

## GE range – 455 to 1,200kW

### Gas, oil or both, high efficiency cast iron boilers

Depending on your project requirements, the versatile GE range of cast iron boilers can be operated with an oil or gas burner. It is also possible to use a dual fuel burner that can be switched over from gas to oil if the gas supply is interrupted.



#### Cast iron technology – economic and efficient

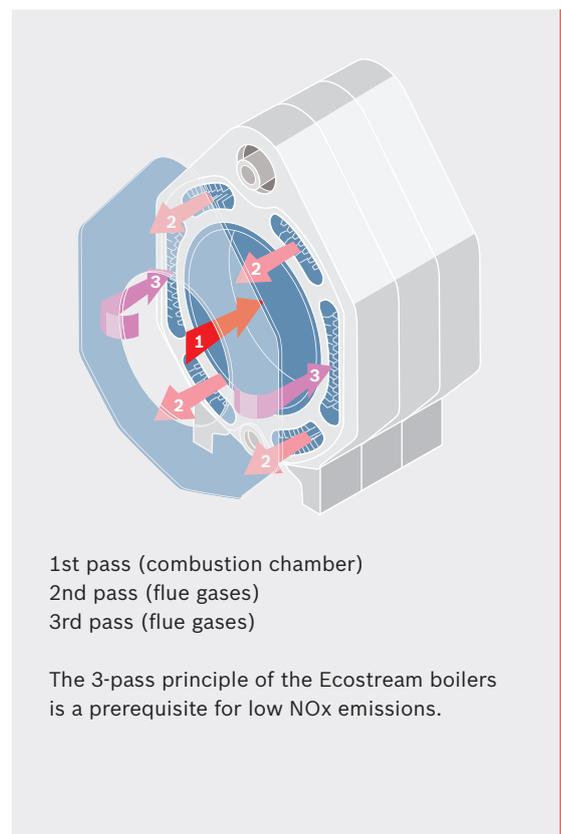
The modern cast iron boiler design helps to create optimum combustion conditions: efficiency rates of up to 97% (NCV) are possible with low flue gas temperatures and effective all-round thermal insulation.

#### Cleaner combustion

The 3-pass principle and the water-cooled combustion chamber with direct heating surfaces offer ideal conditions for low emissions. This is especially true in conjunction with the advanced pressure-jet oil and gas burners, which are matched to the boilers.

The secondary heating surfaces are arranged symmetrically around the combustion chamber. Some of them have hot gas baffle plates, which optimise the speed of the hot gas flow. This creates more intensive heat transfer to the boiler water. The result is a high standard seasonal efficiency and low flue gas temperatures.

Combustion chambers for all cast iron boilers have a large front door and are therefore easily accessible, making maintenance quick and simple. Combustion gas channels can be easily cleaned from the front.



- 1st pass (combustion chamber)
- 2nd pass (flue gases)
- 3rd pass (flue gases)

The 3-pass principle of the Ecostream boilers is a prerequisite for low NO<sub>x</sub> emissions.

**Features and benefits of the GE range at a glance:**

- ▶ Variable outputs of 455 to 1,200kW
- ▶ High levels of energy efficiency - up to 96% (NCV)
- ▶ 3-pass construction for lower emissions
- ▶ Compact boiler dimensions
- ▶ Easy maintenance and cleaning
- ▶ Flexible choice of fuel: Natural gas, heating oil, bio-fuels\*
- ▶ Sectional design allows assembly in the plant room which makes it the ideal choice for places with limited access
- ▶ The thermostream technology provides a simple system which is very reliable in low temperature operation
- ▶ For use with 4000 control units.

**Robust and reliable**

When the boiler is fired from cold in low temperature conditions, condensate can form initially and attack the surfaces which come into contact with flue gases. This is why a special cast iron is used which is particularly resistant to condensate.

Cast iron is also very easy to cast and shape and allows the combustion chamber and heat surfaces to be designed to ensure optimum transfer of heat and the best possible use of energy.

**Compact, flexible and powerful**

The compact dimensions of the GE boiler makes the footprint extremely small in relation to its output. The components of GE cast iron boilers can also be supplied in unassembled sections to further assist transportation and installation of the product.

**Case study – Coventry University**

As legislation continues to drive the education sector to reduce its carbon footprint, it's important for education facilities to seek innovative technologies that help to reduce carbon usage and enhance its green credentials.

Coventry University operates an extensive asset management programme, which ensures all low carbon technologies are performing at peak performance levels. It was imperative that the new heating system not only contributed to the university's carbon reduction target, but also offered significant energy efficiencies.

Having undertaken a detailed assessment of the plant room, Bosch proposed a system that utilised 5 x GE615 1,200kW cast iron boilers and a 140kWe CHP module. With boiler efficiency levels of 95 percent and CHP technology proving to be one of the most-cost effective solutions to reduce carbon usage, it was determined that the

system would meet all the requirements set out by Coventry University.

Lee Hatton, Senior Mechanical Engineer at Coventry University, said: "Bosch Commercial and Industrial played a key role in optimising the efficiency of the system, advising us of the importance of correct sizing of the CHP module to ensure maximum efficiency levels."

Lee Hatton concludes: "Thanks to the improved boiler efficiency, the correct sizing of the CHP module and the installation of a thermal store, calculations determine that the university should save 489 tonnes of carbon over the next 12 months. To be able to implement a heating and hot water system which has effectively guaranteed we will meet our ongoing commitment to energy efficiency is a testament to the expertise on hand at Bosch Commercial and Industrial."

