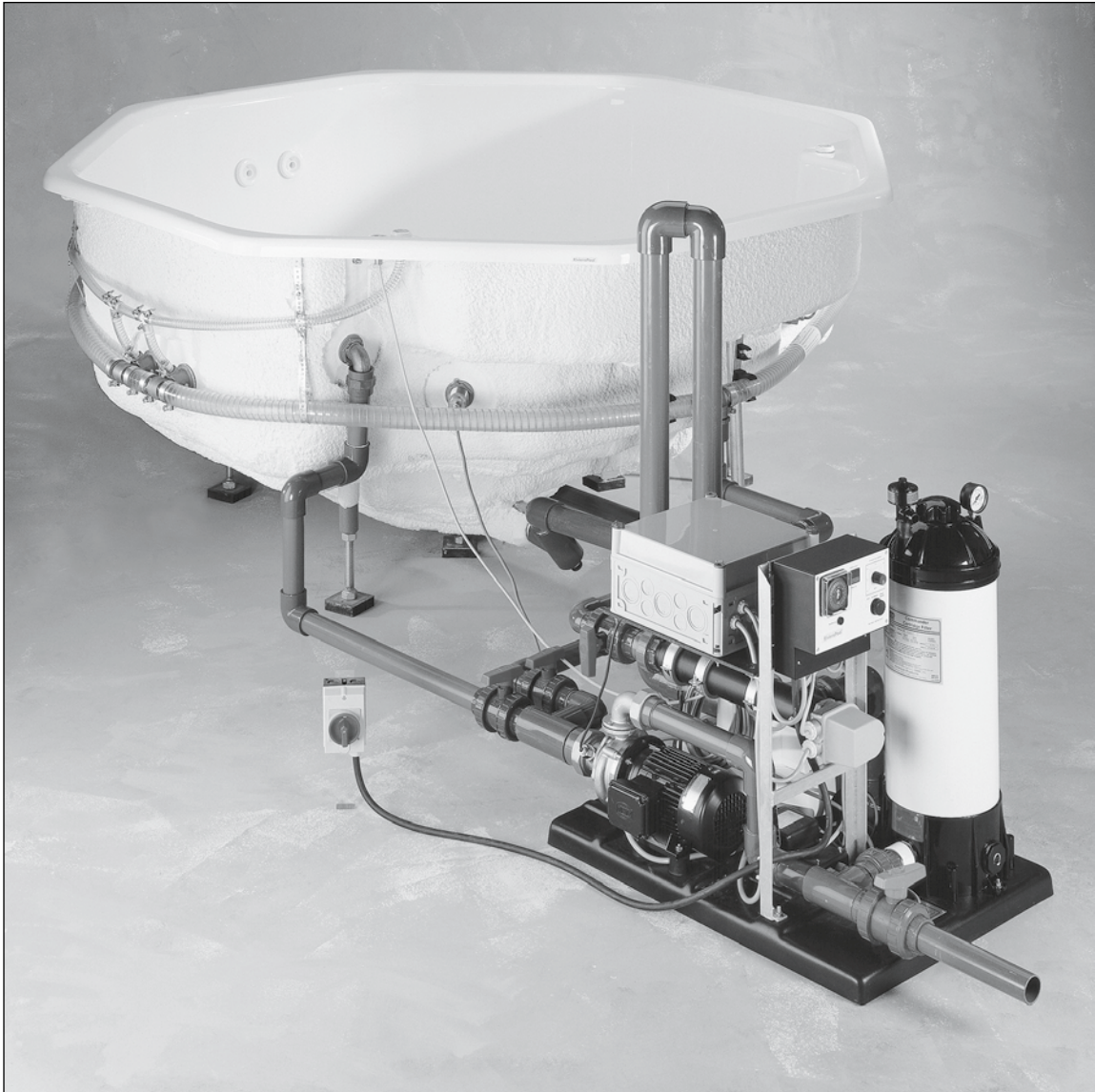


PRIVATE WHIRLPOOLS  
WHIRLPOOLS WITH OVERFLOW CHANNEL



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### Information:

Additional information available from our service department. We reserve the right to make changes or improvements in production without any announcement.

Due to technical developments, we reserve the right to make changes and improvements to our production without prior notice.

# 1. General

## 1.1. Proper use

Private whirlpools with their associated accessories are warm water bubble pools designed for use in private domestic households and installed in indoor swimming pools, fitness rooms and large bathing areas. Outdoor installation is possible as long as particular precautions are taken with regard to over-wintering.

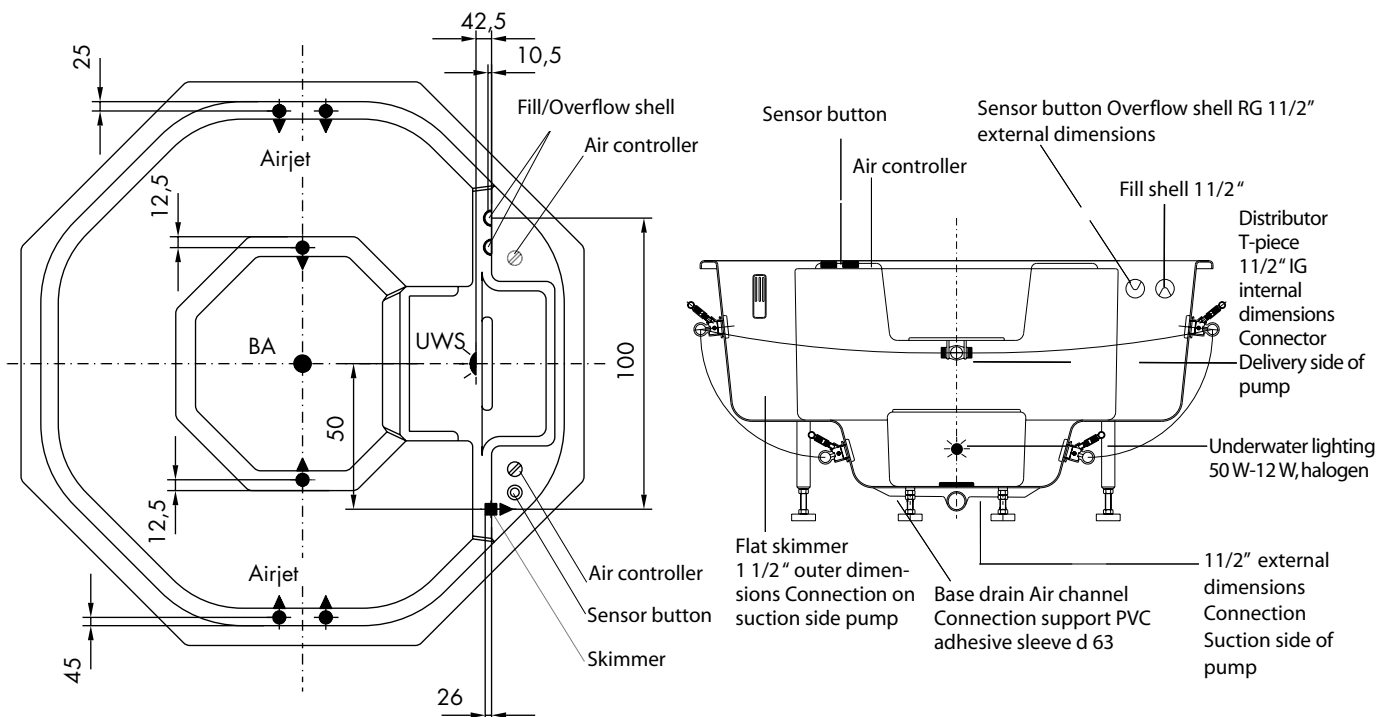
Private whirlpools have a water capacity of approx. 700 – 1500l and are therefore too large to be filled with warm water and then emptied for each bath. These whirlpools must be equipped with a filter and heating system, just like a swimming pool, which keeps the water permanently clean and at the correct temperature for bathing. The water must be treated and, in particular, disinfected (see Point 6 on page 18).

The water is replaced approx. every 3 months. At this opportunity, the bath itself is cleaned manually. Only clean tap water from the municipal mains that meets the Decree on Potable Water should be used to fill the bath.

Private whirlpools emit moisture and sound. Therefore a vapour barrier, ventilation in and out of the bathing room, a whirlpool cover and, if necessary, sound insulation must be installed.

The maximum water temperature in the whirlpool may not exceed 40°C. The chloride value must not exceed 300 mg/l.

If you wish to use a private whirlpool under conditions that differ from the above-stated situation and the associated instructions for fitting and operation, please speak to us. Particular solutions are available, e.g. for operation using salt water. Using the bath in an improper way will lead to invalidation of your guarantee.



## 1.2. Description of the installation **Jet Pak 50 EL luxe**

Complete technical equipment set for private whirlpools on a 61 x 89 cm pallet, assembled and wired.

Functions: Jet massage, whirl massage, filtering, heating and lighting.

Two-speed pump /1.40 kW – 230 V/ cartridge filter tank 50 (4.6 m<sup>2</sup>), electric 9 kW stainless steel flow heater, two-motor blower unit, pool control switch-box with time and temperature controls, sensor button whirl +/-, jet and lighting on/off, isolation transformer 100 VA, electric power pack. 2 m connection cable.

Options: 40 kW warm-water heat exchanger instead of electric heater.

## **Spa Pak 50 EL luxe**

Complete technology for private whirlpools on a 61 x 89 cm pallet, assembled and wired.

Functions: Whirl massage, filtering, heating and lighting.

Plastic circulation pump 1.00 kW – 230 V cartridge filter tank 50 (4.6 m<sup>2</sup>), electric 9 kW stainless steel flow heater, two-motor blower unit, pool control switch-box with time and temperature controls, sensor button whirl +/-, lighting on/off, isolation transformer 100 VA, electric power pack. 2 m connection cable.

Options: 40 kW warm-water heat exchanger instead of electric heater

Technical data	Spa Pak 50	Jet Pak 50
<b>Circulation power</b>		
When filter is in operation (against 0.25 bar)	12 m <sup>3</sup> /h	5 m <sup>3</sup> /h
When jet is in operation (against 0.25 bar)	–	15 m <sup>3</sup> /h
<b>Pump power*</b>		
When filter is in operation	1,0 kW	0,24 kW
When jet is in operation	–	1,4 kW
<b>Heating capacity*</b>		
With electric heater	9 kW	9 kW
With heat exchanger (inlet 70/90)	ca. 40 kW	ca. 40 kW
<b>Blower output*</b>		
Filter surface	1,35 kW–1,8 kW	1,35 kW–1,8 kW
	4,65 m <sup>2</sup>	4,65 m <sup>2</sup>

\* In the case of electrical power, the respective power consumptions are given.



Filter tank made from PVC and ABS, with air relief cock as well as filter cartridge (polyester non-woven fleece), 20 microns

Pool control timer, temperature controller, on/off switch, fuse type IP 43.

High-performance filter pump without pre-filter. For Jet Pak, designed as 2 speed pump, also for use in jet mode.

Manometer

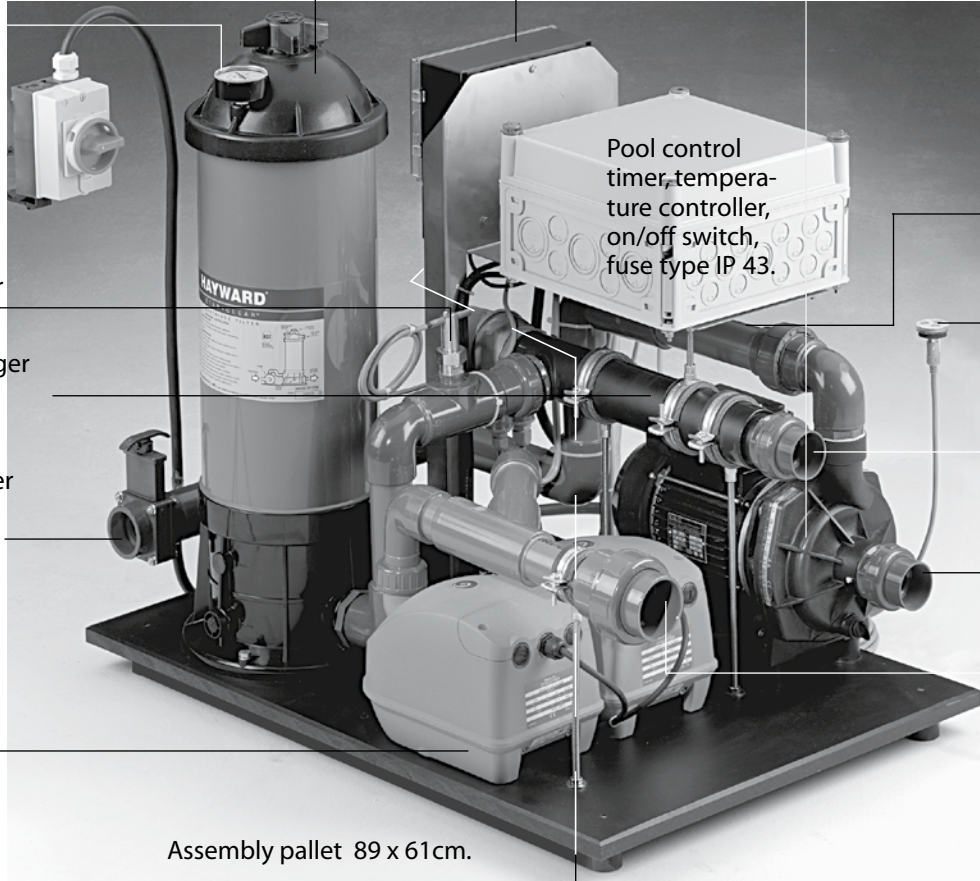
Main switch

Flow monitor

Heat exchanger with heating circulation pump or electric heater

Stop valve d 50

Two motor blower unit



Assembly pallet 89 x 61cm.

Heat detector

Sensor button mounted on pool

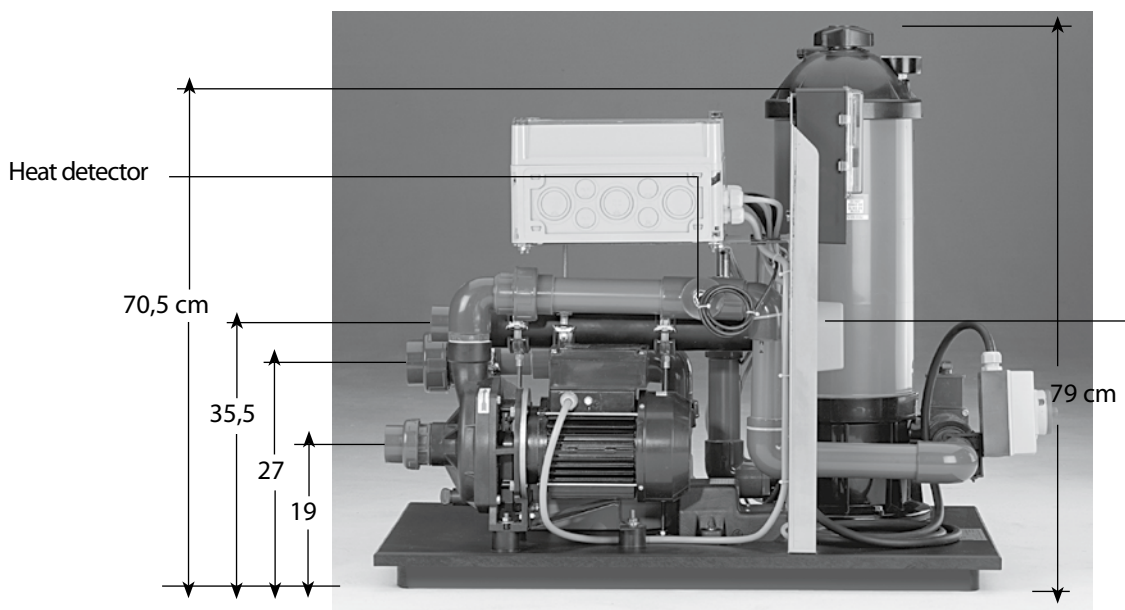
To pool d50

From skimmer d50

From base drain d50

To air channel d63

Safety thermostat 0–40° (in hot pump water) or safety limiter (for electric heaters.)



## 2. Site conditions provided by customer

### 2. Site conditions provided by customer

#### 2.1. Delivery

The ability to deliver the pool to the place of installation must be accurately checked before ordering. Please be aware that the pool will be 2-3 cm bigger on all sides due to the packaging.

#### 2.2. Concrete foundations

- Level concrete base of the same size as the pool
- Level concrete base 100 x 70 cm for the Jet Pak / Spa Pak
- The technical equipment set must be positioned so that the pumps and heater are always below the level of the bath water. The pumps are not self-priming.
- The distance between the pool and the technical equipment unit should not exceed 5 m.

#### 2.3. Ceiling height

The ceiling height in the pump room must be at least 1.4 m so that the filter cartridge can be changed. The ceiling height in the bathing room should be 2 m above the pool step.

#### 2.4. Hose

A hose with a water shut-off valve must be installed as close as possible to the pool, 30 cm above the water level

#### 2.5. Air feed

Air feed to the pump room must allow a suction rate of approx. 200 m<sup>3</sup> air/h.

#### 2.6. Inspection facilities

The technical equipment set and the pool must be accessible from all sides and above.

#### 2.7. Sound insulation

If there are rooms below or adjacent to the pool / technical equipment that require insulation to DIN 4109, then additional sound insulation measures will be needed. We can provide detailed information on this matter on request. See also page 13 of these fitting instructions.

#### 2.8. Power connection

Spa Pak 50	EL luxe	11,9 kW – 400 V
	PWW	2,9 kW – 400 V
Jet Pak 50	EL luxe	12,3 kW – 400 V
	PWW	3,3 kW – 400 V

#### 2.9. Drainage

The bath and pipe system must be able to be drained into the drains with a free fall.

#### 2.10. Fresh water

Depending on the installation arrangement, this will take place through the fill shell, 1 1/2" external dimensions, 1 1/4" internal dimensions. Cold water, stop valve provided by customer.

## 3. Fitting

### 3. Fitting the shell

The following plans show a fitting example using the Octagon 195 model and/or Octagon public 255 with Jet Pak/Spa Pak 50 EL. Other models can be installed in the same way. The variants fitted have the advantage that the whirlpool and the technical equipment can be delivered once the screed is down. In this way, damage to the shell can be avoided to a large extent. In addition, there is sufficient room for installation work and later inspections.

#### **Caution:**

The structural heights of the whirlpool can change due to the use of different base drains.

### 3.1. Setting up the installation

#### **• Setting up the whirlpool**

Take the whirlpool to its final location, align it and adjust the height. To do this, first adjust the adjustable feet under the bench so that the pool is level. Then, if necessary, insert and adjust the separate step feet into the sleeves below the steps. Do not tighten, as the steps should not be put under high pressure. Then support the feet below the shell base with a brick and tighten slightly. Do not cause the base to arch.

#### **• Setting up the technical equipment set**

- The pump and heater must be below the shell water level.
- Make sure that the water can fall freely to the drain for drainage.
- It must be accessible from the sides and above.

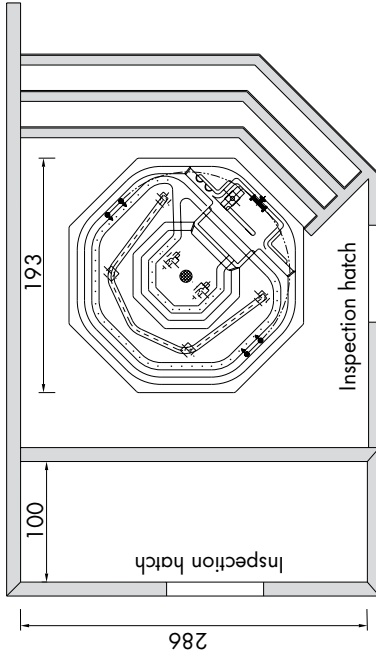
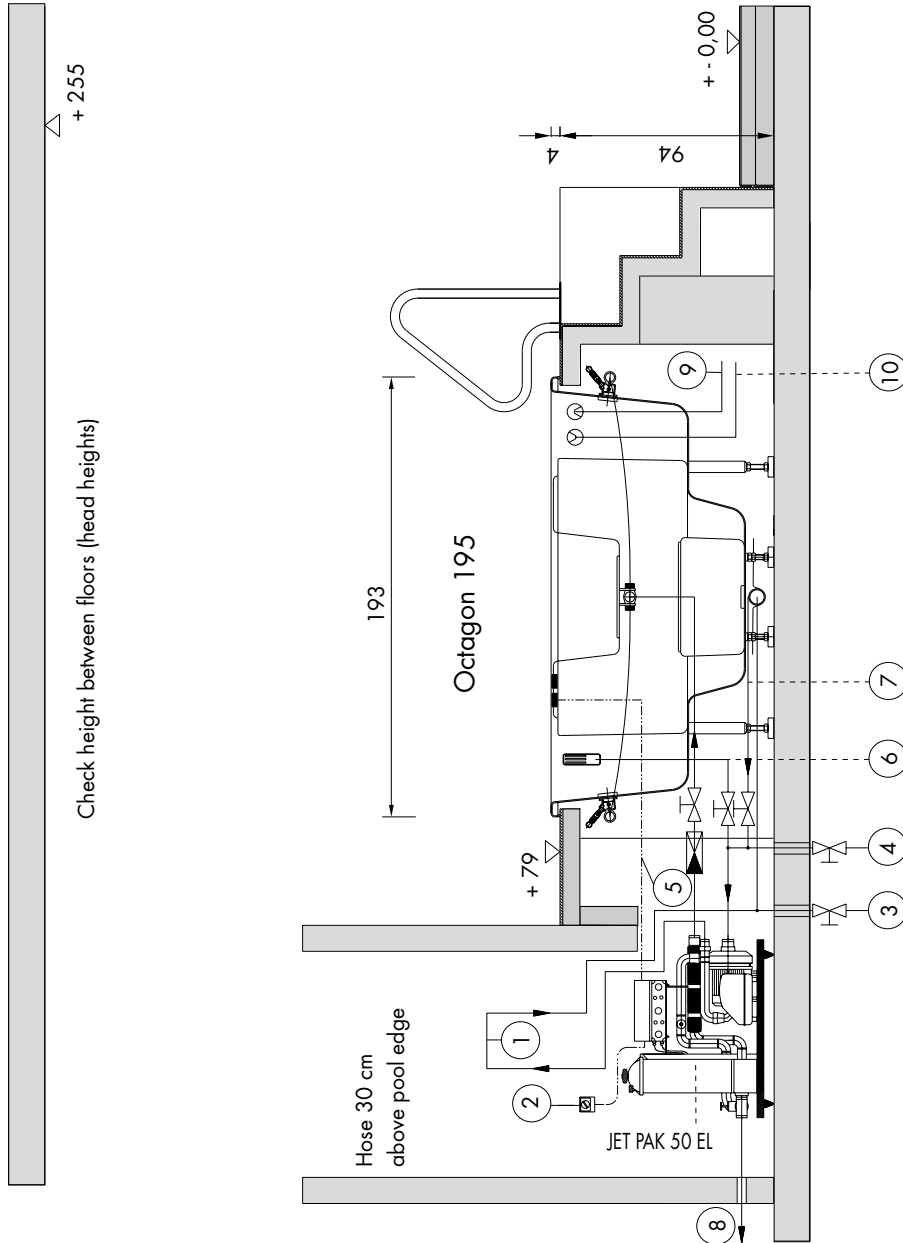
#### **• Lay the pipes**

Connect the pipes following the fitting plans. Make sure that the compensators are installed on the technical equipment set. Make sure the drainage works.

#### **• Electrical installation**

- Mains connection: Connect the main installation switch firmly to the supply network. This connection work may only be carried out by locally licensed electricians.
- Sensor button: Unroll 10 m connector cable and pass the connector from below through the basic element of the sensor button. Unscrew the surround of the sensor button, place the button module on the connector and place it in basic element. Screw the surround back on.
- Connect the underwater lighting to the transformer.

### 3.3. Fitting example of Whirlpool Octagon 195, free-standing, technical equipment in adjacent room



Octagon 195, freestanding (techn. equipment in adjacent room)

Item	Name	Dimensions
1	Air channel line	d63
2	Main switch, four-pole connection	5x4mm <sup>2</sup> " 12kW 400V
3	Air channel evacuation, channel connection	d50
4	Channel connection	d50
5	Control line: Whirl/Jet/Light	d50
6	Suction line: Skimmer	d50
7	Suction line: base drain	d50
8	Air channel line	d50
9	Cold water connection: fill shell over pipe disconnect to DIN 1988	R11/2"
10	Channel connection, overflow	R11/2"

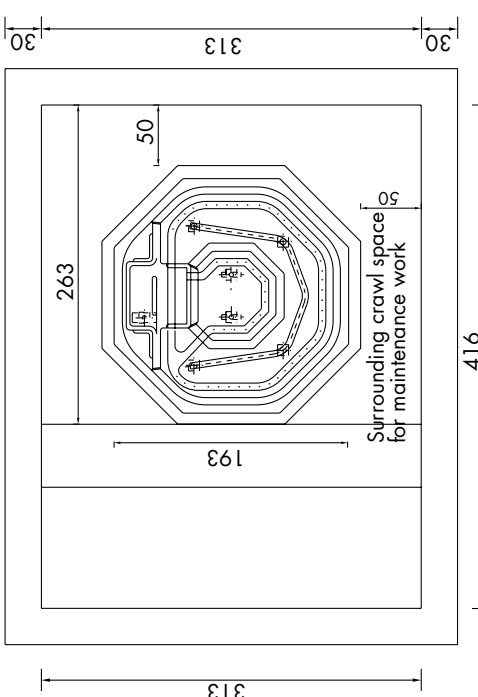
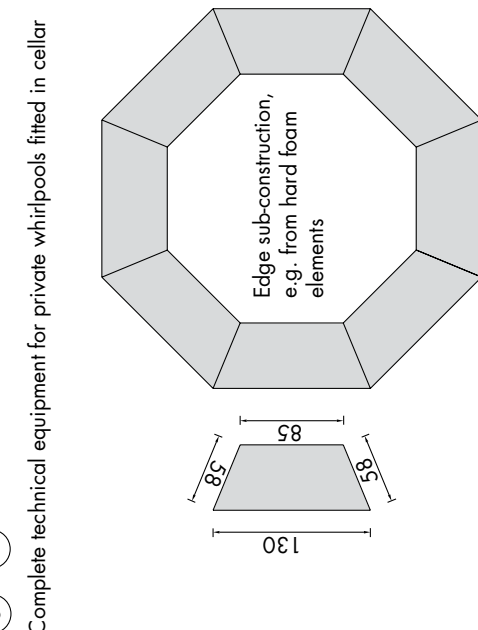
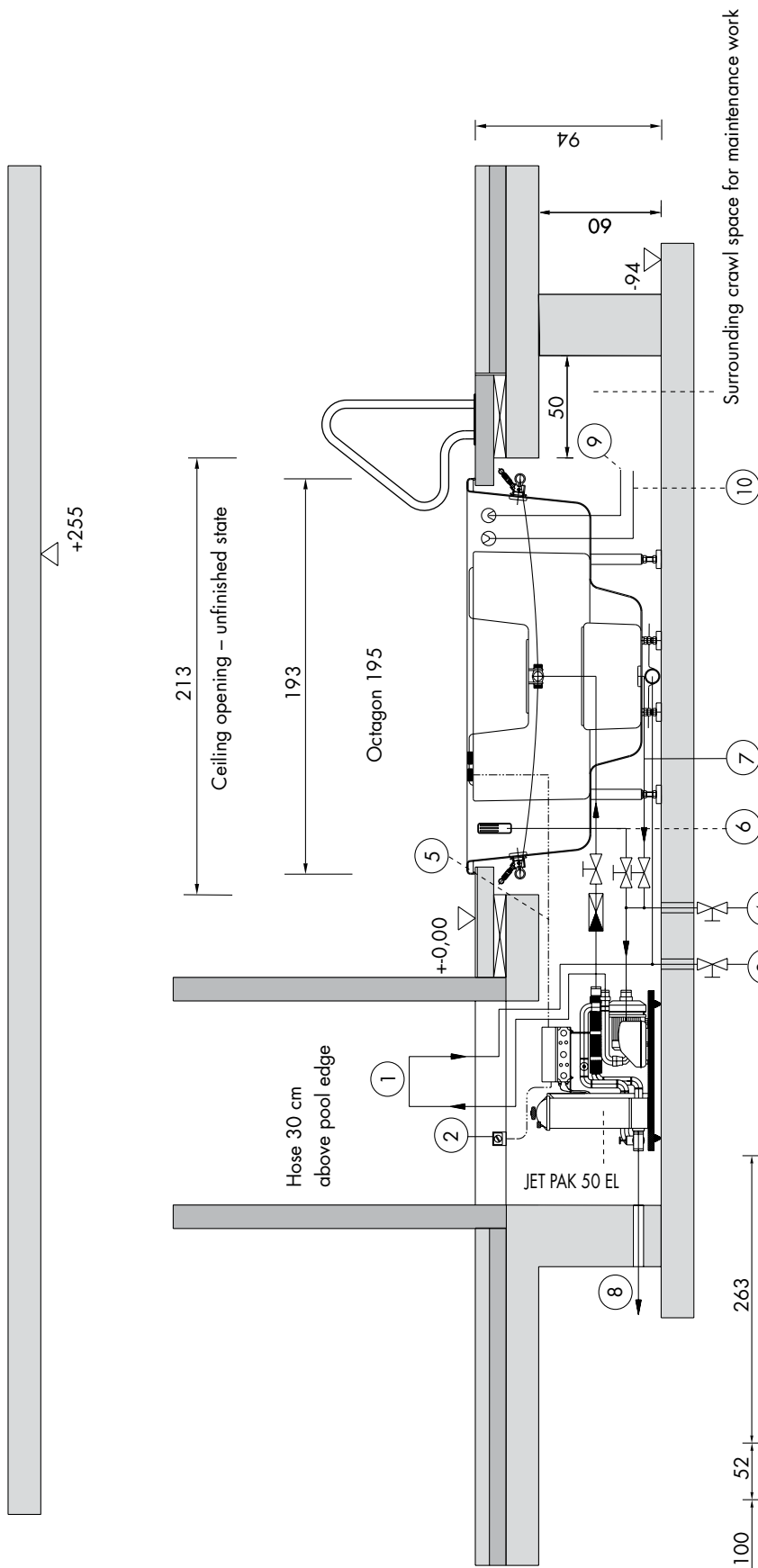
Drawn by:  
Chr. Tieck

Date:  
23.05.2002

**RivieraPool®**  
FERTIGSCHWIMBECKEN · WHIRLPOOLS

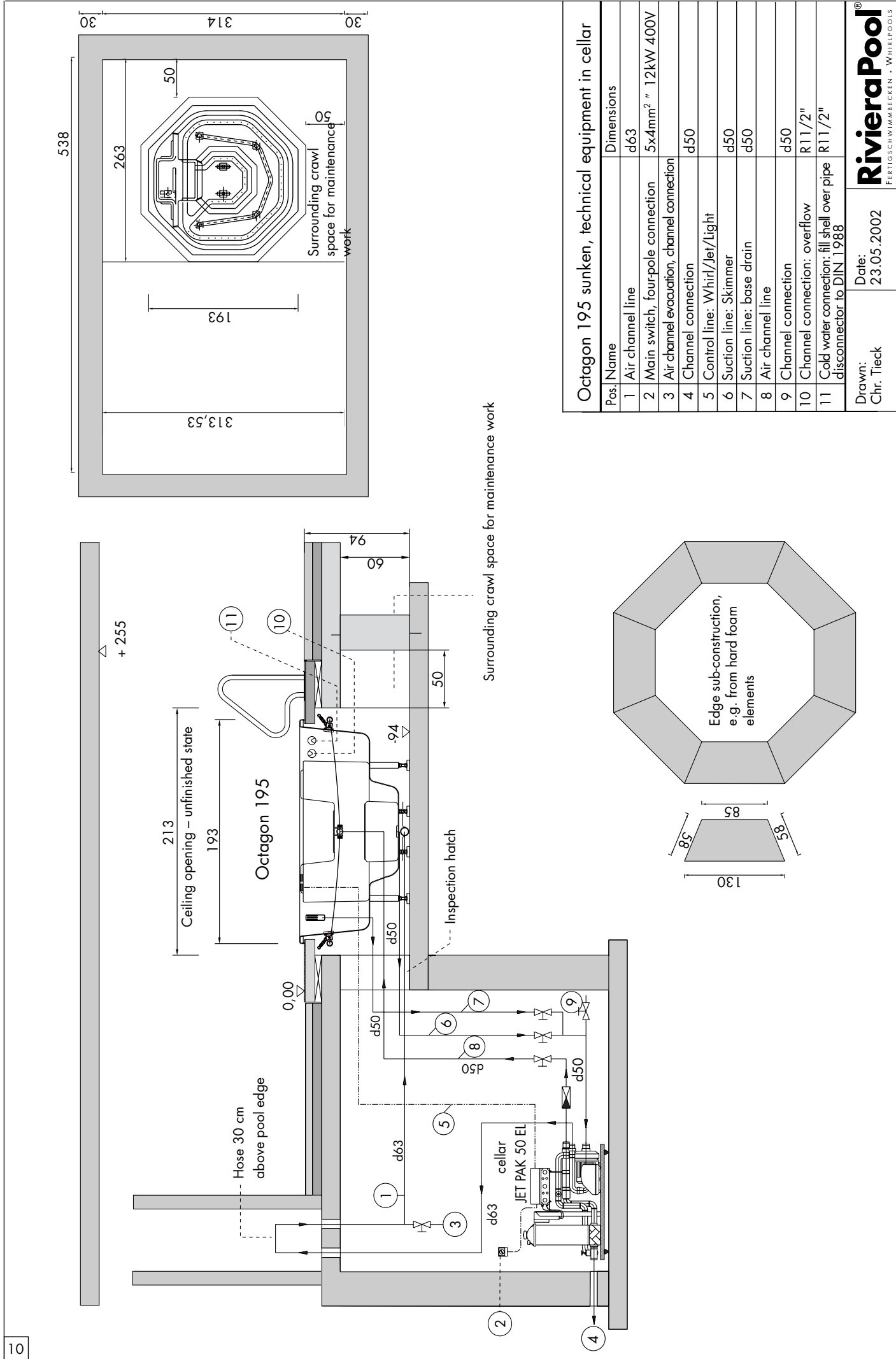


### 3.4. Fitting example of Whirlpool Octagon 195, sunken, technical equipment in adjacent room

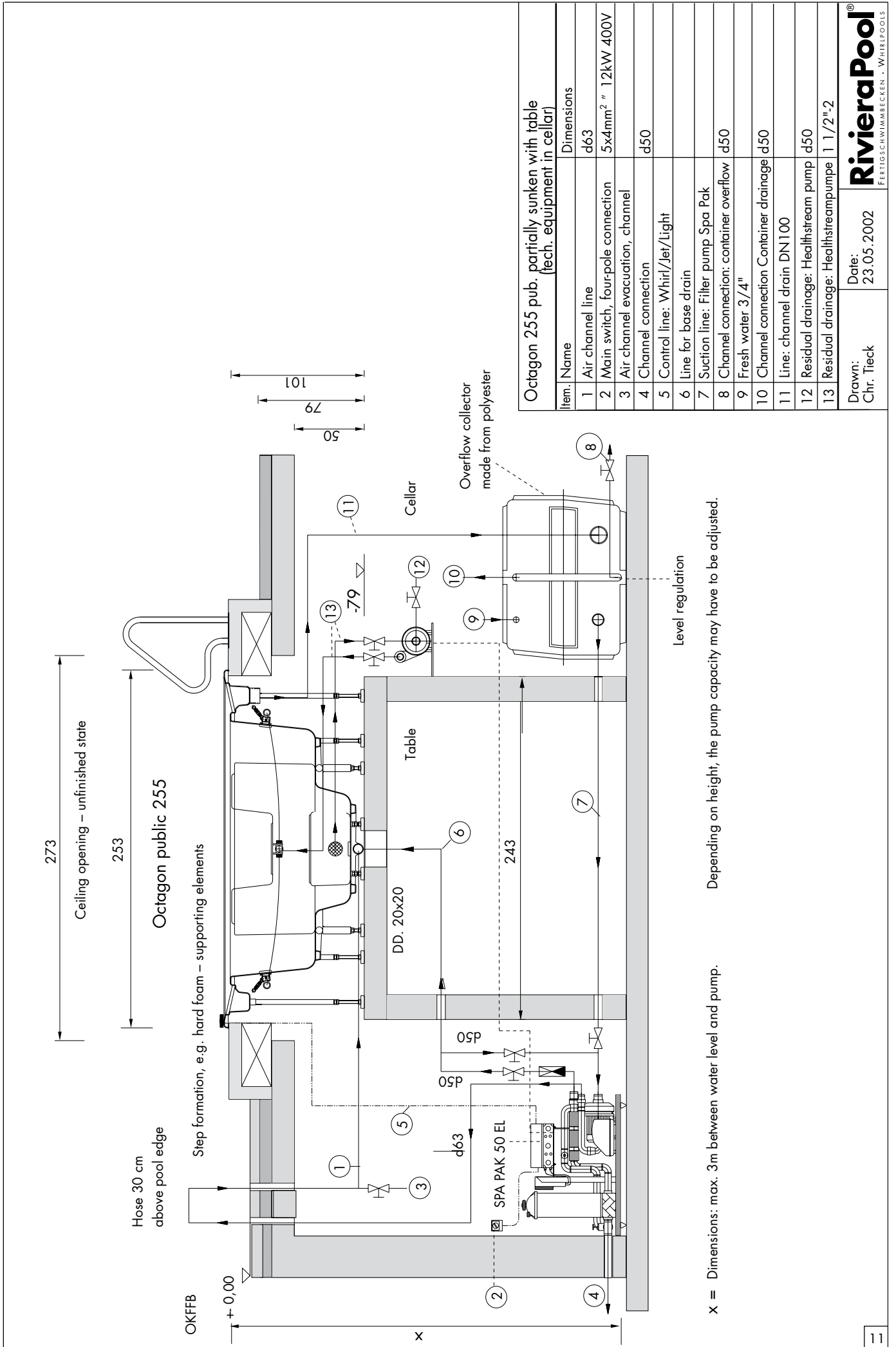


Octagon 195 sunken, technical equipment in adjacent room		Dimensions	
Item	Name	Dimensions	
1	Air channel line	d63	
2	Main switch, four-pole connection	5x4mm <sup>2</sup> " 12kW 400V	
3	Air channel evacuation, channel connection		
4	Channel connection	d50	
5	Control line: Whirl/Jet/Light		
6	Suction line: Skimmer	d50	
7	Suction line: base drain	d50	
8	Air channel line	d50	
9	Cold water connection: fill shell over pipe disconnecter to DIN 1988	R11/2"	
10	Channel connection, overflow	R11/2"	
Drawn by: Chr. Tieck		Date: 23.05.2002	
		<b>RivieraPool®</b> FERTIGSCHWIMMBECKEN · WHIRLPOOLS	

### 3.5. Fitting example for Whirlpool Octagon 195, inground, technical equipment in cellar



### 3.6. Fitting example for Whirlpool Octagon public 255 with overflow channel, partially sunken with table, technical equipment in cellar

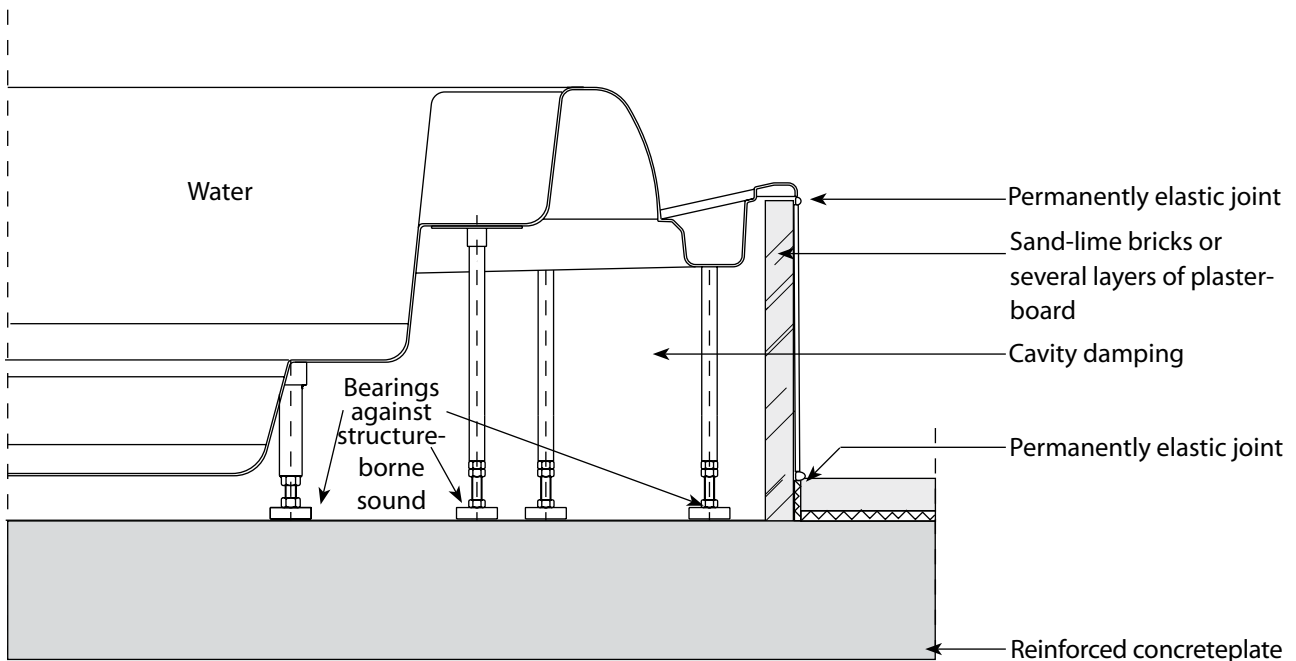


## 4. Sound insulation

### 4.1. Setting up the system – sound insulation

Due to their construction, whirlpools produce a certain level of noise, which is transmitted as structure-borne noise or airborne sound. In order to keep these sound transmissions as low as possible, we recommend setting up the installation according to the following plans:

#### 4.1.1. Setting up the system without particular sound insulation requirements

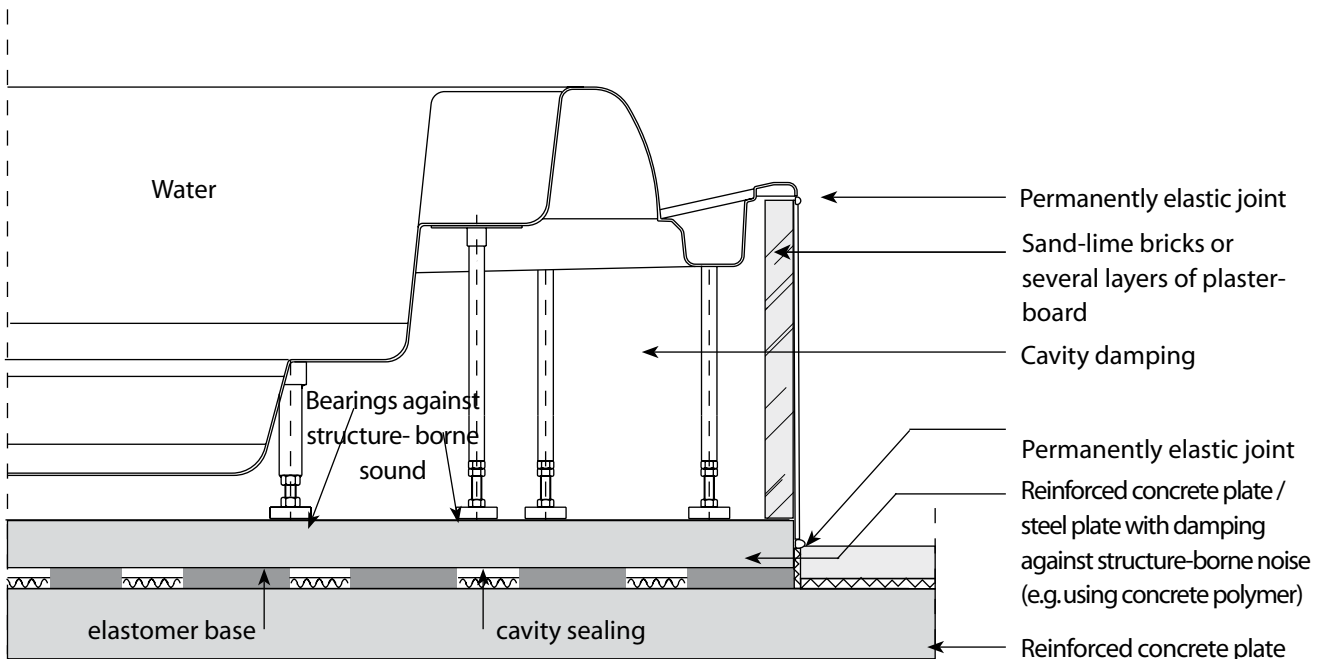


This recommended installation will only suffice as long as there are no rooms requiring protection to VDI4100/DIN4109 located below or adjacent to the installation room.

- The tub edge should not lie directly on the tub walling. Structure borne noise bridges must be avoided.
- Pipes passing through walls should not be in direct contact with the wall (casing to stop transmission of structure-borne noise).
- Fit compensators in the pipes between the whirlpool and the units.
- From an acoustic point of view, PUR foam in cans is unsuitable (structure-borne noise transmission).
- The space under the tub should be damped against air-borne noise (mineral wool mat or material of comparable acoustic value:  $d = 200 \text{ mm}$ ).
- Bearings against structure-borne noise under the tub feet.

## 4.1.2. Setting up the system with increased technical acoustic requirements:

There will be increased technical acoustic requirements if living rooms are located below the whirlpool. The sound level in these rooms underneath may not exceed 35 dbA under DIN4109 (in commercial rooms, this is 25 dbA). This level is dependent to a large extent on the building construction, the fitting and the set-up of the installation. In such cases, we therefore recommend individual acoustic planning based on the following.



This recommended installation will only suffice as long as there are no rooms requiring protection to VDI4100/DIN4109 located below or adjacent to the installation room.

- The tub edge should not lie directly on the tub walling. Structure borne noise bridges must be avoided.
- Pipes passing through walls should not be in direct contact with the wall (casing to stop transmission of structure-borne noise).
- Fit compensators in the pipes between the whirlpool and the units.
- From an acoustic point of view, PUR foam in cans is unsuitable (structure-borne noise transmission).
- The space under the tub should be damped against air-borne noise (mineral wool mat or material of comparable acoustic value:  $d = 300 \text{ mm}$ ).
- Bearings against structure-borne noise under the tub feet and below the reinforced concrete plate / steel plate; tuning frequency  $f_0 = 10\text{-}12 \text{ Hz}$ .
- If necessary, use elastic stop limits for the reinforced concrete plate (horizontal movement  $< 1 \text{ mm}$ ),  
Caution: connections!

## 5. Operating instructions

### 5. Operating instructions

The first start - up of the installation must take place before the pool is clad or enclosed. During the initial use, check the following points in particular:

- Stability of the whirlpools: are all of the adjustable feet evenly loaded?
- Tightness of the whole piping system in all operational modes
- Function of all units
- Development of transmission of noise

#### Proceed as follows for the first start - up:

##### 1.Fill the whirlpool:

- Close the gate valves in the channel connections.
- Open the gate valves in the circulation pipes.
- Close the stop valve (channel).
- Check that the filter lid is seated firmly, open the ventilating valve.
- Main switch to "OFF". Set temperature selector to 0.
- Close air controller (Aircontrol) by turning.

Now fill the whirlpool to 13 cm below the upper edge. In the case of whirlpools with overflow channels, fill to the upper edge. Fill the overflow collector up to approx. 10 cm above the air intake fitting. Use fresh water from the municipal mains for this. Ground water from springs in the garden often has excessively high amounts of metallic salts that will become oxidized by the disinfectant and then form a coloured deposit on the pool walls.

##### 2. Switch on:

Set the installation main switch to "1"

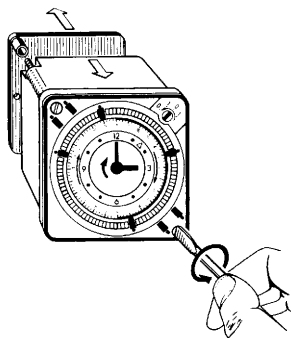
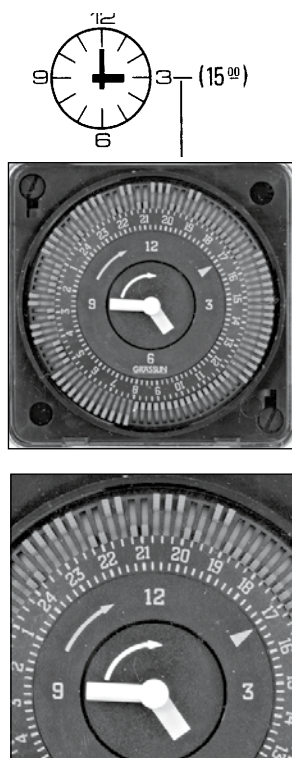
##### 3.Switch all functions through and check them:

Set the mode switch on the pool control switch box to continuous operation: The circulation pump will now run with a filter speed of approx. 1,400 rpm and take water to the filter tank which fills continually when the ventilation valve is open. When it is full, water will emerge – close the valve.





## 5.1. Timer switch and heater



### Be aware of the following for continuous operation:

#### • Filter operation

Daily filter time depends on the frequency and intensity of use, but should not be less than 8 hours.

The filter and heating installation can be switched using the daily timer. Several time intervals per day are available. Segments on the outer rim switch "ON"; segments placed to the inside switch "OFF". The shortest switch time is 15 minutes (1 segment).

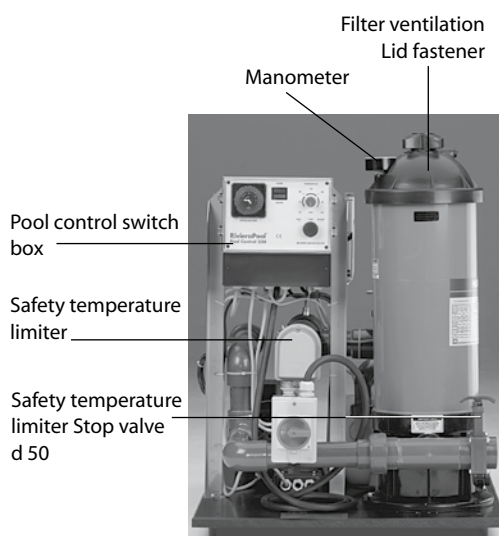
Program the timer so that the filter-heater installation switches on two hours before the intended bathing time, and switches off approx one hour afterwards. Then freshly-filtered water at a pleasant temperature will always be available for bathing.

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

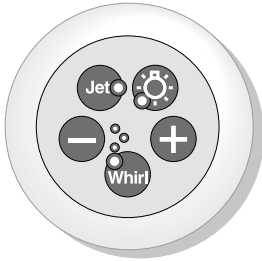
The Grässlin timer, type MIL 72 FM, has a plug-in fitting and can be easily dismantled and replaced. There are instructions on programming the clock in the terminal strip of the pool controls.

#### • Heating up

The bathing water will only be heated when the filter pump is running. Set the temperature selector in the pool control box to the desired bathing temperature – starting no higher than 35°C. When using a heat exchanger, set the selector button on the safety thermostat 2°C higher, to a maximum of 40°C.



## 5.2. Whirl and Jet mode



### Whirl mode

The blower can be switched on from the whirlpool. To do so, press the "Whirl" sector of the sensor button. The green LED will show that the device has started up.

To increase power, press "+".

To reduce power, press "-".

To turn off, press the sector again – the LED will go out.



### Jet Mode

The two speed pump in the Jet Pak provides the necessary quantity of water for operating the jets when the jet stage is switched on (approx. 2,800 rpm).

To switch on, press the "Jet" sector on the sensor button.

The correct massage effect is only obtained when air is mixed in. To do this, turn the "Airmix" air controller – you can use this to smoothly control the quantity of air. Turning anti-clockwise opens the controller.

To switch off, press lightly on the "Jet" sensor button:

The pump will switch off and after one second will start at filter speed. During filter mode, keep the air controller closed.

## 5.3. Lighting

### Underwater light

For switching on and off, simply press the button area with the light-bulb symbol on the sensor button.

#### Please note:

**The light may only be switched on when it is covered with water as this is required for cooling.**

**Under these circumstances, the lamp normally has a lifespan of approx. 1,000 hours.**

#### Changing the bulb:

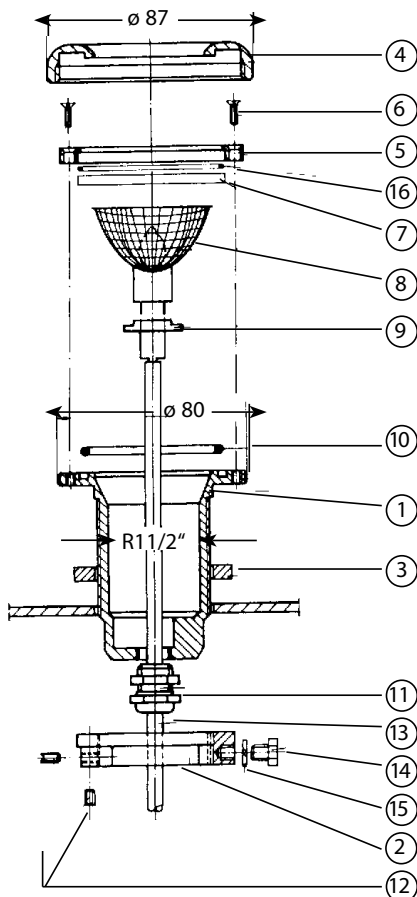
Unlike with swimming pools, the water in the whirlpool has to be drained out for changing the bulb:

Twist off front ring 4, loosen screws 6 – now the flange ring 5, lamp glass 7 and the O-rings 10 and 16 can be removed. Then pull the halogen bulb 8 from the socket.

Fit the new bulb in reverse order.

Make sure that the O-rings are seated correctly and tighten the 6 countersunk headed screws evenly!

Do not switch on until the bath is re-filled. All of the details can be found in the attached drawing.



Item.	No.	Name
1	1	Base element R 1/2" external dimensions (housing)
2	1	Locknut R 1/2" internal dimensions
3	1	Sponge rubber seal 72 x 50 x 6 mm
4	1	Light cover surround
5	1	Flange ring
6	6	Countersunk headed screw M4 x 10 V4A
7	1	Light glass
8	1	Halogen bulb 50W – 12 V
9	1	Connector
10	1	O-ring Ø 55 x 3.5
11	1	Screwed gland (PG 9)
12	2	Fuse grub screw M5 x 5 mm V4A
13	2 m	Silicon cable 2 x 1.5 mm
14	1	Hex screw M6 x 8
15	1	Spring washer DIN 127 – B6 U-screw
16	1	O-ring Ø 58 x 1.5

## 6. Care and maintenance

### 6.1. Water treatment

Good water treatment is the basis of perfect hygiene in the whirlpool. Clean and temptingly clear water is enjoyable and makes a significant contribution to your well-being. The following elements are included in the water treatment:

**Filtration:** This mechanically holds back any contamination dissolved in the water, using a filter.

**Flocculation:** By adding flocculating agents to the pool water, even the smallest contaminants are bound together, enabling them to be filtered out.

**pH value:** This states when the water is in "balance", when bathing is pleasant and the disinfectant agents can work to their best.

**Disinfection:** This kills any germs that have entered the water.

**Fresh water:** Adding disinfectants can generate salts, which are held at a low concentration by the addition of fresh water.

#### 6.1.1. Filtration

The filter installation should be run in automatic mode approx. 8 hours per day. To set the timer, see Point 5.1. In addition to regular filter operation, the filter cartridge needs to be replaced and cleaned.

##### Replacing the filter cartridge

The cartridge itself can last many years, but because of the dirt on the inside, the cartridge needs to be replaced by a new one at least every 12 months.

During this 12-month period of use, take out the filter at regular intervals and clean it from the inside out using a hard jet of water (please check the pressure stated on the filter tank). First drain out the water contained in the filter container: switch off the circulation pump, close all slide valves to the pool, open the shutting flap to the channel, open the ventilation valve. After loosening the large knob on the filter container, both the knob and the cover can be removed.

The filter cartridge is now visible, and can be removed by simply pulling upwards. Clean the filter container from inside as well. To do this, open the shutting flap to the channel (see above) so that the rinse water can drain out. When replacing the cover, make sure that it is seated correctly on the O-ring. Start up again according to the instructions given above.

##### Note:

Dirt in the cartridge affects the flow of water through the system and can result in reduced power in the massage jets as well as causing the heater to break down.

## 6.1.2. Flocculation

The addition of flocculating agents binds the finest contaminants and enables them to be filtered out. These tiny contaminants can be seen in the beam from the underwater light as tiny bubbles. In such cases, a solid flocculating agent should be used in the form of cartridges in the bathing water or in the skimmer basket. Do not use liquid flocculating agents, as the dosage can be problematical.

## 6.1.3. pH value

The pH value in the whirlpool should lie between 7.2 and 7.4. At this value, the disinfectant works at its best, the water is skin-friendly and non-corrosive. The powerful incorporation of air increases the pH value in a very short time. Manual lowering of the value is thus needed. This is done by adding a pH lowering agent, generally approx. 7 grams (for every 1000 litres of water) to lower the pH value by 0.1. The pH value should be regularly measured and regulated at least once a week.

## 6.1.4. Disinfection

The whirlpool can be disinfected using chlorine or oxygen products. The concentration depends on the preparation used and the manufacturer's advice. For inorganic chlorine, this is 0.6 – 1 mg/l, for example. The agent is added ideally in the form of tablets that can be placed in the skimmer basket or doser. Our recommendation: Add one chlorine tablet approx. 5 minutes before each bath. This will ensure a fresh addition of disinfectant during bathing.

## 6.1.5. Adding fresh water Changing the water

Salts build up when the bath water is disinfected, and should be kept to a low concentration. Changing the water by adding fresh water. Therefore the whirlpool should be topped up to its normal fill level of 13 cm below the bath rim after each bath. Change the water approx. every three months.

## Emptying the installation

When emptying the whirlpool, make sure that the whole installation is emptied, i.e. the shell, the air channel, the pipes and the technical equipment set. This can be guaranteed by opening all of the slide valves in the installation and to the channel.

The shell can also be emptied using the filter pump. To do this, proceed as follows:

- Close the slide valve in the suction pipe in front of the skimmer
- Close the slide valve in the pressure pipe to the massage jets
- Open the stop valve to the channel
- Set heater to "0"
- Switch on the pump to continuous operation; empty the air channel, pipes and technical equipment.

## 7. Bathing rules

### 7. Bathing rules

The water temperatures in a whirlpool are much higher than in swimming pools, for example, because the desired level of relaxation can only be achieved through the combined effect of heat and water movement. However, this can result in an increased stress on the circulatory system. The following bathing rules and instructions on water care should therefore be followed:

#### **Water temperature**

The water temperature should be approx. 36° C. Higher temperatures stress the circulatory system and lead to fatigue – lower temperatures of 32 – 33° C, for example, stimulate and refresh. The ideal bath temperature naturally depends on the individual's physical constitution.

#### **Duration**

The higher the water temperature, the shorter the duration of the bath. At 36° C, this should be about 20 minutes. At 38° C, this should be no longer than 10 – 12 minutes.

#### **Take a break**

After each immersion in the bath, you should take a period of the same length to cool down, either in the fresh air or in a cool swimming pool.

#### **Washing in advance**

Before each whirlpool bath, clean your body thoroughly by taking a shower. Because of the high temperatures, contaminants that enter the pool use a correspondingly high level of disinfectant.

#### **Sauna and whirlpool**

A sauna and a whirlpool should only be combined if your own physical constitution really allows this. In any case, a corresponding cool-down period should be maintained between each bath.

#### **Do not...**

Do not bathe after drinking alcohol, or immediately after eating, or if suffering from a cold, or if you have heart or circulatory problems.

**Do not add bath salts/bubble bath** to the whirlpool. These can foam up due to the incorporation of air, or contaminate the jet systems.

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