

PRELIMINARY VERSION
SUBJECT TO CHANGES
01/03/2019

C-SIDE POOLS INSTALLATION INSTRUCTIONS

VERSION: FEBRUARY 2019

CS TI 1

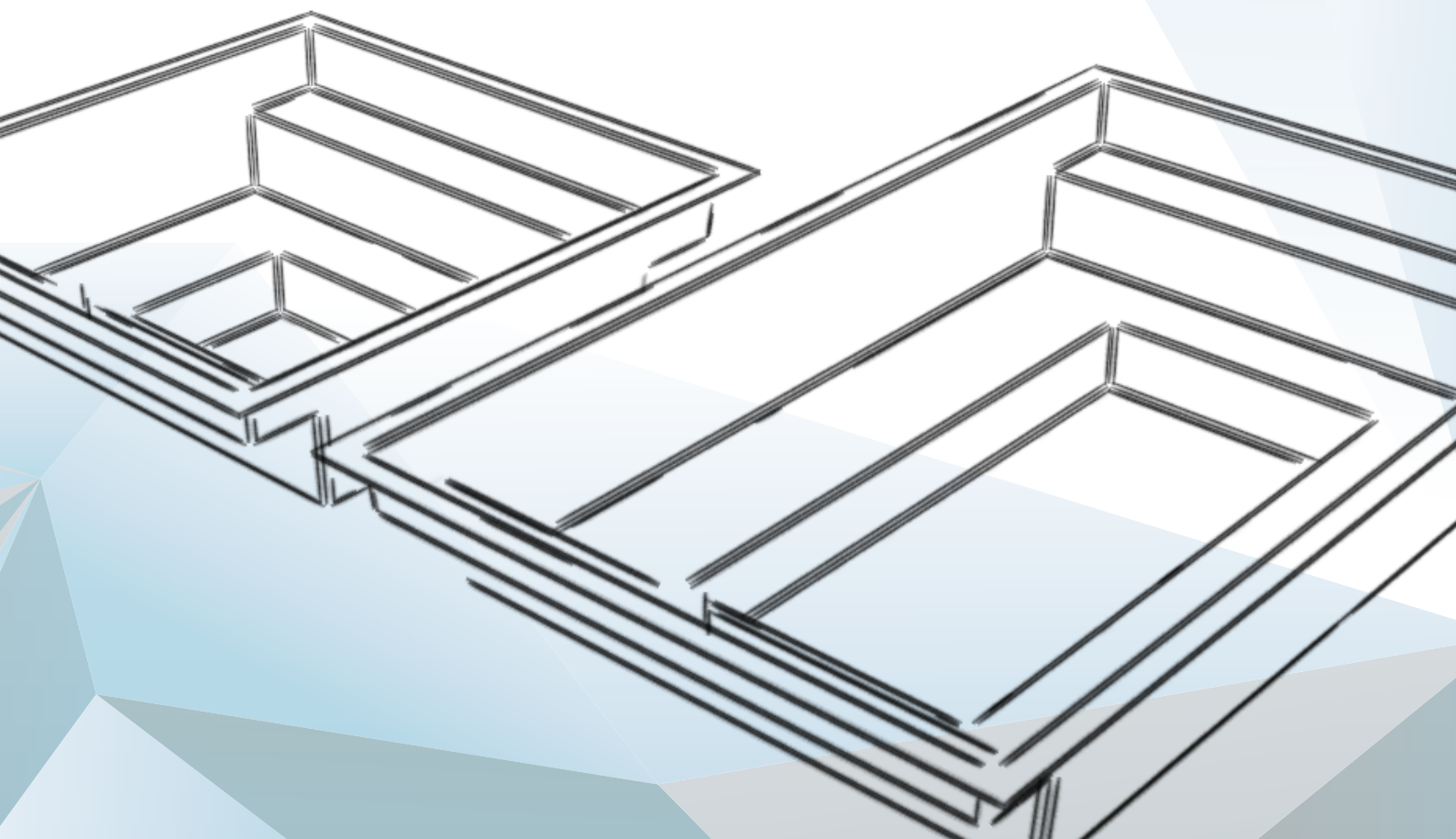
FOR THE PRODUCTS:

C-SIDE 21

C-SIDE 37

C-SIDE 37 L

C-SIDE 37 L + WETLOUNGE



CSIDE
P O O L S

Information:

You can obtain additional information from our technical customer support:

Contact person: Eduard Taufest · +49 5937 66-600 · info@csidepools.de

In line with technical advancements, we reserve the right to make modifications and improvements in production without announcement.

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GENERAL INFORMATION

1.1 Intended use

Our pools and their accessories have been designed for operation as swimming and bathing pools. They are to be operated with water from the municipal pipeline network in accordance with local water supply regulations. Brine, mineral and well water are not suitable. The maximum metallic load should not exceed the following values:

- Iron 0.1 mg per litre
- Manganese 0.05 mg per litre
- Ammonium 2.0 mg per litre
- Polyphosphate 0.005 mg per litre
- Copper 0.01 mg per litre
- Chloride 300 mg per litre
(150 mg/l if using electric heaters)

Higher values may cause corrosion to installed parts and devices and/or deposits on the pool walls. The maximum temporary bathing water temperature must not exceed the following values:

- For swimming pools 32°C
- For whirlpools 40°C
- For sauna plunge pools 15°C

When used as intended, a swimming pool or whirlpool is filled with water. That is why we assess the surface quality when the pool is filled. Discolourations or irregularities in the surface that are not visible when the pool is filled do not constitute grounds for complaint. Here we would like to make reference in particular to our Technical Info 02/18 Granicite Colours and DIN EN 16582-1 2015, Annex D.

Dimensional tolerances may exist owing to the manufacturing process of the elastic plastic body. They amount to +/- 2 cm. The dimensions specified are therefore only approximate and non-binding.

Installation must only be performed by specialist contractors.

Electrical connections are to be established by locally licensed specialist electrical contractors.

The respective installation and operating instructions are to be followed.

All C-SIDE pools are water-proof swimming pool shells made from epoxy acrylate. They only have structural values for analysis to a limited extent. Stability is only achieved through concrete backfilling.

There is a structural analysis for this backfill (see our Technical Information SB 3) on which these installation instructions are based. The structural analysis and installation instructions only apply under the following conditions:

- The pool is installed in natural, undisturbed ground.
- Pressure from groundwater, mountain water, etc. does not occur
- Permitted ground pressure is assumed to be 100 kN/sqm
- The floor and walls of the pool are not subjected to any additional stress from a superstructure

Whether these conditions are met is to be checked prior to construction. If this is not the case, additional construction measures are necessary. For indoor pools, for example, a separate structural analysis must be created for both the pool hall and the concrete backfill of the pool.

If local circumstances or installation situations not covered by the specifications in these installation instructions exist, please ask us about the options available to you.

GENERAL INFORMATION

1.2 Delivery and inspection

C-SIDE pools are delivered directly to the C-SIDE specialist dealer via a freight forwarder. Here, unloading using a forklift is advantageous. The onward transport of the pool to the customer's pit is performed by the specialist dealer.

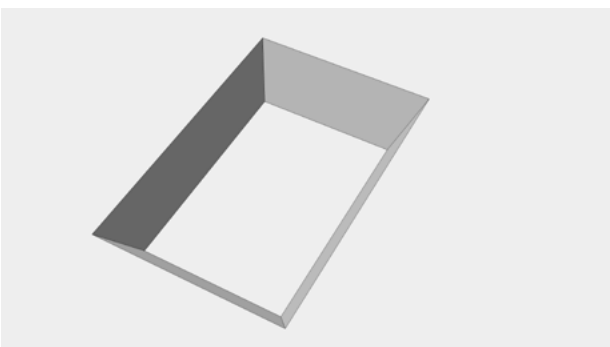
ATTENTION:

Upon delivery, check the accessories are present in full as per the delivery note. Notify the manufacturer immediately of any deficiencies so that these can be compensated for at the time of installation.



C-SIDE on a shipping pallet

1.3 Pit



The pool pit

The pit for the C-SIDE pool must be at least 30 cm bigger all around than the outer dimension of the pool.

Note: All the dimensions of the pool can be found in section 2.0 "technical drawings and information".

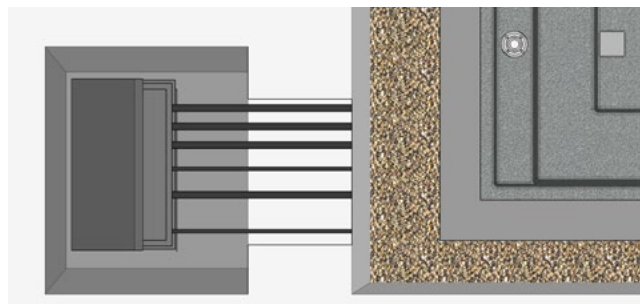
Depth of the pit

Installation height of the pool body
+ At least 10 cm for concrete slab
+ Any drainage layer required
+ Coping
– Dimension by which the pool should protrude from the ground.

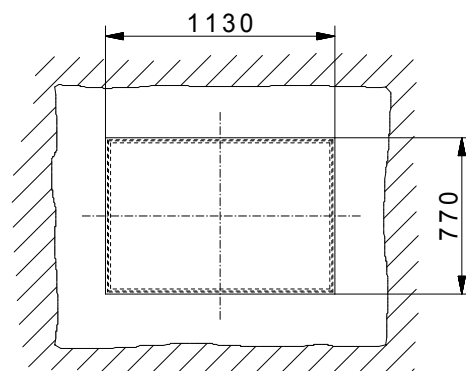
Pit for the service shaft

The pit for the **service shaft** should not have a distance to the skimmer side of the C-SIDE exceeding 5 m. Note: it is imperative you maintain a minimum distance of 35 cm from the piping side of the **service shaft** to the side wall of the pit. Doing so will make the installation easier.

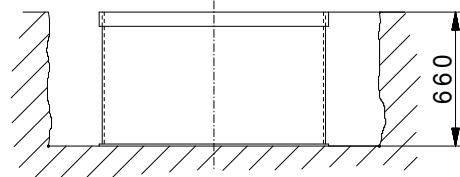
Dimensions of the service shaft pit:
XL service shaft: 120 cm x 120 cm



Service shaft/piping/pit diagram

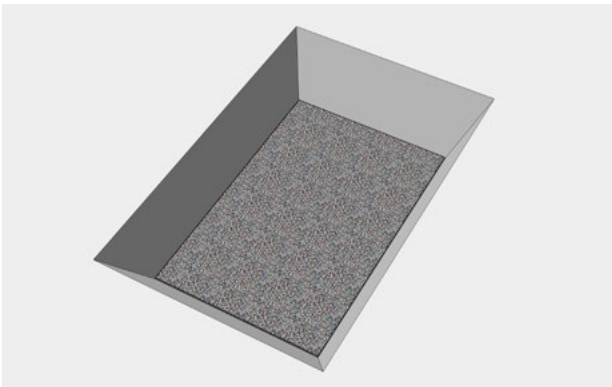


The pit for the C-SIDE pool must be at least 30 cm bigger all around than the outer dimension of the pool.



Service shaft pit diagram

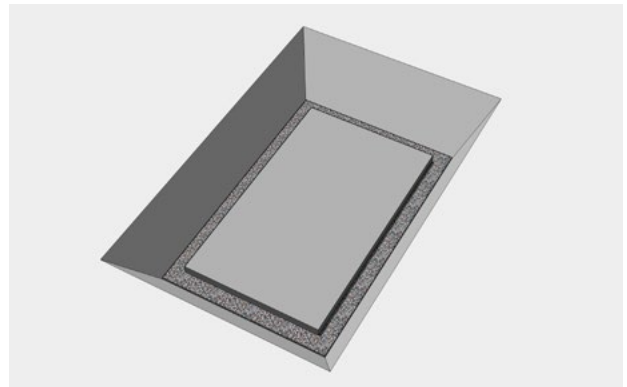
1.4 Foundations / floor plate



1.4.1 Drainage layer

If groundwater pressure does not dissipate, as soon as a pool is emptied there is a risk of the pool floor being forced up and becoming damaged along with the installation. If groundwater is expected, a drainage layer should be placed on the floor of the pit which channels the groundwater away through a drain. Groundwater poses no risk when the pool is filled with water.

Dimensions:	Across the entire pit
Thickness:	15 cm
Material:	Gravel, drainage pipe 100 mm



1.4.2 Foundation plate made from concrete or gravel

For purely structural reasons, the floor plate should be as large as the pool, so that the support feet can be aligned on it. The foundation plate should be at least 10 cm thick if it is set up on undisturbed, natural ground.

Note: All the dimensions of the pool can be found in section 2.0 "technical drawings and information".

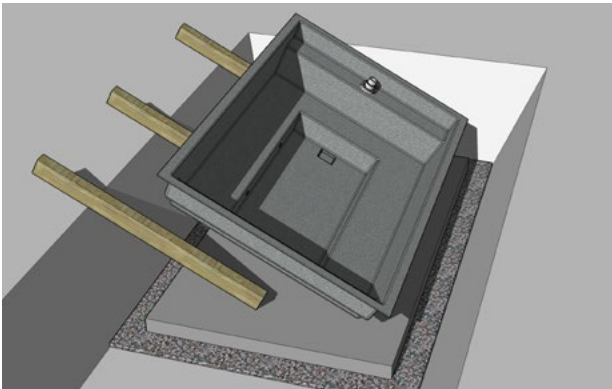
Material: concrete B 15 (C12/15), earth-moist, rigid.

In the event of artificial ground, reinforcing the foundation plate with enamel layers (steel grating) is recommended.

Floor plate surface

Any unevenness in the foundation plate will later be visible on the water surface. It is imperative you demand a levelling certificate. The C-SIDE pool is placed on the foundation plate without an additional intermediate layer. This must have a smooth finish and have been swept clean, because small stones could bore into the pool floor.

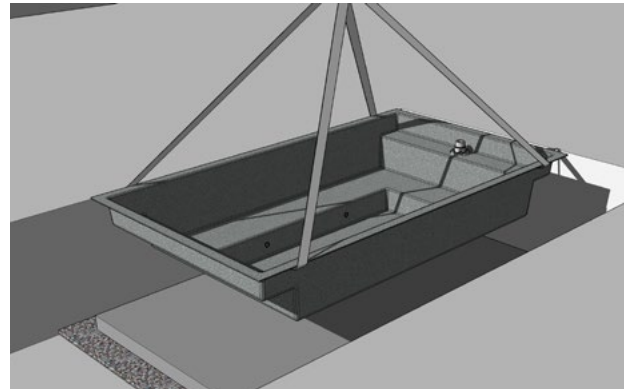
1.5 Inserting the pool into the pit



Inserting the pool manually

There should be at least 4 people available to help with unloading. In the event of firm foundations, you can transport the C-SIDE to the pit on wooden rollers.

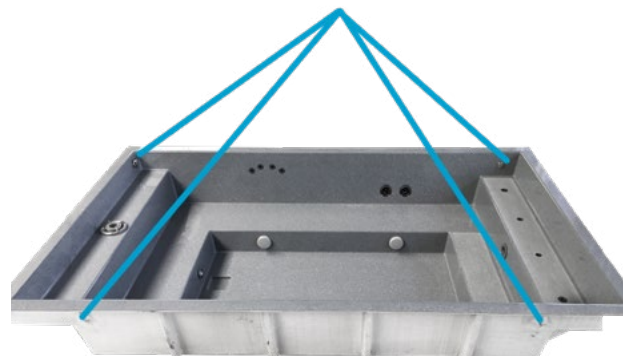
Insert the scaffold planks inclined into the pit. Attach the ropes or lashing straps to the four laminated crane eyes of the C-SIDE, by means of which all those helping can move the pool. Then allow the pool to slide slowly and evenly over the planks into the pit.



Inserting the pool using a crane / (mini) excavator

Attach the crane gear to the laminated crane eyes so that the C-SIDE is suspended parallel with the floor. Then lower it slowly and evenly into the pit until it is resting on the floor.

Each C-SIDE pool has crane eyes laminated into the outside edges.



All C-SIDES are sensitive to point loading. Therefore, prior to placing the pool in the pit, check the foundation plate once more for any small protruding stones and suchlike, or any matter that may have fallen onto it during transport, which could bore into the pool floor.

Note: All the weights of the pool can be found in section 2.0 "technical drawings and information".

GENERAL INFORMATION

1.6 Groundwater

If groundwater pressure does not dissipate, as soon as a pool is emptied there is a risk of the pool floor being forced up and becoming damaged along with the installation. If groundwater is expected, a drainage layer should be placed on the floor of the pit which channels the groundwater away through a drain. Groundwater poses no risk when the pool is filled with water.

Dimensions: Across the entire pit

Thickness: 15 cm

Material: Gravel, drainage pipe 100 mm

1.7 Drainage

The pool is emptied with a submersible pump. No drain fitting is provided as standard for the complete emptying of the pool. If a floor drain is desired, we would be happy supply one.

1.8 Mains connections

The total connected load can be found in section 5 "pool control equipment".

Here you have an overview of the possible consumers:

Supply cable 1 =	Filter pump	0.75 kW	230 V
	Massage pump	1.0 kW	230 V
	Surge water pump	1.0 kW	230 V
	LED RGB		230 V
Supply cable 2 =	Electric heater	9.0 kW	400 V
Supply cable 3 =	Heat pump	1.04 kW	230 V
Supply cable 4 =	Warm white LED (on-site on/off lighting circuit)		

Supply cables:

16 amp. 16 A / 230 V / 50 Hz, ground fault circuit interrupter 30 m.

Cable cross section:

This will be determined by a locally licensed electrician.

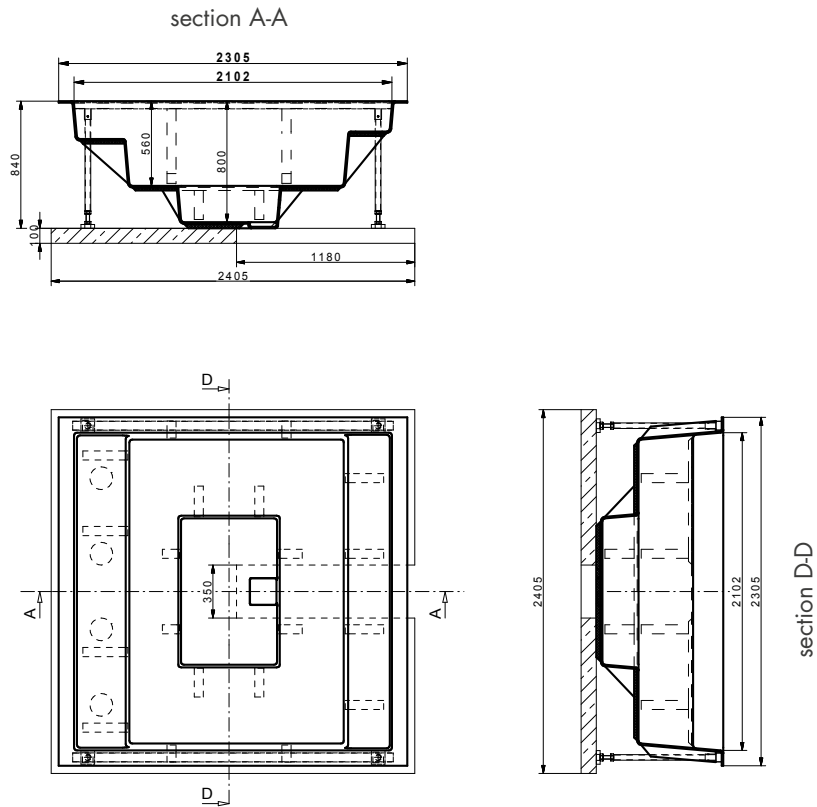
Connection:

The fixed connection is to be established by a locally licensed electrician.

1.9 Sound insulation

If the pool and the control unit / service shaft are set up adjacent to areas requiring protection as per DIN 4109 (e.g. bedrooms), additional sound insulation measures are required.

2.1 C-SIDE 21



Installation options:

Ground installation, partially sunk and roof terrace

Outer dimensions (L x W x H): 230 cm x 230 cm x 84 cm

Inner dimensions (L x W x H): 210 cm x 210 cm x 80 cm

Weight: Papyrus / granicite stone grey

150 kg

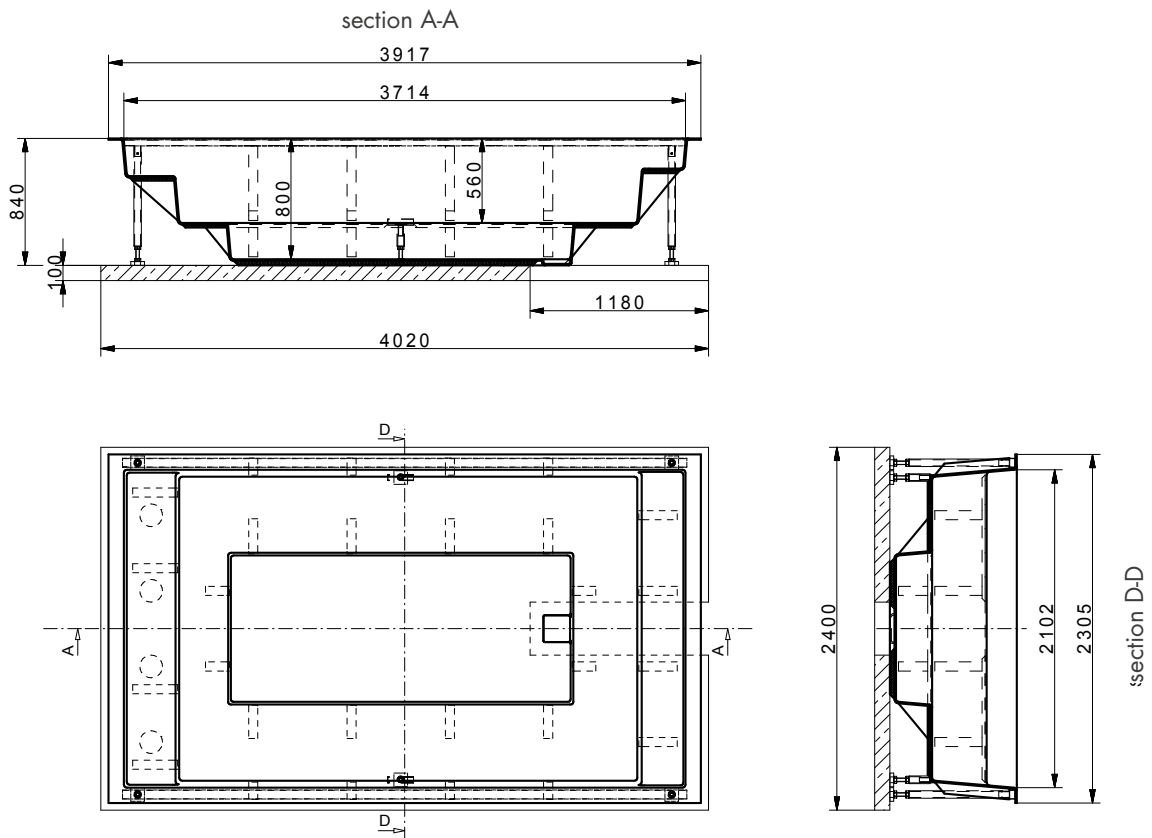
Glass mosaic: 300 kg

Filling volume in l: 1,900

Pit: 290 cm x 290 cm

Subsurface / footprint: 240 cm x 240 cm

2.2 C-SIDE 37



Installation options:

Ground installation, partially sunk and roof terrace

Outer dimensions (L x W x H): 390 cm x 230 cm x 84 cm

Inner dimensions (L x W x H): 370 cm x 210 cm x 80 cm

Weight: Papyrus / granicite stone grey

230 kg

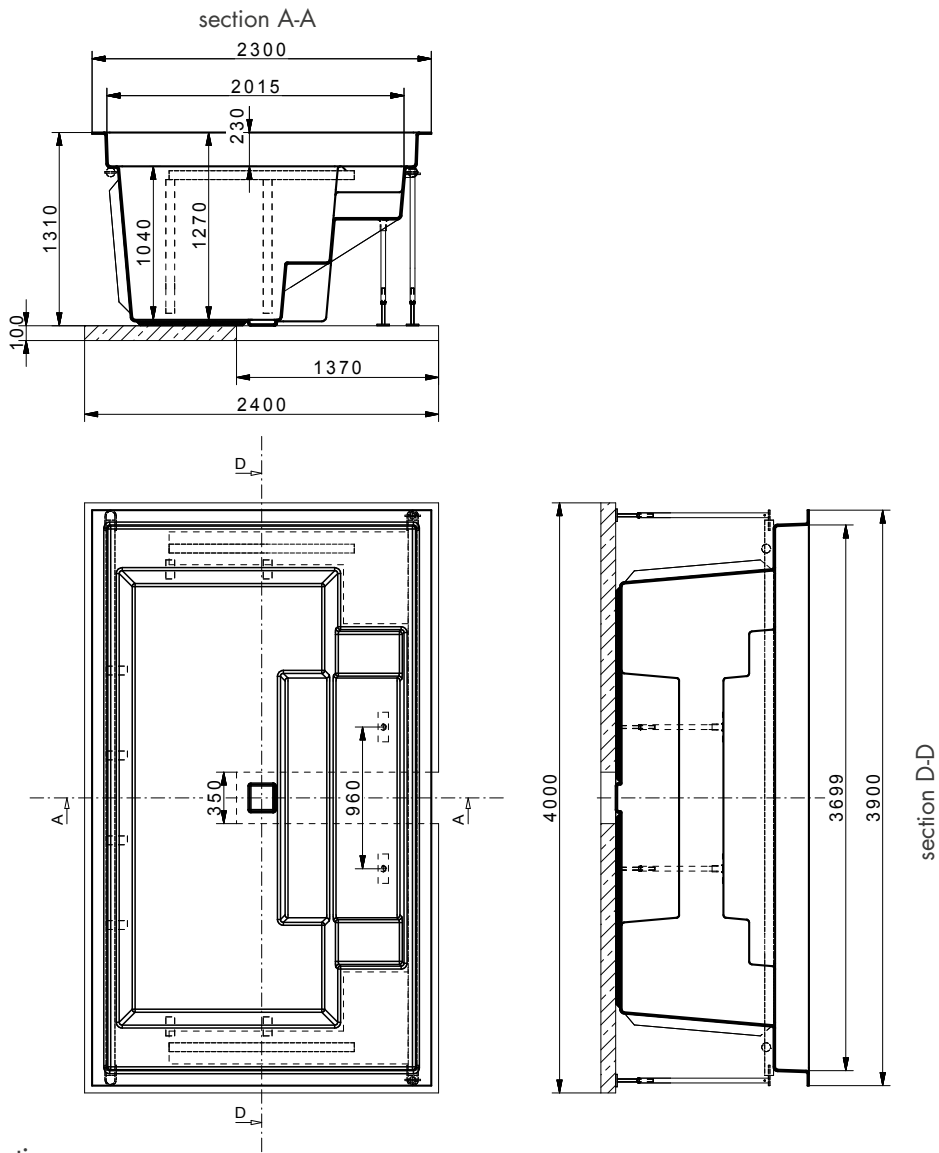
Glass mosaic: 480 kg

Filling volume in l: 3,700

Pit: 450 cm x 290 cm

Subsurface / footprint: 400 cm x 240 cm

2.3 C-SIDE 37 L



Installation options:

Ground installation, partially sunk

Outer dimensions (L x W x H): 390 cm x 230 cm x 131 cm

Inner dimensions (L x W x H): 370 cm x 210 cm x 127 cm

Weight: Papyrus / granicite stone grey

300 kg

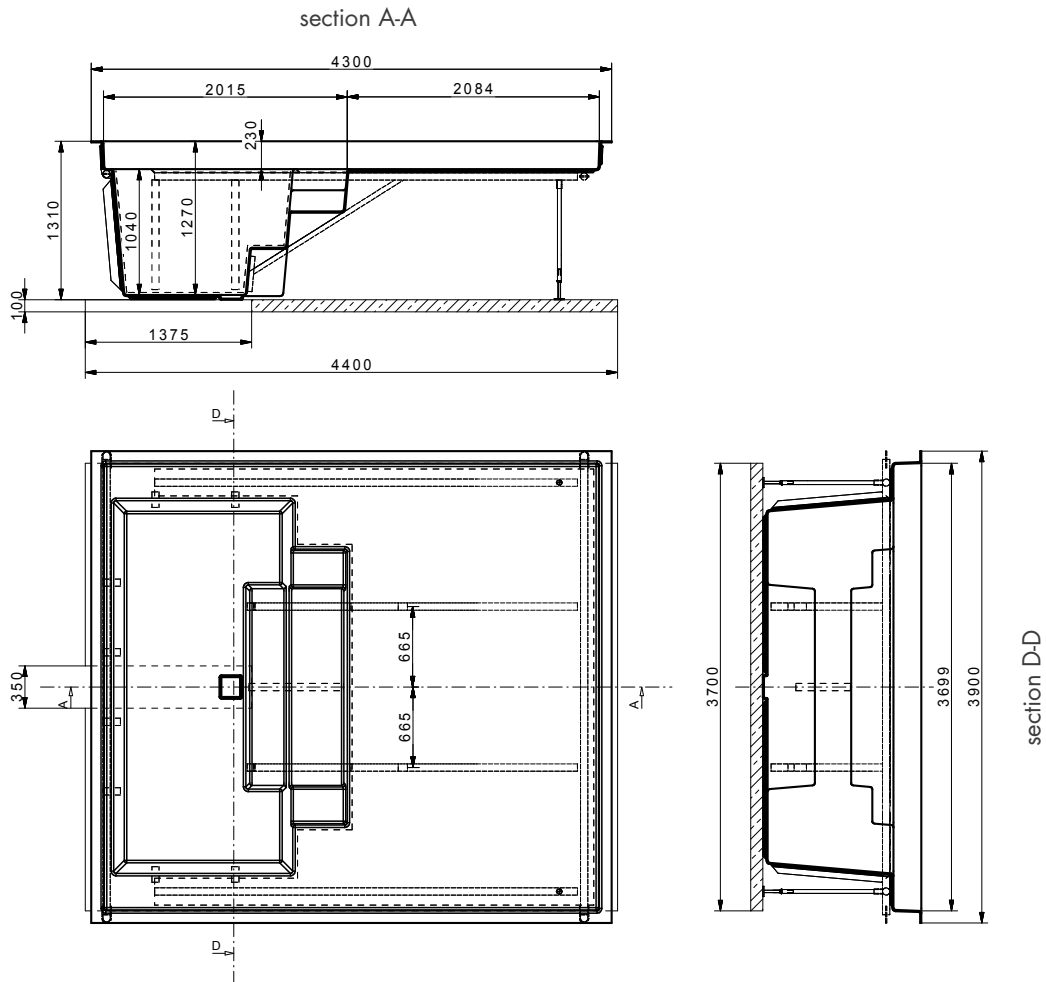
Glass mosaic: 600 kg

Filling volume in l: 6,200

Pit: 450 cm x 290 cm

Subsurface / footprint: 400 cm x 240 cm

2.4 C-SIDE 37 L + shallow water zone



Installation options:

Ground installation, partially sunk

Outer dimensions (L x W x H): 430 cm x 390 cm x 131 cm

Inner dimensions (L x W x H): 410 cm x 370 cm x 127 cm

Weight: Papyrus / granicite stone grey
600 kg

Glass mosaic: 900 kg

Filling volume in l: 8,400

Pit: 480 cm x 450 cm

Subsurface / footprint: 440 cm x 400 cm

3. Structural analysis

STATISCHE BERECHNUNG	INGENIEURBÜRO HÜER, RHEINER STR. 59, 49 809 LINGEN TEL. 05 91/91 11 76-0, FAX 05 91/91 11 76-6, www.hueer-ing.de	SEITE 2 POS.
<p><u>Vorbemerkung</u></p> <p>Die Schwimmbeckenumfassung soll für 2 neue Rechengrößen ergänzt werden.</p> <p>Es werden hier nur die Ringballen für die Rechengrößen 3,70 x 4,40 m und 3,70 x 2,40 m nachgewiesen.</p> <p>Die in der Hauptberechnung berücksichtigte Skimmerausparung kommt hier nicht zur Ausführung, da sich der Skimmer innerhalb des Beckens befindet.</p> <p>Die Belastung aus Erddruck wird wie in der Hauptberechnung angesetzt</p> $q_k = 4,01 \text{ kN/m}$ $q_d = 1,5 \cdot 4,01 = 6,015 \text{ kN/m}$ <p>Schnittkräfte entspr. der Gleichungen auf S. 6 + 7 der Hauptberechnung sowie Bemessung siehe folgende Tabellen</p>		

STATISCHE BERECHNUNG		INGENIEURBÜRO HÜER, RHEINER STR. 59, 49 809 LINGEN TEL. 05 91/91 11 76-0, FAX 05 91/91 11 76-6, www.hueer-ing.de										SEITE 4 POS.											
Beckengröße		$-M_{E,d} + V_{E,d} \cdot h$	$M_{E,d}$	$M_{E,d} + V_{E,d} \cdot h$	$M_{E,d}$	$M_{E,d}$	$z_{E,d}$	$-M_{E,d}$	$M_{E,d}$	$z_{E,d}$	$z_{E,d}$	$M_{E,d}$	$M_{E,d}$	$M_{E,d}$	$M_{E,d}$	$M_{E,d}$	$M_{E,d}$	$M_{E,d}$	$M_{E,d}$	$M_{E,d}$	$M_{E,d}$		
		knm	knm	knm	knm	knm	knm	knm	knm	knm	knm	knm	knm	knm	knm	knm	knm	knm	knm	knm	knm		
$3,70 \times 2,10$	5,94	5,79	11,88	25	20	7,5	4,50	6,68	3,46	2,40	0,80	0,27	1,07	2,012	2,3								
$3,70 \times 4,10$	8,69	5,54	11,88	25	20	7,5	7,25	4,58	2,89	2,45	1,17	0,27	1,44	2,012	2,3								

Beton C 20/25 , Betonstahl B 500A

$$z_{E,d} = d - h/2$$

$$M_{E,d} = M_{E,d} + V_{E,d} \cdot h/2 - q_d \cdot (h/2)^2/2$$

$$M_{E,d} = \max(|M_{E,d}| - z_{E,d} \cdot N_d \cdot z_{E,d}, k_d \cdot d \cdot \sqrt{w_{eff} \cdot h_d / b}) \text{ mit } b = 25 \text{ cm}$$

Bemessung

INSTALLATION

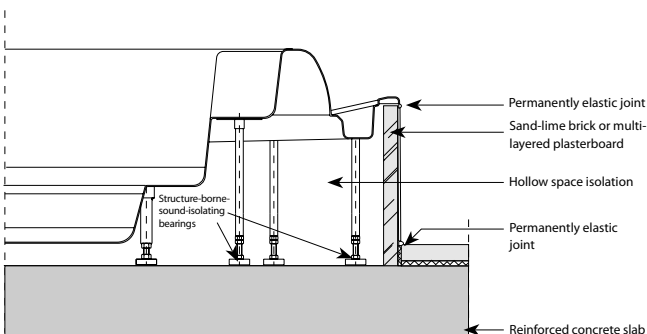
4.1 "Roof terrace" installation

Only suitable for the CS21 and CS37.

4.1.1 System set-up – sound insulation

Due to their design, C-SIDE pools produce certain sound levels which are transmitted as structure-borne sounds or airborne sounds. In order to keep this sound transmission as low as possible, we always recommend setting up the system in the following ways:

Setting up the system without any special sound insulation requirements:



Attention: this installation recommendation is ONLY appropriate if there are no areas requiring protection as per VDI 4100 / DIN 4109 underneath or next to the installation area.

Please note the following with regard to the walling:

- The edge of the pool is not simply a supporting edge for the pool rim. Structure-borne sound bridges are to be avoided.

- Pipelines should not have any direct contact to the wall in wall ducts (structure-borne-sound-isolating cladding).

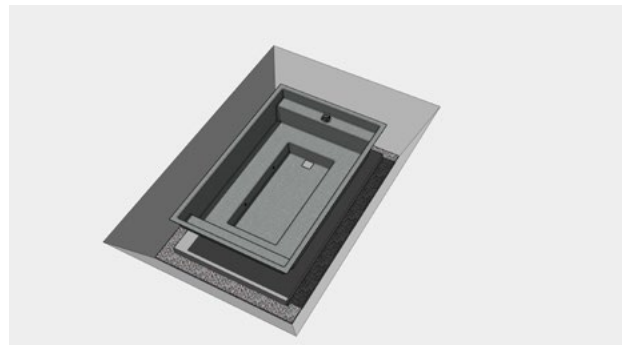
- Installation of expansion joints in pipelines between the pool and the control equipment.

The hollow space should be airborne-sound insulated (mineral wool mats or acoustically comparable: 200 mm thick).

- Structure-borne-sound-isolating bearings beneath the pool feet.

4.2 Ground installation for all C-SIDE pools

Before aligning and adjusting the C-SIDE pool, make sure the foundations have been set up as in 1.4 and the desired depth has been provided. Once you have placed the C-SIDE pool down on the floor plate, straighten it out.

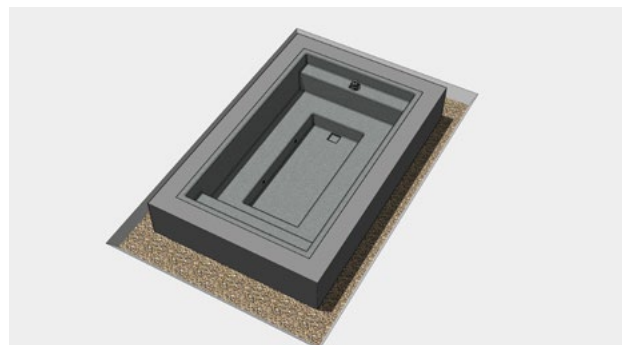


Attention: The pool floor must be completely flush with the floor plate or the bed of gravel. Otherwise, cracks will appear in the material.

During positioning, think about how your coping is going to line up at the end.

4.3 Semi-in-ground installation for all C-SIDE pools

Before aligning and adjusting the C-SIDE pool, make sure the foundations have been set up as in 1.4 and the desired depth has been provided. Once you have placed the C-SIDE pool down on the floor plate, straighten it out.



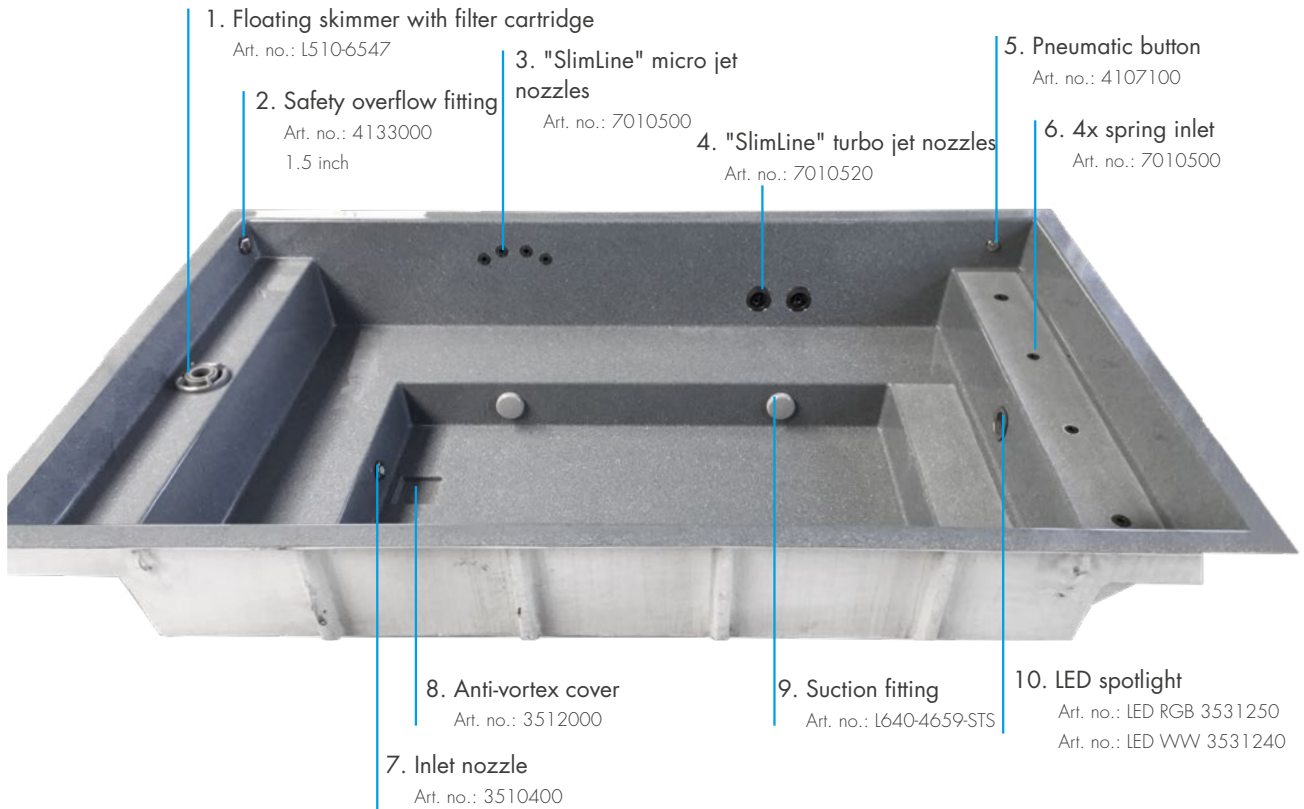
Attention: The pool floor must be completely flush with the floor plate or the bed of gravel. Otherwise, cracks will appear in the material.

During positioning, think about how your coping is going to line up at the end.

INSTALLATION

4.4 Ports on the pool

This illustration shows you an example of pool fittings.



- Open air suction of the Spa Massage Pak is installed above the water level or connected to the safety overflow fitting.

ATTENTION: loud suction noises may be caused by a faulty installation.

TIP: it is best to route the hose as far away as possible from the pool.

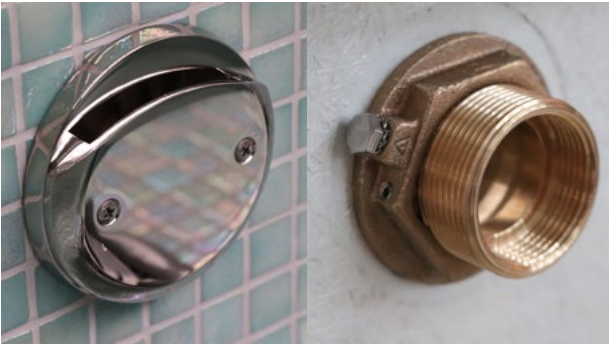


- Skimmer: d50 port = filter pump, suction side



- Inlet nozzle: d50 port = filter pump, pressure side

INSTALLATION



- Safety overflow fitting: d50 port = drain



- Suction fitting: d50 port = 1.0 kW jet pump, suction side



- 4x spring inlet and inlet nozzle
d50 port = filter pump, pressure side



- Pneumatic pushbutton: 3/8 mm pneumatic hose port,
d25 empty pipe port



- Current system: d63 port = 2.6 kW jet pump, pressure side



- Spa Massage Pak: d50 port = jet pump, pressure side



- Suction fitting (AquaFun 4.0): d63 port
- Suction fitting (Spa Massage Pak): d50 port
= Jet pump suction side

4.5 C-SIDE pool piping

For the pipeline installation, you require the following at a minimum:

- 25-m (50) PVC hose: water-channelling pipes
- 5-m (25) PVC hose: protective hose for the pneumatic button
- 10-m pneumatic hose: transparent air hose
- 5-m (25) PVC hose: complete emptying for the control unit.

Spread out all the enclosed hoses on the floor so that the material can stretch. Then start connecting the hoses. Connecting as an intermediate step prior to bonding in a safety measure. Incorrectly bonded hoses cannot be released again.

Direct the pneumatic hose of the pneumatic button through the grey PVC protective hose (d25).

A Connect the PVC hose (d50) to the suction side of the **skimmer** and cut it to an appropriate length for the suction side of the filter pump. Then connect the end of the hose to the suction side of the filter pump.

B Connect the PVC hose (d50) to the pressure side of the filter pump and lay it to an appropriate length to the **inlet nozzles**. Then connect the end to the pre-installed water distributor.

C Connect the PVC hose (d50) to the suction port of the jet pump and lay it to an appropriate length to the suction side of the **massage pump**. Cut the hose at an appropriate point and connect the end of the hose to the pump.

D Connect the PVC hose (d50) to the pressure side of the massage pump and lay it to an appropriate length to the pre-installed water distributor for the **massage nozzles**. Trim the hose and connect the end.

E Establish the connection between the **safety overflow fitting** and the drainage system by cutting the PVC hose (d50) to the desired length and connecting the ports to each other.

F Connect the transparent pneumatic hose with the PVC protective pipe at the blue screw connection of the button module and direct the pipe to the service shaft. The grey PVC protective hose ends at the wall duct of the

shaft. Draw the transparent pneumatic hose into the service shaft and connect it with the blue screw connection on the pre-installed **switch box**. Make sure that the hose is routed on a direct path. Otherwise the function will be impaired.

G Connect the PVC hose (d20) to the outer wall duct (**complete emptying**) of the service shaft, and then connect it with the drainage system.

Make sure that all hoses are in the correct position and can empty either toward the pool or toward the service shaft. Neither water nor air pockets may arise.

Deburr all hoses with the help of a sharp knife (e.g. a carpet knife). This will help you achieve better bonding with the adhesive.

Clean the bonding points with the PVC cleaner included in the scope of supply.

Now **connect** the hoses to the pool outlets cited in **A–G** by coating the PVC hose on the outside and the connecting piece on the inside in each case with the PVC adhesive included in the scope of supply. A slight resistance will be felt when joining the connections. Hold on to the fresh bonding point for at least one minute so that the adhesive cures properly. The adhesive requires a temperature of at least 10° C to cure.

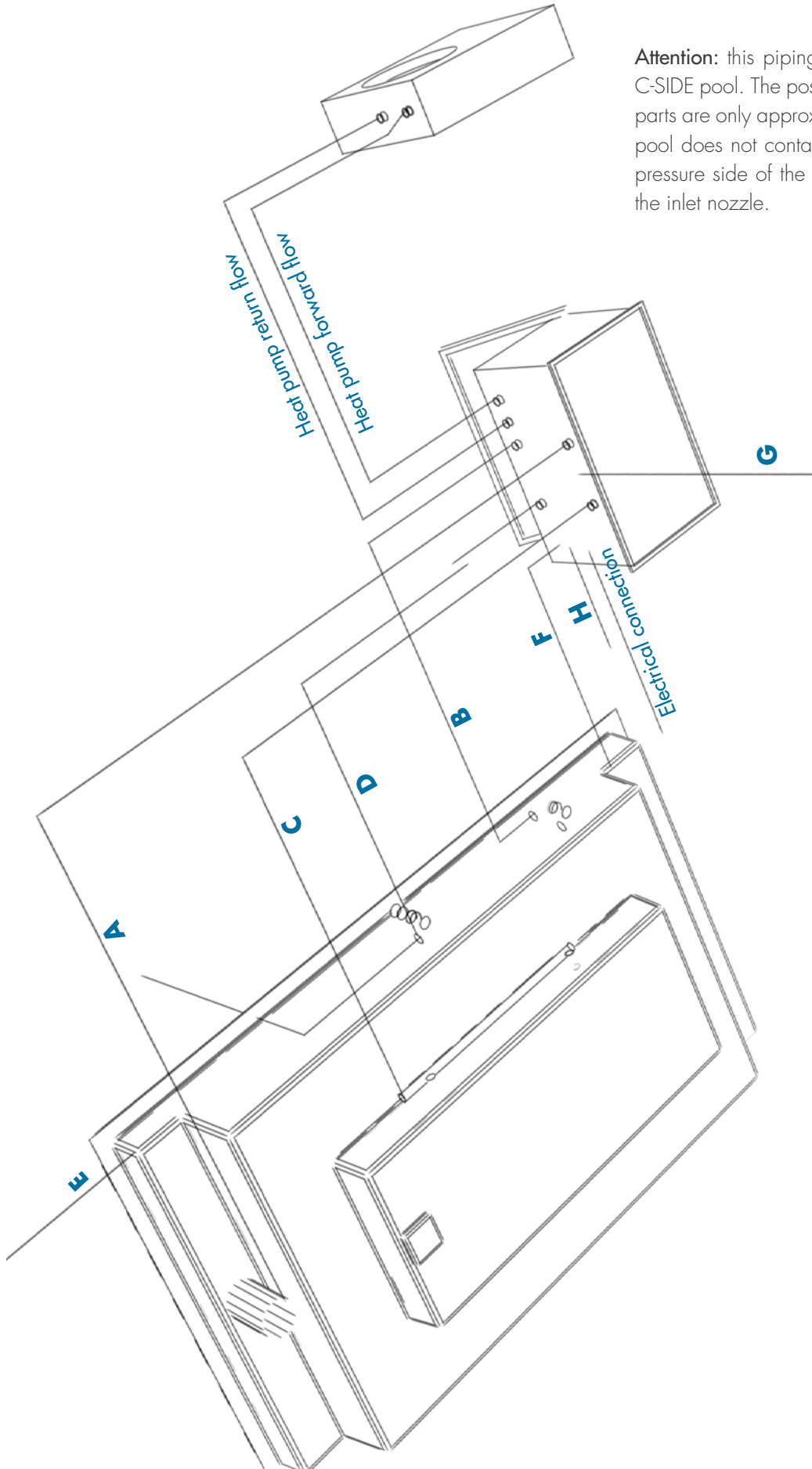
For connecting the electrics, a total connected load of one supply cable is 16 A / 230 V / 50 Hz; with a 30-mA ground fault circuit interrupter. The electrical connections are to be established by a locally licensed electrician in accordance with the regulations that apply in each case.

H Direct the poollight cable through the cable protection pipe into the cable connection socket and seal the entrance with the grouting included in the scope of supply so that it is watertight. Position the cable connection socket so that it remains accessible for any servicing work that needs to be performed.

ATTENTION: The cable connection socket must always be installed above the water level.

INSTALLATION

Attention: this piping diagram shows a fully equipped C-SIDE pool. The positions of the installation and add-on parts are only approximate specifications. If your C-SIDE pool does not contain any spring inlets in the step, the pressure side of the filter pump is connected directly to the inlet nozzle.

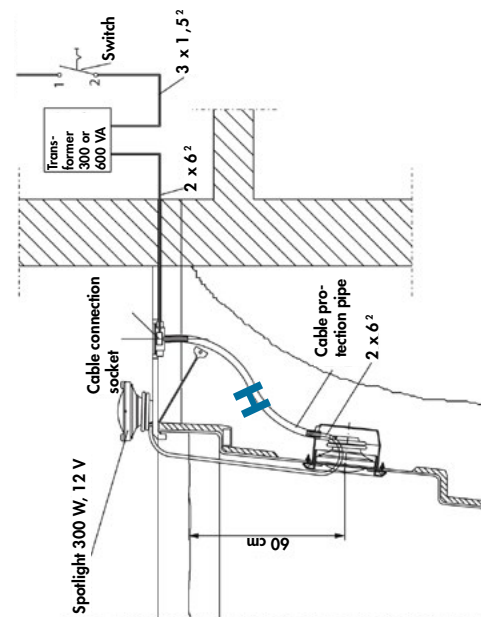


Connected loads:

Pumps and control systems: 230 V, 16 A

Electric heater: 9 kW, 400 V, 16 A

Heat pump: 230 V, 16 A



4.6 Backfilling

1. Before commencing with the backfilling, fill 30 cm water into the pool. Tension the plumb lines over the edges of the pool. Place square timbers between the edges of the pool to brace the pool.

The backfill material (e.g. gravel or lean concrete) is now filled around the pool manually, slowly and evenly, especially under the steps.

The water pressure and the pressure from the backfill material should equalise so that the pool walls are able to be installed free from bending stress.

The water level is raised in parallel with the backfill. In this process: no ramming, no vibrating, no concrete pumping; surrounding the pipelines without applying stress.

The ring beam is set in place once the backfilling is complete. (See section 2.6)

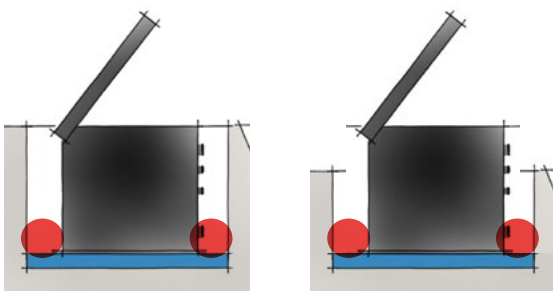
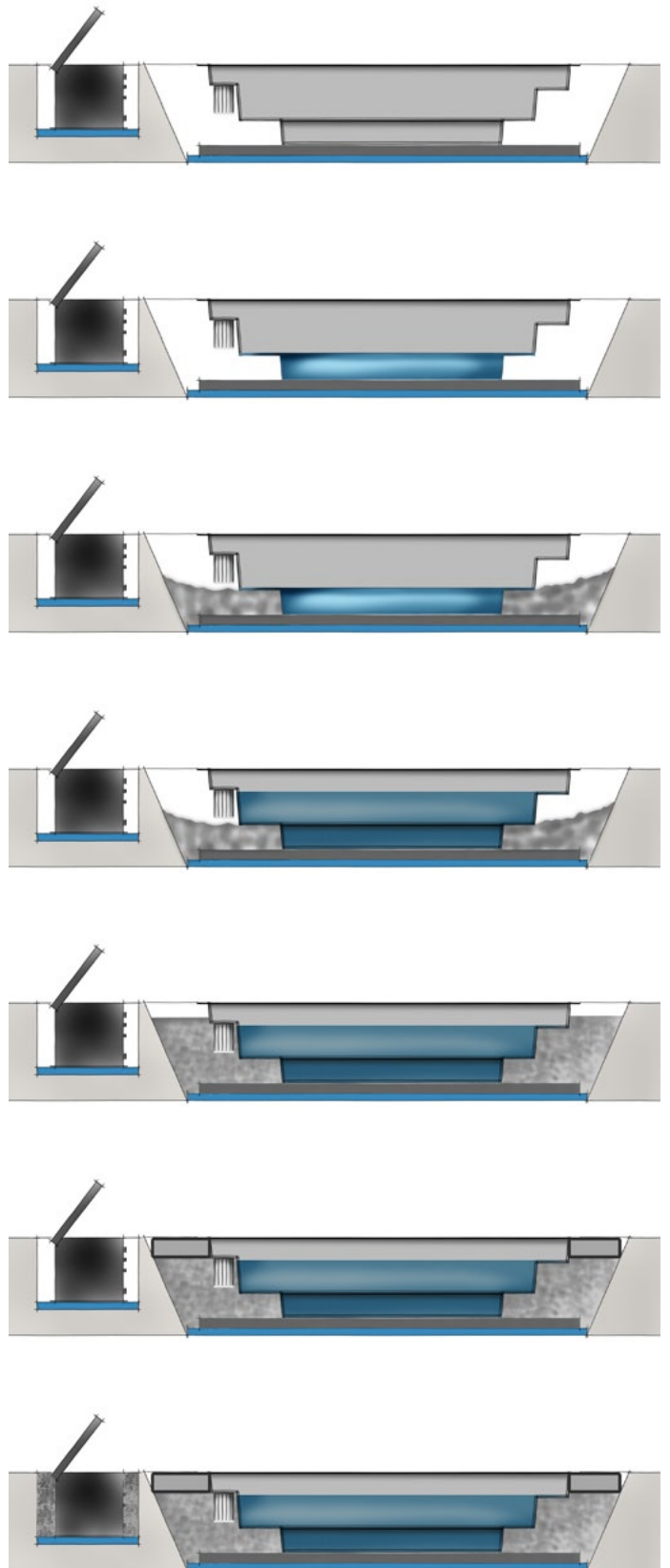
Material:

- Loose gravel, 8/16 mm grain size, washed
- Lean concrete: B 15 (C12/15); consistency: stiff, earth-moist

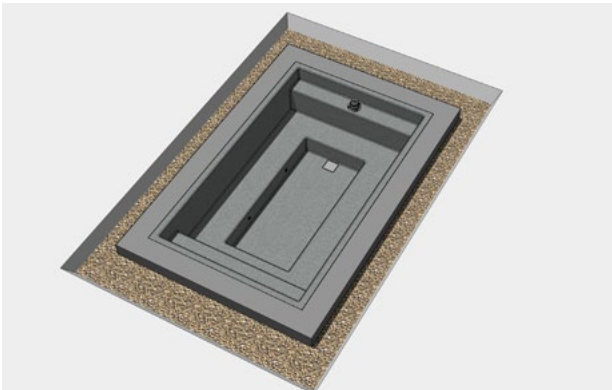
Service shaft backfilling

In order to prevent the technical shaft from being pushed up, we also recommend filling the base of the pit with lean concrete.

Lean concrete: B 15 (C12/15); consistency: stiff, earth-moist

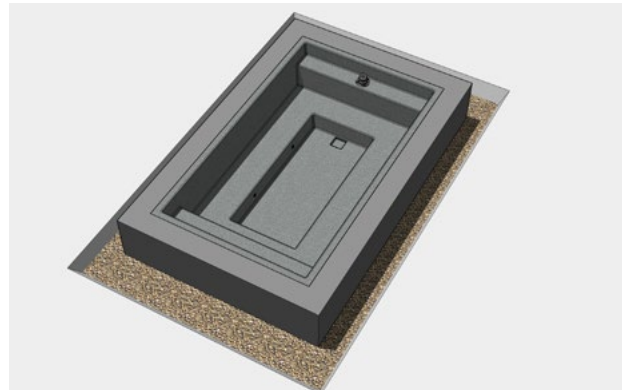


4.7 Rim design



4.7.1 Setting the ring beam (flush)

The structural analysis assumes a reinforced concrete ring is placed around the rim of the pool which prevents any bending. This ensures that no stress is applied by external forces onto the pool both when full and empty. The dimensions of the ring beam should be 25 cm x 25 cm. The ring beam is set on the rough top of the backfill and must not be interrupted.



4.7.2 Setting the ring beam (semi-in-ground)

It is even easier when the pool is protruding from the ground. The circumferential retaining wall, the static ring beam, is used simultaneously as a seat.

The structural analysis assumes a reinforced concrete ring is placed around the rim of the pool which prevents any bending. This ensures that no stress is applied by external forces onto the pool both when full and empty. The dimensions of the ring beam should be 25 cm x 25 cm. The ring beam is set on the rough top of the backfill and must not be interrupted.

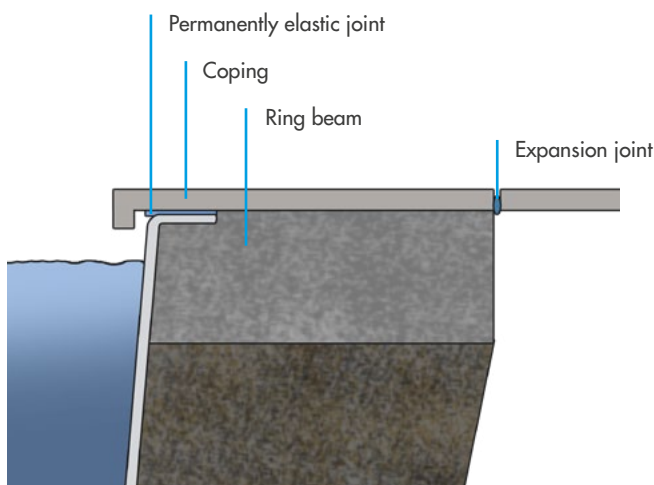


Illustration of a flush ring beam

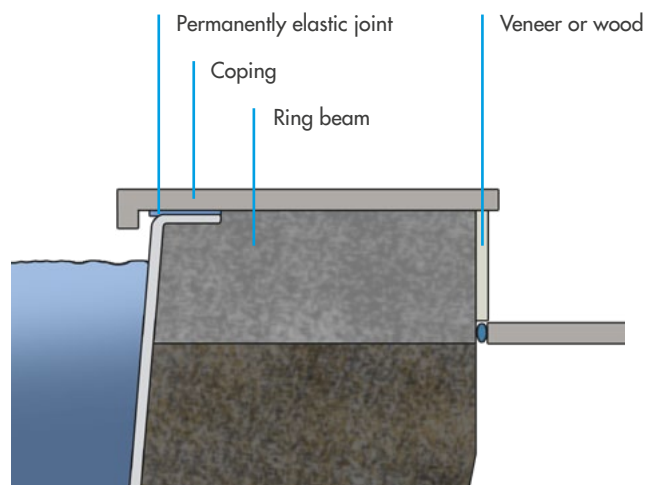


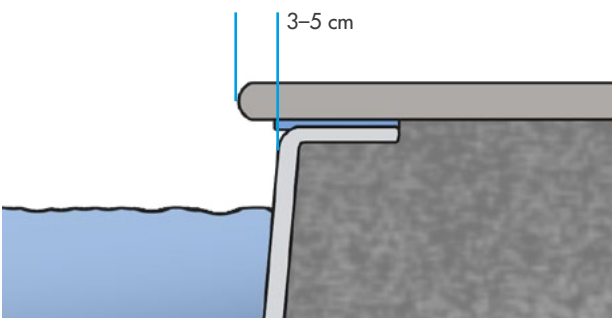
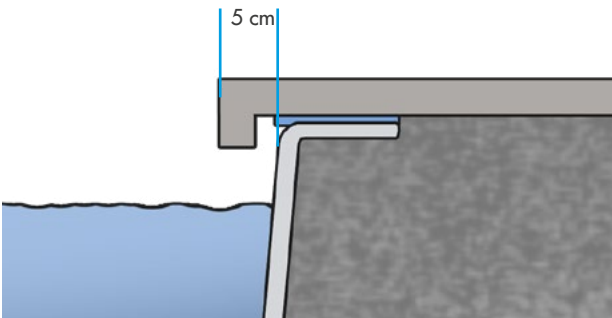
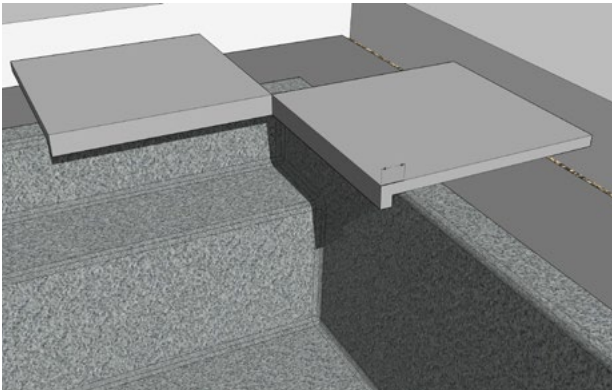
Illustration of a ring beam in a semi-in-ground installation

In both cases, the ring beam must be set so that it reaches the bottom edges of the coping.

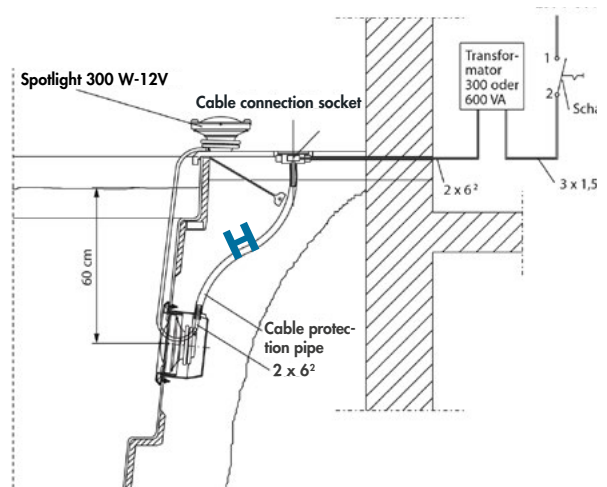
4.7.3 Laying the coping

The top approx. 5-cm-wide edge of the C-SIDE pool has been intentionally designed so that it cannot remain visible. It must be covered with coping. The coping should rest on the mortar bed of the ring beam – not on the edge of the pool. Here it lies on a mere 2–3 cm-wide bed of silicone. The coping should protrude into the pool by about 3–5 cm so that an edge is formed that prevents overspill. The joint between the coping and the pool edge should be inserted for a permanently elastic effect.

Fig. D-Line stone and round stone



4.8 Cable connection socket



Connected loads:

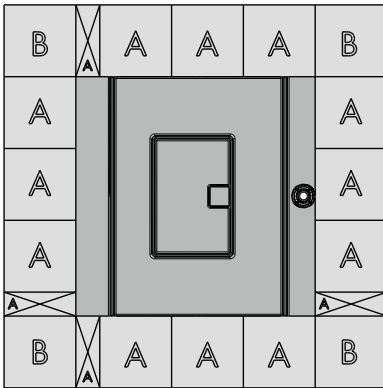
- Pumps and control systems: 230 V, 16 A
- Electric heater: 9 kW, 400 V, 16 A
- Heat pump: 230 V, 16 A

4.9 Coping laying diagrams

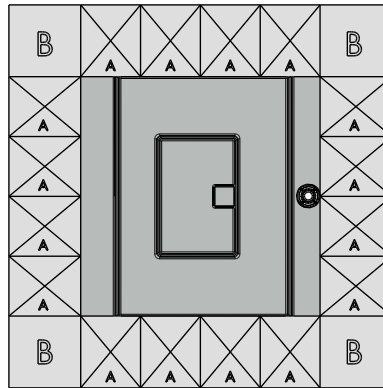
C-SIDE 21 – 210 cm x 210 cm

Options for laying the D-Line coping (60 cm x 60 cm x 6/3 cm)

Version 1



Version 2



Parts list:

A = 16 x D-Line coping (60 cm x 60 cm x 6/3 cm)

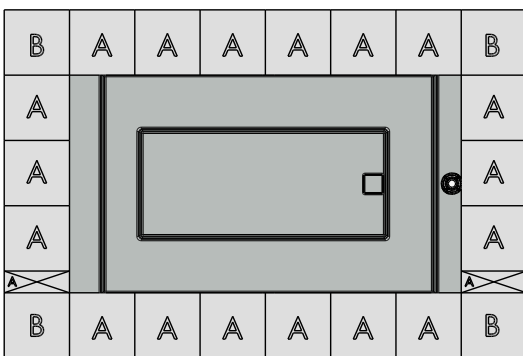
B = 4 x D-Line floor plate (60 cm x 60 cm x 3 cm)

Stones marked with an "X" will have to be cut to fit in situ.

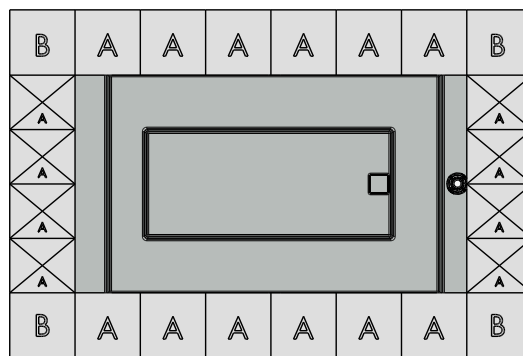
C-SIDE 37 + C-SIDE 37L – 370 cm x 210 cm

Options for laying the D-Line coping (60 cm x 60 cm x 6/3 cm)

Version 1



Version 2



Parts list:

A = 20 x D-Line coping (60 cm x 60 cm x 6/3 cm)

B = 4 x D-Line floor plate (60 cm x 60 cm x 3 cm)

Stones marked with an "X" will have to be cut to fit in situ.

5.1 control unit (above the water level)

Control equipment for the summer months



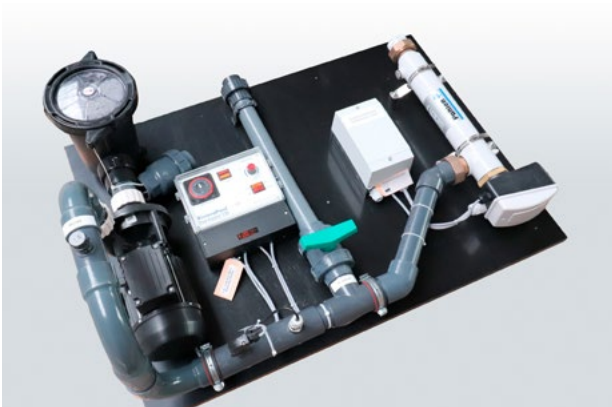
- Self-priming filter pump 0.75 kW, 230 V
- Check valve for filter pump
- Filter pump controller mounted on inspection panel.
- Connected load: 1 x 16 amps, 230 V
- Footprint 120 cm x 80 cm (length x width)
- Suction side: d50, pressure side: d50, complete emptying: d50

Control equipment for six months' use



- Self-priming filter pump 0.75 kW, 230 V
- Check valve
- Bypass: d50
- Filter pump controller
- Connected load: 1 x 16 amps, 230 V
- Footprint: 120 cm x 80 cm (length x width)
- Suction side: d50, pressure side: d50, complete emptying: d50

Control equipment for use all year round with "quick heat" function



- Self-priming filter pump 0.75 kW, 230 V
- Check valve
- Electric heater 9 kW/h with "quick heat" function
- Pool controller
- Connected load: 1 x 16 amps, 230 V
- Electric heater: 1 x 16 amps, 400 V
- Footprint: 120 x 80 cm (length x width)
- Suction side: d50, pressure side: d50, complete emptying: d50

Automatic control equipment with touch display

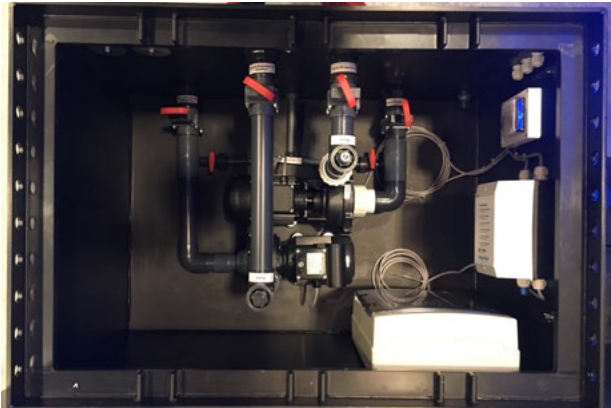


- Self-priming filter pump 230 V
- Check valve
- Pool controller with spa touch display and temperature monitor.
- Including radio remote control (Spa touch display is delivered LOOSE)
- Electric heater 230 V , 1 x 3 kW / 1 x 2 kW
- Connected load: 2 x 16 amps
- Footprint: 120 x 80 cm (length x width)
- Suction side: d50, pressure side: d50, complete emptying: d50



5.2 Service shaft (below water level)

Control equipment for the summer months



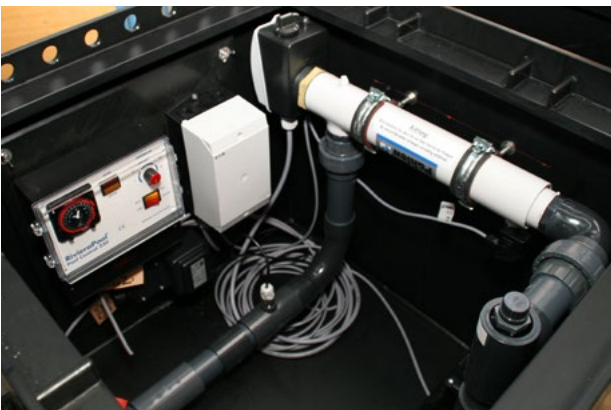
- Filter pump 0.75 kW, 230 V
- Check valve for filter pump
- Filter pump controller mounted on inspection panel.
- Connected load: 1 x 16 amps, 230 V
- Footprint 120 cm x 80 cm (length x width)
- Suction side: d50, pressure side: d50, complete emptying: d50

Control equipment for six months' use



- Filter pump 0.75 kW, 230 V
- Check valve
- Bypass: d50
- Filter pump controller
- Connected load: 1 x 16 amps, 230 V
- Footprint: 120 cm x 80 cm (length x width)
- Suction side: d50, pressure side: d50, complete emptying: d50

Control equipment for use all year round with "quick heat" function



- Filter pump 0.75 kW, 230 V
- Check valve
- Electric heater 9 kW/h with "quick heat" function
- Pool controller
- Connected load: 1 x 16 amps, 230 V
- Electric heater: 1 x 16 amps, 400 V
- Footprint: 120 x 80 cm (length x width)
- Suction side: d50, pressure side: d50, complete emptying: d50

Automatic control equipment with touch display

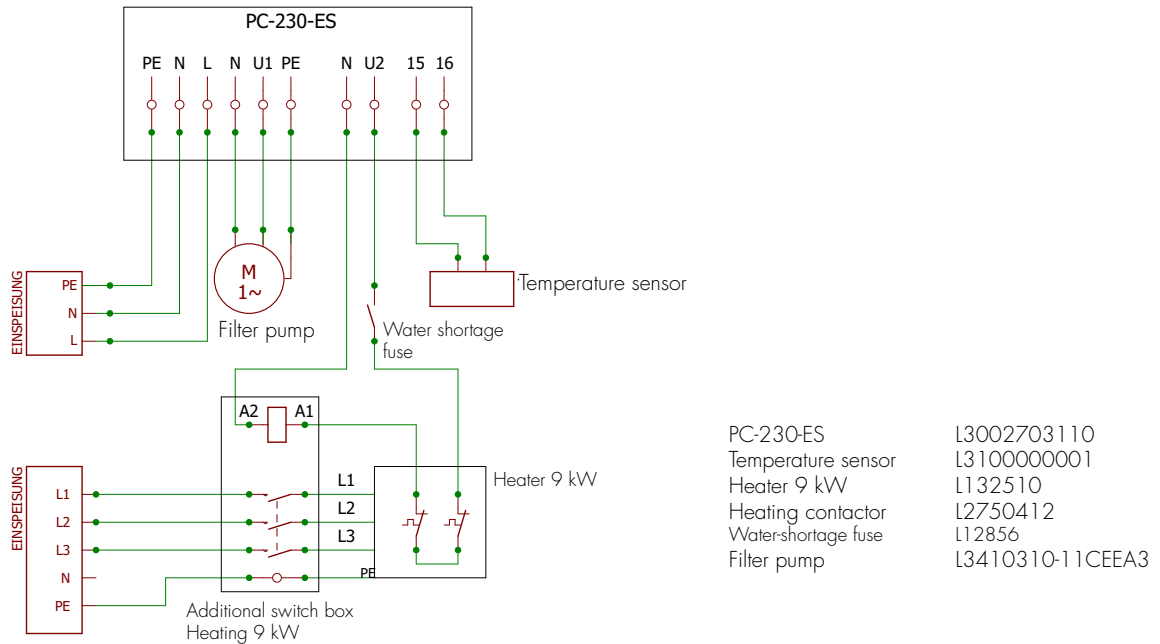


- Filter pump 230 V
- Check valve
- Pool controller with spa touch display and temperature monitor.
- Including radio remote control (Spa touch display is delivered LOOSE)
- Electric heater 230 V, 1 x 3 kW / 1 x 2 kW
- Connected load: 2 x 16 amps
- Footprint: 120 x 80 cm (length x width)
- Suction side: d50, pressure side: d50, complete emptying: d50

The service shafts shown here may contain special equipment.

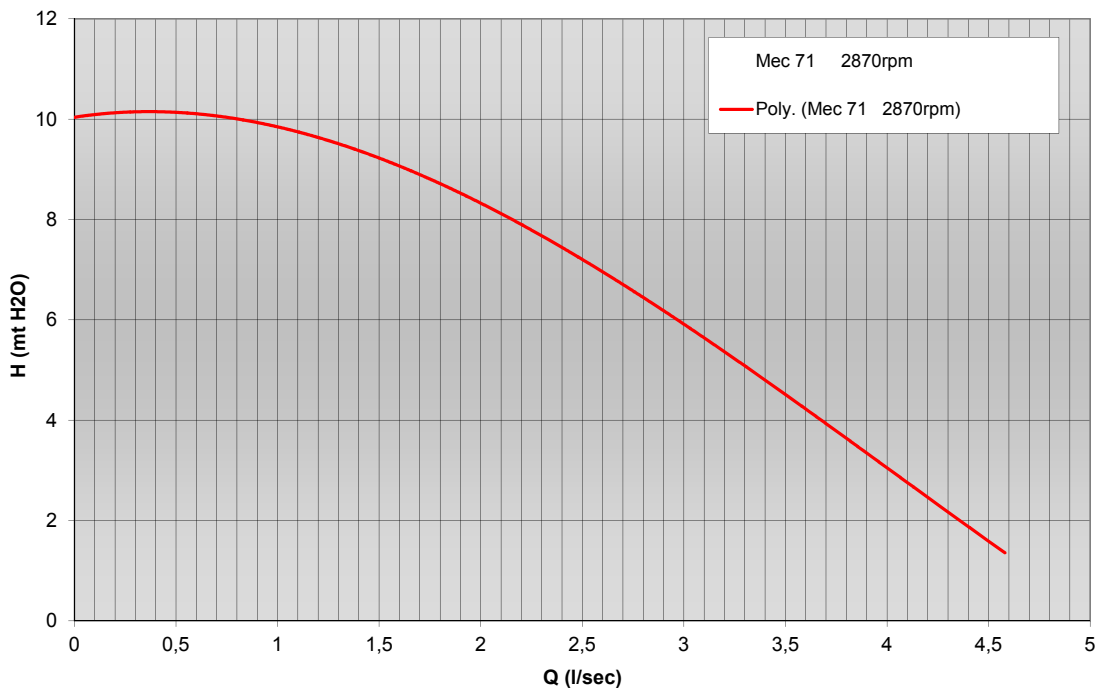
5.3 Wiring diagrams

Pool controller with 9-kW heater



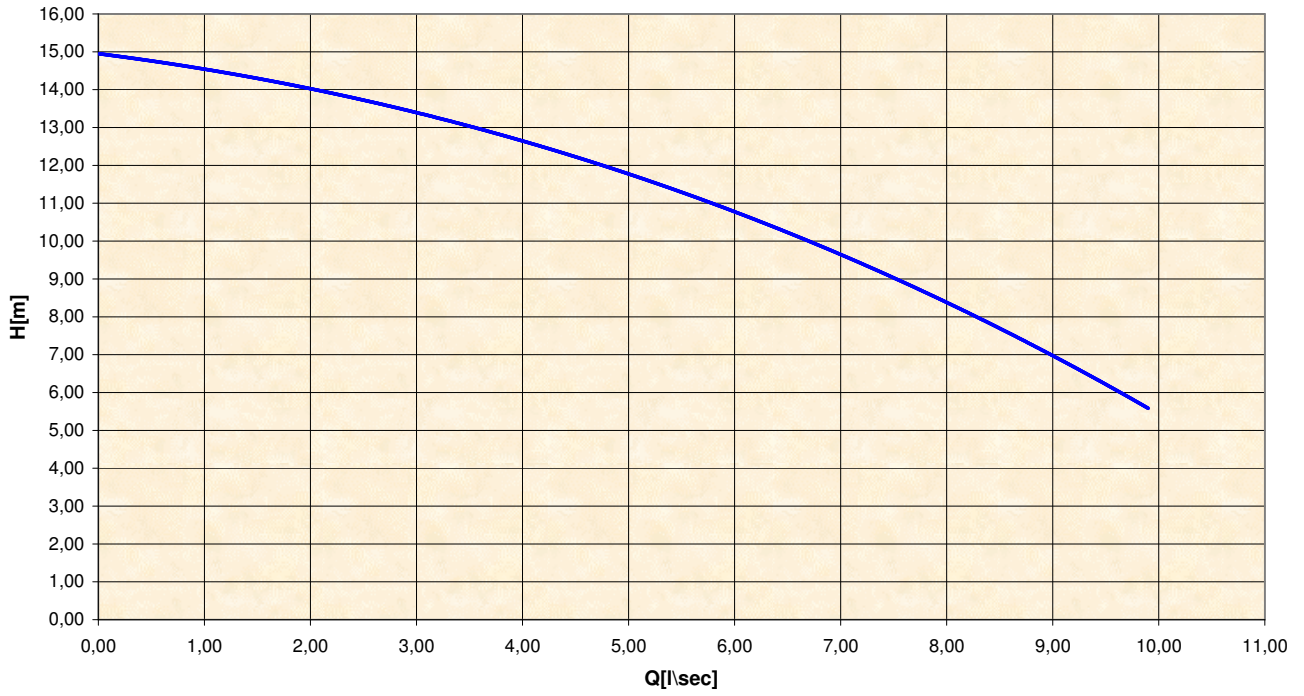
5.4 Pump diagram

Filter pump 0.75 kW, 230 V



POOL CONTROL EQUIPMENT

Massage pump 1.0 kW



6.1 Switching on for the first time

Prior to switching on for the first time, make sure that...

- ... the water level of your C-SIDE drains at the safety overflow fitting.
- ... the filter cartridge is fit firmly in the skimmer.
- ... the top of the skimmer can move freely.
- ... the service shaft outlet is locked.
- ... the shut-off valves in front of the pumps are open.
- ... the pumps have been vented using the vent screw in the service shaft.
- ... the electrics have been connected properly.

After checking the condition of the pool and the electrics, switch on the electricity at the circuit breaker.

Now set the filter time to continuous operation. The filter pump switches on.

The air contained in the pipes is pushed through the nozzles into the pool. This procedure may take a few minutes.

If the C-SIDE pool has a massage feature, activate the pneumatic button by pressing it once. The pump starts up. Air and water emerge from the pipes. You can control this by turning the black screen in an anti-clockwise direction. Air may also come out here.

It is possible that all the nozzles of the 4x spring inlet or the massage feature have not yet opened to an equal degree. This can also be controlled by turning the black screen in an anti-clockwise direction. Air may also come out here.

6.2 Setting the filtering times

6.2.1 "Analogue" filter pump controller

The daily filtering time is based on the frequency and intensity of use, but should not exceed 6 hours.

Several time intervals per day are available. Segments pointing outwards switch "ON"; segments pointing inwards switch "OFF". The shortest switching time is 15 minutes (1 segment). Program the timer so that filter system switches on two hours prior to the anticipated bathing time and switches off approx. one hour after bathing. Then freshly filtered water will be available for bathing.

The clock in the centre of the timer can be set to the correct time with the thumb and index finger in a clockwise direction.

Attention: if you have installed a heating system in your pool, then you must consider the following.

The bathing water is only heated up when the filter pump is running. Set the temperature selector on the switch box to the desired bathing temperature – max. 32°C.

This set temperature is only maintained during filter operation.

6.2.2 "Digital" filter pump controller

The section "digital filter pump controller" can be found in Technical Information CS TI 2.

6.3 Setting the flow

Filter pump flow

The flow or suction power of the skimmer is best when the top of the skimmer is floating just under the surface of the water.

The suction power is too low if the top is not aligned straight, or is wobbling.

The suction power is too high if the top of the skimmer is fully sucked in.

The suction power can be changed at the filter pump by changing the position of the shut-off valve on the pressure side.

Jet pump flow

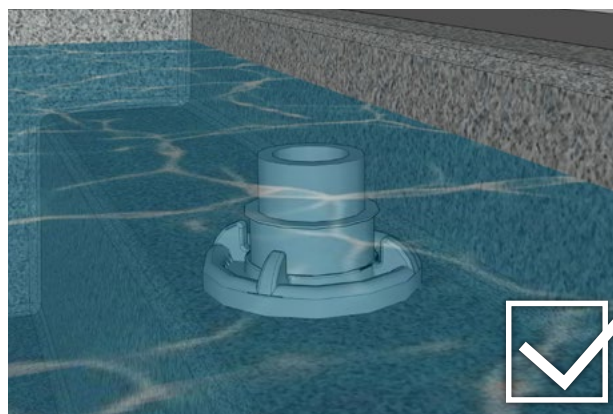
How strong the water pressure flowing out of the massage nozzles or the water surge should be is to be set according to personal preference. This is to be controlled via the shut-off valve on the pressure side of the jet pump.

Jet pump flushing cycle

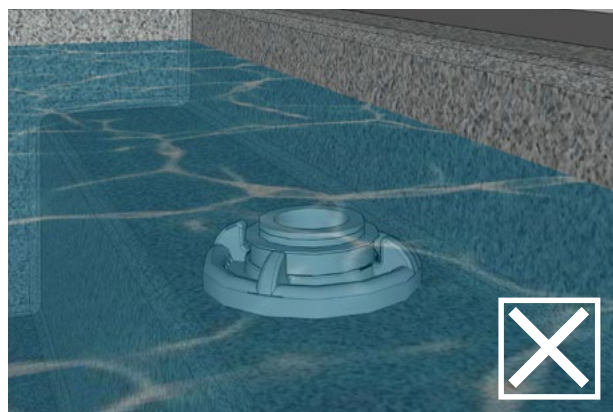
For reasons of hygiene, the pipes of the Spa Massage Pak are flushed once briefly automatically every 24 hours.

Heat pump flow

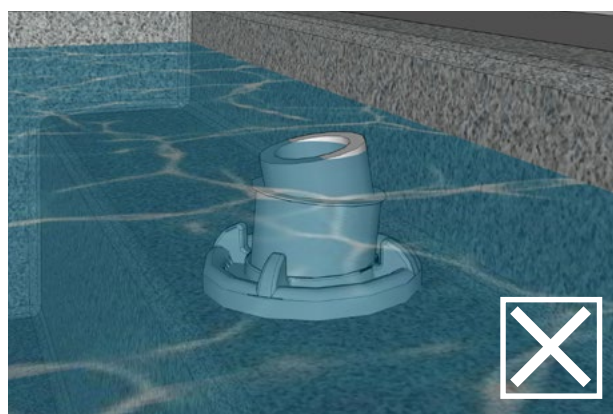
The water temperature must not continuously exceed 32°C. The heat pump is connected to the filter circuit via a bypass. The flow is also regulated here via the shut-off valves which are housed in the service shaft above the filter pump (see photo on p. 6). The temperature is to be set at the heat pump. How to operate the heat pump is explained in the enclosed technical information.



When the top of the skimmer is aligned straight just slightly under the surface of the water.



When the top of the skimmer is sucked in too strongly.



When the top of the skimmer is sucked in too weakly.



7.1 Daybed

Delivery:

Please do not cut the cardboard packaging of the daybed with a knife! Otherwise, irreparable damage may be caused to the material.

Defects of the cover are to be reported to the manufacturer immediately.

Quality / scope of supply:

- 4 pieces for CS21
- 5 pieces for CS37
- With grip straps at the top ends

Every two pieces can be loaded with up to 80 kg across the surface

Installation:

The pieces of the daybed do not require any special installation. They are simply placed over the pool.

Usage tips:

Do not pull the daybed over your coping. The bottom side of the fabric will wear away quickly as a result. We therefore recommend lifting up the pieces and then laying them down on the pool.

7.2 Wind and weather cover

Delivery:

Please do not cut the cardboard packaging of the wind and weather cover with a knife! Otherwise, irreparable damage may be caused to the material. Defects of the cover are to be reported to the manufacturer immediately.

Quality / scope of supply:

- 4 pieces for CS21
- 5 pieces for CS37
- With grip straps at the top ends

Not to be loaded / stepped on

Installation:

The pieces of the wind and weather cover do not require any special installation. They are simply placed over the pool.

Usage tips:

Do not pull the wind and weather cover over the coping. The bottom side of the fabric will wear away quickly as a result. We therefore recommend lifting up the pieces and then laying them down on the pool.



7.3 Winter cover

Delivery:

Please do not cut the cardboard packaging of the winter cover with a knife! Otherwise, irreparable damage may be caused to the material. Defects of the cover are to be reported to the manufacturer immediately.

Quality / scope of supply:

Cover material consisting of PVC film for use in the swimming pool area. The dimensions are tailored for use of the CS 21 or the CS 37 and do not require modification.

- Installation material
- Not to be loaded / stepped on

Installation:

For detailed information regarding installation, please refer to the enclosed brief description from the transport packaging.

7.4 Safety cover / protective roller cover

Delivery:

Please do not cut the cardboard packaging of the safety cover / protective roller cover with a knife! Otherwise, irreparable damage may be caused to the material. Defects of the cover are to be reported to the manufacturer immediately.

Quality / scope of supply:

Cover made from PVC film for use in the swimming pool area. The dimensions are tailored for use of the CS-21 or the CS-37 and do not require modification.

- Hand crank
- Installation material
- Not to be loaded / stepped on

Installation:

For the installation of the safety cover for pools that protrude from the ground, one must ensure that the edge of the pool is at least 35 cm wide at the broad sides. For detailed information regarding installation, please refer to the enclosed instructions.

Usage tips:

The safety cover is installed at the edge of the pool according to the installation instructions. Prior to covering the C-SIDE, release the safety locks at the edge of the pool. Connect the crank included in the scope of supply to the stud of the cover and then actuate this to cover the pool. Proceed the same way to uncover the pool. Make sure that the safety locks are shut again after each time they have been used.

For more information regarding the use of your safety cover, please refer to the enclosed instructions.



Water care set

8.1 Water care

Taking good care of the water is a prerequisite for optimum hygiene in the pool. Clean and invitingly clear water is a source of delight and makes a significant contribution toward well-being. A lack of water care may cause harm to health. Water care involves the following:

The pH value:

This indicates when the water is "in balance" – i.e. when the pool is pleasant and the disinfectant can function optimally. The pH value should be between 7.2 and 7.4. The measurement should be conducted at least once per week. The pH value must be adjusted either using a pH reducer or a pH increaser.

Disinfection:

The task here is to kill germs, etc. The water is disinfected by adding chlorine. The chlorine value should be between 0.3 and 0.6 mg/l. In the event of heavy bathing loads or humid weather, especially stormy weather, adding chlorine every day is necessary.

Adding fresh water:

Salts can emerge due to the adding of disinfectants. These can be kept to a low concentration by adding fresh water.

Filtration:

The filter system is not a water purification system and is intended to keep clean water clean. It should be set so that the water is circulating in automatic operation approx. 6–8 hours per day. In addition to the regular filter operation, the replacement and cleaning of the filter cartridges must be ensured.

The skim filter of the C-SIDE is fitted with very fine non-woven fabric filters, which remove the dirt from the water. Ideally, the cartridge should be replaced every 4 months. Within these 4 months, the filter cartridge should be cleaned at regular intervals; weekly to monthly, depending on pool use.

The filter cartridge should be cleaned as follows:

- Switch off the pump!
- Turn the top of the skimmer in an anti-clockwise direction and separate it from the skimmer.
- Pull the filter basket upwards and out of the skimmer.
- Remove the cartridge from the skim filter and clean it from the inside out with a powerful water jet.
- Proceed in reverse order to reinsert the cartridge. In this process, it is very important that you ensure the cartridge fits correctly.

Do not forget to clean the top of the skimmer itself using clear water and a sponge.

Obviously, the same thing applies to all the other installation parts located inside the C-SIDE.



Pool care set

8.2 Care for the C-SIDE pool body

Dirt on the edges above the water level when the pool is filled must only be removed with special edge cleaning agents. Otherwise, the operation of the filter will be disrupted.

A full clean of the empty pool is performed using acidic cleaning agents, such as Herli-Rapid SR for example. These remove any troublesome dirt on the surface of the pool.

Once the surface has been cleaned with acidic cleaning agent, it can then be freshly polished with Poolfinish, for example. The pores in the material are closed as a result, which will make any further cleaning that may be necessary (e.g. at the start of the swimming season) easier.

Assessing and removing coloured deposits on the surface of the pool:

- **Grey or white-yellow deposits:** These mainly consist of calcium carbonate, which precipitates in the event of a high lime content, an incorrect pH value or strong evaporation.

- **Brown or black spots:** If the supply or pool water contains iron or manganese, then this is oxidised and settles as brown iron oxide (rust) or black manganese oxide in mostly irregularly formed spots on the surface of the floor and walls. Unfortunately, these spots are not to be removed using the usual alkaline cleaning agents. An acidic agent is required for this purpose (e.g. Metal Ex).

- **Green deposits:** This can be for two reasons. Firstly, it might be a sign of algae in the water. This will be the case if the deposit wipes off easily. Algae are a sign that the chlorine level is too low.

The other possibility is copper deposits, which are suspended in the water as minuscule particles. In this instance, please contact the manufacturer of your C-SIDE pool.

9. Pool soiling

Concrete spatter getting into the inside of the pool is pretty much unavoidable. It does not cause any damage if it is wiped away when it is still wet. Removing dried-on concrete residues, by contrast, causes annoying scratches.

Once the concrete has set, the dirty construction water is to be drained and the pool cleaned. Steel parts (nails and suchlike) in particular must be removed – they leave behind rust spots that are difficult to remove.

In the case of outdoor pools, the swimming pool can only be put into service following installation without changing the water and a deep clean if it was thoroughly cleaned prior to installation and there are no cement residues to dull the water. The filter device is not a water purification system, but is instead intended to keep clear water clear. Furthermore, the cement dust would clog up the filter sand, rendering it ineffective.

In the case of indoor pools, the pool should be filled with clean water for the remainder of the construction period. The water protects the surface from falling objects and the load conditions are necessary when the top edge of the pool is laid with coping.

Attention: an acidic cleaning agent (e.g. our Herli Rapid SR) should be used for subsequent cleaning when putting the pool into service. It chemically dissolves rust spots, cement residue, limescale and dirt. If you are having difficulties, do not risk experimenting with solutions – seek advice by calling the manufacturing plant!



10.1 Winter periods

All C-SIDE pools are designed to be kept over winter in a passive state; i.e. empty.

To put your C-SIDE into hibernation, take the following steps:

- Turn off electricity off.
- Empty the pool using a submersible pump. The water can be channelled into the drainage system through a gully grid, for example.
- Open the shut-off valve in the service shaft, which will enable the water to flow out of the pipes into the drainage system.
- All pipes must be completely emptied over the winter period and all shut-off valves opened. If you are unsure if the water has really been completely removed from the pipes, then also suck up the contents of the pipes using a wet vacuum cleaner.
- Unscrew the covers of the inlet nozzle and the skimmer and seal the holes with a sealing plug. This is available from the manufacturer of your C-SIDE.
- If your C-SIDE is equipped with a massage system and/or a water surge, detach the covers of the suction fittings in the pool and seal these holes as well.
- If your C-SIDE has spring inlet nozzles, the covers must also be detached from them and the holes sealed.

Your C-SIDE is now ready for the winter period.

During winter time you must ensure that the volume of rainwater accumulated is checked regularly. It may need to be drained manually. A submersible pump with a float switch is ideally suited for this purpose.

If the groundwater level rises underneath the pool, it is possible that you will notice this from a bulge in the pool floor. If you notice this, let some fresh water into your C-SIDE. This will displace the groundwater, and the floor will resume its original shape.

Also check the condition of your service shaft regularly. Early detection of ingressing water or the nesting of small animals will prevent further damage.

In order to prevent coarse dirt in the pool during the winter period, we recommend using a winter cover. This is simply laid taut over your C-SIDE.

Attention: the daybed or the wind and weather cover are to be stored fully covered in a dry location over the winter period!



10.2 Putting into service in spring

Prior to refilling the pool in spring, the C-SIDE should be cleaned. In this regard, the following must be observed:

- First spray down your C-SIDE with clear water from the garden hose.

- Clean your C-SIDE using a soft brush by simply sweeping down the walls and the entrance steps. If, contrary to expectations, limescale deposits or deposits of metal oxides have formed over the winter period, these can be removed using a general acidic cleaning agent (e.g. Herli-Rapid SR).

- The dirt residues can be removed from the pool with a dustpan or wet vacuum cleaner.

- Once the winter dirt has been removed from the pool, clean it again with clear water.

- Polishing up the surface again with Poolfinish is recommended. The pores in the material are closed as a result, which will make any cleaning that may need repeating later easier.

- Then take out the sealing plugs from the holes sealed during the winter and attach the covers.

- Shut the shut-off valve in the service shaft for the complete emptying.

- Fill your C-SIDE with fresh water from the municipal supply pipe. Please do not use well water from the domestic supply. This contains lime, iron and manganese which is unsuitable for the operation of your pool.

- Vent the filter and the jet pump using the vent valve.

- Switch the electricity on.

- Set the filtering time of the filter pump (read section 3.2 for more details).

- Treat the water so that you can then happily enjoy your C-SIDE once more. (For pH values and chlorine levels, refer to section 5.1.)

Your C-SIDE is now ready for operation again. We wish you an enjoyable swimming season!

11. Safety notes

This section provides examples based on DIN EN 16582 (version 01/11/2015) of safety-related specifications concerning risks connected with swimming pools and associated instructions on how to use swimming and bathing pools correctly and safely.

The safety-related specifications for consumers / end users must include at least the following statements (or similar statements):

Prior to construction and using the pool, all the information in these instructions is to be carefully read, understood and followed. These warnings, instructions and safety guidelines cover some general risks relating to leisure activity in the water. However, they cannot deal with all risks and hazards in all cases. Caution, common sense and sound judgement are prerequisites for any activity in water. These specifications are to be stored away for subsequent use. (Cf. DIN EN 16582, version 01/11/2015.)

"Children must always be supervised in the water and the areas around it".

"No jumping"!

"Wear personal flotation devices"!

Setting up a barrier (and securing all doors and windows, if applicable) to prevent unauthorised access to the swimming pool is recommended.

Barriers, pool covers, alarm systems and similar safety devices are useful tools, but they are no substitute for constant and competent supervision by adults.

Safety equipment

Keeping rescue equipment (such as life-saver rings) near the pool is recommended.

A functioning telephone and a list of emergency helpline numbers should be kept near the swimming pool.

Safety of non-swimmers

Constant, active and alert supervision of weak swimmers and non-swimmers by a competent adult supervisor is required at all times – remember that the highest risk of

drowning is for children under the age of 5.

A competent adult is to be appointed to monitor the pool when it is in use.

Weak swimmers or non-swimmers should wear personal protective equipment when they enter the swimming pool.

When the swimming pool is not used or monitored, all toys must be removed from the swimming pool and the area surrounding it to prevent children from being drawn toward the pool.

Safety devices

Setting up a barrier (and securing all doors and windows, if applicable) to prevent unauthorised access to the swimming pool is recommended.

Barriers, pool covers, alarm systems and similar safety devices are useful tools, but they are no substitute for constant and competent supervision by adults.

Safe use of the swimming pool

All users, especially children, are encouraged to learn how to swim.

Learn first aid (cardiopulmonary resuscitation) and refresh your knowledge regularly. In the event of an emergency, this could make the difference in saving lives.

Instruct all pool users, including children, about what to do in an emergency.

Never jump into shallow water. This can lead to serious injuries or death.

Do not use the swimming pool under the influence of alcohol or medication which could compromise one's ability to use the pool safely.

If pool covers are used, remove them completely from the surface of the water prior to entering the swimming pool. The users of the swimming pool are protected against waterborne diseases through the water being constantly treated and kept hygienically safe. The guidelines on water treatment in the directions for use are to be consulted.

Keep chemicals (e.g. products for water treatment, cleaning or disinfection) out of the reach of children.
The adjacent signs are to be used.

Removable ladders must be set up on a flat surface.
The signs (in image B.1 a and image B.1 .b) must be put up in a clearly legible position within 2,000 mm of the swimming pool.



C-SIDE CHECKLIST

To be aware of all the details regarding your C-SIDE, have your specialist dealer explain these points to you:

THE CUSTOMER RECEIVED INSTRUCTION FROM REGARDING:



1. Filling and emptying the C-SIDE

- Emptying cocks and shut-off valves
- Venting the filter/jet pump
- Consequences of a high groundwater level



2. Control unit operation

- Setting the filtering times
- Complete emptying
- Setting the flow
- If necessary, setting the bypass for the heat pump
- If necessary, setting the electric heating



3. Cover

- Care of the daybed and the wind and weather cover
- Use of the roller cover
- Installing and removing the winter cover



4. Features

- Setting and switching the jet nozzles
- Setting and switching the spring nozzles
- Installing and removing the installation parts for storing over the winter period / for the start of the swimming season



5. General water care

- Setting the pH value and chlorine level
- Cleaning the skimmer / filter cartridge



6. Care and maintenance

- Caring for the edges of the pool
- Care and maintenance of the pool body
- Winter periods and putting into service



7. Safety notes

The customer was informed of the safety notes regarding use of his/her private pool as per DIN EN 16582.



C-SIDEPOOLS.DE

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