

ideal
HEATING
COMMERCIAL



EVOMAX 2 BOILERS

GUILDHALL, YORK
CASE STUDY

"Boats outside the Guildhall" by Stephen Craven is licensed under CC BY-SA 2.0



AFTER



BEFORE

EVOMAX 2 BOILERS PROVIDE HEAT AND HOT WATER IN LANDMARK LISTED BUILDING

The Guildhall complex, located on the River Ouse in the heart of York, comprises of a range of historic and modern buildings run on a single heating and cooling strategy. The earliest buildings on the site were constructed in the 15th century with various additions through the centuries, the most recent sections being completed in 2022, designed to turn the Guildhall into a building fit for modern day use, improving accessibility, occupant comfort

and energy efficiency. With the exception of listed cast iron radiators in the Victorian council chamber, the work included the replacement of all the building services, including the old Ideal Concord boilers which after almost 40 years of service were past their working lives.

RISING TO THE CHALLENGE
Being a listed building and containing many listed elements within, combined with the river location, made for an extremely

challenging renovation project for architects Burrell Foley Fischer and building and environmental services engineers SGA Consulting, but one they rose to.

For maximum efficiency, SGA Consulting decided on a two-circuit, reverse-cycle river source heat pump (RSHP) as the main method of heating and cooling the Guildhall's new office extension and restaurant, both of which exceeded Building

CASE STUDY FACTS: LOCATION: GUILDHALL, YORK | **BUILDING TYPE:** LISTED BUILDING
EQUIPMENT: THREE EVOMAX 2 CONDENSING BOILERS ON FRAME AND HEADER KIT

REVERSE OF THE EVOMAX 2 BOILERS ON FRAME AND HEADER KITS



Count
busin



EVOMAX 2

Regulations minimum fabric thermal performance. However, due to listed status of the existing buildings, there were very few options available to improve fabric thermal performance, meaning the heat pump could not be effectively used throughout.

Consequently, SGA installed three new **Ideal Heating Evomax 2** gas-fired commercial condensing boilers in a cascade operating at 80°C flow/70°C return. **They were specified by SGA due to their compact nature, further enhanced through installation on an Ideal Heating frame and header kit.** The Evomax 2 boilers supply a low-pressure hot water heating circuit to the cast iron radiators in the Victorian parts of the building, along with two domestic hot water calorifiers that serve the new kitchen and toilet blocks. The Evomax 2 boilers also provide back-up heat to the heat pump circuit.

The Evomax 2 is the UK's number one wall mounted commercial condensing boiler. Highly efficient, it has up to 99.6% full load efficiency and up to 110% part load efficiency, can operate at up to 30°

Δ T, and boasts a high turndown of 5:1. NOx <40mg/kWh (Class 6) is achieved for all Evomax 2 natural gas boilers, for low emissions. It is available with outputs from 30-150kW, which can be increased to 900kW using six Evomax 2 boilers in cascade.

A TWO SYSTEM SOLUTION

Bart Stevens, Director of SGA Consulting, explain his approach to the heating system: "Our solution was to install two separate systems: gas boiler heating and heat pump heating. These systems serve different areas of the building, and are therefore controlled separately. Then a heat exchanger provides back-up heat from the gas boiler circuit to the heat pump circuit. This is temperature controlled to make sure that it only runs when needed."

The heat pump powered underfloor heating, which was permitted by English Heritage in the 7m-high guildhall where World War II bomb damage had led to some roofs, floors and walls being rebuilt or replaced, is now supplemented in these areas with trench heaters concealed within the floor and connected to the higher-temperature Evomax 2 boiler circuit for use on cold winter days (when the outside temperature drops below 5°C).

LOOKING TO THE FUTURE

In 2022, five years after the work began on the Guildhall in York, the building renovation was completed and leased to the University of York by City of York



Free commissioning



Made in the UK



Wall hung



BIM



NOx class 6



Flueing options

"The Evomax 2 is the UK's number one wall mounted commercial condensing boiler."

SGA Consulting's approach to the Guildhall project has helped give new life to this incredible building that's so rich with history. Its considered approach to the listed nature of the building complex, along with the comfort requirements of future generations, balanced with energy efficiency, has led the company to win several awards for this project, including the prestigious CIBSE Building Performance Awards.



IDEAL SUPPORT AND CONTACTS

COMMERCIAL PRODUCTS

Sales, orders, availability, literature and pricing

T: 03330 040 393

E: commercial@idealheating.com

Calls cost no more than calls to geographic numbers (01 or 02) and will be included in any inclusive minutes you have with your telephone service provider.

TECHNICAL AND CUSTOMER SERVICES

T: 01482 498376

E: commercial.services@idealheating.com

SPARES

Sales, orders, availability and pricing

T: 01482 498665

Terms and conditions apply: * 2 year warranty extended to 5 years if commissioned by Ideal Heating.

