

STØRVATT®

MEGÈVE - FRANCE

**NORDIC BATH USAGE
MANUAL**

NORDIC BATHS



USAGE MANUAL

Congratulations! The wait is over; you're now the owner of a Størvatt Nordic bath! We hope that it will bring you plenty of enjoyment in the years to come.

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SAFETY INFORMATION



The bath is not a toy. Never let young children use the bath unsupervised or play near the uncovered bath. The bath is designed for sitting in and relaxing, not for playing or diving. Children must use the bath at the correct water temperature; it must not be too hot.

For wood fired heaters, avoid placing the stovepipe near flammable materials. The minimum safe distance from the house is 3 metres.

The maximum temperature is 45°C; above that temperature there is a risk of permanent damage to the heater. Such damage is not covered under warranty.

Caution: Check carefully that the drainage plug is properly inserted in order to avoid a water leak while the wood fired heater is in use. If the water level is too low it can create a fire hazard.

1/ YOUR BATH: GETTING STARTED

1.1 Location

It is important to identify the exact spot where your bath will be located, taking into account the following factors:

- The aesthetic value of the bath in your garden
- The view from the benches of your bath
- Privacy in the case of visibility by neighbours, or from a road or a path
- Exposure to wind, sun, or a tree with falling leaves in the autumn
- The proximity to your woodpile and water source
- Safety in regards to the stovepipe
- Ease of access for filling the wood fired heater
- The bath's accessibility

The most practical solution is to install your bath near a bedroom or bathroom. The bathroom, equipped with a shower and towels, is the ideal place to change, take a shower beforehand, and dry off afterwards. Having the bath near a bedroom can also be an agreeable option. After a relaxing moment spent enjoying the hot water, you can slide directly under the sheets and fall asleep relaxed.

1.2 Installation



The bath will arrive by transporter in a crate. Unpack it and roll or carry it to the prepared installation surface.

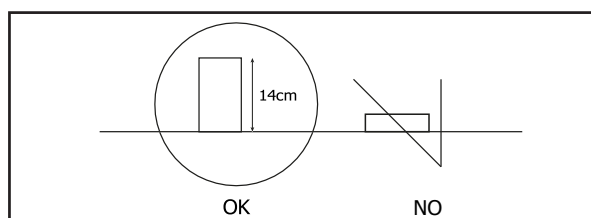
1.3 Preparing the installation surface.

The bath can be installed on a wooden deck, a concrete slab, or paving.

The full bath weighs between 1400 kg and 4625 kg, depending on the model.

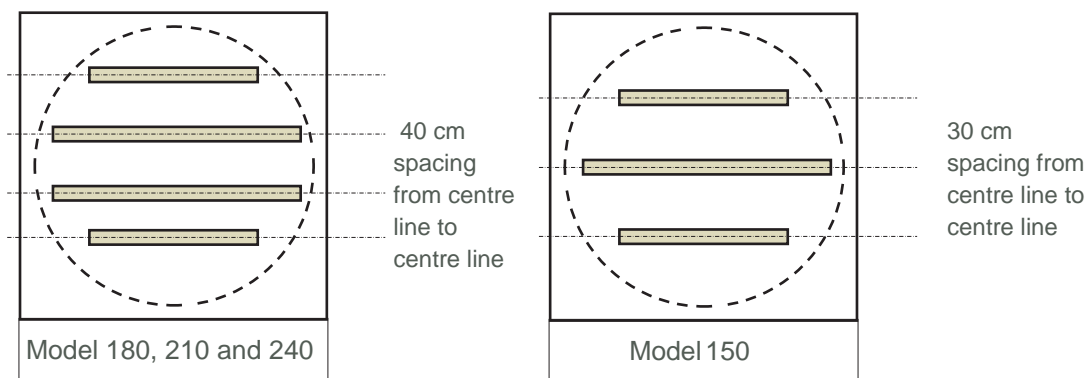
SPECIFICATIONS (Note: remember to add the weight of the bathers!!)				
Diameter	H 90 cm Bathers/volume/ weight when full	H 105 cm Bathers/volume/ weight when full	H 120 cm Bathers/volume/ weight when full	Weight empty
150 cm	2-3 people / 1200 L 1420 kg	2-3 people / 1400 L 1620 kg	2-3 people / 1600 L 1820 kg	220 kg
180 cm	4-5 people / 1750 L 2010 kg	5-6 people / 2100 L 2360 kg	5-6 people / 2400 L 2660 kg	260 kg
210 cm	6-7 people / 2400 L 2685 kg	7-8 people / 2800 L 3085 kg	7-8 people / 3300 L 3585 kg	285 kg
240 cm	7-8 people / 3000 L 3325 kg	8-10 people / 3800 L 4125 kg	8-10 people / 4300 L 4625 kg	325 kg

The bath must rest on the larch beams provided, according to the drawing shown below. The beams must always be installed perpendicular to the base planks, set on their edges and not flat.



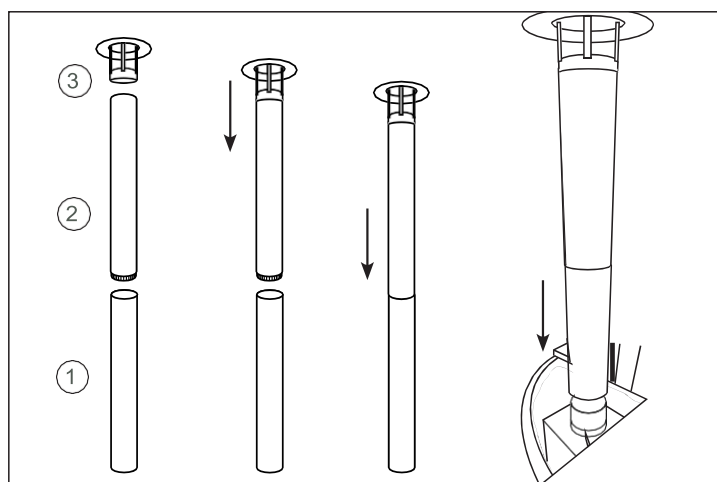
First install the beams with a slight slope (between 1cm and 1.5 cm) towards the drainage hole. Then install the bath on the beams, making sure that the drainage hole is not resting on a beam.

Once the bath is set up on the beams, install the accessories.



1.4 Installing the stovepipe

The stovepipe must be installed in a specific order. First assemble the female/female sections. Then install the chimney cap. Incorrect assembly may cause soot to come out of the joint between the two sections of the chimney pipe.



1.5 Bath watertightness

Fill the bath with 10 cm of water to avoid creating too much pressure at the base. If there is only minor leakage, continue filling the bath. Otherwise, let the wood swell a little.

Don't worry if you see a lot of water leaking out. Each construction is different. Wood is a heterogeneous material. Certain installations are immediately watertight, while others require several days for leaks to disappear.

Start heating the water slowly when the bath is full to the minimum level indicated on the wood-fired heater. Check that the water level doesn't drop below the minimum level indicated on the heater. Hot water makes wood swell more quickly.

It can take several days for the wood to swell completely and the bath to become waterproof. A cold climate can prolong this process. During the first filling, the bath may empty completely, but the wood will absorb some water. Be careful that the water that drains out does not damage the installation surface and the surrounding area.



The cover is exposed to a very high humidity gradient: 0% humidity above the cover and 100% humidity beneath it. It may curl as a result. With time, it will regain its initial shape. You can turn the cover over from time to time to correct this problem.

USEFUL TIPS

- 1 – Fill the very bottom (5 cm) of the bath with very hot water. Hot water makes wood swell very quickly. Wait a couple of hours, then finish filling the tub, or wait a couple of hours more if it still leaks.
- 2 – **Never try to tighten the hoops when the bath is full or damp.** This may damage the hoops and the vertical wooden panels, which are more fragile when they are wet. After a period when the bath has been out of use, you may need to tighten the metal hoops. Only do so if it is completely empty. The bottom hoop can be tightened significantly, the middle one a little less and the top one just a little.
- 3 – A garden hose left coiled or on the floor in a warm garage for several weeks with a little water stagnating in it is a perfect haven for bacteria. **Before filling your bath, always let the hose run for a couple of minutes in order to rinse it thoroughly.**

1.6 Bath hygiene

Bathers should shower before using the bath. Insufficiently treated or filtered water can cause rashes. With correct use, the hybrid filtration system allows you to use the same water for 1 to 3 months.

Long hair should be tied back so it doesn't get in the water.

1.7 Wood maintenance

The wood the baths are made with requires very little maintenance. If your bath starts to show its age after several years of use, you can sand the interior with very fine sand paper in order to restore its vibrant hue.

If the walls of the bath become slimy, you can wash the wood with a pressure washer (make sure to adjust the pressure correctly), or with a soft sponge and a diluted bleach solution. Don't forget that sun damages wood as much or even more than rain.

Always cover your bath to prevent the sun from drying out the interior.

1.8 When the bath is not in use

If your bath is not equipped with a filtration system, it is better to empty it, since the water may become stagnant. However, you can leave a couple of centimetres of water at the bottom so the bath will stay watertight.

If your bath has a hybrid or permanent filtration system, it is better to leave water in it all year long so the filter can function continuously. The moving water will prevent the technical components from freezing.

Leaving the bath empty does not pose a risk for the wood. On the other hand, if the wood has dried out a lot it will take several days before it is watertight again. If the weather is very hot and dry, it is best to leave a little bit of water in the bath. Five to ten centimetres is sufficient.

If the wood has dried out a lot, you can tighten the lower metal hoop before refilling the bath. The upper hoop should be tightened as little as possible, as indicated in the useful tips listed above.

1.9 Moving the bath

You can move the bath either by carrying it or by rolling it on its side. To do so, take off the stovepipe, remove all of the connections, remove the technical components/filtration system by disconnecting the pipes, and remove the cover and the stainless steel plates. With the help of others, tip the bath onto its side and roll it gently to its new location.

2/ HEATING

2.1 Classic bath, 100% wood-fired heating

The wood-fired heater is made of aluminium and may become deformed if it is not submerged in water while it is heating. Always ensure that the water is at the minimum level indicated on the side of the heater.

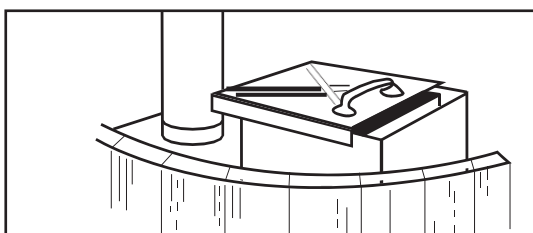
It is very important that the horizontal part of the heater, where the stovepipe is connected, be submerged under at least 3 cm of water.

Most problems arise when the owners of the bath allow friends to use it without providing them with sufficient information. Copy this usage manual and give it to potential users.

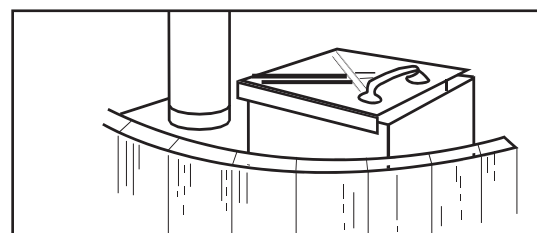
When you empty the bath, make sure that there are no residual flames or coals in the heater.

The wood-fired heater is easy to light:

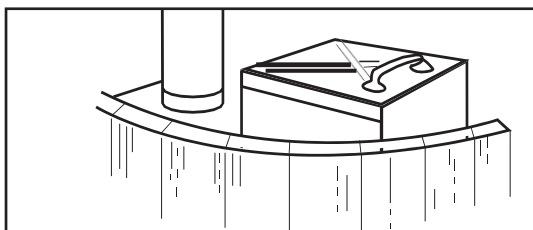
1. Place some newspaper or fire starters at the bottom of the firebox.
 2. Place some kindling crosswise on top of the newspaper.
 3. Light the newspaper, then put the lid on in position 1.
 4. Once the kindling is well lit, add some slightly larger wood. Always wait for the wood to start burning before adding more. Add more wood frequently in order to maintain a lively fire. When the water is within 5 degrees of the desired temperature, close the damper halfway.
 5. Stir the water occasionally using a board or a paddle. The cold water tends to sink to the bottom. Check the temperature to see if you need to add more wood.
 6. Always check the temperature before getting into the bath. The target temperature is a matter of personal taste, but we recommend that you aim for and maintain a temperature of around 37 to 39°C, close to human body temperature. The following illustrations show the correct lid positions used to manage the size of the fire in the heater.
- WARNING:** check carefully that the drainage plug is properly installed in order to avoid a water leak while the wood-fired heater is lit. If the water level is too low it can create a fire hazard.



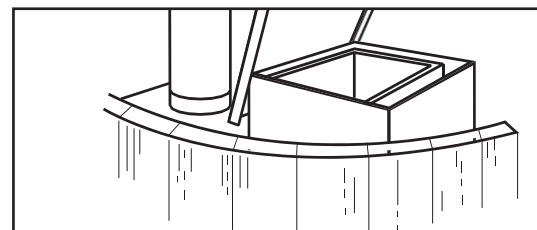
Position #1: the lid must be open to the metal plate of the stove in order to allow the maximum amount of fresh air in.



Position #2: If you want the heater to heat more slowly, close the lid to halfway between the metal plate and the edge of the heater.



Position #3: You can let the fire go out by closing the lid completely. There is no more air to feed the fire.



Position #4: Open the lid completely by letting it rest on the top of the heater while you are filling it.

Heater efficiency and temperature control:

The time required to heat the water depends on several factors:

- The initial water temperature.
- The quality of the wood used.
- **The humidity of the wood (a very important factor).**
- How frequently wood is added to the heater.
- The size of the logs (the more they are split, the more heat they will produce).

For an equal amount of weight, all types of wood give about the same amount of heat output. Softwoods burn quickly and produce good heat thanks to their lively flames.

For maximum heating speed, cut your wood into small pieces in order to have a very lively fire, feed the fire as regularly as possible, and open the damper all the way.

Hot water naturally rises to the surface, so you should stir the water to even out the temperature. If your bath is equipped with a filter, the water will be stirred automatically.

If the water is too hot, you can cool it down by adding cold water.



Tip:

We recommend that you raise the water temperature by burning softwoods or beech. Once the bath is in use, maintain the water temperature with one or two logs of oak (slow burning).

Wood-fired heater maintenance:

Your wood-fired heater will heat better if you remove the ashes regularly. The bottom of the heater serves as an important heating surface when the coals are in contact with it.



Tip:

At the end of the bath session, gather the hot coals towards the damper on the left. This will create a secondary burn. If you do this regularly, you'll have very little residue and much less maintenance.



WARNING:

**The stovepipe can be extremely hot during use.
Be very careful, especially with children or when adding wood.**

The stovepipe cools down very quickly once the damper is closed.

2.2 Heating with a hybrid system

Consult the usage manual for the TP400 keypad provided with your bath.

2.3 Heating with a 100% electric system.

Because of the 3 kW power of the electric heater, compared to the 20 to 40 kW provided by the wood-fired heater, heating time is much longer; about 1 to 1.5 °C per hour. Make sure to cover the bath to limit any heat loss. The technical components must always be supplied with power.

3/ FILTRATION SYSTEM INSTALLATION AND MAINTENANCE

3.1 Portable skimmer filter

- Turn on the skimmer a minimum of once a day for two hours.
- Use a floating dispenser with active oxygen or 2-3 bromide tablets.
- Shock the water once a week with chlorine free spa shock
- Shock the water systematically after heavy use (with chlorine or chlorine free spa shock).

If you're going away for several days, make sure that the water is clean and free from bacteria before you leave. Before leaving, treat the water with chlorine or chlorine free spa shock, which will kill all bacteria. When you return, shock the water again and wait at least 2 hours before using the bath.

Wait at least 12 hours before going back to the usual water treatment method (skimmer + floating dispenser with active oxygen or bromide tablets).

Before shocking the water, check the pH and adjust if necessary.

3.2 External filtration system equipment

There are two possible types of filtration units:

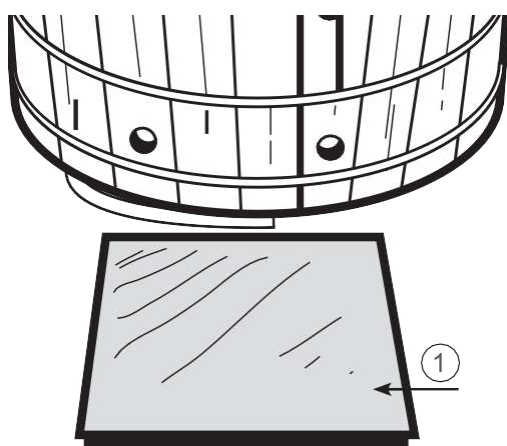
1. Cartridge filter system
2. Cartridge filter + heater (hybrid system)



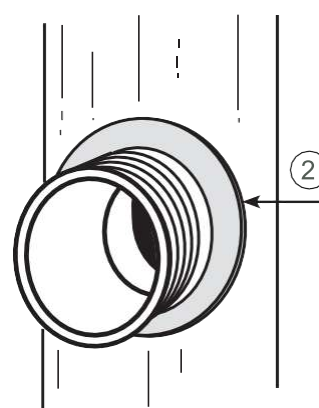
ELECTRICAL REQUIREMENTS

- Bath with pump filter: 180 W and single phased 2 A.
- Hybrid bath with pump filter: 180 W and single phased 2 A. Heater: 3 kW/h

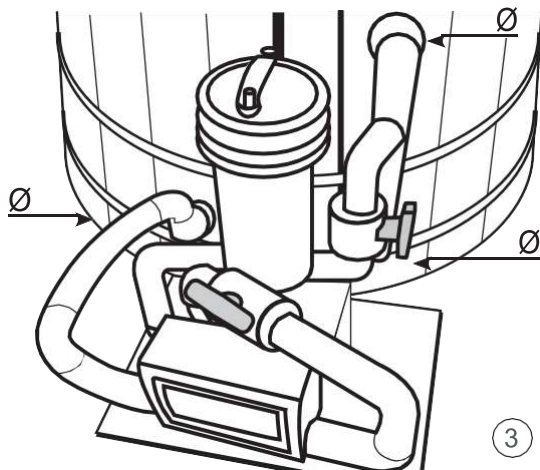
Installation of the technical components (for both versions)



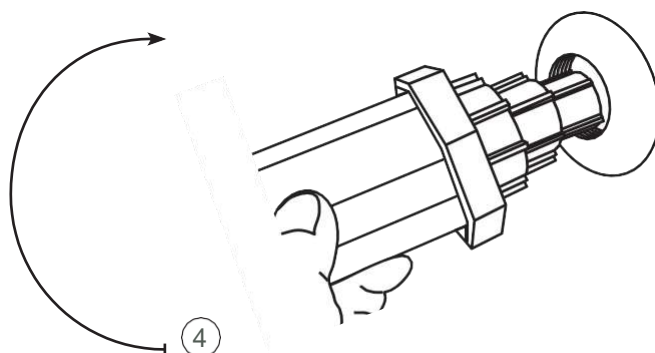
1. An insulated composite plate allows you to install the components on a very stable surface that is insulated from the ground. Centre the plate between the holes in the bath. It can then be easily centred in the housing unit.



2. Install the wall bushings with the seal on the outside. No silicone is necessary; the seal provided is sufficient.



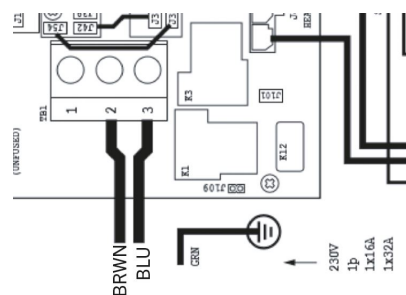
- 3. Installation of the technical components up against the 3 holes.



- 4. Screw the wall bushings onto the components of the technical equipment using the wrench. You can tighten firmly by hand. Do not use pliers!

Electrical connection (hybrid system)

Before installing the housing unit, you need to hook up the heater to the electricity. Open the door in the facade, then make the connections according to the diagram below. The electricity hook up should always be done according to current norms by a certified electrician.

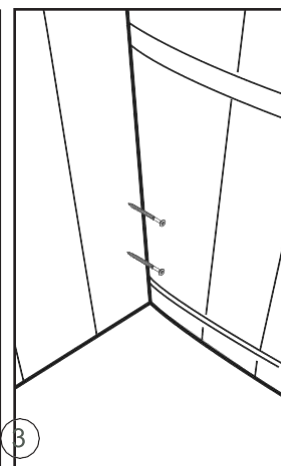
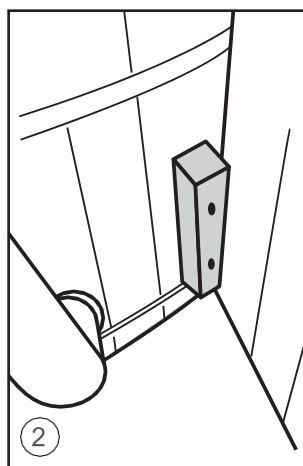
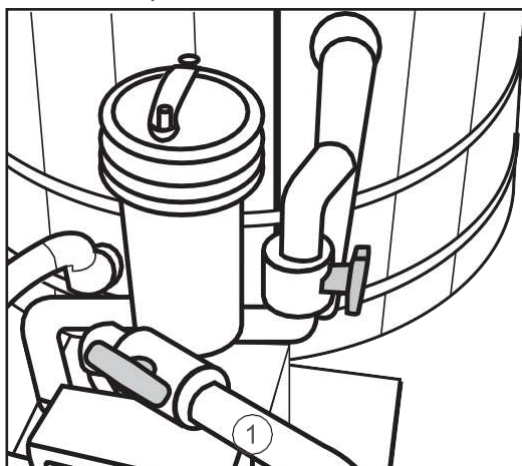


WARNING: Tighten the cables on the power supply terminal block, otherwise there is a risk of malfunction or even fire.

Installing the housing unit

Once the technical components have been hooked up to the bath, you can assemble the housing unit. The unit is assembled with two wood brackets that are screwed onto the bath.

The locations are marked with a pencil line. There are also screw holes. Each bracket has its own respective location.



STARTING THE TECHNICAL COMPONENTS

Once the bath has been filled to at least 5 cm above the upper water intake, you can turn on the power.

For the hybrid system, refer to the TP500 keypad usage manual.

During the first start-up, the heater tests for possible air pockets before starting the pump. This process can take 3 minutes.

4/ WATER: TREATMENT – FILTRATION – MAINTENANCE – FREEZING

4.1 Sanitation issues

At 38°C, bacteria can grow very quickly. This is why the water must be filtered, disinfected, and have antiseptic properties.

The number of bathers per m³ is also very important. If you count the number of uses of the bath in one week, that number can easily amount to 20 people. Over one month, this amounts to a total of 80 bathers using a very small volume of water, 2m³.

The main risks:

- *Pseudomonas aeruginosa* is a bacteria that lives in soil, water and humid environments and adapts easily to hostile conditions. Its numerous virulence factors make it a highly pathogenic agent for fragile or immunocompromised individuals, leading to a high rate of morbidity and mortality.
- Multiple types of bacteria, some more harmful than others, can grow in humid environments. They are difficult to eradicate because numerous strains are resistant to multiple antibiotics.
- Legionnaires' disease is a potentially fatal disease caused by bacteria. It causes acute lung infections. The recent emergence of the disease is attributed to the bacteria's affinity for modern water supply systems like cooling towers, air conditioners, jet whirlpool baths, Jacuzzis, hot water pipes, etc.



Sanitation issues are thus to be taken very seriously. Two key points must be observed: water treatment and water filtration

4.2 Water treatment

We recommend bromine, which is very stable at high temperatures, less sensitive to changes in pH, and less irritating than chlorine. Bromine is placed in the tube of the cartridge filter, which allows for continuous release of the product. It is released continuously according to the filtration cycles. Once the tube is full, bromine will be released for at least fifteen days.

"Shock" your water regularly with either chlorine or chlorine-free spa shock (chlorine is the most effective disinfectant), particularly after intensive use or before a weekend when you know the spa or bath will be heavily used.

The keys to effective water treatment are:



- Two filtration cycles per day, lasting 2 to 10 hours each, depending on the number of bathers and the water temperature.
- PH checked every week and correctly balanced, ideally at 7.2 (between 7.0 and 7.6 or 7.0 and 7.4 for chlorine).
- A shock treatment after intensive usage.
- A filter that is properly maintained, clean, and disinfected once a week.

Changing the water

The need to change the water depends mostly on:

- The frequency of bath use.
- Whether bathers take a shower before using the bath or not.
- The care and diligence devoted to water treatment.
- The quality of filtration.

Red Cedar is a very tannic wood, so the water will quickly turn amber and even dark red. This phenomenon will diminish after a couple of months and eventually disappear. The colour of the water has no negative impact on the water quality. From then on, even if the water appears clear to the eye and the parameters are correct (pH), we recommend that you empty the bath completely once every three months at minimum.

4.3 Filtration

Water filtration makes it possible to homogenise water treatment and to eliminate any clustered particles that might protect bacteria from the bactericide.

The filter must be cleaned regularly (about once a week) because the device itself can become a haven for bacteria.

Clean the filter with a specially formulated product or soak it in a bleach solution and rinse with a high-pressure stream of water.

Both water filtration and water treatment are essential to maintaining good water quality. Calculating daily filtration time: filtration time = the water temperature divided by 2 + 1 hour. For example: $38/2 + 1 = 20$ hours of filtration per day

Maintaining and cleaning the filter

To take out the filter:

1. Shut off the electricity.
2. Close the valves as shown in the photo (turn them perpendicular to the pipes).
3. Unscrew the filter collar.
4. Open the cover by pulling on the handle. The movement is similar to uncapping a bottle. To make the operation easier, unscrew the air release valve by 1 or 2 turns. Hold the rest of the filter unit firmly so as not to pull on the other technical components.
5. Take out the filter and clean it or change it for a clean one.



Collar

Valve

Air release
valve

Stop

To install a new filter:

- 1. Once the filter cartridge has been changed, firmly replace the cover.
- 2. Screw in the collar. Once it is screwed in completely, screw back in the other direction until the stop locks into a hole (about a quarter turn).
- 3. Open the valves as shown in the photo.
- 4. Unscrew the air release valve one or two turns to purge the trapped air. Close the valve when water comes out of the air release valve instead of air.
- 5. Turn on the power.



Put bromide tablets in the brominator.



4.4 Freezing

Even if your full tub freezes solid, there is little risk of damaging it. The design of Størvatt baths, particularly the use of stainless steel hoops (rather than metal strips), allows us to guarantee completely against damage from freezing.

On the other hand, the technical filtration components (hybrid system or filter only) can be damaged by freezing. Moving water does not freeze, so the circulation pump should run on frequent cycles or even continuously when it is cold.

Ask your electrician to install a timer on your electrical panel. This will allow you to program the filtration cycles according to the seasons.

There is no need for a timer on the electrical panel if you have a hybrid system. The heater is equipped with sensors and will automatically prevent the system from freezing.

USEFUL TIPS

- 1 – **Avoid changing the water in very cold temperatures (-10°C and below).** The pump may freeze in the time it takes to empty and refill the bath.
- 2 – **In case of temperatures below 0°C, never leave the filter system for the bath without power.** If the pump is off there is a risk of permanent damage.
- 3 – If you would like to take your Nordic bath out of use for the winter, **you will need to purge all of the pipes.** To do so, partially unscrew the junctions and the purge under the pump. Don't forget to tighten the junctions again before filling.
- 4 – **Water treatment products must be stored in their original packaging in a closed, dry room, out of reach of children.**

EXAMPLE OF WATER MAINTENANCE ROUTINE

Filling and starting

- Let the hose run for several minutes next to the bath, in order to eliminate stagnant water that may remain in the hose and is unclear for bathing
- Fill the bath.
- During this time, fill up the appropriate tube with bromine disinfectant (2-3 tablets of bromine).
- Check the state of the filter. If it is not clean it should be changed.
- Turn on the filter when the bath is full, the upper water intake is submerged, and the water has reached the minimum level indicated on the heater.

Warning: if you turn on the filter before the upper water intake is submerged, you risk air binding the filter system and creating permanent damage (not covered under warranty).

- Check the pH (ideally 7.2) and the level of alkalinity. Adjust if necessary by adding pH+ or pH- directly to the tub.
- Check the level again after 15 minutes.
- Once the pH is balanced, add chlorine spa shock to disinfect the water (directly to the tub).



Caution: all products in powder form must be added directly to the tub while the filter is running. Sprinkle powder evenly over the surface of the water. The filter must be running, otherwise the powder will sink to the bottom and may permanently stain the wood.

WEEKLY MAINTENANCE – PRIVATE BATH

Every Saturday

- Clean the cartridge filter by washing it in a diluted bleach solution and rinsing it before putting it back in place.
- Check the pH (ideally 7.2) – Readjust if necessary.
- Check the alkalinity – Adjust if necessary.
- Check the level of bromine remaining (located in the tube of the cartridge filter), refill if necessary, about 2-3 tablets per week.
- Check that the intake grills are clean and clean if necessary.

Every Wednesday

- Disinfect the water with chlorine-free spa shock (“CHOC SANS CHLORE”) to reactivate the bromine or “FLASH DISINFECTION”. These products are mixed directly into the water with the filtration system running.

CAUTION: do not use the bath just after using these products. Consult the product instructions.

In case of heavy use

- The day before, with the filter running, shock the water with FLASH DISINFECTION. Repeat the procedure at the end of the weekend.
- Empty the bath every 1 to 3 months (depending on usage).

WEEKLY MAINTENANCE PROCEDURE – RENTAL PROPERTY BATH

Every Saturday

- Empty the bath.
- Clean the cartridge filter by washing it in a diluted bleach solution and rinsing it before putting it back in place.
- Check the pH (ideally 7.2) – Readjust if necessary.
- Check the alkalinity – Adjust if necessary
- Check the level of bromine remaining (located in the tube of the cartridge filter), refill if necessary, about 2-3 tablets per week
- Check that the intake grills are clean and clean if necessary.
- Treat with flash disinfection.

Every other day when the property is occupied

- Use chlorine-free spa shock to reactivate the bromine (“CHOC SANS CHLORE”).

CAUTION: do not use the bath just after using these products. Consult the product instructions.

Empty the tub after each rental. After each refilling:

- Check the pH (it must be between 7.0 and 7.6).
- Check the level of bromine remaining (located in the tube of the cartridge filter), refill if necessary.
- Use FLASH DISINFECTION (chlorine spa shock): be careful not to use the bath just after using these products. Consult the product instructions.

WHEN THE BATH IS NOT IN USE (hybrid or electric system)

In the case of a prolonged period without use, lower the temperature to the minimum (10°C), shock the water and keep the brominator full. Before resuming use, shock the water or empty the bath.



Tip: To easily open the filtration system, do as if you were uncapping a bottle.



Excessive use of treatment products can damage the wooden walls, causing the red cedar to shed cellulose (white filaments)
If this occurs, empty the bath, sand the inner walls lightly, rinse and refill with water.