

UK CYLINDERS

YOUR HOT WATER SPECIALISTS



Indirect

INSTALLATION MANUAL V1 SEP 2024

INDIRECT UNVENTED HOT WATER STORAGE CYLINDER WITH **INTERNAL** EXPANSION

Boiler - Indirect Single Coil, Indirect Solar Single Coil, Indirect Solar Twin

IMPORTANT

This range of water heaters and unvented water storage cylinders should only be installed as per these instructions by a competent & certified heating installer. By installing this product you agree to be bound by the purchasing and warranty terms and conditions found in this manual and on our website.

Safe Disposal and WEEE Declaration

This cylinder is manufactured from and supplied with a variety of components made from recyclable materials. At the end of its working life, a hot water cylinder should be disposed of at a Local Authority Recycling Centre.

The Waste Electrical and Electronic Equipment (WEEE) directive makes use of the wheellie bin symbol, which indicates that this product must not be disposed of with regular household waste. Instead all products with this symbol must be disposed of at a designated point for the recycling of waste electrical equipment.

For more information about where you can drop off your WEEE please contact your household waste disposal service or the point of purchase for any of your electrical goods.



INTRODUCTION

This UK manufactured product is made from Duplex stainless steel, providing durability and long-lasting resistance against corrosion. It is highly insulated with environmentally friendly foam, and enclosed in a rust resistant outer steel case.

The Indirect is an indirectly heated unvented hot water storage cylinder as defined under the current ErP Directive and available in seven sizes from 90-300litres.

The cylinder is approved to comply with G3 Building Regulations and the United Kingdom Water Supply (Water Fittings) Regulations / Scottish Water Byelaws.

This Indirect cylinder comes supplied with all necessary safety & control devices needed to connect to the water mains. If for any reason you suspect this may not be the case, please contact us.

Please ensure that you have understood this manual before starting the installation, and leave this guide with the end user once the installation is complete.

For information on potential Warranty Exclusions – please see the appendix of this installation manual.

BENCHMARK

The Benchmark scheme places responsibilities on both manufacturers and installers. The purpose is to ensure that customers are provided with the correct equipment for their needs, that it is installed, commissioned and serviced in accordance with the manufacturer's instructions by competent persons and that it meets the requirements of the appropriate Building Regulations and relevant electrical qualifications. The Benchmark Checklist can be used to demonstrate compliance with Building Regulations and should be provided to the customer for future reference.

Installers are required to carry out installation, commissioning and servicing work in accordance with the Benchmark Code of Practice which is available from the Heating and Hotwater Industry Council who manage and promote the scheme.

Visit www.centralheating.co.uk for more information.

COMPONENT LISTING

Cold Water Inlet Set	LOOSE
15 x 22mm Tundish	LOOSE
Temperature & Pressure Relief Valve	FITTED
Immersion Heater(s) - Capacity and configuration dependant	FITTED
Installation Manual	LOOSE
Benchmark Logbook - Found at the back of this manual	LOOSE

In addition, 2-Port zone valves and dual cylinder stats are provided with standard indirect cylinders, and high limit stats (as well as solar fixing grommets) are provided with solar single and twin coil cylinders.

GENERAL INSTALLATION REQUIREMENTS

The cylinder must be installed, commissioned and maintained by a competent installer holding a current G3 unvented qualification, and/or being a member of a competent persons' scheme. Once the unit is installed and commissioned, the user must be given an explanation of the operation of the cylinder and its key safety components. In addition, the end user must be given this installation manual for future reference.

STORAGE AND HANDLING

Care must be taken when handling the product. Seek assistance when moving the product as required, and follow safe working practices and lifting techniques to avoid injury or product damage. Before installation, the cylinder must be stored upright in its original packaging, on a secure, level surface within a dry and frost-free environment.

SITING THE UNIT

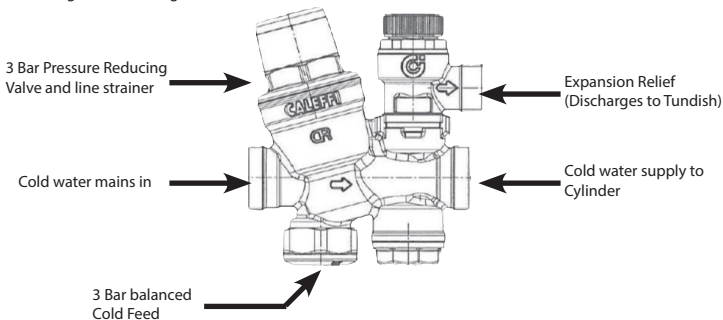
This product must be installed vertically on a flat base that is capable of supporting the maximum-fill weight of the cylinder. For each metre an outlet is above the cylinder, the supply pressure of the hot water will be reduced by 0.1 bar.

The minimum recommended cupboard size is 650mm square as the product diameter can vary (capacity and configuration dependant) between 475mm to 580mm. This is to ensure that there is access to the cylinder safety controls/immersion heaters and for future valve maintenance or replacement during service. Therefore, please ensure all connections are outward facing towards a door or similar opening for this purpose.

Areas subject to freezing should be avoided. If the cylinder is sited outside of a heated area of the dwelling, such as a garage or outbuilding, ensure the provision of adequate frost protection, such as insulation of exposed pipework. Pipe lengths must be kept to a minimum to ensure minimal losses.

COLD WATER INLET CONTROL SET

Included in your unvented safety components is a multibloc inlet control group. This single unit is standard issue for many unvented water systems, and comprises of many different safety valves, housed into a single brass casting. This is detailed as follows:



WATER SUPPLY

We recommend that the maximum on-site water demand be assessed and the water supply be tested to ensure it meets the following requirements.

It must be noted that a high mains water pressure does NOT always guarantee a high flow rate. Ensure a working (not static) condition site pressure reading is taken. The minimum mains water supply requirements should be 0.15MPa (1.5 bar) working pressure, and a 20 litres per minute flow rate is available. Where mains inlet pressures may exceed 10 bar, then an additional upstream pressure reducing device should be fitted in addition to the cold water inlet set provided.

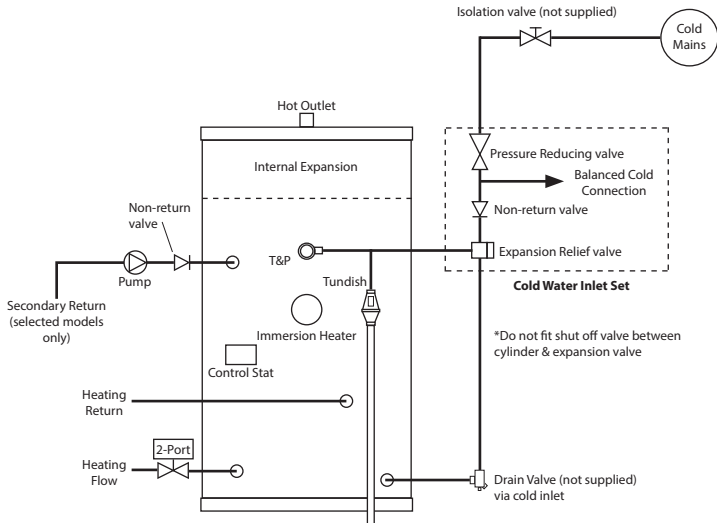
The mains supply pipe-work should be a minimum of 22mm. This could warrant the replacement of any existing 1/2" (15mm) cold mains pipe-work.

The water supply must be of a wholesome water quality, defined as Fluid Category 1 in the Water Supply Regulations 1999. In areas of hard water content (CaCO₃) greater than 200ppm, treatment should be installed.

CHANGE OF WATER SUPPLY

The changing or alternation of one water supply to another can be detrimental on the operation and/or life expectation of the product and its accessories. Where a water supply changeover occurs, e.g. a rainwater tank supply, bore water supply, desalinated water supply, public reticulated water supply or water brought in from another supply, then water chemistry information should be sought, or should be tested to ensure the supply will meet the requirements given in these guidelines for our manufacturer's warranty to apply.

CYLINDER SUPPLY AND SAFETY DISCHARGE SCHEMATIC



GENERAL INSTALLATION AND COMMISSIONING

PLEASE NOTE - THE WATER CONNECTION BOSSES AND THE OLIVES & GLAND NUTS SUPPLIED AS STANDARD ON THIS CYLINDER ARE THREADED 3/4" BSP.

COLD MAINS PIPEWORK

The cold mains pipework should be a minimum of 22mm, through to the cylinder installation to ensure that hot water flow requirements for taps and shower heads are met. Care should be taken to avoid inefficiency and heat transfer where cold water pipes run adjacent to hot water or heating pipework. Install an isolating valve (not supplied) to the cold mains pipework. A 22mm BS1010 stopcock or a quarter turn full-bore lever valve should be used rather than a screwdriver slot or other similar valve. Make the connection to the cold feed of the cylinder, incorporating a drain valve.

Position the inlet control set above the Temperature and Pressure Relief Valve (T&P) found on the side of the cylinder. This ensures the cylinder does not need to be drained in order to service the inlet control. Ensure the directional flow arrow on the inlet control follows the flow of water.

It is essential that the cold service be balanced throughout the property by taking the cold services from the **balanced cold connection** on the inlet control set. Should this not be possible an independent 3.0bar inlet pressure reducing valve must be installed into the cold supply of any such mixed fitting, suitably positioned so as to not compromise water flow to the cylinder. An outside hose tap may still be connected direct to the incoming cold supply if desired.

EXPANSION OF HEATED WATER

Rather than using an external expansion vessel, the expansion of heated water inside the cylinder is accommodated by an air 'bubble' (entrapment of air) at the top of the cylinder. A composite disc creates this space within the cylinder, which rises and falls as needed as the water heats or cools. The levels of water and

air are established upon filling automatically, and does not require specific set-up.

Annual servicing will still be required – please see our guidance further in this manual for help with this.

HOT WATER PIPEWORK

The majority of the hot water distribution pipework should be 22mm, possibly reduced to 15mm or 10mm dependant on the type of tap. Keep the hot draw off pipework to a minimum to maximise the transfer speed of hot water from cylinder to outlet. We advise against soldering fittings immediately to the hot water draw off, as this reduces any inherent risk of flux landing on the immersion heater and causing premature corrosion to the connection and unit.

If the balanced cold connection is not provided, do not use monobloc mixer taps or showers. This would cause the unit to back pressurise and result in discharge. Ensure that the top of the vessel is accessible for servicing.

CONNECTION OF PRIMARY COILS - BOILER AND SOLAR (See Schematic on Page 8)

Both boiler and solar coils are provided with 22mm compression connections and are suitable for open vented or sealed system primary circuits. The coil must be positively pumped and are not suitable for gravity systems. To ensure maximum performance and efficiency the primary flow must enter the left hand lower coil connection when viewed from the front of the cylinder, and return from the right hand upper coil connection. An air release valve must be installed adjacent to the return connection point. The boiler coil should also benefit from the operation bypass when the heating circuit closes. See diagram. In twin coil installations this installation detail applies to both coils.

The coils are rated to 6.0 bar maximum operating pressure although heating circuits normally operate at a maximum of 3.0 bar, solar circuits 6.0 bar. In a boiler circuit the two port valve should be installed in the primary flow. In a solar circuit the two port valve should be installed in the primary return. Ensure an inhibitor suitable for use with stainless steel is used. Only connect the cylinder to a protected heat source with effective thermostatic control - uncontrolled heat sources such as solid fuel stoves, AGAs etc. may not be suitable - if in doubt seek guidance from ourselves.

SECONDARY CIRCULATION

Secondary return connections are supplied as standard on 200-300 litre indirect cylinders only. Where secondary circulation is unavoidable for smaller capacity cylinders, a circulator suitable for potable water must be used in conjunction with a non-return valve to prevent backflow. The return connection should be made with a swept tee into the cold feed pipework directly above the drain connection. If you have any doubts over the total volume of water in a large secondary circulation system, you may wish to install an additional expansion vessel if necessary.

IMMERSION HEATER

All standard supply is with immersion heater elements of 3 Kilowatt output at 240 Volts, Incoloy elements, double pole thermal isolation an 1 3/4" BSP threaded head.

ELECTRICAL CONNECTION - 3kW

This appliance must be earthed. It is suitable for a 240 volt A.C. supply only. The electrical installation should only be carried out by a suitably qualified electrician in accordance with latest I.E.E. regulations. Ensure the electrical supply is isolated before working on the system.

The electrical supply to each immersion heater must be fused at 13A via a double pole isolating switch with a separation of at least 3mm to both poles to BS 3456.

The cable must be 2.5mm² heat resistant (85°C HOFR) sheathed flex complying to BS6141:1981 Table 8. Do not use a cable of lesser rating.

For immersion heaters other than 3kW consult wiring requirements supplied with the immersion heater.

Do not operate the immersion heater(s) until the unit is full of water. If any sterilization liquid is in the cylinder do not operate the immersion heater(s) as this will cause premature failure.

This device must be earthed.

Earth connection, (green & yellow), should be made firmly to the earth post marked "E", using the terminal attachments provided. Live connection, (brown), from the mains supply cable to the thermostat terminal marked "L". Neutral connection, (blue), from the mains supply cable to the thermostat terminal marked "N".

WIRING - 3kW

Our 3kW immersion heaters MUST be wired in 2.5mm heat resistant cable, as failure to do so can cause nuisance tripping. We will be unable to support your installation until this has been corrected. For alternative rated immersion heaters consult the instructions supplied with.

COMMERCIAL/HEAVY DUTY USE

For commercial/heavy duty installations with constant usage/reheat requirements or where an external programmer designed for immersion heaters is not present then Titanium immersion heaters must be fitted in order to comply with the warranty.

RECOMMENDED TEMPERATURE SETTINGS - IMMERSION HEATER

For domestic usage a temperature set of 55°C-60°C is the norm. This is above the growth temperature area for Legionella and low enough to prevent nuisance tripping and unnecessary scaling.

THERMOSTAT OPERATION

The thermostat has an adjustable control operating between 20°C and 65°C. The usual desired domestic setting is between 55°C and 60°C. The thermostat is supplied set at 60°C. For setting the stat, turn fully clockwise to the maximum, and then anticlockwise (back off) approximately a quarter of its travel. Then make minor adjustments to suit your personal taste.

THERMAL CUTOUT

If the cylinder begins to overheat (80°C), the thermal cut-out will activate, isolating both the live and negative connections within the immersion heater. This may also happen during a power spike. For resetting, isolate the power supply and allow the cylinder to cool down. Remove the head cap and press the high limit cut-out reset button on top of the thermostat. Should nuisance tripping occur, consult a qualified electrician to investigate the power supply and/or the thermostat itself.

REPLACEMENT IMMERSION HEATERS - ALL TYPES

Replacement immersion heaters are available in all formats for your water heater. These should be obtained via ourselves to ensure the correct specification is supplied, and our warranty not compromised. The standard heater has incoloy elements, a 1 ¼" BSP threaded head and standard rating of 3kW at 240 volts. Check the label detail on the head before ordering, as alternative specifications are available.

The 'O' ring on the head of the immersion heater should be correctly positioned and lubricated with a WRAS approved silicon lubricant before fitting. Screw in by hand until almost sealed and then gently finish tightening as the 'O' rings will seal easily. Remake the wiring connection as per instructions provided.

INSULATION OF THE TEMPERATURE & PRESSURE RELIEF VALVE

Components for insulating the T&P are supplied in order to retain heat and energy. Installation instructions are provided with the insulation cover.

DISCHARGE ARRANGEMENT

The diagram opposite was taken directly from UK government Building Regulations Part G: 2016.

This information is not exhaustive. If in doubt, seek advice. Full details of Building Regulation G3, is available from: www.planningportal.gov.uk

The discharge from both the temperature, and expansion relief valves can be joined together via a 15mm end feed tee. Water should only be discharged when there is a fault with the system, and be visible at the tundish. (Consider a safety device to alert those of impaired vision or mobility when this occurs.)

Discharge water must not be allowed to collect in the pipe-work but rather flow freely to the tundish. This should be vertically mounted, in a visible location, in the same space as the cylinder, and fitted as close as possible within 600mm of the safety device (the relief valves). The discharge pipework must be in accordance with Part G3 of the Building Regulations. These are as follows:

- The discharge pipe (D2) from the Tundish should have a vertical section of pipe 300mm long below the Tundish before any elbows or bends in the pipework.
- This pipe should then be installed with a continuous fall of at least 1 in 200 thereafter.

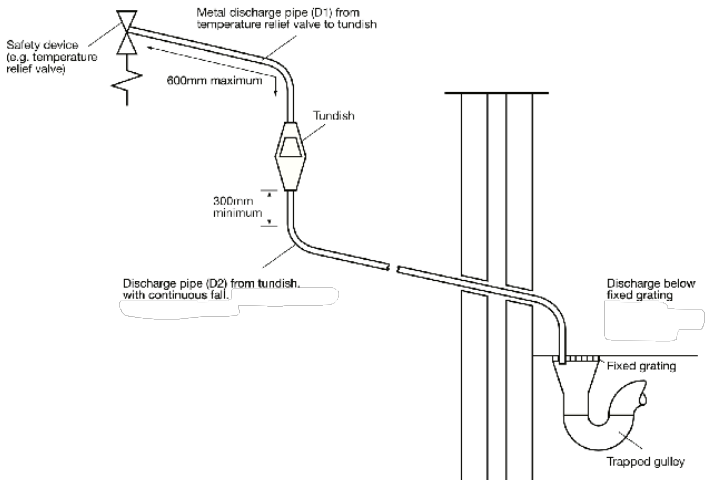
- The pipe must be at least one pipe size larger than the nominal outlet size of the safety device (unless its total equivalent hydraulic resistance exceeds that of a straight pipe 9m long i.e. discharge pipes between 9m and 18m equivalent resistance length should be at least two sizes larger than the nominal outlet size of the safety device, between 18 and 27m at least 3 times larger and so on.) Bends must be taken into account in calculating the flow resistance. An alternative approach for sizing discharge pipes would be to follow the BS6700 Specification for the design installation, testing and maintenance of services supplying water for domestic use within buildings and their curtilages.

Discharge pipework should terminate in a safe place where there is no danger to persons in the vicinity of the discharge. Examples of acceptable discharge arrangements include:

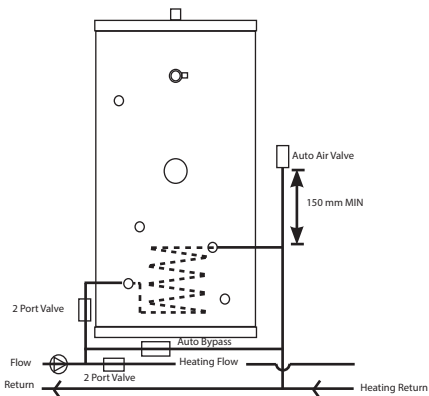
- To a trapped gully with the outlet below a fixed grating and above water seal.
- Downward discharges to low level, within 100mm, above external surfaces such as a car park, hard standing, grassed area with a protective wire cage to prevent contact but retaining visibility of discharge.
- Into a metal hopper at high level with a metal downpipe and a clearly visible termination point or onto a roof capable of withstanding high temperature discharge at least 3m away from any plastic guttering.

Building Regulation G3 allows non-metallic pipework within the tundish discharge (D2). The discharge pipe (D2) should be made of a) metal or b) another material that has demonstrated it can safely withstand high temperature water discharges and is clearly and permanently marked to identify the product and the performance standard. The discharge should not be connected to a soil discharge stack unless it can be demonstrated of safely withstanding high temperature water discharges, in which case it should;

1. Contain a mechanical seal, not a water trap, which allows water into the branch pipe but not foul drain air to be ventilated through the tundish.
 2. Be a separate branch pipe with no sanitary appliances connected to it.
 3. Plastic pipes used as branch pipes with the discharge should be Polybutylene (PB) or cross linked polythene (PEX) complying with national standards such as Class S of B7291-2:2006 or Class S of BS7291-3:2006 respectively.
 4. Be continuously marked with a warning that no sanitary appliances should be connected to the pipe.
 5. Plastic pipes should be joined and assembled with fittings appropriate to the circumstances in which they are used as set out in BS EN 1043-1:2002
- Queries regarding specific discharge arrangements should be directed to your local building control office.



SCHEMATIC OF COIL CONNECTION - TYPICAL 'S' PLAN



CONTROL THERMOSTAT

The non-solar indirect cylinders come provided with a mechanical control dual cylinder thermostat. This adjustable safety component can be changed by the end user to keep the hot water in the cylinder stored at any value between 25°C-65°C. As well as being a thermostatic control, the stat also functions as a heat source isolation safety device with the included 2-port zone valve in the event of overheating, and should be installed as per the wiring diagrams set out in this manual.

When the cylinder thermostat is set to maximum, please ensure that the flow output from the boiler is also set appropriately so that the vessel can achieve the desired temperature.

RECOMMENDED STORAGE TEMPERATURE

For domestic usage a temperature set of 55°C-60°C is the norm. This is above recognised bacterial growth levels and low enough to prevent nuisance tripping of limit thermostats or unnecessary scaling.

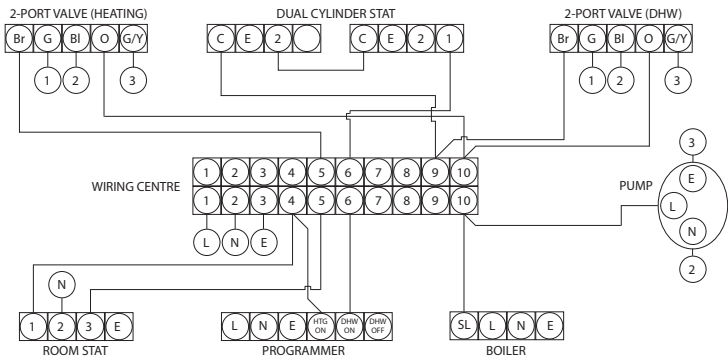
SOLAR COIL INSTALLATION

INDIRECT SOLAR SINGLE AND TWIN COIL MODELS

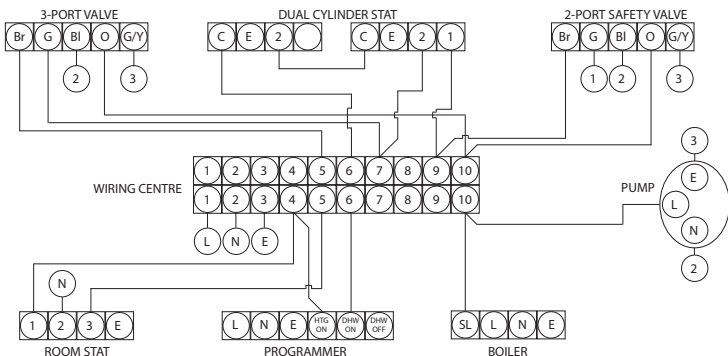
Indirect solar single coil cylinders have one coil at the bottom of the cylinder for connection to the solar thermal system. For indirect solar twin coil cylinders connect only the lower coil to the solar thermal system. Connection procedure to solar is identical for both products. Connect the solar coil as instructed in the above section "CONNECTION OF PRIMARY COILS - BOILER AND SOLAR". The solar temperature control sensor (supplied as part of the solar package) inserts into the pocket directly above the coil and is retained with the wiring grommet supplied. High limit control of the solar input is monitored with the single high limit thermostat which inserts into an upper pocket at the same height as the T&P relief valve. For installations where solar panels are higher than the cylinder connect the stat to interrupt the electrical supply from the solar pump and / or solar control panel. For installations where the solar panels are lower than the cylinder connect the high limit thermostat to close a two-port valve (not supplied) installed on the solar return pipework. With solar indirect twin coil the upper coil connects to the boiler flow and return. The dual control / high limit thermostat installs into the pocket immediately above the upper coil and is wired to activate the two-port valve (supplied) installed into the boiler primary flow.

This cylinder as supplied is not designed for installation with two boilers without extra controls listed below. Should it be the desire to connect the solar indirect twin coil cylinder to two boilers then a further dual control / high limit thermostat and two port-valve will be required and both coils and safety controls must be installed as per the single coil boiler format. Both the additional thermostat and two port valve may be purchased from the cylinder manufacturer.

TYPICAL WIRING - S PLAN, SINGLE ZONE



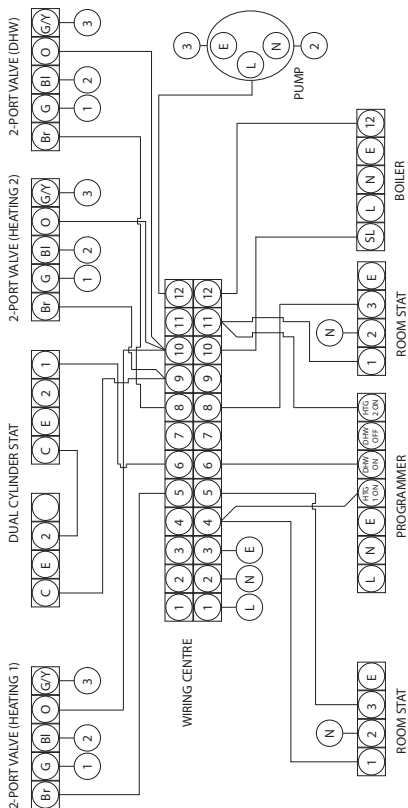
TYPICAL WIRING - Y PLAN



COLOUR CODES

W = WHITE G = GREEN Bl = BLUE G/Y = GREEN/YELLOW Br = BROWN
 L = LIVE N = NEUTRAL C = COMMON SL = SWITCH LIVE E = EARTH

TYPICAL WIRING - S PLAN, TWIN ZONE



COLOUR CODES

W = WHITE **G** = GREEN **Bl** = BLUE **G/Y** = GREEN/YELLOW **Br** = BROWN
L = LIVE **N** = NEUTRAL **C** = COMMON **SL** = SWITCH LIVE **E** = EARTH

COMMISSIONING - FILLING THE SYSTEM

Check all connections for water tightness including factory made connections, as these may become loose in transit.

The hot tap furthest away from the cylinder should be opened before filling the system to purge air and flush any disturbed particles

The pipes should be flushed before use. The remaining taps should be opened in turn to purge air from the system before turning on the electrical supply.

For Direct Units: Fully fill and flush the system before activating the immersion heaters and allowing the unit to heat up. The immersion heater is supplied pre-set at 60°C. Turning fully to + is approximately 65°C.

SAFETY VALVE CHECK

A problem is occurring if water is released from either safety valve during the heat up process (temperature relief and expansion relief.) This must be rectified before continuing. Both valves should be opened slowly one at a time, and then together, allowing as much water as possible through the tundish. Check that the discharge pipework is cleared of obstruction, free flowing, and without spillage over the tundish. Check that the valves reseal correctly when released.

DRAINING PROCESS

Isolate the unit from the electric supply to prevent immersion heater burn out. Isolate the unit from the cold mains. Attach a hose to the draining tap. Ensure this reaches to a level below the unit for creating an effective siphon so that the maximum amount of water is drained from the unit. Open the hot tap closest to the unit and open the draining tap.

Caution: Water drained off may be hot.

SERVICE AND MAINTENANCE

- **Servicing must be carried out annually by competent installers.**
- **Any spares used must be purchased from us.**
- **Safety devices must not be bypassed. Do not use the unit if safety features are not fully operational.**
- **Proof of annual servicing is required to avoid invalidating your manufacturer's guarantee.**
- **Upon installation of the unit the installer must complete the accompanying commissioning certificate at the rear of this manual.**

ANNUAL SERVICING PROCESS

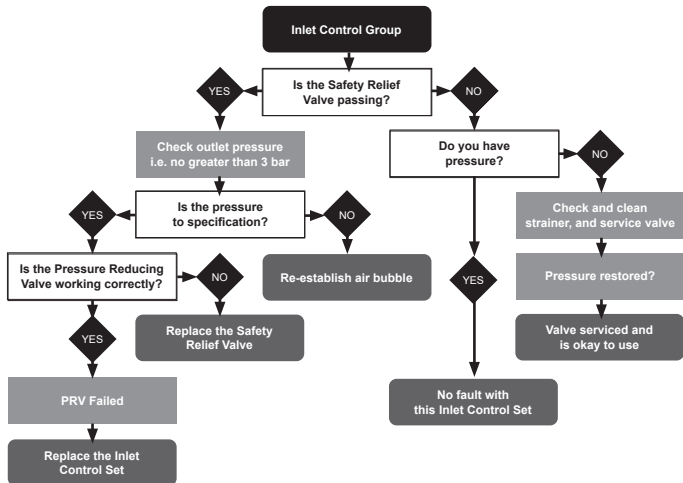
This must be conducted by a competent installer on an annual basis, ideally at the same time as the annual boiler service:

1. The expansion relief valve should be eased open to allow water to flow for a minimum of 5 seconds. Close the valve and make sure it resets correctly. Repeat this procedure with the temperature & pressure relief valve. Ensure that the discharge pipework is cleared and allowing a free flow of discharge.
2. Ensure all fitted immersion heaters are working correctly. They should be controlling the water temperature between 55°C and 60°C.
3. This cylinder has no external expansion vessel. The internal air gap must be serviced via the following steps that will re-establish the level of the internal water baffle.
 - a) Isolate the cold mains supply to the cylinder
 - b) Turn on a hot tap outlet
 - c) Open the T&P valve until water stops flowing from both the relief valve and the tap.
 - d) Close both the relief valve and the hot tap
 - e) Turn the incoming cold mains on and allow the cylinder to fill
 - f) Reopen the hot tap until water flows and then close
4. Remove the head on the inlet control set and clean the mesh filter within.
5. Update the benchmark service record supplied after every service by the installer.

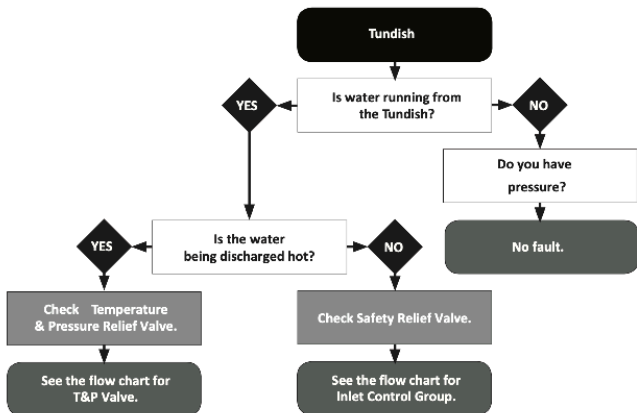
CYLINDER FAULT FINDING

PROBLEM	POSSIBLE CAUSE	REMIATIVE ACTION
Water is visible at tundish	Potential discharge from T&P valve	Follow tundish/T&P fault finding
	Potential discharge from Expansion relief valve due to fault at PRV	Follow inlet control set fault finding
	Back pressure from system	Check all cold connections into mixer outlets are fed from the balanced cold service from the inlet control valve. If not, additional PRV's must be fitted.
Expansion valve opens when cylinder is heated	Baffle/air bubble has lost charge	Follow service process to re-establish internal air gap
Cylinder appears to be leaking from inside the steel case	Loose cylinder connection - notably from hot water outlet	Check all connection points including the immersion heaters and the hot outlet to ensure that these are not leaking, and remake joints if necessary.
Noise when operating tap or shower	Vibrating/insecure pipework	Ensure that all pipework is secured to the wall with pipe clips as appropriate.
Reduced water flow	Possible external water works being carried out	Check with local authorities and wait for works to be completed
	Lodged debris from mains at Inlet control set or PRV sticking	Strip & clean PRV/inline filter, or replace inlet control set.
No hot water available	Possible immersion heater failure	Follow immersion heater fault finding

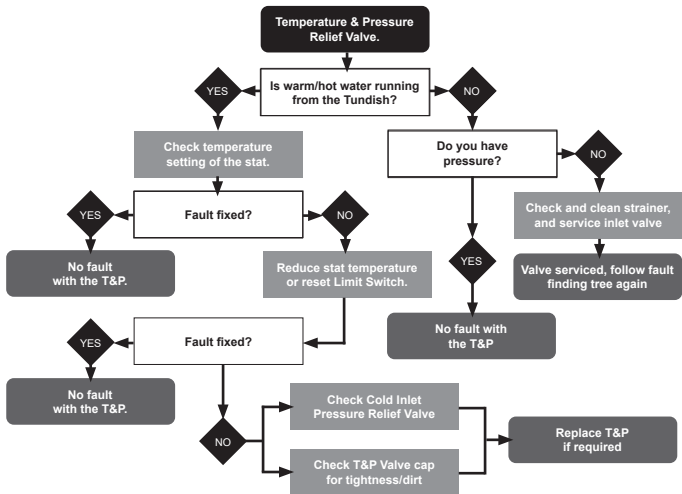
INLET CONTROL SET FAULT FINDING



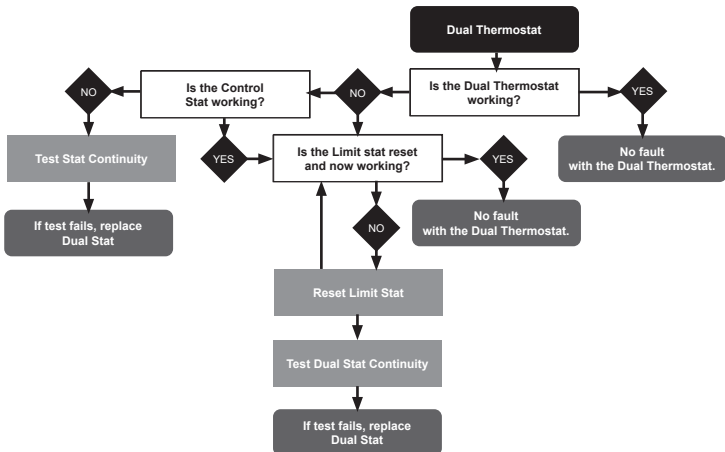
TUNDISH FAULT FINDING



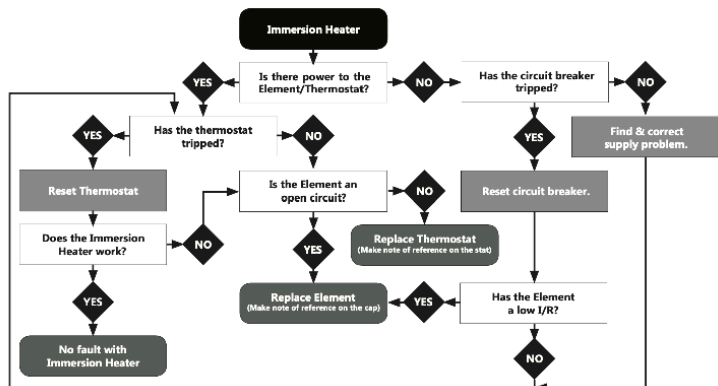
TEMPERATURE & PRESSURE RELIEF VALVE FAULT FINDING



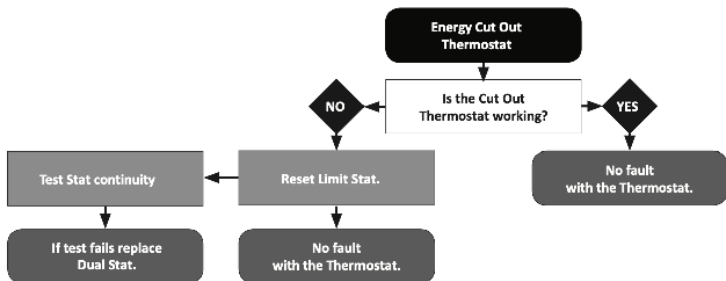
DUAL THERMOSTAT FAULT FINDING



IMMERSION HEATER FAULT FINDING



ENERGY CUTOUT FAULT FINDING



MAINS PRESSURE HOT WATER STORAGE SYSTEM COMMISSIONING CHECKLIST

This Commissioning Checklist is to be completed in full by the competent person who commissioned the storage system as a means of demonstrating compliance with the appropriate Building Regulations and then handed to the customer to keep for future reference.

Failure to install and commission this equipment to the manufacturer's instructions may invalidate the warranty but does not affect statutory rights.

Customer name:										Telephone number:																	
Address:																											
Cylinder Make and Model																											
Cylinder Serial Number																											
Commissioned by (PRINT NAME):										Registered Operative ID Number																	
Company name:										Telephone number:																	
Company address:																											
										Commissioning date:																	
To be completed by the customer on receipt of a Building Regulations Compliance Certificate*:																											
Building Regulations Notification Number (if applicable)																											
ALL SYSTEMS PRIMARY SETTINGS (indirect heating only)																											
Is the primary circuit a sealed or open vented system?										Sealed				Open													
What is the maximum primary flow temperature?																				°C							
ALL SYSTEMS																											
What is the incoming static cold water pressure at the inlet to the system?																				bar							
Has a strainer been cleaned of installation debris (if fitted)?										Yes				No													
Is the installation in a hard water area (above 200ppm)?										Yes				No													
If yes, has a water scale reducer been fitted?										Yes				No													
What type of scale reducer has been fitted?																											
What is the hot water thermostat set temperature?																				°C							
What is the maximum hot water flow rate at set thermostat temperature (measured at high flow outlet)?																				l/min							
Time and temperature controls have been fitted in compliance with Part L of the Building Regulations?																		Yes									
Type of control system (if applicable)										Y Plan				S Plan				Other									
Is the cylinder solar (or other renewable) compatible?										Yes				No													
What is the hot water temperature at the nearest outlet?																				°C							
All appropriate pipes have been insulated up to 1 metre or the point where they become concealed																		Yes									
UNVENTED SYSTEMS ONLY																											
Where is the pressure reducing valve situated (if fitted)?																											
What is the pressure reducing valve setting?																				bar							
Has a combined temperature and pressure relief valve and expansion valve been fitted and discharge tested?										Yes				No													
The tundish and discharge pipework have been connected and terminated to Part G of the Building Regulations																											
Are all energy sources fitted with a cut out device?										Yes				No													
Has the expansion vessel or internal air space been checked?										Yes				No													
THERMAL STORES ONLY																											
What store temperature is achievable?																				°C							
What is the maximum hot water temperature?																				°C							
ALL INSTALLATIONS																											
The hot water system complies with the appropriate Building Regulations																		Yes									
The system has been installed and commissioned in accordance with the manufacturer's instructions																		Yes									
The system controls have been demonstrated to and understood by the customer																		Yes									
The manufacturer's literature, including Benchmark Checklist and Service Record, has been explained and left with the customer																		Yes									
Commissioning Engineer's Signature																											
Customer's Signature																											
(To confirm satisfactory demonstration and receipt of manufacturer's literature)																											

*All installations in England and Wales must be notified to Local Authority Building Control (LABC) either directly or through a Competent Persons Scheme. A Building Regulations Compliance Certificate will then be issued to the customer.

SERVICE RECORD

It is recommended that your hot water system is serviced regularly and that the appropriate Service Record is completed.

Service Provider

Before completing the appropriate Service Record below, please ensure you have carried out the service as described in the manufacturer's instructions.

SERVICE 01	Date:	SERVICE 02	Date:
Engineer name:		Engineer name:	
Company name:		Company name:	
Telephone No:		Telephone No:	
Comments:		Comments:	
.....		
.....		
.....		
.....		
Signature		Signature	
SERVICE 03	Date:	SERVICE 04	Date:
Engineer name:		Engineer name:	
Company name:		Company name:	
Telephone No:		Telephone No:	
Comments:		Comments:	
.....		
.....		
.....		
.....		
Signature		Signature	
SERVICE 05	Date:	SERVICE 06	Date:
Engineer name:		Engineer name:	
Company name:		Company name:	
Telephone No:		Telephone No:	
Comments:		Comments:	
.....		
.....		
.....		
.....		
Signature		Signature	
SERVICE 07	Date:	SERVICE 08	Date:
Engineer name:		Engineer name:	
Company name:		Company name:	
Telephone No:		Telephone No:	
Comments:		Comments:	
.....		
.....		
.....		
.....		
Signature		Signature	
SERVICE 09	Date:	SERVICE 10	Date:
Engineer name:		Engineer name:	
Company name:		Company name:	
Telephone No:		Telephone No:	
Comments:		Comments:	
.....		
.....		
.....		
.....		
Signature		Signature	

GUARANTEE AND EXEMPTIONS

The cylinder carries a 25-year guarantee against faulty materials or manufacturing, based upon the following conditions:

- Correct installation as per this document and all relevant standards, regulations, and codes of practice in force at the time.
- The Benchmark Commissioning Checklist has been completed
- The unit has been serviced annually.
- The product has not been modified in any way, other than by us.
- There has not been any misuse, tampering, or neglect of the cylinder.
- It has only been used for the storage of potable water
- It has not been subjected to frost damage
- The system is fed from a public mains water supply
- Storage temperatures have not exceeded 65°C
- Installations made only in the United Kingdom.
- *The water chemistry used in the system is found to be above the maximum allowances*
- Units are not installed with uncontrollable heat sources (e.g. wood burning stoves)
- For commercial or heavy-duty installations where constant usage and reheating is required, titanium immersion heaters must be fitted to comply with the warranty
- The guarantee period starts from the date of purchase.
- The extended guarantee is not transferable and rests with the original householder.

EXCLUSIONS

- The effect of scale build-up on the unit or its components
- Any labour charges associated with replacing the unit or its parts
- Any consequential losses caused by the failure or malfunction of the unit.

Note: Invoices for servicing may be requested to prove that the unit has been serviced annually. All the components fitted to/or supplied with the cylinder carry a 2-year guarantee. The guarantee starts when the cylinder is first filled.

CLAIMS

On the rare occasion of a fault occurring, we will only consider sensible claims that are submitted in full at the time when the faulty part/unit is returned to us.

We will not cover any installer claims for excessive travelling where the installer has accepted a job more than 30 miles from their base of operations.

Removal costs cannot be recovered for the collection of a faulty unit from a difficult to reach area or where cylinder access has been restricted (as per this manual guidance.)

Claims will not be accepted for units that have not been installed in accordance with this manual.

PROBLEM GUIDANCE

When a problem arises, your first point of contact is the plumber who fitted the unit (in the first year), followed by the plumber who carries out the annual servicing of your unit for you.

If your cylinder begins to leak, we will supply you with a new one. To prevent fraud, we request an up-front payment in this case while we establish the cause of the fault. The original unit must be returned to us for inspection along with a copy of your service record and commissioning checklist. Your upfront payment will be refunded as soon as it is confirmed that the cylinder has failed within the terms of our warranty.

If a component part fails within the two-year guarantee, we will send you a new one with an upfront charge. Your credit card details may be required to prevent fraud. We ask you to post the faulty part back to us by recorded delivery within a month. A refund will be issued once the part has been tested and proven to be at fault.

APPENDIX - WATER CHEMISTRY

This water heater is manufactured to suit the water conditions of most public reticulated water supplies. However, there are some known water chemistries which can have detrimental effects on the cylinder. If you are unsure of your water chemistry, you may be able to obtain the relevant water chemistry information from your local water supply authority.

*Our warranty will not apply where water stored in the storage cylinder exceeds at any time any of the following levels: - TOTAL HARDNESS 200mg/L, TOTAL DISSOLVED SOLIDS 600mg/L

CONDITIONS OF SALE - DEFINITIONS

1.1 In this person who accepts a quotation of the Company for the sale of the Goods or otherwise order for the Goods is accepted by the Company.
1.2 "Company" means UK Climbers.
1.3 "Buyer" means the holder of conditions of sale set out in this document and any special terms and conditions agreed in writing by the Company and the Buyer. "Contract" means the contract for the purchase and sale of the Goods.
1.4 "Goods" means the goods which the Company is to supply and which the Buyer agrees to buy in accordance with these conditions.

"Price" means the price for the Goods including transport and insurance (if any) 1.2.1 In these Conditions to a provision of a statute that continues as a reference to that provision as amended, re-enacted or extended at the relevant time. The headings to these Conditions are for ease of reference only and do not form part of their interpretation.

2. BASIS OF SALE

2.1 The Company shall sell and the Buyer shall purchase the Goods in accordance with: 2.1.1 The Company's quotation (if provided) and the accepted by the Buyer; or
2.1.2 If the Company does not submit a quotation and following a request or purported order from the Buyer for Goods or with the Company's offer to the Buyer, the Company's offer only in so far as it is followed or acted upon in whole or in part which shall govern the Contract to the exclusion of any other terms, subject to which any quotation or offer is accepted, or rejected or to be accepted.

2.2 In relation to these Conditions (including any special terms and conditions agreed between the parties) shall be applicable unless agreed in writing by the Company.
2.3 Any advice or recommendation given by the Company or its employees or agents, or its Buyer or its employees or agents, in relation to the Goods or any other matter shall be given in good faith and on the basis of the information available at the Buyer's own risk and accordingly the Company shall not be liable for any such advice or recommendation which is not so confirmed.

2.4 Any typographical clerical or other error or omission in any sales literature quotation list acceptance of offer or invoice or other document or information issued by the Company shall be subject to correction without any liability on the part of the Company.

2.5 All specifications, drawings, quantities of weight and dimension and performance data contained in any of the Company's literature are approximate only. 2.6 The Company reserves the right to improve and/or modify any specifications, designs and dimensions without notice.

2.7 For the avoidance of doubt nothing in these Conditions or any Contract shall confer on any third party any benefit nor the right to enforce any terms of these Conditions or any Contract whether pursuant to the Contracts (Rights of Third Parties) Act 1999 or otherwise.

3. PRICE AND PAYMENT

3.1 The Company's quoted price which shall only be valid for 30 days from its date after which time the Price may be altered by the Company and shall be subject to the Company's quotation or the Contract sent by the Company to the Buyer from time to time.

3.2 Except as otherwise stated in the Company's quotation or in any price list of the Company or otherwise agreed in writing between the Buyer and the Company, all prices to be given by the Company to include the Company's charges for transport and insurance.

3.3 The Price and any other sums payable by the Buyer to the Company is exclusive of any applicable Value Added Tax, which shall be added as an additional charge to the Price.
3.4 (Subject to any special terms agreed in writing between the Buyer and the Company) the Company may invoice the Buyer for the Price of the Goods on or any time after delivery of the Goods, (or any instalment of the Goods) unless the Goods are bought by the Buyer or the Company in connection with a contract for the supply of the Goods or the Buyer is entitled to receive the Goods for free at any time after the Goods have notified the Buyer that the Goods are ready for delivery in the case made available to the Buyer. 3.5 Save as otherwise agreed in writing, payment of the Price and VAT shall be due within the agreed period from the date of invoice without deduction or set off. Time for payment shall be the date.

3.6 The Company shall make no payment on the due date until such provision is made for any other sums payable by the Buyer. 3.7 The Company shall be entitled to 3.6.1 cancel the contract or suspend any further deliveries to the Buyer. 3.6.2 appropriate any payment made by the Buyer to such of the Goods in the Goods supplied under any other Contract between the Buyer and the Company as the Company may think notwithstanding any purported appropriation by the Buyer and the Company.

3.8 The Buyer agrees to indemnify the Company, both before and after any judgment on the amount unpaid at the rate of 8% per cent per annum from the Barclays Bank PLC base rate from time to time until payment in full, a maximum part of a month being treated as a full month for the purpose of calculating interest.

4. GOODS

4.1 The quantity and description of the Goods shall be as set out in the Company's quotation or in the Company's offer (as the case may be), and the quantity and specification for the Goods shall be as set out in the Company's quotation (where there is no quotation) and the Company's literature and brochure for the Goods in question.

4.2 The Buyer shall be responsible to the Company for ensuring the accuracy of the terms of any order and any information relating to the Company or any other person applying to the Company in accordance with any specifications and any applicable specification) submitted by the Buyer and for giving the Company any necessary information relating to the Goods within a sufficient time to enable the Company to perform the Contract in accordance with its terms 4.3 If the Goods are damaged or any other loss or damage occurs to the Goods in transit, the Company shall be liable for the loss or damage. The Buyer shall indemnify the Company against all losses damages, claims, demands, liabilities and expenses awarded or incurred by the Company in connection with or paid or agreed to be paid by the Company or settlement of any claim or enforcement or enforcement of any claim or award of damages or other financial rights of any other person which results from the Company's use of the Buyer's specification or information.

4.3 The order which has been accepted by the Company may be cancelled by the Buyer except with the agreement in writing of the Company and on terms that any deposit paid shall not be repayable and the Buyer shall indemnify the Company in full against all loss (including but not limited to the loss of labour and materials) and all other costs, damages and expenses and expenses incurred by the Company in carrying out any work in respect of the Goods or otherwise as a result of cancellation.

4.4 Designs, sketches, or similar articles supplied by a submitter in conformity to the Company shall remain the property of the submitter and may not be disclosed by the Company or used by the Buyer without the prior written consent of the Company.

5. DELIVERY OF GOODS

5.1 The goods otherwise agreed in writing the Company shall deliver the Goods to such delivery address as is specified by the Buyer to the Company at such time of the Goods or part thereof (as the case may be) are ready for delivery.

5.2 The Buyer shall be responsible for affixing the Goods to the delivery address and shall assume the Company of any local or internal fees, bylaws or rules relating to parking or loading of vehicles at the delivery address.

5.3 Any delay shall be responsible for ensuring that access to the delivery address is wholly by a road with a surface capable of withstanding the weight and use of a vehicle carrying the Goods.

5.4 Any dates quoted for delivery of the Goods are approximate only and the Company shall not be liable for any delay in delivery of the Goods however caused. Time for delivery shall not be of the essence unless previously agreed by the Company in writing. The Goods may be delivered to the Buyer at the time of the Delivery Date without any further reasonable notice to the Buyer.

5.5 Where the Goods are to be delivered in instalments each delivery shall constitute a separate contract and failure by the Buyer to deliver any instalment in accordance with the terms of any order or any claim by the Buyer or by the receipt of any one or more instalments shall not entitle the Buyer to treat the Contract as a whole as if it were a single contract.

5.6 If the Buyer fails for any reason whatsoever to take delivery of the Goods or fails to give the Company adequate delivery information within the time specified in the Company's quotation or in writing, the Company shall be entitled to deliver the Goods to the Company's premises, storage and for transport, packaging and insurance for delivery of the Goods; or 5.6.2 sell the Goods at the best price reasonably obtainable (and after deducting all reasonable storage and selling expenses) and the Buyer shall be liable to the Company for any loss or damage resulting therefrom.

5.7 The Company shall be responsible to the Company except by prior written permission of an authorised officer of the Company and such return shall not be subject to payment by the Buyer of handling and re-stocking charges, transport and all other costs from the Company.

6. RISK AND RETENTION OF TITLE

6.1 Goods supplied by the Company shall be at the Buyer's risk immediately upon delivery to the Buyer or into custody of the Buyer or to the Buyer's order. The Buyer shall effect adequate insurance of the goods against all risks to the full invoice value of the goods, such insurance to be effected from the time of delivery until property in the goods shall pass to the Buyer as hereinafter provided.

6.2 Property in the goods supplied hereunder will pass to the Buyer when full payment has been made by the Buyer to the Company for:

6.2.1 all of the goods subject of this contract.
6.2.2 all of the goods subject of any other contract between the Buyer and the Company which, at the time of payment of the full price of the goods sold under this contract, have been delivered to the Buyer but not paid for in full. 6.3 Until property in the goods is transferred to the Buyer, the Company shall retain the right to resell the goods.

6.3 The Buyer shall hold the goods in a fiduciary capacity for and shall store them separately from any other goods in the Buyer's possession and in a manner which enables them to be identified as our goods.
6.4 The Buyer shall immediately return the goods to the Company should the Company be notified of any following event:

6.4.1 If the Buyer fails to pay the Company in full for any of its invoices; or
6.4.2 If the Buyer, not being a company, commences any act of bankruptcy, makes a proposal to his or her creditors for a composition in writing or any other arrangement with creditors; or
6.4.3 If the Buyer, being a company, does anything or fails to do anything which would entitle an administrator or an administrative receiver or a receiver to take possession of any assets or which would entitle any person to present a petition for the winding up of the company or for an administration order.

6.5 The Buyer hereby grants to the Company an irrevocable licence to enter at any time any vehicle or premises owned or occupied by the Buyer or in the possession of the Buyer for the purposes of repossessing and recovering any such goods the property in which has remained in the Company until the time of payment in full of the price of the goods and the Buyer will indemnify the Company against liability in respect of damage caused to any vehicle or premises in such repossession and removal being damaged which is not reasonably practicable to avoid.

6.6 notwithstanding paragraph (4) hereof and subject to paragraph (3) hereof, the Buyer shall be permitted to sell the goods to third parties in the normal course of business. In this respect the Buyer shall act as the capacity of the Company's commission agent and the proceeds of such sale -

6.6.1 shall be held in trust for us in a manner which enables such proceeds to be identified as such; and

6.6.2 shall not be received without our express or implied consent. The Buyer shall be deemed to be acting as principal, shall remunerate the Buyer as commission agent a commission depending upon the surplus which the Buyer can obtain over and above the sum, stipulated in this contract of supply which will satisfy the Company.

6.7 In the event that the Buyer shall sell any of the goods pursuant to clause (3) hereof, the Buyer shall forthwith inform the Company in writing of such sale and of the identity and address of the third party to whom the goods have been sold, 6.8 If the Buyer is to be required to deliver to the Buyer under paragraph (1) above the goods are to be removed from any land not building owned by the Buyer it is hereby agreed and declared that such removal shall not have the effect of passing property in the goods to the Buyer. 6.9 The Buyer shall forthwith inform the Company in writing of the fact and circumstances of such loss, theft, damage or destruction.

6.8.1 ensure that the goods are capable of being removed without material injury to the land on which they are stored.

6.8.2 take all necessary steps to prevent title to the goods from passing to the landlord of such land or building.

6.8.3 forthwith inform the Company in writing of such affixture and of the address of the land or building concerned.

6.8.4 The Buyer shall be deemed to be acting as principal in respect of any damage to or destruction of any land or building owned by the Buyer and the Company against all loss damage or liability the Company may incur or sustain as a result of affixture or removal. 6.9 In the event that, before property in the goods has passed to the Buyer under paragraph (3) hereof, the Buyer shall be deemed to be acting as principal in respect of any damage to or destruction of any land or building owned by the Buyer and the Company against all loss damage or liability the Company may incur or sustain as a result of affixture or removal.

6.9.1 The Buyer shall forthwith inform the Company in writing of the fact and circumstances of such loss, theft, damage or destruction.

6.9.2 The Buyer shall assign to the Company the benefit of any insurance claim in respect of the goods so lost, stolen, damaged or destroyed.

7. WARRANTIES AND UNDERTAKINGS 7.1 In respect of the following provisions, the Company warrants that the Goods will be free from defects in material and workmanship for a period of 24 months from their delivery to the Buyer, unless a period of different duration is specified in the product installation instructions in respect of that product and in the specific warranty terms, or specified components thereof.

7.2 The warranty in clause 7.1 is given by the Company subject to the following condition:

7.2.1 The Company shall be under no liability in respect of any defect in the Goods arising from any information drawing design or specification supplied to the Company.

7.2.2 The Company shall be under no liability in respect of any defect arising from fair wear and tear or normal wear and tear or normal working conditions or from use to follow the Company's instructions (whether oral or in writing) misuse or alteration or repair of the Goods without the Company's approval.

7.2.3 The Company shall not be liable for any consequential damage(s) occurred to the Buyer or the Buyer's property, caused by the use of the Company's Goods. Any such costs incurred shall be claimed by the Buyer or the Buyer's contractor's insurance party.

7.2.4 The above warranty does not extend to parts materials equipment not manufactured by or for the Company in respect of which the Buyer shall be not entitled to the benefit of any such warranty or guarantee as given by the manufacturer or the supplier to the Company.

7.3 The Company shall not make any statement or representation or give any warranty to any third party in respect of any Goods other than those specified in the Contract or in the Company's literature or brochures for the Goods in question.

7.4 The Company shall be responsible to provide any service in relation to the Goods. The Buyer shall indemnify the Company against all losses, damages, claims, demands, liabilities and expenses awarded or incurred by the Company in respect of arising out of or in connection with the repair, maintenance, replacement or removal of the Goods.

7.5 The Buyer's liability to the Buyer -

7.5.1 The Buyer to indemnify the Company, both before and after any judgment on the amount unpaid at the rate of 8% per cent per annum from the Barclays Bank PLC base rate from time to time until payment in full, a maximum part of a month being treated as a full month for the purpose of calculating interest.

7.5.2 damage suffered by the Buyer as a result of any breach of the obligations implied or terms 7.2 of the Sale of Goods Act 1979 shall not be limited.

7.5.3 The Buyer is expressly provided in these Conditions all other warranties conditions or sections which implied by statute or common law or otherwise are hereby excluded.

7.6 The Buyer shall be liable to deliver the Goods for any reason other than any cause beyond the Company's reasonable control or the Buyer's fault than the Company shall only be liable to the Buyer for and the Company's liability shall be limited to the extent (if any) of the cost to the Buyer (in the cheapest available market) of similar goods to replace those not delivered or replaced.

7.7 The Buyer shall examine all Goods delivered forthwith following delivery. Any claim by the Buyer which is based on any defect in the quality or condition of the Goods or their failure to conform with specification shall (whether or not delivery is effected by the Buyer) be notified to the Company in writing. The Buyer shall be deemed to have accepted the Goods as not acceptable on reasonable inspection within a reasonable time after discovery of the defect or failure if delivery is not refused and the Buyer does not notify the Company in writing of the defect or failure. The Buyer shall be deemed to have accepted the Goods if the Buyer has no liability for such defect or failure and the Buyer shall be bound to pay the Price as if the Goods had been delivered in conformity with the Contract. In the event that the Buyer has notified the Goods or the basis of any defect or failure which the Buyer is not bound to accept, the Buyer shall be bound to pay the Price as if the Goods had been delivered in conformity with the Contract. In the event that the Buyer has notified the Goods or the basis of any defect or failure which the Buyer is not bound to accept, the Buyer shall be bound to pay the Price as if the Goods had been delivered in conformity with the Contract. In the event that the Buyer has notified the Goods or the basis of any defect or failure which the Buyer is not bound to accept, the Buyer shall be bound to pay the Price as if the Goods had been delivered in conformity with the Contract.

7.8 Where any valid claim in respect of any of the Goods which is based on any defect in the quality or condition of the Goods or their failure to meet specification is notified to the Company in accordance with these Conditions the Company shall be entitled to deliver to the Buyer replacement goods of similar quality and condition to those which are the subject of the claim or to refund the Price of the Goods. The Buyer shall be bound to pay the Price as if the Goods had been delivered in conformity with the Contract. In the event that the Buyer has notified the Goods or the basis of any defect or failure which the Buyer is not bound to accept, the Buyer shall be bound to pay the Price as if the Goods had been delivered in conformity with the Contract. In the event that the Buyer has notified the Goods or the basis of any defect or failure which the Buyer is not bound to accept, the Buyer shall be bound to pay the Price as if the Goods had been delivered in conformity with the Contract.

7.9 Where any valid claim in respect of any of the Goods which is based on any defect in the quality or condition of the Goods or their failure to meet specification is notified to the Company in accordance with these Conditions the Company shall be entitled to deliver to the Buyer replacement goods of similar quality and condition to those which are the subject of the claim or to refund the Price of the Goods (or a proportionate part of the Price) but the Company shall have no further liability to the Buyer.

7.10 The Company shall be liable to the Buyer for any loss or damage resulting from the Goods (or a proportionate part of the Price) outside these terms and conditions, the Company reserves the right to claim any substitute costs entailed, from the Buyer.

7.11 Without prejudice to the provisions of clauses 7.5, 7.6, 7.7, 7.9 and 7.10 the entire liability of the Buyer under or in connection with the Contract shall be limited to the Price of the Goods.

7.12 The Company shall not be liable to the Buyer or be deemed to be in breach of the contract by reason of any delay in performing or any failure to perform any of the Company's obligations in relation to the Goods if the delay or failure was due to the Company's reasonable control or the Buyer's fault than the Company shall only be liable to the Buyer for and the Company's liability shall be limited to the extent (if any) of the cost to the Buyer (in the cheapest available market) of similar goods to replace those not delivered or replaced.

7.12.1 exports or imports, regulations or embargoes; 7.12.2 strikes, lockouts or other industrial action or restricted hours of service beyond the Company's reasonable control; 7.12.1 act of god, explosion, fire, flood, pest, or inclement weather, fire or accident; 7.12.2 war or threat of war, sabotage, invasion, civil disturbance or requisition; 7.12.3 acts, restrictions, regulations, by-laws, prohibitions or measures of any kind on the part of any Governmental, Parliamentary or Local Authority.

7.12.4 imports or exports, regulations or embargoes; 7.12.5 strikes, lockouts or other industrial action or restricted hours of service beyond the Company's reasonable control; 7.12.1 act of god, explosion, fire, flood, pest, or inclement weather, fire or accident; 7.12.2 war or threat of war, sabotage, invasion, civil disturbance or requisition; 7.12.3 acts, restrictions, regulations, by-laws, prohibitions or measures of any kind on the part of any Governmental, Parliamentary or Local Authority.

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