Heat Recovery Steam Generators
For Natural Gas and Other Waste Heat Applications

Maximize energy efficiency
Experience reliability
As a worldwide leader in the design, engineering and construction of reliable and efficient steam generating systems, Babcock & Wilcox Power Generation Group, Inc. (B&W PGG) combines advanced thermal technology and extensive, proven industry experience to provide our Heat Recovery Steam Generator (HRSG) for natural gas and other waste heat applications.

Designed to generate high pressure, high temperature steam from waste heat recovered from gas turbine exhaust gas, B&W PGG’s HRSG can be used for combined cycle power generation or cogeneration (also known as combined heat and power).

B&W PGG’s HRSG is suitable for combustion turbines with capacities ranging up to 200 MW or more, and can be designed for a three pressure level configuration with reheat to optimize heat recovery and cycle efficiency.
HRSG Design Features

- Customized for combined cycle or cogeneration
- Vertical tube, natural circulation design with horizontal gas flow
- Combustion turbine capacity ranging up to 200 MW or more
- One, two or three pressure levels with or without reheat
- Supplemental and auxiliary firing for additional steam production or stand-alone operation
- Shop-assembled modules reduce construction cost and schedule
- Pressure part consideration for cycling and rapid startup operation

Reliable, low maintenance operation  ●  Optimal energy efficiency  ●  Designed for constructability
Auxiliary Equipment

- Selective catalytic reduction (SCR) system
- Carbon monoxide (CO) catalyst
- Supplemental or auxiliary firing system
- Integral deaerator
- Instrumentation and controls
- Emissions monitoring systems
Emissions Control

As an industry leader in providing advanced emissions control technologies for the power generation industry, B&W PGG is well equipped to integrate an SCR system or CO catalyst with an HRSG.

For optimal NOₓ reduction, our SCR package considers reactor design, flue work, catalyst type and cleaning, temperature control, ammonia injection system, control systems, and balance of plant equipment.

CO catalyst blocks are sized to meet the removal efficiency required at the design conditions specified. To meet performance and emissions reduction levels, exhaust gas flow distribution is confirmed through advanced modeling programs.

Emissions Monitoring

To help our customers meet regulatory demands and industry requirements, B&W PGG offers a comprehensive line of emission monitoring systems backed by superior service.

Air quality data gathering and reporting is simplified through our extensive portfolio of low source level emission monitoring solutions and ammonia slip monitoring systems. Our hardware and software packages are supplemented with services such as installation supervision, regulatory review and consulting, maintenance, training and 24/7 support.
Improving Reliability

Plant owners and operators depend on the durability and longevity of HRSG components for long-term, low maintenance operations.

Flow accelerated corrosion and erosion (FACE) resulting in tube failures can impede operator safety and plant operations. To minimize FACE, B&W PGG uses low-alloy steel piping in strategic areas or evaluates areas in the HRSG where flow characteristics can be adjusted.

To help detect, analyze and correct erosion-corrosion issues, we provide a complete line of tube inspection services including:

- FST-GAGE® system and ultrasonic testing – measures and analyzes tube thickness, and scans furnace wall tubes for hydrogen damage
- NOTIS® test – measures oxide thickness to evaluate superheater tube life
- Hone & Glow® inspection – locates header ligament cracks

Construction Integration

As a single-source turnkey supplier of a full range of field construction, construction management and maintenance services, Babcock & Wilcox Construction Co., Inc. (BWCC), a subsidiary of B&W PGG, is experienced in the construction of simple and combined cycle gas turbine plants.

Overall project cost and schedule are minimized through HRSG modular components and construction integration with material supply.

Modular Design

- Large module boxes of pre-assembled components reduce field labor costs and erection time
- Tube bundle assemblies simplify lifting and limit large construction crane requirements
- Module lifting lugs and temporary steel simplify field transport
- Fully shop-assembled units or large assemblies are available for industrial HRSGs with a gas turbine exhaust flow up to 300,000 lb/hr

Safety is BWCC’s priority and one of our core values. Our goal is to make sure that every project finishes safely with no lost time accidents or injuries.

With extensive large, complex project and retrofit experience, BWCC has the depth of knowledge necessary to deliver a successful HRSG project outcome safely, on time and within budget.
Single-Source Supplier

B&W PGG provides single-source HRSG solutions to deliver a superior product at a competitive price. From equipment design, supply and upgrades, to construction, condition assessment and field engineering, B&W PGG can put it all together.

Quality Manufacturing

B&W PGG’s extensive in-house capabilities include worldwide manufacturing facilities, joint ventures and procurement networks that let us take advantage of sourcing, scheduling and other opportunities to provide the best overall value for our customers.

Operation and Maintenance

Through our subsidiary, Delta Power Services (DPS), we have extensive plant operations and maintenance experience with a wide range of fuels, equipment and operating conditions. DPS consistently delivers safe and efficient operations, plant reliability levels well above the industry average, and on-peak availability factors in the highest percentiles.

B&W PGG’s wide range of aftermarket products and services include:

- Field service, inspections and diagnostic testing
- Engineered upgrades
- Replacement parts
- Construction, maintenance and repair
- Plant operation services
- Startup and commissioning
- Outage support
- Training programs