



Engineering the First Steam-Ready Industrial Watertube Boiler

The pace of business today dictates that manufacturers bring products to market faster through the continuous streamlining of product innovation, product development and engineering processes. A few years ago, one leading manufacturer of industrial watertube boiler systems committed itself to accomplishing this goal.

Cleaver-Brooks took its past experience and proven design and combined it with new technologies to develop a steam-ready, integrated, industrial watertube boiler system that reduces the overall project schedule by 30 percent.

For a decade, design engineers at Cleaver-Brooks have been making modifications to its integrated watertube boiler/burner system in order to improve productivity, reduce emissions and increase energy efficiency. Building upon its proven, high-quality design, engineers have applied advanced computational fluid dynamics and mathematical modeling to optimize and standardize the boiler system. As a result, the industry-leading, integrated industrial watertube system is now available on a fast-track timeline.

When the steam-ready idea surfaced five years ago, engineers invested a lot of time into selecting the correct boiler/burner combination to best fit a majority of industry applications. They evaluated several available models, including A-, O- and D-type boilers and even considered new technologies.

As a result of their analysis, engineers selected the D-type boiler on the basis that it proved to be the most versatile design. Because both drums are next to the furnace, this design inherently provides flexibility with regard to drum sizes and furnace geometry.

The larger the steam drum, the better equipped a boiler is to handle load swings, leading to a longer life and also better steam quality. In addition, a large furnace enables low heat release that is advantageous for a couple of reasons. First, low heat release helps to extend boiler life and secondly, it ensures complete combustion, which enables guaranteed low emissions.

To learn more, click [here](#).