



TRIANCO

The Heating Creators

Greenflame
Environmentally Friendly Biomass Solutions



TRIANCO

The Heating Creators

Superb quality heating products from the heating creators

Trianco's pedigree can be traced right back to the 1850s when Newton Chambers first produced coal fired ranges at its Thorncliffe site in Sheffield. Ever since then the TRIANCO name has been at the forefront of heating product design and supply. The company pioneered a range of oil and solid fuel domestic boilers in the 1980's and more recently a selection of electric boilers and multi fuel stoves.

One of Trianco's most important and proudest developments to date, is its entrance into the renewable heating market with a range of sustainable heating products. The past few years has seen a carefully planned introduction of a diverse range of biomass wood pellet boilers for both domestic and commercial application under the 'Greenflame' brand. Greenflame is also supported by an array of products in the form of feeding solutions and hopper storage, making it one the most diverse biomass ranges available in the UK.

The company is proud to be one of the last remaining British owned domestic boiler manufacturers.



Sustainable heating choice

Sustainable heating solutions are fast becoming common, considered and preferred heating choices for many homes across the UK. The chosen solution can benefit both economically, environmentally and offer financial gains based on government renewable incentive schemes.

We chose to offer biomass for a number of reasons.

Environmental

- Biomass has clean burn credentials yet delivers superb efficiencies in excess of 90%.
- Its carbon dioxide emission savings are considerable when replacing an existing heating system such as solid fuel (coal) or an electric storage system.
- Wood pellets only release as much carbon as it created during the growth process.

Biomass is both abundant and renewable and is one of the most natural and sustainable fuel sources available to us.

Financial

The financial gain on biomass is dependent on the type of system it may be replacing. Government grant incentives such as the Renewable Heat Incentive (RHI) has helped make biomass a very attractive choice:

Grant Incentives

The Renewable Heat Incentive (RHI) benefits both domestic and commercial installations by adopting a feed in tariff approach, payments are made on a quarterly basis for every kW/H of energy produced on the premises.

Managed by 'ofgem' the RHI encourages those looking to replace a current heating system with a renewable technology.

Domestic RHI tariff is currently set at 6.43p/kWh for biomass boilers installed up to 45kW's. Payments are set for seven years (paid quarterly) and based on the estimated (deemed) heat demand of the property.

Commercial RHI Tariff is set at 4.18p/kWh for first 1,314 at Full Power (2.0/kWh thereafter = Tier2) for <200kW Biomass Boiler and provides a subsidy, payable for 20 years.P3. ew Greenflame ECO Internal & External models.

The above tariffs are correct at time of printing. For the latest tariff please visit www.ofgem.com

New Greenflame ECO External Range

A new era of Greenflame ECO external biomass boilers have now arrived. ECO's have proved to be one of the most versatile biomass ranges on the market and offer many features as standard, including superb efficiencies in excess of 91%, 'Lambda' control, full automation and power modulation. Outputs stretch from 10kW - 60kW with option of two generously sized hopper stores (110kg or 214kg) to reduce the length of filling time.

Ideal when space is at a premium External models feature tough weatherproof casings in a Black graphite finish and house improved components such as the 'Leister' ignitor.

All ECO's are now designed to suit the new ECO system flue kit from Trianco. Each external model is supplied complete with a system flue starter kit including built in flue draft stabilizer and adapter to suit the ECO and start off flue length and finishing cowl. Additional components such as meter lengths, bends and tees allows a variety of install options. The ECO system flue kit ensures a smooth and easy install with a kit that comes recommended for specific use from Trianco.

(See reverse for detail)



- MCS accredited - 91%+ efficient
- NEW Igneo slim controller
- Outputs 10kW - 60kW
- Weatherproof casings (External)
- Lambda control
- Large hopper store capacity (larger sizes available)
- Modern automation
- Truck points for ease of delivery/off loading
- Innovative cleaning system
- Low Co2 emissions
- Safety of operation
- Modern design
- Low operation costs
- Complete with starter flue kit
- Up to 80% modulation range
- Buffer or thermal store required
- Guarantee - 2 Years parts - 5 years heat exchanger
- Tested to EN303-5
- IP Rated 45



Lambda sensor

Lambda sensor ensures optimum combustion efficiency

Code	Item	Output (kW)	Unit (kg)	Width (mm)	Depth (mm)	Height (mm)
FG3790	Greenflame Eco 10kW External 110kg store	1.0 - 10	320	1155	865	1275
FG3791	Greenflame Eco 10kW External 214kg store	1.0 - 10	335	1460	865	1360
FG3792	Greenflame Eco 15kW External 110kg store	1.5 - 15	320	1155	865	1275
FG3793	Greenflame Eco 15kW External 214kg store	1.5 - 15	335	1460	865	1360
FG3794	Greenflame Eco 25kW External 110kg store	2.5 - 25	320	1155	865	1275
FG3795	Greenflame Eco 25kW External 214kg store	2.5 - 25	340	1460	865	1360
FG3796	Greenflame Eco 40kW External 127kg store	3.0 - 40	375	1155	865	1375
FG3797	Greenflame Eco 40kW External 221kg store	3.0 - 40	400	1460	865	1485
FG3798	Greenflame Eco 60kW External 145kg store	4.0 - 60	420	1155	865	1375
FG3799	Greenflame Eco 60kW External 292kg store	4.0 - 60	460	1460	865	1485

Greenflame ECO

Internal models

'ECO' boasts superb efficiencies in excess of 91% and additional features such as power modulation ranging between 2-100%. Outputs span 10kW-60kW, in two large hopper store size options, e.g.(10kW-25kW) features a 110kg or 214kg store option, ensuring considerably less re-filling time. ECOs are available with the Trianco purposely designed ECO flue kit.

- MCS accredited - 91%+ efficient
- Lambda control - ensures optimum efficiency
- Large hopper store capacity (larger sizes available)
- Easy to use LCD controller
- Modern automation
- Innovative cleaning system
- Low Co2 emissions
- Safety of operation
- Modern design
- Low operation costs
- EN304-5 Efficiency – Class 5
- Up to 80% modulation range
- Buffer or thermal store required
- Guarantee - 2 Years parts - 5 years heat exchanger
- Tested to EN303-5



Lambda sensor

Lambda sensor ensures optimum combustion efficiency

Code	Item	Output (kW)	Width (mm)	Depth (mm)	Height (mm)	Unit (kg)
FG3730	Greenflame Eco 10kW Internal 110kg store	1.0 - 10	1155	865	1275	320
FG3731	Greenflame Eco 10kW Internal 214kg store	1.0 - 10	1460	865	1360	335
FG3732	Greenflame Eco 15kW Internal 110kg store	1.5 - 15	1155	865	1275	320
FG3733	Greenflame Eco 15kW Internal 214kg store	1.5 - 15	1460	865	1360	335
FG3734	Greenflame Eco 25kW Internal 110kg store	2.5 - 25	1155	865	1275	320
FG3735	Greenflame Eco 25kW Internal 214kg store	2.5 - 25	1460	865	1360	340
FG3736	Greenflame Eco 40kW Internal 127kg store	3.0 - 40	1155	865	1375	375
FG3737	Greenflame Eco 40kW Internal 221kg store	3.0 - 40	1460	865	1485	400
FG3747	Greenflame Eco 40kW External 125kg store	3.0 - 40	1177	740	1573	375
FG3738	Greenflame Eco 60kW Internal 145kg store	4.0 - 60	1155	865	1375	420
FG3739	Greenflame Eco 60kW Internal 292kg store	4.0 - 60	1460	865	1485	460

One of the most exciting revamps for the ECO range is the inclusion as standard of the new 'IGNEO SLIM' controller.

Igneo slim controller

Igneo is a superbly advanced controller that has many features to give ultimate boiler control to the homeowner. Thanks to Igneo's advanced algorithm there are a number of system set ups, reports and logs on offer so the boiler can be truly tailored to a households required use

Igneo fully controls both the heating system and domestic hot water usage. It has a user friendly display that is generously sized for easy operation. Features include operating status and boiler report logs that monitor a variety of parameters including temperature from the burner to boiler and feeder operating times, this allows for optimum fuel control. The controller also displays measured temperatures, i.e. in room, radiators, buffer tank, hot water and outdoor temperature.

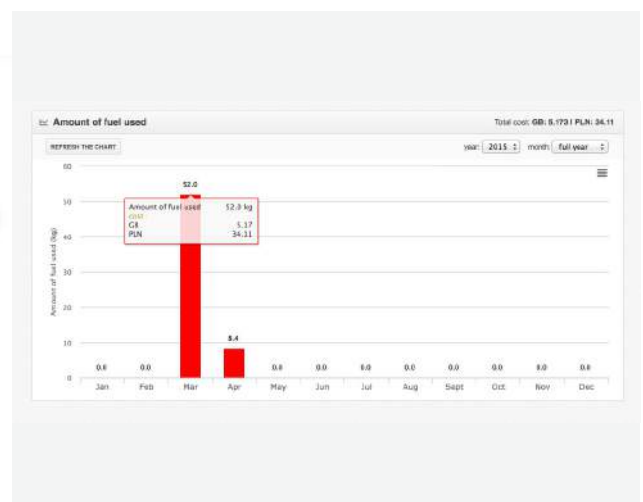
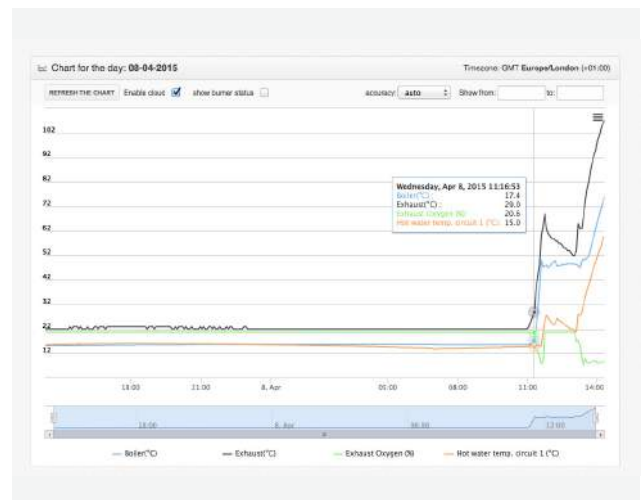
Trianco can also remotely monitor each install via Igneo, this allows for direct remote access should customer service or technical support be required. We are able to identify usage levels and efficiency.

Features / Controller

- Remote monitoring facility
- 7-day programmer
- User friendly display
- Easy to operate
- System error monitoring
- Operating status logs
- Monitoring report logs (email/text)
- System temperature reports
- Fuel usage reports (daily/total)
- Temperature Settings
- Combustion Oxygen
- Fan



Report chart examples



Greenflame ECO AIR

ECO AIR offers large volume biomass space heating to commercial premises. Designed to link up to the Greenflame ECO biomass boiler (60kW), ECO AIR is extremely quick and easy to install with minimal disruption to the chosen premises. The unit can be installed as one or split with the fan section installed at a separate location to the boiler.

- Suitable for commercial application
- Built in - RHI approved heat meter (Optional remote monitoring)
- Unique design
- Competitively priced
- High performance
- Versatile on-site siting
- Low operational costs
- Supplementary tappings for additional heating options
- Built in temperature control
- Easy and quick to install
- Single phase – plug and play system
- Designed to link up to ECO 60kW biomass boiler
- Built in 7-day programmer
- Supplementary tapping's for additional heating system



Code	Item	Output (kW)	Width (mm)	Depth (mm)	Height (mm)	Unit (kg)
FG3744	Greenflame ECO AIR blower 60kW	60	1125	465	2585	150
FG3743	Greenflame ECO AIR 60kW boiler (120kg)	60	1155	865	1375	420

Greenflame ECO Multi Fuel 60kW

The Fully automated ECO EG-MULTIFUEL biomass boiler adapts perfectly to the heating needs of a commercial property such as factory, office block, school, public offices, hospitals, gymnasiums, farms etc.

Available in outputs from 60kW to 600kW this boiler is extremely efficient, in excess of 92% and easy to operate. This model burns ENplus approved pellets.

The optimal combustion process is ensured through an automated fuel feeding system which is integrated with a system that removes ash from the burner.

ECO EG MULTIFUEL can be used with auger or vacuum feeding options.

- Outputs from 60kW - 600kW
- 92%+ efficient
- Large hopper store capacity
- Easy to use LCD controller
- Modern automation
- Low Co2 emissions
- Modern design
- Modulation 30% - 100%
- Advanced automation
- Innovative, automated heat exchanger cleaning system
- Automated system for ash removal
- Lambda control - ensures optimum efficiency
- Safety of operation
- High quality ceramic burner
- Buffer or thermal store required
- Guarantee - 2 Years parts - 5 years heat exchanger
- Tested to EN304-5 Efficiency – Class 5



Lambda sensor

Lambda sensor ensures optimum combustion efficiency

Code	Item	Output (kW)	Width (mm)	Depth (mm)	Height (mm)	Unit (kg)
FG3992	Greenflame ECO multifuel 60kW	18-60	725	1168	1135	1945
FG3993	Greenflame ECO multifuel 80kW	24-80	1100	1168	1135	1945
FG3994	Greenflame ECO multifuel 100kW	30-100	1100	1168	1135	2195
FG3995	Greenflame ECO multifuel 150kW	45-150	2220	1445	1435	2490
FG3996	Greenflame ECO multifuel 200kW	60-200	2490	1445	1435	2490
FG3997	Greenflame ECO multifuel 250kW	75-250	2690	1145	1435	2490
FG3998	Greenflame ECO multifuel 300kW	90-300	3000	1145	1435	2590
FG3999	Greenflame ECO multifuel 600kW	180-600	4230	1910	1910	3830

Pellet feeding systems

If an alternative to hand feeding a biomass boiler is required, a selection of automatic feeding options are available.

Auger Systems

Augers are basically long tubes (can be flexible) which rotate pellet through the system via an internal helical screw blade, operated by a motor.



The Vacuum System

Ideal for automatic transportation from bulk hopper store to boiler, the vacuum removes dust from pellet fuel before delivering pellets to the burner (ensuring trouble free operation) and can transport pellets from up to 20 meters away. It fills the integral hopper within the boiler even while the burner is running and a slumber mode option tops up the hopper for the evening (popular for commercial application – up to 125kW).



Greenflame Automatic Feed Options

Code	Item
FG3740	Vacuum system
FG3725	25m Hose (diameter 50mm)
FG3724	Eco control box (Required for ECO boiler auger feed)
FG3713	2m straight auger
FG3723	3m straight auger
FG3728	4m straight auger
FG3729	6m flexi auger
FG3714	8m flexi auger
FG3715	10m flexi auger
FG3778	Socket available to fit all std Greenflame up to 25k and full range of Eco boilers

NB: To auger feed a Greenflame ECO boiler add - ECO Control Box FG3724

Greenflame Accessories

Code	Item
SP2000	Commissioning rate Greenflame biomass unit 15kW - 28kW
SP3000	Commissioning rate Greenflame biomass unit 50kW - 250kW
SP400225	Heat meter Superstatic 449
SP400226	Modem



Heat meter

Pellet Storage

Fuel and Usage

Each Greenflame unit houses a substantial integral pellet store which is automatically fed, the 28kW houses a 100kg store that makes for easy loading using standard 10kg to 15kg pellet bags, Slim has a 45kg store. 6mm approved premium pellets are recommended with moisture content below 10%. High quality pellets have a low ash content (max 0.5%) meaning good combustion, minimum ash production and less wastage as a result.

Maintenance

Regular check of the combustion chamber to remove ash is recommended to ensure continual smooth running of the system. The main ash pan also requires cleaning every 4-6 weeks (lower ash pan once a week) to ensure optimum performance. Pellets should be stored in a dry area free from humidity. ENPLUS A1 certified pellets must be used.



Fuel Storage & Supply

For larger scale installations a separate pellet store is worth considering. Pellet fuel storage and transportation options are just as important a consideration as deciding on which biomass boiler to choose.

- Would a pellet delivery truck gain access?
Note: Generally bulk deliveries can be blown from up to 20 metres.
- Is there adequate fuel capacity to match the boiler size?
Note: A 100kW boiler will use approximately 25kgs per hour when running continuously at full power.
- Is there enough space for storage?
Note: 1 tonne of pellets takes up 1.8m³ space.

Wood pellets are less expensive than the cost of fossil fuels such as gas or oil for example, approximate costs are around £210.00 per tonne (and vary).

Pellet Storage Solutions

Square hopper stores

Code	Item	Footprint	Height
FG3775	0.5 Tonne hopper store	2m x 2m	1.556m
FG3760	3.0 Tonne hopper store	2m x 2m	2.335m
FG3762	4.0 Tonne hopper store	2m x 2m	2.965m
FG3763	5.0 Tonne hopper store	2m x 2m	3.395m
FG3764	6.0 Tonne hopper store	2m x 2m	3.825m
FG3765	8.0 Tonne hopper store	2m x 2m	4.685m
FG3766	10.0 Tonne hopper store	2m x 2m	5.545m

Rectangular hopper stores

Code	Item	Footprint	Height
FG3767	6.0 Tonne hopper store	2m x 4m	2.225m
FG3768	7.0 Tonne hopper store	2m x 4m	2.425m
FG3769	8.0 Tonne hopper store	2m x 4m	2.855m
FG3770	10.0 Tonne hopper store	2m x 4m	3.285m
FG3771	12.0 Tonne hopper store	2m x 4m	3.715m
FG3772	14.0 Tonne hopper store	2m x 4m	4.145m
FG3773	16.0 Tonne hopper store	2m x 4m	4.575m
FG3774	20.0 Tonne hopper store	2m x 4m	5.435m

ECO Flue kits

All ECO boilers must be installed with the Trianco ECO flue system. This 316L grade stainless steel flue is twin-walled from the adapter to ensure optimum performance from the start.

Fully insulated it offers low heat conductivity to the walls of the chimney as well as being totally weatherproof due to its high quality continuously seam welded finish. It also has a high corrosive resistant finish due to its molybdenum alloy content.

Features

- 150mm (10-40kW) and 180mm (60kW) diameters
- High thermal resistance
- Weatherproof
- Flue liner: 316L grade stainless steel
- Corrosion resistant
- Fully insulated
- Easy push fit joints
- Approved to EN 1856-1 and EN 1856-2

Code	Item	Output kW
FG3810	Greenflame ECO system flue kit	10-40kW
FG3811	Greenflame ECO system flue kit	60kW

FG3810

Size	Item
150mm	10-40KW Boiler Adaptor
150mm	Twin Wall Insulated 45 degree Bend
150mm	Twin Wall Insulated 90 degree Tee
150mm	Twin Wall Draught Stabiliser Adaptor
150mm	Draught Stabiliser (Stainless Steel)
150mm	Twin Wall Insulated Adjustable 340-490mm Length
150mm	Twin Wall Insulated 45 degree Tee
150mm	Tee cap with drain
150mm	Twin Wall Base Wall Support
150mm	Twin Wall Insulated 1000mm Length
150mm	Twin Wall Bracket - 60mm of wall face
150mm	Twin Wall Cowl with Birdguard -S/Fuel

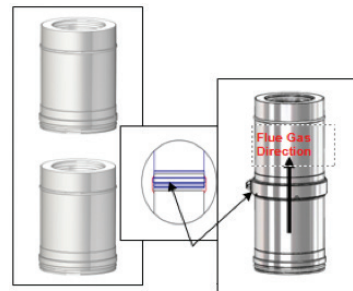
Start Off Adapter

All our flue systems include specially developed start off adaptors to ensure a hassle free connection to the boiler spigot.



Locking Band

The unique jointing system, along with the locking band system, both strengthen the joints and ensures the excellent gas tight properties of the chimney. Care must be taken to install the locking band as per its directional arrow.



FG3811

Size	Item
180mm	60KW Boiler Adaptor
180mm	Twin Wall Insulated 45 degree Bend
180mm	Twin Wall Insulated 90 degree Tee
180mm	Twin Wall Draught Stabiliser Adaptor
180mm	Draught Stabiliser (Stainless Steel)
180mm	Twin Wall Insulated Adjustable 340-490mm Length
180mm	Twin Wall Insulated 45 degree Tee
180mm	Tee cap with drain
180mm	Twin Wall Base Wall Support
180mm	Twin Wall Insulated 1000mm Length
180mm	Twin Wall Bracket - 60mm of wall face
180mm	Twin Wall Cowl with Birdguard -S/Fuel

TR Engineering Limited
Thornclyffe, Chapeltown, Sheffield S35 2PH
Telephone: +44 (0)114 257 2300
Fax: +44 (0)114 257 1419
Email: info@trianco.co.uk
Web: www.trianco.co.uk

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