Newsletter
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BOSCH
Invented for life

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In Focus

Welcome to Issue 4/2013 of the Bosch Industrial Newsletter! At Audi, Shanghai Tower, Paloma - Bosch’s modern boiler technology is used everywhere. Also experience our highly efficient air preheating system in practical use as well as our latest reference material.

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.

Air preheating is increasing system efficiency

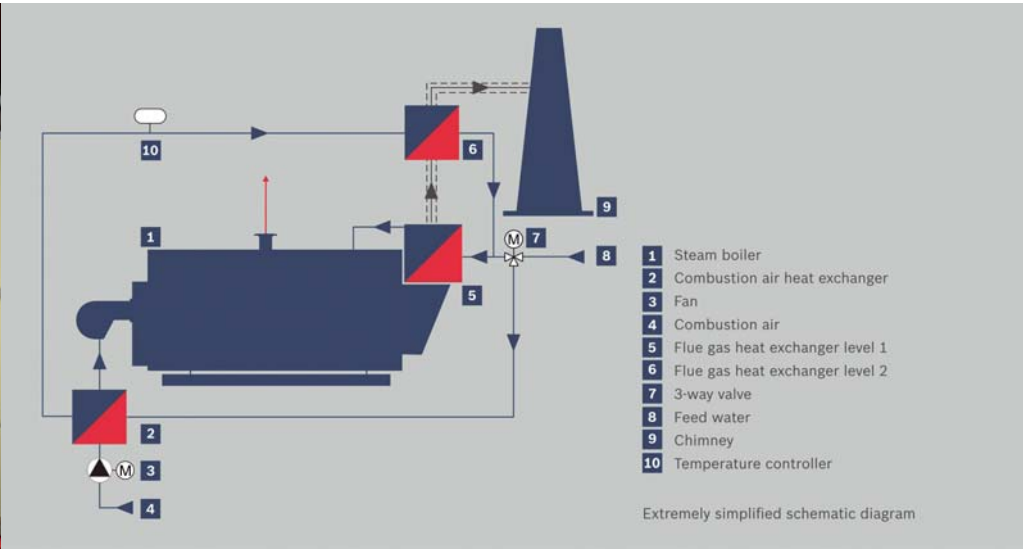
A new steam boiler system by Bosch Industriekessel recently went into operation at the premises of Slovenian paper manufacturer Paloma Sladkogorska. The system equipment includes the air preheating system APH, a heat recovery device which Bosch launched on the market in July this year. It reduces the flue gas temperature of the boiler by preheating the combustion air, thereby increasing system efficiency.

The Bosch steam boiler ZFR with an integrated superheater module and natural gas firing systems at Paloma Sladkogorska. The air preheating system was installed in the cellar at the paper manufacturer‘s premises.

The air preheating system is available for single or double flame tube steam boilers with duoblock burners. It is recommended for use in applications in which process conditions mean that it would not make sense to include a flue gas condenser. On account of its special hydraulic circuitry, the system has far fewer components than commercially available two-circuit systems. It consists of a three-way valve, a combined flue gas heat exchanger and an air-side heat exchanger. If double flame tube boilers such as the one at Paloma are used, the system features two air-side heat exchangers.

A part of the hot feed water is directed to the air-side heat exchangers via the three-way valve. This preheats the combustion air for firing and reduces the temperature of the feed water. The downstream flue gas heat exchanger recovers heat from the hot boiler waste gases as a result of the cooled feed water partial flow reducing the flue gas temperature. The efficiency of the boiler system is up to two percent higher, whilst fuel consumption and emissions are lower.

The gas-fired boiler ZFR produces approximately 30 tons of steam per hour in the paper factory. An integrated superheater module on the boiler generates superheated steam



The air preheating system from Bosch reduces the flue gas temperature of the boiler by preheating the combustion air.

instead of saturated steam, as a result of which temperatures of up to 285 degrees Celsius can be reached. The steam is required for production processes such as drying paper rolls. Every year, Paloma produces hygiene products including toilet paper, tissues, paper towels and napkins from approximately 70,000 tons of paper.

Thanks to the boiler control BCO, operation is user-friendly and settings can be tailor-made according to demand. Integrated fault messaging management, along with troubleshooting support via Bosch Teleservice, make for seamless operation.

Previously, Paloma was using a steam turbine and a 30-year-old water tube boiler. The absence of heat recovery devices meant that significant potential for savings was not being tapped into. With the new Bosch boiler system with economizer and air preheating system, the paper manufacturer now has an energy generation system at its disposal that is optimised in terms of both economic efficiency and the environment. With continuous operation, return on capital for the total investment should be seen in approximately two years. The Slovenian company C. P. Biro, a long-term partner of Bosch, was responsible for all aspects of project support locally.

Strengthening the large systems business
Sales team expanded with specialists for CHP in Germany

Whether it is an industrial boiler system, combined heat and power unit, ORC system, large-scale solar energy system or a combination solution, Bosch is your reliable partner for complex and energy-efficient systems. The quality of our consultancy and service is one of the most important building blocks for our joint success.

In addition to the specialists for shell boilers at Bosch Industriekessel GmbH, there are now also experts in the area of CHP at your side. The new sales engineers have nationwide coverage in Germany and offer comprehensive consultancy, planning and project support for CHP systems up to 2 MWel. Together with the sales team for shell boilers, they form an expert team for individual system solutions, such as for example the combination of a CHP unit with a 4-pass steam boiler.

Bosch also drives forward in its product range the continuous optimisation of existing solutions and the development of new ones for efficient energy generation. An example of this is the new Master Energy Control system, which is available from December 2013 and which spans various technologies. It combines various different system parts, such as for example a boiler, combined heat and power unit and an accumulator, to form an efficient energy system. In addition to this, industrial heat pumps will be added to the large systems range in the coming year.

The new brochure, „Effizienz die funktioniert“, gives you an overview of the available system range for the German market. Interesting examples of applications from the large systems business round off the information brochure.

Information material on the large systems business can be found at www.bosch-industrial.com.

Bosch provides Audi with heat

Through Stuttgart-based plant construction company Cofely Deutschland GmbH, Bosch Industriekessel GmbH received the order to supply two hot water boilers to the Audi plant in Neckarsulm. During the night of 11 - 12 September 2013, the time came for two heavy goods transporters carrying the type UT-HZ hot water boilers to set off from the Bosch plant in Gunzenhausen. Every year, Bosch Industriekessel delivers around 1,500 shell boiler systems to locations all over the world. This time, however, the 11-metre-long and 4.5-metre-wide steel colossuses each with a transportation weight of 96,000 kilograms reached their destination after a journey of around just 140 kilometres.

The nationwide invitation to tender for the project was made via the Audi Internet platform. Thanks to its comprehensive consultation, product and service quality, Bosch Industriekessel had the edge over a strong field of competitors. In addition, a Bosch hot water boiler has been in operation for around 3 years at Audi's Neckarsulm site, where it has impressed with its high efficiency and environmental friendliness. The car manufacturer has now once again opted for proven Bosch products to expand its heating supply system.

The two new boilers efficiently provide thermal and process heat for heating the buildings and halls as well as for vehicle production. A total thermal capacity of 66 megawatts is available. That is equivalent to a thermal capacity that would heat around 7,000 single family homes. Low-emission duoblock burners mean the boilers can be operated either with natural gas or light fuel oil. The boilers are controlled reliably and in an energy-saving manner by the intuitive touch-screen control BCO. Commissioning including the efficiency certification, trial run and supervision of the official acceptance of the boilers is to be performed by the customer service team at Bosch Industriekessel.

Shortly before the delivery: the two hot water boilers for Audi in front of the Bosch plant in Gunzenhausen.

Bosch steam boilers for heating and hot water in China's tallest building

In January 2013, Bosch Industriekessel delivered four highly efficient Bosch Universal UL-S steam boilers. The order was processed and expert support regarding boiler technology was provided on site by Bosch Thermotechnology China. The new boilers each have a steam capacity of 12,000 kg per hour and are equipped with modulating burners and integrated flue gas heat exchangers.

The state-of-the-art system is completed with modular Bosch boiler house components such as the feed water full deaeration module WSM-VR, which supplies the steam boilers with thermally treated feed water. The PLC-based boiler controls BCO facilitate optimised system settings in terms of energy. The touch screen clearly displays the consumption and system values in the form of line graphs or total figures. An integrated teleservice connection allows system operating data to be accessed, analysed and optimised remotely. The high-pressure saturated steam produced in the system is required for humidifying the air processed by the air-conditioning systems, for cooking facilities within the building, hot water production and for the laundry.

China: an economic giant with a huge growth market.
Shanghai: a modern global metropolis.
The Shanghai Tower: standing at 632 metres, China's tallest building is constructed from approximately 100,000 tons of steel and boasts a five-star hotel, various office and conference rooms, cultural and leisure facilities, and sightseeing options.

At 632 metres, the new Shanghai Tower dominates the skyline of the Chinese metropolis.

New reference material available

In the last edition of our Newsletter we presented two interesting examples of applications in the animal feed and food industries. We would like to give you further information about the energy-efficient solutions with our new reference reports and videos.

Visit us at **www.bosch-industrial.com** under the References section.

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