

Main advantages of MAWERA's flat moving grate technology:

- A firebed that is not moving produces significantly less emissions, even when using fuel with a high moisture content (up to 50%, wet basis).
- MAWERA's flat moving grate feature a significantly higher grate area than those of competitors. Consequently our grates are subject to less wear and feature a significantly longer life span.
- No slagging or clinker sticking to the firebox, due to our continuously controlled combustion on top of flat moving grate - even when using highly contaminated or treated wood fuel. Air is supplied in a controlled manner individually to the various combustion zones.
- The flat moving grate is made out of two sub-grates allowing to feed fuel at different and varying rates and thereby control the combustion process even better.
- A push rod underneath the grate continuously removes ash from the firebox. De-ashing is completely automated.
- Being continuously cooled, the flat moving grate is extremely resistant to wear and tear and lasts for long periods. When using MAWERA's hydraulic stoker, cooling is also done as fuel is stoked into the firebox.
- Heat output can be gradually varied between 30% to 100% of the rated capacity; low emissions even for the most difficult biomass fuel.
- The geometry of the combustion area in the fire box was developed in close cooperation with Graz Technical University, and is based on research in our test facilities and, last not least, decades of experience.
- Our proven micro-processor control MAWERA Logic 300 controls the entire unit.
- A modem for remote control and a process control system (MAVIS) can be added in to each MAWERA boiler plant. MAVIS visualizes all processes and logs key process data.



Figure 2: MAWERA flat moving grate in operation

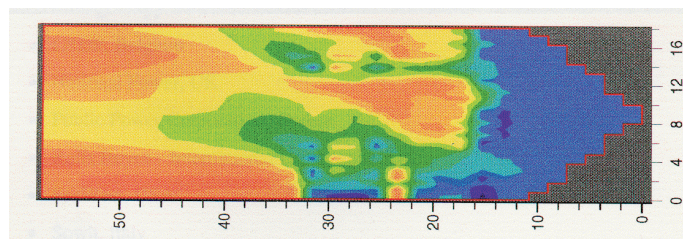


Figure 3: Computer simulations of temperature and fluid dynamics in the firebox are used to design the combustion chamber.



Figure 4: Refractory lining on top of the vaulted MAWERA combustion chamber



Figure 5: MAWERA - success through innovation one more award

Options available for MAWERA fire-box boilers with a flat moving grate

- Fuel stoking via hydraulic push rods or screws
- Re-circulation of flue gases into the firebox below the grate (primary air supply zone)
- Re-circulation of flue gases directly back into the combustion chamber (secondary air supply zone)
- Primary air is preheated before entering the combustion chamber – an important feature when using very moist fuel.
- Completely automated de-ashing – available in various set-ups
- Low-NOx technology



Figure 6: Firebox boiler with a flat moving grate; screw stoker in the front

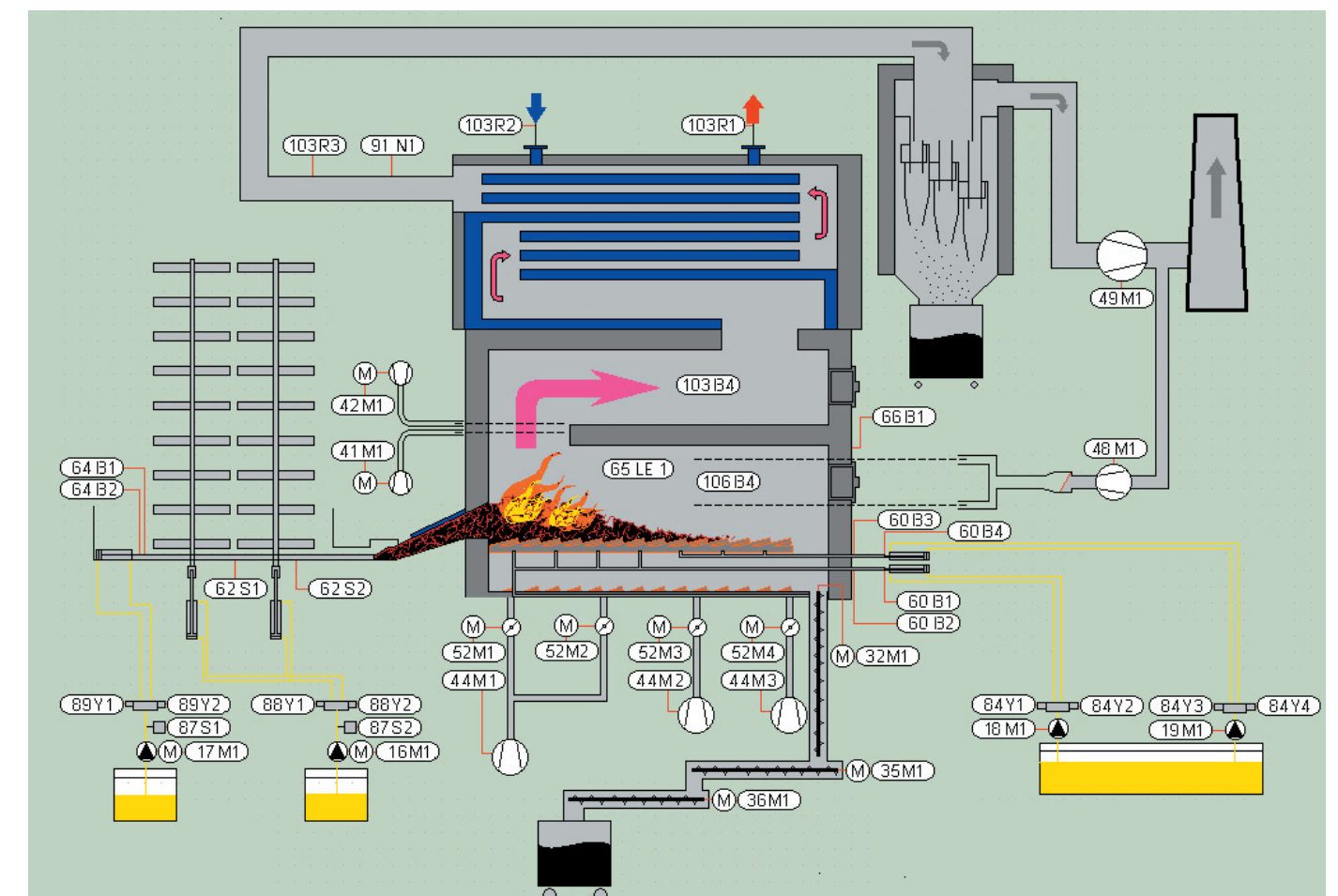


Figure 7: schematic diagram of a firebox boiler with a flat moving grate; fuel is discharged from the bunker by a walking floor and a conveyed directly into the firebox by a hydraulic stoker