



Generate steam 100 per cent electrically

New electric steam boiler from Bosch supports a carbon-neutral future

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- ▶ Bosch introduces electric steam boiler
- ▶ Carbon-neutral steam generation for industrial and commercial processes
- ▶ Green portfolio from Bosch for sustainable steam and heat supply

100 per cent electric and fully carbon neutral with green electricity: Bosch Industrial Boilers presents the new ELSB electric steam boiler for industrial and commercial steam generation, continuing to offer more green technologies which conserve resources, reduce emissions and protect the environment and climate. "We are making it possible for industries globally to switch to sustainable generation of process heat for a carbon-neutral future. Electrification is an important part of this," says Sven Rathmann, Managing Director of Bosch Industrial Boilers.

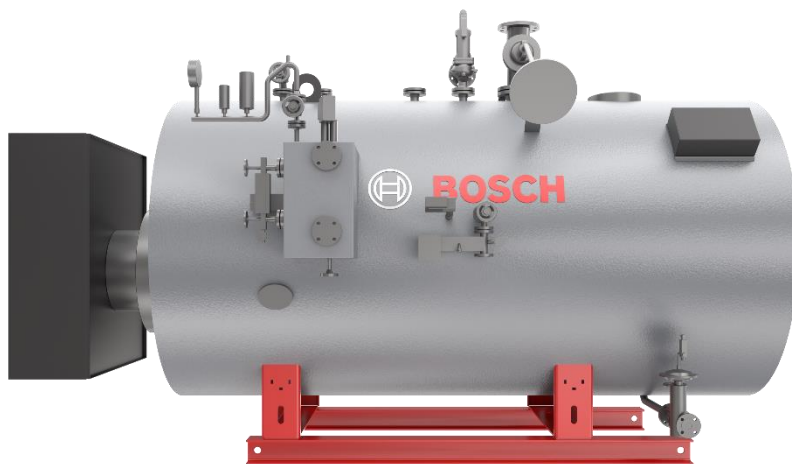
Thanks to various outputs from 350 to 7500 kilograms of steam per hour, the ELSB electric steam boiler meets the range of demand for industrial and commercial steam processes. An important point is that operation is fully carbon-neutral when using renewable electricity – let's look at an example of a customer in Iceland: As a pilot project, the company, which produces sustainable packaging, operates a Bosch ELSB with a steam output of 4000 kilograms per hours. The electricity used is generated from renewable sources with water and wind energy, meaning the steam generation is particularly sustainable and resource-saving. Other ELSB pilot plants have been put into operation in the food industry, for example.

With an over 99 per cent efficiency level, the electrical heating system in the ELSB steam boiler surpasses all combustion systems. Thanks to the infinitely variable output regulation, the electric boiler has the advantage of achieving an extremely high level of flexibility across the entire load range. This ensures consistently high efficiency, as well as automatically adjusting output to suit requirements or available surplus in self-generated electricity. In addition to control systems configured in-house with software, Bosch manufactures a complete steam boiler system tailored to individual

requirements, covering water treatment, condensate management and modules for saving energy. Since the ELSB is operated exclusively with electricity in accordance with the power-to-heat principle, there is no need for flue gas components, chimney or fuel supply infrastructure. This saves space and costs – and no flue gas emissions are generated on site. For service-side advice, commissioning and maintenance, operators can contact the team at Bosch Industrial Service.

Not using fossil fuels and reducing CO₂ make the electric steam boiler a solution fit for the future. In addition to the ELSB, Bosch also offers boiler systems for use of 100 per cent hydrogen, biofuels or hybrid solutions. Using a multi-technology approach, Bosch enables companies to model their steam and heat supply in a carbon-neutral way depending on infrastructure and individual requirements. Furthermore, it is also possible to convert existing systems to suit new requirements. This lays the foundations for a carbon-neutral future for industry, making an important contribution to the energy transition.

Press photos: #3a5e9161, #e90304f6, #b7bc19c6, #054901b3



From 3D to reality: Bosch Industrial Boilers is expanding its green portfolio with the ELSB electric steam boiler in the output range of 350 to 7500 kilograms of steam per hour.



The Bosch ELSB electric steam boiler is fully carbon neutral when operated using green electricity.



Generating steam purely electrically without emissions – the ELSB electric steam boiler in Iceland shortly after the commissioning by the Bosch Industrial Service team.



Use of environmentally friendly electricity from renewable sources for steam generation.

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Bosch Industriekessel GmbH, a Bosch Thermotechnik GmbH company, has been developing and manufacturing project-specific heating and process heat systems for more than 150 years. In keeping with its “Invented for life” principle, Bosch Industriekessel creates future-proof energy systems. The steam and hot water boilers increase the energy efficiency in production, buildings and district heating grids – by means of sustainable energy use and the seamless integration of Industry 4.0 applications. CO₂-neutral heating and process heat solutions with hydrogen and electrification help pave the way to carbon-neutral heating. Around the world, Bosch Industriekessel customers are offered a universal product portfolio, as well as planning support, project management and after-sales services such as maintenance and 24/7 support – all from one source.

Additional information is available online at www.bosch-industrial.com

The Bosch Group is a leading global supplier of technology and services. It employs roughly 402,600 associates worldwide (as of December 31, 2021). The company generated sales of 78.7 billion euros in 2021. Its operations are divided into four business sectors: Mobility Solutions, Industrial Technology, Consumer Goods, and Energy and Building Technology. As a leading IoT provider, Bosch offers innovative solutions for smart homes, Industry 4.0, and connected mobility. Bosch is pursuing a vision of mobility that is sustainable, safe, and exciting. It uses its expertise in sensor technology, software, and services, as well as its own IoT cloud, to offer its customers connected, cross-domain solutions from a single source. The Bosch Group’s strategic objective is to facilitate connected living with products and solutions that either contain artificial intelligence (AI) or have been developed or manufactured with its help. Bosch improves quality of life worldwide with products and services that are innovative and spark enthusiasm. In short, Bosch creates technology that is “Invented for life.” The Bosch Group comprises Robert Bosch GmbH and its roughly 440 subsidiary and regional companies in some 60 countries. Including sales and service partners, Bosch’s global manufacturing, engineering, and sales network covers nearly every country in the world. With its more than 400 locations worldwide, the Bosch Group has been carbon neutral since the first

quarter of 2020. The basis for the company's future growth is its innovative strength. At 128 locations across the globe, Bosch employs some 76,100 associates in research and development, of which more than 38,000 are software engineers.

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