

**BK555**

December 2012

EN 13240:2001+

Amd. A2:2004



Please read carefully through this installation guide before proceeding with installation of the stove. Should you have any questions about our stoves that are not covered in this manual, please contact the Arada retailer in your area, or call our technical support department on 08448 567181.

## WARNING

It is a legal requirement that the installation of all new or replacement, wood or solid fuel heating appliances must obtain building control approval from your local authority. This can be done by using a qualified heating engineer affiliated to a government approved competent persons scheme such as operated by HETAS.

If in doubt, contact HETAS Limited either by telephone: 0845 634 5626 or visit [www.hetas.co.uk](http://www.hetas.co.uk)

The installation of any electrical services during the installation of this boiler and associated heating system must be carried out by a registered competent electrician.

**Arada Ltd will not be responsible for any consequential or incidental loss or injury however caused.**

## GENERAL PRECAUTIONS

All local regulations, including those referring to National and European standards, need to be complied with when installing the appliance.

Any manufacturer's instructions must not be taken as overriding statutory requirements.

Before any installation work is undertaken consideration must be given to the Health and Safety at Work Act 1974. Safe working practices should be followed at all times.

Please consult health and safety guidelines for advice on handling heavy and/or large items.

During installation ensure that adequate precautions are taken to avoid unnecessary risk to yourself or any householder. In particular the danger from the caustic nature of fire cement should be avoided by using these

accepted methods:

- Wear gloves when handling fire cement.
- Wear goggles when chiselling or looking up chimneys.

## HEARTH

The stove should be installed on a floor with adequate load bearing capacity. If the existing construction does not meet this prerequisite, suitable measures (e.g. load distributing plate) should be taken to achieve it.

Ideally, the appliance should stand on a constructional hearth of non-combustible materials not less than 125mm (5") thick conforming to Building Regulations.

## INTRODUCTION

Dimensions of the hearth should project at least 225mm (9") forward of the front of the appliance and 150mm (6") at the sides. The surface of the hearth should be free of combustible materials.

Certain stoves manufactured by Arada are suitable for installation on a non-combustible 12mm hearth. Please consult the technical table found at the rear of the User Guide for a list of suitable models.

### COMBUSTIBLE MATERIALS

Please view the technical data table in the rear of the User Guide and observe the minimum distance to combustible materials which is applicable to your stove model.

Ideally, adjacent walls should be of suitable non-combustible construction, preferably brickwork. In large fireplaces take care that any supporting beam is protected by a 13mm (0.5") sheet of Masterboard or Superlux spaced 12mm (0.5") off the surface with strips of non-combustible material. Make sure that there is a gap between an un-insulated flue system and any combustible material. This gap must be at least 3X the outside diameter of the flue pipe, or 1.5X the flue diameter to non combustible surfaces.

### AIR FOR COMBUSTION

All stoves require ventilation to burn safely and correctly. There are requirements that need to be met when installing a stove, such as allowing for the permeability of the house (air permeability is the general seepage of air into the house via air vents, doors and windows etc.).

There must always be a permanent means of providing air for combustion into the room in which the stove is installed.

For guidelines on required ventilation sizes please refer to the 'HETAS Guide' which can be found on HETAS' website.

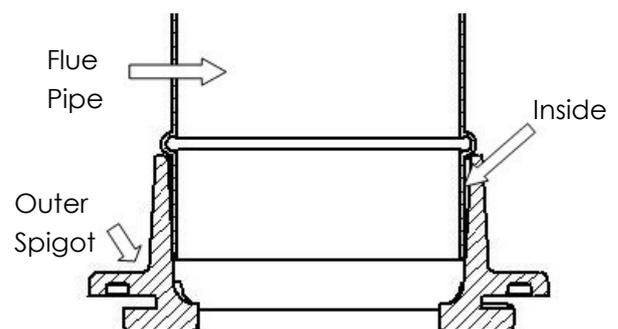
The positioning of any air vent must be so that it cannot be liable to blockage or obstruction.

The fitting of an extractor fan in the same room as the stove, or an adjacent room is not permitted.

### FITTING THE FLUE OUTLET AND HOT PLATE

With the exception of the Stratford Eco boiler 7 which has an integral rear spigot, the spigot is found packed inside the appliance. The hot plate is supplied fitted to the top opening and is removed by turning clockwise.

Smear a very thin layer of fire cement on the mating faces of the flue outlet and the hot plate. Fit the outlet to the appliance in the desired position.



Lock into place by rotating anti-clockwise and tighten by tapping with a block of wood and mallet from inside of the appliance. Similarly, fit the hot plate (blanking plate) to the unused

## INSTALLATION

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opening and clean off any surplus fire cement.

**Note:** The flue pipe must be fitted inside the outlet spigot. Failure to do so could result in the spillage of condensation running down the flue.

### SEALING THE BACK AND BASE OF INSET STOVES TO A FIRE SURROUND

In order for the stove to operate correctly and at maximum efficiency it is necessary to achieve a good seal between the back face of the stove convector section, the stove back base sections and the decorative fire surround and hearth.

This should be achieved using fire cement. Any void surrounding an inset stove when installed should be filled with fire cement in the interest of safety and efficiency.

### ADJUSTING THE SELF LEVELLING FEET (IF APPLICABLE)

Adjustment is as follows:

- Position the stove on the hearth into its final resting place.
- On the rear leg of the stove, loosen the pozi screw, and rotate the inner 'cam' shaped levelling foot until this touches the hearth.
- Re-tighten the pozi screw. Check the stove is level with a spirit level.
- Repeat for the other rear leg.

### FIRE BED SURROUNDS

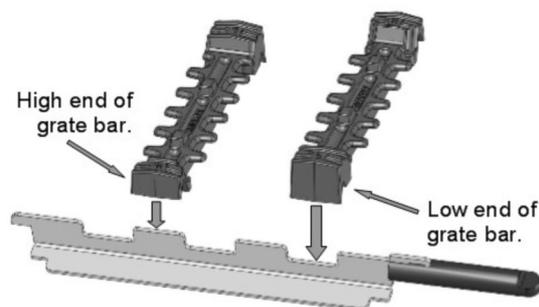


Cast fire bed surrounds are supplied with the boiler stove and should be fitted into the retaining holes in the rear grate bar support.

### GRATE BARS

The grate comprises of a series of cast iron grate bars, seated on a pair of combs. All bars in the grate are identical.

The bars should be seated with every other bar rotated 180 degrees, so the ends marked 'H' and 'L' alternate on each comb. The ends marked 'L' should be seated on the low part of the comb, whilst the ends marked 'H' should be seated on the high sections.

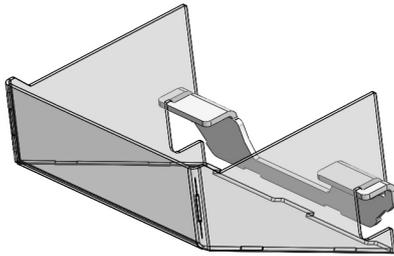


### Flue Exhaust Diversion System (FEDS) (Not applicable to EB25HE)

The inner section of the FEDS is welded in place during manufacture. The outer FEDS is fitted at the factory but may become dislodged during transit. The rear end of the outer FEDS sits on

retaining lugs as illustrated below.

If you need to remove the FEDS hold the bottom of it with both hands, palms on the bottom sloping face. Push up firmly to release the FEDS from the retaining lugs. It may require a swift knock upwards with the palm of your hand to release it.



## FLUES AND CHIMNEYS

The flue draw is critical on any installation and should be checked to ensure that it matches what is specified. If it is higher than recommended, provisions must be made to correct the over draw.

The draw can vary in different weather conditions and the customer should be made aware of this. Failure to correct an over drawing flue will invalidate the warranty.

The stove must be connected to a suitable and efficient flue so that products of combustion (fumes) from the stove are expelled to the outside air. To ensure a good up draught it is important that the flue gases are kept warm and that the flue size suits the stove. The termination of the outlet at the top of the flue also needs to comply with Building Regulations. The minimum effective height of the flue must be at least 4.5 metres from the top of the stove to the top of the flue outlet. When warm the flue draught should be between 0.1 to 0.2 mb.

A chimney may comply with regulations but could

still be subject to down draught and similar problems. A chimney terminating above the ridge level is generally less likely to suffer such problems.

If a new chimney is being built / installed it should fully comply with the relevant Building Regulations that specify the requirements for solid fuel burning installations.

The flue and chimney installation must be carefully checked by a competent person before fitting the stove to ensure it is suitable and will work safely.

If the chimney is old (i.e. built of brick or stone without a liner) or being opened up for reuse additional checks and smoke testing as described in Appendix E of the Approved Document J 2002 Edition should also be carried out to ensure the flue and chimney are in good operating condition.

Check the existing flue is in good condition with suitable access for collection and removal of debris. If the flue size is more than 225mm (9") diameter or 200mm (8") X 200mm (8") square, a suitable lining of 150mm (6") diameter should be fitted. This should be a double skin stainless steel flexible liner that is independently certified for use with solid fuel.

Details of suitable linings for use with wood and solid fuel are given in the official HETAS guide that can be viewed on their website at [www.hetas.co.uk](http://www.hetas.co.uk).

It is also important that suitable flue pipe complying with the Building Regulations is used to connect the stove to the flue in the chimney and that suitable access is provided into the flue for regular inspection and sweeping of the flue other than through the appliance (e.g. wherever possible a soot door or access through register plate).

## INSTALLATION

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Chimneys should be as straight as possible. Horizontal runs should be avoided except where the rear outlet of the appliance is used, in which case the horizontal section should not exceed 150mm (6") in length.

If the stove appears to be working hard but produces very little output to the room it is likely that excess draw is present in the chimney and that heat is being sucked out of the appliance and up the chimney. If this is the case we recommend the fitting of a draught stabiliser in preference to a flue damper, in the interest of safety and efficiency.

The installer should comply with Building Regulations requirements in respect of providing a Notice Plate giving details on the chimney, flue lining, hearth and fireplace installation.

### INTEGRAL BOILERS

Integral boilers should only be connected with the flow and return connections of any circuit on opposite sides of the appliance (cross flowed) and to an indirect hot water tank / system with Fernox or other similar corrosion inhibitor to prevent both corrosion and the formation of limescale.

**Stratford and Hamlet boiler models are designed for use with indirect vented central heating systems only. They are not designed for connecting to direct domestic hot water systems.**

Connecting pipes should be screwed to a maximum depth of 19mm for the face of the tapping boss (1" BSP, parallel).

Remember to incorporate a drainage plug /

tap at the lowest point of the circuit to facilitate draining and flushing.

If a pipe-stat is not fitted to control the radiator circulation pump then cold water corrosion may occur.

### Water Connections

To connect the indirect hot water cylinder to the stove use 28mm copper pipes. Ensure that the pipes rise continuously to the cylinder.

Ensure that runs are not too long. (i.e. 6 metre maximum each for flow and return). Install the cylinder above the level of the fire and as close to it as possible. Within reason the higher the cylinder the faster the circulation. Ensure no valves are present in the pipes.

In addition to providing hot water the primary circuit is essential in providing a 'heat leak' radiator to absorb excessive heat produced in the event of a circulating pump shutting down.

Heat is produced in varying quantities while the stove is alight and care must be taken to ensure that effective circulation can occur around the primary circuit to carry the heat away and thus preventing boiling. The heat output of any radiator installed as a 'heat leak' should not be less than 10% of the rated output of the appliance to which it is connected. It should not be fitted with a control valve as it should never be turned off or down. The hot water cylinder must be indirect with a minimum capacity of 110 litres conforming to BS 1566 part 1.

A radiator of approximately 2m<sup>2</sup> surface area should be connected to the primary circuit.

## Safety Vent Circuit

This circuit consists of a cold feed pipe, a separate expansion pipe and expansion tank. The possibility that water in the stove boiler may boil can never be completely ruled out, and it is therefore vital to ensure that cold water can be provided to the boiler and steam vented from it at all times.

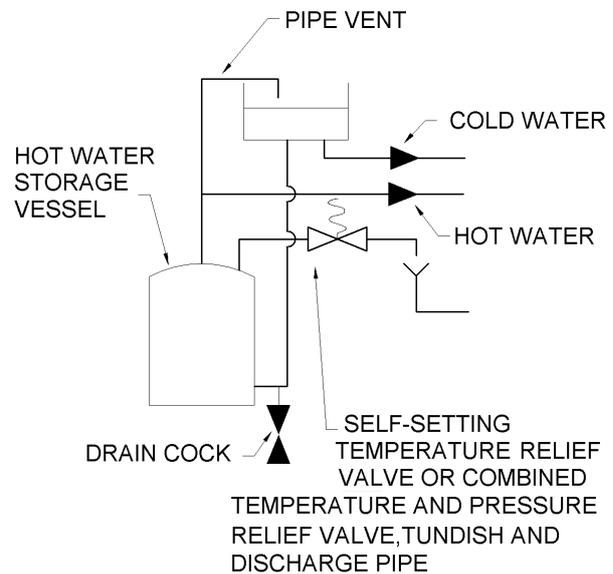
The use of an expansion tank is important. This should have a capacity of at least 7% of the systems total water capacity. The cold water feed pipe should be at least 22mm in diameter.

There must not be any shut-off valves in the circuit. Pipes should be run so as to avoid air locks. A safety valve should be fitted into the expansion pipe close to the boiler. The expansion pipe should not be branched off from the cold water feed pipe to ensure that it cannot be blocked by any sediment matter originating from the expansion tank.

It is often possible and good practise to utilise the primary flow and return as part of the safety circuit. The ball valve and overflow pipe (28mm diameter) from the expansion tank should be copper. All pipes in unheated spaces should be lagged.

Various examples can be seen on pages 10 and 11.

With solid fuel appliances, it is not practical to provide a sufficiently rapid reaction for shutting down the fuel in the event of a sudden rise in water temperature. A temperature valve, or preferably, a combined temperature and pressure relief valve should be installed to operate in the event of high water temperature occurring.



## THERMOSTAT AND DAMPER PRESSURE CHECKS

The thermostat has been fitted and set correctly during the manufacture. However it is advisable to check the cold setting prior to lighting the fire for the first time.

With the control knob turned fully clockwise (past No.5) the circular damper plate should have a gap of approximately 29mm between the damper edge and the stove inner body face when measured at the furthest point from the control knob and in line with the actuation shaft. Take care to measure this gap parallel to the actuation arm centre line.

If this is not the case then please follow the steps below to correct it.

### To remove the thermostat:

- Pull the thermostat knob off the shaft.
- Remove the access cover plate using a No.2 Pozi screw driver and then remove the M5 screw.

## INSTALLATION

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- Now remove the two M5 screws securing the thermostat to the stove body. The thermostat should now be free and you will be able to carefully remove it from the stove body.
- On the rear of the stove remove the thermostat sensor from its pocket and push this carefully through the hole in corner cut-out of the stove. (Take care not to kink the copper tubing.)

### Calibrating:

With the thermostat removed, replace the control knob.

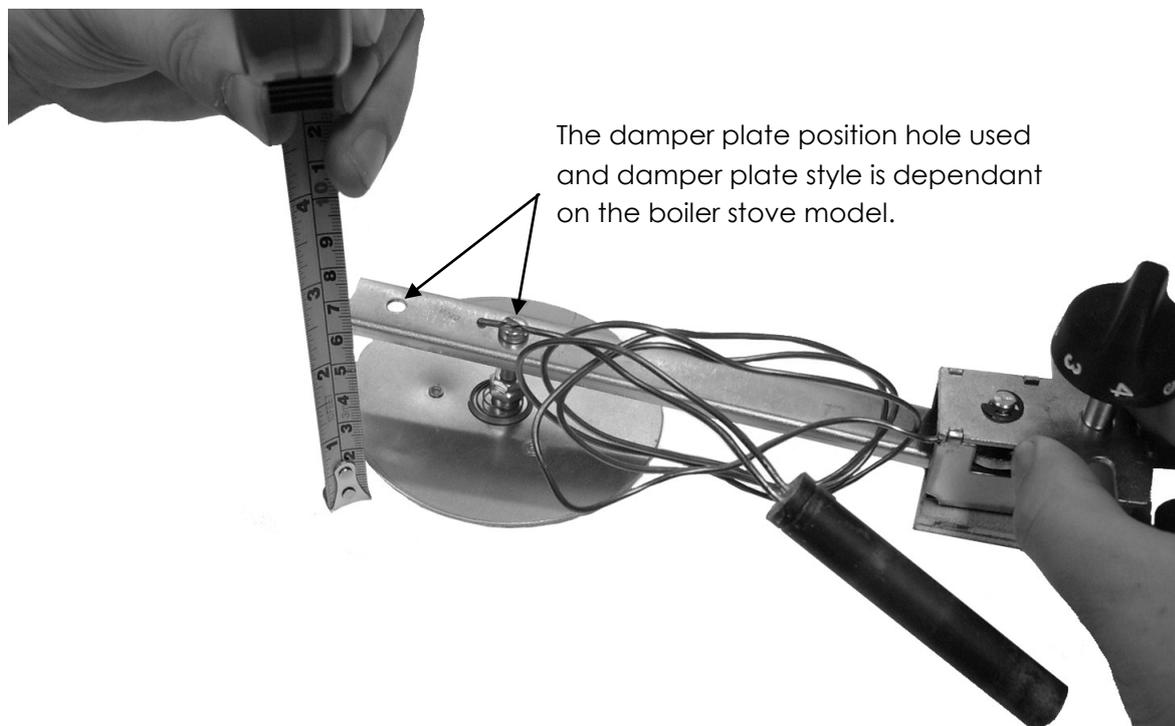
Rotate the control knob fully clockwise (as viewed with the damper shaft to your left) until you reach the end of possible travel.

Place the thermostat on a flat surface with the base of the mechanism body on a small piece of 8mm thick MDF or similar wood.

Now measure the high end of the damper plate between the bench and the top edge of the damper, (the edge furthest from the control knob). This should be 29mm +/- 1mm, if not adjust as follows:

- Slacken off the locking nut against the damper either in or out as required.
- Check the distance at the high end of the damper plate again.
- Once set correctly re-lock the locking nut.
- Check the distance is still correct.

Once the correct distance is achieved please refit the damper flap and thermostat by following the reverse of **'To remove the thermostat'** on the previous page and check once again that the correct distance is maintained.



### REMOVAL OF ASH AROUND DAMPER AND THERMOSTAT

Regular checking and removal of ash from around the damper flap area, inner left landing cavity and thermostat housing is necessary to ensure correct operation.

To remove ash from around damper flap:

- Make sure the stove is unlit and cold.
- Remove the thermostat access cover as detailed on page 7.
- Carefully clean away any cold ash from the thermostat mechanism and housing cavity using a vacuum cleaner.
- Refit the access cover.

To remove ash from the inner left landing cavity:

- Make sure the stove is unlit and cold.
- Open the fire door and remove the ash pan.
- Clean the under grate area carefully with a vacuum cleaner.
- Insert a small screwdriver or thin piece of wire into the slot at the bottom of the inner left landing and loosen the ash build up between the inner landing and damper mating face.
- Vacuum away any loose material.
- Repeat this until all ash is removed.



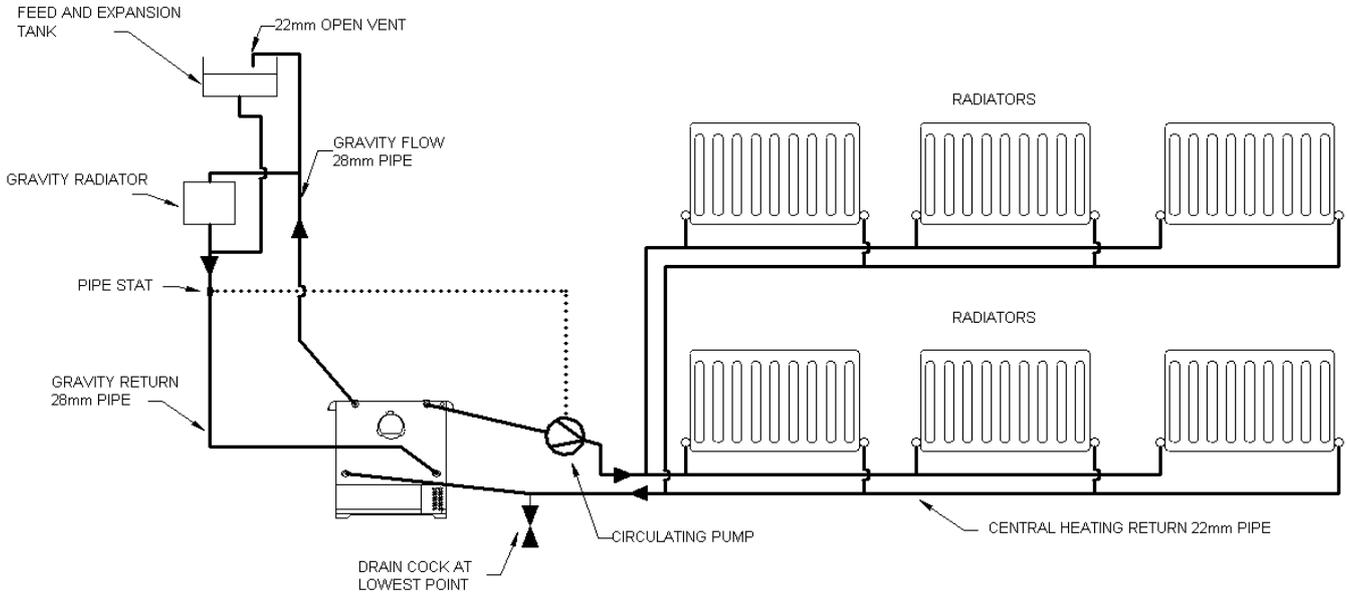
### FINAL CHECK LIST

Before handing over the installation to the customer it is a requirement under Document J (of the Building Regulations for England & Wales) that the appliance is lit and the functioning of the chimney system is checked for satisfactory operation. The functioning of the hot water and heating system should also be fully checked.

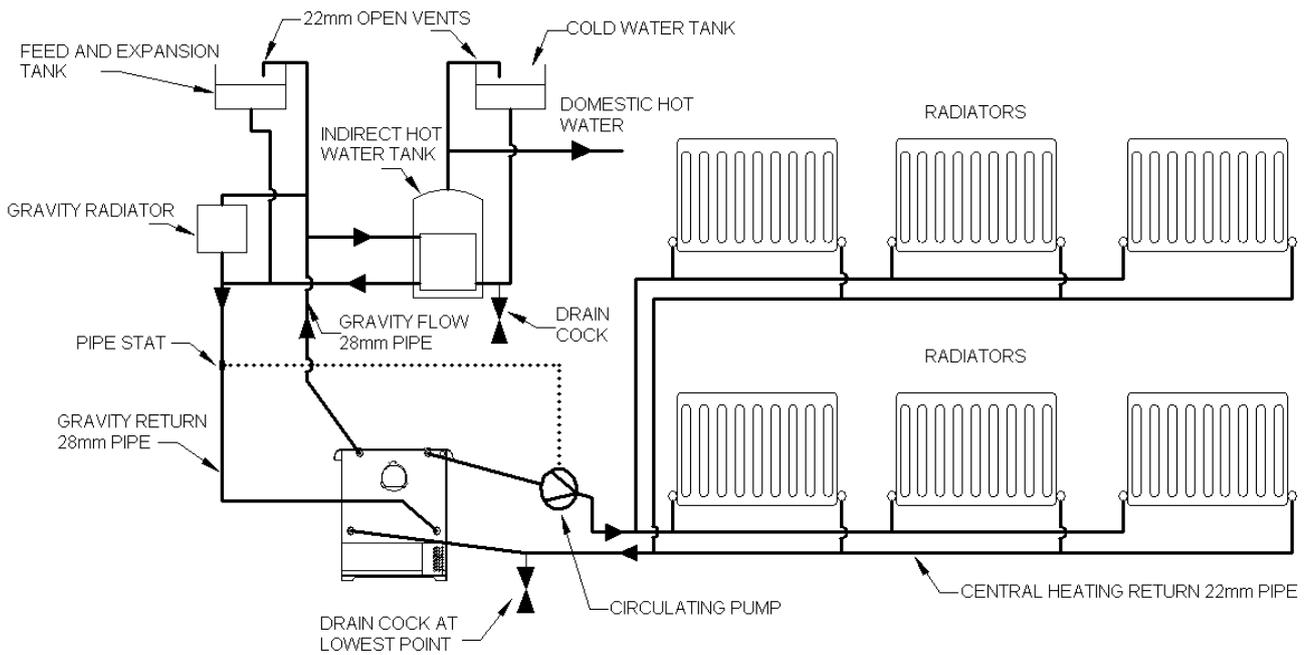
- Operate the heating system and set the pump head.
- Balance the radiators.
- Re-vent and ensure there are no air locks.
- Be sure that the chimney is operating and all smoke and fumes are vented to the atmosphere through the chimney terminal.
- Check all joints and seals.
- Clean the outside of the appliance to prevent any stains becoming burnt on.
- Check the flue draught which should read 1 - 2mm, or 0.1 - 0.2 mbar.
- For a registered competent persons scheme, such as HETAS, please complete a Certificate of Compliance, which is used for checking and reporting the installation as imposed by the Government.
- Explain the controls and operation of the appliance to the customer.
- Ensure a Carbon Monoxide alarm is fitted. This must be between 1m to 3m of the appliance, and approximately 150mm below the ceiling level.
- A fireguard conforming to BS 8423:2002 should be used in the presence of children and old or infirm people.

# INSTALLATION EXAMPLES

## Central heating and domestic hot water system using four boiler tapings.

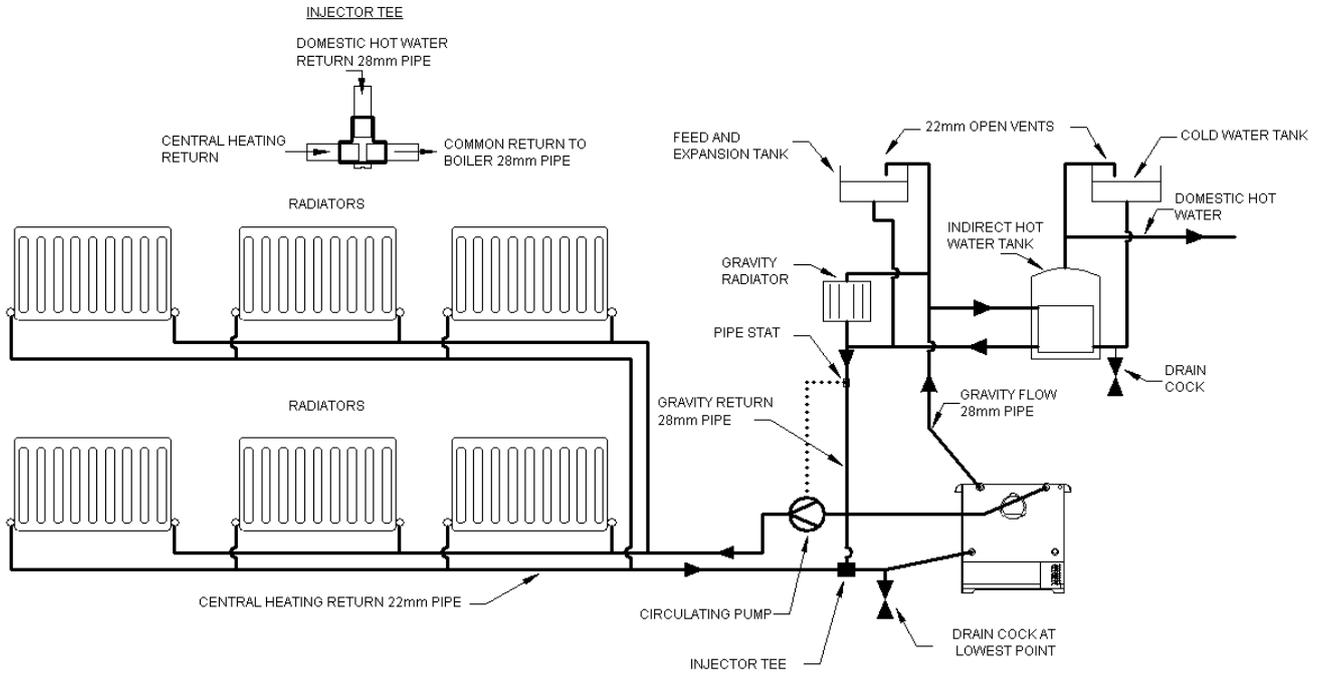


## Central heating without domestic hot water system using four boiler tapings.

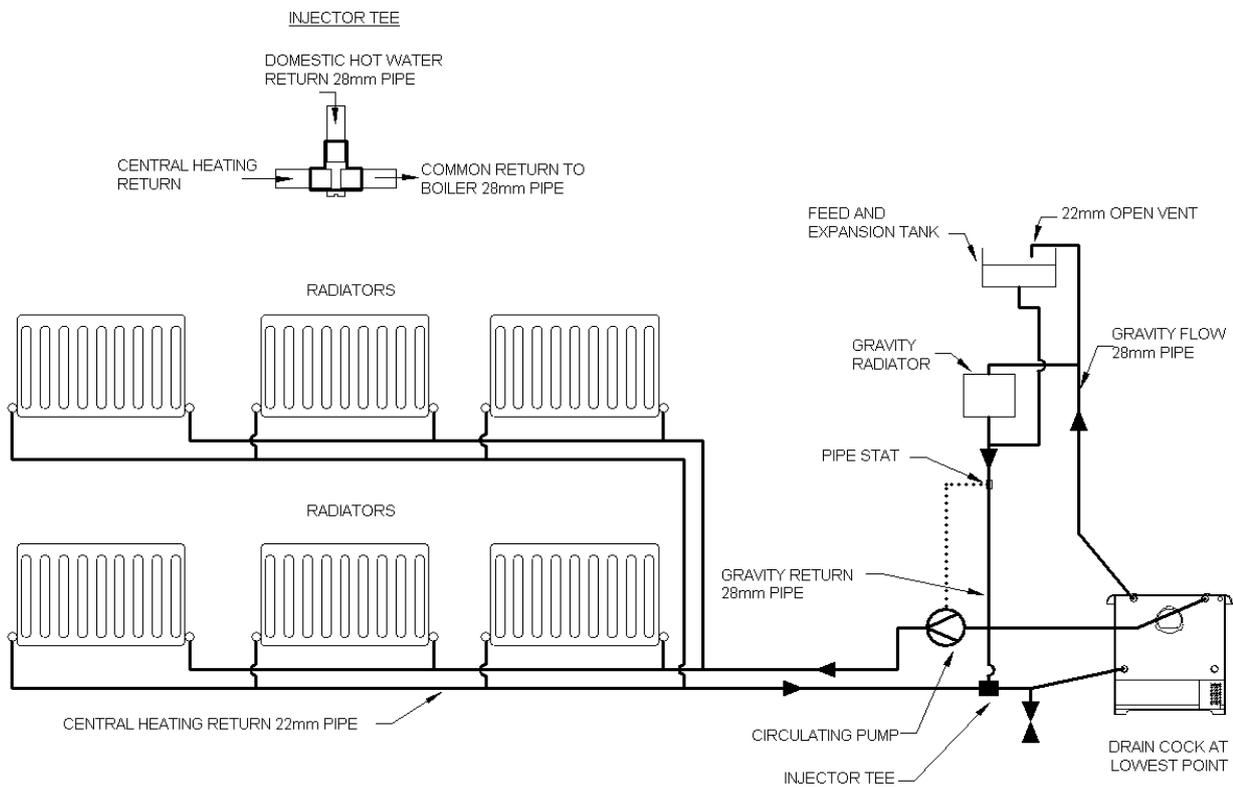


# INSTALLATION EXAMPLES

## Central heating and domestic hot water system using three boiler tapings.



## Central heating without domestic hot water system using three boiler tapings.





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**Please Note:** Arada has a policy of continuous product development and therefore we reserve the right to amend the specification without prior notice.

Due to printing cycles, items or options may be described before they are generally available or after they have ceased, so please check with your retailer or dealer.