Preparation for construction

Overflow Pools
ALBISTONE®
QBIG BENEFIT

Version: 12/10/2020 / Update: 31 July 2021
L. V.

ALBIXON

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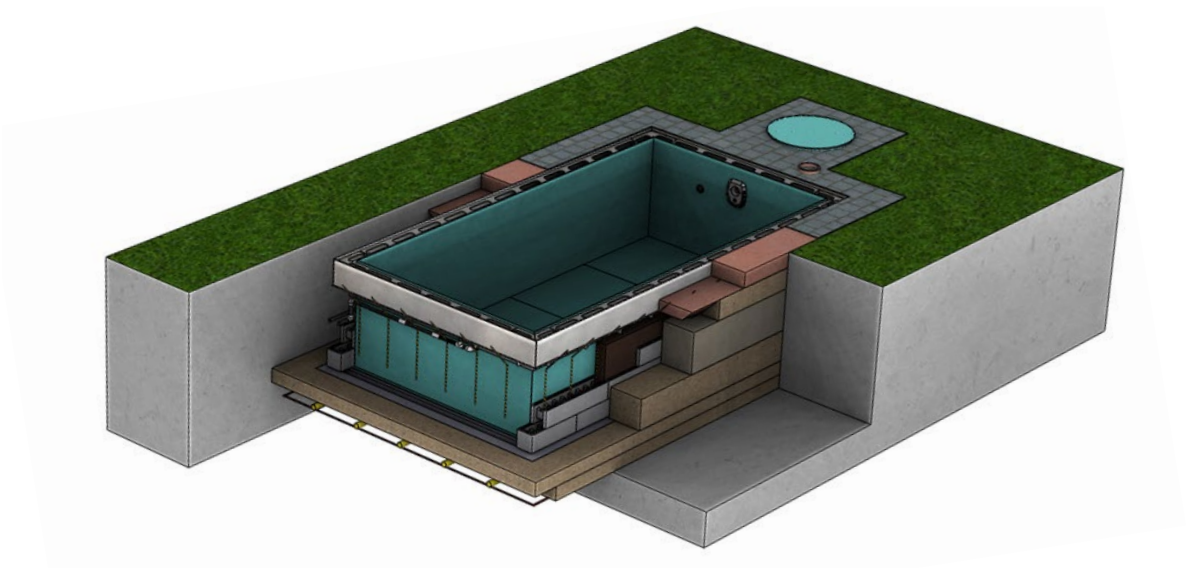
1. Contents



If you need any additional information, please do not hesitate to contact our customer helpline. We are here for you.

Customer helpline: 477 07 07 11
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Surveying and excavation

2.

1. **Layout of the Shape of the Pool.**
2. **Excavation Depth.**
3. **Preparations for Placement of Miscellaneous Technology.**

For the correct dimensions of the excavation, always refer to the diagrammatic drawing that is part of the contract for work. Have a construction expert confirm in writing that placement at the intended location is feasible from a constructional point of view and that it does not conflict with already installed utility lines. The location of the pool must be in accordance with ČSN 33 2000-7-702.

1. Layout of the Pool

Excavation Width and Length for the Pool

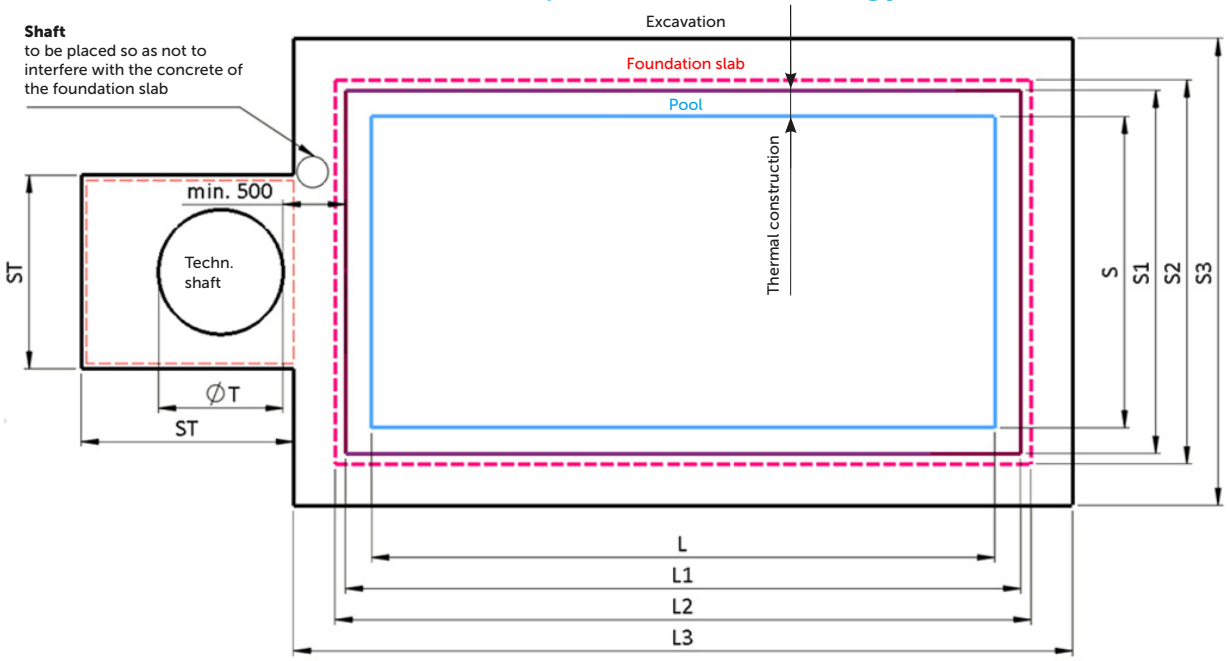
The width and length of the excavation for the pool, for the pool placed by a crane = +500 mm on each side counted from the outer dimension of the pool. The outer dimensions include the width of the thermal construction. In the layout illustration on the next page, these dimensions are indicated as S1 and L1.

Excavation Width and Length for Technology Shafts

Width and length of excavation for technology shafts = +600 mm from the outer diameter of the shaft, or its outer width and length.

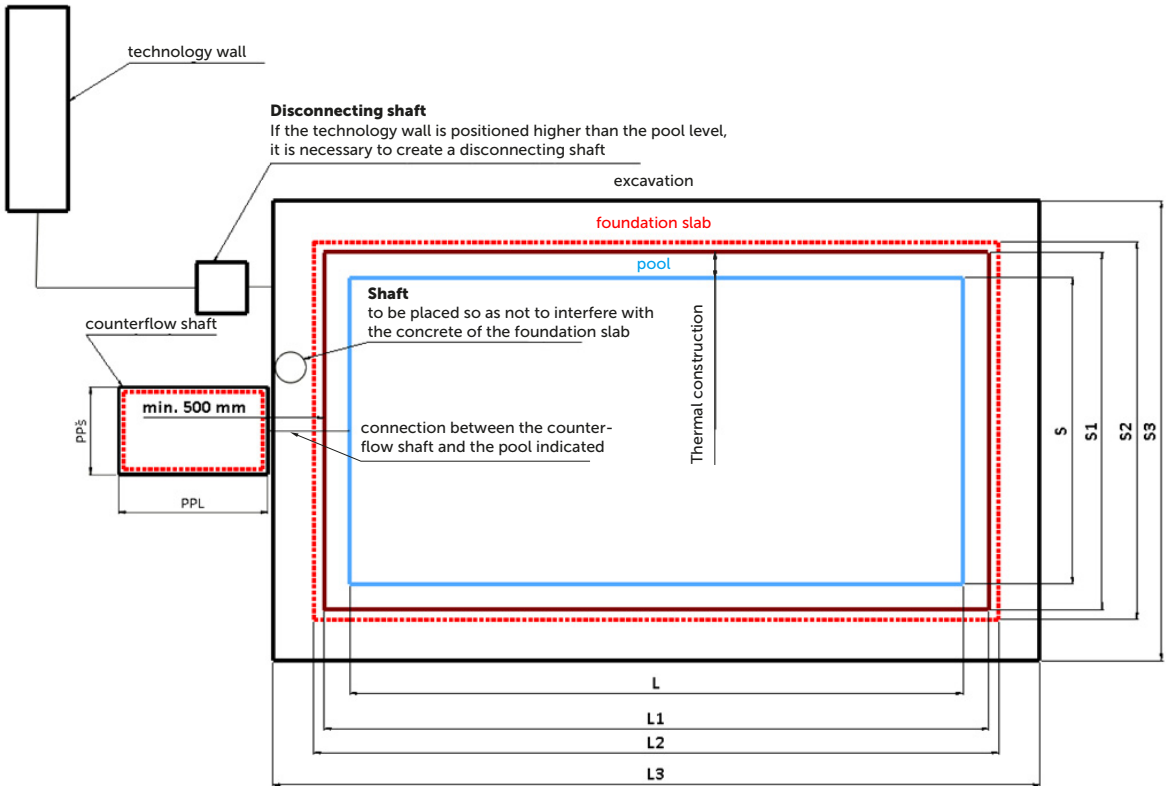
Example:	Outer shaft diameter	1265 mm
	Excavation dimensions	1865 x 1865 mm

Plan view of excavation for the pool and technology shaft (in mm)



2. Surveying and excavation

Plan view of excavation for a pool with a counterflow shaft



L	pool length	6000 mm	7000 mm	8000 mm
L^P	outer length of the overflow channel	6416 mm	7416 mm	8416 mm
L1	outer length of the pool (thermal construction)	6500 mm	7500 mm	8500 mm
L2	foundation slab length	6700 mm	7700 mm	8700 mm
L3	excavation length	7500 mm	8500 mm	9500 mm

S	pool width	3000 mm	3500 mm	4000 mm
S^P	outer width of the overflow channel	3416 mm	3916 mm	4416 mm
S1	outer width of the pool (thermal construction)	3500 mm	4000 mm	4500 mm
S2	foundation slab width	3700 mm	4200 mm	4700 mm
S3	excavation width	4500 mm	5000 mm	5500 mm

CSD	dimensions of the excavation for the counterflow shaft	1050 mm
PPL		1650 mm

ST	dimensions of the excavation for the technology shaft	for shaft diameter 1200 mm ST = 1 865 mm
		for shaft diameter 1500 mm ST = 2 165 mm

layout of the pool shape

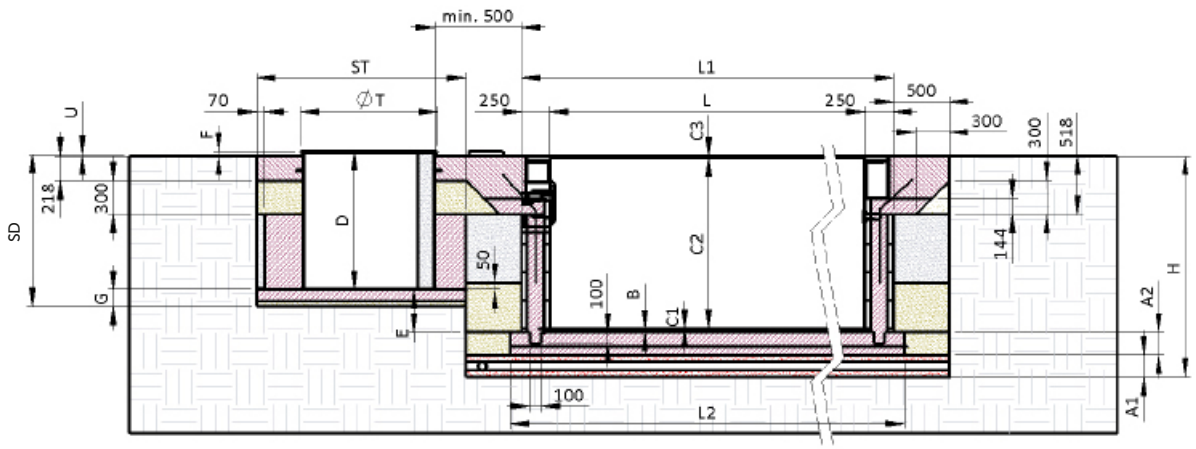
Subject to the type and size of the pool, mark (with sand, lime) the space for the pool. All measurements and determination of the location of the pool should be carried out with the greatest care and with regard to finishing works on the pool (paving etc.).

Surveying and excavation

2.

2. Excavation Depth – Calculation.

The depth of the pool excavation and the excavation for placing the technology shaft – to be determined according to the calculations below. The total depth of the pool excavation should be determined first. The depth of the excavation for the technology shaft (counterflow shaft) should be determined afterwards. The height of the step (E) for the correct placement of the technology shaft should be determined at the end. Please remember to account for the difference from the raised terrain (U). The value "U" directly addresses the final height of the complete construction of the pool; therefore it is necessary to take into account all the construction steps performed subsequently (raised paving, recessing or raising the pool, etc.) The upper edge of the technology shaft should be set to at least 40 mm (F) above the planned final surface around the pool (make sure it does not collide with the travelling front of the roof). This is due to the need to protect the shaft from rainwater. If you do not want to have the shaft elevated above the final surface level, adequate drainage of rainwater must be provided around the shaft. The shaft must not be located where the future rails for the roof will be installed. The bottom of the shaft is intentionally kept without thermal insulation so that the shaft is naturally 'heated' in the winter from the soil below.



A1	gravel bed with drain pipes	200 mm
A2	concrete foundation slab with a rebar mesh	200 mm
B	bottom insulation (extruded polystyrene)	30 mm
C1	pool bottom thickness	8 mm or 6 mm
C2	pool depth	subject to the pool type
C3	difference in elevation of overflow channel	18 mm
D	total depth of the technology shaft/counterflow shaft	technology shaft = 1213 mm counterflow shaft = 796 mm
E	difference in elevation between the pool foundation slab and the shaft foundation slab	(H + F) - (A1 + A2 + D)
F	elevation of the technology shaft specified by the manufacturer	40 mm
G	concrete plus gravel (gravel 50 mm; concrete 100 mm)	150 mm
H	pool excavation depth	A1 + A2 + B + C1 + C2 + C3 + (±U)
SD	shaft excavation depth	(D - F) + G + (±U)
U	thickness of paving/stone carpet/pool recess	subject to the type

2. Surveying and excavation

Excavation and Securing the Perimeter Walls.

Excavation and securing of the perimeter walls of the pit (if necessary because of the geological conditions) should be carried out exclusively by a specialized company. The excavated soil can be used for landscaping around the pool; you can count on the majority of the soil being used this way. This means there is no need to dump the soil. Landscaping around the pool refers to the pool as a new structure; not always necessary.

Important notice:
The contractor is responsible for securing the excavation walls.

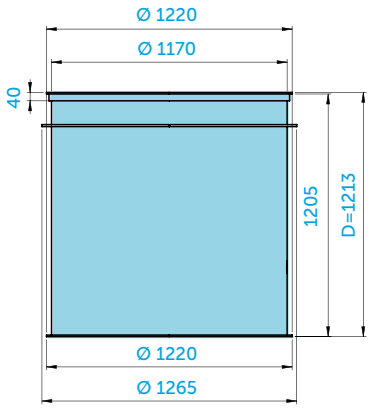
The aforementioned data and calculations apply to the standard location of the technology shaft – see plan view of excavation.

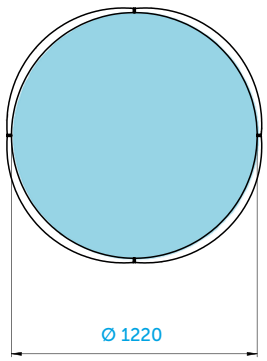
Note:
Along with the earthworks and excavation, consider connecting the pool system to the sewage and rainwater system. This will enable the drainage pump and pool technology to be connected directly to the drainage, which gives you more comfort in pool maintenance, when draining water from the filter, etc.

The following types of technology shafts may be included in the scope of the contract for work:

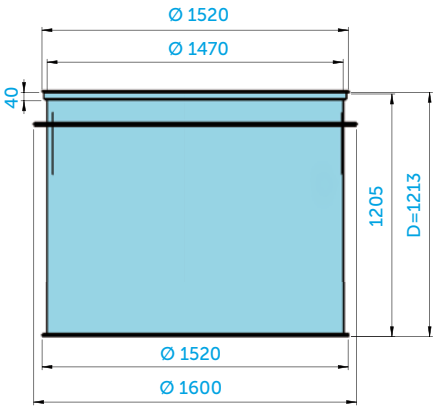
- Technology shaft with cover for installation of filtration (Ø 1200, height 1200 mm)
- Technology shaft with cover for installation of filtration and counterflow (Ø 1500, height 1200 mm)
- Technology shaft with cover for counterflow installation (1200 x 600 x 800 mm) = L/W/H

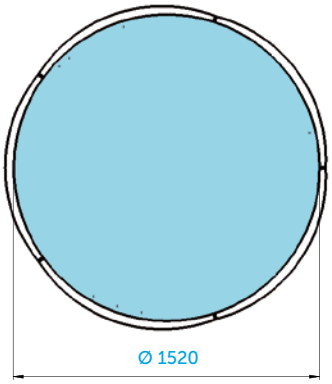
TECHNOLOGY SHAFT FOR FILTER INSTALLATION



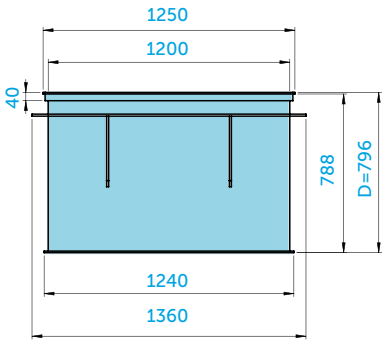


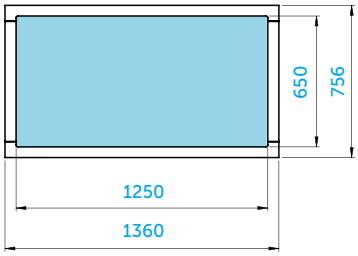
TECHNOLOGY SHAFT FOR FILTER AND COUNTERFLOW INSTALLATION





TECHNOLOGY SHAFT FOR COUNTERFLOW INSTALLATION





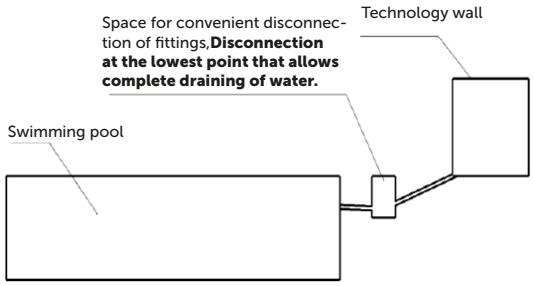
Surveying and excavation

2.

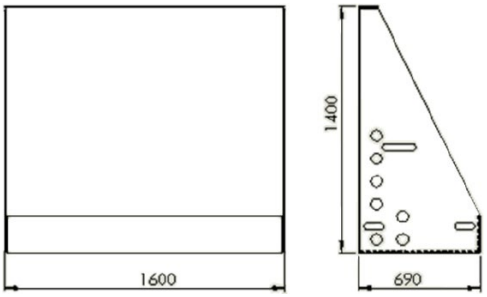
Preparations for Placement of Miscellaneous Pool Technology.

Another possible location of the technology is offered by the use of the ALBIXON technology wall, in its own dedicated shaft or in any other place (service room, garden house...). **The pool technology should be placed in a room with limited access (protected against unauthorized persons or children), where the ambient temperature does not exceed 40 °C and where the ambient humidity is suitable for the needs of electrical components.**

Where the technology is placed above the water level in the pool, a maintenance (disconnecting) drain shaft should be created to allow for draining water from the pipes for the winter season. The dimensions of the maintenance shaft should be of at least 500 x 500 mm (subject to the depth) and the depth should be adequate to the pipe route, however always allowing for the convenient disconnection of the pipes and discharge of water if required. For the location of the disconnect fitting, see the picture. The disconnection must be placed at the lowest point.

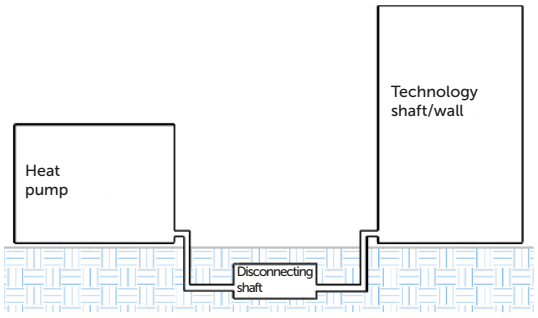


Technology wall (left, right) – a technological unit designed to be placed in a service room or in other suitable garden structure. The wall must be placed on a horizontal and sufficiently rigid base. On the side of the outlets (left or right, depending on the version), it is necessary to leave at least 500 mm of space for connections and further handling. To connect the pool technology and the pool and – if appropriate – external heating, make sure to prepare pipeline routes and penetrations of the appropriate size (pipe Ø + insulation) into the technology space (this also applies to technology installed atypically).



Counterflow device – fitted separately in the counterflow shaft, or in the technology shaft – place the counterflow shafts with the counterflow pipe along the axis of the pool, where the outlets from the counterflow mask are located. This is to achieve the lowest power losses. The maximum distance from the exterior contour of the pool shell is 2000 mm. Should the counterflow be placed away from the axis of the pool shell, its performance will be diminished.

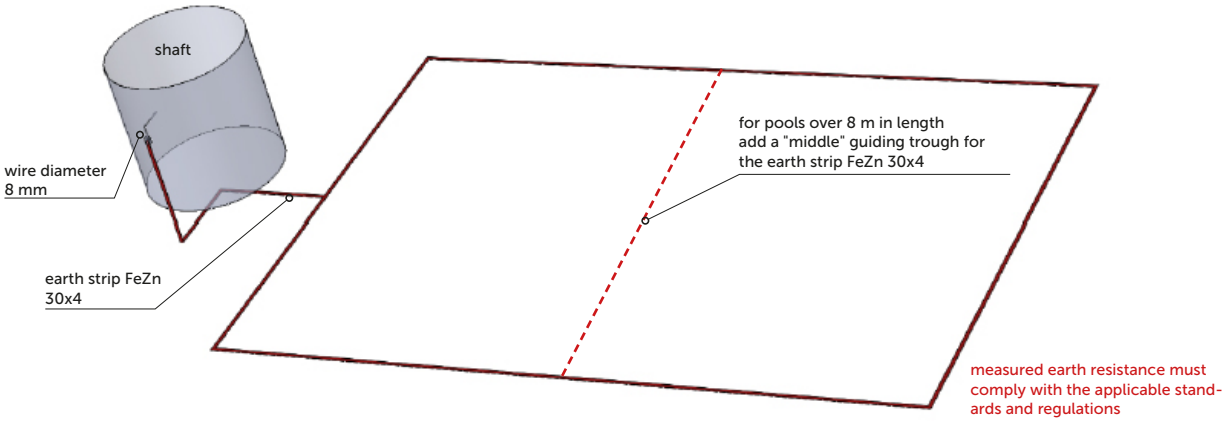
Heat pump – to connect the pool technology and the heat pump, it is necessary to create routes for laying the connecting pipe (excavation width 200 mm at minimum, pipe slope 1.5 ° in its entire length towards the shaft). To connect the heat pump and the technology wall, it is necessary to place the disconnectors for water discharge at the lowest point of the pipe. The foundation slab of the heat pump must be sufficiently firm and horizontal. Build a concrete foundation with a height of 150 mm. The plan dimensions of the foundation should be at least 40 mm larger on each side than the outer dimensions of the heat pump. Install the heat pump in a spacious and sunny location with good ventilation. Its position must allow for smooth air circulation; see the instructions for the respective heat pump. During its operation, the heat pump may produce a considerable amount of water condensate. This needs to be accounted for and drainage must be provided. Ensure that after installation the device is in an upright position without any tilt. Do not install the device in places with the presence of contamination or corrosive gases, or where dirt or fallen leaves collect. The place where it is installed must not be near flammable or explosive environments with usual fire hazards. Observe distances from obstacles, always in accordance with the respective heat pump manual. **Install the heat pump at least 3500 mm from the edge of the pool (according to ČSN 33 2000-7-702) and up to 7500 mm from the pool technology and with a vertical difference of up to 1000 mm between the water level in the pool and the bottom edge of the heat pump.** This installation does not result in an excessive decrease in the performance of the circulation pump and does not cause heat losses in longer piping.



3. Levelling the Bottom of the Excavation and Drainage of the Foundation Slab

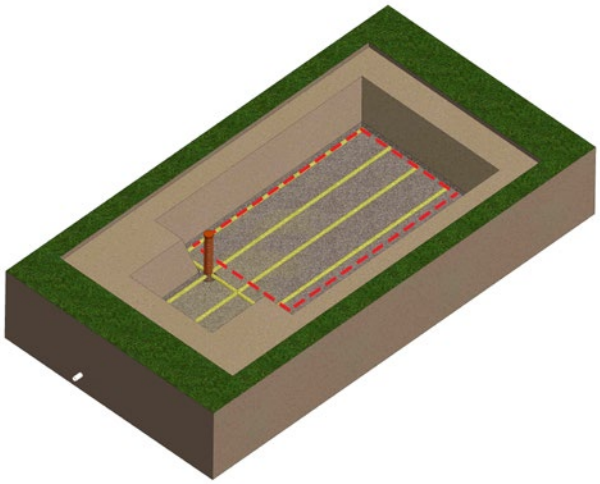
1. Installation of earth strip and drainage set – 1st Stage.

At the bottom, around the perimeter of the excavation, it is necessary to install an earth strip according to the applicable standards. For more details on electrical wiring, see the Electrical Wiring section



The foundation slab must be permanently drained. For proper drainage of the foundation slab, it is necessary to install drainage piping under the foundation; the piping should be connected to a drainage set (for drainage pump shaft + drainage pump permanently connected to a power supply, see the following paragraph). Ask your construction company for the ideal design of draining the pool foundation slab and any shafts, according to the local geological conditions. Be sure, though, to account not only for groundwater but also for rainwater, which may have equally negative effects on the pool shell as a whole, such as groundwater.

Drainage pump shaft – a pipe with a diameter of approx. 300 mm placed vertically (perpendicular to the foundation slab). Pour gravel with an 8-to-16-mm grain size onto the bottom of this pipe. There must be a height difference of at least 500 mm between the gravel and the final level of the pool foundation slab. The drainage set (pipe) serves as a reservoir for groundwater and rainwater accumulation and must be fitted with a submersible pump. This pump must trigger automatically when the water level in the drainage set rises and must be permanently connected to the power supply via an underground cable. The supply cable must run from the house switchboard, and yet it must not be connected through the switchboard in the technology shaft. The pumped water must flow out of the pool area and must not return under the pool (see note on page 6 of the sewage and rainwater system).



2. Backfilling with Gravel and Drainage Piping Installation, 2nd Stage.

Spread gravel with an 8-16-mm grain size and depth of approx. 100 mm on the bottom of the excavation. The 80-mm drainage piping is to be laid in the gravel layer, with a slope towards the water outlet point (drainage set). The drainage piping must be laid with a minimum slope of 1% towards the water outlet (drainage pump shaft). In the layout, the mutual distances between the drainage pipes must not be greater than 800 mm.

All drainage pipes must be covered with a special geotextile before being overlaid with gravel and concrete

Levelling the Bottom of the Excavation and Drainage of the Foundation Slab

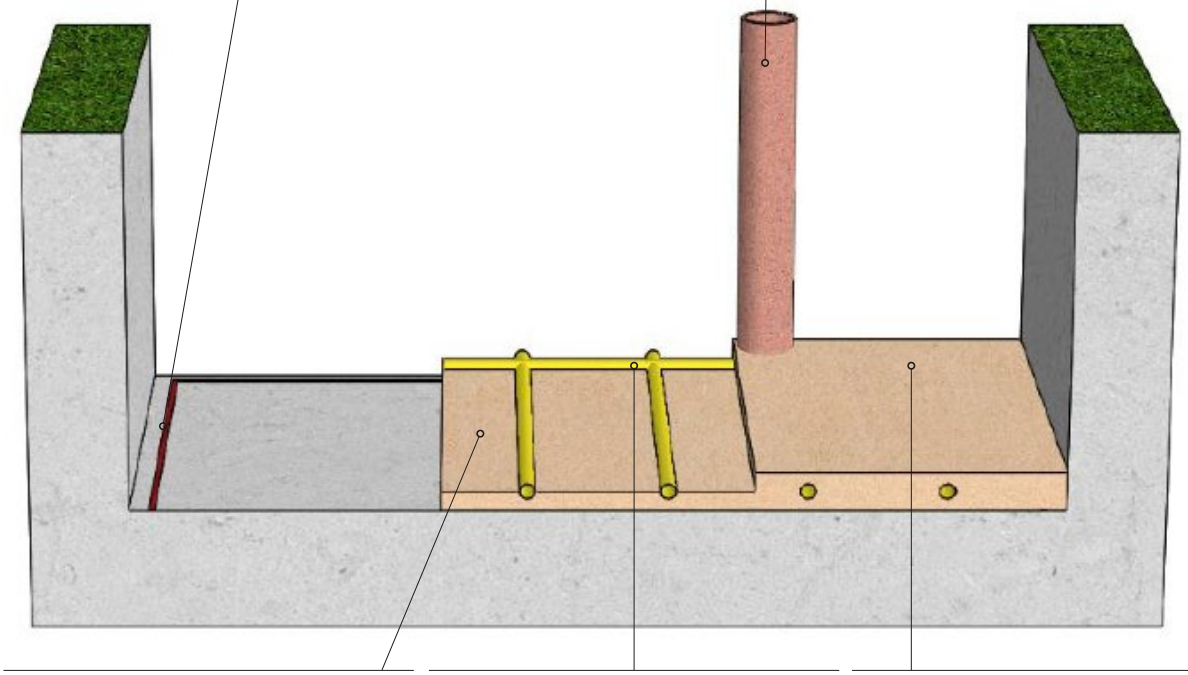
3.

3. Final Covering with Gravel, 3rd Stage.

Lay another approx. 100-mm-thick layer of gravel (grain size 8-16 mm) on the first layer of gravel with the laid drainage pipes. The gravel needs to be adequately compacted, but be careful not to damage the drainage pipes.

1. Stage
earth strip FeZn 30x4
(around the pool excavation perimeter)

1. Stage
drainage shaft for pump
(located 500 mm below the excavation)



2. Stage
gravel backfill
(approx. half from a total height of 200 mm)

2. Stage
Drainage pipes
(placed after the first gravel backfill; about half-way through the total layer of 200 mm, covered with geotextile

3. Stage
Final gravel backfill
(total size 200 mm)

Important notice:
Drainage of the foundation slabs is an essential part of the construction preparation. Rainwater and/or groundwater can cause quite extensive deformations of the pool shell; therefore the foundation slab of the pool must always be adequately drained. If the place for installing the pool is in sloping terrain, or, after beginning the earthworks, it is found that it has a clay subsoil (which means a higher probability of groundwater and its exercising of pressure on the pool body), we recommend that you have a geological survey conducted for foundation engineering. As a follow-up to its result, we recommend that you take extended construction and drainage measures in relation to the target site, which will be implemented outside the actual pool drainage system.

Damage to the pool caused by insufficient or inadequate preparation for construction is not covered by the right arising from defective performance. Therefore, it is important to monitor the construction company and its procedures continuously. We recommend regular photo documentation of all the construction steps.

4. Concreting of the Foundation Slab

1. Preparation of formwork for concreting.

Place the formwork on the compacted layer according to the floor plan dimensions on page 4. Formwork height of 200 mm (needs to be adjusted according to the other height parameters on page 5). The formwork must be horizontal. The flatness of the formwork is +/- 2 mm around the entire perimeter. Final inspection of the backfilled excavation.

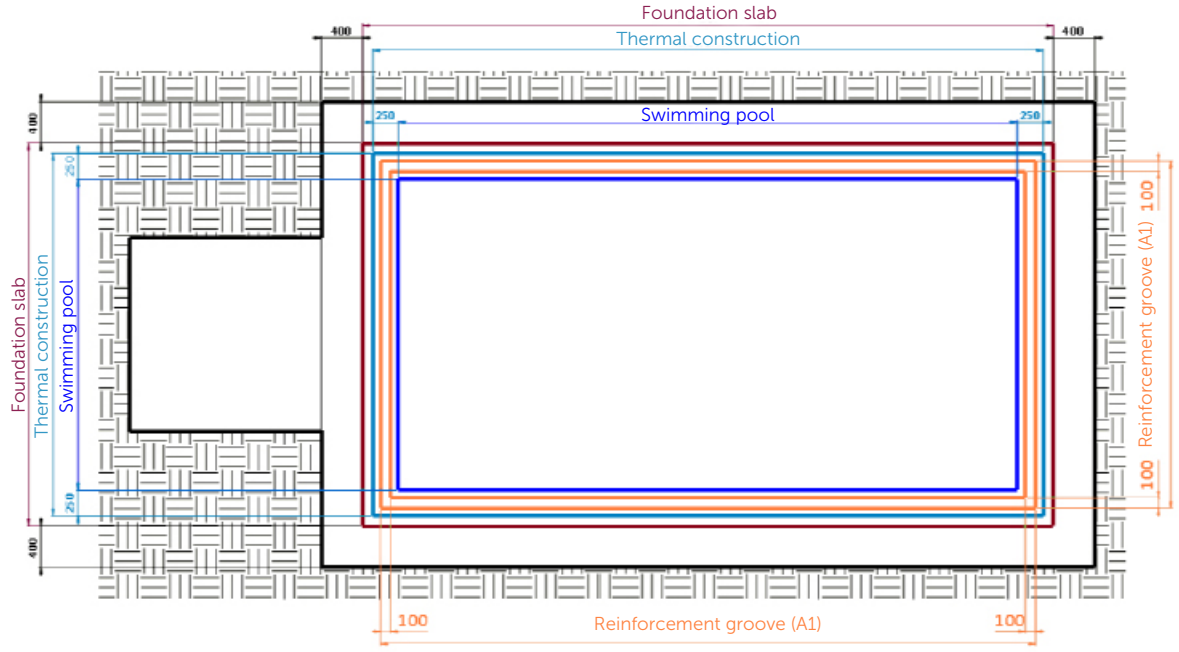
2. First Layer of Concrete.

Spread the first layer of concrete into the prepared formwork up to one-third of its height. The reinforcement will be placed on this layer.

Use C16/20 grade concrete for concreting the foundation slab.

3. Installation of Rebar Meshes and Preparation for Reinforcement Groove. 3. Stage

Reinforce the foundation slab using a rebar mesh with the dimensions of 100 x 100 x 6 mm. It is not necessary to reinforce the foundation slab under the technology shaft. Subsequently, plan and make the necessary preparations for connecting the foundation slab with the thermal construction on the pool shell (see procedure below).



Dimensions of reinforcement grooves	A	A1
Pool QBIG BENEFIT – 3 x 5 m	3350 mm	5350 mm
Pool QBIG BENEFIT – 3 x 6 m	3350 mm	6350 mm
Pool QBIG BENEFIT – 3,5 x 7 m	3850 mm	7350 mm
Pool QBIG BENEFIT – 4 x 8 m	4350 mm	8350 mm
Pool QBIG BENEFIT – 3 x 7 m	3350 mm	7350 mm
Pool QBIG BENEFIT – 3 x 8 m	3350 mm	8350 mm

Concreting of the Foundation Slab

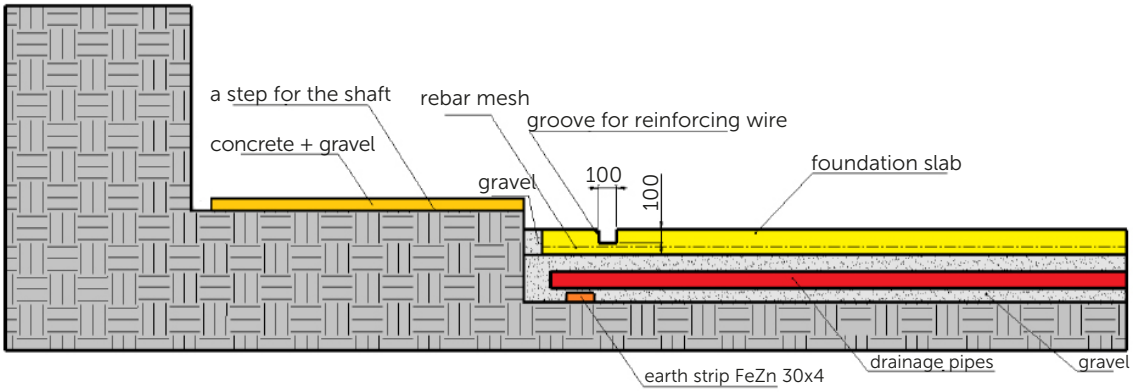
4.

4. Second Layer of Concrete (Preparation for Final Layer) 4th Stage

Now, pour a second layer of concrete on the laid rebar mesh, up to the height of the formwork.

In this layer, create reinforcement grooves where the vertical reinforcement will be installed in further steps through the thermal construction. The inner edge of the reinforcement groove should be at a distance of 75 mm from the inner edge of the pool shell all around the perimeter of the pool. (See figure and table on the previous page).

The required flatness of the foundation slab is +/- 2 mm over its entire surface.

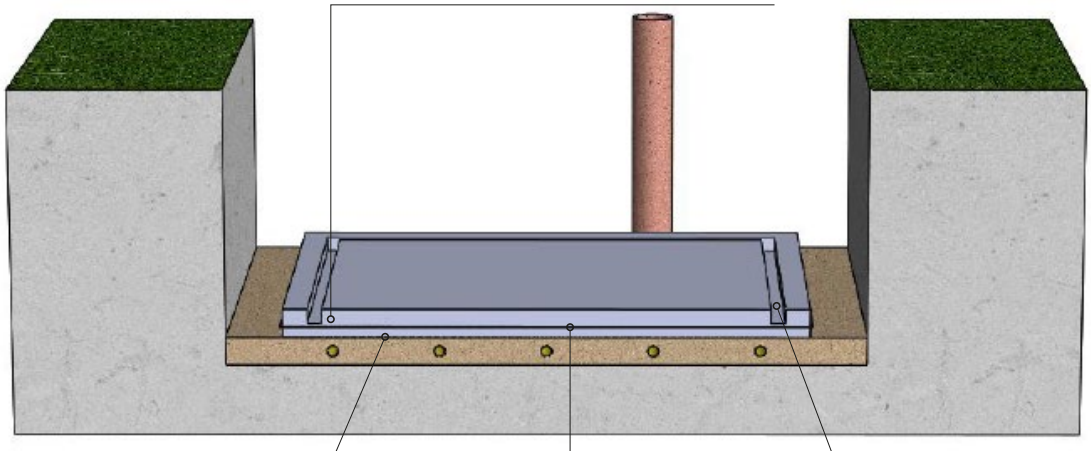


5. Final Layer of Concrete.

After at least 48 hours, carry out a flatness check. Apply this layer with a self-levelling cement screed only if the required flatness in the second layer has not been achieved.

Record the final surveying result in the attached protocol (CUSTOMER'S DECLARATION ON MEASUREMENT OF THE FOUNDATION SLAB FOR THE POOL).

4. Stage
Second layer of concrete
(up to the total height of the slab – 200 mm)



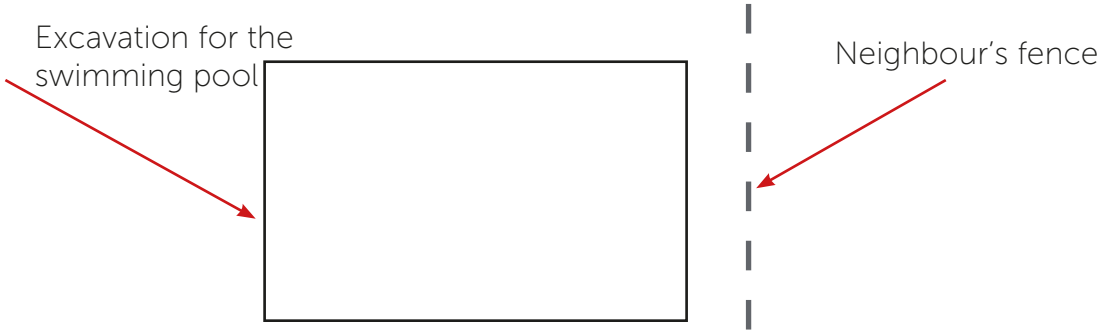
2. Stage
First layer of concrete
(approx. one-third of the height of the foundation slab)

3. Stage
Rebar mesh
(approx. one-third of the height of the foundation slab)

3. Stage
Reinforcement groove 100 x 100 mm (for reinforcing wire)

5. Notification of Readiness for Construction

sample of correctly completed form* – green text

<table>
<tr><th colspan="6">Notification of Readiness for Construction</th></tr>
<tr><td>Purchase order number</td><td>123456789</td><td>Customer's name and surname</td><td colspan="3">Josef Novák</td></tr>
<tr><td>Address</td><td colspan="5">Novákova 123, Předměstí 123 45</td></tr>
<tr><td rowspan="2">Dimensions of the pool according to the purchase order</td><td>Width</td><td>Length</td><td>Depth</td><td colspan="2">Units</td></tr>
<tr><td>400</td><td>750</td><td>150</td><td colspan="2">cm</td></tr>
<tr><td colspan="6">Empty field for drawings of any obstacles:
The photo "Excavation Surroundings" shows the neighbour's fence, which is at a distance of 120 cm from the excavation.
 
</td></tr>
<tr><td colspan="2">The distance between the excavation and the place reachable by a vehicle carrying the pool</td><td colspan="2">Clearance of the narrowest passage point (gates, trees,...)</td><td colspan="2" rowspan="3">Choose the type of crane to order according to the weight of the pool and the reach at which the pool is to be placed. With greater reach required, the lifting capacity of the cranes diminishes.</td></tr>
<tr><td rowspan="2">150</td><td>Units</td><td rowspan="2">450</td><td>Units</td></tr>
<tr><td>cm</td><td>cm</td></tr>
<tr><td colspan="6">Photo documentation of the preparation for the construction: attached to the email</td></tr>
<tr><td>Excavation</td><td>YES</td><td>Foundation slab</td><td>YES</td><td>Drainage set</td><td>YES</td></tr>
<tr><td>Space to install technology shaft</td><td>YES</td><td>Surroundings of the excavation</td><td>YES</td><td>Other</td><td>YES</td></tr>
<tr><td colspan="6">Photo documentation of the driveway from the road to the excavation site: attached to the email</td></tr>
<tr><td>Access road</td><td>YES</td><td>Entrance to the property</td><td>YES</td><td>Parking place for the vehicle with the pool to install</td><td>YES</td></tr>
<tr><td colspan="6">Please send this form along with complete photo documentation to:
montaze.bazeny@albixon.cz</td></tr>
</table>

* The blank form can be found on page 25.

Placing the Pool Shell and Installation of the Pool Technology

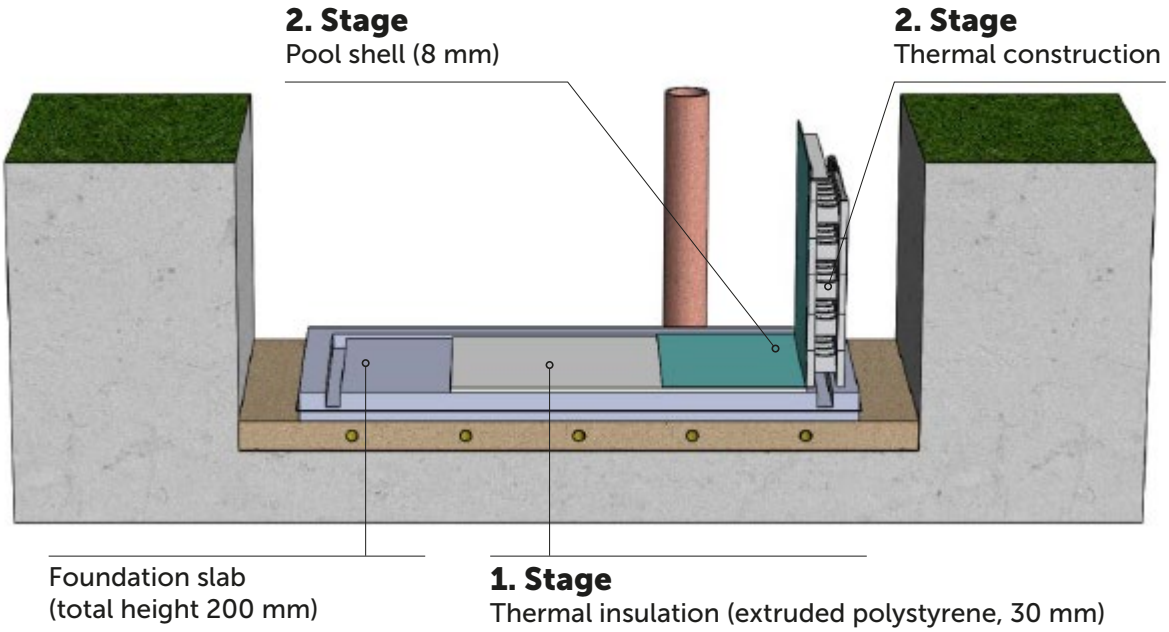
6.

1. Laying the thermal insulation. 1st Stage

Place thermal insulation (extruded polystyrene, 30 mm in thickness, min. compressive strength of 200 kPa) on the foundation slab, under the bottom of the pool, and secure it against shifting.

2. Placing the Pool Shell in the Excavation (in conjunction with the supplier) 2nd Stage

Set the pool shell in place, in accordance with the local conditions. Once the shell has been laid, the customer should check the correct location and approve the fact with the workers installing the pool. After placement in the excavation and approval of placement, start filling the pool with water that serves as an effective weight (up to a water level of about 300 mm).



3. Placing Technology Shafts in the Excavation.

Placing technology shafts in the prepared excavation.

4. Complete Installation of the Pool Technology

Installation of technology and its interconnection via pipes with the pool shell. In order to interconnect the pool and the technology shaft correctly, it is necessary to have an accurately prepared step for the shaft in accordance with Chapter 2 Excavation Depth.

5. Tightness Test by Flooding the Technology

The tightness of joints and pipes is verified by performing a "technology flooding". For this test it is necessary to ensure a sufficient amount of water to fill the technology to a water level of about 300 mm.

6. Underlay of the Overflow Channel (to be provided by the customer)

If not concreted under within 48 hours of delivery, the overflow channel must be underlain. Make the underlay according to the technical data sheet for the pool, which is part of the contract for work. Do not fill the overflow channel with water before the concreting; see page 19.

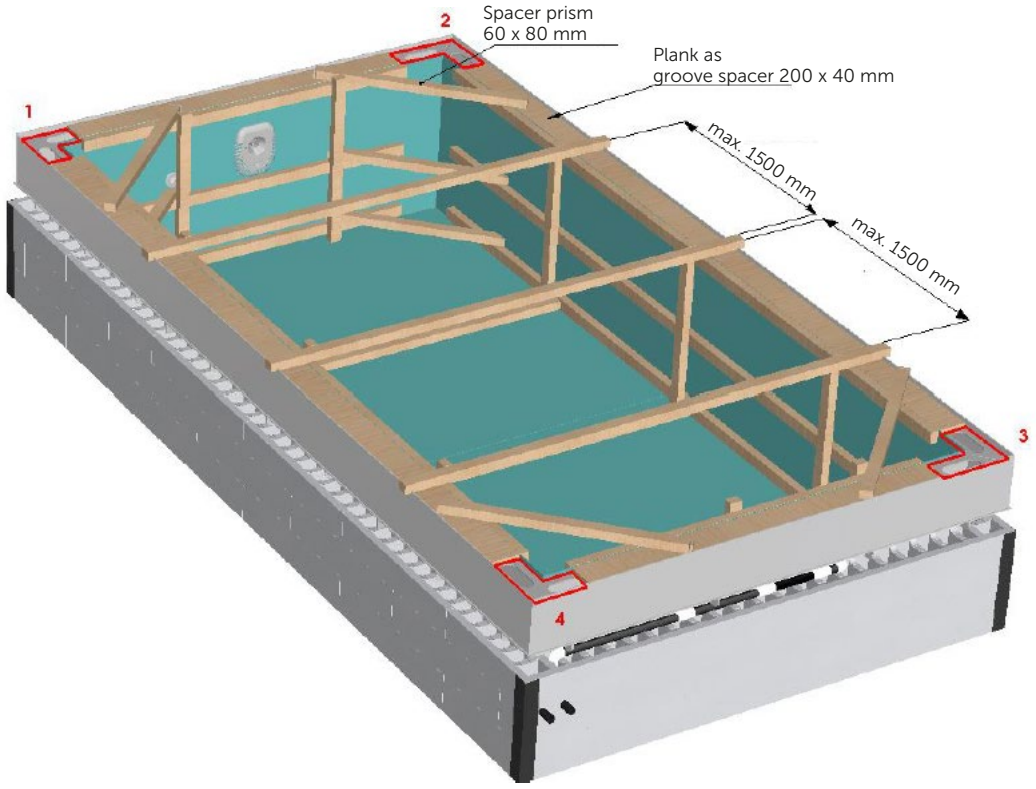
Warning!

– it is necessary to carry out works subsequently at least according to points 7 and 8 of the construction preparation document so as to prevent damage to the pool (torrential rain, collapse of the excavation wall, etc.).

7. Bracing the Pool and Follow-up Soil Pack

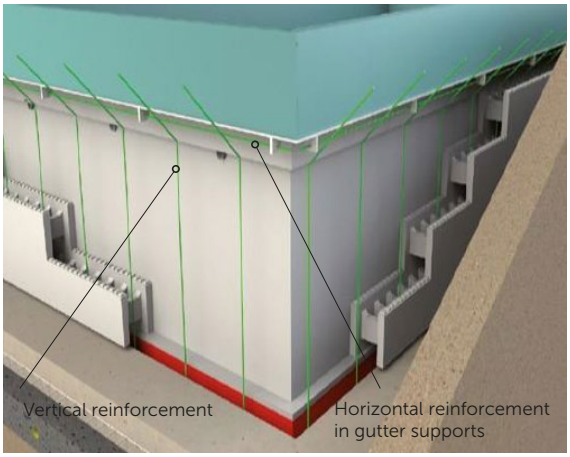
1. Bracing the Pool Shell

Before concreting, appropriate bracing needs to be put in place to support the pool shell. The braces are placed in order to prevent any potential deformations of the pool shell. Deformations may occur as a result of careless handling of the concrete and soil pack. The pool's walls must not deform either in or out; the wall must be flat. It is always necessary to use internal bracing of the pool shell. When installing the braces, care must be taken not to damage the pool's interior walls by wrapping the braces, e.g. using geotextile. With proper bracing and support for the overflow channel, its outer edge should be 18 mm higher than the inner edge. For a proper execution of the bracing of the pool shell, it is necessary to temporarily remove the trim tube on the inner edge of the pool (does not apply to V02, where there is no trim tube). Horizontal bracing must be omitted within a distance of 200-250 mm from the pool's corners in both directions from each corner; see below, highlighted in red.



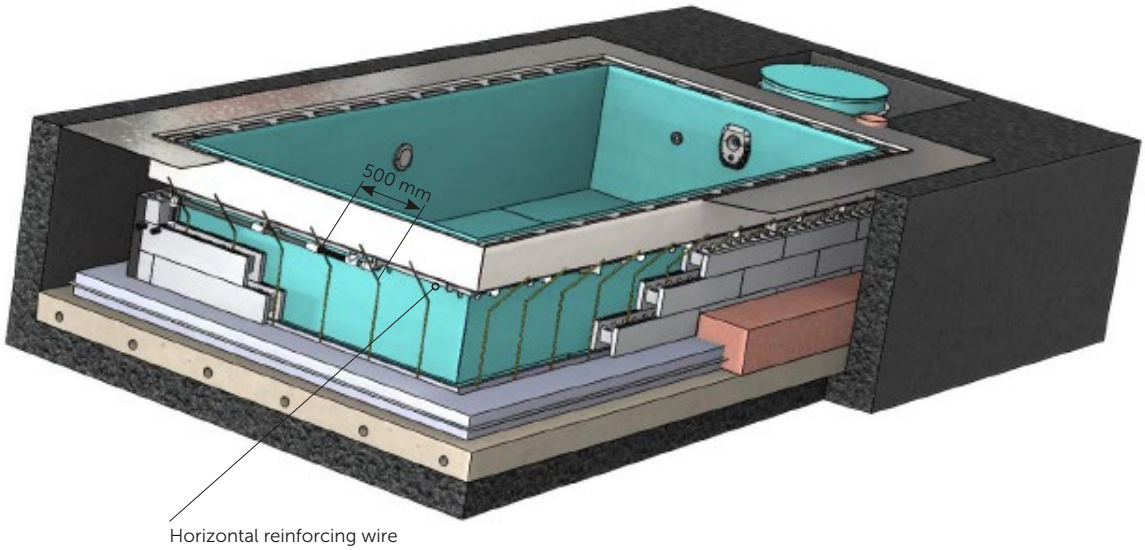
2. Reinforcement Under the Overflow Channel and Thermal Construction

In places under the overflow channel, the pool's walls are to be anchored via anchoring elements. The anchoring is done with reinforcing steel rods with a diameter of 8 mm, which are slid through the holes in the anchoring elements under the overflow channel (horizontal reinforcement). Insert the vertical steel rebars in the thermal construction, with a length of 1500 mm (for a pool depth of 1500 mm) or with a length of 1200 mm (for a 1200-mm pool depth) and with Ø 8 mm. The maximum distance between the vertical reinforcements is 500 mm. The values given are minimum lengths; greater lengths may be used, with the provision that they must not damage the thermal construction or the outer shell of the pool and overflow channel. The reinforcements of the thermal construction strengthen the entire frame of the pool and are essential for the structure to be sufficiently firm.



Bracing the Pool and Follow-up Soil Pack

7.

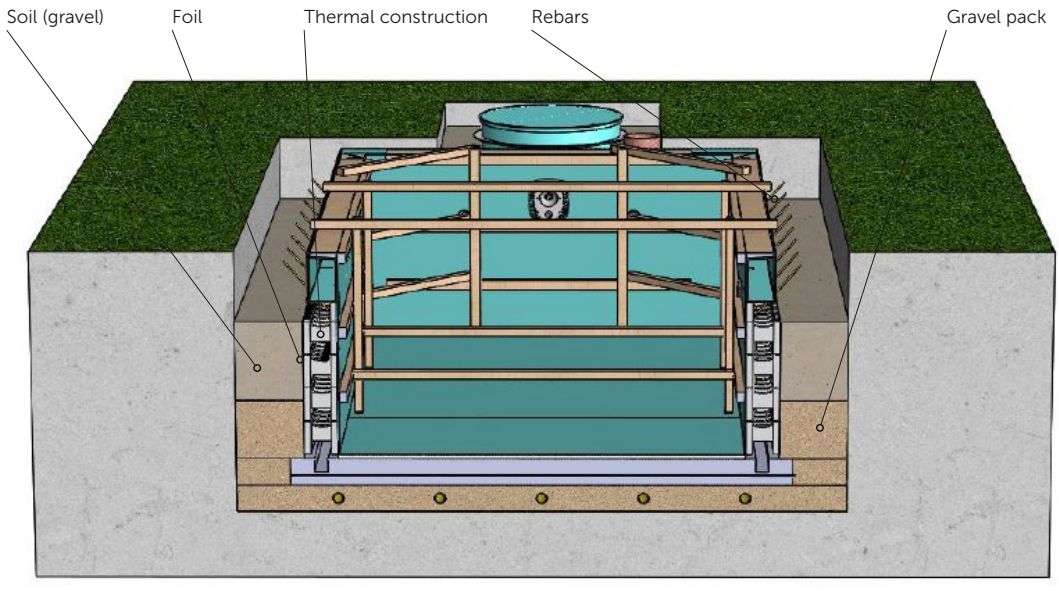


3. Securing the Thermal Construction Against External Influences

From the outside of the thermal construction, use a suitable foil to prevent roots from growing through.

4. Gravel and Soil Packs

After the reinforcing rods have been placed, the perimeter of the pool can packed to about one-third of its height with gravel (grain size 8 to 16 mm). Fill the rest of the height with clay – the clay can be replaced with gravel identical to the previous layer. The soil should not contain larger pieces of stone or sharp objects (caution: do not compact!). Before starting the actual packing, check that in the backfill area there is no light junction box, piping valve or other components that need to remain accessible. The pack must exert sufficient power to press the thermal construction onto the pool shell.



8. Concreting the Thermal Construction

1. Determining a Suitable Ambient Temperature.

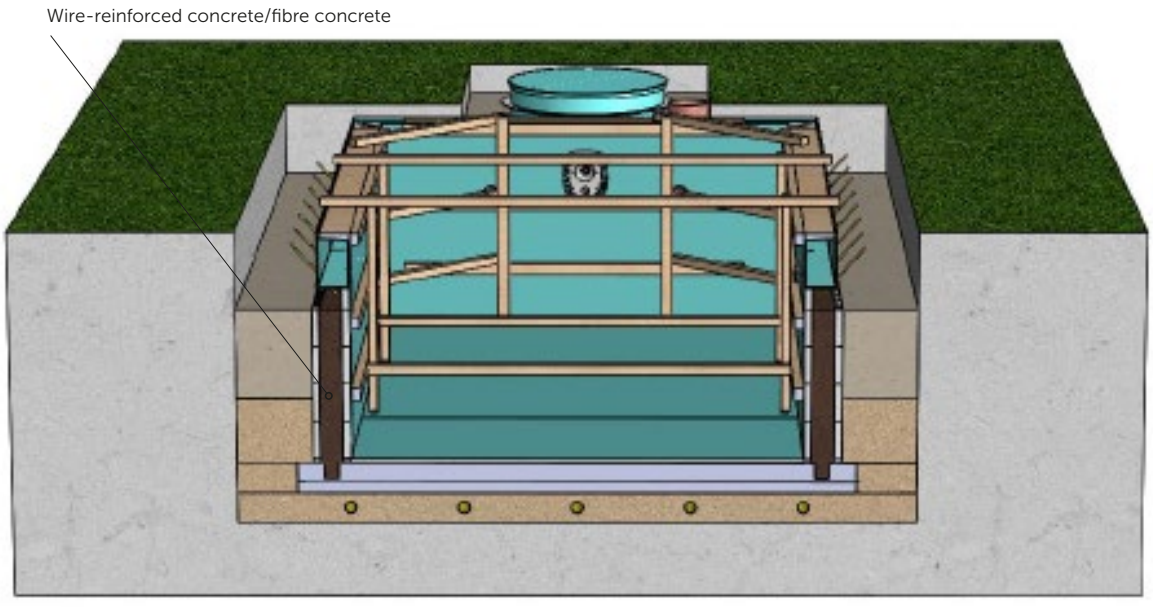
The pool shell must not be concreted at temperatures of 10 °C or below. However, neither must concreting be carried out at temperatures of 25 °C or higher. ALBISTONE polypropylene is highly resistant to puncture, breakage, cutting, or shearing; it is not brittle at normal temperatures, and is sufficiently hard and firm. Because of the general physical properties of plastics and as with other types of polypropylene, this material is also thermally expandable. This is a natural physical phenomenon. Exposure to sun, hot air when draining the pool or water that is too hot may cause the walls and sides of the pool to bulge (form waves). In concreting outside the ideal range of temperatures of 10-25 °C specified by the manufacturer the material of the pool is subjected to pressures that are associated with the thermal expansion of the material. In the event of concreting outside the indicated range, changes in shape may occur in the pool shell. Such changes cannot be claimed against as defective performance.

2. Start of Concreting Works

Pour the concrete mixture carefully onto the thermal construction prepared in this way. The concrete specified for the thermal construction by the manufacturer is STEELCRETE D. This is a concrete with steel wires that reduce the need for conventional reinforcements. Another possible concrete is C20/25 XC1 fibre concrete with a fibre content of 0.6 kg/m^3. This is a concrete that contains polypropylene fibres, which do not completely eliminate the need for conventional reinforcements in QBIG plus series pools but still reduce it substantially. The last option is adequately reinforced B20 concrete with an aggregate with a grain size of up to 16 mm. Where reinforcement is used, the thermal construction must not be damaged.

The approximate consumption of concrete B 20 (with aggregate of up to 16 mm in size) is 0.14 m^3 per 1 m^2 of the Thermal Construction.

overflow 3 m x 6 m	– depth 120	– 2.07 m^3	overflow 3.5 m x 7 m	– depth 150	– 3.10 m^3
overflow 3 m x 6 m	– depth 150	– 2.68 m^3	overflow 4 m x 8 m	– depth 120	– 2.71 m^3
overflow 3.5 m x 7 m	– depth 120	– 2.39 m^3	overflow 4 m x 8 m	– depth 150	– 3.51 m^3

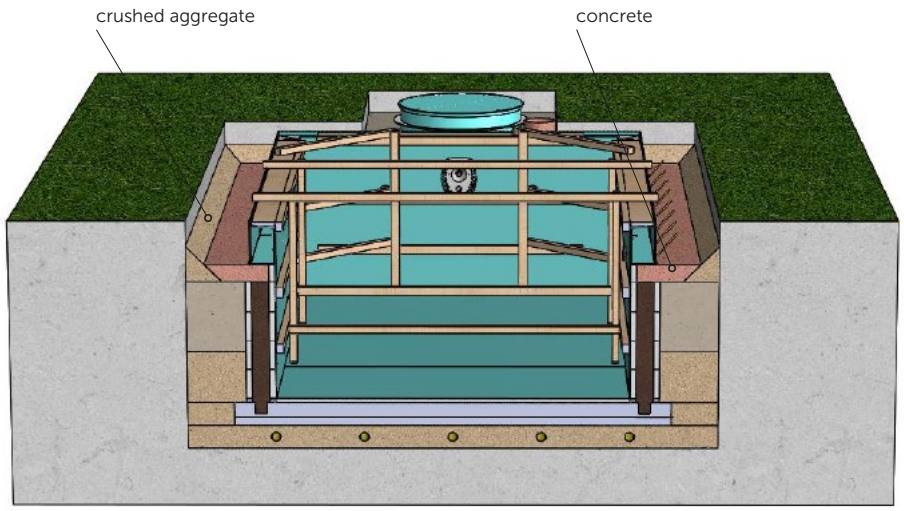


Concreting the Thermal Construction

8.

3. Final backfill of the thermal construction

After the concrete has hardened in the thermal construction, fill the remaining space to the height of the thermal construction with soil and compact it. Subsequently, using crushed aggregate, create a space for pouring thin concrete according to the cross-section below.



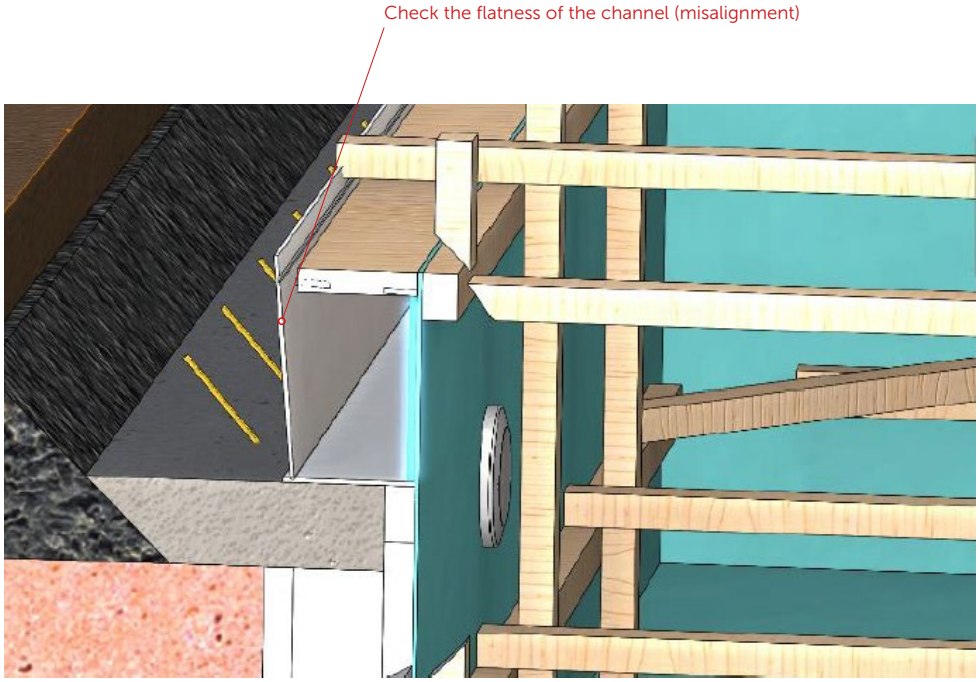
4. Concreting of Technology Shaft (if part of the contract for work)

If a technology shaft is part of the delivery, it is to be applied with lining or concreting. The lower part of the technology shaft must be anchored in concrete and then lined with concrete in a layer about 150 mm thick up to the top plastic collar, which must be concreted into the base plate for the final surface. The technology shaft can be protected against damage by geotextile. Depending on local conditions (changes between shade and sun, etc.), it is necessary to insulate the inner surface of the shaft cover with polystyrene at least 30 mm thick. This insulation will prevent the condensation of moisture on the inside of the cover. The interior of the shaft should be dry and ventilated. To ensure this, place a support under the shaft cover so that air can flow between the edge of the shaft wall and below the cover. These measures are the responsibility of the user with regard to the local conditions in which the shaft is located (changes between shade and sun, ambient humidity, etc.). Pipes connected in the ground from the pool to the technology shaft or to the service room must be laid in a sandy bed with a minimum covering of 100 mm above and below the pipe, thanks to which any pressures on the pipe are equalized. The sand bed must be provided from the duct transition to the technology shaft up to the piping outlet from the thermal construction. The sand bed must be free of stones and clay. Vehicles must not pass over the locations of pipes or they must be sufficiently protected by the customer.

8. Concreting the Thermal Construction

1. Concreting Under the Overflow Channel

Prior to the actual concreting of the overflow channel, secure its flatness with sufficient support. Check that the channel is not misaligned outwards or inwards. The outer edge of the overflow channel is 18 mm higher than the inner edge when the channel is lined and the pool shell is braced correctly. Concreting under the overflow channel should be carried out simultaneously with anchoring the pool shell with B20 concrete by means of aggregate of max. 16 mm. The space under the channel must be completely filled – this layer of concrete ensures the stability of the overflow channel. We recommend continuing the concreting only after the concrete layer under the channel has set. During concreting, ensure that the supply cable and the light box are not concreted.



Making the Base Plate for the Final Surface

9.

1. Measures against Damage to the Overflow Channel Casing.

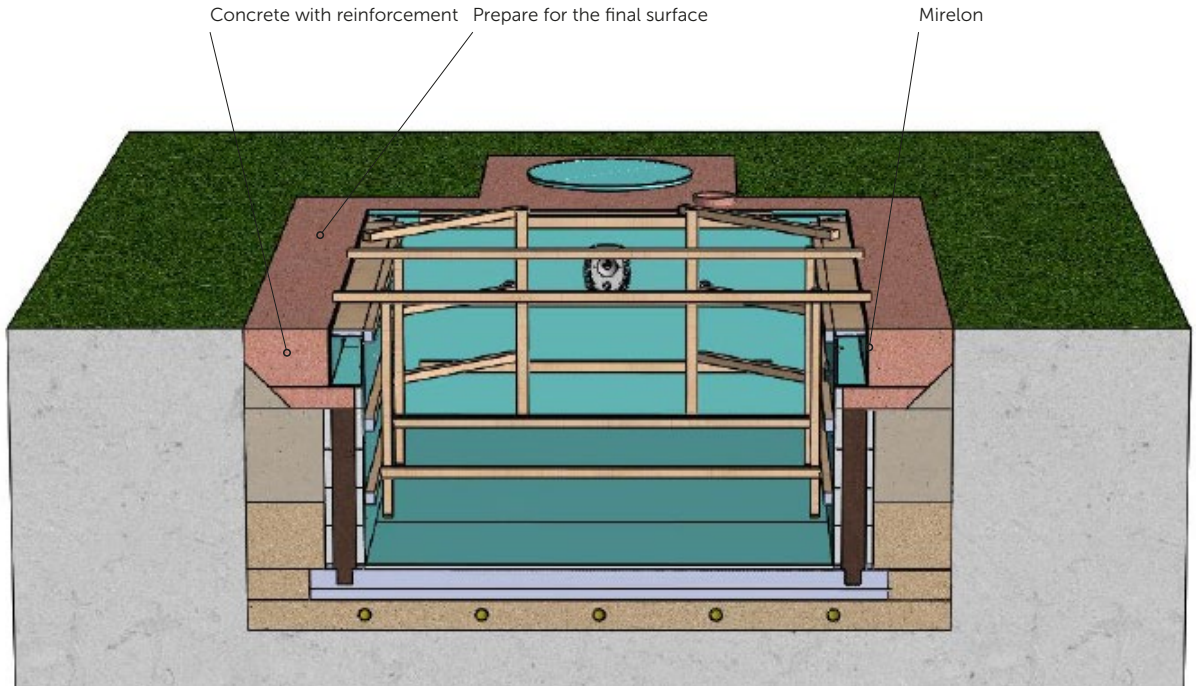
Provide suitable protection against damage for the pool shell around the perimeter, for example by applying a mirelon tape that protects the casing of the overflow channel from damage by sharp objects and, at the same time, allows for dilatation.

2. Gravel Underlay for Final Surface

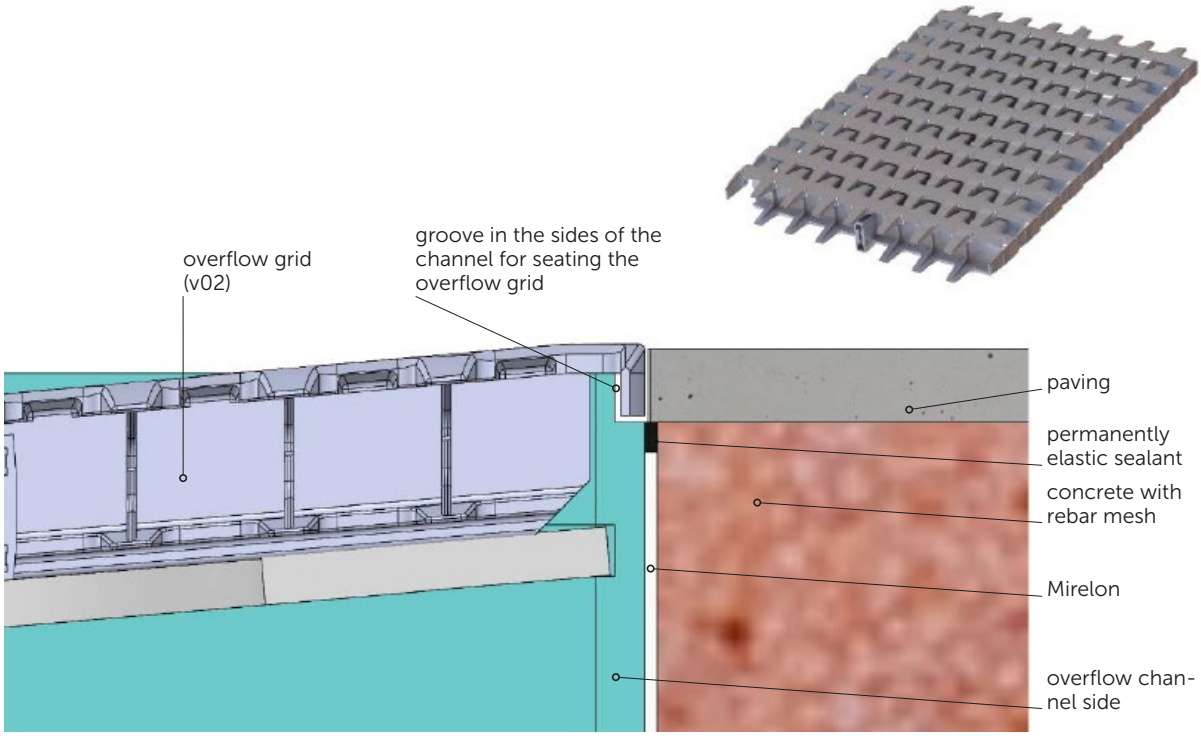
We recommend laying gravel aggregate (with a grain size of 16 to 32 mm) under the concrete plate on which the final surface around the pool will be created. Prepare the gravel bed in such a way that the overflow channel can be concreted over its entire height. The upper visible part must be connected to the final surface by means of commonly available permanently elastic sealants (ideally, the filled space between the final surface and the pool outer wall is at least 5 mm).

3. Making the Base Plate for the Final Surface

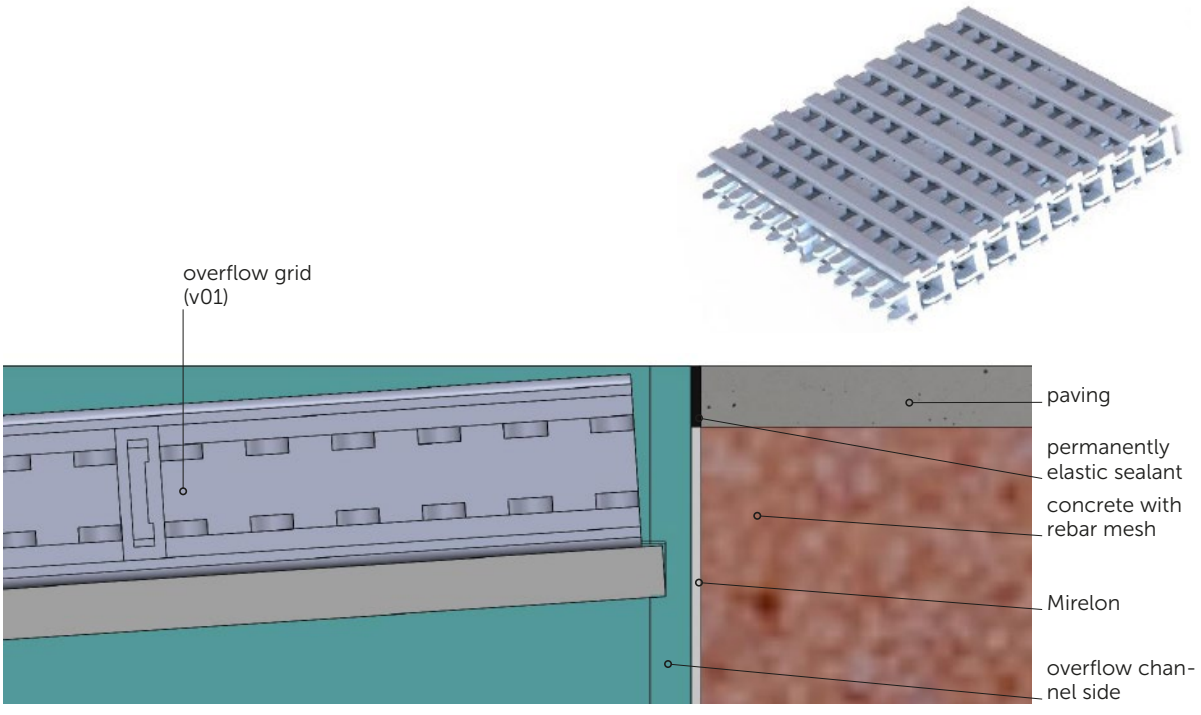
The height of the base plate depends on the height of the final surface (paving, stone carpet,...) and its levelling. This plate should be made of monolithic concrete reinforced with rebar mesh (100 x 100 x 6 mm). The height of the base plate depends on the height of the type of paving that is chosen. Make the final base plate for the paving; any irregularities can be levelled with a trowel. At this stage, it is also necessary to install anchoring elements (plastic footing) for the pool steps and junction boxes for the pool lights, if these are part of the contract for work. The final surface for the enclosure, if any, must be firmly connected to the concrete base. Paving is the most suitable option of the final surface. It must be firmly attached to the concrete base (must not be supported by sand or gravel). Other suitable types of final layers include all solid materials that are designated for the purpose, to be firmly attached to the concrete base. The upper visible (final) part must be connected by means of commonly available permanently elastic sealants to the outer coat of the overflow channel (ideally, the filled space between the final surface and the pool outer wall is at least 5 mm).



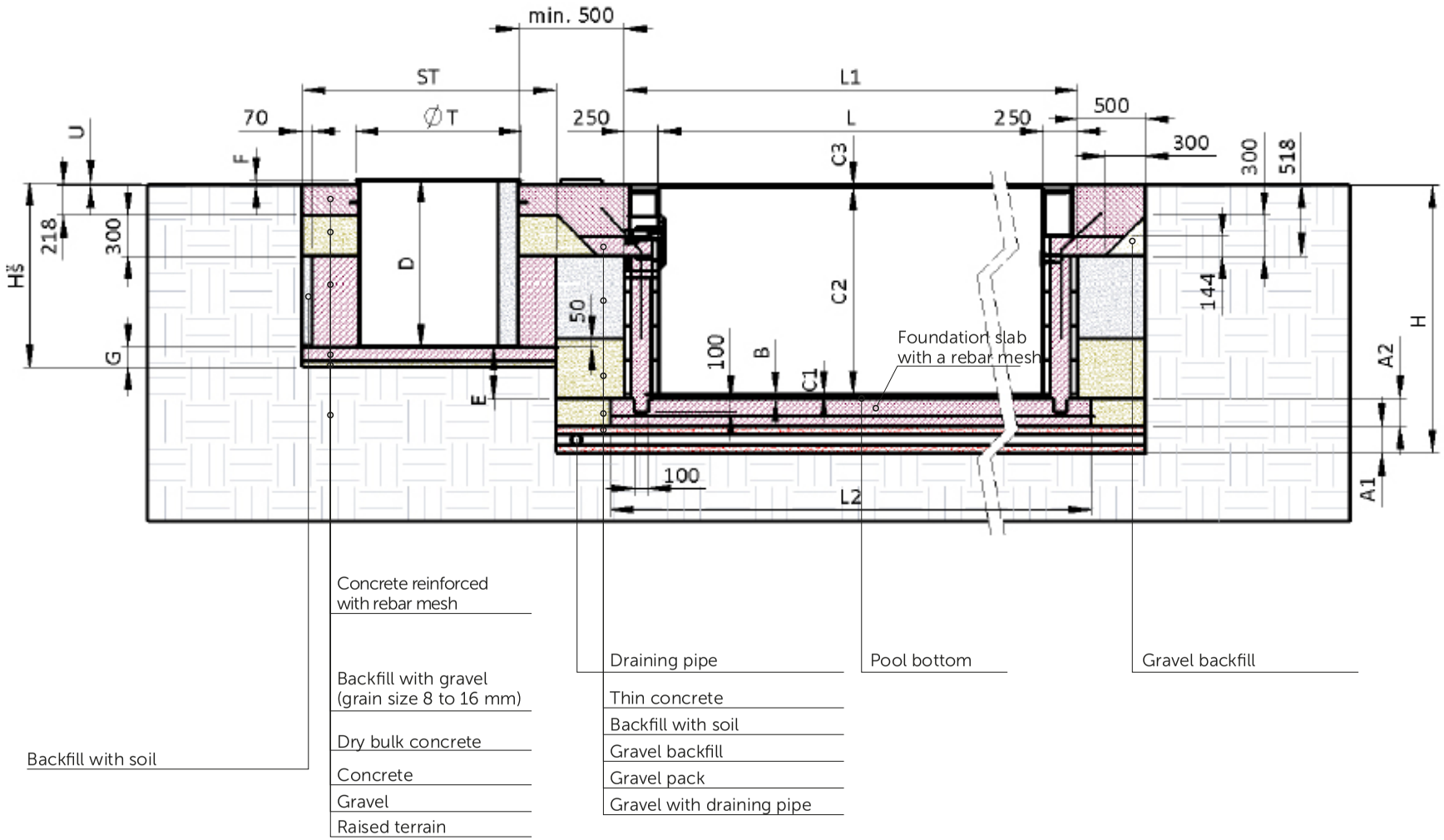
Placing the v02 overflow grid



Placing the v01 overflow grid



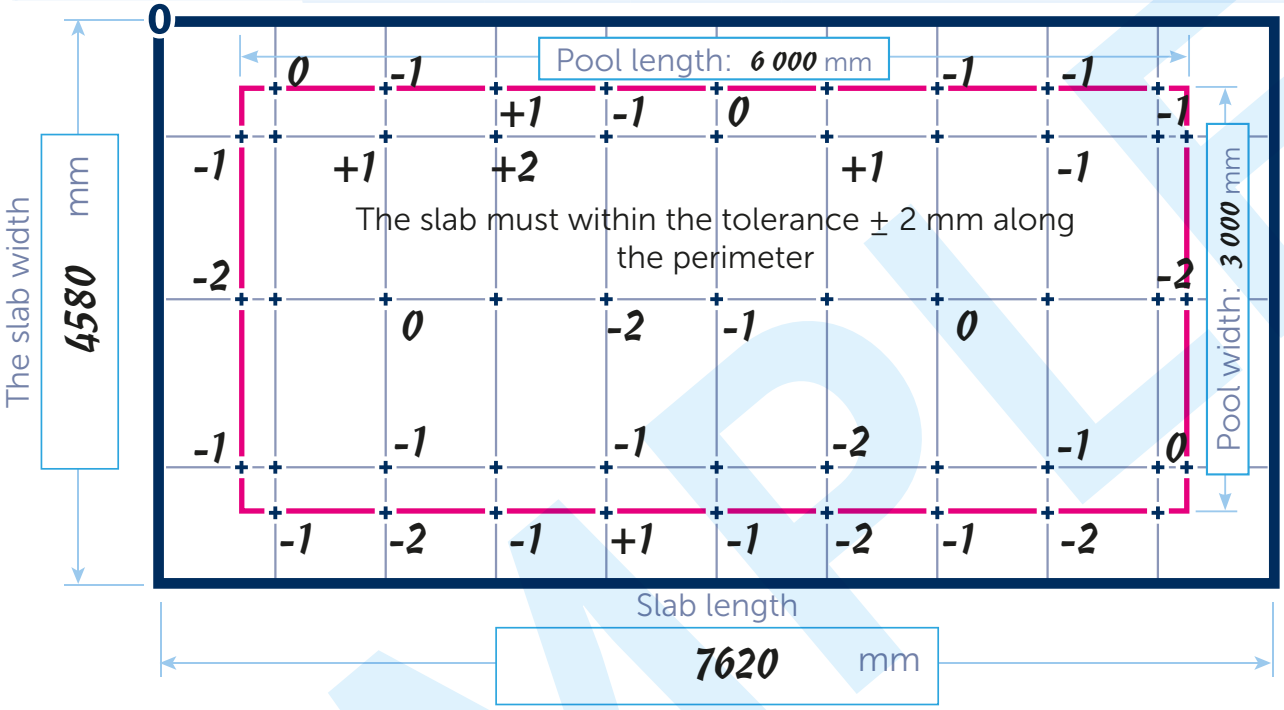
FINISHING WORKS FOR QBIG OVERFLOW POOL



CUSTOMER'S STATEMENT ON REMEASURING THE POOL FOUNDATION SLAB

Business case number	1234567890	**Name and surname of the**	Jan Novak
Address	Zbraslavska 55, Praha 5, 158 00		

	Widt	Lengt	Depth
Pool dimensions according to the business case	3 000 mm	6 000 mm	1 500 mm
Excavation pit dimensions (Minimum required values)	Pit width	Pit length	Pit depth
	4 500 mm	7 500 mm	1 500 mm
Measured excavation pit dimensions	4580 mm	7620 mm	1530 mm



i 0 – reference point of measuring **Minimum number of measurements:** + 20 points on the perimeter + 12 inner points (all measured details must be specified in mm)

* cross out which doesn't apply

Flatness of the foundation slab ~~OK / NOT OK*~~ in terms of the mandatory tolerance +/– 2 mm in the whole area of the pool skeleton.

Failure to comply with the prescribed level of the base plate will not cause water to spill evenly over the entire perimeter of the pool, and this cannot be the subject of a claim.

Remeasuring of the mandatory tolerance must be done by an authorised person.

Options of remeasuring and confirming the measured values: (circle the chosen option)

1, The customer remeasures the slab personally and takes full responsibility for the values and parameters specified in the report
2, Remeasuring will be carried out by an authorised person in the construction industry – the parameters specified in the report are the responsibility of the authorised person
3, Remeasuring will be made by the ALBIXON a.-s. engineer - this service will carry a charge of CZK 5,000

Submission of this duly completed and confirmed customer statement is a condition of entering into an agreement for the handover of the workplace and starting works by ALBIXON a. s.

ALBIXON a. s. points out that in case of delay in notification of construction readiness, the delivery date specified in the agreement will be extended accordingly.

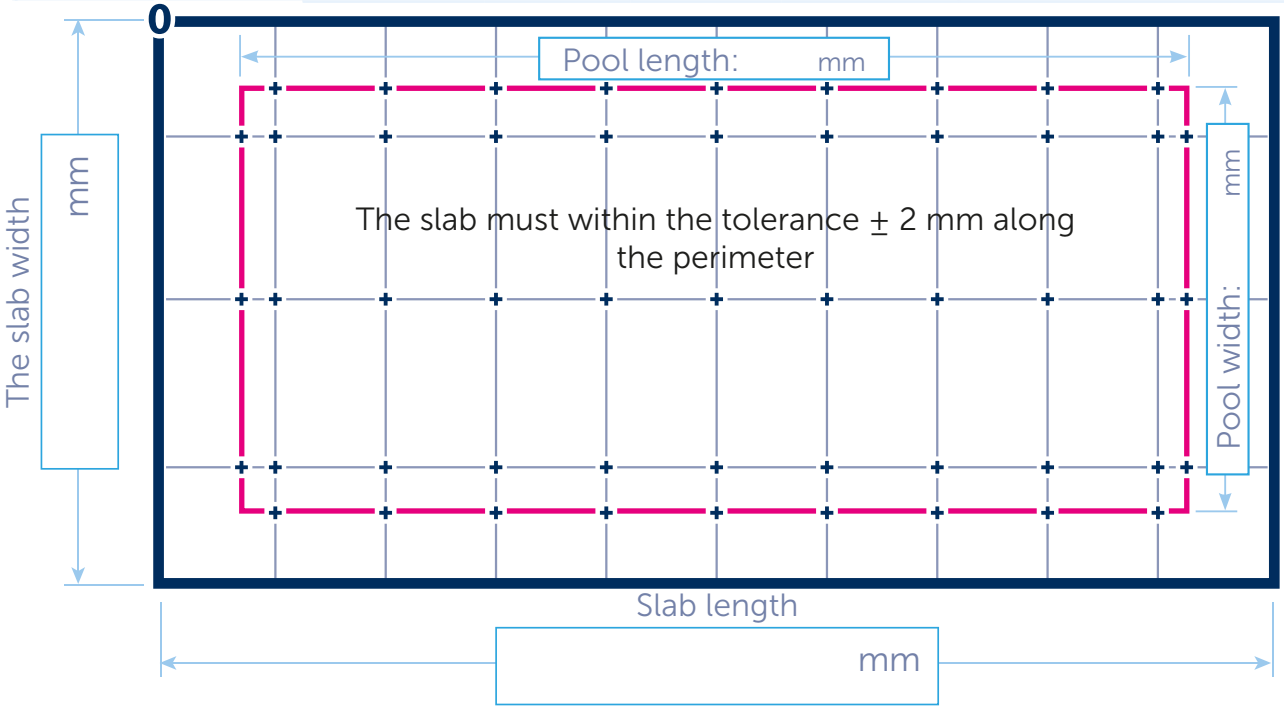
Use an optical or laser device with a minimum measurement accuracy of +/- 1 mm / 10 m to measure the mandatory horizontality.

Measured on: 20. 2. 2016	Type of used of the device: HILTI PR-2 HS	Parameters and accuracy of the device: +/- 0,5 mm/10 m	The date of the latest device calibration: 11. 11. 2015
	Measurement/ alignment made by: Frantz Kozel, Stavbaz,	Authorisation number: CKAIT - xxxxxxx	Date, stamp and signature: 20. 2. 2016
	Customer name and surname: Jan Novak		Date and signature: 20. 2. 2016

Send the properly completed report to the address: montaze.bazeny@albixon.cz

CUSTOMER'S STATEMENT ON REMEASURING THE POOL FOUNDATION SLAB

Business case number		**Name and surname of the**	
Address			
Pool dimensions according to the business case	Widt	Lengt	Depth
	mm	mm	mm
Excavation pit dimensions (Minimum required values)	Pit width	Pit length	Pit depth
	mm		mm
Measured excavation pit dimensions	mm	mm	mm



i 0 – reference point of measuring **Minimum number of measurements:** + 20 points on the perimeter + 12 inner points (all measured details must be specified in mm)

* cross out which doesn't apply

Flatness of the foundation slab OK / NOT OK * in terms of the mandatory tolerance +/– 2 mm in the whole area of the pool skeleton.

Failure to comply with the prescribed level of the base plate will not cause water to spill evenly over the entire perimeter of the pool, and this cannot be the subject of a claim.

Remeasuring of the mandatory tolerance must be done by an authorised person.

Options of remeasuring and confirming the measured values: (circle the chosen option)

1, The customer remeasures the slab personally and takes full responsibility for the values and parameters specified in the report
2, Remeasuring will be carried out by an authorised person in the construction industry – the parameters specified in the report are the responsibility of the authorised person
3, Remeasuring will be made by the ALBIXON a.-s. engineer - this service will carry a charge of CZK 5,000

! **Submission of this duly completed and confirmed customer statement is a condition of entering into an agreement for the handover of the workplace and starting works by ALBIXON a. s.**

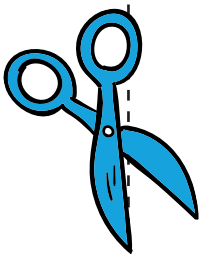
ALBIXON a. s. points out that in case of delay in notification of construction readiness, the delivery date specified in the agreement will be extended accordingly.

Use an optical or laser device with a minimum measurement accuracy of +/- 1 mm / 10 m to measure the mandatory horizontality.

Measured on:	Type of used of the device:	Parameters and accuracy of the device:	The date of the latest device calibration
	Measurement/ alignment made by:	Authorisation number:	Date, stamp and signature:
	Customer name and surname:		Date and signature:

Send the properly completed report to the address: montaze.bazeny@albixon.cz

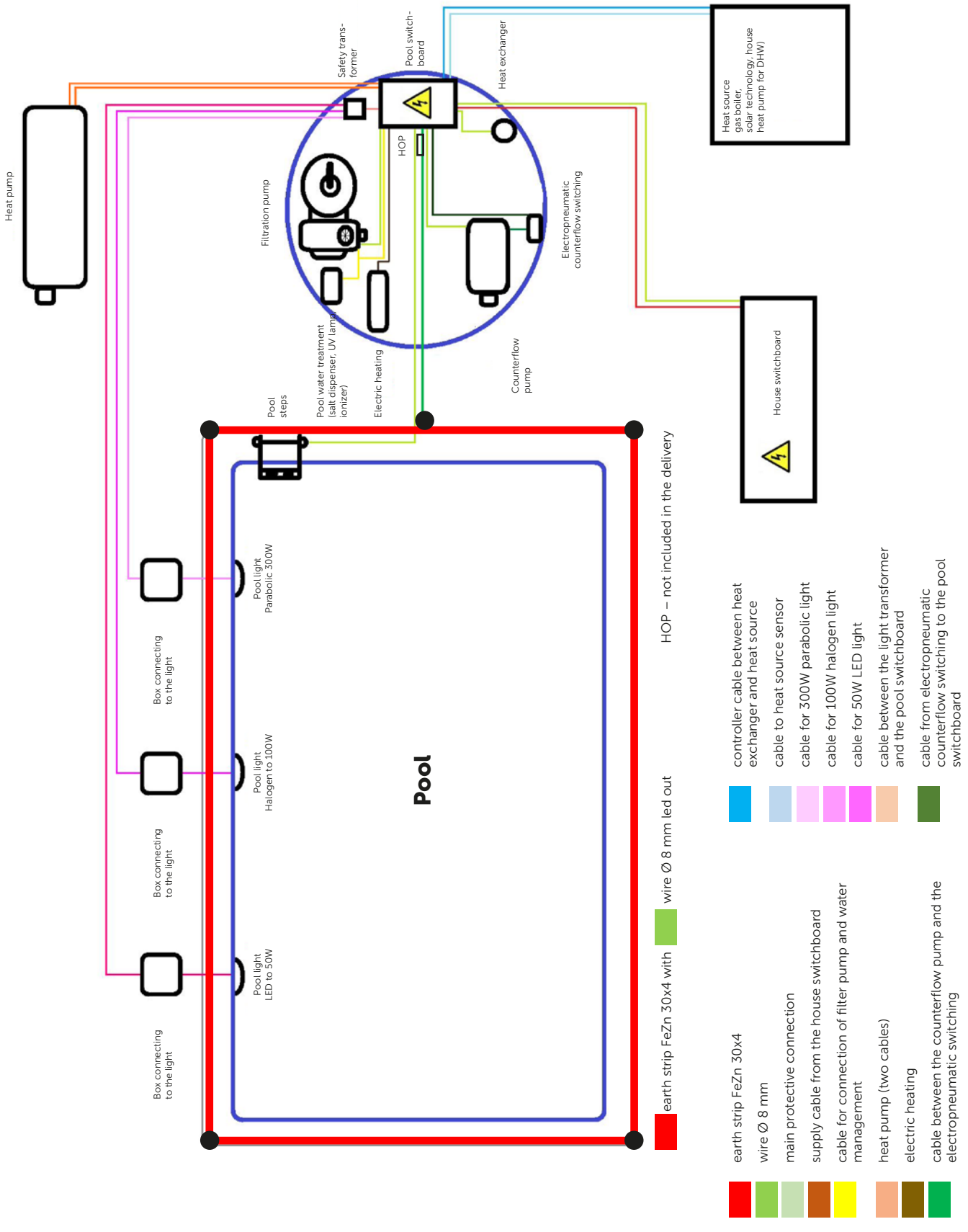
10. Form



Notification of Readiness for Construction					
Purchase order number		Customer's name and surname			
Address					
Dimensions of the pool according to the purchase order	Width	Length	Depth	Units	
Empty field for drawings of any obstacles:					
The distance between the excavation and the place reachable by a vehicle carrying the pool		Clearance of the narrowest passage point (gates, trees,...)		The type of crane ordered according to the pool weight and the reach at which the pool is to be placed.	
	Units		Units		
Photo documentation of the preparation for the construction					
Excavation		Foundation slab		Drainage set	
Space to install technology shaft		Surroundings of the excavation		Other	
Photo documentation of the driveway from the road to the excavation site					
Access road		Entrance to the property		Parking place for the vehicle with the pool to install	
Please send this form along with complete photo documentation to: montaze.bazeny@albixon.cz					

Electrical Wiring

11.



11. Electrical Wiring

Filtration; XHP60-160 thermal pump without counterflow

- CYKY 3 J x 4 + CY 6 ZŽ supply cable (main protective connection, hereinafter "HOP") including current protector with residual current 30 mA
- 20A/1/B supply cable circuit breaker
- 25A/3/B main house circuit breaker

Filtration; XHP60-160 thermal pump with counterflow

- CYKY 5 J x 4 + CY 6 ZŽ supply cable (main protective connection, hereinafter "HOP") including current protector with residual current 30 mA
- 20A/3/B supply cable circuit breaker
- 25A/3/B main house circuit breaker

Filtration; XHP60-200 thermal pump with counterflow

- CYKY 5 J x 6 + CY 6 ZŽ supply cable ("HOP") including current protector with residual current 30 mA
- 25A/3/B supply cable circuit breaker
- 32A/3/B main house circuit breaker

! ATTENTION! IF YOUR MAIN CIRCUIT BREAKER IS 25A/3/B OR LOWER, WE DO NOT RECOMMEND THIS INSTALLATION!

THE STRENGTH OF THE SUPPLY CABLES PROVIDED CORRESPONDS TO THE DISTANCE OF THE POOL AND
HOUSE SWITCHBOARD UP TO 20M. IF THE DISTANCE IS LONGER, THE CABLE MUST BE OVERSIZED.

THE SUPPLY CABLE FROM THE HOUSE SWITCHBOARD TO THE TECHNOLOGY SHAFT MUST BE PROVIDED BY THE CUSTOMER BEFORE THE ORDERED COMPONENTS ARE DELIVERED. THE SUPPLIER DOES NOT PROVIDE THE CONNECTION OF THE SUPPLY CABLE FROM THE HOUSE SWITCHBOARD TO THE TECHNOLOGY SHAFT. THE SUPPLY CABLE MUST BE REVISED FOR THE CONNECTION TO THE TECHNOLOGY SHAFT. THE SUPPLIER DOES NOT PERFORM THE REVISION OF THE SUPPLY CABLE.

Counterflow pump cables

- CYSY 5 J x 1.5 cable from the counterflow pump to the electropneumatic switching
- CYA 6 ZŽ cable for HOP of the counterflow pumps
- CYKY 5 J x 2.5 cable from the electropneumatic switching of counterflow to the pool switchboard
- 10A/3/C circuit breaker in the pool switchboard

Cables for the filtration pump without pool water treatment (salt dispenser, UV lamp, ionizer)

- CYKY 3 J x 1.5 cable from the filtration pump to the pool switchboard
- 4A/1/C circuit breaker in the pool switchboard

Cables for the filtration pump with pool water treatment (salt dispenser, UV lamp, ionizer)

- CYKY 3 J x 1.5 cable from the filtration pump and the pool water treatment to the pool switchboard
- 6A/1/C circuit breaker in the pool switchboard

Electrical Wiring

11.

Cables for pool lights

- CYKY 3 J x 2.5 cable between light up to 50W and transformer for lights
- CYKY 2 J x 4 cable between light up to 100W and transformer for lights
- CYKY 2 J x 6 cable between light up to 300W and transformer for lights
- the circuit breaker in the pool switchboard for the light transformer is to be determined according to the final sum of the values (W) of the lights

Cables for the heat pump XHP/XHPFD 40-140

- CYKY 3 J x 2.5 cable between heat pump and pool switchboard
- 20A/1/C circuit breaker in pool switchboard

Cables for the heat pump XHP/XHPFD 200

- CYKY 3 J x 4 cable between heat pump and pool switchboard
- 20A/1/C circuit breaker in pool switchboard

Cables for heat exchanger

The cable to the temperature sensor between the pool switchboard and the heat source is provided by the heat source manufacturer. The control cable to the heat source is CYKY 5 J x 1.5.
The heat exchanger must be connected to the main protective connection (HOP).

Cables for electric heating

- CYSY 5 J x 2.5 cable for 3kW heating and 6A/3/B circuit breaker in pool switchboard
- CYSY 5 J x 2.5 cable for 6kW heating and 10A/3/B circuit breaker in pool switchboard
- CYSY 5 J x 2.5 cable for 9kW heating and 16A/3/B circuit breaker in pool switchboard
- CYSY 5 J x 4 cable for 12kW heating and 20A/3/B circuit breaker in pool switchboard
- CYSY 5 J x 4 cable for 15kW heating and 25A/3/B circuit breaker in pool switchboard
- CYSY 5 J x 6 cable for 18kW heating and 32A/3/B circuit breaker in pool switchboard

Metal parts

In pool technology, all metal parts must be connected to HOP CYA 6 or CY 6 ZŽ

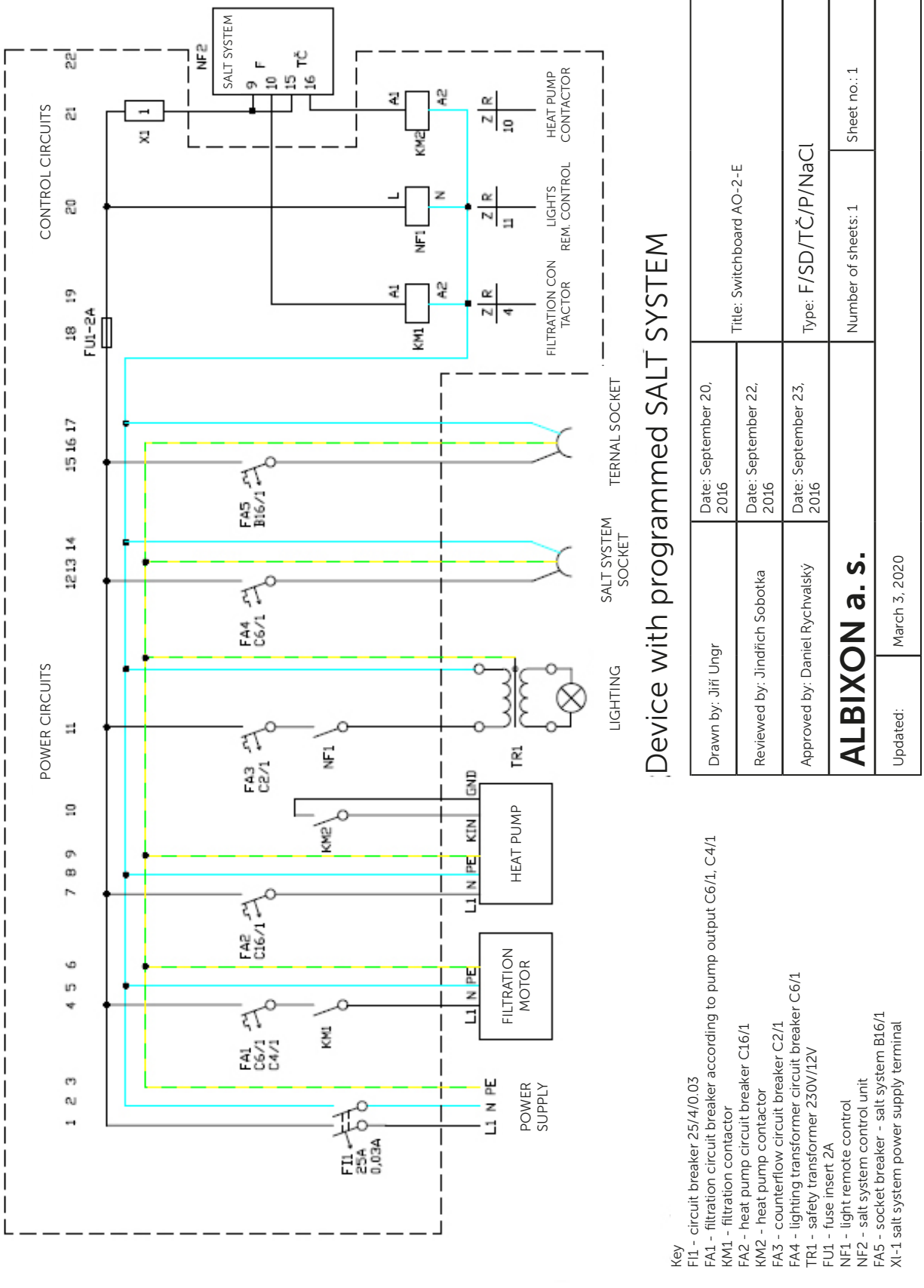
Metal pool steps and other metal components

When installing metal steps and other metal components, the connection to the HOP CYA or CY 6 ZŽ must be made, however always according to the relevant instructions for the given accessory.

SAFETY RECOMMENDATIONS

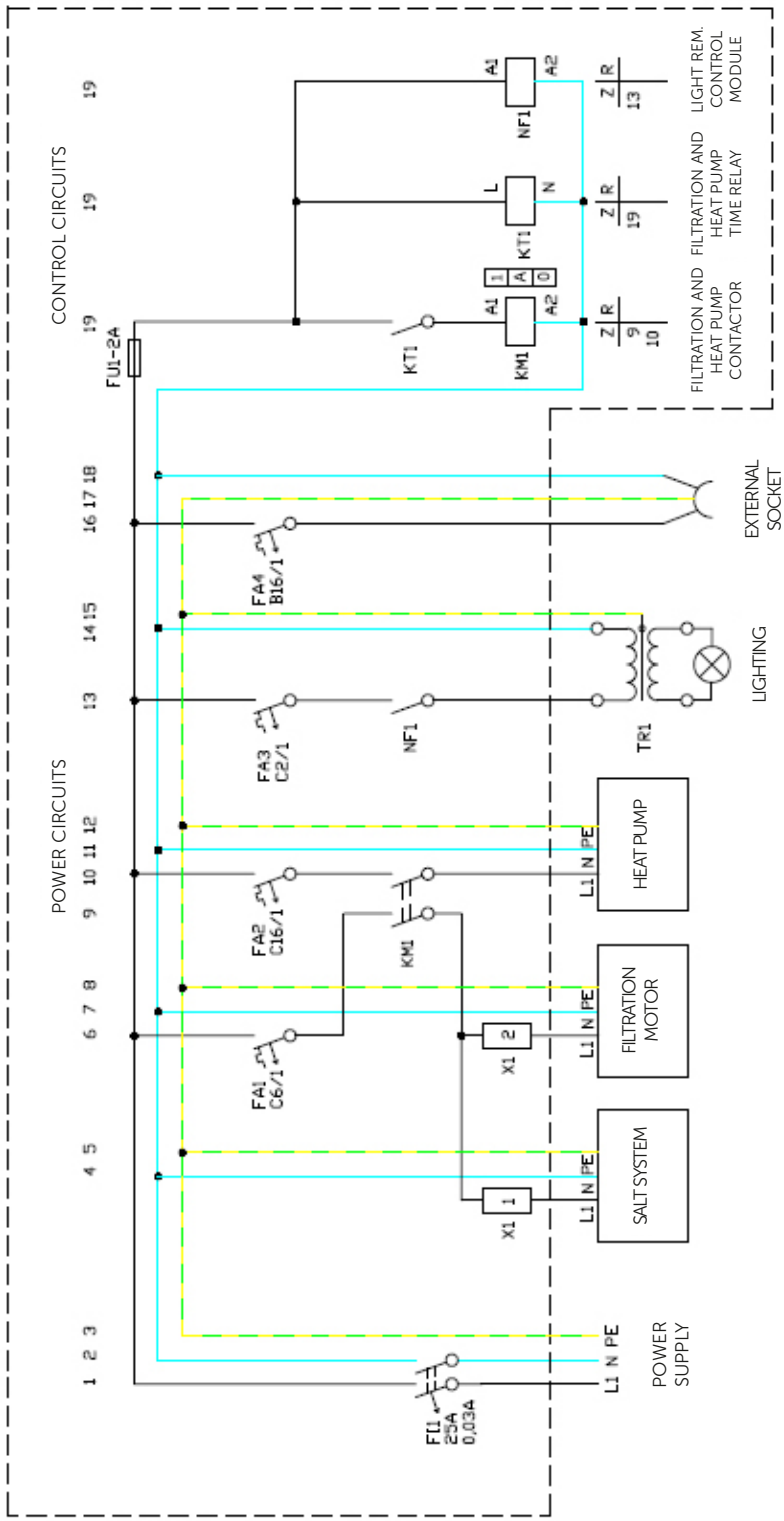
We recommend protecting the power supply circuit of the pool technology with a trip coil with a probe, which disconnects the power supply circuit when the shaft is flooded with water (up to max. 10 cm).

11. Electrical Wiring



Electrical Wiring

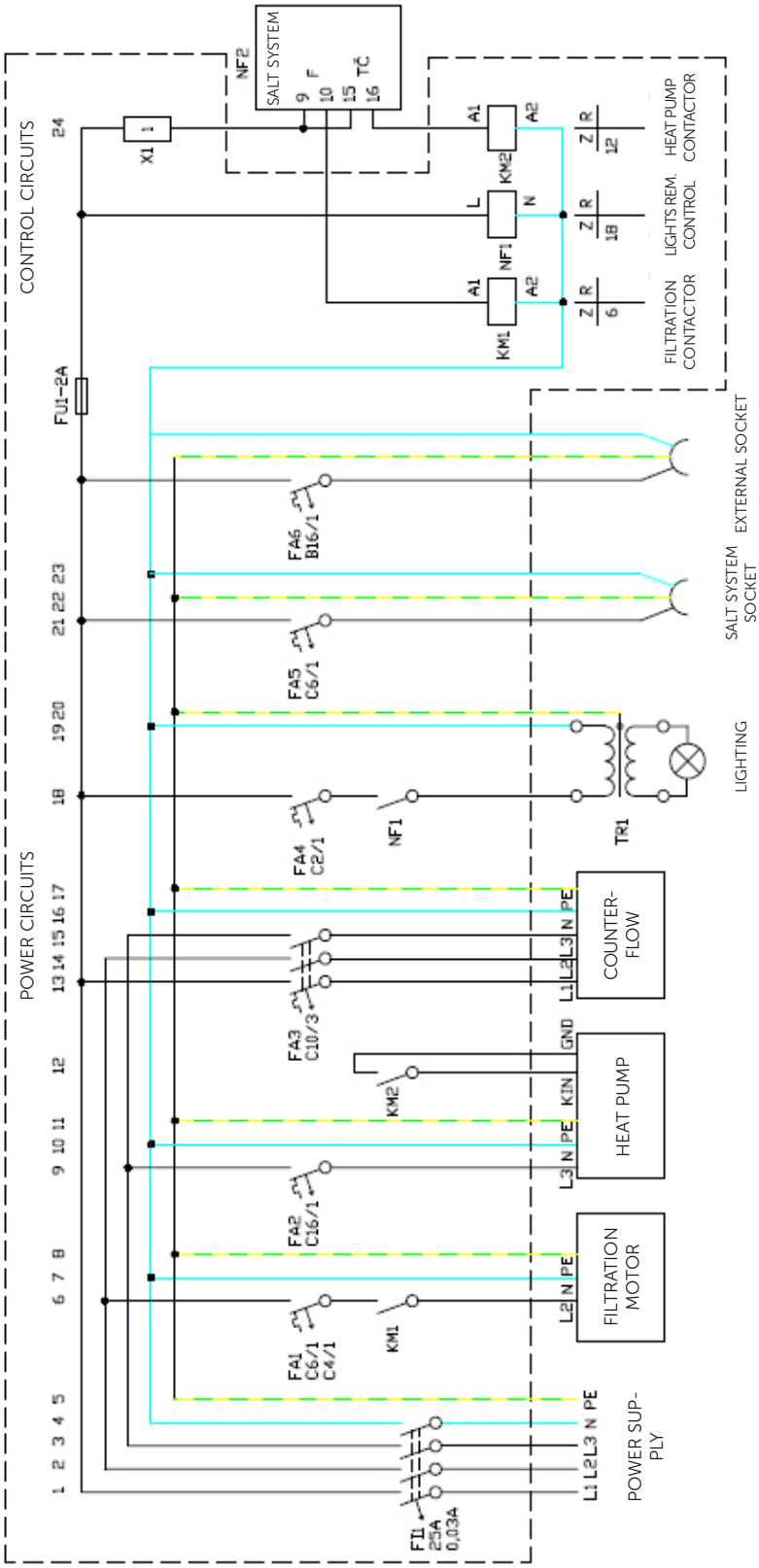
11.



Drawn by: Jiří Ungr	Date: September 22, 2016	Title: Switchboard AO-1 a	
Reviewed by: Jindřich Sobotka	Date: September 25, 2016		
Approved by: Daniel Rychvalský	Date: September 26, 2016	Type: F/SD/TČ/P/NaCl	
ALBIXON a. s.		Number of sheets: 1	Sheet no.: 1
Updated:	March 4, 2020		

Key
FI1 - circuit breaker 25/2/0.03
FA1 - filtration circuit breaker according to pump output C6/1
KM1 - salt system and filtration contactor
FA2 - heat pump circuit breaker C16/1
FA3 - lighting transformer circuit breaker C2/1
FA4 - external socket breaker B16/1
TR1 - safety transformer 230V/12V
FU1 - fuse insert 2A
KT1 – filtration and heat pump timing relay
NF1 - light remote control
X1-1 salt system power supply terminal
X1-2 filtration motor power supply terminal

11. Electrical Wiring

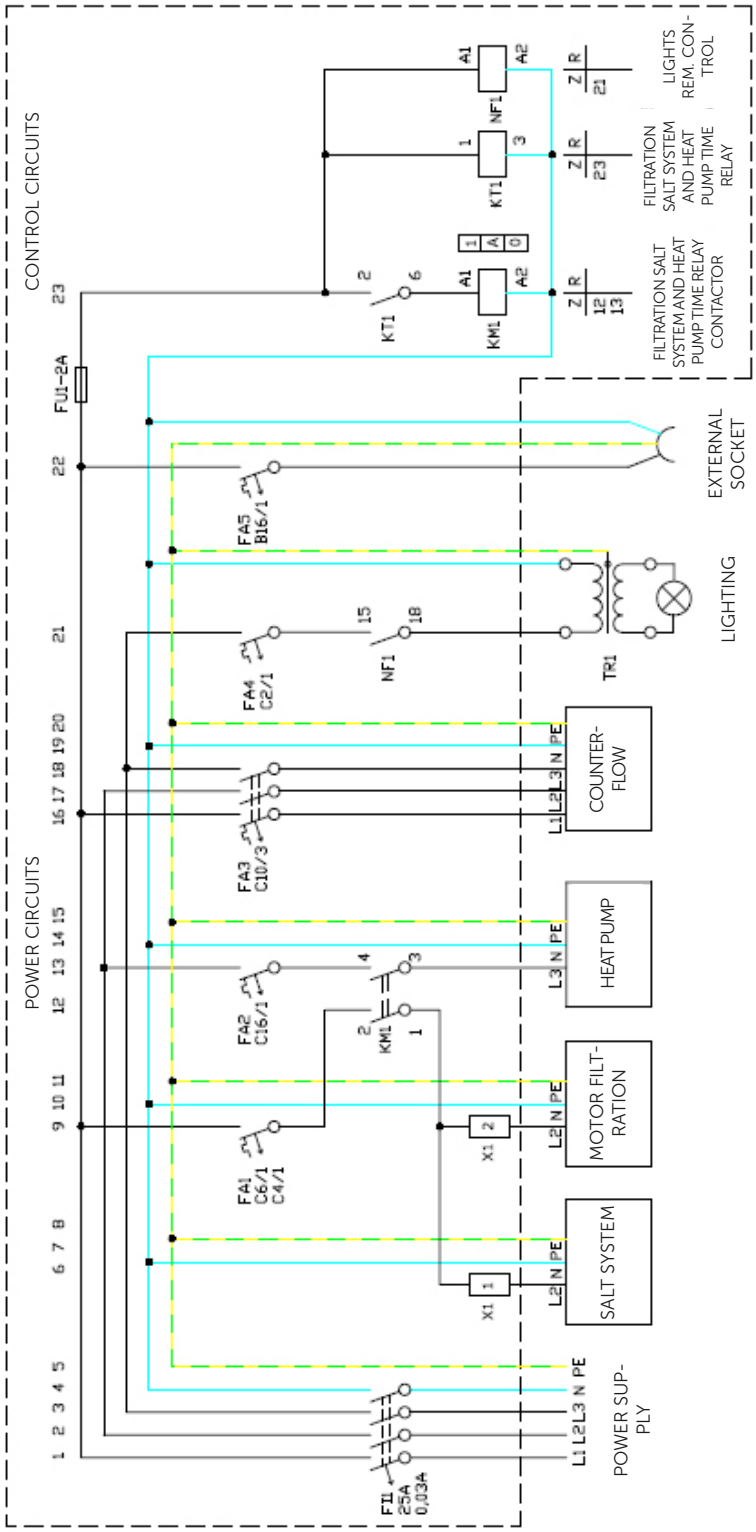


Key
FI1 - circuit breaker 25/4/0.03
FA1 - filtration circuit breaker according to pump output C6/1, C4/1
KM1 - filtration contactor
FA2 - heat pump circuit breaker C16/1
FA3 - counterflow circuit breaker C10/3
KM2 - heat pump contactor
FA4 - lighting transformer circuit breaker C2/1
FA5 - socket breaker - salt system C6/1
TR1 - safety transformer 230V/12V
FU1 - fuse insert 2A
NF1 - light remote control
NF2 - salt system control unit
FA6 - external socket breaker B16/1
Xl-1 salt system power supply terminal

Device with programmed SALT SYSTEM

Drawn by: Jiří Ungr	Date: September 20, 2016	Title: Switchboard AO-2-D
Reviewed by: Jindřich Sobotka	Date: September 22, 2016	
Approved by: Daniel Rychvalský	Date: September 23, 2016	Type: F/SD/TČ/P/NaCl
ALBIXON a. s.		Number of sheets: 1 / Sheet no.: 1
Updated:	March 3, 2020	

Electrical Wiring



Key
FI1 - circuit breaker 25/4/0.03
FA1 - filtration circuit breaker according to pump output C6/1, C4/1
KM1 - filtration, salt system and heat pump contactor
FA2 - heat pump circuit breaker C16/1
FA3 - counterflow circuit breaker C10/3
FA4 - lighting transformer circuit breaker C2/1
TR1 - safety transformer 230V/12V
FA5 - external socket breaker B16/1
FU1 - fuse insert 2A
KM1 - filtration, salt system and heat pump contactor
KT1 – salt system, filtration and heat pump relay timer
NF1 - light remote control
XI-1 salt system power supply terminal
X1-2 filtration motor power supply terminal

Drawn by: Jiří Ungr	Date: September 20, 2016	Title: Switchboard AO-2-C	
Reviewed by: Jindřich Sobotka	Date: September 22, 2016		
Approved by: Daniel Rychvalský	Date: September 23, 2016	Type: F/SD/TČ/P/NaCl	
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