



JOHN THOMPSON TORRIPAC

Hybrid Biomass-fired Boiler



ACTOM

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Biomass fuels

JOHN THOMPSON recently unveiled its new generation hybrid biomass-fired boiler, the Torrillac range. This product targets the growing global trend towards greater use of environmentally-friendly fuel sources for the generation of process steam.

Fuels burnt

During development of the Torrillac, we carried out a series of combustion tests on a variety of biomass fuels on our combustion test rig and on the test boiler installed at the company's Boiler Development and Training Centre near Cape Town. Wood pellets, woodchips, wood-pucks, grape pomace, nutshells, sunflower seed husks, corncobs, dried hops and torrefied biomass were among the biofuels that were fired during the tests.

Boiler design

The Torrillac is designed to and conforms with the European Norm design codes applicable to watertube and firetube boilers. For twin stoker models, it combines an external water-cooled furnace with a firetube boiler to effectively combust biomass with a moisture content of up to 40% or other suitable solid fuels. For single stoker models, the water-cooled furnace is integral to the firetube boiler. The combustion system comprises the well-proven Thompson Triumph chaingrate stoker, a vibrating grate or a step grate, depending on the fuel being burned. Over-fire air and secondary air is strategically introduced into the furnace to optimise the combustion process. Water-cooled baffles located

in the furnace maximise heat transfer surface and guide the flow of gas to extend residence time in the furnace. Efficiency is enhanced in the firetube boiler through the use of our spiral-tube technology.

The Torrillac boiler has been designed as easily transportable modules that are prepared for easy assembly with limited site welding. The Torrillac is fully compatible with our standard range of ancillary equipment.

Steam output

Steam output from the Torrillac boiler range is from 1 000 kg/h to 13 000 kg/h. Design pressures of up to 32 bar are available to be used in conjunction with saturated steam screw expanders for cogeneration applications. For higher power outputs, superheaters can be incorporated into the design for use with steam turbines.



THOMPSON TRIUMPH Chaingrate Stoker