COLD PLUNGE MANUAL

GLACÉ

CASA BLUI

MAIN SECTIONS INDEX

Proper preparation of the premises and systems will ensure a safe and rapid installation of the unit. For this reason we advise you to read this manual carefully and to carefully follow all the information contained herein.

CRUCIAL HYPOTHERMIA INSIGHTS

Extended exposure to cold water may induce hypothermia, necessitating a balance between warmth and cooling. Hypothermia occurs when your body's heat loss exceeds heat production, affecting internal temperatures. Four primary heat exchange mechanisms (conduction, convection, radiation, and evaporation) regulate body temperature.

When warming mechanisms like shivering fail to counteract cooling, hypothermia manifests.

Symptoms progress through stages:
MILD HYPOTHERMIA: Shivering, goosebumps, impaired motor skills.

MODERATE HYPOTHERMIA: Intense shivering, sluggishness, speech difficulties, impaired fine motor skills.

SEVERE HYPOTHERMIA: Muscle rigidity, confusion, cessation of shivering, cyanosis, erratic heartbeat, unconsciousness.

Recognizing these signs is crucial for prompt intervention and prevention of severe consequences.

SAFETY RISKS

- **Risk of drowning.** individuals under 18 years of age must not utilize the Plunge unless approved by a medical professional and under constant supervision.
- **Risk of hypothermia.** Cold water immersion poses a severe risk of hypothermia, potentially fatal. Cease usage immediately and dial 911 if symptoms occur.
- **Risk of fetal damage.** Extreme cold forces the body to pull blood away from the extremities and uterus , potentially causing fetal distress.
- **Risk of entrapment.** The suction fittings are designed to match the pump's water flow. Only operate with intact fittings.
- **Risk of electric shock.** Disconnect power immediately if an electrical fault is detected, and do not restore power until the fault has been identified and corrected.
- **Risk of serious injury or death.** Do not dive into the plunge.
- **Risk of serious injury or death.** Plunge surroundings can be slippery when wet.

! WARNINGS

- Read and follow all instructions before installation, operation, or maintenance.
- Installation, electrical connection, grounding, and bonding must be carried out by qualified personnel in accordance with all applicable local and national regulations.
- Users with reduced physical, sensory, cognitive capabilities, or without adequate experience, may only use the unit under proper supervision.
- Warmer water temperatures are recommended if used by young children, for prolonged use, and for users who are alone.
- The use of alcohol, drugs, or medication before or during plunge use may lead to unconsciousness, drowning, or fatal hyperthermia.
- Persons using medication, or persons with obesity, heart disease, high or low blood pressure, circulatory disorders, diabetes, clotting disorders, or similar medical conditions, must consult a physician before using the unit.
- Persons with infectious, skin, or contagious diseases must not use the plunge.
- Exercise caution when entering or leaving the plunge.
- Do not place your head under water.
- Do not ingest Plunge water.
- Prolonged immersion in very cold water can be hazardous to your health.
- **If pregnant or may be pregnant:** Do not use the plunge without explicit clearance from a medical professional **---** Rapid changes in temperature can cause lightheadedness or fainting, making slips and falls a major hazard **---** Prolonged exposure can lower the mother's core body temperature, affecting fetal thermoregulation.
- If the product-dedicated outlet is equipped with a GFCI, it must be tested before each use according to the manufacturer's instructions.
- Unauthorized modifications, tampering, misuse, or maintenance not performed as instructed may cause injury, death, equipment damage, and void the warranty.
- During installation and maintenance, keep unauthorized individuals away from the work area.
- Before performing any maintenance, disconnect the electrical and water supply if present.
- Cleaning and disinfecting chemicals must be kept tightly closed, properly labeled, and stored out of reach of children and pets.

CAUTION: MAINTENANCE SUBSTANCES

- Maintain water chemistry in accordance with the manufacturer's instructions.
- Perform regular maintenance to ensure safe, hygienic, and reliable spa operation.
- Use appropriate personal protective equipment during installation, maintenance, and chemical handling.
- Use only products and chemicals specified or approved by the manufacturer.
- Clean the filter regularly and, where applicable, drain, clean, and dry associated components whenever the plunge is emptied.
- Do not place objects inside the unit during installation or maintenance, as they may fall into the system or damage components.
- When not in use, keep the unit covered if a cover is provided.
- The cover is not load-bearing. Do not walk, sit, jump, or place objects on it.
- Store chemicals in a cool, dry place away from heat sources.
- Dispose of packaging materials in accordance with local regulations and keep them away from children and animals.

NOTICE

- **Use only products and chemicals specified or approved by the manufacturer**
- **Contact the manufacturer if any instruction is unclear.**
- **Keep this manual for future consultation.**

WARRANTY

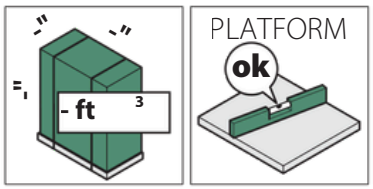
The manufacturer *cannot be held responsible and voids warranty* in the case of:

- Installations or connections that are not compliant or that are carried out without following the national regulations concerning civil and industrial installations.
- Pre-installation and installation carried out by unqualified personnel or otherwise not in compliance with the instructions in the pre-installation and installation requirements of the product;
- Incorrect preparation of the installation environment, Including load-bearing surfaces;
- Accidents and damage due to a non-compliant installation or use of the unit;
- Masonry works that prevent the removal and handling of the unit or defective parts thereof.
- Product installations for which an according compliance checklist has not been submitted by the installer.
- The installer, acting on behalf of the seller or user, does not conduct an appropiate inspection of the Product's condition before installation. The warranty will not be valid if the Product is installed without this inspection.
- The installer, acting on behalf of the seller or user, does not ensure a correct plunge (and all of its components) operation once installed, in order to confirm proper installation and water-hardness. The warranty will not be valid if this verification is not carried out.
- the Product being inspected, repaired, maintained, or handled by an unauthorized person without the manufacturer's knowledge & previous approval.
- All damage to the product resulting of unusual or extraordinary wheather conditions or climatic events are not covered by warranty.

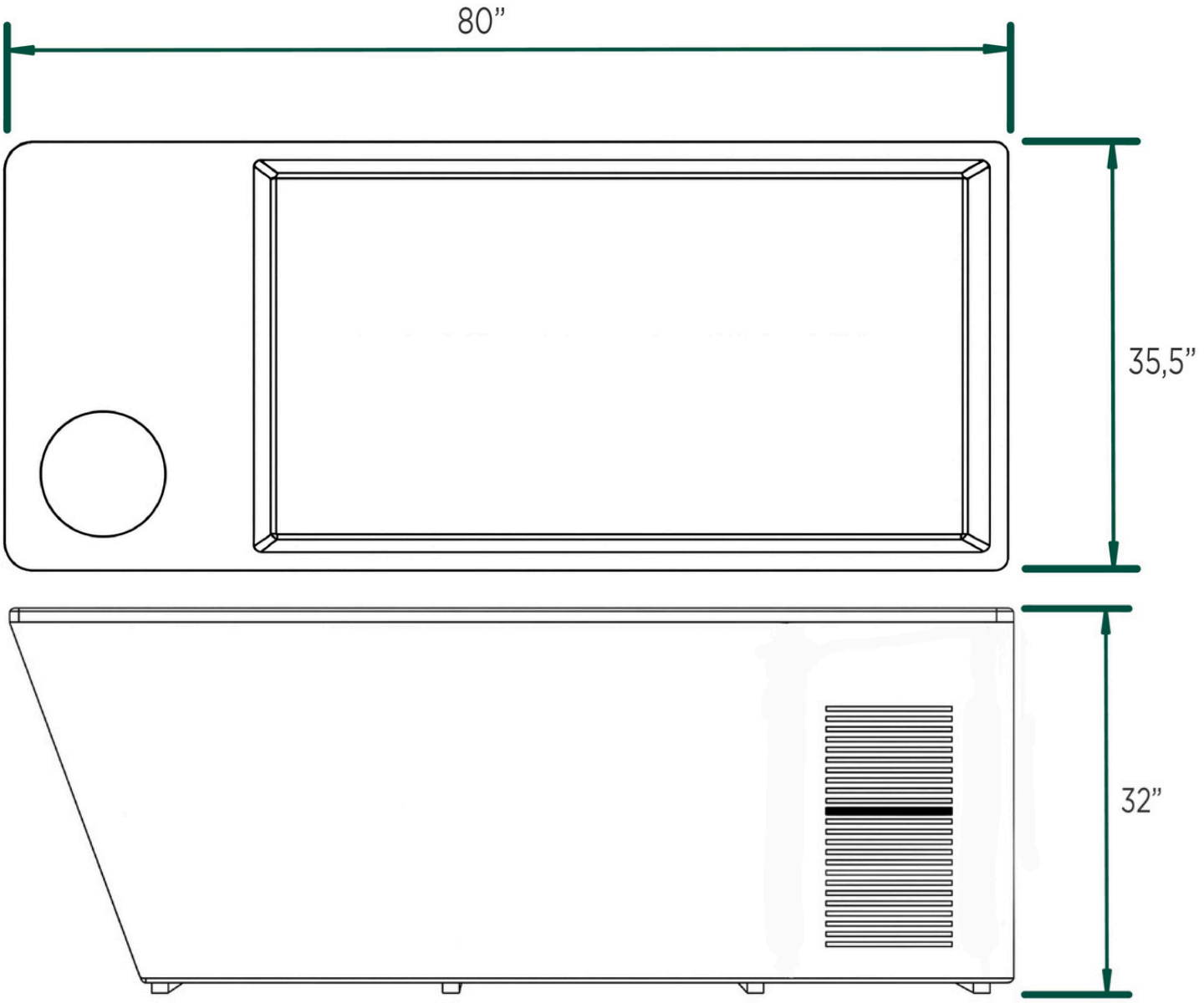
PRE-INSTALLATION

1 MEASUREMENTS AND TECHNICAL SPECIFICATIONS

TECHNICAL DRAWINGS



Packaging **Freestanding**



TECHNICAL SPECIFICATIONS

CAPACITY:	
USE MODES:	Ice maker / Cold / Heat
DIMENSIONS:	80″ x 35.5″ x 32″
TEMP RANGE:	32°f / 38-113°f
FILLED WEIGHT:	1400 lb
COOLING POWER:	3.6 kW
HEATING POWER:	4.5 kW
ELECTRICAL:	110V - 15A, built-in cord.
FILTER TYPE:	Cartridge
CHILLER POWER:	2HP
WIFI CONTROL:	iOS & Android APP
DISPLAY:	Touch screen

IMPORTANCE & INSTALLER PROFILE
The unit works efficiently and safely if it is installed correctly and in compliance with the regulations in force in the country of use.

This pre-installation guide provides information for a proper preparation of the environment, specifications and electrical connections. This allows for a quick and safe installation.

The pre-installation stages involve the following professionals:

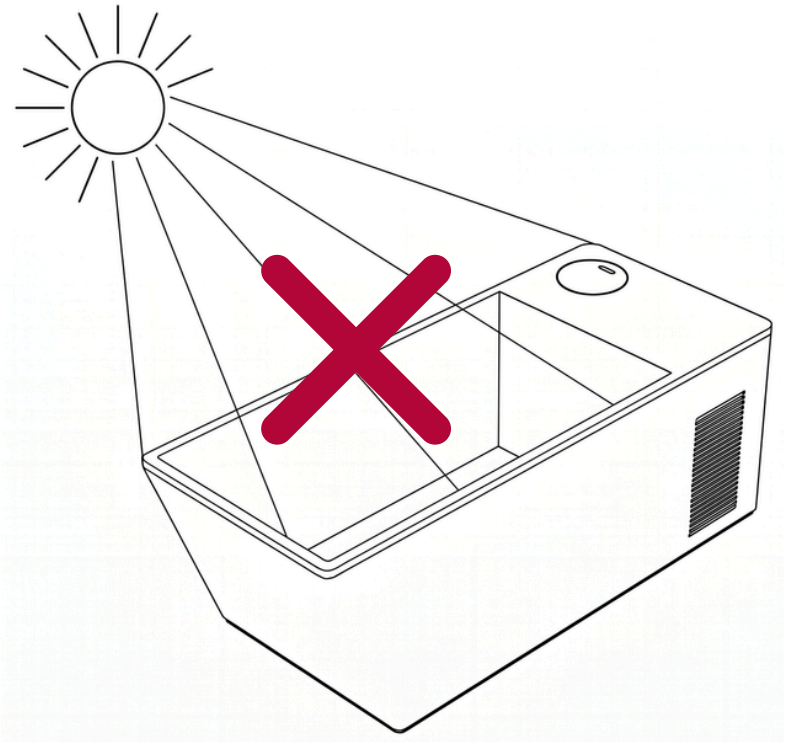
- A civil engineer for the calculation of the loading capacity of the platforms or floors;
- A qualified and certified company that will prepare the installation site according to the instructions provided in this guide, following current work safety regulations;
- Certified and qualified electrician who prepares electrical systems in compliance with local and national regulations regarding civil and industrial systems;

The user must promptly notify the professionals of any existing underground obstacles like gas, water, electrical or telephone lines.

Upon completion of pre-installation all specialists must issue a **procedure compliance checklist** of the systems installed. Without such document, the Manufacturer declines any responsibility for damage to the systems or premises where the unit is or will be installed.

We recommend checking with the appropriate state entities to see if there are constraints that prevent installation or if any form of permit is required.

An incorrect pre-installation could cause structural damage to the plunge & its surroundings, resulting in warranty voidance.



TEMPORARY POSITIONING

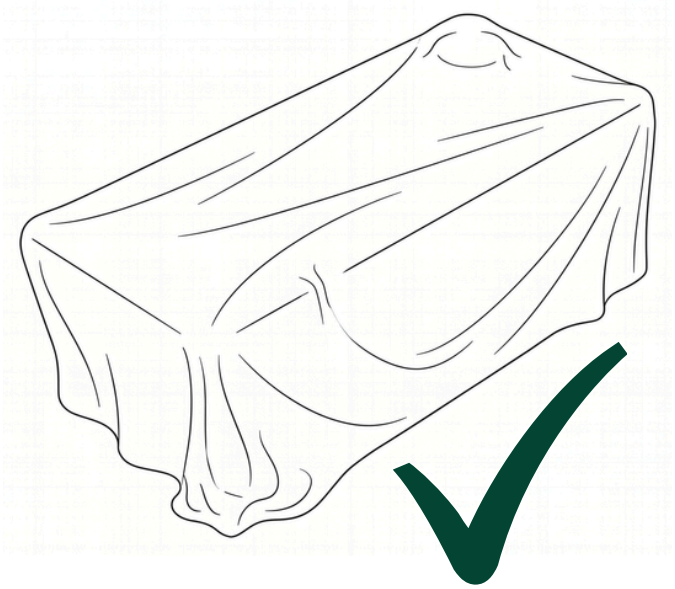
The installation of the plunge should be done immediately upon receipt. In any case, once unpacked, if it is necessary to temporarily place it on a surface awaiting the installation, it will be necessary to place it on stable, clean and sound flooring, also protecting it from direct sunlight and the elements.

Since the temporary base may shift, it is recommended to leave the unit in that position for the shortest possible time.

Do not leave the empty plunge in DIRECT SUNLIGHT.

The surface temperature could rise above 176°F resulting in serious damage, including cavitation and the deforma- tion of the surface and components.

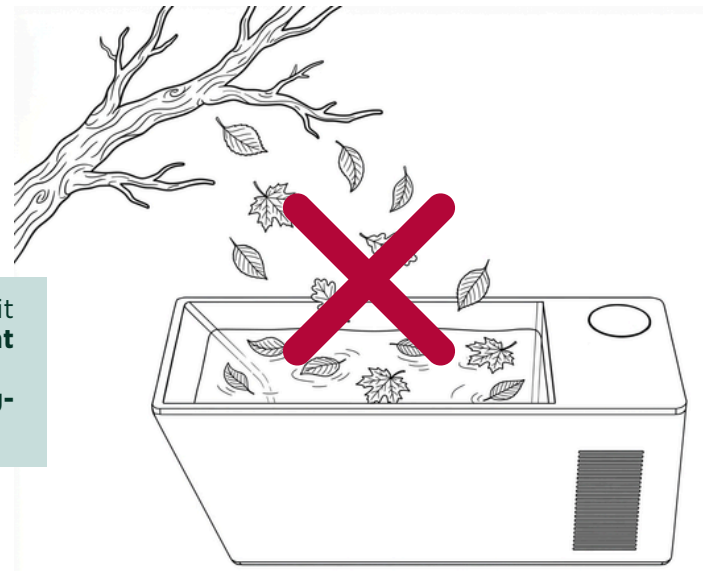
Damage caused by direct exposure to sunlight is not covered by the warranty. In such conditions place a cover (fixed or mobile) to protect the unit.



2 IDENTIFICATION OF THE INSTALLATION SITE

When choosing the position, take into account local regulations that prohibit any electrical installation (plug sockets, switches, lamps, etc.) in the area surrounding the unit for a distance of at least 23.6 around it.

When choosing a location, bear in mind required ventilation and placement clearances (P-11).

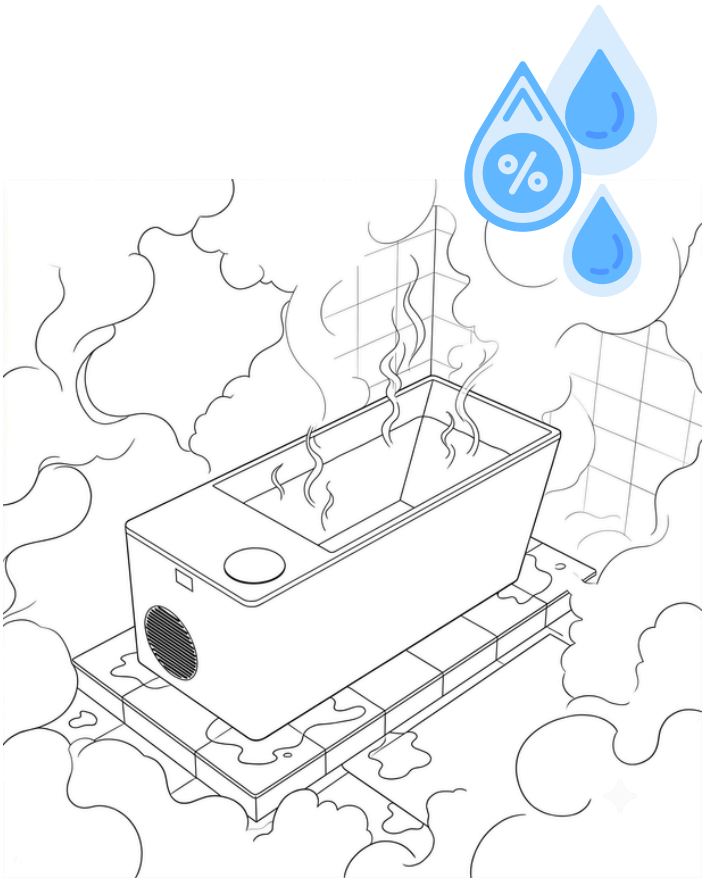


When not in use in temperatures **under 35°f**, the unit must be totally **drained and covered** to **prevent freezing damage.**
This recommendation also applies to **short & long-term storage.**

OUTDOOR INSTALLATION

Take into account the proximity of trees or hedges, and note that debris (e.g., leaves) can cause damage to the equipment over time that is not covered by warranty, and make maintenance more expensive and frequent.

Also assess the best position to safeguard privacy and respect for others, as well as the best view or climatic position consistent with local regulations.



Consider the geological composition of the soil on which the supporting platform will be built.

Soils that are very sandy, permeable or subject to flooding could compromise the durability of the unit's support platform.

INDOOR INSTALLATION

Note that the evaporation of water in the plunge in the presence of high internal temperatures can generate very high levels of humidity in the environment.

To overcome this drawback, choose an environment with good natural or forced ventilation. Humidity damage is not covered by the manufacturer warranty.

Take into account the size of the unit: narrow passages, doors and steps can be an obstacle to its transport to the desired place.

3 PREPARATION OF THE INSTALLATION SITE

FREESTANDING INSTALLATIONS

As a base, build a platform or flooring in reinforced concrete, perfectly flat and suitable for supporting the weight of the unit and the people using it.

The manufacturer suggests a minimum load of 100 lb/ft2. In any case contact a qualified construction engineer to calculate the appropriate load for the installation site.

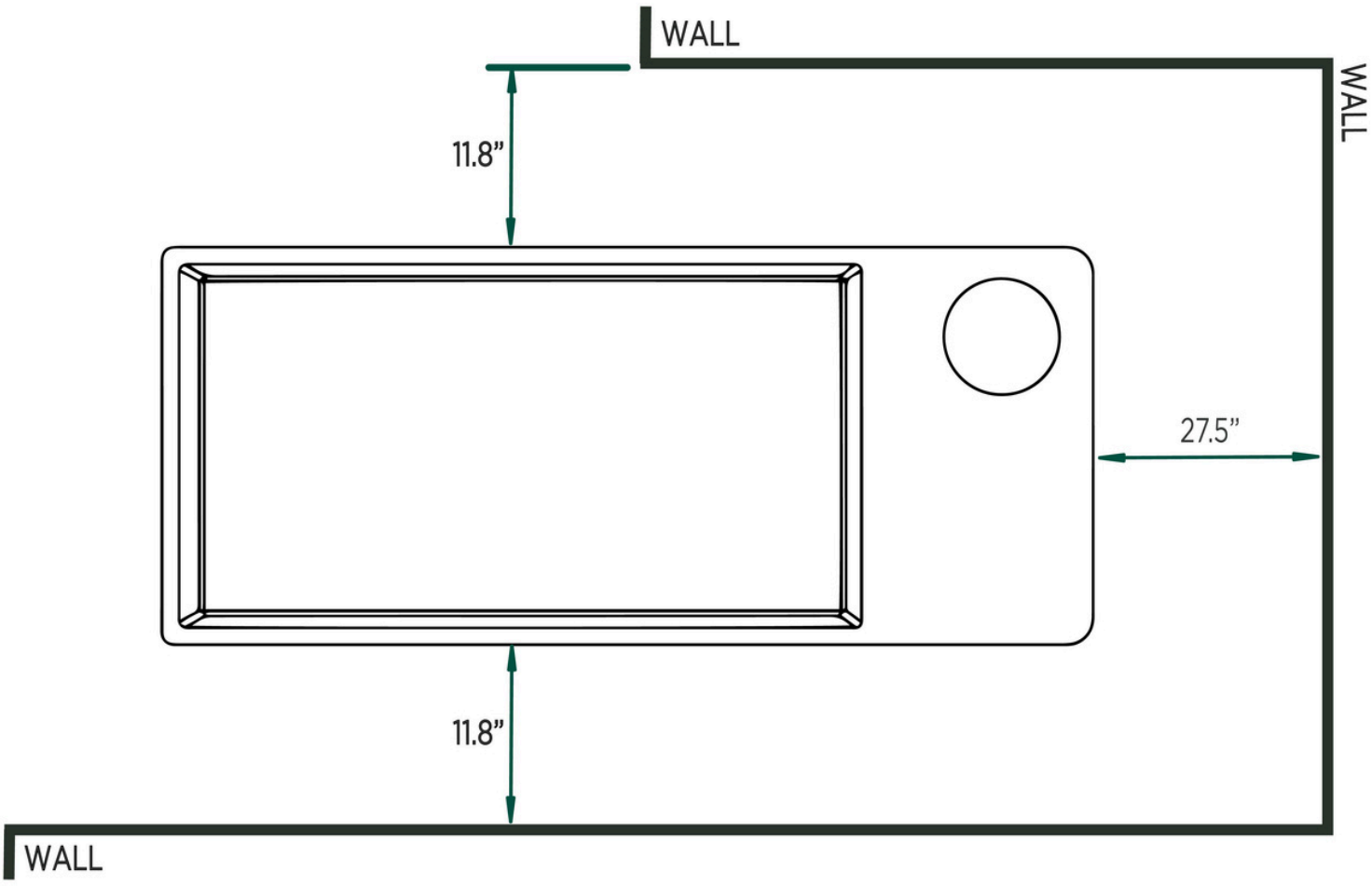
Necessary installation features

- A drainage grating around the perimeter to help preserve the equipment and the structure (even for indoor installations).
- A non-slip flooring around the plunge.

Wedges or shims cannot be placed under the unit to level it.
Remember to ground the structural reinforcement in accordance with electrical codes.

INSTALLATION CLEARANCES

- Always ensure a minimum distance of **11.8"** between the **lateral air intakes** and walls or obstacles.
- Always ensure a minimum distance of **27.5"** between the **back air exhaust** and walls or obstacles.



4 WATER SUPPLY

For optimal plunge performance and low-maintenance water, keep pH, alkalinity, and hardness within the recommended ranges. Test these parameters regularly and adjust as needed to maintain proper balance.

- **pH:** Maintain between 7.4 and 7.6 for disinfectants to work effectively.
- **Alkalinity:** Keep between 80 - 125 ppm to stabilize pH and protect equipment.
- **Hardness:** Keep between 100 - 200 ppm.

Balanced water ensures it remains clear, clean, and easy to manage over time.

Water Source: Tap vs. Well

Maintaining clean, high-quality water is essential for both plunge hygiene and long-term durability.

- Tap water is generally safe, as it is microbiologically treated and free from most metals, organic matter, and other impurities that could harm the unit.
- Well water, on the other hand, can contain oxides, dissolved metals, organic debris, and bacteria. These can encourage algae growth and lead to staining, scaling, or other damage to the unit's surfaces and components.

For best results, use treated tap water or properly filtered and disinfected well water before filling your plunge.

Water Hardness

It reflects the total dissolved calcium in the water. It influences how corrosive or scale-forming the plunge water is.

Very low hardness ("soft" water) is not recommended because it's aggressive to equipment and can stain the shell.

Very high hardness ("hard" water) promotes scale on surfaces and components.

If hardness is too high:

- Lower it by dilution—use a mix of roughly 75% hard water + 25% soft water as a starting point.
- If soft water isn't available, dose a stain/scale control product as directed on its label.

If hardness is too low:

- Avoid filling with soft water; raise hardness by topping up with a higher-calcium (harder) source.
- Once hardness is in range, it generally stays stable unless you add water that's much harder or softer.

Water Alkalinity

Alkalinity refers to the concentration of alkaline compounds (such as carbonates, bicarbonates, and hydrates) dissolved in the water.

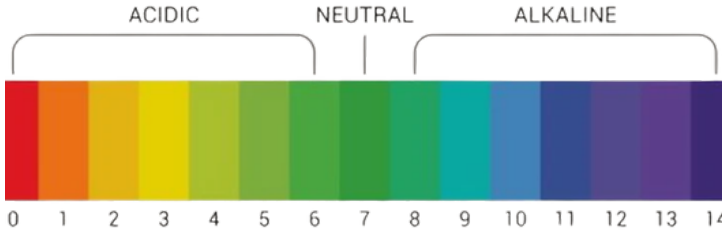
When alkalinity drops below 80 mg/l or rises above 125 mg/l, pH can become unstable, making it harder to maintain proper water balance.

If below 80 mg/L, add an alkalinity increaser ; if above 125 mg/L, lower with small doses of pH decreaser or partially dilute with fresh water. Run the pumps to circulate, then retest. Be sure the products are compatible with hot tubs and similar.

Water pH

It measures the level of hydrogen ions (H^+) in the water, indicating its acidity or alkalinity. The recommended range is between 7.4 and 7.6 (neutral is 7). Maintaining this range helps:

- Protect bathers' comfort — the skin, eyes, and mucous membranes are close to this natural pH level.
- Extend the lifespan of the plunge's surfaces and components.
- Ensure sanitizing chemicals work effectively, reducing overall product use.



If below 7.4, add a **pH increaser** (Sodium Hidrogen Carbonate); if above 7.6, add a **pH decreaser** (Sodium Bisulfate). Run the pumps to circulate, then retest. Be sure the products are compatible with hot tubs.

Steps	Parameter	Ideal Range (ppm) – Minimum	Ideal Range (ppm) – Maximum	What Chemicals to Use — To Raise	What Chemicals to Use — To Lower
1	Total Alkalinity	80	125	Sodium Hydrogen Carbonate, or Sodium Bicarbonate	Sodium Bisulfate
2	Calcium Hardness	100	200	Calcium Hardness Increaser	Use a mixture of 75% hard water and 25% soft water or use a Stain and Scale Inhibitor
3	pH	7.4	7.6	Sodium Hydrogen Carbonate	Sodium Bisulfate

INSTALLATION

1 PRELIMINARY OPERATIONS

Before installing the unit, check that everything has been prepared.

Check that:

- The final resting surface has been rated for the load-baring requirements to support the unit.
- The required layout & ventilation clearances have been considered and covered.
- Any drainage grating or Anti-slip flooring around the unit are properly anchored, secured or recessed, to reduce the risk of accidentall falls or injuries.
- An easily accesible water drainage location is present near the unit (or at least comfortably reachable with an attached hose).
- If the plunge´s Heat mode is going to be used, Proper natural or forced ventilation is ensured to avoid possible damages caused by high humidity levels in the environment, specially in indoor installations.

2 CHECKING PLUNGE INTEGRITY

- Please unpack and inspect **all parts** carefully to make sure they are complete and **undamaged**. **If any parts are damaged or missing**, please contact the authorized dealer you purchased the product through.
- Please refer to your product's **specification sheet** and ensure that both your unit and build plan measure match the stated sizes.

NOTE: Any damages not related to the product´s shipping, storage or production defects ARE NOT covered by warranty and will have to be adressed by the customer.

More information

OUTDOOR INSTALLATION

Preparations
The dedicated electrical output socket must have a minimum IP rating of 65/66, this ensures no humidity or debris can enter the socket and potentially damage the unit. Most outdoor-rated sockets follow this guidelines, always check before installing.

Choice of position: take into account the proximity of trees or hedges, and note that debris (e.g., leaves) can cause damage to the equipment over time that is not covered by warranty and make maintenance more expensive and frequent. It is also recommended to always install flooring around the unit, possibly anti-slip.

INDOOR INSTALLATION

Preparations

In the area used to access the unit it is recommended to install anti-slip flooring. The evaporation of water in the plunge in the presence of high internal temperatures can generate very high levels of humidity in the environment. To avoid this problem, provide good natural or forced ventilation in the installation environment and, if necessary, a dehumidification system. Damage caused by this phenomenon is not covered by the manufacturer warranty.

Choice of position: Always take into account the size of the plunge: narrow passages, doors and steps can be an obstacle to its transport to the desired place.

If you notice any anomalies, do not proceed with the installation but rather promptly contact the Manufacturer.

3 TRANSPORT AND POSITION

TRANSPORT

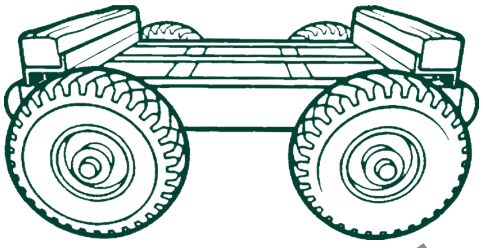
To move the plunge to the place of installation a suitable lifting device (e.g., pallet jack) is required. If the installation is indoor, before moving the unit make sure that it can easily pass through the doors and hall- ways to reach the desired place of installation.

Movement must be carried out using personal protective equipment (e.g., gloves, safety shoes, etc.) and taking all the necessary safety precautions for those involved and to not damage the unit.

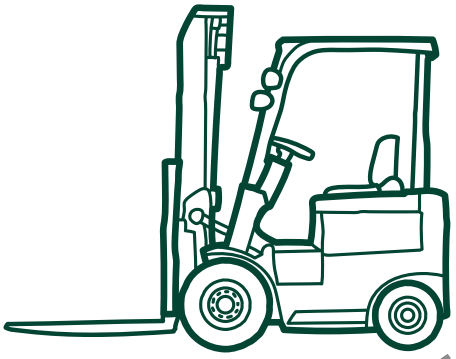
During transport, grab the plunge by holding it exclusively by the edge and NEVER by holding the plumbing lines or operational parts (e.g., pumps, etc.).

During movement, the surrounding area must be kept free of individuals not involved in the operation, as well as animals or objects (e.g., packaging, etc.) that could get in the way.

APPROVED MOVING EQUIPMENT



Dolly ✓



Forklift ✓

POSITIONING

TEMPORARY POSITIONING

Before installing and assembling the plunge, ensure that the packaging is in perfect condition and contact us immediately if the packaging is damaged. If it is necessary to place the unit temporarily before installation, position it horizontally on a smooth, flat and level surface, and do not leave it empty and uncovered in direct sunlight

POSITIONING IN THE PLANNED LOCATION

In case of outdoor or indoor installation, position the plunge horizontally, placing the whole base of the unit on a smooth, flat and level surface capable of supporting the full operating weight, and ensure proper drainage and ventilation where applicable.

Do not expose the plunge to sunlight when it is empty and without a protection cover.

Before installation, please ensure that the preinstallation checklist is complete and signed by a qualified technician, and have the general maintenance manual available after installation

The installation must be carried out with the preinstallation checklist complete and signed by a qualified technician. All electrical work must be performed by a licensed/qualified electrician and comply with all applicable national and local electrical codes and inspection authority requirements. If there is any doubt about soil bearing capacity or floor load ratings, a qualified geotechnical or structural engineer must be engaged

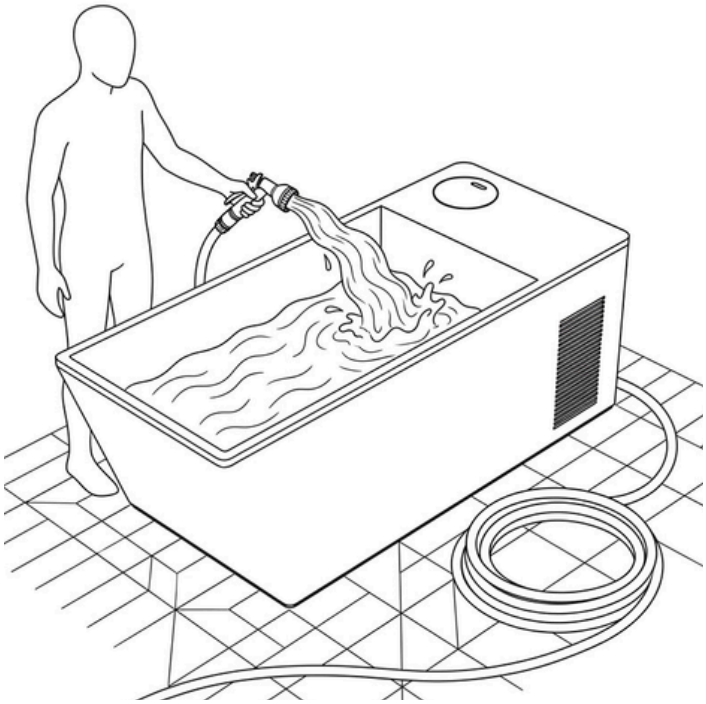
4 FILLING THE UNIT & FILTRATION

Perform a preliminary cleaning of the tub using a soft cloth or non-scratch sponge with a little soap and water. If using a commercial cleaner, make sure it is specifically recommended for acrylic surfaces and always spot-test it in an inconspicuous area first. Never use abrasive powders, scouring pads, polishing creams, or solvents such as acetone, gasoline, paint thinners, varnishes, or similar chemicals, as they may scratch or irreparably damage the plunge surface.

Before filling, once again check the quality of the water supply. This is very important for the well-being of the users and for the unit's durability.

For filling, use a rubber hose as shown in the figure. The water used must meet the requirements detailed in previous pages.

Manual filling with a garden hose



Do not leave the Plunge uncovered, empty, and exposed to direct sunlight.

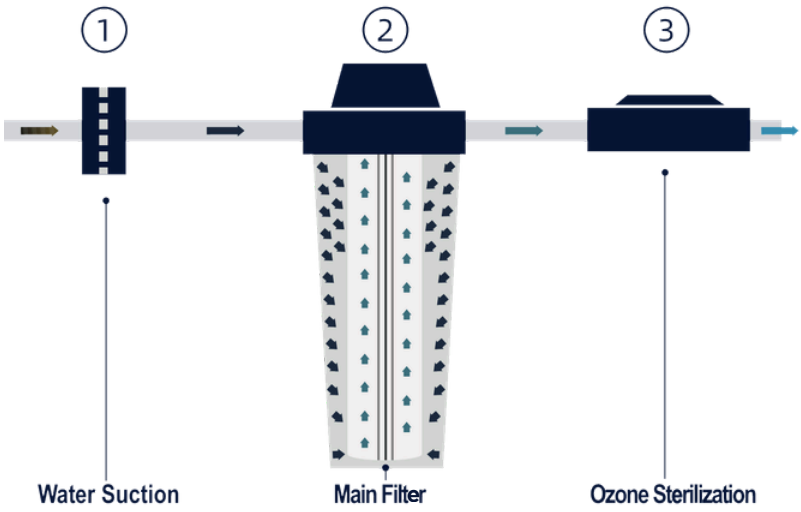
Prolonged UV and heat can cause warping, discoloration, and surface damage to the unit and its accessories, and damage caused by direct exposure to sunlight is not covered by the warranty. If the unit must be drained, keep it shaded and covered, and refill it promptly. A UV-resistant protection cover is recommended to help protect the shell and equipment from sun damage and falling debris. A fitted thermal cover also helps retain warmth efficiently.

FILTRATION AND WATER CLEANING SYSTEM

1- Used water in the tub is sucked back into the filtration system through the return waterline.

2- 20-Micron filter catches all dirt and sediments from the back flow.

3- Ozone sanitation system oxidizing and eliminating microorganisms and metals suspended in the water.



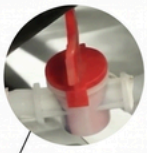
About Condensate Water

During operation in heating mode, water may drip from the condensate drain tube (①).

This is condensate water produced during normal operation and not a leak. Please use the equipment with confidence.

Warning

To avoid freeze-related damage, the unit must be drained completely if it will be exposed to temperatures below 1°C or placed in long-term storage.



Open the vent to find the drain outlet valve

Draining procedure

1.Disconnect the power supply.

2.Locate the internal drain valve (②).

3.Rotate the drain valve to open and fully evacuate all water.

4.After draining, securely close the drain valve.

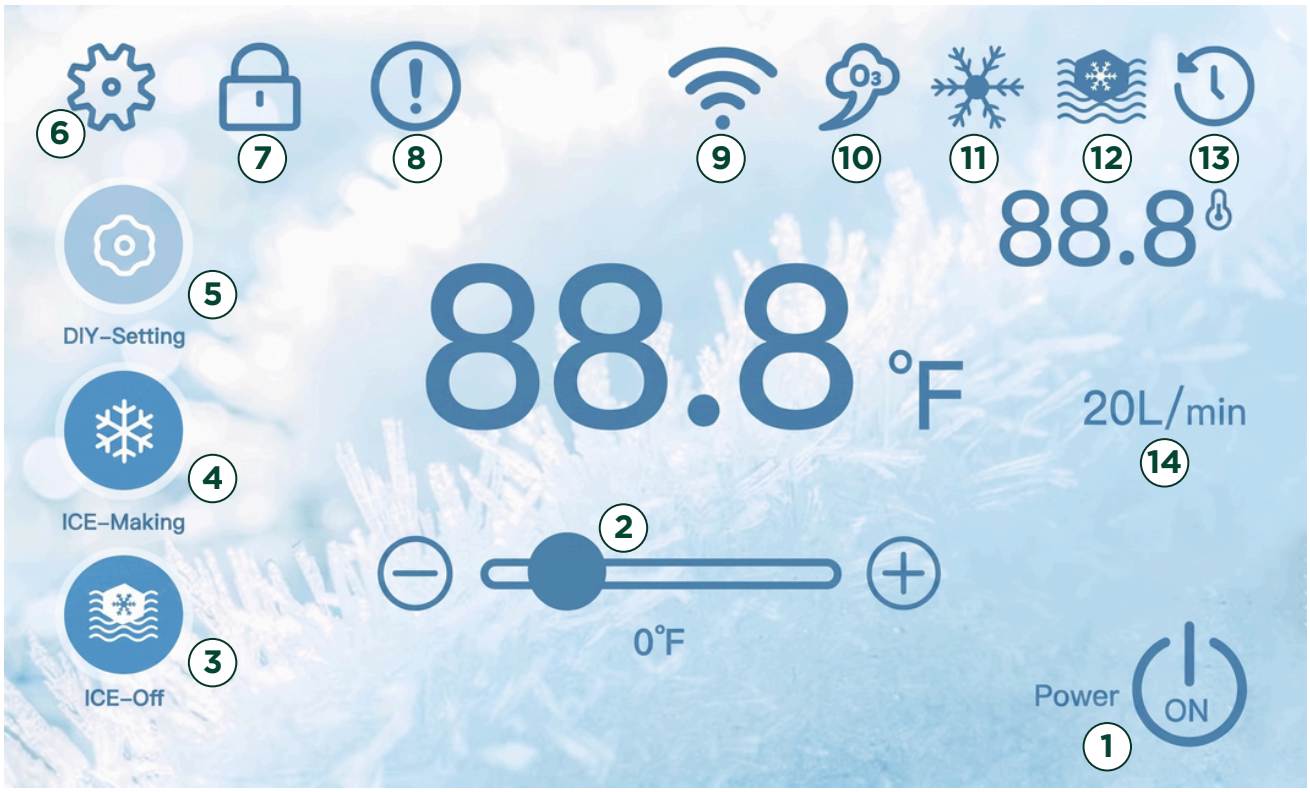
PLUNGE INTERFACE

1 TOUCH PANEL INTRODUCTION

STATUS ICONS

The corresponding icon will only appear when the current function is turned on.

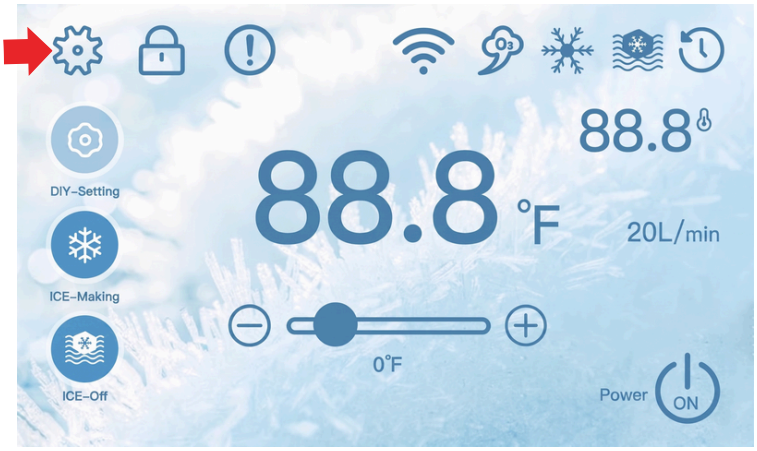
1. **Turn On/Off.**
2. **Press + or - to set the temp.**
3. **Manually click to confirm ice floe making.**
4. **Press for Ice making mode.**
5. **Press for Manual mode.**
6. **Press to enter the second screen / Settings.**
7. **Press 6-10s to lock or unlock.**
8. **Warning.**
9. **WiFi.**
10. **Ozone.**
11. **Cooling.**
12. **Ice floe making.**
13. **Standby.**
14. **Displays the current water flow.** 20L/min



2 WiFi CONNECTION

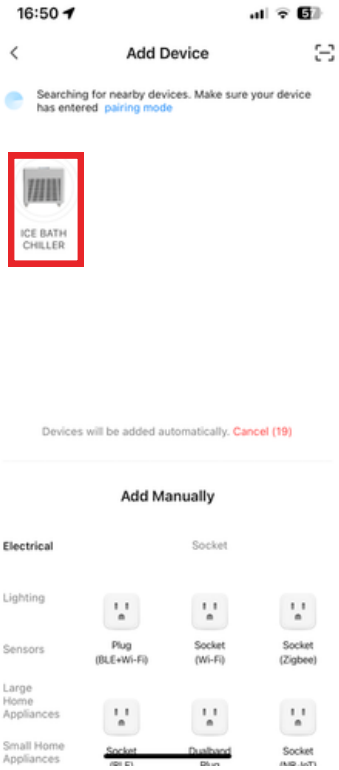
1. Power on the equipment and light the screen.

2. Click the settings key.



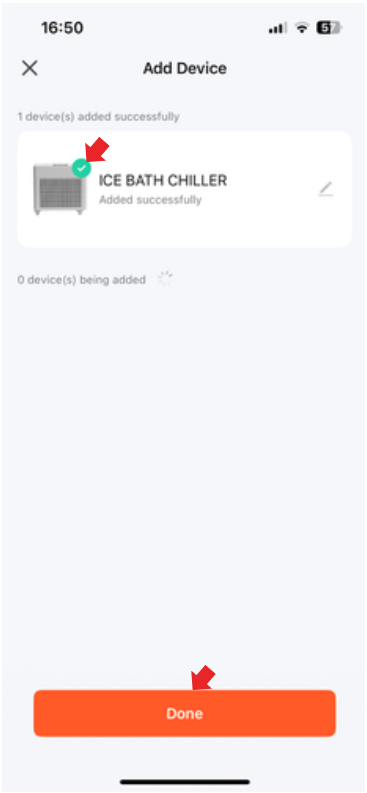
3. Press WiFi key for 6-10 seconds until the WiFi icon blinks.

4. Turn on the Bluetooth and open the Tuya Smart App on your phone and select the chiller.



5. Enter the WiFi name and password to connect the chiller to WiFi.

6. Once you see the green check icon, the chiller is connected to WiFi.



7. Click 'Done' to enter the APP home page.

NOTE:
*Tuya application can only support **2.4G**. Please make sure that both the chiller and your smart phone connects to **2.4G wireless network**.*

3 TUYA SMART INTERFACE APP

1. Water Flow.
2. Temperature adjustment & Ice-making mode(3-45°C/37-113°F).
3. Adjust the Ozone working time : 0 min (off) and max to 5 min.
4. Temperature unit switching(°C/°F).
5. Turn on/off (Turn ON/OFF the chiller).
6. Locking (Touch panel lock/unlock).
7. Current Temperature.
8. Power-on automatic operation ON/OFF.
9. Touch screen prompt sound (ON/OFF).
10. Setting ON/OFF time of the chiller.

GENERAL MAINTENANCE

1 STAINLESS STEEL TUB CARE

1.Regular Cleaning
Clean and wipe the bathtub surface periodically to remove mineral deposits, acidic/alkaline substances, and dust that may cause rust.
2.Dry Before Long-Term Storage
Before extended periods of non-use, completely drain all water from the unit, rinse the interior thoroughly, and wipe dry with a soft cloth to prevent staining and corrosion.
3.Avoid Chemical Residue
When cleaning, ensure all detergent is rinsed off completely and the surface is dried to avoid chemical-induced corrosion.
4.No Metal Contact
Do not place metal items (e.g., tools, containers) in the bathtub for extended periods to prevent metallic interaction and rust.
5.Rust Spot Treatment
If surface rust or mildew appears, gently scrub with toothpaste, rinse immediately, and dry thoroughly to prevent recurrence.

General guidelines:

Use mild, non-abrasive household cleaners suitable for stainless steel. For routine cleaning, use a soft cloth or non-scratch sponge with a little soap and warm water. Rinse thoroughly and dry with a clean microfiber cloth.

If using any commercial cleaner, confirm it is specifically recommended for stainless steel by its manufacturer. Always spot-test in an inconspicuous area first.

Never use abrasive powders, steel wool, scouring pads, or harsh polishing compounds that can scratch the surface or damage the finish.

Keep the stainless steel away from chlorides or chlorine-based cleaners (e.g., bleach), hydrochloric or muriatic acid, harsh descalers, and other corrosive chemicals that may cause staining, pitting, or corrosion.

Wipe away dust, fingerprints, and smudges with a soft, slightly moist cloth; dry immediately to prevent water spots.

Remove grease, oil, paint, and ink marks with isopropyl alcohol (up to 70%) or a stainless-steel-safe solvent cleaner. Apply with a soft cloth, then rinse with water and dry with a clean cloth.

Do **not** use razors, scrapers, or any sharp tools on the stainless steel.

For light surface marks, use a non-abrasive stainless steel polish or cleaner. Rub gently with a clean cloth, following the direction of the grain, and follow the product instructions. Avoid waxes or polishes that may leave slippery residue on areas contacted by bathers.

Weekly: Clean the sections of the unit **above the waterline** (areas not submerged) and, if desired, apply a spa-safe stainless steel polish to maintain appearance. Do not polish floor or seating areas where slip resistance is important.

ATTENTION: *Never leave the unit uncovered, empty, and exposed to direct sunlight. Prolonged UV and heat can cause warping, discoloration, and surface damage that is not covered by the warranty. If the plunge must be drained, keep it shaded and covered, and refill promptly.*

2 SOLID SURFACE SHELL CARE

Use mild, non-abrasive household cleaners suitable for acrylic. For routine cleaning, use a soft cloth or non-scratch sponge with a little soap and water. Rinse thoroughly and dry with a clean microfiber cloth.

If using any commercial cleaner, confirm it is specifically recommended for acrylic surfaces by its manufacturer. Always spot-test in an inconspicuous area first.

Never use abrasive powders, scouring pads, or polishing creams that can dull or scratch the surface.

Keep the acrylic away from ketones or esters (e.g., acetone), acetates (e.g., nail-polish remover or dry-cleaning agents), chlorinated or aromatic solvents, gasoline, paint thinners, varnishes, or similar chemicals.

Wipe away dust and smudges with a soft, slightly moist cloth; dry immediately to prevent water spots.

Remove grease, oil, paint, and ink marks with isopropyl alcohol (up to 70%). Apply with a soft cloth, then rinse with water and dry with a clean cloth.

Do **not** use razors, scrapers, or any sharp tools on the acrylic.

For light surface marks, use a fine automotive polish or a plastic/acrylic scratch-removal product. Buff gently with a clean cloth and follow the product instructions. Avoid waxes that may leave slippery residue on areas contacted by bathers.

3 WATER MAINTENANCE

Water maintenance is one of the areas that requires the greatest attention due to its impact on safety, comfort, and equipment longevity. The specific actions and frequency depend on the mineral content of the fill water, how often the unit is used, and the number of people using it.

The most important thing to keep in mind is that the **water should be changed every 6 months.**

The three main points to consider are:

- **Filtration**
- **Chemical Analysis**
- **Disinfection of the water**

SAFE HANDLING AND USE OF CHEMICAL PRODUCTS

Before using any chemical product, always read the instructions on its product label and follow the manufacturer's recommendations.

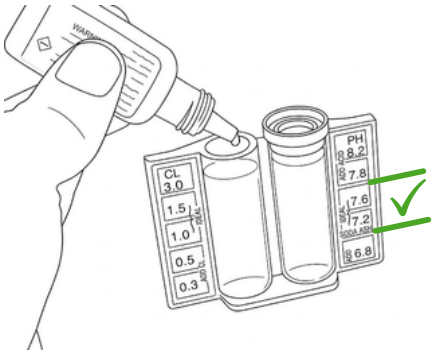
- Assign one trained person to handle all spa rated chemicals.
- Keep products out of reach of children and pets.
- Measure carefully and add only the recommended amount.
- Store in sealed containers, in a cool, dry, well-ventilated place, away from sunlight.
- Avoid breathing vapors or dust; prevent contact with skin, eyes, and mouth.
- Wash hands thoroughly after handling chemicals.
- In case of spills or exposure, follow the emergency directions on the product label.
- Keep away from flames, sparks, and smoking areas — many products are flammable.
- Never store chemicals inside the unit´s cabinet or near electrical components.
- Add chemicals to water one at a time, allowing time between doses to prevent reactions.
- Do not add products while people are in the unit.
- Test water daily for pH and sanitizer levels during frequent use.
- Use only products specifically designed for spas or hot tubs.
- Dispose of containers safely, following local waste regulations.

4 CHEMICAL ANALYSIS

For optimal performance and low-maintenance water, keep pH, alkalinity, and hardness within the recommended ranges. Test these parameters regularly and adjust as needed to maintain proper balance.

- **pH:** Maintain between 7.4 and 7.6 for disinfectants to work effectively.
- **Alkalinity:** Keep between 80 - 125 ppm to stabilize pH and protect equipment.
- **Hardness:** Keep between 100 - 200 ppm.

Balanced water ensures it remains clear, clean, and easy to manage over time.



Water Hardness Scale

Grains/Gal	*mg/L & ppm*	*Classification*
Less than 1	Less than 17.1	Soft
1 - 3.5	17.1 - 60	Slightly Hard
3.5 - 7	60 - 120	Moderately Hard
7 - 10	120 - 180	Hard
over 10	over 180	Very Hard

Water Source: Tap vs. Well

Maintaining clean, high-quality water is essential for both plunge hygiene and long-term durability.

- Tap water is generally safe, as it is microbiologically treated and free from most metals, organic matter, and other impurities that could harm the unit.
- Well water, on the other hand, can contain oxides, dissolved metals, organic debris, and bacteria. These can encourage algae growth and lead to staining, scaling, or other damage to the unit's surfaces and components.

For best results, use treated tap water or properly filtered and disinfected well water before filling your unit.

Water Hardness

It reflects the total dissolved calcium in the water. It influences how corrosive or scale-forming the plunge water is.

Very low hardness ("soft" water) is not recommended because it's aggressive to equipment and can stain the shell.

Very high hardness ("hard" water) promotes scale on surfaces and components.

If hardness is too high:
- Lower it by dilution—use a mix of roughly 75% hard water + 25% soft water as a starting point.
- If soft water isn't available, dose a stain/scale control product as directed on its label.

If hardness is too low:
- Avoid filling with soft water; raise hardness by topping up with a higher-calcium (harder) source.
- Once hardness is in range, it generally stays stable unless you add water that's much harder or softer.

Water Alkalinity

Alkalinity refers to the concentration of alkaline compounds (such as carbonates, bicarbonates, and hydrates) dissolved in the water.

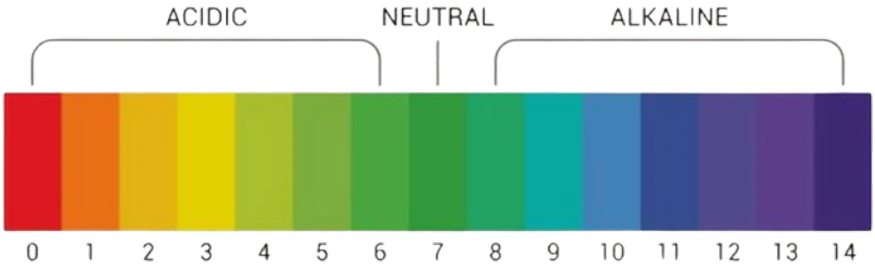
When alkalinity drops below 80 mg/l or rises above 125 mg/l, pH can become unstable, making it harder to maintain proper water balance.

If below 80 mg/L, add an **alkalinity increaser** ; if above 125 mg/L, lower with small doses of **pH decreaser or partially dilute with fresh water.** Run the pumps to circulate, then retest. Be sure the products are compatible with hot tubs.

Water pH

It measures the level of hydrogen ions (H^+) in the water, indicating its acidity or alkalinity. The recommended range is between 7.4 and 7.6 (neutral is 7). Maintaining this range helps:

- Protect bathers' comfort — the skin, eyes, and mucous membranes are close to this natural pH level.
- Extend the lifespan of the unit's surfaces and components.
- Ensure sanitizing chemicals work effectively, reducing overall product use.



If below 7.4, add a **pH increaser** (Sodium Hidrogen Carbonate); if above 7.6, add a **pH decreaser** (Sodium Bisulfate). Run the pumps to circulate, then retest. Be sure the products are compatible with hot tubs.

QUICK REFERENCE

Steps	Parameter	Ideal Range (ppm) – Minimum	Ideal Range (ppm) – Maximum	What Chemicals to Use — To Raise	What Chemicals to Use — To Lower
1	Total Alkalinity	80	125	Sodium Hydrogen Carbonate, or Sodium Bicarbonate	Sodium Bisulfate
2	Calcium Hardness	100	200	Calcium Hardness Increaser	Use a mixture of 75% hard water and 25% soft water or use a Stain and Scale Inhibitor
3	pH	7.4	7.6	Sodium Hydrogen Carbonate	Sodium Bisulfate

5 WATER DISINFECTION

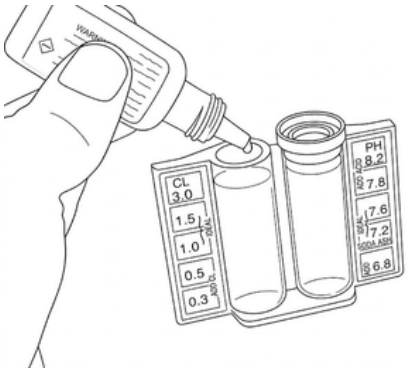
Maintaining the correct disinfectant level is essential to eliminate algae, bacteria, and other microorganisms that can develop in plunge water. Overdosing should be avoided, as it may cause skin or eye irritation and can affect the unit's components.

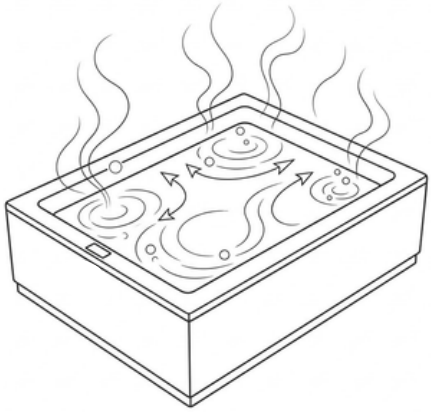
The recommended primary disinfectant is bromine tablets, placed in the pre-filter or a suitable feeder to dissolve gradually and provide a constant residual in the water. Test the bromine concentration daily using an appropriate analyser kit, and ensure it remains within the range of **2.2 to 3.3 ppm.**

If chlorine is used instead, maintain free residual chlorine between **0.5 and 1.5 ppm.** Always add chemicals separately and with no bathers in the unit.

When the sanitizer level is below the recommended range, increase dosing and allow the water to circulate thoroughly before re-testing. If the level is above the range, circulate with the cover open to allow dissipation, or dilute with fresh water as necessary.

Secondary systems such as ozone or UV can support oxidation and water clarity but must never replace a continuous bromine or chlorine residual. All test results and corrective actions should be documented as part of the unit's maintenance records, and any stricter local regulations should take precedence.





6 SPECIAL PRODUCTS USE

Beyond the main sanitizer program, the following spa-specific products help keep water and surfaces in good condition. Use as directed by the manufacturer.

- Scale inhibitor: Prevents calcium scale, especially in hard-water areas. Dose weekly and after every water change.
- Algaecide: Suppresses algae growth in the unit´s water. Add weekly and each time the water is renewed.
- Foam remover: Controls foam caused by aeration and body oils. Use only when noticeable foam appears.
- Grease/line cleaner: Removes the oily ring on plunge walls. For best results, drain the unit, apply with a sponge to the affected areas, then rinse immediately with plenty of water.

7 QUICK REFERENCE TABLES

PRODUCTS QUICK REFERENCE

Product	Reason for use	Frequency of use
pH ADJUSTER	Use when pH is **outside 7.4–7.6**: if **above**, add **pH Minor**; if **below**, add **pH Major**.	Check pH **daily** with a test kit.
BROMINE TABLETS	Add if the bromine residual is **below** the recommended range (**2.2–3.3 ppm**).	Test bromine **daily** with a Br test kit.
LIMESCALE REMOVER	Prevents formation of calcium scale.	**Once per week** and **after each water change**.
ALGAECIDE	Prevents algae growth in the water.	**Once per week** and **after each water change**.
GREASE REMOVER	Removes oily/dirt rings on spa walls.	**Whenever deposits are observed**; scrub with a sponge and **rinse immediately** with plenty of water.
FOAM REMOVER	Treats visible foam on the water surface.	**Whenever foam appears** in the water.

FILTRATION

Task	When (Residential)	Notes
Quick hose rinse	**Every 1–2 weeks** with heavy use; **about monthly** with lighter use	Gentle garden-hose stream between pleats; avoid pressure washers/dishwashers.
Spray cleaner (instant)	**About monthly** or whenever oily film builds up	Apply, wait label contact time, then rinse thoroughly.
Deep soak (chemical)	**Monthly** with heavy use; **every 2–3 months** with lighter use; **also at each drain/refill**	Fully submerge in filter-cleaner solution for several hours to overnight; rinse until runoff is clear; **air-dry fully** before reinstalling.
Rotate spare filter	**Whenever you deep-clean**	Keep a second cartridge to avoid downtime while one dries.
Replace cartridge	**Typically 12–24 months** (light use up to **24–36 months**; heavy use **6–12 months**)	Replace sooner if tears, flattened pleats, cracked end caps, persistent discoloration/odor, or chronically reduced flow after cleaning.

CHEMICAL ANALYSIS

Parameter / Action	When (Residential)	Target / Guidance
Test pH	**Daily during frequent use**; otherwise **regularly**	Keep **7.4–7.6**; adjust with spa-compatible pH increaser/decreaser; circulate and retest.
Test Total Alkalinity	**At start-up** and **after major top-ups** or when pH won't hold	Keep **80–125 ppm** to stabilize pH; adjust with alkalinity increaser or small doses of pH decreaser/dilution.
Test Calcium Hardness	**At start-up**; reassess after significant water additions or if scaling/corrosion signs appear	Keep **100–200 ppm**; if high, dilute or use stain/scale control; if low, raise hardness (avoid prolonged "soft" water).

DISINFECTION OF THE WATER

Task	When (Residential)	Target / Guidance
Maintain primary sanitizer (bromine tablets in feeder/prefilter)	**Continuous; test daily**	Keep **2.2–3.3 ppm** bromine; add tablets/adjust as needed. If low, increase dosing and circulate; if high, circulate with cover open or dilute; never add chemicals with bathers in spa.
(If using chlorine instead)	**Continuous; test daily**	Keep **0.5–1.5 ppm** free chlorine.
Support products (if used): scale inhibitor; algaecide	**Weekly** and **after every water change**	Follow product labels; these support clarity/scale control but do **not** replace a sanitizer residual.
Foam remover; grease/line cleaner	**As needed**; grease/line cleaner best used **during a drain**	Use only when foam appears; for grease line, apply while drained and rinse well.
Ozone/UV (secondary)	**Continuous (if equipped)**	Aids clarity/oxidation but **never** replaces bromine/chlorine residual. Document test results and actions.

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