

John Thompson unveils hybrid biomass-fired Torripac boiler

JOHN THOMPSON TORRIPAC

Hybrid biomass-fired boiler



Biomass fuels



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

Efficiency is enhanced in the firetube boiler through the use of John Thompson's spiral-tube technology.

Fuels burnt

During development of the Torripac, John Thompson 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.

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

Steam output

Steam output from the Torripac 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.

Boiler design

The Torripac 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.

John Thompson is a division of ACTOM the largest manufacturer, solution provider, repairer and distributor of electro-mechanical equipment in Africa. They have over 80 years of service to South Africa's industries.

For further information please contact:
Neville Sharwood
Technical Manager: Package Boilers
email: neville@johnthompson.co.za
tel: 021-959 8400



THOMPSON TRIUMPH Chaingrate Stoker

At John Thompson we design, manufacture, install, operate and maintain biomass-fired boilers for process steam and power generation applications



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