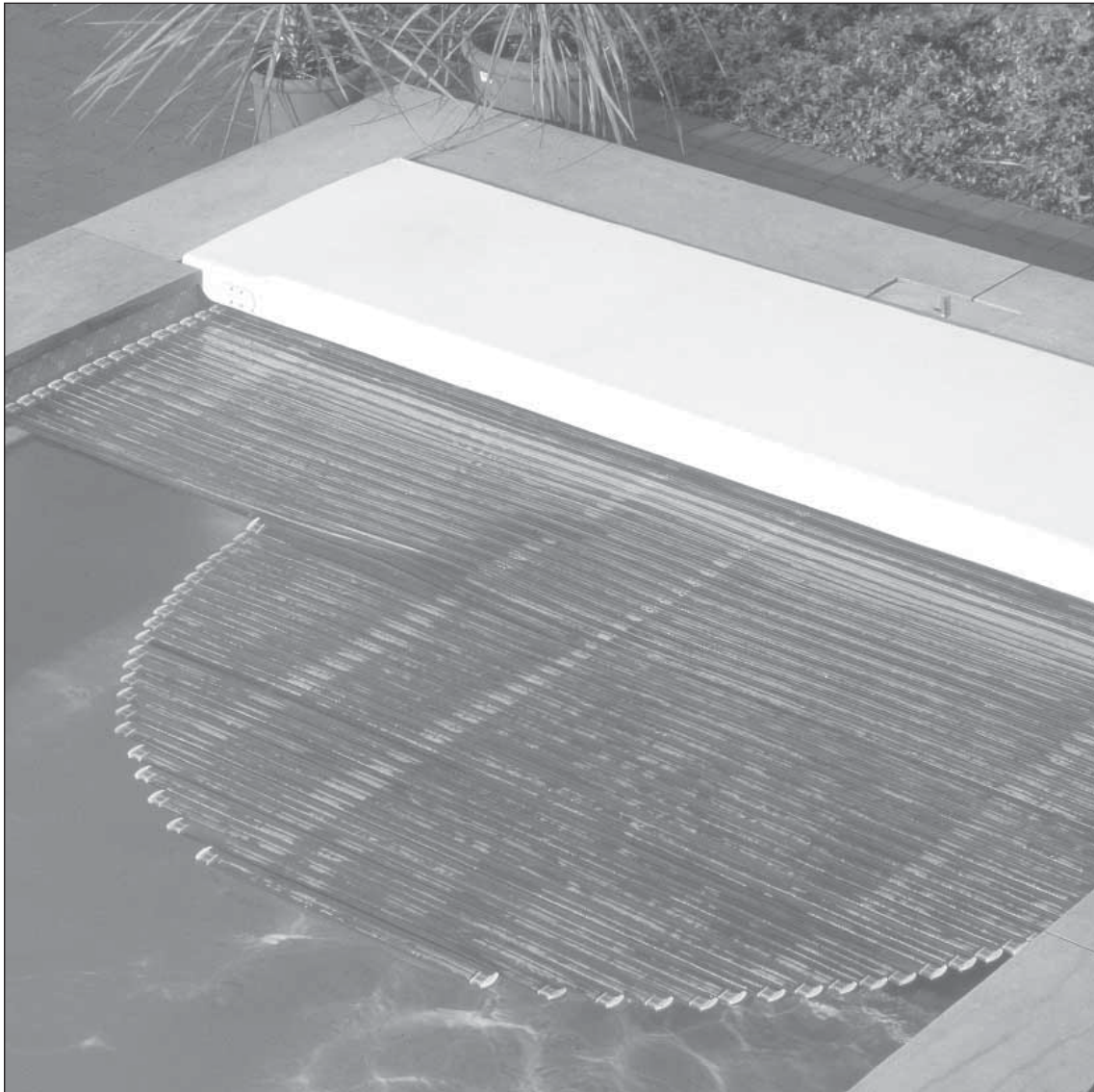


T H E R M O S A F E



UNDERGROUND ROLLER SHUTTER COVER

RivieraPool®

PREFABRICATED SWIMMING POOLS • WHIRLPOOLS

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Information:

Additional information is available from our technical customer service.

We reserve the right to make changes or improvements in production, in line with technical developments.

1. General

1.1 System delivery

This Thermosafe underground roller shutter cover consists of the following components:

1. A fibreglass reinforced polyester roller shutter shaft, laminated to the sides of the pool with integrated roll-up device and factory-fitted support beam.
2. A shaft cover made of polyester, wood or steel, as requested.
3. A control box and key switch.
4. Roller shutter bars individually packed in boxes.

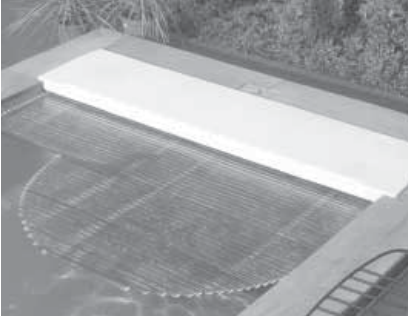
Please carefully inspect all the contents upon delivery and ensure that they are stored correctly on site. If any defects are detected upon delivery, please notify us immediately of these in writing. We will then attempt to rectify any problems. The elimination of defects reported at a later date is subject to reimbursement.

1.2 Intended use

The Thermosafe roller shutter cover is designed for use with private and public swimming pools and aims to minimize surface evaporation and heat loss, thus maximizing the pool's energy balance. A prerequisite is complete adherence to the respective installation and operating instructions. The quality of the pool water has to correspond to the quality specified by DIN 19643 for non-swimmer pools / (no saltwater).

2. Description of the equipment

2.1 Tendering

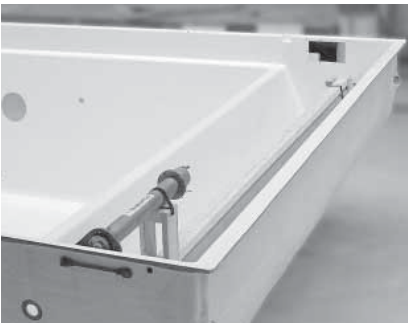


Roller shutter shaft

Fibreglass reinforced polyester perfectly shaped to the actual pool at the factory. The roller shutter shaft is the roll-up device and roller shutter retainer and is equipped as standard with a red brass drain plug R 1 1/2".

Roller shutter shaft cover

There are a number shaft covers available. Please see page 14.22.



Roll-up device

Red brass and stainless steel with a 24 V DC tubular motor, control box and key switch, flush mounted.



Thermosafe roller shutter cover

Hollow PVC sections with stabilizing struts and water-tight end seals.

- Plain white version for indoor swimming pools.
- Solar version with transparent top and black underside for open air pools.



Spray unit for roller shutter shaft

To improve soiling guidance from the roller shutter to the skimmer. The spray unit is factory fitted and consists of: Pipework with a jet set, circuitry with time relay and a solenoid valve. Connection to the household water supply is carried out by the customer.

2.2 System description

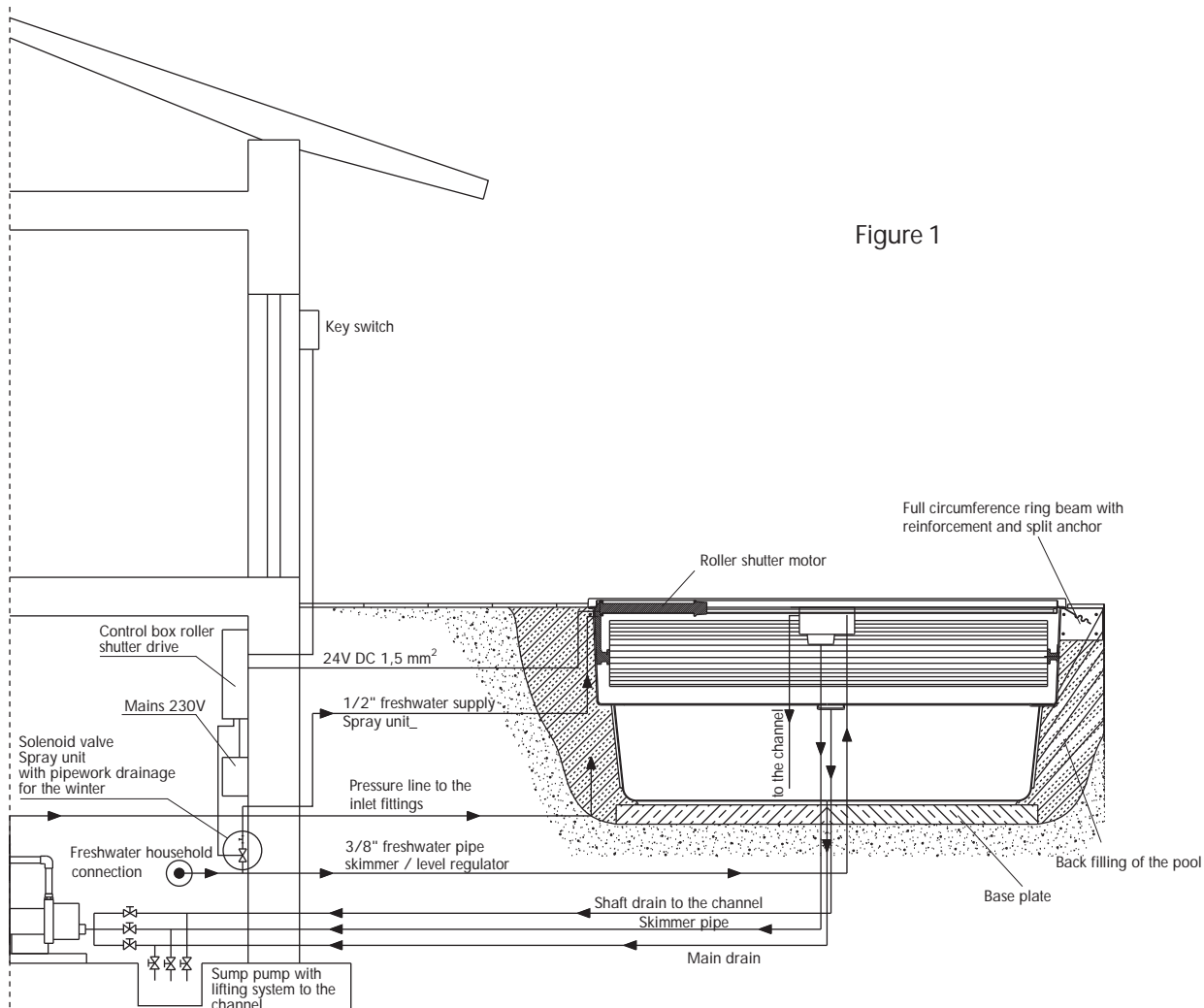
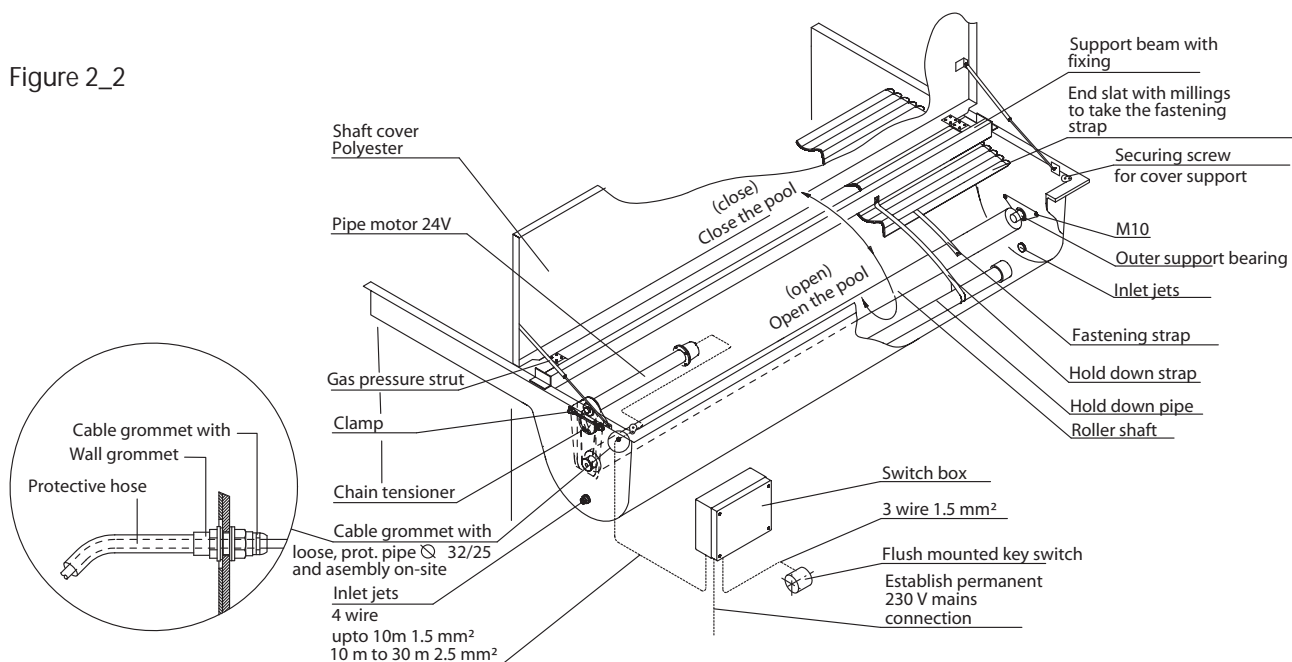


Figure 1

Figure 2_2



2.3 Views/Dimensions

Figure 3

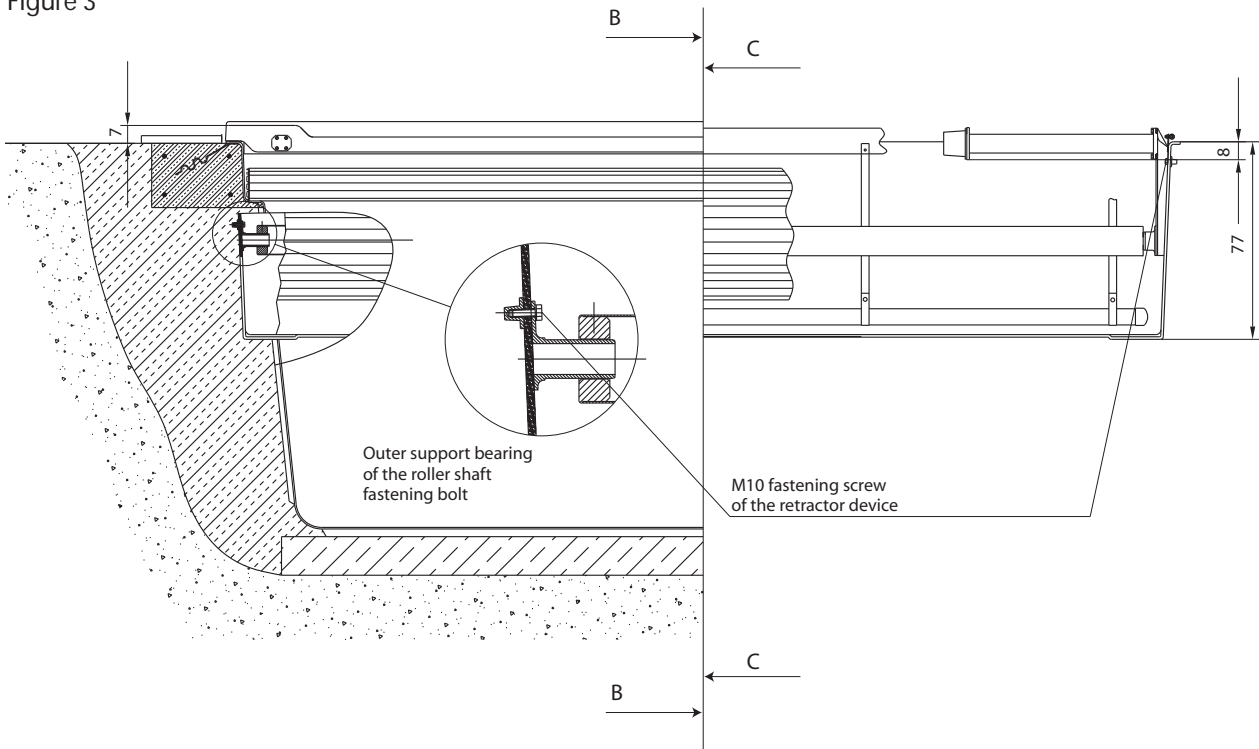
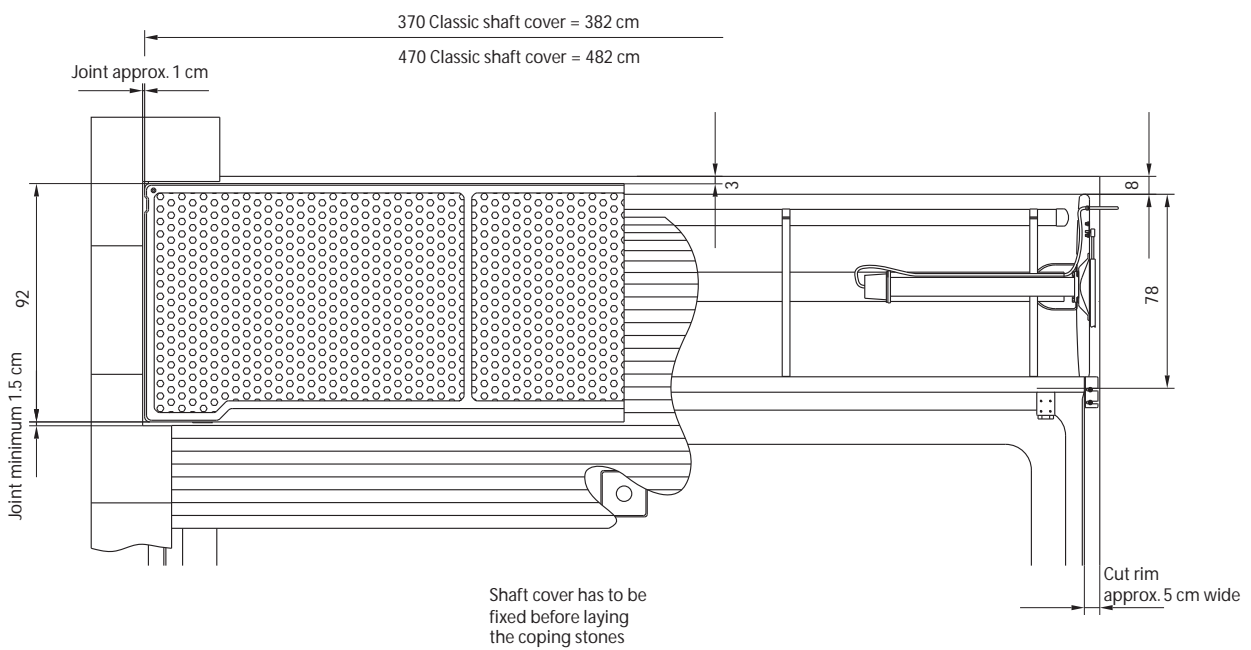


Bild 4



Description of the equipment

Figure 5_1

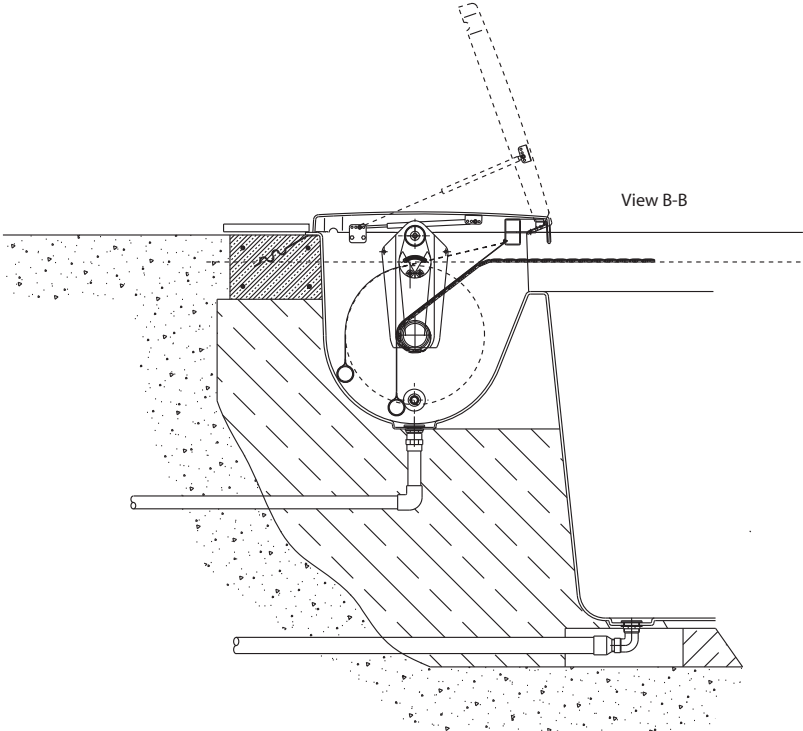
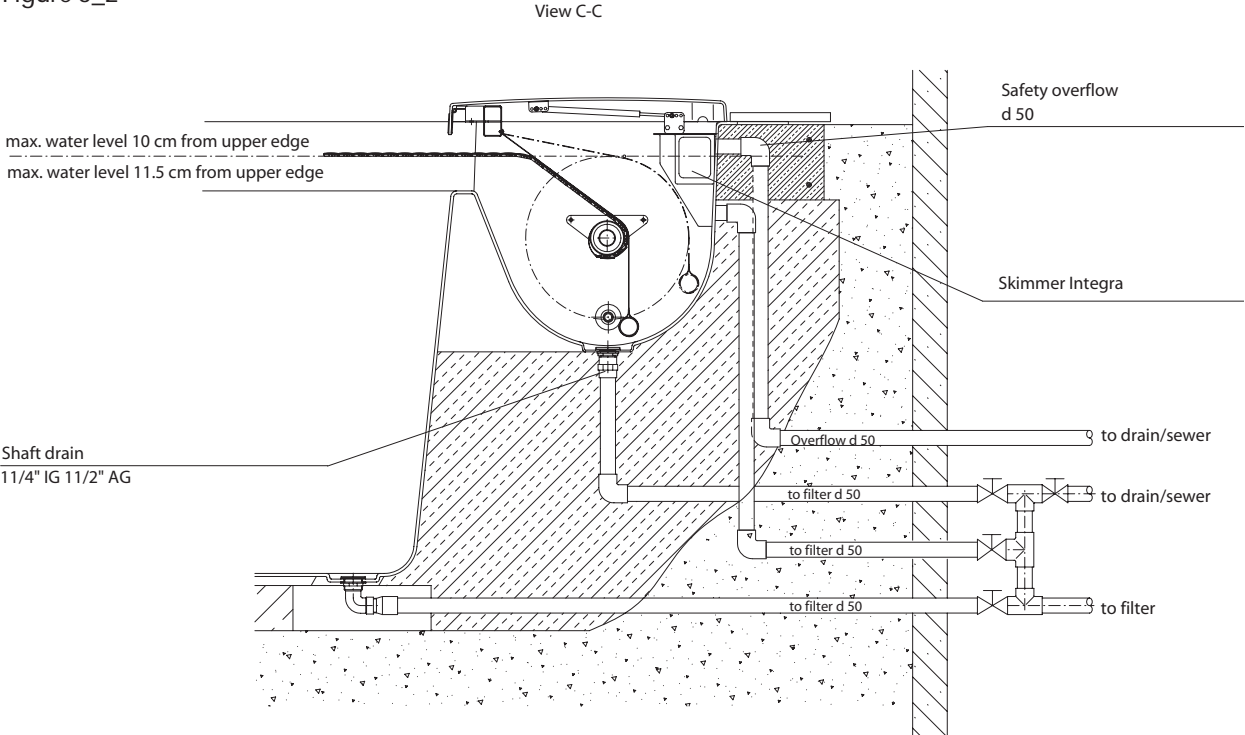


Figure 6_2



3. Installation Site Requirements

Shutters shaft end	Drain pipe to the filter: and to the channel (flow, drainage, during the winter)	11/4" IG / 11/2" AG d 50
Skimmer Integra	Skimmer with automatic level regulator and overflow. Ensure that the level of the water is always within the operating range of the roller shutter. Connection for pool cleaner: Suction pipe: Overflow: Level regulator:	2" ET Use plastic pipe d 50 KA pipe 50 Freshwater pipe 3/8"
Skimmer RG 126	Connection for pool cleaner: Overflow:	11/2" IG 11/2" IG
Roll-up device	Mains supply line: Control line: Control line:	230 V / 50 Hz / 3 x 1.5 mm ² permanent connection to the control box From the control box to the drive motor up to 10 m 4 x 1.5 mm ² from 10 m to 30 m 4 x 2.5 mm ² underground cable From the control box to the key switch 3 x 1.5 mm ² up to 30 m (see 4.2.1. Electrical installation wiring diagram 1)
Spray unit	Water supply: Control line:	Freshwater pipe 1/2" for spray pipe connection Freshwater pipe 1/2" for the solenoid valve connection (see 4.5 Assembly of the spray unit) From the control box to the key switch 3 x 1.5 mm ² up to 30 m (see 4.2.1. Electrical installation wiring diagram 1)

4. Installation

4.1 Electrical installation

As standard the roller shaft is equipped with a shaft drain R 1 1/2" internal thread which has to be attached to the channel and the filtration system. We additionally recommend the installation of one or several skimmers and two thrust jets to ensure an optimum flow rate. The flow rate in the roller shutter shaft has to be adjusted to the entire pool hydraulics according to the installation site conditions (see point 2.2 System Description figure 1– 2_2).

4.2 Roll-up device and electrical installation

4.2.1. Electrical installation

The electrical motor of the roller shutter drive has to be connected according to the following wiring diagrams. Please ensure that the size of the cable cross sections increases according to the distance between the control box and the motor. When assembling the control box, ensure that the cable glands are facing downwards.

The key switch has to be installed at a location which provides an excellent view of the swimming pool during operation.

The transport safety mechanism of the drive has to be removed after back-filling with concrete and before electrical installation.

Technical data

DC motor	24 V DC – 6A –190 W
Motor speed	5 min ⁻¹
Shaft speed	5 min ⁻¹
Thermal protection	Short term operation 4 min.
Transformer	230 V AC / 24 V DC
Fuse	6,3 A slow
Key switch	Open / Closed
Degree of protection	IP 54, flush mounted
Cable lengths	Up to 10 m 1,5 mm ² /10 m – 30 m 2,5 mm ²

It is recommended to connect the cable with an additional length of approx. 1 metre and to attach it to the tubular motor, thus ensuring that the motor does not have to be disconnected for possible disassembly of the drive.

Please pay attention to the correct direction of rotation of the winding shaft.

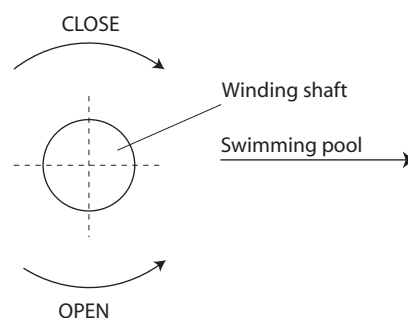


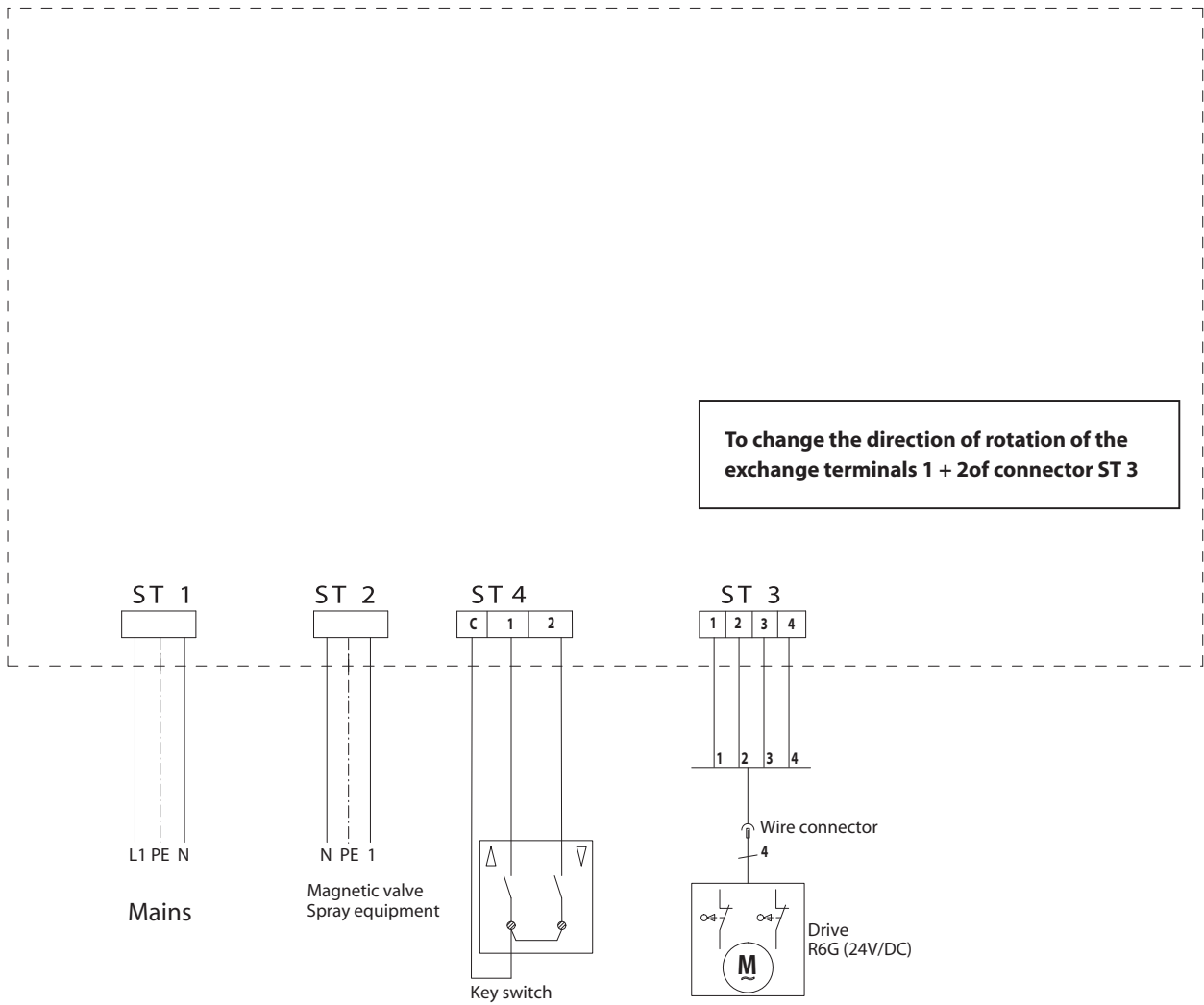
Figure 7

4.2.1 Electrical installation

Wiring diagram 1: Roller shutter drive

Art.-Nr. LARS24V

Figure 8_3



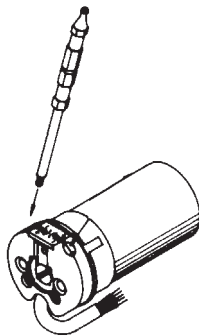
4.2.2 Setting the limit switches

The limit switches automatically limit movement of the roller shutter while opening and closing. Due to the various swimming pool lengths, these switches have to be set individually. The limit switches can be accessed after removing the motor cover. The required setting pin is located in the drive housing cover to ensure that it is not lost. Rotate and set the limit switches with the aid of the setting pin.

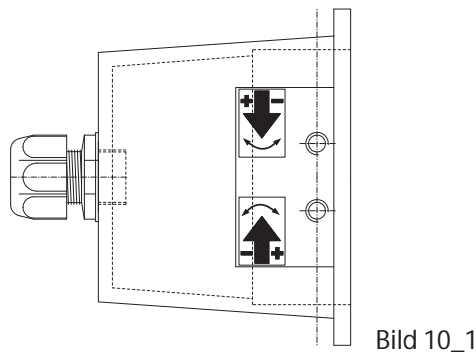
Plus = Extends the switching point.
 Minus = Reduces the switching point.

The roller shutter movement limited by the respective limit switch is displayed by the arrows on the limit switch.

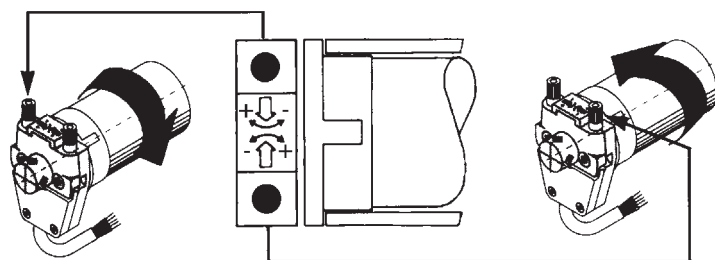
Figure 10



Setting limit switch on cover



Setting limit switch directly on motor



Work procedure:

In order to set the limit switches, the roller shutter has to be assembled and cover the entire pool. Do not attach the fastening straps of the roller shutter to the winding shaft just yet.

The following setting procedure has proven successful in the past:

1. Check whether the key switch and the direction of rotation of the shaft correspond.
 When switched to "CLOSE", the shaft has to rotate towards the pool, the shaft rotates in the opposite direction if the switch is set to "OPEN". If this is not the case, a qualified electrician has to reverse the polarity of the motor connection in the control box (see wiring diagram 1 and wiring diagram 2).
2. Check the correct position of the hold-down tube and its straps (see point 2.2 System Description figure 2-6)
3. Turn the key switch to "CLOSE" and allow the shutter to travel to the automatic limit switch setting.

4. Only now should the fastening straps of the roller shutter be attached to the shaft (see figure 2).
5. Turn the key switch to "OPEN". The roller shutter is wound around the shaft. During the winding procedure, rotate the limit switch whose arrow points away from the pool anti-clockwise towards "-" until the motor switches off.
6. Now continue to rotate the same switch clockwise towards "+" until the first roller shutter bar is positioned underneath the support beam. The exact position of the first roller shutter bar can be individually set and depends on the actual shape of the pool steps and the position of the skimmer.

Note: If the roller shutter is moved back too far, there is a danger that it may overwind. This can particularly occur when operating a counter current system. Overwinding is displayed by the roller shutter protruding approx. 1 metre from the shaft, the limit switch settings are no longer correct.

7. In order to check the switch setting "CLOSE", wind up the roller shutter again and, if necessary, carry out adjustments.

The housing has to be carefully replaced and screwed down after opening to prevent corrosion of the motor components. Please pay special attention to the correct positioning of the o-ring seal. (See figure 11 pos. no. 1 1)

Note: The motor is equipped with thermal protection which automatically switches off the system if overheating occurs. This can occur if the shutter is opened and closed several times during electrical installation / limit switch testing. In this case, allow the motor to cool down sufficiently. It will then start up automatically after the 20 to 30-minute cool down phase.

4.2.3 Assembly/Disassembly of the roll-up device

The roll-up device can be assembled or disassembled in just a few minutes. Therefore, it is recommended to disassemble the entire device if a fault occurs in the drive, allowing complete access to components. The roller shutter bars should be completely unwound from the roll-up device. The entire roll-up device can be released by unscrewing the 4 hexagon bolts (figure 3) and subsequently removed from the roller shutter shaft. Ensure that the winding shaft cannot sag and cause damage to the drive or the pool.

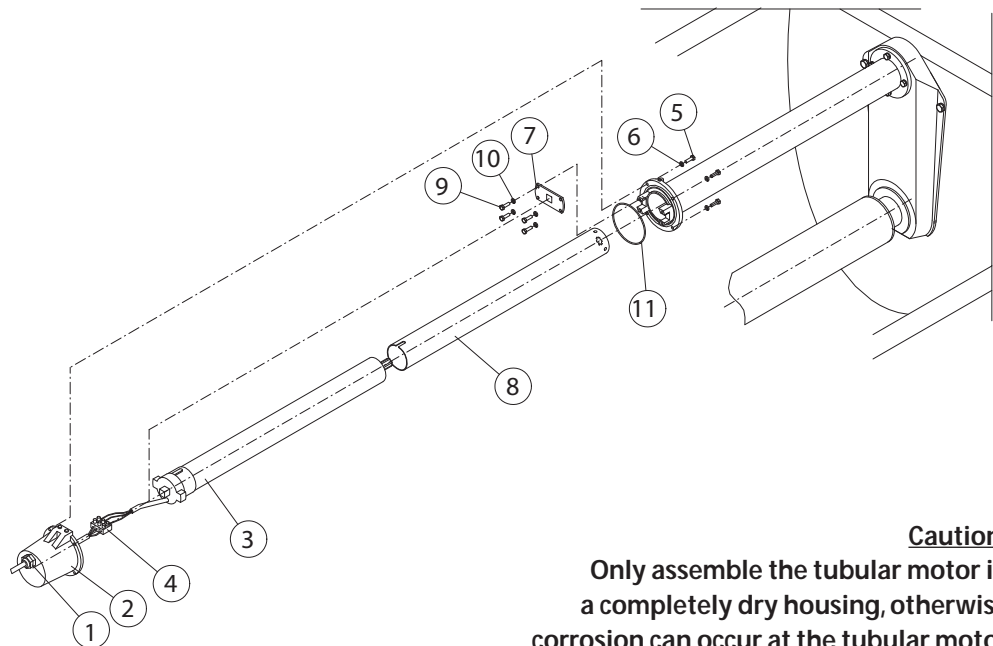
4.2.4 Replacing the tubular motor

Caution: Always completely disconnect the system from the power supply before carrying out repair work!!

- a) Open the cable gland (1) and remove the 4 M6 hexagon bolts (5) together with the respective serrated lock washers (6).
- b) Remove the cover (2).
- c) Disconnect the cable connection from the cover (2) to the motor (3) via the terminal block (4).
- d) Remove the 4 M6 hexagon bolts (9) together with the respective serrated lock washers (10).
- e) Remove the tenon plate (7).
- f) Extract the motor (3) and the driving tube (8).
- g) Replace the motor and assemble it in reverse order,
- h) Please pay attention to correct positioning of the o-ring seal (11),
- i) Release the fastening straps and carry out the limit switch setting according to section 4.2.2.

If possible, the roller shutter should be extended over the pool prior to disassembling the motor. If this is not possible, the roller shutter will unwind automatically once the motor is removed.

Figure 11_1



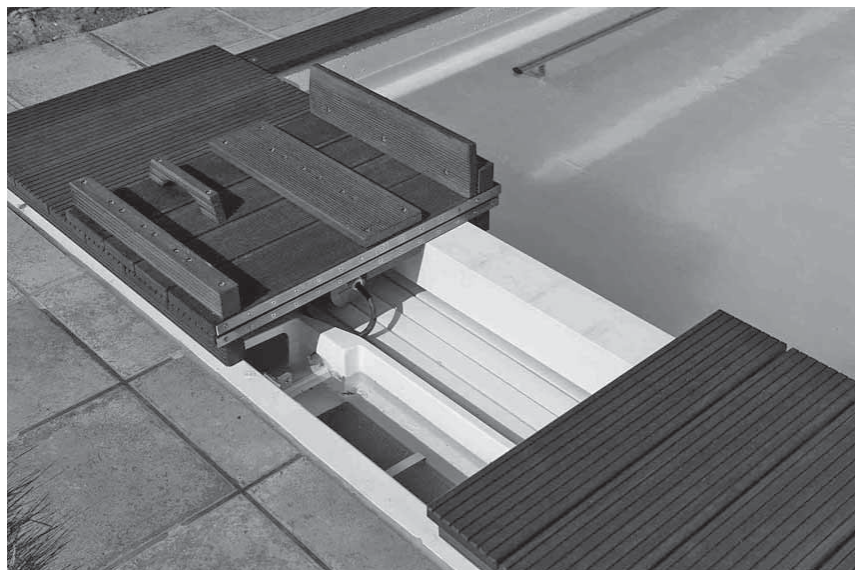
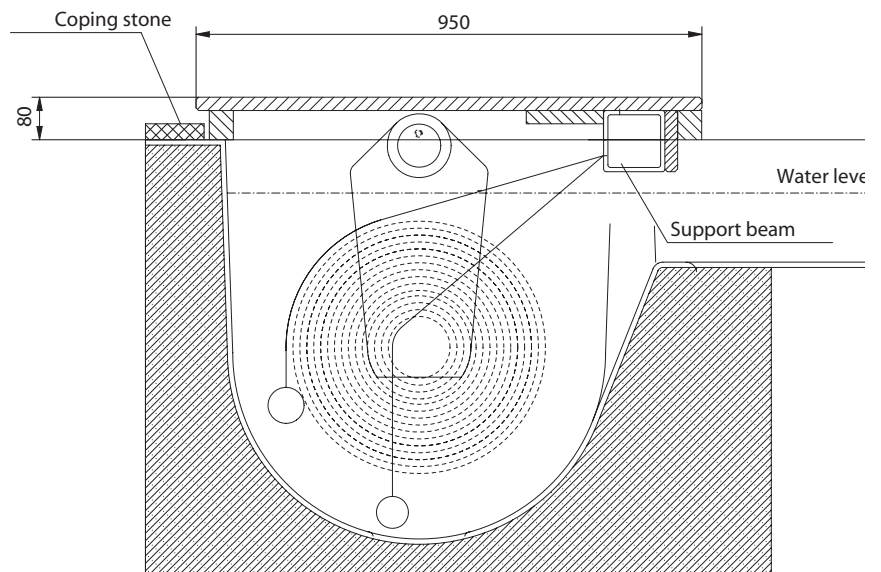
Caution!
Only assemble the tubular motor in a completely dry housing, otherwise corrosion can occur at the tubular motor

4.3 Assembling the shaft cover

4.3.1 Sundeck (available only for skimmer pools)

The sundeck consists of 2 parts that are laid loose on the support beam. Individual segments are hinged so that the skimmer is easily reached. When laying the parts, take care to ensure that the front panel covers the support beam

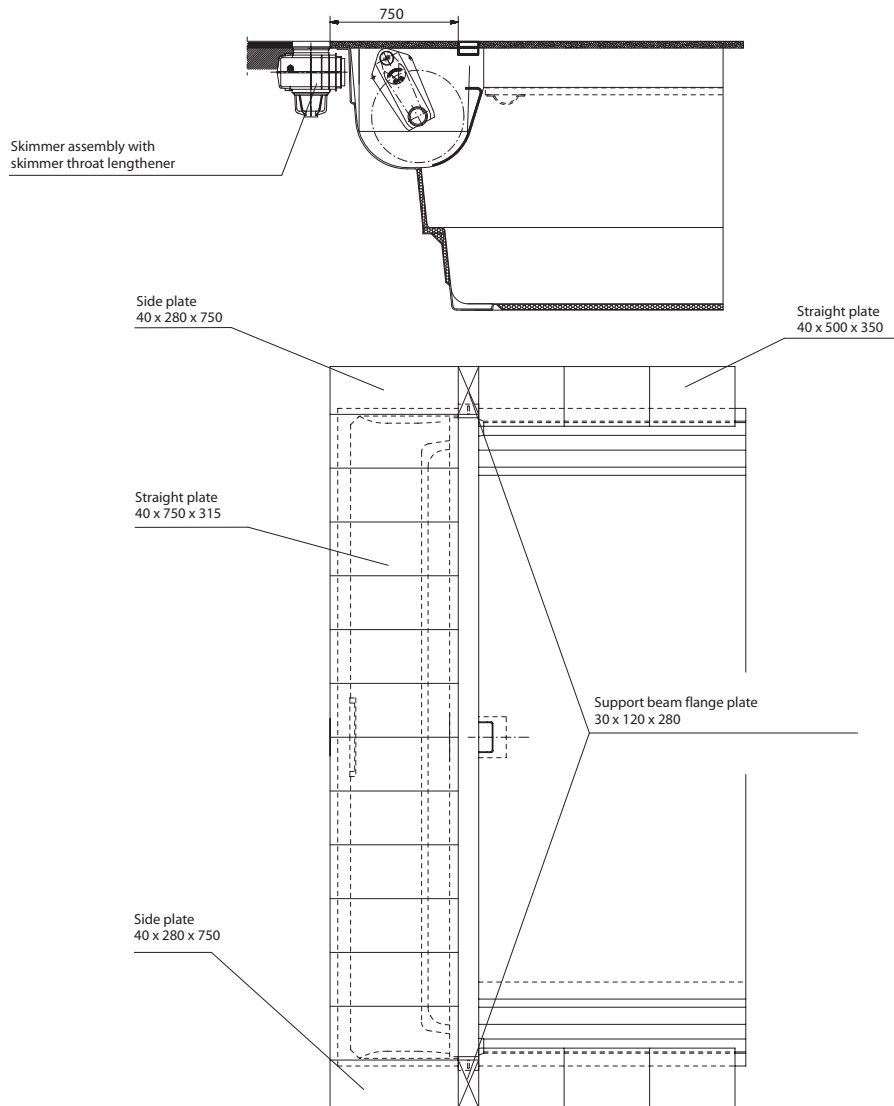
Figure 14_1



Sundeck

4.3.2 Shaft covering stone with stainless steel supportbeam

The support beam is delivered loose and is mounted onsite. The plates of the shaft covering must lie on the ring beam or on the cement surround and not on the rim of the pool.



Parts list kerbstones

Swimming pool type:
Integra roller shutter shaft, granite flamed

Parts list coping stone

SB type:	Integra roller shutter shaft Granite, black flamed	Sheet: 1/1
Contour	Name and size	Quantity
	Straight plate 40 x 750 x 315	12
	Side plate 40 x 280 x 750	2
	Support beam flange plate 30 x 120 x 280	2
	Straight plate 40 x 500 x 350 (Border)	

4.3.3 Tiled bath available only for Integra pools

The tiled bath enables the roller shutter shaft to be covered over with cast concrete that is laid flush with the kerbstones and floor plate of the pool. The tiled bath is made of GFK in pool colour and has smooth surface on the water side. The bath can only be used with the Integra roller shutter.

Around the roller shutter shaft the pool wall is sunk down by the thickness of the bath. The bath is delivered fully assembled from the factory. All roller shutter drives must be used with the variant with the motor in the shaft. The cover of the Integra roller shutter shaft can be built up to the pool, in order to make the roller shutter more accessible. For concreting and reinforcing see static on page 19.

Figure 23_1

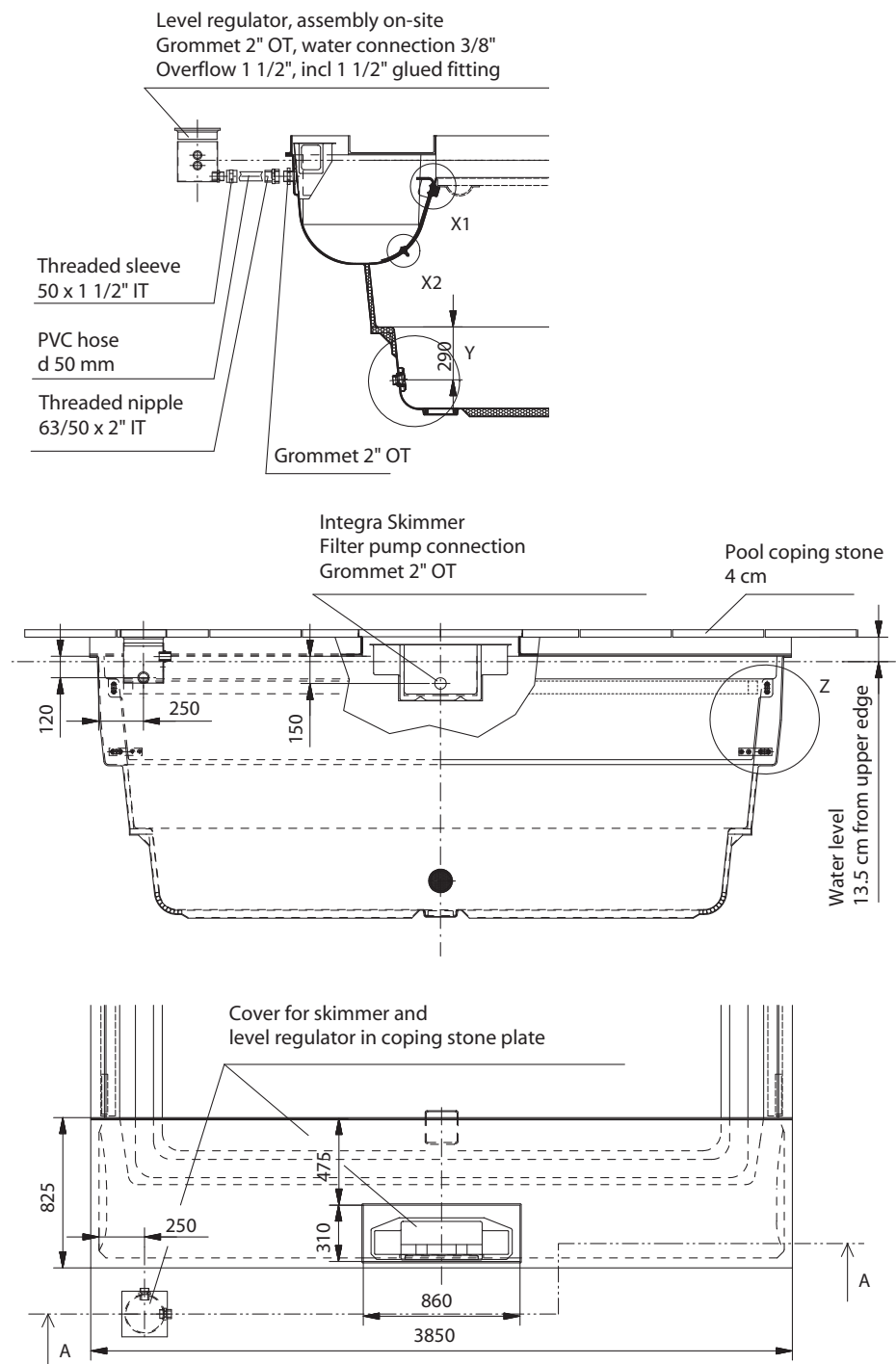
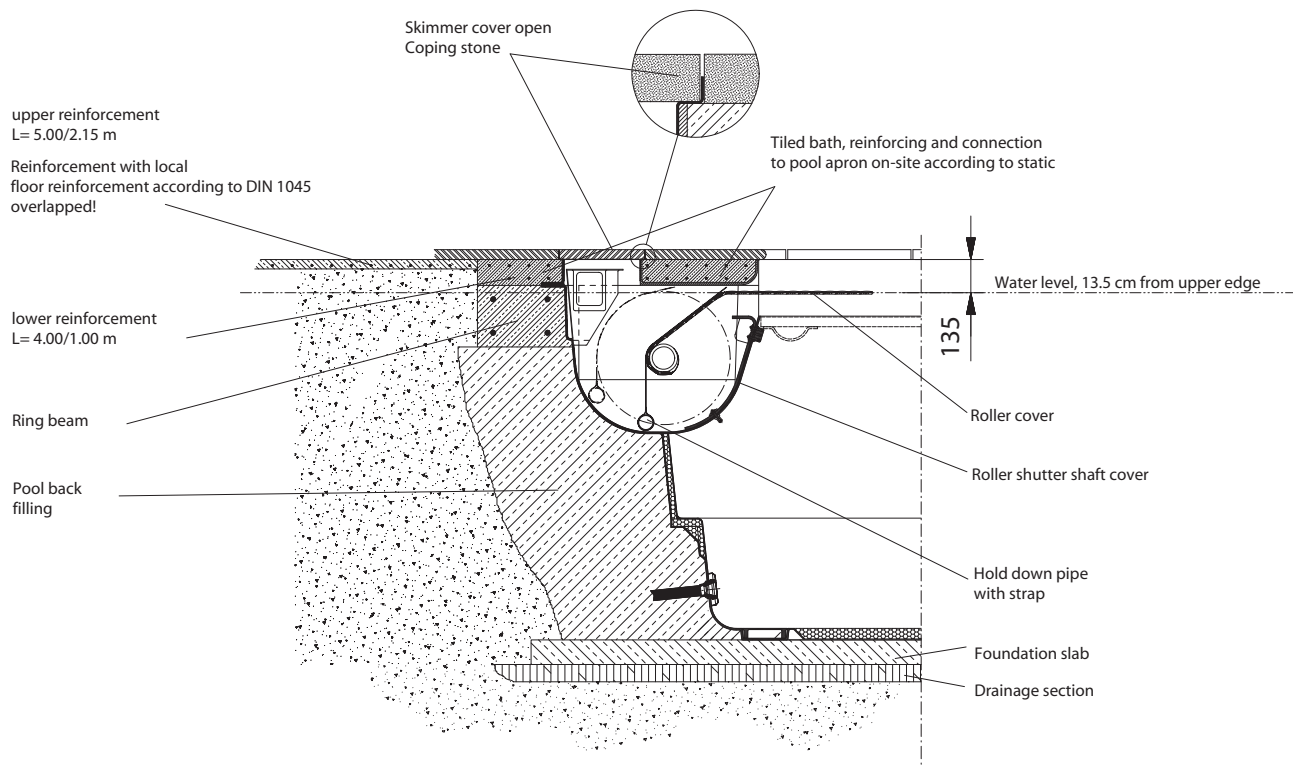


Figure 22_1



4.3.3.1 Assembling the roller shutter

During the assembly and backfilling of the swimming pool, the tiled bath should remain completely mounted.
After the swimming pool backfilling has set, disassemble the roller shutter cover for further assembly on the pool.

Assembly of the roller shutter slats

- Unwind the hold down strap on the underside of the tiled bath, feed the hold down pipe into the end noose and lay it over the winding shaft in the roller shutter shaft, towards the rear. (see figure 22_1)
- When the roller shutter is later assembled, this will be pulled over the edge of the pool in order to feed in the end slat into the first roller shutter slat (see point 4.4).

4.3.3.2 Tiled bath available only for Integra pools

1. During concreting work, support the tiled bath against it „sagging“. To do this set square timber, as surface protection and take up for the section load, on the standing step and under the tiled bath and spread out with square timbers. After the concrete has set and hardened, remove these.

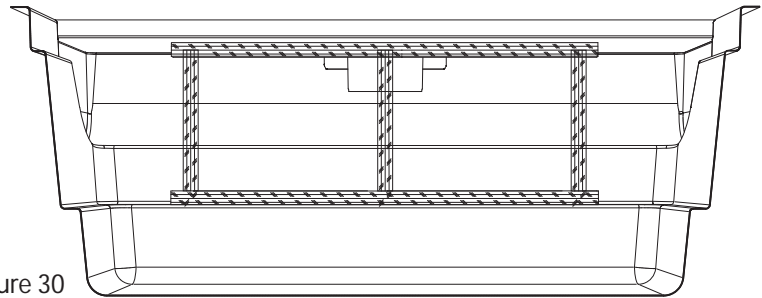


Figure 30

2. Set the height of the skimmer frame (adjustment weir). Upper edge of adjustment weir = upper edge of kerbstone. The adjustment weir has a supporting edge for a tailored stone as a cover. A pre-manufactured cover is not available.

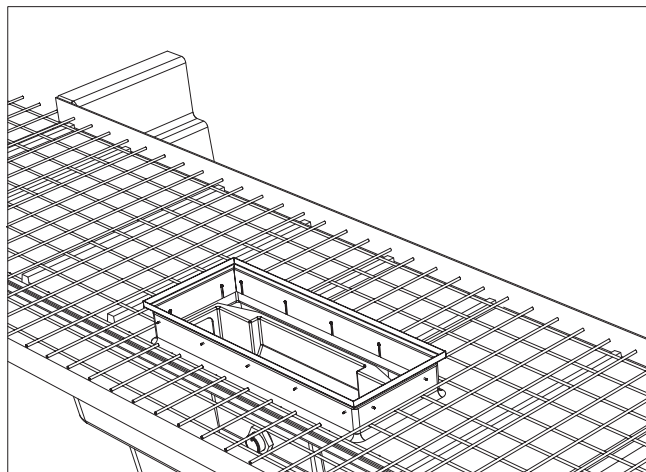


Figure 31

3. Connect the level regulator with mounting materials delivered with it. Here the distance to the pool must be defined individually. Integrate the cover of the level regulator into the pool surrounding and connect the fresh water connection (connection 3/8“).

Attention: do not forget to connect the overflow to the level regulator, so that the roller shutter can move freely.

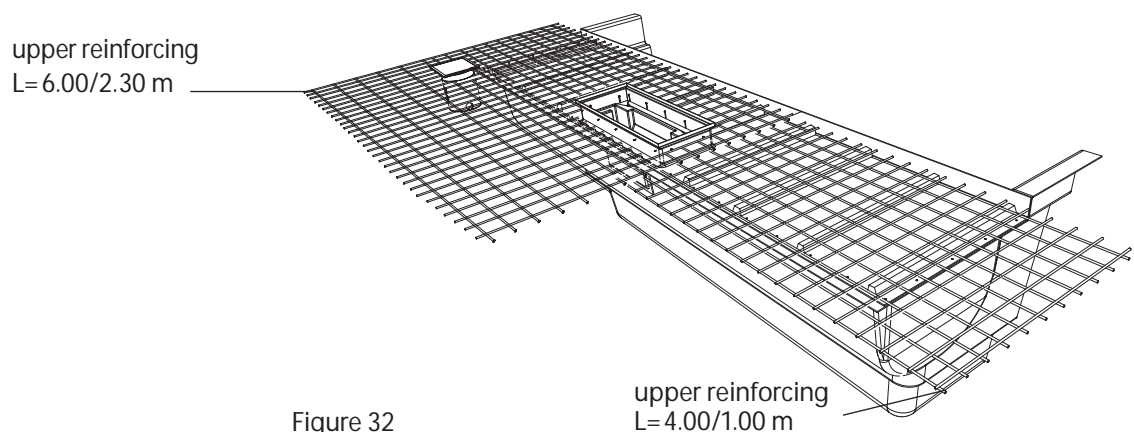
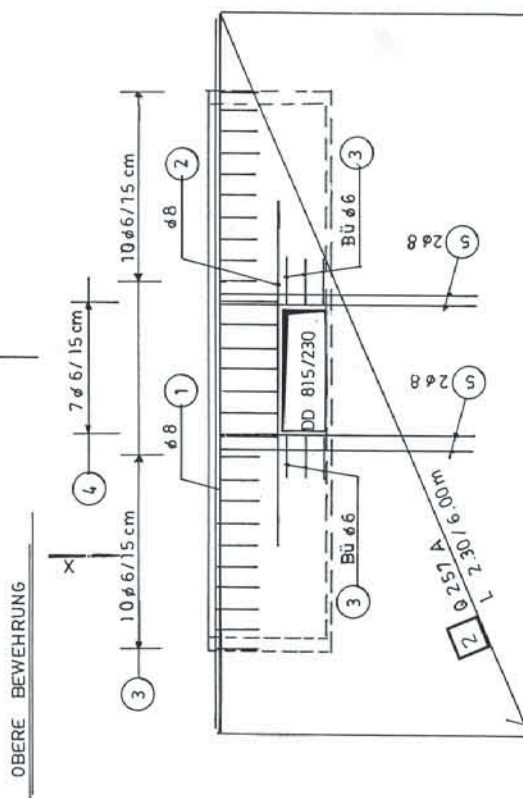
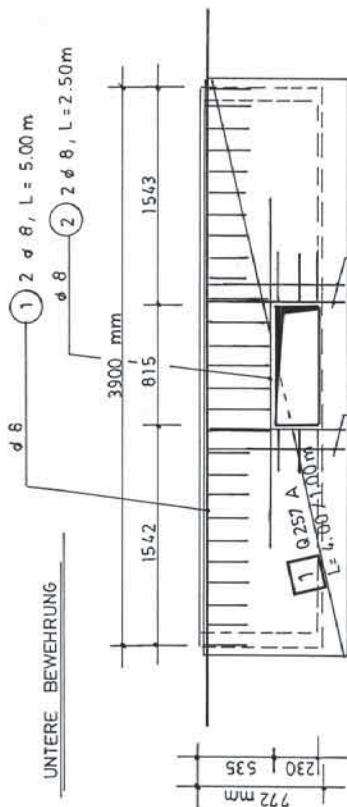
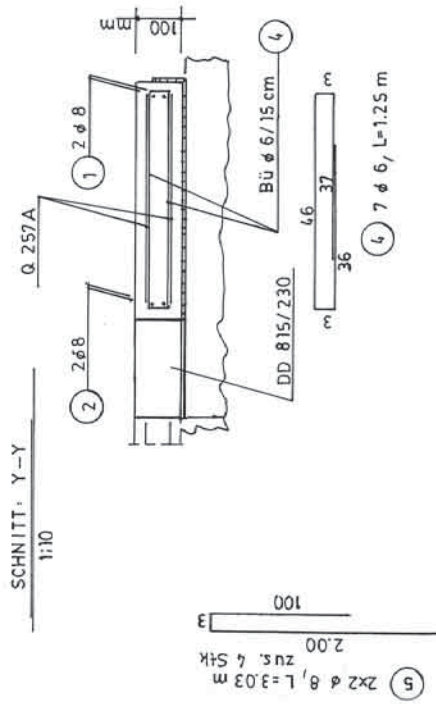
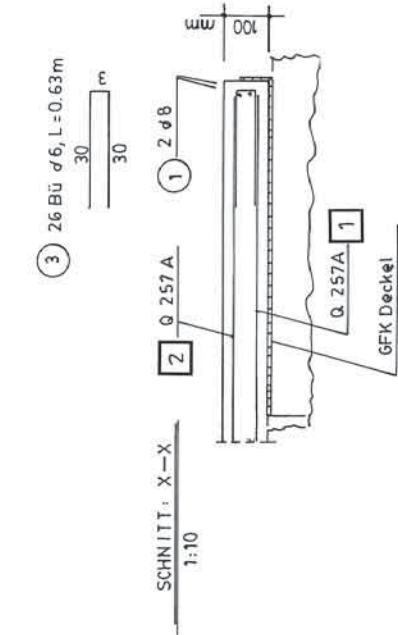


Figure 32

4.3.3.3 Integra cover/static



Bewehrung mit der örtlichen
Fußbodenbewehrung nach DIN 1045
überlappen!

RIVIERA POOL
Industriestrasse 2 49716 Geeste

INTEGRA DECKEL St.Beton
mit DD 815/230 mm

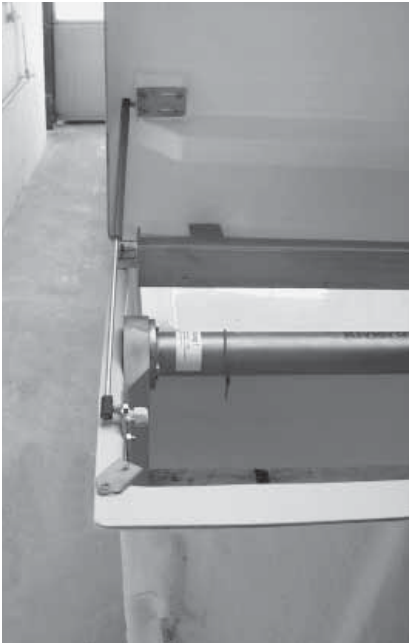
DIPL.-ING. RAINER BOLTE
ING.-BÜRO FÜR BAUSTATIK
ST.-ANTONIUS-STRASSE 27
49716 MEPPEN
TEL. (05681) 17577 FAX (05681) 18669

R. Bolte 3/2008

Beton \geq C 20/25, XC 2, $c_y \geq 35$ mm
Betonstahl I : BSt 500 M.u.S (A)

4.3.4 One-piece polyester shaft cover

The one-piece polyester shaft cover is supplied as a separate package together with the assembly materials and the gas pressure absorbers. The cover has to be attached according to the diagram below. Please pay particular attention to the correct position of the gas pressure absorbers.



The shaft cover has to be assembled before the edge plates can be positioned. The shaft cover has to be positioned on the edge of the roller shutter shaft with the pool edge running parallel to the shaft cover. (see figure 4)

The corners of the shaft cover are screwed securely to pool via 2 securing screws (1) to prevent unauthorized opening and as child protection.

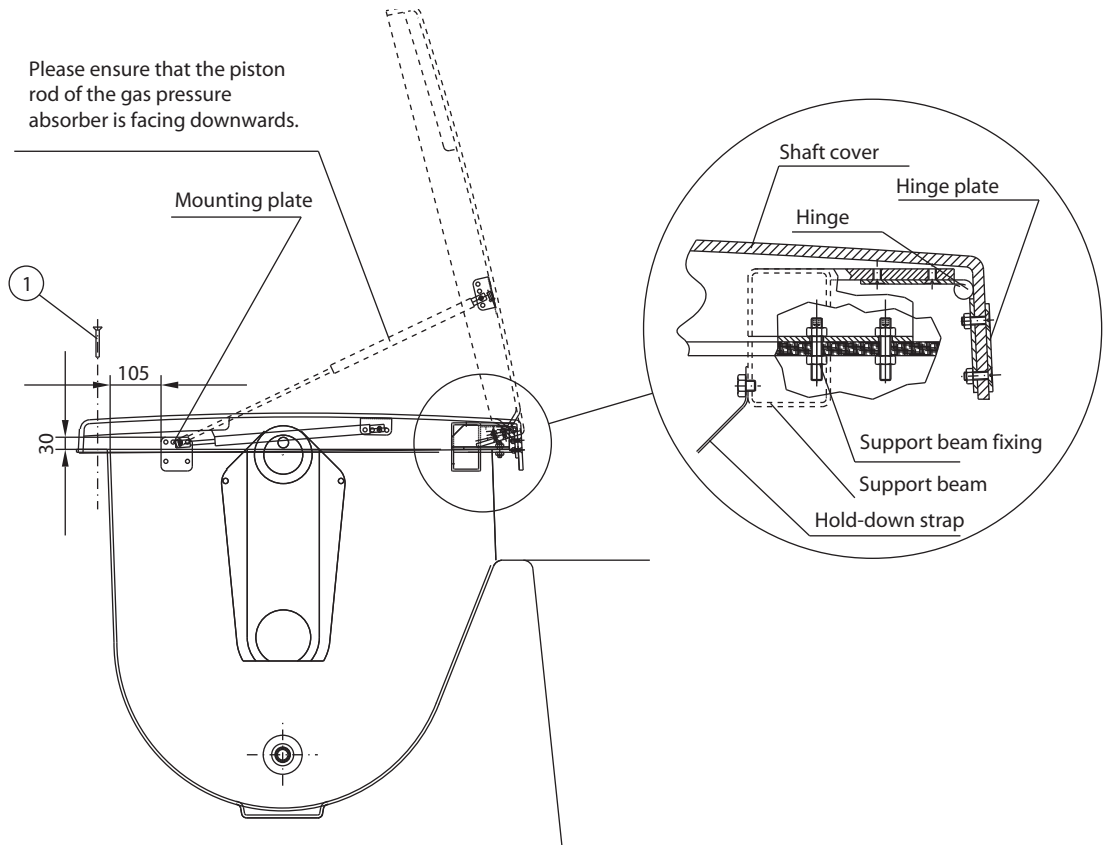
Procedure

1. Place the shaft cover on the factory-fitted support beam.
2. Screw on the shaft cover according to figure 12 using the hinges.
3. Assemble the gas pressure absorbers

- Screw each gas pressure absorber to the outside of the mounting plate. Please ensure that the piston rod is facing downwards.

Gas pressure spring horizontally positioned in the shaft

Figure 12_1



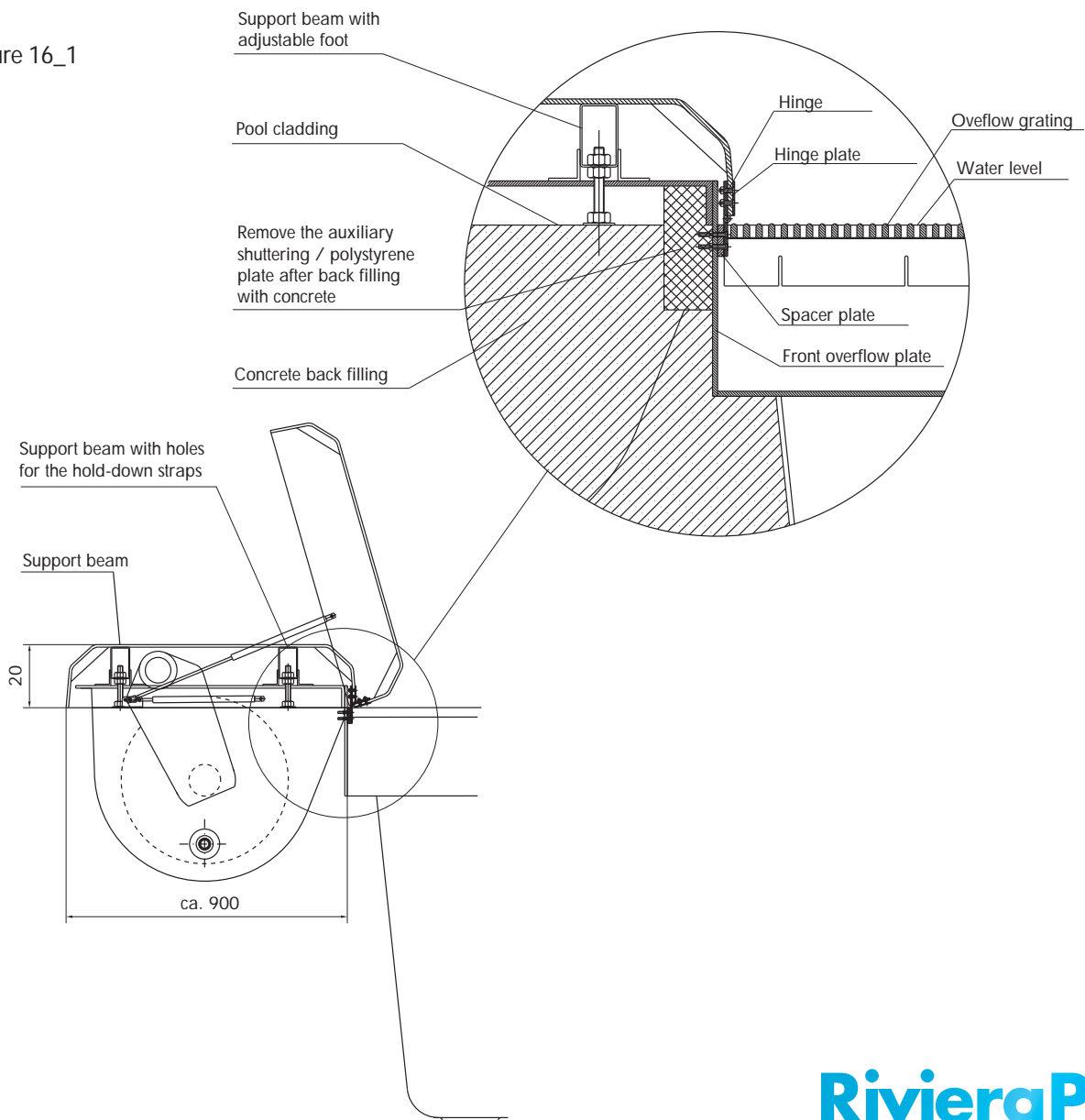
4.3.5 Polyester shaft cover for swimming pools with an overflow system

The polyester shaft cover for swimming pools with an overflow system is designed differently to the one for skimmer pools. Please refer to the diagram below for assembly purposes. Proceed as follows:

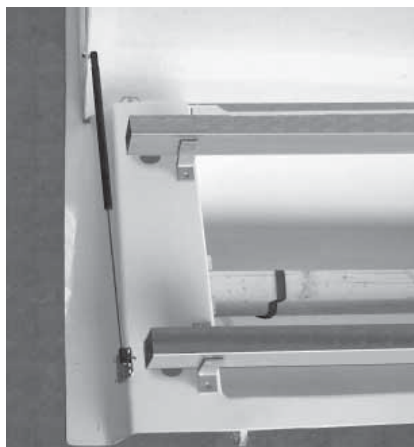


1. Do not assemble the support beams and the shaft cover until the overflow system has been adjusted, the pool back filled and the pool cladding completed. After back filling, remove the auxiliary shuttering attached to the front side of the overflow system.
2. Place the support beams in the guides and align them centrally. Set the height of the support beams, ensuring that the shaft cover sits on the support beams. The lower edge of the shaft cover is just above the pool cladding.
3. Align the shaft cover centrally and mark the hinge holes on the inside of the front overflow plate, drill the holes and screw the hinges tightly to the spacer plates.

Figure 16_1



4.3.6 Assembly of the gas pressure springs for swimming pools with an overflow system



1. After assembly of the support beams and the shaft cover, attach the fastening bracket for the gas pressure absorbers according to the following photo.
2. Screw the gas pressure absorbers to the lateral holes on the shaft cover and the fastening plates. During assembly of the gas pressure springs, ensure that the piston rod is facing downwards.
3. Place one white end cap on each M8 nut on the side of the shaft cover.

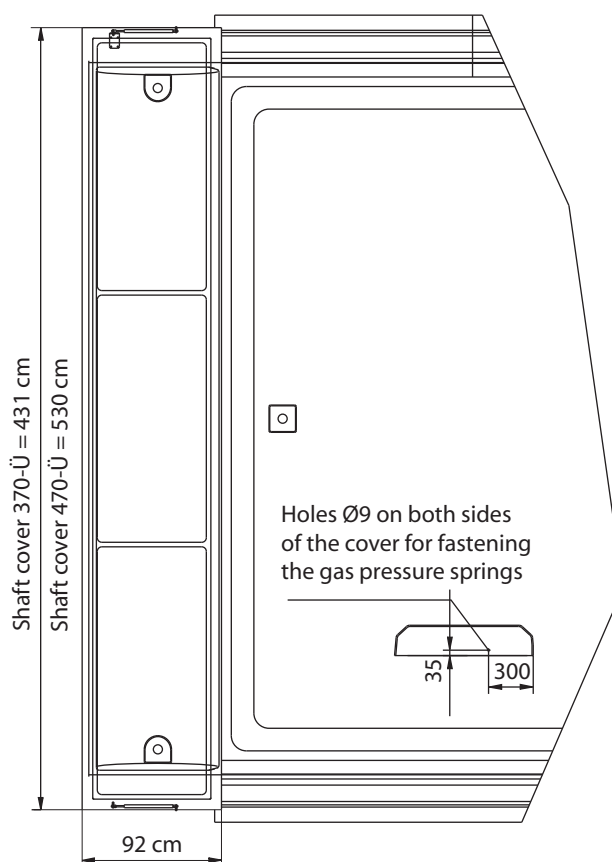
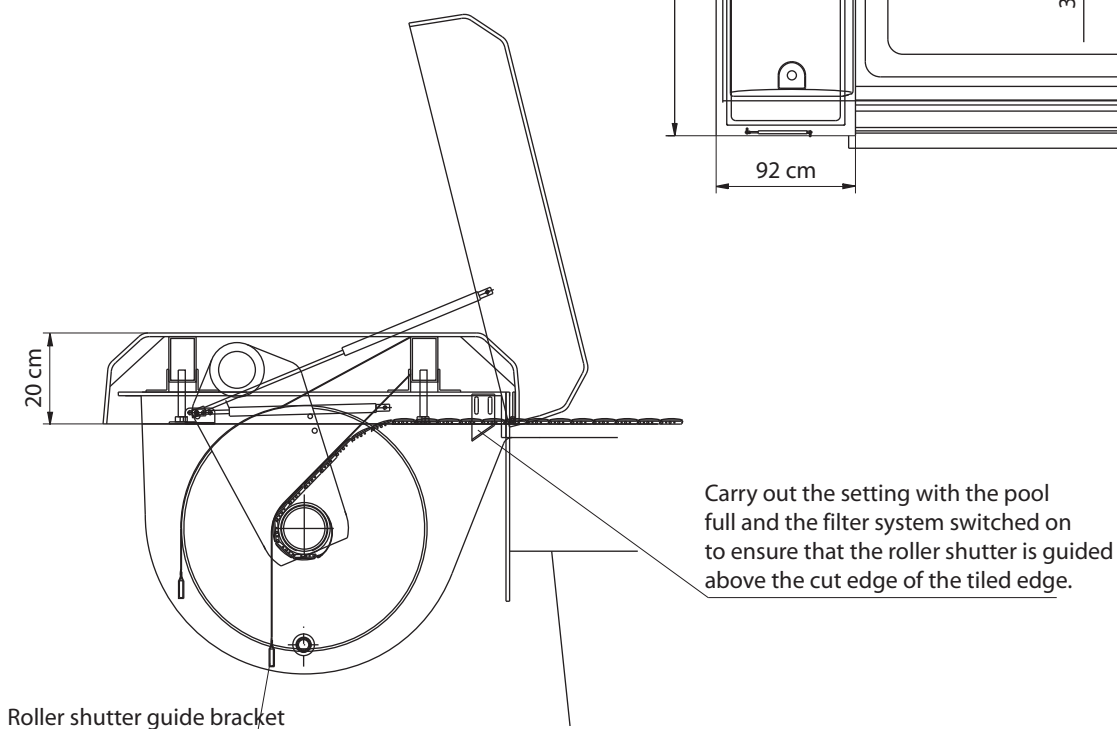


Figure 17_1



4.4 Assembly of the roller shutter

The roller shutter bars are packaged and supplied in boxes as single profiles and assembled by the customer according to the following diagram.

Caution: Solar profiles should never be placed in direct sunlight without contact with water.

All the profiles are equipped with a recess in the groove which allows interlocking of the bars.

The roller shutter bars are individually interlocked while floating on the water. The milled edges have to face downwards.

The end bar is at first attached to the fastening straps and then inserted as the last bar. The straps are screwed to the drive shaft once the motor limit switch has been set.

The head piece is assembled according to the numbering on the bars. Locking of the individual bars at the respective position is specified by the various groove millings.

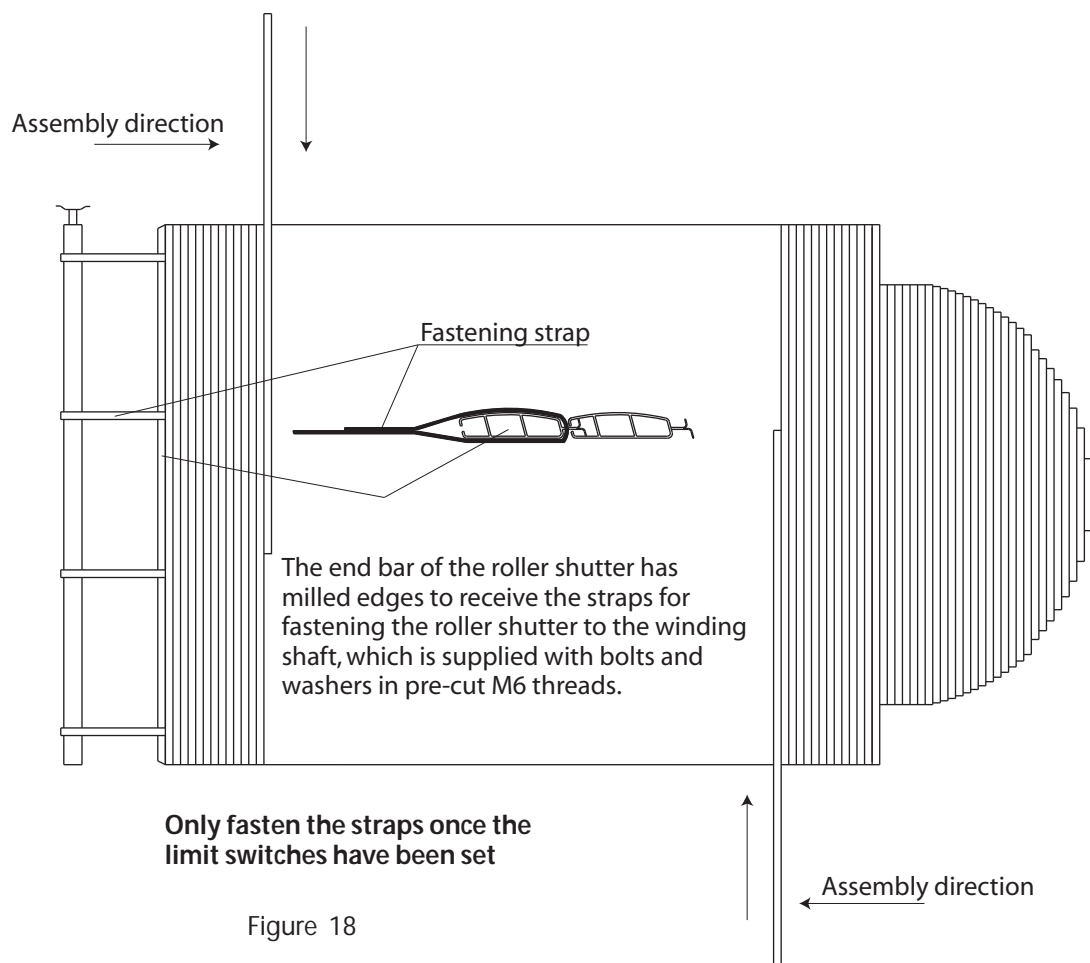


Figure 18

4.5 Assembly of the Spray Unit

The spray unit consists of a spray pipe, solenoid valve and time relay. The spray pipe is attached to the support beam and the time relay is installed in the control box of the roller shutter motor ex factory. The solenoid valve and the connection bracket are supplied separately.

Assembly has to be carried out according to the following diagram.

The circuitry is factory-specified. If the roller shutter motor is operated, the solenoid valve opens. If the motor is switched off, the solenoid valve closes. The spray unit subsequently functions for approx. 1 minute after opening the pool.

Note: If the solenoid valve opens when closing the pool, the motor connection and control/spray unit (connection B1 from the time relay) have not been allocated correctly.
(See point 4.2.1 Electrical Installation wiring diagram 2)

Note: The direction of the spray jets is adjustable and has to be set by the customer after delivery or to the respective skimmer position.

4.6 Connection diagram for roller shutter shaft

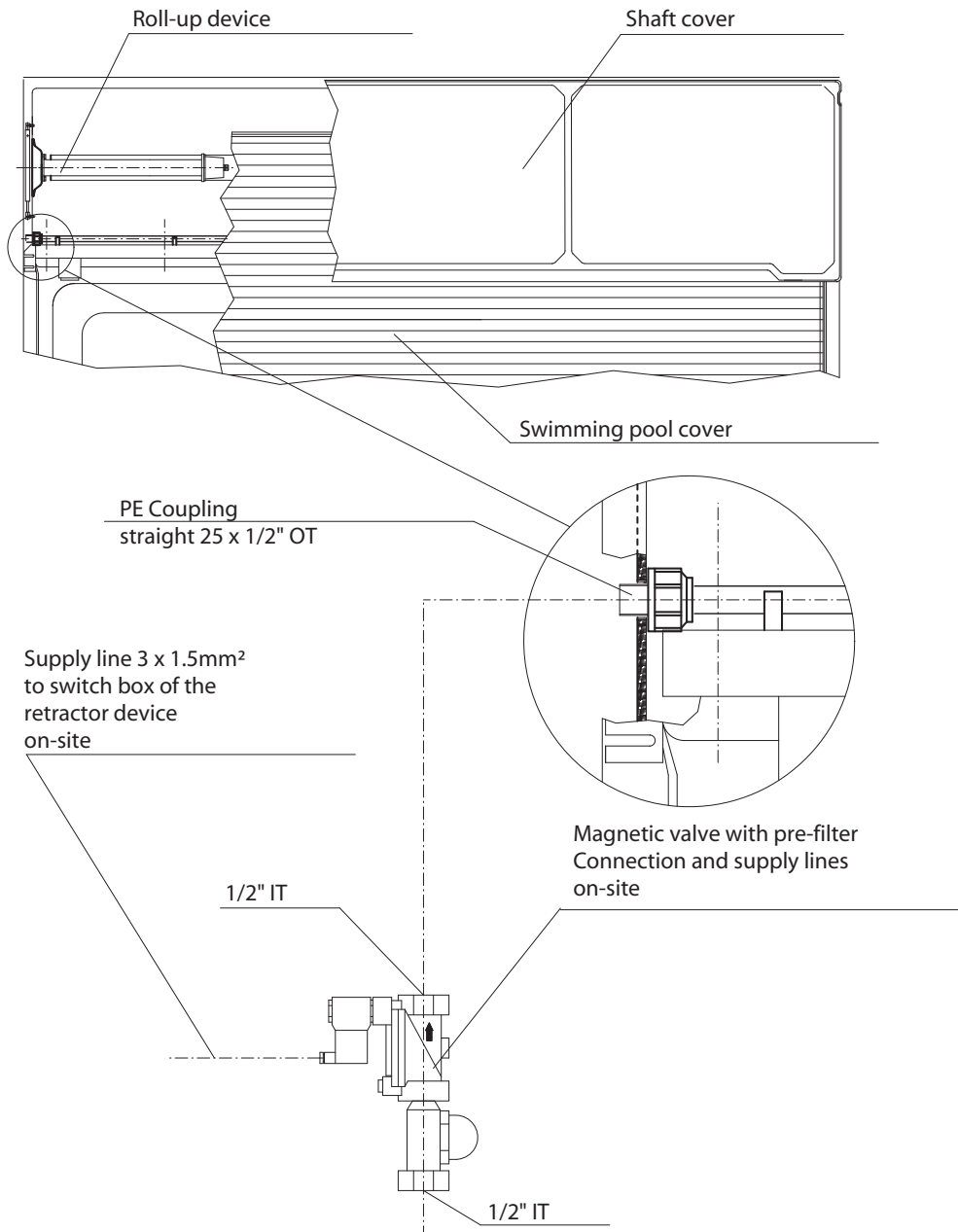


Figure 19_1

5. Operating the System

5.1 Operating

The Thermosafe roller shutter cover is operated via a key switch. The switch is operated until the roller shutter reaches the desired position. The limit stop occurs via the automatic limit switch of the motor.

After operation, always remove the key from the key switch to prevent unauthorized roller shutter use.

Please pay attention to the following factors during operation:

Water level

Please ensure correct setting of the level regulator and the overflow. The water level has to be set in a way that the cover neither touches the support beam nor the supporting edge of the roller shutter.

Filter system

The water recirculation has to be in operation during roller shutter actuation to ensure that dirt particles transported by the roller shutter are drawn off.

This is imperative for swimming pools with an overflow system, since the water level decreases as the roller shutter extends from the shaft and the edge of the pool can become dry.

Swimming instructor / Water attractions, etc.

The roller shutter should only be operated when the swimming instructor, etc. is switched off. Only switch on the roller shutter once the water is completely calm.

Safety control

Always control the swimming pool before operating the roller shutter – **the water has to be calm and empty of people and things.**

Avoid multiple operation!

Multiple operation can cause the motor to overheat. In this case, the roller shutter stops immediately and switches on again automatically after a longer cool down phase.

With solar roller shutters the filter system has to be in operation during sunlight to ensure that the heat is dissipated to the swimming pool water.

If the filter system is not in operation, the cover may be deformed.

6. Care and Maintenance

6.1 Wintering

It is possible for the roller shutter to freeze up in either wound or unwound condition. However, never stand on nor operate a frozen shutter. In unwound condition during the winter: The roller shutter should be positioned over the swimming pool and the roller shutter shaft outlet opened towards the channel. The water level now drops until the edge of the roller shutter and the roller shutter shaft is emptied.

In wound condition during the winter: The roller shutter should be secured using straps and the shaft emptied. The open shaft outlet allows for drainage of excess rain or condensation water into the channel.

Solar roller shutters in wound condition during the winter: The outlet opening below the support beam should be covered, thus protecting the free hanging roller shutter against direct sunlight.

The solar cover should never be exposed to direct sunlight unless in contact with cool water. Whether wound up in the empty roller shutter box or during installation, always protect the profiles against direct sunlight. Just a short period of time without water cooling can cause permanent deformation.

Temperature (air, water)

The impact strength of the PVC profiles decreases greatly at low temperatures. They should never be stood on when frozen.

Hail

At normal temperatures the PVC roller shutter profiles are highly impact resistant, but provide limited hail resistance. Therefore, we recommend you to wind up the covers during heavy hail storms.

Condensate development in the profile

Humid air enters the profile sections during assembly. Therefore, if the temperature of the water is different, condensate will develop on the warmer side, i.e. inside the profile. This hardly affects the transmission rate of the profile. Over the years the profile becomes slightly frosted causing a respective reduction of heat transmission.

Since the roller shutter is a real debris catcher on outdoor swimming pools and lime scale and algae can develop in indoor swimming pools, the roller shutter should be cleaned at least once or twice a year. This especially applies to solar roller shutters where alga deposits on the underside, especially in the profile hinges, remain clearly visible.

6.2 Bath care

The best prerequisite for minimum algae or lime scale deposits is the perfect care of pool water according to the following aspects:

1. Strict compliance with the pH value balance for maintaining the lime/carbonic acid balance to prevent lime precipitations.

Carbonate hardness in °d pH value balance 7.25

15	7,25
12	7,5
10	7,7
7	8,0
5	8,2

2. Provision of a permanent excess of chlorine of 0.3 – 0.6 ppm, such as in public swimming pools.
3. Permanent recirculation of the pool water for solar covers, at least from sunrise to sunset.
4. Setting of the inlet fittings which ensure the development of a strong flow underneath the roller shutter.

If the recommendations listed above are adhered to, alga and lime scale deposits on the underside of the roller shutter, which is difficult to clean, can be prevented to a large extent.

6.3 Cleaning of the shutter cover

However, soiling of the top of any swimming pool cover due to dust and soot from the environment as well as lime crystallized under strong sunlight due to evaporation is inevitable. Unfortunately, it is not possible to just wipe these deposits off. They have to at first be dissolved with an acid swimming pool cleaning agent (e.g. Herli Rapid) and subsequently rinsed off. Roller shutter cleaning should be carried out during cloudy or overcast weather, i.e. not in direct sunlight, by 2 people.

The following procedure has proved successful:

1. The entire surface of the roller shutter should be treated with the acid swimming pool cleaning agent. Use a suitable 5-litre pressure sprayer for pesticides in which the cleaning agent is dissolved and diluted according to regulations.

2. Procedure:

Slowly unwind the wound up roller shutter (person at the key switch). A second person standing on the shaft cover sprays the cleaning agent onto the unwinding roller shutter.

3. Wind up the roller shutter bit by bit and
 - a. clean it mechanically with a soft brush,
and
 - b. hose it down with a high-pressure cleaner, especially the “tongue and groove connections” of the individual bars.

All the dirt and cleaning agent, especially the dissolved lime scale, are now in the pool water. Therefore, we highly recommended you to drain the swimming pool water, clean the swimming pool and the roller shutter box and subsequently refill the pool with freshwater after cleaning the roller shutter.

6.4 Cleaning of the shutter shaft

The polluting agents which fall onto the roller shutter are transferred to the roller shutter shaft during rewinding. A part of the dirt is also sucked up by the skimmer and the drain connected to the filter. Heavy components and leaves usually collect at the bottom and have to be removed on a regular basis.

In order to access the shaft bottom, the roller shutter has to be unwound in the direction of the swimming pool. Subsequently open the shaft cover, lift up the hold-down tube and place it in the recess between the support beam and the shaft cover. Then remove the dirt with either a dip net or the cleaning hose. In case of heavy soiling, completely drain the roller shutter shaft to the channel (switch off the filter, open the valve to the channel). The water level in the swimming pool thus drops to the edge of the roller shutter on which the extracted roller shutter rests. It is now possible to manually clean the empty shaft.

Note: Please ensure that the roller shutter profiles are not exposed to direct sunlight unless they are in contact with cool water.

6.5 Material Information and care instructions Sundeck of cumaru

As wood is a natural product, you should acquaint yourself with the strengths and weakness of Cumaru and heed some advice on the annual care.

<p>Colours</p>	<p>Cumaru is a precious wood which is obtained in Indonesia and Malaysia on a sustainability basis. This means that a tree is planted for each processed tree. This type of wood is used in Europe as an ideal garden wood due to its unique properties. Its great diversity of colours from brown-yellow shades to a dark red colour provides every garden with a lively play of colours.</p>
<p>Stability and deformation</p>	<p>Cumaru has a hardness which is almost double that of oak wood and weighs more than 1000 kg/m³. This means that it is extremely rigid and the natural deformation is much less than with other types of wood. A complete avoidance of deformation is not possible however. A crack formation at the cut edges of the boards is also possible. This has already been reduced to a minimum by waxing the cut edges.</p>
<p>Weathering resistance and „staining“</p>	<p>Cumaru is extremely weathering resistance and is ideally suitable for use in climatic zones which are subjected to greatly differing weather conditions. Cumaru reaches the good weathering condition because of its extreme hardness.</p> <p>It is not known that the wood changes considerably but of course it cannot be completely ruled out.</p> <p>We therefore recommend that you cover up copingng stones and tiles for the first 6 months after the sundeck has been laid. Soiling can easily be removed with petroleum ether or nail varnish remover.</p>
<p>Healthy wood and insect holes</p>	<p>Healthy wood is an ideal food for insects. This is why Cumaru wood often has insect holes. These are entrance holes from a fresh wood pest which attacks the living trunk. This pest dies immediately after the impact. There is therefore no risk of a continued infestation or a moving on to other wood. These small pinholes do not affect the durability or the static properties. Individual holes are normal and prove that the wood is healthy. Widespread infestation (areas as large as the palm of the hand or a very large number of holes across the entire board) can give grounds for a justified complaint should this frequently occur inside the deck.</p>
<p>Cleaning</p>	<p>Cumaru takes on a grey colour as with every type of wood. This process is a natural one. No action is necessary from a technical point of view. The wood should be cleaned in regular intervals. Strong soiling can be removed with a hard scrubber and soap solution. Please do not use a high pressure cleaner or chemicals. A brass wire brush and abrasive paper can help against especially stubborn areas, e.g. rust.</p>
<p>Wintering</p>	<p>Cumaru wood can be wintered outdoors without difficulty. The important aspect is that the wood is well-ventilated from all sides. Winter nets and similar should therefore be provided with a spacer as these otherwise adhere water, snow and soiling to the wood. Snow and ice is also to be removed at regular intervals.</p>

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