

Ambiguard

Installation Guide

Main Material of Manufacture - Steel



Note PLEASE LEAVE COPIES OF THESE INSTRUCTIONS AND ANY DRAWINGS WITH THE END USER.

Read this guide before starting installation

Introduction

This booklet provides guidance for the site activities necessary to identify, handle, install, commission and service Ambiguard LST.

The instructions refer to the standard product only: please refer to any additional drawings supplied for details of any special features. Please study all documentation carefully before commencing installation work.

Identification

Refer to diagrams for exploded views and identification of the main parts. Any reference given on the order will be marked on the casing, back plate and emitter packages for site identification.

Description

Each Ambiguard LST consists of a back plate, emitter and casing components as shown in the Diagrams. A lock shield valves and TRV kits are optional accessories.

Handling

Casings, back plates and emitters are usually packed separately. Small orders may be packed in boxes and can usually be off-loaded by hand. Larger orders are usually palletised and lifting equipment should be provided by the buyer. Care should be taken when handling to avoid damage.

Storage

Ambiguard LST components should be stored under dry, clean conditions. Any protective packing should not be removed until the components are required for installation, unless damage in transit is suspected. (Note: The buyer must examine the goods promptly upon arrival and is not entitled to make any claim against the Company in respect of damaged goods, unless at the time of delivery the 'delivery note' is endorsed by the buyer and countersigned by the carrier or shipping agent with a note detailing the damage).

Preparation

A sound, flat, vertical surface is necessary. The screws fixing the casing to the vertical surface are integral to the structure of the casing hence suitable screws and if necessary, wall plugs must be provided by others, for fixing back plates to the vertical surface. Any obstructions or hazards within the wall such as live electrical cables and pipework must first be identified before installation commences.

Installation

Before commencing any work identify the correct LST radiator for the location. If a radiator reference was given on the order this will be marked on the packages for site identification.

Warning Some internal components have sharp edges. Care must be taken when installing this product and it is recommended that protective gloves are worn.



Ambiguard LST Product Range

MHS Ambiguard LST low surface temperature radiators deliver efficient ambient heating in applications where safety is paramount. The hot central heating pipes and heat emitter are totally enclosed within the robust steel casing. The clever casing design permits secure key access for cleaning while TRV control valves can be selected for external or internal (tamperproof) functionality. BSRIA tested to BS EN 442 heating performance and NHS Guidance touch temperatures, Ambiguard LST is a complete solution for safe efficient heating.

Features

MHS Ambiguard LST radiators comprise:

- Mild steel casing (stove finish to RAL 9010 white)
- Extruded aluminium grilles (pencil proof)
- Zinc coated steel backplate (heat reflective)
- Integral emitter brackets
- Stock or custom RAL and BS colour finishes-available to order.

Benefits

- NHS guidance compliance by design and test
- Optimum heating by natural convection
- Rapid cost effective installation
- No special tools or fasteners required
- Pencil proof 'closure-lock' grilles (no screws)
- Reflective backplate to enhance heating efficiency
- Lockable access panels
- Easy access for cleaning
- BS EN 442 verified heat outputs

Style A - for 'wet floor' areas, or simply where casings are better sited above skirting.

Style B - for 'wet floor' or 'dry floor' areas where pipes approach from below or through walls.

Style C - for 'dry floor' areas where the robust floor plinth also provides extra space for pipe runs.

Style D - vertical casings delivering high performance from confined spaces.

Style T - for 'wet floor' or 'dry floor' areas where pipes approach from below or through walls.

Element emitter

Types E11 and E21 shall be installed in 97mm deep casings; types E12 and E22 in 161mm deep casings; types E23 and E33 in 260mm casings.

Element blocks have plain Ø15mm OD tails, suitable for proprietary 15mm connection fittings and supplied with an automatic air vent which permits the element to be vented without removing the front access panel.

All emitters are suitable for maximum cold test pressure of 10.5 bar and maximum working pressure of 8.0 bar. Element emitters have a maximum working temperature of 110°C. Automatic air vents maximum cold test pressure is 8.5 bar; maximum working pressure 8.5 bar @ 110°C.

Optional Valve kits

Ambiguard Internal Valve (Code AG-VLVTRV-INTERN)

The Ambiguard Internal Valve kit is an internal control and comprises of a ½" angle TRV and LSV pattern valve body, remote sensing phial and TRV head.

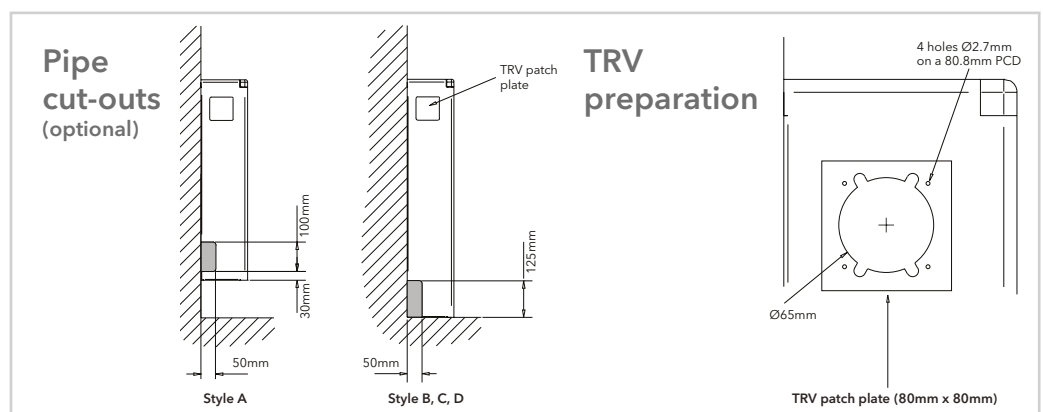


Ambiguard External Valve (Code AG-VLVTRV-EXTERN)

The Ambiguard External Valve kit is an external control and comprises of a ½" angle TRV and LSV pattern valve body, remote transmitter sensor and TRV head.



Note: All Ambiguard valves are for use on two pipe systems. The TRV's provided are not bi-directional and must always be connected to the flow pipework. All kits are provided with 15mm copper adaptors to provide the connection to both the inlet and outlet of the valve to either ½" BSP or 15mm connection. Pipe stiffeners must be used with the finned element.

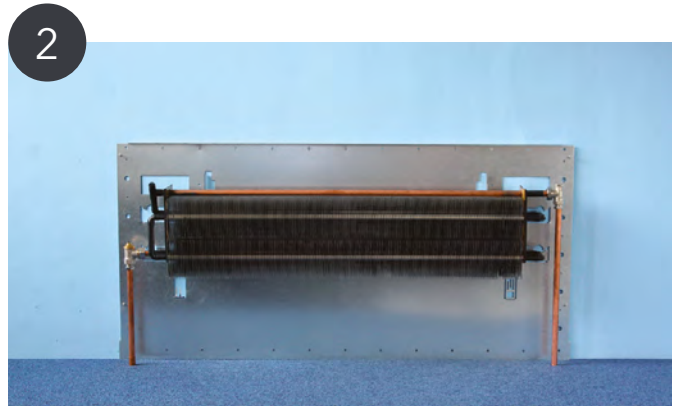


Installation Sequence

Element Emitters



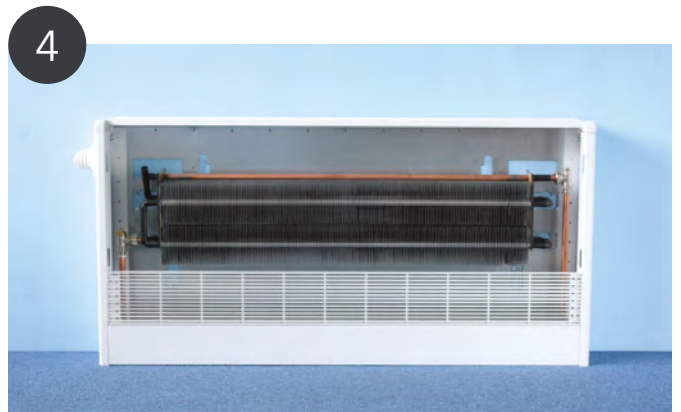
Backplates (1st fix)



Emitters & Valves (1st fix)



Sideplates (2nd fix)



Grilles (2nd fix)



Casings (2nd fix)

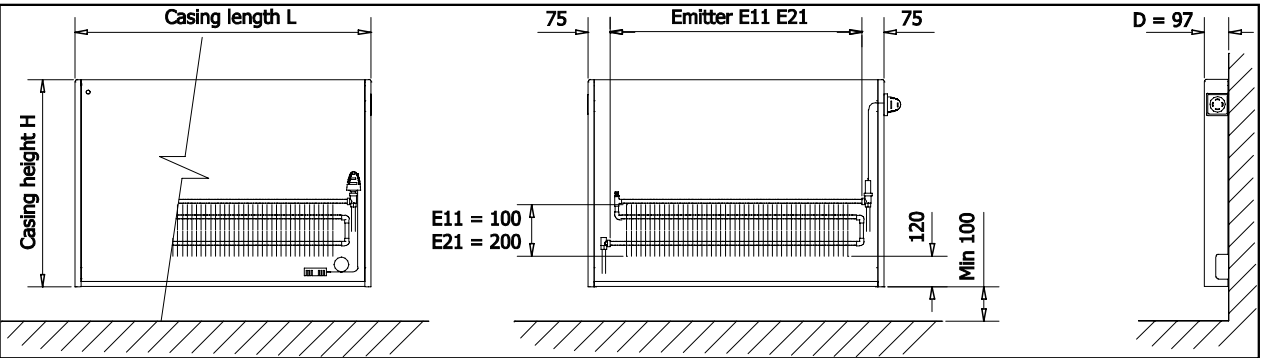
Installation Sequence

Ambiguard LST is available in five styles: A, B, C, D & T (pictured below).

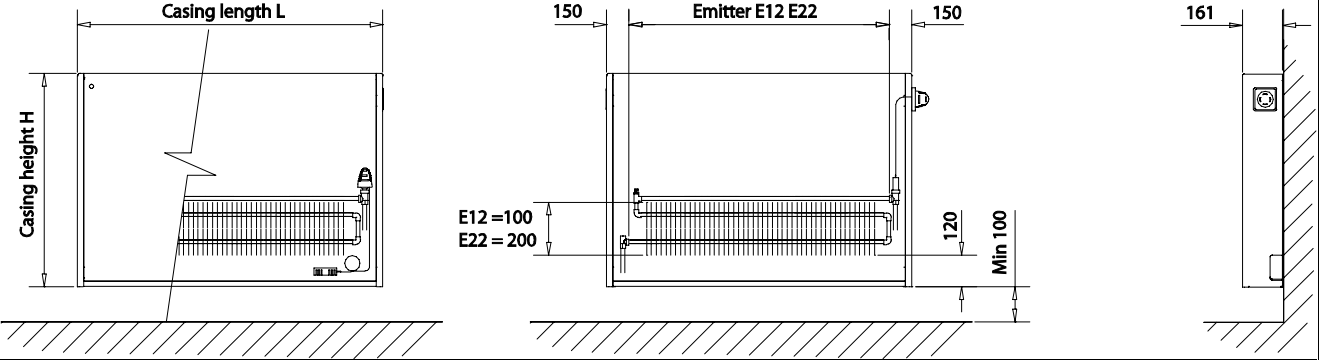


Style A

Style A-97mm Element Emitter

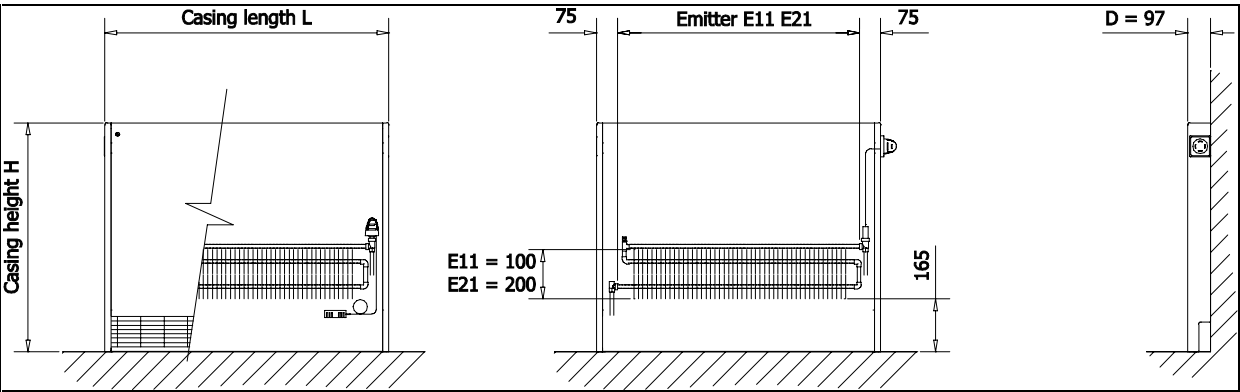


Style A-161mm Element Emitter

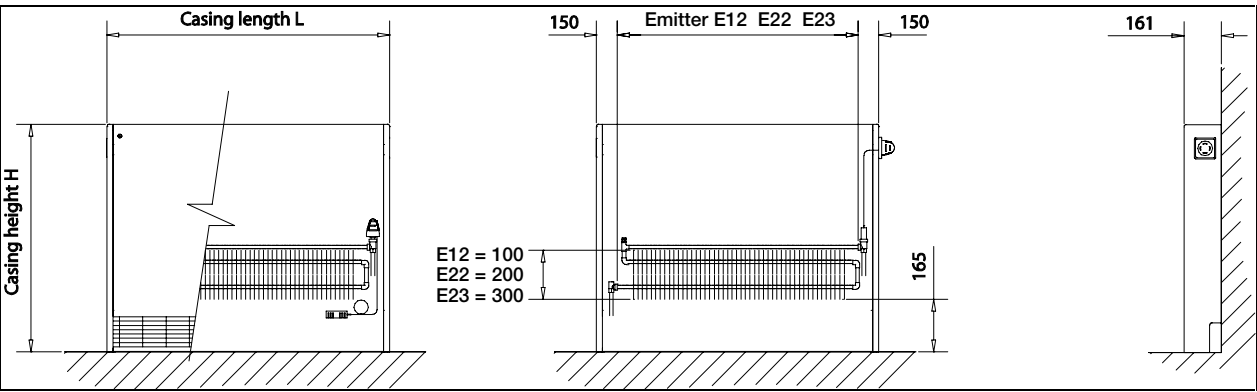


Style B & Style T *

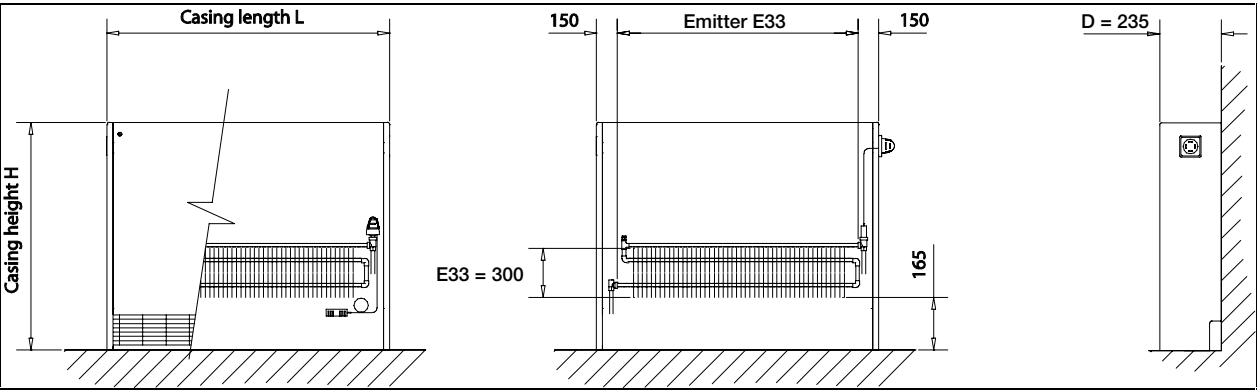
Style B & Style T - 97mm Element Emitter



Style B & Style T - 161mm Element Emitter



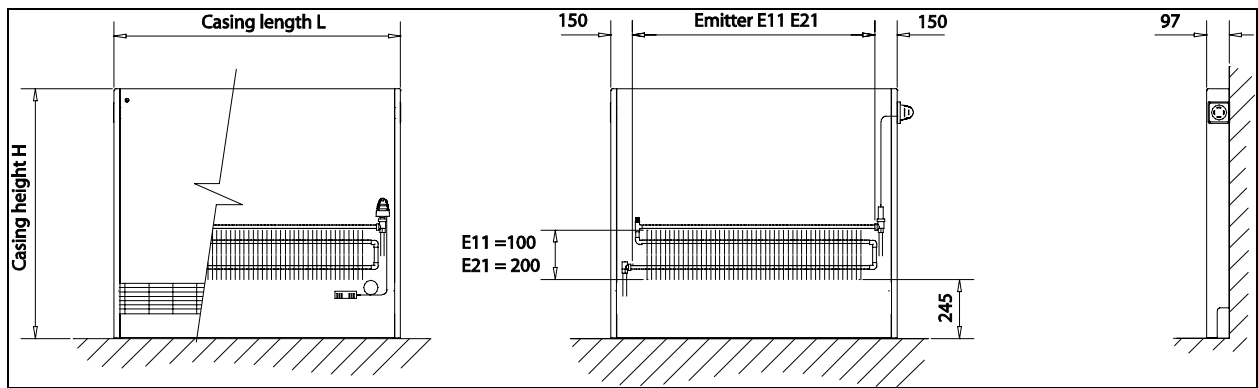
Style B & Style T - 235mm Element Emitter



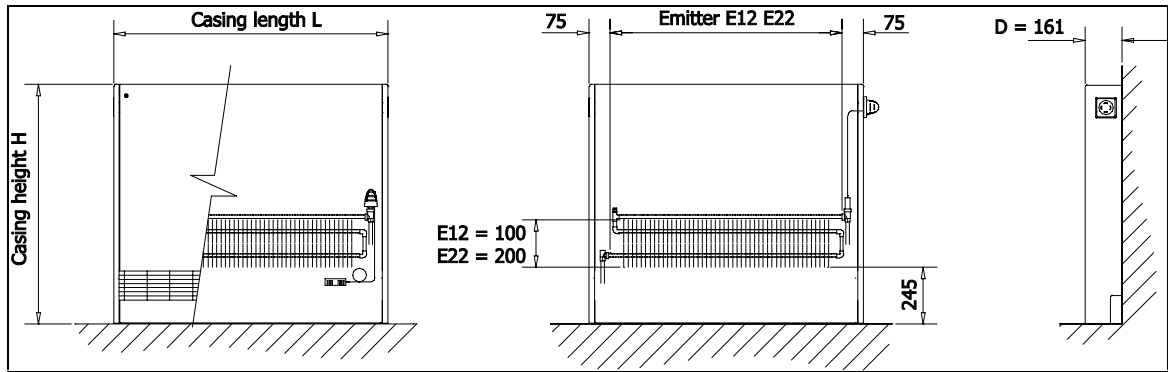
* Note: Style T has a front facing grille

Style C

Style C-97mm Element Emitter

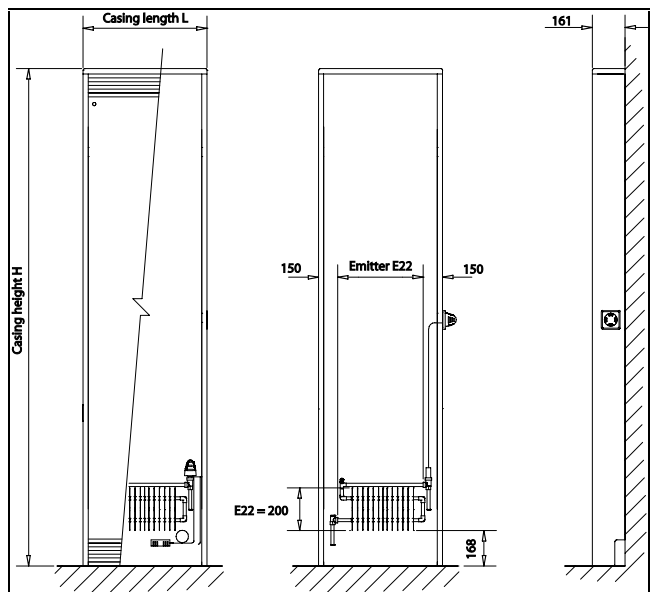


Style C-161mm Element Emitter

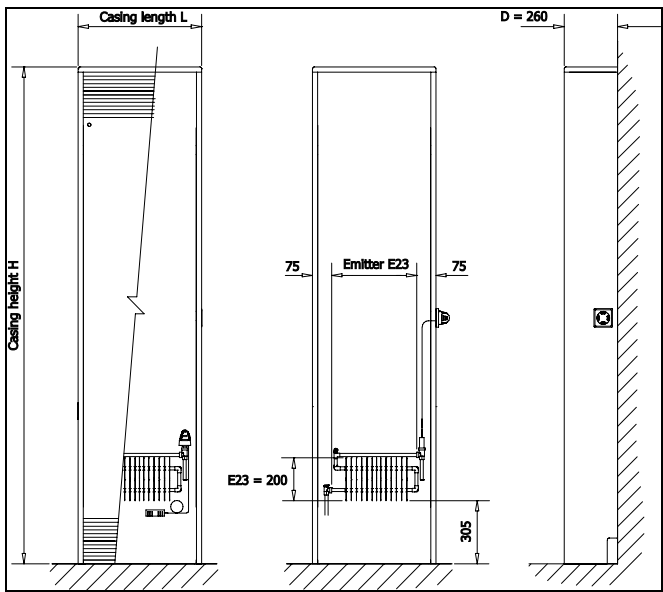


Style D

Style D-161mm Element Emitter



Style D-260mm Element Emitter



Ambiguard LST Installation - First Fix

Mark positions of fixings on the wall using the back plate as a template. Note: recommended fixing height of 100mm above FFL (Style A), styles B, C, D & T can be fixed at FFL or onto pipe boxing/trunking. There are a large number of holes provided, as minimum we recommend fixing to every fourth hole along the top and bottom edges plus 2 to 3 fixings down the sides.

Diagram 1

Drill holes to take the fixings in the wall and insert suitable wall plugs or anchors (by others). Screw the back plate to the wall using the top and bottom rows of screws holes only excluding the corners ("A" in diagram 1 below). The side screw holes "B" are used for fixing the side plates and can be prepared ready but are not required at this stage. Alternatively the larger holes "C" may be used as these can be drilled and wall plugs or anchors affixed into them after the back plate has been fixed.

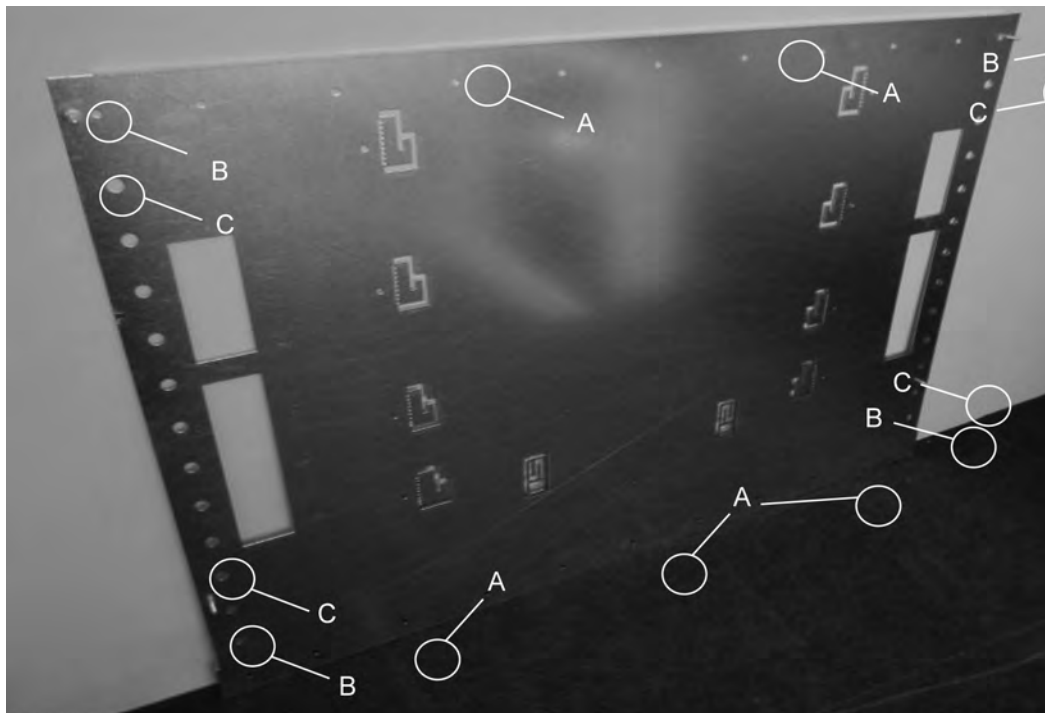


Diagram 2

Using a large flat-bladed screw driver fold out the emitter brackets "X". If the convector is to have a fitted internal TRV the phial brackets "Z" will also need to be folded out. See diagrams 2a & 2b for details on which brackets to fold out for each emitter.

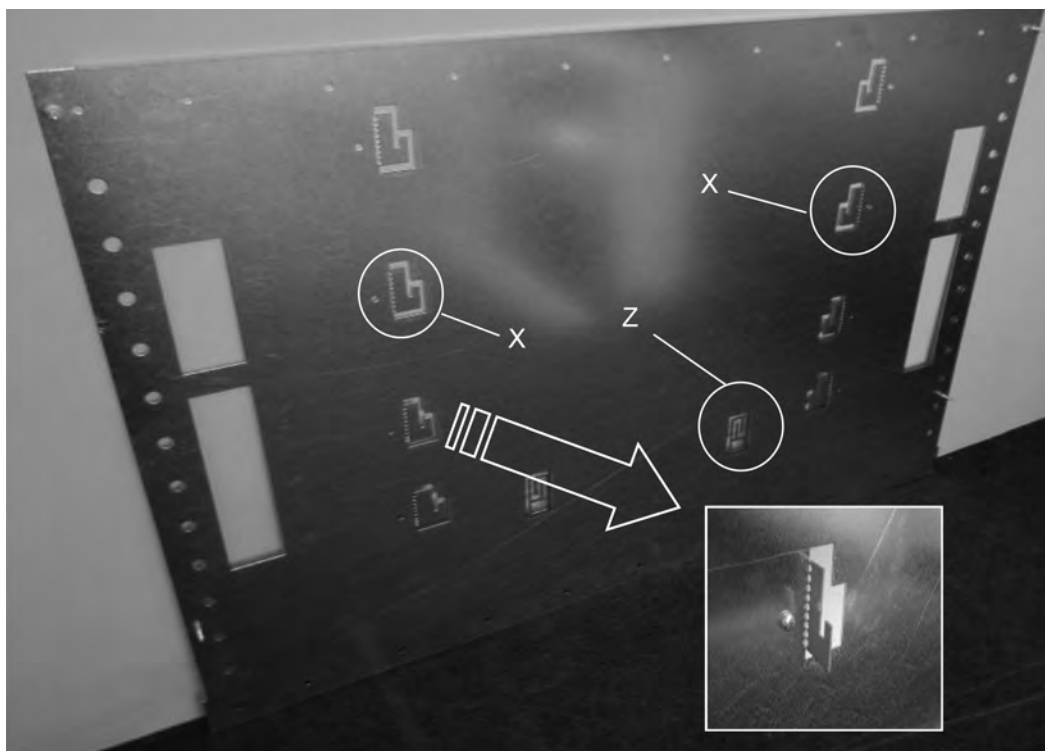
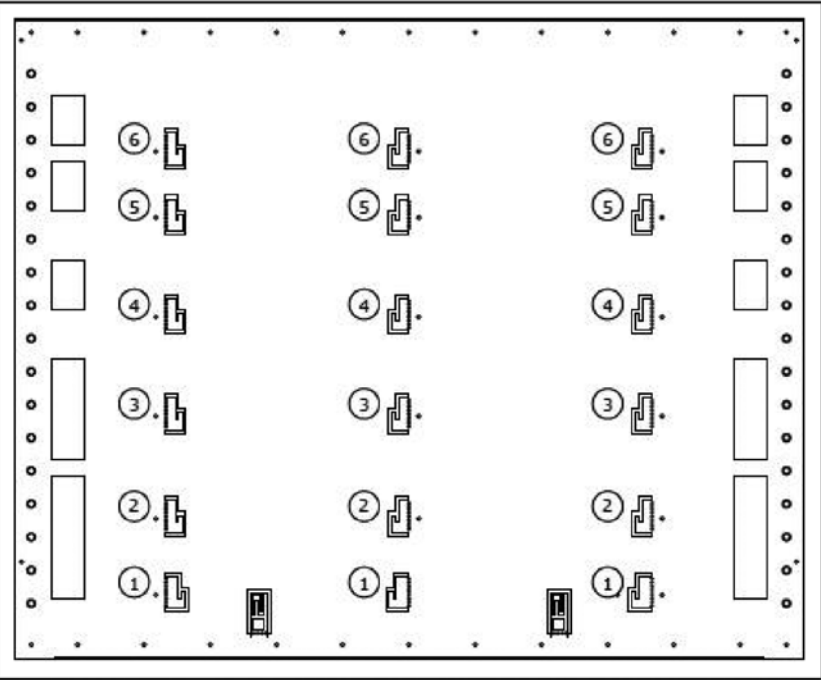


Diagram 2a

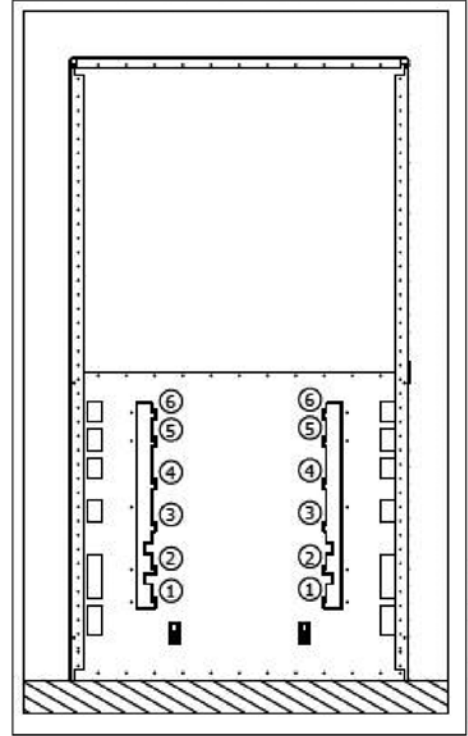
Styles A, B, C & T. Refer to bracket table for details of required brackets for each emitter type.



Bracket Table	
Emitter	Bracket
E11	1 & 3
E12	1 & 3
E21	1 & 3
E22	1 & 3
E23	1 & 3
E33	1 & 4

Diagram 2b

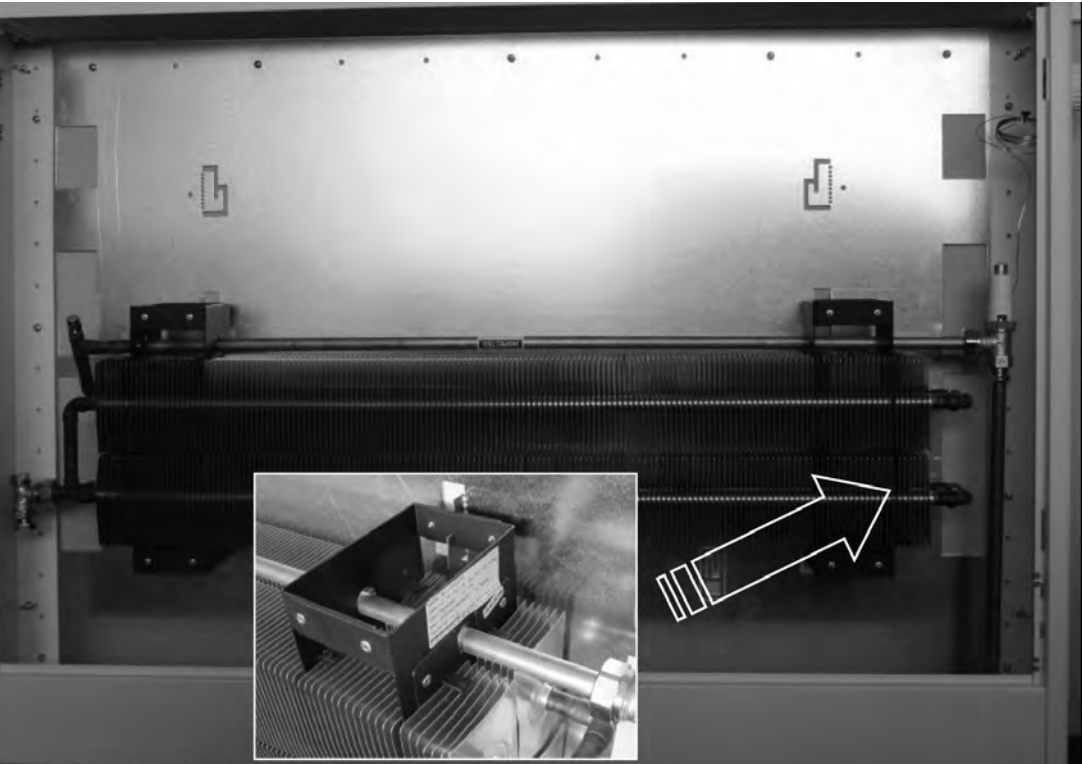
Style D. Refer to bracket table for details of required brackets for each emitter type.



Bracket Table	
Emitter	Bracket
E12	1 & 3
E22	1 & 3

Diagram 3

Hang the finned element on the brackets as centrally as possible. Fit any lock shield valves and/or TRV valve body. Note only casings styles B, C, D & T can accommodate integral flow & return pipework. With the system filled, vent the emitter to expel all air and check for leaks. If fitted adjust lock shield valve to give design water flow rate.



Ambiguard LST Installation - Second Fix

Ensure the finned element is clean and fins are not crushed, before fitting casing.

Diagram 5

Position the side plates at either end of the back plate using the studs for alignment (see detail in Diagram 5). Please note that the studs are for alignment only and no fixings are required to be attached to these studs. Screw the side plates through the back plate into holes "B" prepared during first fix stage.



Diagram 6

Fit the Bottom rail between the side plates. To do this you may need to gently push the side plate outward (being careful not to permanently deform it) in order to get the rail to clear the side plate (Detail 1 in Diagram 6). The bottom rail should be engaged with the studs (Detail 2). Two M4 nylock nuts, provided should be threaded onto the studs and screwed down to secure it.

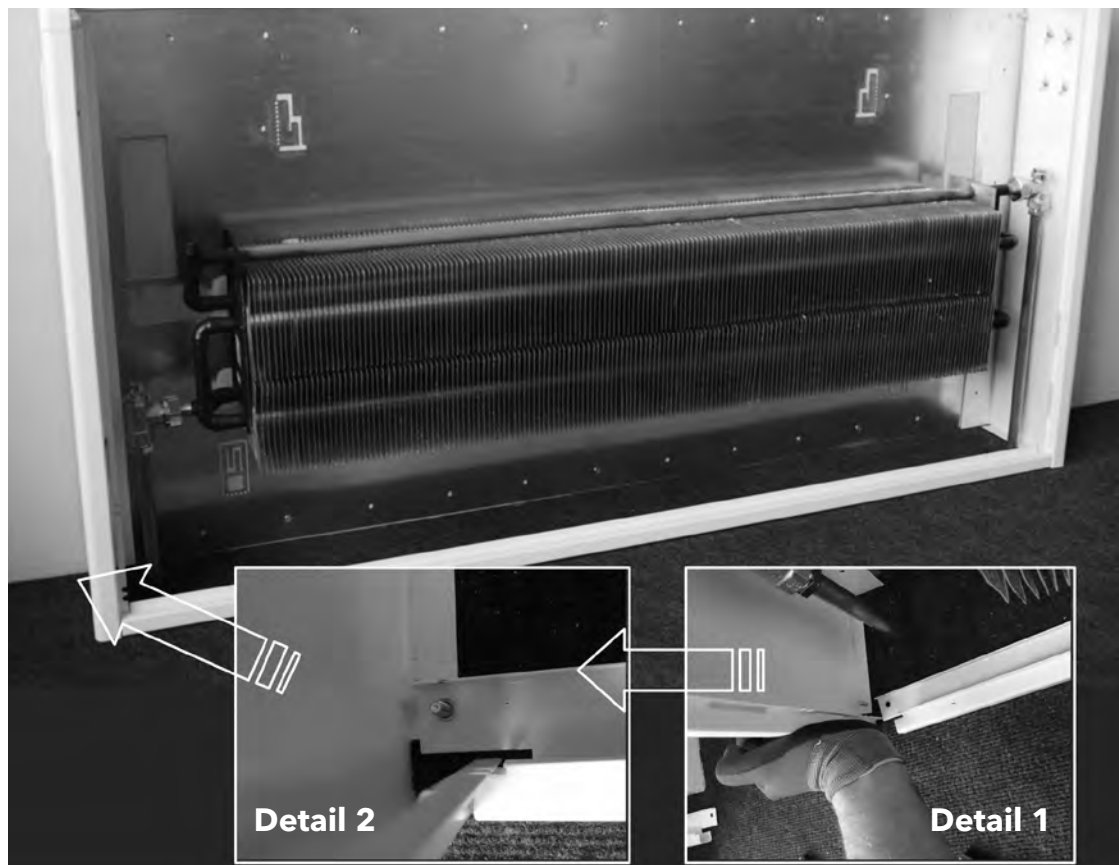


Diagram 6a



Remove the TRV Blanking plate from the side plate nearest the TRV valve body.

Diagram 6b



Wind the surplus length of the capillary around the TRV dial into the groove provided ensuring that it will not be tight when fitted.

Diagram 6c



Insert the bellows housing through the aperture in the side plate of the casing.

Diagram 7a



Affix the Sensor/Set point TRV Dial to the side of the casing using the screws provided and clip on the cover to the TRV dial.

Diagram 7b



Attach the bellows housing to the TRV valve body using the knurled nut.

Diagram 8a



Fit the grilles. On the top grille insert the tab into the slot at an angle with the large rectangular notch towards the front of the heater.

Diagram 8b



Pull the grille towards you so that the edge of the slot is in the notch.

Diagram 8c



Then tilt the grille so it is level.

Diagram 8d



Finally slide the grille back to lock it into place.

The bottom grille is fitted in a similar manner with the rectangular notches in the tabs facing upward.

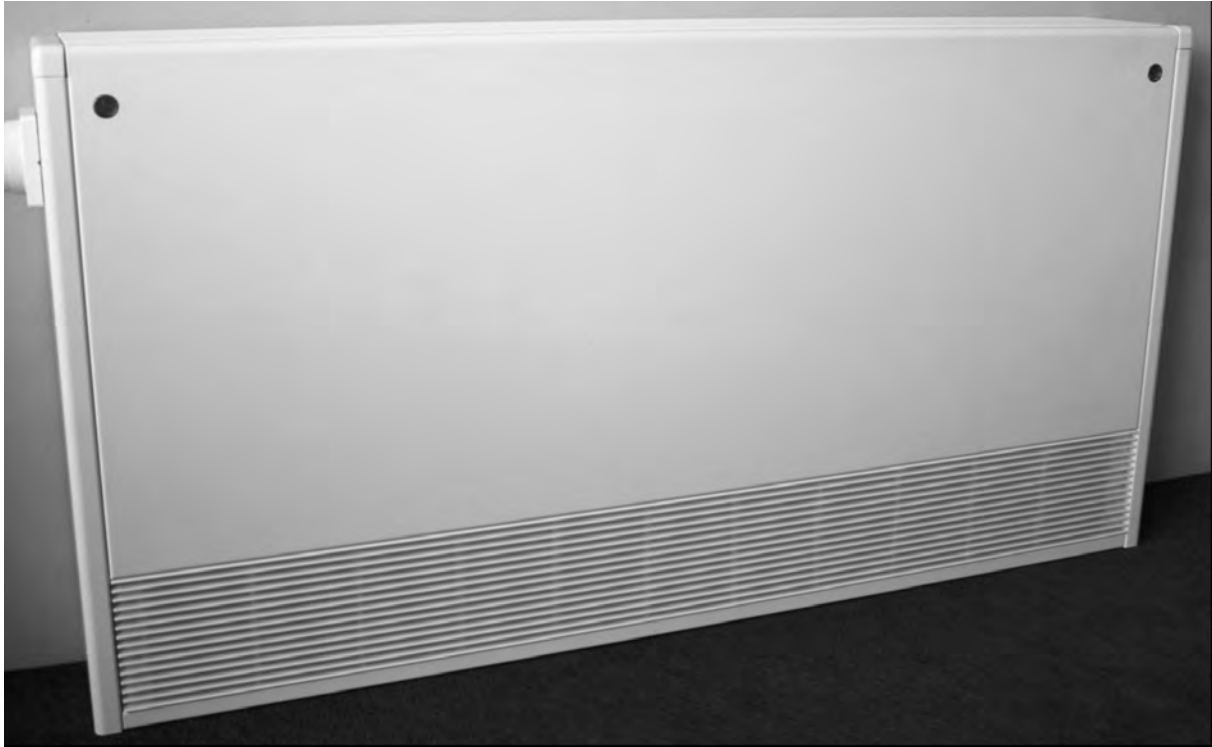
Note:-
Casing style A

Inlet grille is the same as bottom plate.

Casing style B
Casing style C
Casing style D
Casing style T

Inlet grille only.
Inlet grille & plinth.
Large grille.
Inlet grille only.

Diagram 9



Once the grilles are fitted the front plate can be put on. The corner tabs can be distorted in transit hence they may need to be straightened. Insert the tabs at the corners into the slots in the side plates then push the top of the access panel home and lock it into place using the two locks and key provided.

WATER TREATMENT

These products are for use on closed heating systems only; they are not suitable for installation on secondary HWS circuits. On completion of the installation the entire system **MUST** be thoroughly cleaned and flushed to remove debris/flux residues etc. If a chemical cleanser is used, it must be thoroughly flushed from the system. Following this, the system **MUST** be dosed with a good eminence water treatment to prevent corrosion. System design, flushing and dosing must be in accordance with BS 5449: 1990, BS EN 12828 & 12831: 2003 and BS 7593: 2006

IMPORTANT: Failure to observe these requirements will render the guarantee on the product void. Corrosion inhibitor must be used in accordance with the manufacturer's instructions and recommendations and should take into account the particular metals within the system.

MAINTENANCE

Every 3-6 months the front panel should be removed, the grilles removed (in the reverse of the method on the previous pages) and the casing inspected for dust and debris. The casing and grilles should be cleaned using a soft brush, damp cloth and warm soapy water. Any dust and debris should be vacuumed from the casing, and the finned element. Care should be taken not to damage the finned element a soft brush attachment should be used.

Warning Some internal components have sharp edges. Care must be taken when installing this product and it is recommended that protective gloves are worn.

SPARES/SERVICE

Spare parts/service - Please contact our office, contact information shown below. Manufacturer reserves the right to change any product specification without notice.

MHS Radiators Limited, 3 Juniper West, Fenton Way,
Southfields Business Park, Basildon, Essex SS15 6SJ
Tel: 01268 546700 Fax: 01268 888260

orders@mhsradiators.co.uk
enquiries@mhsradiators.co.uk
www.mhsradiators.co.uk

SALES OFFICE - 0345 521 566
AFTER SALES SUPPORT - 01268 546775