Grant Renewable Heating Solutions

Our individually tailored integrated heating packages for new build homes help to keep your home warm and comfortable.

Grant Engineering has been designing and manufacturing reliable, efficient and innovative heating products since 1978. Specialising in condensing oil-fired boilers and an expanding range of renewable products including air source heat pumps, biomass boilers, solar thermal, heat emitters including underfloor heating and aluminium radiators, the Grant brand has established a reputation for quality that is second to none.

Here at Grant, we combine precision engineering, innovation, performance and value for money to produce sustainable heating solutions that are trusted by installers and homeowners alike. While the technology is sophisticated, Grant products are easy to install, straightforward to maintain and backed-up by excellent after-sales support. When customers choose Grant, they also get the added peace of mind that comes with the excellent reliability and superb efficiencies of our products.

At the heart of everything we do is continuous product development. Every Grant product incorporates the latest technologies and materials which enable them to exceed performance and environmental standards ensuring that they make the best use of our natural resources. Consequently, Grant products meet the heating needs of tomorrow, today.

Contents

Aerona³ Air Source Heat Pump

Inverter driven Air to water heat pump range with outputs of 6kW, 10kW, 13kW & 17kW. High SCOP's sustainable at low temperatures. Easy to install with its compact size. ERP A+++ rating. R32 refrigerants as standard.

AERONA³

INVERTER DRIVEN TECHNOLOGY

6-17kW **Output**

R 32 **R32 Gas**

Outdoor

Highly efficient

Weather Compensation

Inverter Driven

Domestic hot water/ Central heating

Features & benefits

The new Grant Aerona³ air source heat pump uses R32 refrigerant which has a significantly lower Global Warming Potential (GWP) than other typical refrigerants. R32 is a single molecule refrigerant which removes the risk of temperature glide. This enables the system to recharge and recycle with greater ease, thus leading the system to be more efficient. The Aerona³ R32 is our most efficient heat pump to date. It incorporates all the features and benefits of our existing Aerona³ range such as DC inverter driven, built in weather compensation and base tray heating element to prevent against freezing.

How the Aerona³ Heat Pump works

Air source heat pumps use basic thermodynamic principles to convert thermal energy contained within the air we breathe to heat energy that can be used to provide heating and hot water. This "ambient heat" is replenished by the sun making our heat pumps both effective and environmentally friendly.

How the Heat Pumps work

Grant Aerona³ heat pumps use an air to water system which uses energy absorbed from the air and transfers it to a water based heating system. The process uses the same vapor/ compression cycle that extracts heat in a domestic fridge. A refrigerant with a low boiling point is exposed to external air temperatures in an evaporator. The liquid boils off to a gas and absorbs the thermal energy of the air.

This gas is then compressed, increasing the heat energy contained within the refrigerant. It then passes through a heat exchanger where it condenses back to a liquid form, whilst transferring the heat to the water of the heating system. The liquid refrigerant is then re-circulated through the evaporator and the cycle is repeated.

Fit for the Future

With the recent fluctuations in price and supply of fossil fuels, air source heat pumps offer both an environmentally and economically sustainable alternative. Home heating accounts for approximately 30% of CO2 emissions. The heat source used by Grant Aerona³ heat pumps is entirely renewable which helps reduce the amount of harmful greenhouse gases being released into the atmosphere and, in doing so, lowers the carbon footprint of the household.

Lower Heating Costs

Compared with other domestic heating methods, the Grant Aerona³ can benefit homeowners by creating annual savings on fuel bills. The units can deliver over four times the amount of energy for every 1kW of electricity used depending on the flow temperature and the climate conditions prevailing at the time. Homes utilising this type of heat generator will obviously have a lower dependency on fossil fuels, making them less susceptible to rising fuel costs.

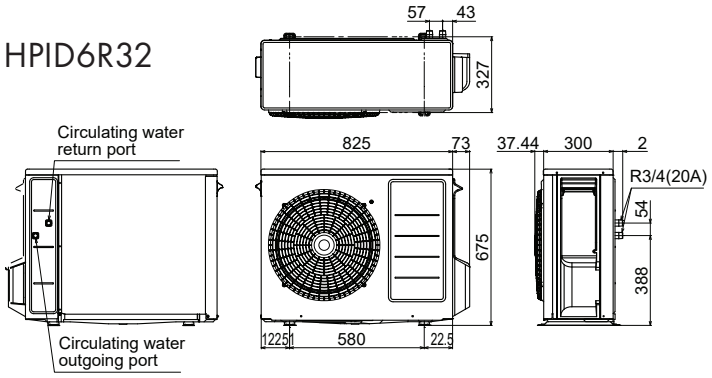
Technical Specifications

		HPID6R32	HPID10R32	HPID13R32	HPID17R32
ErP Rating*	Heating	A+++	A+++	A+++	A+++
Height (mm)		675	882	1418	1418
Width (mm)		898	874	1024	1024
Depth (mm)		379.4	405	403	403
Weight (kg)	Empty	51	70	99	118
	Full	52.8	71.8	101	120
Heating Capacity (kW) (BS EN 14511 - air 7°C/ Water 35°C)		6.92	11.1	13.6	18.0
Power input (kW) (BS EN 14511 - air 7°C/ Water 35°C)		1.41	2.10	2.59	3.76
COP (BS EN 14511 - air 7°C/ Water 35°C)		4.91	5.28	5.25	4.79
SCOP average climate conditions (BS EN 14511 - air 7°C/ Water 35°)		4.61	5.19	5.4	4.47
Refrigerant (R32) (kg)		0.80	1.55	2.20	2.80
Power supply					~230V 1ph 50Hz
Water connections (BSPF)		¾"	1"	1 ¼"	1 ¼"
Min/ Max operating temperatures Air (°C)		-20/43	-20/43	-20/43	-20/43
Sound power level dB(A) (BS EN ISO 3743-1:2010)		65.2	64	60.8	61.6
Sound pressure level at 1m - external (dB(A)) (Q=1)		54.2	53	49.8	50.6
Electrical Installation Requirements					
Max running current (A)		11.2	17.5	23.0	25.3
RCBO	Rating (A)	16	20	32	32
	Type	C	C	C	C

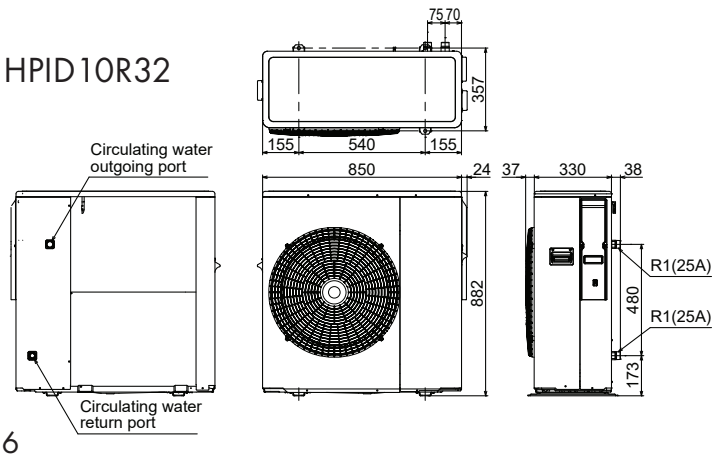
* Low temperature: 35°C flow (heating). From September 2019

Dimensions

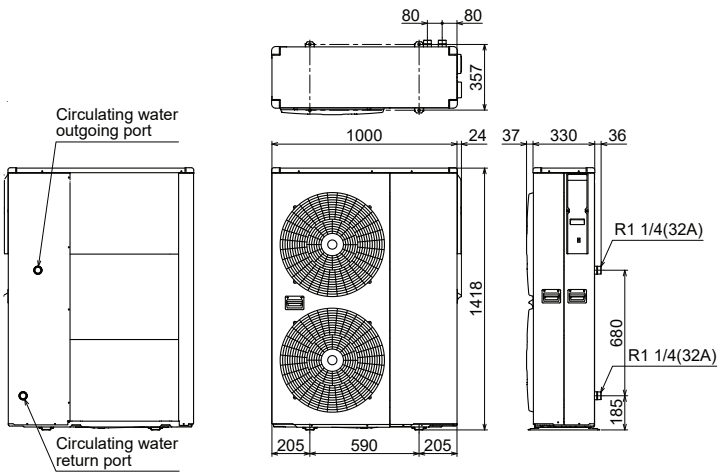
HPID6R32



HPID10R32



HPID13R32 & HPID17R32



Accessories

Cylinders
Grant have a range of options to suit all needs and locations.

- High efficiency high gain indirect stainless steel cylinder, with a purpose designed coil to operate efficiently and reliably with the Aerona³ ASHPs. An option for a solar coil is also available.
- The Grant pre-plumbed pre-wired cylinder is purposely designed for ease and speed of installation. The cylinder comes pre-wired for a 3 zone system with further options available. It comes pre-plumbed with motorised valves, automatic by pass, cold water inlet and pressure reducing assembly. The coil, insulation and performance of the cylinder is of the highest quality.
- The Integrated Unit is a sleek design to allow the unit to be installed in multiple locations from utility rooms to airing cupboards etc. Manufactured by Grant to help with ease of installation and accessibility for commissioning and service. The Integrated Unit has all the benefits of the pre-plumbed pre-wired cylinder with connections on the pipe at a high level.
- The Slimline is a high efficiency high gain indirect stainless steel cylinder, with a nominal diameter of only 478mm. Ideal choice for those extra tight installations where space is at a premium.

Sealed System Kits
Sealed system kits are available to suit all of our Aerona³ heat pump models. These kits are available in 2 sizes, 18ltr and 50ltr. The kits include expansion vessel, filling loop, pressure gauge, PRV and air vent.

Glycol
Antifreeze which is installed into the heating system to prevent freezing.

Buffer Vessel/Volumiser
The Grant Aerona³ is complimented with a 30ltr volumiser, where required.

Blygold
If within 5km of the coast, Grant recommend that your ASHP be treated with a Blygold anti-corrosion coating to protect against the elements.

Flexi-foot kit with fixings
The flexi foot kit comprises 2 x 600mm feet for mounting the Aerona³ heat pump range. These feet serve both as anti-vibration mounts and also raise the heat pump from the ground.

Through wall insulation kit
This is a heavy-duty flexi hose in 22-28mm specifically designed to connect onto the Aerona³ heat pump range.

Domestic hot water (DHW) boost kits
Our DHW time boost kit is used to control the cylinders electric immersion. The Aerona³ heat pump range will maintain the cylinder temperature at 45-55°C. The time boost kit is then used to raise the cylinders temperature once a week to provide Legionella protection. It may also be used as a boost for the hot water if required.

Mag One Filter
The Grant Mag One Filter is used to prevent breakdowns caused by both magnetic and non-ferrous particulates in the central heating system. The triple action filter collects all types of magnetites and non-ferrous debris in the system.

Wiring Centre
The Grant Wiring centre is a pre-configured electronic wiring centre that allows the installer to connect controls (stats, clocks etc), pumps, motorised valves, etc, together in a coherent and simple to understand manner. The Grant wiring centre takes care of all the complicated cross wiring during installation and all that remains for the installer is to connect to the heat pump.

Protective Cages
Suitable for 6kW &10kW heat pumps and can also be wall hung. Weather resistant, steel mesh guards offer a safe solution to vandalism and accidental damage.

Wall Brackets
These flat packed, self assembly brackets provide a professional finish to the installation of wall mounted outdoor air source heat pumps. Suitable for 6kW and 10 kW units.

PRODUCT	ACCESSORY CODE
Sealed System Kits	18ltr HPAWSSK18IR, 50ltr HPAWSSK50IR
Flexi-foot kit with fixings	HPIDFOOT/KITIR
Through wall insulation kit	HPIDINSU/KITIR
Domestic hot water (DHW) boost kits	HPPSPSF247
Electrical Wiring Centre	HPWC1IR
20ltr Glycol fluid	HPCF20IR
Heat pump wall brackets	HPCBR2IR
30ltr Volumiser	HPIDBUFFER30IR
28mm Magnetic filter	MAGFILTER28
Aerona Master Controller	HPIDCONT
Protective cage for 6kW Aerona	HPCAGESMALL
Protective cage for 10kW Aerona	HPCAGEMEDIUM
Base for protective cage (if wall hung)	HPCAGEBASE

AWave Cylinder Controls

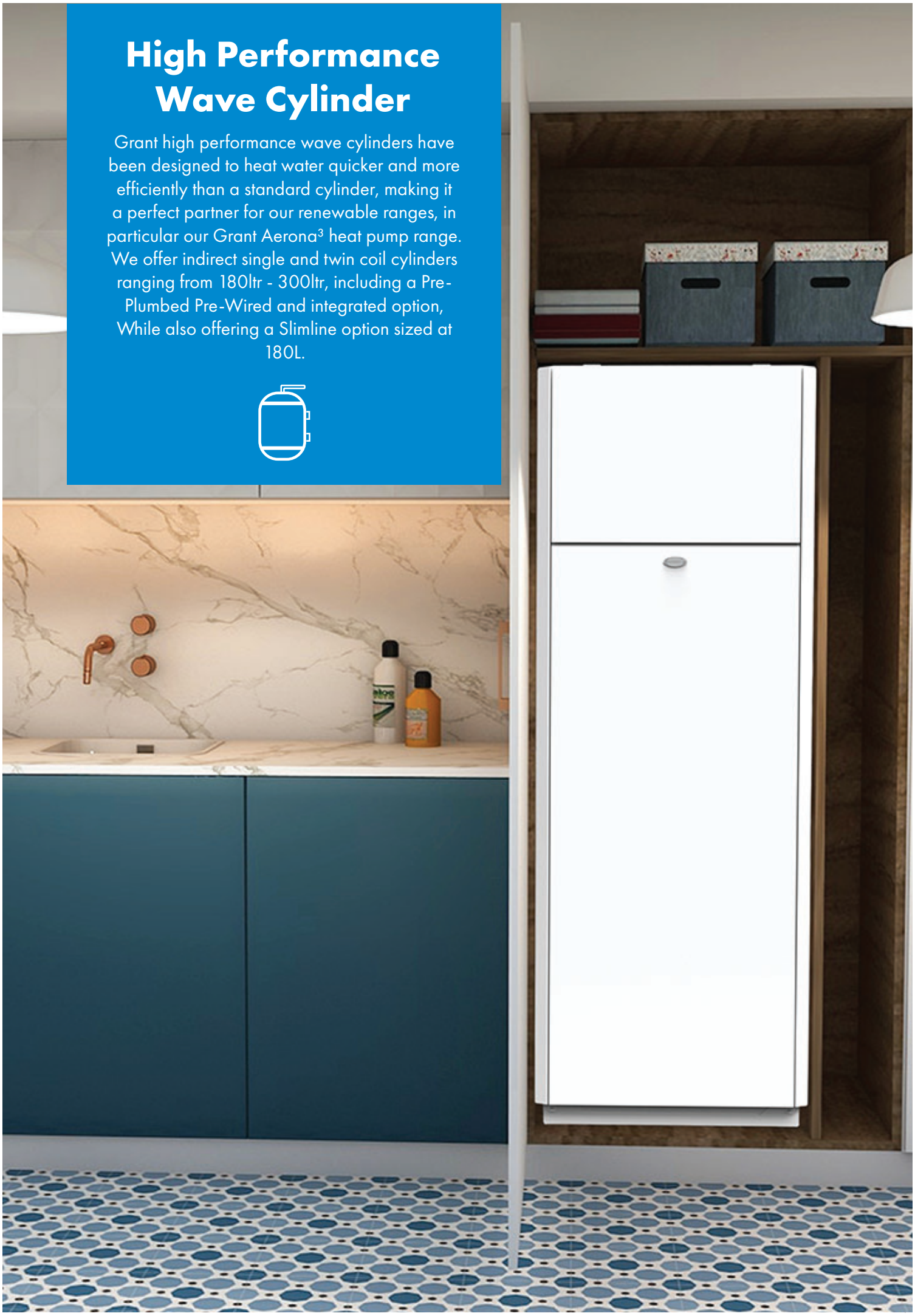
Pre-Plumbed Cylinder Controls

AWave Cylinder Wiring Centre

Mag One Filter

High Performance Wave Cylinder

Grant high performance wave cylinders have been designed to heat water quicker and more efficiently than a standard cylinder, making it a perfect partner for our renewable ranges, in particular our Grant Aerona³ heat pump range. We offer indirect single and twin coil cylinders ranging from 180ltr - 300ltr, including a Pre-Plumbed Pre-Wired and integrated option, While also offering a Slimline option sized at 180L.



Grant Wave Cylinders

Features & benefits

Grants range of Wave cylinders are manufactured from duplex stainless steel and are indirect, mains water cylinders with single, double and triple coil options available. The single and double coil cylinders are high gain, which leads to a much faster heating time and quicker recovery. The range of cylinders have been specifically designed to operate in conjunction with the Grant Aerona³ heat pump range.

- *10 year guarantee (subject to T&C's)
- Available from 180ltr - 300ltr
- Immersion heater & fast recovery stainless steel solid coils
- Suitable for use with heat pumps, biomass, gas, oil boilers and solar
- Suitable for both domestic and light commercial use
- T&P valve factory fitted
- Manufactured from 'Duplex' stainless steel for superior corrosion resistance
- 28mm and 22mm compression fittings
- 50mm CFC and HCFC-free foam lagging for low heat loss
- Additional sizes may be available upon request
- Cylinder kits available
- Good flow rate ideal for homes with multiple bathrooms and fast filling of baths
- Economical to run with minimal maintenance
- Fast reheat times for quick availability of hot water
- Solid coil as standard to reduce noise

10 Year GUARANTEE*

Technical Specifications

Cylinder code	Description	Height (mm)	Diameter (mm)
HPMONO210G	210L single coil stainless steel indirect	1496	550
HPMONO300G	300L single coil stainless steel indirect	2055	550
HPDUOIND210G	210L twin coil stainless steel indirect	1496	550
HPDUOIND300G	300L twin coil stainless steel indirect	2055	550
CYL300TRIPLE	300L triple coil stainless steel indirect unvented	2055	550
HPMONOSLIM/180G	180L slimline cylinder	1717	478

NOTE: Not suitable for a private well or bore hole

*Subject to T&C's

Grant Pre-Plumbed Cylinders

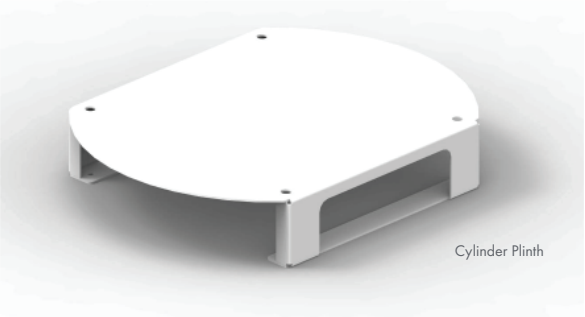
10 Year GUARANTEE *

Features & benefits

Our 210 litre pre-plumbed cylinder still features the same quality and efficiencies of the existing Grant cylinder range.

It comes configured for 2 heating zones and a domestic hot water zone, with an option to add an extra heating zone. It also includes a factory fitted automatic bypass. The Grant wiring centre now comes pre-fitted onto the cylinder for speed and ease of installation. This is a pre-configured electronic wiring centre that allows the installer to connect controls (stats, clocks etc), pumps, motorised valves etc together in a coherent and simple to understand manner. The wiring centre does all the complicated cross wiring during installation.

- Pre-plumbed & Pre-wired for speed of installation
- Available in 210ltr
- *10 year guarantee (subject to T&C's)
- Comes with a plinth for increased options for pipe runs
- Timed boost kit
- Filling valve
- Digital cylinder stat
- Domestic hot water zone that allows hot water priority and a two-zone heating, with an option for a third heating zone
- Heating and DHW expansion vessels are installed
- Pressure reducing manifold installed and plumbed
- Fitted with fill and flush point
- Automatic by pass fitted as standard
- Good flow rate ideal for homes with multiple bathrooms and fast filling of baths
- Economical to run with minimal maintenance
- Fast reheat times for quick availability of hot water


Cylinder Plinth

Technical Specifications

Cylinder code		Height (mm)	Diameter (mm)
HPMONO/210PPG	210L stainless steel indirect pre-plumbed cylinder	1496	550

NOTE: Not suitable for a private well or bore hole

Cylinder Plinth code		Height (mm)	Diameter (mm)
MBK-24	Cylinder Plinth	100	550
470CP		470	550

Grant Integrated Unit

Features & benefits

Standing at 1.8 metres high and with a footprint of 625 x 595mm, the Grant Integrated Unit can be installed neatly within domestic spaces of a property. Featuring aesthetically pleasing white paneling, the unit is easily incorporated into the design of most modern homes, with the system controls and display easily accessed by the homeowner if required. If access is required, homeowners can find the system's controls, digital time boost kit, heat pump controller and pressure gauge behind the top door of the easy open unit.

The Integrated Unit has been pre-plumbed and pre-wired for a domestic hot water zone that allows hot water priority and a two-zone heating, with an option for a third heating zone. As the unit is pre-plumbed and pre-wired, it is time saving and enables a hassle free installation for the installer. The quick recovery 210 litre capacity single coil Integrated Unit has a solid, stainless steel coil which will lead to a much faster heating and recovery time.

When installing a Grant Integrated Unit with a Grant Aerona^3 heat pump, it is very important that the unit has been correctly sized to ensure the hot water needs of the property are fulfilled. Sizing will be carried out by the Grant technical team as part of the home heating design service.

Stainless steel cylinders should not to be fitted on private water source, bore hole or well.

10 Year GUARANTEE*

- High gain 210 litre capacity single coil
- Solid stainless steel coil
- System controls and display easily accessed
- Pre-plumbed and pre-wired
- Domestic hot water zone that allows hot water priority and a two-zone heating, with an option for a third heating zone
- Heating and DHW expansion vessels are installed
- Pressure reducing manifold installed and plumbed
- Fitted with fill and flush point
- Automatic by pass fitted as standard
- Good flow rate ideal for homes with multiple bathrooms and fast filling of baths
- Economical to run with minimal maintenance
- Fast reheat times for quick availability of hot water

Technical Specifications

Cylinder code	Description	Height (mm)	Width (mm)	Depth (mm)
HPINT210G	210L stainless steel indirect pre-plumbed cylinder housed within a powder coated casing	1821	594	633

NOTE: Not suitable for a private well or bore hole

Uflex Underfloor Heating

Grant's range of underfloor heating offers an efficient heating solution for a range of properties. We can deliver effective underfloor heating for both new builds and retrofits.

25 Year GUARANTEE*

Highly efficient when paired with a Grant Aerona³ heat pump

Easy Installation

Optimal control and comfort

Uniform heat distribution across the room area and constant room temperature

Operates at lower flow temperatures

Can provide individual zone control

Increased hygiene due to reduced air circulation transferring dust particles

Quality Underfloor Pipe

The basic operation of a water-based underfloor heating system is **pipe embedded within a concrete screed**, with warm water circulating through the pipe work allowing for the gradual heating of the screed and eventual emitting of heat from the floor into the room.

Features:

- WRAS Approved
- Five layer composite pipe using PE-RT inner and outer layers with a 0.2mm thick edge-welded aluminium core.
- Butt welded manufacturing method.
- Can be formed by hand and maintains its shape – perfect for underfloor heating pipework.
- Suitable for general use in underfloor and low temperature heating applications, maximum temperature 90°C and 10 bar maximum pressure.
- White outer layer looks good even in exposed runs.
- A wide range of complimentary accessories to ensure trouble-free fitting. Pipe connectors, mounting rail, pipe staples, tacker guns and bend supports are all available in the UFH Accessories section.
- Simple and easy to use 16mm multi-layer heating pipe

Grant's Uflex underfloor heating system is embedded into the floor construction. It is ideally suited for new builds whereby the pipework is installed during the initial stages of the property's development. The Uflex pipework is then positioned and clipped into place once the flooring's insulation and membrane has been fitted, after which a flow screed is laid over the top and allowed to fully dry before heat is introduced.

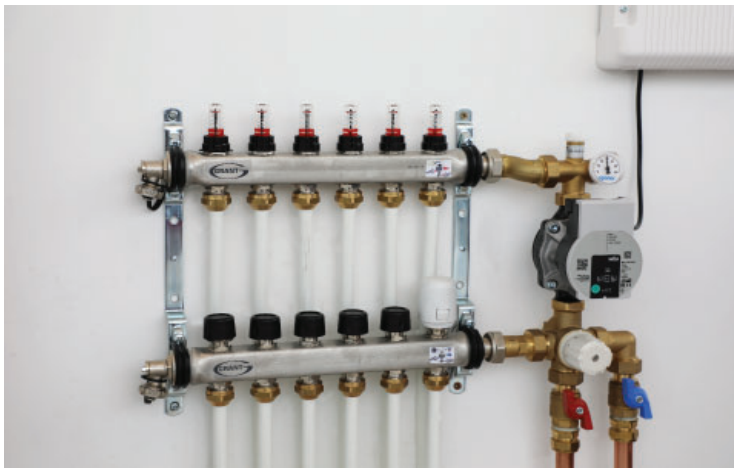
The Uflex underfloor system can be fitted as part of the floor construction process, therefore causing no delays in construction. Grant's Uflex system makes underfloor heating a viable option for a wide range of projects, from one-off new build projects and room extensions through to larger multi-property developments.

Screeded system

Once the Uflex pipework has been secured into place, the manifold installed and system pressure tested, a screed is laid with a thickness of 75mm and then left to dry. During the drying period, no heat should be introduced to the system and no one should walk over the floor construction. Using a flow or sand/cement screed, as opposed to a solid screed system, means that the drying time is much quicker with the flow screed mix drying in up to thirty days.

Quick reaction time

The Uflex system is designed for continuous operation with heat being supplied through the screed all day. This means that the screed acts as a thermal store. As the change in the temperature demand between unoccupied and occupied will be relatively small (17°C to 21°C for example), the manifold and controls will manage the flow of water into the system at the correct temperature and flow rate to satisfy the heat demand.



*25-year guarantee on pipework only

Controls

- **Full time and temperature control and Keylock feature to prevent temperature tampering**
- **Slim and stylish in design**
- **Backlit display which turns off when not in use**
- **App enabled control when paired with neoHub**
- **230V controls – simple to install and setup**

In addition to the mechanical components such as pipework and manifolds etc. Grant also supply the necessary controls to operate the underfloor heating system as efficiently and as effectively as possible.
The control system is Heatmiser 230V controls and provides homeowners with the ability to control the underfloor heating system with the touch of a button.
The UH8 wiring centre allows for up to 8 different heating zones, controlling 230V actuators.

The Heatmiser neoStat is a 230V powered smart stat. The stat allows full time and temperature control. The stat can be set to provide different room temperatures at different time intervals on individual heating zones. The neoStat can be controlled from anywhere wirelessly when paired with the plug and play neoHub.

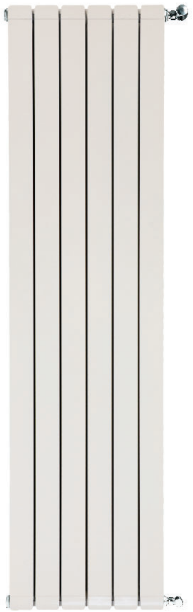
Low resistance
0.01 - 0.05m² K/W → Medium resistance
0.05 - 0.1m² K/W → High resistance
0.1 - 0.15m² K/W

Tile, stone & polished screed	Vinyl flooring	Engineered timber & laminate flooring	Solid hard & soft wood	Carpet
• Excellent heat transfer • Ideal for use with underfloor • Can be heated to up to 29°C	• Good heat transfer • Robust & hard wearing • Can be heated to up to 27°C	• Average heat transfer • Performs well with changes in temperature • Can be heated to up to 27°C	• Average heat transfer • Changes in temperature can cause warping • Care should be taken when specifying board width & thickness	• Low heat transfer • Carpet tog & underlay must not exceed 2.5

Afinia Aluminium Radiators

Grant Afinia Aluminium Radiators are designed to work with both low and high temperature heating systems, making them easy to pair with both our range of Aerona^3 air source heat pumps and Vortex/Euroflame condensing oil boilers.

15 Year
GUARANTEE

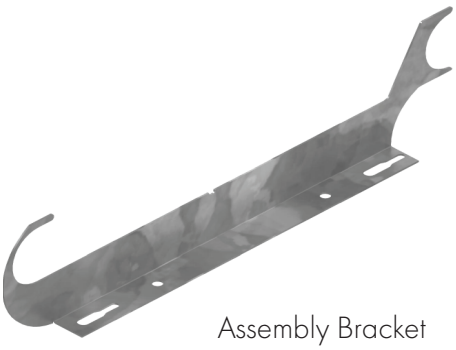


- White powder coated finish
- Curved surfaces
- 6-20 sections
- Easy installation
- Highly efficient
- Low surface temperature
- Slim and compact design
- RAL 9010 — Standard colour RAL 9010 Faral
- UNI EN 442-2 — The thermal power complies with the European standard UNI EN 442-2

Features & benefits

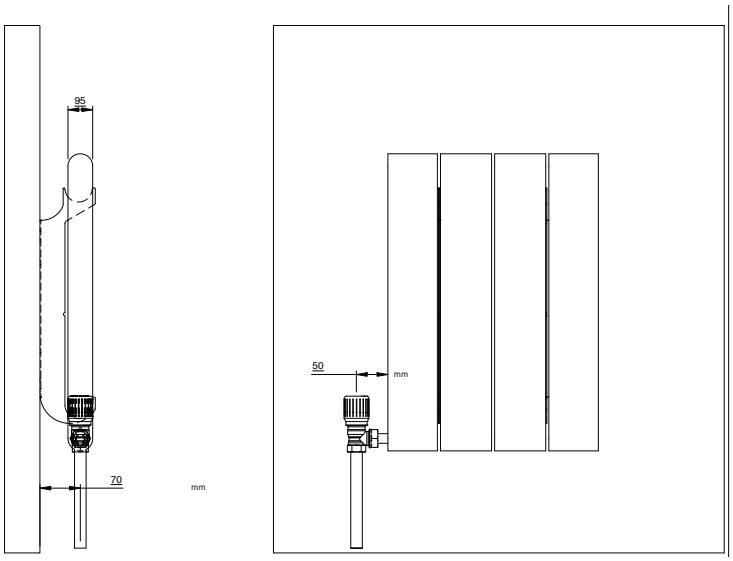
The Afinia Aluminium Radiator has curved surfaces, a brilliant white powder coated finish and is available from 6 to 20 sections, as either a standard rad or vertical rad, ensuring that it can fit any application.

Designed to work with both low and high temperature heating systems, the Afinia radiators deliver superior quality and performance matched by the sleek and stylish finish.



Assembly Bracket

Dimensions



Assembly Kit

Technical Specifications

Horizontal

	430MM	580MM	680MM
Height (mm)	430	580	680
Width per section (mm)	80	80	80
Depth (mm)	95	95	95
Centres (mm)	Add 100mm to width of rad	Add 100mm to width of rad	Add 100mm to width of rad
Water Volume (L)	0.25	0.34	0.39
Output 20(W)	28	38	41
Output 50(W)	92	124	142

	430MM			580MM			680MM			
Sections	Code	Output W ΔT20	Output W ΔT50	Code	Output W ΔT20	Output W ΔT50	Code	Output W ΔT20	Output W ΔT50	Width of rad (mm)
6	GALU4306	169	552	GALU5806	228	744	-	-	-	480
8	GALU4308	225	736	GALU5808	304	992	GALU6808	330	1136	640
10	GALU43010	281	920	GALU58010	380	1240	GALU68010	413	1420	800
12	GALU43012	338	1104	GALU58012	456	1488	GALU68012	495	1704	960
14	GALU43014	394	1288	GALU58014	532	1736	GALU68014	578	1988	1120
15	-	-	-	GALU58015	570	1860	-	-	-	1200
16	-	-	-	GALU58016	608	1984	-	-	-	1280
18	-	-	-	GALU58018	684	2232	-	-	-	1440
20	-	-	-	GALU58020	760	2480	-	-	-	1600

Vertical

	1842MM	2042MM
Height (mm)	1842	2042
Width per section (mm)	80	80
Depth (mm)	80	80
Centres	Add 100mm to width of rad	Add 100mm to width of rad
Water Volume (L)	0.68	0.75
Output 20(W)	79	85
Output 50(W)	271	293

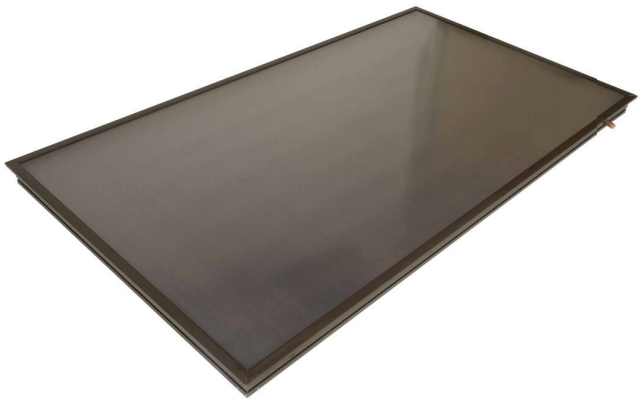
	1842MM			2042MM			
Sections	Code	Output W ΔT20	Output W ΔT50	Code	Output W ΔT20	Output W ΔT50	Width of rad (mm)
6	GALUV18426	474	1626	GALUV20426	510	1758	480
8	GALUV18428	632	2168	GALUV20428	680	2344	640

Please note: Afinia aluminium radiators are sized in accordance with the heat requirement of each individual room. If radiators need to be changed to facilitate wall space or existing pipes, please make us aware of this.

Solar Thermal

Keymark approved flat plate solar panels available in on roof, flat roof and in roof solutions. Can provide up to 70% of your hot water needs per year.

5 Year GUARANTEE



82.6% collector efficiency

4mm self cleaning glass

Copper absorber with sun select coating for most efficient solar absorption

Solar Key Mark approved

On roof, in roof and flat roof mounting options

Installing Grant solar collectors is a clean and highly efficient way of using renewable energy from the sunlight to provide hot water for your home, while also reducing your fuel bills and the building's carbon footprint. The panels not only operate with direct sunlight but also diffused sunlight, meaning they will even work on cloudy days.

Features & benefits

Grant Solar thermal collectors can integrate easily with conventional heating systems.

The range includes a high efficiency flat plate collector, multi functional controller with LCD display.

Grant Sahara collectors have a durable aluminium frame with a bronze adonised finish, which has been designed to blend in with most domestic roof types.

Heat Transfer Technology

Grant use a unique patented system where the heat transfer sheet interlocks both the pipe and absorber for perfect thermal transfer. Additional aluminium plates enclose the copper pipes. The plates combined with an industrial strength adhesive result in 360° heat transfer.

When choosing a solar thermal system, there are a number of factors to consider. Almost any roof type is suitable, however, a south facing arrangement could gain 100% of the light available during the day. If the roof was to face South-East or South-West, there will be a reduction in yield by 5-10%.

Designing your system

Grant Solar collectors have an absorber (or nett) area of 2.14m². As a rule of thumb, when sizing a system, you should allow 1.0-1.3m² of nett collector area, per person.

Cylinder requirements are 50-60 litres capacity per m² of nett collector area. To simplify this, for a 2-collector system of 2 x 2.14 = 4.28m², you would require a cylinder of approximately 200-250 litres. This should be sufficient for 4 people and satisfy up to 70% of your hot water demand per annum.

Things to consider:

- Location of building
- Orientation of building
- Angle of inclination (roof)
- Shading of collectors
- Collector array in m²
- Hot water requirements
- Size of cylinder
- Pipework requirements

Free energy!

Many people believe that solar panels only work in the summer, however this type of free energy is available throughout the year. From May to September, Grant Solar can produce 100% of the energy required for heating your domestic water (see right). The Grant Sahara collector operates not just with direct sunlight, but also diffused sunlight, so they even work on cloudy days. **On average, Grant Solar can provide up to 70% of your hot water needs per year, for free!**

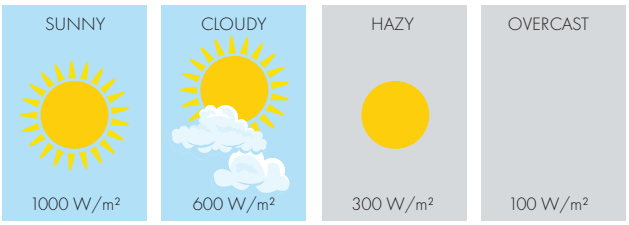
Technical Specifications

Length	mm	2043
Width	mm	1143
Depth	mm	80
Weight	kg	40
Collector gross area	m^2	2.34
Degree of efficiency no	%	82.6
Heat loss coefficient	(a1)	4.4
Zero-loss collector efficiency	(n)	0.826
Heat capacity	kW	1.7
Stagnation temperature	°C	177*
Maximum operating pressure	bar	10
Fluid content	litre	1.6

Absorber

Absorption	%	95
Emission	%	5.0
Absorber net area	m^2	2.14
Material/coating	Copper/sunselect	
Minimum efficiency	kWh/m^2a	525

*Test conditions-irradiance 1000 W/m^2 ambient temperature 30 °c



Biomass

Condensing woodpellet boilers with ranges from 5kW to 66kW. Self cleaning and modulation burners. The unique Grant Spira Pell condensing woodpellet boiler combines easy installation with straight forward daily operation and low maintenance.

5 Year GUARANTEE*

Grant Spira Pell

- **Unique and award winning condensing boiler**
- **Grant pellet vacuum system up to 15m distance kits available**
- **Automatic pellet feed, ignition and cleaning system for the boiler and burner**
- **Supplied with a side pellet store**
- **Highly efficient**
- **Self cleaning modulating burner**

The Grant Spira Pell is a condensing wood pellet boiler that is easy to install with low maintenance and straightforward to operate. SEAI awarded the Spira, our first condensing woodpellet boiler "The best renewable energy product" in 2011 on its launch due to its unique twin baffle system. The Spira pell which launched in 2022 will give some of the highest efficiencies and environmentally friendly results from biomass boilers. The Grant Spira Pell has a rapid ignition system and generally does not require a buffer tank. When combined with our modulating and self cleaning burner, the system can operate in similar characteristics to an oil or gas boiler. For the homeowner, the patented boiler and burner self cleaning system, along with automatic fuel delivery, results in minimal intervention once installed. Wood pellets to EN Plus standards are some of the highest calorific value available in Biomass, with a low moisture content, and when combined with the unique boiler and burner combinations, excellent combustion and efficiency is achieved.

Spira Pell boilers are available in outputs of 5-18kW, 7-25kW and 9-33kW. All Boilers are supplied with a Universal hopper. Also included is the pellet feed auger which supplies pellets when needed to the burner. If required for larger applications, two boilers with separate flues can be utilized, with a central twin auger hopper option up to 66kW.

This is a very cost effective method giving larger outputs with excellent efficiency. In this scenario, both burners can modulate as one and reduce to a quarter of the maximum output when not required. With the incredibly high efficiency, low flue gas temperature and easy maintenance, the Spira Pell is a unique option when installing a wood pellet boiler.

Features & benefits

The Spira was one of the first condensing biomass boilers on the market following many years of research and development. The Spira Pell is available in a number of different models, all of which can be integrated into the home in a safe, convenient, and cost effective manner. The boiler is commonly installed in a garage / out-house or plant room. Your installer will advise on the best location for your Spira Pell, especially if you intend to use a bulk pellet store.

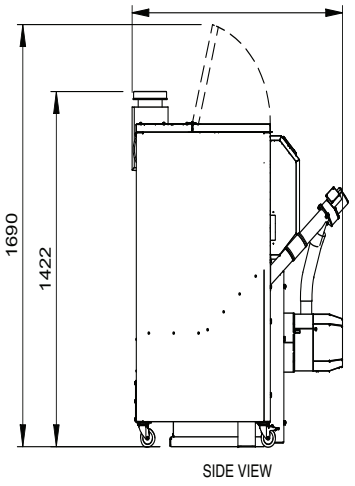
	DIMENSIONS		
Grant Spira Pell model	A	B	C
5-18kW 200kg left/right hand hopper	719	1120	1492
7-25kW 200kg left/right hand hopper	719	1120	1492
9-33kW 200kg left/right hand hopper	719	1220	1492

Technical Specifications

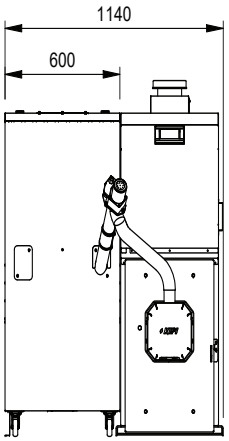
		WPS5/18	WPS7/25	WPS9/33	WPS14/50	WPS17/58	WPS18/66
Boiler type		Single	Single	Single	Twin	Twin	Twin
Boiler weight (without hopper)*	kg	231.5	231.5	261.5	463	493	523
200kg hopper weight c/w auger*	kg	77kg	77kg	77kg	n/a	n/a	n/a
Flue	mm	125(5")	125(5")	125(5")	125(5") x2	125(5") x2	125(5") x2
Wash system (condensing unit)	mm	15mm compression	15mm compression	15mm compression	15mm compression	15mm compression	15mm compression
Flow/return connection	"	1" female	1" female	1 1/4" female	1" female	1" /1 1/4" female	1 1/4" female
Condensate drain	"	1 1/4" female	1 1/4" female	1 1/4" female	1 1/4" female	1 1/4" female	1 1/4" female
Water content	litres	51.5	51.5	60	103	111.5	120

Dimensions

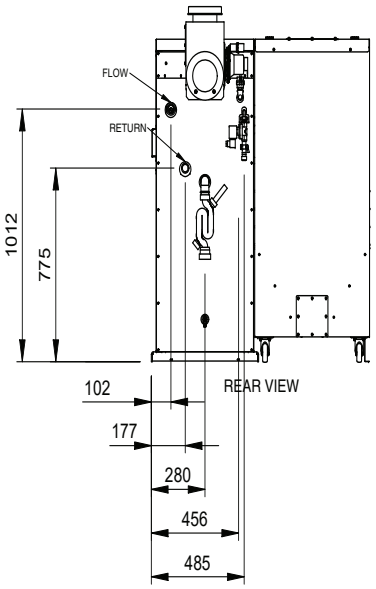
PELL CONDENSING 5-18 & 7-25 = 1100
PELL CONDENSING 9-33 = 1200



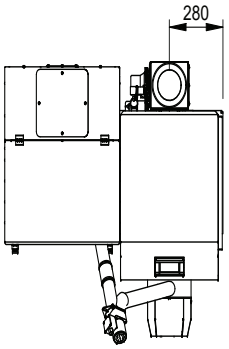
SIDE VIEW



FRONT VIEW



REAR VIEW



TOP VIEW

Spira Wood Pellet Boiler	Dimensions							
Model	A	B	C	D	E	F	G	H
5-18 200kg hopper	1256	618	713	125	44	713	1160	1120
7-25 200kg hopper	1256	618	713	125	44	713	1160	1120
9-33 200kg hopper	1256	618	713	225	144	713	1260	1220

If the measurement from the flue centre line to the rear wall is increased (shown as 134 in the plan view), then the dimensions D, E and G will have to be increased by the same increment. All units in millimetres.

Biomass Flue System for Spira Boilers

This 125mm (5") vertical conventional stainless steel, twin wall insulated flue system is specifically designed for use with all Grant pellet boilers.

It has been fabricated to cope with continuous operating temperatures of up to 200°C although the typical flue gas temperature produced by Grant biomass boilers is less than 80°C. The system is designed so that the stainless steel outer case is load bearing and stainless steel inner liner is free to expand independently to accommodate temperature change. CE designation of the flue system (to EN1856-1) is T450 N1 W V2 L50 050 G 60.

Available with a range of extension pieces and bends, the system can easily be assembled to suit a wide variety of installations.

Assembly

Biomass flue system components are joined together by placing the female collar of one section over the corresponding male collar of the preceding section then locking by rotating the upper section clockwise. It is vital that all flue components are installed with the male collar pointing upwards. An arrow on the label indicates the flue gas direction.

The inner of each section is enlarged at the male end so that the female end of the other section, or fitting, enters into it and overlaps. This allows any condensation to run back to the boiler without escaping from joints.

Flue Runs

The flue should remain as straight as possible through its vertical run to assist flow. Should it be necessary to angle the flue run, an offset no greater than 45° to the vertical, with a run between the bends not exceeding 20% of the overall height of the chimney should be maintained. A vertical rise of 600mm should be allowed immediately above the appliance before any offsets. Flue systems should be installed to the requirements of Building Regulations Document J (England, Wales, Northern Ireland & Republic of Ireland) and building standards (Part F) in Scotland. Flue must be a minimum of 60mm away from any combustible material.

Features & benefits

- Twist-lock bayonet jointing system including seals, secured by locking bands.
- Advanced corrosion resistant design and construction uses laser welded stainless steel inner liner and case.
- The 25mm high efficiency Superwool blanket maintains flue gas temperature, maximising efficiency, improving flue draught on start up and minimising condensation.
- Low external case temperature.
- Inner liner held by the male locking collar but free to expand and contract with temperature by up to 18mm through the female collar.
- The inner liner has an inward bead at the female end which acts as a capillary break, preventing moisture being drawn through the joint.
- CE certified denotes it is fully compliant with regulations in force from 1st July 2013
- Internal flue system components available in white or black powder paint finish
- External components available in black powder paint finish only

Home Heating Design Service

Designing and building a new home? Then look no further than Grant for the full home heating solution! With a diverse product portfolio including highly-efficient air source heat pumps, hot water cylinders and modern heat emitters including aluminium radiators and underfloor heating, all the heating requirements for a property can be met under one roof.

Popular amongst self-builders, architects, and those in the trade, our free of charge home heating design service enables those working on new build or retrofit projects the opportunity to have a bespoke heating solution for the property created and specified under one roof.

Providing a complete heating solution, our bespoke integrated heating packages are individually sized and specified by our technical specialists to suit both the property and the owner's current and future heating requirements. On receipt of home design plans our technical team provides full heat loss calculations based on SR:50 guidelines, which prove compliance with Part L building regulations for new builds and ensures NZEB (nearly zero-energy building) standards are met.

The free heating design service and integrated heating package offering for new builds, are helping housebuilders throughout Ireland maximise heating efficiencies and save time on projects.

Each bespoke heating package features award- winning heating technologies from our portfolio including the Grant Aerona^3 R32 air to water air source heat pump, the most efficient hot water storage to support the system which includes either the Grant Integrated Unit or Grant pre plumbed and pre wired cylinder, and finally the chosen heat emitters for each individual room which includes the Grant Uflex underfloor heating system and/or Grant Afinia aluminium radiators. Grant smart heating controls can also be included within the package.

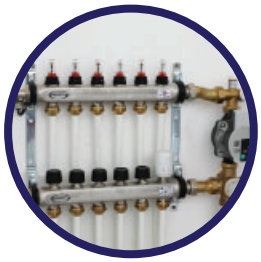
There are three easy steps to the free home heating design service.
1. Send your planning drawings to heatpump@grant.ie or call 057 912 0089
2. A member of the Grant team will be in touch with you to discuss requirements
3. You will receive full property specifications with recommended products all available from Grant.

Our process - The key features

1. Room by room heat loss calculations
2. Correctly sized heating technologies including:

ASHP sized efficiently

Domestic hot water sized



Uflex underfloor pipe design

Afinia Rads designed at SR:50

3. Compliance and building regulations
   Compliance with new building requirements (NZEB)
   Can help to achieve Energy Performance Coefficient EPC
   Can help to achieve Carbon Performance Coefficient CPC
   Meet 20% renewable contribution
4. Advice on mechanical and electrical installation
5. Commissioning of system
6. After care service

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