



## UNIMAT hot water boiler UT-H

With the UNIMAT hot water boiler UT-H you generate energy-efficient process heat in the high pressure and temperature range. Flexible and reliable in use for heat and hot water supply in commercial companies, industries, municipal facilities or as a base load, peak load and reserve boiler in district heating plants.

### Technical data of the type UT-H

Heat transfer medium	High-pressure hot water
Design	Three-pass flame tube/smoke tube technology
Output in kW	820 up to 18.300
Safety pressure in bar	up to 30
Max. temperature in °C	up to 225
Fuel	Oil, gas, multi-fuel firing Biogas, bio-oil, hydrogen, special fuels

### High level of efficiency for reduced operating costs

The UNIMAT hot water boiler UT-H is a shell boiler with one flame tube, built in three-pass design. Highly efficient as single or multi-boiler system. Combined with an integrated flue gas heat exchanger and efficiency components for combustion optimisation, you can maximise the efficiency level of your system.

- ▶ Effective three-pass design and special thermal insulation concept for minimised radiant heat losses
- ▶ Up to 93% boiler efficiency without flue gas heat exchanger, up to 96% boiler efficiency with flue gas heat exchanger and up to 105% with condensing heat exchanger
- ▶ Low-emission combustion thanks to the use of highly developed firing systems and careful matching of the best boiler and burner combination
- ▶ Also available as waste heat boiler for cost-efficient and environmentally friendly use of waste heat sources, for example in combination with CHP units or gas turbines

### User-friendly operating concept

- ▶ Compact control CWC for heating and hot water boiler systems
- ▶ Individually configurable boiler control BCO for complex requirements
- ▶ Ready to connect to automation systems
- ▶ Protected remote access MEC Remote

### Quick installation and effective maintenance

- ▶ Simplified wiring on-site thanks to plug-in connections
- ▶ Smooth commissioning due to pre-parameterised boiler control
- ▶ Easy to maintain – convenient accessible on both the flue gas side as well as the water side
- ▶ Smoke tube passes are free of flow components

### Reliable performance and customised equipment

The proven three-pass design provides highest quality, durability and operational safety. We manufacture the high-pressure hot water boiler UT-H according to customer requirements for outputs up to 18.3 MW. You can optimise your boiler operation with perfectly matched components, such as for fuel supply and return temperature increase.

- ▶ CE certified
- ▶ Universally applicable with different fuels and multi-fuel firing
- ▶ High permissible temperature spread up to 40 K
- ▶ Available as waste heat boiler with fourth pass and firing system or as pure waste heat boiler
- ▶ Simple extension options thanks to module technology
- ▶ Robust, reliable and unsurpassed in its durability





### Design

As with the steam technology, for decades our three-pass patent has formed the basis for the outstanding and ongoing success of this series, which is still unsurpassed today. The two smoke tube bundles (2<sup>nd</sup> and 3<sup>rd</sup> pass) are positioned next to the flame tube (1<sup>st</sup> pass) and all of them are connected by a fully wetback reversing chamber. This arrangement

results in a large heating surface with compact external dimensions. The floors are anchored rigidly by the large continuous flame tube, and they are connected to the boiler shell by means of the cleverly devised use of corner anchors for even load distribution. In contrast to outdated designs with stud bolts, there is greater robustness and durability.

### Compatible products

- ▶ Water treatment module WTM
- ▶ Flue gas heat exchanger ECO
- ▶ Flue gas heat exchanger ECO for condensing use
- ▶ Supply/Return flow adapter piece SP/RP
- ▶ Return flow temperature safeguard RTS
- ▶ Gas regulation module GRM
- ▶ Oil circulation module OCM
- ▶ Oil supply module OSM
- ▶ Controls for optimising combustion
- ▶ Compact hot water boiler control CWC
- ▶ Boiler control BCO
- ▶ System control SCO
- ▶ Remote access MEC Remote
- ▶ Digital efficiency assistant MEC Optimize

For further information please see our brochure 'Boiler and efficiency components'.

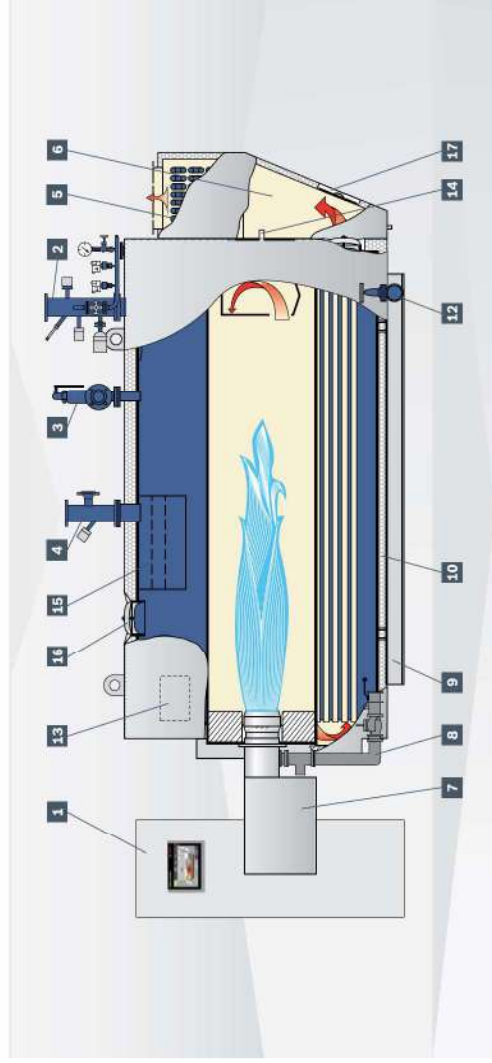


Oil circulation module OCM

### Equipment

The hot water boiler UT-H is offered as a complete boiler system including equipment\*. The basic equipment includes the boiler pressure vessel, the control and safety components, the burner unit, the flue gas heat exchanger or condensing heat exchanger, a terminal box and the control cabinet including the boiler control BCO for complex

requirements or compact control CWC. The sensors, actuators and country-specific safety devices are already wired and combined in the terminal box. Pre-assembled, plug-in and coded cable bundles simplify the connection between the boiler control cabinet and the terminal box during installation.



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| <ol style="list-style-type: none"> <li>1 Control cabinet with boiler control BCO or compact hot water boiler control CWC</li> <li>2 Supply flow adapter piece with <ul style="list-style-type: none"> <li>▶ temperature limiter</li> <li>▶ flow monitor</li> <li>▶ temperature controller</li> <li>▶ level limiter</li> <li>▶ pressure indicator</li> <li>▶ pressure limiter (max.)</li> <li>▶ manostat tube shut-off valve</li> </ul> </li> <li>3 Full-lift safety valve</li> <li>4 Return flow adapter piece <ul style="list-style-type: none"> <li>▶ temperature monitor</li> <li>▶ connection for safety expansion line</li> </ul> </li> </ol> | <ol style="list-style-type: none"> <li>5 Flue gas heat exchanger ECO</li> <li>6 Flue gas collection chamber</li> <li>7 Burner</li> <li>8 Gas regulation module</li> <li>9 Base frame</li> <li>10 Insulation with protective shell</li> <li>12 Drain shutoff valve, maintenance-free</li> <li>13 Terminal box</li> <li>14 Sight hole</li> <li>15 Injector device for inner temperature boosting</li> <li>16 Inspection opening, water side</li> <li>17 Inspection opening, flue gas side</li> </ol> |
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\*The equipment level is variable and can be freely configured to customer requirements.