



Skanden Biomass Boiler

100 to 1000 kW

High Efficiency, Low Emissions, Easy Maintenance

The Skanden biomass boiler is a highly efficient, ultra-low emissions, easy maintenance hot water boiler designed for operation with a Skanden burner firing wood fuels such as pellets, briquettes and chips. The boiler meets all applicable European and American standards, including ASME.

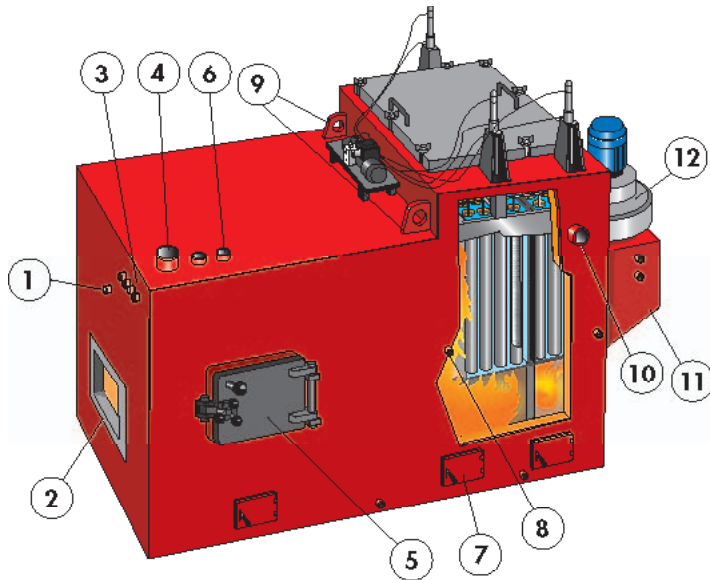
The Skanden boiler is constructed of welded steel with a water-jacketed combustion section and three-pass flue gas section for optimal heat recovery. It has vertical tubes that are hydraulically cleaned, to remove dust that can interfere with heat transfer. It is insulated with mineral wool, metal clad, and supplied with a variable speed exhaust fan. Options include ash removal screws and flue cyclones.

Skanden's unique patented boiler design ensures its unparalleled superior performance. It maintains an efficiency level of over 90%, even when operated at extremely low or high loads. It not only burns the fuel, it gasifies it at approximately 1100°C (2000°F), ensuring that fuel is entirely converted to energy and not released up the stack in the form of harmful emissions. Maintenance and cleaning are easy and infrequent; repairs are rare.

The Skanden biomass boiler is equipped with a Skanden burner and sold as part of turn-key custom package that often includes a fuel storage system, chimney and boiler house, as well as installation, maintenance and a long-term contract for fuel. This winning combination makes local green energy simple and trouble-free.

Skanden
● ● ● **Energy**

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Description, connections

1. Connection over- and underpressure control (DN20)
2. Burner flange
3. Connection temperature regulator (4 x DN15)
4. Water supply
5. Furnace door 400x300 mm (15.7x11.8 in)
6. Connection safety valves (2x)
7. Cleaning port (3x)
8. Draining/cleaning (4 x DN20)
9. Lifting eye bolts
10. Water return
11. Flue gas outlet 450x250mm (17.7x9.8 in) excluding flue gas fan

Operation data

Dry wood fuel such as pellets, briquettes and chips maximum moisture 45%.
 Lowest floor temperature 70°C (158°F).

Standard water temperature is approx. 80°C (176°F).
 Return water temperature is minimum 60°C (140°F) at Δt maximum 30°C (86°F). A boiler circuit pump should be installed if there is a risk of a lower return temperature.

Water system

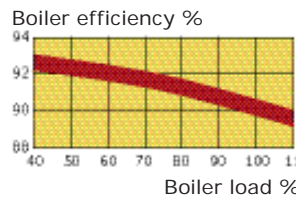
Through-flow values according to the data plate should always be maintained when the burner is operating.
 Boiler circulation system consists of the following.

1. Shut-off valve
2. Boiler circuit pump
3. Check valve

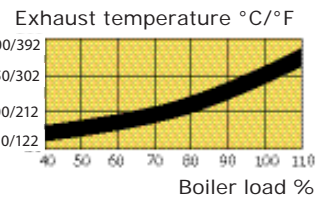
Construction data

Pressure: 3 bar
 Test pressure: 4.5 bar
 Temperature: Operating maximum 110°C (230°F)
 Maximum water ΔT 30°C (86°F)
 Material: P265GH, P235GH
 Minimum water return 60°C (140°F)
 Tube thickness: 4.0 mm (0.157 in)
 Insulation: 50 mm (1.96 in) mineral wool

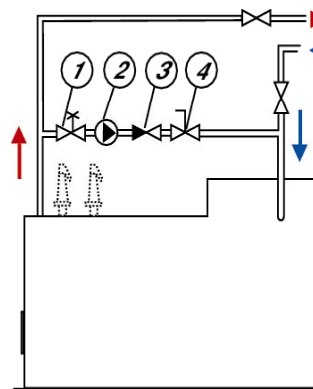
Boiler efficiency



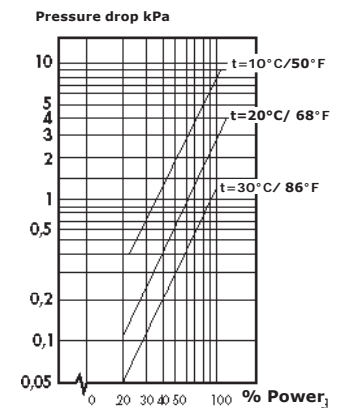
Exhaust temperature



Water system



Water resistance



Automatic cleaning/ Hydraulic unit

The boiler is supplied with equipment for automatic cleaning of the boiler tubes, which keeps the flue gas tubes clean at all times. The system includes hydraulic power pack controlled by time relays.

Automatic cleaning of tube package

