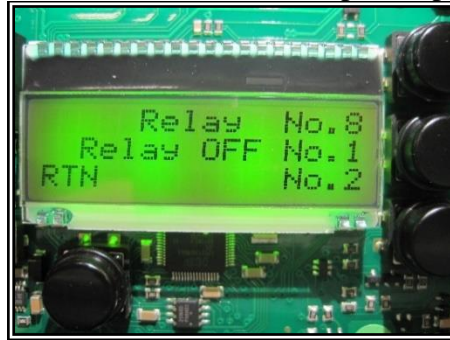
- \* Setting:

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.:** The 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



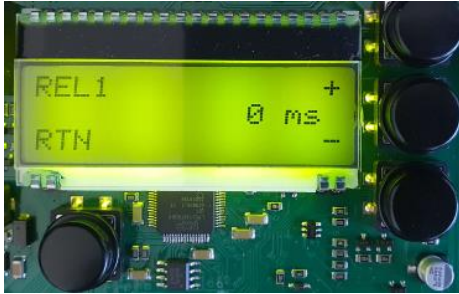
**Remark:**

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

## 10. Protection Lock

- 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.



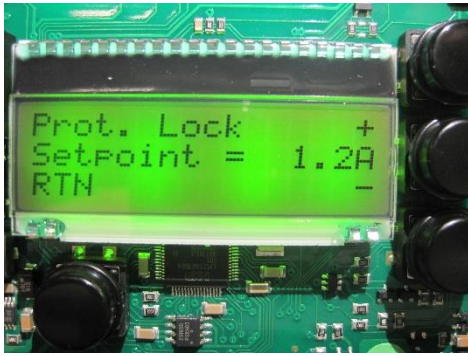
Press T2 TEACH

### **NOTE:**

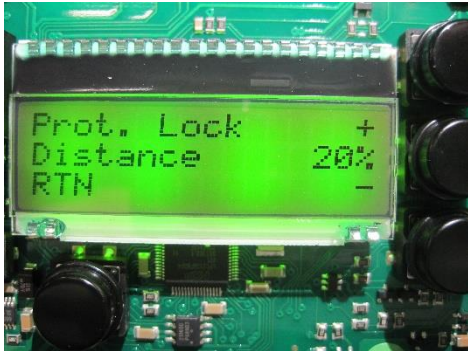
In case the cover is closed, the control box will ask you to do this first.



Press T3 to close the cover.  
In case of Master Slave or dead man's function is programmed, return 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.

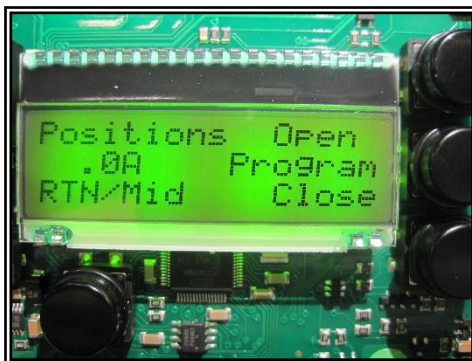
## 11. Middle position

- 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.

## 12. Encoder

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



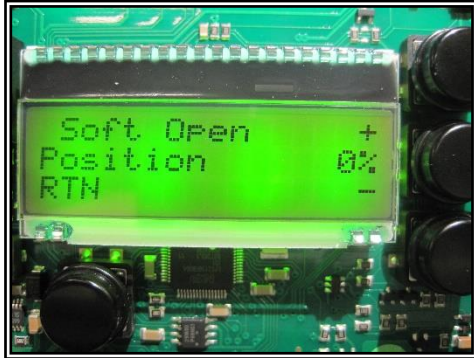
**2CH / hatch:** To use in combination with a movable panel – Motor turns at  $\frac{1}{4}$  of his normal speed

**1CH/normal:** To use if only 1 channel of the encoder is available  
The control box checks only 1 Channel of the encoder

**2CH/normal:** To use if 2 channels of the encoder are available.  
The control 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.

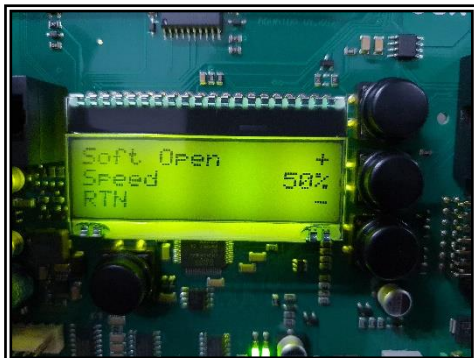
If you have e.g. Setting 20% the last 20% of the opening will be slower.

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

Confirm with T2

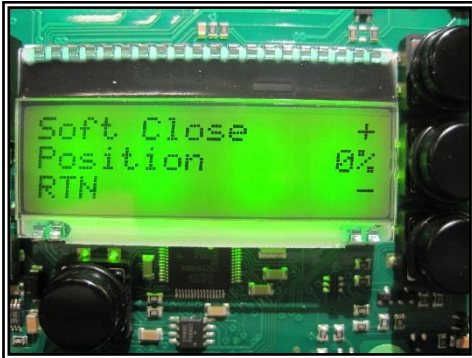
Set the needed speed between 50 and 100%

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.

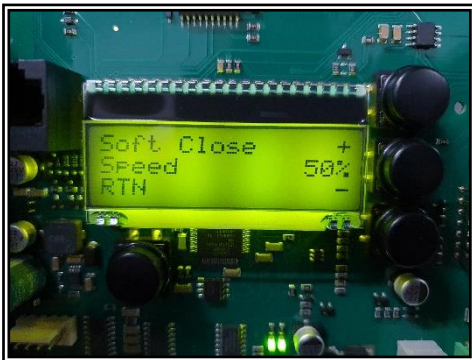
If you have e.g. Setting 20% the first 20% of the closing will be slower.

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



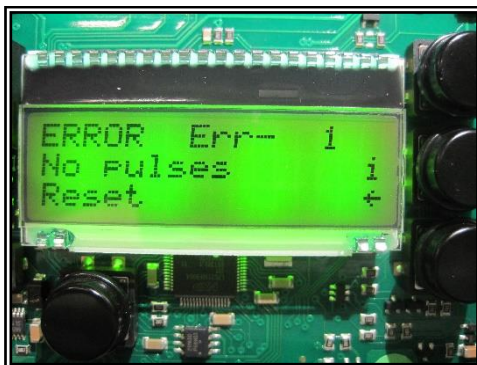


## 15. Errors

- 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.



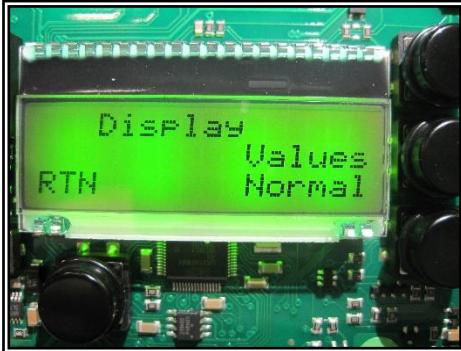
The last error will be displayed under last err



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

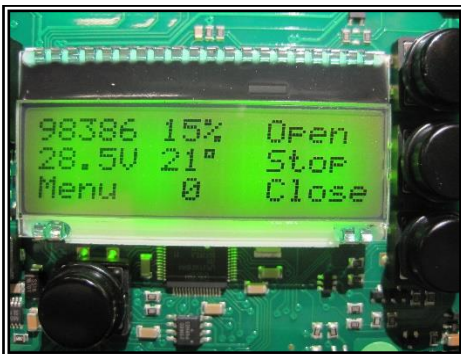
## 16. Display

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



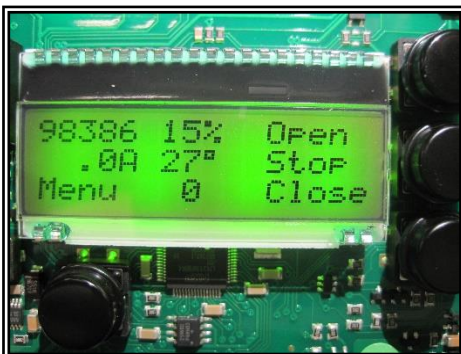
**Values (T2):** Shows more informations about some parameters

**Normal (T3):** Standard Display



**Displayed values:**

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



**Displayed values:**

- Counter encoder
- Percentage with the cover is open
- Amperage M- M+ \*
- Temperature PCB \*\*
- PWM-Value

\* Current and Amperage alternate

\*\* Temperature brake and PCB alternate

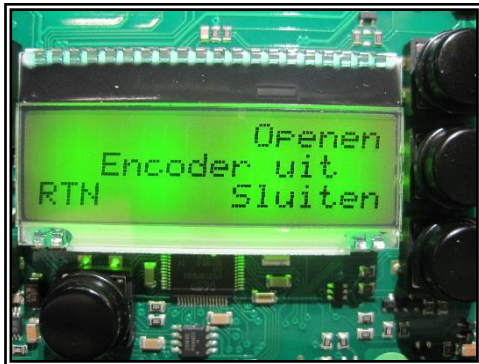
## 17. Encoder

- 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)

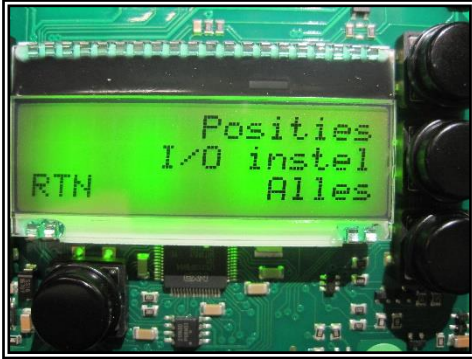


**Open (T1):** The cover opens

**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:**

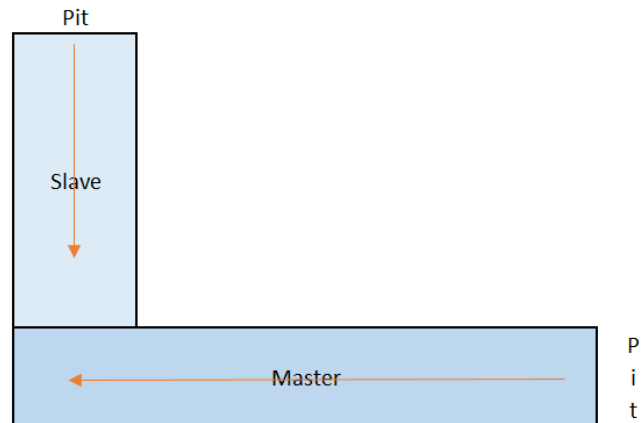
The end positions are deleted.  
possibly also the middle position.

**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



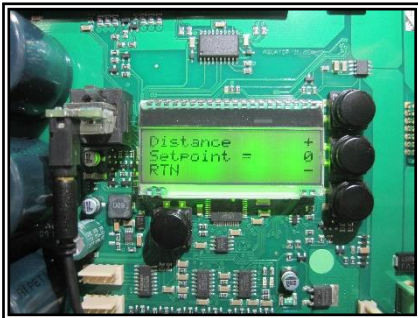
- ➔ Make following steps at the control box of the **master**:



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



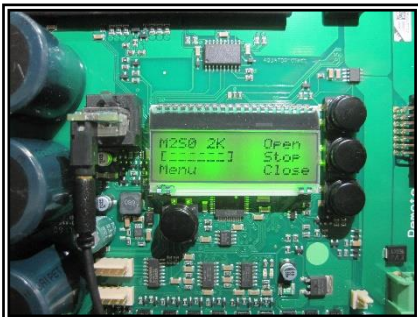
- Select “progr. 2”



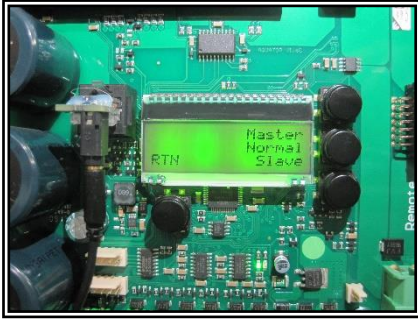
- If you select “0” as distance setpoint, both covers will start at the same time



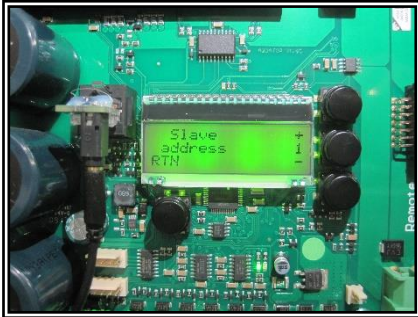
- Increase or decrease the setpoint with T1 & T3
- The value shown indicates the time lapse in % after which the slave will start moving compared to the master



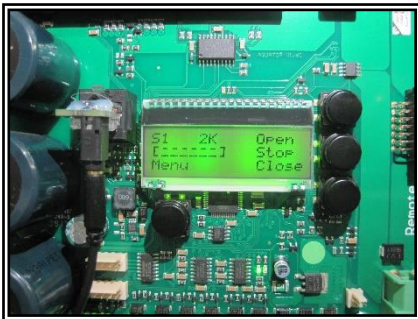
→ Make following steps at the control box of the slave:



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

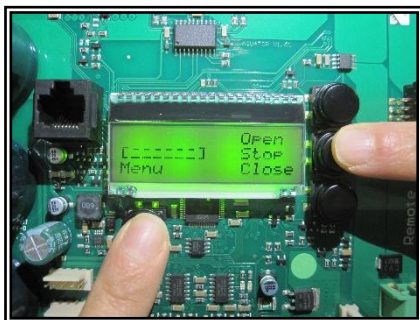
**Check at each controlbox the software version!  
This MUST be the same for both.**

You find this information trough the service menu in the left upper corner.

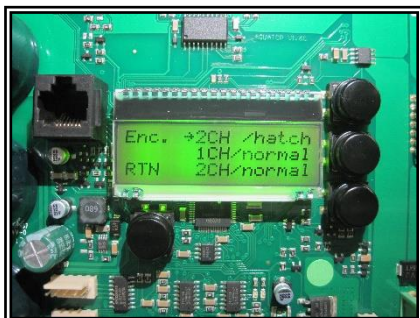
After installing all mechanical parts, do some test before filling the pool with water.  
After the water level is ok, you can adjust the end positions of the cover as usual.

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

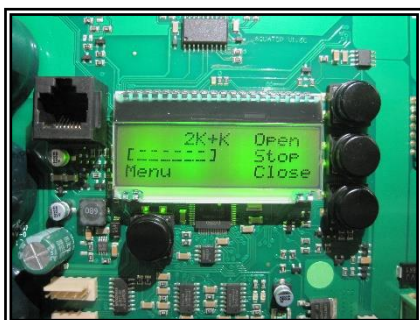
- ➔ Program the cover as written in chapter E2 – Initializing – basics
- ➔ **Before** programming the movable panel follow the next steps!



➔ Push “stop” (T2) and “menu” (T4) together for 4 sec.  
You’ll enter the menu without programming



- ➔ Go to I/O setup
- ➔ Select “encoder”
- ➔ Select 2CH/hatch



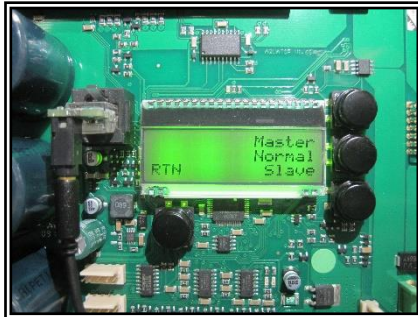
➔ Go Back with RTN (T4)

- ➔ 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



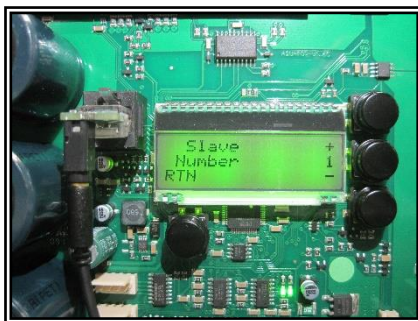
➔ Make following steps at the control box of the **master**:



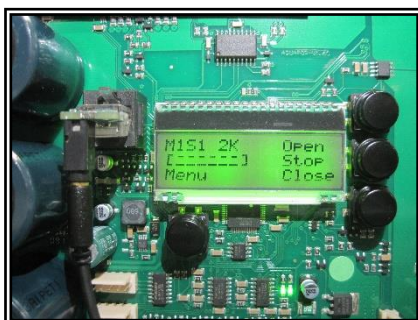
- ➔ Go into the menu
- ➔ I/O Setup
- ➔ Slave
- ➔ select "Master"



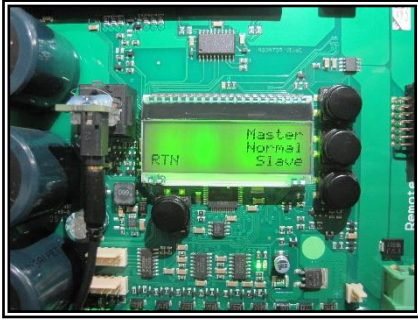
➔ Select "progr. 1"



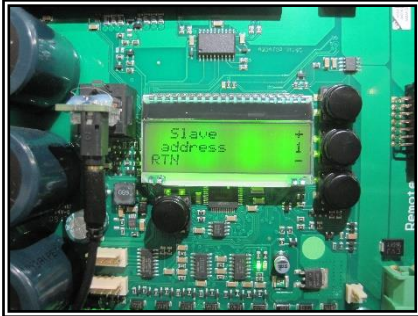
➔ Confirm "slave number" 1 (T3)



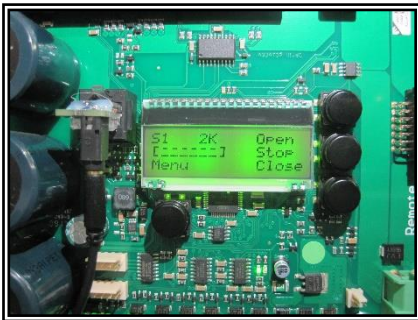
➔ Make following steps at the control box of the **slave**:



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 can fill the pool with water and adjust the end positions of the cover as written in chapter E2 Initializing - basics

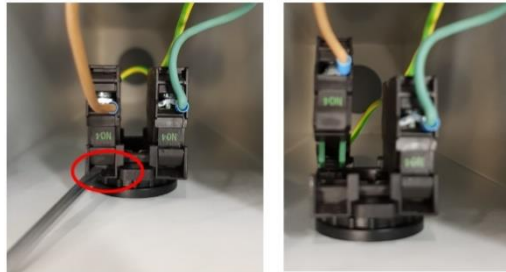
23. Analysis based on the errors - Basic

ERROR	EXPLANATION	ACTION
RUN TIME	<p>-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)</p>	<p>WAIT 10 MINUTES – RESET THE ERROR BY TURNING THE KEY ON “0” AND THEN BACK ON “1”</p>
STOP ENGAGED	<p>-KEY SWITCH IS ON “0”</p>	<p>TURN THE KEY ON “1”                      IF NOT SOLVED: CONTACT YOUR DEALER</p>
LEVEL 1	<p>-WATER LEVEL IS NOT OK (IN CASE OF LEVEL SENSOR)                      -MOTOR IS TOO WARM (IF SK-SK OF THE MOTOR IS CONNECTED ON 10-11)</p>	<p>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</p>
OVER CURRENT	<p>-MAXIMUM POWER OF THE MOTOR IS EXCEEDED.</p>	<p>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</p>
NO PULSES	<p>-THE CIRCUIT BOARD DOES NOT RECEIVE PULSES FROM THE ENCODER                      -THE MOTOR DOES NOT RUN.</p>	<p>CONTACT YOUR DEALER</p>
TEMP	<p>-MAXIMUM TEMPERATURE OF THE PRINT IS EXCEEDED.</p>	<p>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</p>
NO CURRENT	<p>-MOTOR DOESN’T RUN AND PULLS NO CURRENT</p>	<p>CONTACT YOUR DEALER</p>
POSITIONS ERROR ENCODER	<p>-RUNNING DIRECTION OF MOTOR DOESN’T CORRESPOND WITH PROGRAMMED END POSITIONS</p>	<p>CONTACT YOUR DEALER</p>
LOCK	<p>THE SETTED VALUE OF MENU/PROT.LOCK EXCEEDED                      LOCKS NOT OPEN (MANUAL OR AUTOMATIC)</p>	<p>CHECK THE SITUATION OF THE LOCKS;                      OPEN THE LOCKS – RESET THE ERROR AND TRY AGAIN                      IF PROBLEM RETURNS? CONTACT YOUR DEALER</p>

**STANDARD VERSION:**

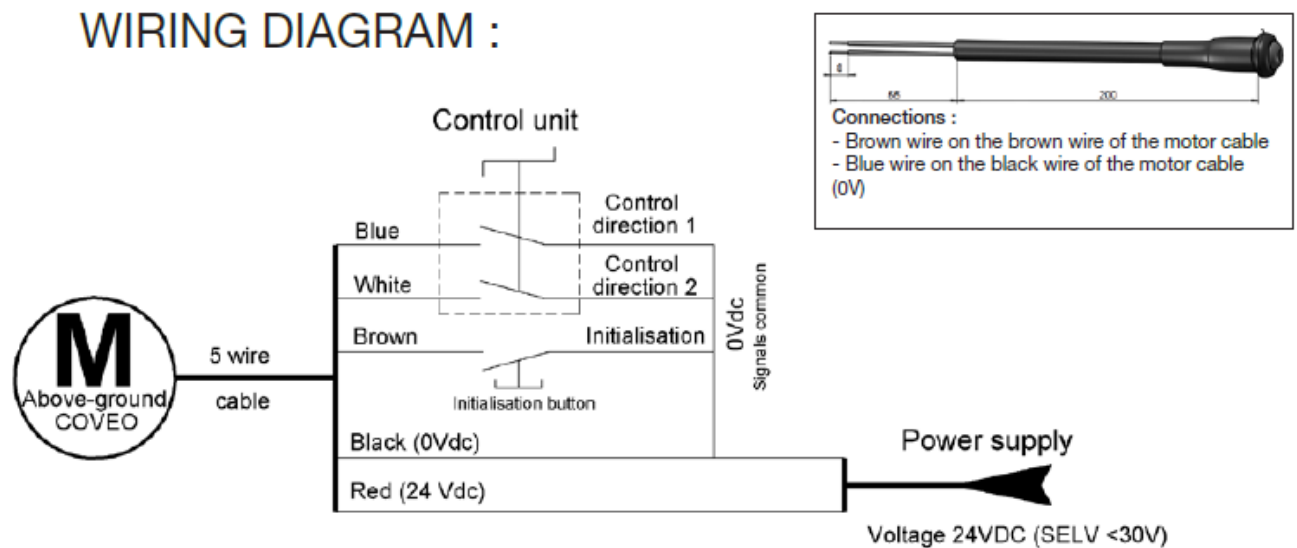
**General:**

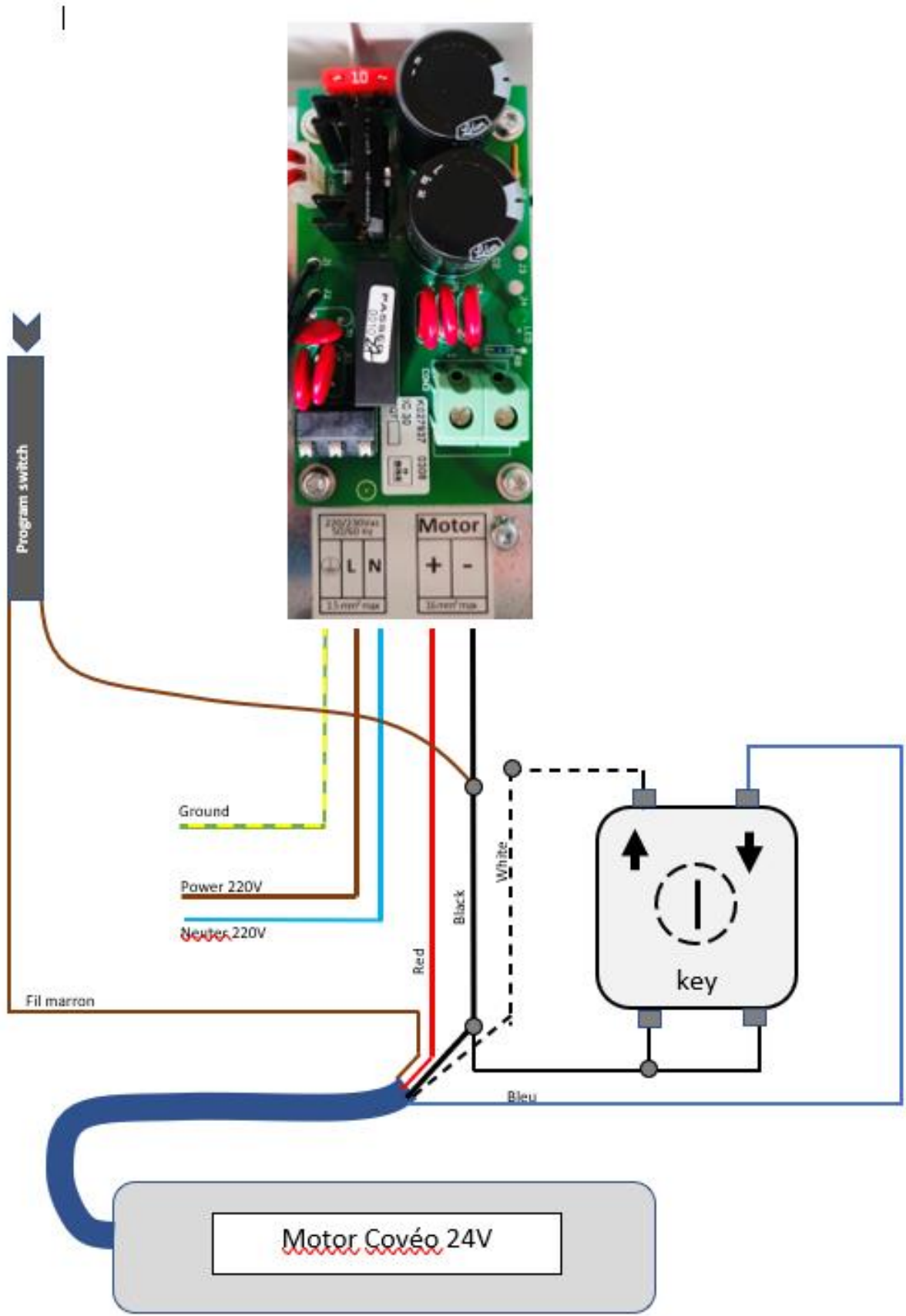
- You can operate the cover (Open/Close) with the key switch.
- The keyswitch is delivered pre-wired.
- The key switch is set up as a spring contact.
- To get the junction box in and out of the support, remove the 2 switches from the key button
- The control box must be installed outside volumes 0,1 and 2.

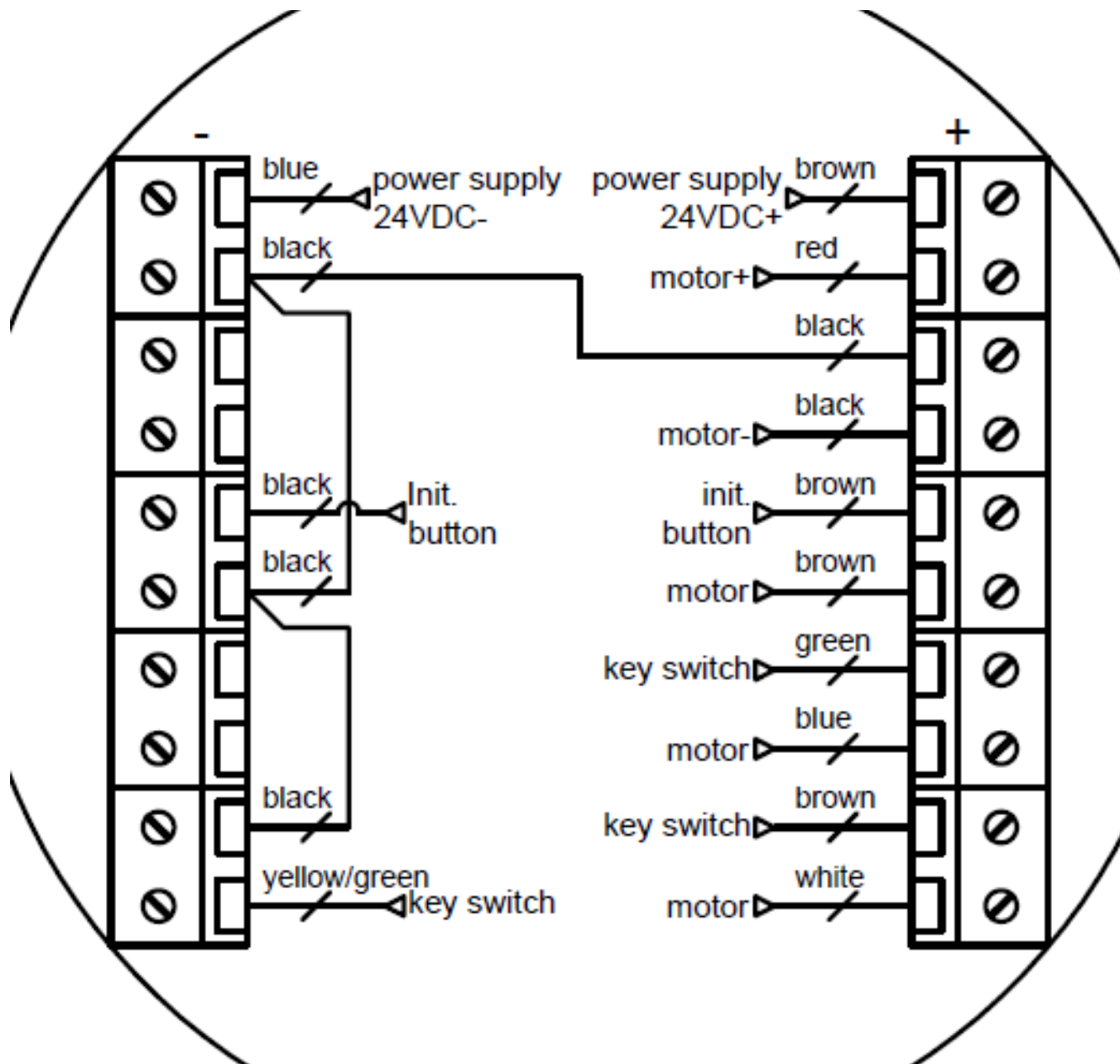


**1. Connection diagram**

- Connect the motor and the key switch according to the scheme.









## IMPORTANT

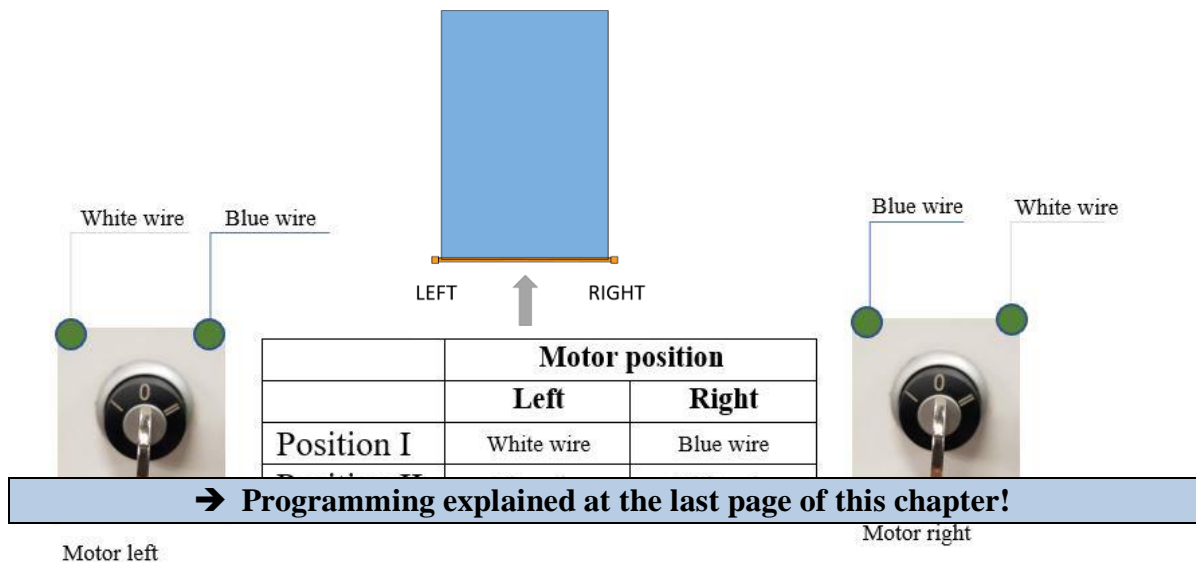
- In case you have to comply with the French Norm NF P90-308 it is important to have the “Auto-Manu” version
- The cover will open automatically and will close using dead man’s function (Manually)
- As the motor will run automatically in one and manually in the other direction, the connections of the White and Blue cable of the motor will depend on the position of the motor towards the pool.



Standard



NF P 90-308



## Solar panel with battery supply: 24V DC

**Step 1:** Remove the wooden cover at motorside



**Step 2:** Remove the screws from the support

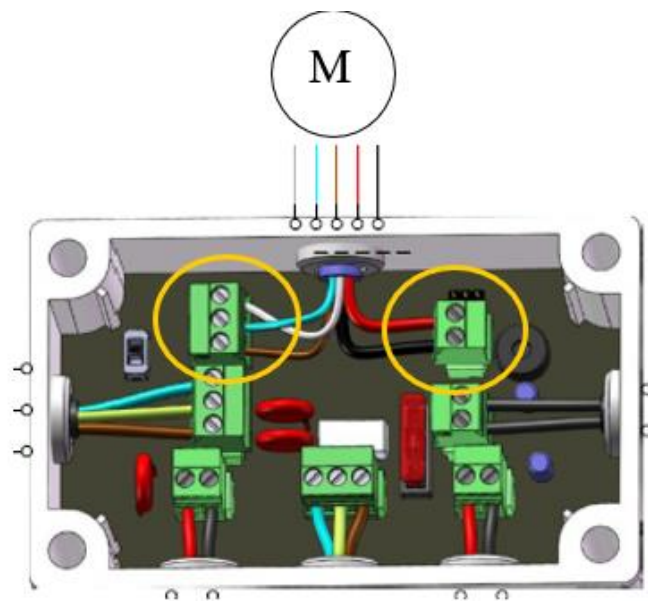


**Step 3:** Connect motor cable with the control unit.

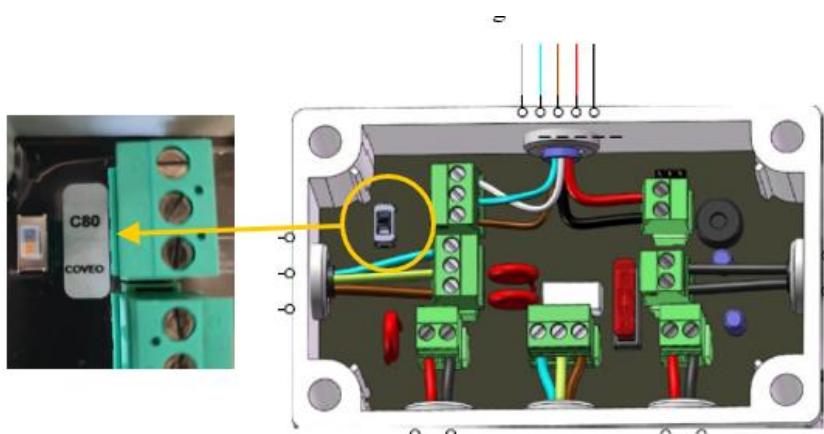
Close the cable seal well so no water can enter the unit

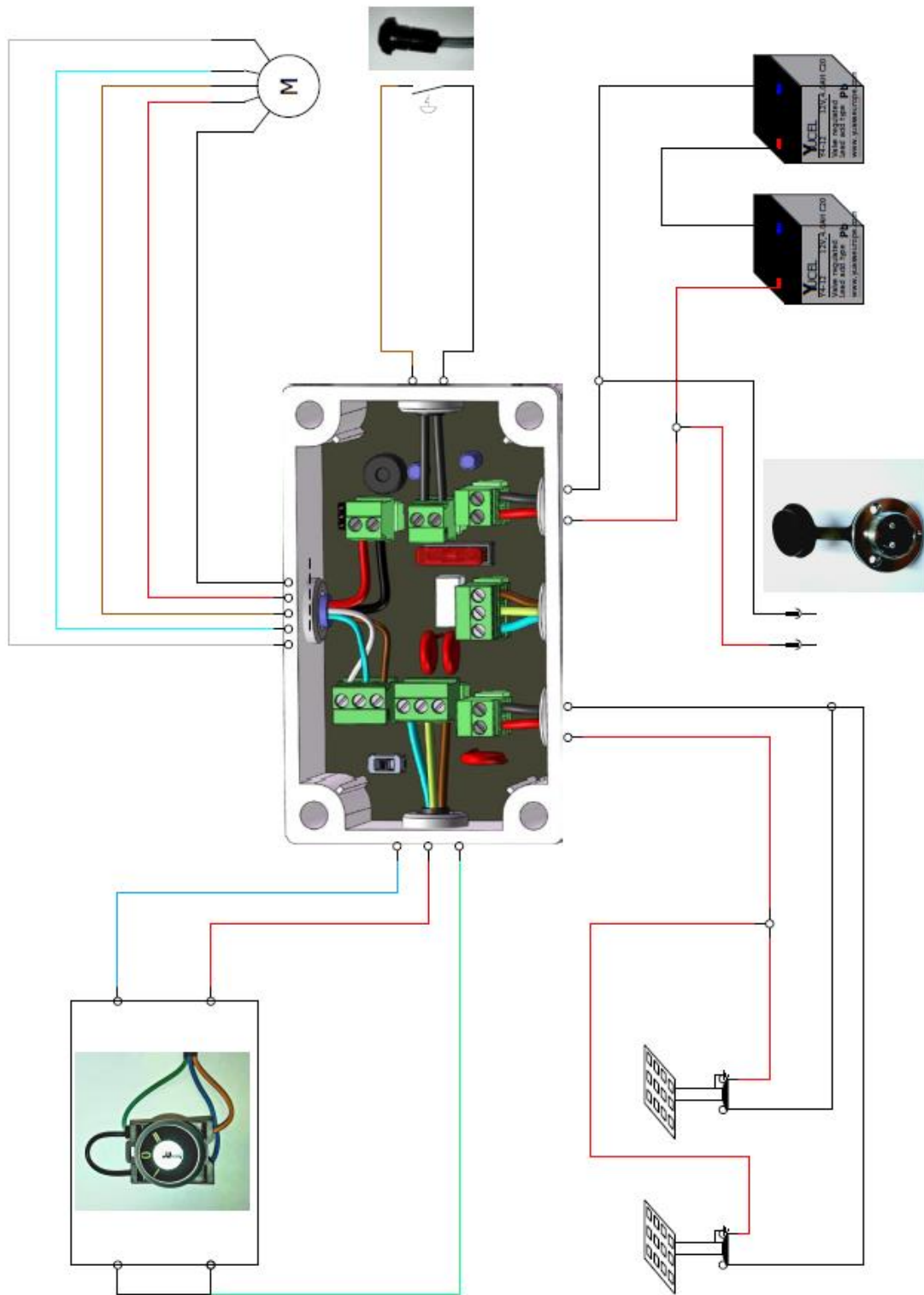


Connect the cable following diagram below



Make sure the switch is set as COVEO





**Step 4:** Program the end positions

→ Explained at the next pages (similar for Solar and Standard version)

**Step 5:** Close the cover and install the wooden cover again..




**EXTRA: Charger for batteries**

If needed the batteries can be charged with the delivered charger.

Connect the charger and switch on.

The charging will start automatically. At the moment the batteries are completely full, the charger will stop.

 **The charger should be at least 3.5m from the pool.**

**AVOID CONTACT WITH WATER!!**

**Please respect national or regional regulations**



## 2. *Setting end positions*

### **General:**

- The tubular motor has a reverse counter PCB that controls the motor and the EOT switches.
- Make sure the initialization button is connected in the junction box.

### **First Installation:**

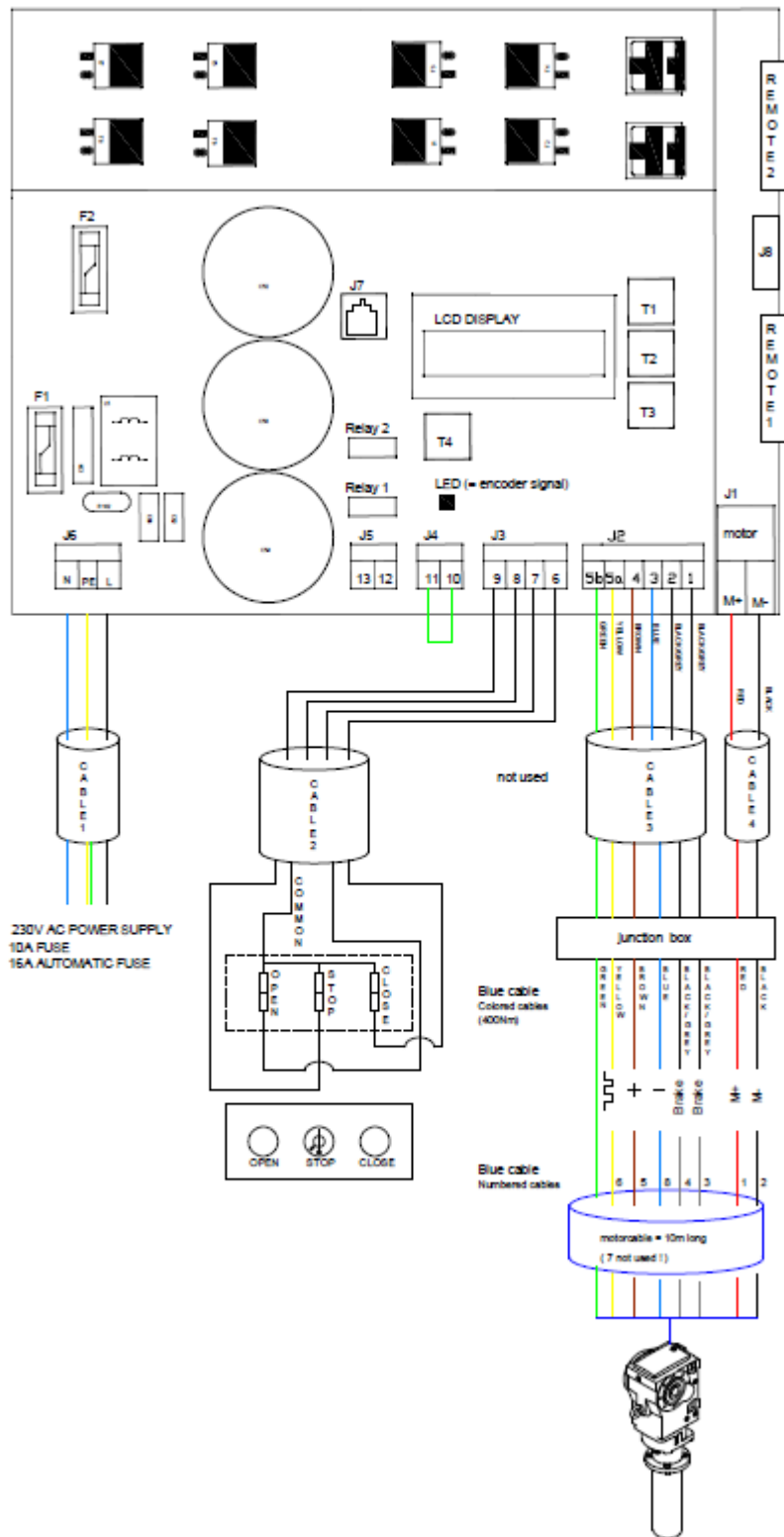
- Press the initialization button for at least 4 seconds
- Release the button
- Move the cover to the desired closed position using the keyswitch
- Press the initialization button again for at least 4 seconds and release
- Open the cover in one movement straight to the end position with the keyswitch held
- Release the key.
- The initialization is now complete.



### **Adjusting End Positions:**

- Bring the cover in the opposite position to the end position you want to program.
- Press the initialization button for at least 4 seconds
- Release the button
- Move the cover with the keyswitch in one movement to the end position you want to adjust.
- Release the key.
- You have now reprogrammed your position.

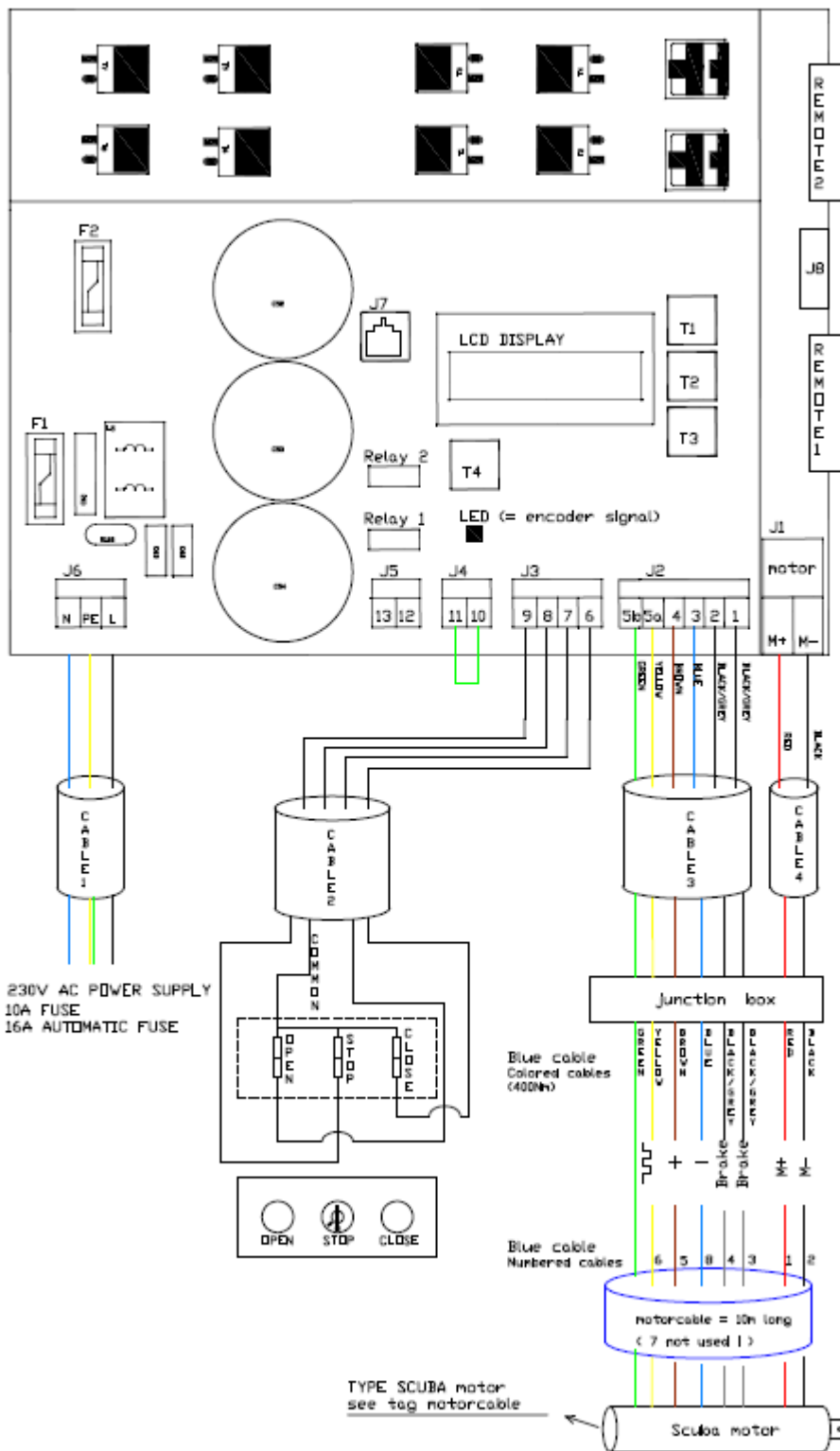
## E6: External Electrical 500Nm – Scuba 500Nm



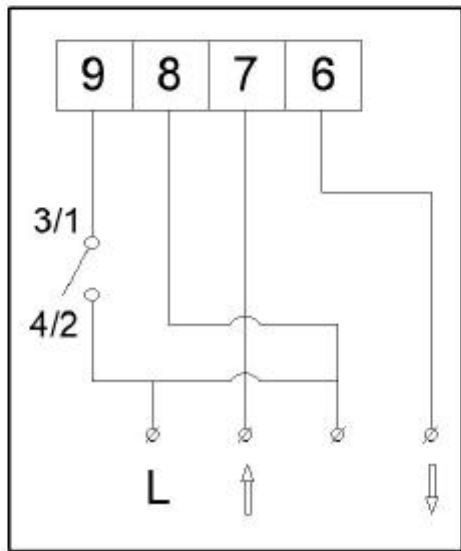
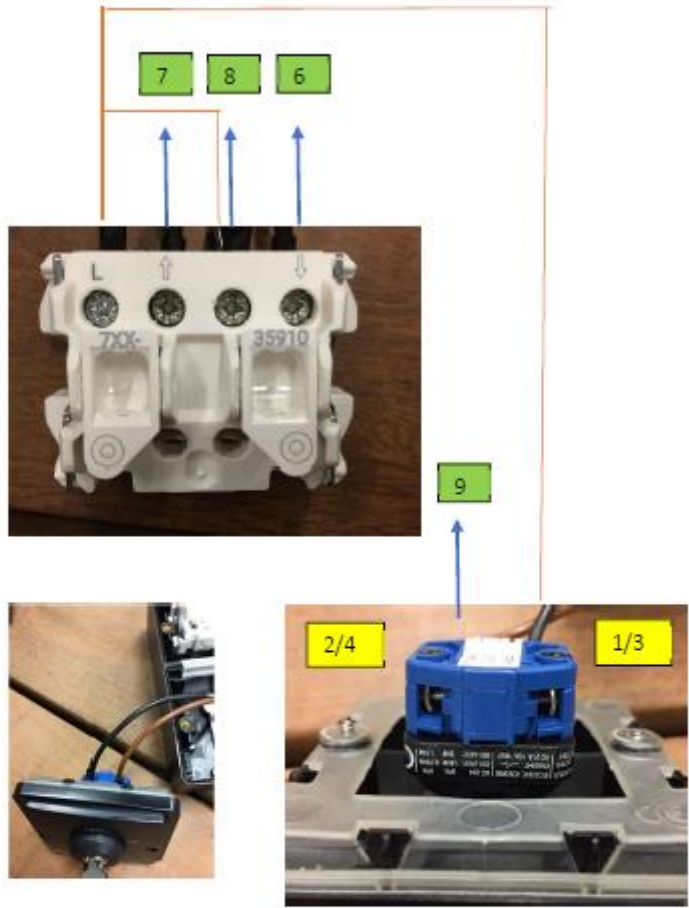
Code		Technical description	
<b>CABLE1</b>		Min. 3 x 1,5 mm <sup>2</sup>	<b>Flexible wire!</b>
<b>CABLE2</b>		Min. 4 x 0,75 mm <sup>2</sup>	<b>Flexible wire!</b>
<b>CABLE3</b>		Min. 6 x 0,75 mm <sup>2</sup> covered	<b>Flexible wire!</b>
<b>CABLE4</b>		Min. 2 x 4 mm <sup>2</sup>	<b>Flexible wire!</b>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

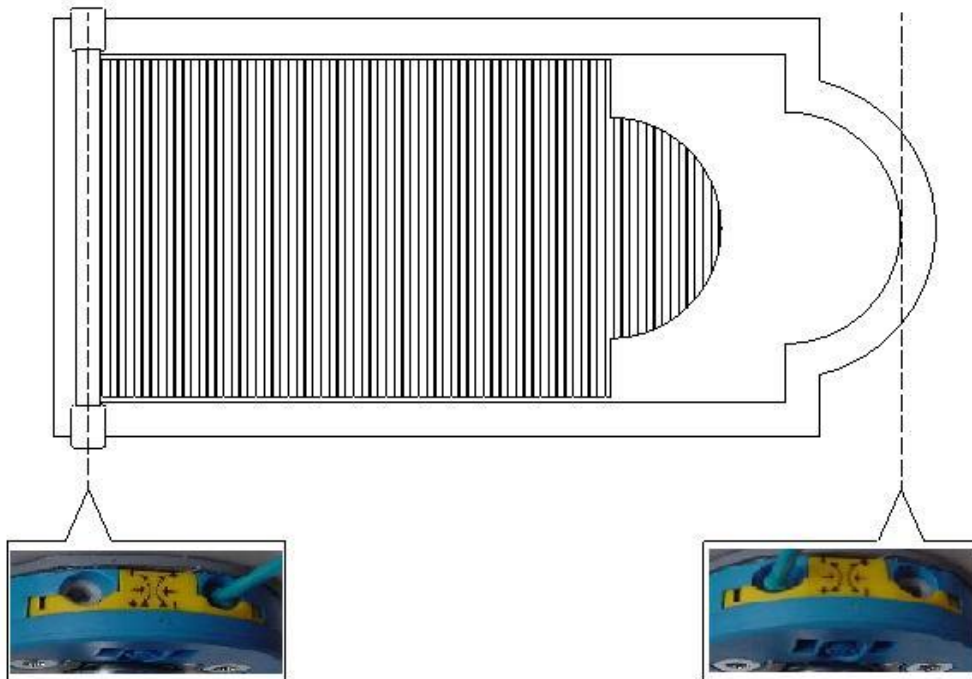




Code		Technical description	
<b>CABLE1</b>		Min. 3 x 1,5 mm <sup>2</sup>	<b>Flexible wire!</b>
<b>CABLE2</b>		Min. 4 x 0,75 mm <sup>2</sup>	<b>Flexible wire!</b>
<b>CABLE3</b>		Min. 5 x 1,5 mm <sup>2</sup> covered	<b>Flexible wire!</b>
<b>CABLE4</b>		Min. 2 x 4 mm <sup>2</sup>	<b>Flexible wire!</b>
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



## E7 – Connecting control: Top'Moov



**NOTE: Top'Moov installation with solar panels, fully charged of the batteries are needed before using the cover the 1st time, or use the optional emergency power supply.**

### General:

- The tubular motor has two end of running contacts inside to set the end positions. The end of running contacts limit the run time of the motor in both directions.
- The positions of the end of running contacts can be changed with a screw contact. The run time of the motor can be extended (+) or reduced (-) with the screw contact. The screw contact can be set with the (delivered) synthetic screwdriver.
- The right arrow on the motor indicates the turn direction of the motor.

### Installation:

#### STEP 1:

(Starting from the fact that this is the 1<sup>st</sup> installation on this site and so the slats are lying on the water, ready to be rolled up.) Put the key contact in the position corresponding to the 'opening' of the cover, now the roller shaft should roll the slats. Let the roller shaft turn until it stops, in other words until it reaches its end position contact.

#### STEP 2:

- If the roller shaft stops before the cover is rolled completely, the run time must be extended (+). Turn the screw contact at the pool side step by step in the '+' direction, now the cover should 'open' further. Repeat this until the cover is fully 'open'.
- If the roller shaft runs longer than necessary ('slipping'), the run time must be reduced (-). Close the cover for at least 25%. Turn the screw contact at the pool side instinctively in the '-' direction. Repeat 'step 2' as long as the cover keeps 'revolving' while 'opening'.

### STEP 3:

Put the key contact in the position according to the 'closing' of the cover, the roller shaft should now unroll the slats. Let the roller shaft run until it stops, in other words until it reached its end position contact.

### STEP 4:

- If the roller shaft stops before the cover is rolled of, the run time must be extended (+). Turn the other screw contact step by step in the '+' direction, now the cover should 'close' further. Repeat this until the cover is fully 'closed'.

- If the roller shaft does not stop before the entire cover is rolled of, the run time must be reduced (-). Open the pool for at least 25%. Turn the other screw contact instinctively in the '-' direction. Repeat 'step 4' as long as the cover keeps revolving while 'closing'.

The cover is ready for normal use.

#### General:

- The Top'Moov must always be locked with the brake!
- May only be used as a bench and not as a diving platform. Maximum load = 100kg.



- You can operate the cover (Open/Close) with the key switch.
- The keyswitch is being delivered pre-wired.
- The key switch is set up a constant contact (*Standard*), the cover keeps running until end position if the key is released
- **Remark:** the key switch can also be set up differently. Therefore demount the key switch and install the yellow chip according to the position.

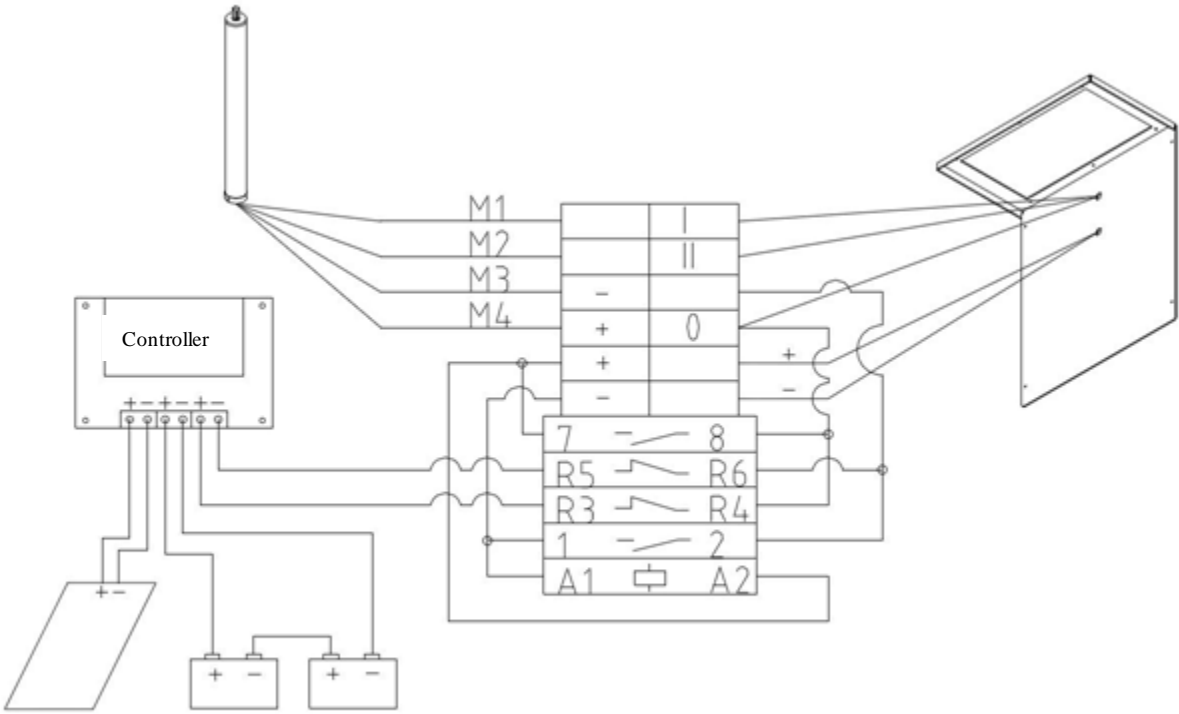


### *1. Connection diagram*

**Net cable power supply: 230V AC**



**Wiring scheme Top'Moov**



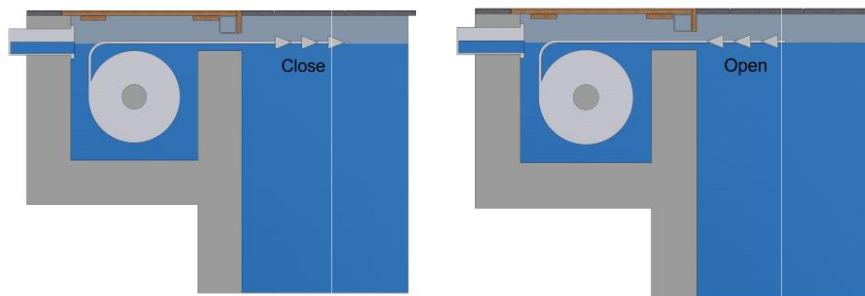




## F – Use and maintenance

### 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 raise 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 straps 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.

Alternatively, 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 temperatures***

**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.

**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**

**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.

## O1 - Finishing: Top mount – Bench

### General:

- The bench protects the slats against direct sunlight.

### Wood

### Description:

- Contains of 5 tailor made panels, to be fixed with supplied screws on the supports of the top mount mechanism.
  - 2x Front wall (1)
  - 1x Side wall – back (2)
  - 1x Side wall – front (3)
  - 1x Lid (4)
- The panels are made of tropical hard wood; IPE. Wood is a natural product. As such color differences, color changes, irregularities and small cracks are possible or even inevitable and cannot be claimed under our warranty.
- The bench is self-carrying and solid enough to sit on.
- Maximum concentrated load = 100 Kg.
- **PLEASE NOTE: Scrub the wood with domestic bleach before mounting, to avoid spots on the border and the slats after rinsing by the rain.**



### Dimensions:

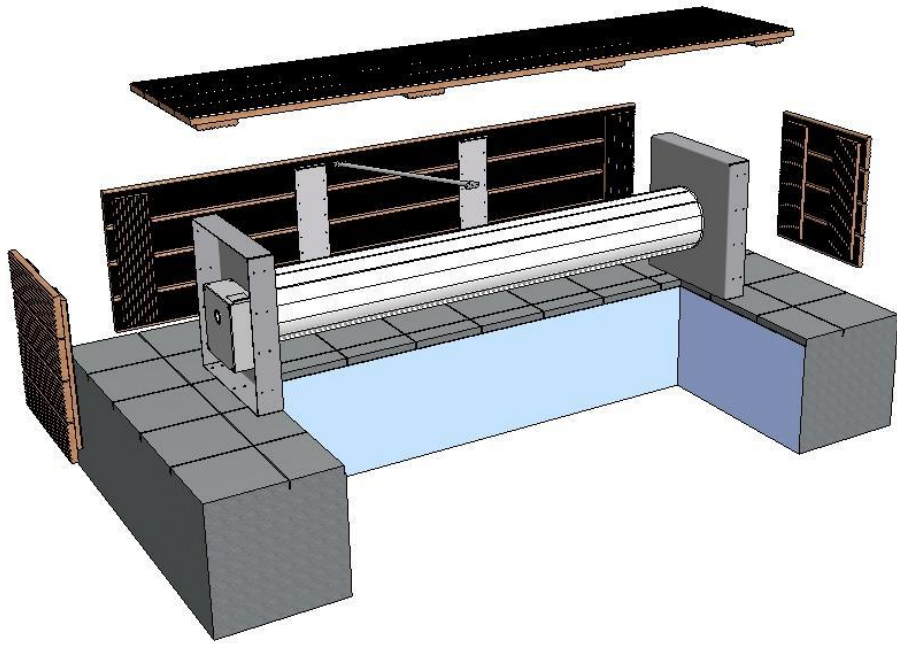
Type	Max. $\phi$ in mm	W in mm	H in mm	L in mm
M	520	570	595	max. 6m*
L	620	750	745	

\*  $L = \text{Pool width} + 0,5m$

### Installation:

- Screw the back and front side of the bench at the topmount supports.
- Screw the side pieces of the bench on the back and front.
- Keep the back and front together with the SS bar, if delivered with the bench.
- Put the wooden lid on top of the bench.



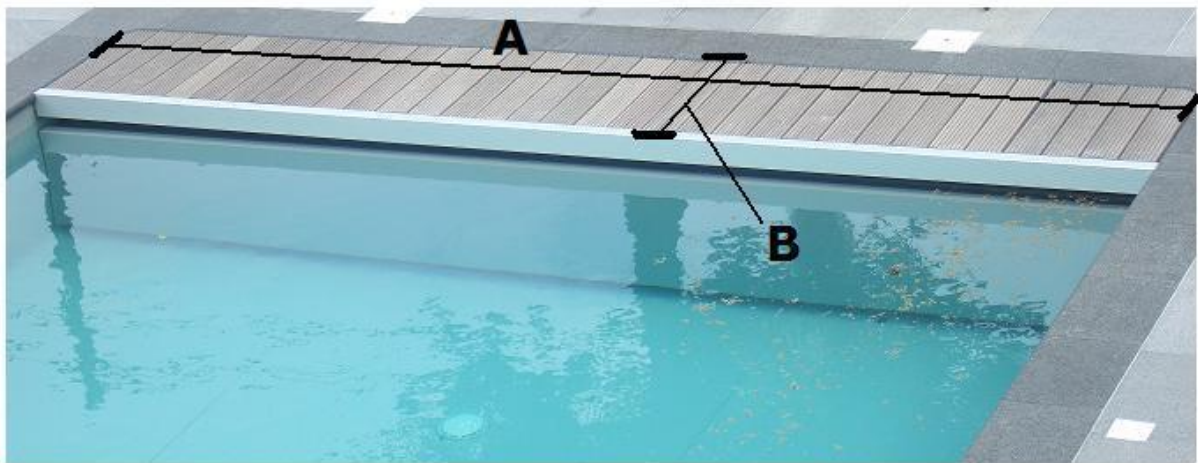


## O2 - Finishing: Underwater mount - In niche / in pool: Walking platform

### 1. Grids

#### General:

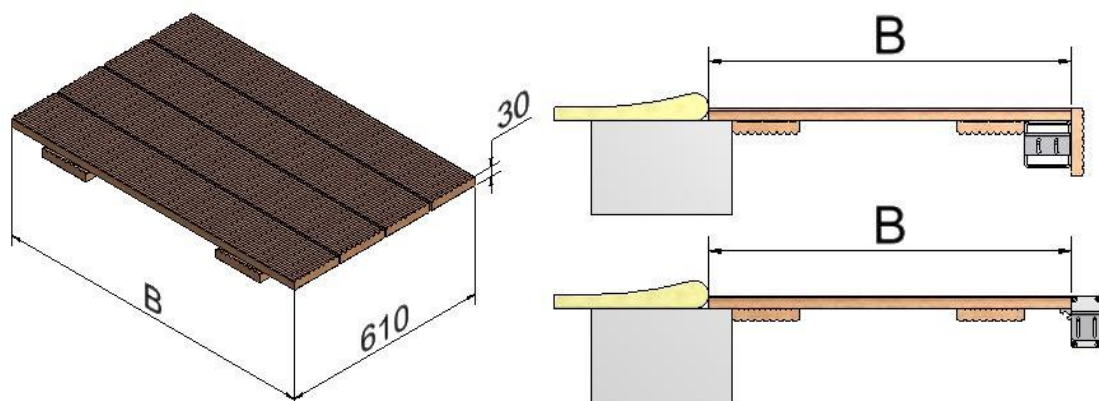
- The grids serve as a walking platform to finish the niche on top.
- The walking platform blocks the access to the niche, as a safety.
- A support for the grids is always necessary (see – 2. *Support*).
- Order details:
  - Dimension A.
  - Dimension B.
- 



#### Wood

##### Description:

- Material: Tropical hard wood; IPE
- Maximum concentrated load = 150 Kg.



##### Remark:

- Wooden grids can show slight transformations caused by the influence of atmospheric humidity and temperature.
- Discoloration of the wood is typical for this material!

## 2. Support

### General:

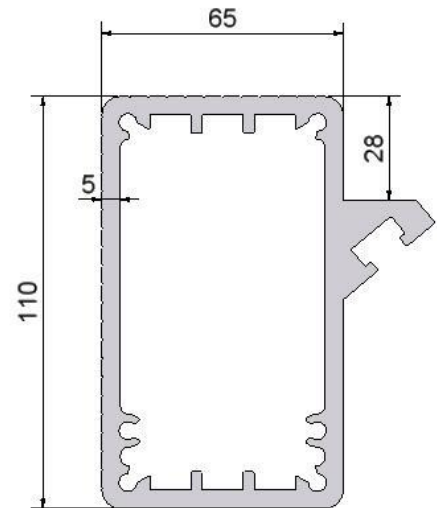
- The support serves to carry the grids or another finishing.
- Supports are available in the following versions.

### BEAMS

#### Aluminium beam 110 x 65 mm (anodized 25 µm)

##### Description:

- Section: 110 x 65 x 5mm.
- Length: B1 – 20mm (free room).
- L<sub>max.</sub> without centre support = 5m
- L<sub>max.</sub> with centre support = 7m
- Maximum concentrated load = 150 Kg.
- Provided with fixing rail for ballast set, which also serves as support rib for the wooden/PVC grids.
- The beam is being fixed by means of SS brackets on the pool wall which are adjustable in height.
- Order details:
  - Width of the pool.



#### SS beam 100 x 100 x 5 mm (AISI 304)

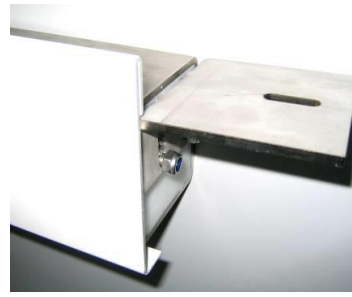
##### Description:

- Section: 100 x 100 x 5mm.
- Length: B1 – 20mm (free room).
- L<sub>max.</sub> without centre support = 5m
- L<sub>max.</sub> with centre support = 10m
- Maximum concentrated load = 150 Kg.
- Provided with fixing holes for ballast set.
- The beam is being fixed by means of SS brackets on the pool wall which are adjustable in height.
- Order details:
  - Width of the pool.

##### Remark:

When the SS beam is being ordered together with the wooden grids, this beam will be finished with the same wood on the crosscut side.

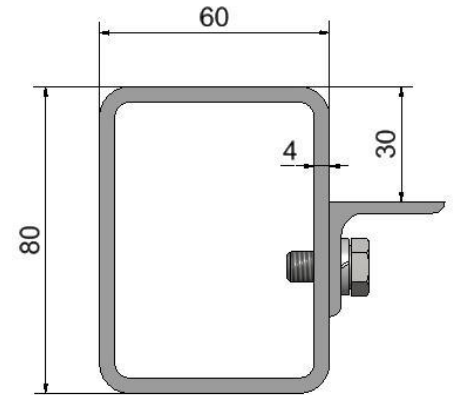
When the SS beam is being ordered together with the PVC grids, this beam will be finished with white aluminium painted plate on the crosscut side.



### **Stainless Steel beam 80 x 60 x 4 mm (AISI 304)**

#### **Description:**

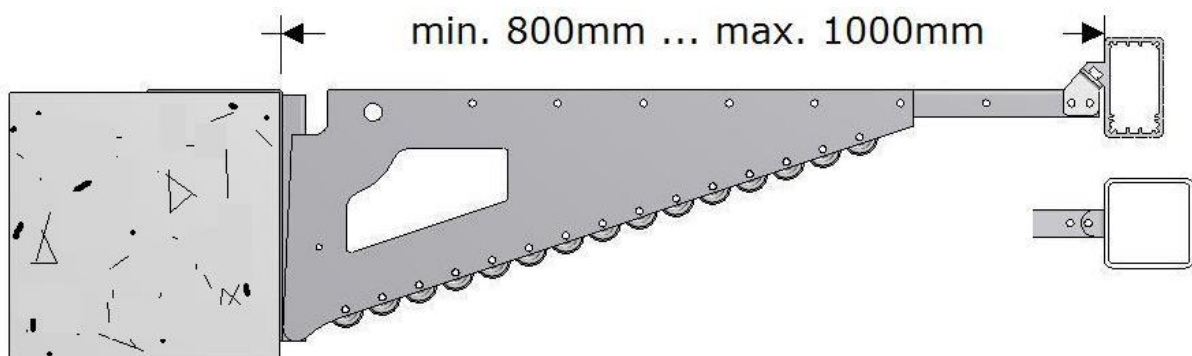
- Section: 80 x 60 x 4mm.
- Length: B1 – 20mm (play).  $L_{max.} = 4m$
- Maximum concentrated load = 150 Kg.
- Provided with fixing holes for ballast set.
- The beam is being fixed with lips on the pool border which are adjustable in height.
- Order details:
  - Width of the pool.



### **SS centre support for beam**

#### **Description:**

- Dimensions: *see drawing below.*
- Maximum concentrated load = 150 Kg.
- Provided with wheels to guide the cover during opening/closing.
- The support will be fixed with a wall clamp. The support, which is adjustable as well in height as in gradient, is resting in here.
- The wall clamps are being fixed on top of the pool wall with bolts.
- The wall clamp is pressing tightly against the back wall of the pool. The wall and the lining should be calculated on this load.
- Length is adjustable between 800 and 1000mm.
- Order details:
  - Number of supports.



#### **Remark:**

In order to reduce bending of the beam, we recommend this with spans above 5m.

Swimming pool width:

$5,0\text{m} < W < 7,0\text{m}$  = 3 centre supports

$7,0\text{m} \leq W < 8,5\text{m}$  = 4 centre supports

$8,5\text{m} \leq W$  = 5 centre supports

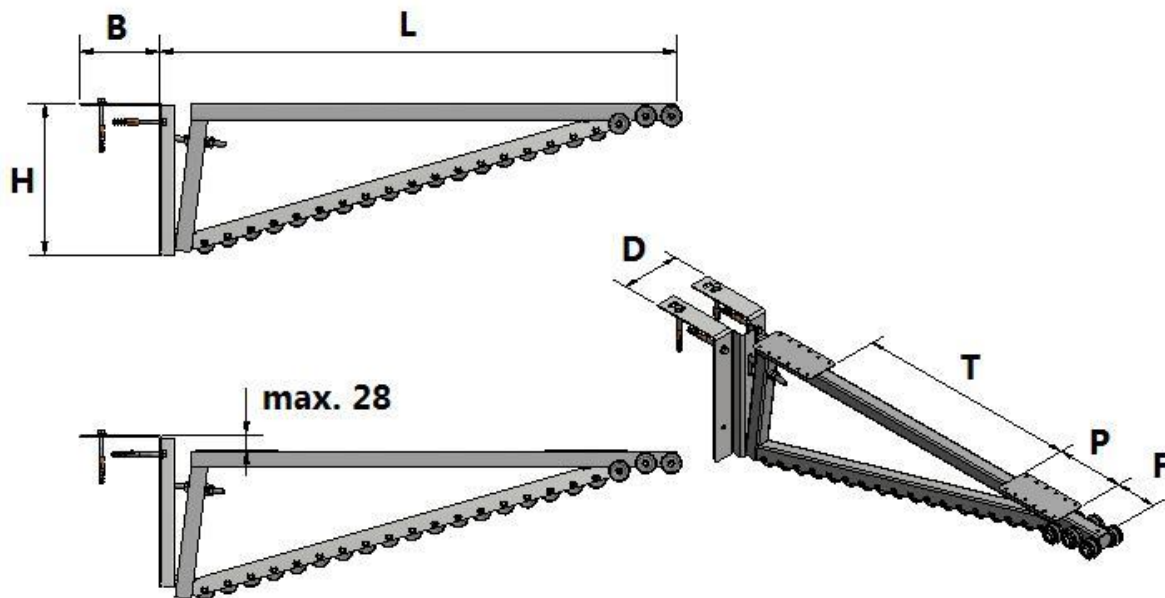
Maximum width of pool :  $B = 10 \text{ m}$

## BRACKETS

### Adjustable bracket (770 / 950 / 1200)

#### Description:

- Maximum concentrated load = 150 Kg.
- Provided with supports to fix grids on.
- Provided with wheels to guide the cover during opening/closing.
- The support is being fixed with a wall clamp on top of the pool wall. The support, which is adjustable as well in height as in gradient, is resting in here.
- The wall clamp is pressing tightly against the back wall of the pool. The wall and the lining should be calculated on this load.
- Place the support with an intermediate distance of about 70cm.
- The first and the last support should be installed at min. 10 and max. 25cm of the side wall of the pool.
- In case of a L-shape pool: make sure that the support guides the slats and not the endcaps.
- Order details:
  - Number of supports.



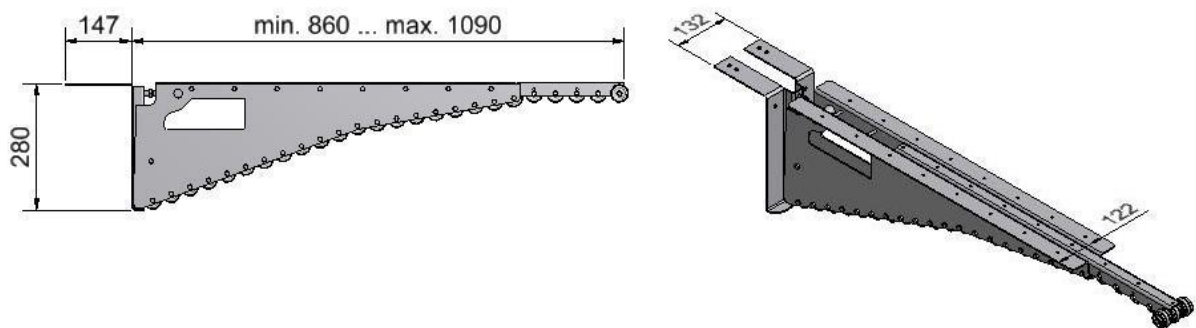
(Dimensions in mm)

L	B	H	D	T	P	F
770	150	280	130	300	150	90
950				490		
1200				550		

## **Extendible bracket AT-001740 (only on demand)**

### **Description:**

- Dimensions: *see drawing below.*
- Maximum concentrated load = 150 Kg.
- Provided with supports to fix the grids on.
- Provided with wheels to guide the cover during opening/closing.
- The support will be fixed with a wall clamp. The support, which is adjustable as well in height as in gradient, is resting in here.
- The wall clamp is pressing tightly against the back wall of the pool. The wall and the lining should be calculated on this load.
- The wall clamps are being fixed on top of the pool wall with bolts.
- Place the supports with an intermediate distance of about 70cm.
- The first and the last support should be installed at min. 10 and max. 25cm of the side wall of the pool.
- In case of a L-shape pool: make sure that the support guides the slats and not the endcaps.
- Length is adjustable between 860 and 1090mm.
- Order details:
  - Number of supports.



### **REMARK**

Both brackets can be finished and connected with a profile, like a L-profile or T&A aluminium finishing profile.

#### **L-profile**



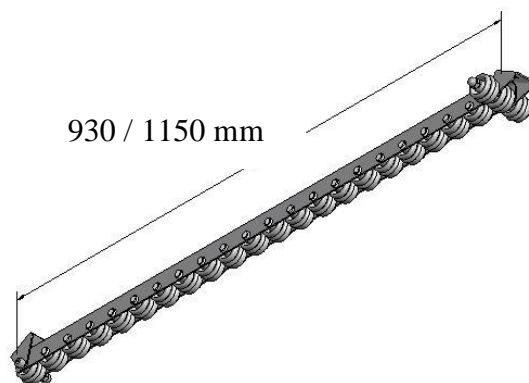
### T&A aluminium finishing profile



### 3. Wheel strips

#### Description:

- Dimensions: *see drawing below*.
- The length can be shortened easily, if necessary.
- They can be extended, using our extension set.
- Provided with wheels to guide the cover during opening/closing.
- Place wheel strips with an intermediate distance of about 70cm,
- The first and the last support should be installed at min. 10 and max. 25cm of the side wall of the pool.
- In case of a L-shape pool: make sure that the support guides the slats and not the endcaps.







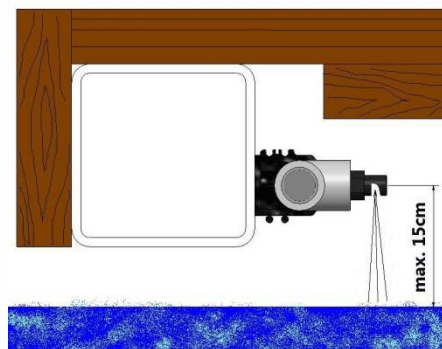
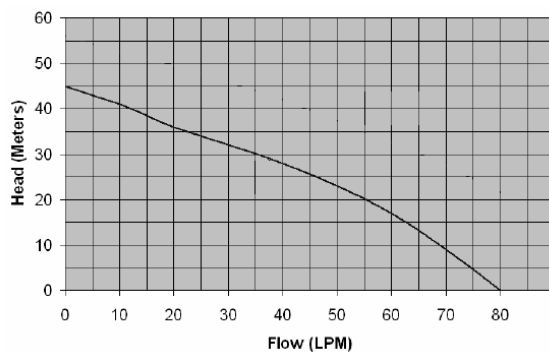
## 4. Coverwash

### General:

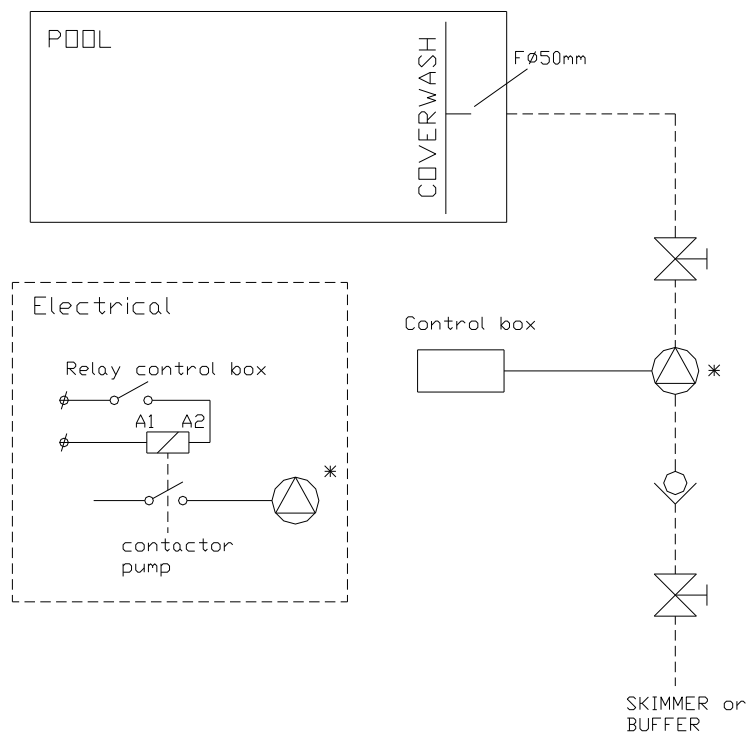
- Automatic cleaning system for the topside of the AquaTop cover.
- Pool water in a separate high pressure circuit is jetted on top of- and in between the slats everytime the cover opens and/or closes.

### Description:

- Fixed at SS or aluminium support beam (above the water level).
- Installed over the full width of the pool.
- Max. 150 mm above water level.
- System provided with Ø50mm - F connection.
- Before operation, we strongly advice to rinse the system in order to prevent clogging.
- The pump is being controlled through the T&A Control Box (AT-002389).  
→ MENU → I/O Set-up → RELAYS → Select the correct relay → Function F12 to be confirmed → the cover is being cleaned everytime the cover opens.



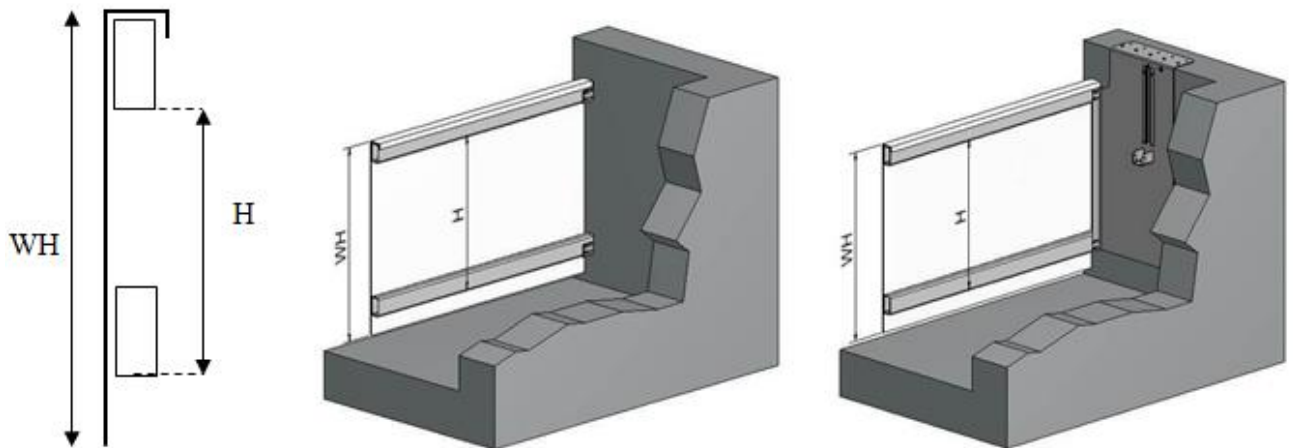
### Preparation:



### O3-1 - Finishing: Underwater mount - In pool: Panel (SCUBA-plates®)

#### General:

- A 'dividing panel' makes a separation between the pool part and the niche part. A panel between cover and pool according to the drawing (chapter A3) is necessary to comply with the European standard EN\_16582-1/2/3!
- Standard width of the panel is B2 – 14mm. The panel should be mounted symmetrically to limit the gap between the panel and the side walls of the pool. Width of the gap/side  $\leq 8\text{mm}$ .
- This dividing panel can be installed on our SCUBA-plates for the panel®. These serve as well as fixing for the dividing panel as well as for the roller shaft with SCUBA-drive®.
- The panel is being supported by a SS frame (for pool width exceeding 4 m).
- If necessary the panel consists of different pieces, to simplify the ease of handling during mounting and transport.
- The SCUBA-plates for dividing panel® are available, depending on the depth of the pool, in heights of 600 till 1400mm.
- The dividing panel is available in the following two materials: Polyester or PVC.



<b>Height wall (WH) in mm</b>	<b>From</b>	500	651	751	851	951	1051	1151	1251	1351
	<b>Till</b>	650	750	850	950	1050	1150	1250	1350	1400
<b>Height difference (H) in mm</b>		400	500	600	700	800	900	1000	1100	1200

## *Polyester*

### **Description:**

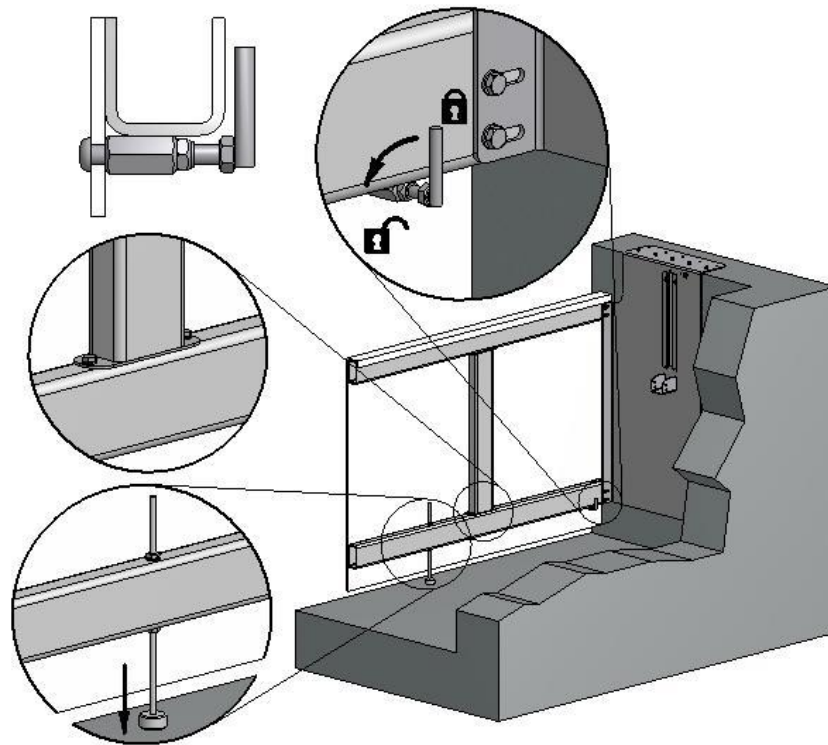
- Colour: White (*Standard*) – Available in several RAL-colours for a charge.
- RAL-9999 indicates a rough finishing for application of tiles/mosaic/liner
- Thickness:  $\pm 8\text{mm}$ .
- Maximum dimensions:
  - Wall width = 6 m (max.).
  - Wall height = 1400mm (max.).
- Consolidated with:
  - SS frame with pool width  $> 4$  m (On request also possible under 4 m).
- Installation
  - $\leq 4$  m wall mounting brackets
  - $> 4$  m SS frame



## Installation: Dividing wall on SS frame

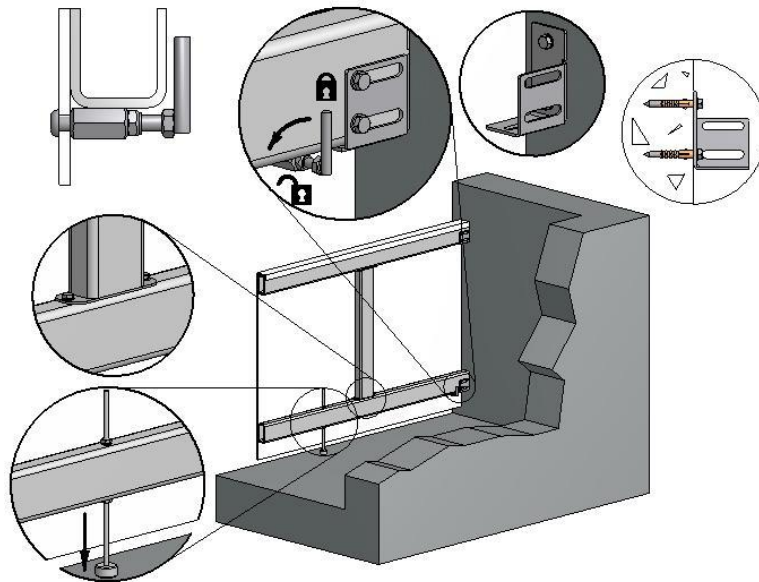
### *With SCUBA-plates:*

- Fix both SS beams (100x50x2mm) at the SCUBA-plates for dividing panel®, on the prepared places (slots).
- Place the dividing panel(s) to connect the upper beam with the lower beam and so form a solid SS frame.
- Adjust the carrying supports in the lower beam till they touch the bottom. They will help carrying the SS frame and help you to perfectly level the dividing wall.
- Hang the collar of the panels over the SS frame, so that they cling.
- The panel should be mounted symmetrically to limit the gap between the panel and the side walls of the pool. Width of the gap/side  $\leq 8\text{mm}$ .
- Turn the locking pin 90° to anchor the panel behind the lower beam.



### *Without SCUBA-plates/Mounting at the pool wall*

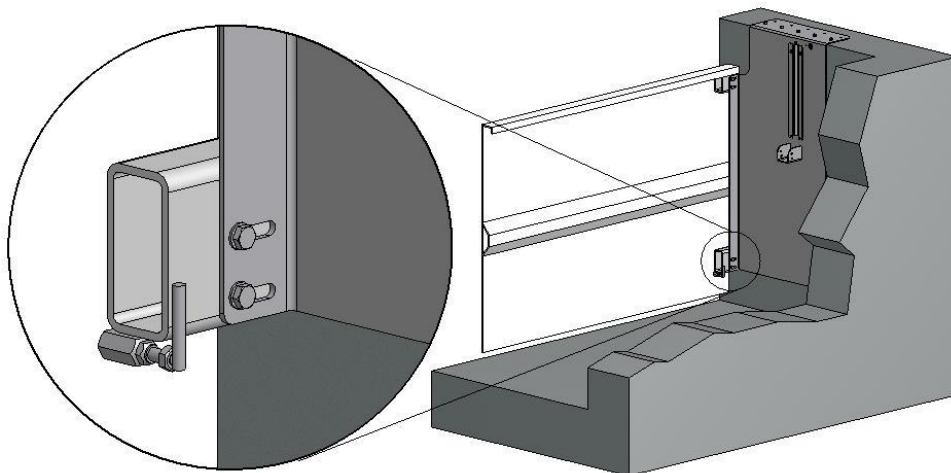
- Mount the anchoring positions to the pool wall, on the right place and intermediate distance (*see drawing*). Use enough silicon in the fixing holes to seal them and avoid leaking of water. Do not forget to place the delivered PUR seals.
- Fix both SS beams (100x50x2mm) at the anchoring positions, on the prepared places (slots).
- Place the dividing panel(s) to connect the upper beam with the lower beam and so form a solid SS frame.
- Adjust the carrying supports in the lower beam till they touch the bottom. They will help carrying the SS frame and help you to level the wall during installation.
- Hang the collar of the panels over the SS frame, so that they cling.
- The panel should be mounted symmetrically to limit the gap between the panel and the side walls of the pool. Width of the gap/side  $\leq 8\text{mm}$ .
- Turn the locking pin 90° to anchor the panel behind the lower beam.



### **Dividing wall without SS frame : anchoring cases**

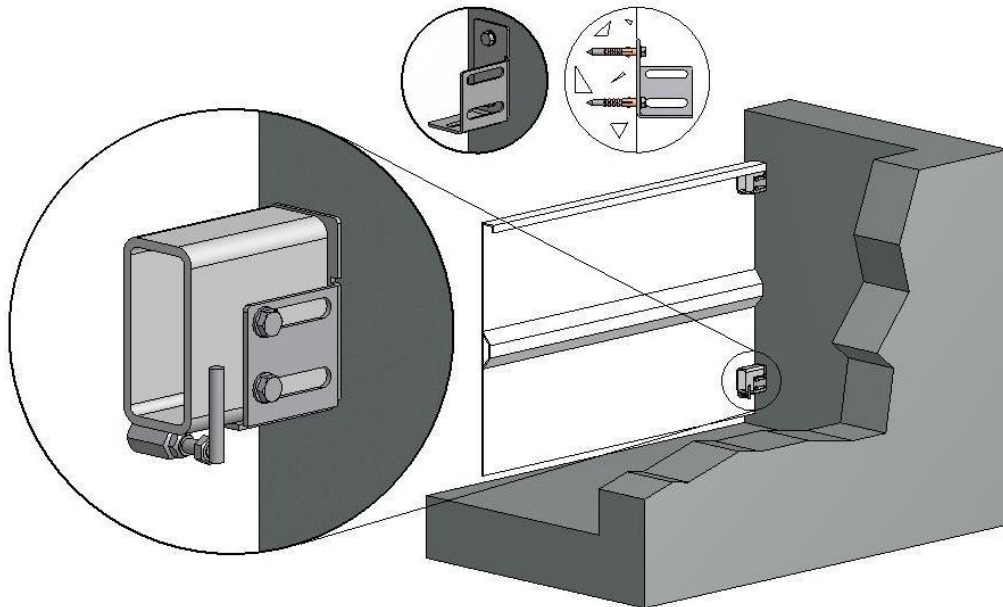
#### *With SCUBA-plates:*

- Fix both anchoring cases to the SCUBA-plates for dividing panel®, on the prepared places (slots).
- Hang the collar of the panels over the anchoring cases with fixing ribs, so that they cling.
- The panel should be mounted symmetrically to limit the gap between the panel and the side walls of the pool. Width of the gap/side  $\leq 8\text{mm}$ .
- Turn the locking pin  $90^\circ$  to anchor the panel behind the lower stainless steel part.



**Without SCUBA-plates:**

- Mount the anchoring positions to the pool wall, on the right place and intermediate distance (*see drawing*). Use enough silicon in the fixing holes to seal them and to avoid leaking of water. Don't forget to place the delivered PUR seals.
- Fix both anchoring cases on the anchoring positions, on the prepared places (slots).
- Hang the collar of the panels over the anchoring cases with fixing ribs, so that they cling.
- The panel should be mounted symmetrically to limit the gap between the panel and the side walls of the pool. Width of the gap/side  $\leq 8\text{mm}$ .
- Turn the locking pin 90° to anchor the panel behind the lower stainless steel part.



## PVC

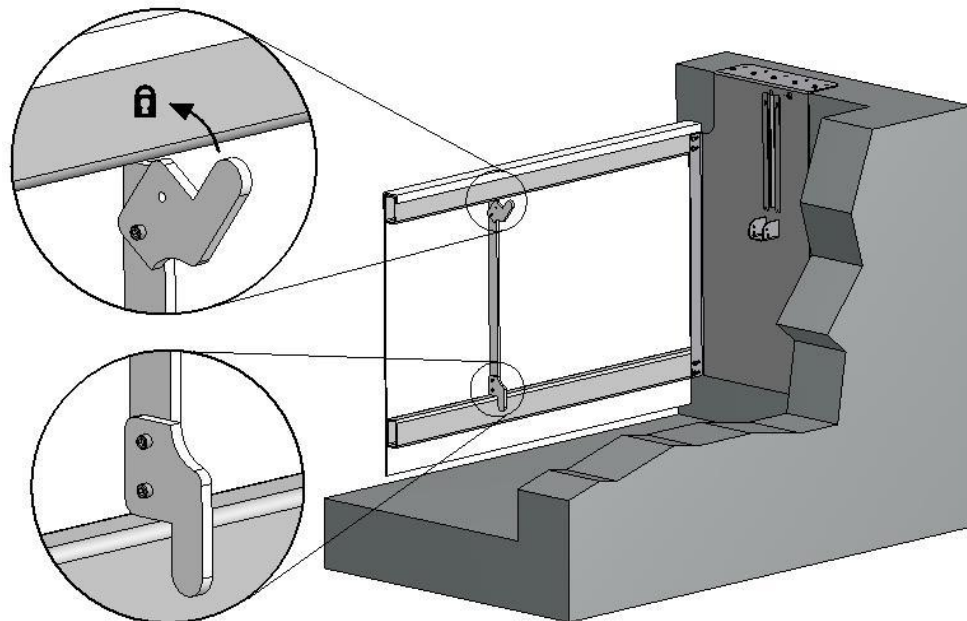
### Description:

- Colour: White – You can apply liner on this wall.
- Thickness: 6mm.
- Dimensions:
  - Panel height < 900mm                      Width per piece = 2m (max.).
  - Panel height < 1400mm                  Width per piece = 1,5m (max.).
- This panel is always supplied on a SS frame (100 x 50 x 2 mm)

### Installation:

#### *With SCUBA-plates:*

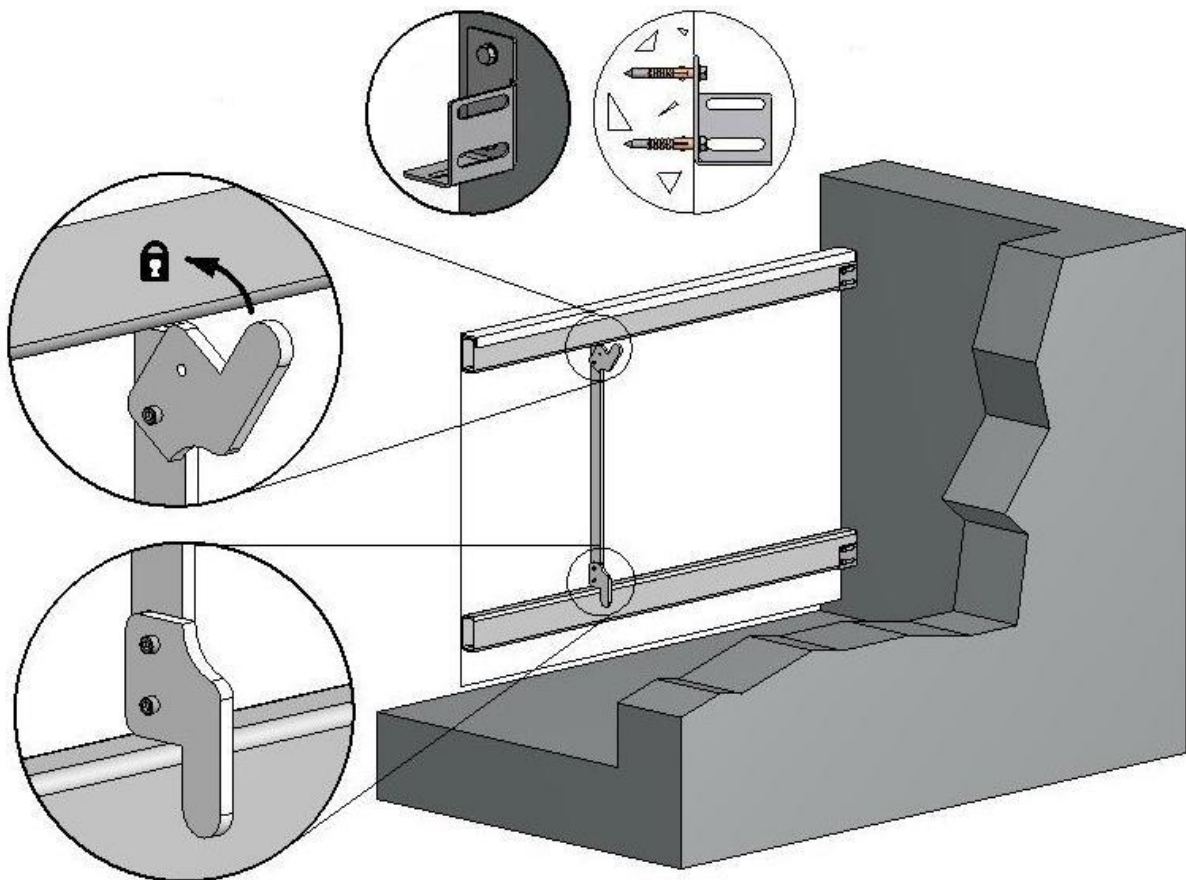
- Fix both SS beams (100x50x2mm) to the SCUBA-plates for dividing panel®, on the prepared places (slots).
- Place the dividing panel(s) to connect the upper beam with the lower beam and so form a solid SS frame. (These will be positioned on the separation of two pieces.)
- Adjust the carrying supports in the lower beam till they touch the bottom. They will help carrying the SS frame.
- (Make sure the upper brackets are ‘open’) Hang the collar of the panels over the SS frame, so that the lower bracket also rests on the SS frame. In this way the pieces are clinging.
- The panel should be mounted symmetrically to limit the gap between the panel and the side walls of the pool as well as the gap between the different panel parts. The gaps should never be bigger than 8mm.
- Pull the upper bracket in its ‘closed’ position, to anchor the wall behind the SS frame.





### *Without SCUBA-plates / Mounting to the wall*

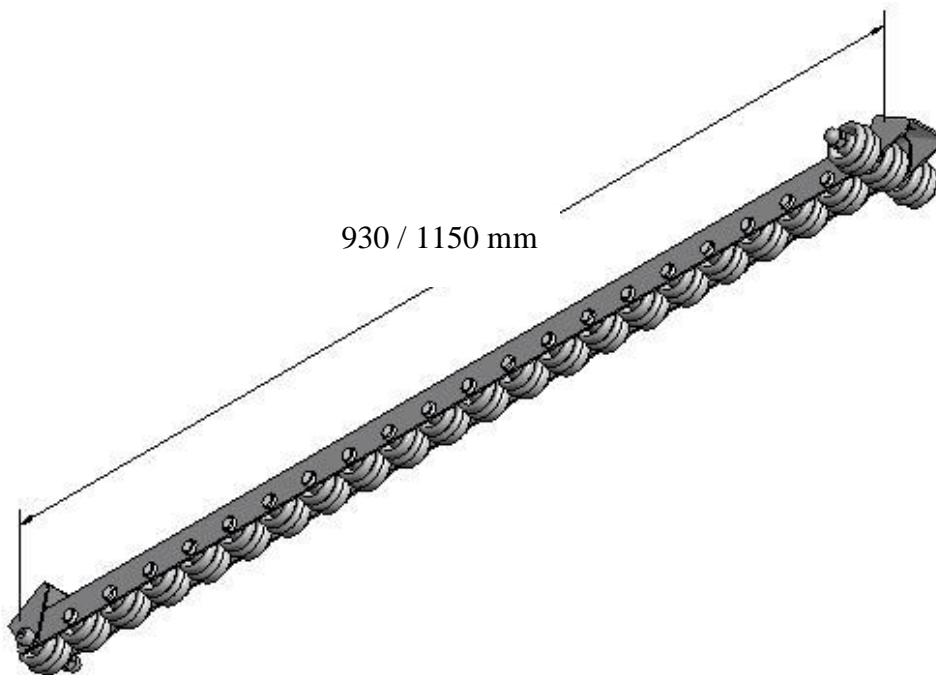
- Mount the anchoring positions to the pool wall, on the right place and intermediate distance (*see drawing*). Use enough silicon to seal the fixing holes and to avoid leaking of water. Don't forget to place the delivered PUR seals.
- Fix both SS beams (100x50x2mm) to the anchoring positions, on the prepared places (slots).
- Place the dividing panel(s) to connect the upper beam with the lower beam and so form a solid SS frame. (These will be positioned on the separation of two pieces.)
- Adjust the carrying supports in the lower beam till they touch the bottom. They will help carrying the SS frame.
- (Make sure the upper brackets are 'open') Hang the collar of the panels over the SS frame, so that the lower bracket also rests on the SS frame. In this way the pieces are clinging.
- The panel should be mounted symmetrically to limit the gap between the panel and the side walls of the pool as well as the gap between the different panel parts. The gaps should never be bigger than 8mm.
- Pull the upper bracket in its 'closed' position, to anchor the wall behind the SS frame.



## Wheel strips

### Description:

- Dimensions: *see drawing*
- The length can be shortened easily, if necessary.
- They can be extended, using our extension set.
- T&A provides a connection set to connect 2 wheel strips with each other in order to get extra long versions.
- Provided with wheels to guide the cover during opening/closing.
- Place wheel strips with an intermediate distance of about 70cm.
- The first and the last support should be installed at min. 10 and max. 25cm of the side wall of the pool.
- In case of a L-shape pool: make sure that the support guides the slats and not the endcaps.
- As an option, a counter flange can be provided for liner pools, AT-002411 (See chapter O9)

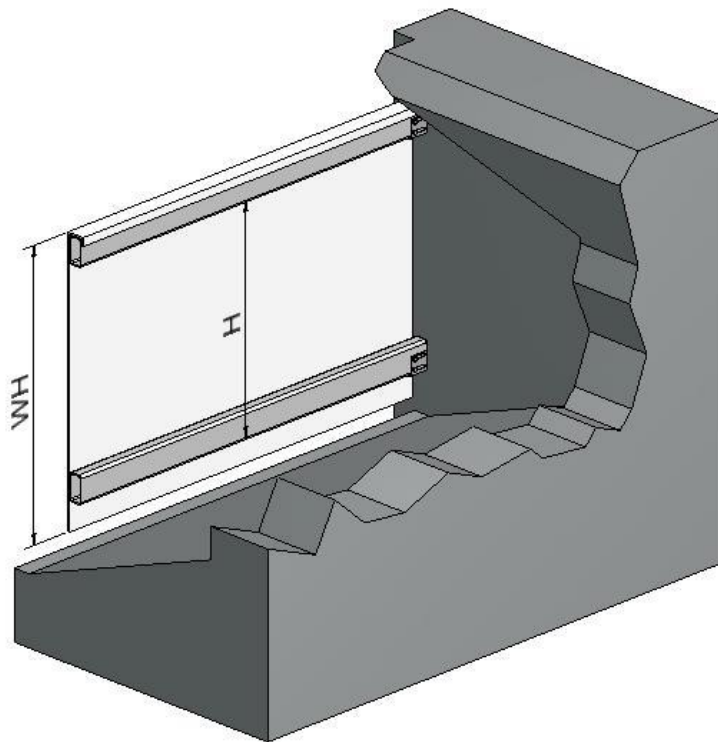




### O3-2 - Finishing: Underwater mount - In wall: Panel

#### General:

- A 'dividing panel' makes a separation between the pool part and the niche part. A panel between cover and pool according to the drawing (chapter A3) is necessary to comply with the European standard EN\_16582-1/2/3!
- Standard width of the panel is B2 – 14mm. The panel should be mounted symmetrically to limit the gap between the panel and the side walls of the pool. Width of the gap/side  $\leq 8\text{mm}$ .
- This dividing panel will be installed on a frame or anchoring cases, depending on the consolidation option. This always after finishing the inside of the pool.
- The panel is being supported by a SS frame, if necessary.
- If necessary the panel contains of different pieces, to simplify the ease of handling during mounting and transport.
- The dividing panel is available in the following two materials: Vinylester or PVC.



<b>Wall height (WH) in mm</b>	<b>From</b>	500	651	751	851	951	1051	1151	1251	1351
	<b>Till</b>	650	750	850	950	1050	1150	1250	1350	1400
<b>Height difference (H) in mm</b>		400	500	600	700	800	900	1000	1100	1200

## *Polyester*

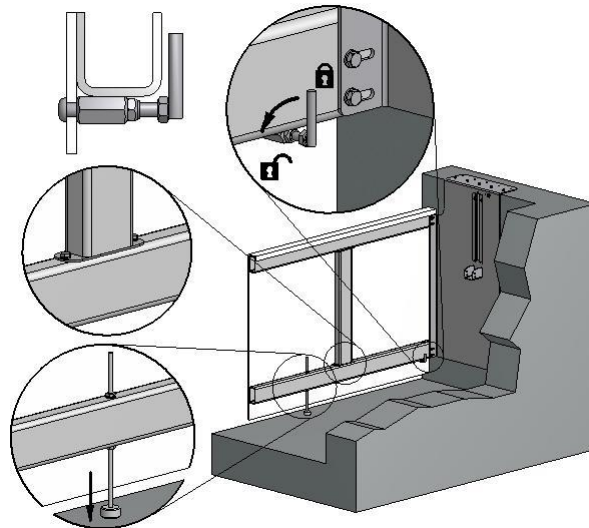
### **Description:**

- Colour: White (*Standard*) – Available in several RAL-colours for a charge.
- RAL-9999 indicates a rough finishing for application of tiles/mosaic/liner
- Thickness:  $\pm 8\text{mm}$ .
- Maximum dimensions:
  - Wall width = 6 m (max.).
  - Wall height = 1400mm (max.).
- Consolidated with:
  - SS frame with pool width  $> 4$  m (On request also possible under 4 m).
- Installation
  - $\leq 4$  m wall mounting brackets
  - $> 4$  m SS frame



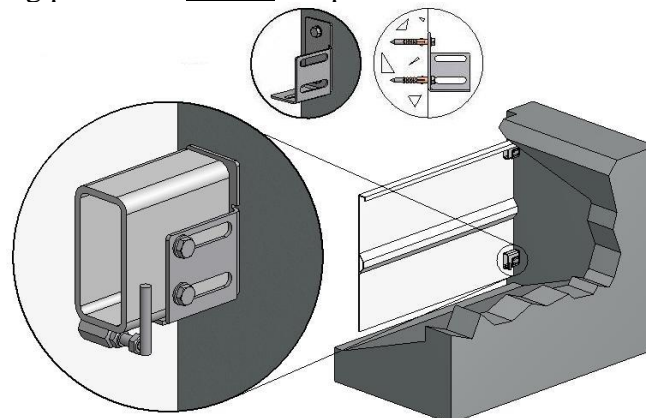
## Installation: Dividing wall on SS frame

- Fix both SS beams (100x50x2mm) at the SCUBA-plates for dividing panel®, on the prepared places (slots).
- Place the dividing panel(s) to connect the upper beam with the lower beam and so form a solid SS frame.
- Adjust the carrying supports in the lower beam till they touch the bottom. They will help carrying the SS frame and help you to perfectly level the dividing wall.
- Hang the collar of the panels over the SS frame, so that they cling.
- The panel should be mounted symmetrically to limit the gap between the panel and the side walls of the pool. Width of the gap/side  $\leq 8\text{mm}$ .
- Turn the locking pin 90° to anchor the panel behind the lower beam.



## *Mounting at the pool wall*

- Mount the anchoring positions to the pool wall, on the right place and intermediate distance (*see drawing*). Use enough silicon in the fixing holes to seal them and to avoid leaking of water. Don't forget to place the delivered PUR seals.
- Fix both anchoring cases on the anchoring positions, on the prepared places (slots).
- Hang the collar of the panels over the anchoring cases with fixing ribs, so that they cling.
- The panel should be mounted symmetrically to limit the gap between the panel and the side walls of the pool. Width of the gap/side  $\leq 8\text{mm}$ .
- Turn the locking pin 90° to anchor the panel behind the lower stainless steel part.



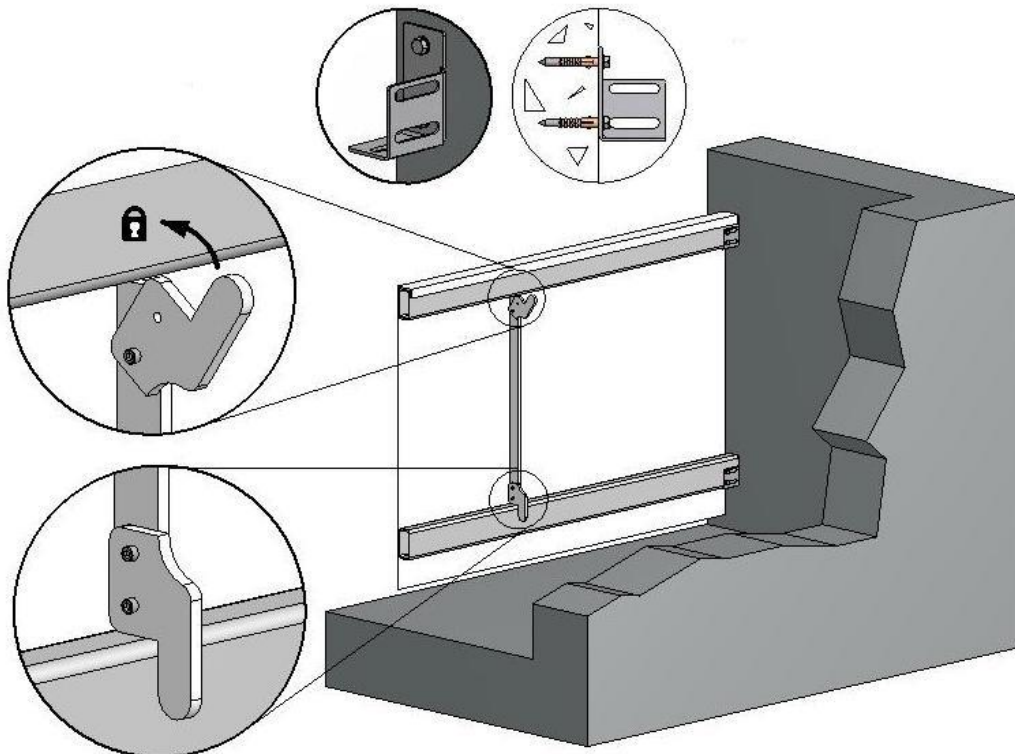
## PVC

### Description:

- Colour: White – You can apply liner on this wall.
- Thickness: 6mm.
- Dimensions:
  - Panel height < 900mm                      Width per piece = 2m (max.).
  - Panel height < 1400mm                    Width per piece = 1,5m (max.).
- This panel is always supplied on a SS frame (100 x 50 x 2 mm)

### Installation: *Mounting to the wall*

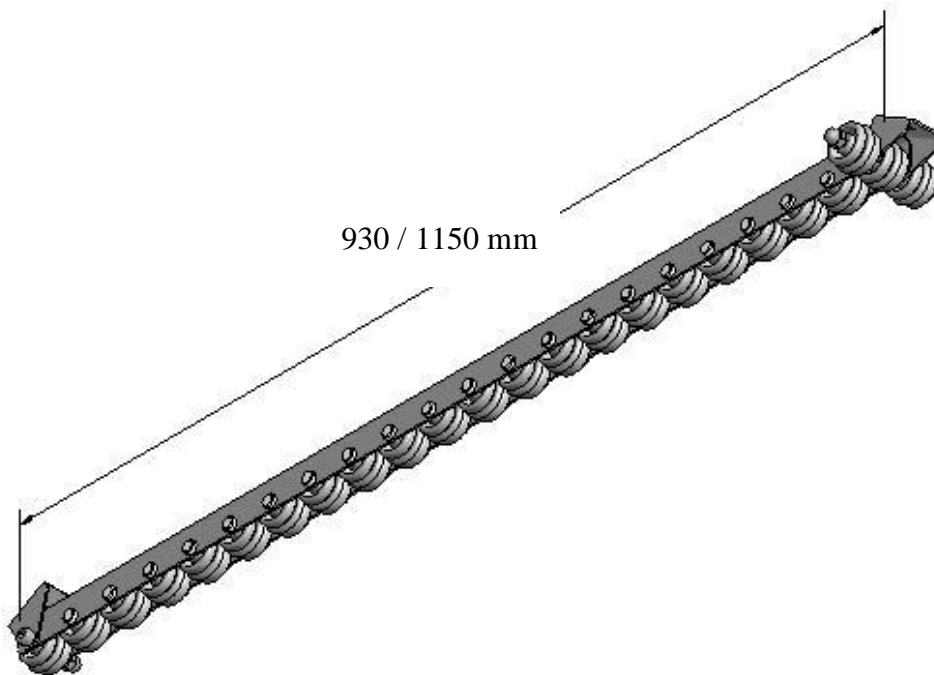
- Mount the anchoring positions to the pool wall, on the right place and intermediate distance (*see drawing*). Use enough silicon to seal the fixing holes and to avoid leaking of water. Don't forget to place the delivered PUR seals.
- Fix both SS beams (100x50x2mm) to the anchoring positions, on the prepared places (slots).
- Place the dividing panel(s) to connect the upper beam with the lower beam and so form a solid SS frame. (These will be positioned on the separation of two pieces.)
- Adjust the carrying supports in the lower beam till they touch the bottom. They will help carrying the SS frame.
- (Make sure the upper brackets are 'open') Hang the collar of the panels over the SS frame, so that the lower bracket also rests on the SS frame. In this way the pieces are clinging.
- The panel should be mounted symmetrically to limit the gap between the panel and the side walls of the pool as well as the gap between the different panel parts. The gaps should never be bigger than 8mm.
- Pull the upper bracket in its 'closed' position, to anchor the wall behind the SS frame.



## Wheel strips

### Description:

- Dimensions: *see drawing*
- The length can be shortened easily, if necessary.
- They can be extended, using our extension set.
- T&A provides a connection set to connect 2 wheel strips with each other in order to get extra long versions.
- Provided with wheels to guide the cover during opening/closing.
- Place wheel strips with an intermediate distance of about 70cm.
- The first and the last support should be installed at min. 10 and max. 25cm of the side wall of the pool.
- In case of a L-shape pool: make sure that the support guides the slats and not the endcaps.







## O4 - Finishing: Underwater mount – On pool floor: Underwater bench

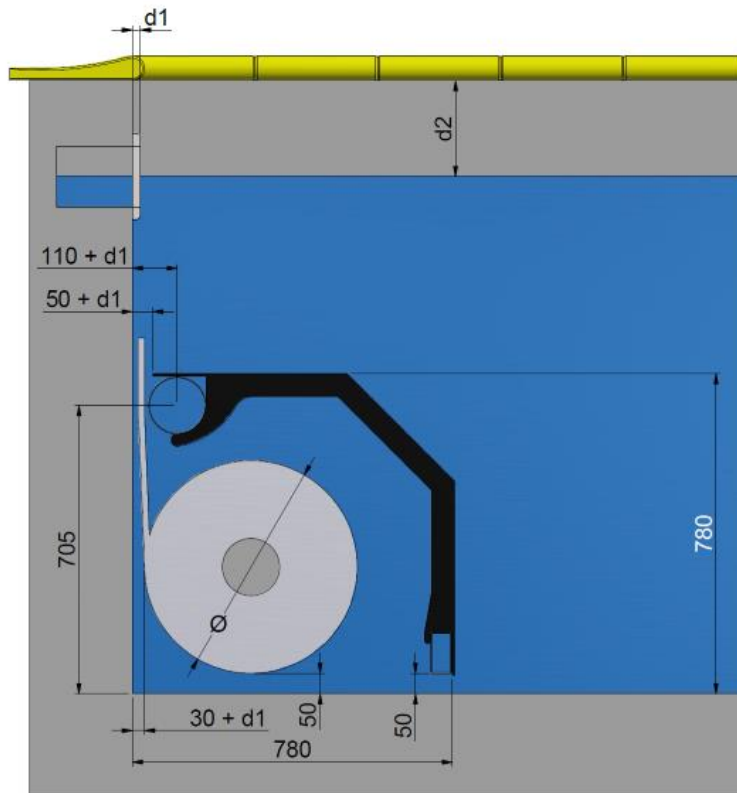
### General

- An ‘underwater bench’ provides a separation between the swimming area and the cover. At the same time it can be used for sitting on.
- 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  $\leq 8\text{mm}$ .
- The bench should not be used as an entry to the 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

### Description Underwater bench Polyster

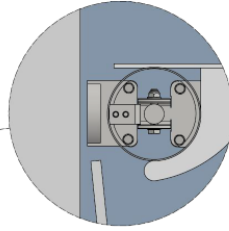
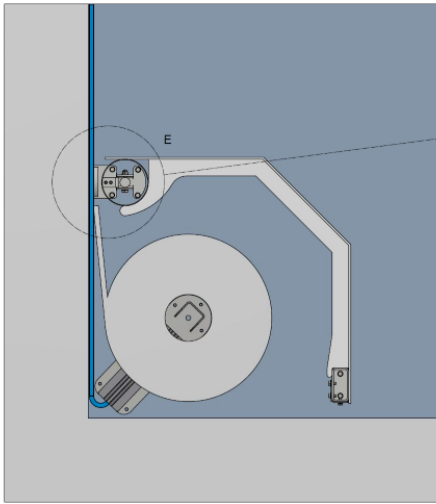


- Colour: White (*Standard*) – Available in other RAL-colour for a supplement.
- Tileable (on demand) → RAL 9999
- Wall thickness of the bench:  $\pm 8\text{mm}$ , with extra consolidation ribs.
- Dimensions: Pool width  $< 7\text{m}$  = standard
- Max. diameter cover = 610mm
- This fiberglass underwater bench is being carried by an SS beam and a tube, which are being anchored in the pool wall. This happens always after finishing the inside of the pool.
- Dimension d1= rounded skimmer max 10mm

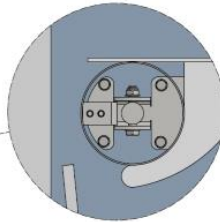
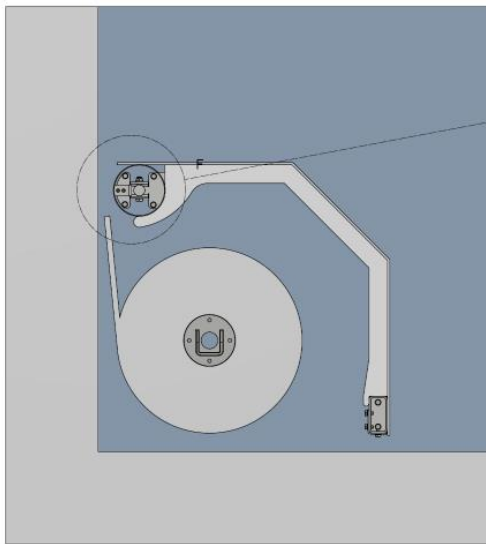


### Installation:

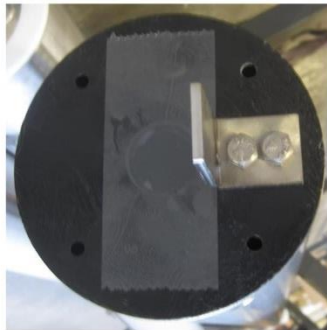
- Mount the anchoring positions on the pool wall, aligned and at the right place (*see drawing*). Use enough silicon in the fixing holes to seal them and to avoid leaking of water. Do not forget to place the delivered PUR seals.
- Fix the rectangular SS beam on the anchoring positions. Slots are provided for this.
- Fix the round SS tube on the anchoring positions.
- Hang the collar of the consolidation ribs of the underwater bench over the SS tube so that the bench can hinge around it.
- Let the bench come down slowly until also the lower collar of the consolidation ribs is resting on the SS beam.
- 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  $\leq 8\text{mm}$ . If the bench consists of different parts, the gap between the different parts should never be bigger than 8mm.
- In case no bench is installed: the separate guiding plate should be installed.

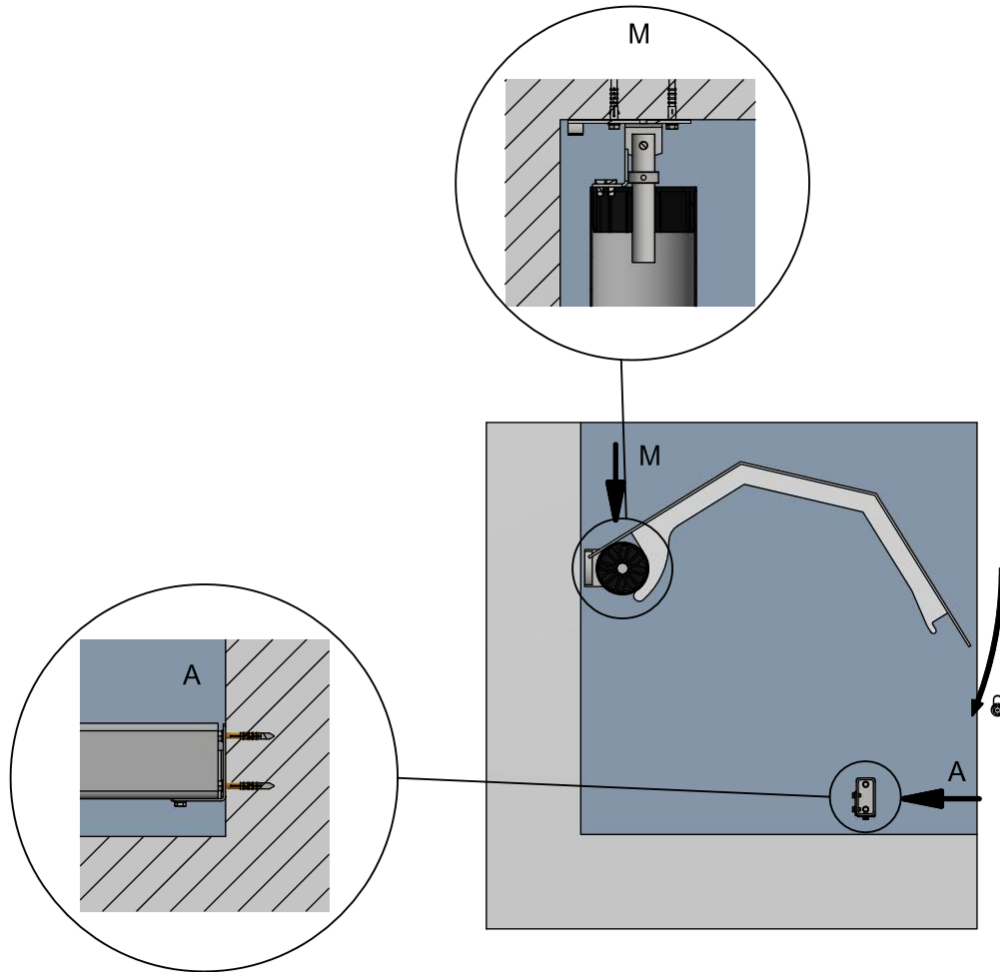


In combination with panel on floor (AT-002072)



In combination with wall duct





**Remark:**

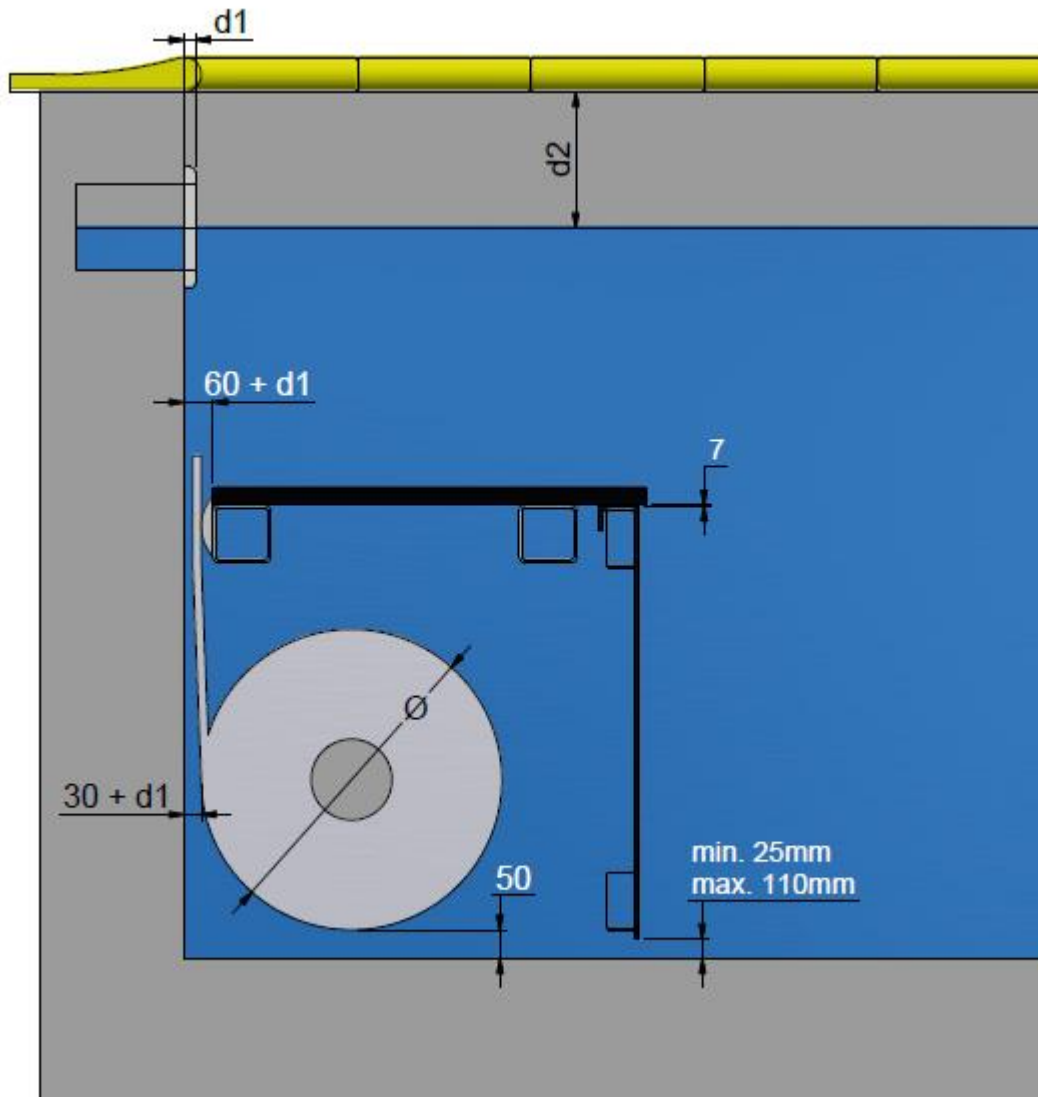
In case the pool has rounded edges, the bench cannot be installed.

In case the pool has a pre-fabricated/pre-welded liner, utmost care should be used, probably the bench cannot be installed in this pool !!!



## Description Underwater bench Size custom made

- Bench constructed by a separation wall and PVC plates mounted on 2 beams of 100x100mm.
- Colour: White (*Standard*) – Available in other RAL-colour for a supplement.
- PCV plates to be tiled or finished with liner
- Max width pool: 10m
- Dimension d1= rounded skimmer max 10mm
- Install the separation wall as written in the instructions O3-2
- Install the beams as written in the instructions of O5-2



## O5-1 - Finishing: Underwater mount - In pool floor: Fixed underwater panel

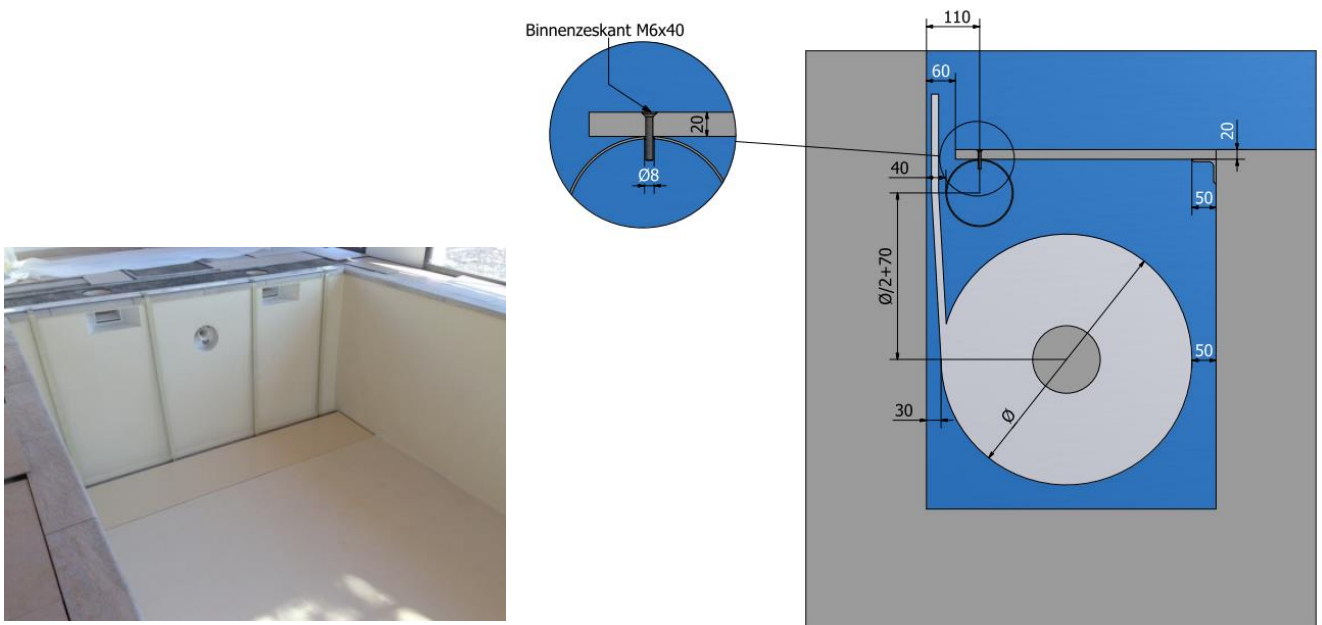
### General:

- To comply with the European standard EN\_16582-1/2/3, you need to cover the rollo cover pit. The gaps between the cover and the pool wall and the gaps between the different cover panels should not be bigger than 8mm.
- White PVC grating reinforced by means of stainless steel tubes ( $\varnothing 18 \times 1,5 \text{ mm}$ ) → see lower left drawing.
- Grey PVC plates ( $1000 \times 1000 \times 20 \text{ mm}$ ) → see lower right drawing. These plates can be cut to desired dimensions on site.
- Both gratings and plates are supported by a round beam ( $\varnothing 139,7 \times 2 \text{ mm}$ ) and a L-profile :  $30 \times 30 \times 3$  or  $50 \times 50 \times 5 \text{ mm}$

### Key values :

<b>Coverlength in m (incl. stairs)</b>	6	8	10	12	14	16	20	25
<b>Roll diameter (<math>\varnothing</math>) in mm Profile 60 x 14 mm</b>	420	480	520	580	610	640	705	780
<b>Roll diameter (<math>\varnothing</math>) in mm Profile 67,5 x 16,5 mm</b>	440	500	540	600	640	680	720	820

### Dimensions :



PVC plates 1000 x 1000 x 20 mm



## Installation of the PVC plates :

- Mount the anchoring positions in the pool wall, aligned and at the right place (*see drawing*). Use enough silicon in the fixing holes to seal them and to avoid leaking of water. Do not forget to place the delivered PUR seals.
- Mount the angle section/L-profile horizontally in the niche (*see drawing*).
- Plates can be cut to the right dimensions on site. Conical screws (M6) are being fixed in the plates.
- At the corresponding positions, Ø 8 mm holes are drilled in the round beam (Ø 139,7 mm). As such installation and removing of the plates becomes easy in case of service of the cover.
- Plates can be covered with liner afterwards.

### **Remark:**

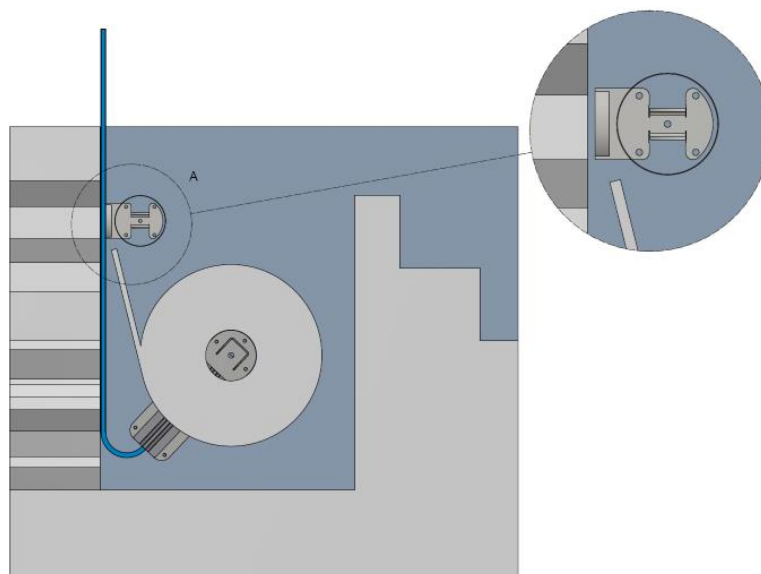
Pay attention when there are roundings in the pool, it might be possible the panel cannot be installed!

***Don't leave solid PVC plates uncovered in the open sunlight!  
They will be irreplaceable damaged!  
Damage caused this way isn't covered by warranty.***

## **Motor side with slat guiding – deep mounting – mounting in bottom :**

In case of use of a Scuba motor/in-roller motor in combination with mounting plates on or in the bottom of the pool, a special flange for mounting of the round beam (Ø 139,7 mm) is supplied. This needs to be installed on motor side.

This flange is equipped with a special guiding mechanism for the slats.



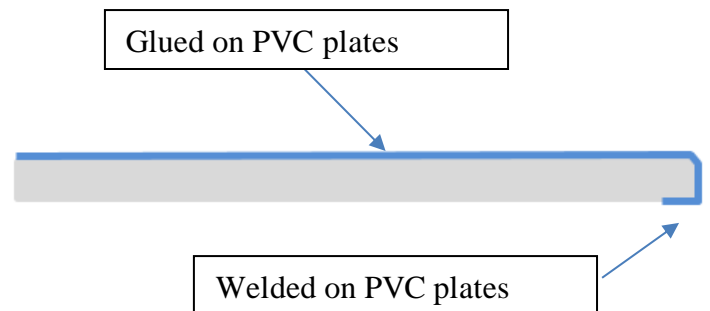
## PVC Plates – finished with tiles :



Procedure: Shield the plates from the sun during all operations!

1. Cut the plates to the desired size
2. Degrease the plates with a degreaser
3. Lightly sand (roughen) the sheets to allow good adhesion
4. Use a Polyurethane glue two-component - class R2T (e.g., PCI Collastic from BASF, Keralastic from Mapei,) Divide this with a glue comb
5. Glue your tiles with a single or double glue depending on the size
6. Allow to dry for half a day (refer to the adhesive manufacturer's instructions)
7. Apply the grout (e.g., PCI Durapox ® NT plus) Allow to dry sufficiently
8. Mount the plates in place in the water. Avoid exposure to the sun if they are not in the water.

## PVC Plates – finished with liner :

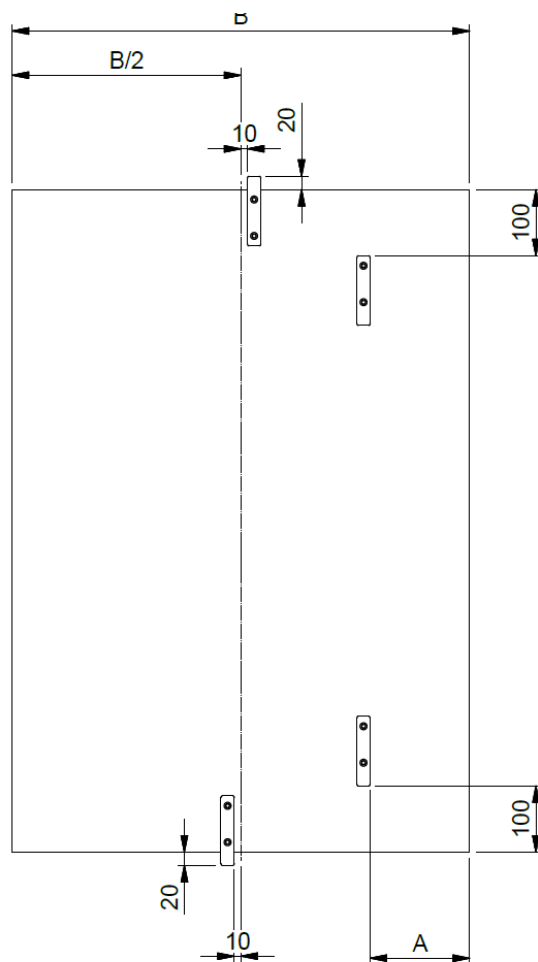
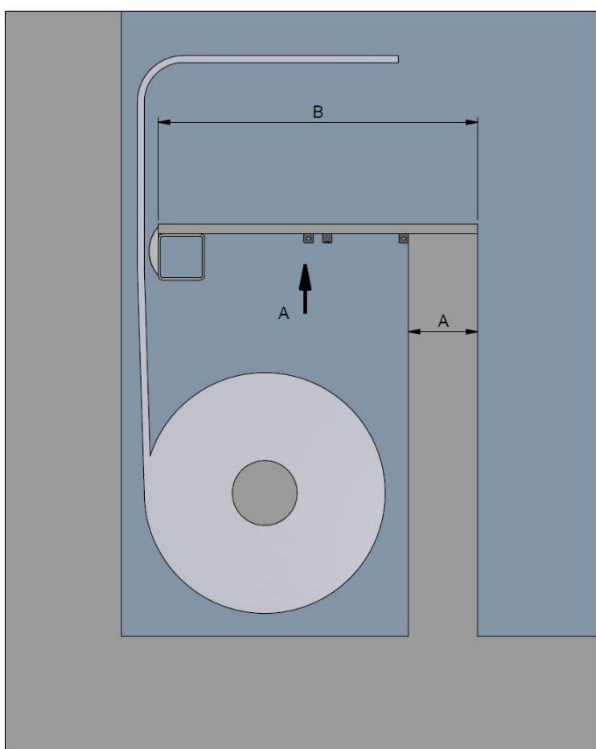
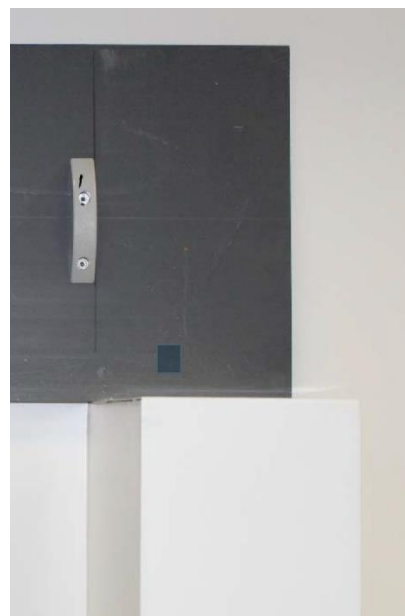


Procedure: Shield the plates from the sun during all operations!

1. Cut the plates to the desired size
2. Degrease the plates with a degreaser
3. Lightly sand (roughen) the sheets to allow good adhesion
4. Bring by a glue comb a layer of 2mm silicone (adhesel of innotec) on the PVC sheets. For the silicone they recommend to use seal fluid (innotec).
5. Apply the liner to the PVC plates within 5 minutes
6. Press firmly and remove the blows using a roll
7. After 20 minutes you can finish the visible side of the plate. This is covered by the liner to fold and to weld the liner to the PVC plate at the bottom of the plate.
8. Let it dry for 24 hours
9. Mount the plates in place in the water. Avoid exposure to the sun if they are not in the water.

## AT-002885 – Set positioning PVC plates

Install the pieces according the pictures below.



## *O5-2 - Finishing: Underwater mount – In pool floor/stairs: Underwater beam*

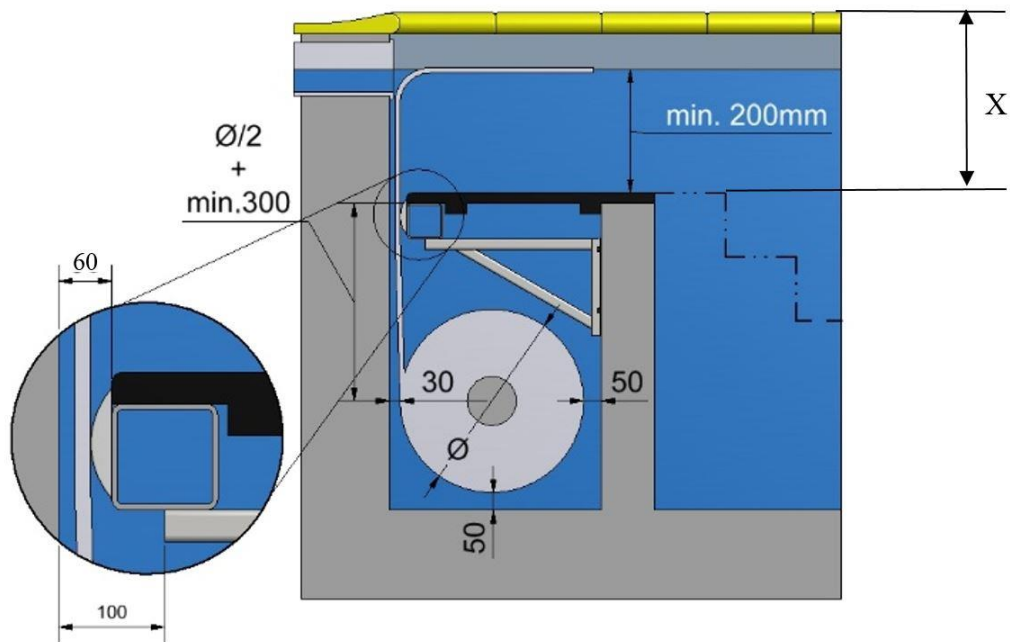
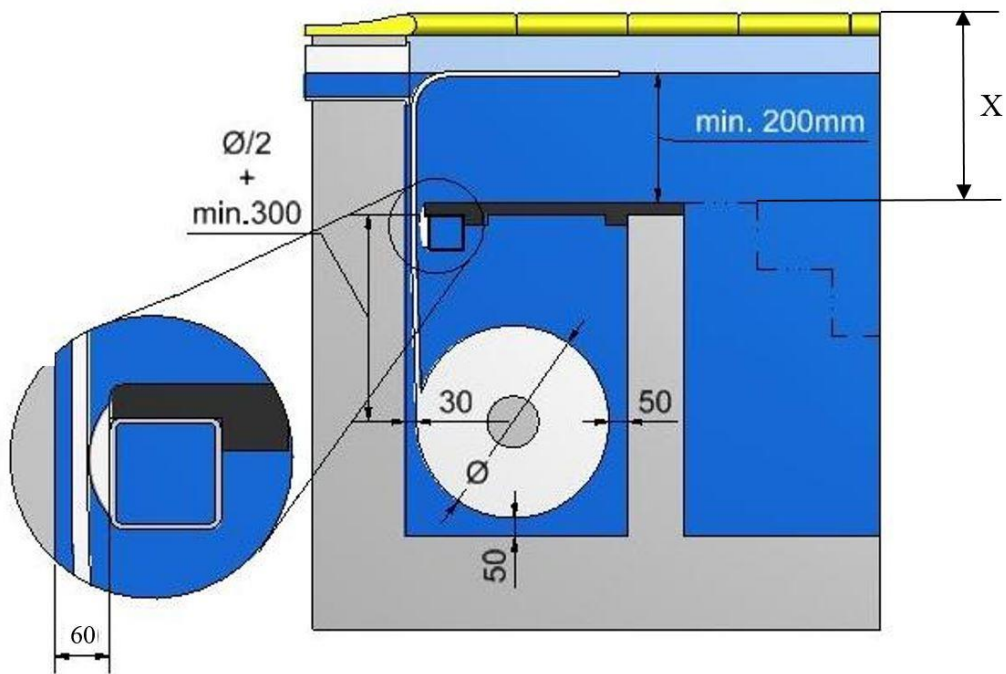
### **General:**

- An ‘*underwater panel*’ separates the swimming area from the cover.
- This separation can be made as a bench or raised pool area.
- To comply with the European standard EN\_16582-1/2/3, you need to cover the rollo cover pit. The gaps between the cover and the pool wall and the gaps between the different cover panels/stones should not be bigger than 8mm.
- Attention : PVC plates should be shielded from direct sunlight in order to avoid deformation. They are not suited to use above water.



### **Description:**

- Natural stone (we recommend granite with a wall thickness of 30 mm) lays on a supporting beam (100 x 100 x 5 mm) equipped with slat guiding.
- These supporting beams are available in AISI 304 and AISI 316L, we do recommend to use AISI 316L !



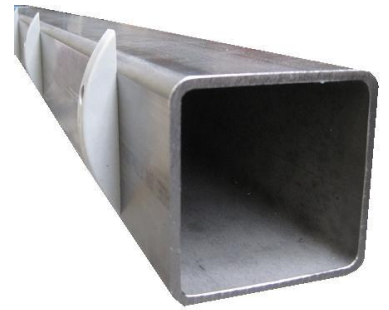
If the „beach“ is used as an entry tot he pool,  $X \leq 400\text{mm}$  !

## SUPPORT with GUIDINGS

### SS beam

#### Description:

- Section: 100x100x5mm or 100x50x3mm
- Length: B2 – 40mm.  $L_{max.}$  without centre support = 5m  
 $L_{max.}$  with centre support(s) = 10m  
Centre support : AT-002363
- Maximum concentrated load = 150 Kg.
- Provided with guidings which are the end stops for tiles
- The beam is supported at both sides by a bracket, fixed at the wall.
- Order details:
  - Width of the pool.



## SUPPORTS without GUIDINGS

### SS beam

#### Description:

- Section: 100x100x5mm or 100x50x3mm
- Length: B2 – 40mm.  $L_{max.}$  without centre support = 5m  
 $L_{max.}$  with centre support(s) = 10m  
Centre support : AT-002363
- Maximum concentrated load = 150 Kg.
- The beam is supported at both sides by a bracket, fixed at the wall.
- Order details:
  - Width of the pool.



## SS centre support for beam (only with 100x100 !!) (AT-002063)

#### Description:

- Dimensions: L=895 / H=275mm (Can be cut on size)
- Maximum concentrated load = 150 Kg.
- The support is fixed against the pool wall with bolts and plugs.
- The wall and the lining should be calculated on this load.
- Can be cut on site at desired length.
- Order details:
  - Number of supports.



## SS L-profile

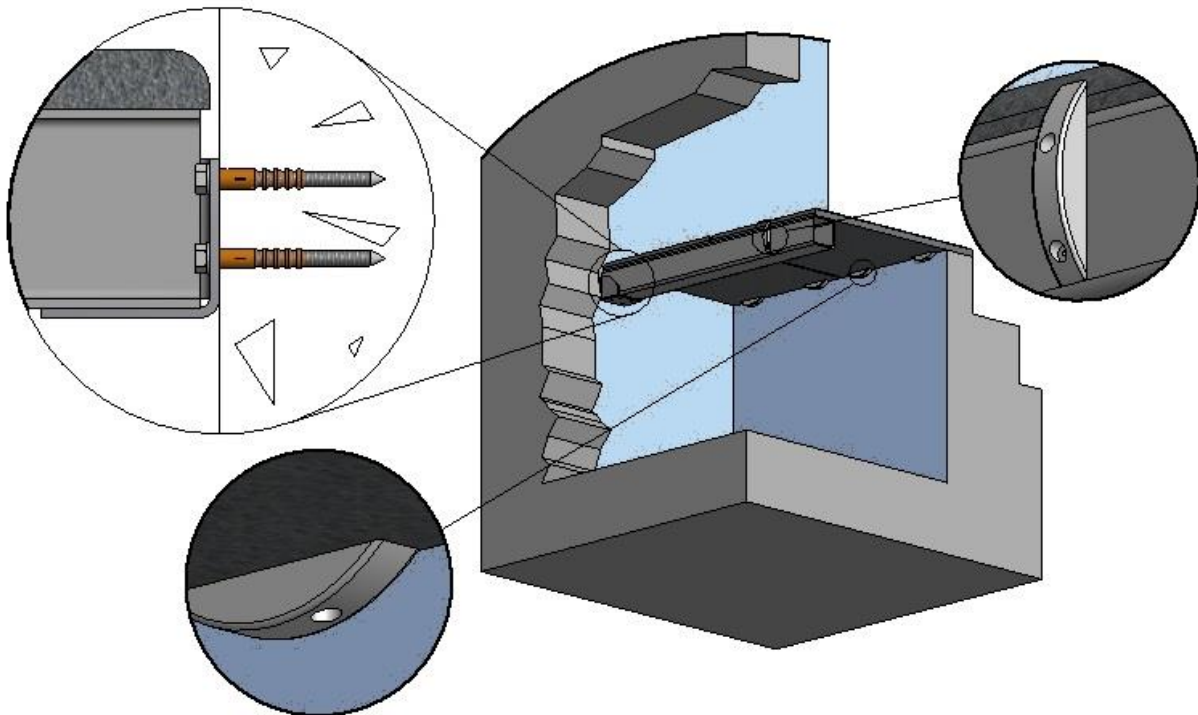
#### Description:

- Section: 30x30x3mm or 50x50x5mm
- Maximum concentrated load = 150 Kg.
- The support is fixed against the pool wall with bolts and plugs.
- The wall and the lining should be calculated on this load.
- Order details:
  - Width of the pool



### Installation:

- Mount the anchoring positions on the pool wall, aligned and at the right place (*see drawing*). Use enough silicon in the fixing holes to seal them and to avoid leaking of water. Do not forget to place the delivered PUR seals.
- Put the SS beam in the anchoring positions.



(Detail Positioning kit for PVC plate ... this prevents the sliding of the PVC cover plate)

#### **Remark:**

Pay attention when there are corner roundings in the pool, it might be possible the panel cannot be installed!

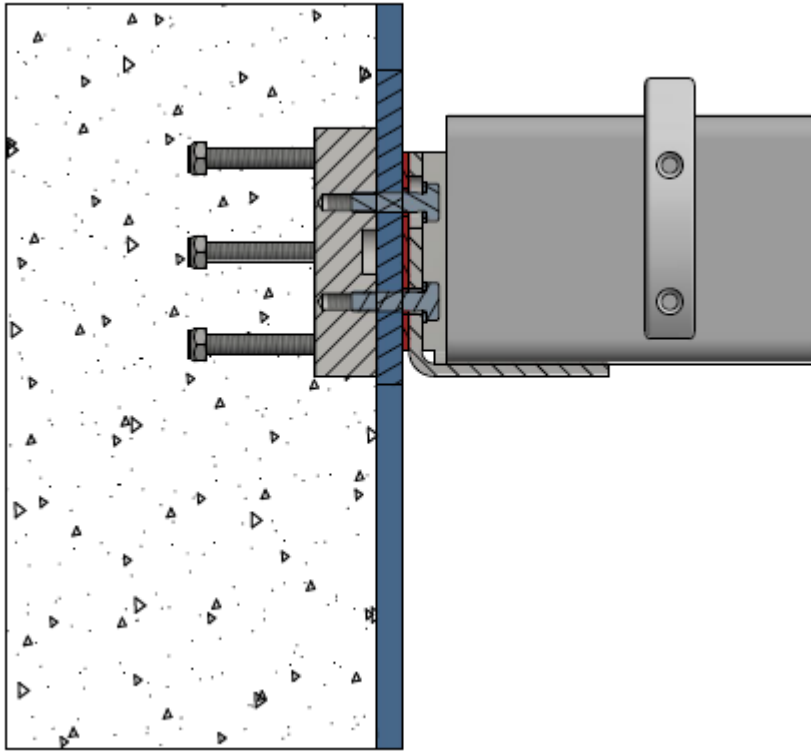
***Don't leave solid PVC plates uncovered in the open sunlight!***

***They will be irreperably damaged!***

***Damage caused through exposure to sunlight will not be subject to warranty.***



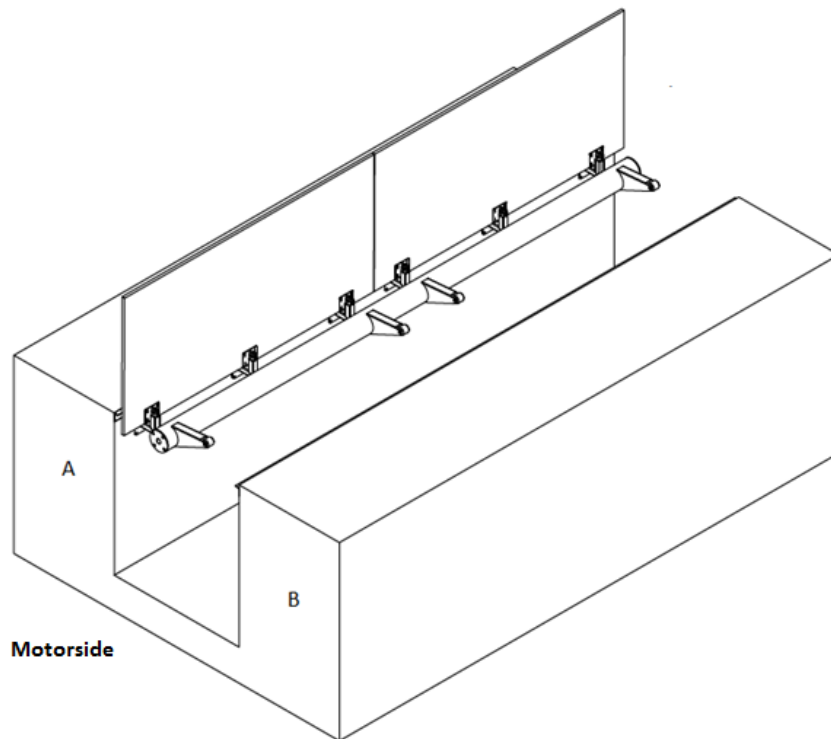
- By monoblocs, use the universal counterflange



## *O6 Finishing: Underwater mount – In pool floor: Movable underwater panel*

Depending on the shape of the pool, the movable panel will be installed at Side A or Side B.  
The depth and position of the pit will also depend on the shape of the pool.  
**Contact T&A in the planning phase!**

### **General:**



In this manual we will always look towards the pit from the motorside assuming that the movable panel will be installed at side A.

Contact T&A to know if you need to mount the panel at side A or side B. Also to find out the exact position of the wall duct for the cover.

The movable panel will be driven by an **external motor with reductor**.

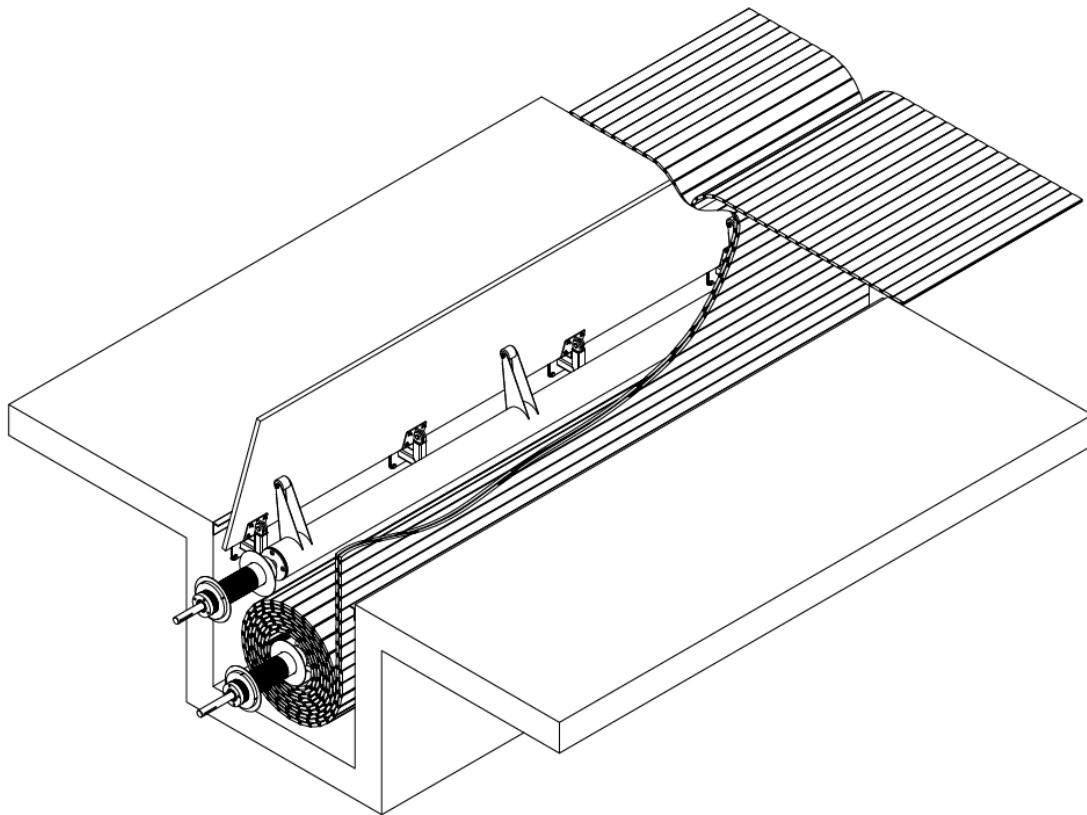
The cover will be driven with an external motor.

Both motors will be connected to their own control box. These control boxes will be installed in a master-slave combination to each other.

All given dimensions are measured from the concrete without tiles.

## Steps:

- Wall duct cover & movable panel
- L-profile side A
- L-profile side B
- Hinges and panel
- Second (& third) panel with pre assembled hinges
- Shaft & motor movable panel (with reductor)
- Shaft & motor cover
- Control box movable panel & cover
- Master slave initializing
- Test without water
- Filling the pool
- Installing the slats
- Re-programming end-positions



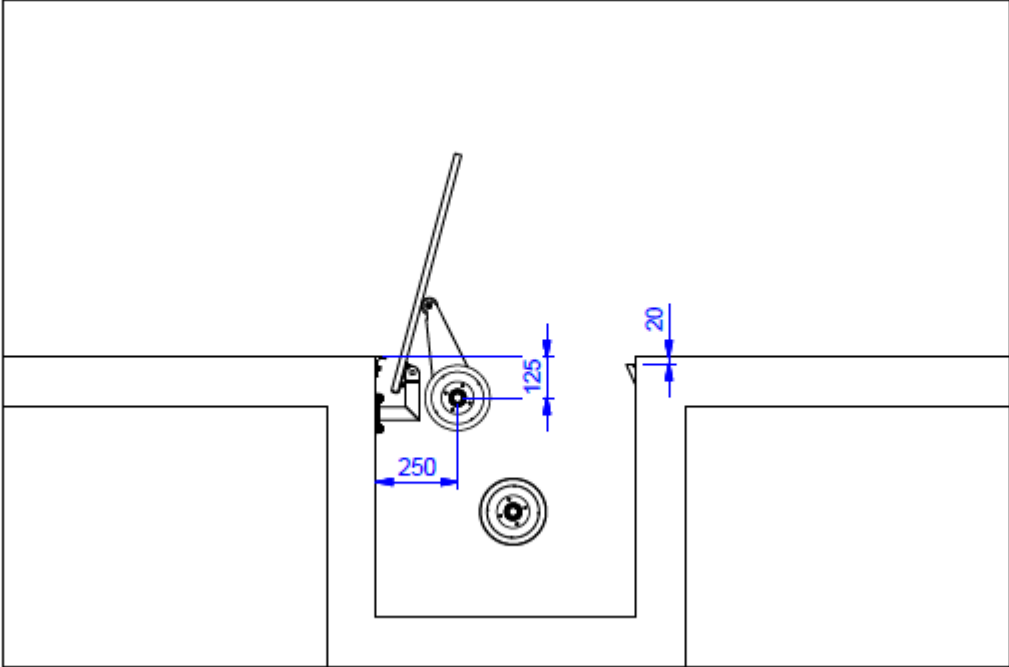
# Wall duct cover & movable panel:

## Wall duct cover:

The position of the wall duct for the cover is depending of the dimensions and shape of the pool. Contact T&A for the exact position.

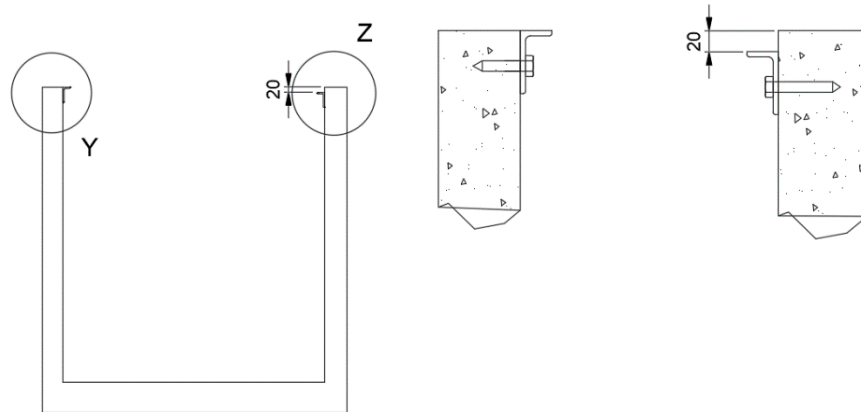
Install the wall duct as written in the manual chapter C2-2

## Wall duct movable panel:



Install the wall duct as written in the manual chapter C2-2

## L-profile side A & B

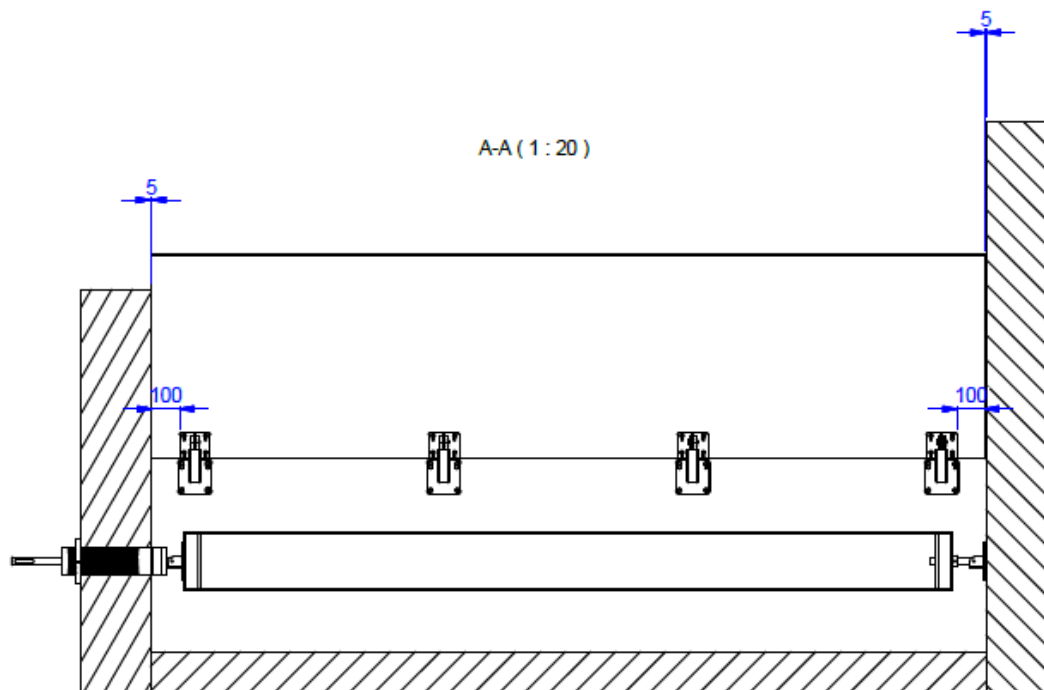


Mount the L-profile 60x30mm at side A on the same level as the bottom of the floor (without tiles)

Mount the L-profile at side B, 20mm below the bottom of the pool (without tiles)

This because our movable panel has a thickness of 20mm.

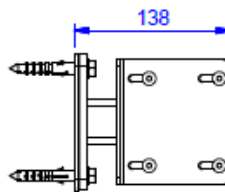
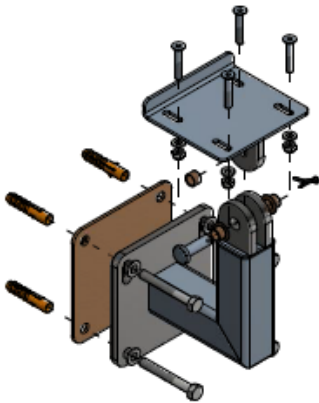
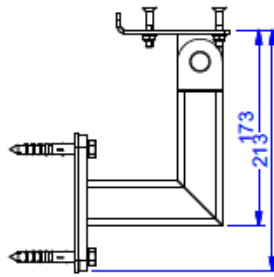
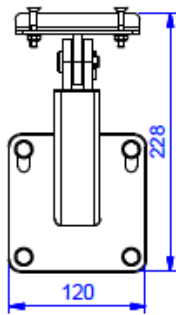
## Hinges and panel:



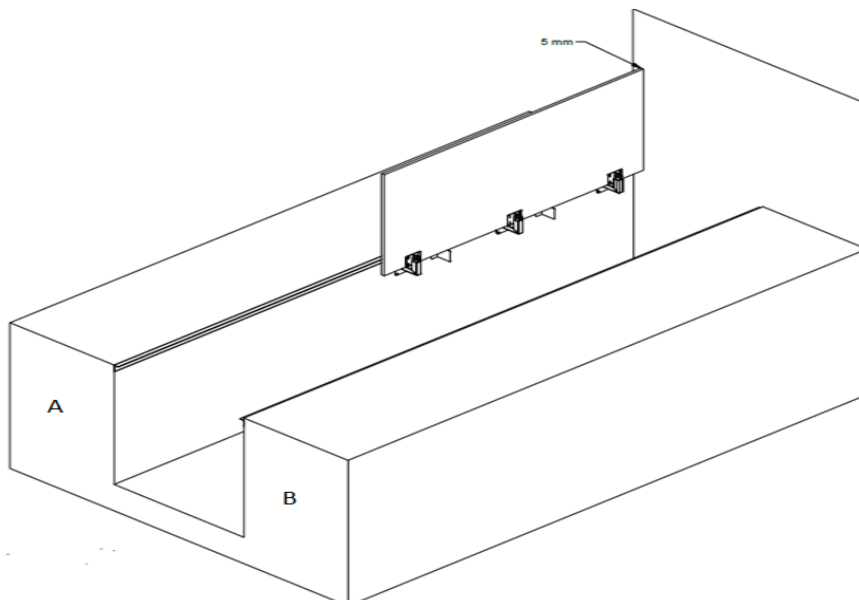
Mount the hinges to the side on the right with equal distance in between (see drawing). Use a drill of 10mm.

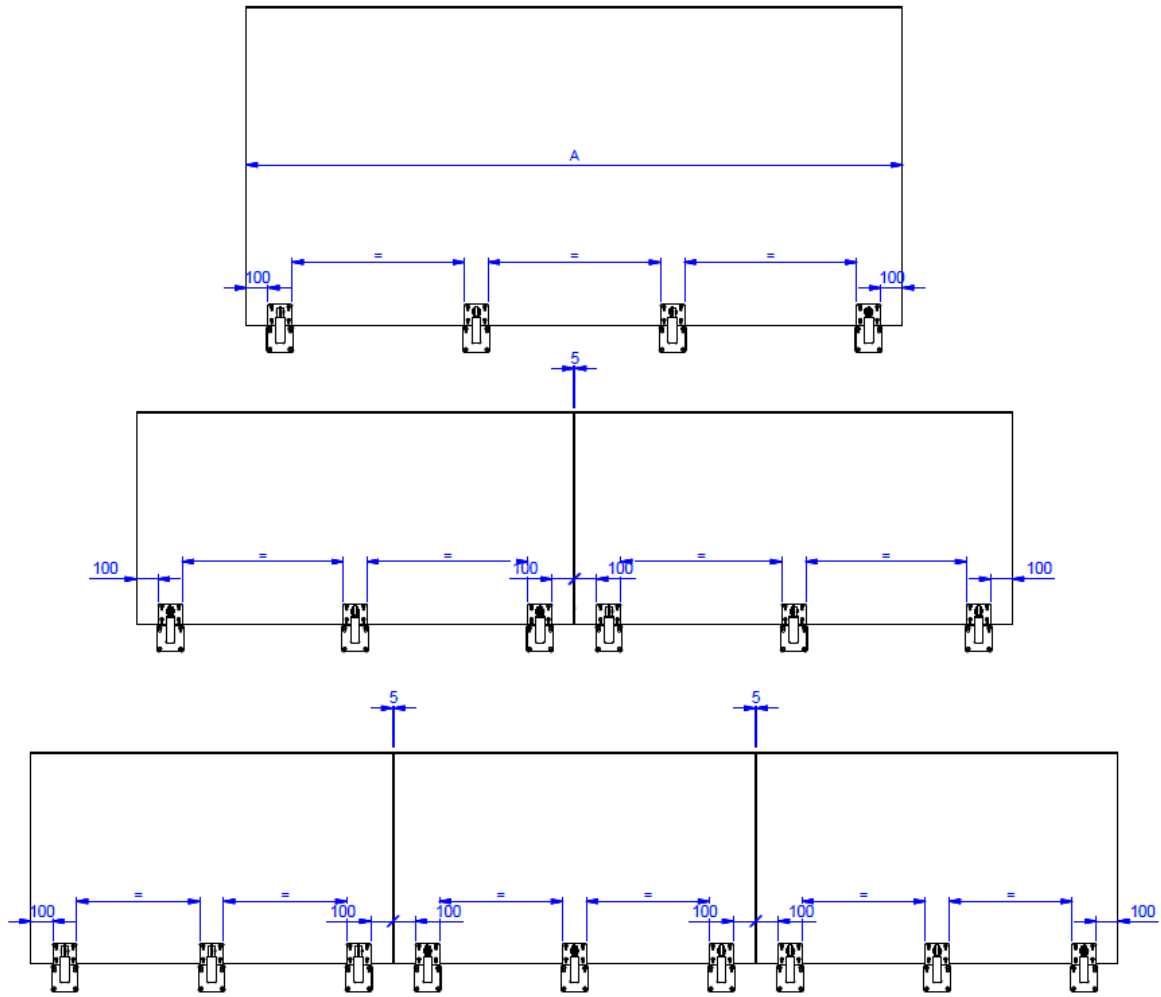
First drill the upper holes. Fixate to the wall and **level all hinges**.

Mark the lower holes, remove the hinges and drill the lower holes. Mount the hinges to the wall. Use enough silicone in the drill holes to seal them in order to avoid leaking of water.



In order to attach the panels to the hinges place the panels in position and mark the positions for the holes. Please note that between the sidewall and the panel and in between 2 panels you should always respect a 5 mm distance.  
Drill 7 mm sovereign holes on the top side of the panel and attach the panel to the hinges.

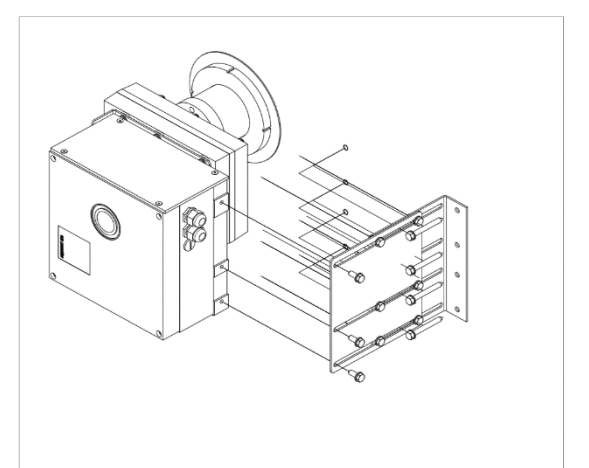
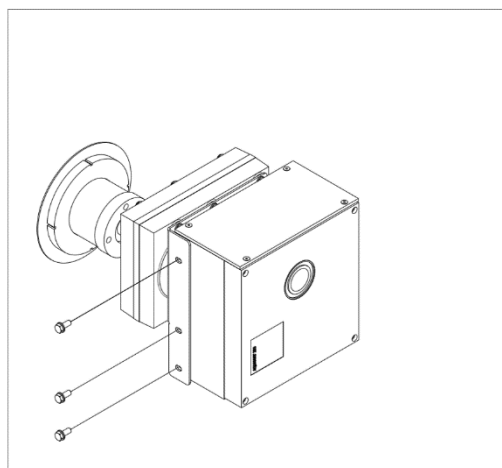
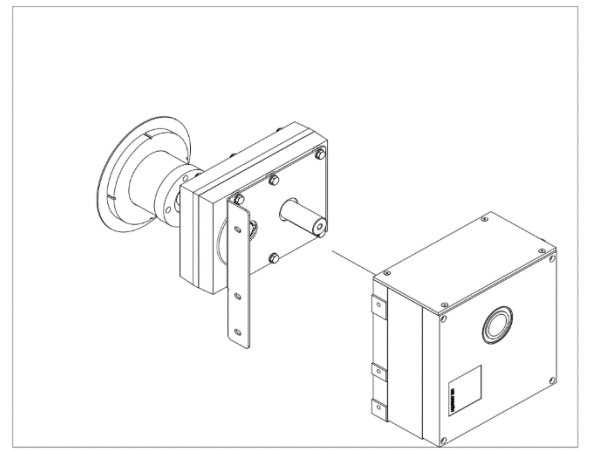
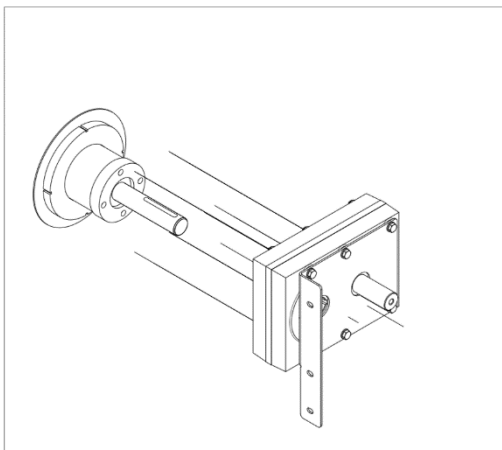
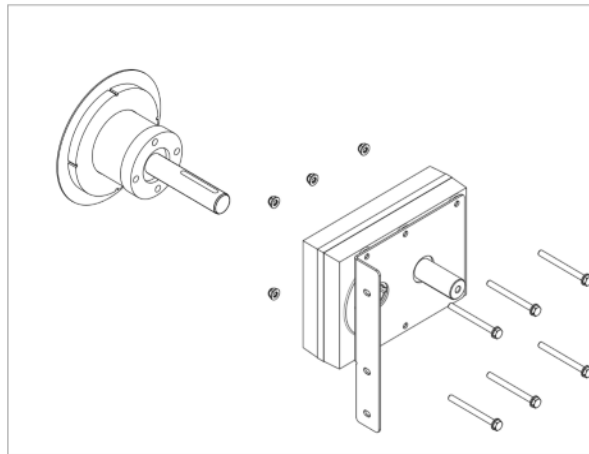
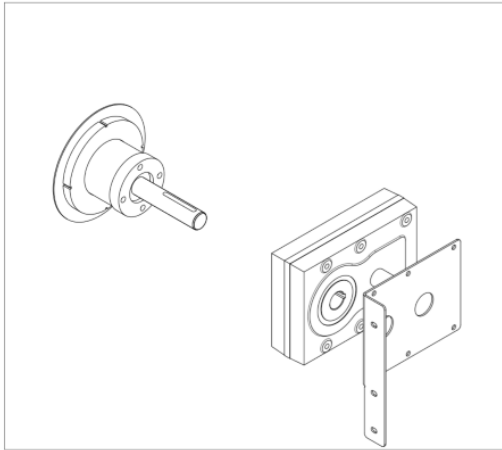




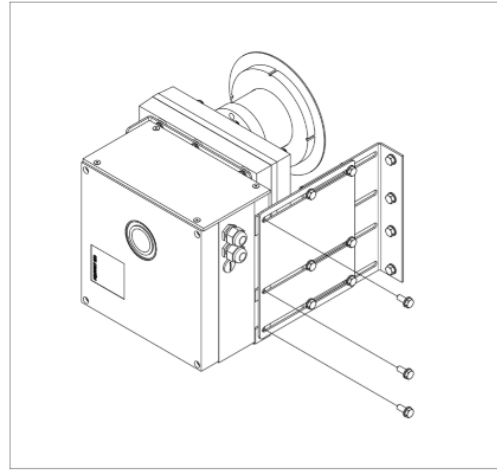
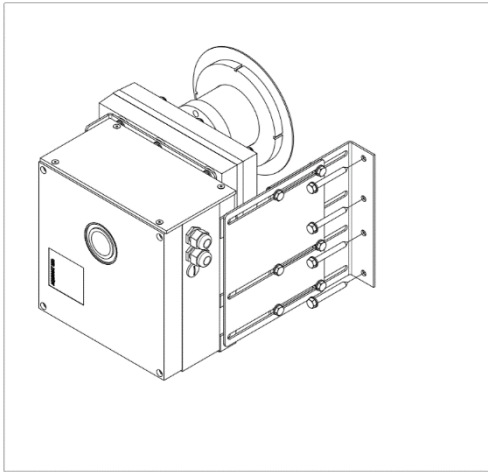
	≤ 3m	≤ 4m	≤ 5m
# PVC 1500x3000x20mm	1	0	0
# PVC 1000x2000x20mm	0	2	3
# Hinges / PVC Plate	4	3	3

## **Shaft & motor movable panel:**

Install the shaft with rollers, gearbox (reductor) and motor. (See also chapter C2-2)  
Use both fixation plates.







### **Shaft & motor cover:**

Install the shaft and motor of the cover as described in chapter C2-2

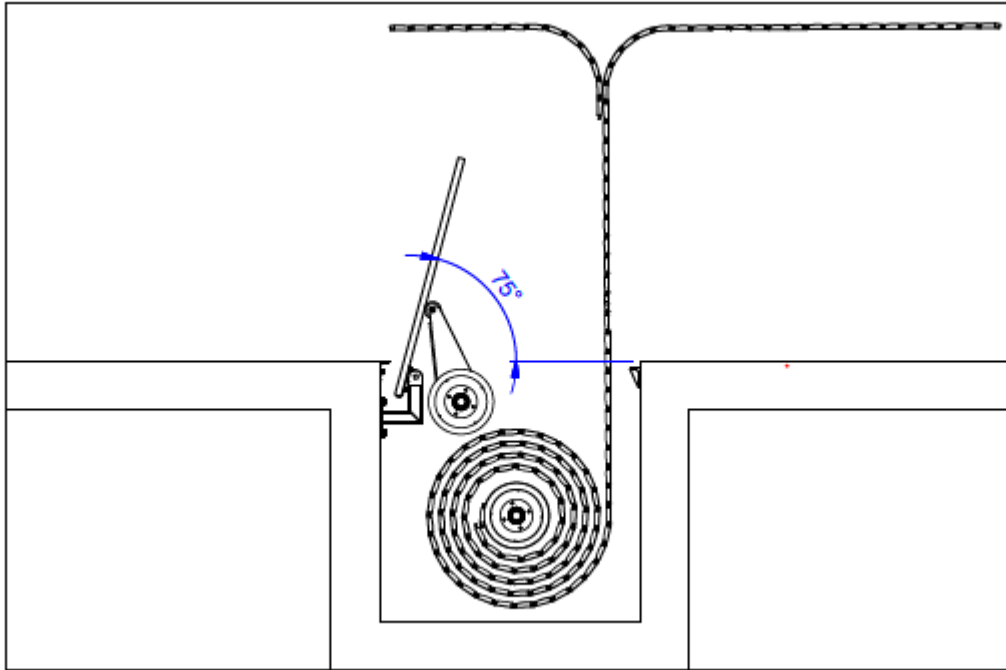
### **Control box movable panel & cover:**

Connect both motors to the control box as described in chapter E1 – Wiring diagram

### **Master Slave initializing:**

Program the control boxes as described in chapter E4 – 1 Master & 1 Slave

**In open position: The panel should only open +/-75 degrees. When programming the positions, it is best not to have the panel resting on the wheels of the lifting arm. In closed position the lifting arm should be horizontal without the wheels touching the panel.**



### **Test without water & filling the pool:**

Make sure that both shafts work fine before filling the pool with water.

### **Installing the slats:**

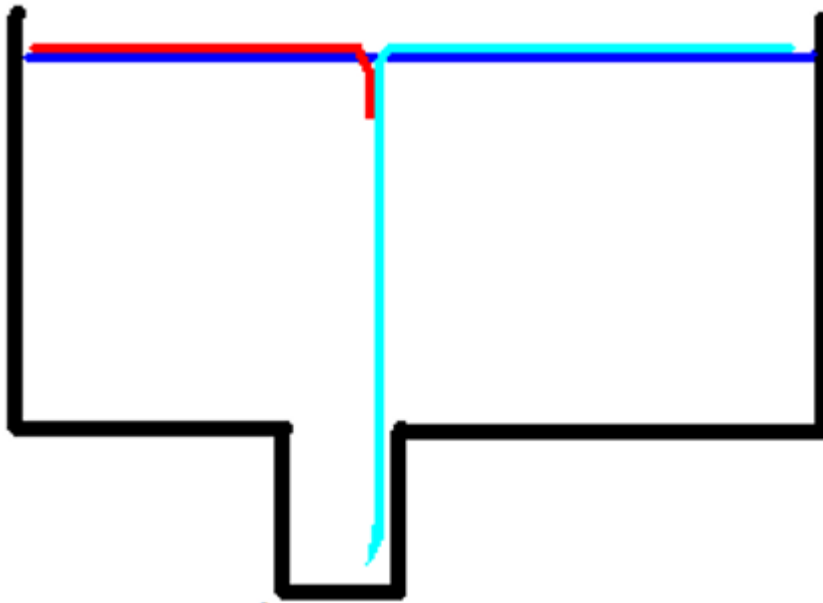
Install the slats. See chapter D – Slats.

Depending on the pool shape, the slats of side A or side B will go completely into the pit.

Contact T&A

Attach the slats of side A and Side B to one another just below the waterlevel using the connection strap 2 covers. (AT-003084)





### **Re-programm endpositions:**

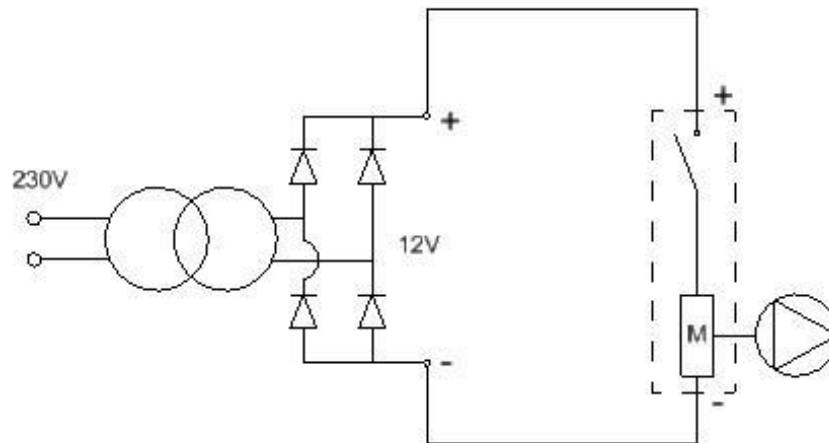
See chapter E2 – Initializing - basics

## *O7 - Option: Safety - System*

### ***Evacuation pump for motor pit – 24 V DC (article no. : AT-001119)***

#### **General:**

- Pump unit with float switch and transformer to evacuate water from the motor pit.
- A float switch on the bottom of the motor pit activates a 12Vdc pump.
- Provide an additional electrical cable 2 x 2,5<sup>2</sup>mm (L<25m) or 2 x 4mm<sup>2</sup> (25<L<35m)
- Never connect the current supply to the transformer to the same jumper switch to which you connect the control box of the AquaTop.
- Provide a drain pipe (3/4") to drain away the pumped out water.
- Dirt and contamination in the motor pit can hinder the functioning of the float switch.



## *O8-1 - Option: Safety – People: Manual*



### **General:**

- Give the swimming pool extra safety by placing extra fixing positions at the pool wall.
- When the cover is 'closed', the cover will be locked on all fixing positions.
- The number of fixing positions required to be placed is determined by the safety standards, considering several specific points of interest (*see – Number of fixing positions*).
- The walls must be made solid enough at the fixing positions.

### **Locking**

#### **General:**

- The user requires to lock all fixing positions manually after closing the pool cover.
- The user requires to unlock all fixing positions manually before opening the pool cover.

#### **Position:**

- The outer fixing positions are always 500mm from the pool wall.
- The maximum intermediate distance between two fixing positions is 2m.
- The middle of the fixing position positions 3 to 5cm above the water level.

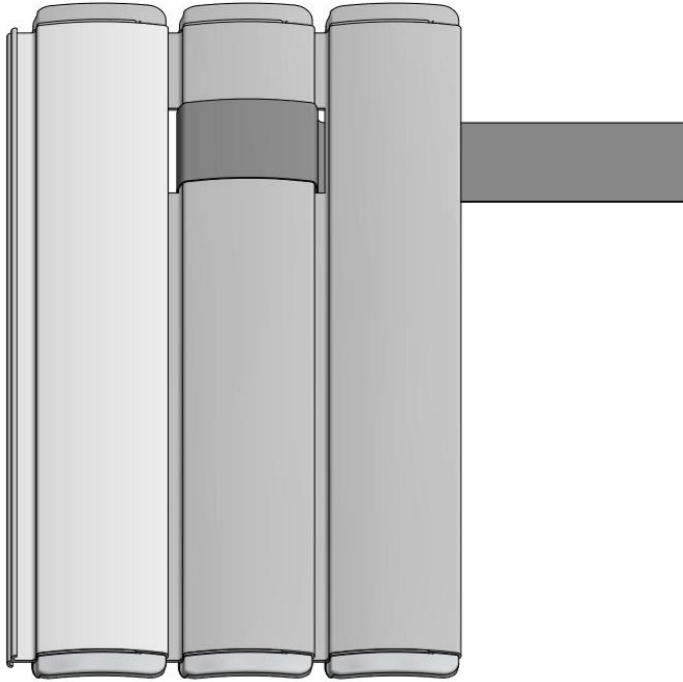
### **Safety lock**

#### **Description:**

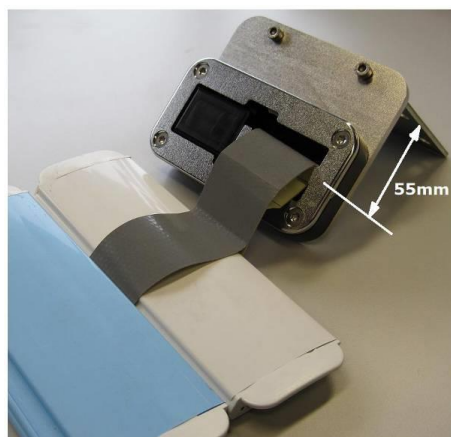
- Material: POM with stainless steel lid.
- Dimensions: 115 x 65 x 20 mm

### Installation:

- Mark the drilling holes of the fixing positions on the pool wall.
- Drill 4 holes for each lock on the marked positions, in order to place the plugs. Use enough silicon in the fixing holes to seal them and to avoid leaking of water.
- Fix the lock tightly to the pool wall.
- Mount the ribbons with the loop on the second last slat right across the fixing points. Make a slip in the front and rear lip of the slat to fit in the strap.



- Optionally, a stainless steel anchor is available to fix the locking device underneath the coping stone. In this way you avoid unnecessary leaks in the pool wall (*Liner option*).



### Locking:

- Push the spring-button and hook the cover, in order to open; push the spring-button again and unlock the cover.



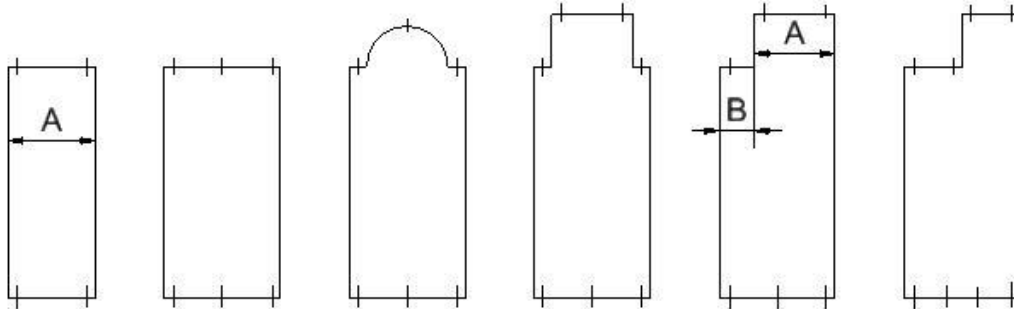
### Remark:

Never forget to unlock the cover before opening! The cover might get damaged inevitably!

## Number of fixing positions

### General:

- The positions where fixing positions are obliged are described in the appropriate safety standard.
- Below we show several pool types with their specific 'positions'.



	<i>A (in m)</i>				<i>B (in m)</i>		
<i>Dimensions (in m)</i>	= 3	3 - 5	5 - 7	= 7	< 1	< 2	≥ 2
<i>Number of sets</i>	2	3	4	5	1 in the middle	1 at 500mm of the wall	Idem A

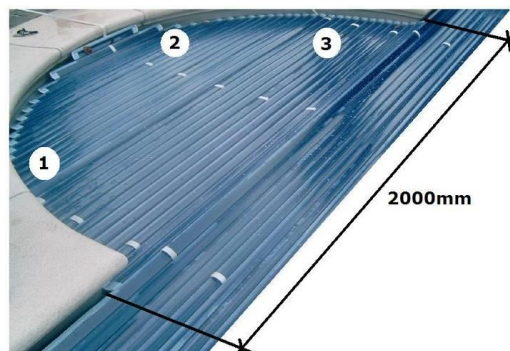
- Fixing positions must be provided at the roller shaft side of the pool in case of :
  - Top mount: Without bench
  - Underwater mount: In pool without walking platform
  - Underwater mount: In niche/wall/floor
  - Underwater mount: On the floor
  - ECOTOP®
  - TopMoov®

### Roman stairs with radius < 1,5m

- One fixing position is sufficient at the end of the radius !
- Two extra fixing positions are obliged according to the safety standard.
- Woven ribbon gives strength at the end of the stairs.

### Roman stairs with radius > 1,5m

- One fixing position is sufficient at the end of the radius !

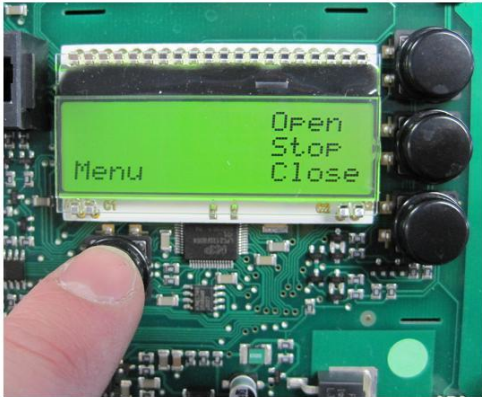




## Programming to protect the slats

- Make sure the control box is initialized and end positions are programmed (see '*E4 – Adjusting control*').
- Go through these steps...

**1<sup>st</sup> display:** Select MENU



**Press T4 (MENU).**

**2<sup>nd</sup> display:** Choose I/O SETUP



**Scroll to I/O SETUP.**  
**When this is next to T2, you confirm your choice by pressing T2.**

**3<sup>rd</sup> display:** Choose PROT. LOCK



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

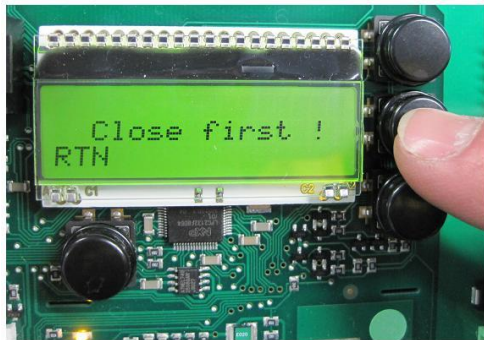
#### 4<sup>th</sup> display: Activate **TEACH**



**Press T2 (Teach).**

#### **NOTICE:**

If the cover is not closed the control box will ask to do this first.



**Go back to MENU (T4) and then press T3 to 'close'.  
Navigate after 'closing' back to the 4<sup>th</sup> display Prot.  
Lock, as described in previous steps.  
Press T2 (Teach).**

#### 5<sup>th</sup> display: Confirm **CURRENT-SETPOINT**



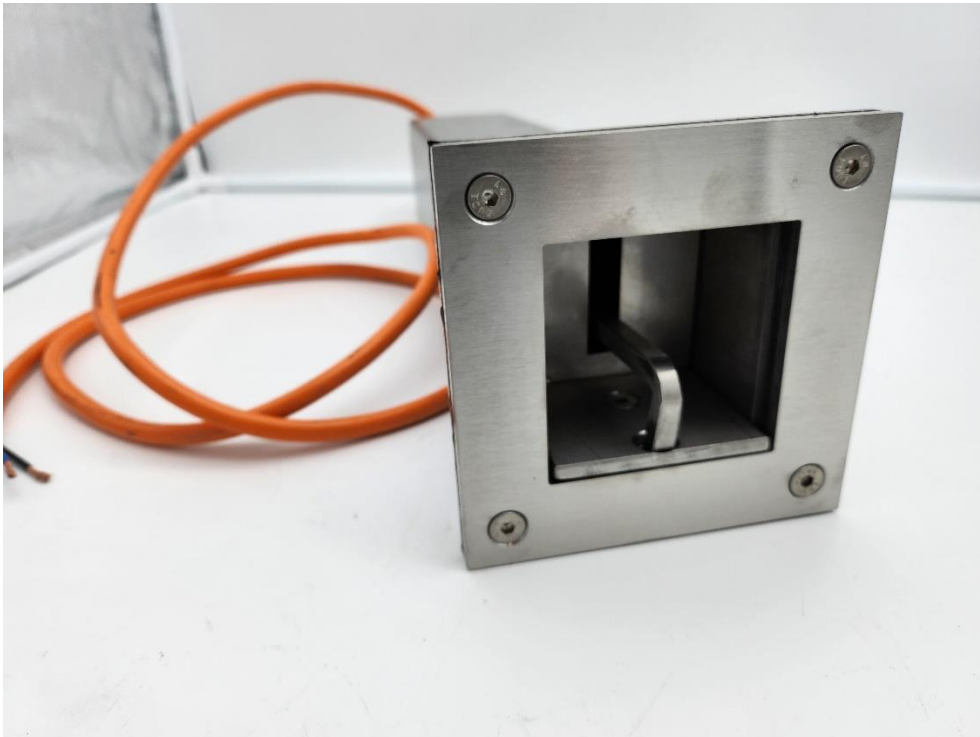
**Rease this value with 1A  
Press T2.  
Go back to MENU (T4)**

## O8-2 - Option: Safety – People: Coverlock (automatic)

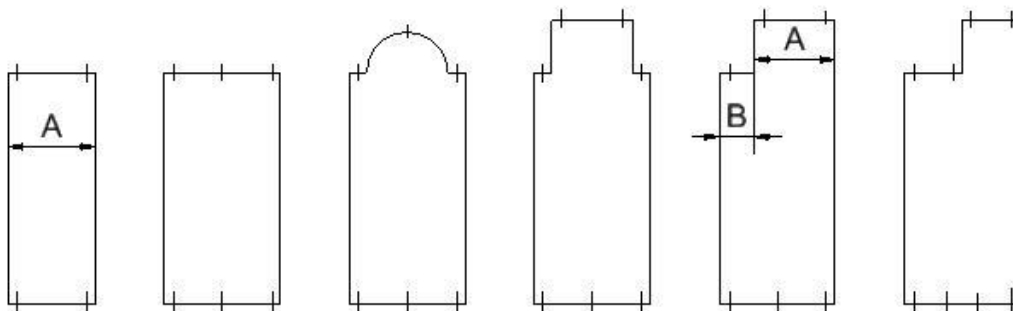


### General:

- Give the swimming pool extra safety by placing extra fixing positions at the pool wall.
- When the cover is 'closed', the cover will be locked automatically on all fixing positions. The walls must be solid enough to handle the locking devices of the cover.
- The number of fixing positions required to be placed is determined by the safety standards, considering several specific points of interest (*see – Number of fixing positions*).
- **REMARK:** The water level is at between 55-95mm under coping stone.
- After closing the cover the user must check if every lock is locked properly.
- 



- The outer fixing positions are always at 500mm from the pool wall.
- The maximum intermediate distance for two fixing positions is 2m.
- The middle of the fixing position positions on the water level.
- The appropriate safety standard determines the number of locking devices in specific pool designs.
- See examples below :



	<i>A (in m)</i>				<i>B (in m)</i>		
<i>Dimensions (in m)</i>	= 3	3 - 5	5 - 7	= 7	< 1	< 2	≥ 2
<i>Number of sets</i>	2	3	4	5	1 in the middle	1 at 500mm of the wall	Idem A

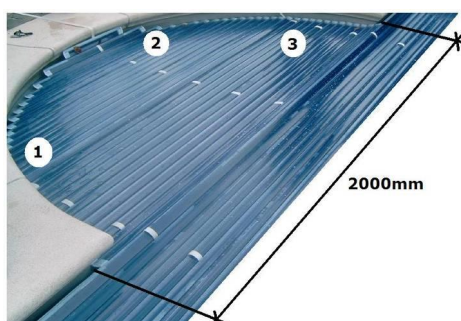
- Fixing positions must be provided at the roller shaft side of the pool in case of :
  - Top mount: Without bench
  - Underwater mount: In pool without walking platform
  - Underwater mount: In niche/wall/floor
  - Underwater mount: On the floor
  - ECOTOP® - Top One
  - TopMoov®

#### **Roman stairs with radius < 1,5m**

- One fixing position is sufficient at the end of the radius !
- Two extra fixing positions are obliged according to the safety standard.
- Woven ribbon gives strength at the end of the stairs.

#### **Roman stairs with radius > 1,5m**

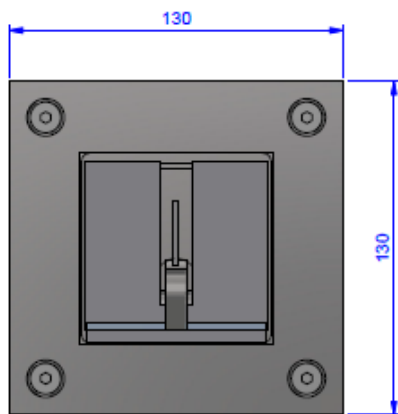
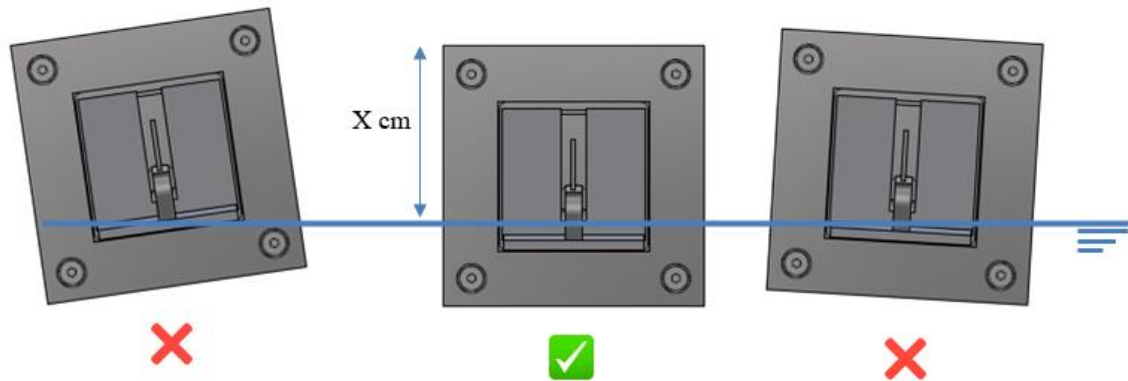
- One fixing position is sufficient at the end of the radius !

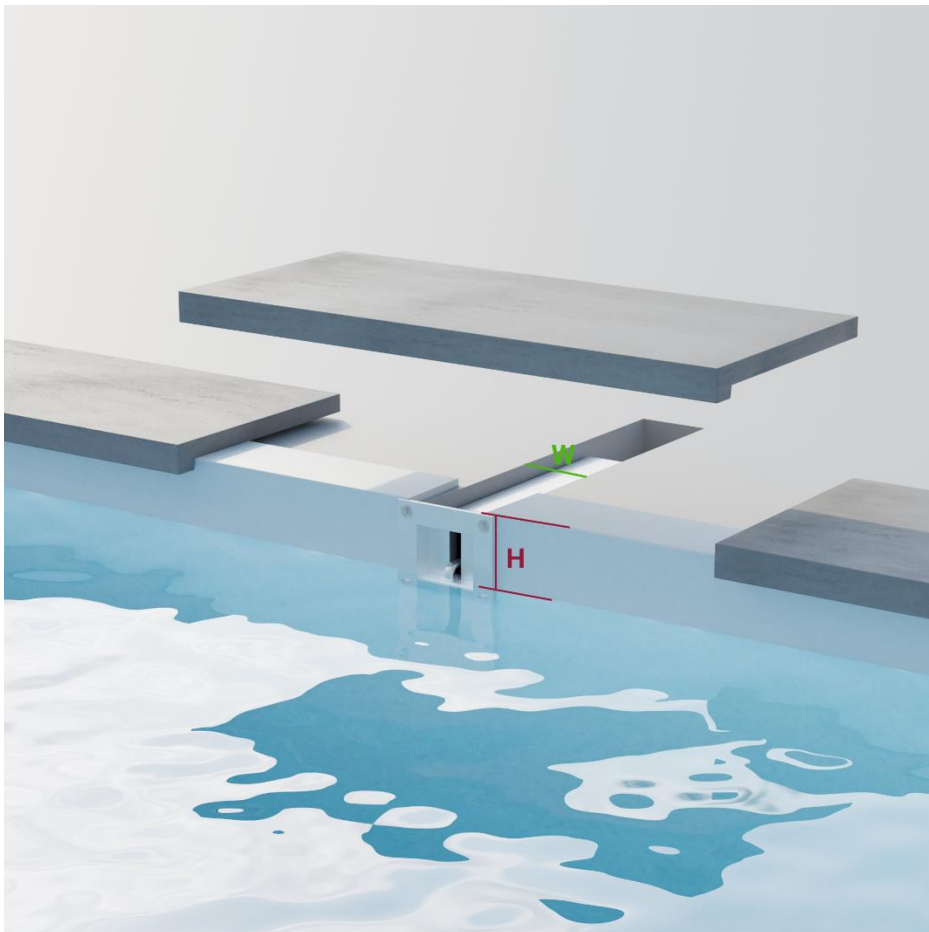
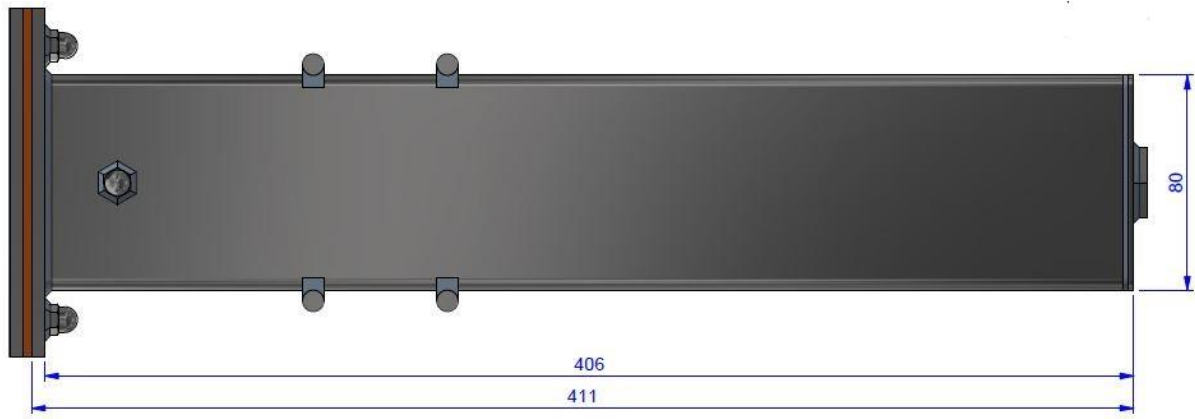


#### **Preparation: Constructional**

### *Placing of the fitting*

- **Mount the fitting, together with the bricks or in the mold right before the pouring process.**
- Make sure that the horizontal centre line of the fitting = water level.
- Place the housing in the wall during the preparations at the right positions in the pool end.
- Make sure the flange of the housing is positioned equally to the wall at the pool side. The housing must be positioned levelled horizontally !



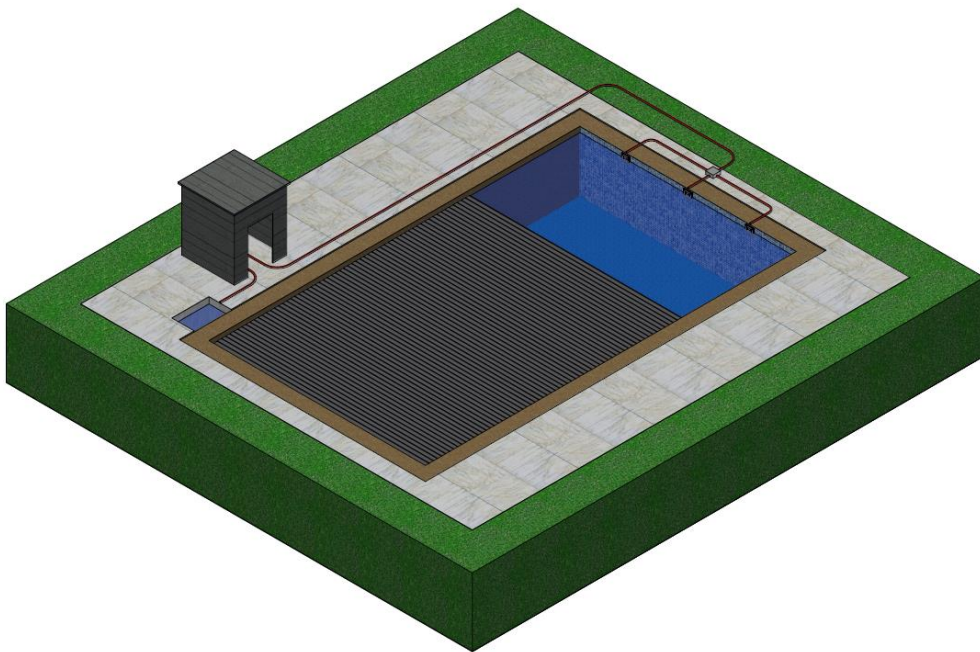


**H: 55- 95mm**

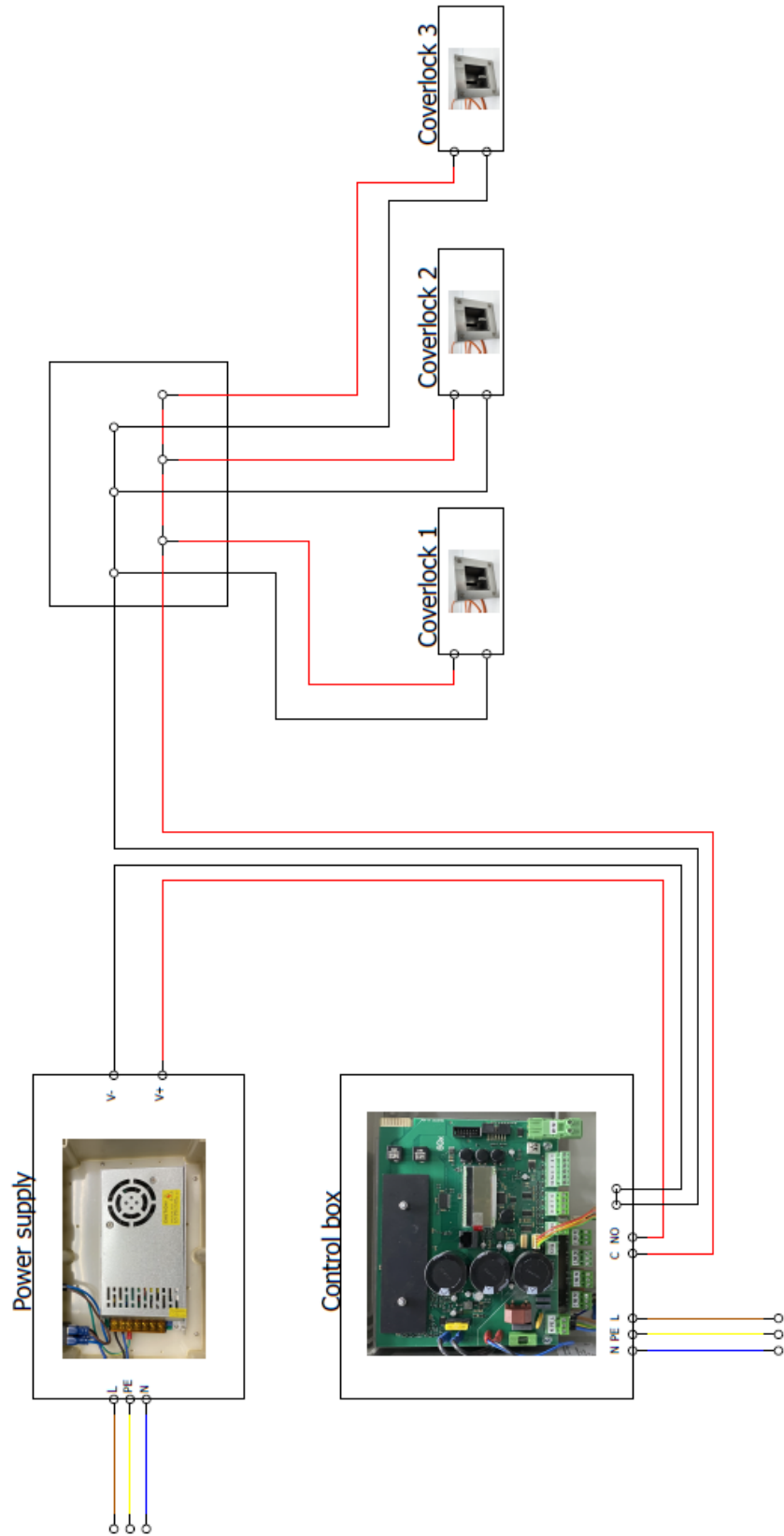
**W: 100mm**

## Preparation: Electrical

- Connections of the different locks are made in control box before going to the technical room.
- Max. distance between locking sets and power supply is 35m. (2.5mm<sup>2</sup>)
- Length cable on each lock: 2m
- Power supply from 24V Trafo in technical room.
- Relay card on universal control box switch on / off the locks.
- Connect if not done yet, a relay card to the circuit board.  
(see '*E4 & 5 – Adjusting control: Options*')
- 2.5mm<sup>2</sup> cable is required – max length 35m
- Connect the power cable from the locks to the relay card C – NO
- Program the relay with the function “LOCK” (see further)



AT-006275: Power Supply 230V AC – 24V DV

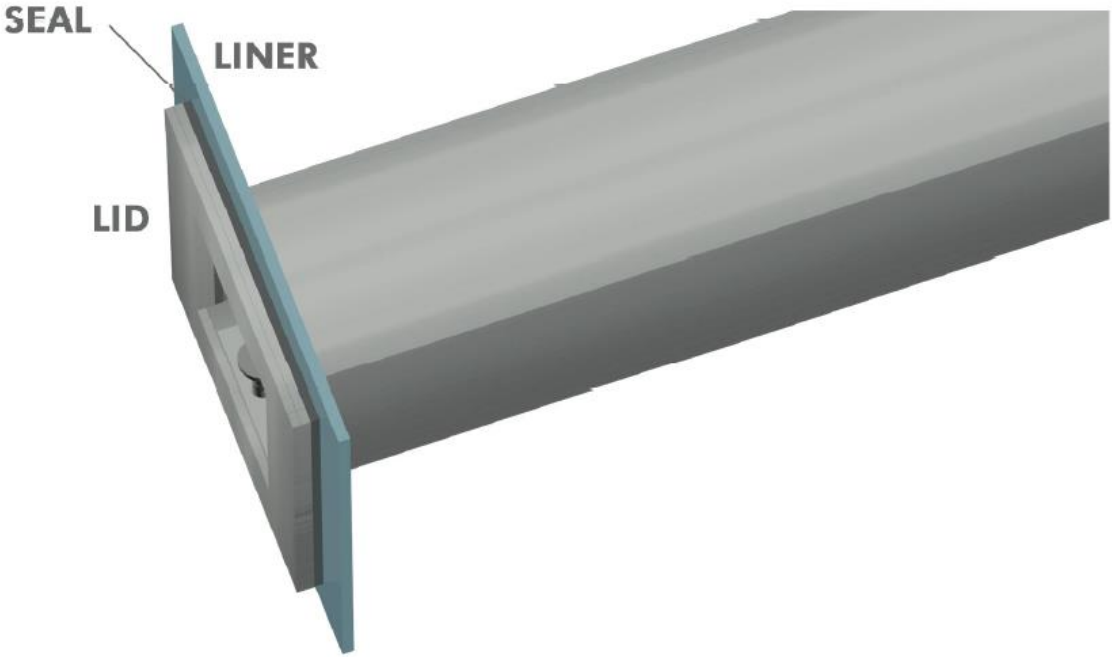






**ATTENTION fort he polarity !**  
**Black on V-**  
**Red on V+**

**Finishing: Wall finish**



## Mounting: Locking piece

### *Placing locking piece*

- Screw the locking piece at the underside of the slat



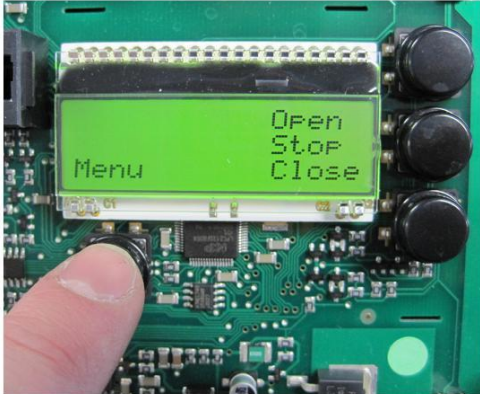
### **Position**

- Make sure the centre of locking piece falls together with the centre of the intended Coverlock unit.

## Programming

- Make sure the control box is initialized and end positions are programmed (see '*E4 – Adjusting control*').
- Go through these steps...

**1<sup>st</sup> display:** Select **MENU**



**Press T4 (MENU).**

**2<sup>nd</sup> display:** Choose **I/O SETUP**



**Scroll to I/O SETUP.**  
**When this is next to T2, you confirm your choice by pressing T2.**

**3<sup>rd</sup> display:** Choose **PROT. LOCK**



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

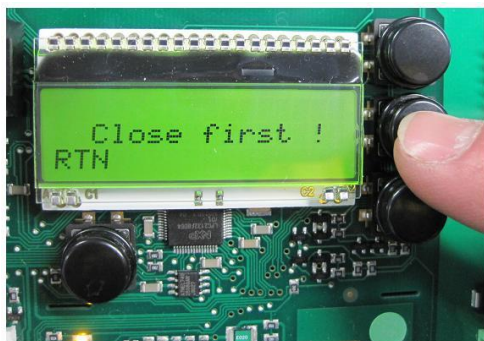
**4<sup>th</sup> display: Activate TEACH**



**Press T2 (Teach).**

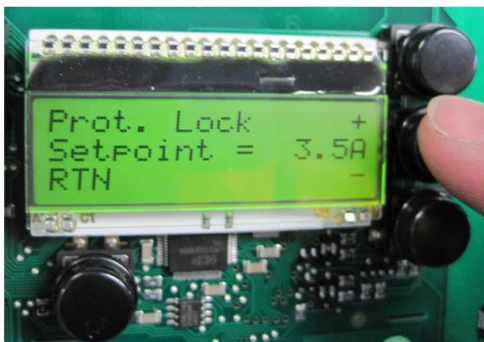
**NOTICE:**

If the cover is not closed the control box will ask to do this first.



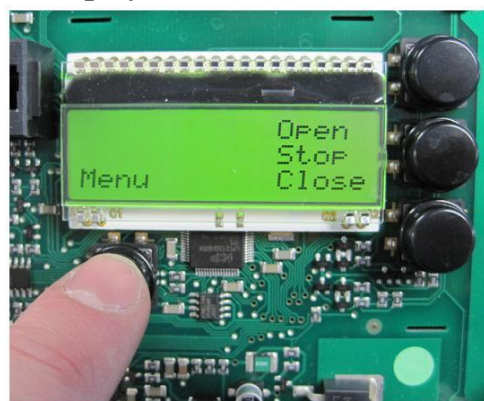
**Go back to MENU (T4) and then press T3 to 'close'.  
Navigate after 'closing' back to the 4<sup>th</sup> display Prot.  
Lock, as described in previous steps.  
Press T2 (Teach).**

**5<sup>th</sup> display: Confirm CURRENT-SETPOINT**



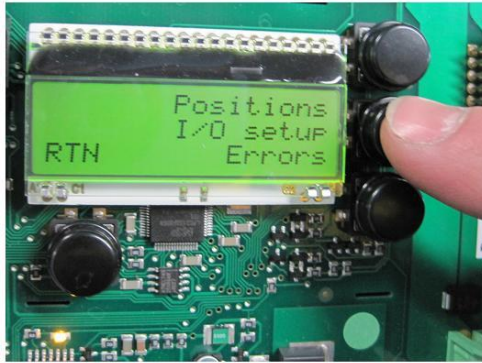
**Press T2.  
Go back to MENU (T4)**

**6<sup>th</sup> display: Select MENU**



**Press T4 (MENU).**

**7<sup>th</sup> display: Choose I/O SETUP**



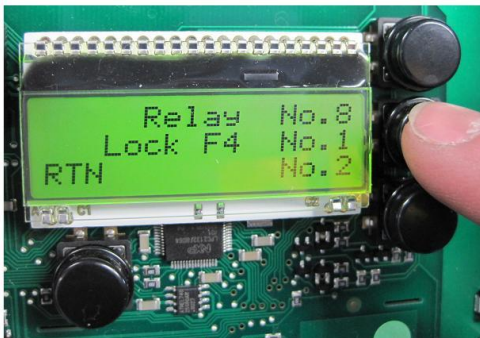
**Scroll to I/O SETUP.  
When this is next to T2, you confirm your choice by pressing T2.**

**8<sup>th</sup> display: Choose RELAIS**



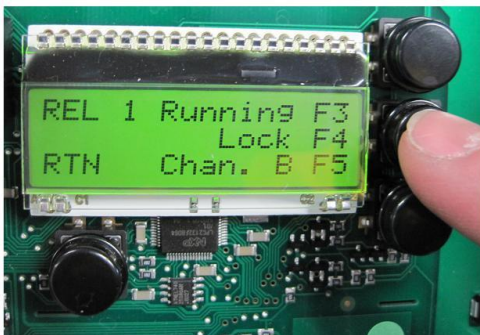
**Scroll to RELAY.  
When this is next to T2, you confirm your choice by pressing T2.**

**9<sup>th</sup> display: Select the connected RELAY N°**



**Scroll to the relay n° which is connected with the cable of the locks  
When this is next to T2, you confirm your choice by pressing T2.**

**10<sup>th</sup> display: Choose LOCK**



**Scroll to LOCK F4.  
When this is next to T2, you confirm your choice by pressing T2.  
Go back to MENU (T4)**

The safety lock is ready to use!

## *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.



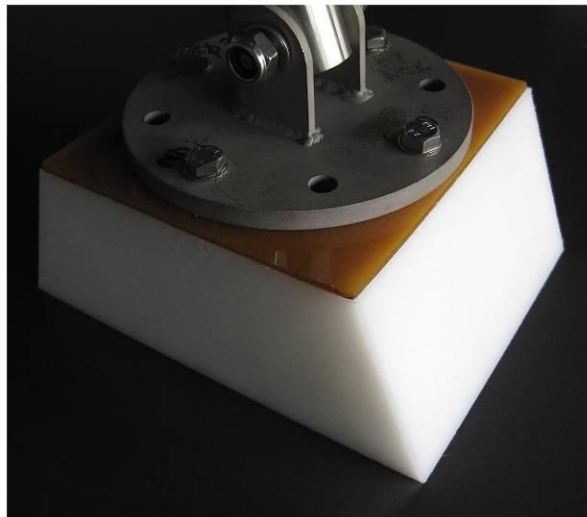
### 3.1 PE underwater mount block

#### 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:

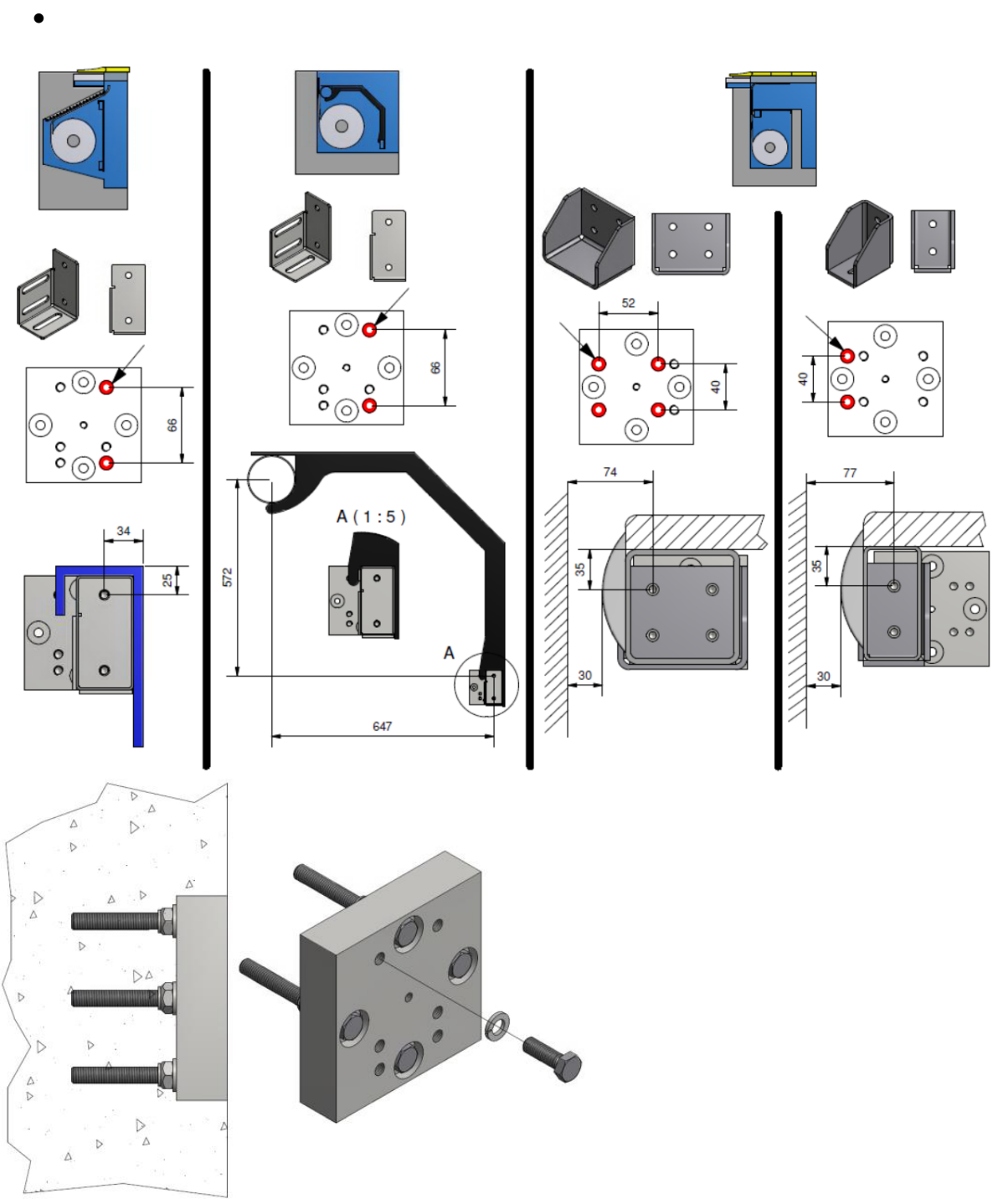
- These must be built in already during the preparations.

#### Description:

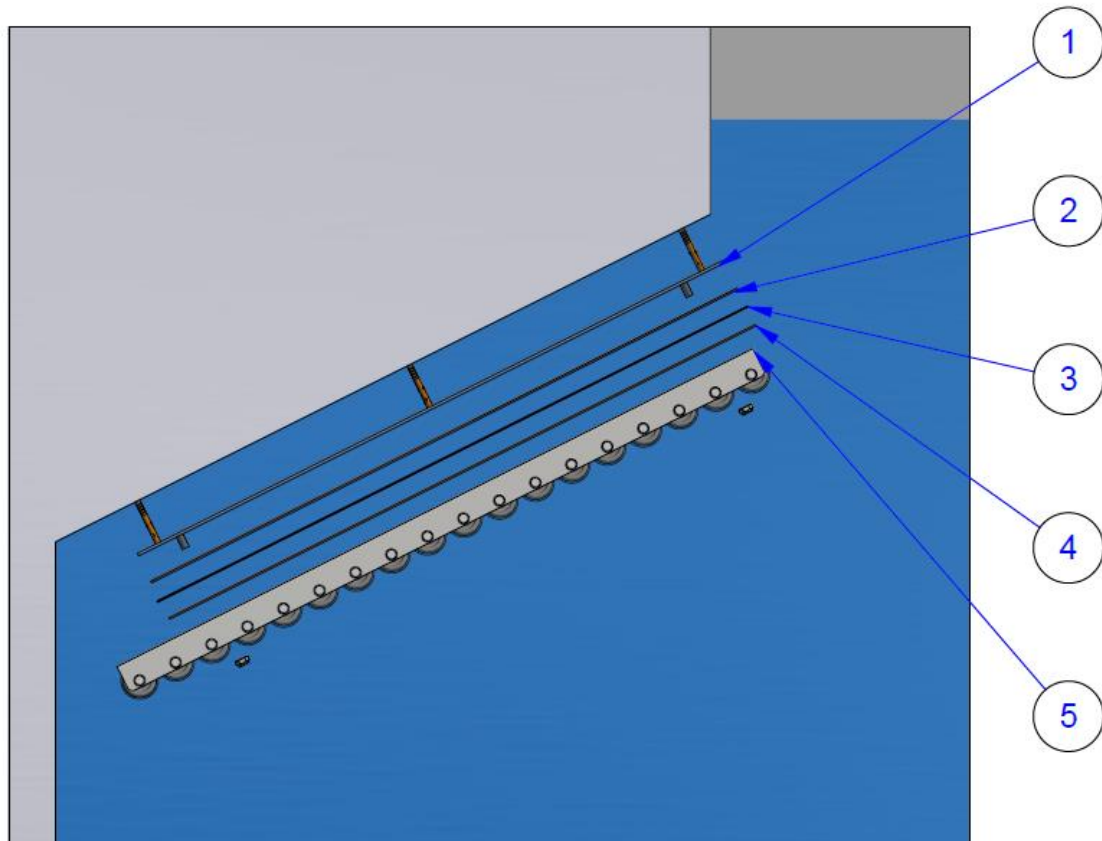
- Material: SS 316L
- Dimensions:
  - 100x100mm (BxH)
  - Thickness 25mm

#### Installation

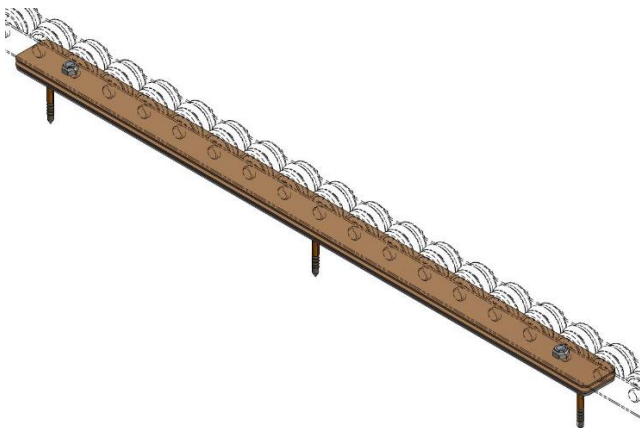
- Make sure there will be enough consolidation (concrete) around the block.



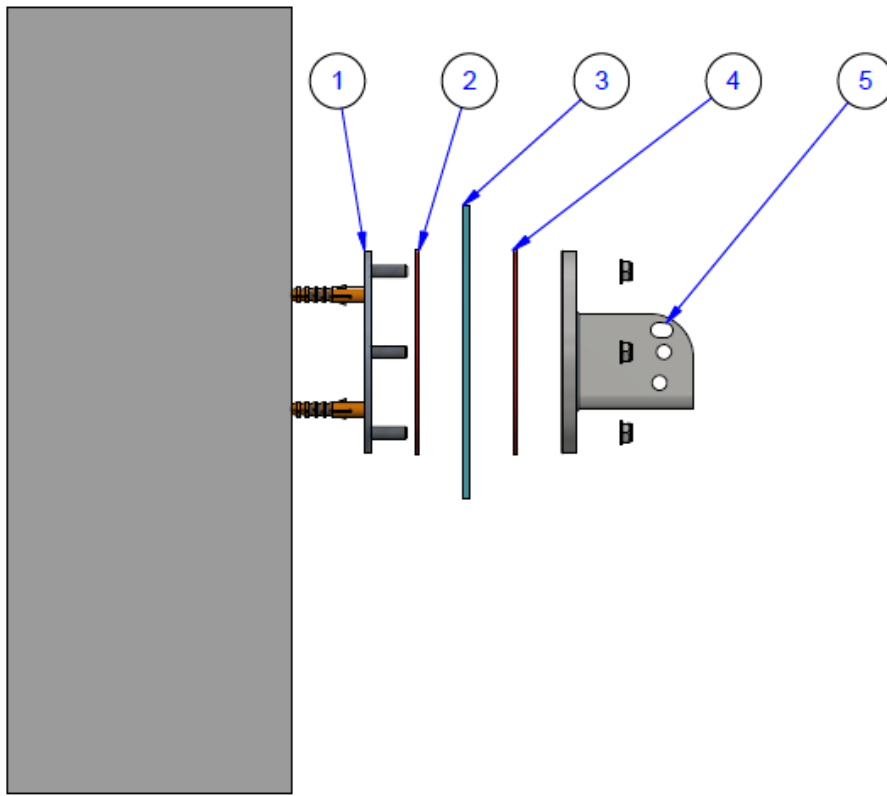
***Set: Counter flange for wheelstrip (AT-002411)***



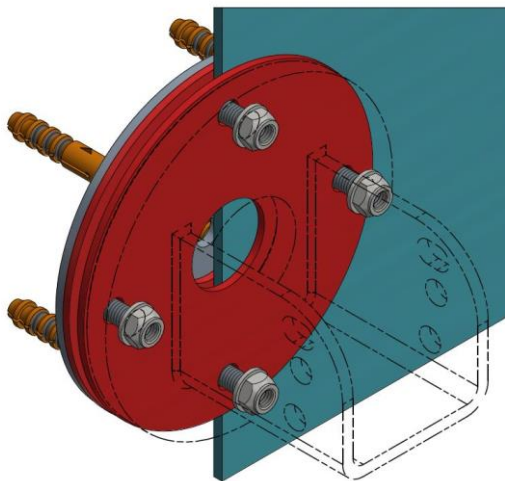
- 1 = Liner flange**
- 2 = self-adhesive seal**
- 3 = Liner**
- 4 = Sealing**
- 5 = Wheelstrip**



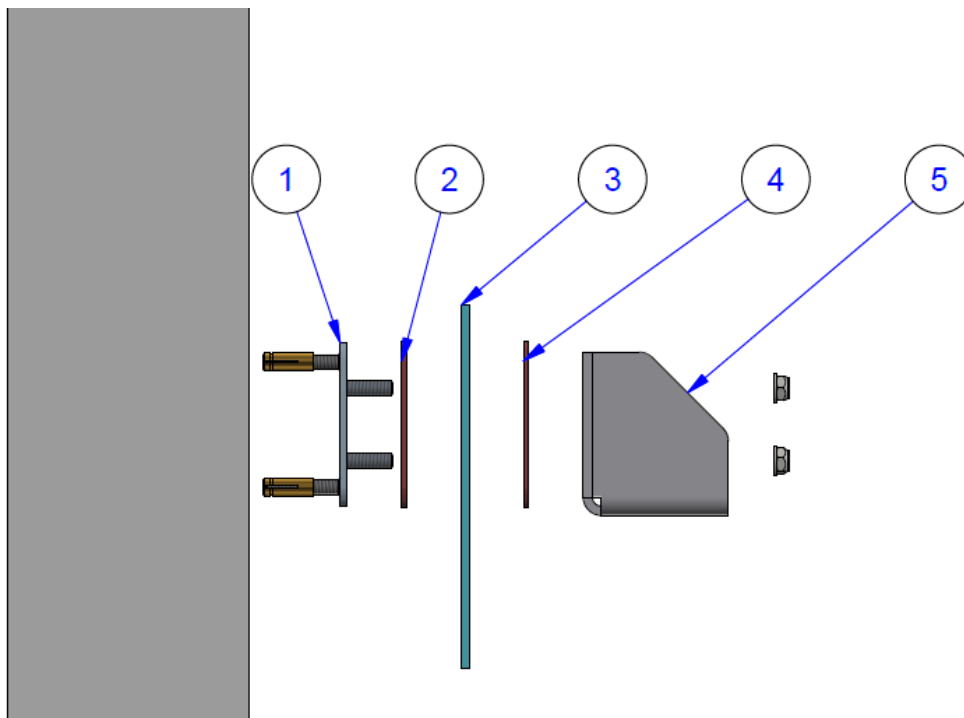
## *Set Liner flange non-motor side (Round) (AT-002605)*



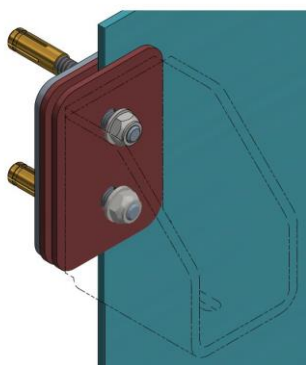
- 1 = Liner flange**
- 2 = self-adhesive seal**
- 3= Liner**
- 4= Sealing**
- 5= Flange (ex Motorflange)**



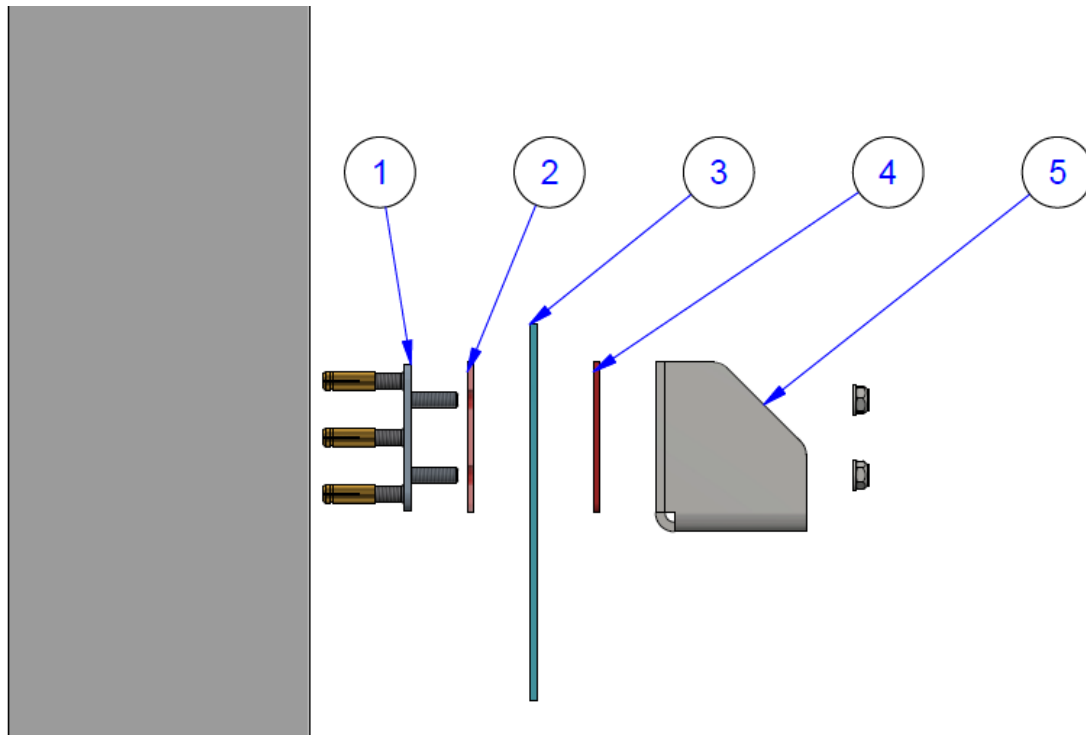
***Set Liner flange beam 100 x 50mm  
(AT-002609)***



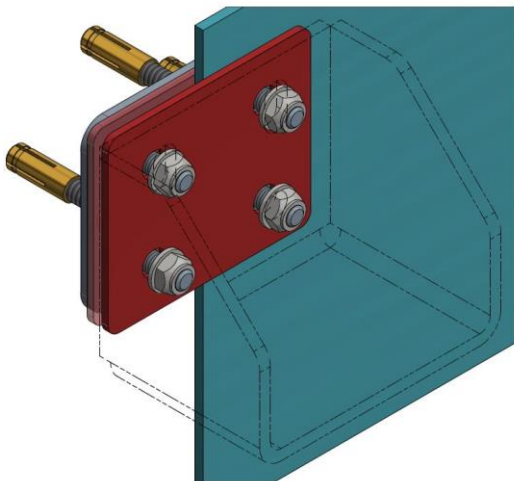
- 1 = Liner flange**
- 2 = self-adhesive seal**
- 3= Liner**
- 4= Sealing**
- 5= Support beam 100x50 / Support Seperation wall**



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

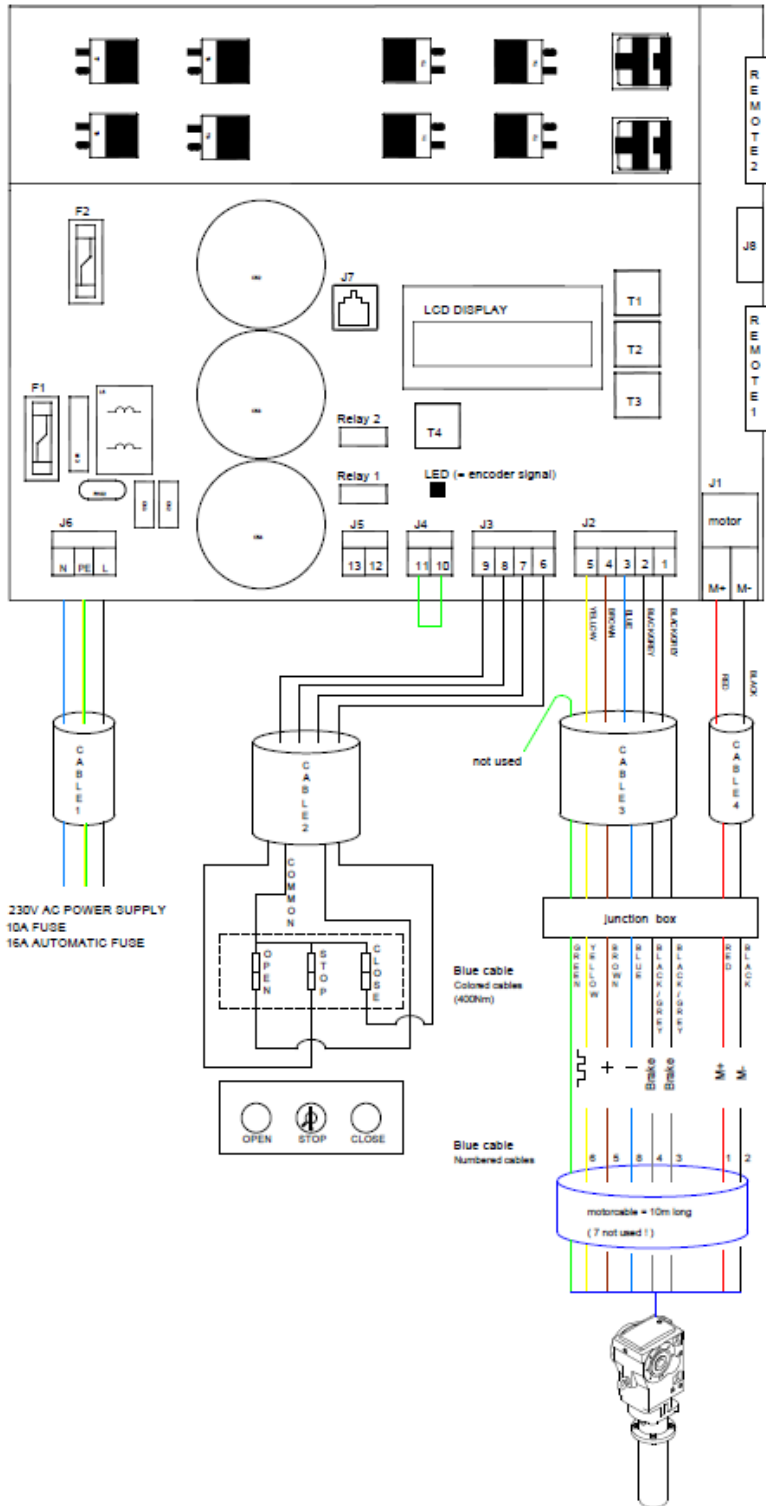


- 1 = Liner flange**
- 2 = self-adhesive seal**
- 3= Liner**
- 4= Sealing**
- 5= Support beam 100 x 100**



## Z01 - Connecting control: : Vertical pit motor 300 – 450Nm

Wiring diagram universal control board with Vertical pit motor



Code		Technical description	
<b>CABLE1</b>		Min. 3 x 1,5 mm <sup>2</sup>	<b>Flexible wire!</b>
<b>CABLE2</b>		Min. 4 x 0,75 mm <sup>2</sup>	<b>Flexible wire!</b>
<b>CABLE3</b>		Min. 5 x 1,5 mm <sup>2</sup> covered	<b>Flexible wire!</b>
<b>CABLE4</b>		Min. 2 x 4 mm <sup>2</sup>	<b>Flexible wire!</b>
<b>Remote 1</b>		Connector receiver print remote control	
<b>Remote 2</b>		<b>NOT USED</b>	
<b>Relay1</b>		connector relay print 1 (relay 1-4)	
<b>Relay2</b>		connector relay print 2 (relay 5-8)	
<b>J1</b>	M1	Motor + or -	
	M2	Motor + or -	
<b>J2</b>	1	Brake	
	2	Brake	
	3	Sensor -	
	4	Sensor +	
	5	Sensor signal (A or B)	
<b>J3</b>	6	Push button CLOSE	<b>Attention : no external voltage on 6-7-8-9 !</b>
	7	Push button OPEN	
	8	Common	
	9	Key switch STOP	
<b>J4</b>	10	Bridge or water level contact	
	11	Bridge or water level contact	
<b>J5</b>	12	Programmable input	
	13	Programmable input	
<b>J6</b>	L	Power supply 230V	
	PE	Earthing	
	N	Power supply 230V	
<b>J7</b>		Ethernet connection	
<b>J8</b>		Additional connector remote control	
<b>F1</b>		Glass fuse 2A	
<b>F2</b>		Fuse 20A	
<b>T1</b>		Scroll up / OPEN	
<b>T2</b>		Enter (confirmation of the choice)	
<b>T3</b>		Scroll down / CLOSE	
<b>T4</b>		Menu / return	
Motor type		Technical description	
<b>EXT120-B</b>		External motor 120 Nm - Bosch (old model)	
<b>EXT120-V</b>		External motor 120 Nm - Valeo (since 2007)	
<b>EXT250</b>		External motor 250 Nm - Valeo	
<b>SCUBA-A</b>		Scuba motor 250 Nm	
<b>SCUBA-B</b>		Scuba / external motor 500 Nm	
<b>SCUBA-C</b>		Scuba motor 180 Nm	
<b>SCUBA-D</b>		Scuba motor 400 Nm	
<b>SCUBA-E</b>		Scuba motor 140 Nm	
<b>HYDR-A</b>		Hydraulic motor 500/1000Nm	
<b>HYDR-B</b>		<b>NOT USED</b>	
<b>HYDR-C</b>		<b>NOT USED</b>	
<b>CUSTOM</b>		<b>ONLY USE IN CONSULTATION WITH T&amp;A</b>	

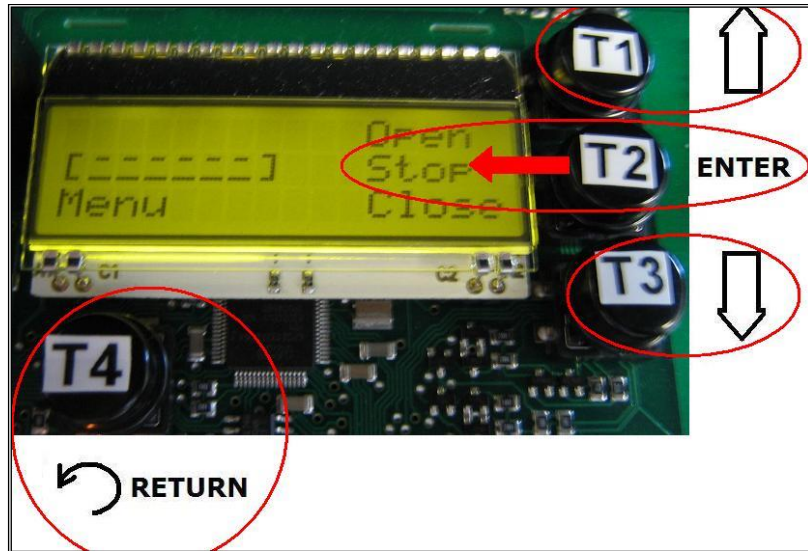


## 2. Initializing

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

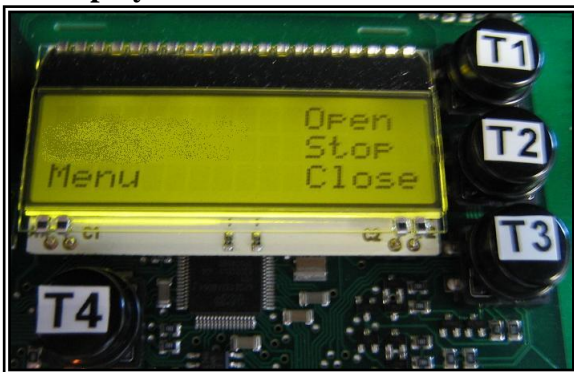
### General instructions:

- **T1** and **T3**: to scroll through the menu.
- **T2**: to confirm your choice = **ENTER** (attention please: your choice must stay in the middle, next to T2. It is that choice that will be confirmed.)
- **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

1<sup>st</sup> display: Select MENU



Press T4 (MENU).

**2<sup>nd</sup> 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.**

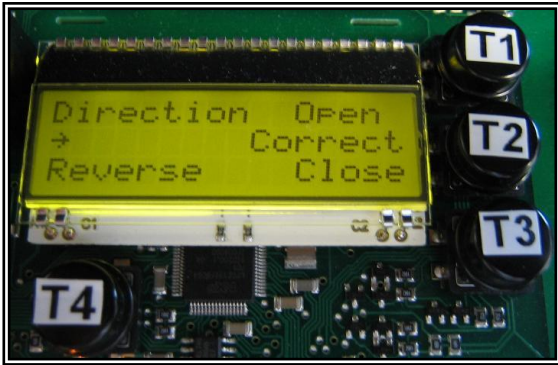
**3<sup>rd</sup> display: Select the MOTOR**



**Scroll to the MOTOR “CUSTOM” and confirm with T2**

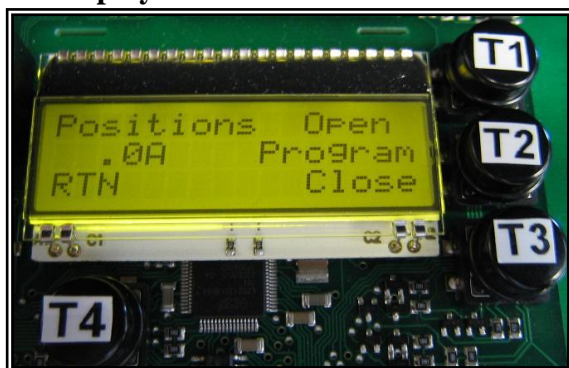
- **Set the following values for a 300Nm motor (Increase or decrease with T1/T3 – confirm with T2)**
  - Encoder Freq → 230
  - Max Current → 16.5A
  - Start Open → 200
  - Start Close → 200
  - Soft Start → 0A
  
- **Set the following values for a 300Nm motor (Increase or decrease with T1/T3 – confirm with T2)**
  - Encoder Freq → 100
  - Max Current → 16.5A
  - Start Open → 200
  - Start Close → 200
  - Soft Start → 0A

**4<sup>th</sup> display:** Control the turn-DIRECTION of the motor



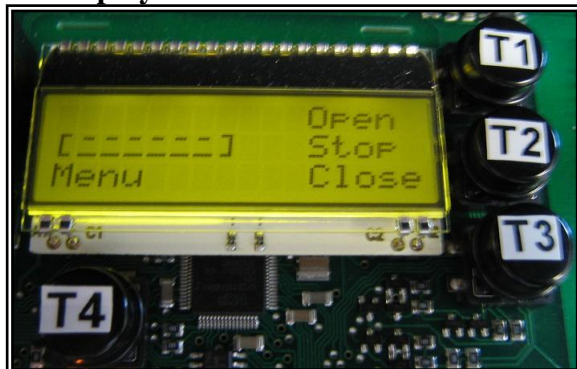
**Check if the turn-DIRECTION of the roll-up shaft is the same as the one shown on the control box by pressing T1 or T3 and correct the turn-DIRECTION if necessary by pressing T4. As soon as the turn-DIRECTION is correct, confirm with T2.**

**5<sup>th</sup> 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.**

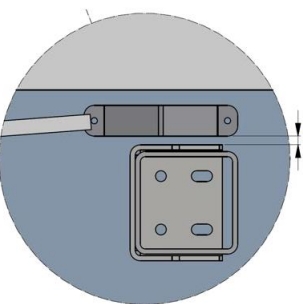
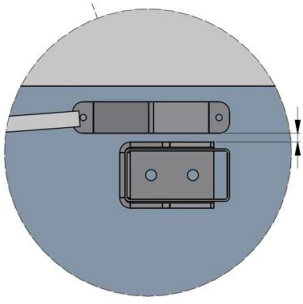
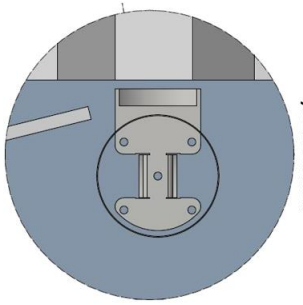

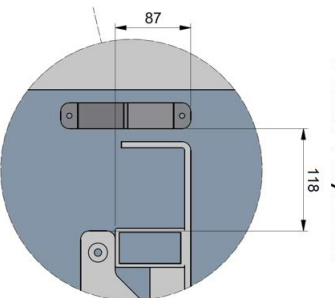
**6<sup>th</sup> display:** Cover READY to use



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

# AT-002072

## Z20 – AT-002072 – Scuba plates On floor

	<p>Balk - Poutre Sturzbalken – Beam 100 x 100</p> <p>8,5</p>
	<p>Balk - Poutre Sturzbalken – Beam 100 x 50</p> <p>8,5</p>
	<p>Ronde buis - Poutre ronde Rundrohr – Round tube Ø139mm</p>
	<p>Zonder afwerking Sans finition Ohne Verkleidung Without finition</p>
	<p>Zitbank Vinyllester Coffre Vinyllester Sitzbank Vinyllester Bench Vinyllester</p> <p>87</p> <p>118</p>

*Z21 – AT-002885 – Positioning set PVC plates*

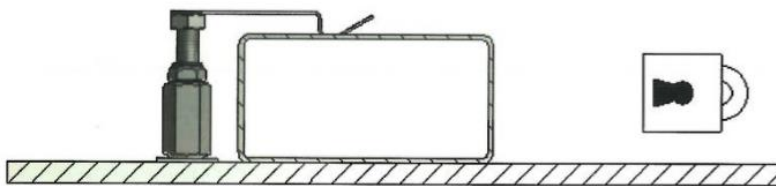
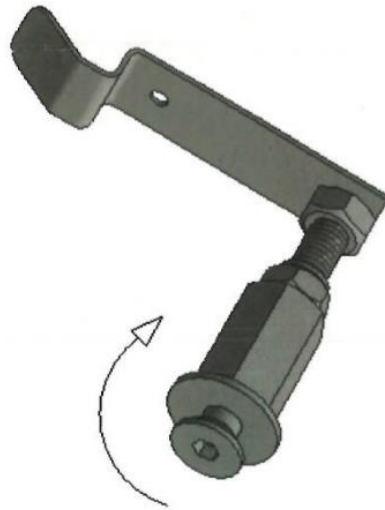
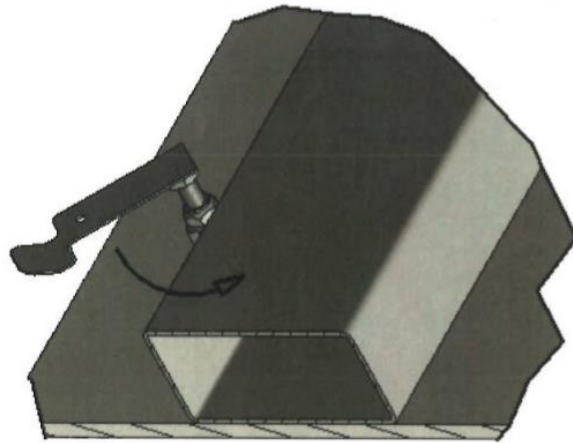
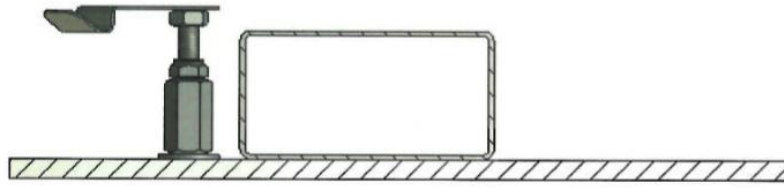




Z22 – AT-001851 – Mouning kit fiberglass wall



Technics & Applications







*Z80 – AK-000362 – Wall duct Scuba thin wall*

