Newsletter

www.bosch-industrial.com

2/2017

Bosch Industriekessel GmbH
Nuernberger Strasse 73
91710 Gunzenhausen
Germany
Tel. +49 (0)9831 56-0
Fax +49 (0)9831 56-92957
eMail info@bosch-industrial.com

www.bosch-industrial.com
www.bosch-industrial.com/YouTube

© Bosch Industriekessel GmbH |
Illustrations are only examples |
Subject to change without notice |
09/2017 |
TT/MKT-CH_de/en_Newsletter_2/17

Content

In Focus

In our current issue we provide you with the realization of a economically-friendly hot water generation at the Neumarkter Lammsbräu, a fascinating project implementation at the dairy plant Bechtel as well as the new energy concept including CHP unit and heating boilers for KSB Pumpen from Pegnitz, Germany. Further highlights are our participation at Drinktec trade fair, Munich and the new, state-of-the-art monitoring tool MEC Optimize for greater efficiency and a high level of system availability. We hope you enjoy reading about it.

With our free, digital Newsletter we will keep you informed about new products, reference projects and events. Register now under: www.bosch-industrial.com/news

Bosch hot water boilers for leading organic brewery Lammsbräu

Purely organic: more than 30 years ago, Neumarkter Lammsbräu (Germany) was already beginning to move in a new direction – and the resulting organic brewery has turned out to be a resounding success. Today it is a market leader and produces more than 85,000 hl of beer annually in outstanding organic quality. Also 100 % organic and not less popular are the non-alcoholic beverages of Neumarkter Lammsbräu with an annual sales turnover of around 115,000 hl. The portfolio comprises non-alcoholic organic beer, the "now" organic lemonades, and the "BioKristall" organic mineral water. The recipe for success of the traditional brewery: ecological and sustained economic activities across the entire value-added chain. This also applies to energy consumption. Comprehensive building and modernization work on the premises in the past year also involved renewal of the hot water supply. The aim was to use efficient and economical boilers to protect the environment and preserve valuable resources.

In the planning phase, the engineering consultants Ulrich and IBEL from Neumarkt supported by Bosch designed the new system with the objective of keeping fuel consumption and emissions to a minimum. This work focused primarily

The new Bosch hot water boilers at Neumarkter Lammsbräu are not only very economical and energy-efficient, they also impress with their compact design with a total heat output of 5,000 kW.

on finding an optimum boiler/burner combination, compact design and suitable heat recovery measures. The new UT-M type hot water boilers are fired exclusively using environmentally-friendly natural gas, which means that the existing oil supply of the previous boilers is no longer necessary. The high burner control range of 1:6 reduces the number of burner starts and therefore valuable energy. In breweries in particular, heat consumption fluctuates depending on the season and a high degree of flexibility is required. The integrated speed control systems also provide significant advantages in this respect. In the partial load ranges, they save up to 75 % electrical energy by adapting the air supply to the current burner output. A further positive effect besides large energy savings: a significant reduction in combustion air fan noise. The noise level drops by roughly 15 dB; three times quieter than a conventional fan without speed regulation. This is a significant factor as the Neumarkter Lammsbräu is located in the city center and must comply with the relevant noise protection guidelines.

Furthermore, the O_2 and CO control systems improve the NO_x and CO_2 emission values. The O_2 probe records the oxygen content in the flue gas and ensures a constant air/fuel ratio. This is done by adapting the air supply automatically depending on the air pressure, temperature and gas quality. In combination with the CO control system, combustion is even more efficient and pollutant emissions are further reduced. The NO_x emissions are less than 80 mg/Nm^3 at all burner operating points and are therefore significantly lower than the stipulated limit values. In addition, each boiler is equipped with a flue gas heat exchanger. They use the thermal energy in the hot boiler flue gases to heat the mains return flow water which reduces fuel consumption. In summary, the new system at the Neumarkter Lammsbräu saves considerable quantities of energy and preserves the environment by producing 35 % fewer CO_2 emissions. The implementation of the new system was entirely carried out by the plant construction company Petry from Neumarkt while the brewery remained in operation. The system was commissioned by Bosch industry service which will also be the maintenance service provider in future.

Images on this page © Neumarkter Lammsbräu

Bosch Industrial at the Drinktec trade fair in Munich

MEC Optimize for greater efficiency and a high level of system availability

At the Drinktec trade fair in Munich from 11 to 15 September 2017, Bosch Industrial will be presenting highly efficient heating and process heat solutions for bottling plants, breweries and dairies.

Intelligent system MEC Optimize for optimizing plant efficiency

Optimum system efficiency and a high level of system availability are important factors for industries to reduce production costs and to increase competitiveness. In this field the use of state-of-the-art data acquisition and analysis is very beneficial and gives information about the operating performance and efficiency of energy-generating systems. With the introduction of MEC Optimize as an addition to our reliable steam and hot water boilers of the highest energy efficiency Bosch Industrial offers an intelligent system for optimizing plant efficiency. The boiler system is either integrated into an existing process control system by means of state-of-the-art control technology or can be visualized on any conventional desktop PC/tablet.

MEC Optimize improves efficiency and availability of boiler systems.

Recording and evaluation of operating parameters

MEC Optimize captures all the operating parameters and messages of the linked system components and stores them locally over many years. The data is issued in the three separate areas of efficiency, operation and service. They are configured in a clear and precise form to indicate any increased energy consumption as well as to evaluate the system's operating performance. Based on the load profile of the plant, components are assessed for wear which enables the plant operator to ensure that system availability is maintained. All the important documents for the boiler system, such as operating instructions, are digitally filed on MEC Optimize at the factory to simplify the handling of the system documentation.

Electronic boiler logbook

Thanks to MEC Optimize plant operators also have an electronic boiler logbook. At every test interval, the boiler attendant can enter the recorded measurement values and print these out if required via an export function. The intelligent boiler logbook also checks all entered data, then compares this with the manufacturer's specifications and gives action recommendations if there are any discrepancies. As an option, MEC Optimize can also transfer the current system status to the MEC Remote service tool as well as reporting important information via SMS or e-mail to the plant operator.

Further trade fair highlights

Another highlight at the trade fair are the high-tech controls for professional solutions covering all aspects of industrial boilers and combined heat and power units (CHP) as well as compressed air and heat systems. Among these, Bosch Industrial will be showing the new design of CHP control. In addition to this, visitors can expect an interactive efficiency configurator for heat and energy supply solutions: many processes in the drinks industry require significant quantities of heat, power or cooling. In a variety of cases, the combination of various energy sources can pay off and achieve corresponding reductions in running costs. By using the configurator, it is possible to gain a picture of the cost-effectiveness of multiple systems.

Electronic boiler logbook

Intelligent evaluation of system data

Exemplary steam generation at the Bechtel private dairy
Installation during running operation

The Bechtel private dairy in Schwarzenfeld (Germany) processes over 1 million kg of milk per day into high-quality cheese and dairy specialties. Due to increasing demands on capacity, the existing boilers with a total of 16 t/h reached their limits and needed to be replaced. The dairy found two expert partners in Bosch Industriekessel and Karl Lausser for implementing this challenging project. The requirement was for installation without interrupting the steam supply, since Bechtel produces around the clock seven days a week. The dismantling of the existing boilers and the installation of the new Bosch steam boilers, including the feed water deaeration, was performed by Lausser in stages – under restricted space conditions and during running operation. In coordination with the dairy's operating processes, the boilers were put into operation by Bosch Industriekessel on a staggered basis, and this was carried out without any supply interruptions to production. The result is impressive.

With a total steam output of some 30 t/h, the new steam boilers fully compensate for the growing requirements and, thanks to their modulating dual-fuel burners, can react flexibly to all load demands. The new system works highly efficiently due to its heat recovery modules including the air preheating system and economizer from Bosch. In addition to this, Bechtel relies on a modern monitoring system with the use of MEC Optimize. The new system tool from Bosch records, analyses and evaluates all the system data, and in this way it maximizes energy efficiency and operating safety.

You can learn all the details about the steam boiler project at Bechtel in our extensive reference report:
www.bosch-industrial.com/references


BOSCH
SAACKE

Modernization of central heating plant at KSB

Changeover to hot water operation with heating boilers and CHP

The pump manufacturer KSB made the decision to implement a complete changeover from steam operation to hot water operation at its site in Pegnitz (Germany), involving the installation of two Bosch heating boilers. Furthermore, the new energy concept includes a CHP by Bosch, while an existing Loos solid fuel boiler also supports the heating network. The new system is perfectly complemented by the plant's own KSB pumps which provide efficient heat transportation. The measures have produced annual natural fuel savings of approx. 1 GWh. Own generated electrical power achieves a further reduction in energy costs. The environment also benefits from the 2,000 t reduction in CO_2 emissions per year. The engineering consultants Karl Müller from Bayreuth was assigned with the entire planning and project coordination, the plant construction company Schwendner from Thurnau implemented the new system.

Most of the heat at KSB was originally generated by two steam boilers manufactured in 1974, each with an output of 9.3 MW. The steam was converted to hot water by a downstream converter. An analysis showed that significant energy savings could be achieved by replacing the old boilers and changing to hot water operation. The maximum temperature requirements of the consumers are 100 °C and can easily be met by a hot water heating system. Furthermore, the existing system had in the meantime become considerably oversized for the actual energy needs. The base load for heating the building and generating hot water is now provided by the gas-operated Bosch CHP unit, which has a thermal output of 500 kW. At the same time around 12 % of electric power demand, e.g. for light, power and processes, is obtained at low cost by own electricity generation. The electrical output of the CHP is nearly 400 kW.

The Bosch CHP provides the base load for heating and at the same time electrical power for the company's own consumption.

The Bosch UT-L heating boilers perfectly complement the heating network and convince through their high efficiency.

Pioneering work: Thanks to the modular and high product quality in combination with the perfect planning by the engineering consultants Karl Müller as well as the excellent installation work by Schwender the project was implemented successfully.

To ensure the longest possible operating times, a buffer tank with 50 m^3 water capacity was set up next to the central heating plant. Heat is also supplied by the two new UT-L heating boilers with a total output of 8.4 MW. One of the boilers is primarily used as a backup and, due to its dual-fuel burner, can be operated with gas as well as oil. Thanks to the high control range of the burners, the heating boilers can respond flexibly to the heat demands. Sudden switching on and switching off and the associated energy losses can therefore be avoided. The boilers are also characterized by their compact design which meant that the transportation into the central heating plant and the installation went smoothly. Due to their small footprint there was enough space in the building for setting up the CHP unit.

In addition, the existing Loos solid fuel boiler with an output of 2.1 MW supports the heating network. As the wood-fired boiler was in good condition, KSB decided to retrofit the boiler from steam to water operation. Bosch Industriekessel delivered the necessary equipment, boiler sensors and boiler control system.

New at Bosch Industrial

Spare parts now available to order online: www.kesselteile.de

Original spare parts by Bosch offer outstanding quality, certified safety and are perfectly suited for your boiler system. This ensures long-term reliable operation. You can conveniently order spare parts from us at our online shop, or via our central service department:

Online: www.kesselteile.de
(currently only available in German language)
Phone: +49 180 5010540* (24-h Hotline)
E-mail: spareparts@bosch-industrial.com
Fax: +49 9831 56-92297

* 0.14 Euro/min. from German landline;
max. 0.42 Euro/min from mobile network.
Different charges may apply for international calls.

CAD and BIM data is available online

Part of the modern planning work is a 3D layout of the energy plants. To do so, it is helpful to be able to use existing 3D models by manufacturers. These are available from us online at

www.bosch-industrial.com/cad-bim-data

We also provide the parametric BIM data of most of our products. In addition to various sizes, the relevant product data is also included in the file – to facilitate convenient and efficient planning.

Reply

If you would like to be always up to date and receive information at first hand, you can subscribe to our free digital Newsletter.

Please send the filled form to Bosch Industriekessel:
eMail: marketing@bosch-industrial.com or Fax: +49 9831 5692222

I would like to receive the Newsletter in digital form in future. ☐ German ☐ English

Name*

Company name

Company address

eMail address*

Date* Signature*

*Mandatory field