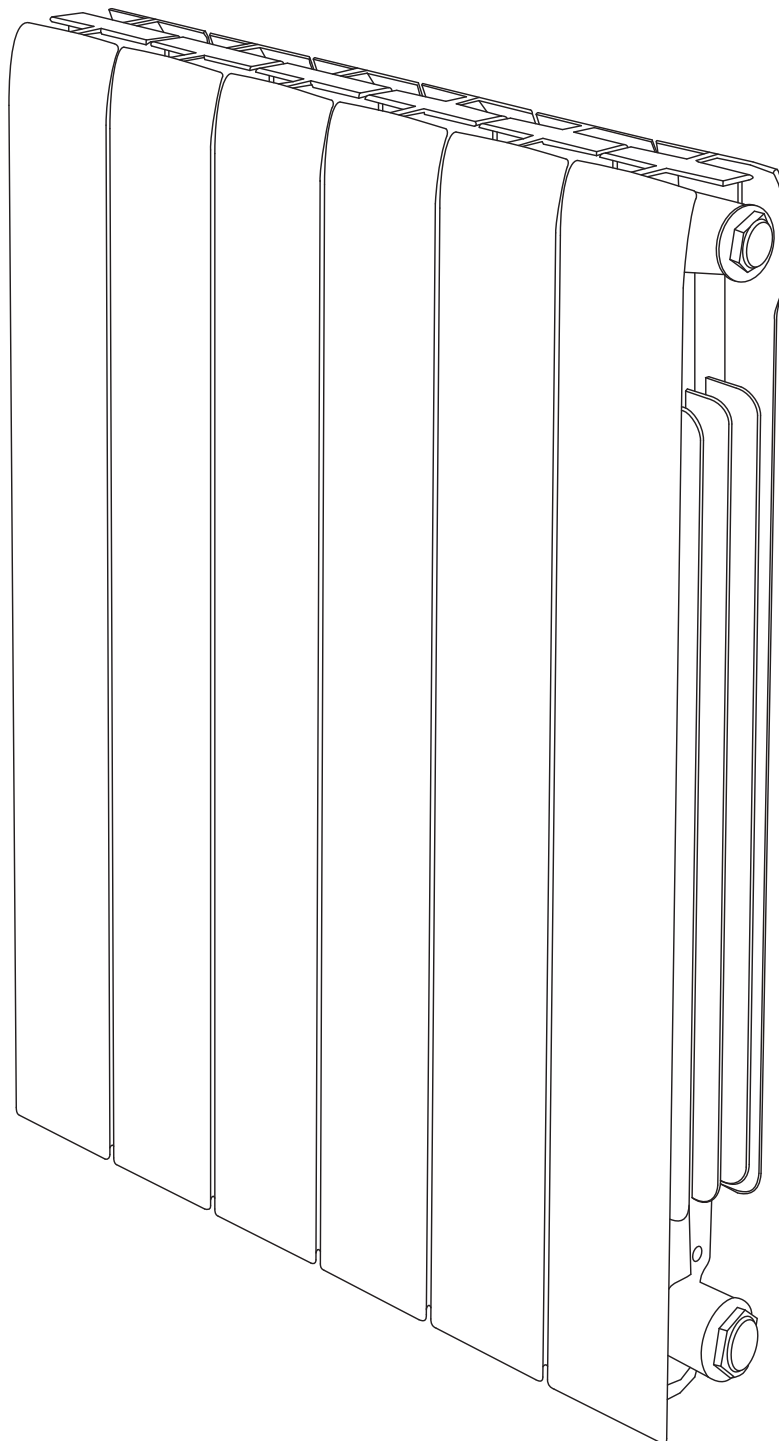


Grant Afinia

Aluminium Radiators

Horizontal and Vertical Models

Installation Instructions



IMPORTANT NOTE FOR INSTALLERS

These instructions are intended to guide installers on the installation of Grant Afinia Aluminium radiators. Please read these instructions thoroughly before starting installation and leave them with the householder for future reference.

SPECIAL TEXT FORMATS

The following special text formats are used in these instructions for the purposes listed below:

! WARNING !

Warning of possible human injury as a consequence of not following the instructions in the warning.

! CAUTION !

Caution concerning likely damage to equipment or tools as a consequence of not following the instructions in the caution.

! NOTE !

Used for emphasis or information not directly concerned with the surrounding text but of importance to the reader.

PRODUCT CODES COVERED

These instructions cover the following product codes:

| Product code | Product Description |
|---------------|--|
| GALU430**KIT | Grant Afinia 430mm high Horizontal Radiators |
| GALU580**KIT | Grant Afinia 580mm high Horizontal Radiators |
| GALU680**KIT | Grant Afinia 680mm high Horizontal Radiators |
| GALUV1842*KIT | Grant Afinia 1842mm high Vertical Radiators |
| GALUV2042*KIT | Grant Afinia 2042mm high Vertical Radiators |

* = number of sections



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1 INTRODUCTION

1.1 DESCRIPTION

The Grant Afinia aluminium radiator range consists of:

- Horizontal radiators available in three different heights – 430mm, 580mm and 680mm
- Vertical radiators available in two different heights -1842mm and 2042mm.

Refer to Section 2 of these Instructions for radiator dimensions and heat outputs.

They are designed to be integrated into low temperature heating systems using air source heat pumps, condensing oil, gas and biomass boilers, etc. Grant Afinia radiators can be used on either open vented or sealed central heating systems.

Grant Afinia radiators can be used with both copper and plastic pipe. Where plastic pipe is used it must be of the oxygen barrier type and be the correct class (to BS7291-1) for the application concerned.

On sealed systems, if plastic pipe is to be used, the installer must check with the plastic pipe manufacturer that the pipe to be used is suitable for the temperatures and pressures concerned. Plastic pipe must be Class S to BS7291-1.

Each radiator is supplied with fixing brackets and an installation pack. Refer to Sections 1.3 and 1.4 for details.

1.2 STORAGE AND HANDLING

Grant Afinia radiators should not be stacked in piles higher than 2.6m (total height). They must be stacked on top of each other on the larger side (storage flat=horizontal).

Radiators must be stored inside in a dry and clean environment to prevent damage to the radiators and/or their packaging.

Radiators must not be stacked on top of each other without any packaging in between them as this may result in damage. A non-slip plastic sheet should at least be used.

Please ensure that Grant Afinia radiators are protected from dirt, rubble, etc. and it is suggested to wait for all other building and decorating works to be completed before finally fixing in the required location.

Grant recommends that radiators are installed before the plastic film is completely removed to protect the paint finish.

1.3 KIT CONTENTS

Carefully check that all items supplied with the kit are present as detailed below. Please notify your supplier immediately of any damage or any missing items.

The Installation pack supplied with ALL radiators contains the following items that must be fitted to the radiator before mounting it on the wall:

- 1 x flow diverter baffle (refer to Section 3.3)
- 2 x 1"x1/2" BSP reducing bush – right hand thread
- 2 x 1"x1/2" BSP reducing bush – left hand thread
- 1 x 1/2" BSP plug
- 1 x 1/2" BSP radiator vent
- 1 x Air vent key

Horizontal Radiators

Each radiator is supplied with:

- 1 x Installation pack (see below for contents)

430 models:

- 2 x Wall mounting brackets (size to suit height of radiator)
 - See Section 1.4 (Wall Mounting Bracket Identification)

580 and 680 models:

- 2* x Wall mounting brackets (size to suit height of radiator)
 - See Section 1.4 (Wall Mounting Bracket Identification)
 - * 15 section variants are supplied with 3 x wall mounting brackets

Vertical Radiators

Each radiator is supplied with:

- 2 x Wall mounting brackets
- 1 x Installation pack (see below for contents)

1.4 WALL MOUNTING BRACKET IDENTIFICATION

Horizontal Radiators

Each of the three different heights of Horizontal radiator has its own wall mounting bracket.

Each of these three brackets can be easily identified by either one, two or three small holes in the outward facing section of the bracket, as follows:

- 430mm radiator - 3 holes
- 580mm radiator - 2 holes
- 680mm radiator - 1 hole

Vertical Radiators

2 brackets are supplied with every model of vertical radiator. One secures the upper section of the radiator to the wall and the other secures the lower section. Refer to Figures 1-1 and 1-2.



Figure 1-1: Upper mounting bracket for vertical Afinia radiators

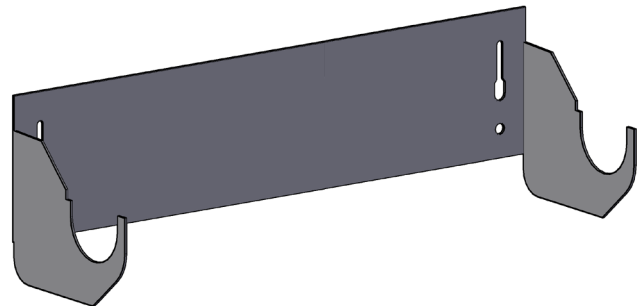


Figure 1-2: Lower mounting bracket for vertical Afinia radiators

2 TECHNICAL DATA

2.1 TECHNICAL SPECIFICATION

Table 2-1: Technical specification

| Material | Aluminum |
|-------------------------------|-------------------------------|
| Paint finish/colour | Powder coated / White RAL9010 |
| Connections | ½" Flow and Return |
| Test pressure | 9 Bar |
| Maximum operating pressure | 6 Bar |
| Maximum operating temperature | 10°C |

2.2 DIMENSIONS AND WEIGHTS

Refer to Tables 2-1a to 2-1c for Standard (horizontal) radiators or Table 2-2 for Vertical radiators and Figure 2-1 for a representation of the dimension references shown in these tables.

Table 2-1a: Horizontal Radiators 430mm High - Dimensions and Weights

| Product Code | Number of Sections | Height (A) mm | Width (B) mm | Depth (C) mm | Centres (D) mm | Weight empty kg | Weight full kg | Water content litres |
|--------------|--------------------|---------------|--------------|--------------|----------------|-----------------|----------------|----------------------|
| GALU4306KIT | 6 | 430 | 480 | 95 | 350 | 6.06 | 7.56 | 1.5 |
| GALU4308KIT | 8 | 430 | 640 | 95 | 350 | 8.08 | 10.08 | 2.0 |
| GALU43010KIT | 10 | 430 | 800 | 95 | 350 | 10.10 | 12.60 | 2.5 |
| GALU43012KIT | 12 | 430 | 960 | 95 | 350 | 12.12 | 15.12 | 3.0 |
| GALU43014KIT | 14 | 430 | 1120 | 95 | 350 | 14.14 | 17.64 | 3.5 |

Table 2-1b: Horizontal Radiators 580mm High - Dimensions and Weights

| Product Code | Number of Sections | Height (A) mm | Width (B) mm | Depth (C) mm | Centres (D) mm | Weight empty kg | Weight full kg | Water content litres |
|--------------|--------------------|---------------|--------------|--------------|----------------|-----------------|----------------|----------------------|
| GALU5806KIT | 6 | 580 | 480 | 95 | 500 | 8.10 | 10.14 | 2.04 |
| GALU5808KIT | 8 | 580 | 640 | 95 | 500 | 10.80 | 13.52 | 2.72 |
| GALU58010KIT | 10 | 580 | 800 | 95 | 500 | 13.50 | 16.90 | 3.40 |
| GALU58012KIT | 12 | 580 | 960 | 95 | 500 | 16.20 | 20.28 | 4.08 |
| GALU58014KIT | 14 | 580 | 1120 | 95 | 500 | 18.90 | 23.66 | 4.76 |
| GALU58015KIT | 15 | 580 | 1200 | 95 | 500 | 20.25 | 25.35 | 5.10 |

Table 2-1c: Horizontal Radiators 680mm High - Dimensions and Weights

| Product Code | Number of Sections | Height (A) mm | Width (B) mm | Depth (C) mm | Centres (D) mm | Weight empty kg | Weight full kg | Water content litres |
|--------------|--------------------|---------------|--------------|--------------|----------------|-----------------|----------------|----------------------|
| GALU6806KIT | 6 | 680 | 480 | 95 | 600 | 9.60 | 11.94 | 2.34 |
| GALU6808KIT | 8 | 680 | 640 | 95 | 600 | 12.80 | 15.92 | 3.12 |
| GALU68010KIT | 10 | 680 | 800 | 95 | 600 | 16.00 | 19.90 | 3.90 |
| GALU68012KIT | 12 | 680 | 960 | 95 | 600 | 19.20 | 23.88 | 4.68 |
| GALU68014KIT | 14 | 680 | 1120 | 95 | 600 | 22.40 | 27.86 | 5.46 |
| GALU68015KIT | 15 | 680 | 1200 | 95 | 600 | 24.00 | 29.85 | 5.85 |

Table 2-2: Vertical Radiators - Dimensions and Weights

| Product Code | Number of Sections | Height (A) mm | Width (B) mm | Depth (C) mm | Centres (D) mm | Weight empty kg | Weight full kg | Water content litres |
|---------------|--------------------|---------------|--------------|--------------|----------------|-----------------|----------------|----------------------|
| GALUV18426KIT | 6 | 1842 | 480 | 80 | 1800 | 15.48 | 19.56 | 4.08 |
| GALUV18428KIT | 8 | 1842 | 640 | 80 | 1800 | 20.64 | 26.08 | 5.44 |
| GALUV20426KIT | 6 | 2042 | 480 | 80 | 2000 | 16.86 | 21.36 | 4.50 |
| GALUV20428KIT | 8 | 2042 | 640 | 80 | 2000 | 22.48 | 28.48 | 6.00 |

2.3 PERFORMANCE DATA

2.3.1 HEATING CAPACITY (UNI EN 442-2)

Refer to Tables 2-3a to 2-3c for Standard (horizontal) radiators or Table 2-4 for Vertical radiators and Figure 2-1 for a representation of the dimension references shown in these tables.

Table 2-3a: Horizontal Radiators 430mm High - Performance Data

| Product Code | Number of Sections | Height (A) mm | Width (B) mm | Output $\Delta T=20K$ W | Output $\Delta T=30K$ W | Output $\Delta T=50K$ W | Exponent n |
|--------------|--------------------|---------------|--------------|-------------------------|-------------------------|-------------------------|------------|
| GALU4306KIT | 6 | 430 | 480 | 168 | 288 | 552 | 1.293 |
| GALU4308KIT | 8 | 430 | 640 | 224 | 384 | 736 | 1.293 |
| GALU43010KIT | 10 | 430 | 800 | 280 | 480 | 920 | 1.293 |
| GALU43012KIT | 12 | 430 | 960 | 336 | 576 | 1104 | 1.293 |
| GALU43014KIT | 14 | 430 | 1120 | 392 | 672 | 1288 | 1.293 |

Table 2-3b: Horizontal Radiators 580mm High - Performance Data

| Product Code | Number of Sections | Height (A) mm | Width (B) mm | Output $\Delta T=20K$ W | Output $\Delta T=30K$ W | Output $\Delta T=50K$ W | Exponent n |
|--------------|--------------------|---------------|--------------|-------------------------|-------------------------|-------------------------|------------|
| GALU5806KIT | 6 | 580 | 480 | 228 | 366 | 744 | 1.295 |
| GALU5808KIT | 8 | 580 | 640 | 304 | 488 | 992 | 1.295 |
| GALU58010KIT | 10 | 580 | 800 | 380 | 610 | 1240 | 1.295 |
| GALU58012KIT | 12 | 580 | 960 | 456 | 732 | 1488 | 1.295 |
| GALU58014KIT | 14 | 580 | 1120 | 532 | 854 | 1736 | 1.295 |
| GALU58015KIT | 15 | 580 | 1200 | 570 | 915 | 1860 | 1.295 |

Table 2-3c: Horizontal Radiators 680mm High - Performance Data

| Product Code | Number of Sections | Height (A) mm | Width (B) mm | Output $\Delta T=20K$ W | Output $\Delta T=30K$ W | Output $\Delta T=50K$ W | Exponent n |
|--------------|--------------------|---------------|--------------|-------------------------|-------------------------|-------------------------|------------|
| GALU6806KIT | 6 | 680 | 480 | 246 | 432 | 852 | 1.348 |
| GALU6808KIT | 8 | 680 | 640 | 328 | 576 | 1136 | 1.348 |
| GALU68010KIT | 10 | 680 | 800 | 410 | 720 | 1420 | 1.348 |
| GALU68012KIT | 12 | 680 | 960 | 492 | 864 | 1704 | 1.348 |
| GALU68014KIT | 14 | 680 | 1120 | 574 | 1008 | 1988 | 1.348 |
| GALU68015KIT | 15 | 680 | 1200 | 615 | 1080 | 2130 | 1.348 |

Table 2-4: Vertical Radiators - Performance Data

| Product Code | Number of Sections | Height (A) mm | Width (B) mm | Output $\Delta T=20K$ W | Output $\Delta T=30K$ W | Output $\Delta T=50K$ W | Exponent n |
|---------------|--------------------|---------------|--------------|-------------------------|-------------------------|-------------------------|------------|
| GALUV18426KIT | 6 | 1842 | 480 | 474 | 816 | 1626 | 1.350 |
| GALUV18428KIT | 8 | 1842 | 640 | 632 | 1088 | 2168 | 1.350 |
| GALUV20426KIT | 6 | 2042 | 480 | 510 | 882 | 1758 | 1.346 |
| GALUV20428KIT | 8 | 2042 | 640 | 680 | 1176 | 2344 | 1.346 |

! NOTE !

ΔT = Mean Water Temperature – Design Room Temperature
 Mean Water Temp =
 (Flow temperature + Return temperature) \div 2

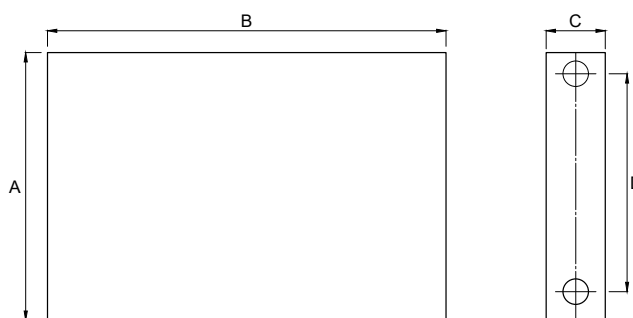


Figure 2-1: Radiator Dimensions

3 INSTALLATION

! NOTE !

Failure to install the product correctly and in accordance with the relevant regulations may invalidate the product guarantee.

3.1 REGULATIONS COMPLIANCE

The installation of Grant Afinia radiators should be carried out by a suitably qualified professional or other competent installer in accordance with the relevant British and European Standards and all applicable Building Regulations.

The installation should also be in accordance with the latest edition of the following British Standard Code of Practice (and any relevant amendments):

- BS EN 12828 (Heating systems for buildings. Design for water-based heating systems).
- BS EN 14336 (Heating systems in buildings. Installation and commissioning of water-based heating systems).
- BS 7593 (Code of Practice for treatment of water in domestic hot water central heating systems).
- BS 7671 (Requirements for Electrical installations, IET Wiring Regulations).
- BS 7291 (Thermoplastic pipe and fittings systems for hot and cold water for domestic purposes and heating installations in buildings. General requirements).
- BS 7074-1 (Application, selection and installation of expansion vessels and ancillary equipment for sealed water systems. Code of practice for domestic heating and hot water supply).

3.2 LOCATION

Grant Afinia radiators should be positioned as follows:

- Minimum distance from floor: 100mm
- Minimum distance below an overhang (e.g. windowsill or shelf) 120mm.

Please refer to Figure 3-1 and Table 3-1 for a representation of these clearances and dimensions.

Check that the wall concerned is capable of supporting the weight of the radiator when full.

Refer to Section 2.2 of these Instructions for radiator dimensions and weights.

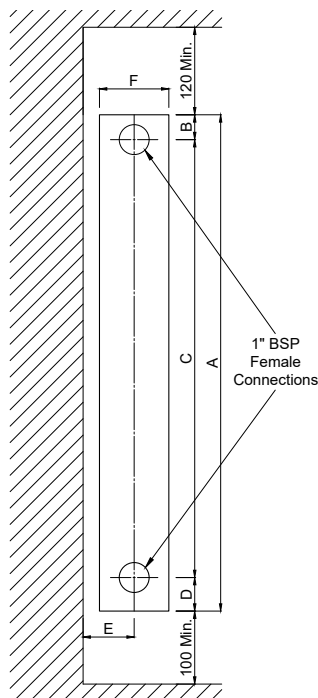


Figure 3-1: Radiator Clearances and Dimensions

Table 3-1: Dimensions from Figure 3-1

| Radiator Height mm | Dimensions mm | | | | |
|--------------------|---------------|------|----|----|----|
| | A | B | C | D | F |
| 430 | 34 | 350 | 46 | 70 | 95 |
| 580 | 34 | 500 | 46 | 70 | 95 |
| 680 | 34 | 600 | 46 | 70 | 95 |
| 1842 | 21 | 1800 | 21 | 75 | 80 |
| 2042 | 21 | 2000 | 21 | 75 | 80 |

3.3 FLOW DIVERTER BAFFLE

A small black plastic flow diverter baffle is supplied in the installation pack (see Section 1.3) and must be fitted before mounting the radiator on the wall.

To do this:

1. Carefully lay the radiator on a flat surface.
2. Remove the flow diverter baffle from the installation pack.
3. Identify which pipe connection option is being used (refer to Figure 3-3 and Section 3.4 for guidance) and identify the flow connection.
4. With the tapered end of the baffle facing towards the inside of the radiator flow connection, push the baffle through the flow port of the radiator and through the first section of the radiator until it is fitted securely into the connecting boss between the end of the first section and start of the second section of the radiator. Refer to Figure 3-2 for guidance.

! NOTE !

It may be necessary to remove burrs on the inside of the radiator flow connection with a half-round file (or similar) prior to fitting the flow diverter baffle. Ensure any swarf is removed before mounting the radiator.

5. Using a suitably sized socket attached to an extension bar, or similar, apply even pressure to the flat flange of the baffle, to ensure a water tight seal between the radiator and the baffle is made.

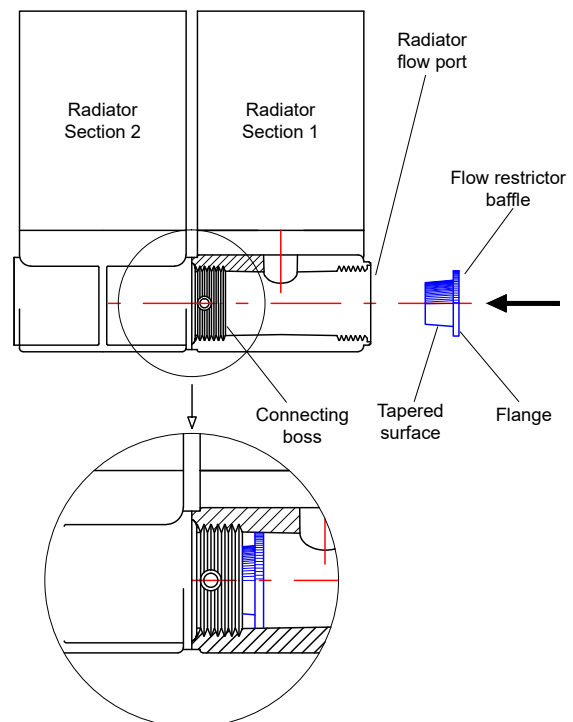


Figure 3-2: Fitting flow restrictor baffle

3.4 PIPE CONNECTIONS

Grant Afinia radiators should be connected in one of three ways only. (Refer to Figure 3-3)

- Top inlet to bottom outlet on opposite ends (TBOE)
- Bottom inlet to bottom outlet on opposite ends (BBOE)
- Top inlet to bottom outlet on same end (TBSE)

The bushes supplied in the installation pack (see Section 1.3) must be fitted before mounting the radiator on the wall.

! CAUTION !

The 1" BSP connections on Grant Afinia radiators are left hand threaded on the left-hand end of the radiator (viewed from the front) and right hand threaded on the right-hand end.

Fit the two 1"x1/2" bushes with the LEFT-HAND thread into the two connections at the LEFT-HAND end of the radiator. Similarly, fit the two 1"x1/2" bushes with the RIGHT-HAND thread into the two connections at the RIGHT-HAND end of the radiator.

Take care to ensure that the correctly threaded bush is used as the threads can be easily damaged and cause leaks if forced or incorrectly fitted. The recommended tightening torque is 30-40Nm.

! CAUTION !

The four bushes, air vent and blanking plug are all supplied with their own sealing rings fitted. NO sealant of any kind, plumbers' hemp or PTFE tape should be used when fitting these items to the radiator.

Fit the radiator vent to one of the bushes at the top of the radiator and the blanking plug to the remaining open bush after allowing for the location of the radiator valves (not supplied).

Fit the radiator valve tails to the radiator bushes using only PTFE tape to seal. If any sealant is used great care must be taken to ensure that it does NOT come into contact with the sealing rings on the bushes as this may lead to water leaks.

When tightening the tails, firmly grip the bush with a good fitting spanner or wrench to prevent it from turning. Recommended tightening torque is 30-40Nm.

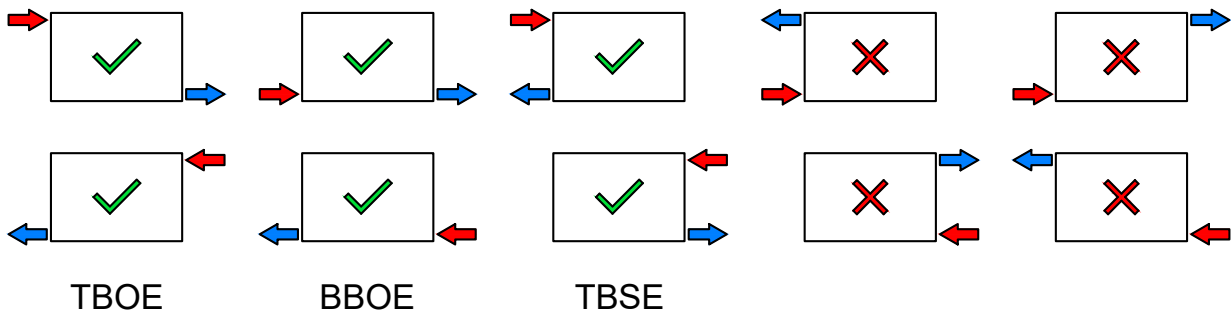


Figure 3-3: Pipe Connection Options

3.5 INSTALLATION PROCEDURE

Refer to Figures 3-4, 3-5, 3-6 or 3-7 and Tables 3-2, 3-3 or 3-4, corresponding to the radiator being fitted, for the fixing hole dimensions relative to the outer edges of the radiator.

Using a spirit level, mark the position of the fixing holes for the radiator mounting brackets on the wall so the radiator, once fitted, will be in the required position. Refer to Section 3.2 of these Instructions for minimum distances from floor and overhanging surfaces.

After fixing the brackets, use a spirit level to check they are level and vertical before attempting to fit the radiator.

Carefully lift the radiator and locate it on the mounting brackets. The brackets will pass through the gaps between the sections on the rear of the radiator and locate under the upper and lower waterways. Ensure the radiator is correctly located, level and fully supported on all brackets.

Fit the radiator valves to their tails and connect the system pipework.

! WARNING !

Before drilling the fixing holes check for any pipework or electrical wiring within the wall.

Drill the holes to take suitable wall fixings (not supplied). Securely fix the wall mounting brackets to the wall ensuring that they are the correct way up.

All horizontal models of Grant Afinia radiators use two brackets to fix the unit to the wall; with the exception of the 15 panel variants of the 580mm and 680mm models, which use three brackets. Refer to Figures 3-4 to 3-6 for fixing positions.

All vertical models of Grant Afinia radiator use two brackets to fix the unit to the wall, one at the top and one at the bottom. Refer to Section 1.4 for upper and lower bracket identification information. Refer to Figure 3-7 for fixing positions.

Table 3-2: Dimensions for Figure 3-4

| No. of Sections | Dimensions mm | | | |
|-----------------|---------------|-----|-----|-----|
| | A | B | C | D |
| 6 | 480 | 92 | 320 | 68 |
| 8 | 640 | 172 | 320 | 148 |
| 10 | 800 | 172 | 480 | 148 |
| 12 | 960 | 252 | 480 | 228 |
| 14 | 1120 | 252 | 640 | 228 |

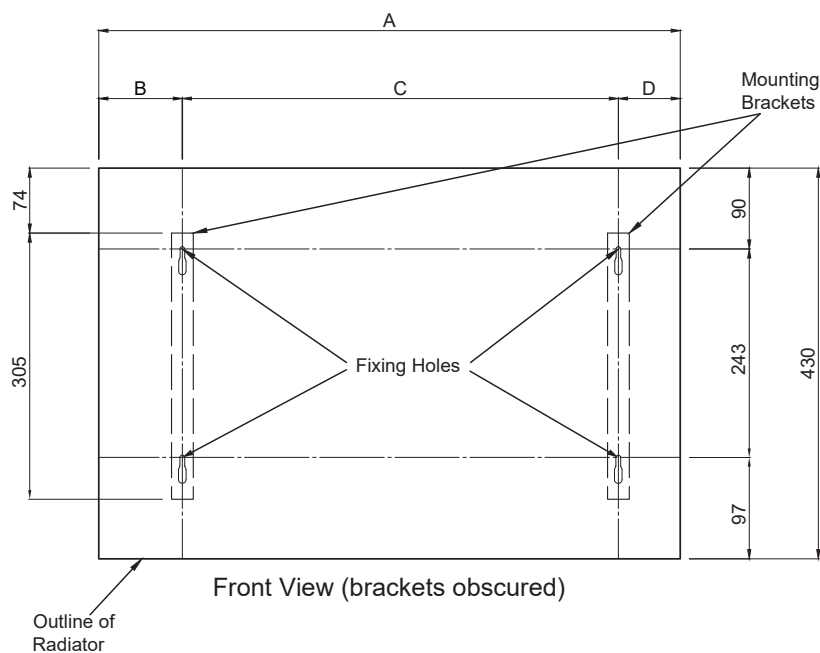


Figure 3-4: Fixing hole positions for Horizontal 430mm high radiators

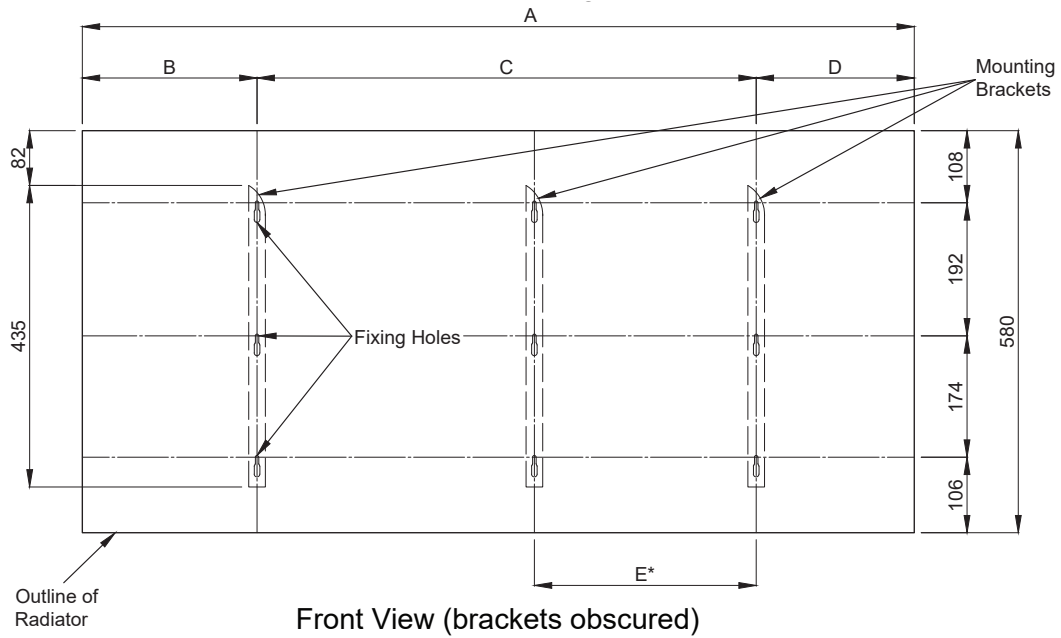


Figure 3-5: Fixing hole positions for Horizontal 580mm high radiators

Table 3-3: Dimensions for Figures 3-5 & 3-6

| No. of Sections | Dimensions (mm) | | | | |
|-----------------|-----------------|-----|-----|-----|-----|
| | A | B | C | D | E* |
| 6 | 480 | 92 | 320 | 68 | N/A |
| 8 | 640 | 172 | 320 | 148 | N/A |
| 10 | 800 | 172 | 480 | 148 | N/A |
| 12 | 960 | 252 | 480 | 228 | N/A |
| 14 | 1120 | 252 | 640 | 228 | N/A |
| 15 | 1200 | 252 | 720 | 228 | 320 |

* For 15 section variants only

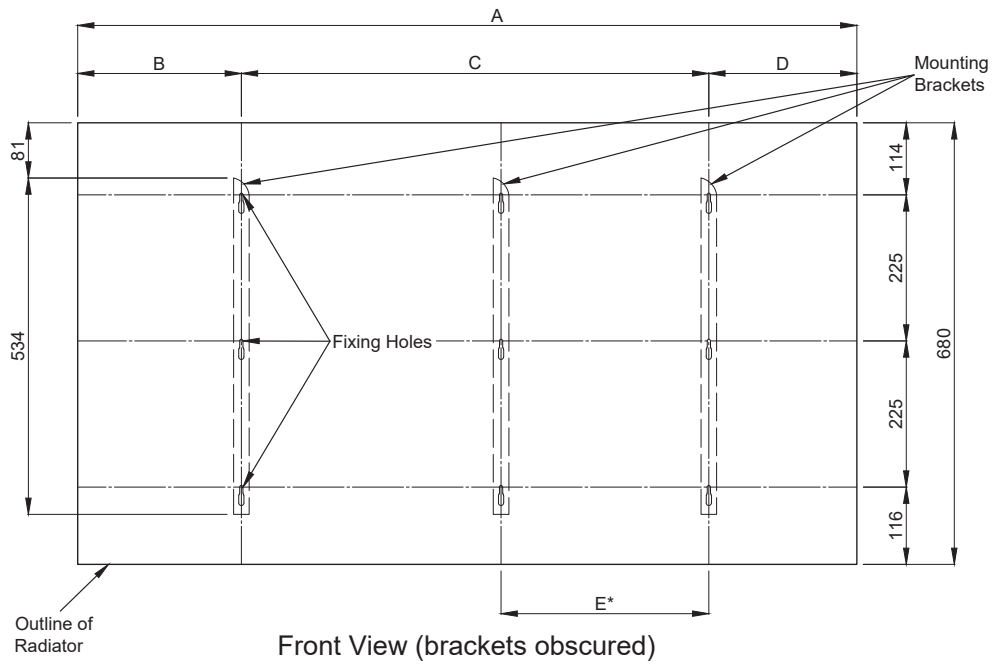


Figure 3-6: Fixing hole positions for Horizontal 680mm high radiators

Table 3-4: Dimensions from Figure 3-7

| Height mm | No. of Sections | Dimensions mm | | | | | | |
|-----------|-----------------|---------------|-------|-----|-------|----|------|----|
| | | A | B | C | D | E | F | G |
| 1842 | 6 | 480 | 94.5 | 291 | 94.5 | 60 | 1709 | 73 |
| 1842 | 8 | 640 | 174.5 | 291 | 174.5 | 60 | 1709 | 73 |
| 2042 | 6 | 480 | 94.5 | 291 | 94.5 | 60 | 1909 | 73 |
| 2042 | 8 | 640 | 174.5 | 291 | 174.5 | 60 | 1909 | 73 |

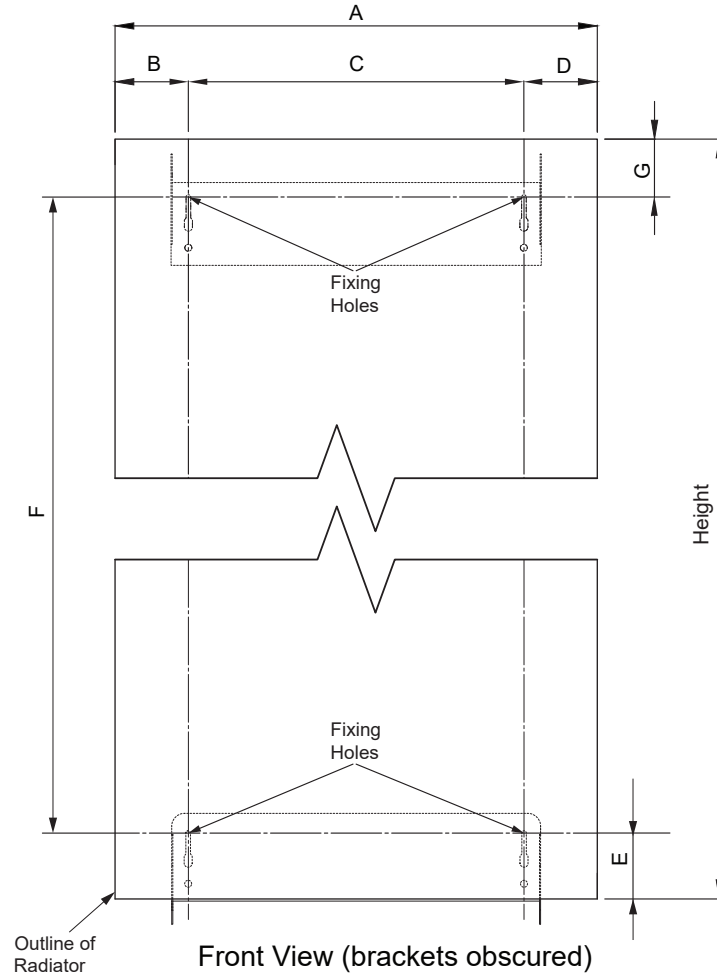


Figure 3-7: Fixing hole positions for Vertical radiators

4 COMMISSIONING

Following installation, the system must be thoroughly flushed in accordance with the guidelines given in BS 7593 (Treatment of water in domestic hot water central heating systems). This must involve the use of a proprietary cleaner such as Sentinel X300 (new systems), Sentinel X400 (existing systems) or Fernox Restorer. After cleaning it is vitally important that all traces of the cleaner are thoroughly flushed from the system.

After flushing, a suitable thermal fluid should be used, such as Grant HPC thermal fluid, specifically designed for use in air source heat pump installations.

This provides long term protection against corrosion and scale as well as the risk of the freezing in the external section of the heating system (i.e. the flexible hoses, condenser and circulating pump within the heat pump casing) in the event of power failure during winter months.

In order to avoid bacterial growth, due to the lower system operating temperatures in heat pump systems, a suitable biocide should be used in conjunction with the thermal fluid.

As Grant HPC thermal fluid already contains a biocide, no separate biocide is required.

The thermal fluid, and separate biocide when required, should be added to the system water when finally filling the heating system.

The level of frost protection depends on the percentage concentration of thermal fluid used.

Grant recommends using a thermal fluid concentration to give a MINIMUM level of frost protection of -10°C, and down to lower temperatures than this where local conditions are more severe.

Follow the manufacturer's instructions on the correct use of thermal fluids and biocides supplied with the products. For details of Sentinel products visit www.sentinel-solutions.net and for Fernox products visit fernox.com.

! NOTE !

Failure to follow the above will invalidate the product guarantee.

Grant UK strongly recommends that a Grant Mag One in-line magnetic filter (or equivalent*) is fitted in the heating system pipework. This should be installed and regularly serviced in accordance with the filter manufacturers' instructions.

*As measured by gauss. The Grant Mag One filter has a gauss value of 12000.

Ensure that the system is filled and vented and that each radiator has also been vented.

Operate the heating system until it reaches normal operating temperature. Check for leaks.

5 FAULT FINDING

Reduced or no output from radiator

- Check boiler or Heat pump is operating correctly
- Check flow and return connections to radiator are correct. Refer to Section 3.4.
- Check small black plastic flow diverter baffle (supplied) is fitted. Refer to Section 3.3.
- Check radiator is correctly vented
- Check radiator valves are open
- Check system is balanced, i.e. is the lockshield valve correctly set?

6 CARE AND USE

Only clean the radiator when the surfaces are cold. Only use a moist cloth to clean the outer surfaces of the radiator. To remove more stubborn marks, use a neutral liquid detergent or soapy water. Do NOT use any abrasive cleaners, cleaning liquids, aerosols or polishing pastes.

The heated air outlet at the top of the radiator can be periodically vacuumed clean.

Do not place a shelf directly on top of the radiator. Refer to Section 3.2.

! WARNING !

IMPORTANT SAFETY INFORMATION

- Do NOT disconnect the radiator from the heating system (unless in response to an emergency or during maintenance work).
- Do NOT use the radiator as part of an electrical circuit.
- Do NOT allow children to play with the radiator vent valve.
- Do NOT open radiator valves abruptly when it is detached from the heating system.
- Some parts of the radiator may become hot and could cause burns. In particular, children, elderly and vulnerable people should be kept away from it unless under constant surveillance.
- It is NOT advisable to empty the heating system for more than 15 days per year.

7 HEALTH AND SAFETY INFORMATION

Under the Consumer Protection Act 1987 and Section 6 of the Health and Safety at Work Act 1974, we are required to provide information on substances hazardous to health (COSHH Regulations 1988).

Adhesives, sealants and paints used in the manufacture of the product are cured and present no known hazards when used in the manner for which they are intended.

8 END OF LIFE INFORMATION

General

Grant Afinia radiators incorporate components manufactured from a variety of different materials.

The majority of these materials can be recycled whilst the smaller remainder cannot.

Materials that cannot be recycled must be disposed of according to local regulations using appropriate waste collection and/or disposal services.

Disassembly

There is little risk to those involved in the disassembly of this product. Please refer to and follow the Health and Safety Information given in these Installation User Instructions.

Recycling

Many of the materials used in Grant Afinia radiators can be recycled, these are listed in the table 8-1.

Table 8-1: Technical specification

| Component | Material |
|------------------------|-------------------------|
| Radiators sections | Aluminium |
| Nipples | Iron |
| Seals | Polymer |
| Bushes | Aluminium |
| Wall mounting brackets | Mild steel (galvanised) |

Disposal

All material other than those listed above must be disposed of responsibly as general waste.

9 GUARANTEE

Grant Engineering (UK) Limited guarantees the manufacture of the radiator for a period of **fifteen years from the date of installation**, unless the installation was more than six months from the date of purchase, in which case the guarantee period will commence six months from the date of purchase, provided that the radiator has been installed and used in full accordance with the installation instructions provided. See main Terms and Conditions below. This does not affect your statutory rights¹.

If a fault or defect occurs within the manufacturer's guarantee period

If your radiator should have a fault within the guarantee period, it will be covered under the terms of the guarantee, providing that the radiator has been correctly installed and commissioned by a competent person and the fault is not due to tampering, debris, system water contamination, misuse, trapped air or the failure of any external components not supplied by Grant Engineering (UK) Limited, e.g. motorised valves, etc.

This fifteen-year guarantee only applies if the radiator is installed and used in full accordance with the installation instructions and proof of purchase is available on request.

In the first instance

Contact your installer to ensure that the fault does not lie with the system operation, system components or any incorrect setting of the heating system or boiler/heat pump controls that falls outside of the manufacturer's guarantee otherwise a service charge could result. Grant Engineering (UK) Limited will not be liable for any charges arising from this process.

If a fault covered by the manufacturer's guarantee is found

Ask your installer to contact Grant Engineering (UK) Limited Service Department on +44 (0)1380 736920.

Remember - before you contact Grant Engineering (UK) Limited:

- Ensure the radiator has been installed and commissioned by a competent person in accordance with the installation instructions.
- Ensure the problem is not being caused by the heating system or its controls.

Free of charge repairs

During the **fifteen-year** guarantee period no charge for parts will be made provided that the radiator has been installed and commissioned correctly in accordance with the manufacturer's installation instructions.

This guarantee does not cover any labour or associated costs incurred in replacing a faulty radiator.

Proof of purchase must be made available to Grant Engineering (UK) Limited on request.

Chargeable repairs

A charge may be made (if necessary following testing of parts) if the breakdown is due to any fault(s) caused by the plumbing or heating system, e.g. contamination of parts due to system contamination, sludge, scale, debris or trapped air. Refer to 'Extent of manufacturer's guarantee'.

Extent of manufacturer's guarantee:

The manufacturer's guarantee does NOT cover the following:

- If the radiator has been installed for over **fifteen years**.
- If the radiator has not been installed and commissioned by a competent person in accordance with the installation instructions.
- Fault(s) due to accidental damage, tampering, unauthorised adjustment, neglect, misuse or operating the radiator contrary to the manufacturer's installation instructions.
- Damage due to external causes such as bad weather conditions (flood, storms, lightning, frost, snow, or ice), fire, explosion, accident or theft.
- Fault(s) due to incorrectly sized expansion vessel(s), incorrect vessel charge pressure or inadequate expansion on the system.
- Heating system servicing, de-scaling or flushing.
- Checking and replenishing system pressure.
- Heating system components such as pipes, fittings, pumps, valves and controls not supplied by Grant Engineering (UK) Limited.
- Use of spare parts not authorised by Grant Engineering (UK) Limited.

Terms of manufacturer's guarantee:

- The Company shall mean Grant Engineering (UK) Limited.
- The radiator must be installed by a competent person and in full accordance with the relevant Codes of Practice, Regulations and Legislation in force at the time of installation.
- The manufacture of this radiator is guaranteed for **fifteen years** from the date of installation². Any work undertaken must be authorised by the Company and carried out by a competent service engineer
- The radiator is operated correctly, in accordance with the Installation instructions.
- Grant Engineering (UK) Limited **strongly recommends** that a Grant Mag-One in-line magnetic filter/s (or equivalent³) is fitted in the heating system pipework. This should be installed and regularly serviced in accordance with the filter manufacturer's instructions. We reserve the right to ask for proof of installation – failure to provide this may result in the guarantee becoming invalid.
- Proof is provided that the system has been flushed or chemically cleaned where appropriate (refer to BS 7593) and that the required quantity of a suitable corrosion inhibitor added.
- Proof of annual heating system servicing⁴ (including the checking of any expansion vessels and pressure relief valves) must be provided if and when requested by the Company.
- This guarantee does not cover faults caused by incorrect installation, neglect, misuse, accident or failure to use the radiator in accordance with the manufacturer's installation instructions.
- The balance of the guarantee is transferable. Grant Engineering (UK) Limited must be informed of the new owner's details.
- The Company will endeavour to provide prompt service in the unlikely event of a problem occurring but cannot be held responsible for any consequential losses.
- This guarantee applies to Grant Engineering (UK) Limited Afinia radiators purchased and installed on the UK mainland, Isle of Wight, Channel Islands, Isle of Man and Scottish Isles only⁵. Provision of in-guarantee cover elsewhere in the UK is subject to agreement with the Company.
- All claims under this guarantee must be made to the Company prior to any work being undertaken. Invoices for call out/repair work by any third party will not be accepted unless previously authorised by the Company.
- Proof of purchase and date of installation, commissioning and service documents must be provided on request.
- If a replacement radiator is supplied under the guarantee (due to a manufacturing fault) the product guarantee continues from the installation date of the original radiator and **not** from the installation date of the replacement.

- Breakdown/failure due to system water contamination will not be covered by this guarantee.
- The replacement of a radiator under this guarantee does not include any consequential costs, such as the removal or replacement of kitchen units, etc.
- The radiator must not be sited in a location where it may be subjected to frost.

Foot notes:

1. Your statutory rights entitle you to a one-year guarantee period only.
2. The guarantee period will commence from the date of installation, unless the installation date is more than six months from the date of purchase, in which case the guarantee period will commence six months from the date of purchase.
3. As measured by gauss. The MagOne magnetic filter has a gauss measurement of 12,000.
4. We recommend that your heating system is serviced every twelve months (even when the guarantee has expired) to prolong the lifespan and ensure it is operating safely and efficiently.
5. The UK mainland consists of England, Scotland and Wales only. Please note that for the purposes of this definition, Northern Ireland **is not** considered part of the UK mainland.



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