Vortex™ Spas

Owner's Manual

Congratulations on becoming a new Spa owner!

* Conditions apply. Specifications may change without notice.

Welcome and congratulations on your purchase of a new Vortex Spa.

You now possess the ultimate passport to tranquility – a miniature vacation at home, ready and waiting for you in your own backyard!

Your comfort and enjoyment have been designed into your Spa from the start with hours of research going into even the smallest design detail to ensure the ultimate in hydrotherapy, relaxation and wellbeing.

Once again, we welcome you to the family of Vortex Spa owners.

Sincerely,
VORTEX Team
Vortex Spas™

Vortex™ Spas

Important Spa Owner Information

* Conditions apply. Specifications may change without notice.

Your Vortex™ Spa is constructed to the highest standards and is capable of providing many years of trouble-free use.

However, because heat retentive materials are used to insulate the spa for efficient operation, an uncovered spa surface and wall fittings directly exposed to sunlight and high temperatures for an extended period are subject to permanent damage or discolouration.

Damage caused by exposing the spa to this abuse is not covered under warranty. We recommend that you always keep the spa full of water when it is exposed to direct sunlight and that you keep the spa cover in place at all times when the spa is not in use.

Please be aware that we are constantly striving for continuous improvement, therefore, modifications and enhancements may be made to our spas which affect the specifications, illustrations and/or instructions contained herein.

Vortex™ Spas

Table of Contents

Welcome to the Vortex Spas™ Manual. Navigate through the manual with ease by clicking on the page numbers below to instantly access specific sections in this manual, and click on the title section to come back to this menu.

* Conditions apply. Specifications may change without notice.

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Safety Information & Warnings

Important Safety Instructions for all Spa Owners

READ AND FOLLOW ALL INSTRUCTIONS CAREFULLY!

This spa was manufactured to meet the standards and specifications outlined in the AS 1926.3 water recirculation systems and AS 2610.2 Spa Pool - Private Spas. When installing and using this spa, basic safety precautions should always be followed, including:

1. **DANGER: RISK OF SEVERE INJURY OR DROWNING!**
   - Extreme caution must be exercised to prevent unauthorised access by children.
   - To avoid accidents, ensure that children do not use this spa unless supervised at all times. Adult supervision is a critical safety factor in preventing children from drowning.
   - Use the straps and tie downs to secure the spa cover when not in use. This will help discourage unsupervised children from entering the spa. Keep the spa cover secure in high-wind conditions.
   - There is no representation that the cover, clip tie-downs, or actual locks will prevent access to the spa.
2. **DANGER: RISK OF SEVERE INJURY OR DROWNING!**
   - Keep hair, loose articles of clothing or hanging jewelry away from suction fittings, rotating jets or other moving components to avoid entrapment that could lead to drowning or severe injury.
   - Never use the spa unless all suction guards, filter, filter lid, or skimmer assembly are installed to prevent body and/or hair entrapment.
   - Never operate or use the spa if the filter, filter lid, or skimmer assembly are broken or any part of the skimmer assembly is missing. Please contact your dealer or nearest service center for service.

Safety Information & Warnings

- The suction fittings and suction covers in this spa are sized to match the specific water flow created by the pump(s). If it is necessary to replace the suction fittings, suction covers or pump(s), be sure that the flow rates are compatible and are in compliance with the Australian Standard AS1926.3:2010.

- Never replace a suction fitting or suction cover with one rated less than the flow rate marked on the original suction fitting. Using improper suction fittings or suction covers can create a body or hair suction entrapment hazard that may lead to drowning or severe injury.

3. **DANGER: RISK OF SEVERE INJURY FROM ELECTRIC SHOCK OR DEATH FROM ELECTROCUTION. PRODUCT DAMAGE OR ELECTRICAL FIRE.** (All Electrical work must be completed by a qualified Electrician as per local regulations).

- Items containing live parts, except parts supplied with safety extra-low voltage not exceeding 12v, must be inaccessible to a person in the bath.
- Never permit any electrical appliance, such as a light, telephone, radio, television, etc. within 1.25m (arms reach) of a spa unless such appliances are built-in by the manufacturer.
- Never bring any electrical appliances into or near the spa.
- Never operate any electrical appliances from inside the spa or when you are wet.
- Any spa that requires an electrical service 15 amps or greater must be connected by an electrician if being hardwired or using a plug. No extension cords are to be used in conjunction with the operation of a spa. Supplying power to the spa, which is not in accordance with these instructions, will void both the independent testing agency listing and the manufacturer's warranty.

Safety Information & Warnings

- The electrical supply for this product must include a suitably rated isolating switch and circuit breaker to comply with local electrical regulations. This RCD/GFCI circuit breaker must be installed at the power supply in the house electrical box.
- For Australia/ New Zealand, the spa should be supplied through a residual current device (RCD) with a rated tripping current not exceeding 30mA (IEC 60335-2-60).

4. **WARNING: RISK OF SEVERE INJURY OR DEATH!**
   - Extreme caution must be exercised to prevent diving or jumping into the spa or slipping and falling, which could result in unconsciousness, drowning, or serious injury. Remember that wet surfaces can be very slippery.
   - Never stand, walk or sit on the top edge of the spa.

5. **WARNING: RISK OF HYPERTHERMIA (OVER-HEATING) CAUSING SEVERE INJURY, BURNS, WELTS OR DEATH!**
   - Water temperature in excess of 40°C (104°F) may be injurious to your health.
   - Refer to the Hyperthermia section in this manual, for specific causes and symptoms of this condition.
   - The water in the spa should never exceed 40°C (104°F). Water temperatures between 38°C (100°F) and 40°C (104°F) are considered safe for a healthy adult.
   - Lower water temperatures are recommended for young children (children are especially sensitive to hot water) and when spa use may exceed 10 minutes.
   - In order to avoid the possibility of hyperthermia (Heat Stress) occurring it is recommended that the average temperature of the spa-pool water should not exceed 40°C.

Safety Information & Warnings

- Always test the spa water temperature before entering the spa. The user should measure the water temperature with an accurate thermometer since the tolerance of water temperature-regulating devices may vary as much as +/- 2°C (5°F).

6. **WARNING: RISK OF SEVERE INJURY OR DEATH!**
   - Since excessive water temperatures have a high potential for causing fetal damage during the early months of pregnancy, if pregnant or possibly pregnant, consult your physician before using a spa.
   - Pregnant or possibly pregnant women should limit spa water temperatures to 38°C (100°F).
   - Persons suffering from obesity or a medical history of heart disease, low or high blood pressure, circulatory system problems, diabetes, infectious diseases or immune deficiency syndromes should consult a physician before using a spa.
   - If you experience breathing difficulties in association with using or operating your spa, discontinue use and consult your physician.
   - Persons using medication should consult a physician before using a spa since some medication may induce drowsiness, while other medication may affect heart rate, blood pressure, and circulation.
   - Persons suffering from any condition requiring medical treatment, the elderly, or infants should consult with a physician before using a spa.
   - The use of alcohol, drugs, or medication before or during spa use may lead to unconsciousness with the possibility of drowning.

Safety Information & Warnings

7. **WARNING: RISK OF SEVERE INJURY OR DEATH!**
   - Prolonged immersion in a spa may be injurious to your health.
   - Observe a reasonable time limit when using the spa. Exposures at higher temperatures can cause high body temperature (over-heating). Symptoms may include dizziness, nausea, fainting, drowsiness, and reduced awareness. These effects could possibly result in drowning or serious injury.
   - Never use a spa immediately following strenuous exercise. Enter and exit the spa slowly. Wet surfaces can be slippery.

8. **WARNING: TO DECREASE RISK OF INFECTION OR DISEASE!**
   - To reduce the risk of contracting a waterborne illness (e.g. an infection, bacteria or virus) and/or respiratory ailments, maintain water chemistry within the parameters listed on the chemical container label. Guidelines are listed on the Water care section of this manual and consult with a licensed engineer regarding proper ventilation if installed indoors or in an enclosed area.
   - People with infectious diseases should not use a spa to avoid water contamination, which could result in spreading infections to others.
   - Always shower before and after using your spa. Maintain water chemistry in accordance with chemical manufacturer's instructions. Failure to do so may result in contracting a waterborne illness (e.g. an infection, bacteria or virus).

Safety Information & Warnings

9. **WARNING: RISK OF SEVERE INJURY OR DEATH!**

   The appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience or knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

10. **WARNING: VENTILATION**

    In addition to maintenance of filters and water chemistry, proper ventilation is recommended to reduce the risk of contracting a waterborne illness (e.g. an infection, bacteria or virus) and/or respiratory ailments that could be present in the air or water. Consult a licensed architect or building contractor to determine your specific needs if installing your hot tub indoors.

11. **CAUTION: TO DECREASE RISK OF PRODUCT DAMAGE.**

    - Maintain water chemistry in accordance with the chemical manufacturer's instructions.
    - Proper chemical maintenance of spa water is necessary to maintain safe water and prevent possible damage to spa components.
    - If you do not intend to use your spa, or if there is a prolonged power outage during periods of severe freezing temperatures, it is important that all water be removed from the spa and equipment to protect against damage from freezing.

12. **NOTE:**

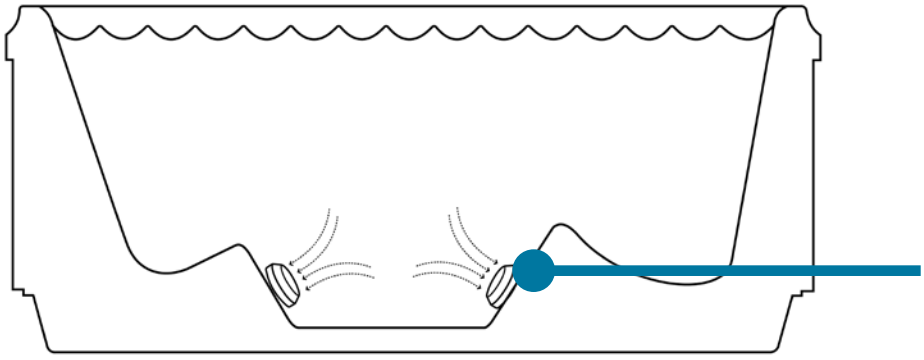
    This spa is not intended nor designed to be used in a commercial or public application. The spa buyer shall determine whether there are any code restrictions on the use or installation of this spa since local code requirements vary from one locality to another.

Safety Information & Warnings

Entrapment Risk

DANGER **RISK OF PERSONAL INJURY OR DEATH!**

Never operate the spa if a suction fitting, suction cover, filter, filter lid or skimmer assembly are broken, damaged or missing.



Suction Fitings, Suction Covers (locations vary by models)

Note: Suction covers must be replaced every 7 years.

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Safety Information & Warnings

1. **DANGER: RISK OF SEVERE INJURY OR DROWNING!**

   Hair entrapment: May occur if hair is entangled, knotted or snagged in a drain suction or skimmer assembly. This has been reported in persons who, when they submerged themselves underwater, allowed hair to come close and/or within the reach of the suction fittings, suction covers or skimmer assembly.

   - Keep hair away from suction fittings, suction covers, filter, filter lid or skimmer assembly.
   - Children are at risk for hair entrapment if swimming underwater.
   - Never allow children to play or get near the suction fittings, suction covers, filter, filter lid or skimmer assembly

2. **DANGER: RISK OF SEVERE INJURY OR DROWNING!**

   Limb entrapment: May occur when a limb becomes entrapped, inserted or sucked into a suction or outlet opening.

   - Always keep suction fittings, suction covers, filter, filter lid or skimmer assembly in place when operating to avoid limb entrapment.
   - Never allow children to play or get near the suction fittings, suction covers, filter, filter lid or skimmer assembly.

3. **DANGER: RISK OF SEVERE INJURY OR DROWNING!**

   Body entrapment: May occur when part of the torso becomes entrapped, inserted or sucked into a suction or outlet opening.

   - Never allow children to play or get near the suction fittings, suction covers, filter, filter lid or skimmer assembly.

Safety Information & Warnings

4. **DANGER: RISK OF SEVERE INJURY OR DROWNING!**

Evisceration (disembowelment) entrapment:

- May occur when the buttocks becomes entrapped, inserted or sucked into a suction or outlet opening.
- Never sit on suction fittings, suction covers, filter, filter lid or skimmer assembly.
- Never allow children to play or get near the suction fittings, suction covers, filter, filter lid or skimmer assembly.

5. **DANGER: RISK OF SEVERE INJURY OR DROWNING!**

Mechanical entrapment:

May occur when jewellery, swimsuit, or hair accessories become entangled, knotted or snagged in a drain suction or skimmer assembly.

- Never allow your jewellery, swimsuit, or hair accessories to come close to the suction fittings, suction covers or skimmer assembly.
- Never allow children to play or get near the suction fittings, suction covers, filter, filter lid or skimmer assembly.
- An emergency stop switch controlling all spa pool pumps, blowers and heaters shall be provided within 3.0m of the spa pool and shall be visible at all times.
- As per SPASA compliance guide, Industry accepted best practice for emergency stop switches may include an electrical switch, isolator switch or any other emergency stop switch control measure.

Safety Information & Warnings

Hyperthermia

Prolonged immersion in hot water may induce hyperthermia (over- heating). The use of alcohol or drugs can greatly increase the risk of fatal hyperthermia in spas. A description of the causes, symptoms, and effects of hyperthermia are as follows:

Hyperthermia occurs when the internal temperature of the body reaches a level several degrees above the normal body temperature of 37°C . The symptoms of hyperthermia include drowsiness, lethargy (fatigue), and an increase in the internal temperature of the body (feeling of being too hot). The effects of hyperthermia include:

- Unawareness of impending hazard;
- Failure to perceive heat;
- Failure to recognize the need to exit spa;
- Physical inability to exit spa;
- Fetal damage in pregnant women; and
- Unconsciousness and danger of drowning.

Choosing a location

General Considerations

The spa must be installed in such a manner as to provide drainage away from it. Placing the spa in a depression without provisions for proper drainage could allow rain, overflow, leaks from spa plumbing, and other casual water to flood the equipment and create a wet condition in which it would sit. This is not covered under warranty.

When installing spas below ground or recessing a spa into a floor or deck, make sure the equipment can still be easily accessed for servicing.

There should be no obstructions that would prevent access to jet components or the removal of cabinet panels,especially on the side with the equipment bay.

* Conditions apply. Specifications may change without notice.

Choosing a location-Outdoor

In selecting the ideal outdoor location for your spa, we suggest that you take into consideration:

- The proximity to changing area and shelter (especially in colder weather).
- The pathway to and from your spa (this should be free of debris so that dirt and leaves are not easily tracked into the spa).The closeness to trees and shrubbery (remember that leaves and birds could create extra work in keeping the spa clean).
- A sheltered environment (less wind and weather exposure can result in lowered operation and maintenance costs).
- The overall enhancement of your environment. It is preferable not to place the spa under an unguttered roof overhang since run-off water will shorten the life expectancy of the spa cover.
- For spas that are to rest on balconies, roofs or other platforms not specifically tied into main structural support, consult a professional Structural Engineer with experience in this type of application.
- In the unlikely event that you should ever need to access or gain entry to any portion of the spa for servicing, it is highly recommended that you plan your outdoor installation to provide full access to the entire spa. Please take this into consideration when placing the spa in a deck or enclosed by a surrounding.
- Consider locating your spa away from any reflective surface or glass to prevent any damage to the synthetic cabinet.
- Do not shim the spa. To ensure proper support the spa must sit flat on the intended foundation.

Choosing a location-Indoor

For indoor installations many factors need to be considered before installing a spa indoors:

- Proper Foundation: Consult a Structural Engineer when considering a foundation that will adequately support the spa the entire time it is in place.

  Proper support is critical especially if the spa is to rest on a second story or higher. For spas that are to rest on balconies, roofs or other platforms not specifically tied into the main structural support, you should consult a professional Structural Engineer with experience in this type of application.

- The pathway to and from your spa (this should be free of debris so that dirt and leaves are not easily tracked into the spa).The closeness to trees and shrubbery (remember that leaves and birds could create extra work in keeping the spa clean).
- A sheltered environment (less wind and weather exposure can result in lowered operation and maintenance costs).
- The overall enhancement of your environment. It is preferable not to place the spa under an unguttered roof overhang since run-off water will shorten the life expectancy of the spa cover.
- For spas that are to rest on balconies, roofs or other platforms not specifically tied into main structural support, consult a professional Structural Engineer with experience in this type of application.
- In the unlikely event that you should ever need to access or gain entry to any portion of the spa for servicing, it is highly recommended that you plan your outdoor installation to provide full access to the entire spa. Please take this into consideration when placing the spa in a deck or enclosed by a surrounding.

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Choosing a Location-Indoor

- Consider locating your spa away from any reflective surface or glass to prevent any damage to the synthetic cabinet.
- Do not shim the spa. To ensure proper support the spa must sit flat on the intended foundation.
- Warranty: Damage caused by not following these guidelines or any improper installation not in accordance to local codes or authorities is not covered under the spas warranty. Please consult your local state or city building ordinances.
- Do not shim the spa. To ensure proper support the spa must sit flat on the intended foundation.

CAUTION

If the spa is indoors or located in an enclosed area, proper ventilation should be discussed with an Engineer an or authority competent enough to understand the necessary provisions needed to vent moist or heated air and air associated with chemical odors outdoors. When the spa is in use considerable amounts of moisture will escape potentially causing mold and mildew. This can cause health risk. Over time, this can damage certainsurfaces, surroundings, and equipment.

Vortex™ Portable Spas

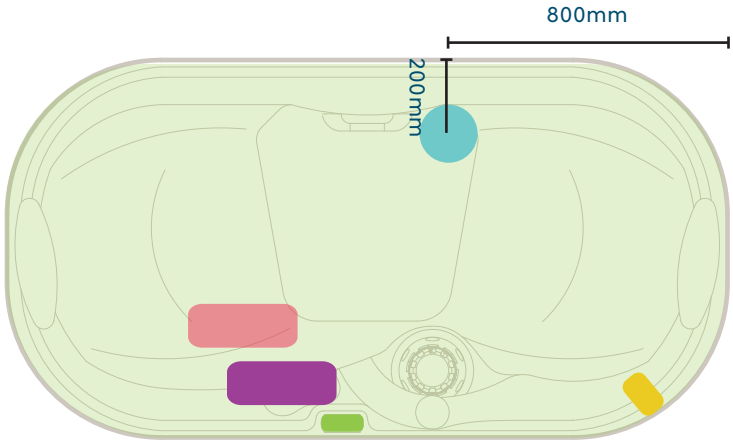
Specifications

Spa model	Water Capacity	Dry weight	Lift weight	Controller	Variable output heather	Recommended Electrical Supply
Gemini™	660 litres	200 kg	287 kg	SVM1	1.5kW	10 Amps**
Eon™	875 litres	285 kg	366 kg	SV2	3kW	15 Amps max.
Neon™	746 litres	265 kg	337 kg	SV2	3kW	15 Amps max.
Mercury™	851 litres	275 kg	354 kg	SV2	3kW	15 Amps max.
Xenon™	1,212 litres	335 kg	433 kg	SV2	3kW	15 Amps max
Nitro™ Nitro HP™	1,379 litres	385 kg 397 kg	493 kg 507 kg	SV2 SV3	3kW 5.25kW	15 Amps max
Cobalt™ Cobalt HP™	1,174 litres	340 kg 380 kg	435 kg 483 kg	SV2 SV3	1.5kW 5.25kW	15 Amps max. 32 Amps max.
Palladium™ Palladium HP™	2,650 litres	665 kg 752 kg	847 kg 952 kg	SV3 SV3	5.25kW 5.25kW	32 Amps max. 32 Amps max.
Spectrum™ Spectrum HP™	1,352 litres	406 kg 418 kg	518 kg 532 kg	SV3 SV3	5.25kW 5.25kW	32 Amps max. 32 Amps max.
Titanium™ Titanium HP™	1,990 litres	580 kg 620 kg	736 kg 784 kg	SV2 SV3	3kW 5.25kW	15 Amps max. 32 Amps max.
IKON™	1,159 litres	460 kg	550 kg	SV2	3kW	15 Amps max

**Lift weight includes the packaging, cover and any water that may remain in the pipework after water testing. But not the pallet weight.

* Conditions apply. Specifications may change without notice.

Gemini™ Spa
Equipment location



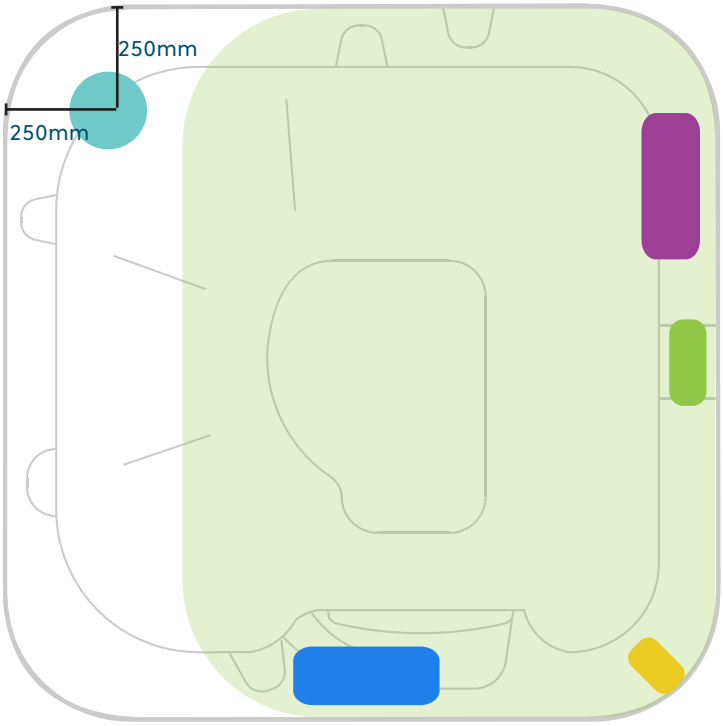
Equipment bay
Circulation pump
Heater
Keypad
Drain valve
Jet pump
Conduit access

Conduit access should be no more than 100mm high **above the concrete slab.**
**Check with electrician about dedicated circuit requirements.

Note: *This model has a rigid base, and if you choose to bring the piping conduit in from the bottom through the base, you will need to cut a hole into the base on-site before installation. The factory does not provide this hole. Please see the diagram to find the location where you can drill the hole.*

Vortex™ Spas

Eon™ Spa
Equipment location

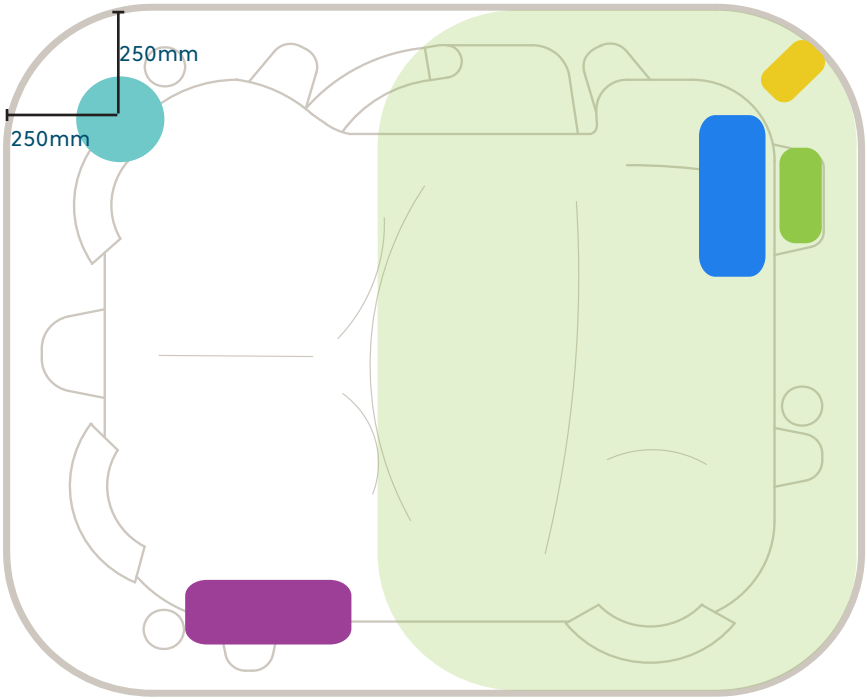


Equipment bay
Circulation pump
Drain valve
Keypad
Conduit access
Jet pump

Conduit access should be no more than 100mm high **above the concrete slab.**
**Check with electrician about dedicated circuit requirements.

Note: *This model has a rigid base, and if you choose to bring the piping conduit in from the bottom through the base, you will need to cut a hole into the base on-site before installation. The factory does not provide this hole. Please see the diagram to find the location where you can drill the hole.*

Neon™ Spa
Equipment location



Equipment bay
Circulation pump
Drain valve
Keypad
Conduit access
Jet pump

Conduit access should be no more than 100mm high **above the concrete slab.**

**Check with electrician about dedicated circuit requirements.

Note: *This model has a rigid base, and if you choose to bring the piping conduit in from the bottom through the base, you will need to cut a hole into the base on-site before installation. The factory does not provide this hole. Please see the diagram to find the location where you can drill the hole.*

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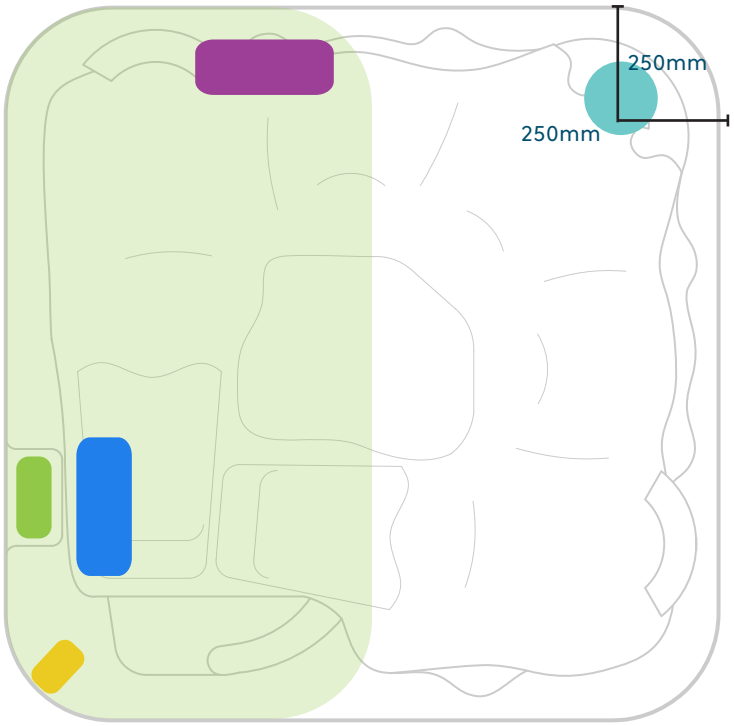
Mercury™ Spa
Equipment location

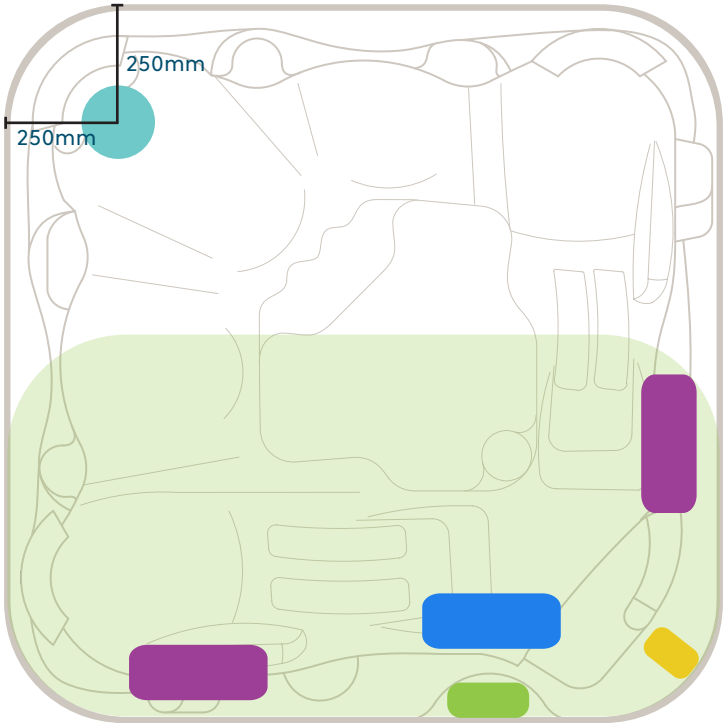


Equipment bay
Circulation pump
Drain valve
Keypad
Conduit access
Jet pump

Conduit access should be no more than 100mm high **above the concrete slab.**
**Check with electrician about dedicated circuit requirements.

Note: *This model has a rigid base, and if you choose to bring the piping conduit in from the bottom through the base, you will need to cut a hole into the base on-site before installation. The factory does not provide this hole. Please see the diagram to find the location where you can drill the hole.*

Cobalt™ Spa
Equipment location



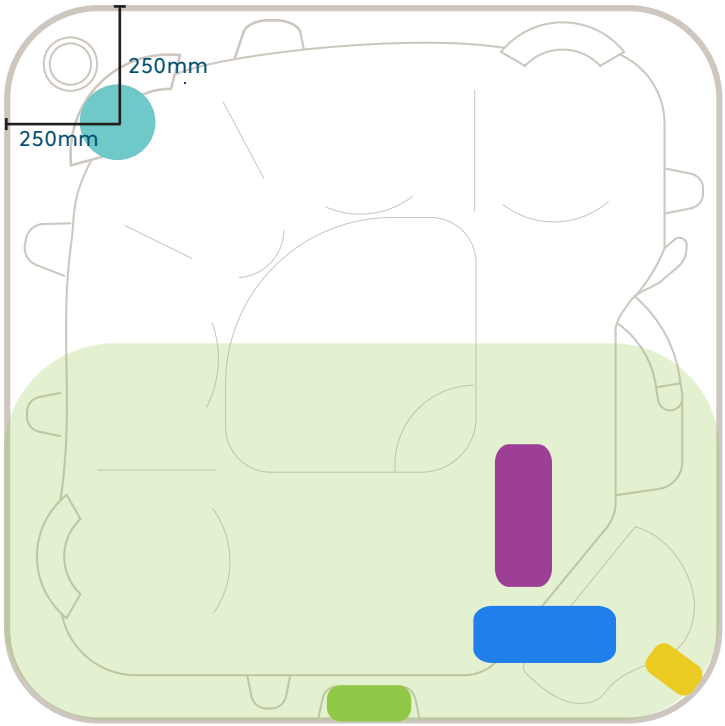
Equipment bay
Circulation pump
Drain valve
Keypad
Conduit access
Jet pump

Conduit access should be no more than 100mm high **above the concrete slab.**
**Check with electrician about dedicated circuit requirements.

Note: *This model has a rigid base, and if you choose to bring the piping conduit in from the bottom through the base, you will need to cut a hole into the base on-site before installation. The factory does not provide this hole. Please see the diagram to find the location where you can drill the hole.*

Vortex™ Spas

Xenon™ Spa
Equipment location

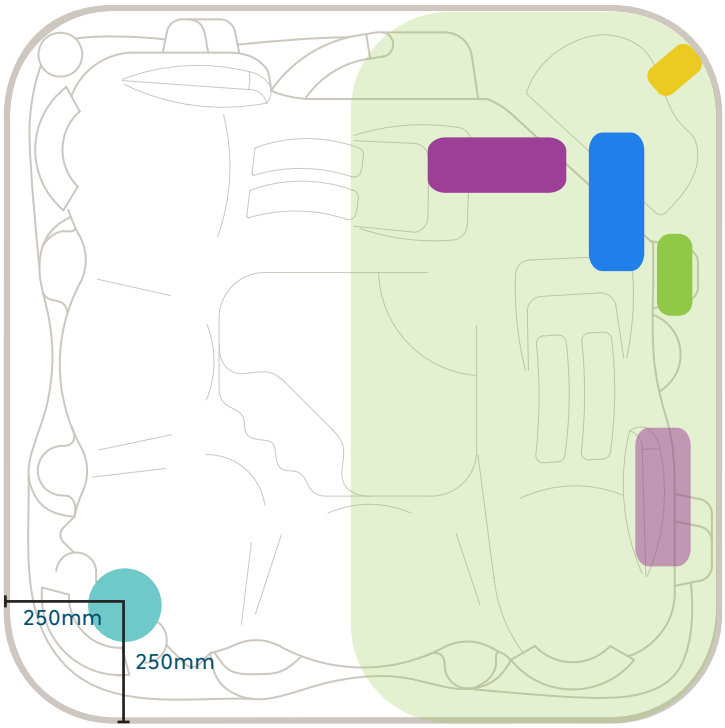


Equipment bay
Circulation pump
Drain valve
Keypad
Conduit access
Jet pump

Conduit access should be no more than 100mm high **above the concrete slab.**
**Check with electrician about dedicated circuit requirements.

Note: *This model has a rigid base, and if you choose to bring the piping conduit in from the bottom through the base, you will need to cut a hole into the base on-site before installation. The factory does not provide this hole. Please see the diagram to find the location where you can drill the hole.*

Nitro™ Spa
Equipment location



Equipment bay
Circulation pump
Drain valve
Keypad
Conduit access
Jet pump
Jet pump
Hydroplus models

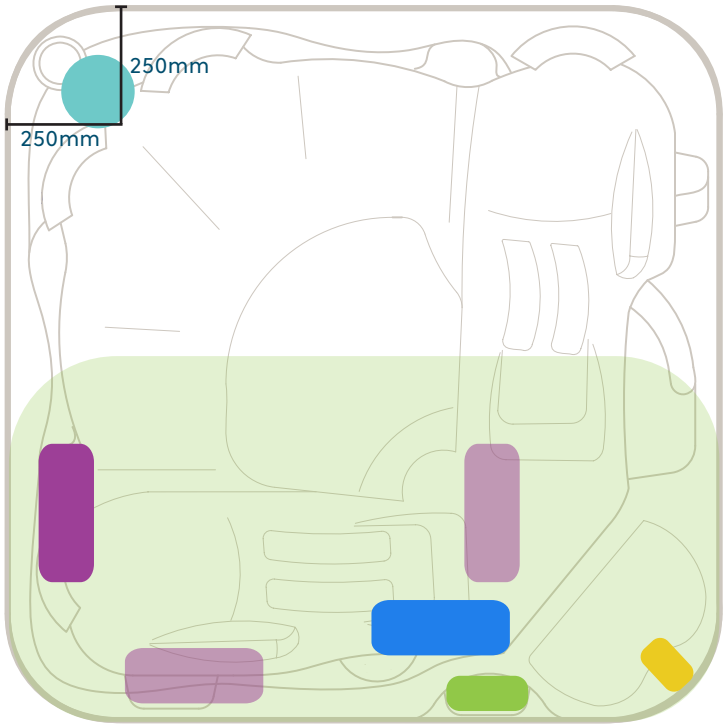
Conduit access should be no more than 100mm high **above the concrete slab.**

**Check with electrician about dedicated circuit requirements.

Note: *This model has a rigid base, and if you choose to bring the piping conduit in from the bottom through the base, you will need to cut a hole into the base on-site before installation. The factory does not provide this hole. Please see the diagram to find the location where you can drill the hole.*

Vortex™ Spas

Spectrum™ Spa
Equipment location



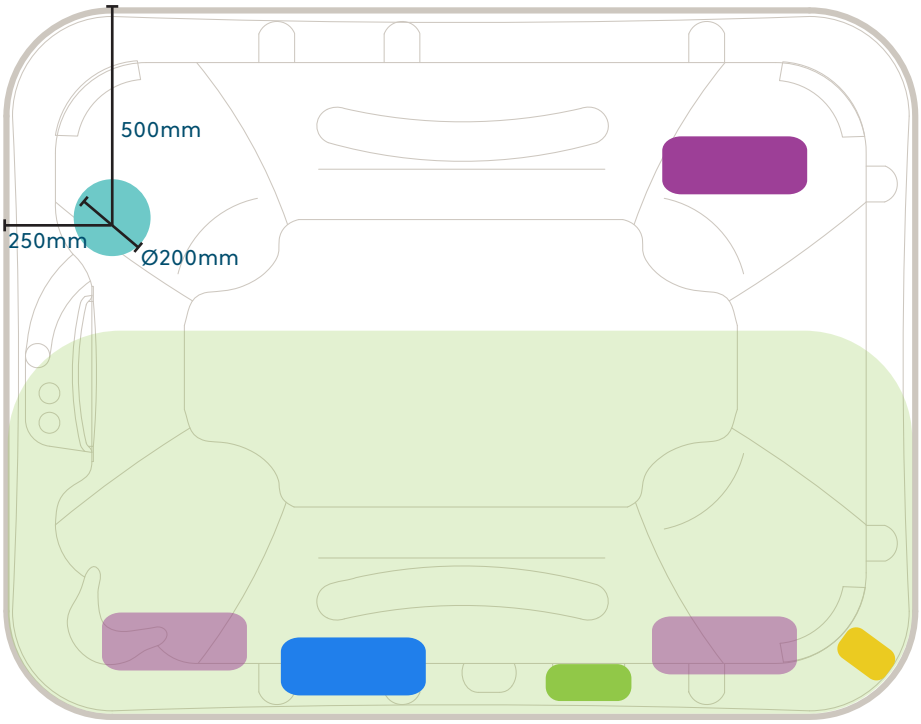
Equipment bay
Circulation pump
Drain valve
Keypad
Conduit access
Jet pump
Jet pump
Hydroplus models

Conduit access should be no more than 100mm high **above the concrete slab.**

**Check with electrician about dedicated circuit requirements.

Note: *This model has a rigid base, and if you choose to bring the piping conduit in from the bottom through the base, you will need to cut a hole into the base on-site before installation. The factory does not provide this hole. Please see the diagram to find the location where you can drill the hole.*

Titanium™ Spa
Equipment location



Equipment bay
Circulation pump
Drain valve
Keypad
Conduit access
Jet pump
Jet pump
Hydroplus models

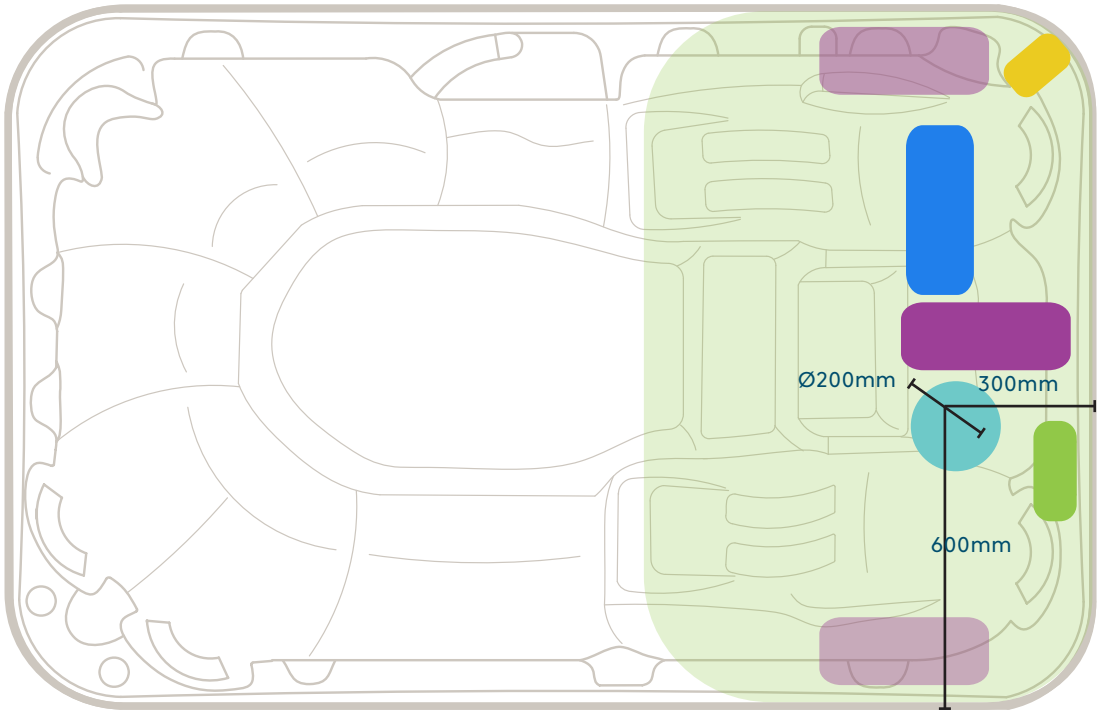
Conduit access should be no more than 100mm high **above the concrete slab.**

**Check with electrician about dedicated circuit requirements.

Note: *This model has a rigid base, and if you choose to bring the piping conduit in from the bottom through the base, you will need to cut a hole into the base on-site before installation. The factory does not provide this hole. Please see the diagram to find the location where you can drill the hole.*

Vortex™ Spas

Palladium™ Spa
Equipment location



Equipment bay
Circulation pump
Drain valve
Keypad
Conduit access
Jet pump
Jet pump
Hydroplus models

Conduit access should be no more than 100mm high **above the concrete slab.**
**Check with electrician about dedicated circuit requirements.

Note: *This model has a rigid base, and if you choose to bring the piping conduit in from the bottom through the base, you will need to cut a hole into the base on-site before installation. The factory does not provide this hole. Please see the diagram to find the location where you can drill the hole.*

IKON™

Equipment location

Equipment bay

Circulation pump

Drain valve

Keypad

Conduit access

Jet pump

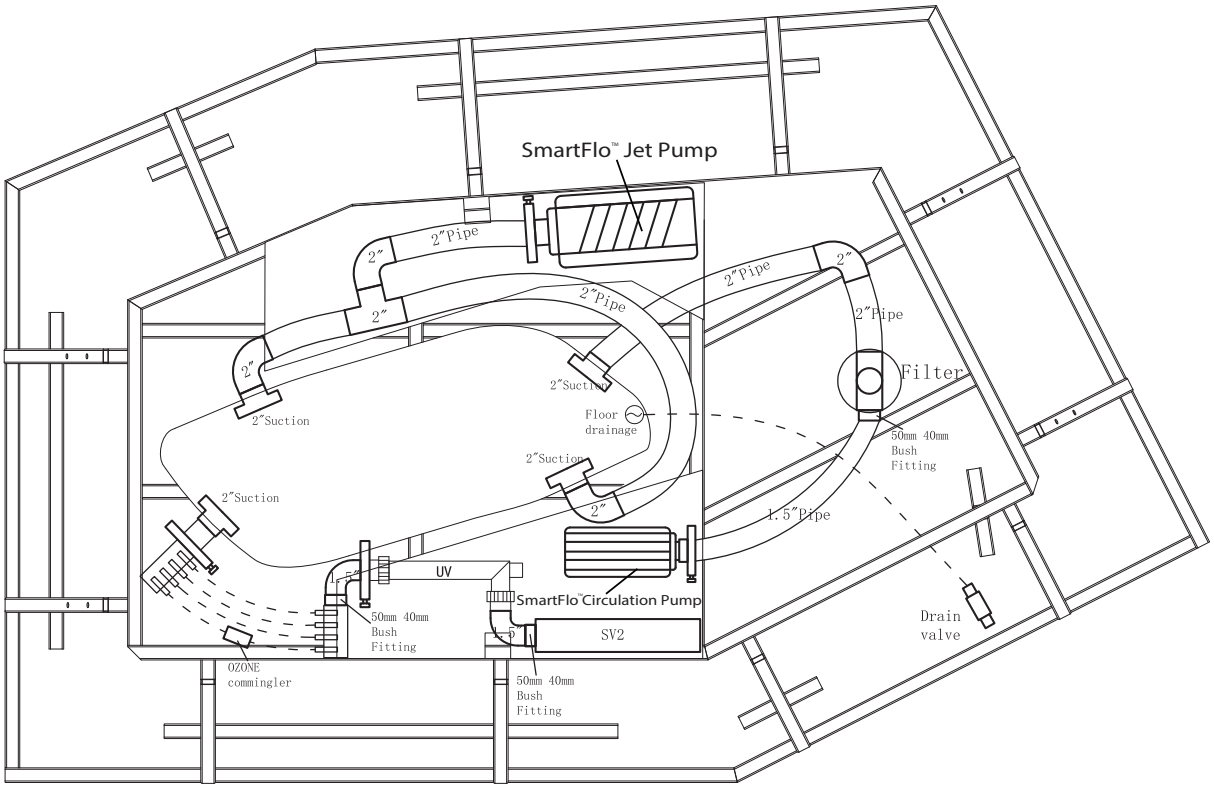
Conduit access should be no more than 100mm high **above the concrete slab.**

**Check with electrician about dedicated circuit requirements.

Note: *This model has a rigid base, and if you choose to bring the piping conduit in from the bottom through the base, you will need to cut a hole into the base on-site before installation. The factory does not provide this hole. Please see the diagram to find the location where you can drill the hole.*

Vortex™ Spas

IKON™ Plumbing



Conduit access should be no more than 100mm high **above the concrete slab.**

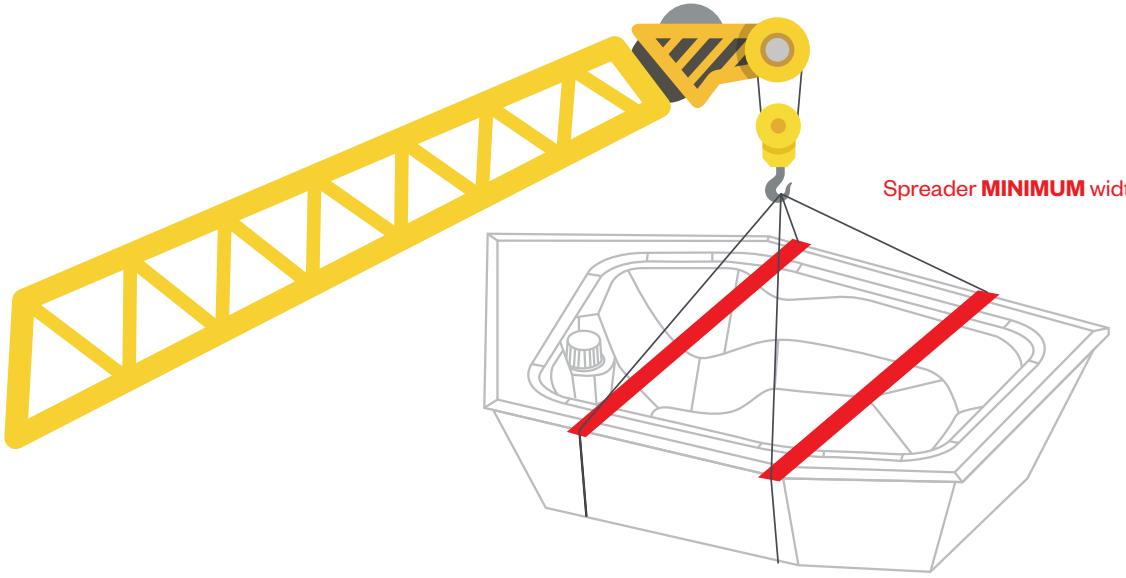
**Check with electrician about dedicated circuit requirements.

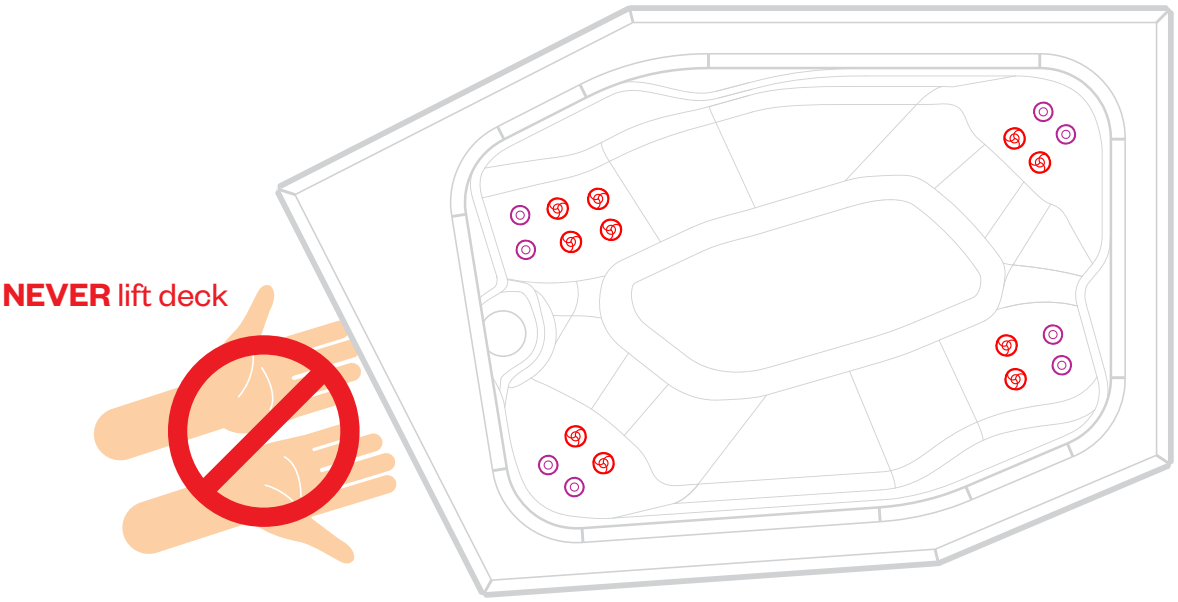
Note: *This model has a rigid base, and if you choose to bring the piping conduit in from the bottom through the base, you will need to cut a hole into the base on-site before installation. The factory does not provide this hole. Please see the diagram to find the location where you can drill the hole.*

* Conditions apply. Specifications may change without notice.

IKON™

Moving specifications





ALWAYS lift with internal steel frame

Vortex™ Spas

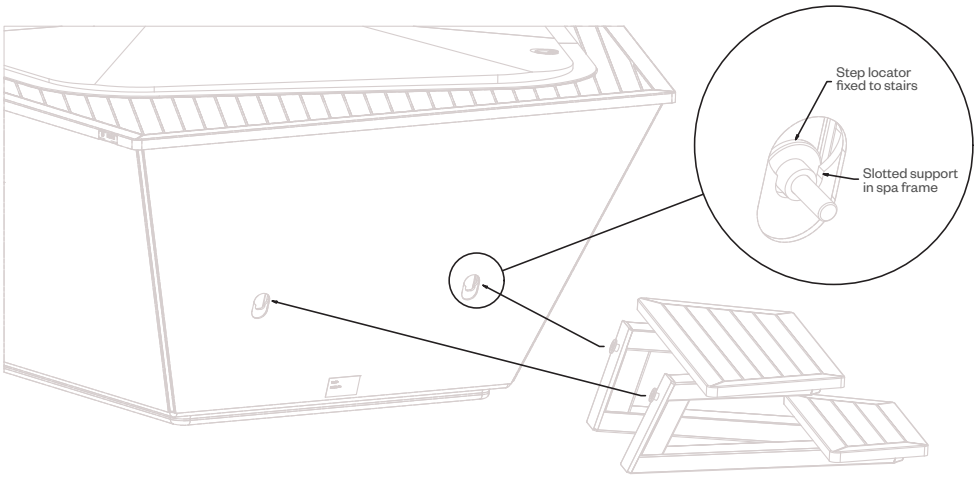
IKON™

Steps specifications and installation

No Steps

Optional Left Steps

Optional Right Steps



Step Installation:

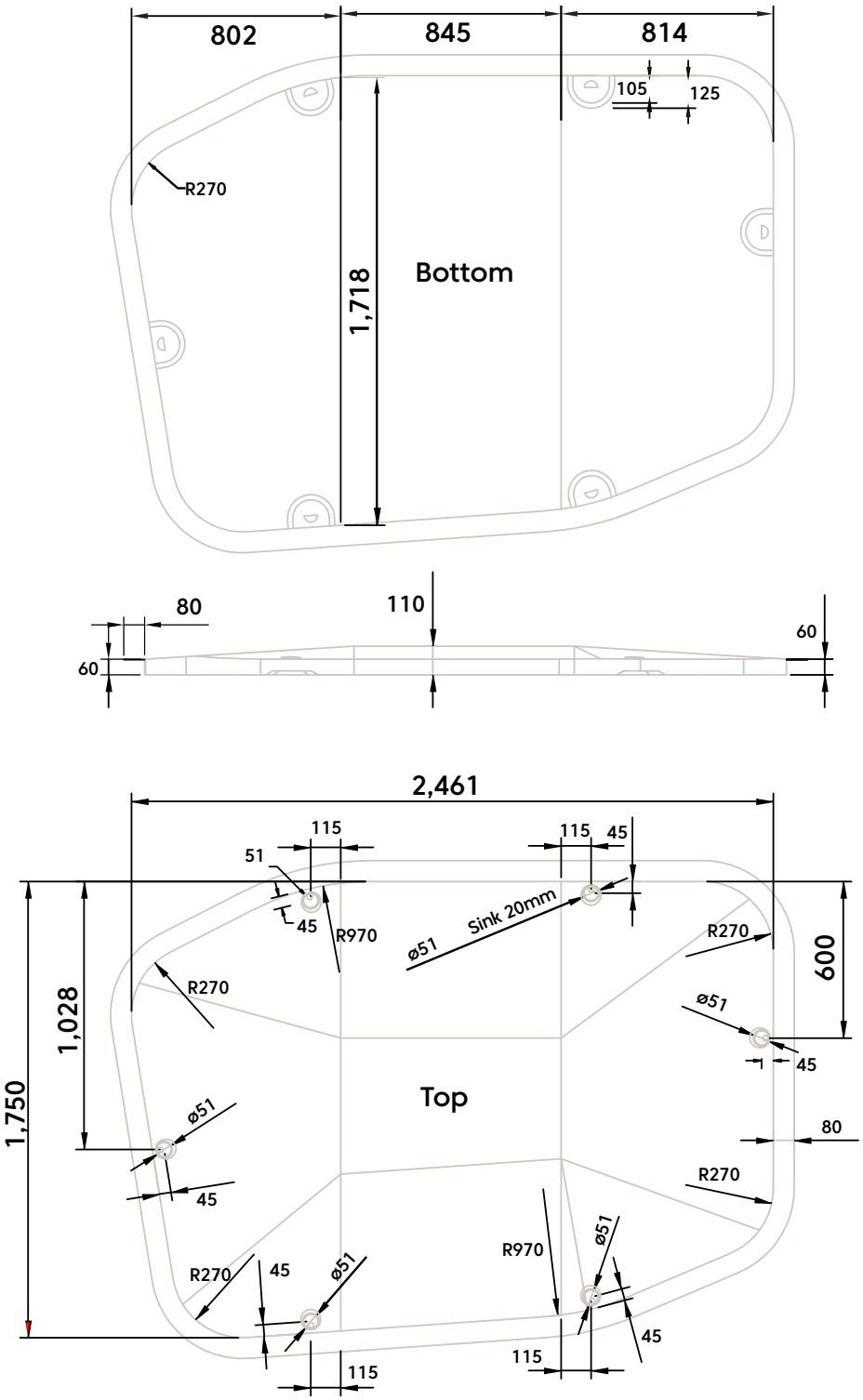
1. Align the step locator with the slotted supports in the spa.
2. Push downward to secure in place.

Reverse sequence for removal.

* No step option will not include the two step locators

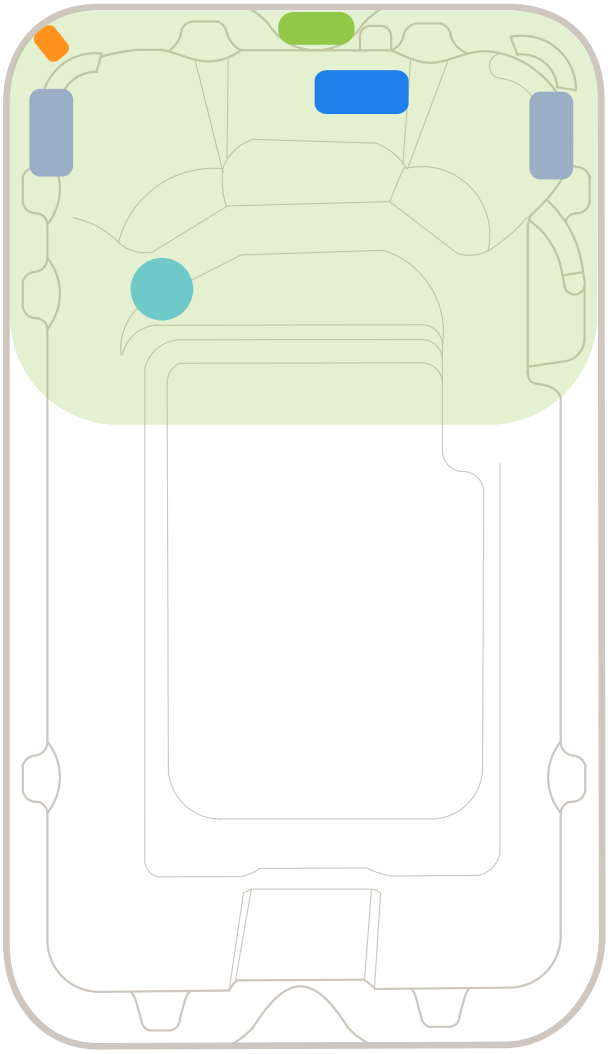
* Conditions apply. Specifications may change without notice.

IKON™ Cover



Vortex™ Spas

Aquagym™ Swim Spa
Equipment location



Equipment location

- Equipment bay
- Keypad
- Conduit access
- Circulation pump
- Drain valve
- Jet pump

Conduit access should be no more than 100mm high **above the concrete slab.**
**Check with electrician about dedicated circuit requirements.

Note: *This model has a rigid base, and if you choose to bring the piping conduit in from the bottom through the base, you will need to cut a hole into the base on-site before installation. The factory does not provide this hole. Please see the diagram to find the location where you can drill the hole.*

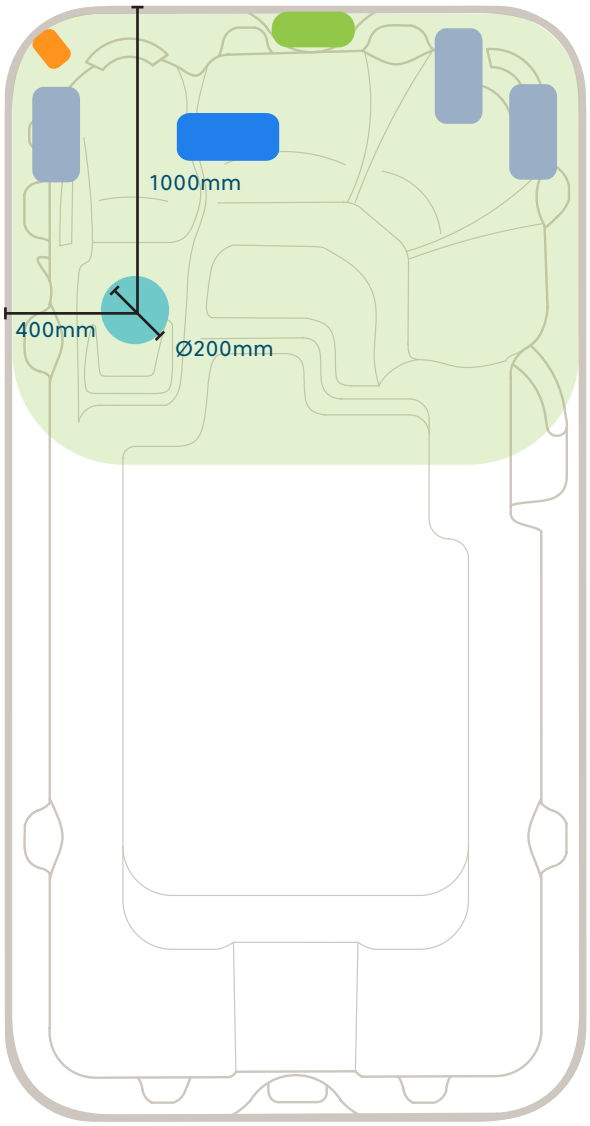
* Conditions apply. Specifications may change without notice.

Aquagym™ Swim Spa
Specifications

	Plunge™	Pro™	Pro Plus™	Extreme™
Water capacity	5,700 litres	5,700 litres	5,700 litres	5,700 litres
Dry weight	1,000 kg	1,020 kg	1,070 kg	1,120 kg
Lift weight	1,450 kg	1,450 kg	1,450 kg	1,450 kg
Controller	SV3	SV3	SV3	SV4
Variable output heather	5.25kW	5.25kW	5.25kW	5.25kW
Recommended electrical supply	32 Amps max	32 Amps max	32 Amps max	40 Amps

Vortex™ Spas

Aquagym Max™ Swim Spa
Equipment location



Equipment location

- Equipment bay
- Keypad
- Conduit access
- Circulation pump
- Drain valve
- Jet pump

Conduit access should be no more than 100mm high **above the concrete slab.**

**Check with electrician about dedicated circuit requirements.

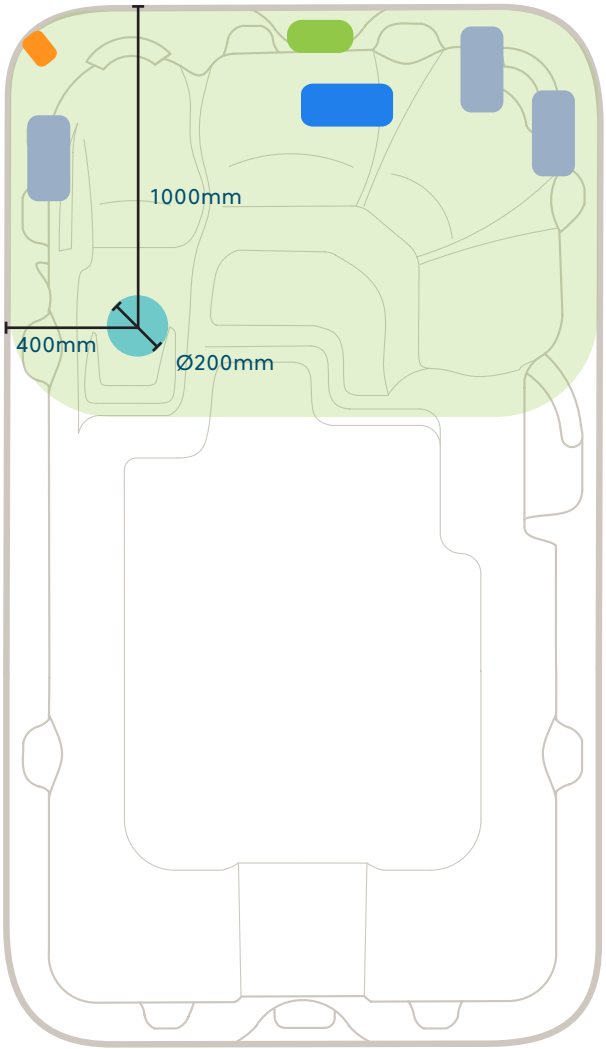
Note: *This model has a rigid base, and if you choose to bring the piping conduit in from the bottom through the base, you will need to cut a hole into the base on-site before installation. The factory does not provide this hole. Please see the diagram to find the location where you can drill the hole.*

Aquagym Max™ Swim Spa
Specifications

	Plunge™	Pro™	Pro Plus™	Extreme™
Dry weight				
Aquagym Max™	900 kg	958 kg	1,105 kg	1,150 kg
Aquagym Max XD™	1,050 kg	1,135 kg	1,185 kg	1,215 kg
Water capacity				
Aquagym Max™	6,136 litres	6,136 litres	6,136 litres	6,136 litres
Aquagym Max XD™	7,750 litres	7,750 litres	7,750 litres	7,750 litres
Lift weight				
Aquagym Max™	1,550 kg	1,550 kg	1,550 kg	1,550 kg
Aquagym Max XD™	1,650 kg	1,650 kg	1,650 kg	1,650 kg
Controller	SV3	SV3	SV3	SV4
Variable output heather	5.25kW	5.25kW	5.25kW	5.25kW
Recommended electrical supply	32 Amps max	32 Amps max	32 Amps max	40 Amps

Vortex Spas

Aqualounge™ Swim Spa



Equipment location

- Equipment bay
- Keypad
- Conduit access
- Circulation pump
- Drain valve
- Jet pump

Conduit access should be no more than 100mm high **above the concrete slab.**

**Check with electrician about dedicated circuit requirements.

Note: *This model has a rigid base, and if you choose to bring the piping conduit in from the bottom through the base, you will need to cut a hole into the base on-site before installation. The factory does not provide this hole. Please see the diagram to find the location where you can drill the hole.*

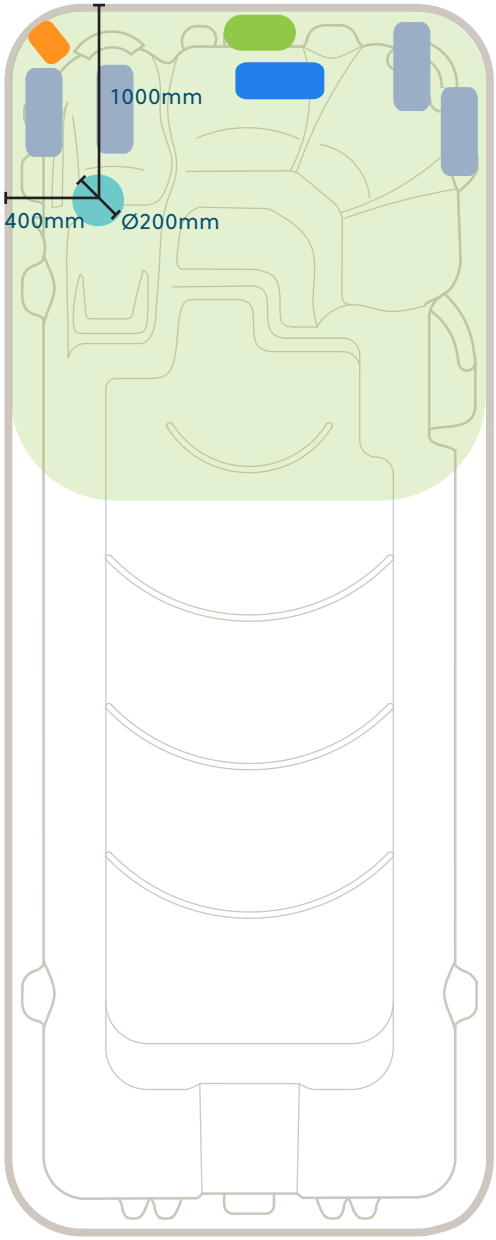
* Conditions apply. Specifications may change without notice.

Aqualounge™ Swim Spa
Specifications

	Plunge™	Pro™	Pro Plus™	Extreme™
Dry weight	870 kg	920 kg	970 kg	1,020 kg
Water capacity	4,717 litres	4,717 litres	4,717 litres	4,717 litres
Lift weight	1,350 kg	1,350 kg	1,350 kg	1,350 kg
Controller	SV3	SV3	SV3	SV4
Variable output heather	5.25kW	5.25kW	5.25kW	5.25kW
Recommended electrical supply	32 Amps max	32 Amps max	32 Amps max	40 Amps

Vortex™ Spas

Aqualap™ Swim Spa



Equipment location

- Equipment bay
- Keypad
- Conduit access
- Circulation pump
- Drain valve
- Jet pump

Note: *This model has a rigid base, and if you choose to bring the piping conduit in from the bottom through the base, you will need to cut a hole into the base on-site before installation. The factory does not provide this hole. Please see the diagram to find the location where you can drill the hole.*

* Conditions apply. Specifications may change without notice.

Aqualap™ Swim Spa
Specifications

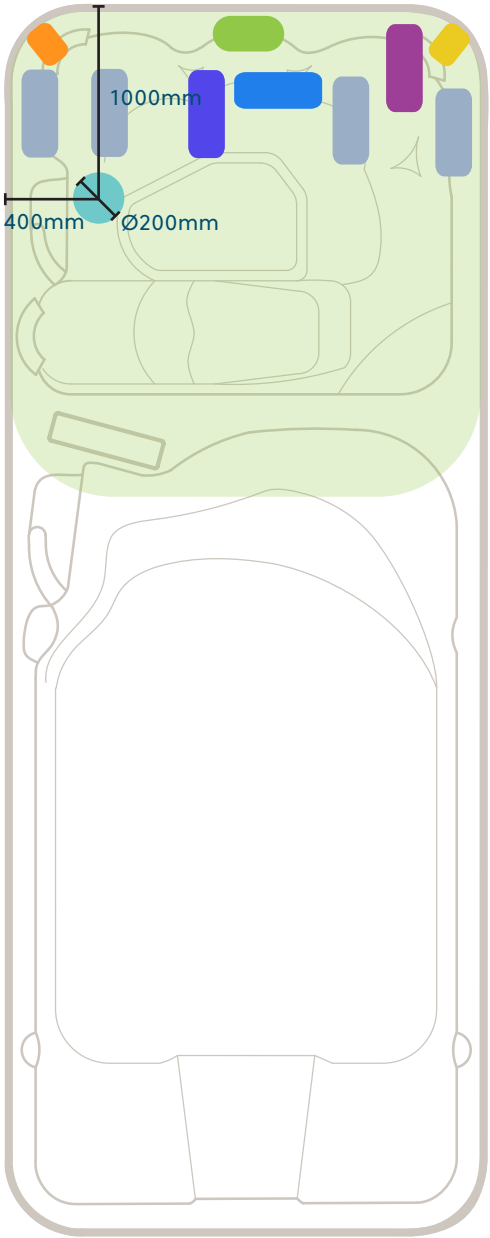
	Plunge™	Pro™	Pro Plus™	Extreme™
Dry weight				
Aqualap™	1,350 kg	1,400 kg	1,450 kg	1,500 kg
Aqualap XD™	1,425 kg	1,475 kg	1,525 kg	1,575 kg
Lift weight				
Aqualap™	1,800 kg	1,800 kg	1,800 kg	1,800 kg
Aqualap XD™	1,900 kg	1,900 kg	1,900 kg	1,900 kg
Water capacity				
Aqualap™	8,500 litres	8,500 litres	8,500 litres	8,500 litres
Aqualap XD™	9,720 litres	9,720 litres	9,720 litres	9,720 litres
Controller	SV3	SV3	SV3	SV4
Variable output heather	5.25kW	5.25kW	5.25kW	5.25kW
Recommended electrical supply	32 Amps	32 Amps	32 Amps	40 Amps

Conduit access should be no more than 100mm high **above the concrete slab.**

**Check with electrician about dedicated circuit requirements.

Vortex Spas

Hydrozone™ Swim Spa



Equipment location

- Equipment bay
- Keypad
- Conduit access
- Drain valve Swim end
- Drain valve Spa end
- Circulation pump Swim end
- Circulation pump Spa end
- Jet pump Swim End
- Jet pump Spa End

Note: *This model has a rigid base, and if you choose to bring the piping conduit in from the bottom through the base, you will need to cut a hole into the base on-site before installation. The factory does not provide this hole. Please see the diagram to find the location where you can drill the hole.*

* Conditions apply. Specifications may change without notice.

Hydrozone™ Swim Spa
Specifications

	Plunge™	Pro™	Pro Plus™	Extreme™
Dry weight				
Hydrozone™	1,380 kg	1,431 kg	1,480 kg	1,530 kg
Hydrozone XD™	1,450 kg	1,500 kg	1,531 kg	1,580 kg
Lift weight				
Hydrozone™	1,900 kg	1,900 kg	1,900 kg	1,900 kg
Hydrozone XD™	2,000 kg	2,000 kg	2,000 kg	2,000 kg
Water capacity				
Hydrozone™	6,684 litres	6,684 litres	6,684 litres	6,684 litres
Hydrozone XD™	7,300 litres	7,300 litres	7,300 litres	7,300 litres
Controller	SV2 + SV3	SV2 + SV3	SV2 + SV3	SV2 + SV4
Variable output heather	3kW + 5.25kW	3kW + 5.25kW	3kW + 5.25kW	3kW + 5.25kW
Recommended electrical supply	15 + 32 Amps	15 + 32 Amps	15 + 32 Amps	15 + 40 Amps

Conduit access should be no more than 100mm high **above the concrete slab.**

**Check with electrician about dedicated circuit requirements.

Vortex Spas

Start-up procedure

1. Check barrel unions are tight.

Remove the spa cabinet side panel (on the keypad side) to access the equipment bay. See the Vortex™ Portable spas specifications section on this manual to locate your spa equipment bay.

Barrel unions are the connections between the pumps and heater and the plumbing of the spa. If they become loose, this can cause water loss. It is important to check the tightness of these unions periodically, and especially when spa is first delivered. The unions are designed to be re tightened by hand. Rotate the locking nut clockwise to tighten.

Check barrel unions

* Conditions apply. Specifications may change without notice.

Check barrel union

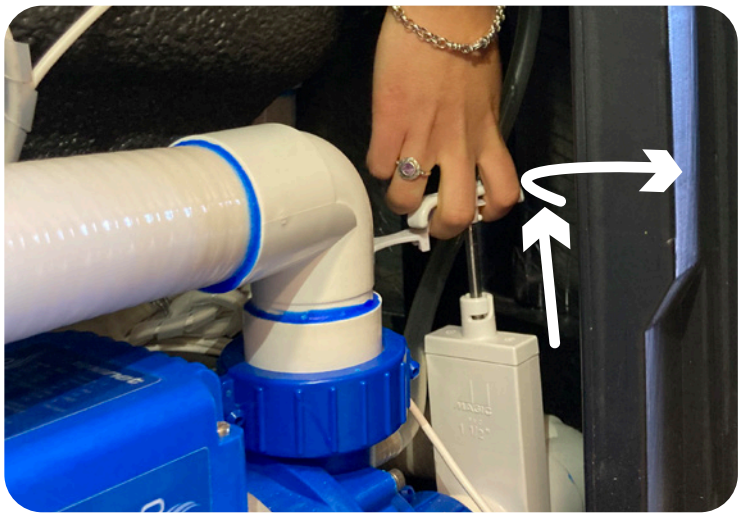
Only tighten the barrel union by hand

Note: *If you see water escaping from beneath your spa, the barrel unions should be the first thing you check. LEAKS FROM BARREL UNIONS ARE NOT COVERED BY THE SPA'S WARRANTY.*

Check isolation valves

3. Check isolation valves are open.

T-handle, isolation valves, enable the water flow to be closed to allow removal of spa equipment for servicing without the need to empty the spa. The isolation valve T handles must be pulled UP to be OPEN and allow water flow.



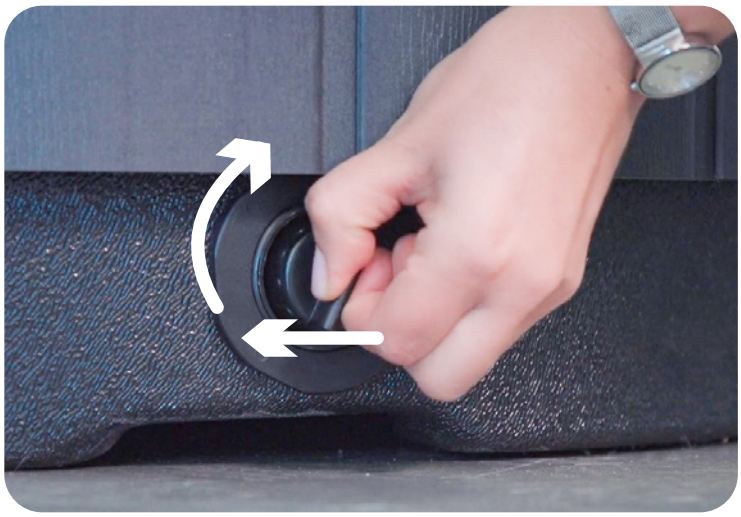
T-handle valves Open

T-handle valves Close

Check drain valve

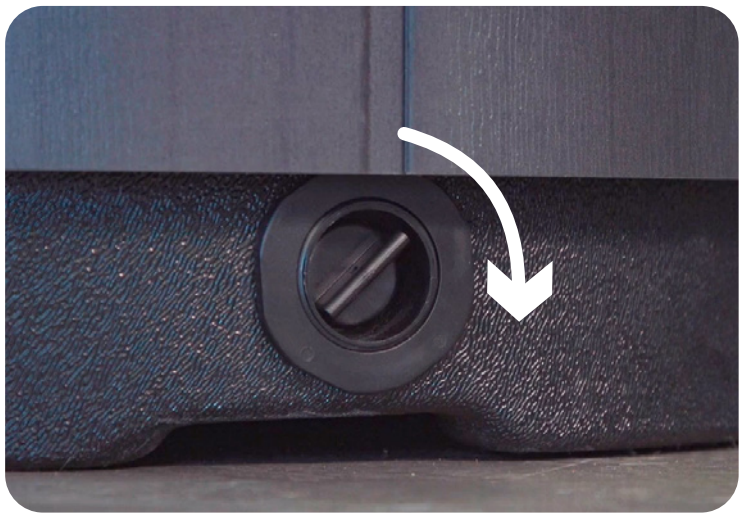
4. Check that the drain valve is closed and firmly tightened.

To find the drain valve check the equipment location section on this manual.



If it is open, twist and press in the drain cap

Tighten the cap. Close drain valve



Vortex Spas

Check jets

4. Check all jets are open.

Water flow to most jets can be turned on or off by rotating the jet face clockwise (On) or anti-clockwise (Off). Check to ensure all jets are open before filing with water.

Spa fill up procedure

For best results, read each step in its entirety before proceeding with this procedure. Make sure all drains are closed before you begin. Check the Start-up procedure section in this manual.

1. Prepare the spa for filling

- Clear all debris from the spa. (Although the spa shell has been polished at the factory, you may want to treat it with a specially formulated spa cleaner.) Consult your authorized Vortex Spas™ dealer for additional information prior to filling spa.
- If using the primary filter inlet to fill, remove the filter cover, then remove the filter cartridge as outlined in the following section.

2. Fill spa

Fill you spa from a source of clean water such as domestic tap water or rainwater, DO NOT OVERFILL your spa. Fill until the water comes up to the fill line on the filter face. Do not let the water fill to the point of touching the bottom of the lowest headrest.

2.1. Make sure there is no debris in the spa that can float.

2.2. Make sure the drain valve is closed. See page 53 for the drain valve operation

2.3. Remove one of the spa filters. See page 56 for filter removal operation. To remove the filters you need to twist the filter clockwise - to install the filters, you push down while twisting the filters counter-clockwise.

2.4. Remove any fitting from the end of your garden hose that might come off or stop the hose end from fitting down the hole where the filter that you have removed is located.

Spa fill-up procedure

2.5. Insert the end of your garden hose, no more than 250mm into the hole where the filter was placed. We do not recommend filling the spa by placing the hose into the foot well of the spa because it can create an air bubble in the plumbing system that can cause an error when starting up. See Error 3 in the troubleshooting section.

2.4. Turn on the water

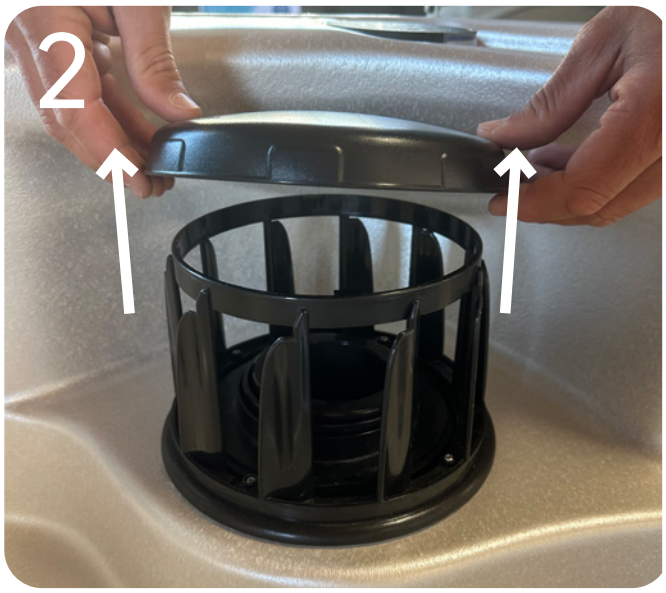
2.5. Fill until the water reaches the fill line on the filter face.

Single filter (Only in Gemini™ model)

Barrel filter cage.

Note: *The barrel filter must have the cage installed at all times. If the spa has arrived without a cage please contact the service dept immediately.*

Single filter
Spa fill-up



Remove the filter safety cage lid.

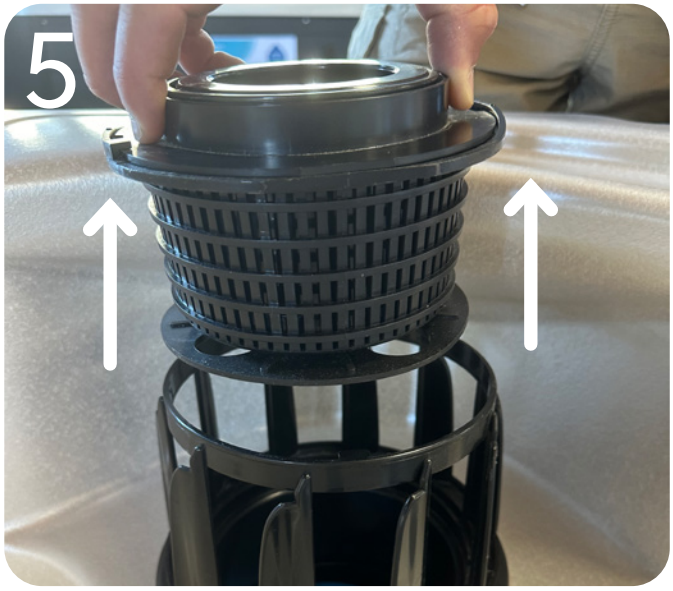
Pull out the Telescopic skimmer from the safety cage.

Single filter
Spa fill-up

Unlock the Telescopic skimmer from the safety cage, rotating the skimmer counter-clockwise.

Unlocked skimmer.

Single filter
Spa fill-up



Remove skimmer.

Place hose on the filter pipe.
Insert hose down inlet
no more than 250 mm.
And fill with water until it
reaches the fill line.

Vortex™ Spas

Spa fill-up
Three filters

Filter face

Remove spa filter from the PZ side

* Conditions apply. Specifications may change without notice.

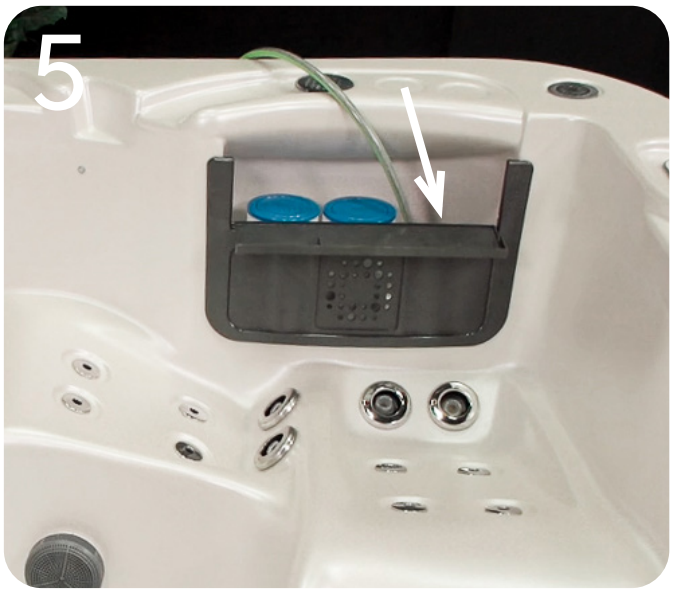
Three filters
Spa fill-up

Remove the filter
counter-clockwise

Insert the end of the hose
into the filter pipe

Vortex™ Spas

Three filters
Spa fill-up



Insert hose down inlet
no more than 250 mm

Fill with water until it
reaches the fill line

* Conditions apply. Specifications may change without notice.

Water care
Warnings

WARNING Not following this guide can damage components in your spa and this damage is not covered under warranty.

Do not turn on the jet pumps or clean cycle for at least 30 minutes after you have added the sanitiser.

TO DECREASE RISK OF INFECTION OR DISEASE!
Always maintain your spa filter as outlined below to ensure healthy spa water.

Required filter maintenance

Your new spa is equipped with an advanced water filtration system that provides unsurpassed water quality! To ensure maximum water quality at all times, you should clean the filter cartridges each month, or as necessary. See the **How to clean you filter cartridge** section in this manual, for filter cartridge cleaning instructions.

Required water replacement

TO DECREASE RISK OF INFECTION OR DISEASE! As a guide, spa water should be changed every 3-6 months for portable spas and 12-18 months for swim spas; or as needed, depending on factors including the number of spa users and hygiene. You will know it is time for a change when you cannot control foaming and/or you can no longer get the normal feel or sparkle to the water, even though the key water balance measurements are all within the proper parameters.

Vortex™ Spas

Healthy spa water parameters

Always maintain your spa's water chemistry within the following parameters:

pH	**7.2 - 7.6**
Free Chlorine	2.0 - 6.0mg/L
Free Bromine	4.0 - 6.0mg/L
Total Alkalinity	60 - 200ppm
Calcium hardness	50 - 500ppm
Hydrogen Peroxide	100ppm

ALWAYS FOLLOW THE SAFETY, USAGE AND STORAGE INSTRUCTIONS FOUND ON THE CHEMICAL CONTAINER LABEL.

* Conditions apply. Specifications may change without notice.

Spa chlorine dosage
Portable spas

Spa model	Water Capacity (litres)	Maintenance Dosage (grams) (6-10 grams of Spa Chlorine per 1000L daily)	Shock Dosage (grams) (7 times the daily dosage rate)
Gemini™	660	3.96	28
Eon™	875	5.25	37
Neon™	746	4.48	31
Cerium™	900	5.40	38
Mercury™	851	5.11	36
Cobalt™	1174	7.04	49
Xenon™	1212	7.27	51
Nitro™	1379	8.27	58
Titanium™	1990	11.94	84
Spectrum™	1352	8.11	57
Palladium™	2650	15.90	111
IKON™	1159	6.95	49

*This is a reference only. Always follow the dosing instructions found on the sanitiser container.

Vortex™ Spas

Spa chlorine dosage
Swim spas

Spa model	Water Capacity (litres)	Maintenance Dosage (grams) (6-10 grams of Spa Chlorine per 1000L daily)	Shock Dosage (grams) (7 times the daily dosage rate)
Aquagym™	5700	34.20	239
Aquagym Max™	6136	36.82	258
Aquagym Max™ XD	7750	46.50	326
Aqualounge™	4717	28.30	198
Aqualap™	8500	51.00	357
Aqualap™ XD	9720	58.32	408
Hydrozone™	6684	40.10	281
Hydrozone™ XD	7300	43.80	307

*This is a reference only. Always follow the dosing instructions found on the sanitiser container.

Start-up water care

Step 1. Fill with water

Fill your spa with water and according to the instructions in the user manual. Remove the fittings from the end of your garden hose and place your hose into the spa until it reaches the correct level as per the user manual.

Step 2. Turn on and heat up your spa

Apply power to your spa and set the temperature to your desired level.

Step 3. Test and balance your spa water

Once the spa water is heated, use the test strips to measure pH and Alkalinity. Wait at least 20 minutes after applying any balancer chemicals before testing again.

If PH is out of balance:

- If the PH is too LOW, add alkalinity increaser (alkalinity up).
- If the PH is too HIGH, add PH decreaser (PH down).

If Alkalinity out of balance:

- If the alkalinity is too LOW, add alkalinity increaser (alkalinity up).
- If the alkalinity is too HIGH, add PH decreaser (PH down).

Step 4. Sanitise your spa water

Once your spa water is balanced, sanitise your spa with Spa Chlorine.

Use a start-up shock dose of 25 grams per 1,000 litres of spa water. See the sanitiser container label for the specific dosing instructions. Obtain your spa litreage from the table in the manual*.

*This is a reference only. Always follow the dosing instructions found on the sanitiser container.

Vortex™ Spas

Regular chemical maintenance

IMPORTANT *Do not use the test strips to monitor chlorine levels. Use the daily dosing instructions on the back of the chlorine container instead.*
Failure to follow this can result in damage to your spa or unsafe conditions. Always pre-mix the chlorine with water in a bucket before adding it to the spa water.

Do not turn on the jet pumps or clean cycle for at least 30 minutes after you have added the sanitiser.

To allow for off-gassing, please leave your spa cover open for 20 minutes after dosing with spa sanitiser or spa shock.

Routine maintenance guide for spa pools, swim spas and plunge pools

Once you've filled and treated your spa or swim spa, there will be some ongoing maintenance required.

While every spa is different, they all typically require regular treatment and care to keep the water safe, clean and clear, and to ensure the spa pumps and filters operate effectively. Establishing a regular maintenance routine should also make it easier to maintain in the long-term.

Regular chemical maintenance

Daily

Following the instructions on the sanitiser container label, dose your spa with Spa Store Spa Chlorine at 6-10 grams per 1,000 litres of spa water.

In the event of heavy spa use or water clarity issues, a shock dose of 25 grams per 1,000 litres of spa water can be used. See the label for the specific dosing instructions.

Once a week

1. Test the water is balanced

Using your Test Strips test the pH and Total Alkalinity of your spa water and adjust to the acceptable ‘OK’ range as shown on test strips, following the instructions on the back of the test strip container. Adjust pH, alkalinity and total hardness to the acceptable ‘OK’ range as shown on test strips.

2. Sanitise the water

Continue using your daily dose of sanitiser, following the chemical manufacturer's dosage instructions found on the container label.

3. 'Shock' your spa

Spa Shock helps remove chloramines and organic residue built up from bathers during the week. For water clarity, add spa shock to your spa at least once a week, following the manufacturer's dosage instructions. After dosing, leave the cover off and press clean cycle on for 20 minutes. Let your spa run for 10 minutes then replace the cover.

Regular chemical maintenance

4. Rinse your filters

Remove your pleated filters and rinse with a low pressure hose or make the job quicker and easier with a filter wand. This removes any large particles from the filters.

Once a month

Vortex Spas™ have pleated cartridge filters. If your spa has these, we recommend that once a month you remove and clean your pleated cartridge filters. Use a specially formulated cartridge cleaner, such as those sold by your Vortex™ retailer. Follow the instructions on the cartridge cleaning container.

Please note, the micron filters that are found in Vortex Spas™ cannot be cleaned and must be replaced.

Tip: *If your water is consistently cloudy, your filters may need to be cleaned more frequently.*

Spa Cover Installation

Place cover on spa

1. Keeping the insulating cover in place anytime the spa is not in use will reduce the time required for heating, thereby minimizing operating costs.
2. The time required for initial heat-up will vary depending on the starting water ambient temperature and your desired temperature set point.
3. While the spa is filling you can attach the cover locks. Cover locks are a small but important safety feature that prevents the spa from being accessed by children and the cover from blowing off in normal conditions. If you live in a high wind environment we recommend purchasing an optional “Hurricane Strap” for your spa cover.

Cover locks position

The corner cover latches are the only latches installed at the factory so that the owner can determine which way the cover is going to be installed and place the remaining latches correctly. The other latches can be found in the spa welcome kit included with the spa.

1. First determine which way you want the cover hinge to be located. This will depend on your unique installation location.
2. Click all the pre-installed cover locks into place.
3. You should not be able to fit an object greater than 100mm between the lip of the spa and the cover, when the cover is closed and latched into place.
4. All of the cover locks need to be installed.

Spa Cover Installation

Tools and Parts Needed:

Assembly process

1. Get the cover lock and attach it to the latch. Make the strap taught and loosen slightly to get the strap in the correct position.

2. Holding the strap in place, use a marker to mark the side and bottom of the latch with a line. Then, remove.

3. Unclip the latch and place the lock over the marks. Draw three holes: one on each side and one above. Pre drill holes on the cabinet mark using a 2mm drill bit.

4. Attached the lock to the cabinet, screwing it into place. Test the latch.

5. Repeat all the steps above on the remaining three centre latches.

Spa Cover Installation

Get the strap and cover lock into position.

Mark the lock position on the cabinet

Drill the holes on the marked position

Vortex™ Spas

Spa Cover Installation

Screw lock into place on the cabinet

Test the latch and repeat steps

How to Drain Your Spa

As a guide, spa water should be changed every 3-6 months for portable spas and 12-18 months for swim spas; or as needed, depending on factors including the number of spa users and hygiene. To drain your spa, power must be disconnected at the circuit breaker. Locate the drain inside at the bottom end of the spa cabinet. To find the drain valve position please check your spa model tech pack for Equipment location or see Equipment location section in this manual.

You must follow your local council for guidelines for spa water disposal. We recommend that you stop adding chemicals to your spa 48 hours prior to draining your spa and to not sit in your spa during this time. This will allow residual sanitiser to dissipate from the spa water prior to dumping the water.

Emptying and refilling your spa with clean water not only provides a fresh soak but also maintains your spa and components in great working condition.

Scan or click on the QR code below to watch an easy-to-follow guide on how to drain and refill your spa. You can also follow the next steps described in this manual for written instructions.

bit.ly/DrainRefillSpa

Vortex™ Spas

How to Drain Your Spa

NOTE: *The drain will not remove all of the water in the spa. You may have to remove a small amount of water by hand.*

Steps:

To drain, the spa power must be disconnected.

How to Drain Your Spa

Locate the drain valve at the bottom end of the spa cabinet.

Twist the cap and pull it midway out

How to Drain Your Spa

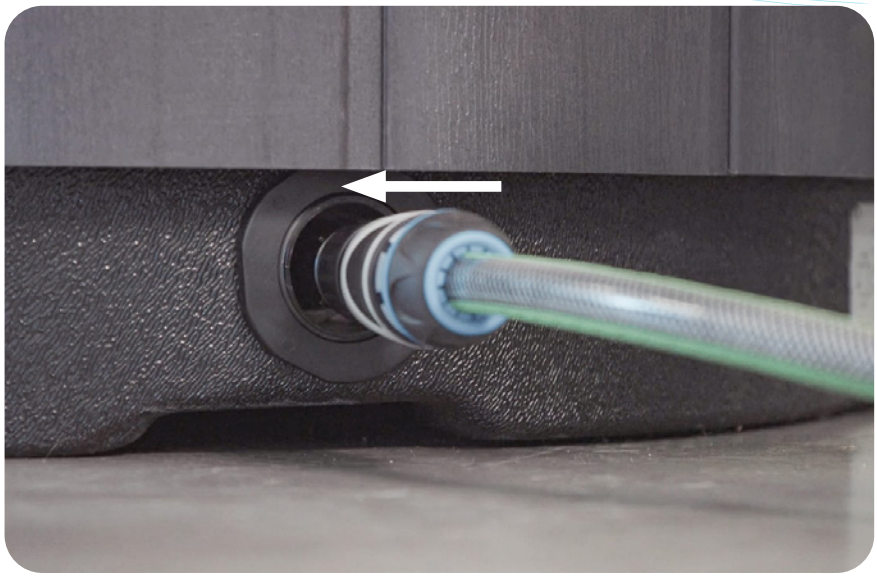
Remove the cap

Replace the cap with the hose nozzle and twist until it is hand tight

NOTE: *Your spa comes with a specialized hose adapter. Unfortunately, it can't be purchased at any local hardware store. So please make sure not to lose it.*

* Conditions apply. Specifications may change without notice.

How to Drain Your Spa

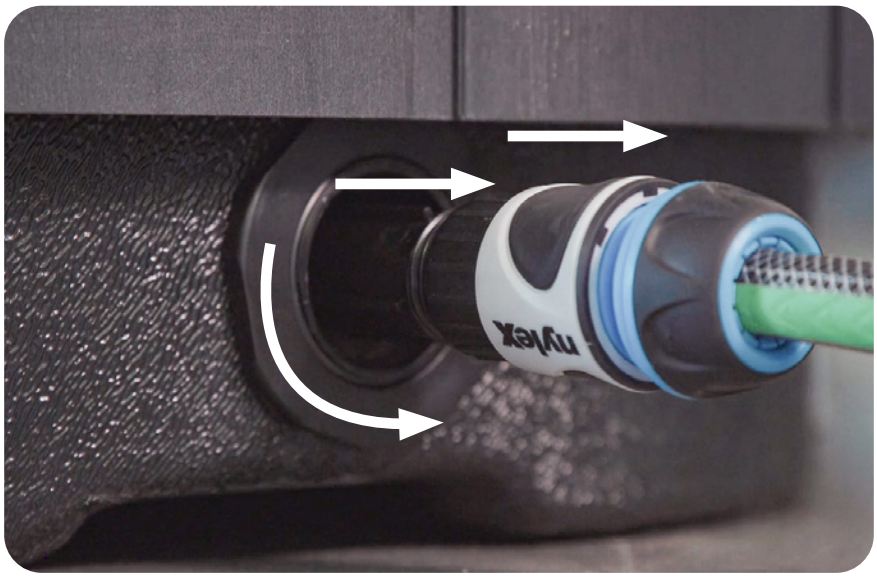


Attach the hose to the nozzle

When you are ready to drain your spa; pull out to extend the drain valve

Vortex™ Spas

How to Drain Your Spa



To activate the draining process.
Give the valve a quarter turn and fully extend the open position.

Drain your spa into an appropiate area

* Conditions apply. Specifications may change without notice.

How to Clean Your Filter Cartridges

Step 1. Remove the filter from the spa.

Step 2. Using a hose, first rinse off all large particles.
We recommend doing this weekly or as needed.

Step 3. Monthly or as needed, we recommend soaking your filters for 24 hours in a spa filter cartridge cleaner. Follow the dosing instruction on the label of the filter cartridge cleaner.

Step 4. After your filters have soaked for 24 hours remove them from the solution, rinse them off with a filter cleaning wand, and set them out to dry.

Vortex™ Spas

Winterise Your Spa

It seems crazy not to soak in your spa during the cold winter months! But maybe you are going away for the colder months or just taking a break from using your spa pool or swim spa?

Whatever the reason, correctly winterizing your spa can save you time and money when you are ready to use it again.

Keep in mind, we strongly recommend that you never leave your spa empty for a period of 2 weeks or more. Leaving your spa empty can cause damage to the pumps, heater element, and shell. In most cases, you are better off turning the temperature of your spa down to the minimum setting and maintaining the pH & Alkalinity levels while sanitising the spa. We also recommend using a shock dose of sanitiser at least 12 hours before you are planning on using your spa again. Always follow the dosing instructions on the chemical container labels to ensure they stay within recommended readings.

If for some reason you need to empty your spa for a period longer than 2 weeks we recommend the following steps;

SPECIAL NOTES:

If you live in an area prone to freezing you will want to take extra care in ensuring that all of the water is removed from your spa.

If at any time you feel uncomfortable with the steps below, contacting a professional spa technician is a great idea.

Winterise Your Spa

Products to empty and winterise your spa or swim spa

1. Pipe Degreaser / Cleaner
2. Filter Cleaner
3. Vinyl Cleaner
4. Vinyl protectant
5. Sponge or wet and dry vac (Optional but easier)

Step 1. **Clean the pipes and inner surfaces**

We recommend using a spa pipe degreaser to circulate through your spa system. Follow the dosing instructions on the label and circulate the pipe cleaner for the prescribed amount of time. This will clean the internal surfaces of the spa plumbing and equipment.

Step 2. **Make certain the power to your spa is disconnected**

Remove the fuse or turn off the main circuit breaker to disconnect power to your spa.

Vortex Spas

Winterise Your Spa

Step 3. **Remove the drain cap on your spa and drain the water**

Follow the manufacturer's instructions to ensure you use the correct process for your spa. Read our detailed instructions on how to drain your spa water. See the **How to clean you filter cartridge** section in this manual.

Step 4. **Loosen fittings on your spa plumbing**

Once the spa is empty, open the cabinet door to gain access to your controller and all pumps. Undo the barrel unions that connect the plumbing to the spa controller, heater and pumps. Undoing these unions will allow any excess water in the pipework of the spa to be drained.

Without following this process stagnant water will sit in the pipework and cause damage to the seals in your pumps, your heater element, and control sensors. See the Start-up procedure section in this manual for more information about barrel unions.

Step 5. **Purge water from the pipes and shell**

Many people will use a wet and dry vac to either suck or blow the remaining water from the pipes. This is more critical if you are in a colder climate. Use a sponge or the wet and dry vac to remove remaining water from the foot well, seats and filter well.

Once the spa pipework is empty of water, carefully re-connect and tighten the unions ensuring that the O-ring seal is seated correctly.

Winterise Your Spa

Step 6. **Clean the spa shell**

This is a perfect time to clean the spa shell. We recommend using pipe cleaner on a non-scratch sponge to clean the shell surface. You can use white vinegar, diluted with water by 50%, to remove any white calcium lines.

The key is to use very little water in the cleaning process so there is less to remove. Dry the shell with a soft towel. Our recommendation is to leave the cover off for a period of time to allow the shell to dry. (As per warning instructions on the shell, do not expose the acrylic shell to direct sunlight for extended periods of time).

Equipotential Bonding

IMPORTANT: Read and follow ALL instructions.
When using this electrical equipment, basic safety precautions should always be followed, including the following:

What is equipotential bonding?

Equipotential bonding, commonly known as bonding, is a crucial electrical procedure that reduces the risk of personal injury and damage to equipment. The process works by connecting exposed parts to an earthing system (also known as a grounding system).

What is the purpose of equipotential bonding?

The main purpose of equipotential bonding is to safely protect the user of the product from electric shock and damage to equipment as a result of an electrical fault. In the case of a spa user, equipotential bonding will protect the swimmer from being injured by an electrical fault with the spa.

Do I require equipotential bonding?

According to the Australian and New Zealand Standards (AS/NZS 3000: 2018 Electrical Installations), you will need your product to be equipotentially bonded if the product has a conductive metallic surface that is greater than 100mm in any dimension and the product is installed within arms reach (1.25m) of a body of water, including but not limited to spa pools, swim spas or pools. These standards are commonly known as Wiring Rules.

What objects need equipotential bonding?

Objects that need equipotential bonding are any conductive metals greater than 100mm in any dimension and within arms reach of the spa pool. These may include but are not limited to cover lifters, grab rails, pool safety barriers, adders, spa steps, pergolas, gazebos and umbrellas.

Equipotential Bonding

Who does equipotential bonding?

A licensed electrician must carry out the equipotential bonding work. If you are the owner of the product that requires equipotential bonding, you are responsible for ensuring the product complies with the requirements, at your own expense.

ALL ELECTRICAL CONNECTIONS MUST BE PERFORMED BY A LICENSED ELECTRICIAN AND MUST CONFORM TO ALL NATIONAL, STATE AND LOCAL ELECTRICAL CODES IN EFFECT AT THE TIME OF INSTALLATION.

- The appliance must be supplied through a residual current device (RCD) having a rated residual operating current not exceeding 30mA.
- The appliance must be connected to a suitable rated and weather protected power supply. The supply line should be a dedicated power circuit and means for disconnection must be incorporated in the fixed wiring in accordance with your local wiring regulations. Means for disconnection from the supply mains should have a contact separation in all poles that provide full disconnection under over voltage Category III conditions. The installer should consider the sum total load of all devices connected to the SV Series spa controller when determining the size of the power circuit and install an appropriately sized circuit breaker to suit. Ensure circuit breaker is rated for motor start up currents.
- Earthed appliances must be permanently connected to fixed wiring (European models only).
- The appliance contains no serviceable parts. Do not attempt service of this control pack. Contact your dealer or authorised service agent for assistance.

Safety Warnings

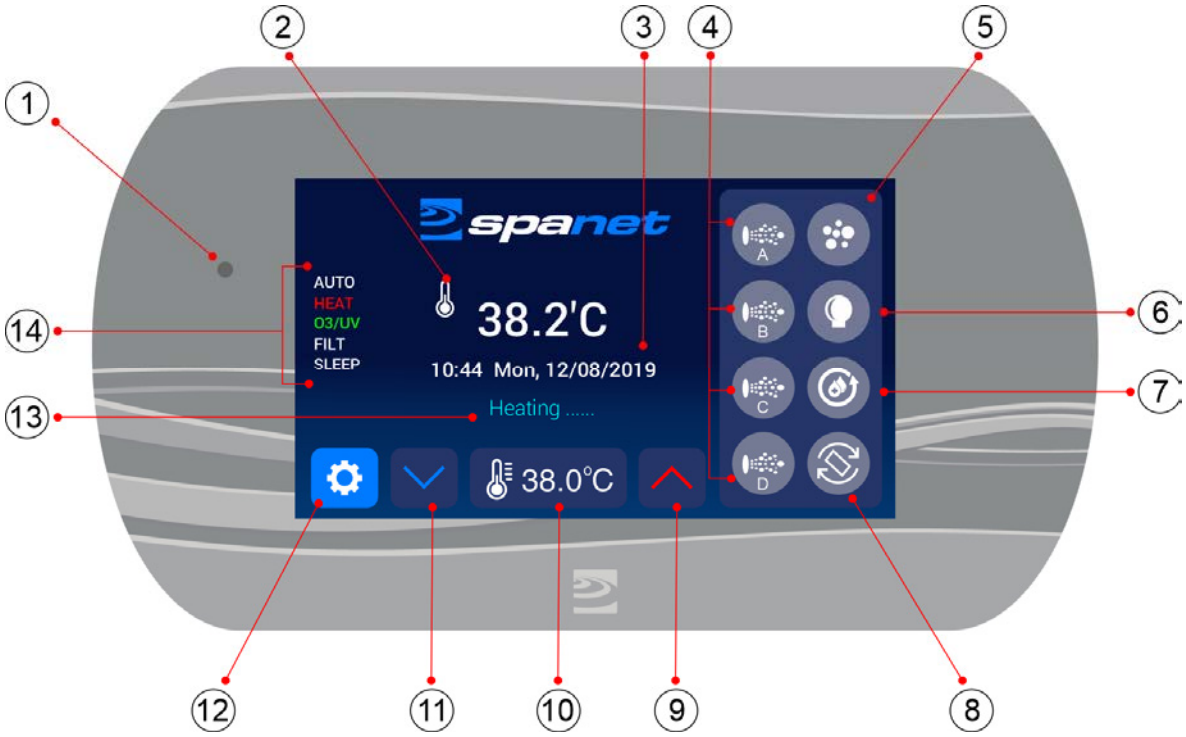
- Turn the mains power OFF before servicing appliance or modifying any cable connection.
- Suitable for indoor use only or when installed under a weatherproof spa skirt. The appliance should be installed in an enclosure such that all electrical connections cannot be accessible to the user without the use of a tool.
- Low voltage or improper wiring may cause damage to this appliance. Read and follow all wiring instructions when connecting to power supply.
- If the supply cord is damaged it must be replaced by the manufacturer, its service agent, licensed electrician or similarly qualified persons in order to avoid a hazard.
- Low voltage or improper wiring may cause damage to this appliance. Read and follow all wiring instructions when connecting to power supply.
- If the supply cord is damaged it must be replaced by the manufacturer, its service agent, licensed electrician or similarly qualified persons in order to avoid a hazard.
- To prevent electric shock hazard and/or water damage to this appliance, all unused receptacles must have a water proof seal in place.
- Parts incorporating electrical components must be located or fixed so that they cannot fall into the bath or spa.
- Parts containing live parts, except parts supplied with safety extra-low voltage not exceeding 12V must be inaccessible to a person in the bath or spa.
- This appliance must NOT be installed in proximity to highly flammable materials.

* Conditions apply. Specifications may change without notice.

Safety Warnings

- Water temperature in excess of 40C may cause hyperthermia (heat stress).
- It is the spa manufacturer's and/or installer's responsibility to select suitable loads and configure load shed settings (if required) to ensure the system does not exceed its rated maximum total load.
- It is the owner's responsibility to ensure the floor can support the expected load of the bath or spa and an adequate drainage system has to be provided to deal with overflow water.
- A whirlpool spa should incorporate a water filtration system where the required level of water purity can be achieved.
- An adequate drainage system must be provided if the equipment is to be installed in a pit.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with the appliance.

Touch screen



1. Light Sensor
2. Water Temperature
3. Time, Day and Date
4. Pump Buttons (A, B, C, D)
5. Air Blower Button
6. Light Button
7. Clean/Sanitise Cycle
8. Invert/Flip Screen
9. Increase Set Temperature
10. Set Temperature
11. Decrease Set Temperature
12. Settings
13. Current Activity Scroll
14. Status Indicators

* Conditions apply. Specifications may change without notice.

Touch screen

Status indicator

The touch panel accessory button icons (i.e. Pumps, Blower, Light) light up green to indicate if the accessory is ON. In addition, the panel displays status indicators on the left-hand side of the screen.

AUTO

The AUTO indicator is displayed when the filtration pump is in automatic mode. In automatic mode the filtration pump will turn on / off as required to satisfy heating and filtration requirements. If the filtration pump is manually turned on or off the AUTO indicator is not displayed. The control will automatically return to AUTO mode after a 45-minute idle timeout period if not returned to AUTO mode by the spa user.

HEAT

The HEAT indicator is displayed when the spa is heating. The heater or heat pump(if fitted) is automatically controlled, it will turn ON and OFF as required (in conjunction with the filtration pump) to maintain the set water temperature. If the filtration pump is manually turned OFF the heater will NOT operate.
NOTE: In some configurations, engaging high speed on a 2-speed pump or operating multiple pumps may cause the heater to load shed and turn OFF to keep the system within its rated power supply.

O3/UV

The O3/UV indicator is displayed when the spa sanitiser is active. The sanitiser runs in conjunction with the filtration pump except if buttons have been pressed on the touch panel (sanitiser is temporarily disabled).

COOL

The COOL indicator is displayed if a heat pump is fitted and the spa is operating the heat pump for cooling.

Touch screen

Status indicator

SLEEP

The SLEEP indicator is displayed when the spa control is within a designated sleep cycle (if set). During a sleep cycle, all automatic system operation will stop – i.e. filtration and heating will not occur.

MIX

The MIX indicator is displayed if the filtration pump is performing a mixing cycle to circulate the water and resample temperature before heating or cooling begins. A mix cycle may engage if the filter pump has been idle for an extended period. The mix cycle can be bypassed by toggling the filtration pump ON/OFF/AUTO.

AWAY or WEEK

AWAY or WEEK is displayed if the user has selected that operating mode within the settings menu.

Current Activity Scroll

The SmartTouch scrolls information about the current activity being carried out by the spa control. Examples include: Heating, Cooling, Filtering, Mixing, Sanitise Cycle ...

Light Sensor / Automatic Brightness

The SmartTouch is equipped with a light sensor to automatically adjust the brightness of the LCD. The brightness will increase in daylight or lit areas and decrease in the dark to provide an optimum viewing experience. If desired, automatic brightness adjustment can be turned off and set to Manual within the settings. The light sensor can also be used to trigger a touch panel calibration sequence if required.

Touch screen

Status indicator

Auto-Dim Screen

Like a mobile phone the SmartTouch screen will automatically dim (to protect the screen) after 60 seconds of the touch panel not being pressed. If the SmartTouch has entered dim mode, the screen must be pressed once to wake it up before the buttons will operate.

NOTE: *Once the display has dimmed (from inactivity) if you attempt to press a button you will need to press it twice. First press to wake up the display, second press to engage the button. Once the display is awake buttons will work with a single press.*

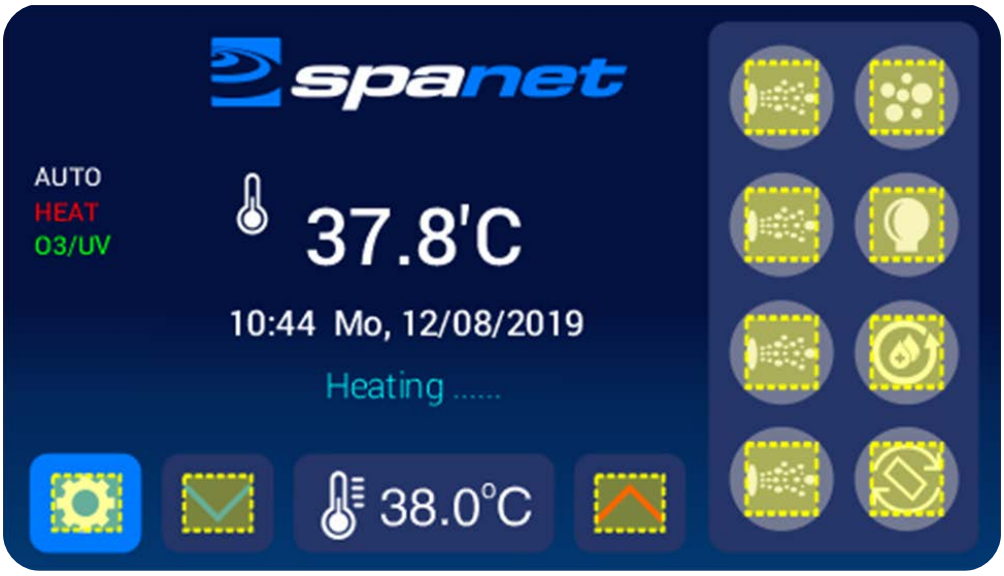
Sliders

Some SmartTouch screens feature slider bars to adjust certain functions (i.e. variable speed pump, blower and light adjustments). To move the slider, press and hold your finger on the white centre button for a moment, and then slide along the bar without lifting your finger. Alternatively, you can press on the part of the slider you want the adjustment to jump to.

Touch screen
Status indicator

Button Hot Spots

Certain parts of the screen are information content only, other parts are buttons. Each button has a hot spot area which if touched activates. When operating the SmartTouch press on the centre of the hot spot area to ensure the button press is detected. Smaller buttons have a smaller hot spot area so require a more careful and accurate touch. Examples of button hot spot areas are highlighted in yellow:



* Conditions apply. Specifications may change without notice.

Automatic heating filtration

The SV Series spa controls have been designed with simplicity in mind. Their intelligent software constantly monitors the spa water, automatically controlling the heater and filtration pump to ensure the desired set water temperature is maintained and required level of daily filtration achieved. With set-and-forget technology, the spa user simply selects their desired water temperature (10oC - 41oC), (Default=38oC) and thereafter the spa control will automatically heat to and maintain that selected water temperature. This is called demand heating - the filtration pump and heater will be activated when required to maintain the set water temperature. The time spent heating the pool and running the filtration pump under normal operation will be considered and where required the pump will run for additional periods every few hours to maintain the minimum level of daily filtration as set by the user.

Dependant on the amount of normal spa use, set water temperature, minimum hours of filtration per day, climatic conditions and season being experienced, the spa control will engage the heater and / or filtration pump for differing periods of time, at differing times of day. The advanced software constantly monitors and recalculates after each heating / filtration cycle to ensure the correct daily filtration time is achieved and desired set water temperature is maintained. Unless adjusted the SV controller will automatically heat to and maintain the default temperature of 38oC. The set point can be adjusted in steps of 0.2oC increments.

Automatic heating filtration

Adjusting Set Temperature

- Press the  button to increase the set temperature point
- Press the  button to increase the set temperature point

NOTES:

1. *During a heating cycle the SV control may raise the water temperature up to 0.5oC above the set temperature point to provide an average water temperature of set point at most times.*
2. *If an optional heat pump is **NOT fitted** the spa controller has NO ability to cool the spa water.*
   *Lowering the set temperature will **NOT** begin cooling the water. Water will naturally dissipate heat over time.*
3. *If an optional heat pump **IS fitted** the spa water **CAN** be cooled as well as heated, if H.PMP mode is set to AUTO instead of HEAT(default) within the settings. If H.PMP=AUTO lowering the set temperature point will engage a cooling cycle (when required) to maintain the desired set water temperature.*
4. *If the spa control has been in standby mode (idle) for some time and the set temperature point is adjusted, the filtration/circulation pump may run for up to ten (10) minutes to complete a mixing cycle before the heater / heat pump engages to heat or cool (heat pump only) the water.*
   ***NOTE:** To skip this mixing cycle and begin heating/(cooling) immediately cycle the filtration pump ON/OFF/AUTO.*

Pump operation

The filtration pump will automatically switch on and off as required to perform filtration and heating functions. All pump(s) will also operate for a short period during the daily sanitise cycle to purge the pipes. In addition, the pumps can be manually controlled via the pump buttons on the right-hand side of the touch panel. The functions of the pump buttons change depending on pump configuration, however the Pump-A button is mostly used to control the filtration pump. If a pump has multiple modes/speeds, a separate pump page will open when the button is pressed. However, if a pump is a single speed, the button icon will simply turn green when the pump is turned on. Possible pump screens are illustrated on the following page.

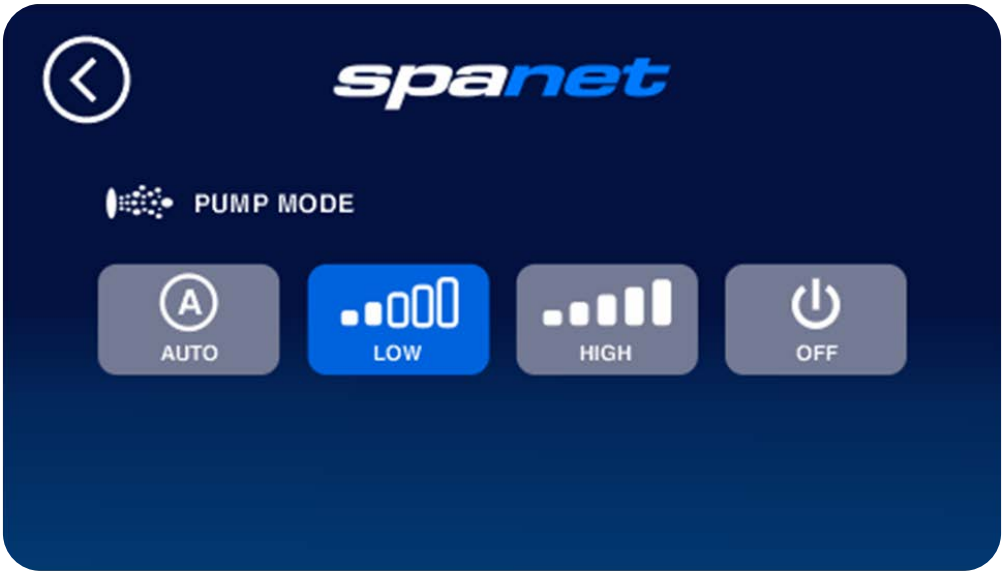
Pump A Button (multi-mode screens)

Dependent on type of filtration pump fitted the Pump-A button will present one of the following screens.
Press the home icon to return to main display. Screen will timeout after 30 seconds of inactivity.

Circ or 1-speed Pump

Pump operation

Pump A-button



2-speed Pump

V80 Pump - Variable Speed Mode
Use – or + or slider bar to adjust pump speed

* Conditions apply. Specifications may change without notice.

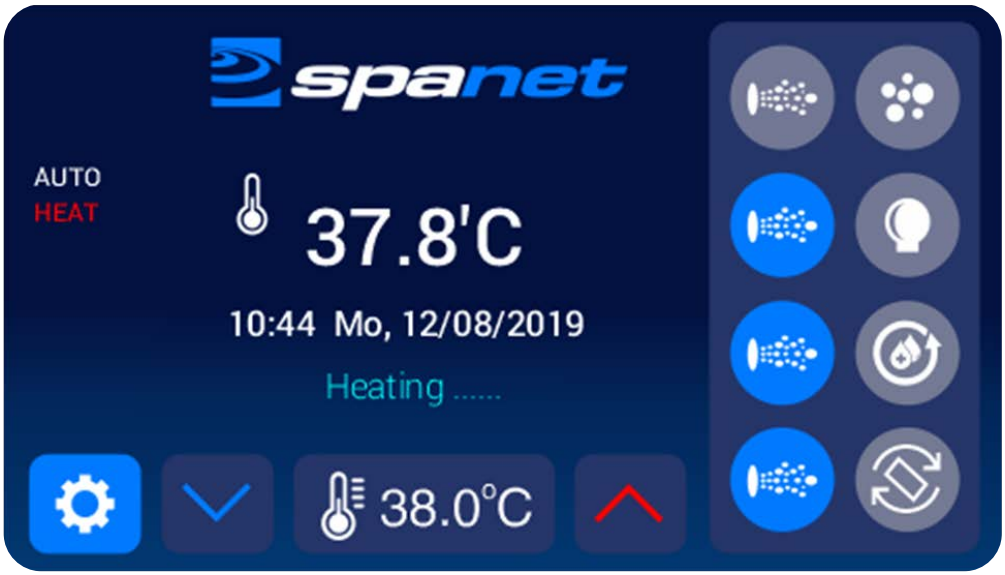
Pump operation

1-Speed pump button

V80 Pump – Massage Mode
Select desired massage sequence

1-Speed pump buttons

Press the pump button once to turn pump on and press again to turn pump off.

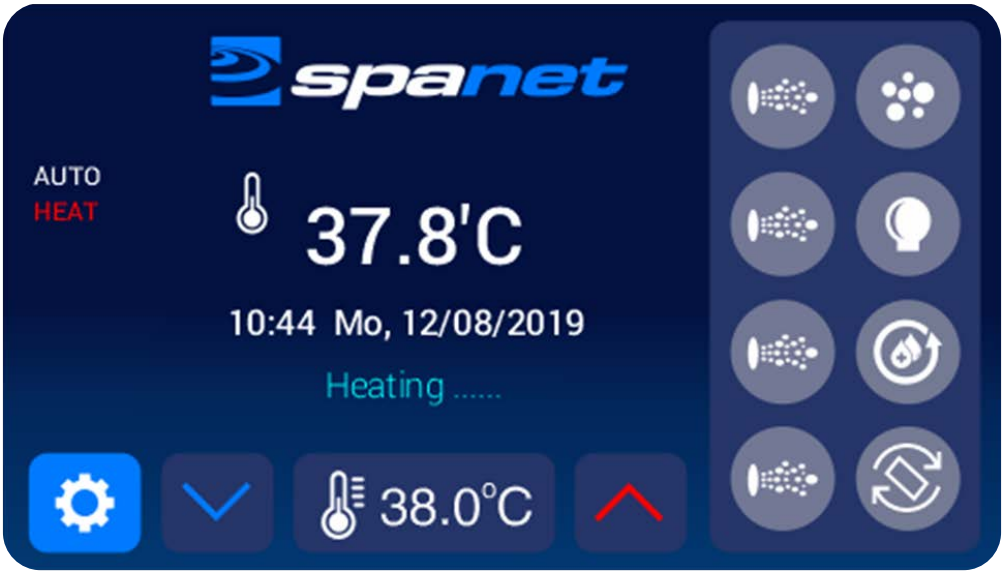


Pumps ON (button icon green)

Vortex Spas

100 Pump operation

1-Speed pump button



Pumps OFF (button icon white)

NOTES:

1. *If left ON, pumps automatically turn OFF after 30-minutes of touch screen inactivity.*
2. *If filtration pump is operating and the heater is ON and pump is to be switched OFF, the pump will turn off after a 5 second delay – to allow the heater to cool down before pump turns off.*
3. *In some configurations, engaging high speed (2-speed pumps) or operating multiple pumps may cause the heater output size to reduce or load shed and turn OFF, to keep the system within its available power supply.*

Blower operation

Not all spas are fitted with an air blower. If your spa has one fitted, the blower button is used to select the desired operating mode and allow adjustment of the blower speed. The selected speed is saved and will be restored the next time the blower is turned on, for future on/off use. Two modes of operation are provided:

Variable Speed Mode Ramping Mode
Use – or + or slider bar to adjust blower speed

Press the home icon to return to main display. Screen will also timeout after 30 seconds of inactivity and return to home display. The blower button icon will light up green on the home display if blower is ON.

Blower operation

Ramping Mode
Select for ramping speed mode

NOTES:

1. *When blower is first turned ON it will always run at maximum speed for 3-4 seconds before changing to a lower speed, if a lower speed was selected the last time the blower was used.*
2. *If left ON, blower will automatically turn OFF after 30-minutes of touch screen inactivity.*

Light operation
Multi-colour LED lighting effects

The light button is used to toggle the spa light(s) ON / OFF and to access the light mode adjustments. The features that can be adjusted are the light colour, light effect mode, light effect transition speed, and light brightness. All light settings are saved and will be restored the next time that particular light mode is turned ON, for future ON / OFF use. Possible light modes are:

White Mode
Light brightness adjustment only

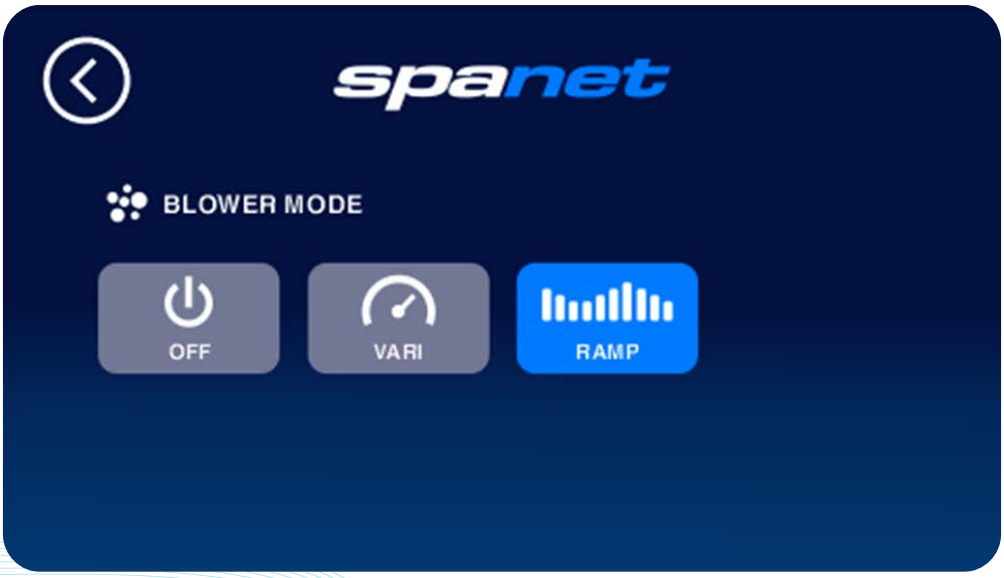
Press the home icon to return to main display or screen will timeout after 30 seconds of inactivity and return to home display. The light button icon will light up green on the home display if light is ON.

NOTES: *If left ON, light will automatically turn OFF after 45-minutes of touch screen inactivity.*

Vortex Spas

Light operation
Multi-colour LED lighting effects

User Colour Mode
Select from 30 possible colours (RH slider)
Light brightness adjustment (LH slider)



Fade Effect
Fade transition through all possible colours
Light effect transition speed (RH slider)
Light brightness adjustment (LH slider)

* Conditions apply. Specifications may change without notice.

Light operation

Multi-colour LED lighting effects

Step Effect
Light brightness adjustment only
Light effect transition speed (RH slider)
Light brightness adjustment (LH slider)

Step Effect
Light brightness adjustment only
Light effect transition speed (RH slider)
Light brightness adjustment (LH slider)

Vortex Spas

Sanitise (clean) cycle

The sanitise button activates a twenty (20) minute clean cycle that runs the filtration pump and ozone/uv (if fitted) to filter the pool water to restore and refresh water quality. With circ pump systems jet pump1 will also run for the full 20-minute cycle. Where 2-speed filtration pumps are used the pump will run in high speed for the duration of the cycle. In addition, at the start and end of the cycle, the controller will sequentially run any additional pumps (pump2, pump3, pump4 if fitted) and the blower for one minute each to purge the plumbing and clear any unfiltered water trapped in those lines.

Activate sanitise cycle

- Press the  button to increase the set temperature point

- Press the  button to increase the set temperature point

NOTE:
At the end of the clean cycle there is a brief delay before the pumps switch off. This is normal, certain software maintenance tasks are being carried out during this time.

Auto daily sanitise
Invert display

The controller will automatically run a 10 minute sanitise cycle every day at a default time of 9:00am. The automatic sanitise cycle works in the same manner as a manual sanitise excepting that the cycle only runs for 10 minutes. This feature cannot be disabled; however, the start time may be changed via the Settings menu item W.CLN.

NOTE:

1. *If the controller is in a programmed sleep period at the auto sanitise start time, the controller will wait until the sleep period ends before the daily sanitise cycle runs.*
2. *If the touch panel has been pressed prior to the auto daily sanitise cycle operating, the spa will have been deemed to be used and the cycle will be cancelled for the day.*

Invert display

The orientation of the touch pad display can be inverted (flipped 180o) for easier operation in and out of the spa pool.

- Press the  button to increase the set temperature point

Settings menu

The SmartTouch features a settings menu which allows customisation of adjustable software settings. These settings do not need to be modified often and in most cases the default settings are all that is required, however if the spa owner wishes to customise any settings it is completed through the settings menu.

- Press the  button to enter the settings menu

- Press the  button to iscroll up through the settings menu

- Press the  button to scroll down through the settings menut

- Press the  button to exit

Refer to the table on the next page for complete list of settings menu items:

Settings menu table

ITEM	SETTING	NOTES
CALT	Recalibrate touch screen	**NOTE:** Incorrect calibration may render your SmartTouch unusable! DO NOT use unless instructed by your spa reseller or technician
LOCK	Screen lock options	PARTIAL – Disable access to system settings only FULL – Disable all touch screen functions
BRT	Screen brightness	Set to Auto or Manual (default=auto)
TIME	Set time	Time is set in 24-hour time format
DATE	Set date	Select day of week and date (dd-mmm-yyyy)
MODE	Operation mode	Select from Normal / Away / Week (default=normal)
FILT	Daily filtration runtime	Adjustable from 1 to 24 hours (default: circ=4hr, others=2hr)
FCYC	Filtration cycle frequency	FILT runtime divided into cycles every 1/2/3/4/6/8/12 or 24 hrs (default=3)
SNZ.1	Sleep Timer #1	Set Begin Time, End Time and Days on which to operate (default: begin=22:00, end=7:00, days=all)
SNZ.2	Sleep Timer #2	Set Begin Time, End Time, Days on which to operate (default: begin=22:00, end=7:00, days=all)
WCLN	Auto sanitise cycle time	Set start time for automatic daily sanitise cycle (default=9:00)
PSAV	Peak tariff power save	Set Begin Time, End Time and Level (off/low/high) (default=off)
TOUT	Manual use timeout period	Length of time before Pumps/Blower switch off (default=30min) *NOTE: Lights turn off 15 minutes after TOUT period*
WIFI	Wifi menu	Execute Hot / Infrastructure / Reset WiFi commands
H.PMP	Heat pump mode	Heat & Cool / Heat only / Cool only / Disabled (default=heat)
H.ELE	Heat pump with element	Disabled=heat pump only / Enabled=heat pump + electric heater (default=disabled)
LANG	Set Language	EN=English, FR=French, DE=German, NL=Dutch, ES=Spanish (default=EN)
EPRM	Factory data reset	Restore factory default settings
INFO	System information	Summary of system diagnostic information ***NOTE:*** *Info screen will not timeout – must be exited manually*
ADV	Advanced Menu	Restricted advanced menu for OEM configuration settings ***NOTE:*** *DO NOT access unless instructed by your spa reseller or technician - the pin will only be provided at that time*

Vortex™ Spas

Adjusting settings

- Press on the desired menu item line to enter setting adjustment

Adjust settings

Press the + , + or + buttons.

- If setting is adjusted, you must press the SAVE button to confirm and save the new setting.

- Press the  button to exit.

NOTE:

1. *The setup menu settings are stored in non-volatile memory (EEPROM) and are remembered when the mains power is turned OFF. No need to reprogram settings when power is restored.*
2. *A thirty (30) second idle menu time out period exists. If a button press is not detected for 30 seconds the menu will timeout and the screen will return to the home display.*

CALT – Recalibrate touch screen

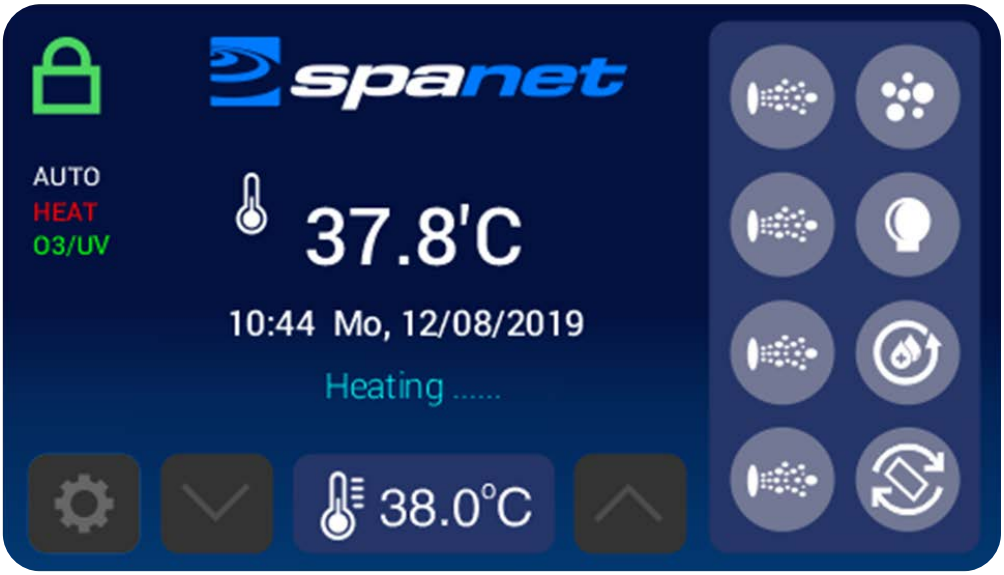
Used to redefine the X and Y axis mapping for touch panel operation. **NOTE:** Incorrect calibration may render your SmartTouch unusable. DO NOT execute calibration setting unless instructed to by your spa reseller or technician. Further detail on the calibration process can be found at the end of this user manual.

Screen lock options

Lock The SmartTouch buttons can be locked to prevent accidental key presses or to limit access to certain controller functions. There are two lock settings:

Partial Lock Allows use of pumps, blower and light but locks out temperature and settings adjustments

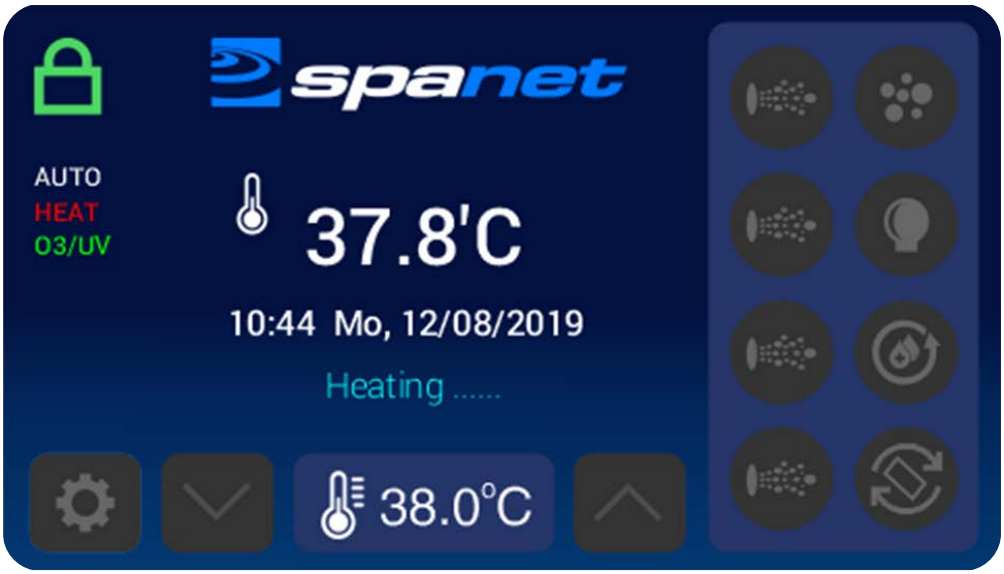
Full Lock Disable all touch screen functions



PART – Partial Lock (accessory use only)

Vortex Spas

Screen lock options



FULL – Full Lock (all functions disabled)

Unlocking Locked Screen

To unlock a locked SmartTouch you press on a locked button and the Enter Pin screen will appear (refer aside). Press the unlock pin sequence 1,4,7,8,9 (L-shaped pattern) and then press the ENTER button.

* Conditions apply. Specifications may change without notice.

BRT – Screen Brightness

Used to select between AUTO or MANUAL brightness.
Use the + or – buttons to toggle between AUTO and MANUAL.

In auto mode the screen brightness will be automatically increase in bright light conditions and decrease in dim/dark light conditions. In manual mode you select the desired percentage of light brightness and the screen will always remain fixed at that brightness level (Default=AUTO).

TIME – Set Time

Use the + or – buttons to adjust hours and minutes.
NOTE: Time is set in 24-hour time format.

DATE – Set Date

Use the + or – buttons select weekday, day, month, year.

MODE – Operation Mode

NORM Normal demand heating and filtration => set temp maintained, daily filtration runtime achieved

AWAY Heating disabled, filtration reduced to 1hr per day

WEEK Monday – Thursday = AWAY mode,
Friday – Sunday = NORM mode
(Default=NORM).

NOTES:
If Away or Week mode is selected, AWAY or NORM is displayed as a status indicator on the main display. When in Normal mode, NORM is not displayed as a status indicator on the main display.

Settings

FILT – Daily Filtration Runtime

Automatic filtration is provided to ensure that the pool water is filtered for at least a minimum number of hours each day. Total daily runtime can be adjusted from 1-24 hours. Larger pools require higher amounts of filtration.

(Default: circ pump=4 hours, 1spd/2spd/V80=2 hours).

FCYC – Filtration Cycle Frequency

Filtration does not run in a single block. Daily filtration runtime (FILT) is divided into smaller cycles which occur over the course of the day. The F.CYC setting defines the hours between each filtration cycle. Users can choose either 1/2/3/4/6/8/12 or 24 hours. Best economy is achieved when F.CYC=3 (Default=3hrs)

SNZ.1 – Sleep Timer #1

The sleep timer is a very handy feature that enables the user to stop all spa activity and silence the spa during certain times of day or night. While the controller is sleeping NO automatic heating or filtration maintenance will occur, however the spa can still be operated by manual use without the need to adjust sleep time settings. The sleep timer setup consists of defining the begin time, end time and day(s) of operation. Sleep timer settings are referenced in the next page table:

Settings - Sleep timer

Title	Setting	Options
Begin	Time sleep period begins	Adjustable to any time 0:00 to 23:59 (Default=22:00 PM)
End	Time sleep period ends	Adjustable to any time 0:00 to 23:59 (Default=07:00 AM)
Days	Selected days of operation	All week (7 days), Mon-Fri (weekdays), Mon-Thu, Weekend (Sat-Sun), Mon, Tue, Wed, Thu, Fri, Sat, Sun, Disabled (Default=All week)

NOTE:

1. *SmartTouch is pre-set with a default sleep timer – begin 22:00(10PM), end 07:00(7AM), 7 days a week.*
2. *If spa in use at begin time of sleep period, spa will not sleep until 45-minute inactivity timeout period has elapsed.*

Settings

SNZ.2 – Sleep Timer #2

Operates the same as sleep timer #1. A second sleep timer is provided to allow greater flexibility when programming sleep timers in case users wish to program different sleep settings for weekdays vs weekends.

(Default=DISABLED).

WCLN – Automatic Sanitise Cycle Time

Define start time for automatic daily sanitise cycle.

NOTE: Set in 24-hour time format (Default=9:00).

PSAV – Peak Tariff Power Save

Power utilities in some regions offer household power meters that can track power usage during different times of the day. This allows the utilities to offer greatly reduced power pricing during off peak periods. The Power Save (PSAV) function allows the user to program in the peak power period so the spa control knows not to perform filtration (low) or filtration & heating (high) during those peak tariff periods. Instead the controller will take advantage of the competitively priced off peak hours. The power save timer setup consists of defining the begin & end time of the peak tariff period, and level of operation (low/high/off). Power save settings are referenced in the table on the next page:

PSAV - Power save

Title	Setting	Options
Begin	Begin time of peak tariffs	Adjustable to any time 0:00 to 23:59 (Default=14:00 PM)
End	End time of peak tariffs	Adjustable to any time 0:00 to 23:59 (Default=20:00 PM)
Days	Level of operation	OFF – Disabled (default) LOW – Off peak filtration only HIGH – Off peak filtration and heating

NOTE:

1. *Default=Disabled*
2. *You cannot define PSAV days of operation. PSAV operates the same every day of the week.*
3. *If a user configures PSAV, sleep timers should be considered and adjusted or disabled to prevent the spa sleeping all night and power saving all day, in which case the spa would never heat or filter.*

Settings

TOUT – Manual use timeout period

All accessory loads (i.e. jet pumps and/or air blower) automatically turn off after a time out period has elapsed. Fifteen (15) minutes later the lights switch off and the spa will return to automatic mode. This setting allows the length of the time-out period to be adjusted. The TOUT setting ranges from: 10 to 60 minutes (Default=30 mins).

WIFI – WiFi Setup

This menu is only of use if the optional SpaNET SmartLINK or SmartSTREAM WiFi module has been installed and connected to the SV Series controller. This menu has three commands that can be executed. Use the UP or DOWN buttons to select desired command and press the OK button to execute – display will show WAIT whilst the WiFi module carries out the command.

INFR Forces WiFi module to disconnect/reconnect from the SpaNET app server to refresh connection if spa is not automatically coming online once the app setup process has been completed.

HOT Puts WiFi module in hot spot mode for initial app setup.
NOTE: Once initial app setup has been completed if the HOT command is executed again, all WiFi settings will be lost, and the app setup process must be run again.

RSET Deletes programmed settings from WiFi module and returns the module to its factory default state.
NOTE: If this command is executed settings are lost and the app setup process must be run again.

HPMP – Heat Pump Mode

This setting is only relevant if a SV Series heat pump is connected and defines heat pump operating mode.

The available operating modes are as follows:
(Default=HEAT ONLY)

HEAT + COOL	Heat pump will heat and cool
HEAT ONLY	Heat pump will only heat
COOL ONLY	Heat pump will only cool
DISABLED	Heat pump disabled

HELE – Heat Pump With Electric Element

This setting is only relevant if a SV Series heat pump is connected and defines how the SV Series electric heating element operates with a heat pump. By default, this setting is set to OFF which disables the electric heater using only the heat pump for heating. Set to ON to allow the electric element to run in conjunction with the heat pump to boost heating speed if the water temperature is 2oC or more below set temperature point or the heat pump has been operating for more than 1 hour and set point has not been achieved. The H.ELE setting choices are: (Default=OFF)

OFF	SV element disabled (heat pump only)
ON	SV element disabled (heat pump only)

LANG – Set Language

The SmartTouch supports multiple languages: EN=English, FR=French, DE=German, NL=Dutch, ES=Spanish

(Default=EN)

Settings

EPRM – Factory Data Reset

Execute this command to reset software values to factory default settings

INFO – System Information Summary

This screen displays a list of diagnostic information about the SV Series spa controller.

NOTE: This is the only settings screen which will NOT automatically time-out and revert to the home display. You must press the Exit arrow to escape this screen.

ADV– Advanced Menu (OEM configuration)

This menu is used to access advanced OEM configuration settings which should NOT be adjusted by the spa owner unless instructed by your spa reseller or service technician. A pin number restricts access to this menu to prevent accidental changes by the spa owner.

Set DATE/TIME Before using THE SPA

Vital control functions require the date & time to be set correctly. Be sure to accurately set the date and time before operating the spa.

Water chemistry maintenance

It is your responsibility to regularly check and maintain the chemical water balance of the spa pool to ensure it remains within reasonable pH (acid/alkaline) limits as stated in this manual.
Unbalanced water chemistry greatly accelerates corrosion and may lead to early product or component failure. Product or component failures caused as a result of poor water chemistry maintenance are not covered by the product warranty. We recommend you carry out a daily water chemistry test to correctly maintain the pH balance within reasonable limits.

Screen calibration

Screen calibration defines the X & Y axis mapping of the touch panel and affects how the touch panel responds to touches.

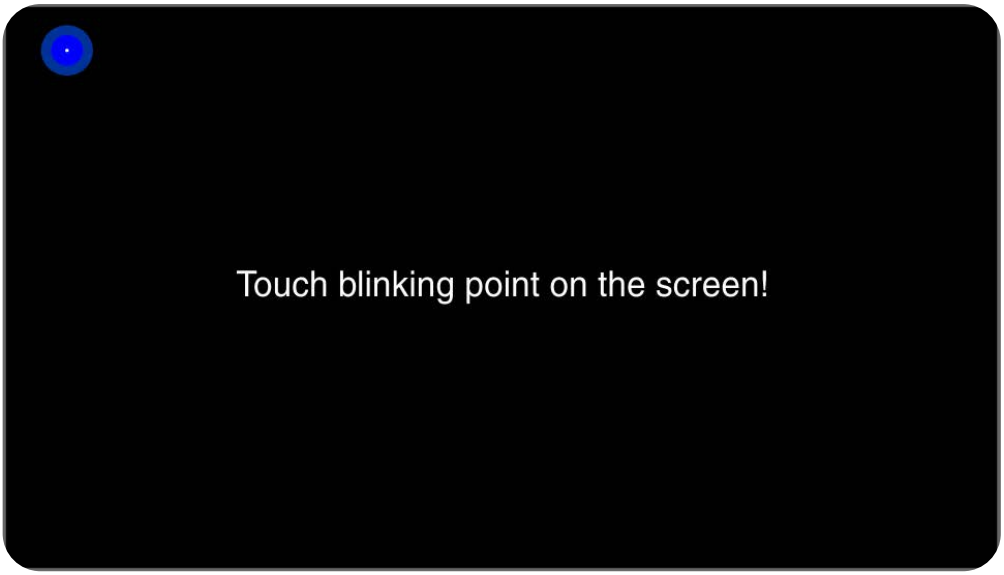
Your SmartTouch is calibrated during production and should NOT be re-calibrated unless instructed by your spa reseller.

NOTE: Incorrect calibration may render your SmartTouch unusable.

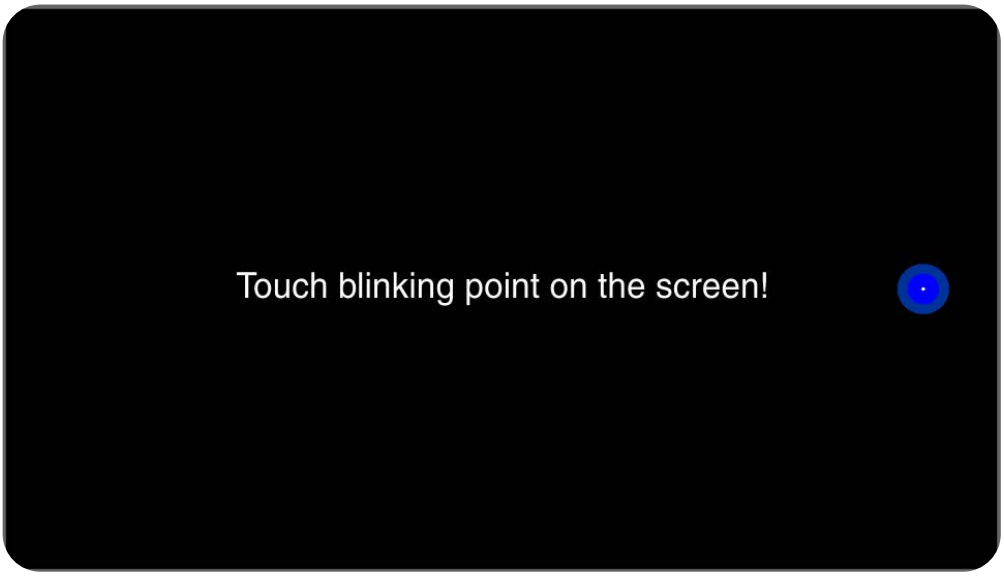
The calibration process presents 6 x pulsing calibration points which must be carefully pressed one at a time to correctly map the X & Y axis points.

NOTE: Calibration should be performed with a stylus pen or ball point pen and NOT with the finger-tip. It is very important the user presses as close to the centre of the flashing dot as possible for accurate calibration and is why the tip of a stylus or pen should always be used for the calibration process. A finger tip has too much surface area and will lead to inaccurate calibration resulting in a touch panel that is unresponsive and difficult to operate. In comparison the tip of a stylus will lead to an accurate calibration point and therefore will provide the best touch response and user experience when operating the SmartTouch.

Screen calibration

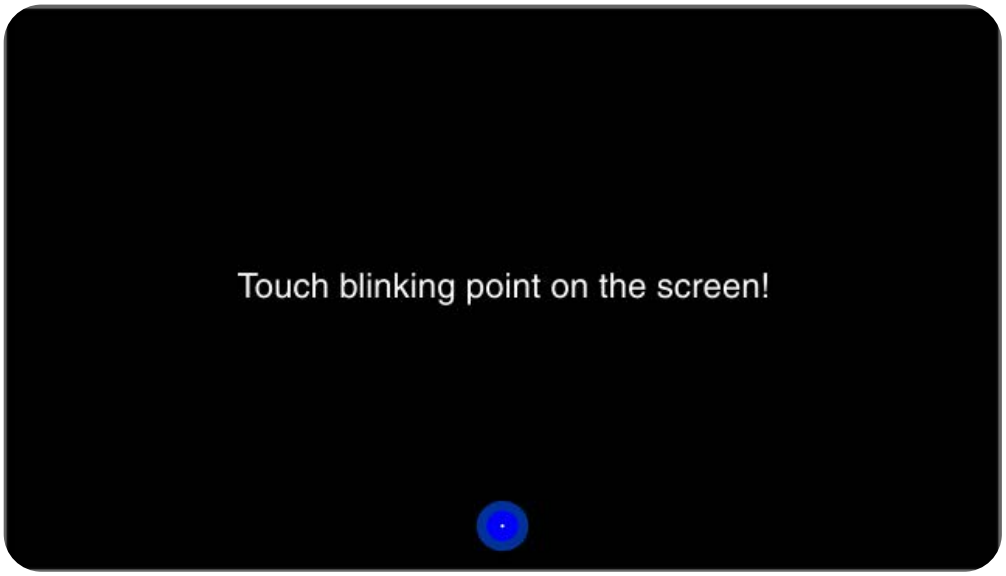


Point 1 Calibrate normal orientation

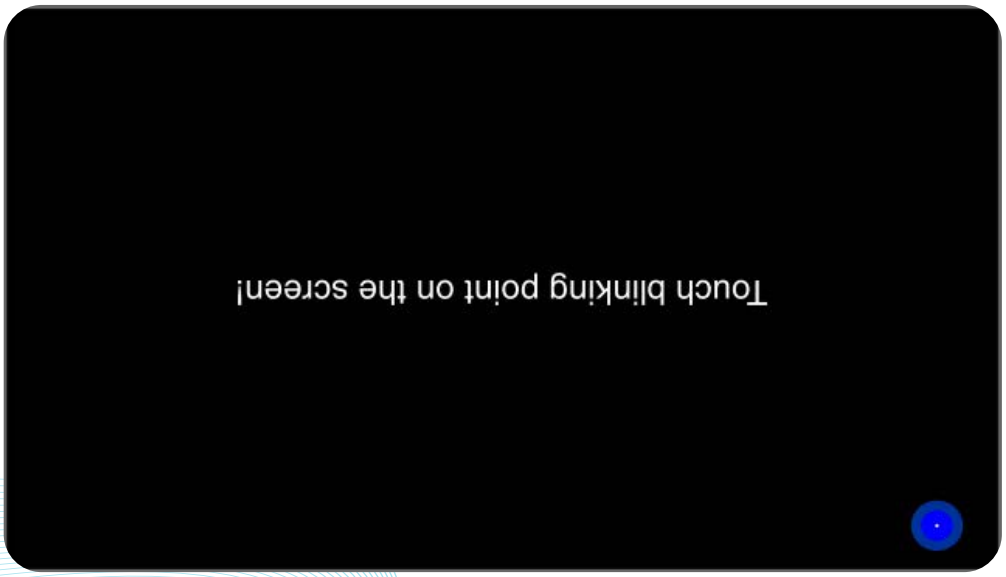


Point 2 Calibrate normal orientation

Screen calibration

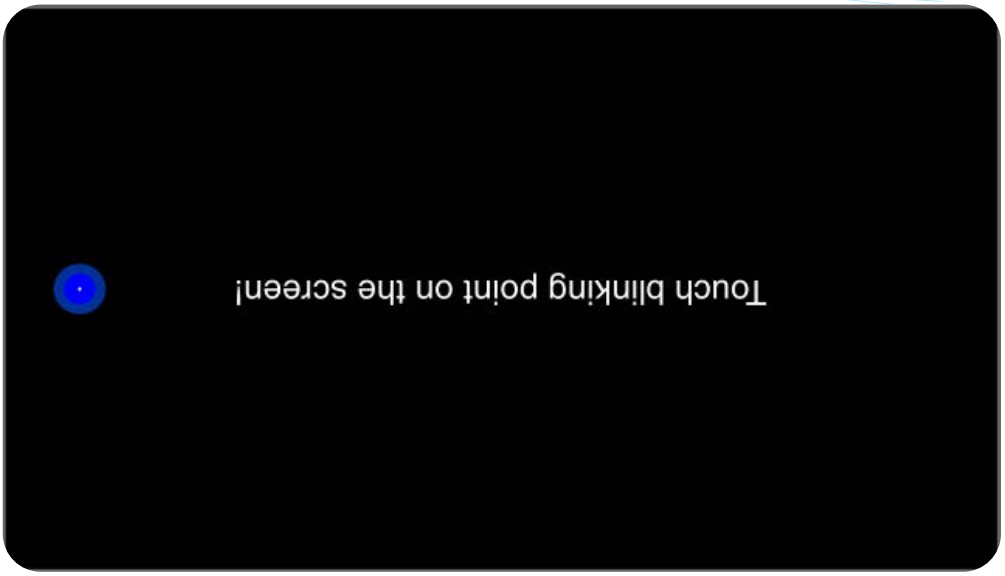


Point 3 Calibrate normal orientation



Point 4 Calibrate inverted orientation

Screen calibration



Point 5 Calibrate inverted orientation

Point 6 Calibration complete

Heating control & protection

Fast Heat Cycle

After initial mains power on the SV Series controller will perform a fast heat up cycle that enables continuous demand heating which ignores any sleep or power save timers. Once the set temperature has been reached the fast heat up cycle is cancelled, normal operation resumes and any sleep or power save timer(s) are obeyed. The purpose of a fast heat up cycle is to help the spa reach set temperature as soon as possible after it has been powered up. For new spas or spas refilled with cold water it is desirable not to have sleep time delaying the time to takes for the spa to reach set temperature point.

NOTE:

1. *A fast heat up cycle is cancelled by manually forcing the filtration pump to OFF via the keypad.*
2. *For new spas or when a spa has just been refilled it is common for spa users to test the operation of each pump when the power is first turned on. This process will cancel the fast heat up cycle. After completing testing of the spa functions remember to reset mains power if you wish to reactivate fast heat up cycle.*

Heating control & protection

Freeze Protection

Freeze protection will be activated whenever the water temperature drops below 4oC. It runs back to back 10-minute sanitise cycles and displays “WARM” on the screen. It also runs each spa accessory (i.e. jet pumps and air blower) in sequence to run water through the pipe work whilst running the filtration pump and heater. During the “WARM” cycle the heater and heat pump (if fitted) will operate however heater load shedding may occur when accessory pumps are running depending on control and load shed settings. At the end of each 10 minute “WARM” cycle the water temperature is checked. If it is above 4oC freeze protection stops and the controller returns to its prior state. If the temp is not above4oC another cycle will run.

NOTE:
Freeze protection overrides any sleep or power save timer –if the water temperature drops below 4°C and the controller is in a sleep period it will wake up. So even if high amounts of sleep time and a low set temperature point have been programmed, the SV Series controller will maintain the water temp above 4°C.

Heating control & protection

Defrost Cycle (heat pump models only)

During periods of low ambient temperatures defrost cycles may be required to prevent the heat pump's condenser from freezing. Ambient and condenser temperatures are constantly monitored and defrost cycles will be automatically activated if certain conditions are met. Defrost cycles run for a minimum of 3 minutes to a maximum of 10 minutes.

Overheat Protection

All SV controllers feature three forms of overheat protection:

1. If sensed water temperature within the heater unit exceeds safe working limits the heating element will be disabled and the controller will shut down and latch fault code (ER4 - Thermal Trip). Normal operation will not resume until heater element has cooled and mains power is reset.
2. If sensed water temperature exceeds 425°C filtration is stopped until the temperature falls below 425°C to prevent heat rise from filtration pump operation.
3. If sensed water temperature exceeds 45°C the controller will shut down and latch fault code (Er5 -Pool too hot). Normal operation will not resume until mains power is reset.

Error codes/Troubleshooting

SV spa controllers feature self-diagnostics and scrolling error messages to quickly troubleshoot possible problems. Should the spa control encounter a problem the error code/message will scroll across the topside panel screen until the problem is resolved. If an error condition is experienced all spa functions are shut down and the spa should not be used until the error condition has been resolved. A list of error codes with descriptions of problems and possible solutions is detailed below for your reference.

IMPORTANT:

*For most error codes mains power to the spa control must be turned **OFF** and then back **ON** before the error condition will be cleared. Before attempting any troubleshooting always ensure mains power is isolated and turned **OFF**.*

Heartbeat LED

All SV Series controllers feature a red flashing heartbeat LED light. The heartbeat LED is located on the main printed circuit board of the spa pack itself (spa pack enclosure cover needs to be removed).

The heartbeat LED flashes to indicate the current health/status of the spa pack. When the spa pack is functioning correctly with no errors to report the heartbeat LED emits a single flash in a constant pulse much like a heartbeat (ON, OFF, ON, OFF). If the spa pack encounters a fault the heartbeat LED will begin flashing in sequence with the error code number being experienced (ie. ER2 = ON,ON; OFF ON,ON; OFF)

Error codes/Troubleshooting

If the keypad display is ever blank a spa user can still determine the health / status of the SV Series controller by removing a panel from the spa skirt and checking the heartbeat LED on the front of the spa pack itself.

ER-2 Heather sensor

Problem	No heater sensor communication
Cause	Internal heater sensor communication problem. Sensor is faulty or sensor cable is not connected properly
Solutions	Turn mains power OFF, wait for 5 minutes and then restart spa Contact spa reseller if problem is not resolved

ER-3 Water prime

Problem	Water prime failed –air detected in heater tube
Cause	Airlock in pipe work, low water level, dirty filter cartridges
Solutions	Press Pump A button to retry water prime Check spa water level (refill if necessary) Remove filter cartridges and press Pump A button to retry prime Bleed airlock from pipe work by slightly loosening couplings on front of filtration pump Remove filter cartridges and flush water down pipe work with a hose

Error codes/Troubleshooting

ER-4 Thermal trip

Problem	Heater thermal trip activated. Heater has been active and has had insufficient water flow over the element. Low or no water flow has caused the heater temperature to exceed its maximum limits and the spa control has shut down operation to prevent any damage to the heater unit
Cause	Low water level, airlock in pipe work, closed shut-off valves, dirty filter cartridges, filtration pump failed or operation intermittent
Solutions	Turn mains power OFF and wait 20-30 minutes for element to cool and thermal cut-out device to reset. Then turn power back ON Check spa water level (refill if necessary) Remove filters and clean as per manufacturer's recommendations or replace cartridges if required Check under spa cabinet to ensure all shut-off valves are in the OPEN position Bleed airlock from pipe work by slightly loosening couplings on front of filtration pump or by removing filters and flushing water down pipe work with a hose. Contact your spa reseller if problem persists

Error codes/Troubleshooting

ER-5 Pool too hot

Problem	Pool over temperature. Temperature sensor reading ≥ 45°C
Cause	High ambient temperatures (especially in summer months) have caused water temperature to rise above set temp point, Excessive filtration time, Jet pumps have been operating for extended periods with the spa cover still on
Solutions	Turn mains power OFF, remove spa cover, allow spa to cool then turn power back ON Check daily filtration time (refer filtration section) and reduce daily filtration time if required Check spa cover is not resting on topside panel buttons causing jet pumps to start when cover is on. Use keylock function to lock keypad buttons when spa not in use. Contact your spa reseller if problem persists

Error codes/Troubleshooting

ER-6 12V overload

Problem	12V (port) current draw over 1A limit
Cause	Total 12V current drawn by keypad(s), light(s), expansion ports and in pool temp sensor is excessive, 12V power supply is overloaded, too many LED light bulbs installed, faulty LED light
Solutions	Turn mains power OFF and restart spa to see if problem reoccurs Perform EPRM software reset to factory defaults Reduce number of LED lights connected to spa control Systematically unplug lights, keypads and expansion port loads from spa pack (one by one) to identify the faulty 12v device Contact your spa reseller if problem persists

Error codes/Troubleshooting

ER-5 CTRL fault HVS

Problem	Heater relay is on when it should be off
Cause	Power surge, periods of low or high voltage, water on spa pack terminal block, relay fault
Solutions	Turn mains power OFF and back ON again to see if spa control recovers from ER8 fault Inspect under spa cabinet for evidence of water leaking onto spa control. If water present, turn mains power OFF and isolate, then resolve leak, dry up excess water, and allow spa control to dry out before restoring power. Contact your spa reseller if problem persists

Heat pump
Safety Warnings

We have provided important safety messages in this manual about your heat pump.
Always read and follow all safety messages.

This is the safety alert symbol.
This symbol alerts you to hazards that can cause injury or harm to you and others.

This is a very important label.
This symbol alerts you of things that MUST be strictly adhered to in order to ensure that your warranty will not be voided.

These are things that must be respected in order to protect the health of spa users and to ensure that your warranty will not be voided.

Vortex™ Spas

Safety Warnings

⚠ VITAL Electrical power must be switched off before starting any work on heat pump. DO NOT attempt to modify the internal configuration of the heat pump. Read entire installation manual before use.

- The installation, commissioning and maintenance of these heat pumps should be performed by qualified personnel having a good knowledge of standards and local regulations, as well as experience with this type of equipment.
- The appliance is intended to connect to fixed wiring.
- The SV heat pump is preinstalled with an AMP power cable for direct power connection to the SV spa control. If the installer decides to connect power to the heat pump from a source other than the SV spa control, all electrical connections must be performed by a licensed electrician and must confirm to all national, state and local electrical codes in effect at the time of installation.
- It is the responsibility of the installer to ensure circuit breaker protection, considering the spa control and heat pump capacity. The SV spa control and SV heat pump should also be supplied through a residual current device (RCD) having a rated residual operating current not exceeding 30mA.

Safety Warnings

- The SV spa control must be connected to a suitable rated and weather protected power supply. The supply line should be a dedicated power circuit and means for disconnection must be incorporated in the fixed wiring in accordance with your local wiring regulations. Means for disconnection from the supply mains should have a contact separation in all poles that provide full disconnection under over voltage Category III conditions. If the SV heat pump does not source power directly from the SV spa control these precautions should also be followed for the heat pump power supply.

- The SV heat pump must be earthed to avoid any risks caused by insulation defects. The heat pump will be earthed via the pre-installed AMP power cable which connects to the SV spa control. If a different power source is used, ensure the heat pump is connected to earth.

- Earthed appliances must be permanently connected to fixed wiring (European models).

- The data cable should be installed and run through UV resistant, corrugated conduit suitable for use in outdoor locations.

- The appliance contains no serviceable parts. Do not attempt service of this appliance. Contact your dealer or authorized service agent for assistance.

- Turn the mains power OFF before touching or modifying any cable connection.

- Low voltage or improper wiring may cause damage to this appliance. Read and follow all wiring instructions when connecting to power supply.

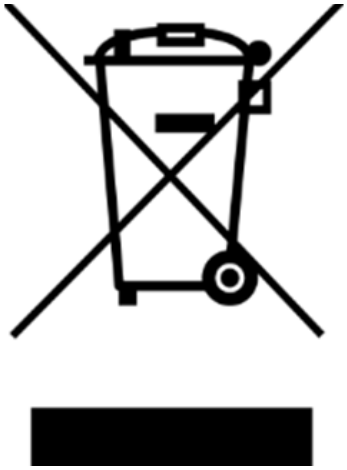
- If the supply cord is damaged, it must be replaced by the anufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

Safety Warnings

- It is the owner's responsibility to ensure the floor or mounting base can support the expected load of the heat pump and an adequate drainage system must be provided in case of overflowing or leaking water.
- This appliance must not be installed in proximity to highly flammable materials.
- Water temperature in excess of 38°C may cause hyperthermia (heat stress).
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety (IEC 60335-1)
- Do not spray or paint insecticidal material on the surface of the heat pump
- Do not block the evaporator by paper or any other foreign bodies to keep the unit well ventilated.
- You can clean the evaporator by washing with detergent and water at low pressure and then rinsing with clean water.
- Do not touch the air outlet grill when fan motor is running.
- The heat pump should be plumbed after the spa filters and NOT before, to prevent foreign objects or debris from entering heat pump.
- Spanet SV series heat pumps can only be used with Spanet SV series controllers.

* Conditions apply. Specifications may change without notice.

Correct Disposal of this Product



This symbol indicates the product should not be mixed or disposed with general household wastes throughout the EU. Disposing of this product correctly will help save valuable resources and prevent any potential negative effects on human health and the environment, which could otherwise arise from inappropriate waste handling. For proper treatment, recovery and recycling, please take this product to designated collection points where it will be accepted free of charge. Alternatively, you may be able to return your products to your local retailer upon purchase of an equivalent new product. Please contact your local authority for further details of your nearest designated collection point. Penalties may be applicable for incorrect disposal.

Safety Warnings
Heat pump

⚠ WARNING

When ambient temperatures are close to or under freezing point, water circulation to the heat pump should never be stopped for more than 4 hours without completely draining the heat exchange. **In areas where freezing conditions are prevalent and sustained, in advance of any freeze event, all water MUST be removed from the entire heat pump water circuit. Please refer to the "Winterising" section of this manual.**

FREEZE DAMAGE NOT COVERED UNDER PRODUCT WARRANTY

Safety Warnings
Heat pump

IMPORTANT

1) In extreme cold weather (ongoing temperatures below 0°C), when the heat pump is no longer needed, it is important to isolate water flow to the heat pump and drain all water from the inside of the heat pump. Please refer to the "Winterising" section of this manual.
2) The heat pump should NOT be installed in an airtight location or confined space, such as a basement or garage. The heat pump requires good air ventilation. It will discharge cold air when heating and hot air when cooling, and efficiency depends on the ability to draw normal ambient temperature air and discharge the cold or hot air well away from the unit. It is recommended to install the heat pump away from any other home appliances, to avoid the chance of electromagnetic interference. Please refer to the "Air Space Requirements" section of this manual.
3) In very hot weather (ongoing temperatures exceeding 36°C) and where the spa water temperature exceeds 32°C and the heat pump is set to AUTO mode and engages to cool the water, it is possible that the critical temperature of the R410a refrigerant is exceeded once the heat pump has been operating for a period of time and an error condition may occur to protect the compressor. If this occurs wait until the ambient temperature falls before attempting to cool again or cool the spa water in advance of any forecast hot weather event. Heat pumps installed in highly sun exposed areas or locations with restricted air ventilation will be more prone to this situation.

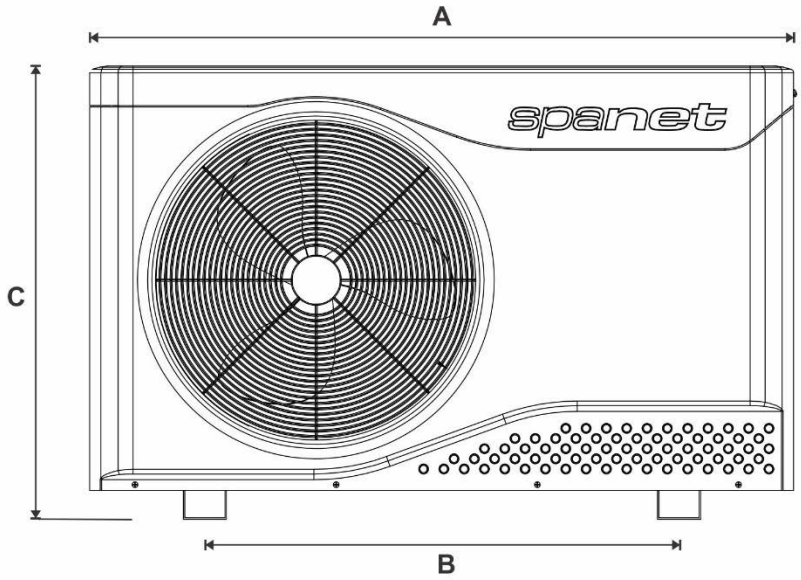
Specifications

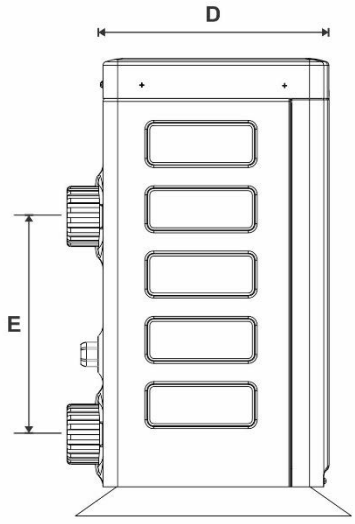
Description	SN-HP-55P	SN-HP-90P	SN-HP-120P
Power supply	220-240V~/1PH/50Hz	220-240V~/1PH/50Hz	220-240V~/1PH/50Hz
HEATING TEST CONDITION:	**Air Temp = 25'C Water Temp = 27'C**	**Air Temp = 25'C Water Temp = 27'C**	**Air Temp = 25'C Water Temp = 27'C**
Heating capacity	5.6 kW	8.6 kW	12.0 kW
Heating input	1.1 kW	1.65 kW	2.2 kW
COP	5.1	5.21	5.45
Rated heating current	5.3A	7.8A	10.8A
Cooling capacity	3.8 kW	5.3 kW	8.4 kW
Cooling input	1.3 kW	2.0 kW	2.4 kW
Rated cooling current	5.8A	8.5A	11.5A
EER	2.92	2.65	3.5
Refrigerant	R410A, 600g	R410A, 950g	R410a, 1400g
Air Flow (m^3/H)	1600	1700	2600
Sound pressure level	<49 dB(A)	<49 dB(A)	<51 dB(A)
Protection class	1	1	1
Waterproof class	IPx5	IPx5	IPx5
Net weight	48Kg	56Kg	63Kg
Fan speed	850 RPM	850RPM	1000RPM
Water temperature range	10 to 41'C	10 to 41'C	10 to 41'C
Operating temperature range	0'C to 40'C	0'C to 40'C	0'C to 40'C
Minimum water flow rate	50 L/min	70 L/min	80 L/min
Water Pressure Drop (max)	12 kPa	15 kPa	15 kPa
Operating Pressure (max)	800 kPA	800 kPA	800 kPA
Cabinet dimensions L x W x H	87 x 33 x 61 cm	87 x 33 x 61 cm	98 x 33 x 62 cm
Heat exchanger	Titanium + PVC	Titanium + PVC	Titanium + PVC
Expansion valve	Mechanical	Mechanical	Mechanical
Outlet size	40mm	40mm	40mm
Defrost element	40W	40W	40W
B Fuse	IEC 20A time delay, 250V	IEC 20A time delay, 250V	IEC 20A time delay, 250V

* Conditions apply. Specifications may change without notice.

Outlines and dimensions

Model	A	B	C	D	E
SN-HP-55P	870mm	610mm	610mm	310mm	260mm
SN-HP-90P	870mm	610mm	610mm	310mm	260mm
SN-HP-120P	980mm	615mm	615mm	312mm	300mm





Vortex Spas

External appearance

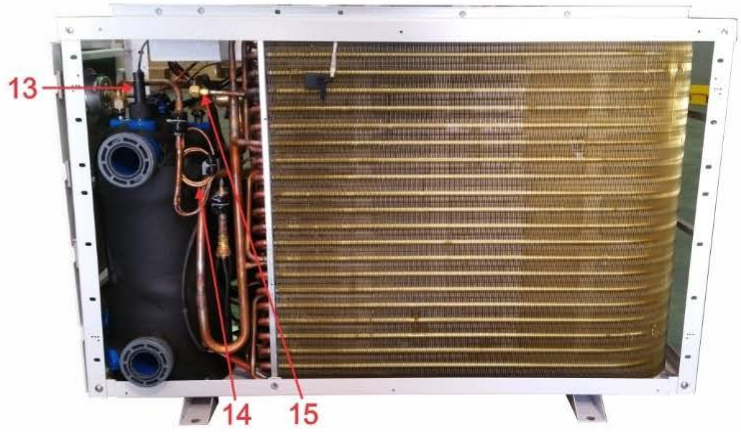
1. Fan protection grill (exhaust side)
2. ABS/ASA plastic cabinet
3. Refrigerant pressure manometer
4. Water outlet
5. Data cable
6. Power cable
7. Water inlet

* Conditions apply. Specifications may change without notice.

Internal appearance

(Front sheet cover and panel removed)

8. Evaporator
9. Fan
10. Compressor
11. 4-way-valve
12. Titanium in PVC heat exchanger
13. Water flow switch
14. Capillary
15. Refrigerant charge valve

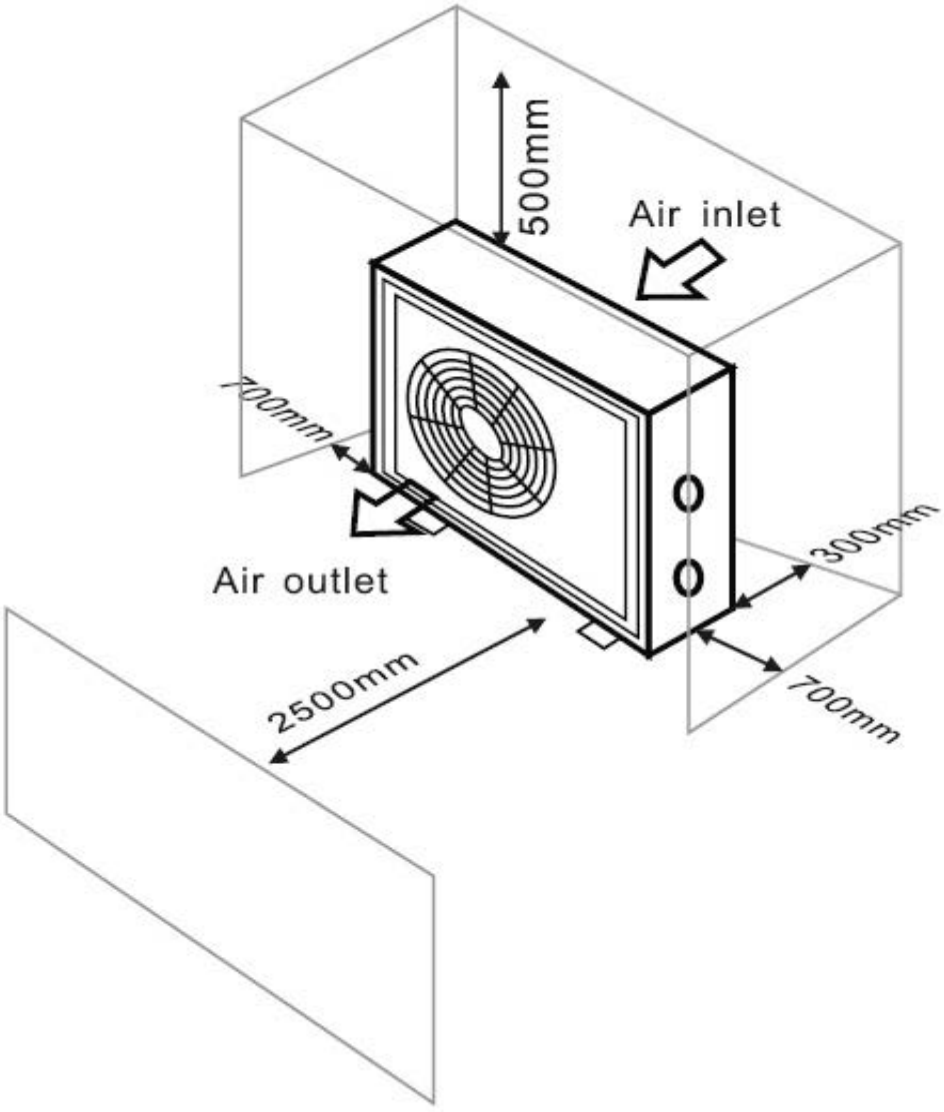


Vortex Spas

Installation instructions

Recommended air flow requirements

Recommended Air Flow Requirements



* Conditions apply. Specifications may change without notice.

Recommended air flow Rrequirements

- The SV Series of heat pumps must be located outside in a clean area where air flow will not be restrictive. The heat pump must be located external to the spa pool cabinet to allow sufficient air flow for optimum efficiency.
- The heat pump must operate with a clean air supply so should be situated away from vegetation and obstacles.

⚠ WARNING

The heat pump MUST be installed according to the air space requirements shown in Figure 1. Failure to follow these instructions may VOID WARRANTY.

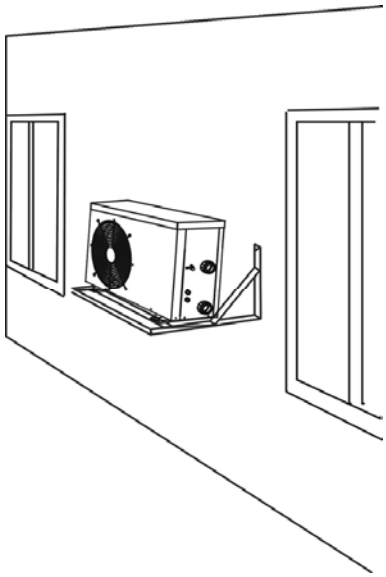
Installation instructions

Recommended Air Flow Requirements

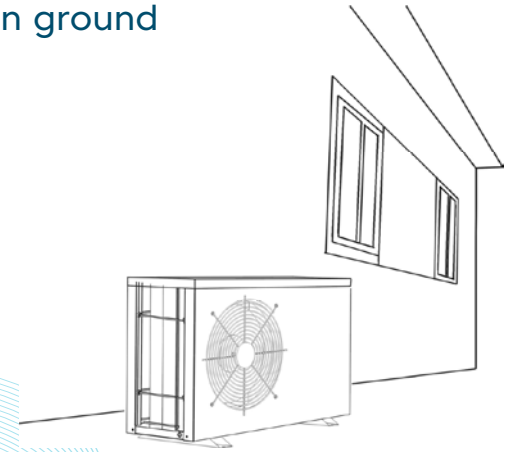
Location of the unit

Select a suitable location in accordance with below notes and consult the local swimming pool safety regulations to check requirements for proximity to other equipment.

Install on wall



Install on ground



* Conditions apply. Specifications may change without notice.

Safety Warnings
Heat pump

IMPORTANT

Installation location notes:

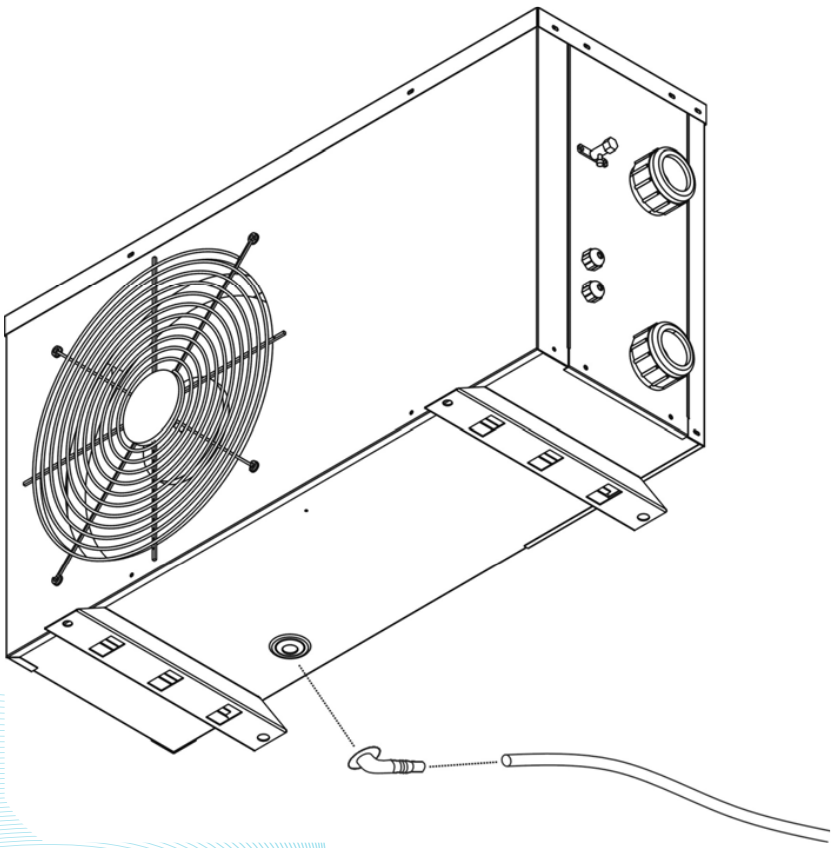
1) The heat pump must be installed on a flat, solid and large enough base to properly secure the heat pump. Whilst it can be mounted on brackets or stands a level concrete base is preferred.
2) If installing the heat pump in a harsh climatic area (i.e. sub-zero temperatures, snow, humidity), it is recommended to raise the unit 50cm above the ground.
3) During installation, ensure sufficient free space is left around the heat pump for future maintenance.
4) The unit is air cooled. It must be installed outdoor in an area with sufficient clearance to provide enough air circulation through evaporator.
5) DO NOT install heat pump in a confined space to prevent recycling of air.
6) The fan should not blow towards windows, walls or spaces likely to be inhabited by people or animals.
7) Do not install where the heat pump is likely to be subjected to polluted air, dust or debris etc.
8) Avoid directing fan output against the dominant wind directions.
9) Protect the heat pump from possible snow fall.
10) Minimise exposure to environmental conditions as much as possible and never block the airflow.
11) Ensure the heat pump is installed in an area that is free from flammable and corrosive chemicals, and grease.

Pipework insulation

In order to keep power consumption to a minimum, it is recommended that all external pipe work connecting the heat pump to the spa pool should be insulated.

Condensation drain

During humid conditions, as part of the heat exchange process the evaporator may produce a lot of condensation. Please install the drain connector as shown in the picture aside, so the condensation run off can be directed to a suitable location. In very cold climates (i.e. ambient temperatures below 0oC) the drain connector should not be used to prevent becoming blocked with ice during periods of idle activity.



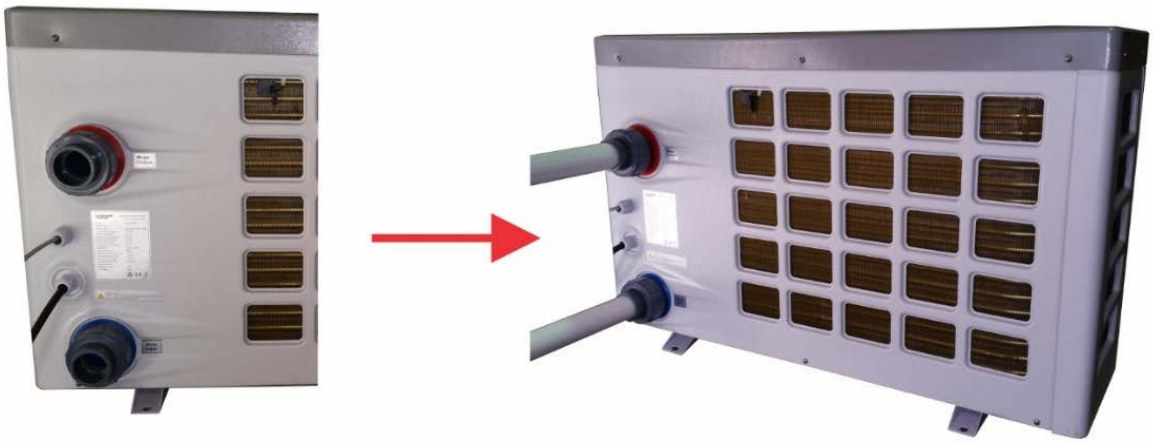
* Conditions apply. Specifications may change without notice.

Installation of water pipes

Glued Union Fittings

1. Ensure both tail piece and locking ring are screwed/fitted to the heat pump and tightened before gluing water pipe to union tail. This will ensure the tail piece has an even seal against the o-ring.

2. Use PVC priming fluid on end of water pipe and union tails before gluing. Once primed glue pipes into place and ensure pipes are running straight and square into heat pump.



Installation of water pipes

IMPORTANT

Ensure the pipe work running from the heat pump to the spa pool is supported. DO NOT have long runs of pipe in mid-air above the ground without support. Ideally return the pipes to ground level as they exit the heat pump to ensure the pipe work is self-supporting.

NOTE: Once the pipe work is full of water it will become heavy and will place strain on the heat pumpoutlets if the pipe work is not supported. In the case of glued union fittings, if the pipe work is unsupported the strain could cause stress damage to the outlets and potential leaks.

IT IS THE INSTALLER'S RESPONSIBILITY TO ENSURE THE PIPE WORK IS ADEQUATELY SUPPORTED AND RESTRAINED TO PREVENT MOVEMENT AND STRESS.

Plumbing instruccions and diagram

The SV heat pump outlets require 40mm PVC pressure pipe to be used.

Ideally the heat pump should be plumbed in line prior to the SV controller, so that water flows from the filter pump, through the heat pump and then back through the SV controller before returning to the spa.

This provides a second level of safety thermal protection for the water returning to the spa. The heat pump will still work if plumbed after the SV controller however being plumbed prior to the controller is the preferred option where possible.

The installer should ensure that all pipe work is supported and restrained to prevent movement and stress.

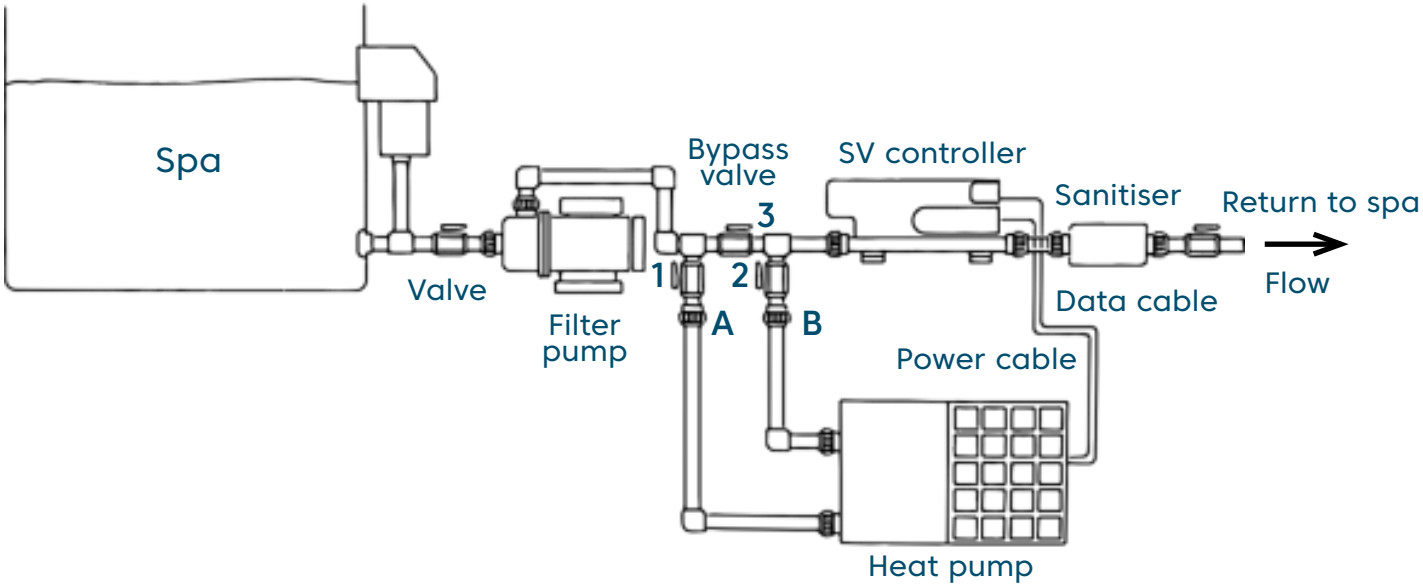
Also, it is recommended that all pipe work external to the spa is insulated.

Refer to plumbing diagram on following page for more information.

VITAL

Unless you are certain the heat pump has always remained in its upright installation orientation during transit and throughout the installation process, and has not been laid on its side or end at any time, the heat pump should NOT be used for 24 hours after its installation to prevent damage to the compressor.

Basic heat pump plumbing diagram



THIS IS A GERENERIC DIAGRAM ONLY, INDIVIDUAL INSTALLATIONS MAY VARY.

IMPORTANT

The heat pump should be plumbed in line PRIOR to the SV controller where ever possible. Water should flow out of the heat pump and through the SV controller before returning to the spa.

* Conditions apply. Specifications may change without notice.

Basic heat pump plumbing diagram

No heat pump installed

Outlet A & B are mounted on or under spa cabinet and capped off, or blocked by valves 1 & 2 being closed (if fitted). Bypass valve 3 is open.

Heat pump installed

Heat pump inlet and outlet pipes connect to pionts A & B. Valves 1 & 2 (if fitted) are open.

Circ pump setup	Bypass valve 3 is 100% closed
2speed pump/V80 setup	Bypass valve 3 is 60%/40% (i.e. 60% closed/40%open)

NOTE:

1. *Heat pump powered from SV controller 230V socket OR any 230V power source (requires constant power)*
2. *Heat pump data cable connected to SV controller port (EXP2)*
3. *Pipe work external to spa cabinet should be insulated*
4. *All pipe work should be supported and restrained to prevent movement and stress*

Cable connections

Data and power cables must be installed between the heat pump and spa pool in accordance with the local wiring regulations. **It is best practice to separate data and power cables from each other.**

Power cable connection

The SV heat pump requires connection to a constant 230V power supply. The heat pump can source power directly from the SV spa controller or can be connected to a 30mA RCD protected 230V power circuit. The easiest and recommended method is to use the heat pump's preinstalled AMP power cable and connect to a 230V OUTLET on the front of the SV spa controller idle activity.

SV3 /SV4 models feature 2 x 230V power outlets
SV2 models feature 1 x 230V power outlet

* Conditions apply. Specifications may change without notice.

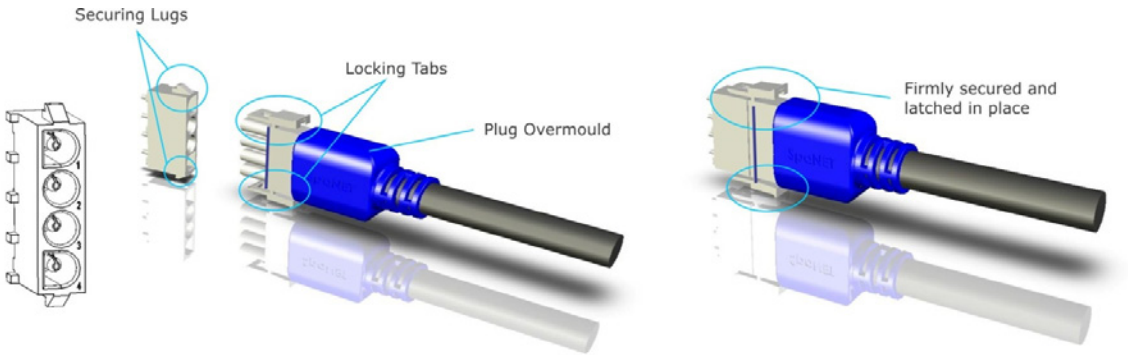
Installation of water pipes

NOTE:
It is recommended to use the last AMP power outlet labeled "230V OUTLET" on the right hand side of the SV spa controller unless otherwise advised by your spa reseller or licensed electrician.

VITAL

AMP sockets & plugs

SV series spa controllers utilise AMP mate-N-lok power connectors. The AMP connectors feature a key pattern for fail safe one way connection. When connecting the heat pump be sure to push cordset firmly into socket and ensure both side locking taps have been secured and latched in place.



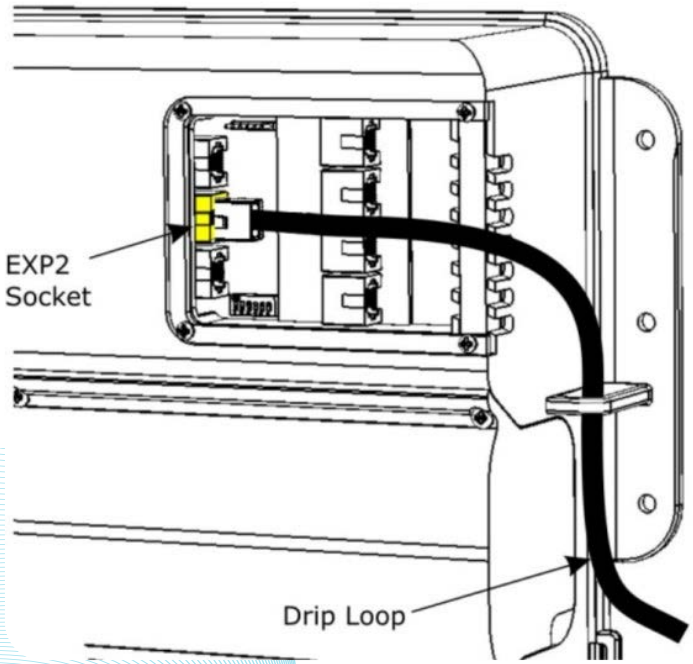
Vortex Spas

Data cable connection

The SV heat pump is a slave device and is operated by the SV spa controller. It requires a data cable connection for communication between the SV controller and the heat pump itself. The data cable should be connected to the EXP2 (heat pump) socket in the low voltage connection area of the SV controller (refer below instructions).

VITAL

The data cable must be installed into a UV resistant, corrugated conduit suitable for use in outdoor locations between the heat pump and the spa cabinet.



Data cable connection

1. Unscrew and remove low voltage ports cover from top right corner of SV series spa controller.
2. Route the data cable up through the cable guide provided, ensuring the data cable has a drip loop before it enters the enclosure.
3. Connect heat pump data cable into RJ45 socket labelled EXP2 (refer aside). It is the second socket down on the left-hand row of sockets.
4. Reattach and screw low voltage ports cover back in

⚠ WARNING

It is imperative to ensure adequate separation between the communications (data) cable and power cable running from the heat pump to the spa to prevent data corruption. The data and power cables should NOT be tied side by side or placed in a shared conduit. Rather they should be separated by a distance of approximately 150-300mm. A suggested practice is to secure one cable to the inlet pipe and the other cable to the outlet pipe. The cables can come together to enter the heat pump and the spa cabinet however they should be separated everywhere else. Also, if there is excess cable left over under the spa cabinet, ensure the power and data cable remain separated and are not left in a bundle together.

Data cable connection

IMPORTANT

If the data and/or power cables supplied with the heat pump are insufficient in length to reach the SV controller DO NOT cut and extend the cables. The cables must be replaced in entirety with new longer cables. Failure to follow this instruction will VOID WARRANTY. 10M cable sets can be purchased if required **(only use double-shielded CAT5/CAT6 Ethernet cable).**

VITAL

If the preinstalled data cable is replaced with a longer cable it is vital that the heat pump temperature sensors are recalibrated to ensure defrost cycles operate correctly in cold climates. Failure to adjust the calibration may cause the heat pump to ice up during periods of low temperatures (< 5°C). Refer to the "Temperature Sensor Calibration" section of this manual.

Initial setup

1. Once the plumbing to the heat pump has been completed and been given sufficient time for the PVC cement/glue to cure, the pipe work should be bled of any air. With the spa power turned OFF, the valves should be adjusted to provide water flow to the heat pump. Then the top coupling on the heat pump outlet pipe should be slightly loosened to allow the air in the pipe work to escape.
   Once the air has escaped and there is a constant stream of water, re-tighten the outlet coupling sufficiently.
2. With the power and data cable remaining DISCONNECTED from the SV controller, supply power to the spa and operate the filtration pump to complete purging any air from the heat pump and pipe work. Allow filtration pump to run and ensure you can see and feel the water returning to the spa. (NOTE: If you cannot see the water returning to the spa, turn the power OFF immediately and attempt to bleed the air from the pipe work by loosening the coupling on the heat pump again, and/or at the filtration pump couplings if required. Be sure to re-tighten all couplings after bleeding the air).
3. Once the air has been bled and water is freely flowing and returning to the spa, operate the filtration pump for several minutes and check for drips and leaks from the pipe work. Take corrective action to resolve any drips/leaks if present.
4. Now that the pipe work has been bled of air and has been checked for leaks it is time to turn the spa power back OFF and connect the heat pump power and data cables to the SV controller (refer to the “Cable Connections” section of this manual).
5. Once power and data cables have been connected and power is restored to the spa pool the SV controller will automatically detect that the heat pump is connected and disable the internal electric element, and will engage the heat pump for heating and/or cooling where required maintain the desired water temperature in your spa pool.

SV controller setup

All models of the SV Series spa controllers have the capability to seamlessly integrate and control a SV Series heat pump for efficient heating and cooling of the spa water. When a SV Series heat pump is connected the SV controller will automatically detect the heat pump and take control of its operation. All heat pump functions including heating / cooling / temperature adjustment / defrost cycles / over temp protection / diagnostics and monitoring are all controlled by the SV spa controller and the SV spa side touch pad. There is no system setup required, it will simply detect the heat pump and use it. However, the SV spa controller offers two setup menu options (H.PMP and H.ELE) for tailoring the heat pump operation:

Heat Pump Operating Mode (H.PMP)

This setting determines how the heat pump should operate. There are four operating modes:

H.PMP Setting	Description
AUTO	Heat pump will heat and cool
HEAT	Heat pump will only heat
COOL	Heat pump will only cool (SV element heating also disabled)
OFF	Heat pump is disabled

Heat pump operating mode

(H.PMP)

Depending on your SV controller firmware version the H.PMP mode will either default to AUTO or HEAT. In order to keep power consumption to a minimum we recommend setting H.PMP=HEAT. This will only allow the heat pump to operate to heat the water. If H.PMP=HEAT and the set temperature is lower than the actual water temperature the heat pump will NOT engage to cool the water, allowing the water to cool naturally.

If however H.PMP=AUTO the heat pump will heat and cool the water. So if the set temperature is lower than actual water temperature the heat pump will engage to cool the water down. This may be desired in the warmer months of the year but it not recommended in Winter where you may want to lower the set temperature because the spa is not being as often and you do not want to pay the electricity cost for the heat pump to cool the water.

Adjusting heat pump operating mode (H.PMP)

1. Press and hold UP + DOWN buttons simultaneously until display shows “MODE” (refer above)
2. Press the DOWN button until display shows “H.PMP” (heat pump mode)
3. Press the OK button to enter the H.PMP mode adjustment
4. Use the UP or DOWN buttons to select either AUTO/HEAT/COOL/OFF
5. Press the OK button to confirm and save the setting

* Conditions apply. Specifications may change without notice.

Adjusting heat pump operating mode (H.PMP)

IMPORTANT

NOTES ON COOLING

The heat pump has principally been designed for cost efficient heating of your spa pool. Through the use ofrefrigeration technology we are able to run the heat pump in reverse cycle to cool the spa water as well.

However there are operating limits for the refrigerant.In extreme environmental weather conditions (i.e. ambient temp > 40°C), depending on heat pump location & environment (i.e. direct sunlight, undercover) and nearby obstructions and air flow restrictions (i.e. fences, plants, walls) if the heat pump is used for COOLING, the refrigerant MAY exceed its working capacity and shut down on high pressure error. To prevent this, **the heat pump should only be used for COOLING at times of day/night when ambient temperatures are lower, and prior to any extreme hot weather event.**

Heat Pump with SV Element Boost (H.ELE)

This setting defines how the SV electric heating element operates when a SV series heat pump is installed. The benefit of this feature is that the internal electric SV heater can be set to operate in conjunction with the SV heat pump to boost heating and reduce heating times. There are two setting choices:

H.ELE Setting	Description
OFF	Heat pump only (SV element disabled)
ON	Heat pump + SV element

IMPORTANT

If H.ELE=ON the SV spa controller's electric heating element will operate in conjunction with the heat pump to boost heating ***only*** if the water temperature is 2°C or more below the set temperature point **OR** the heat pump has been operating for more than 1 hour and the set temperature point has not been reached.

NOTE: If the ambient temperature is below the operational limit of the heat pump (-2°C) the SV electric element will be enable regardless of the H.ELE setting. The heat pump is latched in standby mode. When the temperature rises above -2°C the heat pump is allowed to operate normally.

Safety/ Protection systems

1. Water flow switch

The heat pump is fitted with a flow switch to prevent the heat pump from operating and overheating the water in the heat exchange tank if there is too little or no water flow through the heat pump. The flow switch must close within 30 seconds of the heat pump starting to prevent a “HEAT PUMP FLOW” error.

2. Refrigerant gas high and low pressure protection

The high pressure protection makes sure the heat pump is not damaged in case of over pressurisation of the gas due to insufficient water flow or high ambient temperatures. The low pressure protection identifies when refrigerant has escaped from the conduits and the unit cannot be kept running.

3. Compressor over temperature protection

This thermal cut out switch protects the compressor from overheating.

4. Automatic defrost control

When the air is very humid and cold, ice can form on the evaporator. In such situations, a thin layer of ice appears that will grow increasingly bigger as long as the heat pump is running. When the temperature of the evaporator has become too low, automatic defrost control will be activated, which will reverse the heat pump cycle so that hot refrigerant gas is sent through the evaporator for a brief period of time to defrost it. During a defrost cycle the ice will melt and generally will create steam.

Winterizing heat pump

Winterizing is a procedure that prepares your heat pump for freezing conditions. In areas where freezing conditions are a rare and brief occurrence, the water filtration system can be programmed to run continuously throughout the freeze period. Typically, during light freeze conditions circulating (moving) water will not solidify.

However in areas where freezing conditions are prevalent and sustained, and the spa is to be turned OFF during the winter period, in advance of any freeze event, all water MUST be removed from the entire heat pump water circuit including heat exchanger. Freezing of the unit will severely damage the heat exchanger and other components due to water/ice expansion. Damage resulting from a failure to properly winterize is NOT covered under the heat pump product warranty.

Preparing for light freeze conditions

When ambient temperatures are close to or under freezing point, water circulation to the heat pump must never be stopped for more than 4 hours. To ensure this certain SV spa controller setup menu software settings should to adjusted/ checked prior to occurrence of light freeze events. Carry out the following:

Disable both sleep timers

1. Press and hold UP + DOWN buttons simultaneously until display shows “MODE” (refer above)
2. Press the UP button until display shows “SNZE”
3. Press the OK button to enter the SNZE (sleep timer) adjustment => “1.SNZ” is displayed
4. Press the OK button to enter 1.SNZ (first sleep timer) programming => “1.DAY” is displayed

Winterizing heat pump

Disable both sleep timers

5. Press the DOWN button to adjust 1.DAY setting until the semicolon “ : “ (disabled) sleep timer icon is displayed or display shows “OFF
6. Press the OK button to confirm and save the setting
7. Re-enter SNZE menu and when display shows “1.SNZ” press the UP button so the display shows “2.SNZ” (second sleep timer)
8. Press OK button to enter 2.SNZ (second sleep timer) programming => “2.DAY” is displayed
9. If not already showing the “ : “ (disabled) symbol or “OFF”, use the DOWN button until display shows “ : “ or “OFF”
10. Press the OK button to confirm and save the setting

Vortex Spas

Winterizing heat pump

Set filtration to 24 hour circulation

Set filtration to 24 hour circulation

1. Press and hold UP + DOWN buttons simultaneously until display shows “MODE”
2. Press the UP button until display shows “FILT”
3. Press the OK button to enter the FILT (daily filtration runtime) adjustment
4. Press the UP button to increase daily filtration runtime to twenty-four hours “24 HR”
5. Press the OK button to confirm and save setting

Winterizing heat pump

Disable heat pump on SV controller

Preparing for freezing conditions

If the heat pump is located in an area where the temperature drops below the freezing point of 0°C, and the spa is to be shut down and turned OFF for the winter period, it is mandatory that the water accumulated in the heat pump be drained completely before freezing weather occurs. To prevent damage from freezing perform the following steps:

Disable heat pump on SV controller (adjust H.PMP)

1. Press and hold UP + DOWN buttons simultaneously until display shows “MODE”
2. Press the DOWN button until display shows “H.PMP” (heat pump mode)
3. Press the OK button to enter the H.PMP mode adjustment
4. Use the UP button to select “OFF” (OFF=heat pump disabled)
5. Press the OK button to confirm and save the setting

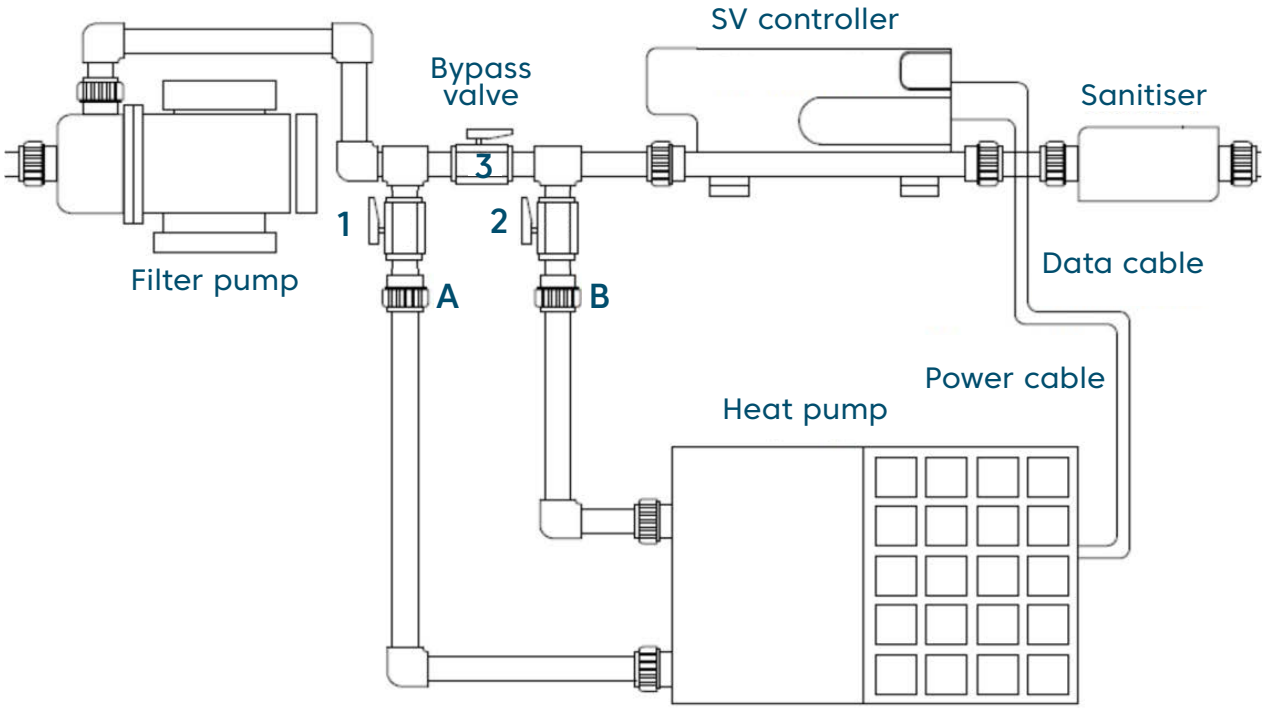
IMPORTANT

If H.PMP=OFF the heat pump is disabled and will not be used to heat the spa. There is no need to disconnect the power or data cables from the SV controller. The SV’s internal electric element will automatically be used for heating instead.

Winterizing heat pump

Isolate water flow to heat pump and drain water

1. Switch power to spa OFF.



2. Close isolating valves (1 & 2) to inlet and outlet pipes of heat pump and fully open bypass valve (3) to close water supply to the heat pump and keep water circulating within the spa (refer above).
3. Drain the heat exchanger by unscrewing the drain plug found on the front of the unit (refer aside).

Winterizing heat pump

Isolate water flow to heat pump and drain water

4. Disconnect water inlet and outlet coupler fittings and completely drain pipe work of all water.
5. It is recommended to flush the inside of the heat exchanger with a hose and drain the unit again.
6. Replace drain plug and re-attach couplers to prevent lost parts and insect / debris ingress.

Winterizing heat pump

Restart heat pump after Winter

1. Switch power to spa OFF.
2. Check heat exchanger drain plug is correctly installed and water inlet and outlet coupler fittings are tight.
3. Open isolating valves to inlet and outlet pipes of heat pump and adjust by-pass valve as required.
4. Bleed air from pipe work by loosening couplings on heat pump and filtration pump outlets. Once the air has escaped and there is a constant stream of water, re-tighten the outlet couplings sufficiently.
5. Supply power to the spa and operate filtration pump to purge all remaining air from the heat pump and pipe work. Operate the pump for a period of time and check for drips and leak. Take corrective action where required.

Re-enable heat pump on SV controller (adjust H.PMP)

a. Press and hold UP + DOWN buttons simultaneously until display shows “MODE”

b. Press the DOWN button until display shows “H.PMP” (heat pump mode)

c. Press the OK button to enter the H.PMP mode adjustment

d. Use the DOWN button and select “HEAT” (heat only) or "AUTO” (heat & cool) mode as desired

e. Press the OK button to confirm and save the setting

⚠ WARNING **FREEZE DAMAGE NOT COVERED UNDER PRODUCT WARRANTY**

* Conditions apply. Specifications may change without notice.

Temperature Sensor Calibration

Due to certain conditions, environmental factors and length of data cable, your SV Series Heat Pump may require calibration of the temperature sensors for optimum performance. In particular if you have had to replace or use a longer data cable than the original pre-installed cable it is important to ensure the temperature sensors are calibrated accurately.

NOTE:

Before performing calibration of the temperature sensors please ensure the heat pump has not been operated for at least 2 hours prior to calibration, to ensure that the sensor readings are unaffected by operating conditions. If the heat pump has been operated in cold conditions with un-calibrated sensors and the condenser has iced up, the ice should be removed with tepid water and heat pump left powered off for at least 2 hours prior to calibration.

Temperature Sensor Calibration

Disable heat pump on SV controller adjust (H.PMP)

For accurate sensor calibration we recommend the heat pump be temporally disabled to prevent it from operating during the calibration process:

1. Press and hold UP + DOWN buttons simultaneously until display shows “MODE”
2. Press the DOWN button until display shows “H.PMP” (heat pump mode)
3. Press the OK button to enter the H.PMP mode adjustment
4. Use the UP button to select “OFF” (OFF=heat pump disabled)
5. Press the OK button to confirm and save the setting

Temperature Sensor Calibration

Calibrate sensors

Measure the temperature at the back of the heat pump using a good quality temperature meter, ideally a digital meter (i..e Fluke or Digitech). If a temperature meter is NOT available, lookup current temperature of the local area via the Internet.

Vortex Spas

Temperature Sensor Calibration

Calibrate heat pump ambient temperature sensor (H.AMb)

1. Press and hold BLOWER + W.CLN buttons simultaneously until display shows “C.LMT”

2. Press the DOWN button until display shows “CAL” (calibrate)

3. Press the OK button to enter CAL (calibrate) adjustments => display will show “C.ZER”

4. Press the DOWN button until display shows “H.AMb”

5. Press the OK button to enter H.AMb (ambient sensor) adjustment => display will be showing a solid or flickering temperature

6. Press the UP or DOWN buttons as required and adjust temperature reading to match measured or known outside temperate

7. Once the temperature reading matches actual press the OK button to confirm and save the setting

Temperature Sensor Calibration

Calibrate heat pump condenser temperature sensor (H.CON)

1. Repeat steps 1-3 as above however select “H.CON“ (condenser sensor) from the CAL menu and press OK to enter the sensor adjustment

2. Press the UP or DOWN buttons as required and adjust temperature reading to match measured or known outside temperate then press OK to confirm and save setting

IMPORTANT

Before performing calibration of the temperature sensors please ensure the heat pump has NOT been operated for at least 2 hours prior to calibration, to ensure that the sensor readings are unaffected by operating conditions

Re-enable heat pump on SV controller (adjust H.PMP)

Upon completion of the sensor calibration do not forget to re-enable the heat pump by selecting “HEAT” (heat only) or “AUTO” (heat & cool) mode from the H.PMP setup menu option.

Maintenance

Little maintenance is required however the following should be performed on a regular basic to ensure long equipment service life.

When performing maintenance isolate power to spa pool and heat pump for safety.

1. Clean evaporator regularly in order to keep it in good performance. Use a soft brush and water containing a mild detergent or ideally specially made air conditioner cleaner. This will remove any built up dust and grime on the fins and help to restore maximum efficiency.
2. Wash the exterior of the cabinet using an automotive detergent. Remove any moss/mould or other growth. Check the cabinet for signs of corrosion or damage and remedy them. Touch up any scratches or chips in paint work and apply a coat of automotive wax to the cabinet exterior.
3. Clean spa filters regularly and keep the skimmer clear to ensure good water flow at all times.
4. Check condensation drain pipe work is clean and clear.
5. Inspect cables and pipe work for signs of damage or wear. Replace if necessary.
6. If securing bolts have been used inspect for tightness and corrosion.
7. Ensure that air space surrounding the heat pump is clear. Remove any impending vegetation or objects blocking air inlet and outlet.

Maintenance
Evaporator cleaning

The evaporator does not require any special maintenance, except when it is clogged by dirt or any other debris. Cleaning is by washing with detergent and water at low pressure, and then rinsing with clean water.

⚠ WARNING

1. Before cleaning, make sure the spa pool and heat pump are powered OFF.
2. Inside of heat pump must only be cleaned by a qualified person.
3. Do not use gasoline, benzene, or harsh chemicals to clean the heat pump. And do not spray with insecticide, the unit may be damaged. The cleanser specially made for air conditioner cleaning is recommended.
4. Spray air conditioner cleanser into the evaporator, let the cleanser sit for 5~8 minutes.
5. Then spray the evaporator with clean water.
6. An old hairbrush works well for brushing surface dirt and lint off the fins. Brush in the same direction as the slots between the fins so the bristles go between the fins.
7. After cleaning, use a soft and dry cloth to dry off excess water from the unit.

Maintenance
Refrigerant charging

Refrigerant is very stable and should not degrade or break down even under severe operating conditions. It is not necessary to service or charge the heat pump with refrigerant unless there has been a refrigerant leak. If the unit has a leak in the sealed refrigeration system, please locate the leakage and repair before charging with more refrigerant.

⚠WARNING **Refrigerant charging must be performed by a qualified person.**

Troubleshooting
Water liking from unit

Should a problem occur the SV spa controller will temporarily disable the heat pump and put it into error, with the touch pad display scrolling an error message every 30 seconds.

⚠ WARNING

There are no user serviceable parts inside the heat pump. If a major error occurs please contact your spa reseller, service technician or a licensed professional for service.

Water liking from unit

If there is humidity in the air the heat pump will create condensation on the evaporator as part of the heat exchange process, this is normal. The higher the humidity the more condensation created. It is not uncommon for the heat pump to produce many litres of condensation; hence it is recommended that the condensation drain be installed to direct the condensation run-off to a suitable location.

The condensation will collect in the base of the machine and exit via the drain pipe under the machine.
Confirm that drain pipe work is not blocked and that the machine is mounted on a level surface. If water leaking from the machine is not from condensation then all pipe work and connections should be checked for damage and leaks.

Troubleshooting
"Heat pump flow" Error

The flow switch must close within 30 seconds of filtration pump operation. If a heat pump flow error occurs there is insufficient or no water flow to close the flow switch. Once a flow error has occurred, even if water flow has been re-established, mains power to the SV spa control must be reset before the heat pump will operate again.

New installations:

- Check that isolation and bypass valves have been positioned correctly to suit filtration pump
- Check the spa water level is OK and confirm that water is flowing freely into filter area
- Check there is adequate water flow. If no flow, bleed air locks from pipe work
- Inspect pipe work and follow flow direction to ensure water is flowing out of the spa into the bottom inlet pipe on the heat pump, flowing out of the top outlet pipe on the heat pump and returning to the spa. If heat pump has been plumbed in reverse direction, correct plumbing or rotate direction of flow switch 180 degress.
- Check filtration pump operation for internal thermal cut out operation or motor stall.

Existing installs:

- Check the spa water level is OK, refill if necessary
- Clean or replace filter cartridges
- If the spa has just been emptied/refilled, bleed air locks from pipe work
- Check filtration pump is working OK and has not seized

Troubleshooting
No heat pump operation

- Check SV spa controller settings. Confirm that H.PMP setting has not disabled the heat pump.
- Confirm ambient air temperature is within operational limits.
- Check there is no hammer and spanner error symbol on the display. If error symbol is present, wait for the error code to scroll every 30 seconds and take corrective action accordingly.
- Check that the heat pump power source is OK. Check RCD safety switch has not tripped.
- Check power and data cables for signs of damage. Replace cables if damaged.
- Inspect internal heat pump PCB for damage or blown fuse (NOTE: Ensure power is isolated and turned OFF before inspecting heat pump. Work should be performed by a qualified person).

Thermal cut out errors

- Check for poor filtration pump flow performance.
- Confirm ambient air temperatures are within operational limits.
- Confirm heat pump air space is clear and not obstructed by and vegetation or objects.

Troubleshooting
Not enough heating

Heat pump works normally but there is no or insufficient heating:

- First check the ambient temperature, water temperature, and estimate the related heating capacity.
- Check if the heat pump has a ventilation obstacle.
- Check the general power supply is correct and amperage draw from heat pump is as expected.
- Check the refrigerant inside is enough. If level is low find the gas leakage and recharge the unit.
- Lots of ice formation on evaporator.

Solutions:

- check the temperature sensors are calibrated.
- Insufficient air flow – check install location, confirm fan is working and remove any debris on or near evaporator.

Contact your spa reseller for further assistance

Troubleshooting
Heat pump error codes

If a heat pump fault condition is detected a hammer & spanner symbol appears on the SV touch pad display with a warning message scrolled across the LCD every 30 seconds. The heat pump is disabled until the mains power to the SV spa control is reset. Spa operation and heating will continue however the spa will now heat with the SV spa controls internal electric heating element and there will be no ability to cool the water.

⚠ WARNING

The heat pump warning message will continue to scroll every 30~60 seconds, and the heat pump will remain disabled until the mains power is turned OFF and back ON again.

A list of the fault conditions and warning messages are detailed below for reference.

ERROR message	Description
HEAT PUMP AMB	Ambient temperature sensor error
HEAT PUMP COND	Condenser/Evaporator temperature sensor error
HEAT PUMP FLOW	Water flow not detected
HEAT PUMP LOW P	Compressor low pressure switch open
HEAT PUMP HIGH P	Compressor high pressure switch open
HEAT PUMP COMP	Compressor thermal cut out open
HEAT PUMP EXCH	Heat exchanger thermal cut out open

Troubleshooting Tips

Trouble shooting tips for each error code are detailed below for reference:

HEAT PUMP AMB

No signal from ambient temperature sensor, or signal is corrupted

- Check ambient sensor is connected to heat pump pcb
- Inspect data cable for damage and check data cable connected correctly to SV spa control Check the general power supply is correct and amperage draw from heat pump is as expected.
- Disconnect/reconnect data cable from SV spa control and reset mains power.
- Replace data cable if problem unresolved (use double-shielded CAT5/CAT6 Ethernet cable).

HEAT PUMP CON

No signal from condenser temperature sensor, or signal is corrupted

- Check condenser sensor is connected to heat pump pcb
- Inspect data cable for damage and check data cable connected correctly to SV spa control
- Disconnect/reconnect data cable from SV spa control and reset mains power.
- Replace data cable if problem unresolved (use double-shielded CAT5/CAT6 Ethernet cable).

HEAT PUMP FLOW

No or insufficient water flow passing through heat pump.

- Refer water flow tips in first part of Troubleshooting section on prior pages.

HEAT PUMP LOW P

No signal from low pressure switch or insufficient refrigerant gas charge.

- Check low pressure switch is connected to heat pump pcb.
- Check refrigerant level, if low have heat pump checked by a refrigeration technician.

HEAT PUMP LOW P

No signal from low pressure switch or insufficient refrigerant gas charge.

- Check low pressure switch is connected to heat pump pcb.
- Check refrigerant level, if low have heat pump checked by a refrigeration technician.

HEAT PUMP HIGH P

No signal from high pressure switch or refrigerant pressure too high due to heat

- Check high pressure switch is connected to heat pump pcb.
- Check water flow is OK (low water flow rates could cause high pressure errors).
- Confirm ambient air temperatures are within operational limits and fan is working

Troubleshooting

NOTE:

In extreme environmental weather conditions (i.e. ambient temp > 38°C), depending on heat pump location & environment and nearby obstructions and air flow restrictions (i.e. fences, plants, walls) if the heat pump is used for COOLING, the refrigerant may exceed its working capacity and shut down on high pressure error. To prevent this, ***the heat pump should only be used for COOLING at times of day/ night when ambient temperatures are lower, and prior to extreme hot weather.***

HEAT PUMP COMP

Compressor has overheated or thermal cut out signal is corrupted

- Confirm ambient air temperatures are within operational limits and fan is working
- Turn mains power OFF, leave heat pump for 45 minutes for compressor to cool and test again
- Inspect data cable for damage and check data cable connected correctly to SV spa control
- Replace data cable if problem unresolved (use double-shielded CAT5/CAT6 Ethernet cable)

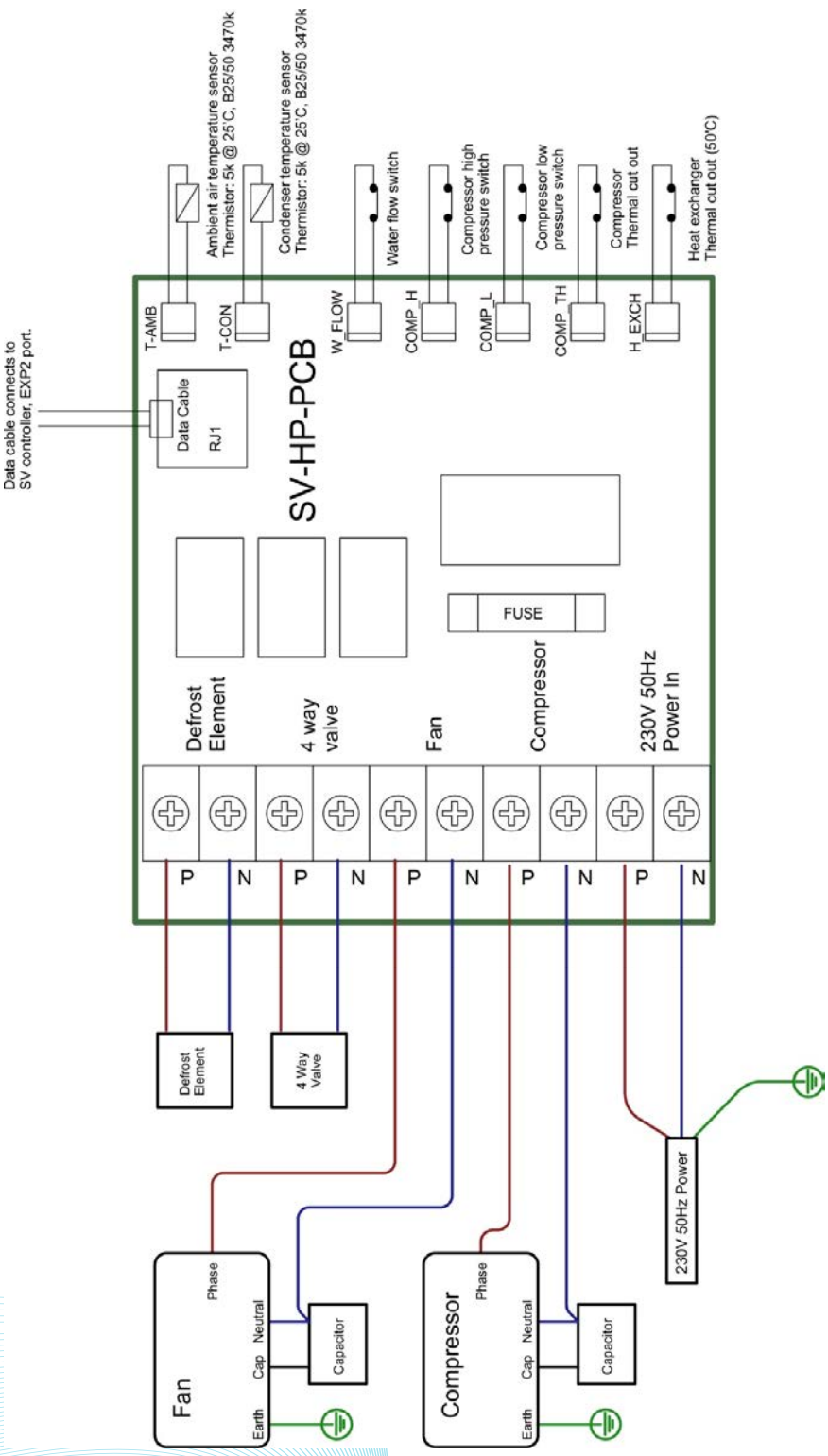
HEAT PUMP EXCH

Water temperature in heat exchange tank exceeds 50°C or thermal cut out signal is corrupted

- Check spa water level and ensure water flow from filtration pump is OK
- Clean or replace spa filter cartridges to improve water flow
- Inspect data cable for damage and check data cable connected correctly to SV spa control
- Replace data cable if problem unresolved (use double-shielded CAT5/CAT6 Ethernet cable)

If after following the troubleshooting tips and resetting mains power the fault condition persists please contact your spa reseller and report the warning message/error code that is shown.

Wiring diagram



NOTE: This diagram is correct at the time of publication, manufacturing changes could lead to modifications. Always refer to the diagram supplied with the heat pump.

* Conditions apply. Specifications may change without notice.

SpaNet™ Controller Warnings
SV Mini 1™, SV Mini 2™,SV2, SV3 & SV4

WARNING: RISK OF ELECTRICAL SHOCK

Please read the following before installing or connecting this appliance.

- All electrical connections must be performed by a licensed electrician and must confirm to all national, state and local electrical codes in effect at the time of installation.
- The appliance should be supplied through a residual current device (RCD) having a rated residual operating current not exceeding 30mA.
- The appliance must be connected to a suitable rated and weather protected power supply. The supply line should be a dedicated power circuit and means for disconnection must be incorporated in the fixed wiring in accordance with your local wiring regulations. Means for disconnection from the supply mains should have a contact separation in all poles that provide full disconnection under over voltage Category III conditions.
- Earthed appliances must be permanently connected to fixed wiring (European models only).
- The appliance contains no serviceable parts. Do not attempt service of this control pack. Contact your dealer or authorised service agent for assistance.
- Turn the mains power OFF before servicing appliance or modifying any cable connection.
- Suitable for indoor use only or when installed under a weatherproof spa skirt. The appliance should be installed in an enclosure such that all electrical connections cannot be accessible to the user without the use of a tool.
- Low voltage or improper wiring may cause damage to this appliance. Read and follow all wiring instructions when connecting to power supply.

Vortex™ Spas

SpaNet™ Controller Warnings

- Any damaged cable must be replaced immediately.
- To prevent electric shock hazard and/or water damage to this appliance, all unused receptacles must have a water proof seal in place.
- Parts incorporating electrical components must be located or fixed so that they cannot fall into the bath or spa.
- Parts containing live parts, except parts supplied with safety extra-low voltage not exceeding 12V must be inaccessible to a person in the bath or spa.
- This appliance must not be installed in proximity to highly flammable materials.
- Water temperature in excess of 38°C may cause hyperthermia (heat stress).
- It is the spa manufacturer's and/or installer's responsibility to select suitable loads and configure load shed settings (if required) to ensure the system does not exceed its rated maximum total load.
- It is the installer's responsibility to ensure the floor is capable of supporting the expected load of the bath or spa and an adequate drainage system has to be provided to deal with overflow water.
- A spa pool should incorporate a water filtration system where the required level of water purity can be achieved.
- An adequate drainage system has to be provided if the equipment is to be installed in a pit.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- Children should be supervised to ensure that they do not play with the appliance.

SpaNet™ Controller Warnings

SET THE DATE AND TIME BEFORE USING THE SPA

Be sure to set the date and time before operating the spa (refer to the Set Date/ Time section on this manual)
Vital control functions require the time and date to be set correctly.

POOR WATER MAINTENANCE CAN VOID YOUR WARRANTY

It is your responsibility to regularly check and maintain the chemical water balance of the spa pool to ensure it remains within reasonable levels as detailed in the 'Healthy spa water parameters' section in this manual. Unbalanced water chemistry greatly accelerates corrosion and may lead to early product or component failure. **Product or component failures caused as a result of poor water chemistry maintenance will NOT be covered by the Product Warranty.**

Vortex™ Spas

Turn On Power

Turn on power to spa at the home's circuit breaker and isolation switch. The heater and filter/circulation pump will automatically activate.

- The spa will prime and this can take a few minutes. Priming is the process of water flowing through the circulation pump into the plumbing and back into the spa. If the priming is successful, you will see bubbles floating up from the foot-well.

In the rare event that you see error 3 on the keypad during or after the priming has been activated:

- Disconnect the power to the spa.
- Remove the cabinet to expose the circulation pump. **NOTE:** *There is only one pump on* **Gemini™**
- Turn the barrel union on the top of the small circulation pump slightly until air hisses out and then only water comes out.
- Tighten the barrel union back up.
- Apply power to the spa.
- If you continue to get an Er-3, remove the filter where you inserted the hose to fill the spa and make sure the isolation valves are open (see 'Start-Up procedure section).
- If you still get an Er-3, contact your dealer.

If you see error 4 on the keypad

- Follow the same procedure for an Er- 3 but also loosen the heater barrel union until water comes out to remove any air.
- Apply power to the spa.
- If you continue to see an error 4, Er-4 on the control panels, contact your dealer.

Electrical installation

WARNING

- This appliance must be supplied through a residual current device (RCD) having a rated residual operating current not exceeding 30mA.
- Correct wiring of the main electricity board, RCD and spa pack is critical.
- When installing the appliance, refer to your local wiring regulations.
- It is recommended that when installing the mains power cable that a service loop (additional wire length for future serviceability) is provided.
- All electrical work must be performed by a licensed electrician in compliance with the local electrical regulations.

Electrical installation
SpaNet™ SV Mini 1™

IMPORTANT:

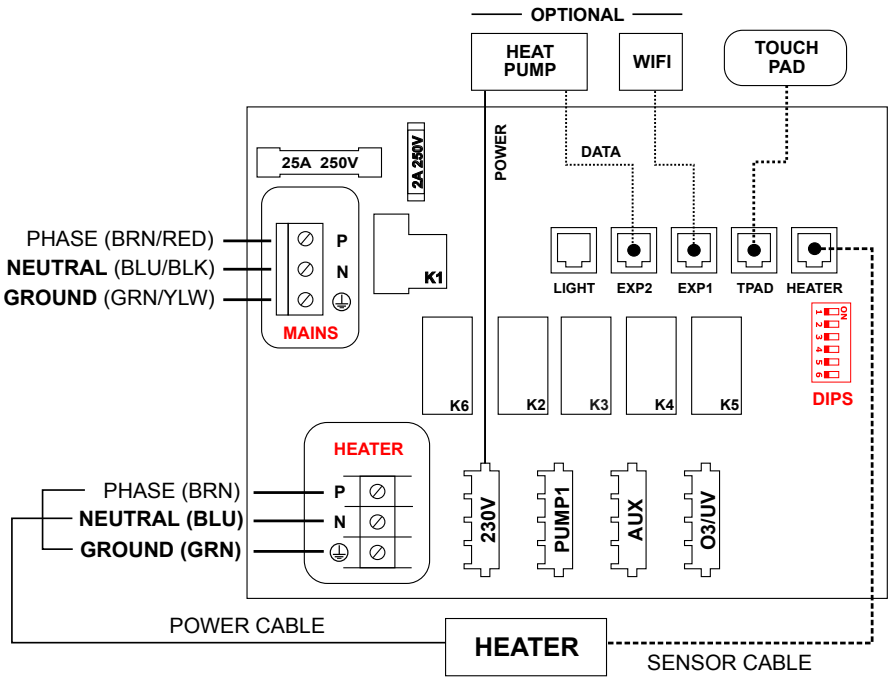
- All electrical connections must be performed by a licensed electrician and must conform to all national, state and local electrical codes in effect at the time of installation.
- The appliance should be supplied through a residual current device (RCD) havingna rated residual operating current not exceeding 30mA.
- The supply line should be a dedicated power circuit. The installer should consider the sum total load of all devices connected to the SV Mini controller when determining the size of the power circuit and install an appropriately sized circuit breaker to suit. Ensure circuit breaker is rated for motor start up currents.
  Maximum rated power circuit is 25A.
- Heater load shedding is set by default, so that the heater load sheds and turns off as soon as any device other than Pump 1 is switched on. The installer should consider this when determining the size of the power circuit required. Heater load shedding can be adjusted if desired.

Electrical specifications

Model	Max Current	Input Voltage	Phases	Hz	Heater Size
Mini 1 / Mini 2	25A	230-240V AC	1	50/60	1.5kW / 2.0 kW / 3.0kW

* Conditions apply. Specifications may change without notice.

Electrical Installation
SpaNet™ SV Mini 1™ Wiring



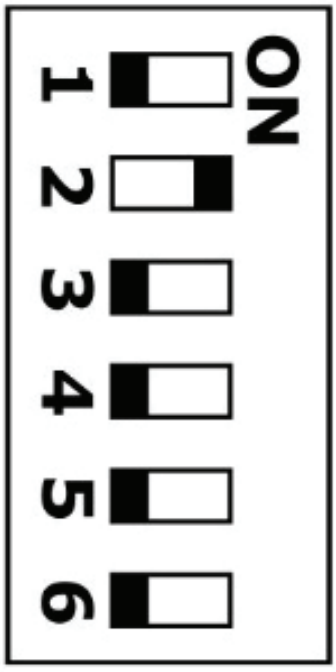
SV Mini 1 output ratings

Model	Outlet	Max Current	Output Voltage	Hz	Heater Size
SV Mini 1	230V	10A	230-240V AC	50/60	1.5kW / 2.0 kW / 3.0kW
	Pump 1	10A	230-240V AC	50/60	Circ / 2-spd or 1-spd Pump
	Aux	10A	230-240V AC	50/60	1-spd Pump / Air Blower
	03/UV	2A	230-240V AC	50/60	Ozone / UV Sanitiser

Vortex™ Spas

200 DIP Switches

The dip switches determine the configuration of pumps connected to the SV Mini controllers. The installer must correctly configure the dip switches to match the pump(s) connected to the spa controller. The dip switch bank (illustrated below) has six individual switches. Switches set to the right of the switch bank (away from the numbers) are in the ON position. Switches set to the left of the switch bank (closest to the numbers) are in the OFF position. Refer to diagram below for dip switch settings:



* Conditions apply. Specifications may change without notice.

DIP Switches

SW	Setting	OFF (left)	On (right)	Notes
1	Not used	-	-	-
2	Pump 1 Type	Single Speed	Two Speed	Determines if P1 = 1spd/2spd
3	Pump 3 Fitted *	Not Fitted	Fitted	Determines if P3 is connected
4	Not used	-	-	
5	Not used	-	-	
6	Not used	-	-	

** SpaNet™ SV Mini 2 models only*

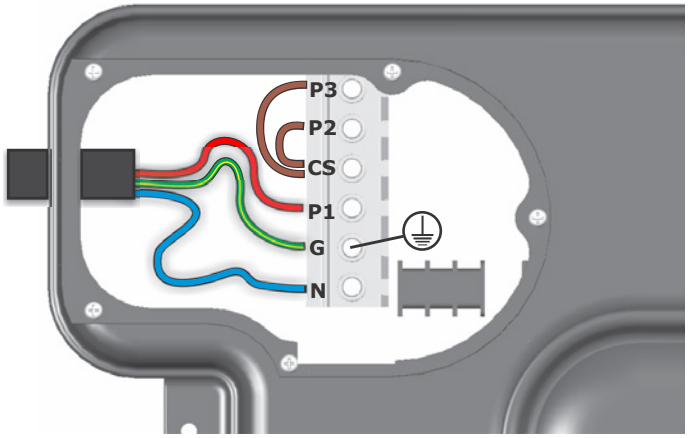
Note:
The dip switches will already be set by your spa manufacturer during production and should not require adjusting. This information is for reference when installing a new control to an existing spa.

Vortex™ Spas

Electrical Installation

SpaNet™ SV2, SV3 & SV4 Wiring

230-240V (3 wire) single phase

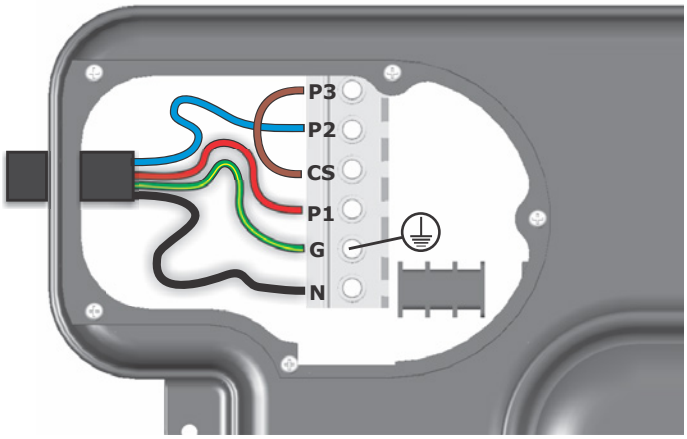


Terminal	Wiring
P3	Link to CS
P2	Link to CS
CS	Link to P3 and P2
P1	Phase
G	Earth
N	Neutral
Dip Switch 5	OFF
Dip Switch 6	OFF

* Conditions apply. Specifications may change without notice.

Electrical Installation

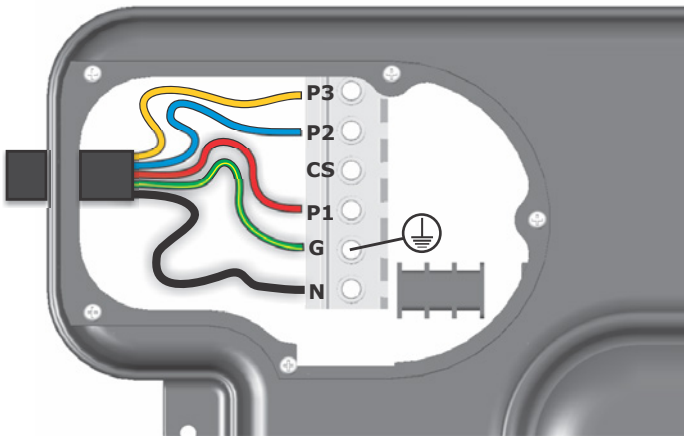
230-240V (4 wire) dual phase



Terminal	Wiring
P3	Link to CS
P2	Phase 2
CS	Link to P3
P1	Phase 1
G	Earth
N	Neutral
Dip Switch 5	ON
Dip Switch 6	OFF

Electrical Installation

230-240V (5 wire) three phase



Terminal	Wiring
P3	Phase 3
P2	Phase 2
CS	Not Used
P1	Phase 1
G	Earth
N	Neutral
Dip Switch 5	ON
Dip Switch 6	ON

* Conditions apply. Specifications may change without notice.

DIP Switches

System configuration

Basic spa configuration is achieved by setting dip switches. The dip switches determine pump configuration and select the number of input phases wired to the spa pack. The installer must correctly configure the dip switches to match the pump and power configuration connected to the spa pack.

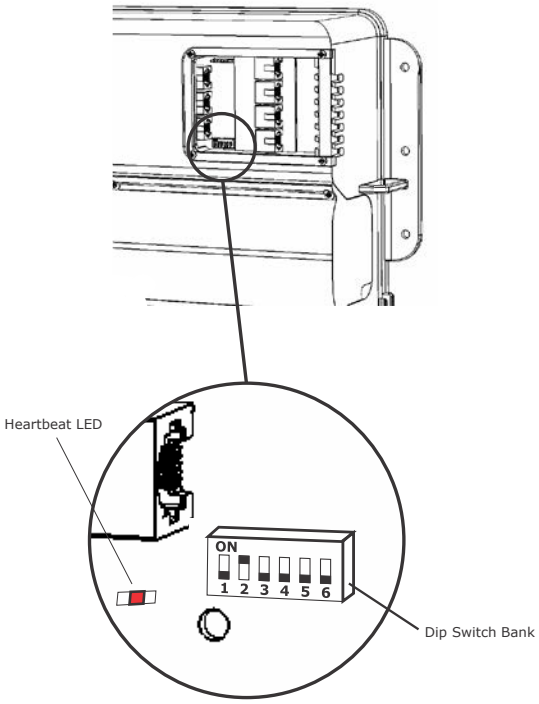
The dip switch bank (pictured right) has six individual switches. Switches set to the top of the switch bank are in the ON position. Switches set to the bottom of the switch bank (closest to the numbers) are in the OFF position. Refer to tables below for dip switch settings:

SW	Setting	OFF	ON	NOTES SV2/SV4 Models
1	Circ Fitted	Not Fitted	Fitted	
2	Pump 1 Type	Single Speed	Two Speed	If set to 'OFF' pump2 assumed fitted
3	Pump 3 Type	Single Speed	Two Speed	Not used on SV2/ SV2-VH models
4	Pump 4 Fitted	Not Fitted	Fitted	Not used on SV2/ SV2-VH models
5	Phase Selection	Single Phase	2/3 Phase	If set to 'ON' dip switch 6 is enabled
6	Multi Phase	Two Phase	Three Phase	

DIP Switches

SW	Setting	OFF	ON	NOTES SV2/SV4 Models
1	Circ Fitted	Not fitted	Fitted	
2	Pump 1 Type	Single Speed	Two Speed	If set to 'OFF' pump2 assumed fitted
3	Pump 3 Type	Not fitted	Fitted	
4	Not used	-	-	
5	Phase Selection	Single Phase	2/3 Phase	If set to 'ON' dip switch 6 is enabled
6	Multi Phase	Two Phase	Three Phase	

DIP Switches



Heartbeat LED

All SV model spa packs feature a heartbeat LED. The heartbeat LED flashes to indicate the current health/status of the spa pack. When the spa pack is functioning correctly with no errors to report the heartbeat LED emits a single flash in a constant pulse much like a heartbeat (ON, OFF, ON, OFF).

If the spa pack encounters a fault the heartbeat LED will begin flashing in sequence with the error code number being experienced (ie. ER2 = ON,ON; OFF ON,ON; OFF).

The heartbeat LED is located beside the bottom left hand corner of the dip switch bank and will emit its red flash through the tinted low voltage connection cover, making it clearly visible from the front of the spa pack.

SpaNet™ SV Mini1™ SV Mini2™

Top side panel layout

SpaNet™ SV Mini 1

DISPLAY MODE ICONS

- Water Temperature
- Set Temperature
- Clock

MENU ICONS

- Sleep timer menu icon
- Light menu icon
- Blower menu icon

STATUS ICONS

- Keypad locked
- Sanitise cycle operating
- Filtration cycle operating
- Fault condition has occured

1. UP button
2. DOWN button
3. OK button
4. Light On / Off
5. Pump A
6. Auxiliary
7. Auto Mode LED
8. Heater on LED
9. Sleep Cycle LED

* Conditions apply. Specifications may change without notice.

Topside panels

SpaNet™ SV Mini1™

LED Indicator lights

The topside panel function buttons (i.e. Pumps, Light, and Blower) feature a green LED light to clearly indicate whether the accessory is ON or OFF. The green LED will light up when the accessory is ON. In addition, the topside panels have three red indicator LEDs to advise the user the current status of the spa:

AUTO **Automatic mode**

The AUTO LED indicator turns ON when the filtration pump is in automatic mode. In automatic mode the filtration pump will turn on / off as required to satisfy heating and filtration requirements. If the filtration pump is manually turned on or off the AUTO LED indicator turns OFF. The control will automatically return to AUTO mode after a 45 minute idle timeout period if not returned to AUTO mode by the spa user.

Heater ON

The Heater LED indicator turns ON when the heater element is active. The heater is automatically controlled, it will turn ON and OFF as required (in conjunction with the filtration pump) to maintain the set water temperature. If the filtration pump is manually turned OFF the heater will NOT operate.

Topside panels

NOTE:
In some configurations, engaging high speed on a 2 speed pump or operating multiple pumps will cause the heater to load shed and turn OFF (even if heating is required) to keep the system within its rated power supply.

zZz Sleep cycle ON

The Sleep Cycle LED indicator turns ON when the spa control is within a designated sleep cycle (if set). During a sleep cycle, all automatic system operation will stop so that the spa is silent – i.e. filtration and heating will not occur.

Display modes

SpaNet™ SV Mini1™

The SV Mini has three (3) x display modes. The spa user can scroll through the different displays by pressing a short single press of either the UP or DOWN button. Each display has a unique icon to indicate the current mode being viewed. As you scroll through each mode a brief title screen will be shown followed by the actual display mode (note change in icon). The available display modes are as follows:

Icon	Title	Display	Notes
	W.TMP	Water Temperature	1. The default display mode is (W.TMP) water temperature.
	S.TMP	Set Temperature	2. There is a 10 second inactivity timeout on all non-default displays. No button press for 10 secs display reverts to default.
	TIME	Clock	3. If no icon is displayed the temp shown is from when the filter pump last ran. Once the filter pump next runs for 10 mins the temp will update and W.TMP icon will return.

OTHER DISPLAY ICONS

Filtration Cycle
The spa is carrying out filtration

Sanitise Cycle
The spa is carrying out a sanitisation cycle

Keypad Locked
The keypad has been locked

System Error
A fault has been detected. The system has halted operation so that corrective action can be taken. Take note of scrolling error code and consult trouble shooting section of this manual.

Vortex Spas

Setting Date/Time

Be sure to set the date and time before operating the spa. Vital functions such as filtration, sanitisation cycles and sleep timer settings depend on the time and date being set correctly.

- Press a short single press of the DOWN button to change display to Time/Clock setting.
- Press the OK button to enter date/time adjustment.
- The settings appear in the following order:

  Time Format (24 hr / 12 hr)
  Year (yyyy)
  Month (mm)
  Day (dd)
  Weekday (mon-sun)
  Hours (xx:oo)
  Minutes (oo:xx)

- Press the UP or DOWN buttons to adjust each setting.
- Press the OK button to confirm each setting and skip to the next one.
- Once the minutes have been selected and confirmed the system will exit the date/time adjustment and the display will return to the default display mode.

Setting Date/Time

NOTE:

1. *Leap years are taken into account.*
2. *The system does not automatically adjust for daylight savings times. User must adjust manually.*
3. *The date/time clock has a capacitor backup which will hold the date/time even if mains power is turned off. The capacitor backup will last 8-12 hours. If power remains off for longer than this period the date/time may need to be set again.*

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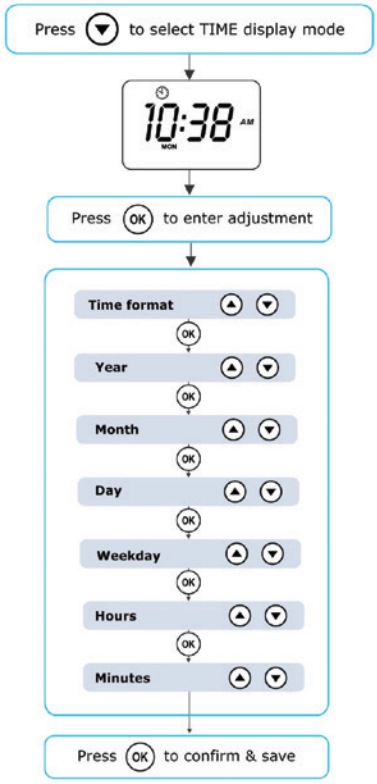
Automatic Heating/Filtration

SpaNet™ SV Mini 1™ & SV Mini 2™



Automatic heating/filtration

The SV Mini spa controls have been designed with simplicity in mind. Their intelligent software constantly monitors the spa water, automatically controlling the heater and filtration pump to ensure the desired set water temperature is maintained and required level of daily filtration achieved. With set-and-forget technology, the spa user simply selects their desired water temperature (10°C - 41°C. Default = 38°C) and thereafter the spa control will automatically heat to and maintain that selected water temperature. This is called demand heating - the filtration pump and heater will be activated when required to maintain the set water temperature.

* Conditions apply. Specifications may change without notice.

Automatic Heating/Filtration

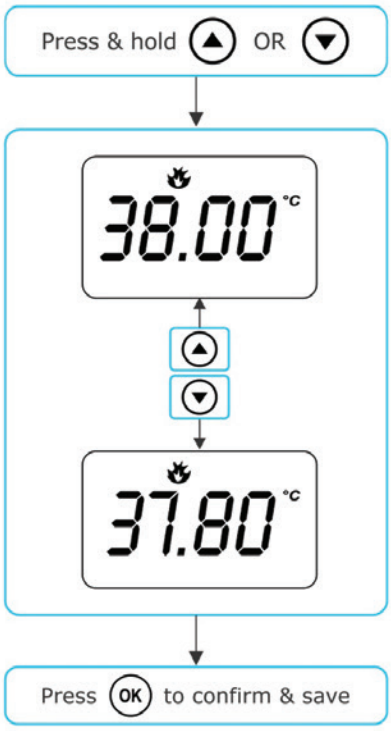
The time spent heating the pool and running the filtration pump under normal operation will be taken into account and where required the pump will run for additional periods every three hours to maintain the minimum level of daily filtration as set by the user.

Dependant on the amount of normal spa use, set water temperature, minimum hours of filtration per day, climatic conditions and season being experienced, the spa control will engage the heater and / or filtration pump for differing periods of time, at differing times of day. The advanced software constantly monitors and recalculates after each heating / filtration cycle to ensure the correct daily filtration time is achieved and desired set water temperature is maintained.

Unless adjusted the SV controller will automatically heat to and maintain the default temperature of 38°C. The water temperature set point can be adjusted from 10°C to 41°C in steps of 0.2°C increments.

Automatic Heating/Filtration

Adjusting set temperature



- Press and hold the UP or DOWN button to begin set temperature adjustment.
- The display will show the (S.TMP) set temperature indicator icon, the main digits flash and temperature will begin adjusting
- Press the UP or DOWN buttons to adjust the set temperature by 0.2°C increments to your desired temperature.
- Press OK to confirm and save setting, or wait for the 10 second idle timeout. The main digits will stop flashing and display returns to default display mode.

* Conditions apply. Specifications may change without notice.

Automatic Heating/Filtration

NOTE:

1. *During a heating cycle the SV Mini may raise the water temperature up to 0.5°C above set temperature point to provide an average water temperature of set point at most times.*
2. *If an optional heat pump is NOT fitted the spa controller has NO ability to cool the spa water. Lowering the set temperature point will NOT cause the water to cool.*
3. *If an optional heat pump IS fitted the spa water CAN be cooled as well as heated. Lowering the set temperature point will ensure the heat pump engages/disengages a cooling cycle (if required) to maintain the desired set water temperature so long as H.PMP mode is set to AUTO.*
4. *If the spa control has been in standby mode (idle) for some time and the set temperature point is adjusted, the filtration/circulation pump may run for up to ten (10) minutes to complete a mixing cycle before the heater / heat pump engages to heat or cool (heat pump only) the water. To skip this mixing cycle and begin heating/(cooling) immediately press the PUMP A button multiple times to toggle the filtration pump through ON/OFF/AUTO. Once AUTO is re-engaged the heater will activate immediately.*

Pump operation

SpaNet™ SV Mini 1™

A designated filtration pump (pump 1) will automatically switch on and off as required to perform filtration and heating functions. All pump(s) will also operate for a short period during the daily sanitise cycle. In addition, the following manual pump controls are provided and will override automatic control.

The pump buttons are located on the right-hand side of the topside panels. The functions of the pump buttons change depending on pump configuration, however the Pump-A button is used to control the filtration pump (pump 1). For every press of a pump button the screen will temporarily display the selected pump state: ON, OFF, LOW, HIGH or AUTO and then revert to the default display mode. Possible pump configurations & button sequences are referenced in the tables below:

SpaNet™ SV Mini 1 pump buttons

SPA CONFIGURATION	PUMP A BUTTON	AUXILIARY BUTTON
Pump 1 = 2 speed Aux = Not Fitted	**2 speed pump:** Low / High / Off / Auto	-
Pump 1 = 1 speed Aux = Not Fitted	**1 speed pump:** On / Off / Auto	-
Pump 1 = 2 speed Aux = 1 speed or Blower	**2 speed pump:** Low / High / Off / Auto	**1 speed pump or Blower:** On / Off
Pump 1 = Circ or 1 speed Aux = 1 speed or Blower	**Circ pump or 1 speed pump:** On / Off / Auto	**1 speed pump or Blower:** On / Off

* Conditions apply. Specifications may change without notice.

Pump operation

SpaNet™ SV Mini 2™

SpaNet™ SV Mini 2 pump buttons

SPA CONFIGURATION	PUMP A	PUMP B	PUMP C	AUXILIARY BUTTON
Pump 1 = 2 speed Pump 2 = 1 speed Pump 3 = Not Fitted Blower = Fitted	2 speed pump: Low / High / Off / Auto	1 speed: On / Off	-	Vari / Ramp /Off
Pump 1 = Circ or 1 spd Pump 2 = 1 speed Pump 3 = Not Fitted Blower = Fitted	Circ pump or 1 spd: On / Off / Auto	1 speed: On / Off	-	Vari / Ramp /Off
Pump 1 = Circ Pump 2 = 1 speed Pump 3 = 1 speed Blower = Not Fitted	Circ pump: On / Off / Auto	1 speed: On / Off	1 speed: On / Off	-
Pump 1 = Circ Pump 2 = 1 speed Pump 3 = 1 speed Blower = Not Fitted	Circ pump: On / Off / Auto	1 speed: On / Off	1 speed: On / Off	Vari / Ramp /Off

220 Pump operation

NOTE:

1. *If left ON, pumps automatically turn OFF after a 30 minute time-out period from the last button press.*
2. *If pump 1 is operating and heater is ON and pump is to be switched OFF, the pump will turn off after a 5 second delay – to allow the heater to cool down.*
3. *In some configurations, engaging high speed on a 2 speed pump or operating multiple pumps will cause the heater to load shed and turn OFF (even if heating is required) to keep the system within its available power supply.*

Blower operation

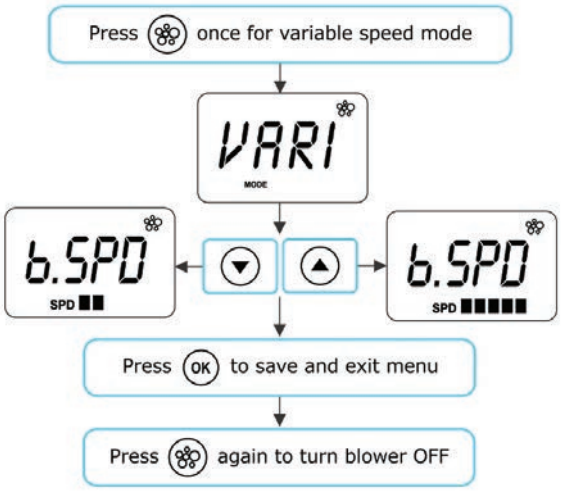
SpaNet™ SV Mini 2™

Blower operation SV Mini 2 models only

SV Mini 2 models feature a dedicated air blower power socket and button. The blower button is used to toggle the air blower ON/OFF and allow adjustment of the blower speed. The selected speed is saved and will be restored the next time the blower is turned on, for future on/off use. Two modes of operation are provided.

Variable speed mode

- Press the BLOWER button once to activate blower in variable speed mode
- Display will flash VARI then present the blower speed (b.SPD) adjustment men
- Press the UP or DOWN buttons to increase/decrease blower speed
- Press the OK button to confirm or wait for 10 second idle time-out
- Once running press the BLOWER button again to turn blower OFF

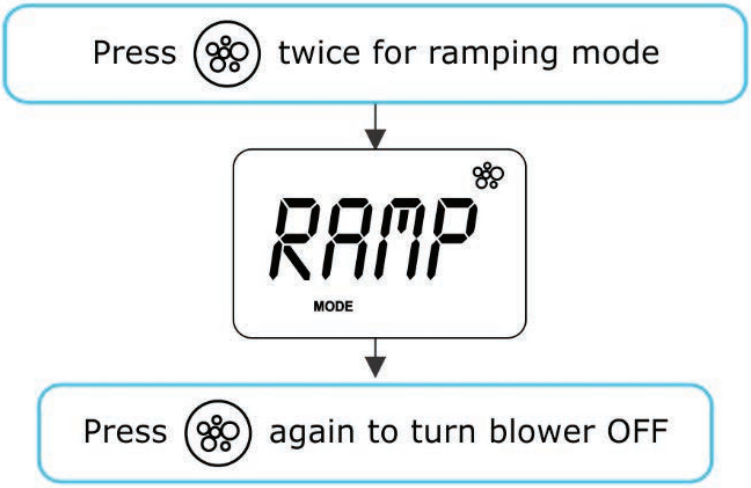


Vortex Spas

Blower operation

Ramping mode

- Press the BLOWER button TWICE to activate blower in ramping mode
- Display will flash RAMP and blower operates in a ramping speed manner
- Once running press the BLOWER button again to turn blower OFF



NOTE:

1. *When blower is first turned ON it will always run at maximum speed for 3-4 seconds before changing to the last used speed.*
2. *If left ON, blower will automatically turn OFF after a 30 minute time-out period from the last button press.*

Light operation

SpaNet™ SV Mini 1™ & SV Mini 2™

Multi-colour LED lighting effects

The light button is used to toggle the spa light(s) ON / OFF and to access the light mode menus. The features that can be adjusted are the light colour, light effect mode, light effect transition speed, and light brightness. All light settings are saved and will be restored the next time the light is turned ON, for future ON / OFF use.

Selecting light colour or effect mode

Press the LIGHT button to turn light(s) on/off => light will display last used light mode. If no changes are required there is no need to do anything further. If however you wish to adjust the light settings refer below:

Use the UP or DOWN buttons to toggle between the two light modes:

Title	Mode	Description
U.CLR	User Colour	Select from 7 possible colours
FADE	Fade Effect	Fade transition through all colours

Vortex™ Spas

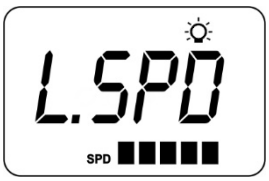
Light operation

User colour mode

If user colour mode is selected press OK or wait 10 seconds for the display to show the current selected colour number. There are 7 colours to choose from (CL:00 – CL:07). Use the UP or DOWN buttons to adjust the colour. Press OK to confirm and skip to the light brightness adjustment or wait for the 10 second inactivity time out.

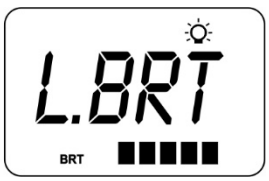
Fade effect mode

If fade effect mode is selected press OK or wait 10 seconds for the display to show the light speed (L.SPD) adjustment screen where the speed of the fade transition between colours can be adjusted. Use the UP or DOWN buttons to increase or decrease the transition speed to your desired level. Press OK to confirm and skip to the light brightness adjustment or wait for the 10 second inactivity time out inactivity time out.



Light brightness

Once light mode and colour or light speed has been selected the controller offers a light brightness adjustment. Use the UP or DOWN buttons to increase/decrease the light brightness to your desired level. Press OK to confirm or wait for the 10 second inactivity timeout.



* Conditions apply. Specifications may change without notice.

Light operation

NOTE:

1. *The light mode / user colour / light speed / light brightness adjustment screens are only displayed for 10 seconds each when the light(s) are first turned ON. If no adjustment is made the light(s) will run as per the last used settings, and the screen will time-out and revert to the default display mode. If you wish to adjust the light(s) settings once the light(s) have been running for a period of time, the light(s) must be turned OFF and back ON again to restore the light mode adjustment screens.*
2. *If left ON, the light(s) will automatically turn OFF after a 45 minute time out period from the last button press.*

Keylock function

SpaNet™ SV Mini 1™ & SV Mini 2™

How to set full or partial keylock

The keypad buttons can be locked to prevent accidental key presses or to limit access to certain controller functions. This feature is helpful where children are present or spa is used by many people.

There are two types of keylock:

Full Lock	All buttons are disabled.
Partial Lock	Allows use of pumps, blower, and light butlocks out settings and temperature adjustments.

Full Lock

Press and hold UP + DOWN + PUMP A until LOCK appears on the display

Once locked if any button is pressed the key stroke will be ignored and display will show LOCK

Keylock function

Partial keylock

• Press and hold UP + DOWN + PUMP B until LOCK appears on the display

• Once locked only pumps, blower, and light can be used. Other key strokes will be ignored and display will show LOCK

• To unlock press and hold UP + DOWN + PUMP B

AUTO daily sanitise

The controller will automatically run a 10 minute sanitise cycle every day at 9:00am. This sanitisation cycle runs the filtration pump and ozone/UV (if fitted) to filter the pool water to restore and refresh water quality. If pump 1 is a 2 speed pump the pump will run in high speed for the duration of the cycle. In addition at the start and end of the cycle the controller will sequentially run any additional accessories (auxiliary, pump2, pump3 or blower if fitted) for one minute each to purge the plumbing and clear any unfiltered water trapped in those accessory lines.

NOTE:

1. *If the controller is in a programmed sleep period at 9:00am it will wait until the sleep period ends before the daily sanitise cycle runs.*
2. *If the spa is in use prior to the 9:00am sanitise cycle start time the cycle is cancelled for the day. Spa in use = button has been pressed and spa has not had the 45 minute inactivity time out expire since the last button press.*

Set-up Menu

The SV Mini controllers feature a setup menu which allows customisation of adjustable software settings. These settings do not need to be modified often and in most cases the default settings are all that is required, however if the spa owner wishes to customise any settings it is completed through the setup menu.

- To access the setup menu press and hold the **UP + DOWN** buttons simultaneously until display shows **FILT**
- Use the **UP** or **DOWN** buttons to navigate through setup menu items
- Press the **OK** button to enter setting adjustments
- Press the **UP** or **DOWN** buttons to adjust setting
- Press the **OK** button to confirm and save the setting adjustment

Refer table on the following page for details on setup menu items.

Vortex™ Spas

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NOTE:

1. *The setup menu settings are stored in non-volatile memory (EEPROM) and are remembered when the mains power is turned OFF. No need to reprogram settings when power is restored.*

2. *A ten (10) second idle menu time out period exists. If a button press is not detected for 10 seconds the menu will time out and the screen will return to the default display mode.*

Set-up Menu

SpaNet™ SV Mini 1™ & SV Mini 2™

Item	Settings	Notes
FILT	Hours of filtration per day	Adjustable from 1 to 24 hours
SNZE	Sleep Timer Menu	
1.SNZ	Sleep timer 1	[1.DAY] Days of week, [1.BGN] Begin Time, [1.END] End Time
D.DIS	Default display mode	Water Temp (W.TMP) / Set Temp (S.TMP) / Clock (TIME)
WIFI	WiFi Setup Menu	
HOT	Hot spot mode	Activates hot spot mode for WiFi setup process
INFR	Infrastructure mode	Force a disconnect/reconnect to WiFi server to refresh connection
RSET	Reset WiFi module	Deletes all settings and prepares WiFi module for setup process
H.PMP*	Heat pump mode	Auto (heat & cool) / Heat only / Cool only / Off (HP disabled)
H.ELE*	HP + element boost	Off = heat pump only, electric heater disabled (default setting) On = heat pump + electric heater combined for heating

** H.PMP and H.ELE setup menu items will only be visable if a SV Series heat pump is installed and connected to the SV Mini control.*

Vortex™ Spas

Set-up Menu

FILT – Filtration (total hours per day)

Automatic filtration is provided to ensure that the pool water is filtered for at least a minimum number of hours each day. Total daily runtime can be adjusted from 1-24 hours (default = 2 hours). Total filtration runtime is broken into smaller blocks which occur every three hours. All time spent running the pump under normal operation (manual use, heating, sanitise cycle) will be taken into account and where required the pump will run for additional periods throughout the day to maintain the minimum level of daily filtration as specified by the user.

SNZE – Sleep Timer

The sleep timer is a very handy feature that enables the user to stop all spa activity and silence the spa during certain times of day or night. While the controller is sleeping NO automatic heating or filtration maintenance will occur, however the spa can still be operated by manual use without the need to adjust sleep time settings. The sleep timer setup consists of defining days of operation and begin time and end time of sleep period. Use the UP or DOWN button to adjust each setting within the sleep setup and press OK to confirm and skip to the next setting. Sleep timer settings are referenced in this table:

Title	Settings	Options
1.DAY	Selected days of operation	Sat-Fri (7 days), Sat-Sun (weekend), Mon-Fri (weekdays), OFF
1.BGN	Time sleep period begins	Adjustable to any time 0:00 to 23:59 (Default = 22:00 PM)
1.END	Time sleep period begins	Adjustable to any time 0:00 to 23:59 (Default = 07:00 AM)

Set-up Menu

NOTE:

1. *SV Mini is preset with a default sleep timer – 7 days a week, begin 22:00 (10PM), end 07:00 (7AM)*
2. *Set 1.DAY=OFF to disable sleep timer*
3. *If spa in use at begin time of sleep period, spa will not sleep until 45 min inactivity timeout has elapsed*

D.DIS – Default Display

The user can adjust the default display mode to show their preferred selection of either: W.TMP (water temperature), S.TMP (set temperature) or TIME (current time and day).

WIFI – WiFi Setup

This menu is only of use if the optional SpaNET™ SmartLINK™ or SmartSTREAM™ WiFi module has been installed and connected to the SV Mini. This menu has three commands that can be executed. Use the UP or DOWN buttons to select desired command and press the OK button to execute – display will show WAIT whilst the WiFi module carries out the command.

HOT Puts WiFi module in hot spot mode for initial app setup. **Note:** Once initial app setup has been completed if the HOT command is executed again all WiFi settings Once locked if any button is pressed the key stroke will.

Set-up Menu

INFR Forces WiFi module to disconnect/reconnect from the SpaNET™ app server to refresh connection if spa is not automatically coming online once the app setup process has been completed.

RSET Deletes programmed settings from WiFi module and returns the module to its factory default state.
Note: If this command is executed settings are lost and the app setup process must be run again.

H.PMP – Heat Pump Mode

This setting is only visible if a SV Series heat pump is connected and defines heat pump
operating mode.

The available operating modes are as follows:

AUTO Heat pump will heat and cool
HEAT Heat pump will only heat (Default)
COOL Heat pump will only cool
OFF Heat pump disabled

H.ELE – Heat Pump + SV Element Boost

This setting is only visible if a SV Series heat pump is connected and defines how the SV Mini electric heating element operates with a heat pump. By default, this setting is set to OFF which disables the electric heater using only the heat pump for heating. Set to ON to allow the electric element to run in conjunction with the heat pump to boost heating speed if the water temperature is 2°C or more below set temperature point or the heat pump has been operating for more than 1 hour and set point has not been achieved. The H.ELE setting choices are:

OFF SV element disabled (heat pump only)
ON SV element + Heat Pump for heating

Heating control and protection

Fast heat cycle

After initial mains power on the SV Mini will perform a fast heat up cycle that enables continuous demand heating regardless of programmed/default sleep timer. Once the set temperature has been reached the fast heat up cycle is cancelled and normal operation resumes and sleep timer is obeyed. The purpose of a fast heat up cycle is to help the spa reach set temperature as soon as possible after it has been powered up. For new spas or spas refilled with cold water it is desirable not to have sleep time delaying the time to takes for the spa to reach set temperature point.

NOTE:

1. *A fast heat up cycle is cancel by manually forcing the filtration pump to OFF via the keypad.*
2. *For new spas or when a spa has just been refilled it is common for spa users to test the operation of each pump when the power is first turned on. This process will cancel the fast heat up cycle. After completing testing of the spa functions remember to reset mains power if you wish to reactivate fast heat up cycle.*

Heating control and protection

Freeze protection

Freeze protection will be activated whenever the water temperature drops below 4°C. It runs back to back 10 minute sanitise cycles and displays **“WARM”** on the LCD. It also runs each spa accessory (i.e. jet pumps and air blower) in sequence to run water through the pipe work whilst running the filtration pump and heater. During the “WARM” cycle the heater and heat pump (if fitted) will operate however heater load shedding may occur when accessory pumps are running depending on control and load shed settings.

At the end of each 10 minute **“WARM”** cycle the water temperature is checked. If it is above 4°C freeze protection stops and the controller returns to its prior state. If the temperature is not above 4°C another cycle will run.

NOTE:

Freeze protection overrides the sleep timer– if the water temperature drops below 4°C and the controller is in a sleep period it will wake up. So even if high amounts of sleep time and a low set temperature point have been programmed the SV Mini will always maintain the water temperature at least above 4°C.

Heating control and protection

Defrost cycle (heat pump models only)

During periods of low ambient temperatures defrost cycles may be required to prevent the heat pump's condenser from freezing. Ambient and condenser temperatures are constantly monitored and defrost cycles will be automatically activated if certain conditions are met. Defrost cycles run for a minimum of 3 minutes to a maximum of 10 min.

Overheat protection

All SV controllers feature three forms of overheat protection:

1. If sensed water temperature within the heater unit exceeds safe working limits the heating element will be disabled and the controller will shut down and latch fault code (ER4 - Thermal Trip). Normal operation will not resume until heater element has cooled and main power is reset.

2. If sensed water temperature exceeds 42°C filtration is stopped until the temperature falls below 42°C to prevent heat rise from filtration pump operation.

3. If sensed water temperature exceeds 45°C the controller will shut down and latch fault code (Er5 - Pool too hot). Normal operation will not resume until mains power is reset. SV spa controllers feature self-diagnostics and scrolling error messages to quickly troubleshoot possible problems. Should the spa control encounter a problem the error code / message will scroll across the topside panel screen until the problem is resolved. If an error condition is experienced all spa functions are shut down and the spa should not be used until the error condition has been resolved. A list of error codes with descriptions of problems and possible solutions is detailed below for your reference.

Error codes/Troubleshooting

SpaNet™ SV Mini 1™ & SV Mini 2™

IMPORTANT NOTE:

For most error codes mains power to the spa control must be turned OFF and then back ON before the error condition will be cleared. Before attempting any troubleshooting always ensure mains power is isolated and turned OFF.

Heartbeat LED

All SV Mini spa packs feature a red flashing heartbeat LED light. The heartbeat LED is located on the main printed circuit board of the spa pack itself (spa pack enclosure cover needs to be removed).

The heartbeat LED flashes to indicate the current health/ status of the spa pack. When the spa pack is functioning correctly with no errors to report the heartbeat LED emits a single flash in a constant pulse much like a heartbeat (ON, OFF, ON, OFF). If the spa pack encounters a fault the heartbeat LED will begin flashing in sequence with the error code number being experienced (ie. ER2 = ON,ON; OFF ON,ON; OFF).

If the keypad display is ever blank a spa user can still determine the health / status of the SV Mini controller by removing a panel from the spa skirt and checking the heartbeat LED on the front of the spa pack itself.

Error Codes/Troubleshooting

ER-2 HEATER PLUG

Problem: No heater sensor communication

Cause: Heater sensor communication problem. Sensor cable is not correctly connected to spa control or is damaged

Solutions:

- Turn mains power OFF, remove spa cabinet panel and SV Mini enclosure cover
- Check heater sensor cable is firmly plugged into spa control socket label HEATER
- Unplug and re-plug heater sensor cable to re-establish connection to spa control
- Check for damage to sensor lead, replace covers and test spa again
- Contact spa reseller if problem is not resolved

ER-3 WATER PRIME

Problem: Water prime failed – air detected in heater tube

Cause: Airlock in pipe work, low water level, dirty filter cartridges

Solutions:

- Press Pump A button to retry water prime
- Check spa water level (refill if necessary)
- Remove filter cartridges and press Pump A button to retry prime
- Bleed airlock from pipe work by slightly loosening couplings on front of filtration pump
- Remove filter cartridges and flush water down pipe work with a hose

Error Codes/Troubleshooting

ER-4 THERMAL TRIP

Problem: Heater thermal trip activated. Heater has been active and has had insufficient water flow over the element. Low or no water flow has caused the heater temperature to exceed its maximum limits and the spa control has shut down operation to prevent any damage to the heater unit.

Cause: Low water level, airlock in pipe work, closed shut-off valves, dirty filter cartridges, filtration pump failed or operation intermittent

Solutions:

- Turn mains power OFF and wait 20-30 minutes for element to cool and thermal cut-out device to reset. Then turn power back ON
- Check spa water level (refill if necessary)
- Remove filter cartridges and clean as per manufacturer's recommendations or replace cartridges if required
- Check under spa cabinet to ensure all shut-off valves are in the OPEN position
- Bleed airlock from pipe work by slightly loosening couplings on front of filtration pump or by removing filters and flushing water down pipe work with a hose
- Contact your spa reseller if problem persists

Error Codes/Troubleshooting

ER-5 POOL TOO HOT

Problem: Pool over temperature. Temperature sensor reading ≥ 45°C.

Cause: High ambient temperatures (especially in summer months) have caused water temperature to rise above set temp point, Excessive filtration time, Jet pumps have been operating for extended periods with the spa cover still on.

Solutions:

- Turn mains power OFF, remove spa cover, allow spa to cool then turn power back ON
- Check daily filtration time (refer filtration section) and reduce daily filtration time if required
- Check spa cover is not resting on topside panel buttons causing jet pumps to start when cover is on. Use keylock function to lock keypad buttons when spa not in use
- Contact your spa reseller if problem persists

Error Codes/Troubleshooting

ER-6 12V OVERLOAD

Problem: 12V (port) current draw over 1A limit

Cause: Total 12V current drawn by keypad(s), light(s), expansion ports and in pool temp sensor is excessive, 12V power supply is overloaded, too many LED light bulbs installed, faulty LED light

Solutions:

- Turn mains power OFF and restart spa to see if problem reoccurs
- Perform EPRM software reset to factory defaults
- Reduce number of LED lights connected to spa control
- Systematically unplug lights, keypads and expansion port loads from spa pack (one by one) to identify the faulty 12V device
- Contact spa reseller if problem is not resolved

ER-8 CTRL FAULT HVS

Problem: Heater relay is on when it should be off

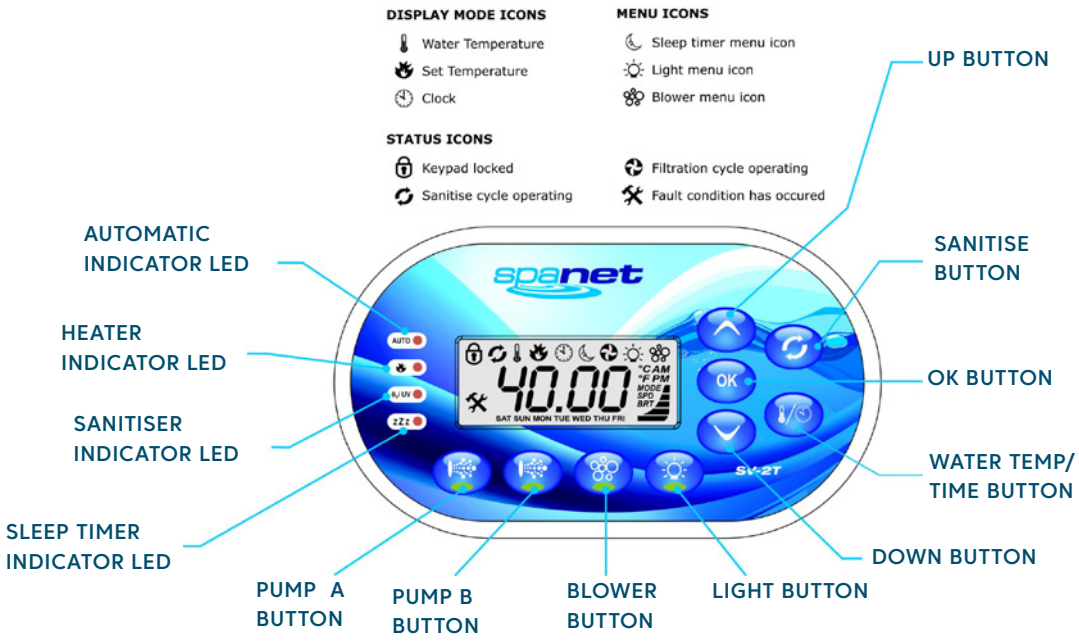
Cause: Power surge, periods of low or high voltage, water on spa pack terminal block, relay fault

Solutions:

- Turn mains power OFF and back ON again to see if spa control recovers from ER8 fault
- Inspect under spa cabinet for evidence of water leaking onto spa control. If water present, turn mains power OFF and isolate, then resolve leak, dry up excess water, and allow spa control to dry out before restoring power.
- Contact spa reseller if problem is not resolved

SpaNet™ SV2

Buttons and indicator LEDs



AUTOMATIC INDICATOR LED: This LED will turn on whenever the filtration pump is in automatic mode.

HEATER INDICATOR LED: This LED will turn on when the heater or heat pump (if fitted) is operating.

SANITISER INDICATOR LED: This LED will turn on to indicate that the ozone or uv sanitiser unit is operating (if fitted).

SLEEP TIMER INDICATOR LED: This LED will turn on when the controller is in a sleep mode.

PUMP A BUTTON: Used to toggle the filtration pump on/off/auto.

PUMP B BUTTON: Used to toggle any additional jet pump on / off (if fitted).

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SpaNet™ SV2

BLOWER BUTTON: Press to toggle blower on/off. A single press turns blower on in vari-speed mode. Use up & down buttons to vary speed. A double press activates the ramping mode.

LIGHT BUTTON: Press to toggle spa lights on / off. When light is first turned on the user has the ability to adjust the light effect mode or colour via the up, down & OK buttons.

DOWN BUTTON: Short single presses toggle through the three display modes:

W.TMP = Water Temperature, S.TMP = Set Temperature,

TIME = Clock.

Holding the button will force the controller to begin adjusting the set temperature and will lower the set temperature point. Also used for adjusting settings.

WATER TEMP / TIME BUTTON: A shortcut key designed to quickly toggle between actual water temperature and time display modes.

OK BUTTON: Used to confirm and save setting adjustments or to enter setting adjustment menus.

SANITISE BUTTON: Press once to activate a 20 minute sanitisation and clean up cycle to refresh water quality after spa use. A second press will cancel the cycle if already running.

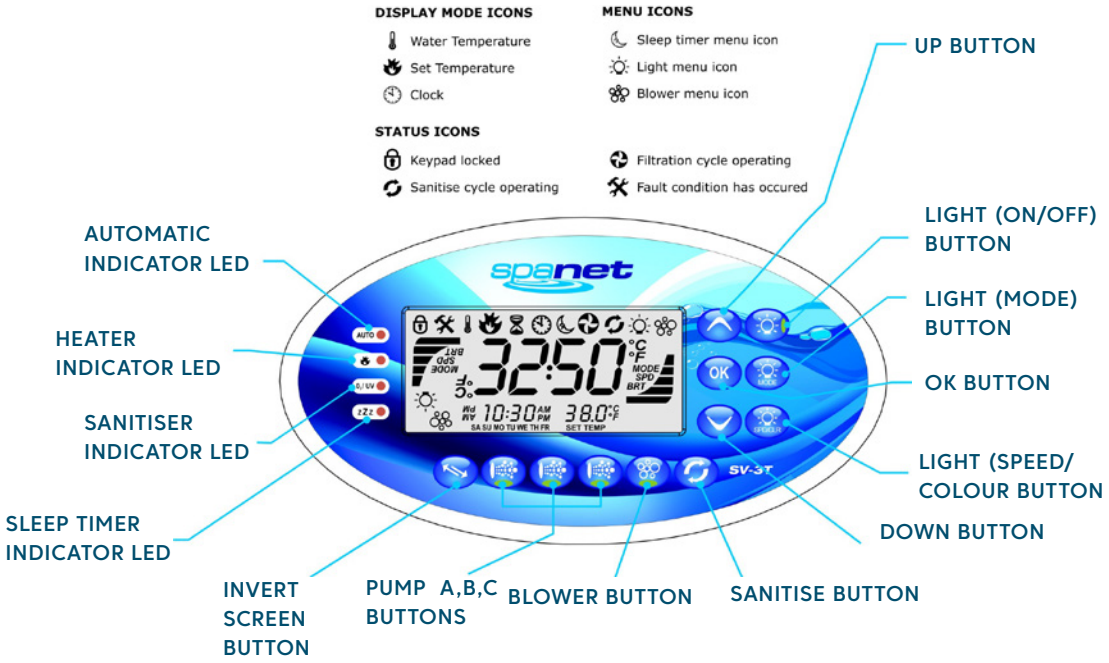
UP BUTTON: Short single presses toggle through the three display modes:

W.TMP = Water Temperature, **S.TMP** = Set Temperature,
TIME = Clock.

Holding the button will force the controller to begin adjusting the set temperature and will raise the set temperature point. Also used for adjusting settings.

SpaNet™ SV3

Buttons and indicator LEDs



AUTOMATIC INDICATOR LED: This LED will turn on whenever the filtration pump is in automatic mode.

HEATER INDICATOR LED: This LED will turn on when the heater or heat pump (if fitted) is operating.

SANITISER INDICATOR LED: This LED will turn on to indicate that the ozone or uv sanitiser unit is operating (if fitted).

SLEEP TIMER INDICATOR LED: **This LED will turn on when the controller is in a sleep mode.**

INVERT SCREEN BUTTON: Press to flip screen 180° for easy viewing when spa in use.

Vortex™ Spas

SpaNet™ SV3

PUMP (A, B, C) BUTTON: Used to toggle filtration pump and / or any additional jet pump(is on / off (if fitted).
BLOWER BUTTON: Press to toggle blower on/off. A single press turns blower on in vari-speed mode. Use up & down buttons to vary speed. A double press activates the ramping mode.

SANITISE BUTTON: Press once to activate a 20 minute saniti-sation and clean up cycle to refresh water quality after spa use. A second press will cancel the cycle if already running.

DOWN BUTTON: Short single presses toggle through the three display modes:

W.TMP = Water Temperature, S.TMP = Set Temperature, TIME = Clock.

Holding the button will force the controller to begin adjust-ing the set temperature and will lower the set temperature point. Also used for adjusting settings.

LIGHT (SPEED/COLOUR) BUTTON: Press to activate light speed or user colour selection menus. Use up & down but-tons to adjust.

OK BUTTON: Used to confirm and save setting adjustments or to enter setting adjustment menus.

LIGHT (MODE) BUTTON: Press to activate light mode menu & use up & down buttons to select one of five different lighting effect modes.

LIGHT (ON/OFF) BUTTON: Press to toggle spa lights on / off.

UP BUTTON: Short single presses toggle through the three display modes:

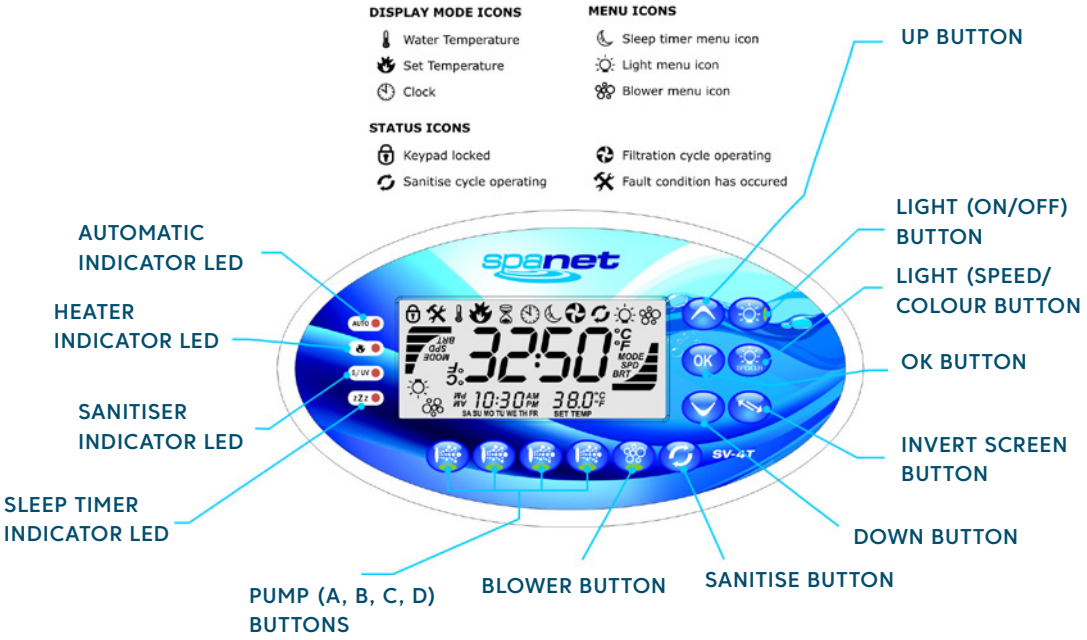
W.TMP = Water Temperature, S.TMP = Set Temperature, TIME = Clock.

Holding the button will force the controller to begin adjusting the set temperature and will raise the set temperature point. Also used for adjusting settings.

* Conditions apply. Specifications may change without notice.

SpaNet™ SV4

Buttons and indicator LEDs



AUTOMATIC INDICATOR LED: This LED will turn on whenever the filtration pump is in automatic mode.

HEATER INDICATOR LED: This LED will turn on when the heat-er or heat pump (if fitted) is operating.

SANITISER INDICATOR LED: This LED will turn on to indicate that the ozone or uv sanitiser unit is operating (if fitted).

SLEEP TIMER INDICATOR LED: This LED will turn on when the controller is in a sleep mode.

PUMP (A, B, C, D) BUTTON: Used to toggle filtration pump and / or any additional jet pump(s) on / off (if fitted).

Vortex Spas

SpaNet™ SV3

Buttons and indicator LEDs

BLOWER BUTTON: Press to toggle blower on/off. A single press turns blower on in vari-speed mode. Use up & down buttons to vary speed. A double press activates the ramping mode.

SANITISE BUTTON: Press once to activate a 20 minute sanitisation and clean up cycle to refresh water quality after spa use. A second press will cancel the cycle if already running.

DOWN BUTTON: Short single presses toggle through the three display modes:

W.TMP = Water Temperature, S.TMP = Set Temperature, TIME = Clock.

Holding the button will force the controller to begin adjusting the set temperature and will lower the set temperature point. Also used for adjusting settings.

INVERT SCREEN BUTTON: Press to flip screen 180° for easy viewing when spa in use.

OK BUTTON: Used to confirm and save setting adjustments or to enter setting adjustment menus.

LIGHT (SPEED/COLOUR) BUTTON: Press to activate light speed or user colour selection menus. Use up & down buttons to adjust.

LIGHT (ON/OFF) BUTTON: Press to toggle spa lights on / off.

UP BUTTON: Short single presses toggle through the three display modes:

W.TMP = Water Temperature, **S.TMP** = Set Temperature, **TIME** = Clock.

Holding the button will force the controller to begin adjusting the set temperature and will raise the set temperature point. Also used for adjusting settings. Purge air from plumbing system.

SpaNet™ SV2, SV3, SV4 Instructions

Power SMART

Welcome to the eco-friendly world of power smart spa controls with the SV Series from SpaNET™. Sophisticated real-time current sensing and variable heater technology allows the SV to make optimum use of any available power supply. Multi-phase capable, the SV Series also provides flexibility with connection to mains power supplies supporting connection to 1,2 or 3 phases from 10 to 60A. Add in the host of exclusive PowerSMART energy saving features such as the dedicated heat pump interface, Dynamic Thermal Tuning, Off-Peak PowerSAVE software, and user-adjustable heating modes and the SpaNET™ SV Series stands apart from all rivals as the most power efficient spa control available that provides the lowest possible daily operating cost.

Variable heater

Most SV Series controller models feature SpaNET's innovative variable heater technology. With real-time current sensing the variable heater will automatically alter its power level (kW) to match the residual power available (amperage) after considering any operating accessory loads (i.e. jet pumps, air blowers). The benefit is that you can take advantage of a larger heater size for faster heat recovery and rest easy knowing this same heater will automatically reduce its size to maximise heating input when accessory loads are operating. The variable heater is automatically controlled and does not require adjustment. SV Series spa controller models that include the variable heater can be identified by a "–VH" suffix to the controller model number (i.e. SV3-VH).

Heat pump interface

The SV Series spa controls are the first in the world to feature a dedicated expansion module for seamless integration of an energy efficient heat pump to the spa heating / cooling control system. The SV heat pump interface revolutionises spa temperature control. We can now offer both automatic

Features overview

heating and cooling of the spa water (from 10°C - 40°C) all conveniently controlled via the spa-side keypad, whilst also providing greatly reduced heat recovery times which can be further reduced with the exclusive SV element boost and fast heat up cycle options. The SpaNET™ SV heat pump technology maintains your spa's water temperature using around 75% less energy than a conventional electric heater resulting in an eco-friendly and amazingly cost efficient appliance. If connected, the heat pump will automatically be controlled by the SV Series spa controller. If the temperature is adjusted the control system automatically responds and will use the heat pump to heat or cool where required to regulate the water to the new set temperature point. With solid state diagnostics and real time heat pump monitoring the SV series control system correctly looks after every need of the heat pump ensuring long term reliability whilst delivering absolute minimum operating costs.

Dynamic thermal tuning

No two spas are the same when it comes to thermal performance and heat retention. The SV control system will automatically adapt and tune itself to the thermal properties of your spa pool in its environment, day to day, season to season, to reduce demand heat cycling. Dynamic Thermal Tuning provides optimal thermal regulation whilst minimising power usage, resulting in lower daily operating costs.

Power SAVE (Off-peak filtration and heating)

Enjoy the benefits of greatly reduced off peak power tariffs to lower your spa's daily operating cost. The SV PowerSAVE technology controls automatic power consumption to off peak times whilst maintaining spa water temperature and daily filtration times. Simply enable PowerSAVE and set the tariff times and begin saving money.

* Conditions apply. Specifications may change without notice.

Water priming mode

TIPS ON FILLING SPA

- Before filling remove spa cabinet panel and be sure that all valves in the plumbing system are fully open to maximise the amount of air that can escape the pipe work during filling.
- Remove filter cartridge(s) before filling and be sure to fill the spa through the filter itself to flood the pipe work with water and minimise the chance of air pockets forming in the plumbing during the filling process.
- DO NOT fill spa by placing hose in the foot well. Filling a spa this way will create a large number of air pockets in the pipe work and may cause difficulty when priming. Always fill spa through the filter area.
- Once the spa is filled to the correct level attempt to power up the spa with the filter cartridges still removed. Verify that the spa controller completes its priming sequence and begins normal operation. Once normal operation has been verified turn mains power off, re-install filter cartridge(s) and restart spa.

WARNING

RESTRICTION OF WATER FLOW DUE TO DIRTY FILTER CARTRIDGES IS THE MOST COMMON CAUSE OF ER-3 FAULTS. IF THE SPA POOL HAS BEEN OPERATING NORMALLY THEN INTERMITTENT ER-3 FAULTS START TO OCCUR THE FILTER CARTRIDGE(S) WILL REQUIRE SERVICING. DEPENDING ON TYPE OF FILTER CARTRIDGE(S) INSTALLED THE FILTERS WILL EITHER REQUIRE CLEANING, SOAKING IN A FILTER CARTRIDGE DE-GREASER SOLUTION OR REPLACING. REFER TO SPA RESELLER / MANUFACTURER FOR DETAILS ON TYPE OF CARTRIDGE INSTALLED AND RECOMMENDED CLEANING FREQUENCY & METHODS.

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Water priming mode

Every time the power is turned on the SV controller will initiate a water priming sequence on start up. During a priming sequence the filtration pump will run for up to 20 seconds at a time in an attempt to purge air from the plumbing. The keypad display will scroll PRIMING during this sequence.
If the spa controller is successful in clearing all of the air from the heater tube the system will begin normal operation. However if air is still detected the spa controller will shutdown and latch on fault code (ER3-Water Prime)

How do I solve ER-3 WATER PRIME:

- Press Pump A  button to retry water priming sequence.
- Check spa is filled to correct operating level as advised by spa manufacturer (refill if necessary).
- Remove filter cartridge(s) and retry water prime.
- With mains power turned OFF, bleed airlock from pipe work by slightly loosening couplings on front of filtration pump and allowing air to escape.
- With filter cartridge(s) removed use hose to flush water down pipe work in an attempt to clear the air pockets from the plumbing.

IMPORTANT:

Do not allow the filtration pump to continue to run after five (5) x failed priming attempts. Operating a pump without water for extended periods may cause damage to the pump. Turn power off, wait ten (10) minutes and then try again later.

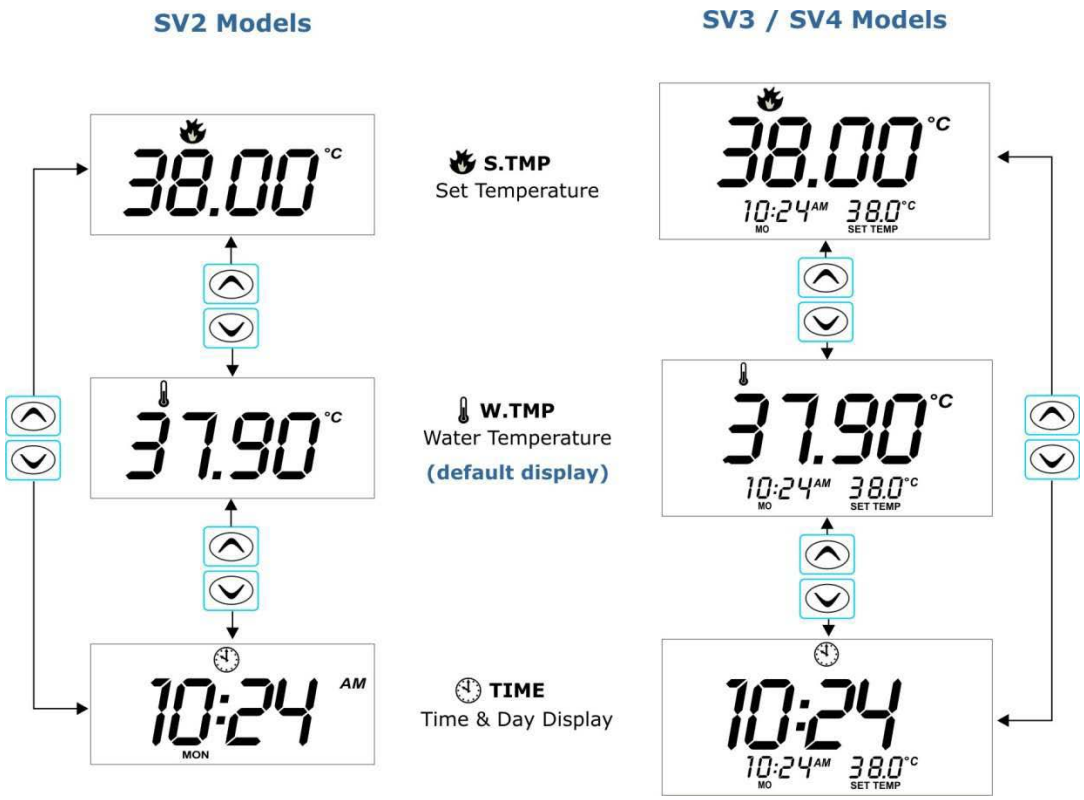
Display modes

IMPORTANT:

- *The in-heater water sensor constantly monitors the presence of water in the heater tube. If at any time air bubbles are detected the spa controller will automatically cancel all current operations and force a water priming sequence to begin. This will occur whether the spa is in automatic mode or manual use. If the priming sequence is successful in clearing the air pockets from the plumbing normal spa operation will resume in automatic mode. If unsuccessful the spa controller will shut down and latch on fault code ER-3 Water Prime.*
- *A ten (10) second idle time out period exists on non-default display modes. If the display mode is changed the screen will time out and return to the default display after ten seconds of idle activity has elapsed (i.e. no button presses).*
- *At times the WTMP icon will not appear and the temperature reading may take a while to update. This is normal and results from the SV control updating and performing dynamic thermal tuning to your spa and its environment. If this occurs,* ***the filtration pump may need to run for up to ten (10) minutes before the WTMP readout is refreshed.***

Display modes

Water temperature /Set temperature /Time



* Conditions apply. Specifications may change without notice.

Display modes

The SV keypads feature three different display modes to select from:

Mode	Icon	Description
W.TMP		Water Temperature
S.TMP		Set Temperature
TIME		Clock (Time & Day)

- The default display mode for all SV controller models is (W.TMP) Water Temperature.
- A short single press of the  or  button will navigate through the different display modes (refer illustrations aside).
- The purpose of the different display modes is to allow easy set temperature point and clock adjustment on all SV2/SV3/SV4 models.
- Please note the display mode icon at the top of the screen. These icons denote what display mode is currently being viewed.

Display modes

Other display icons

Filtration Cycle
The spa is performing a filtration cycle

Sanitise Cycle
The spa is performing an automatic or manual sanitisation cycle

Keypad Locked
The keypad has been locked

System Error
A fault has been detected. The system has halted operation so that corrective action can be taken. Take note of scrolling error code and consult trouble shooting section of this manual.

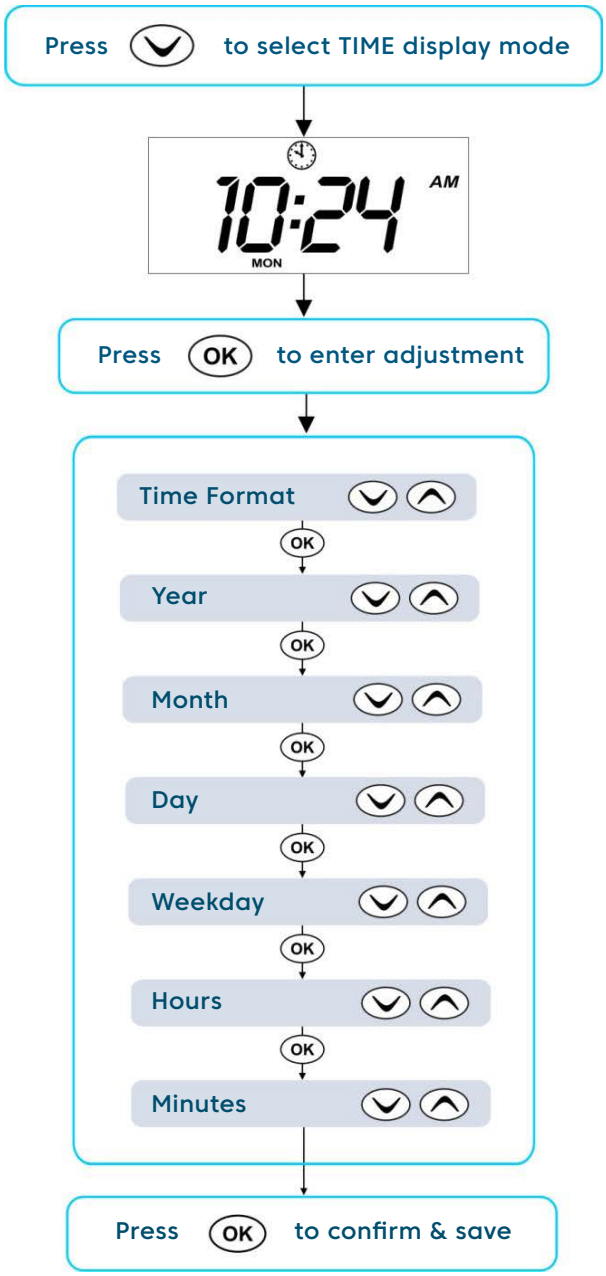
Setting the date and time

Be sure to set the date and time before operating the spa.

Vital functions such as filtration, sanitisation cycles and power saving settings depend on the time and date being set correctly.

Setting Day/Time

How to program the clock



Vortex Spas

Setting Day/Time

Steps:

- Press the ⌄ button to change display mode to TIME
- Press OK to enter clock adjustment
- The settings appear in the following order:

TIME & DATE	
Format	(24 hr / 12 hr)
Year	(yyyy)
Month	(mm)
Day	(dd)
Weekday	(mon – sun)
Hours	(xx:00)
Minutes	(00:xx)

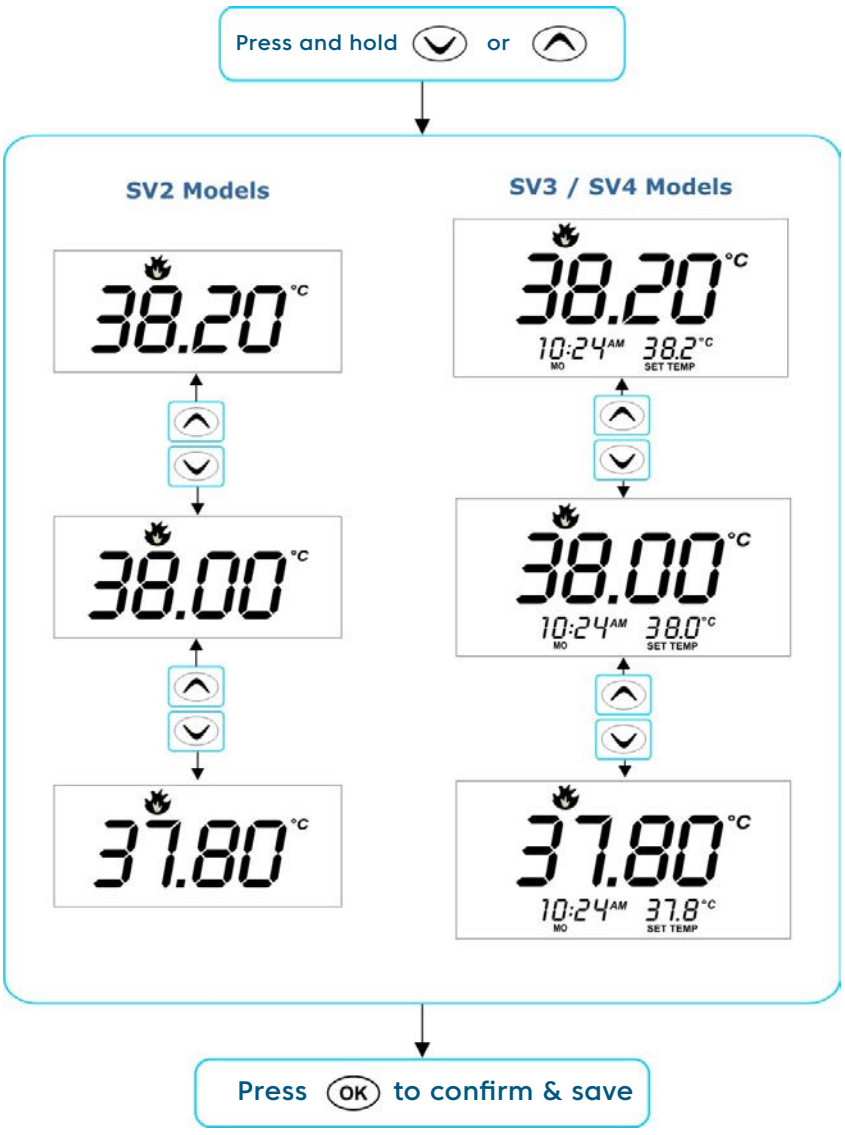
- Press the ⌄ or ⌄ button
  - to set year, month, day, hours and minutes
  - to change between 24-hour format and 12-hour format
- Press the OK button to save each setting and move to the next setting

IMPORTANT:

- *Leap years are taken into account*
- *Daylight savings times are NOT taken into account. The clock will NOT automatically adjust. It must be changed manually.*
- *The real time clock will continue to operate when mains power is off for a period up to 16 hrs.*

Adjusting Set temperature point

How to program the desired water temperature



Vortex Spas

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Adjusting Set temperature point

The SV series spa controllers have been designed with simplicity in mind. The intelligent software constantly monitors the spa water, automatically controlling the heater and/or heat pump (if fitted) to ensure the desired set water temperature is maintained and required level of daily filtration achieved.

With set-and-forget technology, the spa user simply selects their desired water temperature(Range: 10°C - 41°C; Default: 38°C) and thereafter the SV controller will automatically heat to and maintain that selected water temperature. This is called demand heating - the filtration pump and heater will be activated as required to maintain the set water temperature. The time spent heating the spa and running the pump under normal operation will be taken into account and where required the filtration pump will run for additional periods throughout the day to maintain the minimum level of daily filtration.

Dependant on the amount of normal spa use, set water temperature, daily filtration times, and climatic conditions being experienced, the SV controller will engage the heater and/or heat pump (if fitted) for differing periods of time, at differing times of day. The advanced software constantly monitors and recalculates after each heating/filtration cycle to ensure the correct daily filtration time is achieved and desired set water temperature is maintained.

* Conditions apply. Specifications may change without notice.

Adjusting Set temperature point

IMPORTANT NOTES

- *During a heating cycle the SV controller may raise the water temperature up to 0.6°C above set temperature point to provide an average water temperature of set point at most times.*
- **If an optional heat pump is NOT fitted** *the spa controller has* **NO** *ability to cool the spa water. Lowering the set temperature point will NOT cause the water to cool.*
- **If an optional heat pump IS fitted** *the spa water* **CAN** *be cooled as well as heated. Lowering the set temperature point will ensure the heat pump engages/disengages a cooling cycle (if required) to maintain the desired set water temperature.*

If the spa control has been in standby mode (idle) for some time and the set temperature point is adjusted, the filtration/circulation pump may run for up to ten (10) minutes before the heater / heat pump engages to heat or cool (heat pump only) the water.

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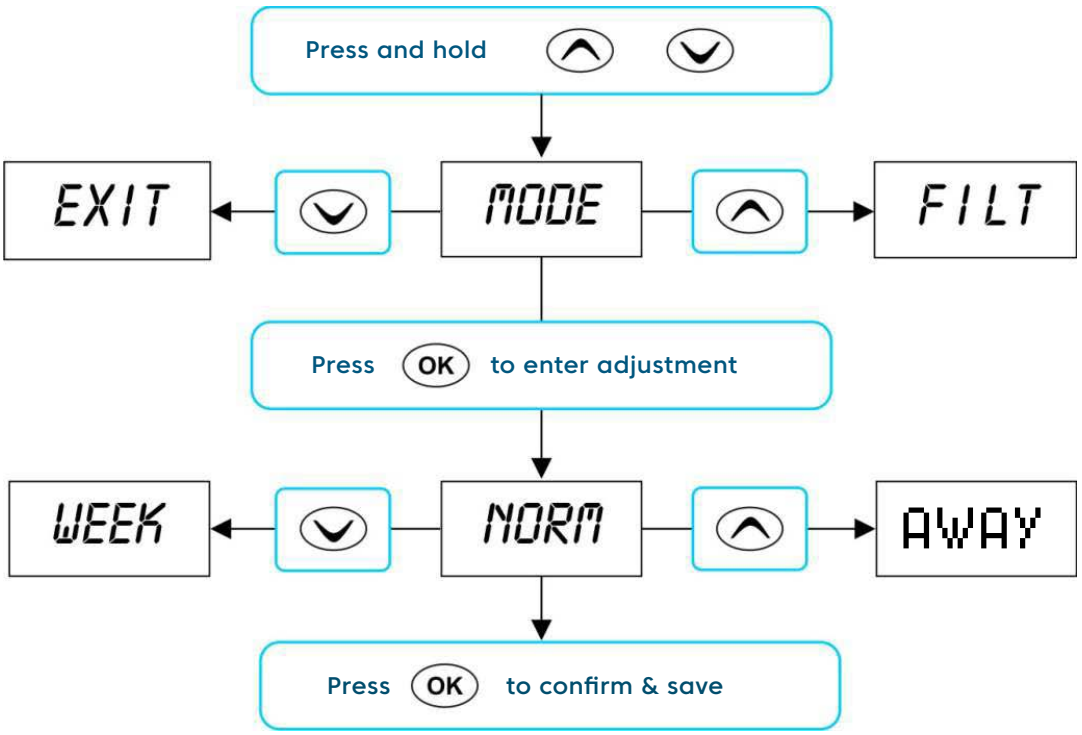
Heater operating modes

Normal/ Away/ Week modes



IMPORTANT:

- *If Away mode is selected all heating is completely disabled. The heater will not engage unless the water temperature falls below 4°C and freeze protection activates.*
- *If a heat pump is fitted and demand cooling is required to maintain the set water temperature, the demand cooling will also be governed by the heating operating modes in the same way that demand heating is.*

* Conditions apply. Specifications may change without notice.

Heater operating modes

Normal/ Away

The SV controllers feature four different operating modes that effect demand heating and filtration behaviour (refer table below).

Item	Mode	Notes
NORM	Normal	Normal operation for demand heating and filtration
AWAY	Away	Demand heating is DISABLED. Filtration is fixed at 1 hour per day (the keypad will scroll “AWAY MODE” every 60 secs)
WEEK	Week	Monday to Thursday: Demand heating is DISABLED and filtration fixed at 1 hour per day. Friday to Sunday: Normal Operation

- Press and hold  and  buttons together until [MODE] is displayed
- Press  button to enter operating mode (MODE) adjustment
- Press  or  to select desired operating mode
- Press  button to confirm and save setting

Vortex Spas

Heater operating modes

IMPORTANT NOTES

- *The Week mode is ideal for spas used only on weekends or located at weekend holiday homes. To minimize operating costs during the week (when the spa will not be used) demand heating is disabled and filtration is reduced to 1 hour per day. During Friday, Saturday and Sunday the spa controller will operate as if in normal mode.*
- *If Week mode is selected, the spa controller will obey all programmed values (set temperature, sleep timers, power save timers, filtration etc) on Friday, Saturday and Sunday. Depending on current season and ambient temperatures the spa water temperature may fall significantly during Monday to Thursday when demand heating is disabled. The spa user must take into consideration all programmed settings including sleep timers and power save timers for the spa to have sufficient time to reheat to set temperature point on Friday (refer to Setup menu section for further details on programmable settings).*

Heating control and protection

Fast heat cycle

After initial mains power on the SV controller will perform a fast heat up cycle that enables continuous demand heating regardless of programmed sleep timers or choice of or Normal (NORM) heating modes. Once the set temperature has been reached the fast heat up cycle is cancelled and normal operation resumes.

The purpose of a fast heat up cycle is to help the spa reach set temperature as soon as possible after it has been powered up. For new spas or spas refilled with cold water it is desirable not to have sleep time or economy heating mode delay the time to takes for the spa to reach set temperature point.

Note: AWAY mode disables a fast heat up cycle.

IMPORTANT NOTES

- *A fast heat up cycle is cancelled by manually forcing the filtration pump to OFF via the keypad.*
- *For new spas or when a spa has just been refilled it is common for spa owners to test the operation of each pump when the power is first turned on. This process will effectively cancel the fast heat up cycle. After completing testing of spa functions remember to reset mains power if you wish to reactivate the fast heat up cycle.*

Heating control and protection

Freeze protection/Defrost cycle

Freeze protection will be activated whenever the water temperature drops below 4°C. It runs back to back 10 minute sanitise cycles and displays “WARM” on the LCD. It also runs each spa accessory (ie. jet pumps and air blower) in sequence to run water through the pipe work whilst running the filtration pump and heater. During the “WARM” cycle the heater and heat pump (if fitted) will operate however heater load shedding may occur when accessory pumps are running depending on controller settings.

At the end of each 10 minute “WARM” cycle the water temperature is checked. If it is above 4°C freeze protection stops and the controller returns to its prior state. If the temperature is not above 4°C another cycle will run.

NOTE: *A Freeze protection overrides sleep time or power save times – if the water temperature drops below 4°C and the controller is in a sleep period it will wake up. So even if high amounts of sleep time, power save time and a low set temperature point have been programmed, the SV controller will always maintain the water temperature at least above 4°C.*

Defrost cycle (heat pump models only)

During periods of low ambient temperatures defrost cycles may be required to prevent the heat pump’s condenser from freezing. Ambient and condenser temperatures are constantly monitored and defrost cycles will be automatically activated if certain conditions are met. Defrost cycles run for a minimum of 3 minutes to a maximum of 10 minutes.

Heating control and protection

Overheat protection

All SV controllers feature three forms of overheat protection:

• If sensed water temperature within the heater unit exceeds safe working limits the heating element will be disabled and the controller will shut down and latch fault code (ER4 - Thermal Trip). Normal operation will not resume until heater element has cooled and mains power is reset.

• If sensed water temperature exceeds 42°C filtration is stopped until the temperature falls below 42°C to prevent heat rise from filtration pump operation.

• If sensed water temperature exceeds 45°C the controller will shut down and latch fault code (Er5 - Pool too hot). Normal operation will not resume until mains power is reset.

NOTE: *In some configurations if heater is ON, activating multiple pumps may cause the heater to load shed and turn OFF, or reduce element power (variable heater models). This is to keep the system within its maximum current limit. The heater will be reengaged or returned to full capacity as soon as the number of pumps running is reduced.*

Pump operation

Pump buttons

The jet pumps and/or filtration pump are controlled via the pump buttons on the keypad.
The functions of the pump buttons change depending on pump configuration, however Pump-A button is mostly used to control the filtration pump.

The intention is to make best possible use of these buttons for all possible pump configurations. For every press of a pump button the display will temporarily show the selected pump state:

ON / OFF / LOW / HIGH / AUTO

and then revert to the default display mode. The most common pump configurations and button assignments are referenced in the next page table.

IMPORTANT NOTES

- *In configurations where a pump button controls the filtration pump and the heater is ON and pump is to be turned OFF; the pump will turn OFF after a 5 second delay to allow the heater to cool down.*
- *If left running, pumps will turn off after a 30 minute time out period. Time out period can be adjusted from 10 to 60 minutes via the Setup Menu item T.OUT.*
- *If after manual spa use filtration pump is left OFF, controller will revert to automatic mode 15 minutes after the expiry of the T.OUT period.*

Pump operation

PUMP CONFIGURATIONS					
MODEL	CIRC	PUMP1	PUMP2	PUMP3	PUMP4
SV2	no	1 spd	-	-	-
SV2	no	2 spd	-	-	-
SV2	yes	1 spd	-	-	-
SV2	yes	2 spd	-	-	-
SV3	no	1 spd	1 spd	-	-
SV3	no	1 spd	1 spd	1 spd	-
SV3	no	2 spd	n/a	1 spd	-
SV3	yes	1 spd	1 spd	-	-
SV3	yes	1 spd	1 spd	1 spd	-
SV3	yes	2 spd	n/a	1 spd	-
SV4	no	1 spd	1 spd	1 spd	1 spd
SV4	no	2 spd	n/a	1 spd	1 spd
SV4	no	2 spd	n/a	2 spd	n/a
SV4	yes	1 spd	1 spd	1 spd	1 spd
SV4	yes	2 spd	n/a	1 spd	1 spd
SV4	yes	2 spd	n/a	2 spd	n/a

Pump operation

Keypad pump assignments

BUTTON ASSIGNMENTS			
PUMP A	PUMP B	PUMP C	PUMP D
pump1 (on/off/auto)	-	-	-
pump1 (low/off/auto)	pump1 (high/low)	-	-
circ pump (on/off/auto)	pump1 (on/off)	-	-
circ pump (on/off/auto)	pump1 (low/high/off)	-	-
pump1 (on/off/auto)	pump2 (on/off)	-	-
pump1 (on/off/auto)	pump2 (on/off)	pump3 (on/off)	-
pump1 (low/off/auto)	pump1 (high/low)	pump3 (on/off)	-
circ pump (on/off/auto)	pump1 (on/off)	pump2 (on/off)	-
pump1 (on/off)	pump2 (on/off)	pump3 (on/off)	-
circ pump (on/off/auto)	pump1 (low/high/off)	pump3 (on/off)	-
pump1 (on/off/auto)	pump2 (on/off)	pump3 (on/off)	pump4 (on/off)
pump1 (low/off/auto)	pump1 (high/low)	pump3 (on/off)	pump4 (on/off)
pump1 (low/off/auto)	pump1 (high/low)	pump3 (low/off)	pump3 (high/low)
pump1 (on/off)	pump2 (on/off)	pump3 (on/off)	pump4 (on/off)
circ pump (on/off/auto)	pump1 (low/high/off)	pump3 (on/off)	pump4 (on/off)
circ pump (on/off/auto)	pump1 (low/high/off)	pump3 (low/high/off)	-

* Conditions apply. Specifications may change without notice.

Air blower operation

Blower button

The blower button is used to toggle the air blower ON/OFF and allow adjustment of the blower speed. The selected speed is saved and will be restored the next time the blower is turned on, for future ON/OFF use. Two modes of operation are provided:

Variable speed mode

In this mode the blower speed can be manually adjusted to one of five (5) x different speed settings.

- Press button once to activate blower in variable speed mode
- Display will flash VARI mode then present b.SPD (blower speed) adjustment menu (refer illustration aside)
- Press or buttons to increase or decrease the blower speed (note: bar graph segments adjust with blower speed)
- Press OK button to exit menu or wait for 10 second display time out
- Press button a second time to turn blower off

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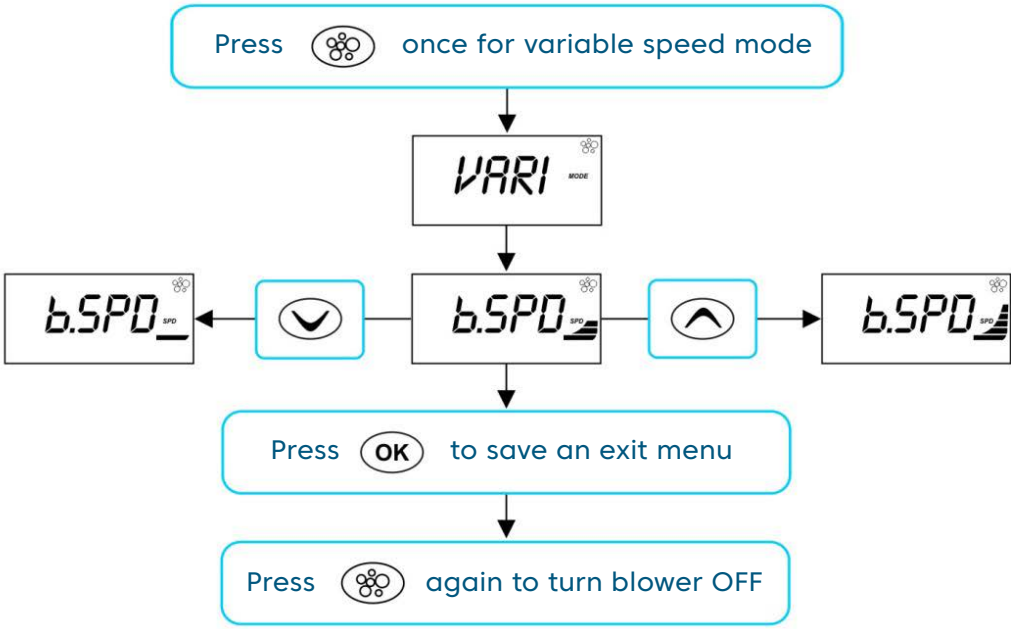
Air blower operation

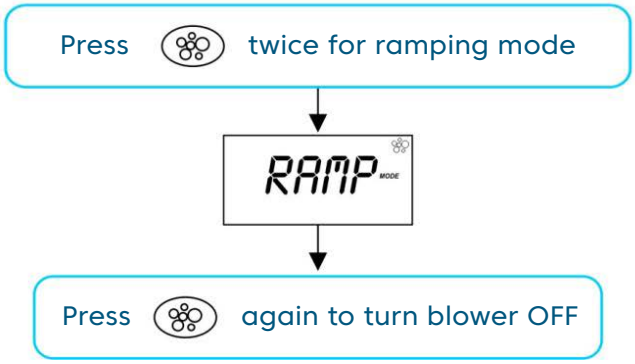
Variable speed mode



* Conditions apply. Specifications may change without notice.

Air blower operation

Ramping mode



Ramping mode

In this mode the blower speed gradually increases and decreases through the blower speed range in a ramping manner.

- Press button twice to activate blower in ramping mode
- Display will flash RAMP mode and blower operates in a ramping manner
- Press button a second time to turn blower off

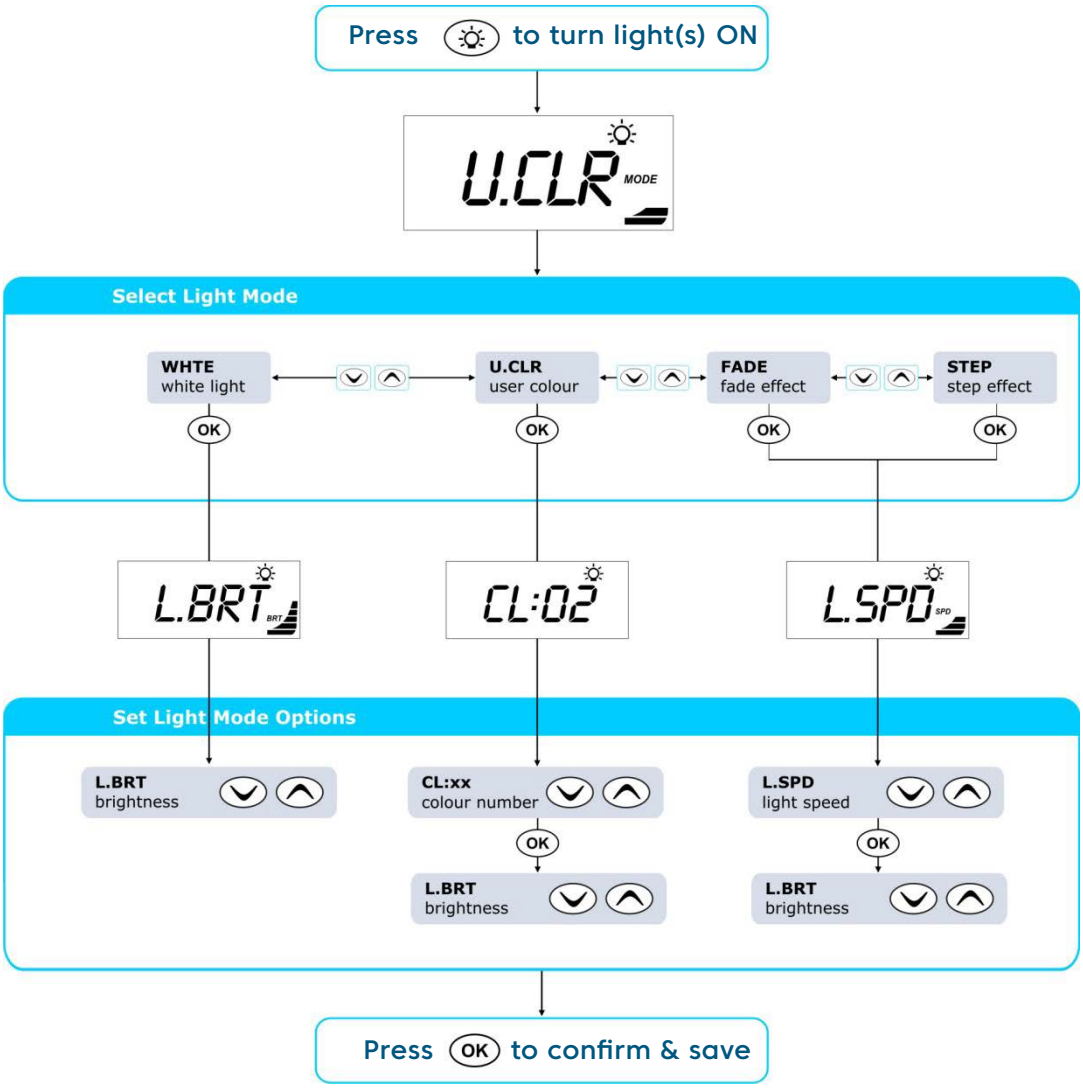
IMPORTANT NOTE

- *When blower is turned on it runs at maximum speed for 3-4 seconds before changing to preset speed (this is normal)*
- *If left running, blower will turn off after a 30 minute time out period. Time out period can be adjusted from 10 to 60 minutes via the Setup Menu item **T.OUT**).*

Vortex™ Spas

Light operation SpaNet™ SV2

Multi-colour LED lighting effects modes



* Conditions apply. Specifications may change without notice.

Light operation

SpaNet™ SV2

Light button

The light button is used to toggle the spa light(s) **ON / OFF** and to access the light mode menus. The features that can be adjusted are the light colour, light effect mode, light effect transition speed, and light brightness. All light settings are saved and will be restored the next time the light is turned **ON**, for future **ON / OFF** use.

- Press button to turn light(s) on / off
- When light is turned on keypad will display light mode menu showing current light mode in use (refer illustration aside)
- Press or button to navigate through choice of light modes:

  WHTE White Light
  UCLR User Colour
  FADE Fade Effect
  STEP Step Effect
- Press OK button to confirm light mode selection
- Dependant on light mode selected the keypad will display one of three light mode option screens (refer aside)

L.BRT Light Brightness
CL:xx User Colour Number (CL:00 - CL:20)
L.SPD Light Effect Transition Speed

- Press or button to adjust each setting
- Press OK button to save each setting and move to the next setting

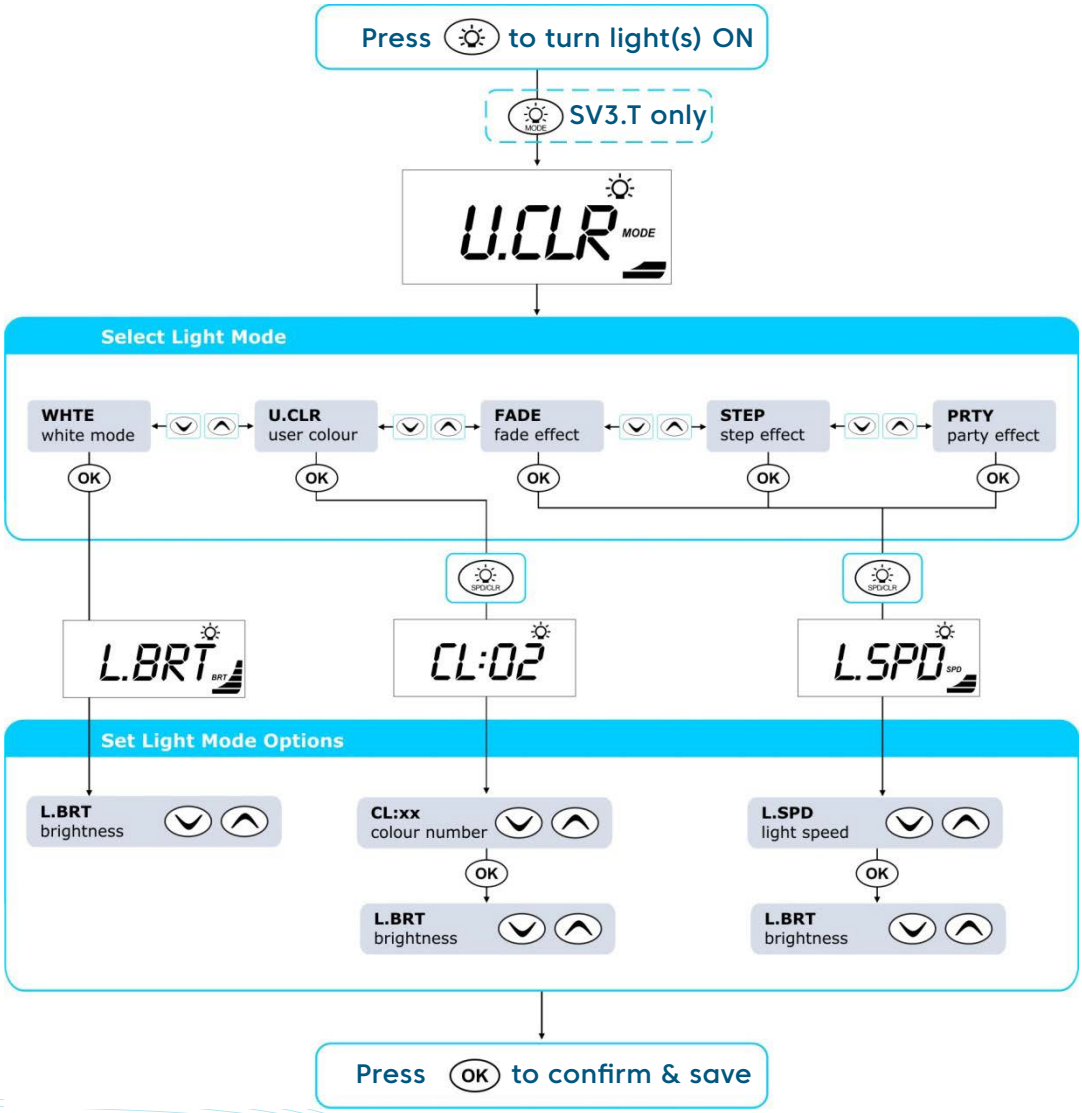
Note: *When blower is turned on it runs at maximum speed for 3-4 seconds before changing to preset speed (this is normal).*

Vortex™ Spas

Light operation

SpaNet™ SV3/SV4

Multi-colour LED lighting effect modes



* Conditions apply. Specifications may change without notice.

Light operation

Light button

The light buttons are used to toggle the spa light(s) **ON / OFF** and to access the light mode menus. The features that can be adjusted are the light colour, light effect mode, light effect transition speed, and light brightness. All light settings are saved and will be restored the next time the light is turned **ON**, for future **ON / OFF** use.

- Press  button to turn light(s) on / off
- SV4.T models go straight to the next step
  SV3.T models => press  to access light mode menu
- Press  or  button to navigate through choice of light modes:

  WHTE White Light
  UCLR User Colour
  FADE Fade Effect
  STEP Step Effect
  PRTY Party Effect

- Press  button to confirm light mode selection
- Press  to access light speed / colour menu

Vortex Spas

Light operation

- Dependant on light mode selected the keypad will display one of three light mode option screens (refer aside)

L.BRT Light Brightness
CL:xx User Colour Number (CL:00 - CL:20)
L.SPD Light Effect Transition Speed

- Press ^ or v button to adjust each setting
- Press OK button to save each setting and move to the next setting

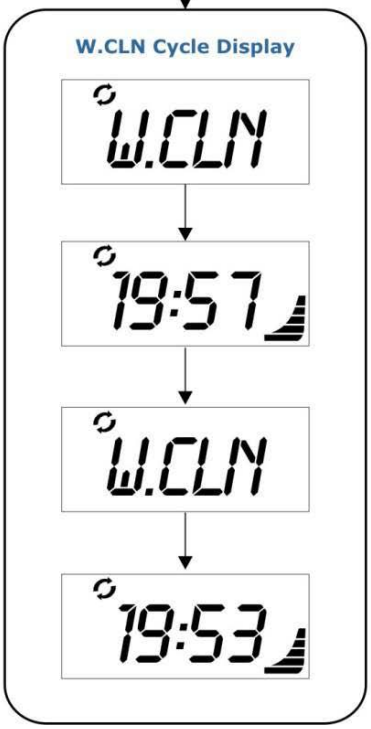
Note: *If left switched on, light(s) will turn off 15 minutes after the expiry of the pump/blower time out periods.*

Sanitise cycles

SpaNet™ SV2, SV3 & SV4

Automatic and manual water clean cycles

Press to activate sanitise cycle



Whilst the cycle is running the display alternates between the W.CLN (water clean) title screen and the minutes remaining in the cycle (refer image).

IMPORTANT NOTE

- *When the cycle is started automatic mode is enabled and if running any additional jet pumps and the blower are turned off.*
- *If the controller falls within a designated sleep or power save period during a sanitise cycle, the controller will not sleep until the sanitise cycle is finished.*

Vortex™ Spas

280 Sanitise cycles

Sanitise button

The sanitise button activates a twenty minute sanitisation cycle that runs the filtration pump and ozone / UV (if fitted) to filter the pool water to restore and refresh water quality. With circ pump systems jet pump1 will also run for the full 20 minute cycle. Where 2-speed filtration pumps are used the pump will run in high speed for the duration of the cycle. In addition, at the start and end of the cycle, the controller will sequentially (one at a time) run any additional pumps (pump2, pump3, pump4 if fitted) and the blower for one minute each to purge the plumbing and clear any unfiltered water trapped in those lines.

- Press button to activate a 20 minute sanitise cycle
- Press button again to cancel cycle (if desired)

Sanitise cycles

Automatic daily sanitise cycle

The controller will automatically run a 10 minute sanitise cycle every day at a user adjustable time (Default = 9:00am). The automatic sanitise cycle works in the same manner as a manual sanitise excepting that the cycle only runs for 10 minutes. This feature cannot be disabled – only the time this cycle is activated may be changed via the Setup Menu item W.CLN.

IMPORTANT NOTE

- *If the controller is in a sleep period at the specified automatic sanitise cycle time, it will wait until the sleep period ends before the sanitise cycle runs.*
- *If the spa pool is in manual use (i.e. the loads have not timed out and the spa has not returned to auto mode) at the time the automatic sanitise cycle is set to run the cycle will be cancelled for that day.*

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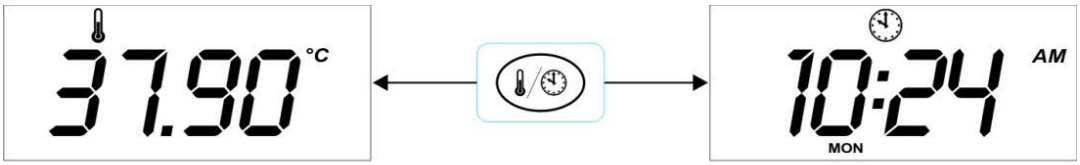
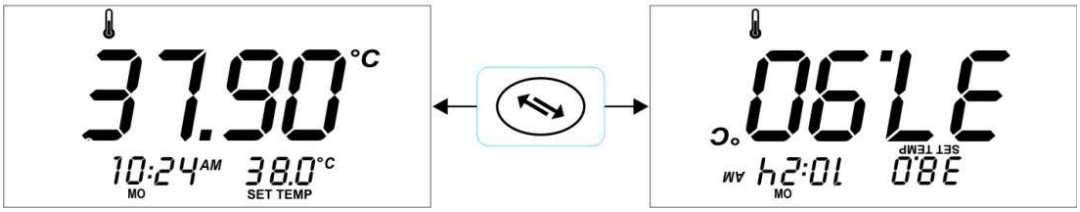
Special function buttons

SpaNet™ SV2, SV3 & SV4



Water Temperature

Time and Day



Normal Orientation

Inverted Orientation

* Conditions apply. Specifications may change without notice.

Special function buttons

SpaNet™ SV2

Water temp / time toggle button

Featured on SV2 models only, this button is a shortcut key designed to quickly toggle the display mode between [W.TMP] Water Temperature or [TIME] Time & Day display modes.

SpaNet™ SV3 / SV4

Invert display

On SV3 and SV4 model controllers the orientation of the keypad display can be inverted (flipped 180°) for easy reading in and out of the spa.

- Press  button to invert display orientation

IMPORTANT NOTES

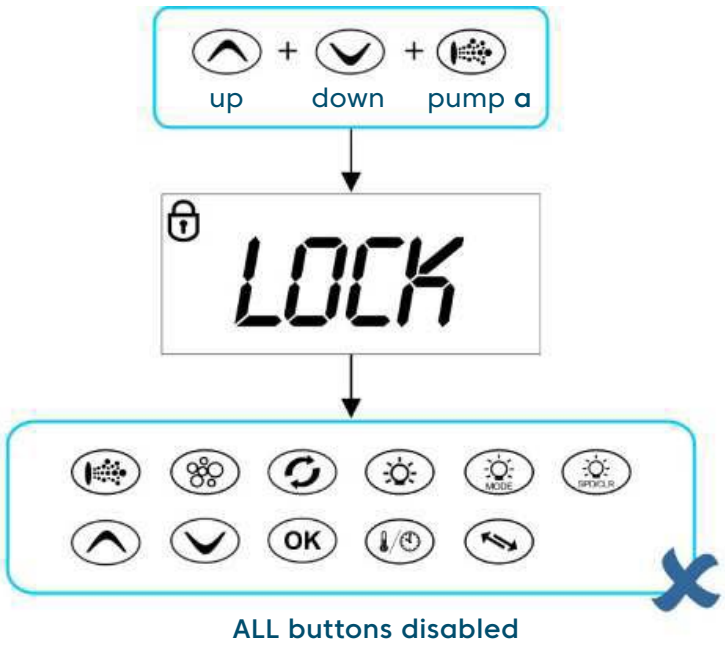
- *The operation of the*  *and*  *buttons also reverse to match the current display orientation.*
- *If the spa pool is in manual use (i.e. the loads have not timed out and the spa has not returned to auto mode) at the time the automatic*
- *sanitise cycle is set to run the cycle will be cancelled for that day.*

Vortex™ Spas

Special function buttons

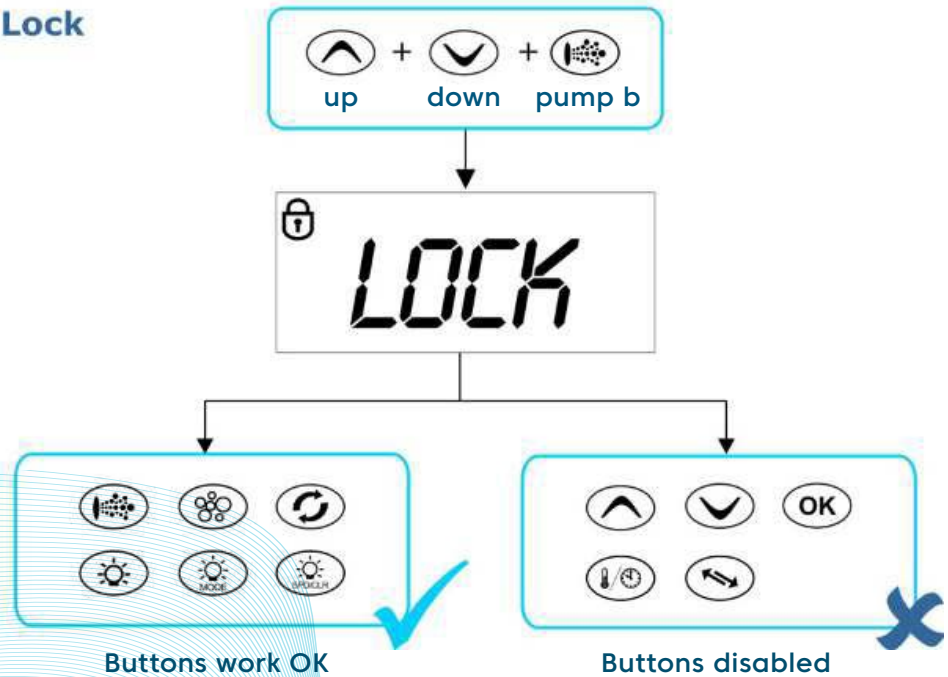
Model specific functions buttons

Full Lock



ALL buttons disabled

Partial Lock



Buttons work OK

Buttons disabled

* Conditions apply. Specifications may change without notice.

Special function buttons

The keypad buttons can be locked to prevent accidental key presses or to limit access to certain controller functions. This feature is particularly helpful when spa covers are used or where children are present.

There are two types of keylock:

- **Full Lock** all buttons are disabled
- **Partial Lock** allows use of pumps, blower, light and sanitise buttons however prevents adjustment of set temperature and other programmable settings

Full lock

- Press and hold  +  +  until LOCK appears on the display
  up down pump a
- Once locked if any button is pressed the key stroke will be ignored andb display will show LOCK (refer aside).
- To unlock keypad press and hold  +  + 
  up down pump a

Partial lock

- Press and hold  +  +  until LOCK appears on the display
  up down pump b

Once locked only pumps, blower, light and sanitise buttons can be used. Access to all other buttons is disabled.

- To exit partial lock mode press and hold

 +  + 

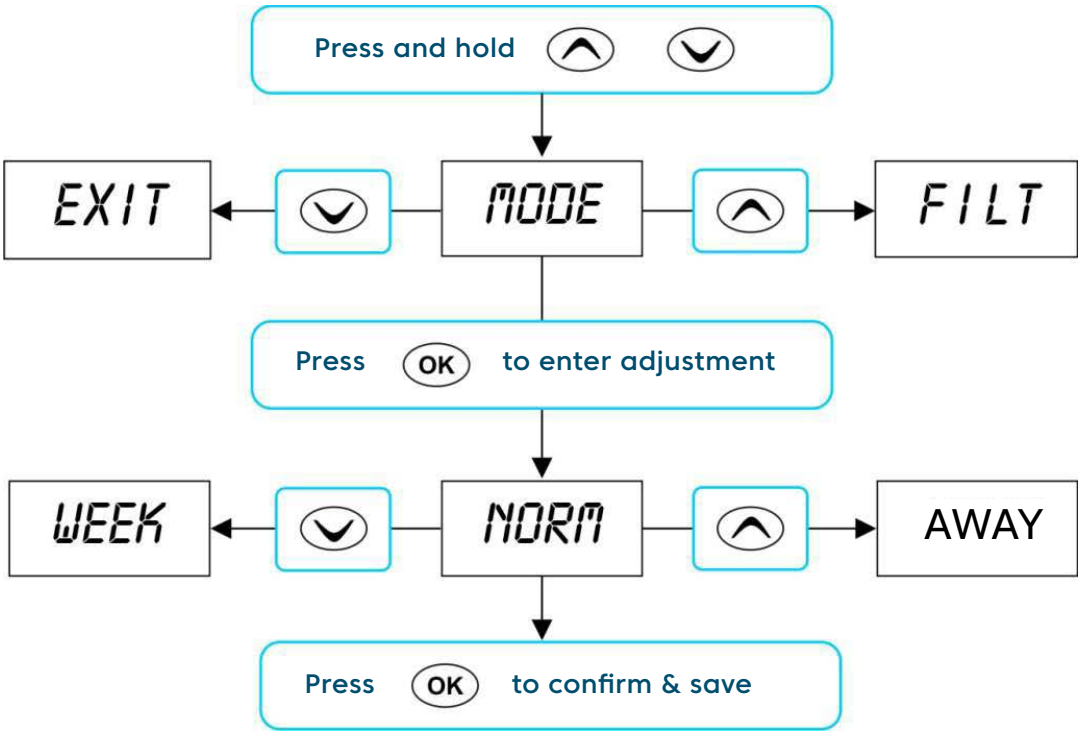
up down pump b

Vortex Spas

Advanced configurations

Set-up menu

How to program advanced configuration settings.



* Conditions apply. Specifications may change without notice.

Set-up menu

The SV controllers feature an advanced setup menu which allows customisation of the adjustable controller settings. Menu item options are detailed in the list below.

- To enter menu press and hold  and  buttons until [MODE] is displayed
- Press  or  to navigate through menu item list
- Press  to enter menu item adjustment
- Press  or  to adjust setting
- Press  to confirm setting and exit menu

IMPORTANT NOTE

- *The setup menu item settings are stored in non volatile memory (EEPROM) and are remembered when power is turned off. No need to reprogram settings when power is restored.*
- *A ten (10) second idle menu time out period exists. If a button press is not detected for 10 seconds the menu will time out and the screen will return to the default display mode.*

Vortex™ Spas

Set-up menu

Menu Item	Setting	Notes
MODE	Operating Mode	Normal / Economy / Away / Week Modes
FILT	Hours of filtration per day	1 to 24 hours
F.CYC	Filtration cycle blocks	Set filtration to run every 1,2,3,4,6,8,12 or 24 hrs
SNZE	Sleep time menu	
1.SNZ	Sleep timer 1	[1.DAY] Days of week, [1.BGN] Begin Time, [1.END] End Time
2.SNZ	Sleep timer 2	[2.DAY] Days of week, [2.BGN] Begin Time, [2.END] End Time
R.SET	Reset sleep timers	Reset sleep timers to factory defaults
EXIT	Exit sleep time submenu	
P.SAV	Power save settings	Off, Low (off-peak filtration), High (off-peak filtration & heating)
W.CLN	Automatic sanitise time	Daily run time of automatic sanitise cycle (00:00 - 23:59)
D.DIS	Default display mode	Water Temp (W.TMP), Set Temp (S.TMP) or Clock (TIME
T.OUT	Load time out period	Pump / Blower time out period (10 to 60 minutes)
H.PMP	Heat pump operating mode	Auto (heat or cool) / Heat / Cool / Off (heat pump disabled)
H.ELE	Heat pump with SV element boost	On = Heat pump + SV element combined for heating Off = Heat pump only
EXIT	Exit setup menu	

* Conditions apply. Specifications may change without notice.

MODE Operating mode

The SV controllers feature four different operating modes that effect demand heating and filtration behaviour (refer table below).

Menu Item	Setting	Notes
NORM*	Normal	Normal operation for demand heating and filtration
AWAY	Away	Demand heating is DISABLED. Filtration is fixed at 1 hour per day (the keypad will scroll “AWAY MODE” every 60 secs)
WEEK	Week	Monday to Thursday: Demand heating is DISABLED and filtration fixed at 1 hour per day. Friday to Sunday:Normal Operation

* Default Setting = NORM

FILT Filtration (hours per day)

Automatic filtration is provided to ensure that the pool water is filtered for at least a minimum time each day after considering how often the pool has had manual use or how long the filtration pump runs for water temperature maintenance. All time spent running the pump under normal operation (manual use, water temperature maintenance, sanitisation cycles) will be taken into account and where required the pump will run for additional periods throughout the day to maintain the minimum level of daily filtration as specified by the user. SV controllers support two different types of pump for heating and filtration.

Set-up menu

Filtration (hours per day)

The default filtration hours and adjustment limits differ for each pump type as follows:

	Small Circ pump (2A or less)	Jet pump (2spd or 1spd)
Minimum filtration hrs p/day	1	1
Maximum filtration hrs p/day	24	8
Default filtration hrs p/day	4	3

F.CYC Filtration Cycle Blocks (how often filtration cycles occur)

This setting allows the user to adjust the frequency of the filtration cycle(s). The user can set filtration blocks to occur every hour, right down to once a day, or somewhere in between. Select filtration to occur every 1 / 2 / 3 / 4 / 6 / 8 / 12 or 24 hours.

Default setting = 4 hrs (i.e. a filtration block will run every 4 hours).

SNZE Sleep Timers

Programmable feature to disable automatic heating and filtration to stop all spa activity during certain times of day or night.

Default Setting = Sleep Timer 1

(Sat – Fri; Sleep period 22:00 – 07:00)

P.SAV Power Save Setting (off peak filtration and heating)

Lower daily operating costs by programming either filtration only (LOW), or both filtration and heating (HIGH) to occur during off-peak power periods when the electricity rates are cheaper.

The setting choices are: **OFF / LOW** (off-peak filtration) **/ HIGH** (off-peak filtration & heating)

Default Setting = **OFF**

W.CLN Automatic Daily Sanitise Cycle Run Time

SV controllers are automatically programmed to activate a 10 minute daily sanitisation cycle at a given time, where each pump/blower is operated to purge pipe work whilst operating the filtration pump. This setting allows adjustment of the start time of the automatic daily sanitise cycle.

Setting ranges from 00:00 to 23:59
Default = 09:00 (9AM)

Set-up menu

The setting choices are:
OFF / LOW (off-peak filtration) / **HIGH** (off-peak filtration & heating)

Default Setting = **OFF**

W.CLN Automatic Daily Sanitise Cycle Run Time

SV controllers are automatically programmed to activate a 10 minute daily sanitisation cycle at a given time, where each pump/blower is operated to purge pipe work whilst operating the filtration pump. This setting allows adjustment of the start time of the automatic daily sanitise cycle.

Setting ranges from 00:00 to 23:59
Default = 09:00 (9AM)

D.DIS Default Display Mode

This setting allows adjustment of the default display mode.
The d.DIS setting choices are:

W.TMP	Water Temperature	(Default on SV3/SV4 models)
S.TMP	Set Temperature	(Default on SV2 models)
TIME	Time & Day	

H.PMP Heat Pump Operating Mode

This setting defines the heat pump mode of operation.

The H.PMP setting choices are:

AUTO	Heat pump will heat and cool (Default)
HEAT	Heat pump will only heat
COOL	Heat pump will only cool (SV element heating also disabled)
OFF	Heat pump disabled

* Conditions apply. Specifications may change without notice.

T.OUT Adjustable Load Time Out

All accessory loads (ie. jet pumps and/or air blower) automatically turn off after a time out period has elapsed. Fifteen (15) minutes later the lights will switch off and the pool will return to automatic mode. This setting allows the length of the time out period to be adjusted.

The T.OUT setting ranges from: 10 to 60 minutes

Default = 30 minutes

H.ELE Heat Pump with SV Element Boost

This setting defines how the in-built SV electric heating element operates with a heat pump (if fitted). Set to OFF to disable electric heating. Set to ON to allow the SV electric element to boost heat pump heating if the water temperature is 2°C or more below set temperature point or the heat pump has been operating for more than 1 hour and setpoint has not been achieved.

The H.ELE setting choices are:

OFF SV element disabled (heat pump only)
ON SV element + Heat Pump for heating

Default = OFF

EXIT Exit setup menu

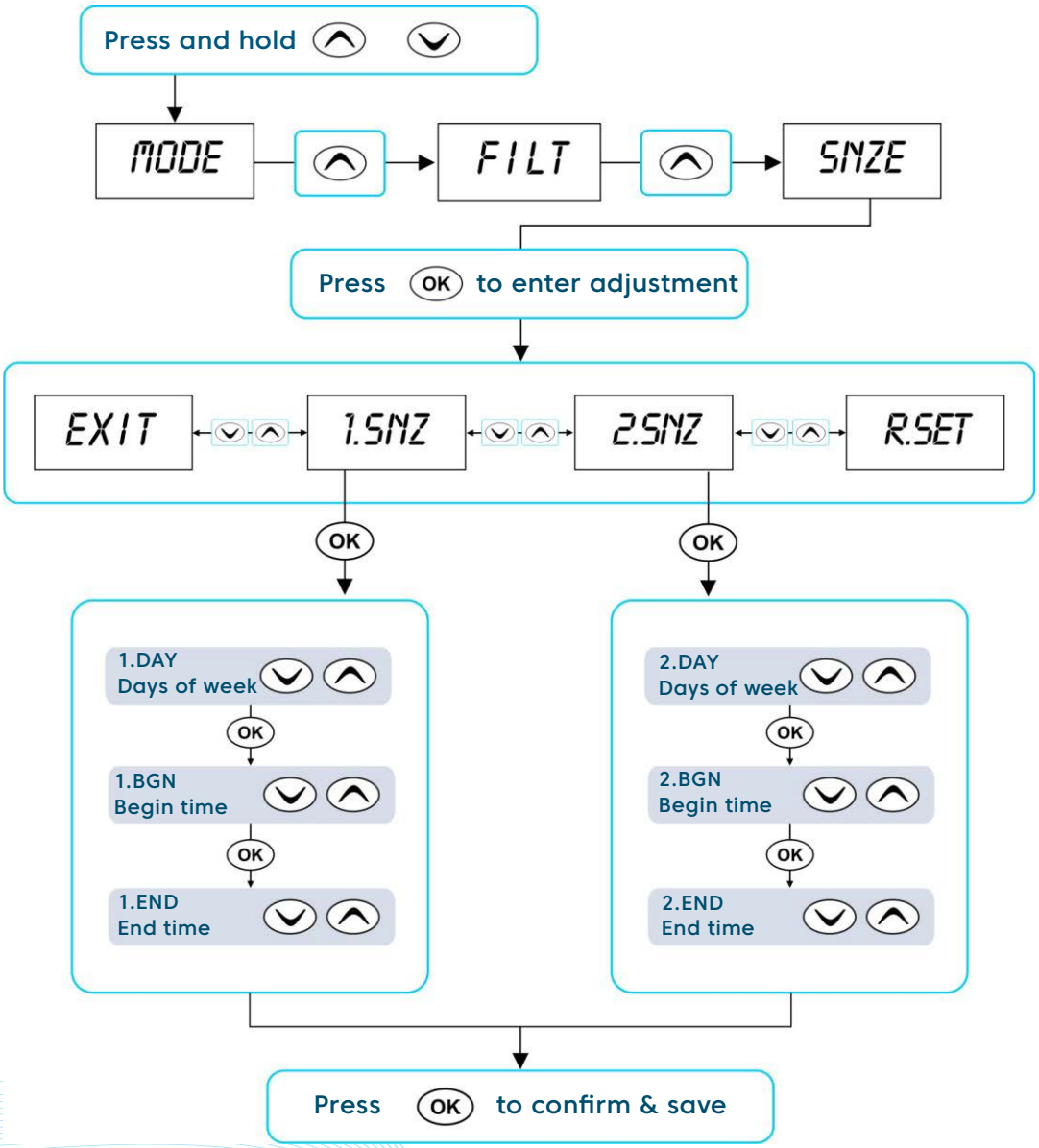
IMPORTANT NOTE

- *If the ambient temperature is below the operational limit of the heat pump (-10°C) the in-built SV electric heating element will automatically be enabled regardless of the H.ELE setting.*

Sleep timer [SNZE]

[SNZE] Sleep Timer Menu

How to program sleep timers.



* Conditions apply. Specifications may change without notice.

Sleep timer [SNZE]

How to program sleep timers

Accessed via the Setup Menu, Sleep timers are a very handy feature that enables the user to stop all spa activity during certain times of day or night. While the controller is sleeping NO automatic heating or filtration maintenance will occur, however the spa can still be operated by manual use without the need to adjust sleep time settings.

There are two individual sleep timers that can be set, each of which can operate on one or more specified weekdays. This enables the user to program different sleep times for different days (ie. weekdays vs weekends), as well as custom settings on a particular day/time where the user may want the spa silenced.

- Press and hold ^ and v buttons together until [MODE] is displayed
- Press ^ button until [SNZE] is displayed
- Press OK button to enter sleep timers (SNZE) adjustment
- Press ^ or v to select from [1.SNZ] Sleep Timer 1; [2.SNZ] Sleep Timer 2; [R.SET] Reset sleep times to default; [EXIT] Exit sleep menu
- Press OK button to confirm and move to the next setting

Vortex Spas

Sleep timer [SNZE]

Each sleep time setting consists of a week day setting, start time and stop time (refer table below).

Item	Description	Notes
#.DAY	Selected day of operation	Sat/ Sun/ Mon/ Tue/ Wed Thu/ Fri Sat-Sun / Mon-Fri / Sat-Fri / : **Default = Sat-Fri (Note : = disabled)**
#.BGN	Begin Time Sleep time period begins	Adjustable: 00:00 - 23:59 **Default = 22:00 (10PM)**
#.END	End Time Sleep time period ends	Adjustable: 00:00 - 23:59 **Default = 07:00 (7AM)**

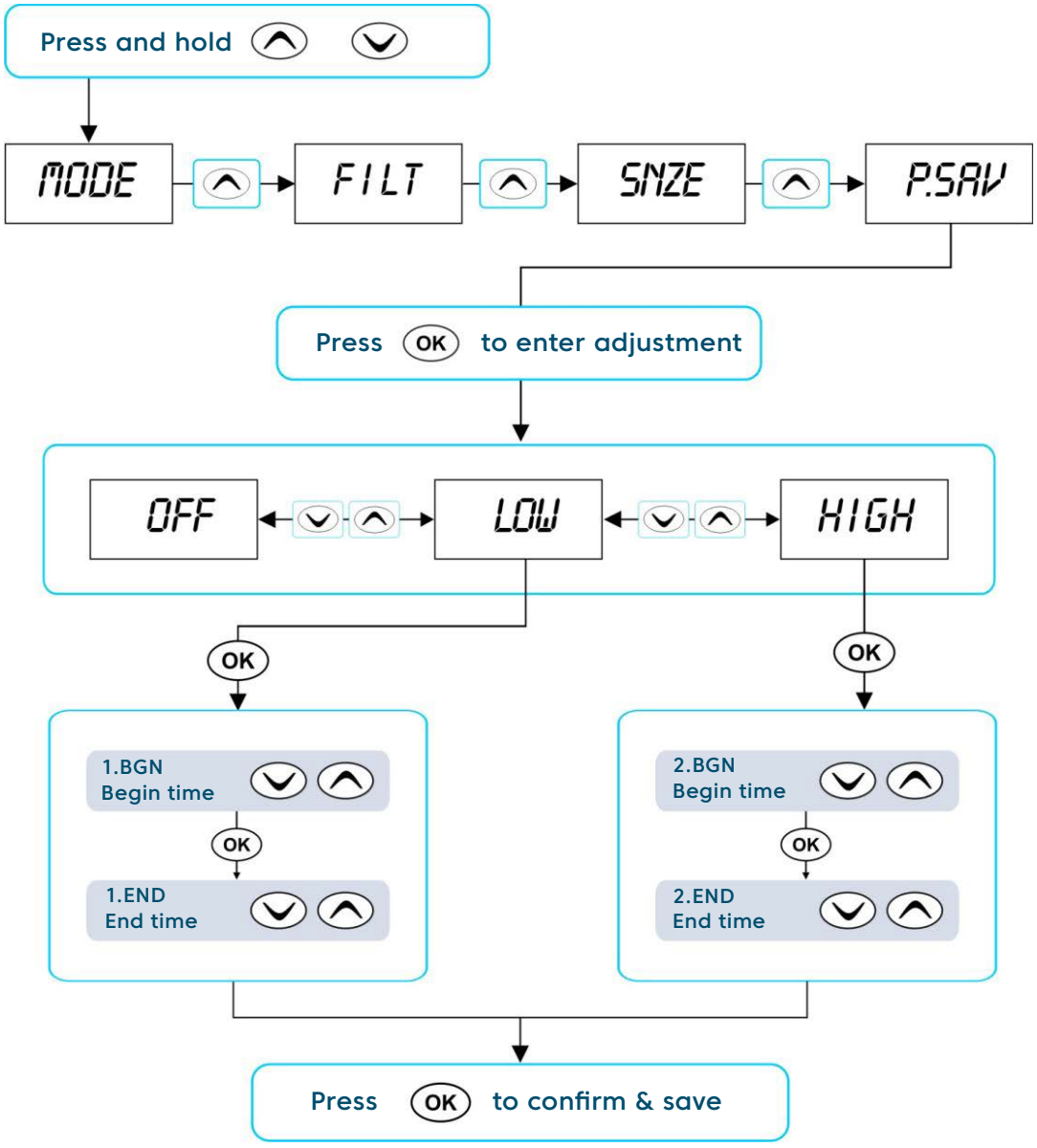
IMPORTANT NOTES

- *There is a default sleep timer pre-programmed into each SV controller. By default: Sleep Timer 1 [1.SNZ] is set to operate every day of the week (Sat – Fri) with sleep period between 22:00 (10PM) and 07:00 (7AM)*
- *Sleep Timers will override any programmed PowerSAVE [P.SAV] times. Spa users must consider cancelling the default sleep timer when programming P.SAV times for off-peak heating and filtration.*
- *Freeze protection will override sleep timers*

Power Save setting [P.SAV]

[P.SAV] PowerSAVE Menu (off-peak)

How to program off-peak filtration and heating



Vortex Spas

Power Save setting [P.SAV]

Power utilities in some regions offer household power meters that can track power usage during different times of the day. This allows the utilities to offer greatly reduced power pricing during off peak power times. The Power Save (P.SAV) function allows the user to program in the peak power period so the spa control knows not to perform filtration and/or heating during those expensive hours. Instead the controller will take advantage of the competitively priced off peak hours, and run the filtration and/or heating during the off peak hours.

Item	Description	Notes
P.SAV	Power Save Mode Functions disabled during peak power periods	**OFF = P.SAV disabled (default)** LOW = Filtration disabled HIGH = Filtration & Heating disabled
BGN	Begin Time Peak power period begins	Adjustable: 00:00 - 23:59 **Default = 14:00 (2PM)**
END	End Time Peak power period ends	Adjustable: 00:00 - 23:59 **Default = 20:00 (8PM)**

Power Save setting [P.SAV]

• Press and hold ^ and v buttons together until [MODE] is displayed

• Press ^ button until [P.SAV] is displayed

• Press OK button to enter power save (P.SAV) adjustment

The power save setting consists of a choice of mode, peak power period start time and peak power period end time (refer table on the prior page).

• Press and hold ^ and v buttons together until [MODE] is displayed

• Press OK button until [P.SAV] is displayed

IMPORTANT NOTE

- *If P.SAV function is to be used the spa user MUST consider any sleep timers [SNZE] and adjust them accordingly. Sleep timer settings will OVERIDE any P.SAV settings. All SV controllers have a default sleep timer (Sat – Fri; Sleep period 22:00 – 07:00). If P.SAV is set and the default sleep timer is not adjusted the spa controller may have insufficient awake hours for water temperature maintenance.*

Error codes/Troubleshooting

SpaNet™ SV2, SV3 & SV4

How to troubleshoot spa problems

SV spa controllers feature self diagnostics and scrolling error messages to quickly troubleshoot possible problems. Should the spa control encounter a problem the error code / message will scroll across the topside panel screen until the problem is resolved.

If an error condition is experienced all spa functions are shut down and the spa should not be used until the error condition has been resolved. A list of error codes with descriptions of problems and possible solutions is detailed below for your reference.

IMPORTANT

For most error codes main power to the spa control must be turned OFF and then back ON before the error condition will be cleared.

Error codes/Troubleshooting

Heartbeat LED

All SV model spa packs feature a red flashing heartbeat LED light. The heartbeat LED is located on the front right hand side of the spa pack itself (installed underneath spa skirt).
The heartbeat LED flashes to indicate the current health/ status of the spa pack. When the spa pack is functioning correctly with no errors to report the heartbeat LED emits a single flash in a constant pulse much like a heartbeat (ON, OFF, ON, OFF). If the spa pack encounters a fault the heartbeat LED will begin flashing in sequence with the error code number being experienced (ie. ER2 = ON,ON; OFF ON,ON; OFF).

If the keypad display is ever blank a spa user can still determine the health / status of the SV controller by removing a panel from the spa skirt and checking the heartbeat LED on the front of the spa pack itself.

ER-2 HEATER PLUG

Problem: No heater sensor communication

Cause: Internal heater sensor communication problem

Solution:

- Turn mains power OFF, wait 5 minutes then restart spa
- Contact spa reseller if problem is not resolved with power reset

Error codes/Troubleshooting

ER-3 WATER PRIME

Problem: Water prime failed – air detected in heater tube

Cause: Airlock in pipe work, low water level, dirty filter cartridges

Solution:

- Press Pump A button to retry water prime
- Check spa water level (refill if necessary)
- Remove filter cartridges and press Pump A button to retry prime
- Bleed airlock from pipe work by slightly loosening couplings on front of filtration pump
- Remove filter cartridges and flush water down pipe work with a hose

Error codes/Troubleshooting

ER-4 THERMAL TRIP

Problem: Heater thermal trip activated. Heater has been active and has had insufficient water flow over the element. Low or no water flow has caused the heater temperature to exceed its maximum limits and the spa control has shut down operation to prevent any damage to the heater unit.

Cause: Low water level, airlock in pipe work, closed shut-off valves, dirty filter cartridges, filtration pump failed or operation intermittent

Solutions:

- Turn mains power OFF and wait 10-15 minutes for element to cool and thermal cut-out device to reset. Then turn power back ON
- Check spa water level (refill if necessary)
- Remove filters and clean as per manufacturer's recommendations or replace cartridges if required
- Check under spa cabinet to ensure all shut-off valves are in the OPEN position
- Bleed airlock from pipe work by slightly loosening couplings on front of filtration pump or by removing filters and flushing water down pipe work with a hose.

Error codes/Troubleshooting

ER-5 POOL TOO HOT

Problem: Pool over temperature.
Temperature sensor reading ≥ 45°C heater unit

Cause: High ambient temperatures (especially in summer months) have caused water temperature to rise above set temp point, Excessive filtration time, Jet pumps have been operating for extended periods with the spa cover still on.

Solutions:

- Turn mains power OFF, remove spa cover, allow spa to cool then turn power back ON
- Check daily filtration time (refer filtration section) and reduce daily filtration time if required
- Check spa cover is not resting on topside panel buttons causing jet pumps to start when cover is on. Use keylock function to lock keypad buttons when spa not in use.

Error codes/Troubleshooting

ER-6 12V OVERLOAD

Problem: 12V (port) current draw over 1A limit

Cause: Total 12V current drawn by keypad(s), light(s), expansion ports and in pool temp sensor is excessive, 12V power supply is overloaded, too many LED light bulbs installed, faulty LED light. Turn mains power OFF and wait 10-15 minutes for element to cool and thermal cut-out device to reset. Then turn power back ON.

Solutions:

- Turn mains power OFF and restart spa to see if problem reoccurs
- Reduce number of LED lights being installed
- Systematically unplug lights, in pool temp sensor, keypads and expansion port loads from spa pack (one by one) to identify faulty part
- Contact your spa reseller if problem persists

Error codes/Troubleshooting

ER-8 CTRL FAULT HVS

Problem: Heater relay is on when it should be off.

Cause: Power surge, periods of low or high voltage, water on spa pack terminal block, relay problem.

Solutions:

- Turn mains power OFF and back ON again to see if spa control recovers from ER8 fault.
- Inspect under spa cabinet for evidence of water leaking onto spa control. If water present, turn mains power OFF and isolate, then resolve leak, dry up excess water, and allow spa control to dry out before restoring power.
- Contact your spa reseller if problem persists.

Error codes/Troubleshooting

ER-10 OVER CURRENT

Problem: Mains (230V) current draw above current limit (C.LMT) detected

Cause: Accessory devices current draw is too large for the C.LMT setting, faulty jet pump or air blower drawing excessive current, current limit (C.LMT) settings are not configured to match circuit breaker rating, load shed (L.SHD) and/or load limit (L.LMT) settings incorrect.

Solutions:

- Turn mains power OFF and restart spa to see if problem reoccurs
- Reduce number of LED lights being installed
- Systematically unplug lights, in pool temp sensor, keypads and expansion port loads from spa pack (one by one) to identify faulty part
- Contact your spa reseller if problem persists

Heat pump Error codes

If an optional heat pump is fitted and a heat pump fault condition is detected a warning message is scrolled across the touch pad LCD every 60 seconds and the heat pump is disabled. Spa operation will continue however the spa will now heat with the inbuilt SV electric element and there will be no ability to cool the water. The heat pump warning message will continue to scroll every 60 seconds, and the heat pump will remain disabled until the mains power is turned OFF and back ON again.

If after resetting mains power the fault condition persists please contact your spa and report the warning message that is shown. A list of the fault conditions and reseller warning messages are detailed on the next page for reference.

IMPORTANT NOTE

- *If a heat pump encounters an error the heat pump will remain disabled until the mains power to the SV spa controller is turned OFF and back ON again. The heat pump warning message will continue to scroll every 60 seconds until the power is reset.*

Heat pump Error codes

WARNING MESSAGE	DESCRIPTION
“HEAT PUMP AMB”	Ambient thermistor temperature sensor error
“HEAT PUMP COND”	Condenser thermistor temperature sensor error
“HEAT PUMP FLOW”	Water flow not detected
“HEAT PUMP LOW P”	Compressor low pressure switch open
“HEAT PUMP HIGH P”	Compressor high pressure switch open
“HEAT PUMP COMP”	Compressor thermal cut out open
“HEAT PUMP EXCH”	Heat exchanger thermal cut out open

Information on composition and disposal of the packaging

DESCRIPTION	MATERIAL	SYMBOL	DISPOSAL RECOMMENDATION
WOODEN PALLET WOODEN CRATE WOODEN PANEL	WOOD FOR 50	 FOR 50	SEPARATE WASTE COLLECTION WOOD *for the correct disposal of this packaging, check the local provisions with the competent body*
CARDBOARD BOX CARDBOARD SHEET	CORRUGATED CARDBOARD PAP 20	 PAP 20	SEPARATE WASTE COLLECTION PAPER *for the correct disposal of this packaging, check the local provisions with the competent body*
CARDBOARD "L" SHAPED PROTECTOR	CARDBOARD (DIFFERENT TYPES) PAP 21	 PAP 21	SEPARATE WASTE COLLECTION PAPER *for the correct disposal of this packaging, check the local provisions with the competent body*
AVANA PACKING PAPER	PAPER PAP 22	 PAP 22	SEPARATE WASTE COLLECTION PAPER *for the correct disposal of this packaging, check the local provisions with the competent body*
PLASTIC "L" SHAPED PROTECTOR BAG ENVELOPE	LOW-DENSITY POLYETHYLENE LDPE 4	 LDPE 4	SEPARATE WASTE COLLECTION PLASTIC *for the correct disposal of this packaging, check the local provisions with the competent body*
"BIG AIR BUBBLE" BUBBLE WRAP	HIGH-DENSITY POLYETHYLENE HDPE 2	 HDPE 2	SEPARATE WASTE COLLECTION PLASTIC *for the correct disposal of this packaging, check the local provisions with the competent body*
"SMALL AIR BUBBLE" BUBBLE WRAP	POLYETHYLENE PE 7	 PE 7	SEPARATE WASTE COLLECTION PLASTIC *for the correct disposal of this packaging, check the local provisions with the competent body*
STRAPS	POLYPROPYLENE PP 5	 PP 5	SEPARATE WASTE COLLECTION PLASTIC *for the correct disposal of this packaging, check the local provisions with the competent body*
PLASTIC PIECES (various sizes)	POLYSTYRENE EPS 6	 EPS 6	SEPARATE WASTE COLLECTION PLASTIC *for the correct disposal of this packaging, check the local provisions with the competent body*
PLASTIC SHEETS	POLYURETHANE PUR 7	 PUR 7	SEPARATE WASTE COLLECTION PLASTIC *for the correct disposal of this packaging, check the local provisions with the competent body*
AVANA PADDED BUBBLE ENVELOPE	POLYETHYLENE + PAPER PE1+PAP22	 PE1+PAP22	SEPARATE WASTE COLLECTION SEPARATE PLASTIC LINING FROM PAPER *for the correct disposal of this packaging, check the local provisions with the competent body*

* Conditions apply. Specifications may change without notice.

Optional upgrade
Swimming tether

An aquatic fitness tether system is designed to give you extra resistance and a more challenging workout when exercising in water.

Swim tethers consist of a sturdy carbon fibre pole (similar to a giant fishing rod) an elastic cord or ‘tether’, and a harness that is worn around your waist.

They work in a similar way to resistance bands you might use at the gym.

Tether system:

The tether pole is attached to the shell or perimeter of your swim spa, plunge pool or swimming pool using a pole socket. The resistance rope is then attached to the pole and the harness is connected to your waist.

The harness has an adjustable and flexible belt that enables you to exercise at your own pace and gently pulls you back so you won’t reach the end of the pool. If you are a beginner swimmer this will help you stay afloat while exercising and will also benefit stronger swimmers by keeping them in a fixed position.

Pole socket

Vortex Spas

312 Swimming tether

NOTE: *If you currently own a swim spa or plunge pool that it may already have the socket pre-installed from the factory. On most swim spas retrofitting a pole socket is not possible. This is because there is no recess for the socket and it will sit above the shell or collide with the framing.*

Steps to use a swim tether:

The system is ideal if you own a pool or plunge pool without the swim jets that a swim spa is known for. It adds another dimension to your aquafitness programme, giving you the resistance you get with inbuilt swim jets – without having to upgrade to a swim spa.

1. Once the swim pole is assembled at the swim spa, simply put the belt around your waist and above your hip bones.
2. Adjust the belt until you're all comfortable.
3. Start swimming so you can adjust the length of the rope to the desired length. Remember, the goal is for your head not to hit at the other end of the pool.

If you are interested in trying the swim tether in a plunge pool or swim spa you can visit one of our showrooms to give it a go for yourself.

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Audio WiFi Kit Manual

Vortex™ Spas

Congratulations on your Audio and WiFi upgrade!

Congratulations on the purchase of your Vortex Audio and WiFi Kit.

You can now control your spa remotely from your device and take your spa experience to the next level!

Your Vortex Audio and WiFi Kit allows you to:

- Connect your smart device to your spa pool or swim spa
- Stream your favourite tunes or podcasts
- Control and monitor your spa remotely from your smart device

This kit is specifically designed for use in Vortex Spas™ and Swim Spas.

If you have any questions, get in touch. We're here to help!

Vortex™ Spas

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Vortex™ Spas

6 WiFi & Audio Kit

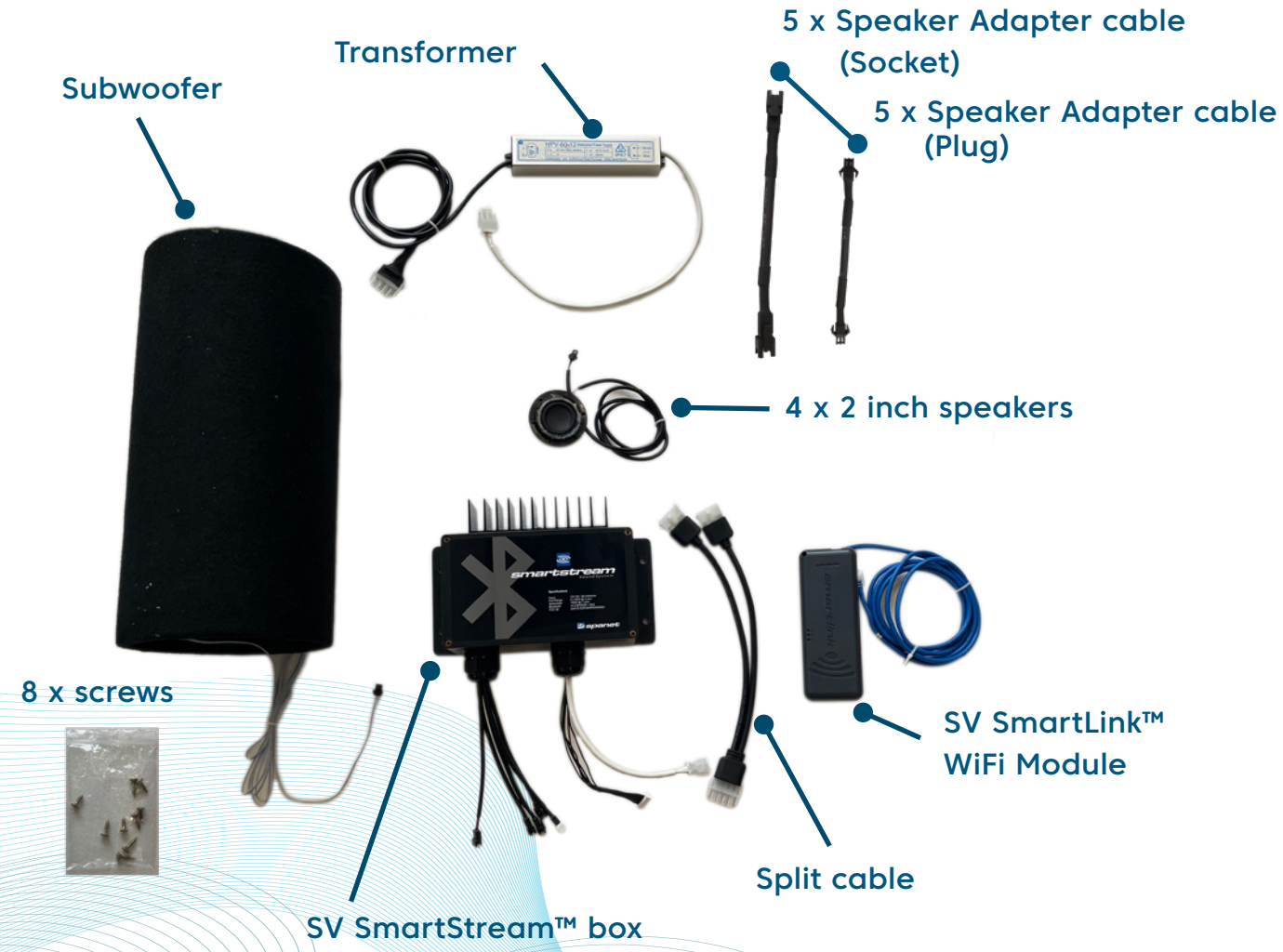
Safety Considerations:

- Disconnect power to the spa before removing any cabinet panels.
- To reduce the risk of injury, do not permit children to install this product.

Tools Required:

- Battery-powered screwdriver
- Phillips screwdriver

Included in your Kit:



SmartLink™ Wifi & SmartLink™ app

The SmartLink™ WiFi module and SmartLink™ app lets you use an Apple® or Android™ device to connect to and take control of your spa remotely from any location at any time.

The SmartLink™ module connects to any model SV controller and then uses your home WiFi network to facilitate communication between the app server and the spa. The SmartLink™ app becomes a mobile, wireless remote for your spa, enabling complete control of all settings and accessories including pumps, blowers and LED lights.

The SmartLink™ module is compatible with all model SV controllers (SV2/SV3/SV4/SV Mini 1 & 2) produced from 2015 or later. The SmartLink™ app offers push notifications for spa status updates and allows you to request global remote technical support for your spa if required. Both features can be turned on or off via the app settings.

For a smooth and successful setup process you must complete each installation section and steps in their correct order:

1. Install SmartLink™ WiFi Module
2. Confirm WiFi Internet access credentials
3. Download and install the SpaNET™ SmartLink™ app
4. Register a User Account
5. SmartLink™ app setup process

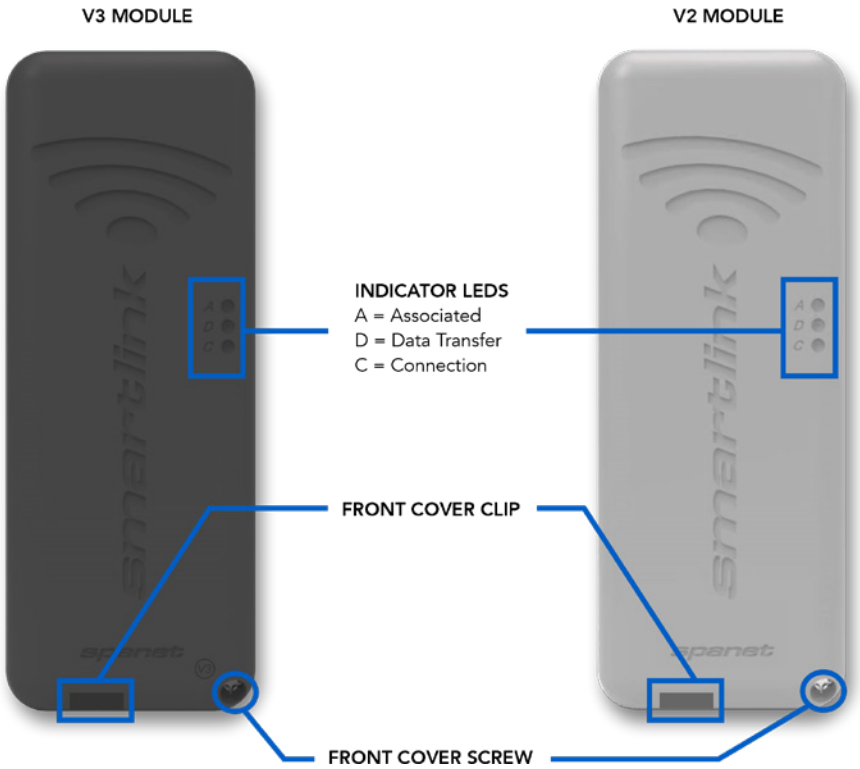
Note: *A strong and stable WiFi connection is required at your spa for this system to work.*

8 Hardware Requirements

The SmartLink™ WiFi module must be connected to the EXP1 socket of a SpaNET™ SV Series spa control for the SmartLink™ app to work. The SmartLink™ WiFi module requires an active, permanent Internet connection via a wireless router to operate, and can only use the 2.4GHz band. Both the spa pool and the Internet connection/router must remain powered on at all times for the spa to remain online.

SmartLink™ V2 & V3 Modules

There are two current generations of SmartLink™ modules available, the V2 and V3. Both use a similar enclosure and have similar features and performance. The V3 is distinguished by its darker grey colour and a small V3 stamp in the bottom right corner of the enclosure. Whilst the V3 benefits from Bluetooth® functionality making the initial app setup process slightly faster and easier, once the app setup is complete, either of the V2 or V3 modules will perform equally well on our app servers providing you finger-tip remote control of your spa pool.



V3 Module Specifications

2.4GHz 802.11 b/g/n

Bluetooth v4.2 BR/EDR

No character restrictions on passwords

V2 Module Specifications

2.4GHz 802.11 b/g

% character not supported in passwords

Spaces also not supported in passwords

Vortex™ Spas

10 WiFi & Audio Kit installation

Step 1: Locate the equipment bay in your spa.

Vortex spas™ have their equipment bay located directly under the keypad. However, that is not always the case in all models. To check your spa equipment location, see page 25 in your Vortex Spas™ main manual, or scan the QR code on the instructions for your Vortex Spa™ WiFi and Audio Kit.

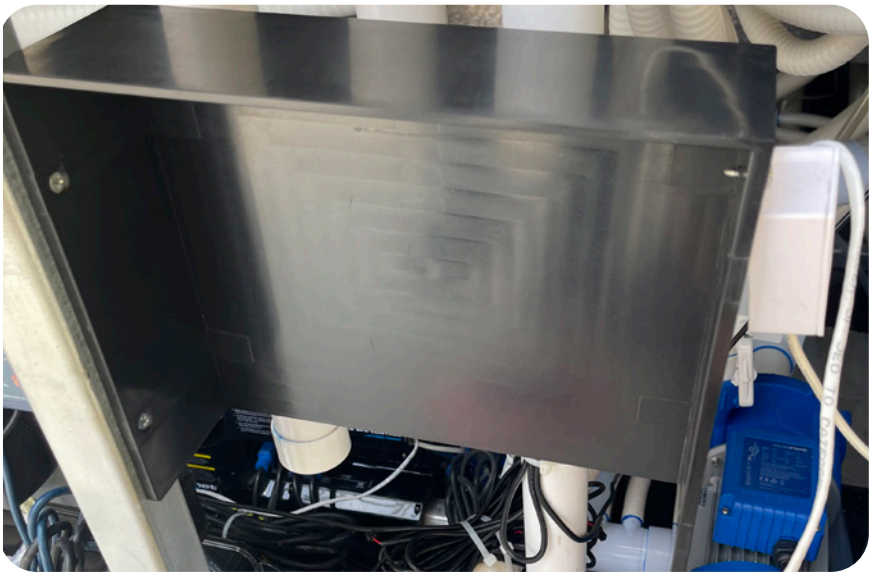
Step 2: Remove cabinet panel to access black box.

WiFi & Audio Kit installation

Transformer and SmartStream™ box

Step 3: Mounting the transformer & SmartStream™ box.

Once the cabinet panel is removed. Find the black box where you will mount the stereo and transformer. The Ozone generator unit is not in the same unit.



Note: *The Vortex™ WiFi and Audio Kit comes with two different length set of screws:*

- *Longer screws, for securing down the Sub Speaker.*
- *Small screws, are used for mounting the Stereo & Transformer into the black box.*

Using the right size of screws is essential. The pipe behind the black box can be pierced if you use larger screws.

Vortex™ Spas

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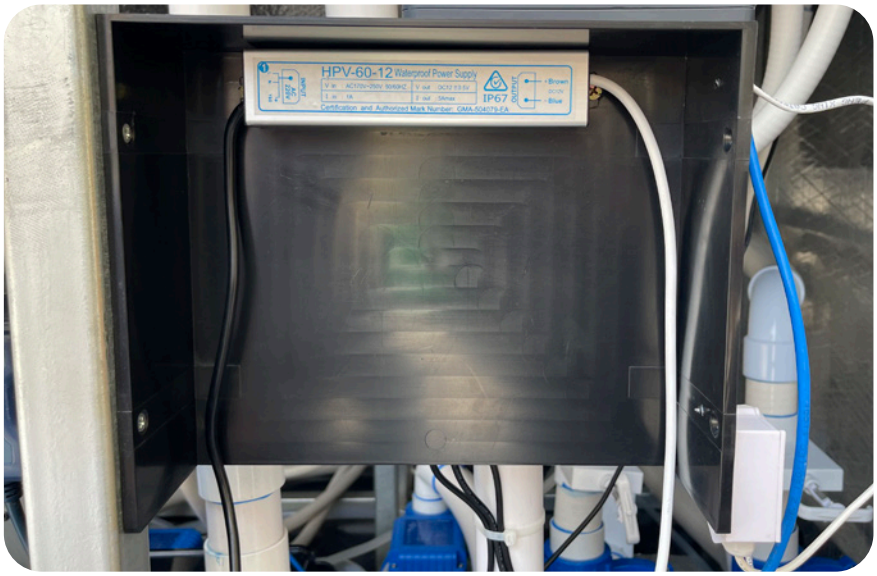
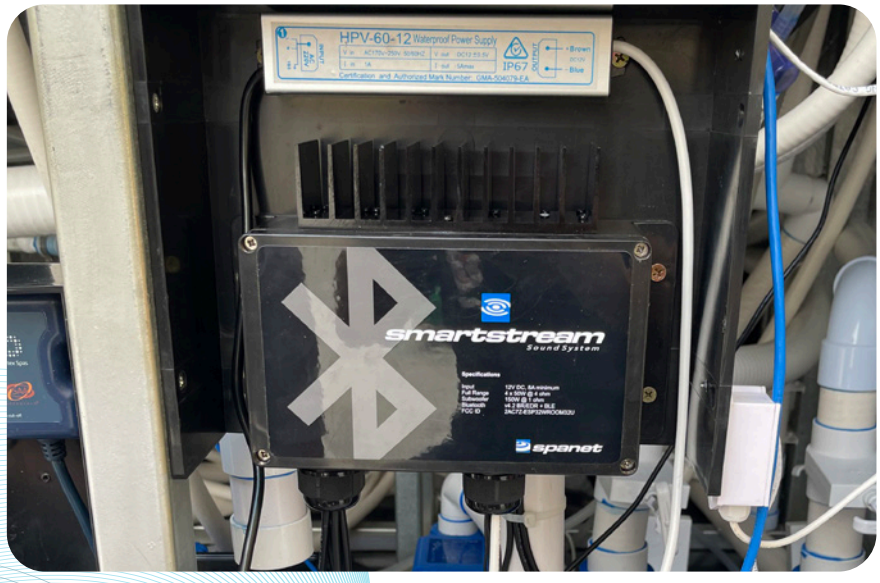
WiFi & Audio Kit installation

Transformer and SmartStream™ box

Step 4: Use two small screws to attach the transformer.



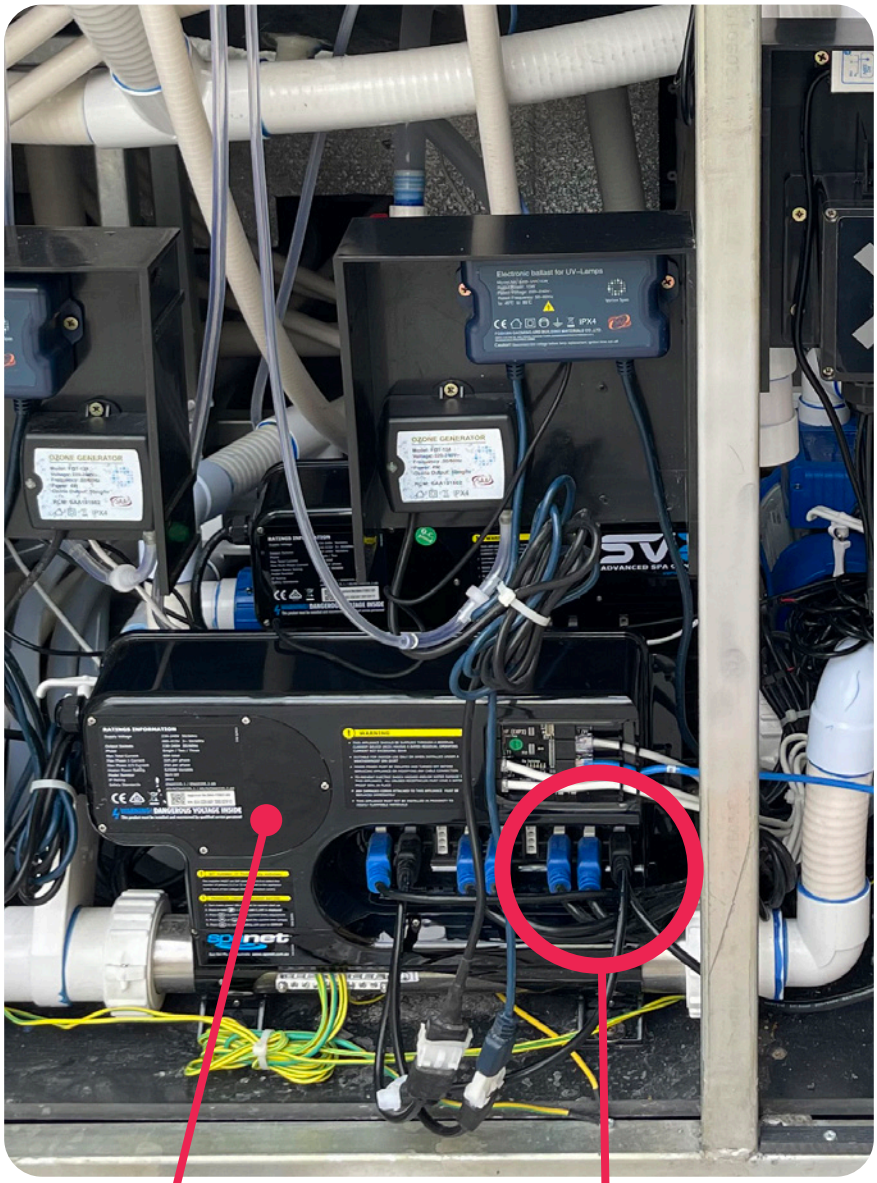
Step 5: Using four small screws attach SmartStream™ box to the black box.



WiFi & Audio Kit installation

Power supply

Step 6: Connect power supply to the SpaNet™ controller.



SpaNet™ controller

Power supply cable

Vortex™ Spas

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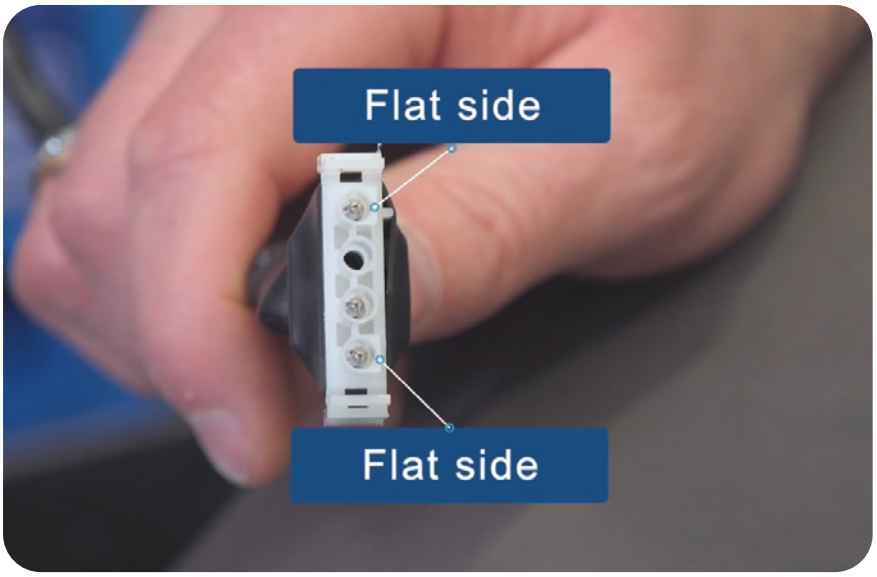
WiFi & Audio Kit installation

Power supply

The two outside pins of the split cable connector have flat sides, meaning you can only plug in only one way.



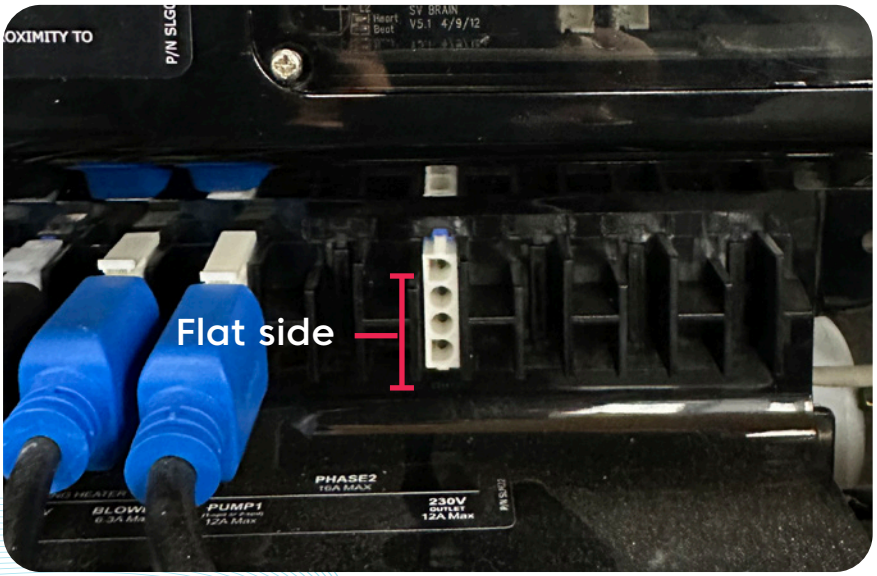


*Image showing SV2 Model

WiFi & Audio Kit installation

Power supply

The SV3 controller has 2 sockets of 230V output. The split cable connects to the socket between Pump 2 and Pump 3.

The 2023 Vortex™ models use the colour touch screen RT43 which needs the light transformer. The cable will come pre-connected from the factory.

To install the stereo kits; remove the light transformer, plug the split cable, and the light and stereo transformer is connected to it.

The other 230V output socket is on the right end. It is there for the optional connection to a heat pump.

Remove the blue socket cover to access the socket

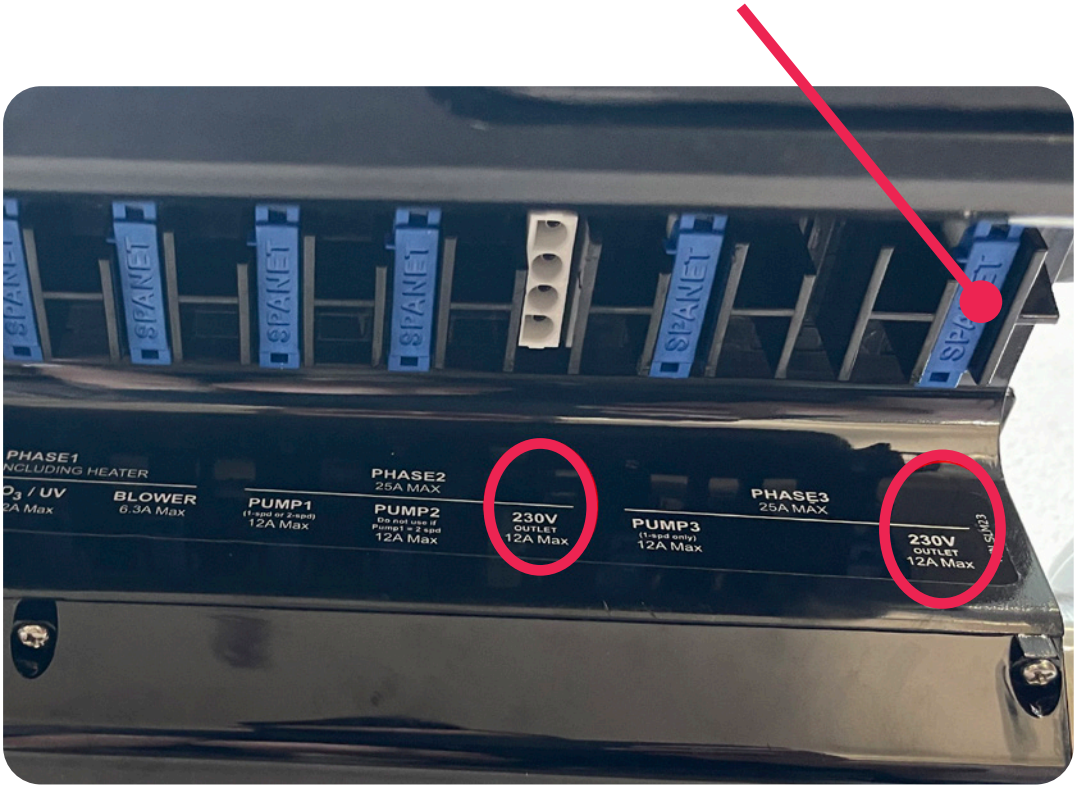


*Image showing SV3 Model

Vortex™ Spas

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WiFi & Audio Kit installation

Transformer

Step 7: Connect the transformer output cable to the split cable that is connected to the SpaNet™ controller.

WiFi & Audio Kit installation
Transformer

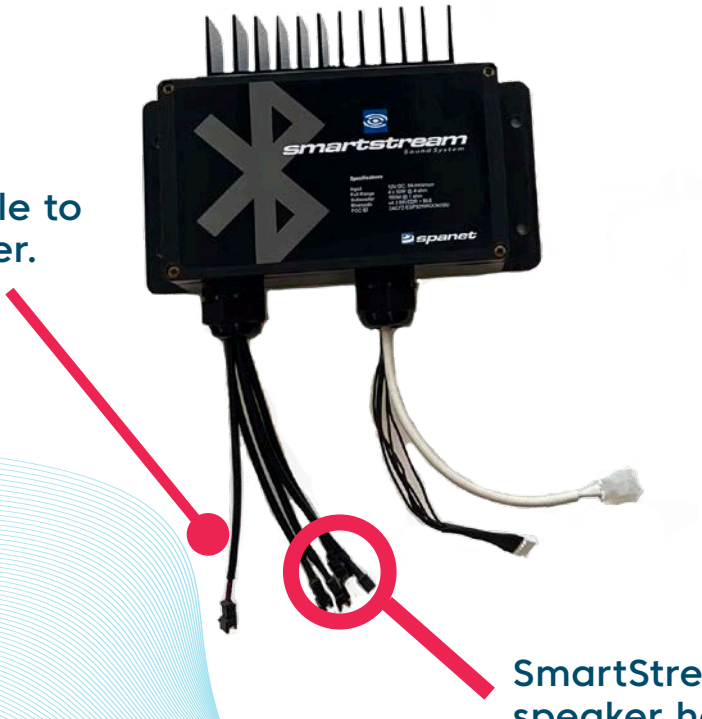
Step 8: Connect the transformer output cable to the SmartStream™ box, connecting the white two-pin connectors (both cables are white)

Vortex Spas

WiFi & Audio Kit installation
Speaker holders

Step 9: Connect the speaker cables.

Your Vortex spa™ or swim spa has the speaker holder cables pre-installed. The cables are strapped on the hose by your SV controller.



Connect cable to the subwoofer.

SmartStream™ box speaker holder cables

WiFi & Audio Kit installation
Speaker holders

Connect the speaker cables from the SmartStream™ box to the pre-installed speaker holder cables.

Speaker Adapter cables

Note: *In the rare event that the speaker cables that were run at the factory have a different end where the speaker cables plug into the SmartStream™ module. Use the adapters to join the SmartSteam™ modules to the speaker cables if the adapters are required.*

Vortex™ Spas

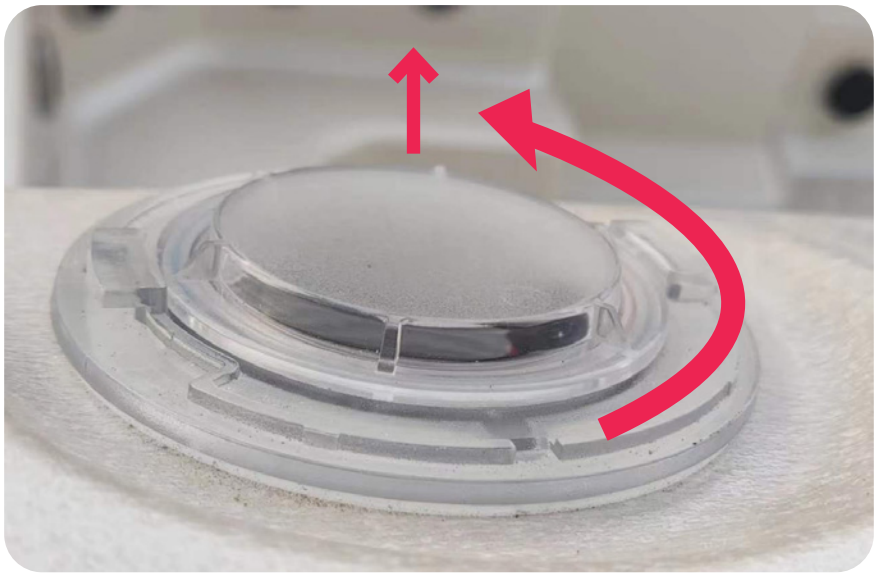
WiFi & Audio Kit installation
Speaker holders

Step 10: Your Vortex spa™ or swim spa has drink/speaker holders pre-installed.

To install the speakers, take off the top cover of the drink holder, turning it counter clockwise.

WiFi & Audio Kit installation
Speaker holders

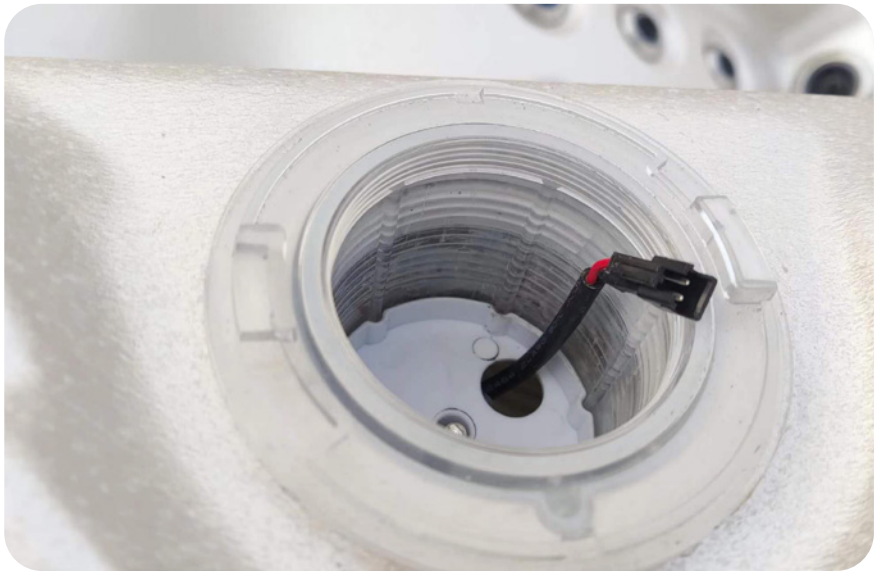
Step 11: Twist the clear cap counter clockwise to open.



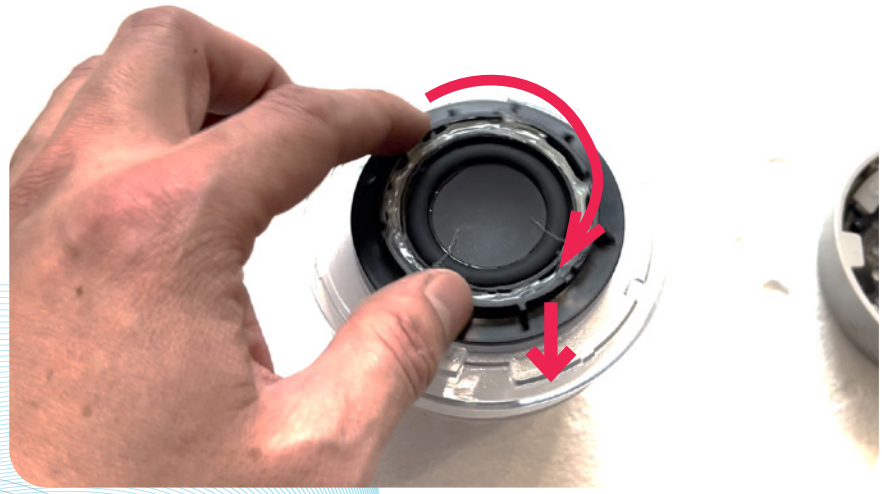
Your Vortex™ WiFi Kit includes four speakers.

WiFi & Audio Kit installation
Speaker holders

Step 12: The speaker cable is pre-installed at the factory. Plug in the black speaker included in your kit. (picture in page 21)



Step 13: Connect the pre-installed speaker cables to the speaker and screw-in clockwise.



WiFi & Audio Kit installation
Speaker holders

Step 14: Place the drink holder top cover back on.

Note: *With out the speaker installed, light will shine up through the top of the speaker and drink holder. With the speaker installed, light will not shine up through the top of the speaker, only out of the front of the speaker.*

WiFi & Audio Kit installation
Subwoofer

Step 15: Mount the subwoofer over the speaker base plate. Using the strap included in the kit, bring the strap over the subwoofer and screw the strapping down.

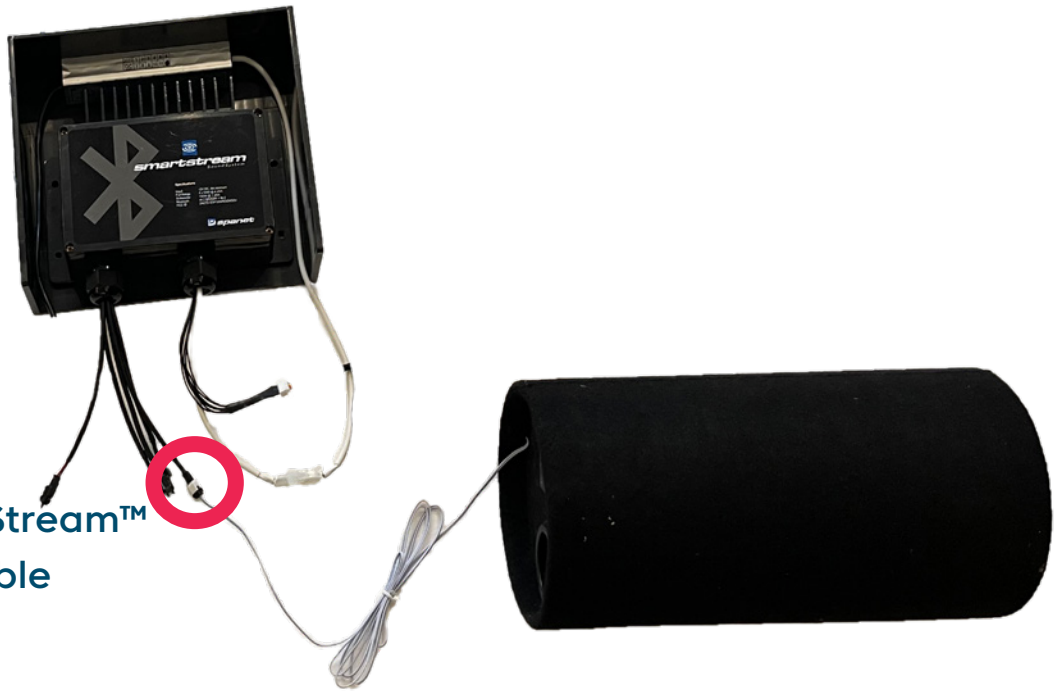
Note: *You might have to pull out one of the side panels of your spa to run the cables around to the subwoofer location. (Check Vortex Spas™ Owner's Manual for your spa equipment location)*

WiFi & Audio Kit installation
Subwoofer

Step 16: The subwoofer in your Vortex Audio Kit comes with a pre-installed cable. Run the cable(A) to the black box where the stereo and transformer are mounted.

Connect the subwoofer cable(A) to the cable coming from the SmartStream™ box(B). The pre-installed cable is also white.

A. Subwoofer cable



B. SmartStream™ box cable

Vortex™ Spas

WiFi & Audio Kit Installation

WiFi module installation

WiFi & Audio Kit installation
Module installation

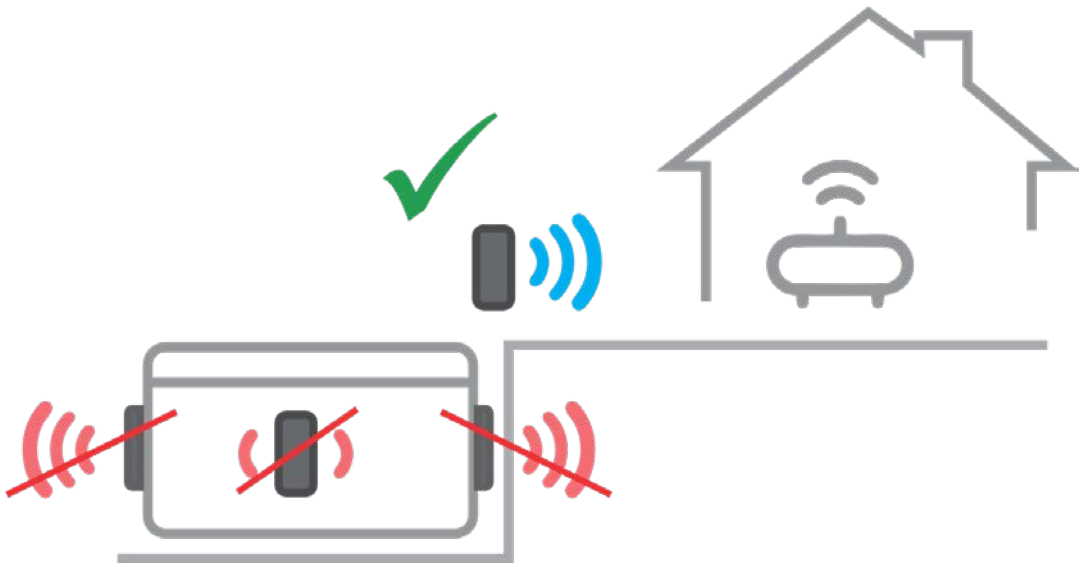
In most instances your SmartLink™ module will be pre-fitted under your spa cabinet or assigned to a designated place by your spa manufacturer. Dependant on spa and module location, orientation, number and type of walls between spa and router, router signal output quality and strength, insulation material used on spa cabinet and other factors, the WiFi signal received under the spa cabinet may or may not be strong enough for reliable operation.

The SmartLink™ module has been designed as an external unit, so if WiFi strength is weaker your module has not been pre-fitted to your spa please consider the below points before determining your final installation location.

Locate SmartLink™ module in position with best line of sight to router.

WiFi & Audio Kit installation
Module installation

If the spa is located in a pit or under decking, locate module above ground in a weather protected area with line of sight to router.



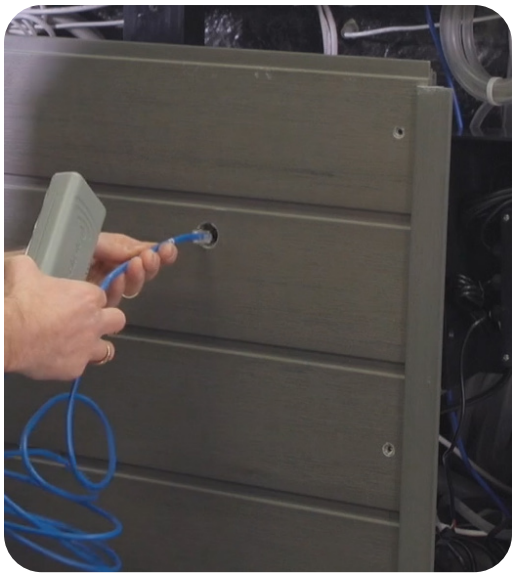
Note: *Longer data cable may be required. Do not extend existing data cable, replace if longer length required, maximum cable length = 10m.*

WiFi & Audio Kit installation
Module installation

Step 1: Locate the pre-drilled hole on the corner panel your spa cabinet. Remove the cabinet panel.

Caution: *We recommend two people when removing the cabinet panel to avoid getting your fingers pinched under the cabinet panel.*

Step 2: Push the SmartLink™ RJ data cable cable through the hole.

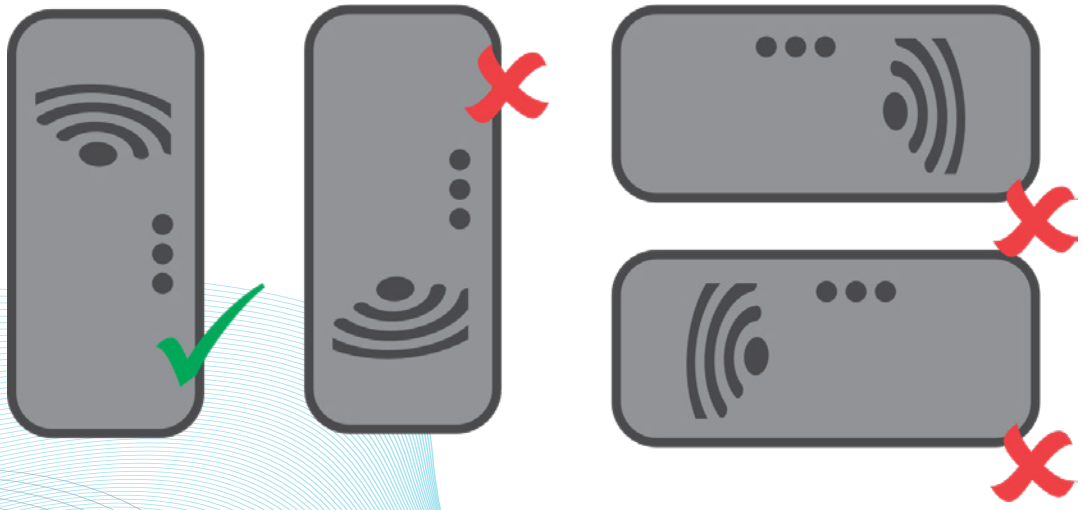


Vortex™ Spas

WiFi & Audio Kit installation
Module installation

Step 3: Attach the module vertically to the cabinet panel covering the pre-drilled hole. Use the adhesive backing for the module to secure the module onto the spa cabinet.

Step 4: The module must be orientated vertically to receive adequate signal strength with WiFi logo at top to maintain water protection.

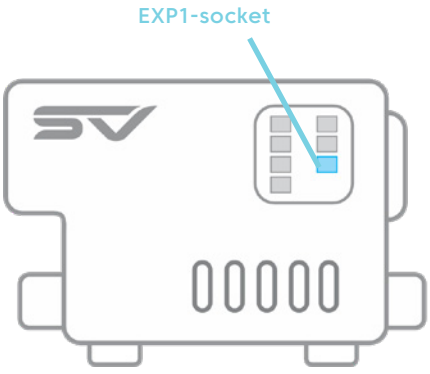


WiFi & Audio Kit Installation
Module installation

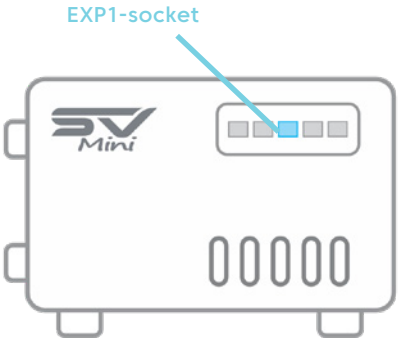
WARNING **YOU MUST TURN OFF POWER BEFORE DOING THIS WORK,** particularly on the SV Mini controllers. The power cord must be unplugged. If it is hardwired, an electrician will need to install the WIFI unit as the controller's entire face has to be removed and the power connections will be exposed. (This is irrelevant for SV2, SV3 & SV4 as they have separate panel access for low voltage.)

Step 5: The SmartLink™ RJ data cable MUST be connected to the EXP1 (Expand Port 1) socket on your SV spa controller.

The module CANNOT be connected to any other socket. The EXP1 socket can be found in the top right-hand corner of your SV Series spa control.



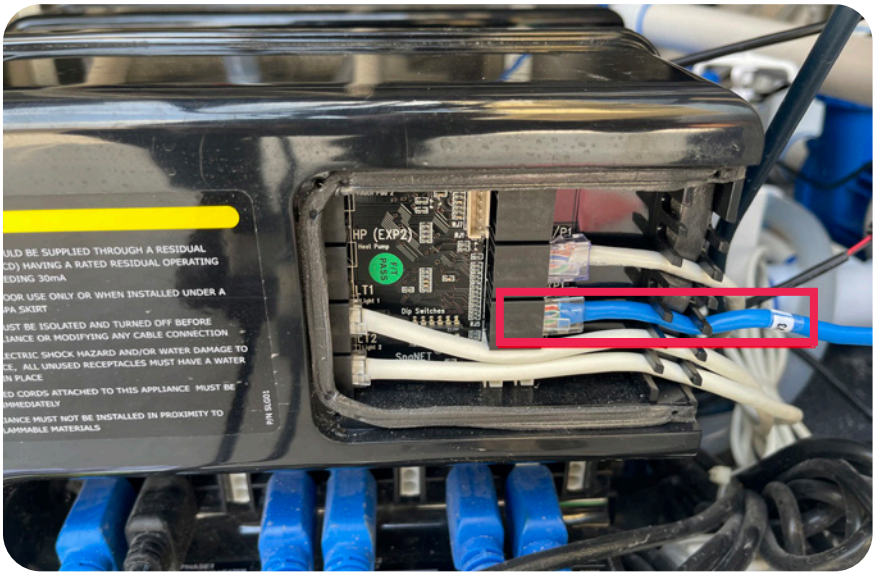
SV2, SV3, SV4 Controller



SV1 Mini Controller

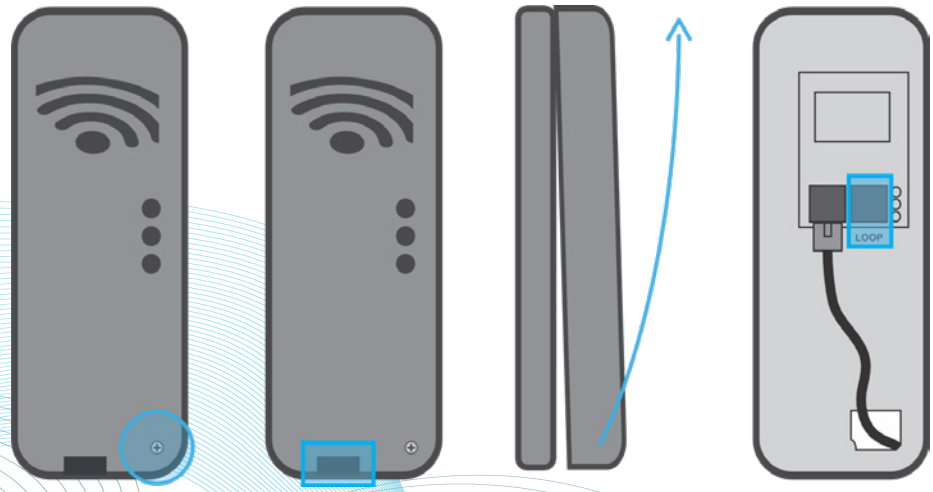
Vortex Spas

WiFi & Audio Kit Installation
Module installation



SV2, SV3, SV4 Controller socket

Note: *If EXP1 socket already populated, remove that cable from EXP1 and connect it to the LOOP socket inside module. Ensure data cable coming from SmartLink™connects directly to EXP1 socket.*



WiFi Internet Access
SSID Name and Router Password

The SmartLink™ WiFi module requires a permanent, active Internet connection via a wireless router to operate. To be able to access your spa from anywhere, at any time, the router must remain powered on at all times. WiFi signal strength is extremely important for stable, reliable app operation. If the WiFi signal is too weak, the app setup process may not be able to be completed or the spa could have intermittent connections and drop offs. In this situation the WiFi signal would need to be boosted/improved by either ensuring your SmartLink™ module is mounted external to the spa cabinet, relocating your router, installing an additional access point or WiFi range extender in closer proximity to the spa.

Know your SSID Name and Router password

Before beginning the SmartLink™ App setup process you must be aware of your WiFi router's SSID (network name) and password. Failure to have these login credentials on hand whilst you are beside the spa completing the setup process may lead to a failed setup. The login credentials may be labeled on the WiFi router and/or on a card your ISP supplied at time of installation.

Please bring the ISP card with you or write them here for reference:

Router SSID name: .....
Router password: .....

Note: *Your router password is case sensitive and must be entered 100% correct during the setup process for a successful installation.* **The SmartLink™ module CANNOT interrogate your password to ensure it is correct. It relies on you entering it correctly**. *If the password is entered incorrectly you will have to complete the setup process again.*

Vortex™ Spas

WiFi internet access

SSID Name and Router password

SPECIAL PASSWORD NOTE FOR V2 MODULES

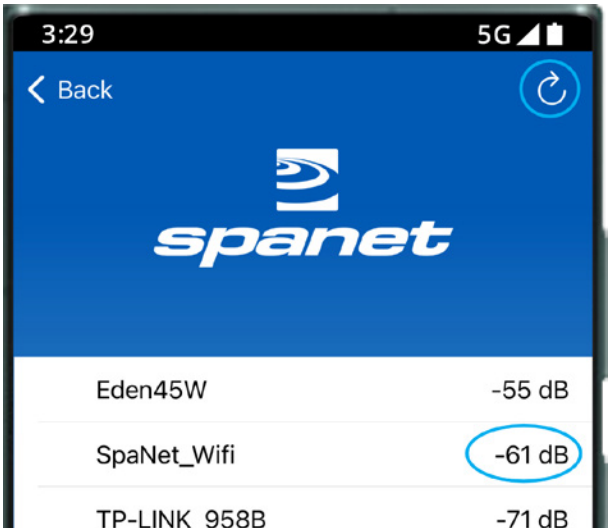
The V2 module CANNOT support the use of a % character, or space in your router password. If your router's password contains a % or space, you either need to change your password, or setup a guest network within your router setup and assign a password that does not contain % or spaces for that guest network. If you fail to do this, the app setup process will complete but your spa will never come online and always report offline.

WiFi signal strength

WiFi signal strength is extremely important for reliable communication between the SmartLink™ WiFi module and your router. A strong WiFi signal to the SmartLink™ will result in the app being stable, respond faster and the spa will remain online. A weak WiFi signal can cause the app to respond slowly, timeout or cause the spa to drop off line. During the setup process the app will display a list of wireless network SSIDs discovered in proximity to the spa. The signal strength of each network is detailed on the right-hand side in decibels (-dB). The closer the value is to 0, the stronger the signal. This means that -64dB is a stronger signal than -70dB.

A value of -70dB or better is required for reliable operation of V2 modules. A value of -80dB or better is required for reliable operation of V3 modules.

WiFi signal strength



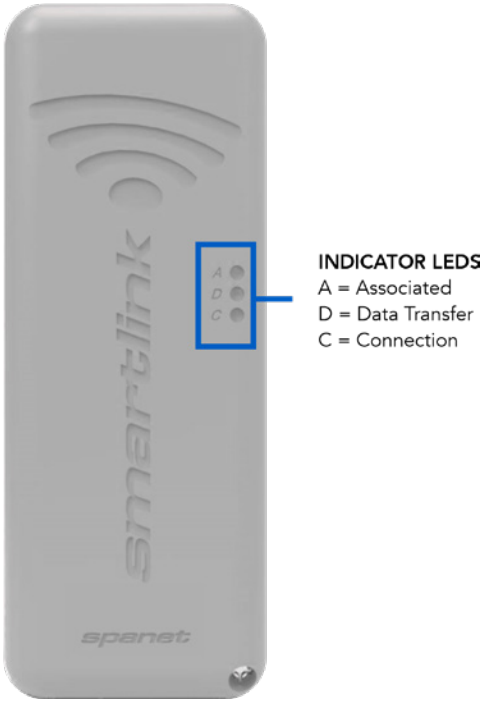
Note: *During the setup process you can use the refresh arrow in the top right corner to perform another WiFi scan and update the dB signal readings (refer picture above). This can be helpful if you are trying to determine the best position for mounting your SmartLink™ module or router.*

Indicator LEDs V2 & V3 Modules

V2 Module

The indicator LEDs on the SmartLink™ module help determine the connection status, mode or activity the module is experiencing. Three indicator LEDs are provided. There are differences between the indicator LED operation between V2 and V3 modules. Please refer to following page carefully for the definition of indicator LEDs on each respective model.

V2 Modules



Associated (Red LED)
Flashing – No WiFi connection
Off – Connected to WiFi network/router

Data Transfer (Blue LED)
On or Flashing – Data is being transferred

Connection Status (Green LED)
On Solid – TCP connection live, spa online
Fast Flash – No IP address assigned or module in command mode
Slow Flash – WiFi connected but no TCP connection

Indicator LEDs V3 Modules

V3 Module

V3 Modules

Associated (Red LED)
On – Module is receiving 12V power
Off – Data cable disconnected or no 12V power

Data Transfer (Blue LED)
On or Flashing – Data is being transferred

Connection Status (Green, Purple, Blue or Yellow LED)
Green – No WiFi connection
Purple – WiFi connected but no TCP connection
Blue – TCP connection live, spa online
Yellow – In command/programming mode

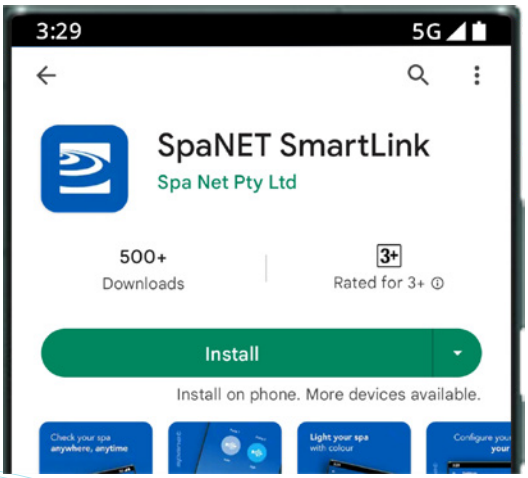
Vortex™ Spas

Install the SpaNET™ SmartLink™ App

The SmartLink™ App is available for both Apple® or Android™ devices. Open App Store or Google Play and search, “SpaNET Smartlink” or use the QR codes below.

Download on the App Store

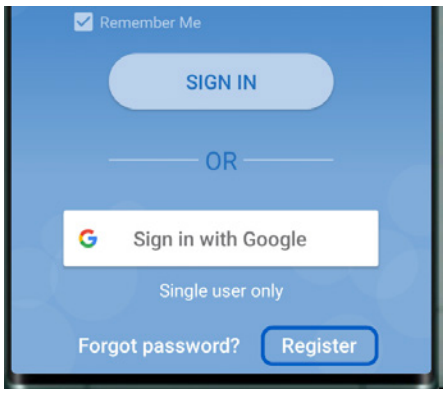
GET IT ON Google Play



Register a user account

With the SmartLink™ App now installed you need to register a user account on the SpaNET™ cloud servers which provides a secure and encrypted login to access your spa. Your user account can support multiple SV controllers being configured on the one account in case you own a dual-zone swim spa, or more than one spa at the same or different locations.

A registered account also allows other family members to download the app, login to your registered account, and access the spa on their respective devices.



You only ever need to register ONE user account once, even if you wish to operate the app across multiple smart devices, concurrently or individually. *Complete the user account registration on your first device and take note of the username and password you select during the registration process. On other devices, simply download and install the app and then enter the username and password you have already registered to login to the app. DO NOT complete multiple registrations on each new device.* ***A spa can only be linked to one user account.***

Vortex™ Spas

Sign in with Apple® ID or Google® account

REGISTERED EMAIL ADDRESS MUST BE VERIFIED BEFORE SIGN IN

Be sure to check your email after registration and click on the Verify Email link before signing in.

The SmartLink™ app provides the convenience of signing in with either an Apple® or Google® account however there is a limitation if you choose to do this: A spa can only be linked to one Apple® or Google® account.

So, if the app is only to be used on one or more devices using the same Apple/Google account, you can use the respective sign in buttons aside.

Note: *If multiple family members wish to access the spa from their own devices using a different Apple® or Google® account this sign in option should NOT be used. This sign in is only suitable for single users.*

SmartLink™ App Setup
V3 Module App setup

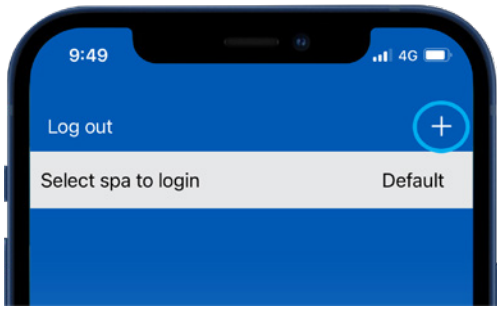
With the user account now registered, you need to configure the internet access to your spa in the same way you would connect a laptop or TV to your WiFi router. The setup process is a one-time event that programs the SmartLink™ WiFi module with your router's login credentials (SSID and password) for internet access and links the spa to your user account on the SmartLink™ servers.

Unless your router login credentials change, you won't need to run the setup process again.
To complete the setup process, ensure that:

- Your smart device is connected to a local WiFi network or is using 4G/5G cellular data.
- **You have the login credentials for your router (WiFi network password) at hand.**
- You are standing within close proximity (1-2m) of the spa.

V3 Modules App Setup Apple® and Android®

Step 1: Sign-in to app and press on the + button to add a new spa to the user account you are signed in to.



Note: *A spa can only be set up and accessed on one user account, however multiple spas can be added to the same user account.*

Vortex™ Spas

SmartLink™ App setup

V3 Module App setup

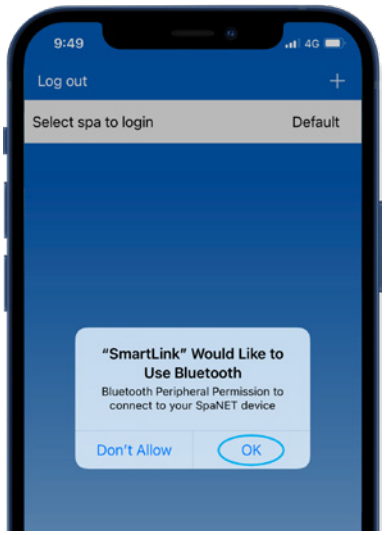
Step 2: Ensure you know your WiFi password or have it with you and press Begin.

Step 3: Press on the SmartLink™ V3 module picture to begin setup.

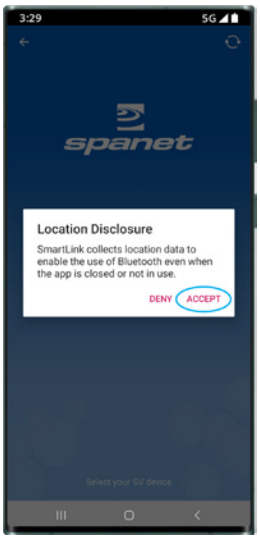
SmartLink™ App Setup

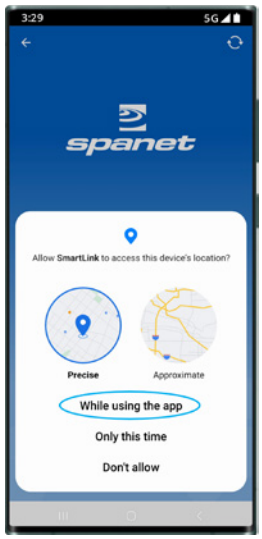
V3 Module App setup

Step 4: (Apple®) Bluetooth® is required for module for module setup to allow access.



Step 4: (Android®) Bluetooth® is required for module setup, Accept Location Disclosure and then enable Precise location access, while using the app.



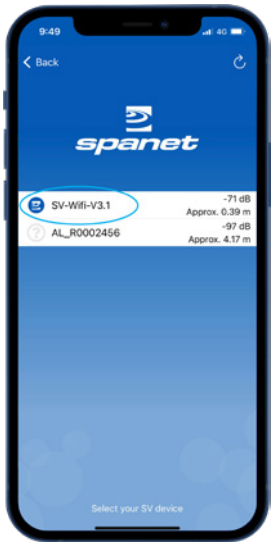


Vortex™ Spas

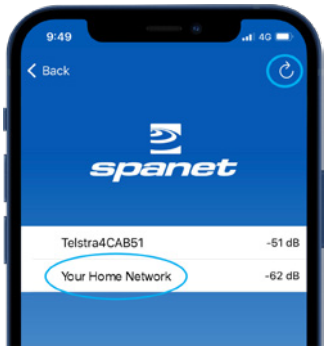
SmartLink™ App setup

V3 Module App setup

Step 5: Select SV-Wifi-V3.1 module to start scanning for local WiFi networks.



Step 6: Select WiFi network to connect to.



Note: *If no WiFi network found, relocate module to a better position and use the refresh button to conduct a new WiFi scan to see if signal has improved. Signal strengths closer to 0 are stronger. If problems are experienced go Back and re-start process.*

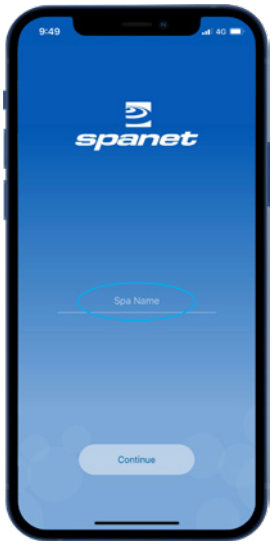
SmartLink™ App Setup

V3 Module App setup

Step 7: Enter WiFi password, press the eye icon to check it is correct before saving.

Note: *Take care when entering password, the SmartLink™ module or app cannot check or verify the password. It relies on correct entry. If the password is incorrect, you must delete the spa instance and start the setup process again.*

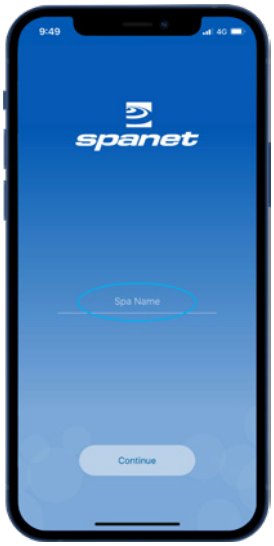
Step 8: Enter a name for your spa pool, then press Continue, then press Finish.



SmartLink™ App setup

V3 Module App Setup

Step 9: Enter a name for your spa pool, then press Continue, then press Finish.



Now setup is complete you will be returned to the spa list page, where the spa instance will be displayed as Offline.

SmartLink™ App setup
V3 Module App setup

Assuming your WiFi network signal was reasonable, and password entered correctly, after a short period the spa will show online.

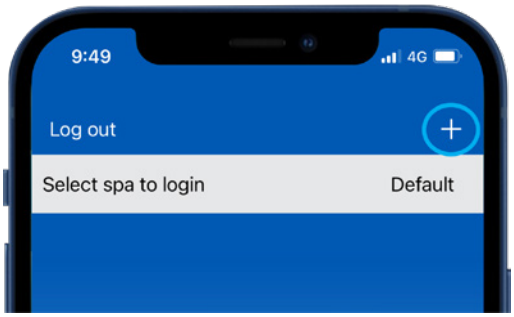
If you only have one spa, or if you wish the app to automatically open to the dashboard page of a particular spa (where multiple spas are listed on the one account) rather than opening to this spa list page each time, enable the default slider. A user can always return from the app dashboard page to the spa list page by using the Back arrow in the top left corner of the screen.

Vortex™ Spas

SmartLink™ App setup

V2 module Apple® iOS Devices

Step 1: Sign-in to app and press on the + button to add a new spa to the user account you are signed in to.



Note: *A spa can only be setup and accessed on one user account, however multiple spas can be added to the same user account.*

Step 2: Ensure you know your WiFi password or have it with you and press Begin

SmartLink™ App setup

V2 Module App setup

Step 3: Press on the SmartLink™ V1 or V2 module picture to begin setup.

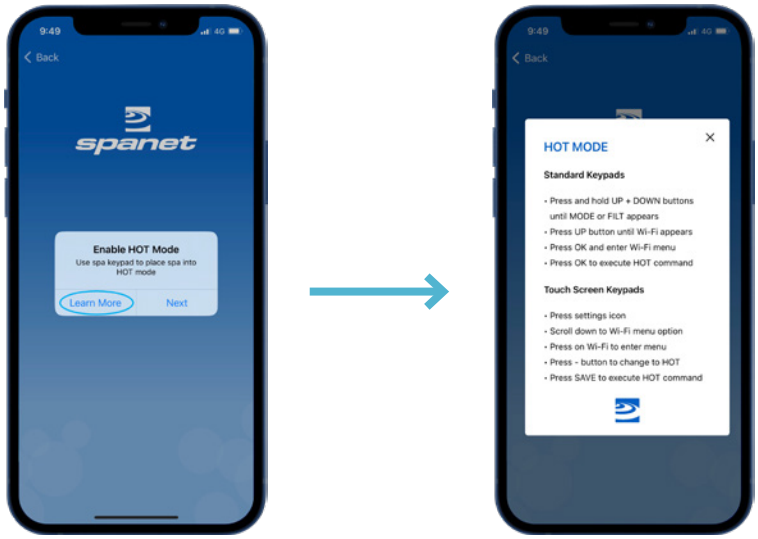
Step 4: You are prompted to use the spa keypad to put the SmartLink™ V2 module into HOT (programming) mode.

Vortex™ Spas

SmartLink™ App setup

V2 module App setup

Learn More: Provides instructions on how to use the spa keypad to enable HOT mode. Carry out those instructions.

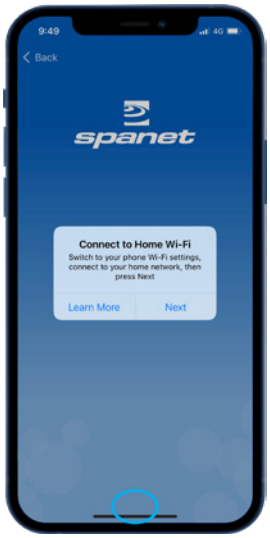


Step 5: Once you have executed the HOT command via the spa keypad and display has returned to temp reading press Next.

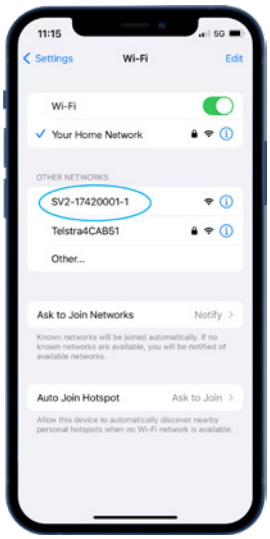
SmartLink™ App setup

V2 Module App setup

Step 6: You are prompted to connect to the SV WiFi network. Press or slide your Apple® Home button and navigate/ switch to your Apple® WiFi settings. Do NOT press Next.



Step 7: Within your WiFi settings locate and connect to the SVx-xxxxxxx or SVMx-xxxxxxx network, and wait for a short period.

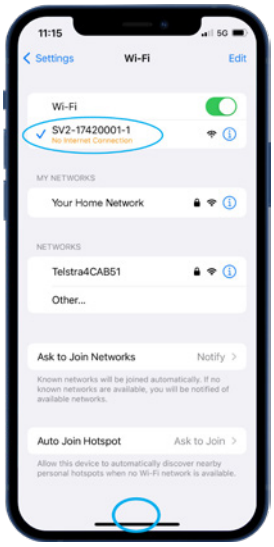


Vortex™ Spas

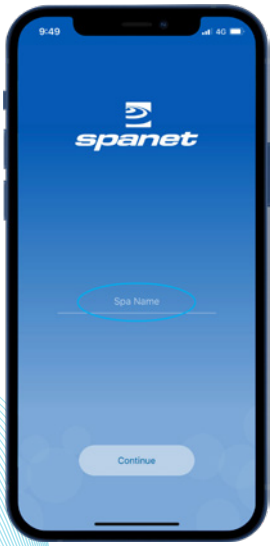
SmartLink™ App setup

V2 module App setup

Step 8: Once connected to the SVx-xxxxxx network and “No Internet Connection” appears, press or slide the Apple® Home button to switch back to the SmartLink app.



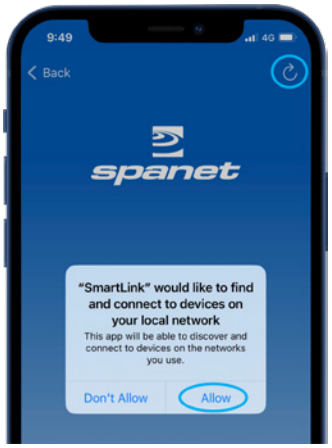
Step 9: Press Next to start scanning for nearby WiFi networks. Wait for scan to complete before pressing anything else.



SmartLink™ App setup

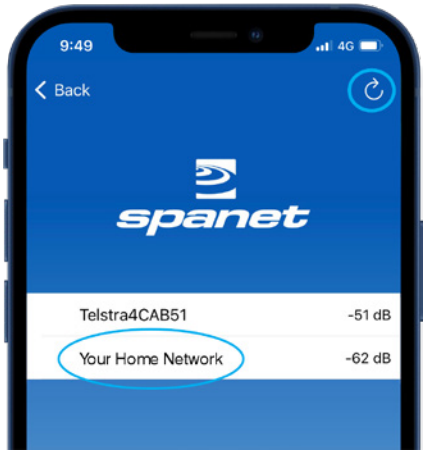
V2 Module App setup

Step 9a: If this is the first time you have run the setup process for a V2 module you will need to Allow permission for a WiFi scan.



Note: *The granting of this permission will often interfere with the initial WiFi scan causing an error. If this occurs press the refresh button to conduct a new WiFi scan.*

Step 10: Select WiFi network to connect to.



Vortex™ Spas

SmartLink™ App setup

V2 module App setup

Step 11: iOS Smart network switching will attempt to drop the SV network which interrupts the setup. You MUST select **“Keep Trying Wi-Fi”**

Note: *If no WiFi network found, relocate SmartLink™ module to a better position and use the refresh button to conduct a new WiFi scan to see if signal has improved. Signal strengths closer to 0 are stronger.*

V2 modules require a minimum signal strength of -70dB for reliable operation.

SmartLink™ App setup

V2 Module App setup

Step 12: Enter WiFi password, press the eye icon to check it is correct before saving.

Note: *Take care when entering password, the SmartLink module or app cannot check or verify the password. If password is incorrect, you must delete the spa and start the setup process again.*

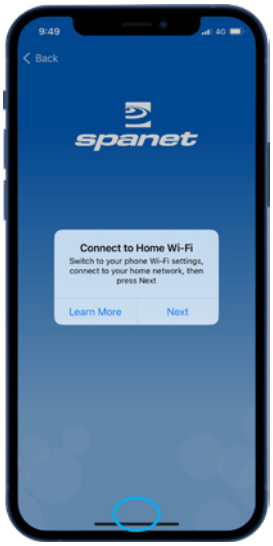
V2 modules DO NOT support the % character or spaces in the password. If your network password includes either character, you must change it or setup a guest network with a different password.

Vortex™ Spas

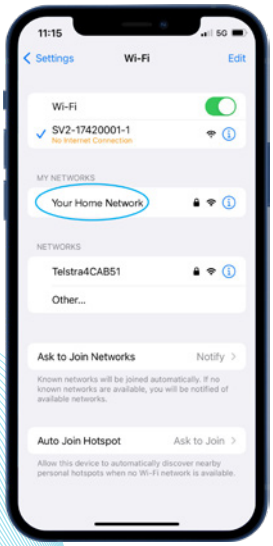
SmartLink™ App setup

V2 module App setup

Step 13: You are prompted to reconnect to your home WiFi network. Press or slide your Apple® Home button and navigate/ switch to Apple® WiFi settings.
Do NOT press Next.



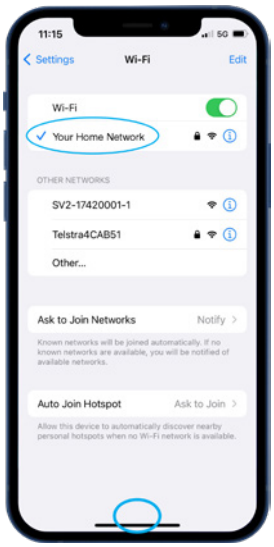
Step 14: Within your WiFi settings ensure your phone has reconnected to your home WiFi network. If this has not occurred automatically, manually select it.



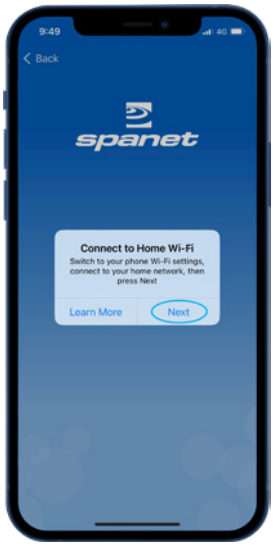
SmartLink™ App setup

V2 Module App setup

Step 15: Once reconnected to your home WiFi network, press or slide the Apple® Home button to switch back to the SmartLink app.



Step 16: Press **Next** to proceed to the final step of naming your spa.

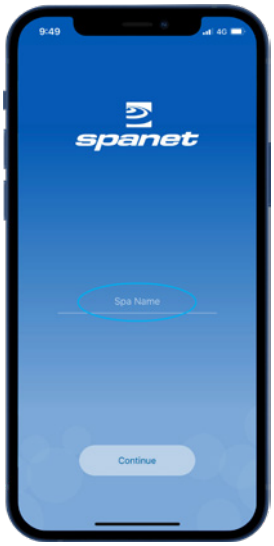


Vortex™ Spas

SmartLink™ App setup

V2 module App setup

Step 17: Enter name for your spa then press Continue, then Finish to complete setup.



Now setup is complete you will be returned to the spa list page, where the spa instance will be displayed as offline.

SmartLink™ App setup

V2 Module App setup

Assuming your WiFi network signal was reasonable, and password entered correctly, after a short period the spa will show online.

If you only have one spa, or if you wish the app to automatically open to the dashboard page of a particular spa (where multiple spas are listed on the one account) rather than opening to this spa list page each time, enable the default slider. A user can always return from the app dashboard page to the spa list page by using the Back arrow in the top left corner of the screen.

Vortex™ Spas

SmartLink™ setup process

Smart network switch warning

Android™ Devices

Whilst most Android™ devices will complete the following V2 module app setup process without any problems or settings changes required, we have encountered certain models of the following manufacturers phones that can sometimes freeze or crash during the app setup process:

- Google® Pixel devices
- Certain Samsung models (particularly A or Z Series)
- Some Oppo models

The problems arise from often hidden Smart network switching or Intelligent Wi-Fi functions within the Android™ platform that choose to disconnect from a deemed weak WiFi connection and automatically switch to an alternative nearby WiFi network or 4G/5G mobile data. If these smart features remain enabled, during certain parts of the setup process the phone will deem the V2 SmartLink™ network weak, the connection will be dropped, causing the app to crash or hang.

To overcome this, we recommend that all Android™ users search their WiFi Advanced preferences and disable any Smart Switch feature. These features can be re-enabled after the SmartLink™ app setup process is complete, as they only affect the initial app setup process on V2 modules.

SmartLink™ setup process

Smart network switch warning

How to disable on Google Pixel

Navigate to WiFi Settings > WiFi Preferences > Advanced
Disable **Switch to mobile data**

How to disable on Samsung devices

Navigate to WiFi Settings > Advanced or Intelligent Wi-Fi
Disable **Switch to mobile data**
Disable **Switch to better Wi-Fi networks**

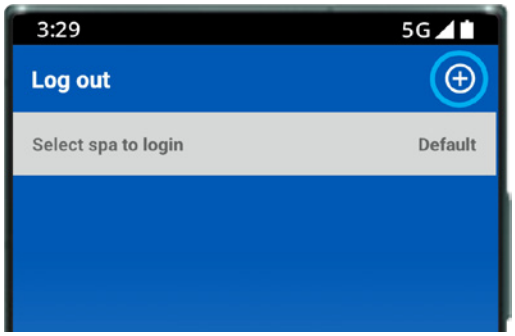
How to disable on Oppo devices

Navigate to WiFi Settings > Advanced Settings > Wi-Fi Assistant
Disable **Auto connect to best Wi-Fi**
Disable **Auto switch to mobile network**

SmartLink™ App Setup

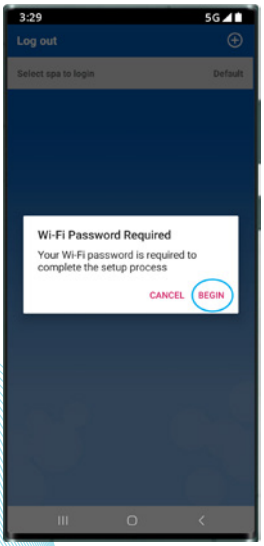
V2 Module Android devices

Step 1: Sign-in to app and press on the + button to add a new spa to the user account you are signed in to.



Note: *A spa can only be setup and accessed on one user account, however multiple spas can be added to the same user account.*

Step 2: Ensure you know your WiFi password or have it with you and press Begin.

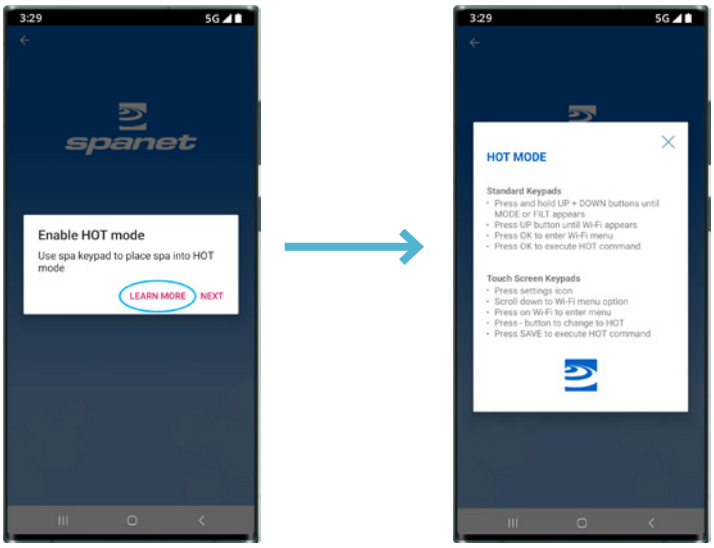


SmartLink™ App setup

V2 Module App setup

Step 3: Press on the SmartLink™ V1 or V2 module picture to begin setup.

Step 4: You are prompted to use the spa keypad to put the SmartLink™ V2 module into HOT (programming) mode.



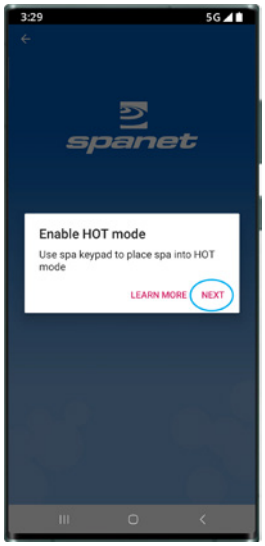
Learn More: Provides instructions on how to use the spa keypad to enable HOT mode. Carry out those instructions.

Vortex™ Spas

SmartLink™ App setup

V2 Module Android™ devices

Step 5: Once you have executed the **HOT** command via the spa keypad and display has returned to temp reading press **Next**.

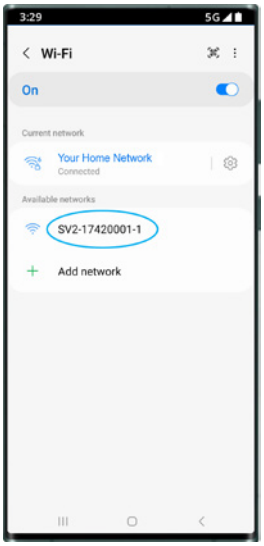


Step 6: You are prompted to connect to the SV WiFi network. Press **Next** to launch directly into your Android™ WiFi settings.

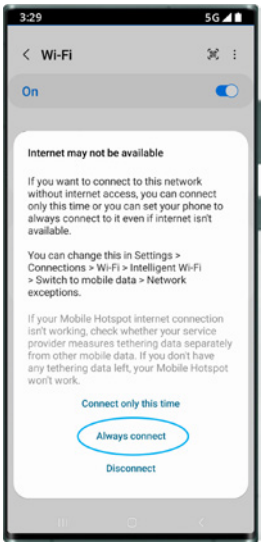
SmartLink™ App setup

V2 Module App setup

Step 7: Within your WiFi settings locate and select the SVx-xxxxxxx or SVMx-xxxxxxx network and **wait for a short period.**



Step 7a: On the first time connecting to the SVx-xxxxxxx network you will receive a no Internet connection warning. **You MUST select: Always Connect / Stay Connected / Keep Wi-Fi Connection.**

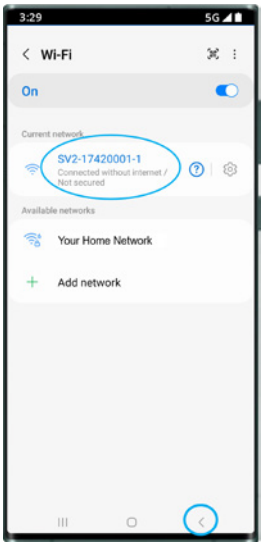


Vortex™ Spas

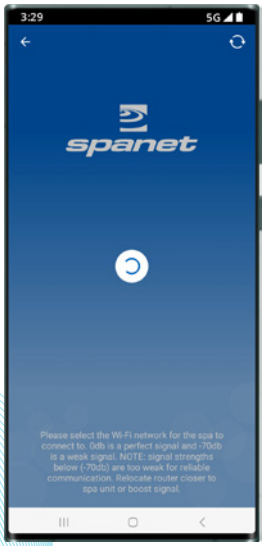
SmartLink™ App setup

V2 Module App setup

Step 8: Once connected to the SVx-xxxxxx network and **"Connected without Internet"** is displayed, press the Android Back button to return to the SmartLink app



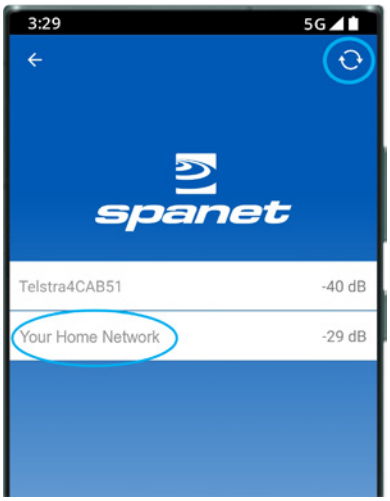
Step 9: You are prompted to connect to the SV WiFi network. Press **Next** to launch directly into your Android™ WiFi settings.



SmartLink™ App setup

V2 Module App setup

Step 10: Select WiFi network to connect to.



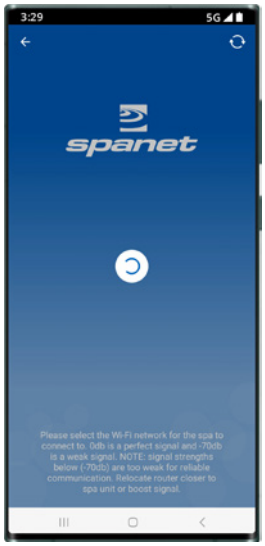
Note: *If no WiFi network found, relocate SmartLink™ module to a better position and use the refresh button to conduct a new WiFi scan to see if signal has improved. Signal strengths closer to 0 are stronger.*

V2 modules require a minimum signal strength of -70dB for reliable operation.

SmartLink™ App setup

V2 Module Android™ devices

Step 11: Enter WiFi password, press the eye icon to check it is correct before saving.

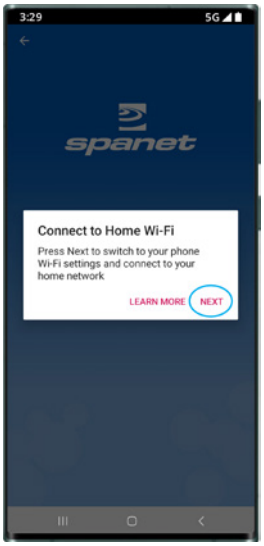


Note: *Take care when entering password, the SmartLink™ module or app cannot check or verify the password. If password is incorrect, you must delete the spa and start the setup process again.*

SmartLink™ App setup

V2 Module App setup

Step 12: You are prompted to reconnect to your home WiFi network. Press **Next** to launch directly into the Android™ WiFi settings.



SPECIAL PASSWORD NOTE FOR V2 MODULES ONLY

The V2 module CANNOT support the use of a % character, or space in your router password. If your router's password contains a % or space, you either need to change your password, or setup a guest network within your router setup and assign a password that does not contain % or spaces for that guest network. If you fail to do this, the app setup process will complete but your spa will never come online and always report offline.

Vortex™ Spas

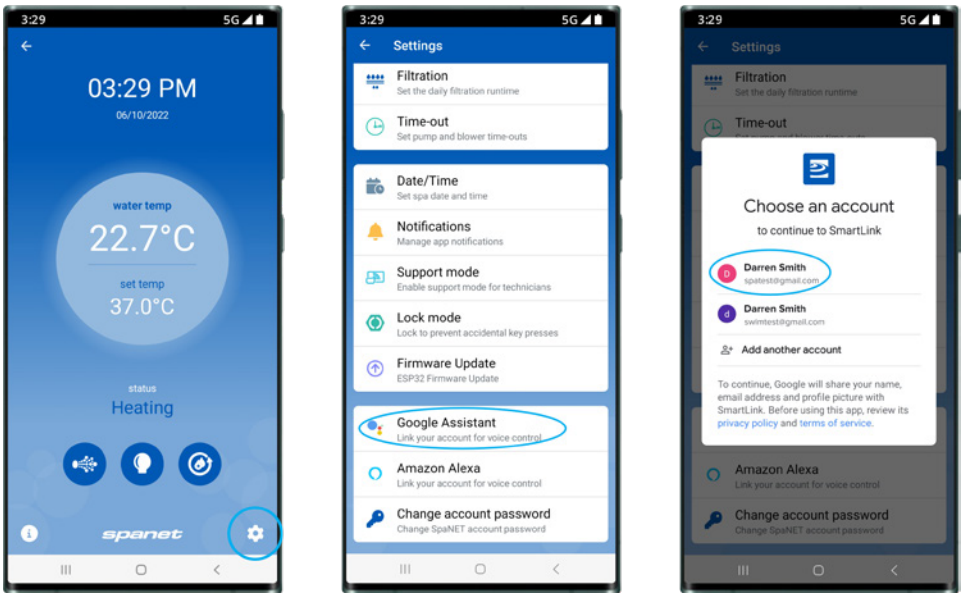
MySpaPool Voice Control

Link spa to Google® Assistant

The MySpaPool vocal skill allows you to control any spa pool fitted with our SmartLink module by voice commands. Available on both Google® Assistant and Amazon® Alexa platforms, you can now talk to your spa to activate accessories and alter settings or ask it questions about active modes, settings and status. It really is as simple as talking to your spa.

Step 1: Link your Google® account to SmartLink App

Open the app, tap the Settings icon, scroll to bottom of settings list and tap the Google® Assistant option. Then select your Google® Account to link.

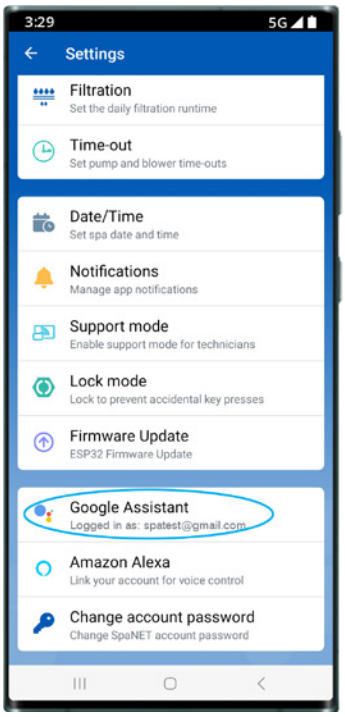


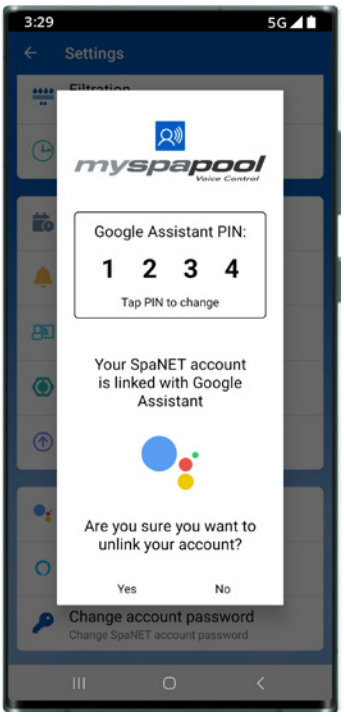
Important: *If you have multiple accounts, make sure to select the account that is linked to your Google® Home device(s).*

MySpaPool Voice Control
Link spa to Google® Assistant

Step 2: Set Google® Assistant PIN within SmartLink™ App

To meet new Google® security requirements, you must set a pin number for the Google® Assistant voice action to work. From within the SmartLink™ app Setting list once again tap on the Google® Assistant option and set a four digit pin.



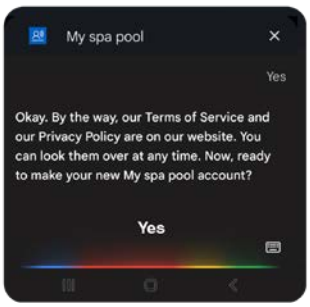


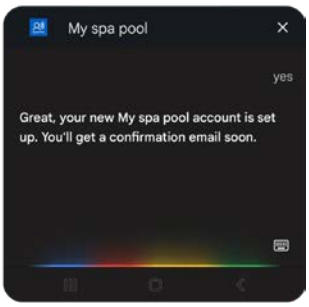
Vortex™ Spas

MySpaPool Voice Control
Link spa to Google® Assistant

Step 3: Link Google® Assistant to the MySpaPool action

You may start by saying “Hey Google, talk to my spa pool”. A prompt will appear asking your permission to set up MySpaPool using your Google® account details. Answer ‘Yes’ to this and Terms of Service to successfully complete the account linking step.

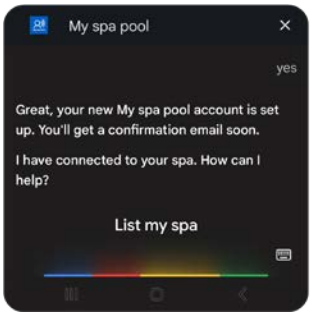


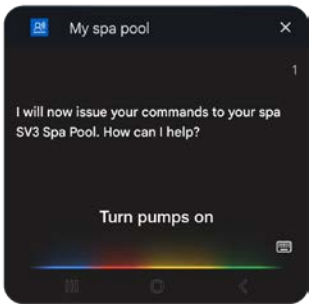


MySpaPool Voice Control
Link spa to Google® Assistant

Step 4: Link your spa to MySpaPool action

Once the account has been linked, the final step is to choose which spa to issue commands to Say, “List my spa”, and Google® will then list the name(s) of any spa setup on your SmartLink™ app. Please select the spa number and not the spa name for Google to recognise your preference.





Note: *On most installs, you will say “1”*

Change Spas: *In the case of owning multiple spas or dual-zone swim spas, if you want to change the spa the voice control links to, simply issue the “Hey Google... ask my spa pool... list my spa” command again and select a different spa number.*

Vortex™ Spas

Link spa to Amazon™ Alexa

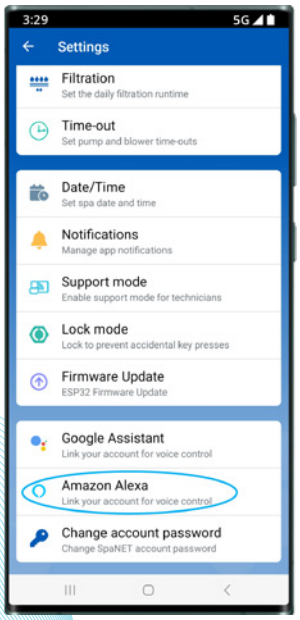
Voice control

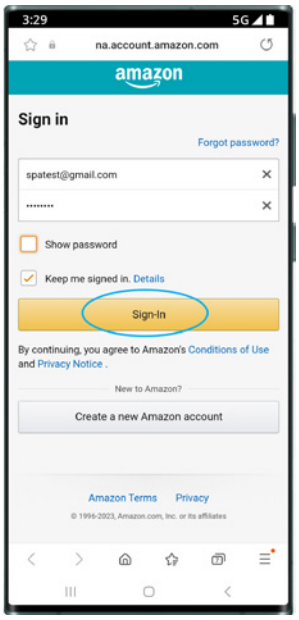
Linking your spa to Alexa™ is fairly straight forward. To help you do this follow the steps below.

Note: *The following setup steps assume you already have a registered Amazon™ account and have the Amazon™ Alexa app downloaded and installed on your smart phone.*

Step 1: Link your Amazon™ Alexa account to SmartLink™ app

Open the app, tap the Settings icon, scroll to bottom of settings list and tap the Amazon™ Alexa option. A prompt will appear asking permission to Sign-In to your Amazon™ account. To confirm your acceptance and complete the linking process, enter your login details and tap **“Sign-In”**



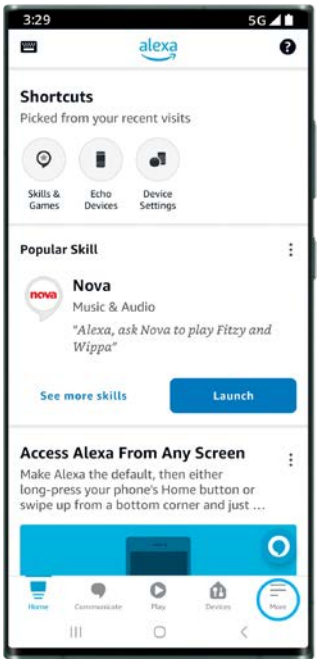


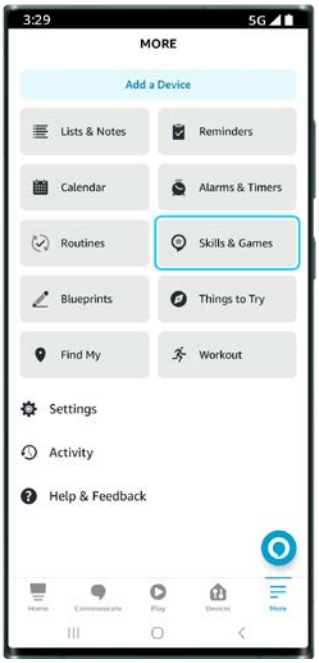
Link spa to Amazon™ Alexa

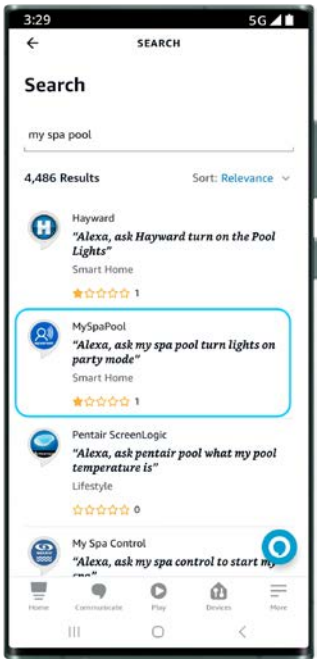
Voice control

Step 2: Search the MySpaPool skill

Open the Amazon™ Alexa app using your smart phone, then using the menu bar of the app, navigate to Skills & Games, then in the search bar type **“my spa pool”** then tap on it to select.







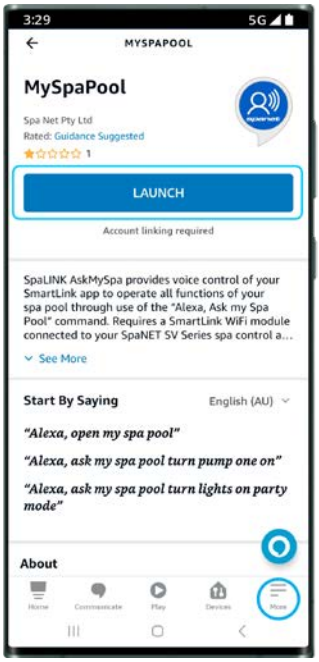
Vortex™ Spas

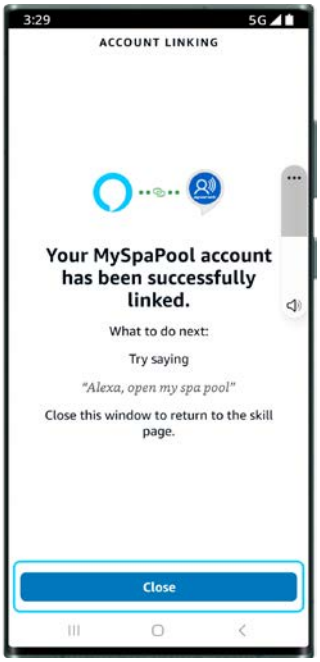
Link spa to Amazon™ Alexa

Voice control

Step 3: Link your Amazon Alexa™ app to MySpaPool skill

To complete the MySpaPool skill linking to your Alexa account and devices simply tap on **“Launch”** or **“Enable to use”** (depending on device). A prompt will appear to complete the link, simply tap on “Allow”. Now that you’ve successfully linked the two, the final step is to link your spa to the MySpaPool voice control skill.





Link spa to Amazon™ Alexa
Voice control

Step 4: Link your spa to MySpaPool skill

Once the account has been linked, the final step is to choose which spa to issue commands to. Using either the Amazon™ Alexa app or an Alexa device, start by saying, **“Hey Alexa... ask my spa pool... list my spa”**. and Alexa will then list the name(s) of any spa setup on your SmartLink™ app. Please select the spa number and not the spa name for Alexa to recognise your preference.

Note: *On most installs, you will say “1”.*

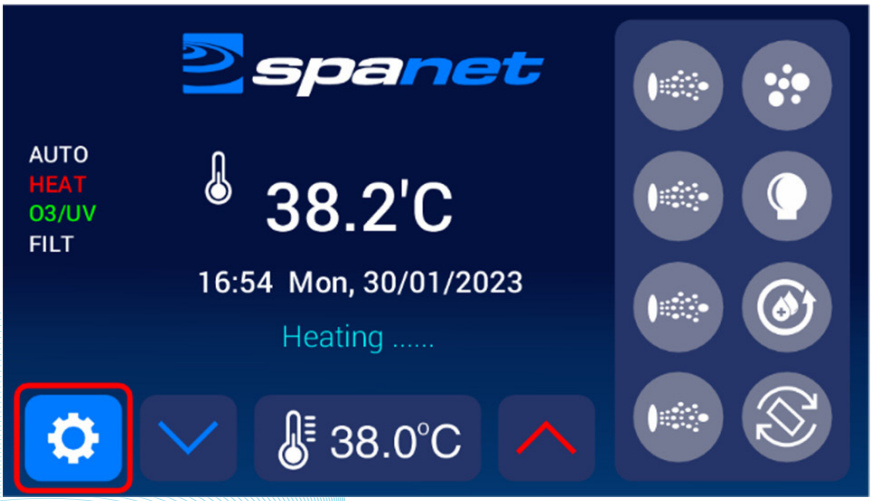
Now the setup is complete, you can start giving vocal commands to your spa. For example, you can say, **“Hey Alexa... ask my spa pool... turn pumps on”**

Change Spas: *In the case of owning multiple spas or dual-zone swim spas, if you want to change the spa the voice control links to, simply issue the “Hey Alexa... ask my spa pool... list my spa” command again and select a different spa number.*

Enable Stereo support on SmartTouch™ Keypad

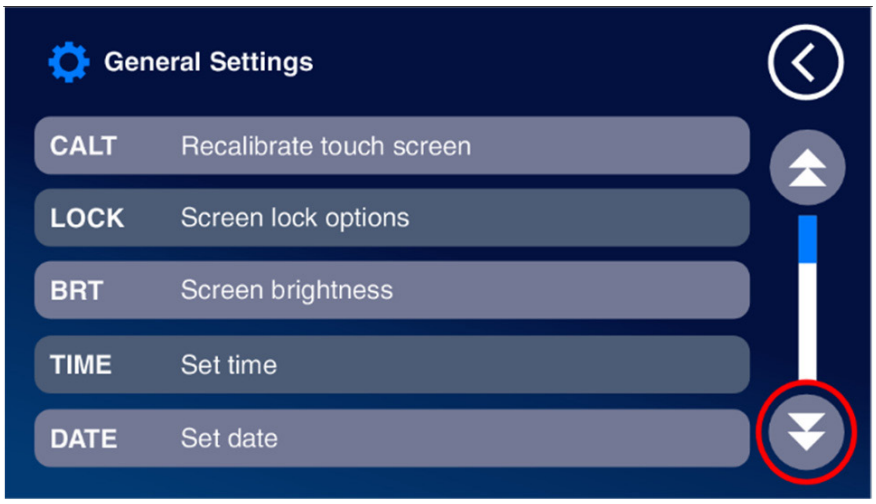
In addition to the cable connection to the SmartStream™ module, a software setting must be enabled from within the SmartTouch Advanced Menu for the stereo interface to work.

Step 1: Press on Cog icon to enter the General Settings menu.

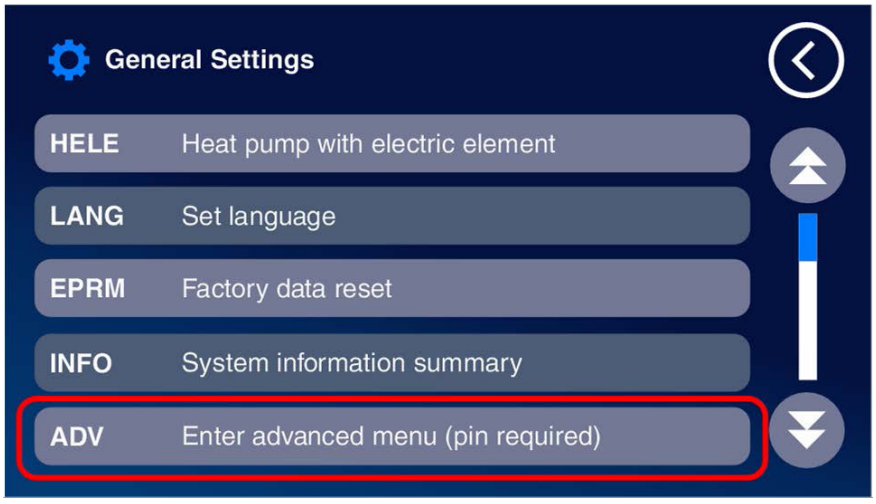


Enable Stereo support on SmartTouch™ Keypad

Step 2: Scroll to bottom of General Settings Menu.

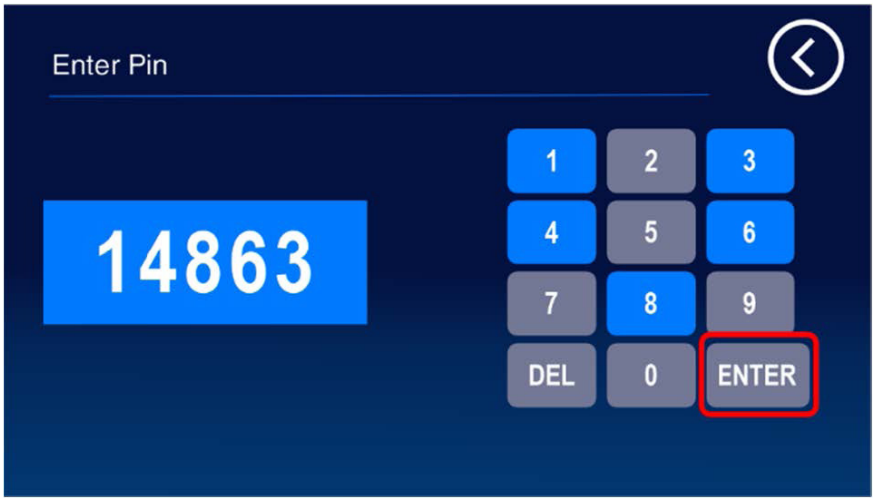


Step 3: Select ADV - Enter advanced menu.

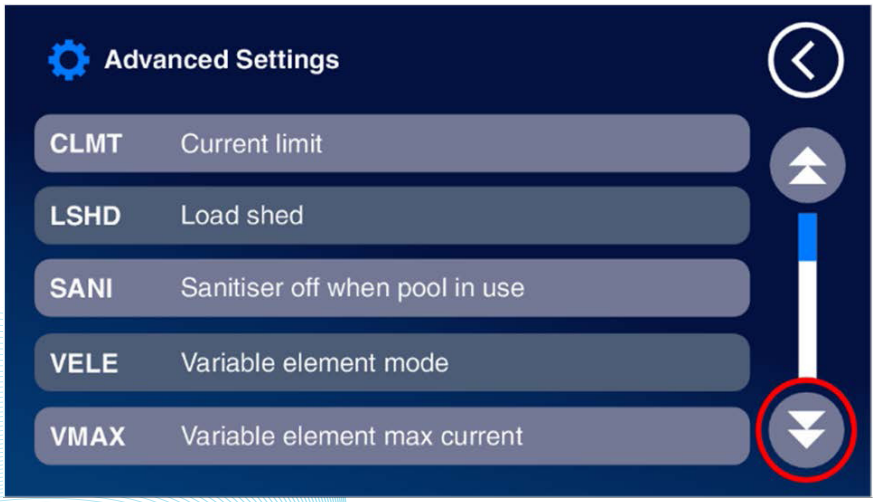


Enable Stereo support on SmartTouch™ Keypad

Step 4: Enter pin (14863) then Enter.

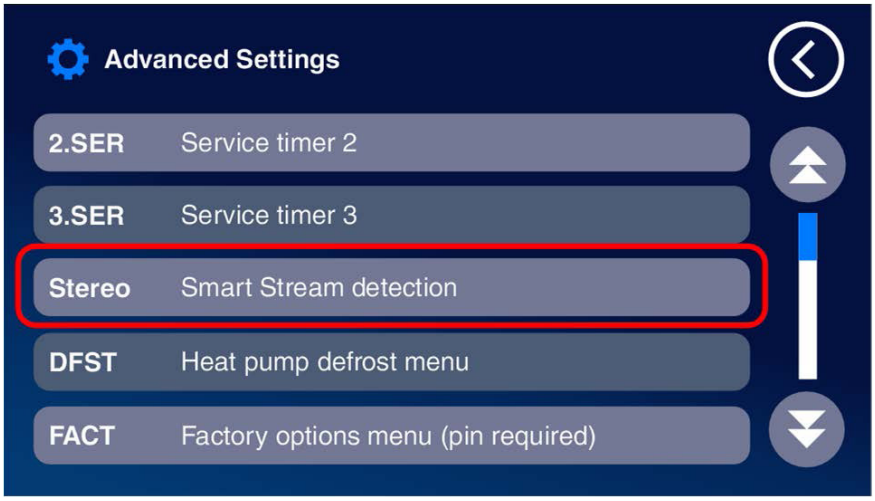


Step 5: Scroll to bottom of Advanced Settings Menu.

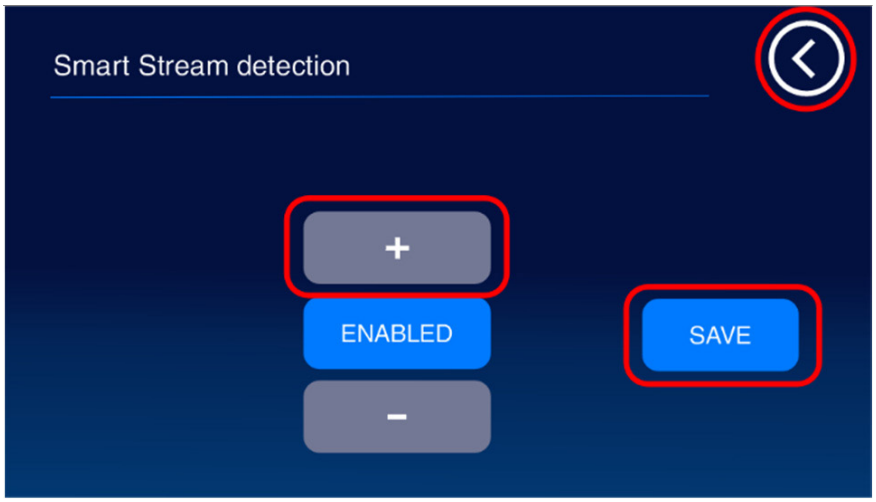


Enable Stereo support on SmartTouch™ Keypad

Step 6: Select Stereo - Smart Stream detection.



Step 7: Press on + button to change to ENABLED, then press SAVE, the use back arrow twice to return to home screen.



Vortex™ Spas

Enable Stereo support on SmartTouch™ Keypad

Music button will now appear on the home page.
Press button to enter stereo interface page to control SmartStream™.

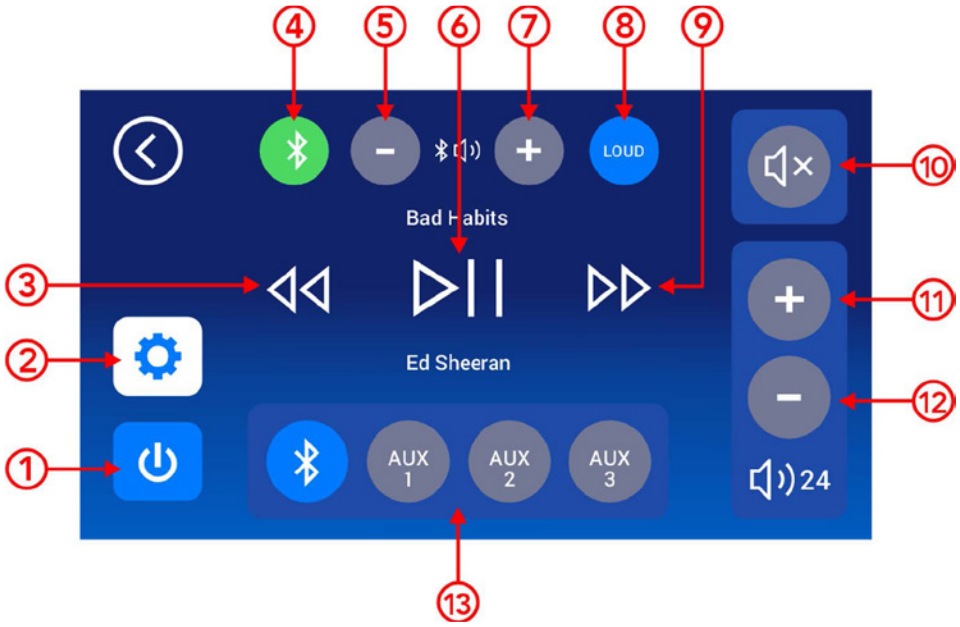
Note: *On initial activation it may take 1-2 minutes for the Stereo button to appear.*

SmartStream™ operation with SmartTouch™ Keypad

POWER ON / OFF

Press the music icon to access the stereo interface page, then press the power button to turn the stereo on or off.

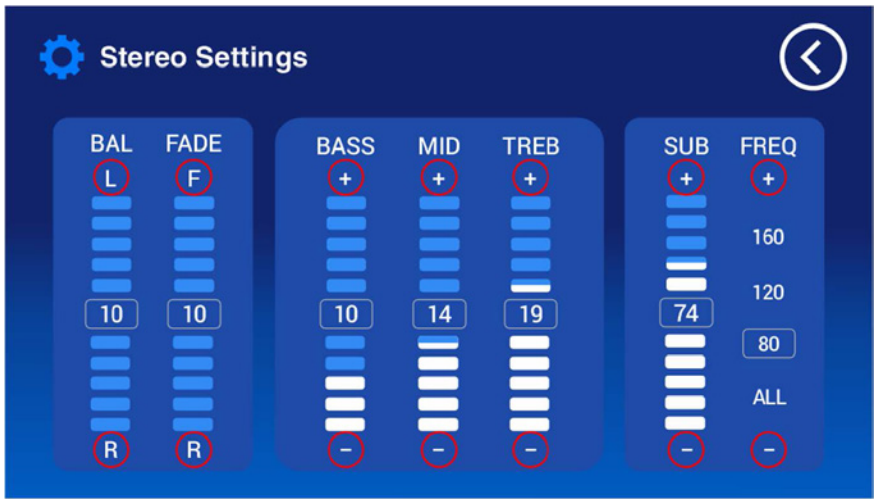
Stereo interface button assignments



FUNCTION	BUTTON	STATUS	NOTES
Power (on /off)	1		Press to turn on or off
Equalizer	2		Equalizer settings (fade/balance/mid/treb/sub)
Volume (+)	11		Increases amplifier volume
Volume (-)	12		Decreases amplifier volume
Play / Pause	6		Works with Bluetooth source only
Track (-)	3		Works with Bluetooth source only
Track (+)	9		Works with Bluetooth source only
Loudness	8		Boost certain frequencies for louder sound
Mute	10		Mutes amplifier
Source (Mode)	13		Select audio input source • Bluetooth or • Auxiliary Audio Input 1/2/3
BT Volume (-)	5		Decreases Bluetooth source volume
BT Volume (+)	7		Increases Bluetooth source volume
BT Connection		4	Bluetooth status (flashing=unpaired, solid=paired)

Equalizer settings page

The equalizer page allows customization of amplifier settings including fade, balance, bass, midrange, treble, subwoofer level and subwoofer frequency. These can be adjusted by pressing on the + or – buttons above or below each setting (as circled in red in the picture below).



Note: *On many spa pools, setting the Subwoofer Frequency (FREQ) to "ALL" will provide full range to the subwoofer speaker and in most cases provide a superior overall sound experience.*

Bluetooth®

The SmartStream™ stereo system has principally been designed for streaming audio from any Bluetooth compatible device. By default, when the unit is powered ON it will be in Bluetooth mode and will attempt to connect to the last used Bluetooth device. If the last used Bluetooth device is available, it will automatically connect to it and the Bluetooth Connection Status Icon will turn solid green indicating a successful Bluetooth connection. However, if a Bluetooth device has not been paired before, or the last used Bluetooth device is unavailable, the unit will remain waiting for a Bluetooth connection and the Bluetooth Connection Status Icon will be flashing green until a connection is made.

Bluetooth Connection Status Icon

The Bluetooth Connection Status Icon easily identifies the status of the Bluetooth module:

ICON	STATUS
Solid Green	Bluetooth connected successfully
Flashing Green	Bluetooth in pairing mode and waiting for connection
Off	Audio source other than Bluetooth selected or stereo powered off

Bluetooth®
Pairing

Pairing

The Bluetooth module will follow the naming format of "SV-AMP-XXXX" where XXXX is the last four digits of the Bluetooth module's serial number. This name appears on the smart device (phone/tablet/PC) list of Bluetooth devices to connect to.

1) Ensure the SmartStream™ system has Bluetooth mode selected with the Bluetooth indicator LED flashing.
2) Search for Bluetooth devices from your smart device (phone/tablet/PC)
3) Select the SV-AMP-XXXX device from the list to pair with it (Note: no pin is required)
4) Your smart device should automatically pair with the SmartStream™ module

Legal Information

Contains Transmitter Module FCC ID: T9J-RNS2
Contains Transmitter Module FCC ID: T9J-RN131,171

This device complies with Part IS of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part IS of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

To satisfy FCC RF Exposure requirements for mobile and base station transmission devices, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during operation. To ensure compliance, operation closer than this distance is not recommended. The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

VXAWKM041223

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ClearLift™ Manual

Vortex™ Spas

VXCLCM160324

Table of Contents

Welcome to the ClearLift™ Manual. Navigate through the manual with ease by clicking on the page numbers below to instantly access specific sections in this manual, and click on the title section to come back to this menu.

* Conditions apply. Specifications may change without notice.

Table of Contents

Vortex™ Spas

4 Safety information & warnings

WARNING KEEP ALL PEOPLE CLEAR OF THE SPA COVER WHILST IN OPERATION.

BEFORE ATTEMPTING TO OPEN, ENSURE COVER LOCKS ARE RELEASED

- Check surroundings before operating.
- To be operated by an adult 18 years and older only.
- Remove any objects or debris from the spa cover before operating.
- Do not operate in high winds.
- Ensure that all people have exited the swim spa before closing the spa cover.
- Ensure the spa cover straps are locked and the controller key is removed after use.

WARNING AVOID RISK OF DROWNING

Non-secured or improperly secured covers may result in injury or death. In accordance with ASTM F 1346-91 guidelines, do not sit or stand on the cover. This spa pool cover must be kept locked at all times, removal of this cover must be done under adult supervision only.

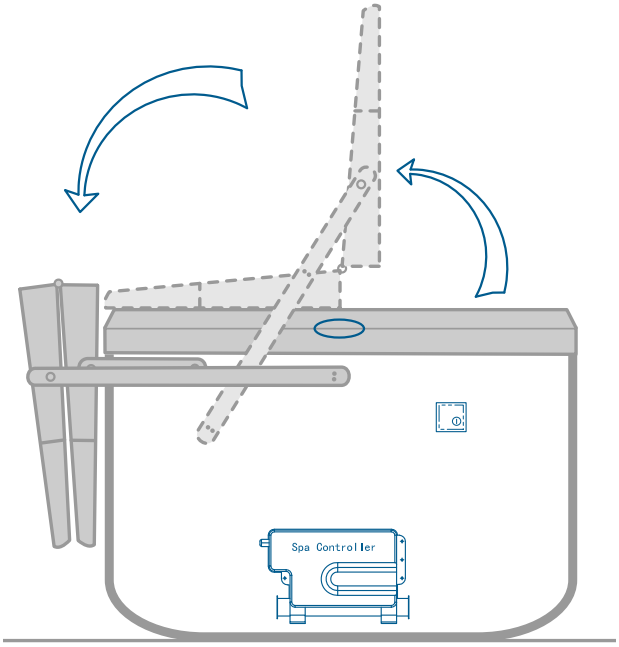
WARNING FENCING ONLY AROUND STEPS ON A SWIM SPA DOES NOT MEET POOL SAFETY REQUIREMENTS IF THE CUSTOMER HAS COVER LIFTERS or CLEARLIFT™ COVER.

* Conditions apply. Specifications may change without notice.

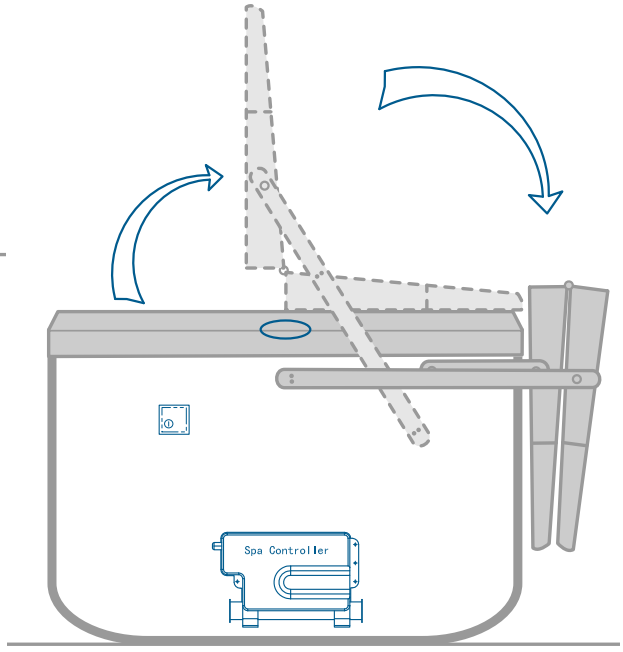
ClearLift™ layout and parts

If the ClearLift™ control panel is positioned on the right side of the swim spa, and the ClearLift™ cover folds to the left, it is considered a Left-Mounted ClearLift™.

Conversely, if the ClearLift™ control panel is located on the left side of the swim spa, and the ClearLift™ cover folds to the right, it is referred to as a Right-Mounted ClearLift™



Left-mount shown



Right-mount shown

Vortex Spas

6 ClearLift™ layout and parts

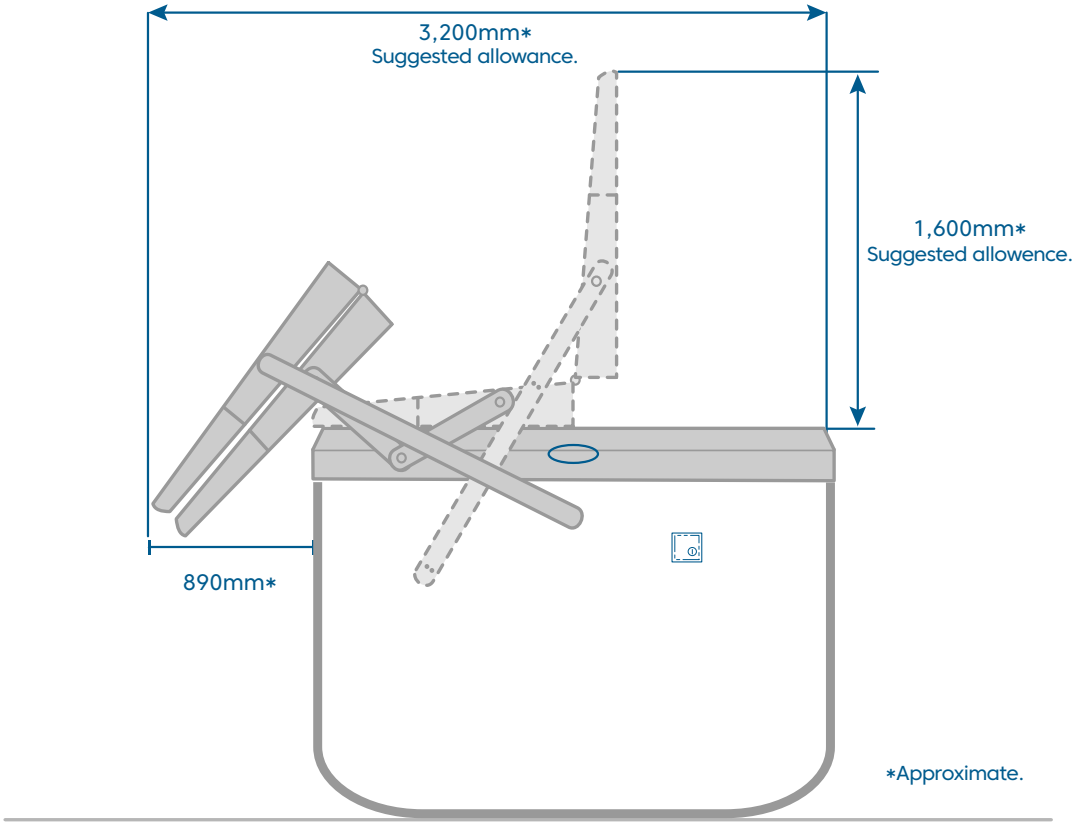
Left-mount shown

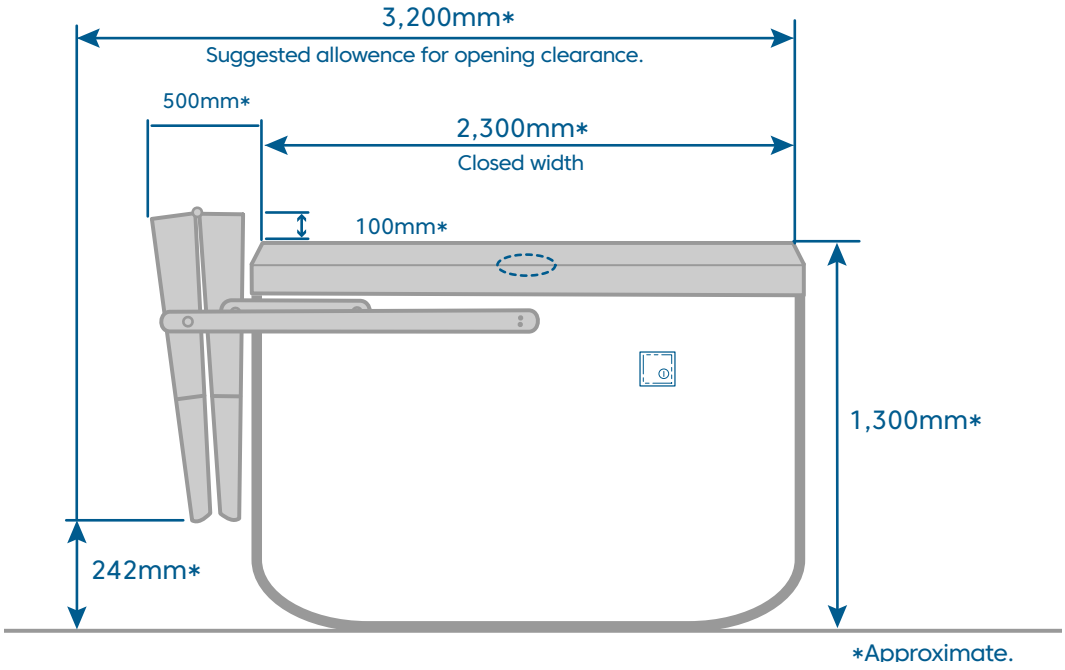
NOTE: *The ClearLift™ controller is installed at the same end of the swim spa as the spa controller keypad. In the case of a Vortex™ Hydrozone™, it is specifically positioned at the spa end.*

* Conditions apply. Specifications may change without notice.

ClearLift™ opening allowance

Left mount, side view shown in Vortex™ swim spas 1,300mm height.

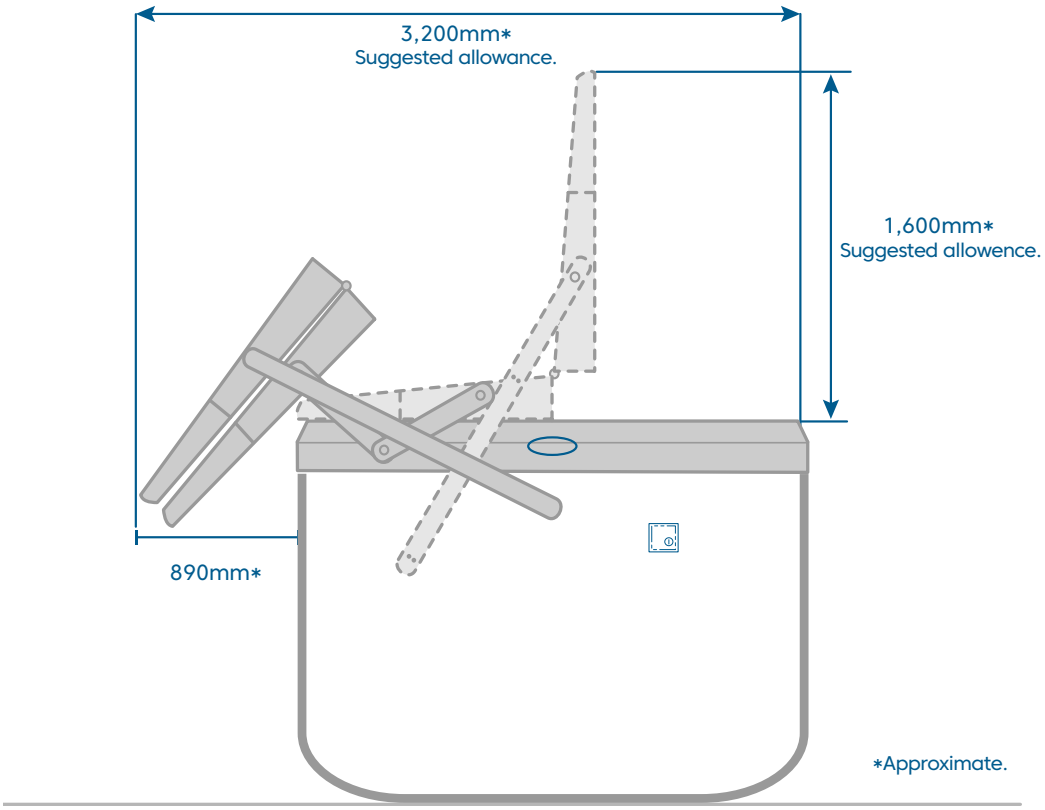


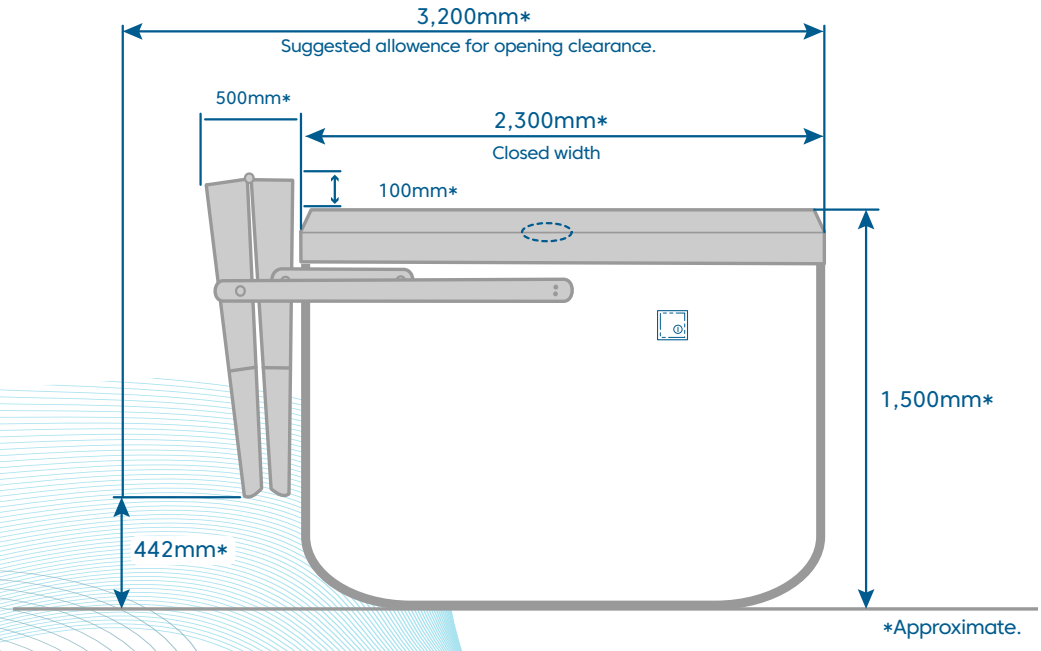


Vortex Spas

ClearLift™ opening allowance

Left mount, side view shown in Vortex™ swim spas 1,500mm height.





* Conditions apply. Specifications may change without notice.

ClearLift™ keypad and Calibration

The ClearLift™ will come pre-calibrated from the factory however in the rare event that calibration is required, please follow these steps.

Ensuring proper calibration of the cover assembly is vital to maintain the synchronized operation of both the Left and Right Slider arms.

The incorrect calibration may potentially lead to damage to your ClearLift™ cover, and regrettably, such damage is not eligible for warranty coverage.

10 ClearLift™ keypad

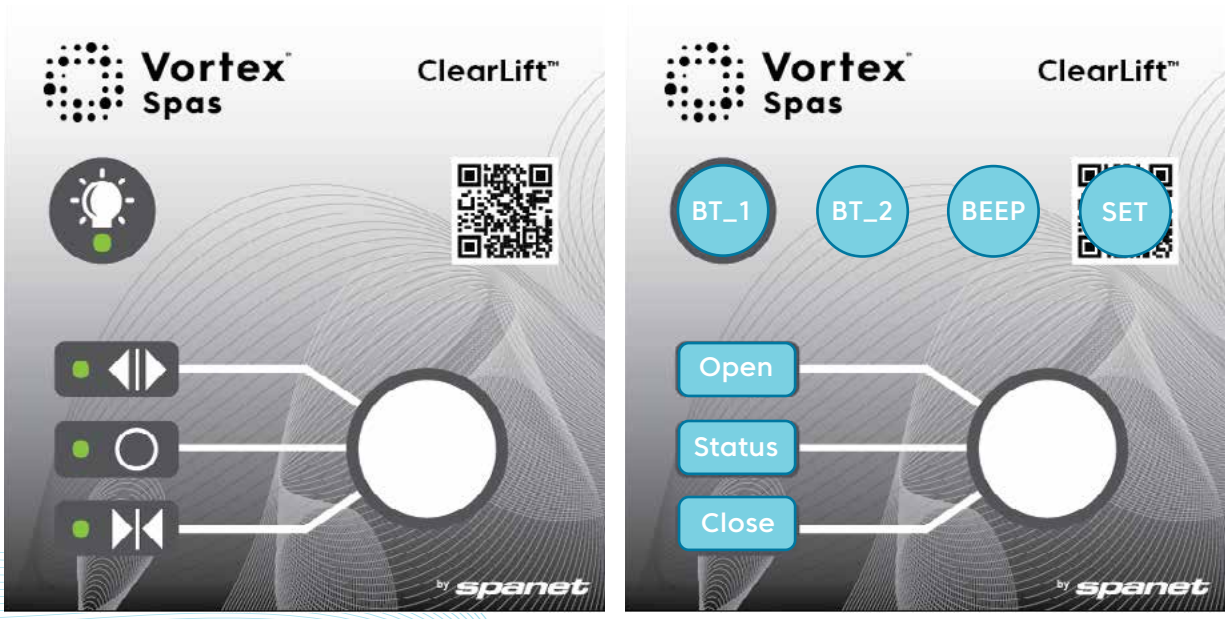
The calibration of the ClearLift™ cover is composed of two parts: **positional calibration** and **obstruction detection calibration**.

Both calibration procedures need to be performed before the cover lifter can be operated as intended, to ensure reliability of the system and safety of the users.

There are three buttons:

- BT_1 is behind the light bulb graphic
- BT_2 is alongside BT_1, but has no graphic, as pictured below.
- SET is behind the QR code

BEEP is the location of the keypad's piezoelectric buzzer.



Keypad overlay (left) and function legend (right)

* Conditions apply. Specifications may change without notice.

ClearLift™ keypad calibration
Positional calibration

The following steps will ensure both ends of the system are synchronized. It is important that the cover lifts off the spa shell simultaneously.

Cover inner corners

Cover outer corners

Vortex Spas

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ClearLift™ keypad calibration
Positional calibration

The following sequence sets the range of motion of the cover lifter. It can be used at any time and should be executed after all servicing procedures of the cover lifter. Re-calibration will be required after any firmware updates.

Power on the ClearLift™ system. The status LED will be green.

Step 1. Enter manual mode. Push and hold the QR code, Push and hold SET for at least 3 seconds until the status LED blinks white and 1 long beep is heard.

* Conditions apply. Specifications may change without notice.

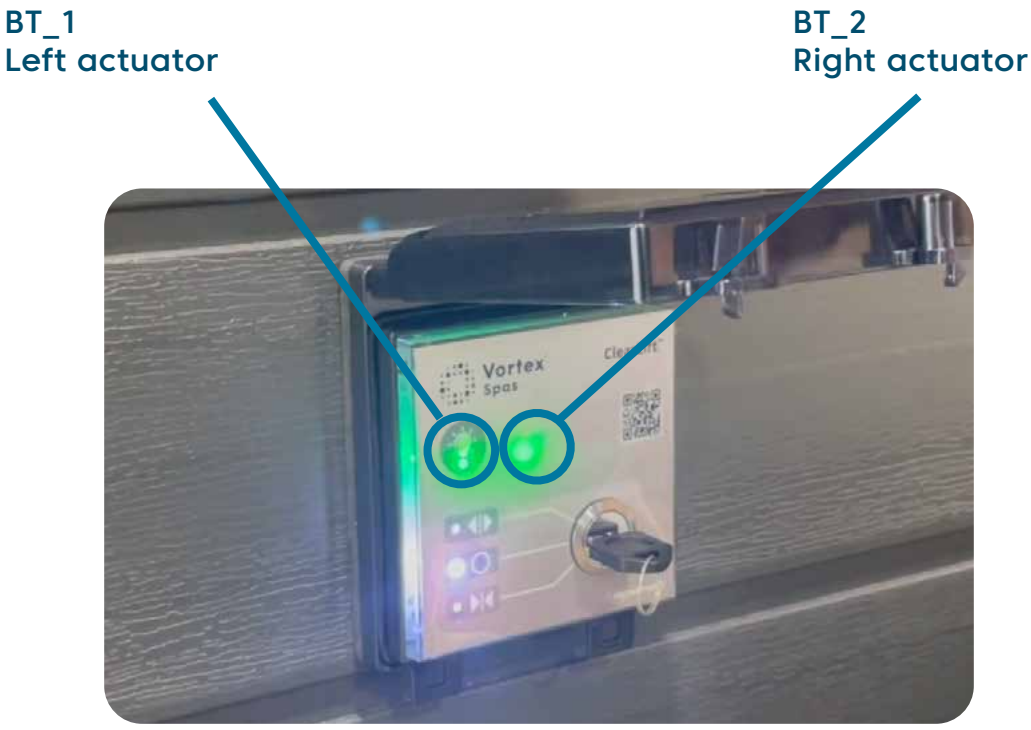
ClearLift™ keypad calibration

Step 2. Use manual mode if required for install

The status LED is now white. This mode can be used to test and adjust the actuators as required for install.

Use BT_1 cycle through the following options for individually controlling actuator movement.

- **BT_1 LED on** = left actuator.
- **BT_2 LED on** = right actuator.
- **Both BT_1 & BT_2 LEDs on** = both actuators.



Vortex™ Spas

ClearLift™ Keypad calibration

Use the key switch to control actuator movement. This is a good time to check both actuators can be extend and contracted. Adjust the actuators so that they are approximately the same length before moving onto the next step.

Step 3. Enter “set closed position”

Push and hold QR button (SET) for at least 2 seconds until the STATUS, LED blinks Green and 2 short beeps are heard.

ClearLift™ Keypad calibration

Step 4. Set the closed position

The status LED is now Green. Use the key switch to fully extend the actuators. Hold the key switch for at least 2s after the both actuators have reached the end of travel.

The actuators must be fully extended in the closed position for the system to work as intended.

The actuators must be fully extended in the closed position for the system to work as intended.

If the cover is not in the correct position when the actuators are fully extended, use the adjustment clevis on the actuators to fix this:

- If the cover is partially open when the actuators are fully extended, then the adjustment clevis (at both ends) should be used to make the actuators longer.
- If the cover is being forced into the spa frame when the actuators are fully extended, then the adjustment clevis (at both ends) should be used to make the actuators shorter.

It is also important to synchronize the two ends:

- If the near end is ahead of the far end, then use the adjustment clevis to either:
    - Make the near end actuator longer
    - Or make the far end actuator shorter

Similarly, if the far end is ahead of the near end, either:

- Make the far end actuator longer
- Or make the near end actuator shorter

16 ClearLift™ Keypad calibration

NOTE:

- *The adjustment clevis may be extended such that there is a **maximum** of 10mm exposed thread. If the gap is larger than this, there are not enough threads engaged to take the required forces during use.*

- *Once the actuators are fully extended, and the cover is in the closed position, push and hold SET for at least 2 seconds to confirm the closed position. The status LED blinks Red and 2 short beeps are heard.*

- *If the actuators are not fully extended, then pushing and holding SET will not advance to the next step. Extend both actuators fully, making sure to hold the key switch for at least 2s after the actuators have reached the end of travel, and try again.*

ClearLift™ Keypad calibration

Step 4. Set the open position

The status LED is now Red. Use the key switch to move the cover to the desired open position. Push and hold SET for at least 2 seconds. The status LED turns Yellow and 1 long beep is heard.

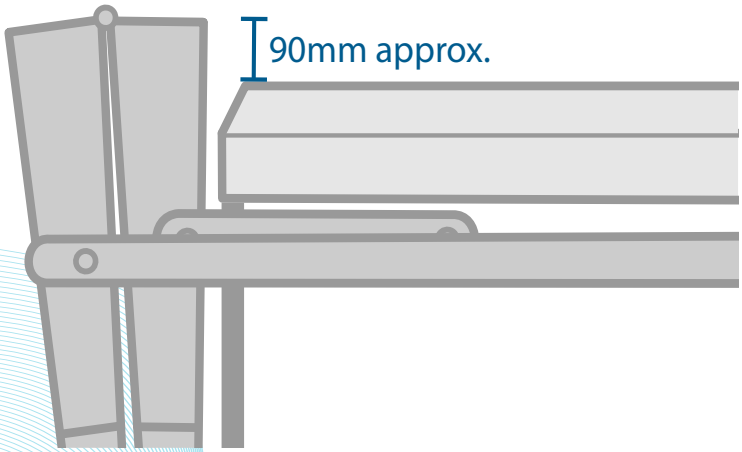
Use the key switch to move the cover to the desired open position.

Vortex™ Spas

ClearLift™ keypad calibration

Gradually turn the key to define a position just short of fully open.

Cover should be a maximum of 90mm above the shell in the open position.



ClearLift™ Keypad calibration

Step 5. Positional Calibration complete

The status LED is yellow. The cover can now be closed by turning the key.

Attempts to open or close beyond the set positions are restricted.

Vortex™ Spas

ClearLift™ keypad calibration

Ensure both ends of the inner cover touch the swim spa shell simultaneously.

Confirm that both outer corners of the outer cover align simultaneously when closed.

* Conditions apply. Specifications may change without notice.

Obstruction detection calibration

Cover lifter obstruction detection calibration is achieved by performing the following sequence. Note that the system will refuse to perform this calibration if the positional calibration procedure has not been done. This procedure will also need to be performed every time the positional calibration procedure is performed.

Step 1. Clear the swim spa and its surroundings of possible obstructions.
This procedure will perform automated movements/runs and without any obstruction detection active, it can get dangerous for person(s)/pet(s) near the swim spa. Also please make sure that there are no obstructions to the cover itself as the system will be considering the automated runs as obstruction-free reference runs.

Step 2. Perform obstruction detection calibration.
Push and hold both BT_1 and BT_2 for at least 3 seconds until the status LED blinks Purple and 2 short beeps are heard. The cover lifter will begin to perform 3 full cycles on its own. If you start from a fully opened position, this procedure will end in a fully opened position as well. Otherwise, this procedure will always end in a fully-closed position. At the end of the calibration, the status LED will turn solid Blue.

NOTE: *The user can stop the automated runs any time by* **pressing on any of the three buttons of the keypad.** *During these runs, avoiding touching the cover (or letting it hit anything) is essential.*

Vortex™ Spas

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Status light colour

The status light colour outside of calibration mode changes depending on the calibration state of the system.

Green – Uncalibrated.
The cover will not move in this initial uncalibrated state.

Yellow – Positional calibration done, obstruction detection calibration not done.
There is a high risk of injury for any nearby person/animal while the cover lifter is being operated.
Customer installs must NOT be left in this state.

Blue – Fully calibrated.
This is the intended state of the cover lifter system.
All customer installs MUST be left in this state.

It is possible to operate the cover lifter in the Yellow state, but there will be severe limitations and increased risks to users and their surroundings if the system is not fully calibrated.

Overriding obstruction detection

WARNING: Danger of bodily injury and or damage.

The following is only to be used for emergencies.

For example: When trying to close the cover in high winds. It cannot be used for standard functionality to bypass the obstruction detection which could lead to injury or breakage that voids the warranty.

Step 1: Push and hold BT_1 (button LED) until you hear a beep.

Step 1: Turn the key while keeping BT_1 pushed down

24 Troubleshooting

Fail to fold

The outer cover is required to fold on top of the inner cover before both covers slide over the side of the spa. If this doesn't happen, then the cover won't open correctly. This issue can occur due to incorrect calibration between the two ends or a manufacturing problem with the slider arm.

Step 1: Check the calibration.

- Do the outer corners both lift at the same time? Do the hinges at each end both lift at the same time, approximately halfway through the travel?

- If not, then you need to adjust the length of the actuators. The actuator at the trailing end can be shortened, or the actuator at the leading end can be lengthened. This requires the clevis at the bottom of the actuator to be adjusted.

- In general, shortening the trailing actuator is preferred. This is because there may be a maximum of 10mm of exposed thread between the actuator and the clevis when the jam nut is tight against the clevis. If more thread than this is exposed, there will not be sufficient thread engagement, and the joint may fail.

Step 2: Replace the slider arm
If there is an issue with the slider arm, then it is easiest to replace the whole assembly.

Step 3: Contact us
If neither of these steps resolves the issue, please contact us for further assistance.

How to fix controller error with ClearLift™ cover

If there is an issue with the controller, generally the status LED will flash red.

Step 1: Reset the controller by pressing BT1 and SET at the same time for 3 seconds.

Step 2: Turn the spa off and wait for at least 10 seconds before plugging it back in. By turning off the spa, you give it a chance to reset and clear any temporary glitches or errors.
Before turning it back on, check that the LED status - stays on for a few seconds when you unplug it.

ClearLift™ FAQs

Can I walk on the ClearLift™ cover?

No, you cannot walk, stand or sit on the spa cover. It is not designed to support the weight of a person. In some circumstances, it may be possible to walk on the cover, but doing so is likely to damage the cover and compromise its ability to insulate and protect the spa.

Do I need to use the cover locks on my ClearLift™ cover?

Yes, it is recommended to use cover locks every time you close the spa cover. This helps keep unsupervised children from entering the water and ensures their safety. Cover locks are especially important during high winds because they prevent the wind from putting extra pressure on the cover.

Do I have to take the key out every time I use the ClearLift™ cover?

Yes. By taking the key out every time you use the ClearLift™ cover, you prevent unsupervised children from getting to the water.

Can ClearLift™ be added after my swim spa is installed?

Yes. Adding ClearLift™ to a swim spa after its initial installation is possible. However, it's important to note that certain conditions must be met for a successful installation.

Firstly, there needs to be enough clearance available on the side of the swim spa to accommodate the ClearLift ™. The specific clearance requirement may vary depending on the dimensions of the ClearLift™ feature.

Secondly, this only applies to the 2024 swim spa models. This means that if you have a different model, retrofitting the ClearLift™ feature onto the swim spa is not possible.

* Conditions apply. Specifications may change without notice.

ClearLift™ FAQs

Can ClearLift™ be added to any swim spa?

No, ClearLift™ cannot be added to any swim spa. It is currently compatible only with 2024 Vortex™ Model swim spas.

How is the ClearLift™ actuated?

The ClearLift™ swim spa cover is actuated by a key. Depending on how the positions for opening and closing were set, when the key is turned in one direction, the ClearLift™ swim spa cover opens, providing access to the swim spa. Conversely, when the key is turned in the opposite direction, the cover closes, securely sealing the swim spa.

How much does the ClearLift™ weigh?

The ClearLift™ adds approximately 200kg to the weight of the swim spa. Please see the spec sheet specific to your swim spa for detailed info.

Does the ClearLift™ work with all Spa Controllers?

No, currently the ClearLift™ is only compatible with SpaNet® SV2, SV3, and SV4 swim spa controllers.

Can I open my ClearLift™ when it has snow on it?

No, it is not recommended to open the ClearLift™ when there is snow on it. It is advisable to remove the snow first before operating the ClearLift. This will ensure proper functioning and prevent any potential damage to the cover.

Will ClearLift™ work on inground swim spas?

ClearLift™ is not well-suited for use in an inground swim spa, and it is generally not recommended. This is primarily due to the clearance requirements needed for the movement and stacking of the cover, as well as the need for clearance at the ends of the spa.

ClearLift™ FAQs

What are the electrical requirements for the ClearLift™ system? Can it be connected to the same power as my swim spa?

The ClearLift system can be connected to the power output on the controller of your swim spa. This means that it can be connected to the same power source as your swim spa, as long as the controller has available power outputs.

However, it is important to note that if you have ClearLift, the Vortex Audio WiFi Kit, and a heat pump, you will need a duplicate AMP splitter. It is recommended to consult with your consultant to ensure proper installation and power requirements are met for all components.

Is the 60-Day Money Back Guarantee available on the ClearLift™ covers?

The 60-day Money Back Guarantee applies to the ClearLift™ cover as it is considered a part of the swim spa. However, it is important to note that the ClearLift™ cover cannot be returned separately from the spa.

What is the warranty for ClearLift™ and what does it cover?

To learn what the ClearLift™ warranty covers, please scan or click on the QR code:

bit.ly/VXSpasWarranty

* Conditions apply. Specifications may change without notice.

ClearLift™ installation video

Clearlift™ is a fully motorised system designed to make it easy to lift your swim spa cover on and off, with the turn of a key!
Please read this guide carefully and view the full installation video before installing your new ClearLift™ cover.

Scan or click the QR code below with your mobile device or by following the link under the QR code.

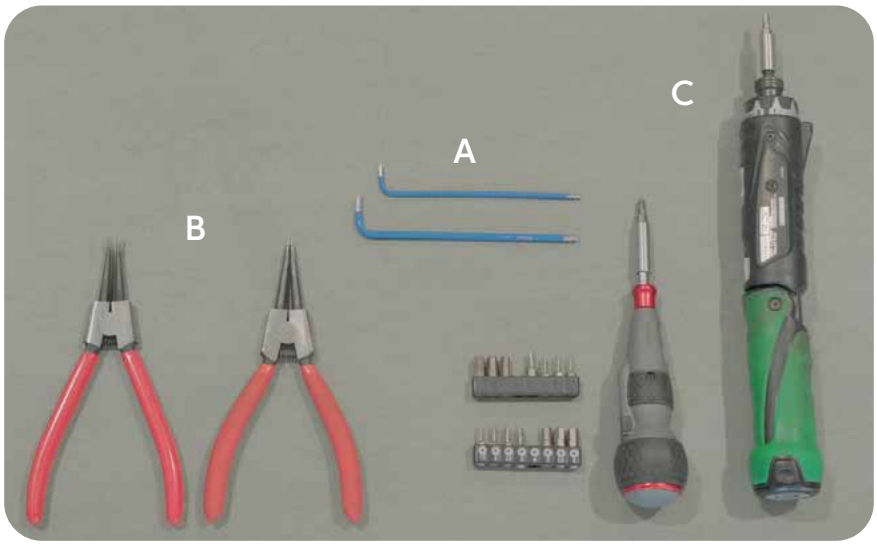
bit.ly/3uHzVhq

Vortex™ Spas

ClearLift™ Installation

Tools required (Not included)

A. 4mm and 3mm hex bit / Allen keys
B. External circlip pliers
C. Electric screw driver
D. 4 x dollies



ClearLift™ Installation

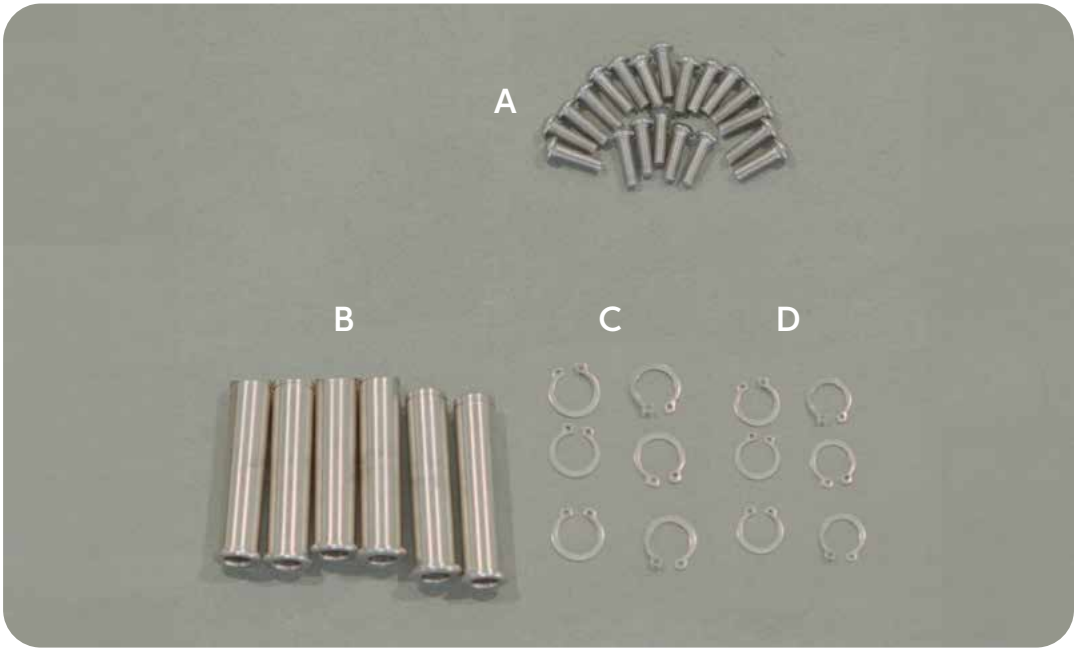
Included hardware

A. 32 of M6 x 20 button head hex drive
(Part No# 92095A240)

B. Cover Hinge pins
(Part No# 201650)

C. 6 of 30mm circlip
(Part No# 90967A297)

D. 6 of 25mm circlip
(Part No# 90967A270)



Vortex Spas

ClearLift™ Installation

Included hardware

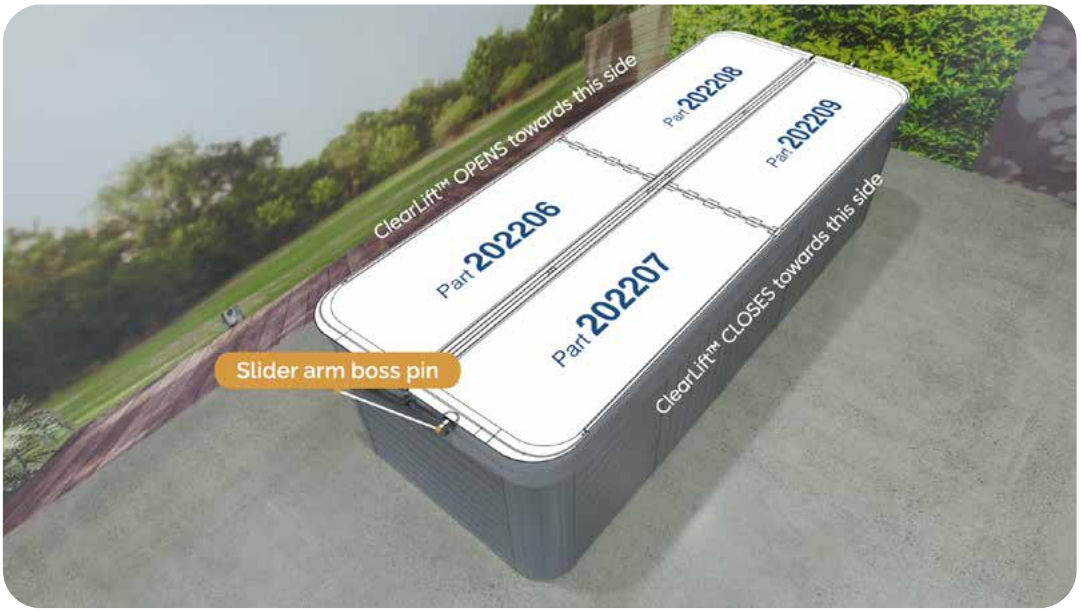
These may come pre-installed onto the covers:

F. Fixed arm pin (Part 201660)
with end cap boss plate (Part 201661)

G. Slider arm boss pin (Part 201662)
with end cap boss plate (Part 201661)

ClearLift™ Installation
Included parts

Part 202208, 202206,202209, 202207



Corner angle view of right mounted ClearLift™

Vortex Spas

ClearLift™ Installation
Included parts

Right mounted ClearLift™ top view

Fixed Arm (201657)

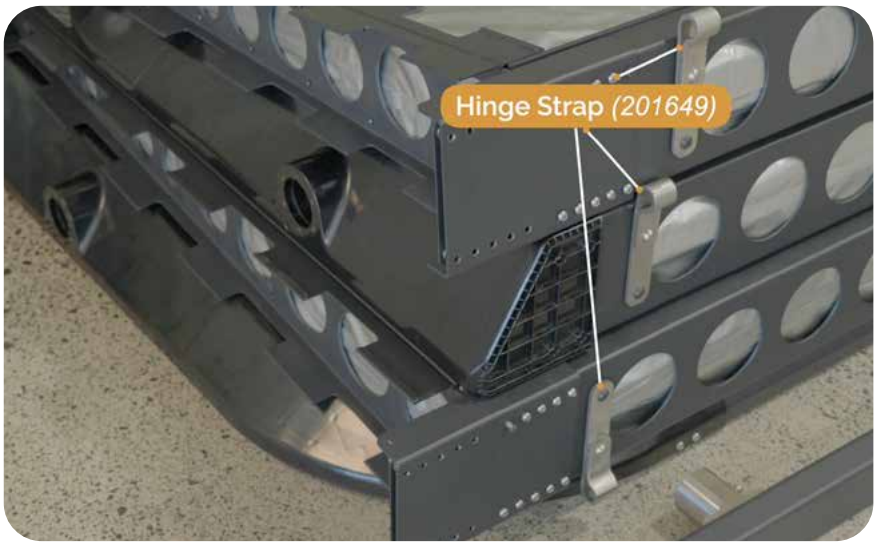
ClearLift™ Installation
Included parts

Slider Arm (201652)

Tip: *The distance from end caps to hinge end is greater on parts 202207/ 202209 compared with parts 202208/ 202206.*

Vortex Spas

ClearLift™ Installation
Included parts



Hinge strap (201649)

End cap boss plates (201661) on 202207 & 202206 may come preinstalled

ClearLift™ assembling 202208 & 202206 Quarters

NOTE: *This manual shows cover assembly on the ground, but you can also assemble cover segments in an upright position. We recommend assembling the ClearLift™ cover on a flat level surface.*

We recommend at least two people for this assembly.

Parts needed:

- Part 202208
- Part 202206
- 16 of M6 x 20 button head hex drive screw (92095A240)
- Cover Slip

Assembling steps:

Step 1. Place an 202208 quarter & 202206 quarter onto 4 x dollies

Vortex™ Spas

ClearLift™ assembling
202208 & 202206 quarters

Step 1. Place the 202206 quarter onto 4 x dollies.

Step 2. Position the quarters parallel to the swim spa with hinge straps facing away from swim spa

* Conditions apply. Specifications may change without notice.

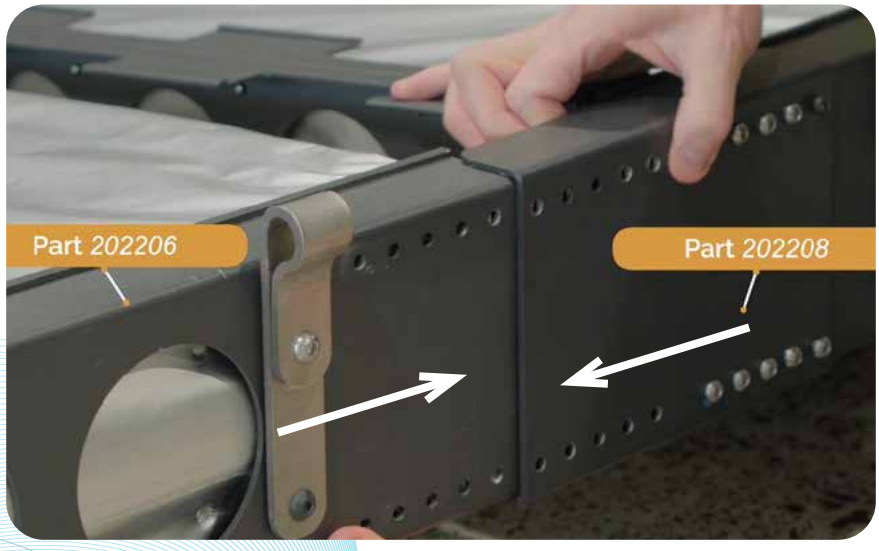
ClearLift™ assembling 202208 & 202206 quarters

NOTE: *The surface needs to be free of any sharp material so that the core cover slip is not ripped or punctured during assembly.*

Step 3. Slide Part 202206 into Part 202208 together as shown.

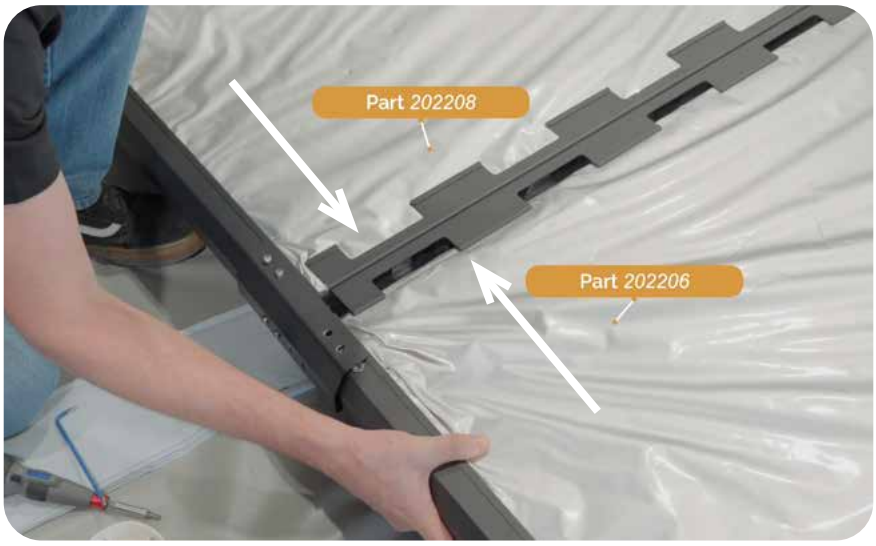
ClearLift™ assembling
202208 & 202206 quarters

NOTE: *The 202206 quarter fits between two layers on 202208. The screws on the 202208 are loose to make this easier.*



ClearLift™ assembling 202208 & 202206 quarters

Top view. Part 202208 connecting to 202206 quarter.



Vortex™ Spas

ClearLift™ assembling
202208 & 202206 quarters

Step 4. Locate M6 x 20 hex drive screws provided (Part 92095A240)

Step 5. Start by screwing in alternative holes with loctite.

ClearLift™ assembling 202208 & 202206 quarters

Avoid fully tightening the screws for now.

Step 6. After adding all the screws, make sure to tighten them, including the ones that were already in place.

ClearLift™ assembling
202208 & 202206 quarters

Step 7. On opposite side of cover add 4 x M6 x 20 hex drive screws (Part 92095A240).
Avoid fully tightening the screws for now.

Step 8. Raise the cover assembly vertically to expose two extra screw holes.

ClearLift™ assembling 202208 & 202206 quarters

Step 9. Add two remaining M6 x 20 hex drive screws (Part 92095A240)

Step 10. Once screws have been added, tighten all 12 screws.

ClearLift™ assembling
202208 & 202206 quarters

Step 11. Remove four dollies.

Step 12. Lay cover assembly down flat ensuring narrow end points towards cover.

ClearLift™ assembling 202208 & 202206 quarters

Step 13. Position the cover slip on the floor next to the cover assembly, which consists of two inserts. Then, insert the first fully assembled hardcover into the lower cover slip.

Step 14. Place the cover light colour fabric pointing up & opening towards the hinge section & hinge straps.

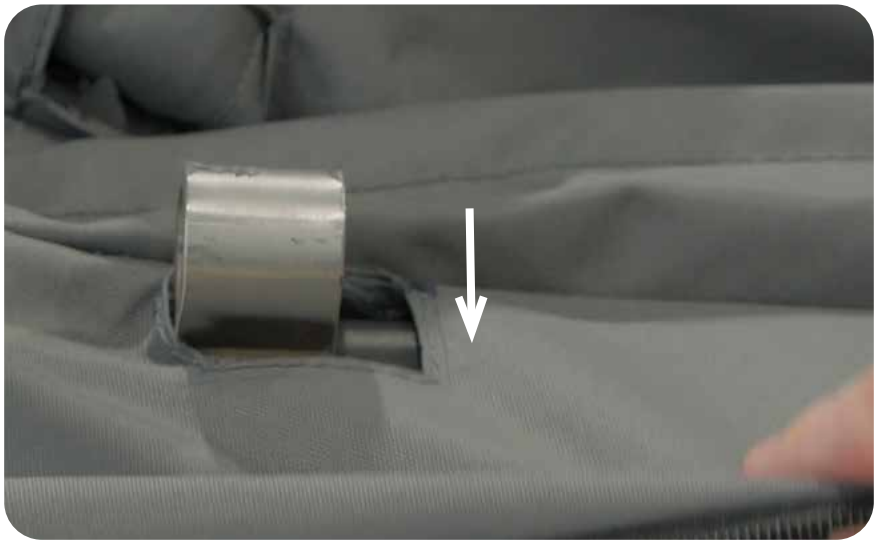
ClearLift™ assembling
202208 & 202206 quarters

TIP: *To identify how to lay out cover slip in the correct way the distance from end caps to hinge end is greater on parts 202207/ 202209 compared to parts 202208/ 202206.*

ClearLift™ assembling 202208 & 202206 quarters

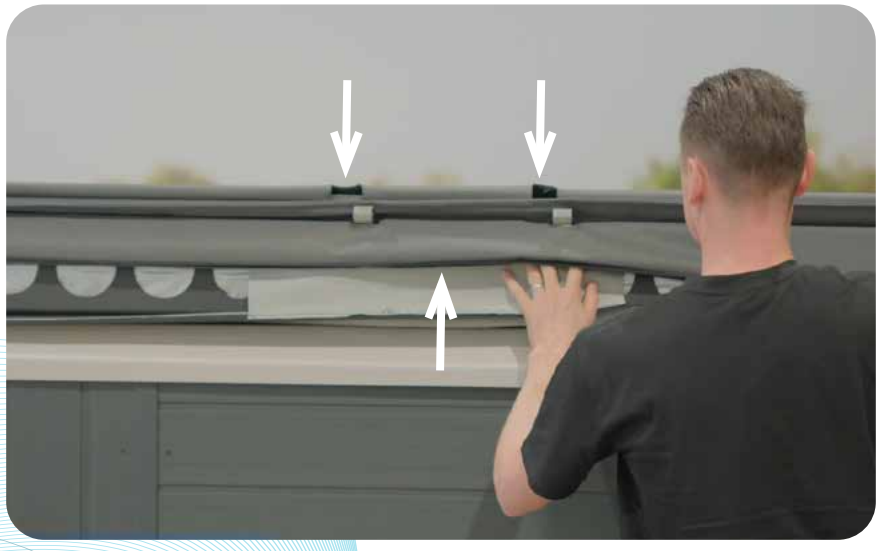
Step 15. Place cover assembly on top of swim spa shell.

Step 16. Pull cover material over the first hinge strap.



ClearLift™ assembling
202208 & 202206 quarters

Step 18. For the middle section lift up flap, pull over cover over hinge straps.



ClearLift™ assembling
202208 & 202206 quarters

Step 19. Continue zipping up the cover slip until closed.

ClearLift™ assembling 202209 & 202207 quarters

Step 1. Place an 202209 quarter & 202207 quarter onto 4x dollies.

Step 2. Position the quarters parallel to the swim spa with hinge straps facing away from swim spa

ClearLift™ assembling 202209 & 202207 quarters

Step 3. Slide part 202209 into part 202207 together as shown.

Step 4. Locate M6 x 20 hex drive screws provided (Part 92095A240). Start by screwing in alternative holes.

ClearLift™ assembling
202209 & 202207 quarters

Step 5. Start by screwing in alternative holes. Avoid fully tightening the screws for now

Step 6. After adding all the screws, make sure to tighten them, including the ones that were already in place.

ClearLift™ assembling 202209 & 202207 quarters

Step 7. On opposite side of cover add 4x M6 x 20 hex drive screws (Part 92095A240).
Avoid fully tightening the screws for now

Step 8. Raise the cover assembly vertically to expose two extra screw holes.

Vortex™ Spas

ClearLift™ assembling
202209 & 202207 quarters

Step 9. Add two remaining M6 x 20 hex drive screws (Part 92095A240)

Step 10. Once screws have been added, tighten all 12 screws. Remove the four dollies.

ClearLift™ assembling 202209 & 202207 quarters

Step 11. Prepare the second cover slip with the lighter fabric pointing up and the opening of the cover slip pointing out toward the hinge section and hinge straps.

Step 12. Place the cover in the upper insert ensuring the hinge straps are pointing down.

Vortex™ Spas

ClearLift™ assembling
202209 & 202207 quarters

Step 13. Take care not to damage the cover you're holding, by dragging it over the hinge straps on the half that is already on top of the spa.

Step 14. With the zip fully open, identify where the zipper is. This end must be installed first. Push the pin through the hole in the cover slip". The end caps should always be pre-installed at both ends.

ClearLift™ assembling 202209 & 202207 quarters

Step 15. Continue pushing cover assembly into upper insert.

Step 16. Place the cover in the upper insert ensuring the hinge straps are pointing down.

ClearLift™ assembling
202209 & 202207 quarters

Step 17. Carefully zip up the cover, making sure to pull the cover slip material over the hinge straps as you go along.

ClearLift™
Attaching hinge pins & circlips

Parts required:

- 6x Cover Hinge Pins (201650)
- 6x 16mm Circlips (90967A270)

Step 1. Insert hinge pin (Part 201650) into two hinge straps.

Step 2. Attach a 16mm circlip to the end of hinge pin (Part 90967A270).

Vortex™ Spas

ClearLift™
Attaching hinge pins & circlips

Step 3. Repeat for all 6 hinge straps.

ClearLift™ assembling End cap boss plates

NOTE: *This part should come pre-installed from the factory. If so, skip to page 69.*

Parts required:

- Fixed arm pin (Part 201660)
- Slider arm boss pin (Part 201662)
- 2 x End cap boss plate (Parts 201661)
- 6 x M5 x 30 screws (Part 95893A263)

Vortex Spas

ClearLift™ assembling
End caps boss plates

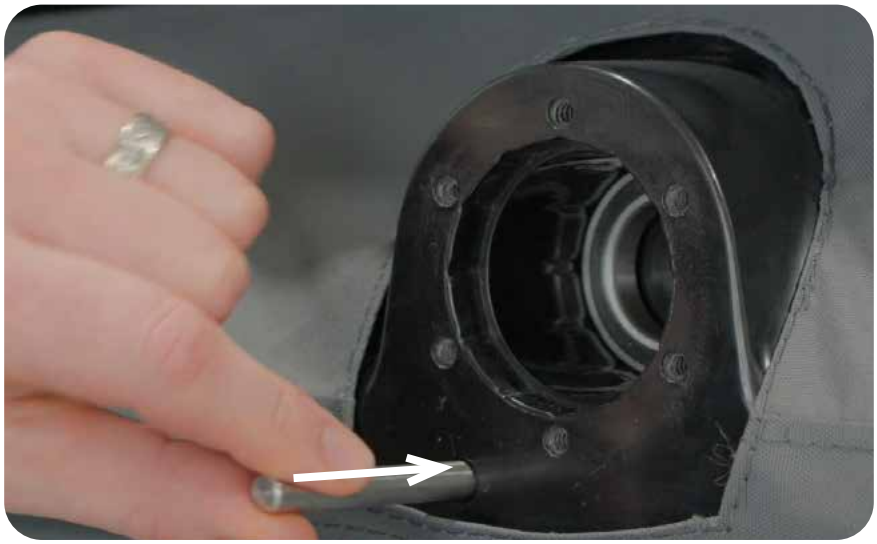
NOTE: *This part should come pre-installed from the factory. If so, skip to ClearLift™ assembly section, Fix arm.*

Step 1. Attaching end cap boss plates on one side only.

Opposite end of cover assembly will have end cap boss plates pre-attached.

ClearLift™ assembling
End caps boss plates

Step 2. Insert dowel pin into Part 202206 end cap mount.



Step 3. Attach fixed arm pin (Part 201660) and end cap boss plate (Part 201661) into Part 202206 end cap mount, aligning shaft and pin simultaneously.

ClearLift™ assembling
End caps boss plates

Step 4. Attach 6x M5 x 30 screws (Part 95893A263). Avoid fully tightening the screws for now.

Step 5. Tighten 6 screws fully.

ClearLift™ assembling
End caps boss plates

Step 6. Attach slider arm boss pin (Part 201662) and end cap boss plate (Part 201661) into Part 202207 end cap mount.

Step 7. Attach 6x M5 x 30 screws (Part 95893A263). Avoid fully tightening the screws for now.

Vortex™ Spas

ClearLift™ assembling
End caps boss plates

Step 8. Tighten 6 screws fully.

Step 9. Slide cover assembly to the opposite side of the swim spa as shown so that the hinge straps are in the middle of the swim spa.

ClearLift™ assembling Fixed arm & slider arm

Parts required:

- Fixed arm (Part 201657)
- Slider arm (Part 201652)
- 4 x 30mm circlip (Part 90967A297)

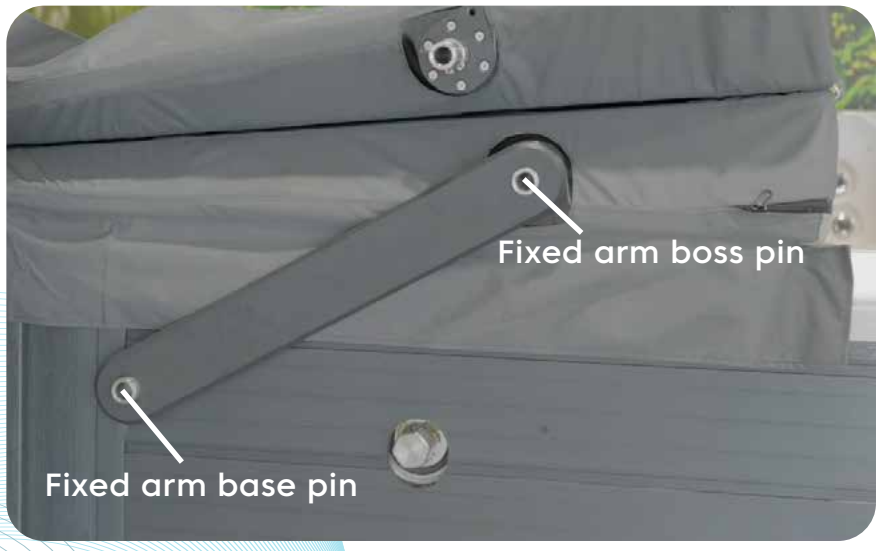
- Locate 2x fixed arm (Part 201657)

Vortex™ Spas

ClearLift™ assembling
Fix arm

NOTE: *On the opposite side of the fixed arm there is a curved groove. The groove end attaches onto fixed arm boss pin on cover assembly.*

Step 1. Mount fixed arm onto fixed arm boss pin and fixed arm base pin.



ClearLift™ assembling
Fixed arm

Step 2. Install a single circlip onto the third groove of the fixed arm base pin.

Make sure the ring is seated into the groove.

ClearLift™ assembling
Fix arm

Step 3. Install a single circlip onto the groove of fixed arm boss pin.

ClearLift™ assembling
Fixed arm

Repeat fixed arm installation steps for opposite side of cover assembly.

Step 1. Install a single circlip onto the third groove of the fixed arm base pin.

ClearLift™ assembling
Fix arm

Step 2. Install a single circlip onto the groove of fixed arm boss pin.

ClearLift™ assembling
Fixed arm & slider arm

Step 3. Close cover assembly fully.

Locate 2x Slider Arm (Part 201652).

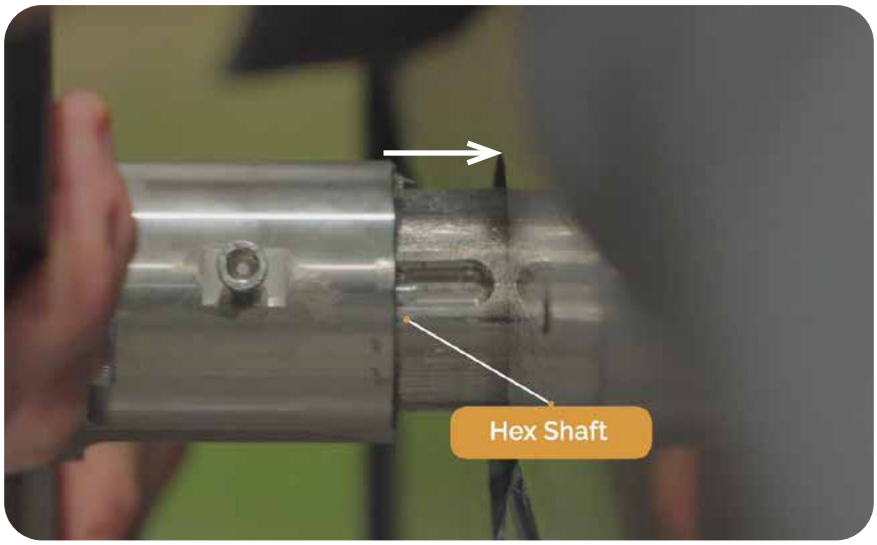
Vortex Spas

ClearLift™ assembling
Slider arm

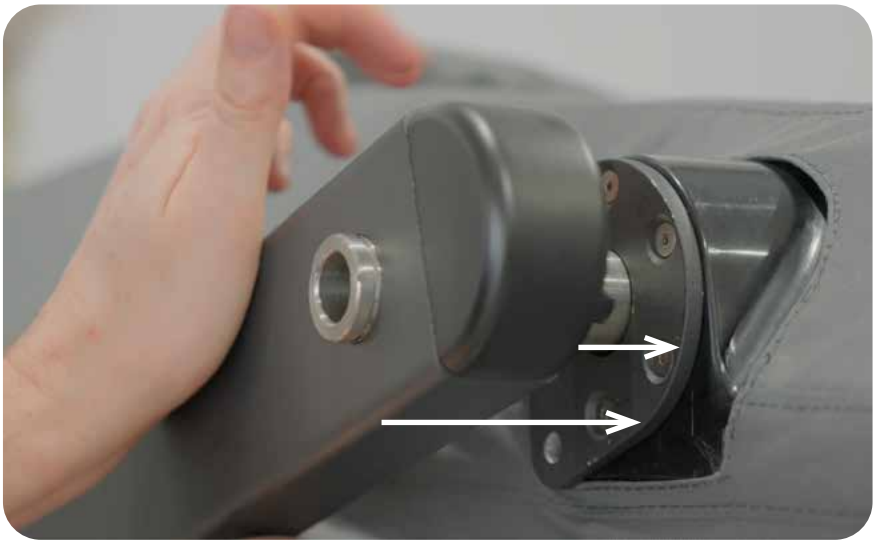
NOTE: *In the upcoming step, it is essential to apply pressure to compress the springs in order to securely attach the slider arm to the slider arm boss pin.*

Step 1. Attach the slider arm to the hex shaft, aligning the allen bolt with the shaft groove.

ClearLift™ assembling
Slider arm

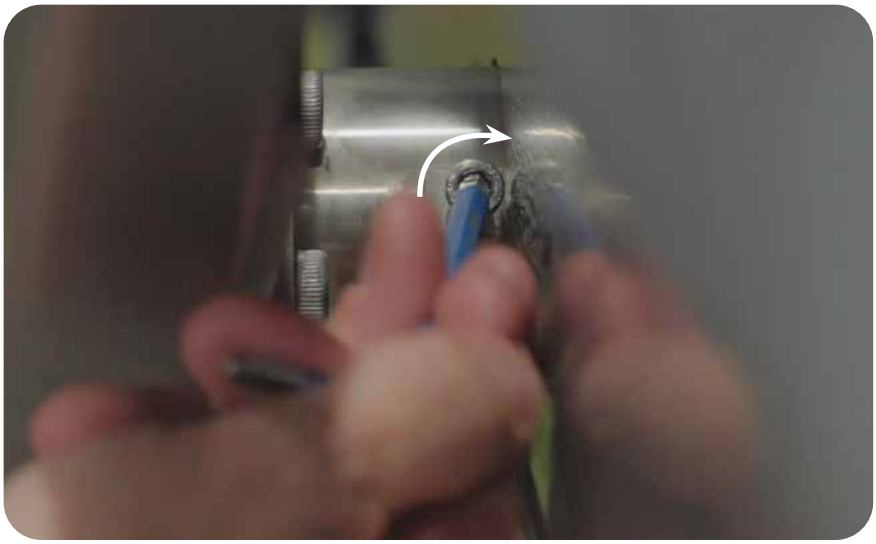


Compress slider arm to attach onto slider arm boss pin.
Apply force to fully position the slider arm onto hex shaft



ClearLift™ assembling
Slider arm

Step 2. Using a 6mm allen key tighten the M6 x 12 allen bolt.



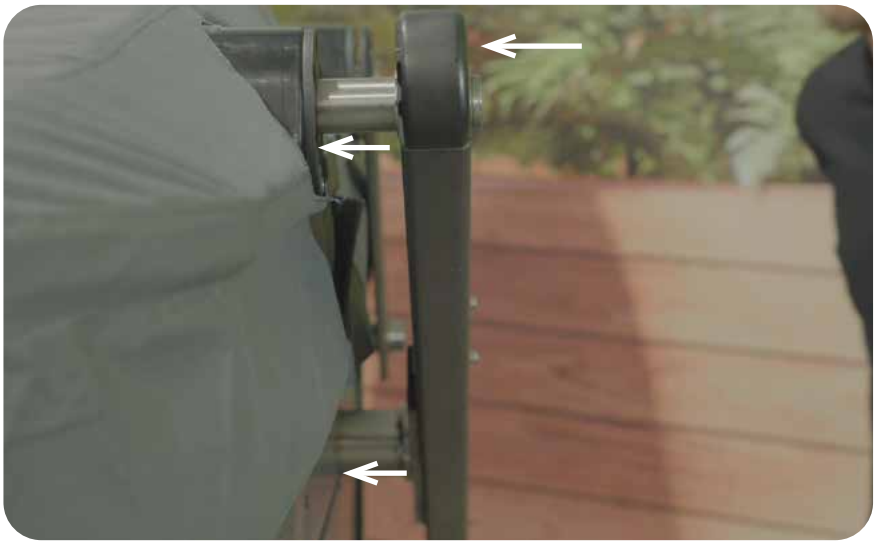
Step 3. Install a single circlip onto the groove of the slider arm boss pin.

ClearLift™ assembling
Slider arm

Right arm assembly completed.

Repeat fixed arm installation steps for opposite side of cover assembly.

Step 1. Attach the slider arm to the hex shaft, aligning the allen bolt with the shaft groove. Compress slider arm to attach onto slider arm boss pin.



ClearLift™ assembling
Slider arm

Step 2. Apply force to fully position the slider arm onto hex shaft.

Step 3. Using a 6mm allen key tighten the M6 x 12 allen bolt.

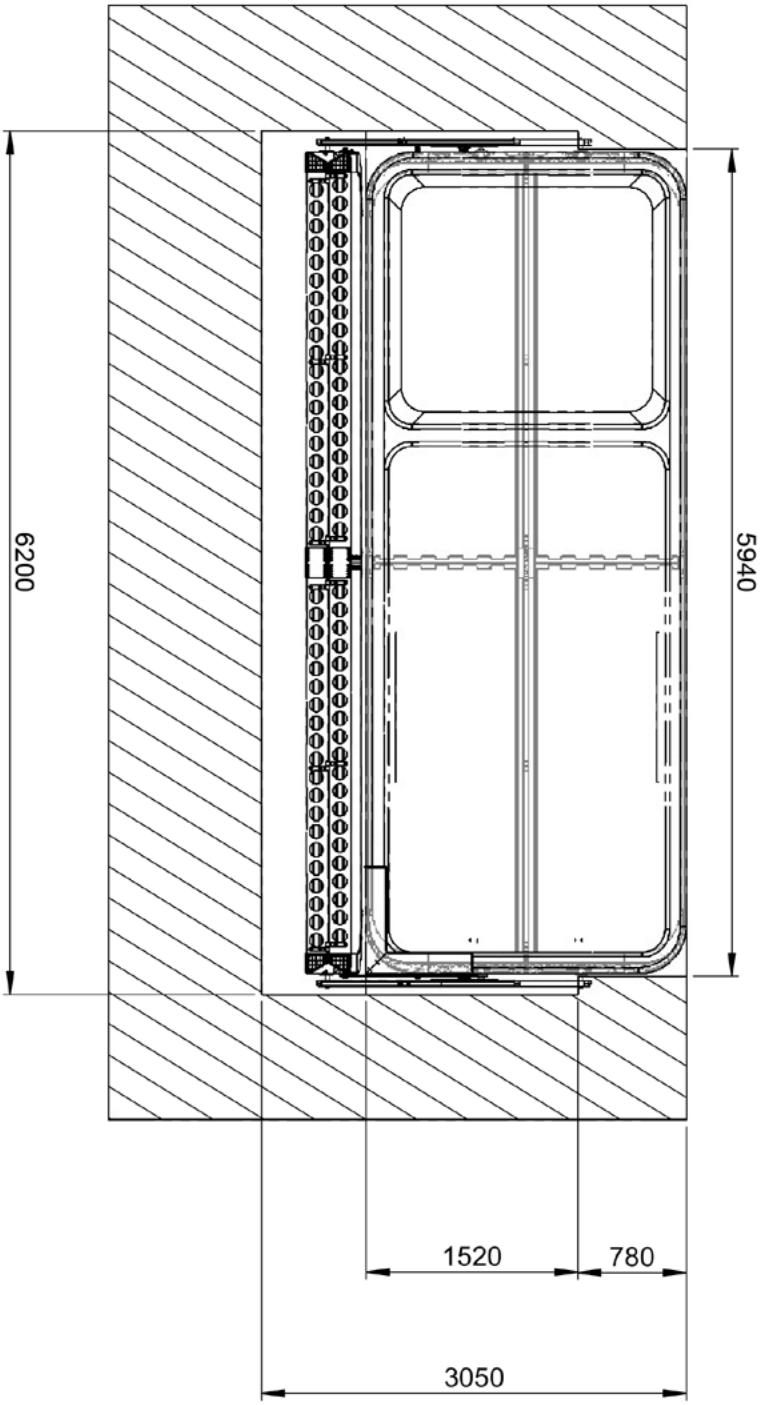
ClearLift™ assembling
Slider arm

Step 4. Install a single circlip onto the groove of the slider arm boss pin.

The image shows the left arm assembly complete.

ClearLift™ deck cutout

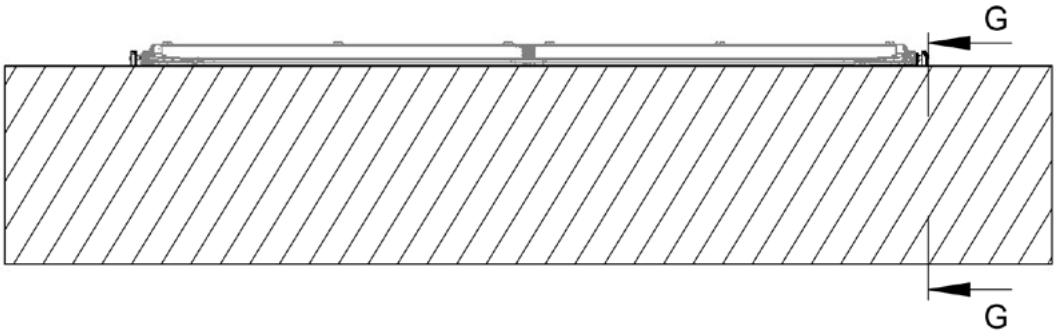
Top view

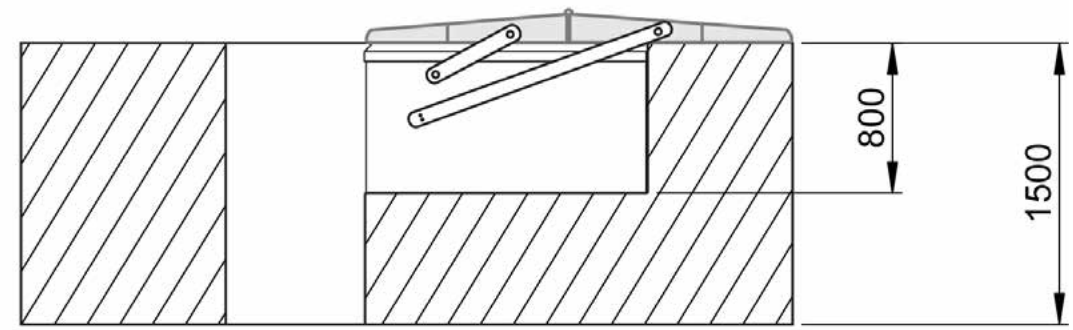


* Conditions apply. Specifications may change without notice.

ClearLift™ deck cutout

Side view





SECTION G-G

Vortex Spas™ Limited Warranty 484

Vortex Leisure Pty Ltd owns the Vortex Spas™ brand

Lifetime warranty on Permaframe™ Frames

Vortex Leisure Pty Ltd warrants the structural integrity of the spa frame against defects in workmanship and materials for the lifetime of the spa subject to the limitations, conditions and exclusions expressed in this warranty.

10-year non pro rata structural warranty

Vortex Leisure Pty Ltd warrants the structure of the spa shell against defects in workmanship and materials leading to water loss from the spa for a period of 10 years from date of delivery subject to the limitations and conditions expressed in this warranty.

5-year acrylic warranty

Vortex Leisure Pty Ltd warrants against the loss of water through the acrylic surface of the spa shell for a period of 5 years from date of delivery, subject to limitations and conditions in this warranty.

5-year jet warranty

Vortex Leisure Pty Ltd warrants the removable spa jets to be free of manufacturing defects for a period of 5 years from date of delivery. This warranty excludes damage by grit, sand and improper water chemistry causing corrosion of the part and is limited to supply of replacement parts after the faulty part has been returned to Vortex Leisure Pty Ltd for warranty inspection. Leaking from jets is covered by the plumbing warranty. Laminar jets have a 1 year parts only warranty.

5-year heater warranty

Vortex Leisure Pty Ltd warrants the heater element against defects in materials and workmanship for a period of 5 years from date of delivery. After 1 year this warranty is limited to the supply of replacement parts and excludes labour and freight costs. This warranty does not cover damage to heaters caused by incorrect water balance resulting in the heater being subjected to abrasive/acid water.

5-year plumbing warranty

Vortex Leisure Pty Ltd warrants the plumbing piping and plumbing joints against defects in materials and workmanship causing leaking for a period of 5 years from date of delivery. After 1 year this warranty is limited to the supply of replacement parts and excludes all labor and freight costs.

2-year pump warranty

Vortex Leisure Pty Ltd warrants the water pumps against defects in materials and workmanship for a period of 2 years from date of delivery. After 1 year this warranty is limited to the supply of replacement parts and excludes all labour and freight costs. Damage to the pump motor caused by incorrect chemical balance will not be covered under this warranty. Vortex Leisure Pty Ltd reserves the right to request that the pump be returned for assessment before it is replaced under this warranty.

2-year electronic components warranty

Vortex Leisure Pty Ltd warrants electronic control systems against defects in materials and workmanship for a period of 2 years from date of delivery. After 1 year the warranty is limited to the supply of replacement parts after the product has been assessed by either Vortex Leisure Pty Ltd or the relevant control system manufacturer.

1-year air blower warranty

Vortex Leisure Pty Ltd warrants the air blower against defects in materials and workmanship for a period of 1 year. This warranty will become void if the blower damage is caused by overfilling.

1-year thermoclad cabinet warranty

Vortex Leisure Pty Ltd warrants the thermoclad spa cabinet against defects in materials and workmanship for a period of 1 year from date of delivery. This warranty specifically covers the structural integrity of the cabinet. The thermoclad cabinet finish is warranted to be free from defects in materials and workmanship at the time of initial delivery. Fading and weathering of the surface will occur naturally over time, and are not considered defects.

1-year Wifi, audio system, ozone, UV, LED light(s) warranty

Vortex Leisure Pty Ltd warrants the factory installed Wifi, audio system, UV sanitiser, Ozone sanitiser and LED Light(s) assemblies, to be free from defects in materials and workmanship for 1 year. The UV globe is a parts only warranty, if it fails within the 1 year period, a replacement globe will be sent out free of charge to be installed by the customer.

1-year external heat pump warranty

Vortex Leisure Pty Ltd warrants the External Heat Pump to be free from defects in materials and workmanship for 1 year. Installation is to be carried out by a qualified contractor. Failure to do so will immediately VOID this warranty. Vortex Leisure Pty Ltd reserves the right to request the return of the heat pump for assessment before it is replaced or repaired.

1-year spa hardcover warranty

Your Spa Cover is warranted for a period of 1 Year from the date of delivery. This warranty applies only to the structural integrity of the cover and the vinyl. Damage caused to stitching, straps or locks due to improper use of the cover will not be covered under warranty. Disposal of any cover replaced under warranty will be the owners responsibility.

2-year IKON™ deck warranty

Vortex Leisure Pty Ltd warrants the IKON™ Deck against defects in materials and workmanship for a period of 2 year from date of delivery. The Deck is warranted to be free from defects in materials and workmanship at the time of initial delivery. Fading and weathering of the surface will occur naturally over time, and are not considered defects.

ClearLift™ standard warranty

The ClearLift™ is an upgrade available on select Vortex™ Swim Spa models. If you have purchased the ClearLift™ upgrade the below supersedes the standard 1-year spa hardcover warranty. Your ClearLift™ components are warranted from the date of delivery for the following terms.

ClearLift™ electrical components:
SpaNet™ cover controller, transformer and actuators, are covered for 1-year parts and labour and parts only for the second year.

ClearLift™ cover foam:
One year parts and labour and parts only for the second year.

5-year ClearLift™ cover frame and mechanical components warranty:
Two years parts and labour and parts only for the following three years. Damage caused to stitching, straps or locks due to improper use of the cover will not be covered under warranty. Disposal of any cover replaced under warranty will be the owners responsibility.

Warranty coverage

Warranty coverage begins at the delivery date. Vortex Leisure Pty Ltd only extends this warranty to the original purchaser and only if the spa has been purchased through an authorized Vortex Leisure Pty Ltd reseller. Written notice of the defect and proof of purchase must be provided to Vortex Leisure Pty Ltd or it's nominated representative within 14 days of the defect occurring. If the spa is required to be returned to Vortex Leisure Pty Ltd for rectification all freight costs shall be pre paid by the customer. Repair or replacement of any defective product is at the sole discretion of Vortex Leisure Pty Ltd. To action warranty service contact the authorized Vortex Leisure Pty Ltd reseller you purchased from. If you are unable to obtain satisfactory service from your reseller, written notification must be provided to Vortex Leisure Pty Ltd within 14 days of the defect occurring. Vortex Leisure Pty Ltd will pay the travel costs of the service agent for the first 50km from their base. Any further travel charges shall be the responsibility of the spa owner.

Electrical connection

All electrical connections must be carried out by a qualified electrical contractor. Failure to do so will immediately VOID this warranty. The spa must be connected to a dedicated MAINS electrical supply circuit protected by a compliant earth leakage circuit breaker safety switch.
Vortex Leisure Pty Ltd reserves the right to ask for proof that the spa has been installed by a qualified electrician.

You must check and tighten all barrel unions regularly. Failure to do so may affect your warranty.
See your user manual for further information.

Vortex™ Spas

Vortex Spas™ Limited Warranty

Vortex Leisure Pty Ltd owns the Vortex Spas™ brand

Warranty exclusions

1. Damage resulting from improper water maintenance.
2. Damage from operating the spa above 45°C.
3. Damage caused by clogged filters
4. Damage caused to the spa by improper use of spa cover and excessive exposure to sunlight.
5. Acts of God.
6. Damage caused by not installing spa on sufficient hard level surface.
7. Damage caused by incorrect electrical installation, brownouts, voltage spikes or operating spa out of +/- 10% of voltage range.
8. Warranty is not extended to filter cartridges, head rests, pump seals or drain hoses.
9. Commercial use reduces all warranties to maximum 6 months.
10. Damage caused by relocation of the spa from its original installed location.
11. Damage by termites, borer or other pests.
12. Damage caused by flooding.
13. Damage caused by third party carriers.
14. Damage or corrosion.
15. Damage caused by the operation of ClearLift™ cover lifter during high wind.
16. Damage caused by the operation of ClearLift™ cover lifter due to excessive load such as heavy snow.
17. Damage caused by the operation of ClearLift™ cover lifter due to closing it on a foreign object.

Limitations

This warranty is the only warranty offered by Vortex Leisure Pty Ltd and excludes any other implied or oral undertakings. Except as described above, this warranty does not cover defects or damage due to normal wear and tear, improper installation, alteration without Vortex Leisure Pty Ltd's prior written consent, accident, acts of God, misuse, abuse, commercial or industrial use, use of an accessory not approved by Vortex Leisure Pty Ltd, failure to follow Vortex Spas™' Pre-Delivery Instructions or Owner's Manual, or repairs made or attempted by anyone other than an authorized representative of Vortex Leisure Pty Ltd. Vortex Leisure Pty Ltd or its agents will not be liable for any incidental or consequential loss or injury. Vortex Leisure Pty Ltd will not be liable for costs associated with but not limited to building alterations, removal costs, delivery costs or labour costs associated with the replacement of a spa.

You must check and tighten all barrel unions regularly. Failure to do so may affect your warranty. See your user manual for further information.

Vortex™ Spas

Vortex™ Spas

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