

Pump installation and warranty guide for the CT Regen range of pumps

UK: CT Xtra Regen, CT Bathroom Regen & CT Force Regen

ROI: CT Shower Regen, CT Apartment Regen & CT Pro Regen

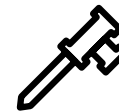


This document should be given to the end user and retained for future reference. Should you need to contact Salamander Pumps you will need the below information.



INSTALLATION CHECKLIST

The installation requirements below must be followed.
Failure to do so will result in the warranty being invalidated.



1. Fit a flange when necessary.
See page 17-18 for more information.



2. Anti-vibration couplers (hoses) must be straight.
See page 14 for more information.



3. Water going through the pump must not exceed 60°C.
See page 9 for more information.



4. Ensure you have enough stored cold water.
See page 16-17 for more information.



5. The pump and anti-vibration couplers must not come into contact with solder or solder flux.
See page 9 for more information.



6. Only suitable for gravity-fed systems. Do not install directly onto the mains water supply.
See page 17 for more information.



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about avoiding some common pitfalls.

Pump Installation and Warranty Guide for the CT Range of Pumps

Important - read this first!

Correct installation is the guarantee of a safe and a trouble-free system. It is therefore important to read these instructions thoroughly and ensure you comply with them. Incorrect fitting will invalidate the warranty.

If your installation is complicated or you have any questions please CONSULT THE PUMPWISE TECHNICAL HELPLINE IMMEDIATELY on 0191 516 2002 (01 864 3363 ROI).

We encourage installers to consult the PumpWise helpline, where our representatives can give you first-rate advice regarding installation

DO NOT REMOVE YOUR PUMP FROM THE SYSTEM WITHOUT FIRST CALLING PUMPWISE ON 0191 516 2002 (01 864 3363 ROI).

Please leave this instruction booklet with the customer for reference to maintenance, safety information and details of warranty cover.

Thank you for choosing Salamander Pumps.

Safety in Operation

These appliances can be used by children older than 3 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.

Children should be supervised to ensure that they do not play with the appliance.

Cleaning and user maintenance shall not be made by children without supervision. Always disconnect the appliance from the supply before assembling, disassembling or cleaning.

If the supply cord is damaged, it must be replaced by the manufacturer, it's service agent, or similarly qualified person in order to avoid a hazard.

The installation must be carried out to comply with the latest Water Supply Regulations, Wiring/Electrical Regulations, Building Regulations and local byelaws.

Correct installation is the guarantee of safety and a trouble-free system. It is therefore important to read these instructions thoroughly and ensure you comply with them. Incorrect fitting could cause serious injury, death, property damage and invalidate the warranty.



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avoiding some common pitfalls

Contents

UK: CT Xtra Regen, CT Bathroom Regen & CT Force Regen ranges
ROI: CT Shower Regen, CT Apartment Regen & CT Pro Regen ranges

Pre installation checklist	6
Product description	8
Installation instructions	8
Step 1: Pump location	10
Step 2: Connecting the pump	14
Step 3: Electrical installation	15
PumpWise guidelines	16
General specifications	21
Technical specifications	23
Trouble shooting	26
Salamander PumpWise	27
Warranty	28

Pre-Installation Checklist

Our installation guidelines are detailed on the following pages, but some of the key “do’s and don’ts” are highlighted below:

Do’s

- ✓ Ensure the pump is as close to the base of the hot water cylinder as possible. The hot supply pipework to the pump should be a maximum length of 5 metres in 22mm pipe (hot and cold supplies should not be more than 2 metres in 15mm pipe)
- ✓ Allow 100mm on all sides for ventilation
- ✓ Ensure the pump is protected from frost
- ✓ If supplying two or more bathrooms, cold water supply to the cylinder should be in 28mm pipework to ensure adequate flow
- ✓ Ensure adequate usable cold water storage - 227 litres (50 gal) per bathroom, and 136 litres (30 gal) per en-suite or shower room
- ✓ The ball valve must be positioned on the opposite side of the cold water storage tank to any cold water supplies to the pump (refer to page 8, Figure 1)
- ✓ Multiple cold water storage tanks must be linked in accordance with current regulations and the bottom of the tanks must be at the same level
- ✓ Hot water supply to the pump must be via a Salamander approved method
- ✓ Always use a 22mm No-Stop Essex flange or a secondary tapping with 76mm dip tube and bird’s beak, where there is less than 1m between the top of the hot water cylinder and base of the cold-water tank. If the pump is placed above the hot water cylinder, an anti-gravity loop at least 400mm in depth MUST be used
- ✓ Anti-vibration couplers must only be finger tight plus one quarter turn
- ✓ The maximum allowable static head is 10 metres (equivalent to 1.0 bar pressure)
- ✓ The pump should be activated for at least 5 minutes every 4 weeks to ensure pump does not seize, by exercising all moving parts
- ✓ Ensure that the installation complies with IET Wiring Regulations
- ✓ All anti-vibration couplers should be fitted straight with no twists, bends or kinks or under excess strain
- ✓ Ensure suitable means of isolation to water and electricity for maintenance
- ✓ All pipework should be adequately supported
- ✓ Bathroom Zones: Salamander Pumps’ CT Regen range of products covered in these notes cannot be installed in Zone 0, Zone 1, or Zone 2. However, they can be installed 0.6m away from the bath/shower (see Step 1: Pump location for further information (Figure 4))

Pre-Installation Checklist (continued)

Don’ts

- X Never fit the pump to the cold water mains
- X Never fit to a shared water supply or shared, communal cold water storage tank
- X Never put a non-return valve (NRV), restrictive ballcock type valve or an air vent on the supply pipework to the pump
- X Never install the pump outdoors
- X The temperature of the hot water supply must not exceed 60°C
- X Never use mechanical tools to tighten plastic coupler nuts as this may cause damage and invalidate your warranty
- X Never use jointing compounds, Boss White, Hemp or steel wool
- X Solder or solder fluxes must not come into contact with the pump or anti-vibration couplers
- X Never pump directly to or from any pump such as secondary return pump or a shower with integral pump
- X Never fit pump to a Fortic Cylinder, primatic cylinder, Elson Tank or Andrews type water heater (on rare occasions where a Fortic cylinder has adequate cold water storage, if all other fitting criteria can be met, this would be acceptable)
- X If considering fitting a pump to a Horizontal (torpedo) water cylinder then please contact PumpWise on 0191 516 2002
- X It is not recommended to pump hot water against cold mains water with a positive head pump

Product Description

The Salamander Pumps CT Regen range is suitable for pressure boosting vented stored water systems but please note that inlet pressures to the pump and water temperatures must not exceed values stated in the technical specifications.

Installation Instructions

Please follow these installation instructions carefully. Failure to install your pump in accordance with these instructions will invalidate your warranty. Any queries should be directed to PumpWise on 0191 516 2002 (01 864 3363 ROI). Do not use Salamander Pumps' CT Regen range for applications other than those stated within the pump description, or connect the pump directly to the cold mains. To do so invalidates the warranty.

The plumbing installation must comply with "The Water Supply (Water Fittings) Regulations 1999", and all current regulations.

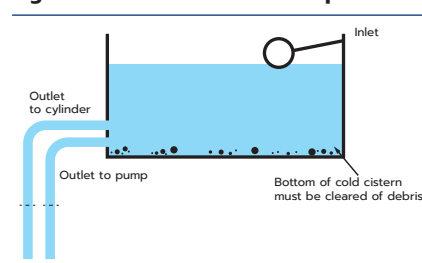
Please note that:

- CT50XPT, CT75XPT, ICTSHO15PT & ICTSHO20PT are shower specific pumps.
- CTF15PT, CT60BPT, CT80BPT, CT60BTU, CT80BTU, CTF15TU are bathroom pumps.
- ICTAPT20PT and ICTAPT20TU are hybrid apartment pumps. Hybrid models are built with a plastic end and brass impeller.
- CTF20PT, CTF30PT, CTF20TU, CTF30TU, ICTPRO20PT & ICTPRO30PT, ICTPRO20TU are whole house pumps.
- CT55XPS, CT85XPS, CTF20PS, CTF30PS, are positive single impeller pumps.
- CTF20SU and CTF30SU are universal single impeller pumps and do not require a natural flow for activation.
- CTF15TU, CTF20TU, CTF20SU, CTF30TU, CTF30SU, CT60BTU, CT80BTU, ICTPRO20TU, ICTPRO30TU & ICTAPT20TU are universal pumps and do not require a natural flow for activation.

Cold water storage

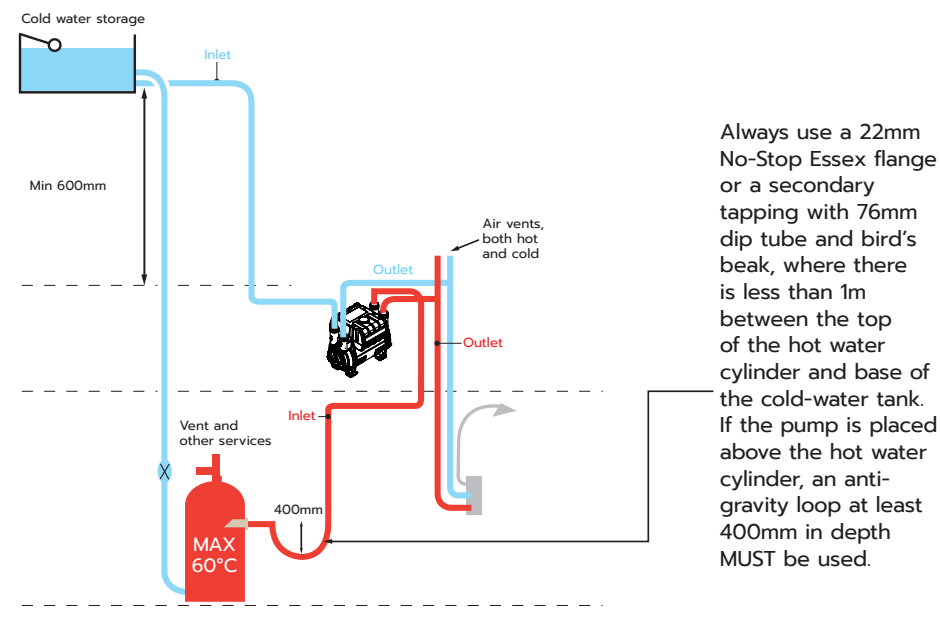
- **It is essential to ensure that:** The cold stored water capacity is adequate for the entire household requirements (e.g. minimum 136 litres (30 gal) for shower only, 227 litres (50 gal) per bathroom, or 364 litres (80 gal) for one bathroom plus an en-suite shower room).
- There is a maximum allowable static head of 10 metres (100kPa/1.0 bar).
- The ball valve must be positioned on the opposite side of the cold water storage tank to any cold water supplies to the pump (refer to Figure 1).
- In systems with more than two bathrooms, the cold water supply to the cylinder should be in 28mm pipework.
- Multiple cold water storage tanks must be linked in accordance with the current plumbing regulations with the bottom of the tanks level.

Figure 1: Tank inlet and outlet position



- Never put a non-return valve, restricted ballcock type valve or an air vent on the supply pipework to the pump.
- The stored hot water temperature must not exceed 60°C to prevent damage to internal pump components.
- Ensure that the hot supply to the pump is via a Salamander approved method appropriate for the system (Figure 2, 5 & 6 pages 9 & 11).
- Jointing compounds (Boss White, Hemp and steel wool) must not be used. Solder fluxes must not come into contact with the pump or anti-vibration couplers.
- All anti-vibration couplers should be fitted straight with no twists, bends or kinks or under excess strain.
- Do not use a higher rated fuse than what is provided.

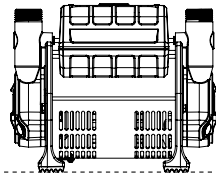
Figure 2: Anti-gravity loop - pumps above the hot water cylinder



Step 1: Pump Location

1. Site the pump in a location where it will not freeze or be exposed to frost during cold weather.
2. Ensure adequate airflow to cool the motor. Separate the pump from other appliances that generate heat. Install the pump in a clear space allowing 100mm at each side, end and top.
3. Do not endanger pre-existing electrics when siting your Salamander pump
4. Ensure the pump is as close to the base of the hot water cylinder as possible. The hot supply pipework to the pump should be a maximum length of 5 metres in 22mm pipe (hot and cold supplies should not be more than 2 metres in 15mm pipe).
5. Mount the pump upright (see Figure 3).
6. Do not screw the pump down
7. Always use a 22mm No-Stop Essex flange or a secondary tapping with 76mm dip tube and bird's beak, where there is less than 1m between the top of the hot water cylinder and base of the cold-water tank.
8. If the pump is placed above the hot water cylinder, use a 22mm No-Stop Essex flange or a secondary tapping with 76mm dip tube and bird's beak. An anti-gravity loop at least 400mm in depth MUST also be used. This will prevent aeration/cavitation which can cause damage to the pump.
9. Bathroom Zones: Salamander Pumps' CT Regen range of products covered in these notes cannot be installed in Zone 0, Zone 1, or Zone 2. However, they can be installed 0.6m away from the bath/shower (see Figure 4).

Figure 3. Pump mounted upright



The pump should be installed in accordance with BS7671:2018.

In BS7671:2018 rooms containing baths or showers should be broken down into zones. These zones are summarised as:

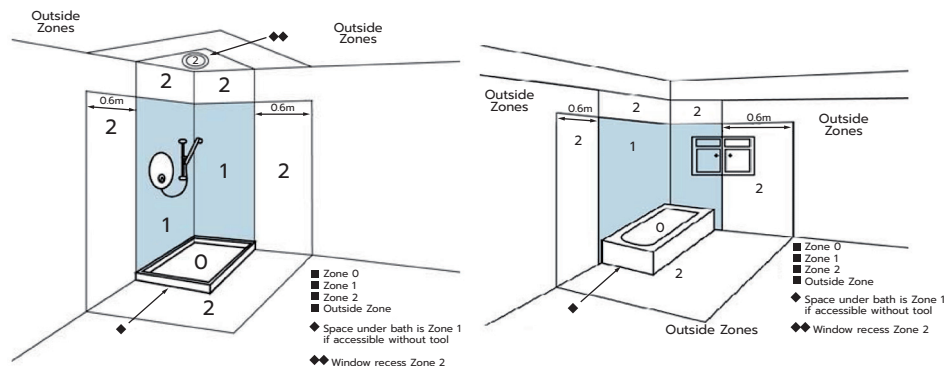
ZONE 0 – This is the interior of the bath or shower tray.

ZONE 1 – Is considered to be the area where the individual is bathing or showering or the area where shower water is likely to be directly sprayed.

ZONE 2 – Is the area beyond Zone 1, extending by a further 600mm.

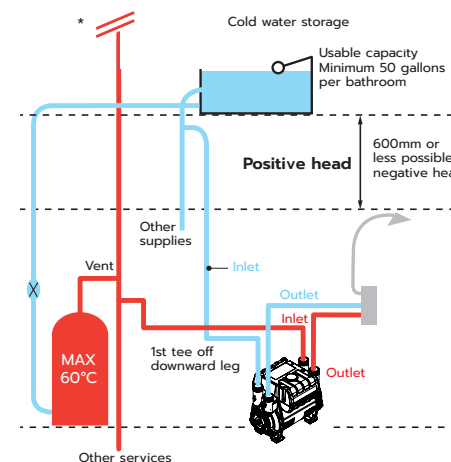
Please refer to BS7671:2018 for further guidance.

Figure 4: Bathroom Zones



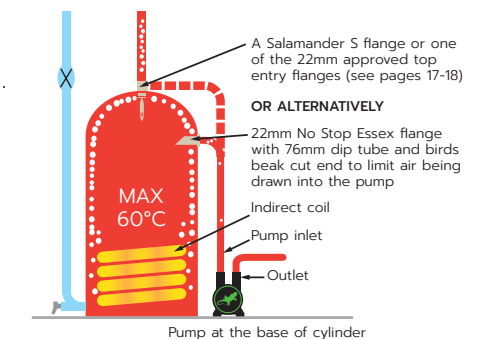
10. Check the marker arrows on the pump to ensure correct direction of water flow. Either end of the pump is suitable for hot or cold water.
11. The maximum static head is 10 metres (equivalent to 1.0 bar pressure).
12. The hot connection from the cylinder (Figure 6) must be either via:
 - A Salamander S flange, or other approved top entry flange
 - A 3/4 inch No-Stop Essex flange in 22mm with 76mm dip tube with birds beak (an anti-gravity loop, at least 400mm in depth MUST be used when the pump is installed above the hot water cylinder, Figure 2)
 - Alternatively, only if the pump is sited level with the base of the hot water cylinder and within 5m:
 - If the cylinder set up has a 45° angled vent from the top of the cylinder, a tee taken vertically downward from this pipe, midway and from the underside may be used. There must be a minimum of 15m clearance in height between the top of the hot water cylinder and the base of the cold-water storage tank.
 - The hot and cold supplies to the pump can be teed off other 22/28mm supplies (Figure 5), provided that:
 - The tee-off to the pump must be the first call on the downward service pipe after the vent, positioned at least 15 cm (6 inches) below the vent connection. There must be a minimum of 1m clearance in height between the top of the hot water cylinder and the base of the cold water storage tank.
13. The cold feed can be the first tee from the general services from the cold-water storage tank ONLY. NOTE: The cold feed from the storage tank to the the hot-water cylinder is NOT general services so must NOT be used.
14. Check that the water storage capacity recovery meets required flow rates, particularly at peak demand (i.e. appliances in simultaneous use).
15. The up and over outlet pipework from the pump should be correctly vented at the highest point if it rises into the loft space or level with cold water storage tank.
16. Pipework runs should minimise risk of airlocks, i.e. inverted loops and restrictive isolation valves etc.

Figure 5. Tee off other supplies



*Vent and expansion pipe to terminate to current standards

Figure 6. Best Connection Method



17. A positive head pump requires a natural flow rate of at least 2 litres per minute, of both hot and cold individually, from the shower head or other outlets, and 4 litres per minute mixed water. If there are any outlets where the natural flow is less than 2 litres per minute of hot or cold, and 4 litres per minute mixed, a negative head (universal) pump is required.

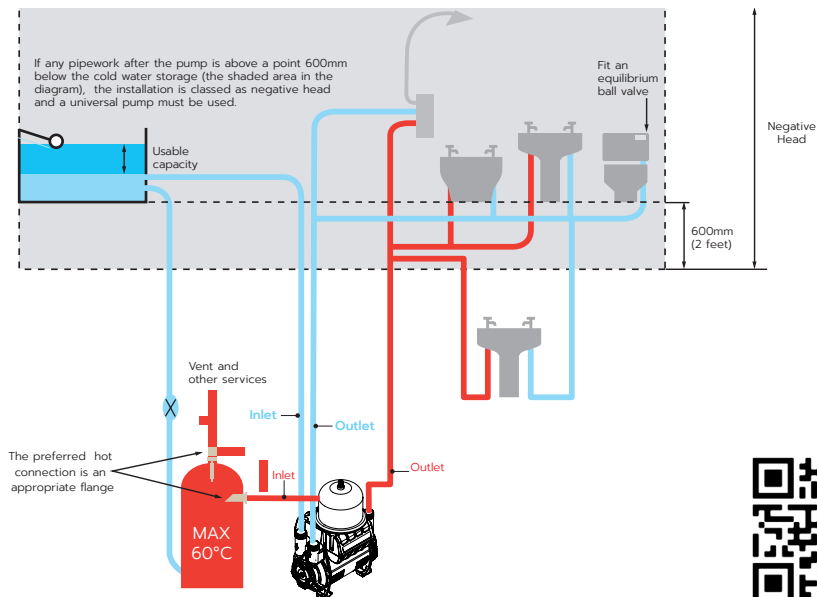
Negative Head Systems

Negative head systems exist where insufficient natural flow of water goes to the outlet because either the outlet or the pipework to the outlet are above the height of the base of the cold water tank. Most instances of negative head systems occur in loft conversions or where the cold water tank sits on the joists in the loft. If the distance between the bottom of the cold water tank and the highest point in the system after the pump is 600mm or less, it is also possible that a universal pump will be required. Salamander Pumps' universal range of pumps activate the pump automatically even where insufficient natural flow exists. Negative head is also needed for electric showers, dishwashers, washing machines or where pumped hot water meets mains cold.

UK CT Regen pumps suitable for negative head operation are: CTF15TU, CTF20TU, CTF20SU, CTF30TU, CTF30SU, CT60BTU & CT80BTU.

Irish CT Regen pumps suitable for negative head operation are: ICTPRO20TU, ICTPRO30TU & ICTAPT20TU.

Figure 7. Negative head system



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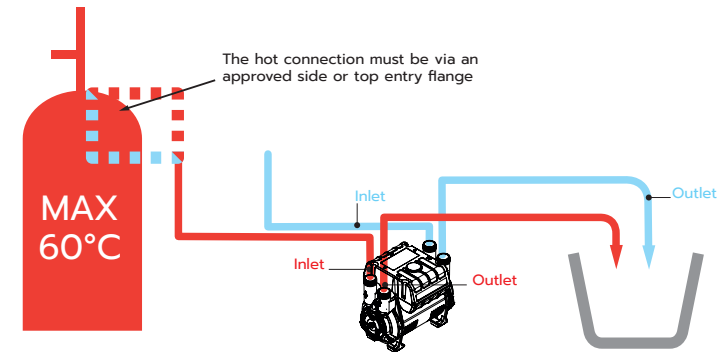
Commissioning

Before you finish

Fit inlet filters, washers and vibration dampening feet supplied with the pump.

It is CRITICAL to discharge water through the pump into a container using natural flow before connecting the pump to outlet pipework in order to ensure the air has been discharged from inlet pipework and pump chambers. This will not happen if the outlet pipework is connected to the pump. The best method is:

- Connect discharge pipework, not outlet pipes.



- Check that all the anti vibration coupler isolating valves are open.**
- Fill system. Check for leaks.
- DO NOT RUN PUMP DRY – to do so will cause irreparable damage to your pump and will invalidate your warranty.**
- Open shower mixer valve/system outlets to maximum hot and cold to check the natural flow (unpumped) MUST be at least 1 litre in 30 seconds per side and 2 litres in 30 seconds mixed for positive head pumps.
- Open hot water outlets fully for 5 to 6 seconds and then turn outlets off. Then open cold water outlets fully for 5 to 6 seconds and turn outlets off. If flow is poor and inconsistent repeat above steps until flow is steady.

Step 2: Connecting the Pump

Use only Salamander supplied anti-vibration couplers to connect the pump.

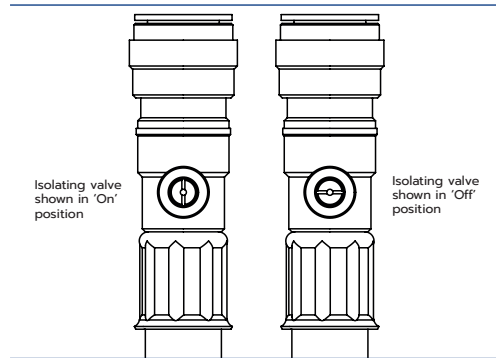
The in-line filters must be fitted to the hot and cold inlet supplies to the pump.

Do not twist or bend anti-vibration hoses as this will invalidate the warranty.

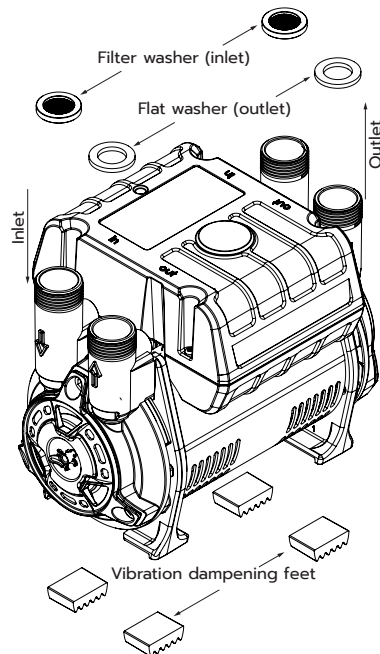
Ensure that there are suitable means of isolation for maintenance.

The anti-vibration coupler nuts need only be finger tight plus one quarter turn. Mechanical tools must not be used to tighten plastic coupler nuts as this may cause damage which will invalidate the warranty.

Inlets and outlets must be vertical and plumbed appropriately.



Filter washers MUST be fitted to the inlets of the pump to validate your warranty. Flat washers must be fitted to the outlets. Flat and filter washers are supplied with the pump.



Step 3: Electrical Installation

Your pump must be connected to the electrical supply using the mains cable with the attached plug. This plug must be connected to an accessible socket that has been installed in compliance with IET Wiring Regulations.

Do not connect to an extension lead or shared electrical supply.

The plug must be accessible at all times.

The pump is supplied with a fuse fitted. Higher rate fuses **MUST NOT** be used.

If installed by a Part P qualified installer, the pump may be fitted via a fused mains spur without invalidating the warranty. See Technical Specifications for fuse ratings for each model of pump. Ensure that the pump is fully operational before hard wiring pump in this instance, this should be done during commissioning.

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

All pipework must be cross-bonded in accordance with the IET Regulations.

Helpful PumpWise Guidelines

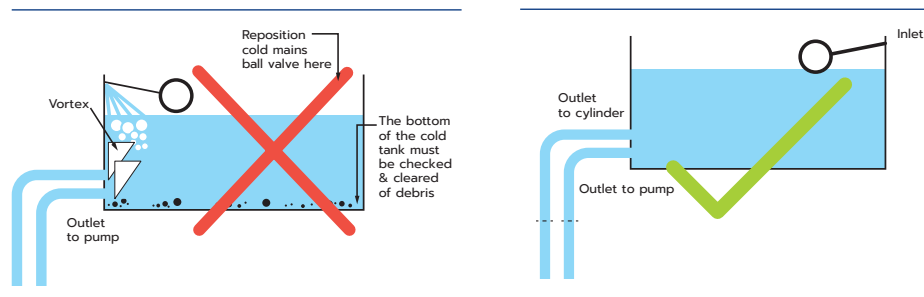
Cold water supplies and recovery of cold water storage

Ensure that there is sufficient water recovery to cover the water usage by the appliance.

Aeration of pump and cylinder from a cold water storage tank

This occurs when the incoming cold mains ball valve is positioned above the cold feeds to the cylinder and to the pump – aerated water is drawn into the pump as illustrated.

Figure 8: Aeration

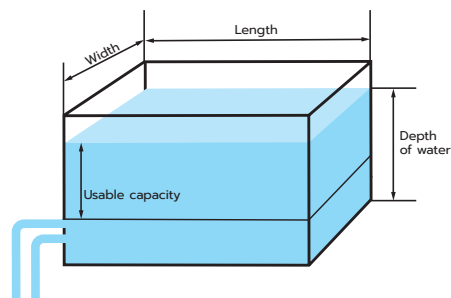


Chronic aeration of the pump occurs when this problem is combined with inadequate storage capacity and/or when the volume of water is drawn by the pump and other services exceeds the refill rate and creates a vortex which draws air and possibly debris into the pump.

Cold storage usable capacity

The usable capacity of cold storage is easily calculated as the capacity of water in the cold tank above the cold feeds to the cylinder, the pump and other outlets – see formula.

Figure 9: Water capacity calculations



Formula for calculation on rectangular tank:

Water above outlet (15") x width (23") x length (36") = 12,420 cu inches

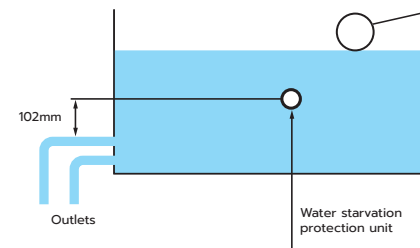
Volume cu inches (12,420) x 0.01639 = 203.56 litres

Volume litres (203.56) x 0.22 = 44.78 gallons



Scan QR to find out more

Figure 10: Water starvation protection unit (WSP)



Water starvation protection

In systems where it is absolutely not possible to increase the usable cold water storage capacity to meet the increased demand of a pumped system; a water starvation protection unit (WSP) may be considered (see Figure 10).

The WSP is a Salamander level switch which must be positioned 102mm higher than the highest outlet from the cold water storage tank. When the water level drops too far the WSP will switch off the pump until the cold water storage level is recovered.

Mains Fed Systems

The pumps in the CT Regen range are not suitable to be fitted to pump the cold water mains. Please see Salamander Pumps' MainsBooster range for boosting water in combination boiler or unvented cylinder systems.

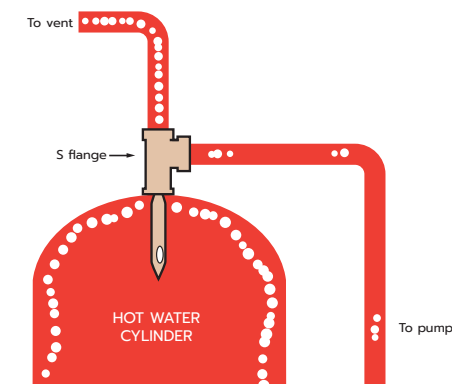
Horizontal cylinders

As horizontal (Torpedo) cylinders are problematic for boosted systems consult PumpWise on 0191 516 2002 for guidance and correct use of an approved top entry flange.

S flange

Complete with compression pump outlet and the open vent connections. Also supplied with an adaptor to connect to 1" male and female top entry cylinders (see Figure 11).

Figure 11: S flange



Scan QR to find out more

Approved flanges (cylinders)

Always use a 22mm No-Stop Essex flange or a secondary tapping with 76mm dip tube and bird's beak, where there is less than 1m between the top of the hot water cylinder and base of the cold-water tank. If the pump is placed above the hot water cylinder, an anti-gravity loop at least 400mm in depth MUST be used. Other approved top entry flanges with extension pipes into the cylinder represent the best known means of ensuring minimal aeration of the hot supply water to the pump.

Please contact PumpWise on 0191 516 2002 for additional approved flanges.

Warix flange (Figure 12)

- A) The vent connection MUST be from side in Warix flange.
- B) The supply connection to the pump MUST BE FROM THE TOP of the Warix flange.
- C) In systems where there are one bathroom and an en-suite shower, or two or more bathrooms, the cold feed to the cylinder should ideally be in 28mm pipework.

Water hammer protection

Water hammer most commonly occurs in systems where there are long pipe runs supplying solenoid activated appliances e.g. washing machines or outlets with quick acting/turn taps/valve(s). The harmful effect of water hammer shock waves can be cushioned by fitting a pressure vessel unit, into the supply pipework as close as possible to the outlet from which the shock waves are originating.

Figure 13: Water hammer protection

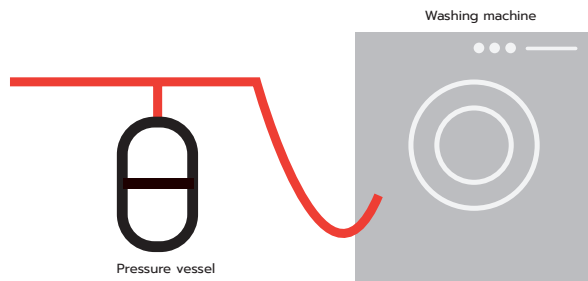
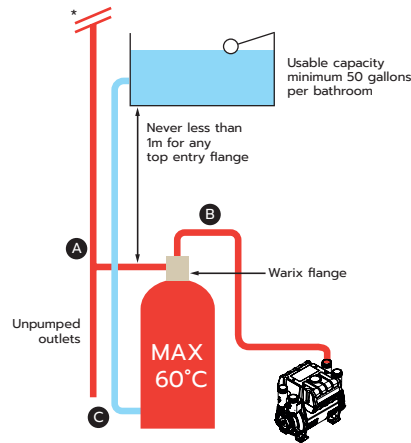


Figure 12: Warix flange



*Vent and expansion pipe to terminate to current standards

Pump hunting

In negative head systems all the discharge pipework after the pump is pressurised.

In such systems there exists the possibility the pump will hunt ON-OFF-ON etc. at intervals.

This will happen:

- if all outlets are not fully closed
- if there is a leak at a connection somewhere in the pipework after the pump
- if boosted toilets are not fitted with equilibrium ball valves
- or as residual hot water contracts in long pipe runs

Stored hot water volume

In calculating the volume of the stored hot water requirement it is important to consider:

- number of bathrooms, with particular attention to the size of the bath
- number of persons in household

Stored hot water temperature

Stored hot water temperature must be controlled by an approved method, such as a cylinder thermostat or direct acting thermostatic valve (e.g. tapstat).

Maximum water temperature for CT Regen pumps is 60°C.

In systems where the stored hot water temperature cannot be efficiently controlled e.g. Aga solid fuel appliance, solar panels, air source heat pumps, or very crudely by the boiler thermostat, an approved HWS TMV must be used. See page 20 for more information.

Extract from BS5546:2010

"The mean temperature of the stored water should not normally exceed 60°C, and, in a combined central heating and domestic hot water system, the stored water temperature should be controlled independently from that of the primary circuit".

HWS TMV blending valve controller

A Salamander approved HWS blending valve controller will protect booster pumps in systems where the temperature of the stored hot water is uncontrolled or crudely controlled via boiler thermostat only – see below.

Figure 14: HWS blending valve controller to pump

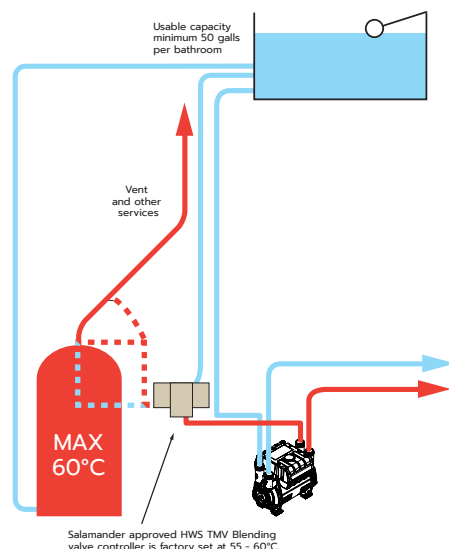
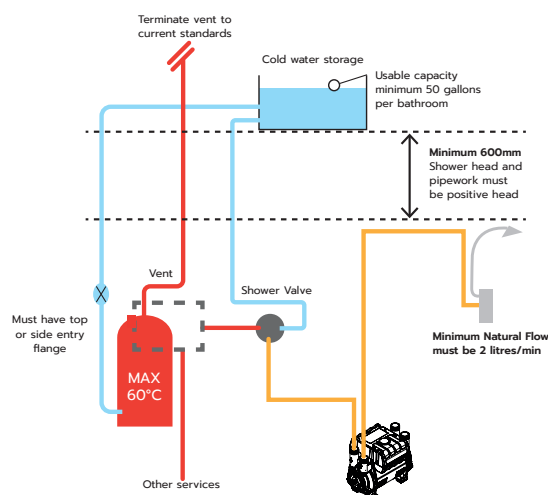


Figure 15: Pump fitted between shower valve and shower head



As a non-preferred method, a **single positive head pump** may be fitted between the shower valve and the shower head.

- The shower head and all pipework must be positive head and allow a natural flow of 2 L/min of mixed water.
- The hot water connection must be a top or side entry flange or secondary return connection on the cylinder.
- Negative head pumps must not be used.
- Supplies to shower should be no longer than 5m in 22mm pipe (2m of 15mm).
- Cold water supply must be tank-fed.

General Specifications

– CT Xtra Regen / CT Shower Regen & CT Bathroom Regen / CT Apartment Regen

Applications

All CT Regen pumps are designed to boost low pressure hot and cold supplies from tank-fed services. When supplies from a water heater, combination boiler or an unvented cylinder, are to be boosted contact the Salamander PumpWise helpline on 0191 516 2002 or visit www.salamanderpumps.co.uk for guidance.

Voltage

230 volts, 50 Hz.

Motor type

Capacitor start and run induction type motor with stainless steel shaft and in-built resetting thermal protection.

Maximum head

All CT Xtra Regen / CT Shower Regen and CT Bathroom Regen / CT Apartment Regen pumps are rated for a maximum static head of 10 metres (100 kPa/1.0 bar).

Anti-vibration couplers

Do not bend

Please refer to the Technical Specifications table for information on which anti-vibration couplers are supplied with each pump.

Mechanical seals

Rotary mechanical face seals are used. Scale and mineral deposits in water supplies can cause the mechanical seal to stick if left for long periods without use. The pump must be run for at least five minutes every four weeks to 'exercise' all working parts.

Connections

3/4" BSP male.

Initiation

Only applies to positive head pumps. Fully automatic, flow operated, requiring 2 L/min per side and 4 L/min mixed.

Temperature

Maximum fluid temperature 60°C.

Pump noise

Salamander Pumps has engineered this product range to be as quiet as possible, however no pump is completely silent. Correct installation (anti-vibration couplers straight, rubber feet fitted) will minimise noise, vibration and transmission noise.

Standards and approvals

Splash proof rating IPX3; complies with the requirements of current UK Regulations (UKCA) and European Community Directives (CE) safety standards for household and similar electrical appliances. Due to continuous improvement and updating specifications may be altered without prior notice.

General Specifications – CT Force Regen / CT Pro Regen

Applications

All CT Regen pumps are designed to boost low pressure hot and cold supplies from tank-fed services. When supplies from a water heater, combination boiler or an unvented cylinder, are to be boosted contact the Salamander PumpWise helpline on 0191 516 2002 or visit www.salamanderpumps.co.uk for guidance.

Voltage

230 volts, 50 Hz.

Motor type

Capacitor start and run induction type motor with stainless steel shaft and in-built resetting thermal protection.

Maximum head

All CT Force Regen / CT Pro Regen pumps are rated for a maximum static head of 10 metres (100 kPa/1.0 bar).

Anti-vibration couplers

Do not bend
CT Force Regen / CT Pro Regen pumps are supplied with anti-vibration couplers complete with push fit connections and built-in isolating valves. See Technical specifications for details.

Mechanical seals

Rotary mechanical face seals are used. Scale and mineral deposits in water supplies can cause the mechanical seal to stick if left for long periods without use. The pump must be run at least five minutes every four weeks to 'exercise' all working parts.

Connections

¾" BSP male.

Initiation

Fully automatic, flow operated, requiring 2 L/min per side and 4 L/min mixed. Only applies to positive head pumps.

Temperature

Maximum fluid temperature 60°C.

Pump noise

Salamander Pumps has engineered this product range to be as quiet as possible, however no pump is completely silent. Correct installation (anti-vibration couplers straight, rubber feet fitted) will minimise noise, vibration and transmission noise.

Standards and approvals

Splash proof rating IPX3; complies with the requirements of current UK Regulations (UKCA) and European Community Directives (CE) safety standards for household and similar electrical appliances. Due to continuous improvement and updating specifications may be altered without prior notice.

Technical Specifications - CT Xtra Regen / CT Shower Regen

Part No.	Description	Specification		Performance			Connection Type			Pump Volumetrics				
		Electrical Input	Pump Type				Pump	Hoses	Isolators	Dimensions				
		230/1/50	Fuse	Regenerative	Pressure kPA/(Bar) at 16ltr/min	Pressure kPA/(Bar) at 8tr/min	Max pressure kPA/(Bar) closed head	BSP	Push Fit	Isolators integrated into the hoses	Weight (Kg)	Length (mm)	Width (mm)	Height (mm)
CT50XPT ICTSHO15PT	15 Bar Twin End Positive Head Shower Pump	✓	3A	✓	60 (0.6)	100 (1.0)	150 (1.5)	3/4"	15mm	✓	4.20	205	150	170
									21mm					
CT75XPT ICTSHO20PT	2.0 Bar Twin End Positive Head Shower Pump	✓	3A	✓	100 (1.0)	160 (1.6)	200 (2.0)	3/4"	15mm	✓	4.20	205	150	170
									21mm					
CT55XPS	15 Bar Single End Positive Head Shower Pump	✓	3A	✓	60 (0.6)	100 (1.0)	150 (1.5)	3/4"	15mm	✓	4.10	202	150	170
CT85XPS	2.2 Bar Single End Positive Head Shower Pump	✓	3A	✓	100 (1.0)	160 (1.6)	220 (2.2)	3/4"	15mm	✓	4.10	202	150	170

Technical Specifications - CT Bathroom Regen / CT Apartment Regen

Part No.	Description	Specification			Performance			Connection Type			Pump Volumetrics			
		Electrical Input	Pump Type					Pump	Hoses	Isolators	Dimensions			
		230/1/50	Fuse	Regenerative	Pressure kPA/(Bar) at 16ltr/min	Pressure kPA/(Bar) at 8tr/min	Max pressure kPA/(Bar) closed head	BSP	Push Fit	Isolators integrated into the hoses	Weight (Kg)	Length (mm)	Width (mm)	Height (mm)
CT Bathroom Regen/ CT Apartment Regen														
CT60BPT	18 Bar Twin End Positive Head House Pump	✓	3A	✓	100 (10)	160 (16)	180 (18)	3/4"	15mm	✓	4.30	205	150	170
CT80BPT	2.6 Bar Twin End Positive Head House Pump	✓	3A	✓	110 (11)	180 (18)	260 (2.6)	3/4"	15mm	✓	5.55	233	150	170
CT60BHPT ICTAPT20PT	2.0 Bar Twin End Positive Head House Pump - Hybrid	✓	3A	✓	100 (10)	150 (15)	200 (2.0)	3/4"	15mm 21mm	✓	4.50	205	150	170
CT80BHPT	2.6 Bar Twin End Positive Head House Pump - Hybrid	✓	3A	✓	140 (14)	200 (2.0)	260 (2.6)	3/4"	15mm	✓	5.75	233	150	170
CT Bathroom Regen/ CT Apartment Regen Universal Pumps														
CT60BTU	18 Bar Twin End Universal House Pump	✓	3A	✓	100 (10)	160 (16)	180 (18)	3/4"	15mm	✓	5.00	205	154	280
CT80BTU	2.6 Bar Twin End Universal House Pump	✓	3A	✓	110 (11)	180 (18)	260 (2.6)	3/4"	15mm	✓	6.25	233	154	280
CT60BHTU ICTAPT20TU	2.0 Bar Twin End Universal House Pump - Hybrid	✓	3A	✓	100 (10)	150 (15)	200 (2.0)	3/4"	15mm 21mm	✓	5.20	205	154	280
CT80BHTU	2.6 Bar Twin End Universal House Pump - Hybrid	✓	3A	✓	140 (14)	200 (2.0)	260 (2.6)	3/4"	15mm	✓	6.45	233	154	280

Technical Specifications - CT Force Regen / CT Pro Regen

Part No.	Description	Specification		Performance			Connection Type			Pump Volumetrics				
		Electrical Input	Pump Type				Pump	Hoses	Isolators	Dimensions				
		230/1/50	Fuse	Regenerative	Pressure kPA/(Bar) at 16ltr/min	Pressure kPA/(Bar) at 8tr/min	Max pressure kPA/(Bar) closed head	BSP	Push Fit	Isolators integrated into the hoses	Weight (Kg)	Length (mm)	Width (mm)	Height (mm)
CT Force Regen/ CT Pro Regen														
CTF15PT	15 Bar Twin End Positive Head Shower Pump	✓	3A	✓	60 (0.6)	100 (1.0)	150 (15)	3/4"	22mm	✓	5.55	205	150	170
CTF20PT ICTPRO20PT	2.0 Bar Twin End Positive Head Shower Pump	✓	3A	✓	90 (0.9)	130 (1.3)	200 (2.0)	3/4"	22mm 21mm	✓	5.55	205	150	170
CTF30PT ICTPRO30PT	3.0 Bar Twin End Positive Head Shower Pump	✓	3A	✓	170 (1.7)	240 (2.4)	300 (3.0)	3/4"	22mm 21mm	✓	6.80	233	150	170
CTF20PS	2.0 Bar Single End Positive Head Shower Pump	✓	3A	✓	90 (0.9)	130 (1.3)	200 (2.0)	3/4"	22mm	✓	5.40	202	150	170
CTF30PS	3.0 Bar Single End Positive Head Shower Pump	✓	3A	✓	170 (1.7)	240 (2.4)	300 (3.0)	3/4"	22mm	✓	6.65	230	150	170
CT Force Regen/ CT Pro Regen Universal Pumps														
CTF15TU	15 Bar Twin End Universal Shower Pump	✓	3A	✓	60 (0.6)	100 (1.0)	150 (15)	3/4"	22mm	✓	6.25	205	154	280
CTF20TU ICTPRO20TU	2.0 Bar Twin End Universal Shower Pump	✓	3A	✓	90 (0.9)	130 (1.3)	200 (2.0)	3/4"	22mm 21mm	✓	6.25	205	154	280
CTF30TU ICTPRO30TU	3.0 Bar Twin End Universal Shower Pump	✓	3A	✓	170 (1.7)	240 (2.4)	300 (3.0)	3/4"	22mm 21mm	✓	7.50	233	154	280
CTF20SU	2.0 Bar Single End Universal Shower Pump	✓	3A	✓	90 (0.9)	130 (1.3)	200 (2.0)	3/4"	22mm	✓	6.10	202	154	280
CTF30SU	3.0 Bar Single End Universal Shower Pump	✓	3A	✓	170 (1.7)	240 (2.4)	300 (3.0)	3/4"	22mm	✓	7.35	230	154	280

Trouble Shooting

CHECK THAT THE INSTALLATION COMPLIES WITH THE SALAMANDER INSTRUCTIONS IF THE PUMP IS STILL INOPERABLE, CONTACT PUMPWISE ON 0191 516 2002.

Fault	Probable cause	Recommended solution
Pump will not start	Insufficient gravity flow	Check suitability of pump – is installation in negative head (see page 12) Check inlet filters are not blocked Check flow rate (min of 2 L/min required on both hot and cold) for positive head pumps
	Inlet/outlet connections incorrect	Check that connections are plumbed the correct way round and all valves are open
	Electrical	Check power supply Check fuse Check circuit breaker
	Debris under flow switch	Remove outlet hoses and check that flow switch sits in lowest position
	Float sticking in outlet	Ensure no debris is in outlet area
	Flow switch malfunction	Contact PumpWise on 0191 516 2002
Reduced/ intermittent flow	Incorrect or no anti-aeration flange fitted	Fit appropriate anti-aeration flange
	Insufficient gravity flow	See above
	Blocked inlet filters	Ensure that all filters and shower head are free from debris
	Couplers restricting flow	Ensure that all AV couplers are straight and not bent or distorted
	Air in system	Run system on full hot with pump switched off (i.e. gravity only) for several minutes Check cold water storage is correct for installation Ensure cold water refill rate is adequate for installation Check that vents are fitted as described in instructions
	Wrong size pump for system	Ensure pump is sufficient to run the equipment
	Hot temp set too high	Reduce cylinder stat setting to 60°C max or fit HWS/TMV
Pump starts with all outlets closed	Leak in system	Check for leaks
	Outlet open	Ensure all outlets are fully closed or capped – i.e. no dead legs in pipework
Pump is noisy	Air in system	See above
	Pump vibrating on surface	Ensure rubber feet are fitted to pump
	Anti-vibration couplers causing vibration	Ensure that all anti-vibration couplers are straight and not bent or distorted
Pump is leaking	Pump exposed to mains water pressure	Fit break tank or remove from mains supply
	Pump has suffered chemical damage	Ensure that the pump has not come into contact with chemical substance i.e. solder flux
	Pump exposed to excessive temperature	Is effective temp control fitted (cylinder stat or HWS/TMV valve)?
	Pump appears to have leaked but not sure	Check leak is not from fitting in pipework above pump
Pumps above hot cylinder becomes noisy/low pressure during use	Aeration or water starvation	Always use a 22mm No-Stop Essex flange or a secondary tapping with 76mm dip tube and bird's beak, where there is less than 1m between the top of the hot water cylinder and base of the cold-water tank. If the pump is placed above the hot water cylinder, an anti-gravity loop at least 400mm in depth MUST be used

Salamander PumpWise

Salamander PumpWise is your guarantee to:

- help you select the right pump for the job
- avoid installation pitfalls

PumpWise helpline 0191 516 2002

PumpWise from Salamander helps customers and provides a support service second to none. Installers and customers can be sure of a speedy response to requests for technical help, guidance and advice.

Monday to Thursday 8.00am to 5.00pm
Friday 8.00am to 3.00pm

Safety in operation

These appliances can be used by children older than 3 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.

Children should be supervised to ensure that they do not play with the appliance.

Cleaning and user maintenance shall not be made by children without supervision. Always disconnect the appliance from the supply before assembling, disassembling or cleaning.

If the supply cord is damaged, it must be replaced by the manufacturer, it's service agent, or similarly qualified person in order to avoid a hazard. The installation must be carried out to comply with the latest Water Supply Regulations, Wiring/Electrical Regulations, Building Regulations and local byelaws.

Correct installation is the guarantee of safety and a trouble free system. It is therefore important to read these instructions thoroughly and ensure you comply with them. Incorrect fitting could cause serious injury, death, property damage and invalidate the warranty.

WEEE Directive

Your appliance contains valuable materials which could be recovered or recycled. At the end of the product's useful life please dispose of it at an appropriate civil waste collection point.



WEEE Directive 2012/19/EU

At the end of the product life dispose of packaging and product in a corresponding recycling centre.

Do not dispose of the unit with the usual domestic refuse.
Do not burn the product.

Warranty

CT Force Regen and CT Pro Regen pumps benefit from a five year warranty.

CT Xtra Regen & CT Bathroom Regen pumps benefit from a three year warranty (UK).

CT Shower Regen & CT Apartment Regen pumps benefit from a two year warranty (ROI).

PLEASE NOTE:

Incorrect installation WILL invalidate the pump warranty

Salamander Pumps operates a policy of continuous development and reserves the right to change any of the specifications of its products without prior notice. All information data and illustrations given in this leaflet may be subject to variation.

In order to get the most from your Salamander Pump:

- take care that the temperature of your stored water NEVER exceeds the recommended maximum of 60°C
- contact the PumpWise helpline at any sign of aeration or spluttering of the discharge water from the shower or other outlets

Our PumpWise commitment

We promise to help you select the right pump and eliminate the risk of incorrect installation.

We strive to design and manufacture a robust quality product that will delight our customers. We assure you that, should you experience a problem, the PumpWise helpline is there to help; our advisers will provide advice and, if necessary, arrange to fix the problem on site.

Further technical assistance

For more details and further technical assistance consult PumpWise.

Telephone: 0191 516 2002
Fax: 0191 548 4445
E-mail: tech@salamanderpumps.co.uk

To the installer

Please follow the guidelines for installation provided in this brochure and call the PumpWise helpline for installation advice.

Once the installation has been completed and the system has been tested to your satisfaction, please assist the customer in completing warranty registration.

Please note that Salamander Pumps are able to provide an on-site service visit which may be chargeable.

1 The Scope of the Warranty

SALAMANDER PUMPED SHOWER SYSTEMS LTD ("the Company") Warrants subject to the terms and conditions below for the Warranty period(s) specified in paragraph 3 that the Company shall:

Repair or replace free of charge the product(s) specified on the Online Warranty Registration or Telephone Warranty Registration any component part thereof (together referred as "the equipment") which shall in the opinion of the Company have proved defective by reason only of the Company's materials or workmanship. The Company shall be under no obligation whatsoever under this Warranty to repair or replace equipment which has been misused, tampered with, or modified/altered in any way without the consent in writing from the Company; or if any component or accessory has been replaced by a type not specified by the Company; or if the equipment is incorrectly installed, operated or used other than as described in the instruction manual; or if any servicing or repair of the equipment shall have been carried out by anyone other than an authorised Company dealer appointed by the Company ("dealer").

The Company's liability under this Warranty is limited to the said repairs or replacement and shall under no circumstances extend to any financial loss or damage including consequential losses alleged to have been suffered by the claimant.

Salamander Pumps offer a product only warranty, this does not cover any labour due to incorrect use or installation of the product.

Subject as provided in this warranty and except where the equipment is sold to a person dealing as a consumer all warranties, conditions or other terms implied by law are excluded to the fullest extent permitted by law.

Nothing in this warranty shall exclude liability for death or personal injury caused by the Company's negligence.

2 Terms and conditions

This Warranty shall only be enforceable by you if the following terms and conditions have been complied with:

- a. That the pump has been installed in accordance with the installation instructions, guidance and advice contained within the installation and warranty guide and/or provided by the Salamander help desk.

- b. You are the original purchaser of the equipment from a dealer and not an assignee or subsequent purchaser of the equipment.
- c. You must evidence the date of purchase by retaining the original invoice from the dealer. Without such evidence the Company reserves the right to reject any such claims under the terms of this Warranty.
- d. Within 15 days of purchase of the equipment the Warranty registration is accurately completed online or over the telephone.
- e. Within 30 days of discovery of a defect giving rise to liability under paragraph 1 above you give notice thereof in writing to the Company.
- f. Provided the pump has not been altered, tampered with, modified or transformed in any way.

- e. This Warranty is given in addition to and does not affect your statutory rights as a consumer.
- f. This Warranty is valid and enforceable for equipment purchased and used exclusively in the UK and The Republic of Ireland only.
- g. Where the Company issues a replacement the equipment replaced shall be returned to the Company forthwith and shall become the property of the Company.
- h. No authority has been given to any person, firm or company to vary the terms of this Warranty.

3 The Warranty periods

The Warranty periods referred to in paragraph 1 above are as follows:

- a. i. CT Force Regen (UK only) products manufactured by the Company 5 years from date of purchase provided the warranty registration is completed online or over the phone within 15 days of purchase. (Pumps purchased prior to 1st November 2015 come with 3 years warranty).
- ii. CT Pro Regen (ROI only) products manufactured by the Company 5 years from date of purchase provided the warranty is completed online or over the phone within 15 days of purchase. (Pumps purchased prior to 1st January 2016 come with 2 years warranty).
- iii. CT Xtra Regen & CT Bathroom Regen (UK only) products manufactured by the Company 3 years from date of purchase provided the warranty registration is completed online or over the phone within 15 days of purchase.
- iv. CT Shower Regen & CT Apartment Regen (ROI) products manufactured by the Company 2 years from date of purchase provided the warranty registration is completed online or over the phone within 15 days of purchase.
- b. Products supplied by the company, but are not of the company's manufacture come with 30 day warranty from date of purchase. Anti-Vibration Couplers (hoses) come with 1 year from date of purchase.
- c. The warranty period in respect of any product repaired or replaced under the warranty shall be part of the above period(s) which remain unexpired.
- d. In the event of a claim for repairs or replacement being made under the terms of this Warranty, a visit from a Salamander service engineer may be necessary. Engineer visits are not covered under/part of the warranty agreement. In circumstances where in the opinion of the Company the defect has not been caused by the Company's materials or workmanship then the Company reserves the right to charge the claimant at its current hourly rates and list prices in respect of any service engineer's time and replacement of any parts. Please speak to PumpWise for further details and confirmation of costs. Be advised in order for the pump to be assessed by an on-site engineer the pump must remain in situ.

Get in touch, we're here to help
call us on 0191 516 2002

Unit 2c Colima Avenue
Enterprise Park West
Sunderland, SR5 3XE

For ROI/EU Customers:
MT Agencies Ireland Ltd
Fearn House, Jamestown Business Park
Jamestown Road, Finglas
Dublin, D11 K7TV
Tel: 01 864 3363

Register your warranty

Online at:
www.salamanderpumps.co.uk

By phone:
0191 516 2002

