ELECTRIC STEAM BOILER SYSTEM

Electric steam boiler system

An electric steam boiler is a steam generator that uses electrical energy to heat feed water and produce steam. These devices are widely used in many industrial applications, especially in areas where reliable and precise control of steam generation is required.

Compared to steam boilers that run on fossil fuels such as gas or oil, electric steam boilers offer several advantages:

- No local emissions, making them particularly environmentally friendly
- High efficiency as there is almost no energy loss
- Generously sized steam room to compensate for peak loads
- No special requirements for the quality of the feed water
- Short response time to rapidly changing loads
- Precise pressure control thanks to generously sized heating surface
- High steam quality and low residual moisture
- Automatically keeps the contents of the boiler warm during breaks in operation
- Low maintenance costs due to the absence of moving parts and complex mechanisms

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Design

The electric steam boiler consists of the boiler body and a flanged heating insert. Both together form a pressure device within the meaning of Directive 2014/68/EU and are provided with a CE marking in accordance with this directive.

The heating insert consists of a tube sheet with soldered tubular heating elements (electrical resistance heating elements). The thermal output increases with the number of heating elements, with up to 350 heating elements being installed in a single steam boiler. Due to the large number of heating elements, there is, on the one hand, a uniform energy input over a large surface and, on the other hand, a high level of operational reliability.

Characteristics and performance range:

• Building regulations:	EN12953
• Secured operating pressure:	max. 32 bar
• Vessel category:	IV / Module G
• Notified body:	TÜV
• Rated power:	750 to 7500 kW
• Performance tolerance:	-0 / +10%
• Steam quantity:	750 – 10000 kg/h
• Electrical connection:	690V, 3ph, 50 Hz

All surfaces that are hot during operation are protected at the factory by thermal insulation against heat loss and contact.

Control panels

Our electric steam boilers feature advanced control and safety systems that safely monitor and control the operation of the boiler. These include level and pressure sensors, safety valves and overheating protection devices to ensure that the boiler always works reliably and efficiently.

The power is controlled precisely via fixed switching groups and a superimposed, continuously operating heating group. If desired, a PLC ensures smooth data exchange with an existing control system. All operating conditions and measured process data are transferred into the PLC

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