

TRIFLO



Owner's & Installation Manual TriFlo Spa Bath Pump

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- 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.
- <u>Children should be supervised</u> to ensure that they do not play with the appliance.



 The pump is to be supplied by an isolating transformer or supplied through a residual current device (RCD) having a rated residual operating current not exceeding 30 mA and must comply with AS3000.



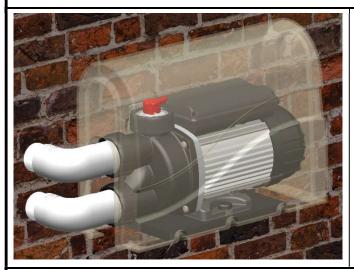
- Never run your spa pump without water as this can cause severe damage to the mechanical seal which may cause the spa pump to leak. Running the pump without water will void your warranty.
- The TriFlo spa bath pump should be installed on a well-drained location or on a suitable drain tray for all internal installations to avoid water damage to property should any leaks occur from pipe work, connections, or normal wear.



- No user serviceable or maintainable parts inside.
- If cleaning use only soapy water.

Pro-Tec Pump Cover and Accessories

Easy To Install. Complete With Wall Brackets & Base. Pro-Tec Pump Cover Reduces Noise. Left- or Right-Hand Mount – Neutral Merino Colour – **Part # E-6400**





Pro-Tec Cover Plate – External Installations

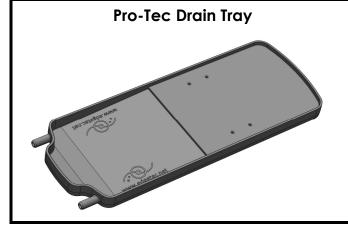
Easy to Install. Can be fitted during installation or after installation. Complements Pro-Tec Pump Cover above and can be painted to match house décor – **Part # E-6420**

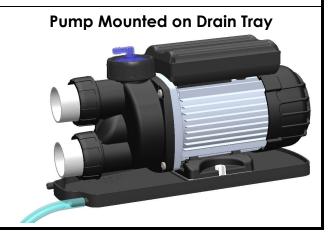




Pro-Tec Drain Tray – Internal Installations

Easy To Install. Protects indoor installations from water damage should any small drip from the mechanical seal occur due to normal wear – **Part # E-6450**



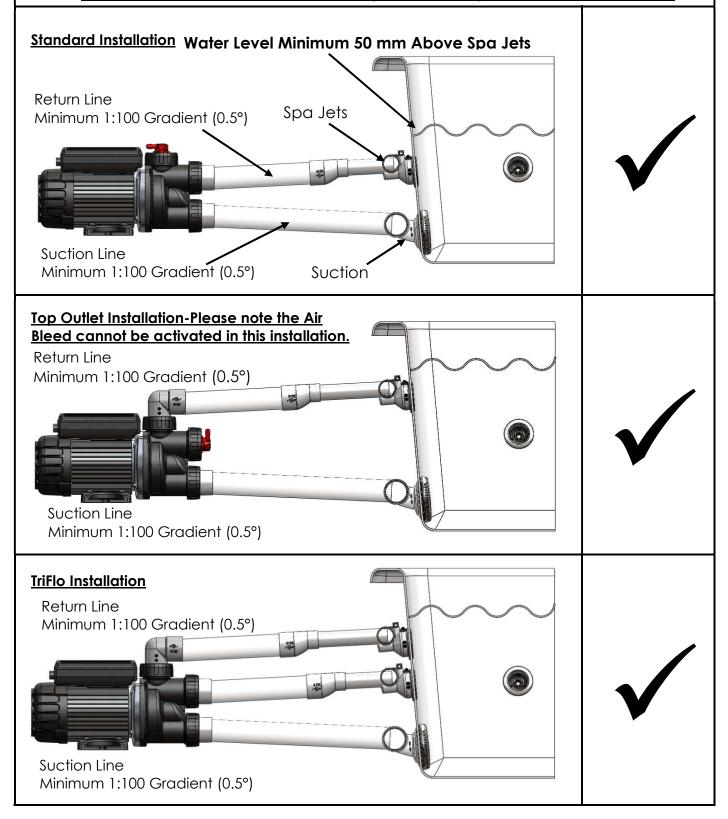


Correct Spa Bath Pump Installation

Use 40mm or 25mm UPVC Pressure Pipe for plumbing installation. 40mm pipe is preferred for both the suction and return lines.

IMPORTANT REQUIREMENT FOR PUMP SERVICE:

- Pump installation must provide access for pump removal.
- To allow for pump removal a technician must be able to reach the barrel unions.
- For under the hob installation, an access panel must be provided on the installation.

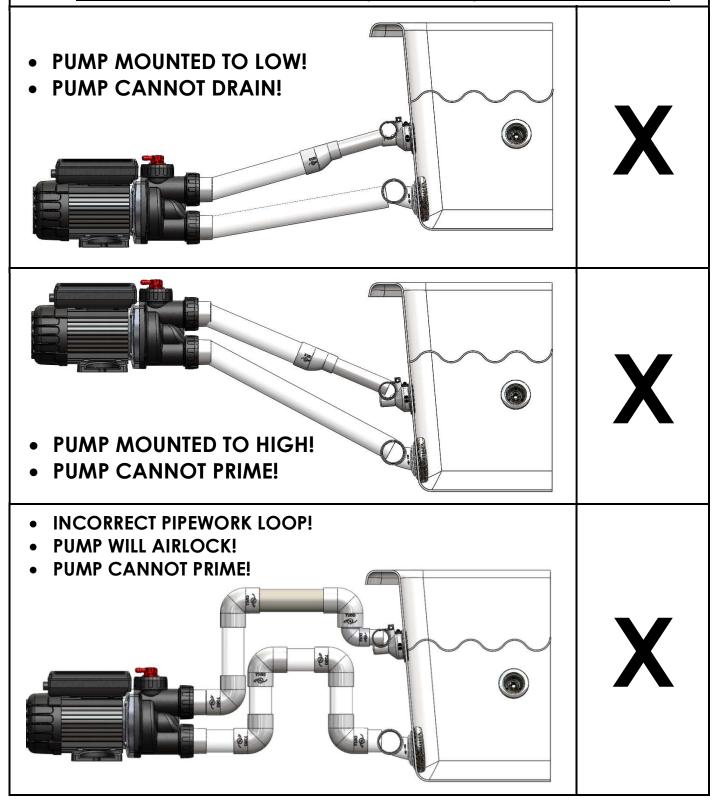


Incorrect Spa Bath Pump Installation

Use 40mm or 25mm UPVC Pressure Pipe for plumbing installation. 40mm pipe is preferred for both the suction and return lines.

IMPORTANT REQUIREMENT FOR PUMP SERVICE:

- Pump installation must provide access for pump removal.
- To allow for pump removal a technician must be able to reach the barrel unions.
- For under the hob installation, an access panel must be provided on the installation.



Correct Mounting Height on External Wall

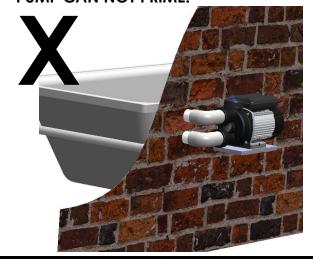


* Pump Cover Not Shown



Incorrect Mounting on External Wall

- PUMP TOO HIGH!
- PUMP CAN NOT PRIME!

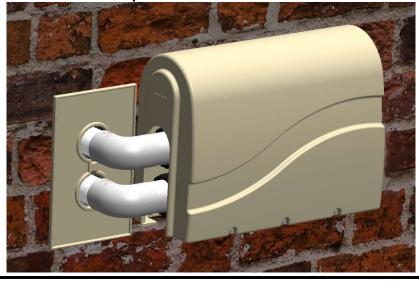


Incorrect Mounting on External Wall

- PUMP TOO LOW!
- PUMP CAN NOT DRAIN!



EXTERNAL WALL INSTALLATION WITH Pro-Tec Pump Cover and Pro-Tec Cover Plate





Pump Installation Instructions (refer pages 4, 5 & 6)

- To ensure optimum performance of your spa bath the TriFlo pump should be located as close as possible to your spa bath (maximum 3 Metres). To ensure high efficiency of your TriFlo pump, use the minimum amount of pipe fittings during your pump to spa bath installation. Correct installation allows water to drain from pipe work to pump and from pump to the self-drain suction fitting in the bath.
- The TriFlo pump can be located internally or externally. If the pump is fitted externally, it MUST be fitted with a weatherproof cover. A suitable cover (Part No. E-6400) is shown on Page 3.
- 3. Internal installation must have adequate ventilation grill (minimum area 100cm²) for the pump motor. Inadequate ventilation may cause the motor to cut out due to stator thermal overload. If this occurs the thermal in the motor stator will reset once the motor cools down.
- A suitable drain tray (Part No. E-6450) on internal installations should be installed to avoid water damage to property should any leaks occur from mechanical seal due to normal wear.
- 5. Install the TriFlo pump as per page 4 (using the least number of elbows). It is important that the suction line (bottom pipe) be installed with a minimum of 1:100 gradient (0.5°) as this allows the water to drain from the pump and pipe work when the bath is emptied.



- es 5 & 6 with cross marks.
- 6. The pump should never be installed as shown in pages 5 & 6 with cross marks.

 If the pump does not prime, then check the pump height and pipework installation. If the pump is installed as shown in any of the images in page 5, the pipework will airlock and prevent the pump from priming. Activating the air bleed valve MAY improve priming, refer to page 9.
- 7. The pump is to be fixed to the frame and supported through the pump mounting points in the pump base with appropriate fasteners. Two anti-vibration isolation washers are provided with the pump for the fasteners.
- 8. Before connecting the pump to the pipe work, <u>check pipe alignment to barrel unions</u>. The pump is not a pipework alignment tool! Pipe misalignment will stress the barrel union nuts (which could crack) and may cause a leak!
- 9. Ensure that all the pipe work is clear of any debris as small particles can cause blockage to spa jets or the pump impeller causing considerable damage.
- 10. Barrel unions only require to be hand tightened, over tightening may cause damage to the unions and or o-rings. Do not use Stillsons or any other mechanical leverage. A leak at the unions can be caused by misalignment.

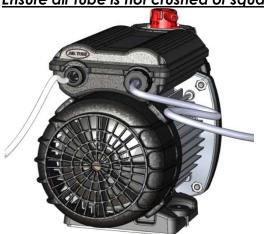
IMPORTANT REQUIREMENT FOR PUMP SERVICE:

- ALL pump installations MUST provide CLEAR access to the pump.
- To allow for pump removal a technician must be able to reach the barrel unions.
- High above ground or double story installations MUST have <u>CLEAR FLAT ground</u> access for a ladder beneath the pump.
- If a harness or other safety equipment is required, then it is deemed not accessible.
- For under the hob installation an access panel (big enough for the pump to pass through) must be provided on the installation. Ensure panel has ventilation grill of at least 100cm²

Air Tube Connections – AH and XH Models

- 1. Supplied with your TriFlo pump is a 4-metre roll of 3mm ID clear air tube, fit one end of the air tube to the air button on the spa bath. (Air button supplied with spa bath)
- 2. Connect the other end of air tube to the air switch nipple located at the <u>rear of the</u> pump motor. **Do not connect to blue air bleed cap on top of the front casing!**
- 3. Cut off excess tube and ensure that the tube is <u>not kinked</u>, do not wrap or loop excess tube around framework or pipe work of the bath, as this may cause the air switch in the pump not to operate correctly.

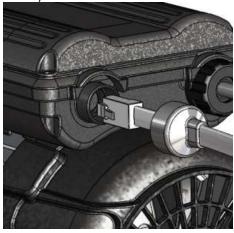
4. Ensure air tube is not crushed or squashed during both bath & pump installation!





Touch Pad Connections – ST and ST-ECO Models

- 1. Supplied on your spa bath is an electronic touch pad and connected to the touch pad will be a coiled up 4 metre RJ45 cable.
- 2. Uncoil the RJ45 cable and connect the other end to the pump, ensuring that the RJ45 cable connection clip is aligned and fully inserted. Push the RJ45 connector until you hear it "click" into the lock position (refer below images).



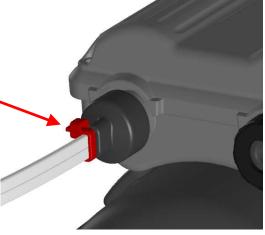
3. Push the protective rubber boot on the cable over the circular housing of the pump and fit a cable tie around the cable behind the rubber boot to keep it secure and protect the touch pad cable connection.

Failure to do this will void your warranty.

4. When power is supplied to the pump, a green LED light is illuminated on the touch pad to show that the connection is fitted correctly, and the pump has power.

Do not wrap or loop excess cable around framework or pipe work of the bath!





Start Up – TEST ALL PIPEWORK AND PUMP OPERATION – PRIOR to TILING!

Fill the spa bath to approximately 50mm above the spa jets, check the pump and pipe connection for any leaks. Ensure that the pump power outlet is switched to the "on" position.

For **Auto-Heat & Xtra-Heat pumps** (AH & XH Models) press the air button on the spa bath, the pump will start and purge the air from the system and your spa will start to operate. To stop the spa, simply press the air button again.

For **Sensa-Touch & ECO-Touch pumps** (*ST & ST-ECO Models*) press the pump "ON/OFF" button on the touch pad, the pump will start and purge the air from the system and your spa will start to operate. To stop the spa, simply press the pump "ON/OFF" button on the touch pad again.

For **Spa-Key & ECO-Key pumps** (*SK & SK-ECO Models*) press the "PUMP" or "ON/OFF" button on the handset, the pump will start and purge the air from the system and your spa will start to operate. To stop the spa, simply press the "PUMP" or "ON/OFF" button again on the handset.

If the pump fails to prime (while motor is running) you may have an air lock, refer to activating air bleed below. If after activating the air bleed, the pump still does not prime, check the height of the pump and adjust to the correct level.

Activating Air Bleed

- 1. The <u>blue coloured air bleed valve</u> is manufactured in a sealed state and if your pump is installed as per page 4, then there should be <u>no need to activate this valve before testing.</u>
- However, if your spa pump is not priming, activating the air bleed valve MAY
 improve priming. To do this you will require a 4mm or 3/16" drill bit. Carefully drill
 down the centre of the elbow barb ensuring that you do not drill through the outer
 wall.
- 3. It is common for air bleed valves to "Squirt" water when sealing, this will occur every time the pump is switched on. Once the internal valve is seated, the water "squirt" will stop.





Air Bleed Activated – Internal Installation

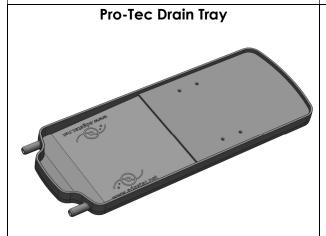
Spacraft highly recommend a drain tray be fitted on ALL internal installations.

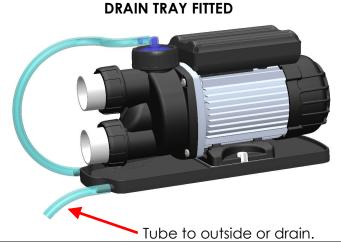
A drain tray will protect indoor installations from water damage should any small drip from the mechanical seal occur due to normal wear. Will also collect any minor "squirt" from the air bleed if it is required to be activated.

NO DRAIN TRAY FITTED

Attach 10 mm flexible drain tube (Not Supplied). Loop tube above bath maximum waterline or coil tube 3 times and support vertically at highest point under bath. Alternatively feed tube outside or into drain.

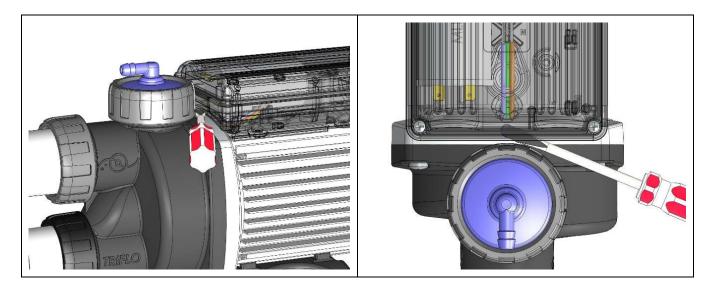






Resetting Heater Thermal Overload

During normal operation, the heater thermal should never overload. To reset thermal overload, use a flat head or blade screwdriver to completely cover the red reset button on top of the motor and in front of the top cover before pushing down to reset, refer below images.



Electrical Connection

- 1. Spa bath pumps must be fitted in accordance with AS3000 electrical wiring rules.
- 2. AS3000 requires all 240 V pumps installed on a Spa Bath to be supplied through a circuit protected by a Residual Current Device (RCD) also known as a Safety Switch with a maximum rated residual current of 30 mA.
- 3. <u>Auto-Heat</u> & <u>ECO</u> models of the TriFlo spa bath pump are fitted with a lead and Australian three pin plug for 230-240V 50Hz power supply.
- 4. Xtra-Heat, Sensa-Touch and Spa-Key pump models (excluding ECO models) are now required by the electrical authorities to be <u>hard wired</u> for compliance with AS60335.2.60, therefore these pumps are supplied with a lead only, no plug. <u>This is a requirement for all pump models supplied with an earthed electric heater.</u>
- 5. The spa bath pump power connection must have an isolation switch and must be accessible so that it can be independently switched off in case of an emergency <u>but</u> <u>must not be accessible by the bath user.</u>
- 6. If damage occurs to the power cord it must be replaced by Spacraft or an authorised service agent or suitably qualified person.



- This spa bath pump is designed for single phase 230-240V AC, 50 Hz supply only. The electrical connection must comply with Local Supply Authority Regulations and AS3000 (known as the Wiring Rules).
- The spa bath <u>must</u> be protected by a Residual Current Device (RCD)
 also known as a Safety Switch with a maximum rated residual current
 of 30mA.
- A means for disconnection via a double pole isolating switch must be incorporated into the fixed wiring in accordance with the Wiring Rules.
 The isolation switch should not be accessible to the bath user while the spa bath is in use, but still be located for easy access so that the pump can be switched off in an emergency.



bonding structure is required, then an Equipotential Bonding Point is provided.

(Please refer to your local statues and regulations for AS3000 Wiring Standards)



TriFlo Spa Bath Pump – All Models User Operation

Congratulations on the purchase of your new TriFlo spa bath pump. The TriFlo spa bath pump has been specifically designed for spa bath applications to ensure that you have optimum spa jet performance and many years of trouble-free operation.

The TriFlo pump internal design allows the water to self-drain so that there is minimal residue water left in the pump when the spa is emptied in accordance with Local Health Regulations when installed correctly.

TriFlo spa bath pumps are designed for spa bath operation only and should not be used in chemically treated water or any other purpose without seeking written approval from Spacraft Pty Ltd for the application.

TriFlo Models and Operation Guide

TriFlo pumps can be controlled by air switch (air tube operation), electrical touchpad (RJ45 cable), or radio handset (wireless remote). <u>TriFlo pumps are not designed to heat water from cold</u>, but to help maintain the water temperature when filled with warm water.

Auto-Heat: AH Model – Air tube connection.

- The "Auto-Heat" TriFlo pump will help maintain your spa bath water temperature during your spa from reclaimed motor heat transfer.
- This pump is activated by the air button installed on your bath.

Xtra-Heat: XH Model – Air tube connection.

- The "Xtra-Heat" TriFlo pump has the integral flat plate 700watt Stainless Steel heater built into the pump adding to the reclaimed motor heat which will help more to maintain your spa bath water temperature.
- This pump is activated by the air button installed on your bath.

ECO-Touch: ST-ECO Model – RJ45 Cable.

- The "ECO-Touch" TriFlo pump will help maintain your spa bath water temperature during your spa from reclaimed motor heat transfer.
- The "ECO-Touch" TriFlo pump has a bath mounted touch pad which allows you to control the Pump from the baths rim.
- Pressing the "ON/OFF" button will turn your pump ON and OFF.
 When operating the Blue LED will light up. If there is no water in the spa bath or insufficient water in the pump, then the pump will automatically shut down to protect your pump from running dry and causing potential damage to the mechanical seal.
- The Green LED light on the touch pad is showing that the touch pad cable from the pump is fitted correctly and that there is power to the spa bath pump.
- After connecting power to the pump, within 5 seconds the pump will quickly surge (run) for a fraction of a second to indicate the pump has power.

Sensa-Touch: ST Model – RJ45 Cable.

- The "Sensa-Touch" TriFlo pump has the integral flat plate 700watt Stainless Steel heater built into the pump adding to the reclaimed motor heat which will help more to maintain your spa bath water temperature.
- The "Sensa-Touch" TriFlo pump has a bath mounted touch pad which allows you to control the Pump & Heater from the baths rim.



ON/OF

- Pressing the "ON/OFF" button will turn your pump ON and OFF. When operating the Blue LED will light up. If there is no water in the spa bath or insufficient water in the pump, then the pump will automatically shut down to protect your pump from running dry and causing potential damage to the mechanical seal.
- When the pump starts the **heating function automatically turns ON** once the pump has primed, and water is detected in the spa bath.
- The Red heater LED lights will flash in sequence to indicate that the water temperature is now being maintained. When the bath water temperature has reached the setting chosen the Red lights "L, M, H" will stay on. To lower the heating temperature, press the "HEATER" button, each time you press an indicator light will turn off and the set temperature will be reduced. When all the Red lights are off the heater is no longer active. To turn the heater back on, press the "HEATER" button and the heater will come back on at the highest setting.
- The Green LED light on the touch pad is showing that the touch pad cable from the pump is fitted correctly and that there is power to the spa bath pump.
- After connecting power to the pump, within 5 seconds the pump will quickly surge (run) for a fraction of a second to indicate the pump has power.

ECO-Key: SK-ECO Model – Radio Remote.

- The "ECO-Key" TriFlo pump will help maintain your spa bath water temperature during your spa from reclaimed motor heat transfer.
- The "ECO-Key" is a unique radio operated remote control system which is housed in a water-resistant casing. The ECO-Key operates the Pump from the one small casing.
- The Spa-Key handset has a replaceable 12V, model 27A or L828 battery.
- Pressing the "ON/OFF" button will turn your pump ON and OFF. A Blue light illuminates when the button is pressed.
- If there is no water in the spa bath or insufficient water in the pump, then the pump will automatically shut down after 10 seconds to protect your pump from running dry and causing potential damage to the mechanical seal.
- To synchronize another handset, refer to Technical Data (page 15).

Spa-Key: SK Model – Radio Remote.

- The "Spa-Key" TriFlo pump has the integral flat plate 700watt Stainless Steel heater built into the pump adding to the reclaimed motor heat which will help more to maintain your spa bath water temperature.
- The "Spa-Key" is a unique radio operated remote control system which is housed in a water-resistant casing. The Spa-Key operates the Pump, and Heater all from the one small casing.
- The Spa-Key handset has a replaceable 12V, model 27A or L828 battery.
- Pressing the "PUMP" button will turn your pump ON and OFF. A Blue light illuminates when a button is pressed.
- If there is no water in the spa bath or insufficient water in the pump, then the pump will automatically shut down after 10 seconds to protect your pump from running dry and causing potential damage to the mechanical seal.
- When the pump starts the **heating function automatically turns ON** once the pump has primed, and water is detected in the spa bath.
- To turn the heater OFF press the "HEAT" button on the Spa-Key handset.
- To synchronize another handset, refer to Technical Data (page 15).





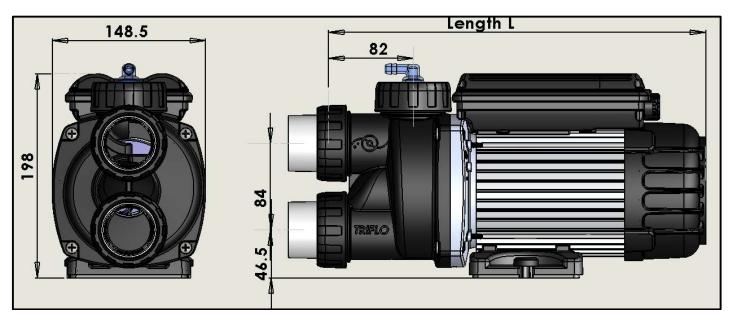
Trouble Shooting

nouble shooling							
	t & Xtra-Heat – Spa Pump Will Not Start (No Motor Noise)						
Possible Cause	Suggested Action						
Mains power to	Check the power point is in the "On" position, then check the power point has 240V						
pump	power by plugging another device into it.						
Air tube is not	Check the air tube is connected to the air button on the spa bath and the <u>air</u>						
connected	switch on the back of the pump. (page 8)						
	Note: The blue air bleed on the front of pump is not the air switch.						
Air tube is kinked or	Check the air tube is not kinked, squashed or wrapped around the pipework or						
squashed	framework as this will stop the pulse of air required to activate the pump.						
Air button is not	Check the air button is clear of debris (i.e., tile grout) and that the air button plunger						
operating	moves freely.						
Pump air switch	To test the pump directly, cut 6 inches of air tube and connect to pump. Blow with						
	mouth into open end like a straw. Each pulse of air will toggle the pump "On / Off".						
	If this works, the problem is between pump and bath.						
	ump Not Priming But is Making a Noise – No Water from Jets						
No water from jets	Ensure pump motor is rotating by checking rear fan of motor.						
	Check the height of pump.						
	Check that adjustable spa jets are in the open position. Activate Air Bleed – Refer to activating Air Bleed (pages 9 & 10)						
C T							
Sensa-Touch & ECO-Touch — Spa Pump Will Not Start (No Motor Noise)							
Possible Cause	Suggested Action						
Mains power to	Check the power point is in the "On" position, then check the power point has 240V						
pump	power by plugging another device into it.						
Communication	Check the communication cable is connected to the Touch Pad and the						
cable is not	communication port at the back of pump. (page 8)						
connected	Green indicator light should glow on the touch pad to indicate power.						
Touch pad lights are	The touch pad may have entered fault mode, switch the power off at the power						
all flashing	point, wait 15 seconds and then switch the power back on. Only the Green light on						
	the touch pad should now be illuminated.						
1	ump Not Priming But is Making a Noise – No Water from Jets						
No water from jets	Ensure pump motor is rotating by checking rear fan of motor.						
and pump stops	Check the height of pump.						
after 10 seconds	Check that adjustable spa jets are in the open position.						
Tarker and the section of	Activate Air Bleed – Refer to activating Air Bleed (pages 9 & 10)						
Jets working but	Contact service technician or spa installer.						
pump stops after 10 seconds							
	O FCO Kees Comp Devices MAN Not Charlet (No. Adolon No. 20)						
	& ECO-Key – Spa Pump Will Not Start (No Motor Noise)						
Possible Cause	Suggested Action						
Mains power to	Check the power point is in the "on" position, then check the power point has 240V						
pump	power by plugging another device into it.						
No blue light on	Check the batteries are installed in your handset. Press any button on the handset, if						
handset when	the blue-light illuminates, then the battery is OK. (page 13)						
button pressed	Dim or no blue light then replace battery. 12V, model 27A or L828 battery.						
P	ump Not Priming But is Making a Noise – No Water from Jets						
No water from jets	Ensure pump motor is rotating by checking rear fan of motor.						
and pump stops	Check the height of pump.						
after 10 seconds	Check that adjustable spa jets are in the open position.						
	Activate Air Bleed – Refer to activating Air Bleed (pages 9 & 10)						
Jets working but	Contact service technician or spa installer.						
pump stops after 10							
seconds							

Technical Data

Synchronize New Handset: Synchronized by turning the pump power OFF (wait 10 seconds), then ON (wait 2 seconds), then hold down (for 2 seconds) any button on the handset. Handset synchronization time lasts for 15 seconds or once a handset has been synchronized. The pump will pulse twice if the synchronizing time has elapsed, and no handset was detected. The pump will pulse once if a handset was synchronized. The pump will now respond to the new replacement handset. The pump can learn multiple handsets.

 Refer <u>spacraft.com.au</u> and click "Support & Downloads" for further technical information, or visit <u>spacraft.com.au/edgetec/</u>



Pump Model	Supply (volt)		Heater (watt)	Current (amp)		_	Length L (mm)	dB Rating	Hmax (m)	IP Rated
TF075-AH-50-HF (6100) TF075-ST-ECO-50-HF (6130) TF075-SK-ECO-50-HF (6131)	230-240 AC	900 1HP	0	4.4	149	198	384	65	11	55
TF110-ST-ECO-50 (6132) TF110-SK-ECO-50 (6133)	230-240 AC	1100 1.5HP	0	5.5	149	198	406	66	12	55
TF075-XH-50-HF (6101) TF075-ST-50-HF (6109) TF075-SK-50-HF (6102)	230-240 AC	900 1HP	700	7.5	149	198	384	65	11	55
TF110-XH-50 (6104) TF110-ST-50 (6110) TF110-SK-50 (6105)	230-240 AC	1100 1.5HP	700	8.6	149	198	406	66	12	55

Warranty Information				
Model Number	Serial Number			
Date of Purchase	Invoice Number			
Please record the information	above during installation, as this will			

be required for any service / warranty work that may be required.

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Spacraft Product Warranty

Spacraft Pty Ltd warrants that the items sold hereunder shall be free from defects in material and workmanship for a period of one (1) year at the time of the original purchase date and to the original purchaser.

Warranty Terms & Conditions

This Warranty Does Not Cover the Following:

- normal wear and tear, running the pump dry, inadequate ventilation, cement or other debris blocking the pipe work or impeller, or chemically treated water.
- been subject to misuse, neglect, negligence, damage, or accident.
- been used, operated, or maintained other than in accordance with Spacraft instructions.
- not been installed in accordance with the Installation Instructions or by suitably qualified personnel.
- been modified or altered from original specifications, or in any way not approved by Spacraft.
- had repairs attempted or made by other than Spacraft or its authorized dealers.
- been subject to abnormal conditions such as incorrect voltage supply, lightning or high voltage spikes, or damages from electrolytic action, cavitation, sand, corrosive, saline or abrasive liquids, or natural disasters.

Commercial Warranty:

Has a limited warranty of six (6) months from the date of purchase to these commercial installations including (but not limited to) hotels, motels, caravan parks and health clubs etc.

To Make a Warranty Claim:

- If the product is suspected of being defective, stop using it and contact the original place of purchase. Alternatively, phone Spacraft Customer Service on 1300 498 819 or via email to warranty@spacraft.com.au
- Provide evidence or proof of date of original purchase.
- Provide model number and serial number.
- If requested, return the product and/or provide further information with respect to the claim. Returning the product to the place of purchase is at your cost and is your responsibility.
- The warranty claim will be assessed by Spacraft based on their product knowledge and reasonable judgement and will be accepted if:
 - i. a relevant defect is found.
 - ii. the warranty claim is made during the relevant warranty period,
 - iii. none of the excluded conditions listed above apply.
- The customer will be notified of the warranty decision and if found to be invalid the customer must organise collection of the product at their expense or authorise its disposal.
- If the claim is found to be valid Spacraft will, at its option, repair or replace the product free of charge.



NSW: 20 Curtis Road, Mularave 2756

WA: 2/30 Discovery Dr, Bibra Lake 6163

VIC: 13 Lieber Grove, Carrum Downs 3201

PH: 1300 498 819