

# Industrial Water-tube Boilers for Reliable and Economical Steam Production

Babcock & Wilcox (B&W) offers a wide range of industrial water-tube boiler designs to meet a variety of operational and performance needs. Our designs range from small shop-assembled, bottom-supported water-tube package boilers firing gas and/or oil to large heavy industrial boilers that are top supported and burn solid fuels. We carry a full complement of modular designs to meet logistical considerations as well. B&W prides itself on having the right solution available to meet any steam generating needs.

Capacity	Temperature	Design Pressure
10,000 to 1,200,000 lb/hr (4.5 to 544.2 T/h)	Saturated to 1005F (540C)	250 to 2400 psig (1.7 to 16.5 MPag)
<b>Fuels: Solid, liquid or gaseous fuels such as pulverized and stoker coal, oil, natural gas, wood, bark, bagasse and other biomass, CO, blast furnace gas (BFG), coke oven gas (COG), and various other byproduct solid, liquid and gaseous fuels.</b>		

## Design Features and Benefits

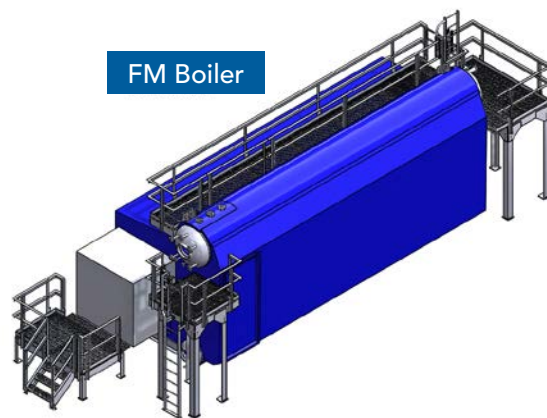
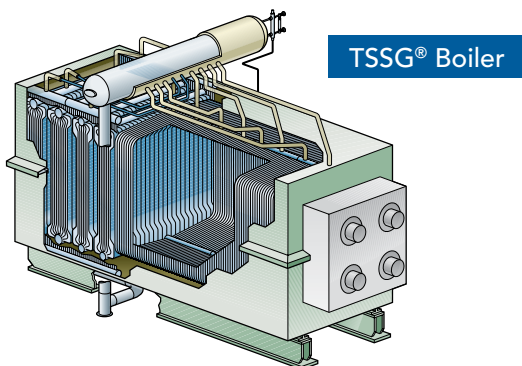
- Low emissions
- Low auxiliary power requirements
- Low greenhouse gas footprint
- Easy to operate and maintain
- Low moisture drum internals
- Operational flexibility – high turndown and fast load ramping
- Ability to accept multiple fuels
- Ability to accept low quality feedwater

## Scope

Industrial boiler projects can range from boiler supply only to complex turnkey installations. B&W has the ability to support small- and large-scale scope of supply requirements that best fit the needs of our customers. We offer both in-house and pre-qualified suppliers for boiler auxiliary equipment such as burners, fans, and emissions control systems, as well as a full complement of boiler related support services.

## Applications in a Wide Range of Industries

B&W has been providing steam generating solutions to industrial customers since 1867. Our extensive history and experience includes working with specialty industries such as refining/petrochemical, utilities, pulp and paper and chemical/pharmaceuticals that require customized engineered products to meet detailed specifications. We have experience working with more specialized project applications where water quality is below recommended ASME levels, as found in steam assisted gravity drainage (SAGD) applications. We also have extensive experience working with general industry customers where the applications may be more standardized such as food processing, institutions, or metals and mining.



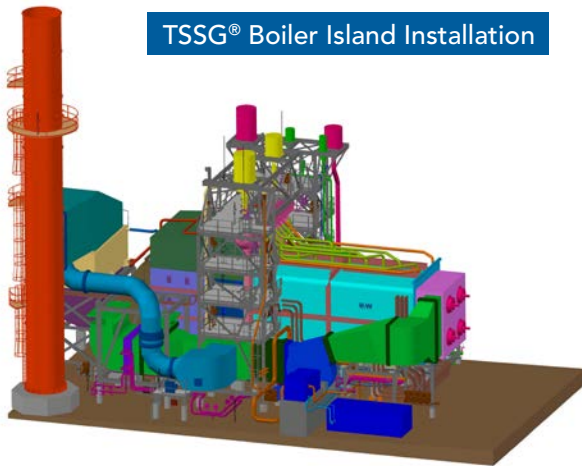
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## Codes and Standards

Each project is reviewed to meet customer requirements and all applicable ASME and industry codes. Additional design standards typically provided are ANSI, API, PIP, SIL, UL, CSA and NFPA; however, B&W will meet or exceed most any requirement requested.

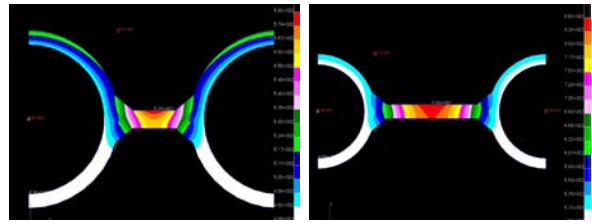
## Services

- Transportation and logistics
- Turnkey installation and construction services
- Installation advisory services
- Start-up and commissioning advisory services
- Equipment tuning and testing
- Retrofits and replacement parts
- Global supply chain management
- Operator training
- Engineering studies

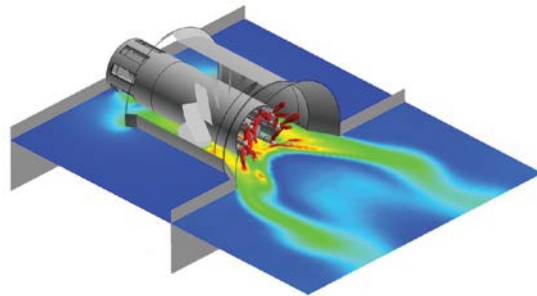


## Technical Capabilities

- Proprietary CFD modeling and circulation analysis
- Stress analysis and graphics
- Plant modeling (3D) and P&IDs
- Environmental equipment design and modeling
- ISO certified R&D facility for:
  - Pilot combustion and environmental equipment testing
  - Combustion science
  - Materials analysis
  - Analytical chemistry



B&W can analyze specific furnace tube wall geometries to ensure tube and membrane stresses are within allowable limits which help prevent thermal cracking and membrane and tube failure.



B&W uses proprietary CFD modeling as an aid to designing boilers for optimal performance.

B&W wrote the book on steam. Literally. For more information on our complete line of steam generation, air and acoustic emissions control, and cooling system solutions, visit our website at [www.babcock.com](http://www.babcock.com).

TRANSFORMING OUR WORLD | 150 YEARS

## Babcock & Wilcox

20 South Van Buren Avenue  
Barberton, Ohio, U.S.A. 44203  
Phone: +1 330.753.4511

[www.babcock.com](http://www.babcock.com)     

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For more information or to contact us, visit our website at [www.babcock.com](http://www.babcock.com).