Product Line FSR

MAWERA firebox boilers have a modular design concept. Firebox boilers FSR with a flat moving grate are available with the following rated capacity:

Imperial units	Metric units	Imperial units	Metric units
1.0 MBTU/h	280 kW	7.2 MBTU/h	2.1 MW
1.2 MBTU/h	350 kW	8.9 MBTU/h	2.6 MW
1.5 MBTU/h	440 kW	11.3 MBTU/h	3.3 MW
1.9 MBTU/h	550 kW	14.3 MBTU/h	4.2 MW
2.9 MBTU/h	850 kW	17.7 MBTU/h	5.2 MW
3.8 MBTU/h	1.1 MW	22.2 MBTU/h	6.5 MW
4.8 MBTU/h	1.4 MW	27.3 MBTU/h	8.0 MW
5.8 MBTU/h	1.7 MW	34.2 MBTU/h	10.0 MW

The length of the grate is designed according to the moisture content of the fuel and the type of boiler required (water, steam, or thermal fluid).

Mawera also rebuilds and retrofits existing wood-fuelled firebox boilers.

Our experts assess your existing boiler plant and elaborate a concept for extending, rebuilding, or retrofitting it.

Figure 9: thermal oil boiler adjoining the combustion chamber

Figure 8: 2.9 MBTU/h MAWERA firebox boiler model FSR 850 Low-NOx with pneumatic boiler pipe cleaning

Figure 10: Thermal oil boiler on top of a 20 MBTU/h (6 MW) MAWERA firebox boiler model FSR

MAWERA Holzfeuerungsanlagen
Gesellschaft mbH
A 6971 Hard am Bodensee
Neulandstraße 30
T 0043 / (0)5574 / 74 301-0
F 0043 / (0)5574 / 74 301-20
info@mawera.com
www.mawera.com

MAWERA
Kessel & Maschinenbau GmbH
D 88131 Lindau
Robert-Bosch-Straße 15
T 0049 / (0)8382 / 977 012
T 0049 / (0)8382 / 977 013
info@mawera.com
www.mawera.com

MAWERA Canada Ltd.
104 Sixth Street East, P.O. Box 2716
Revelstoke, BC
V0E 2S0
Canada
P +1 (250) / 837 / 5556
F +1 (250) / 837 / 5556
info@mawera.ca
www.mawera.ca

MAWERA (UK) Limited
31 Enterprise Ind. Est.
Britannia Way
LICHFIELD
Staffordshire WS 14 9UY
P 0044 / (0)1543 / 25 88 44
F 0044 / (0)1543 / 41 63 11
info@mawera.com
www.mawera.com

Product Information

Firebox Boiler with a Flat Moving Grate
Product line FSR
1.9 MBTU/h to 34 MBTU/h (0.55 to 10 MW)

Design and Operation

Apart from biomass, the flat moving grate is particularly designed to burn wood fuel with a high ash content and a high share of contaminants, such as sand, glas, scrap metal, etc.
Significant advantages of the flat moving grate combustion Type FSR are:

1. reliable operation due to the heavy-duty design, and
2. lower particulate matter emissions due to the fuel bed not moving.

MAWERA's firebox boilers use a low-NOx firebox technology. Our Low-NOx-combustion chamber is equipped with variable and controlled primary air supply – an important feature to reduce NOx emissions.

The geometry of the primary combustion area (wood gasification) as well as that of the secondary combustion (oxidation) in the firebox was developed in our test facilities and is based on the latest scientific research conducted in cooperation with Graz Technical University. As a result, NOx emissions are reduced by 80% compared to fireboxes with a conventional grate technology.

Wood fuel is discharged from silos and bunkers using MAWERA's walking floor conveyor and MAWERA's silo discharge system, respectively. Depending on architectural constrains and the particle size of the fuel, chain conveyors, push rods, or tube screw conveyors can be used to convey the fuel.

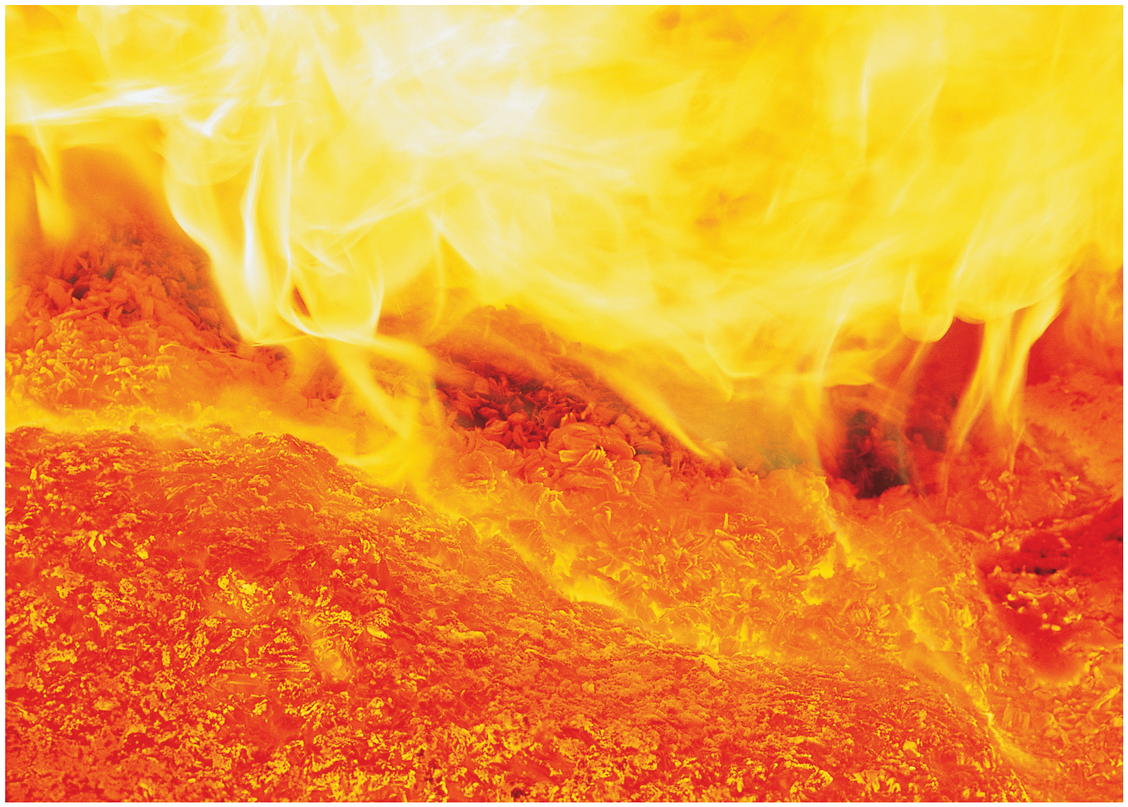

Figure 1: Firebed on top of a flat moving grate