



BOSCH

Technologie voor het leven

Heating Plant Utrecht University with Bosch UT-M Boilers

Reference

Croonwolter&dros opt for cooperation
with Bosch Thermotechniek

In an existing, monumental central heating plant, three Bosch UT-M heating boilers are installed. The boilers, each with a capacity of 10.6 MW, are part of the heating network which provides heating for more than thirty buildings at Utrecht Science Park De Uithof. They meet current requirements in terms of quality, safety and NOx emissions.

- ▶ 3 x steel Bosch UT-M boilers
- ▶ Capacity 10.6 MW
- ▶ Heating plant
- ▶ Heating network for more than 30 buildings
- ▶ Utrecht Science Park De Uithof

Between the many university buildings at Utrecht Science Park De Uithof two characteristic heating plants are situated, partly below ground level. They are municipal monuments designed by architect Sjoerd Wouda. In both plants large boilers in combination with a cogeneration plant are the basic elements for the heating network that supplies heat to the university buildings.





Continuous heat supply is essential

The boilers in Plant 2 are installed in the Sixties. The boilers became too vulnerable for interferences and did not meet current NOx requirements any longer. Replacement is part of the 'Zeker Warm' plan of Utrecht University. Continuity of heat supply is essential for the buildings of the Uithof. For example, laboratories and the animal research departments cannot work without the continuity of heat supply. That is why an European tender was launched for renovation of the plants.

Partnership

Croonwolver&dros was already aiming for partnership with Bosch Thermotechniek during the preparation of the tender. Based on the Program of Demand, the submitted proposal was judged as best option. Croonwolver&dros took care of the entire mechanical, electrical and structural modifications and renovation. In addition to the boilers, this also included the fire alarm, security and emergency power installation, as well as the floor and sanitary facilities.

Powerful, compact, economical and reliable

The choice of three Bosch UT-M boilers, each with a capacity of 10.6 MW, has significantly increased the output. The powerful boilers also operate at high temperatures up to 120 °C and meet the highest demands in terms of efficiency, reliability, safety, energy efficiency and NOx emissions. In addition, Bosch boilers in this power range are extremely light and compact. An advantage, because they had to work in an existing, small space where, due to the monumental status, adjustments could not be made just like that. This also had to be taken into account when dismantling and removing the old boilers. The power station has a round shape, which also brought practical challenges,

particularly with the construction of the piping. As soon as the installation in Plant 2 has been completed, the boilers in Plant 1 will also be replaced.

Involved parties:

- ▶ Customer: Utrecht University
- ▶ Engineering: Croonwolver & dros

Specifications

Bosch UT-M steel hot water boiler

- ▶ Available in power range from 750 to 19,200 kW
- ▶ Efficient 3-way boiler construction
- ▶ Operating efficiency up to 105% in combination with condensing heat exchanger
- ▶ Efficient insulation, high efficiency
- ▶ Suitable for low return temperatures from 50°C
- ▶ Security pressure up to 16 bar
- ▶ Maximum temperature up to 190°C
- ▶ Suitable for all burner types
- ▶ Optimum combustion due to carefully developed burner technology and optimum boiler burner selection
- ▶ Easy to maintain due to the easy hinged boiler door
- ▶ Robust and reliable, very long service life
- ▶ No minimum burner load required thanks to
- ▶ dry firing
- ▶ No influence of cooling due to the flame tubes
- ▶ High ΔT allowed up to 50 K