

## Steam boilers

**Low pressure saturated steam**

**High pressure saturated steam**

**High pressure superheated steam**

Outputs from 175 to 55000 kg/h

With four different types of shell boilers in the UNIVERSAL series, either as single-flame tube or double-flame tube boiler, we offer you a complete product range for every steam requirement. An optional integrated fourth smoke tube pass facilitates the waste heat recovery from upstream processes.

## Hot water boilers

**Low pressure hot water**

**High pressure hot water**

Outputs from 650 to 38000 kW

Warm and hot water for energy-saving heating systems for industrial buildings, offices and residential complexes. For base load and peak load of local and district heat generating plants. For commercial and industrial process heat generation. An optional integrated fourth smoke tube pass facilitates the waste heat recovery from upstream processes.

## Boiler house components

**Modules for steam boilers**

**Modules for hot water boilers**

**Modules for supplies to the boiler**

Boiler house components in modular technology, as ready-to-install function units, round off the product range. Planning, installation and commissioning of the entire system is considerably simplified. The high manufacturing quality guarantees long, reliable and efficient boiler operation.

**Order our informative product brochures.**

Online at [www.bosch-industrial.com](http://www.bosch-industrial.com)

### Customer login

We offer our customers an exclusive, password-protected access area for individual information and easier collaboration. Quick, simple and free – register now at [www.bosch-industrial.com](http://www.bosch-industrial.com)

### Technical reports

Technical information from specialists at first hand. You will also find an overview on our website.

Production facilities:

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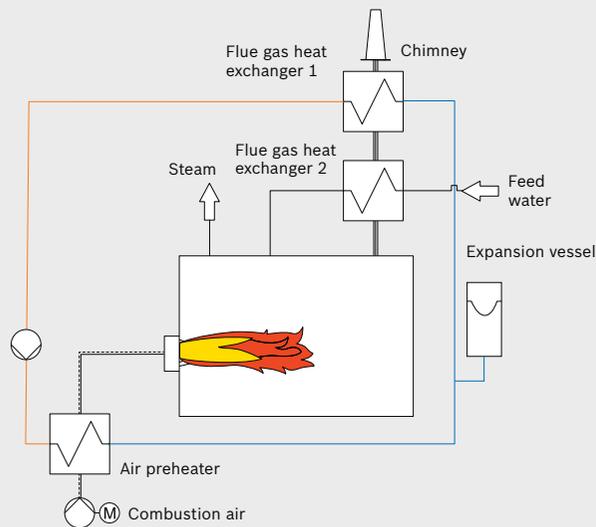
**New!** Bosch Air Pre-heating System

**Increase efficiency –  
reduce costs**

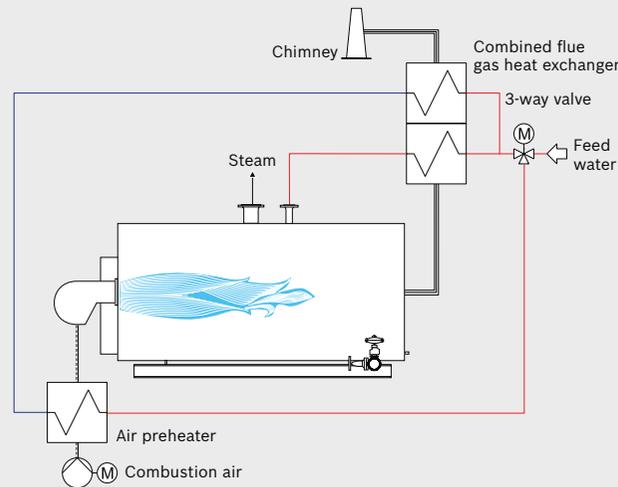


**BOSCH**  
Invented for life

### Conventional two-circuit system



### Bosch air preheating system



Extremely simplified diagrams

### Benefits at a glance:

- ▶ Increased system efficiency
- ▶ Reduced fuel consumption
- ▶ Reduced emissions
- ▶ Lower investment costs in comparison with conventional solutions
- ▶ Lower maintenance and servicing costs
- ▶ Shorter period of amortisation
- ▶ Superior quality standardised system from Bosch

**Increase efficiency – reduce costs**

## The Bosch air preheating system

The combustion air is preheated and the flue gas temperature is reduced. The efficiency is increased by up to two per cent. The system is based on a hydraulic interconnection that contains considerably fewer components than conventional two-circuit systems. Lower investment and maintenance costs ensure significantly faster amortisation of the heat recovery measure.

A steam boiler system tailored to your requirements is the foundation for sustainably ensuring the competitiveness of your company. With the new Bosch air preheating system, we offer you yet another option for increasing efficiency.

When installing new steam boiler systems with economisers, air preheating is the ideal solution for increasing efficiency, particularly in cases where the integration of a flue gas condenser is impractical for process reasons.

In the Bosch system, a part of the heated feed water flow is utilised for increasing the temperature of the combustion air. The hereby cooled feed water increases efficiency by further reducing the flue gas temperature in the downstream economiser.

The benefits are clear. In comparison with conventional two-circuit systems, it is now possible to omit the circulation pump, the expansion vessel and various electronic safety and control systems. In turn, this reduces not only investment costs, but also the recurrent costs for maintenance and replacement parts.

The Bosch air preheating system is available for single or double flame tube boilers with duoblock burners. The system is economically viable from a boiler capacity of around five tonnes of steam per hour. The fan can be installed on the top of the boiler. This means that the compact system requires little or no additional space for installation. Return-on-investment (ROI) is generally achieved after 1.5 to 2 years.