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### What is a condensing boiler?

Condensing boilers are designed to capture heat normally lost through the flue system during the combustion process. These boilers have a second heat exchanger where the flue gases are cooled to below their dew point by the water returning from the heating system. This has the effect of condensing the water vapour present in the flue gases and releasing the heat energy that would otherwise be lost to the outside through the flue system.

Unlike traditional oil-fired boilers, the Grant Vortex condensing boilers have a built in 316L grade stainless steel heat exchanger incorporating our unique turbulator baffle system which cools the gases to a point where the latent heat, normally lost to the atmosphere through the flue, can be usefully extracted. The additional energy recovered enables the boiler to operate continuously at much higher efficiency levels, resulting in lower heating and hot water running costs.

### Why upgrade to a condensing boiler?

The principal benefits of condensing boilers are their improved efficiencies and performance. While older oil-fired boilers operate with energy efficiency levels as low as 65%, modern boilers operate with much higher efficiency. Not only can switching to a new condensing boiler significantly lower fuel bills but it can also reduce greenhouse gas emissions, lessening the environmental impact of domestic hot water and heating systems.

### **Pluming**

Condensing boilers operate at extremely high efficiency levels, producing cool flue gas temperatures which result in a 'plume' of vapour being visible at the flue terminal. This plume (steam) is a normal condition of condensing boiler operation and indicates that the appliance is working efficiently.

Prior to installation, the position of the flue needs to be considered to ensure that the plume does not cause any inconvenience. Grant's EZ-Fit flue systems are designed to ensure pluming is kept



well out of the way of any windows, air vents or doors, and out of sight. Low level balanced, high level, or vertical flue kits are available, which move the plume to a higher level. It is also possible to convert an existing low level balanced flue to an external high level or vertical arrangement using Grant's Plume Diverter. For more information about the Grant EZ-Fit flue range, please refer to the Grant EZ-Fit flue guide available to download at www.grant.eu.

Please scan the QR code below to view our range of flue systems.





EZ Fit Flue Systems

### Improving system efficiency

Today, there are many different ways that householders can make their home heating system work as efficiently as possible, from choosing the right heat source through to effective controls and regular product maintenance.

### Upgrade the heat source and combine technologies

Replacing an old, inefficient boiler with a new condensing Vortex oil-fired boiler can instantly help reduce fuel consumption, as detailed on page 4. Householders can further improve their system's efficiency by opting to install a high-performance hot water cylinder alongside their new boiler. Models such as Grant's Wave cylinders are designed to deliver maximum heat transfer as well as low standing heat losses to reliably and effectively meet a property's hot water needs.

Householders can further reduce their fuel usage by installing solar thermal also. Grant Sahara Solar Thermal systems work all year round, utilising energy from the sun to sustainably heat water. Combining solar thermal technology with a highly efficient cylinder can help reduce the overall demand on the oil boiler, further reducing the amount of fuel used.

### Correct system design

It is essential that the right boiler size is selected by your installer to meet the heating requirements of a property. Installing too small a boiler will cause numerous problems for both the householder and their heating system. Meanwhile, oversizing a system and installing too large a boiler is highly inefficient because the boiler's output will be greater than what the property requires. This is why correct system design is so important and crucial for achieving maximum system efficiency throughout a home.

### Complete commissioning process

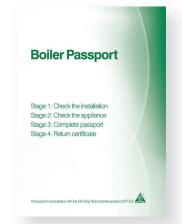
Alongside correct system design and installation, the commissioning process is also central to ensuring that a boiler works at its most efficient rate. Commissioning a boiler, carried out by your installer, involves adjusting the burner to match the heat requirements, balancing the radiators and setting up the pumps, two factors which can contribute to how well a boiler works. If a boiler is not correctly commissioned, this can prevent it from achieving the efficiencies it is capable of. The Boiler Passport will be completed by your installer which must be returned within 30 days of installation to Grant Engineering, to activate the warranty.

#### **Effective controls**

Modern day control systems can help homeowners to precisely manage their home heating, achieving maximum comfort with improved efficiencies. Room thermostats and controls deliver heat when and where it is most needed, reducing the demand when not required which consequently reduces the demand on the boiler.

### **Routine servicing**

Regularly maintaining an oil boiler with routine servicing is beneficial in many ways. It is recommended that Grant oil boilers should be serviced every twelve months to help prolong the lifespan of the product. In addition, servicing involves checking the system as well, ensuring that both the boiler and system are operating safely and efficiently.







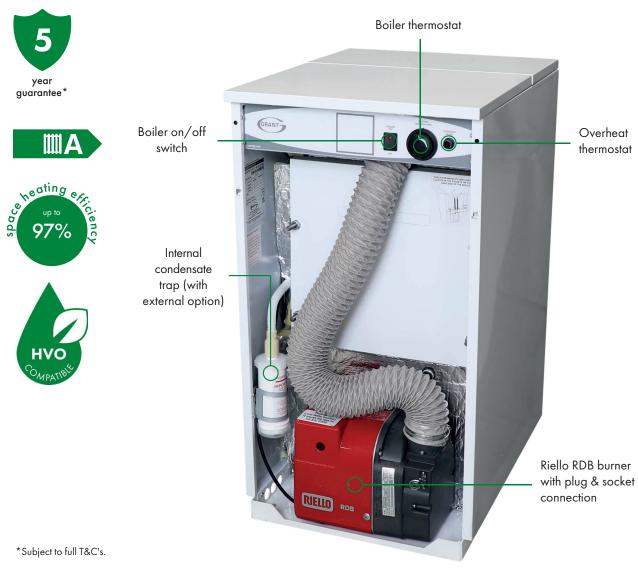
## Vortex Utility Range

Grant's Vortex Utility boilers are incredibly efficient, achieving efficiencies of up to 97%. Designed for the kitchen or a utility room, the Utility models deliver choice and performance across the range.

#### Models

VORTUT15-26 Vortex Utility 15-26kW VORTUT26-36 Vortex Utility 26-36kW VORTUT36-46 Vortex Utility 36-46kW VORTUT46-70 Vortex Utility 46-70kW

- 15kW 70kW outputs available
- Factory fitted condensate trap within the boiler case (can be positioned externally if preferred)
- Exceptionally quiet in operation when fitted with a balanced flue



Model shown: Vortex Utility 26-36kW



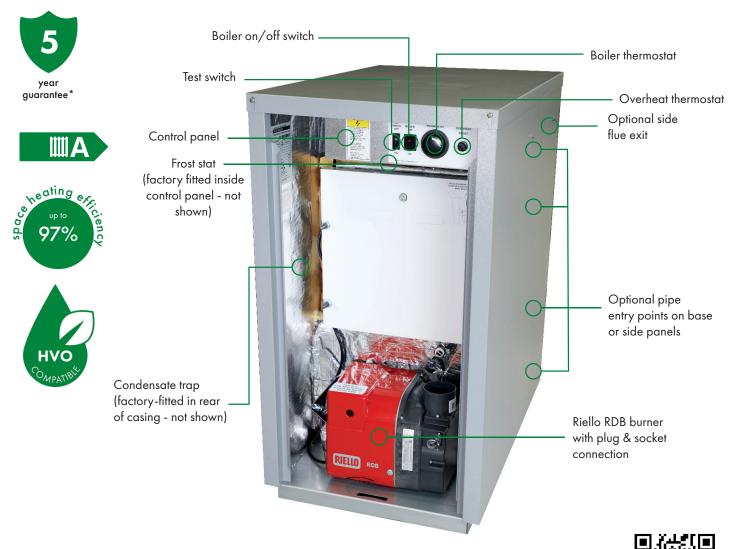
## Vortex External Range

The Vortex External boilers incorporate all the high quality components featured in the Utility Range. Like the Utility models, the External boilers are exceptionally efficient when heating outputs of up to 70kW are required and the preferred boiler location is outside, the Vortex External Range can deliver the solution.

#### **Models**

VORTMOD1526P Vortex External 15-26kW VORTMOD2636P Vortex External 26-36kW VORTMOD3646P Vortex External 36-46kW VORTMOD4670P Vortex External 46-70kW

- 15kW 70kW outputs available
- Factory fitted frost stat and condensate trap
- High quality external powder coated paint finish



\* Subject to full T&C's.

Model shown: Vortex External 15-26kW

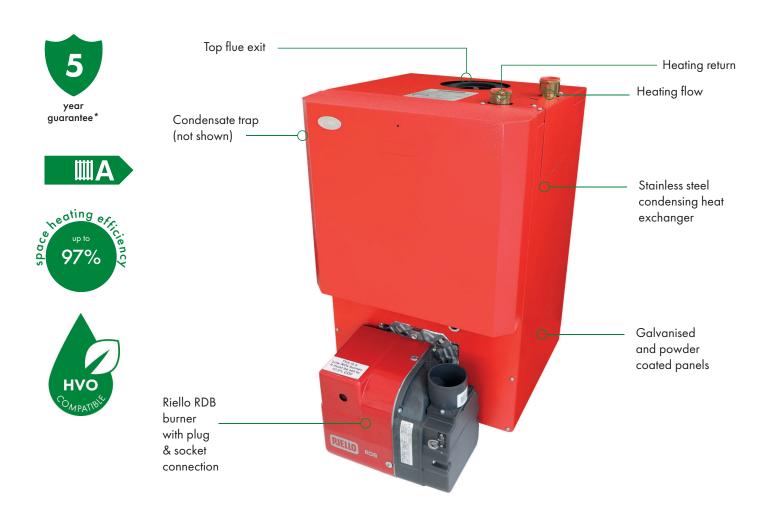
# Vortex Boiler House Range

Featuring an externally mounted Riello RDB burner and dual thermostat, the Vortex Boiler House models are ideal for locations which are difficult to access and where a white cased utility boiler is not always the best solution. The Vortex Boiler House range encompass the same unique heat exchangers and turbulator baffle system used in Grant's other oil boilers. Consequently, Grant's Boiler House models have ultra-high efficiencies and low running costs.

### **Models**

VORTBH5090BSRED Vortex Boiler House 15-26kW VORTBH90120BSRED Vortex Boiler House 26-36kW VORTBH120155BSRED Vortex Boiler House 36-46kW VORTBH155240BSRED Vortex Boiler House 46-70kW

- 15kW 70kW outputs available
- Distinctive red powder coated casing
- Compatible with all Grant EZ-Fit flue options and are flued in the same way as utility models



<sup>\*</sup>Subject to full T&C's.



Vortex Boiler House

# Grant Euroflame Utility Range

The Grant Euroflame Utility range of competitively priced condensing boilers have a simplified casing, control panel and pipework arrangement. The ideal choice for utility room installations, the Euroflame Utility models incorporate Grant's patented stainless steel heat exchanger, are quiet in operation and simple to service with the burner and combustion chambers positioned towards the front of each boiler.

#### Models

EFCON5090IND Euroflame Utility 15-26kW EFCON90120IND Euroflame Utility 26-36kW

- 15kW 36kW outputs available
- Factory fitted condensate trap within the boiler case (can be positioned outside the boiler casing)
- Can be flued from the top, rear, left or right hand side of appliance



Model shown: Euroflame 50/90

Euroflame Utility Range

# Grant Euroflame External Range

When space is at a premium indoors, an external boiler can provide the solution. Grant's Euroflame External boilers are competitively priced, highly efficient and are designed and built to be sited outside of a property. All the Grant Euroflame External models have multi-directional flueing options providing flexibility when it comes to installation.

### **Models**

EFCON5090MOD Grant Euroflame External 15-26kW EFCON90120MOD Grant Euroflame External 26-36kW

• 15kW – 36kW outputs available

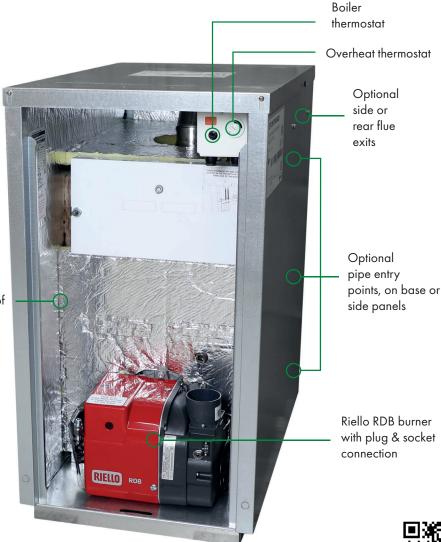








Condensate trap (factory fitted in rear of casing - not shown)



<sup>\*</sup>Subject to full T&C's.



Euroflame External Range

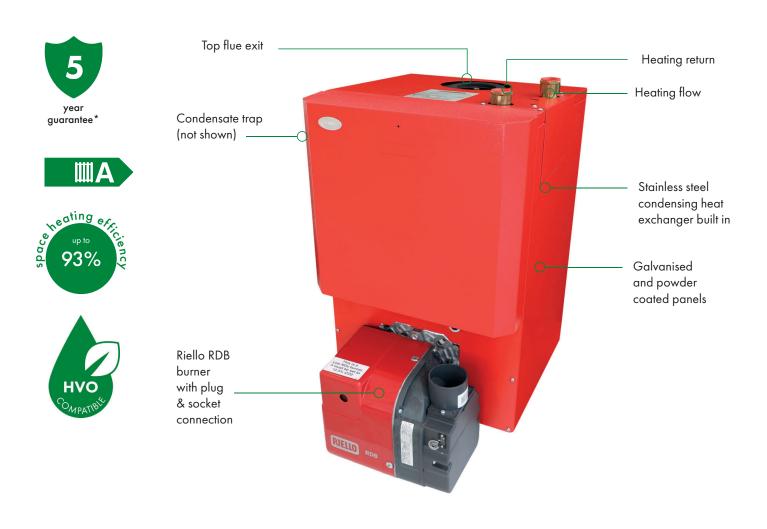
# Grant Euroflame Boiler House Range

Featuring an externally mounted Riello RDB burner and dual thermostat, the Euroflame Boiler House models are ideal for locations which are difficult to access and where a white cased utility boiler is not always the best solution. The Euroflame Boiler House range encompass the same unique heat exchangers and turbulator baffle system used in Grant's other oil boilers. Consequently, Grant's Boiler House models have ultra-high efficiencies and low running costs.

### Models

EFCON5090BHBSRED Euroflame Boiler House 15-26kW EFCON90120BHBSRED Euroflame Boiler House 26-35kW

- 15kW 35kW outputs available
- Distinctive red powder coated casing
- Compatible with all Grant EZ-Fit flue options and are flued in the same way as utility models









Euroflame Boiler House Range

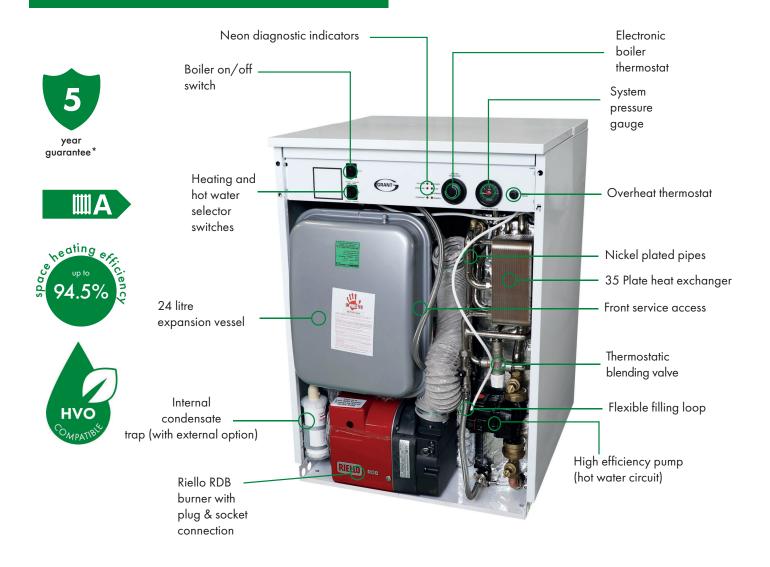
# Vortex Internal Combi Range

Grant's Vortex Combi boilers have been designed to increase hot water performance effectively and efficiently due to their large heat exchangers and accurate electronic temperature controls. Each internal Combi model can operate in condensing mode for central heating while also maintaining instant hot water production. Reliable in operation and easy to install and service, the Vortex Combi boilers are a popular choice for homeowners and their installers.

#### Models

VORTCOMBI26 Vortex Internal Combi 26kW VORTCOMBI36 Vortex Internal Combi 36kW

- 26kW and 36kW outputs available
- 24 litre expansion vessel supplied as standard



<sup>\*</sup> Subject to full T&C's.



Internal Combi Range

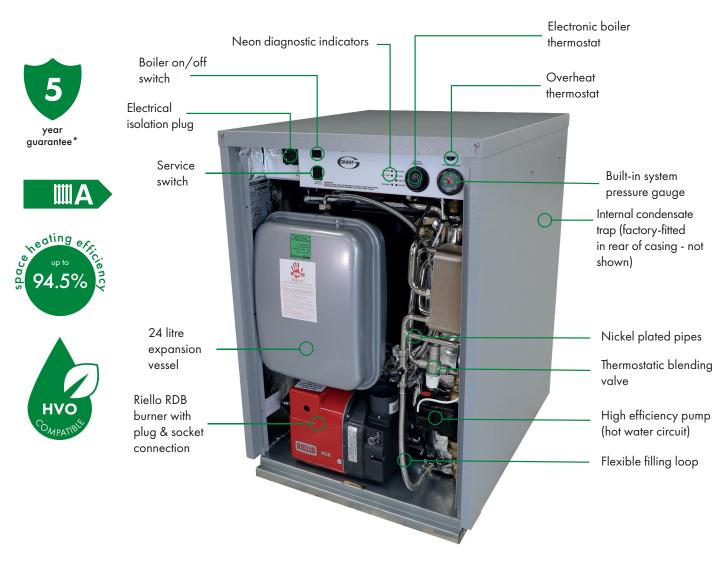
# Vortex External Combi Range

The Vortex External Combi boiler range comprises of two models. Each external combination boiler from Grant is supplied with a 24ltr expansion vessel as well as neon diagnostic indicators to allow for easy operation. The External Combis, which have larger than normal heat exchangers, deliver excellent hot water performances and are highly efficient.

### Models

VORTCBMOD26P Vortex External Combi 26kW VORTCBMOD36P Vortex External Combi 36kW

- 26kW and 36kW outputs available
- Features two accurate electronic temperature controls allowing for condensing mode operation for central heating while also maintaining instant hot water production
- High quality external powder coated paint finish



<sup>\*</sup>Subject to full T&C's.

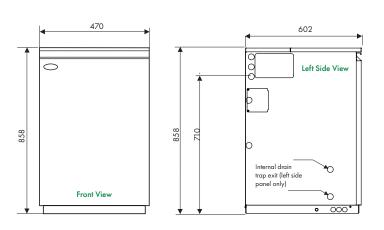


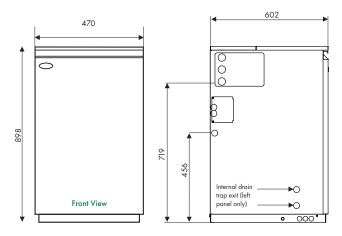
External Combi Range

## Vortex Utility Range Technical Specifications

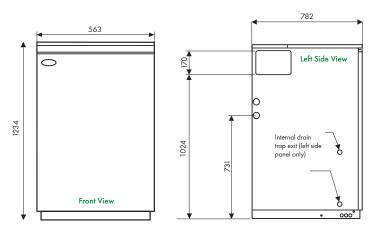
	Output	Output	Set Output	Flow Connection	Return Connection	Weight (dry)
Model	kW	Btu/h	kW	mm	mm	kg
VORTUT15-26	15 - 26	50 - 90,000	21	22	22	130
VORTUT26-36	26 - 36	90 - 123,000	31	28	28	144
VORTUT36-46	36 - 46	123 - 157,000	41	28	28	144
VORTUT46-70	46 - 70	157 - 240,000	58	11/4" BSP	11/4" BSP	282

## Dimensions (mm)





Vortex 15-26kW Utility



Vortex 46-70kW Utility

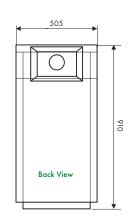
Vortex 26-46kW Utility

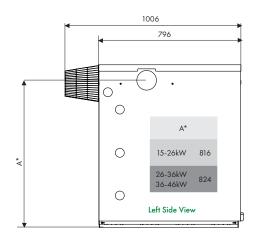
## Vortex External Range Technical Specifications

	Output	Output	Set Output	Flow Connection	Return Connection	Weight (dry)
Model	kW	Btu/h	kW	mm	mm	kg
VORTMOD 1526P	15-26	50 - 90,000	21	22	22	130
VORTMOD2636P	26-36	90 - 123,000	31	1" BSP	28	144
VORTMOD3646P	36-46	123 - 157,000	41	28mm	28	144
VORTMOD4670P	46-70	157 - 240,000	58	11/4" BSP	11/4" BSP	282

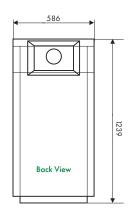
## Dimensions (mm)

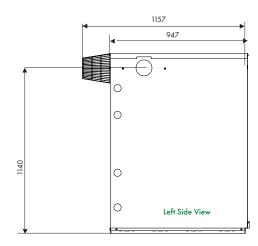
Vortex External 15-26, 26-36, 36-46kW





Vortex External 46-70kW



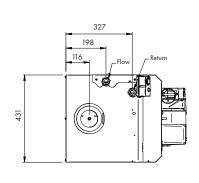


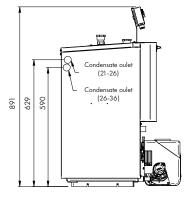
## Vortex Boiler House Range Technical Specifications

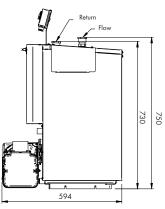
	Output	Output	Set Output	Flow Connection	Return Connection	Weight (dry)
Model	kW	Btu/h	kW	mm	mm	kg
VORTBH5090BSRED	15-26	70 - 90,000	23.5	1" BSP	1" BSP	125
VORTBH90120BSRED	26-36	90 - 120,000	31	28mm	1" BSP	143
VORTBH120155BSRED	36-46	123 - 157,000	41	28mm	1" BSP	145
VORTBH155240BSRED	46-70	157 - 240,000	58	11/4" BSP	11/4" BSP	301

## Dimensions (mm)

Vortex Boiler House 15/26, 26/36





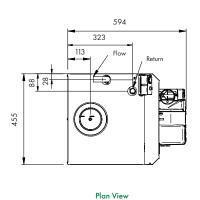


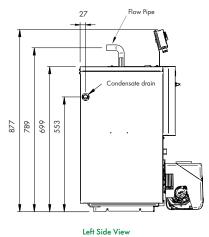
Plan View

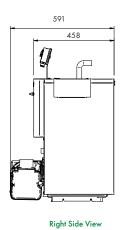
Left Side View

Right Side View

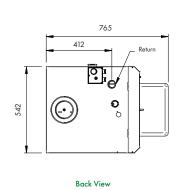
Vortex Boiler House 36-46kW

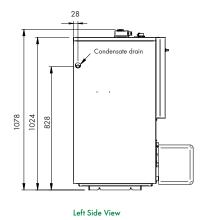


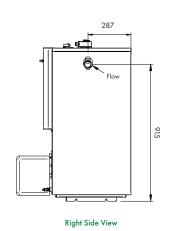




Vortex Boiler House 46-70kW



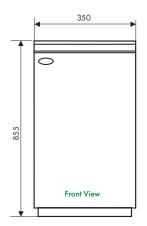


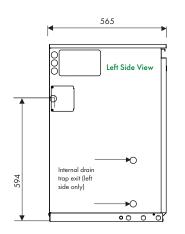


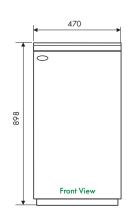
## Grant Euroflame Utility Range Technical Specifications

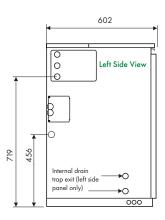
	Output	Output	Set Output	Flow Connection	Return Connection	Weight (dry)
Model	kW	Btu/h	kW	mm	mm	kg
EFCON5090IND	15 - 26	50 - 90,000	21	22	22	97
EFCON90120IND	26 - 36	90 - 120.000	31	22	22	127

## Dimensions (mm)









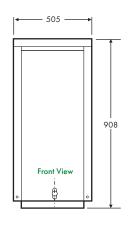
Grant Euroflame 15-26kW Utility

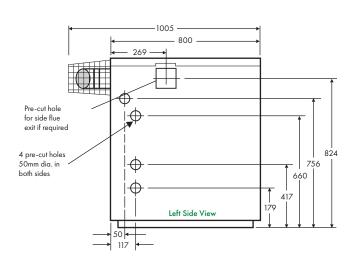
Grant Euroflame 26-36kW Utility

## Grant Euroflame External Range Technical Specifications

	Output	Output	Set Output	Flow Connection	Return Connection	Weight (dry)
Model	kW	Btu/h	kW	mm	mm	kg
EFCON5090MOD	15 - 26	50 - 90,000	21	22	22	113
EFCON90120MOD	26 - 36	90 - 120,000	31	22	22	142

## Dimensions (mm)





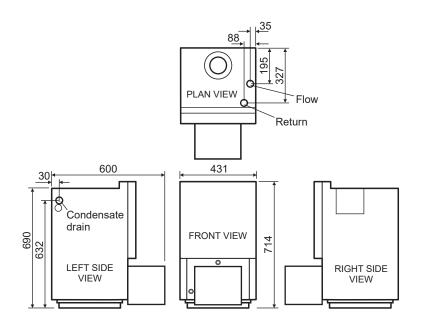
Grant Euroflame 15-26, 26-36kW External

## Euroflame Boiler House Range Technical Specifications

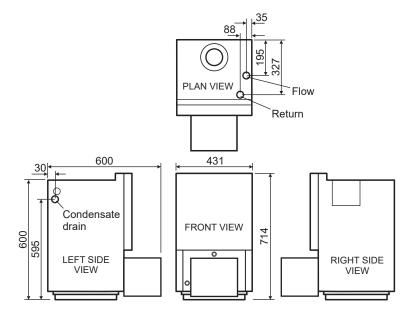
	Output	Output	Set Output	Flow Connection	Return Connection	Weight (dry)	
Model	kW Btu/h		kW	mm	mm	kg	
EFCON5090BHBSRED	15-26	50 - 90,000	21	1" BSP	1" BSP	113	
EFCON90120BHBSRED	26-35	90 - 120.000	31	1" BSP	1" BSP	142	

## Dimensions (mm)

Euroflame Boiler House 15-26



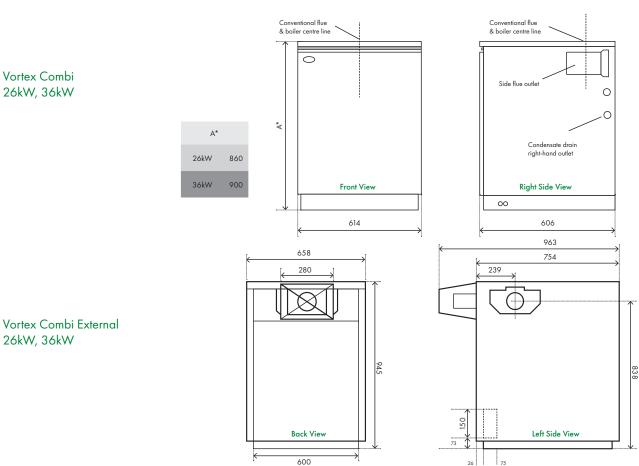
Euroflame Boiler House 26-35kW



## Vortex Combi Range Technical Specifications

	Output	Output	Set Output	Flow Connection	Return Connection	Cold Water In	Pressure Relief	Weight (dry)	Typical Hot Water Performance*	Approx recovery time**
Model	kW	Btu/h	kW	mm	mm	mm	mm	kg	L/min	min
VORTCOMBI26	26	90,000	26	22	22	15	15	177	15	4
VORTCOMBI36	36	123,000	36	28	28	22	15	200	20	3
VORTCBMOD26P	26	90,000	26	22	22	15	15	206	15	4
VORTCBMOD36P	36	123,000	36	28	28	22	15	225	20	3

## Dimensions (mm)



<sup>\*</sup>Hot water flow rate is dependent on mains pressure available. Figures are based upon an incoming mains water temperature of 10°C \*\* Based upon 100 litre draw off.

### **HVO** Biofuel

Low carbon liquid fuels could play a significant role in helping off-gas properties operate cleaner, more sustainable home heating in the future. Extensive trials have been undertaken researching the potential of biofuels, exploring how they perform in operation in domestic heating systems compared to traditional fossil fuels. Biofuels can vary from blended fuels, such as B30K and 100% biofuels such as Hydrotreated Vegetable Oil (HVO). Low carbon liquid fuels such as HVO will help transition into low carbon heating systems.

HVO biofuel is a type of renewable energy made from organic matter and waste materials and, as it is a second-generation fuel, it eliminates up to 90% of net carbon dioxide emissions compared with traditional fossil fuels, as well as achieving lower NOx emissions. HVO can be used as a 'drop-in fuel' so it is a suitable replacement for existing fossil fuels like kerosene.

In preparation for the wider availability of biofuels, the new Grant Vortex HVO oil-fired boilers have evolved. Homeowners who choose a Grant boiler can therefore be assured that their boiler is operating at the highest efficiency.

Your local OFTEC registered technician will be able to advise on any cleaning, changes or adjustments required to your existing fuel storage and supply system, much of which will already be biofuel compatible. This, combined with a Grant Vortex HVO boiler, should make the switch from kerosene oil to biofuel seamless and straightforward for rural, hard to heat homes.

### **Grant HVO Boiler Training**

With so many developments in the heating trade, we understand the importance of offering comprehensive training and support for products from the latest HVO boilers through to heat pumps and other renewable technologies. The extensive facilities at our Training Academy demonstrates Grant's commitment to providing professional training for heating engineers.

The oil practical workshop has over 10 different operational oil fired boilers, from the Vortex and Euroflame boilers, combi boilers and wall hung boilers for hands on training, as well as HVO burner training also.

#### **HVO Biofuel**

- 90% greener than kerosene.
- Higher calorific value than kerosene.
- Existing Vortex boilers easy to convert.
- Training program for service technicians.
- HVO is free of palm oil.

 Hydrotreated Vegetable Oil is manufactured from 100% renewable and sustainable waste derived raw materials certified via the international sustainability and Carbon Certification (ISCC) scheme.

No need for expensive retrofits.

 Carbon savings if HVO replaced kerosene could be 3.2m tonne per year.



HVO Homeowner Guide





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