Newsletter
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BOSCH
Invented for life

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A newsletter – why?

We are pleased to present the 'Newsletter' from Bosch Industriekessel. Our Newsletter will keep you informed on developments in our division: practical examples, the latest products, trade fair dates and exciting news from our industry segment.

If you would like to be one of the first to read the latest news straight from the source, you can subscribe to our free digital Newsletter with the postcard attached. We hope you enjoy browsing through this issue.

Bosch Industriekessel supplied 6 shell boilers
Polish power plant chooses environmentally-friendly energy

Polish power plant Elektrociepłownia Zielona Góra SA is replacing its coal-fired boiler with a view to minimising emissions so that it can make a significant contribution to climate protection.

The coal-fired power plant had already been replaced with a gas and steam power plant in 2004. Five hot water boilers and one steam boiler from Bosch Industriekessel have been in operation on the site since June 2012. Natural gas or light fuel oil is being used as fuel.

Elektrociepłownia Zielona Góra supplies heat and power to the city of Zielona Gora with its 120 000 inhabitants. The Polish power plant is part of the EDF Group, which has its headquarters in France and is the second largest producer of electricity in the world. The order for the shell boilers was placed via Loos Centrum in Poland, a sales partner of Bosch Industriekessel for many years. As the direct point of contact locally, Loos Centrum was able to support the Polish construction company Mostostal Warszawa S.A. in all aspects of industrial boiler technology.

On route for Zielona Góra: loading a hot water boiler at the inland waterway port of Roth in Central Franconia. The shipping weight of a boiler like this is almost 93 000 kilos.

The hot water boiler system has a total capacity of 160 megawatts. It supports the district heating generation at peak load times and provides emergency back-up should the power plant come to a standstill. The Unimat UT-HZ hot water boilers are equipped with speed-controlled and oxygen-regulated firings and also feature integrated flue gas heat exchangers. A water service module WSM-V with a deaeration capacity of 30 tons per hour is able to provided treated feed water in case of need or in the event of an emergency.

A steam boiler UL-SX with a capacity of 9000 kg per hour acts as an auxiliary boiler providing the necessary steam for the starting process of the power plant. The boiler is equipped with a superheater module; instead of saturated steam, superheated steam is generated. An integrated economizer, a low-emission burner and an additional WSM-V water service module complete the system. The operation of the steam and hot water boilers is controlled by the innovative BCO/SCO controller technology.

In deciding to invest in new boiler technology from Bosch Industriekessel and move completely away from coal as a fuel, the Elektrociepłownia Zielona Góra power plant is minimising CO_2 and NOx emissions, thereby demonstrating high levels of ecological responsibility.

The innovative UT-HZ hot water boilers and the steam boiler at Zielona Gora power station in Poland meet the very highest standards in reliability.

Energy-efficient steam supply for Symura Laundry

A boiler system supplied by Loos (now Bosch Industriekessel) was in use at Symura Laundry in Germany's Lower Saxony region for almost 20 years. Various investments were made in energy-efficient equipment over the years, with the result that the laundry required progressively less steam. The company's steam generator, on the other hand, was not updated and had originally been designed for a significantly higher nominal output than was now needed – meaning it was now no longer efficient to run. To exploit the available cost-cutting potential and ensure operational reliability, the laundry management decided to upgrade their steam supply. Together with specialist planner Gerd Steding of consultancy firm HLS-TECHNIK from Oldendorf, Hesse, they developed an optimal, cost-effective solution.

„We chose Bosch primarily for their customer service and the excellent reliability of their boilers."

Oliver Symura,
laundry owner

As a result, a cutting-edge U-MB steam boiler from Bosch Industriekessel was installed at the company. This new boiler has a steam capacity of 600 kg/h. It is fitted as standard with an economizer, which uses the heat in the flue gases to pre-heat the boiler feed water, allowing most of this heat to be recovered. Fuel consumption and emissions are now lower than before. The boiler's low-NOx natural gas burner with speed-regulated fan keeps it running optimally and at the same time reduces electricity consumption and noise emissions. To allow the boiler parameters to be set for the most efficient possible energy use, it is fitted with a programmable BCO boiler control. It also features an SUC start-up, standby and shutdown control for extra reliability and to facilitate automatic operation, which takes the burden off operating personnel.

The boiler is controlled and regulated optimally via a state-of-the-art BCO touch-screen boiler control unit with integrated SUC start-up, standby and shutdown control.

Thanks to its compact and ready-to-connect design, the boiler could be very quickly moved into position and installed by the plant construction company AME-TECHNIK GmbH from Hamelin. It is regularly serviced by Bosch Industriekessel's customer service department, ensuring maximum reliability and consistently economical operation in the long term.

The new steam supply system saves the laundry around 9300 euros in energy costs annually. It also cuts its CO_2 emissions by some 46.6 tons per year.

The new U-MB steam boiler system from Bosch Industriekessel efficiently supplies steam to Symura Laundry.

Custom-tailored industrial boilers
Manufacturing sites in Germany and Austria

Bosch Industriekessel, the centre of expertise for large-scale and industrial boiler systems in Bosch's Thermotechnik division, has been part of the international Bosch Group since 2009. Every year it produces around 1500 boiler systems for almost as many customers. Every product is unique, built to the customer's specific requirements. The industrial boilers are used in, for example, hotels, hospitals, local and district heating supply companies, and in the food, chemical and paper industry around the world.

Every day, Bosch Industriekessel project engineers – both in the office and out in the field – provide comprehensive, tailored advice to customers. There are some 80 service technicians and 20 sales engineers in Germany and Austria alone. Through close cooperation with planners and plant construction companies, Bosch Industriekessel is able to provide optimal support to its customers.

Manufacturing sites in Gunzenhausen and Schlungenhof
At its sites in Gunzenhausen and Schlungenhof, in the Lake District of Germany's Franconia region, Bosch Industriekessel manufactures steam boilers with capacities up to 55000 kg/h, hot water boilers up to 38000 kW and heating boilers up to 19200 kW, as well as boiler house components and modules.

Thanks to state-of-the-art production machinery including automatic welding machines, plasma cutters and X-ray chambers, the company can consistently maintain the highest possible quality levels. In the last two years alone, around 10 million euros have been invested in the production and administrative buildings in Gunzenhausen and

Shell boilers are produced at the Schlungenhof site. The factory here has a floor space of around 10000 m². Components and modules are manufactured at the Gunzenhausen plant.

Schlungenhof. Of this, the largest single investment (1.1 million euros in total) was in the area of research and development. Following a year in construction, the new experimental test bay for hot water boilers was commissioned in June last year at the Gunzenhausen site. It is used for the experimental testing of new boilers with capacities between 50 and 5000 kilowatts and boiler components, and for conducting acceptance trials for approvals. The new test bay represents an important step in the company's drive to innovate yet more intensively.

Bischofshofen manufacturing site

The heating boilers produced in Bischofshofen, Austria, range in capacity from 650 to 14700 kW. The plant also produces back-up boilers for biomass power stations, which are necessary when normally used woodchips need to be supplemented or replaced by conventional fuels. There is also a training centre at Bischofshofen, which contributes to the popularity of this location. It was set up as part of a substantial programme of investments in the site following its acquisition by Bosch. The training centre has helped to further intensify contact between Bosch Industriekessel and its customers.

Heating boilers with capacities between 650 and 14700 kW are produced at Bischofshofen, Austria.

Bosch presents its latest products and high-efficiency solutions at the ISH and Hannover Messe

ISH trade fair, Frankfurt
12 to 16 March 2013,
Hall 8.0, Stand B31

Hannover Messe
8 to 12 April 2013,
Hall 027, Stand J70

Bosch will be demonstrating its system expertise and experience at this year's ISH trade fair in Frankfurt between 12 and 16 March 2013 and Hannover Messe between 8 and 12 April 2013, inspired by the theme "Leaders in large thermal plants". Highlights will include solutions for the efficient exploitation of waste heat.

Bosch has accumulated extensive project know-how by supplying more than 110 000 systems for industrial, commercial, residential and public buildings, as well as local and district heating suppliers. Bosch's modular systems extend from heat supply systems based on industrial boiler plants, large-scale solar energy systems and heat pumps, to combined heat and power plants and ORC (Organic Rankine Cycle) systems for waste heat recovery. Bosch is a strong partner to its customers at every stage of the project, from planning and support to after-sales.

A perfect match: CHP plant with a 4-pass boiler system

Combined heat and power plants present a viable alternative to conventional systems in many applications. A combined heat and power plant generates the electricity, while a downstream boiler system exploits the hot flue gases from the upstream combustion processes for the efficient generation of thermal energy and process heat. The boiler system is a conventionally-fired 3-pass boiler with an additional integrated fourth smoke tube pass. It is self-firing, to ensure a reliable supply of heat. Bosch can offer its customers all of the components of this modular complete solution.

Utilising waste heat potential – with ORC technology

Bosch ORC solutions use waste heat to generate electrical energy. They are suitable for all situations where large quantities of otherwise unusable waste heat are produced. ORC technology is a viable option in a wide range of sectors. It can also make sense to install an ORC system in conjunction with a combined heat and power plant.

One step ahead with Condition Monitoring basic

Condition Monitoring basic is a new, innovative feature from Bosch for keeping boiler systems running efficiently and reliably. Condition Monitoring basic is operated from the BCO boiler control. It analyses and evaluates system data and displays it in a transparent way using the traffic light model. The calculation algorithms are aimed at providing a diagnostic forecast. Operating characteristics that could lead to a drop in efficiency, increased wear or unplanned downtimes can be detected at an early stage and thereby avoided.

A glance into the future of system controls

Multifunctional system controls for large-scale systems are currently a major focus of development work at Bosch. A prototype will be presented at the ISH, with the product launch planned for the end of 2013. The new control unit will combine various products, for example, a boiler, combined heat and power plant, and accumulator, to form an efficient energy system linked by a single operating interface. It has been designed with a focus on energy monitoring, and makes it easy to keep a track of and record energy flows and costs. It uses standard web browser technology so can be accessed from a standard PC, laptop, tablet PC or smartphone.

Heating boiler for Bunyodkor Stadium

The capital of Uzbekistan has a new landmark: the Bunyodkor Stadium was opened in September last year in the metropolis of Taschkent, which is home to two million inhabitants.

This state-of-the-art multi-purpose arena, which has 34 000 seats, relies on power from Bosch to keep fans warm. Four heating boilers are in operation on the site. Bosch also caters for fan security, having provided not only cameras but also an access and alarm system.

The heating boilers have a total thermal capacity of 13.5 megawatts. Efficient and environmentally-friendly operation is assured thanks to integrated natural gas firing. The effective heating surface design combines with the proven three-pass technology of the boilers to provide the prerequisites for low emissions and high energy efficiency.

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