SLE130-160 SLE+210-240-300

ADDITIONAL INSTALLATION INSTRUCTION FOR UK KITS.

IMPORTANT!

DO NOT UNDER ANY CIRCUMSTANCES SWITCH ON THE IMMERSION HEATER BEFORE THE PRIMARY TANK IS FILLED.

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Members of:

hot water association
CHARTER MEMBER

For further information on the HWA Charter Membership, please refer to the HWA website: hotwater.org.uk

INDEX

INTRODUCTION

Intended users of these instructions:

- The specifying engineer.
- The installation engineer.
- The owner or user.
- The service engineer.

Warnings.

THE INSTALLER MUST READ AND UNDERSTAND THIS MANUAL BEFORE FITTING THIS APPLIANCE.

IMPORTANT: Do not under any circumstances switch on the immersion heater before the primary tank is filled.
Serious damage may result to the heater in addition to danger of personal injury and damage to property if the heater is switched on when dry.

IMPORTANT: Always isolate electrical supplies and if necessary the water supply before working on the unit.

IMPORTANT: Always fill and pressurise the secondary (domestic) tank first, filling and pressurising the primary (heating) tank may result in crushing damage to the domestic tank.

IMPORTANT: ACV recommends the use of a corrosion inhibitor in the primary (heating) system. The warranty will be invalidated if upon inspection it is found that a tank has failed due to corrosion caused by the lack of an inhibitor.

IMPORTANT: Ensure that the air is purged from the primary jacket using the air vent on the top centre of the cylinder.

These instructions form an integral part of the equipment to which they refer and the user must be provided with a copy.

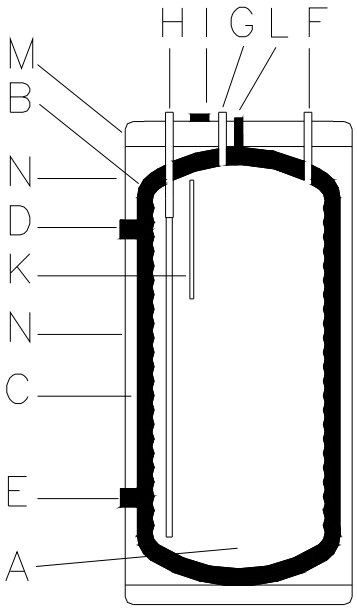
The product must be installed and serviced by qualified engineers, in compliance with current standards.

ACV cannot accept liability for any damage resulting from incorrect installation or from the use of components or fittings not specified by ACV.

Any failure to follow the instructions regarding tests and test procedures may result in personal injury.

ACV reserves the right to change the technical specifications and components of its products without prior notice.

1. OPERATION



A = Stainless steel internal tank
B = STW 22 carbon steel exterior tank
C = High density polyurethane foam insulation
D = Heating fluid entry point
E = Heating fluid outlet point
F = Sanitary hot water outlet
G = T & P relief valve connection
H = Cold water inlet
I = Control thermostat
K = Control thermostat pocket
L = Primary air vent
M = Co-polymer polypropylene top cover
N = Co-polymer polypropylene jacket

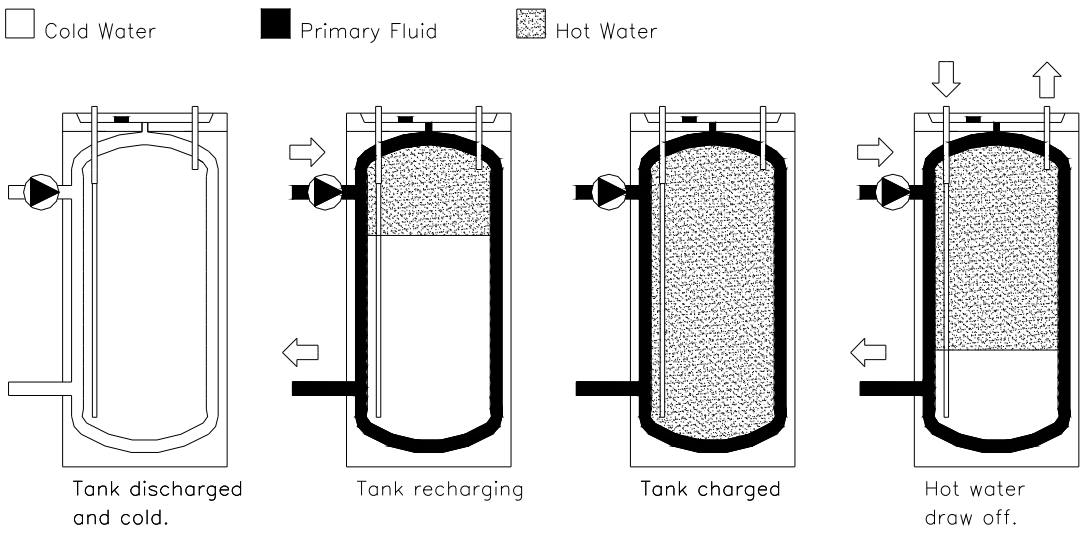
Principle:

ACV Tanks (tank in tank) comprise of two concentric water cylinders. Tank (A) is manufactured in solid stainless steel and contains the domestic water for use at the sanitary hot water outlets. The exterior tank (B) is manufactured from STW 22 carbon steel, this tank holds the primary heating fluid which is circulated from the boiler, as the primary fluid passes between the two tanks the heat is transferred to the domestic water.

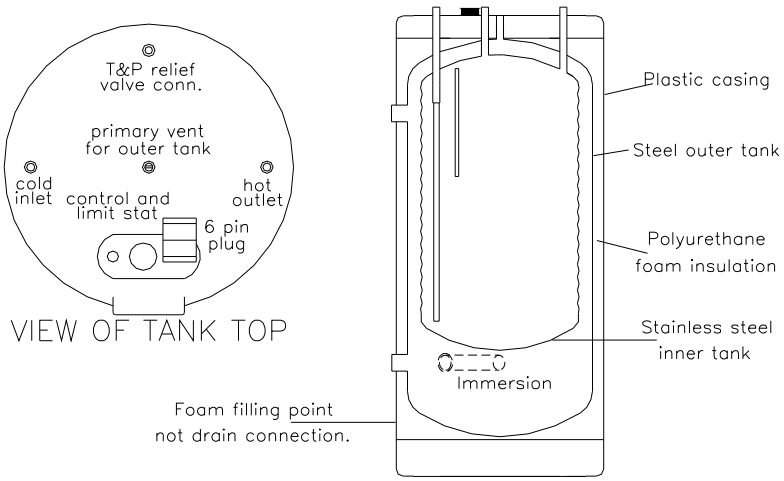
Operation:

When the thermostat (I) calls for heat the primary pump is activated (or motorised valve is opened) and primary fluid is circulated in the outer tank and transfers its heat to the domestic water. Once the thermostat set temperature is achieved it will open and deactivate the primary pump (or close the motorised valve). Initial heating from cold will take between 10 and 20 minutes (depending on tank size and boiler output) – when operating temperature is achieved the recovery becomes faster.

Operational Cycle:



2. CONSTRUCTION



Internal tank:

This tank is the heart of the assembly; it has to withstand the corrosive nature of mains water and the temperature variations of stored water whilst working at high pressures. It is manufactured from solid stainless steel and welded in an inert Argon atmosphere (Argon Arc). Before being assembled the tank material is subjected to a rigorous cleaning and passivation process to increase its resistance to corrosion. The inner tank is also corrugated which allows it to freely expand and contract with temperature and pressure variations, shrugging off any lime scale deposits. Due to this, the tank does not require an inspection cover to facilitate the removal of lime.

Insulation:
High density injected polyurethane foam – 50mm thick. Containing no CFC's, having a GWP = 0.00025 and ODP = 0

Jacket:

The tank is covered in a co-polymer polypropylene jacket, this is a plastic material that offers a high resistance to impact and is also aesthetically pleasing.

Controls:

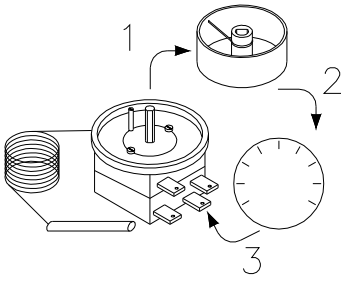
The tanks come complete with a control and high limit thermostat built into the top cover of the jacket.

Thermostat control:

The control is graduated from 1 to 5, 1 is minimum = 60℃ and 5 is maximum = 85℃.
In the case of a prolonged absence precautions must be taken to ensure there is no risk of freezing. The tank is delivered with the thermostat pre-set to a minimum of 65℃ to eliminate the risk of legionella bacteria forming and complies with the recommendations of the World Health Organisation. The thermostat control dial can be removed to allow lower temperature settings, see sketch and description below.

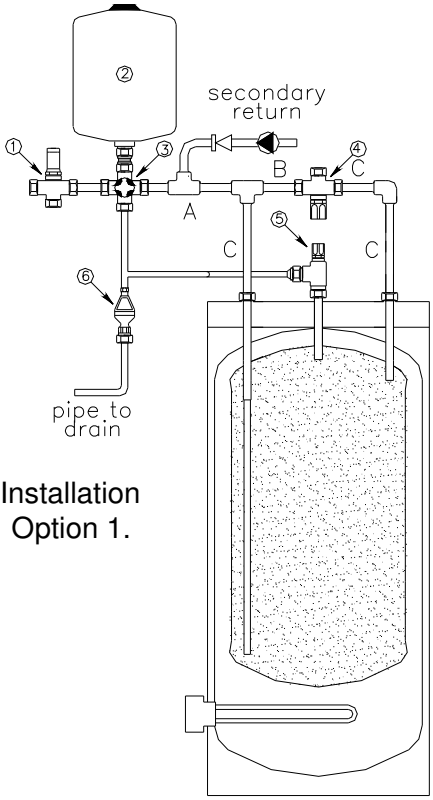
Modifying the IMIT thermostat:

1. Remove the control dial.
2. Take out the metal spring stop.
3. Replace the control dial.

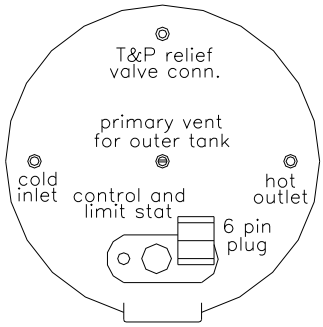


3. INSTALLATION (130 to 300 Smart Paks)

Domestic:



Installation Option 1.

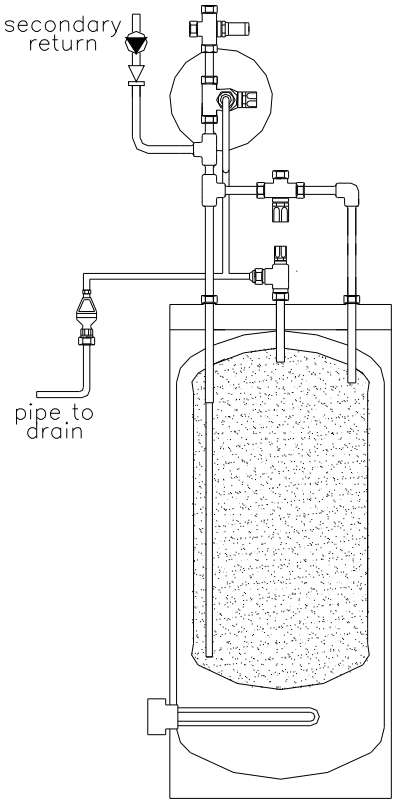


VIEW OF TANK TOP

Parts List.

1. Pressure control valve 3.5bar.
2. Expansion vessel 3.5bar.
3. Check/Expansion valve assembly 6bar.
4. Thermostatic mixing valve.
5. Temperature & pressure relief valve 7bar.
6. Tundish.
7. 22mm Myson MPE222 spring return zone valve.
8. Pipe work kit includes:
   - 1 in No. 22mm equal tee.
   - 1 in No. 22mm elbow.
   - 2 in No. 22mm x 1" FI BSP Adaptors.
   - 5 lengths 22mm Copper tube (A to C on drawing).

Note: Secondary return pipework and fittings are not included in the kit.



Guidance for Installation.

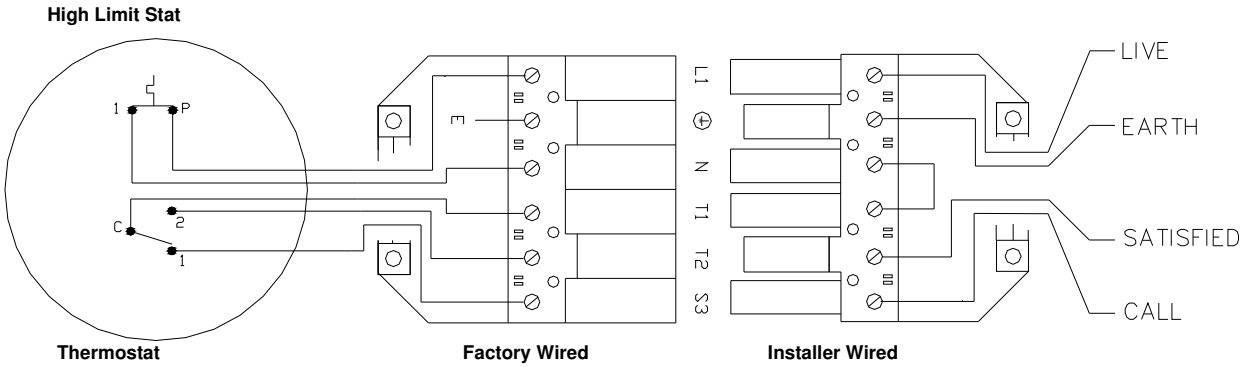
1. Connect 22mm x 1" FI BSP adaptors to cold water inlet (blue) and hot water outlet (red) connections on tank.
2. Assemble labelled pipework as shown on drawing ensuring mixing valve is installed correctly, cold/hot inlet ports are marked on body, i.e. hot to H cold to C outlet to MIX.
Note:- discharge pipework to tundish is not supplied.
3. Orientate mixing valve hot water outlet to desired position and tighten.
4. Connect Check/Expansion valve to cold water inlet pipe (A) and orientate Expansion vessel connection to suit installation.
5. Connect Pressure Reducing Valve to Check/Expansion valve (a light smear of jointing compound to PTFE ring will ease assembly) and orientate to ensure balanced cold water take-off faces either front or rear (blank supplied if take-off is not to be used).
6. Remove 3/4" black plastic plug from Check/Expansion valve and fit Expansion Vessel (seal with PTFE tape).
7. Connect Temperature and Pressure relief valve to 1/2" connection and orientate into position. Do not run drain discharge pipework across top of tank.
8. Connect both Temperature and Pressure relief valve/Expansion valve drain pipework to discharge into tundish in a visible position. Do not run drain discharge pipework across top of tank.
9. Install Tundish outlet pipework as per Building regulation G3 (for further guidance refer to controls installation and maintenance instructions).
Flush pipework and commission.

Wiring the thermostat:

To comply with 'The Building Regulation 1991 G3.6' the manual reset high limit thermostat must be wired to a self-closing motorised valve or some other suitable device to shut off the primary flow to the cylinder.

The thermostatic controller should be used to regulate the temperature of the tank by controlling the heating pump or zone valve supplying the unit (note that a spring return valve must be connected to the high limit stat for normal operation, i.e. the valve will be energised to open by the thermostat and then spring closed when the circuit is broken). The switch wire from the pump or valve can be wired to the tank controls via the 6 pin plug. See diagram below.

Thermostat wiring schematic.



Please note N is a switched LIVE not NEUTRAL.

(Typical 'S & Y-plan' wiring schematics are on pages 12 &13).

ACV recommends that the cylinder is electrically cross bonded to earth.

Primary system connections:

The primary flow and return connections to the tank should be made using the appropriate sized fittings with a male BSP component that will allow the disconnection and removal of the unit. A self-closing motorised valve or some other suitable device must be fitted to shut off the primary flow to the cylinder. Care must be taken to ensure that the connections are watertight to avoid any leakage that may go undetected and cause external corrosion damage to the tank.

Distribution Pressure

The mains water supply must be fed to the unit via the supplied mains kit, this will maintain a maximum distribution pressure of 3.5 Bar.

Purging

After filling and before using it will be necessary to purge air from both the primary (heating) and secondary (domestic) tanks. The domestic can be purged by opening a hot outlet at the highest point (or by venting the temperature and pressure relief valve), the primary (heating) tank can be vented using the air vent located on the top of the tank (ensure vent is tightened after use).

Immersion Heater

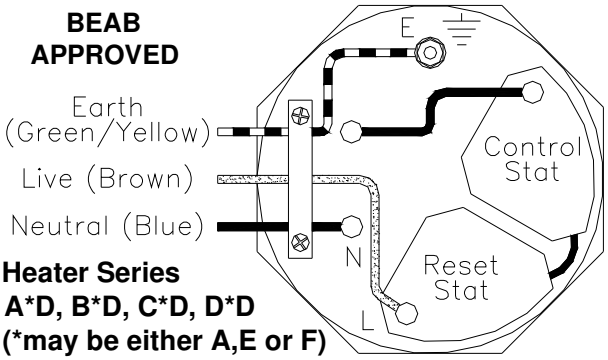
The SmartLineE range of tanks have the facility for fitting a 3kW immersion heater for back-up emergency use when the primary heating fails not as a permanent form of summer time heating, this heater must be wired to its own 13 Amp fused spur and as described in the installation instructions for Thermco immersion heaters.

Installation Instructions for Thermco Immersion Heaters.

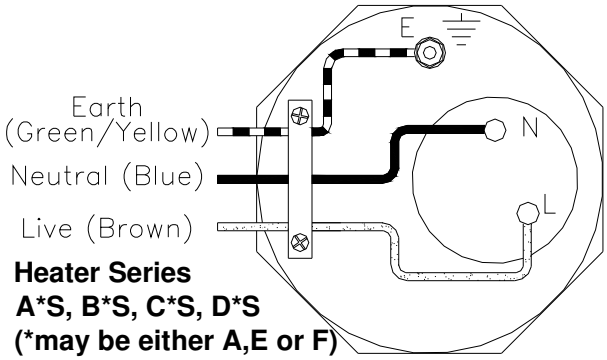
Contact details: www.thermco.com - enquiries@thermco.com - 01502 576800

1. Ensure mains voltage corresponds to the voltage rating of the heater as shown on the rating label on the terminal cover.
2. Install the heater into the water tank, using the gasket or 'O' ring supplied (the use of sealing compounds is not recommended). Use a shaped spanner to tighten (stillsons should not be used).
3. It is essential that water fully covers the heating element to a depth of at least 100mm. Under no circumstances must the heater be permitted to run dry – serious damage may result to the heater in addition to danger of personal injury and damage to property.
4. Check for possible leakage before wiring.
5. Wire the heater in accordance with the diagram below. The heater should be wired through a double pole isolating switch or controller, having contact separation of at least 3mm using 1.5sqmm flexible cable, 85°C rubber insulated HOFR sheathed, complying with BS6141 Table 8. It must be fully earthed. Ensure all terminals are securely made, however do not use excessive force when tightening.
6. In the event of the manually resettable cut out operating, isolate the heater from the mains, investigate and identify the cause of cut out, rectify before resetting and then re-energise the heater. Replace the terminal cover securely before re-energizing.
7. If problems continue replace the thermostat(s).
8. All heaters conform to EEC directive 76/889 for radio interference and comply with BS 800:1977.

BEAB APPROVED



Heater Series
A*D, B*D, C*D, D*D
(*may be either A,E or F)



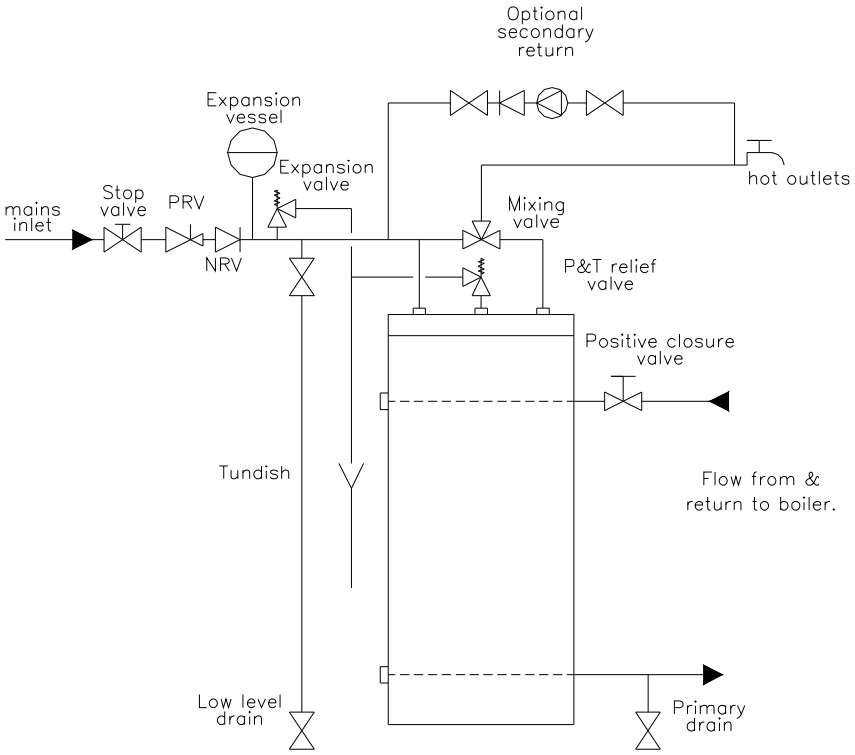
Heater Series
A*S, B*S, C*S, D*S
(*may be either A,E or F)

WARNING!

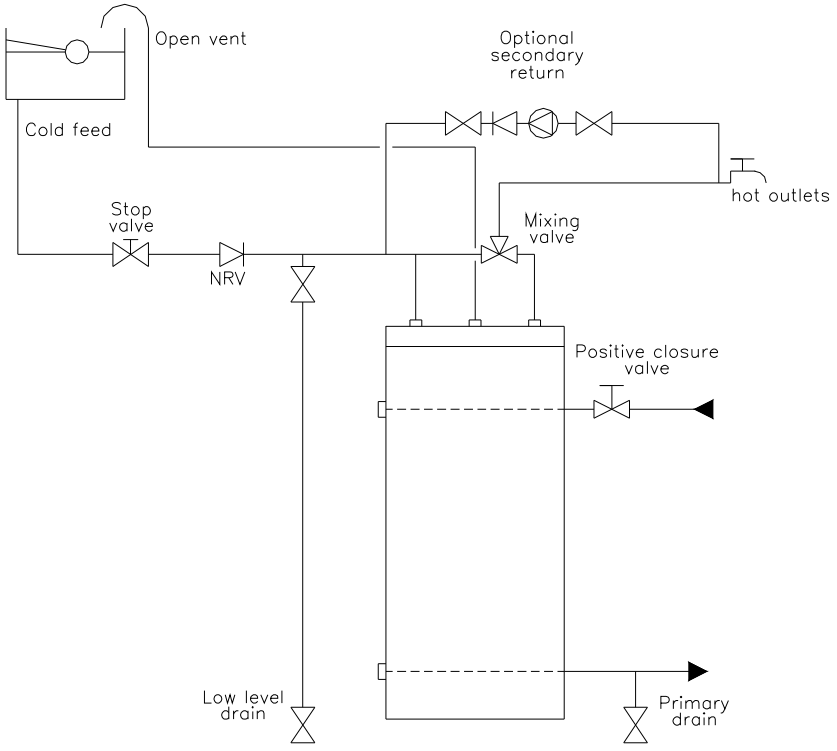
UNDER NO CIRCUMSTANCES CAN THE IMMERSION HEATER BE SWITCHED ON BEFORE THE PRIMARY TANK IS FILLED. SERIOUS DAMAGE MAY RESULT TO THE HEATER IN ADDITION TO DANGER OF PERSONAL INJURY AND DAMAGE TO PROPERTY IF HEATER IS SWITCHED ON WHEN DRY.

4. SYSTEM SCHEMATICS

Typical un-vented application

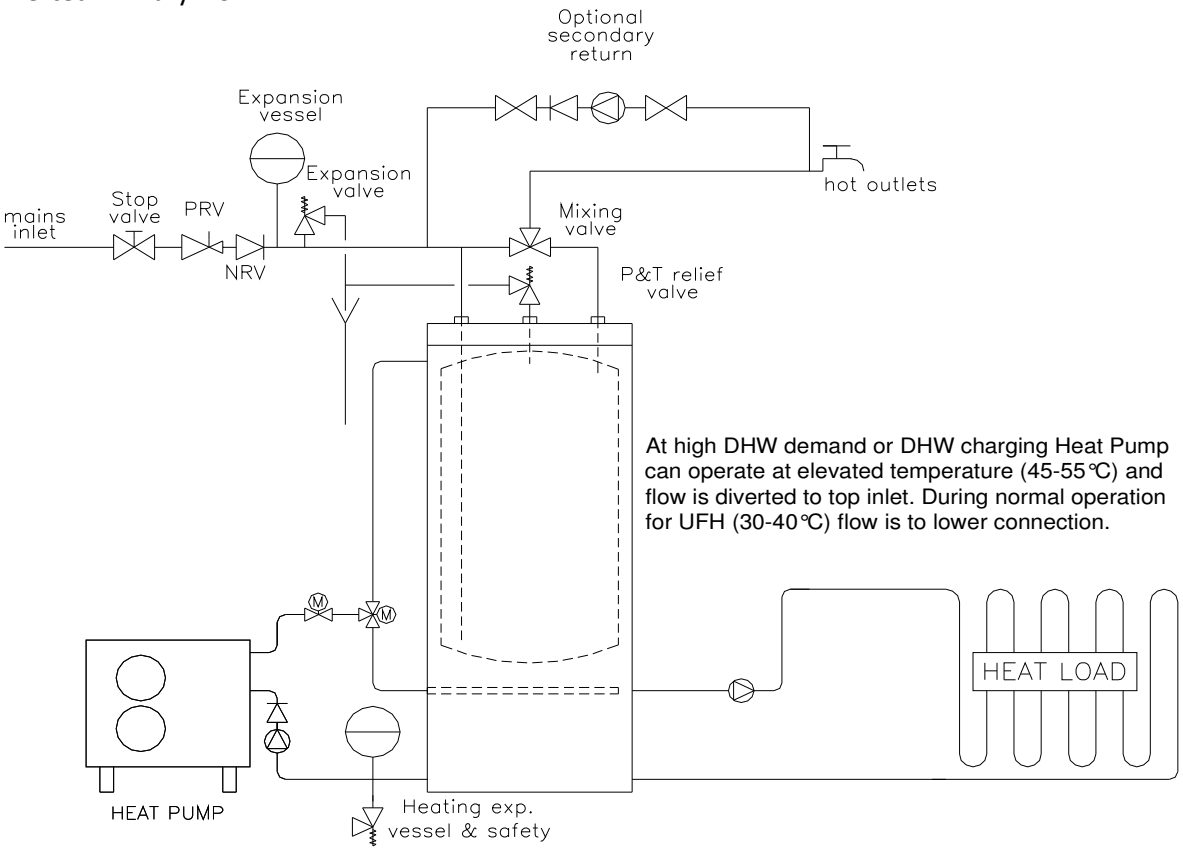


Typical open vented application

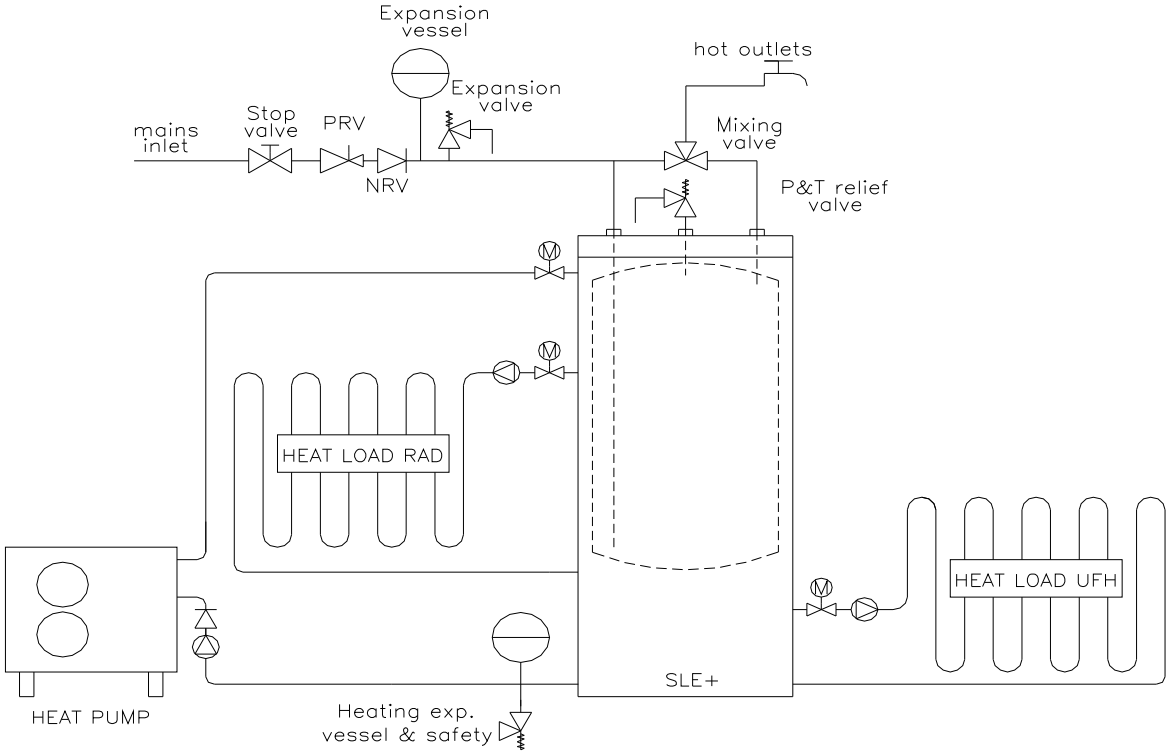


Proposed SLE+ schematics.

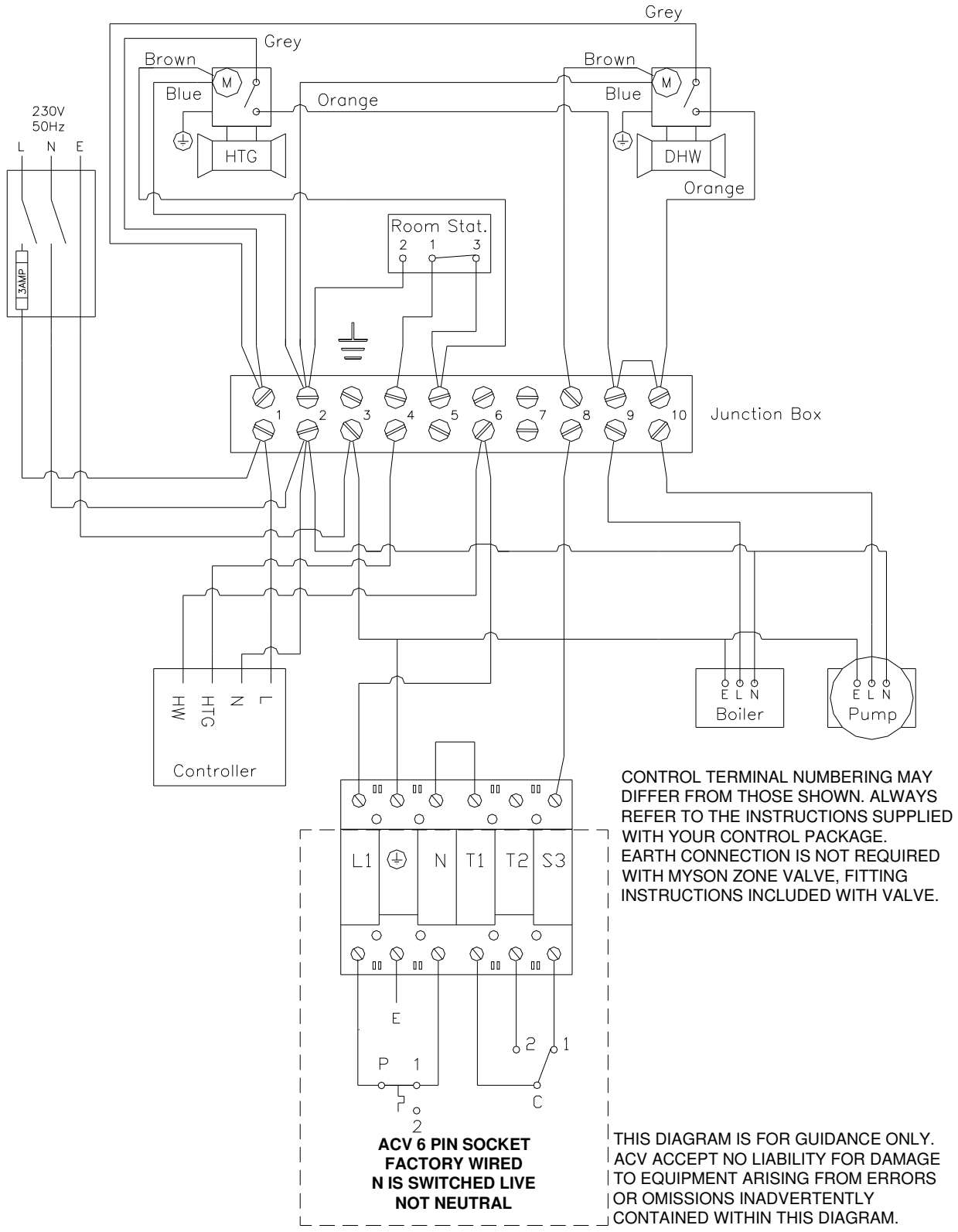
SLE+ Diverted Primary Flow



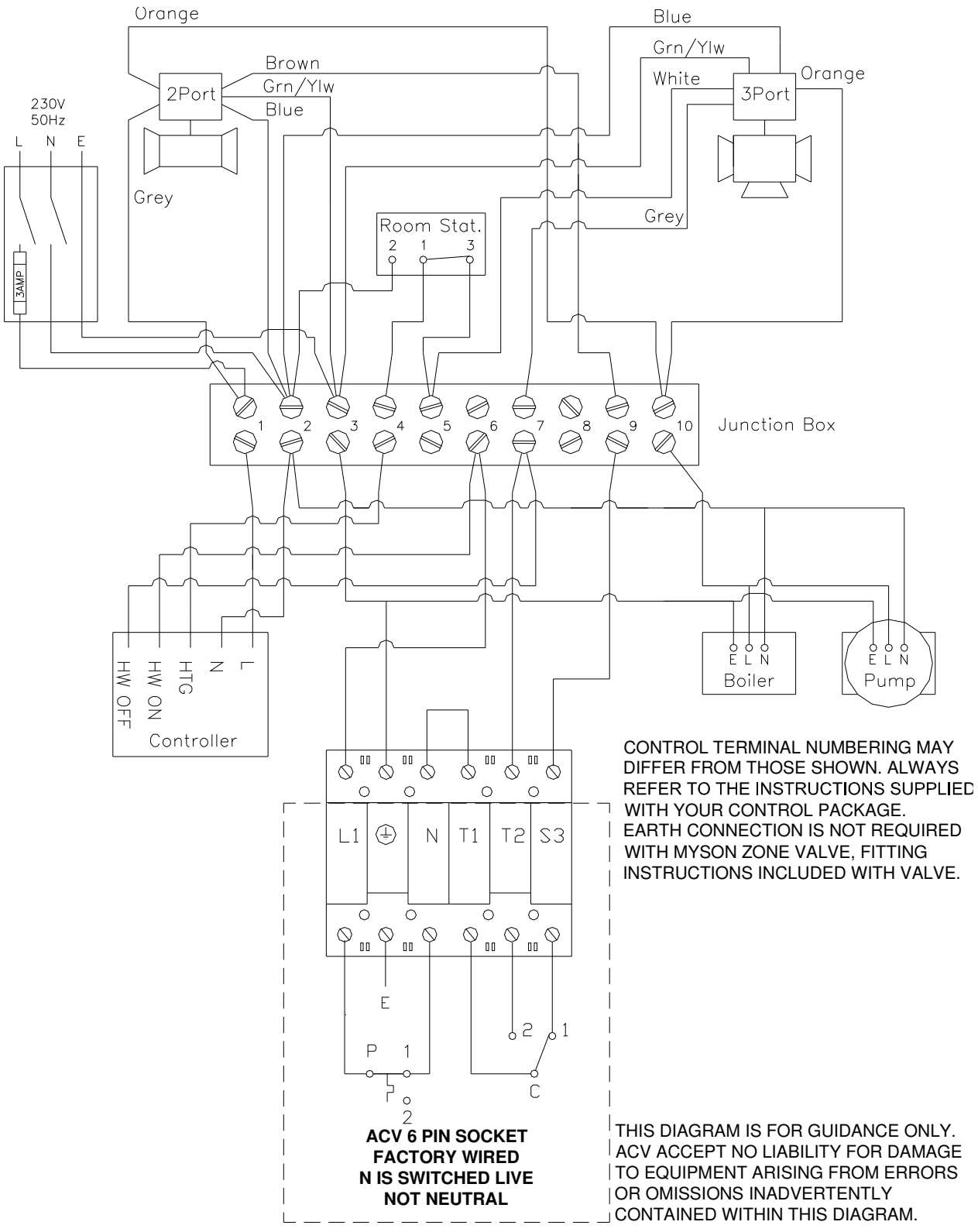
SLE+ Radiators and Under floor



Typical ‘S-Plan’ schematic.



Typical ‘Y-Plan’ schematic.



5. COMMISSIONING

Characteristics:

Maximum water supply pressure to the reducing valve	16 Bar
Operating pressure	3.5 Bar
Expansion vessel charge pressure	3.5 Bar
Expansion valve setting	6 Bar
Maximum primary working pressure	3 Bar
Temperature & pressure relief valve pressure setting	7 Bar
Temperature & pressure relief valve temperature setting	92-95 °C

1. Flush the tank with fresh mains water then fill, vent and pressurise domestic water circuit as previously described.

IMPORTANT: Always fill and pressurise the secondary (domestic) tank first, filling and pressurising the primary (heating) tank may result in crushing damage to the domestic tank.

2. Fill the primary circuit taking care not to exceed 2 Bar.
3. Purge the air from the primary tank.
4. Switch on and operate.

IMPORTANT NOTE:

ACV recommends the use of a corrosion inhibitor in the primary (heating) system. The warranty will be invalidated if upon inspection it is found that a tank has failed due to corrosion caused by the lack of an inhibitor.

6. PERFORMANCE

Type	Performances									Maximum Boiler Output (kW)*	Primary flow rate (ltrs/hr)	Heat up time 10°C – 85°C (min)	Heat up time 15°C– 60°C (min) 3kW immrsn**	Heat up time 15°C– 60°C (min) 6kW immrsn**
	Peak output (l/10min)			1st hour output (ltrs/60min)			Continuous output (ltrs/hr)							
	40°C	*45°C*	*60°C*	*40°C*	*45°C*	*60°C*	*40°C*	*45°C*	*60°C*					
SLE 130	236	202	117	784	672	384	658	564	320	23	2100	22	136	68
SLE 160	321	275	161	1063	911	549	890	763	465	31	2600	22	169	84
SLE+210	406	348	209	1349	1156	689	1132	970	576	39	3500	20	213	106
SLE+240	547	469	272	1820	1560	913	1527	1309	769	53	4200	20	254	127
SLE+300	800	600	370	2360	1988	1100	2100	1665	970	68	5500	22	307	154

Operating conditions: primary fluid 85°C
cold inlet 10°C

*Maximum boiler input. Should a lower capacity boiler be used the performance will be reduced.

**Calculated values.

7. MAINTENANCE

ACV recommends that the cylinder is maintained by a competent person, this should be carried out every 12 months.

The safety valves must be manually operated at least once a year to check their operation and re-seating. Allow cylinder to cool before slowly twisting open the temperature and pressure relief valve. The water should flow freely through the tundish and discharge pipe work, check that the valve reseats when released.

CAUTION: The water discharged may be very hot.

Repeat the steps above for the expansion relief valve on the cold inlet pipe work.

The pressure reducing valve (PRV) has a strainer that can be removed for inspection and if necessary cleaning.

i. Isolate the cold water inlet to the cylinder.
ii. Open the lowest hot tap to remove the pressure from the system.
iii. The plastic PRV cartridge can be unscrewed from the brass valve body, loosen using a suitable spanner (not stilsons or pump pliers) unscrew and pull the cartridge from the valve body, the strainer will be withdrawn with the cartridge.
iv. Remove the strainer from the cartridge and clean under running water if necessary.
v. Replace strainer and push cartridge into valve body, take care when screwing the cartridge in not to damage the threads. Do not over tighten.
vi. Close hot tap and slowly open the cold water isolating valve to the cylinder, check for any leaks.

The primary tank should be checked for a build up of air, this can be purged using the primary air vent on the top of the cylinder. Check the primary system pressure gauge on the boiler or filling loop and recharge as necessary.

IMPORTANT: If the primary system is being topped up on a regular basis there is a risk of corrosion damage to the cylinder.

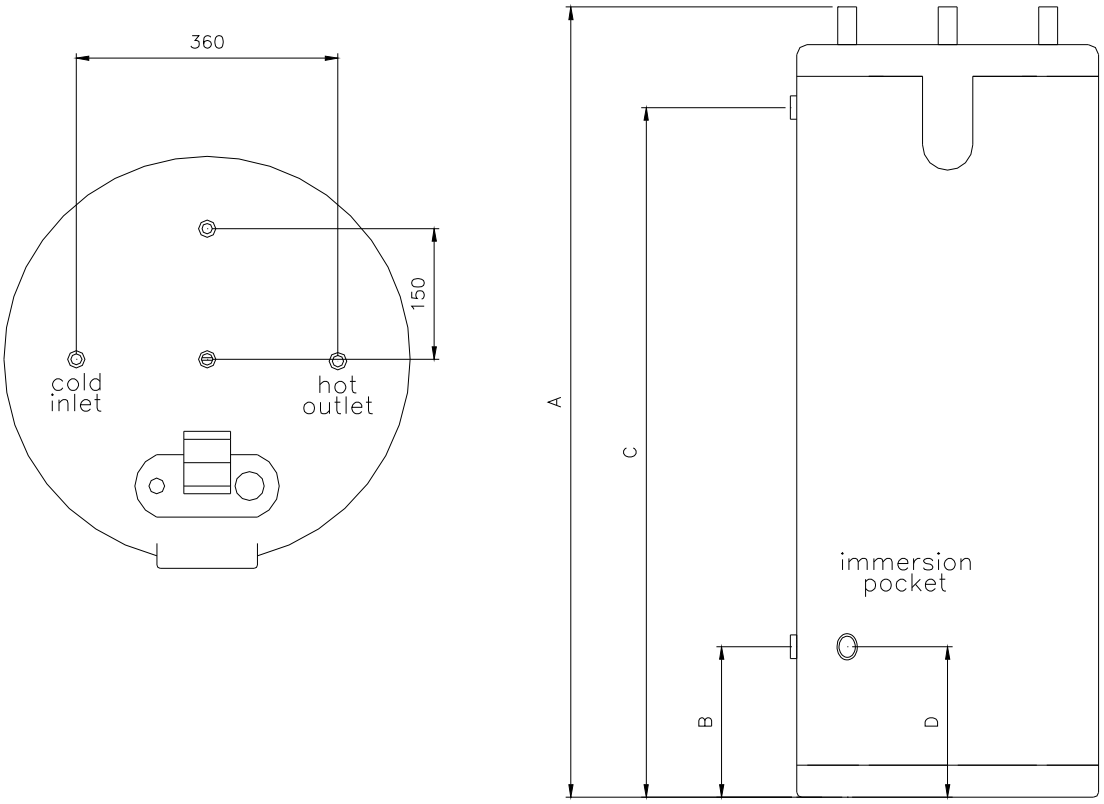
The tank must be fitted by means of screwed couplings or flanges to allow dismantling and removal of the unit. These should be fitted in such a way as to allow easy access.

8. PARTS LIST

Description	Code	Description	Code
Control Thermostat	54442045	Cold Inlet Tube 130	497B0003
High Limit Thermostat	54764020	Cold Inlet Tube 160	497B0005
Manual Air Vent	55445006	Cold Inlet Tube 210+	497B0007
Thermostat Dry Well 130	39438027	Cold Inlet Tube 240+	497B0009
Thermostat Dry Well 160	39438039	Cold Inlet Tube 300+	497B0010
Thermostat Dry Well 210+	39438046	Complete Control Pod (stat to left)	24614152
Thermostat Dry Well 240+	39438047	Complete Control Pod (stat in centre)	24614114
Thermostat Dry Well 300+	39438047	3kW Immersion (Thermco)	OI300
Top Cover	497B5010	6kW Immersion Single Phase (ACV)	10800083

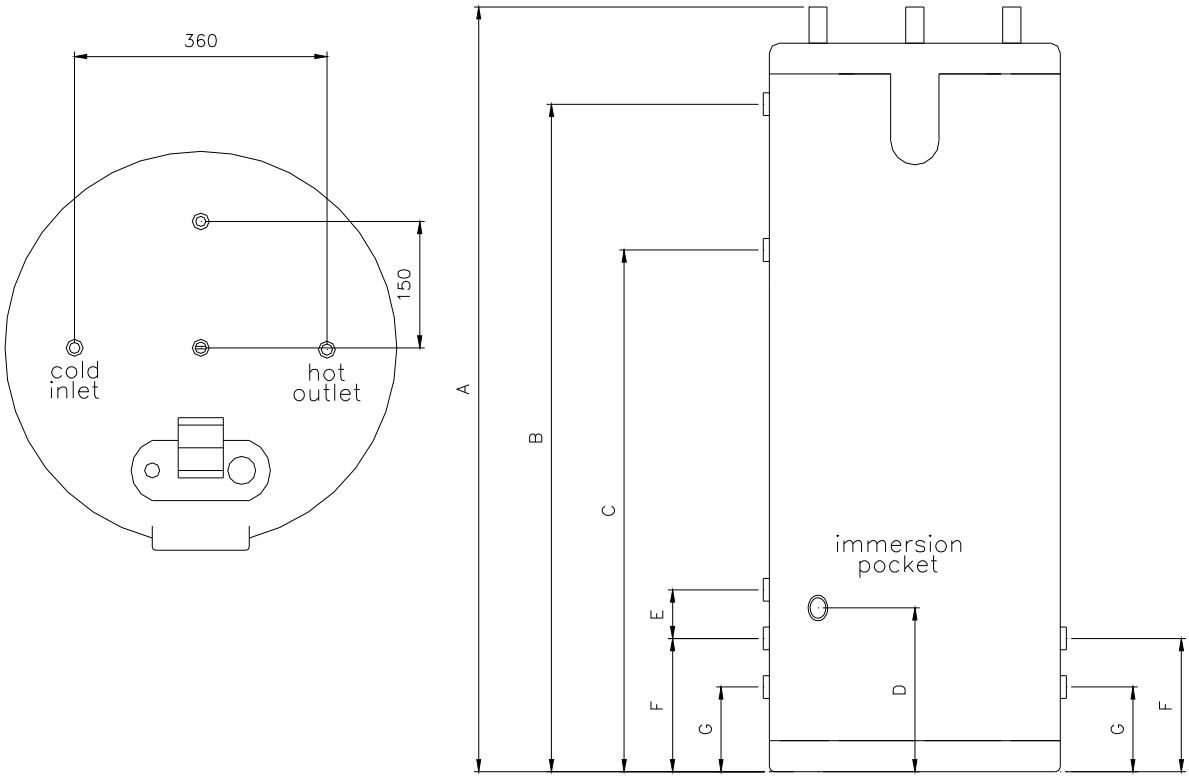
Bottom Cover	497B5002	6kW Immersion Three Phase (ACV)	10800084

9. TECHNICAL DATA



Type	SLE 130	SLE 160
Code	06618801	06618901
Unvented Kit	Smart Pak1 (12ltr)	
Total Capacity (ltrs)	130	161
Heating Fluid Capacity (ltrs)	55	62
Domestic Water Capacity (ltrs)	75	99
Primary press. drop (mbar)	17	22
Immersion heater connection	1½" BSP	1½" BSP
Primary fluid connections	1" BSP	1" BSP
Domestic water connections	¾" BSP	¾" BSP
Dimension: A (mm)	1024	1222
B (mm)	234	234
C (mm)	759	959
D (mm)	234	234
Mains kit will add approximately 500mm to height.		
Weight empty (kg)	45	54
Weight full (kg)	175	215
Heating surface (m^2)	1.03	1.26
Primary fluid flow (ltrs/hr)	2100	2600
Maximum Absorbed Power (kW)	23	31
Start-up time from 10 to 85°C(min)	22	22
Ozone Depletion Potential	0	0

Global Warming Potential	0.00025	0.000025
Losses ΔT50°C (kWh/day)	1.92	1.97



Type	**SLE+ 210**	**SLE+ 240**	**SLE+ 300**
Code	06627301	06627401	06627501
Unvented Kit	Smart Pak1 (12ltr)		SmartPak2 (18ltr)
Total Capacity (ltrs)	203	242	293
Heating Fluid Capacity (ltrs)	77	78	93
Domestic Water Capacity (ltrs)	126	164	200
Primary press. drop (mbar)	37	45	51
Immersion heater connection	1½" BSP	1½" BSP	1½" BSP
Primary fluid connections	1" BSP	1" BSP	1" BSP
Domestic water connections	¾" BSP	¾" BSP	¾" BSP
Dimension: A (mm)	1493	1741	2046
B (mm)	1230	1477	1783
C (mm)	937	1068	1278
D (mm)	312	303	338
E (mm)	120	110	145
F (mm)	352	343	378
G (mm)	233	233	233
Mains kit will add approximately 500mm to height.			
Weight empty (kg)	66	76	87
Weight full (kg)	269	318	380
Heating surface (m²)	1.54	1.94	2.29
Primary fluid flow (ltrs/hr)	3500	4200	5500
Maximum Absorbed Power (kW)	39	53	68
Start-up time from 10 to 85°C(min)	20	20	22
Ozone Depletion Potential	0	0	0

Global Warming Potential	0.00025	0.00025	0.00025
Losses ΔT50°C (kWh/day)	2.05	2.13	2.24

10. DISCHARGE PIPE

It is a requirement of Building Regulation G3 that any discharge from an unvented system is conveyed to where it is visible, but will not cause danger to persons in or about the building. The tundish and discharge pipes should be fitted in accordance with the requirements and guidance notes of Building Regulation G3.

The G3 Requirements and Guidance section 3.50 - 3.63 are reproduced in the following sections of this manual. For discharge pipe arrangements not covered by G3 Guidance advice should be sought from your local Building Control Officer. Any discharge pipe connected to the pressure relief devices (Expansion Valve and Temperature/Pressure Relief Valve) must be installed in a continuously downward direction and in a frost free environment. Water may drip from the discharge pipe of the pressure relief device. This pipe must be left open to the atmosphere. The pressure relief device is to be operated regularly to remove lime deposits and to verify that it is not blocked.

G3 REQUIREMENT
"...there shall be precautions...to ensure that the hot water discharged from safety devices is safely conveyed to where it is visible but will not cause danger to persons in or about the building."

Notes:
Discharge pipe-work D2 can now be a plastic pipe but only pipes that have been tested to a minimum 110°C must be used.
Discharge pipe D2 can now be plumbed into the soil stack but only soil stacks that can handle temperatures of 99°C or greater should be used.

The following extract is taken from the latest G3 Regulations

Discharge pipe D1

3.50 Safety devices such as temperature relief valves or combined temperature and pressure and pressure relief valves (see paragraphs 3.13 or 3.18) should discharge either directly or by way of a manifold via a short length of metal pipe (D1) to a tundish.

3.51 The diameter of discharge pipe (D1) should be not less than the nominal outlet size of the temperature relief valve.

3.52 Where a manifold is used it should be sized to accept and discharge the total discharge from the discharge pipes connected to it.

3.53 Where valves other than the temperature and pressure relief valve from a single unvented hot water system discharge by way of the same manifold that is used by the safety devices, the manifold should be factory fitted as part of the hot water storage system unit or package.

Tundish

3.54 The tundish should be vertical, located in the same space as the unvented hot water storage system and be fitted as close as possible to, and lower than, the valve, with no more than 600mm of pipe between the valve outlet and the tundish (Fig. 5 & Table 3, page 10).

Note: To comply with the Water Supply (Water Fittings) Regulations, the tundish should incorporate a suitable air gap.

3.55 Any discharge should be visible at the tundish. In addition, where discharges from safety devices may not be apparent, e.g. in dwellings occupied by people with impaired vision or mobility, consideration should be given to the installation of a suitable safety device to warn when discharge takes place, e.g. electronically operated.

Discharge pipe D2

3.56 The discharge pipe (D2) from the tundish should:

(a) have a vertical section of pipe at least 300mm long below the tundish before any elbows or bends in the pipework (see Diagram 1, G3), (Fig. 5, page 10); and
(b) be installed with a continuous fall thereafter of at least 1 in 200.

3.57 The discharge pipe (D2) should be made of:

(a) metal; or
(b) other material that has been demonstrated to be capable of safely withstanding temperatures of the water discharged and is clearly and permanently marked to identify the product and performance standard (e.g. as specified in the relevant part of BS 7291).

3.58 The discharge pipe (D2) should 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. for discharge pipes between 9m and 18m the 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 sizes larger, and so on; bends must be taken into account in calculating the flow resistance. See figure, table and the worked example.

3.59 Where a single common discharge pipe serves more than one system, it should be at least one pipe size larger than the largest individual discharge pipe (D2) to be connected.

3.60 The discharge pipe should not be connected to a soil discharge stack unless it can be demonstrated that that the soil discharge stack is capable of safely withstanding temperatures of the water discharged, in which case, it should:
(a) contain a mechanical seal, not incorporating a water trap, which allows water into the branch pipe without allowing foul air from the drain to be ventilated through the tundish;
(b) be a separate branch pipe with no sanitary appliances connected to it;
(c) if plastic pipes are used as branch pipes carrying discharge from a safety device they should be either polybutalene (PB) to Class S of BS 7291-2:2006 or cross linked polyethylene (PE-X) to Class S of BS 7291-3:2006; and (d) be continuously marked with a warning that no sanitary appliances should be connected to the pipe.

Note:

1. Plastic pipes should be joined and assembled with fittings appropriate to the circumstances in which they are used as set out in BS EN ISO 1043-1.
2. Where pipes cannot be connected to the stack it may be possible to route a dedicated pipe alongside or in close proximity to the discharge stack.

Termination of discharge pipe

3.61 The discharge pipe (D2) from the tundish should terminate in a safe place where there is no risk to persons in the vicinity of the discharge.

3.62 Examples of acceptable discharge arrangements are:
(b) to a trapped gully with the end of the pipe below a fixed grating and above the water seal;
(c) downward discharges at low level; i.e. up to 100mm above external surfaces such as car parks, hard standings, grassed areas etc. are acceptable providing that a wire cage or similar guard is positioned to prevent contact, whilst maintaining visibility; and
(d) discharges at high level: e.g. into a metal hopper and metal downpipe with the end of the discharge pipe clearly visible or onto a roof capable of withstanding high temperature discharges of water and 3m from any plastic guttering system that would collect such discharges.

3.63 The discharge would consist of high temperature water and steam. Asphalt, roofing felt and non-metallic rainwater goods may be damaged by such discharges.

Extract from 'The Building Regulations 1991 G3'

Diagram: Typical discharge pipe arrangement

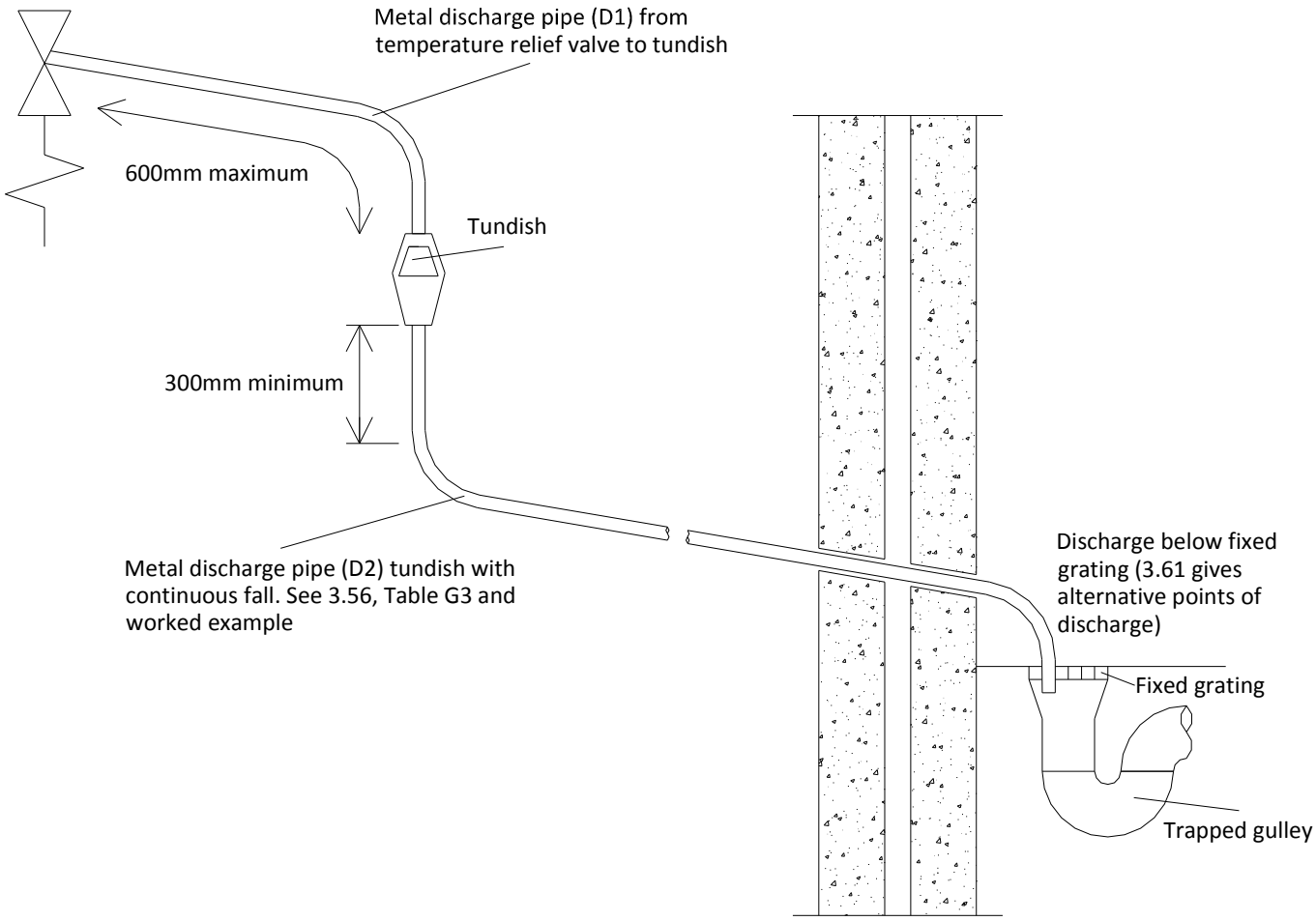


Table G3 – Sizing of copper discharge pipe 'D2' for common temperature relief valve outlet sizes

Valve outlet size	Minimum size of discharge pipe D1	Minimum size of discharge pipe D2 from tundish	Maximum resistance allowed, expressed as a length of straight pipe (i.e. no elbows or bends)	Resistance created by each elbow or bend.
G½	15mm	22mm 28mm 35mm	Up to 9m Up to 8m Up to 27m	0.8m 1.0m 1.4m
G¾	22mm	28mm 35mm 42mm	Up to 9m Up to 8m Up to 27m	1.0m 1.4m 1.7m
G1	28mm	35mm 42mm 54mm	Up to 9m Up to 8m Up to 27m	1.4m 1.7m 2.3m

Worked example of discharge pipe sizing

Fig. 5, page 10: shows a G1/2 temperature relief valve with a discharge pipe (D2) having 4 No. elbows and length of 7m from the tundish to the point of discharge.

From Table:

Maximum resistance allowed for a straight length of 22mm copper discharge pipe (D2) from a G1/2 temperature relief valve is 9.0m.

Subtract the resistance for 4 No. 22mm elbows at 0.8m each = 3.2m

Therefore the permitted length equates to: 5.8m

5.8m is less than the actual length of 7m therefore calculates the next largest size.

Maximum resistance allowed for a straight length of 28mm pipe (D2) from a G1/2 temperature relief valves equates to 18m.
Subtract the resistance of 4 No. 28mm elbows at 1.0m each = 4.0m

Therefore the maximum permitted length equates to: 14m

As the actual length is 7m, a 28mm (D2) copper pipe will be satisfactory.

WARNINGS:

- Under no circumstances should the factory fitted temperature/pressure relief valve be removed other than by a competent person.
- No control or safety valves should be tampered with or used for any other purpose.
- The discharge pipe should not be blocked or used for any other purpose.
- The tundish should not be located adjacent to any electrical components.

NOTES: