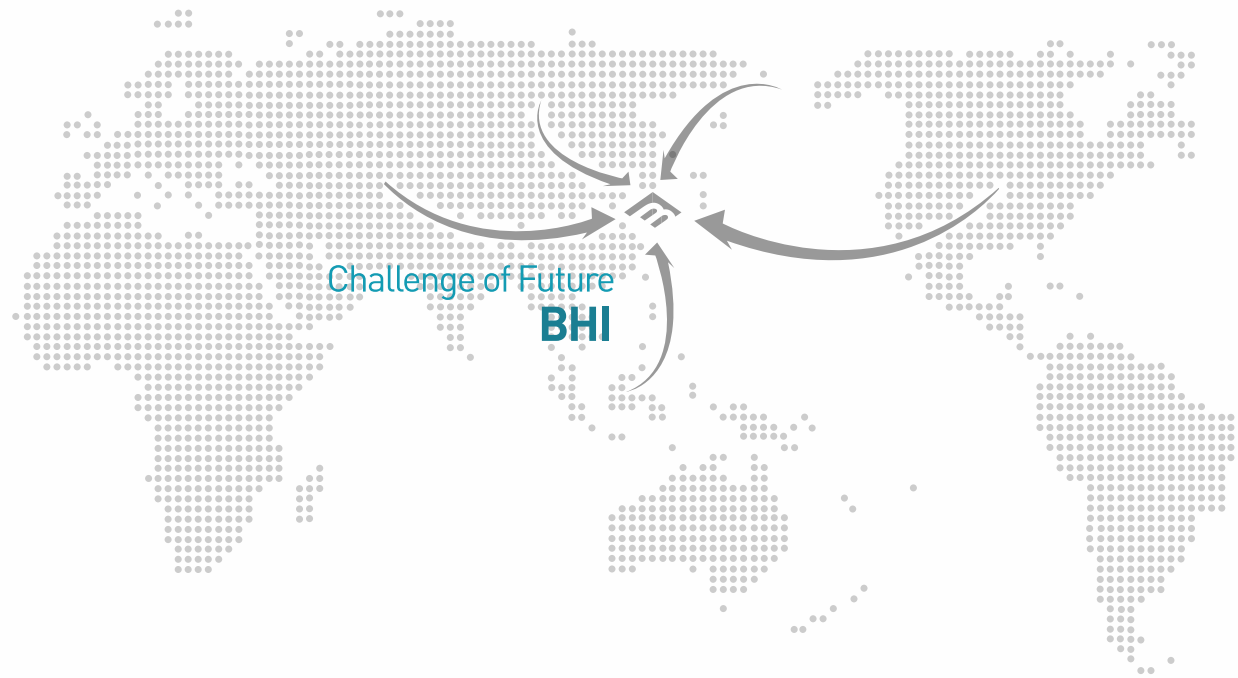




Leading Technology
Contributes to

Human & Environment



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Global Supplier of Boilers and Related Products

Leading Technology Contributes to Value Creation

Our Vision

BHI has achieved continuous growth throughout our history. By overcoming new challenges and increasing our growth, BHI strives to become a major contributor and lead a new future in the Power Plant Industry.

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History

- 1998 • Established as Bumwoo ENG
1999 • Authorized for I.S.O. 9001 Certificate

1990

- 2001 • Authorized for ASME STAMP "U" and "S" Certificates
2002 • Launched cooperation programs with R&D institutes, universities, and consulting groups
2003 • Registered as an approved supplier of nuclear power facilities with Korea Hydro & Nuclear Power Co.
• Authorized for ASME STAMP U, U2, S & PP Certificates
2005 • Signed the license agreement with Amec Foster Wheeler for HRSG technology
• Designated as a superior supplier by POSCO and Siemens
• Authorized for ASME STAMP (N, N3, NA & NPT) Certificates
2006 • Built Sacheon shop (72,000m²)
• Authorized for I.S.O. 14001 Certificate
2007 • Authorized for OHSAS 18001 Certificate
• Renewal of CSEL
• Signed the license agreement with Canadian IST for OTSG (Once-Through Steam Generator) technology
2008 • Signed the license agreement with Amec Foster Wheeler for PC Boiler technology
• Authorized for PED Certificate
2009 • Changed the name of company to BHI Co., Ltd.

2000

2010

- 2010 • Signed the license agreement with Amec Foster Wheeler for Oil & Gas Boiler technology
• Signed the license agreement with Siemens AG for Benson Once-Through technology for HRSG
2011 • Signed the contract for the supply of BFG (Blast Furnace Gas) boiler for Indonesia ISM Project
• First shipment of Condensers for AP-1000 Project (nuclear power plant in the U.S.)
• Awarded the first Benson HRSG project in Korea (Bugok CCPP Unit 3) from Siemens AG
2012 • Awarded PC boiler units 1 & 2 (Ultra Super Critical, 595 MW / Unit) for Buk-Pyeong TPP Project in Korea
• Signed the license agreement with Amec Foster Wheeler for CFBC Boiler technology
• Ranked 2nd in the world among HRSG suppliers (2011 McCoy Power Report)
2013 • Awarded "Golden Export Award" for exporting over \$200,000,000 USD per year at the 50th Korea Trade Day Ceremony
• Supplied 2 units of Surface Condensers designed with BHI's own technology for the first time (Yeosu TPP Project in Korea)
• Selected as one of the 'Hidden Champions' among companies listed in KOSDAQ (Korean Stock Exchange)
• Succeeded in domestic production of Converter for the Gwangyang 4 HR project
• Established BHI Thailand office
2014 • Signed the license agreement with Amec Foster Wheeler for Air Pollution Control (APC) System
• First HRSG project awarded in Africa
• First super-sized-HRSG project awarded in Japan as the first foreign HRSG supplier
• First HRSG project awarded in U.S.A.
• Signed the license agreement with SPIG S.p.A. for Air Cooled Condenser
2015 • BHI's HRSG selected as [World Class Product] for 4 consecutive years
• Expanded the market to [Smart-Nuclear-Power-Plant]
• Ranked 1st in the world among HRSG suppliers according to 2014 McCoy Power Report
2016 • Awarded Pohang Works Steel Factory Power Plant Unit 3 & 4 Repowering & Retrofit Project as an EPC contractor
2017 • Acquired 'New Excellent Product' Certificate from Korea Agency for Technology and Standard (KATS), subsidiary of Ministry of Trade, Industry, and Energy of Republic of Korea, for DeSOx Non-Leakage Type GGH using enamel coated fin tubes.
• Acquired Amec Foster Wheeler Power Equipment Company
• Selected as 'Next Generation No.1 Product' by Ministry of Trade, Industry and Energy for, for DeSOx Non-Leakage Type GGH using enamel coated fin tubes
2018 • Entered into Overseas PC Boiler Market
• Marked the 20th Anniversary of the Establishment
• Awarded CFVS Project from Korea Hydro & Nuclear Power Co., Ltd
• Signed MOU with GNS regarding Spent Nuclear Fuel & Nuclear Waste Management Business
2019 • Selected as POSCO Honored Partner(PHP) for 15th Consecutive Year
• Acquired KC Thermal Air Cooled Condenser Business Unit



MORO Shop Site Area size : 58,000m²SACHEON Shop Site Area size : 72,000m²HAMAN Shop Site Area size : 291,000m²

BHI provides our clients with the best products and services to satisfy their needs.

BHI has been successfully supplying power plant equipment since our establishment in 1998 and our products have been acknowledged by our clients from around the world due to their high quality and efficiency. BHI operates based on an ethical management principle-the source of our continuous growth.

BHI has made every effort to establish a more transparent corporate identity on the basis of trust among our society, our company, and our employees.

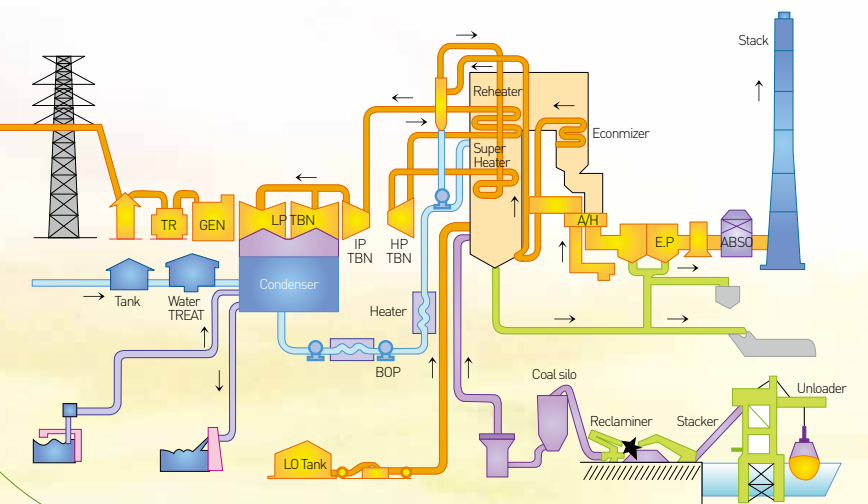
BHI will lead the 21st century by producing products that contribute to mankind and protect the environment, based on excellent human resources and advanced technology. BHI will continue to challenge itself for the future and actively invest in human capital in order to achieve its goals and contribute to the well-being of mankind.



Boiler

BHI strives for customer satisfaction and product efficiency development

- HRSG Heat Recovery Steam Generator
- PC Boiler Pulverized Coal Boiler
- CFBC Boiler Circulating Fluidized Bed Combustion Boiler
- Oil & Gas Boiler
- AQCS Air Quality Control System
- Industrial Boiler



HRSG

Heat Recovery Steam Generator

BHI designs and manufactures high-quality products based on time-proven technology acquired from the License Agreement with Amec Foster Wheeler in 2005, along with BHI's own experiences accumulated over time. BHI HRSG have superior design features which make them more reliable and easier to maintain and service.



Major Design Features

The following elements in our HRSG design prove the superiority of our technology :

- Flex tube design
- Tube-to-header weld with full radial penetration
- Up/down flow economizer circuits
- Vibration restraining system
- Positive casing seal / Living retention system
- Gas path baffles to minimize gas bypass
- Fully integrated top-supported pressure parts
- Manifolder risers



HRSG

Enhanced Total Engineering Services

From basic engineering to field service, BHI provides total engineering services in the following fields :

Thermal Engineering

Proper equipment sizing, verification of thermal load and life time analysis, flow distribution analysis of gas path, and life cycle analysis, gas path flow distribution analysis, and general thermal-mechanical engineering.

Mechanical Design

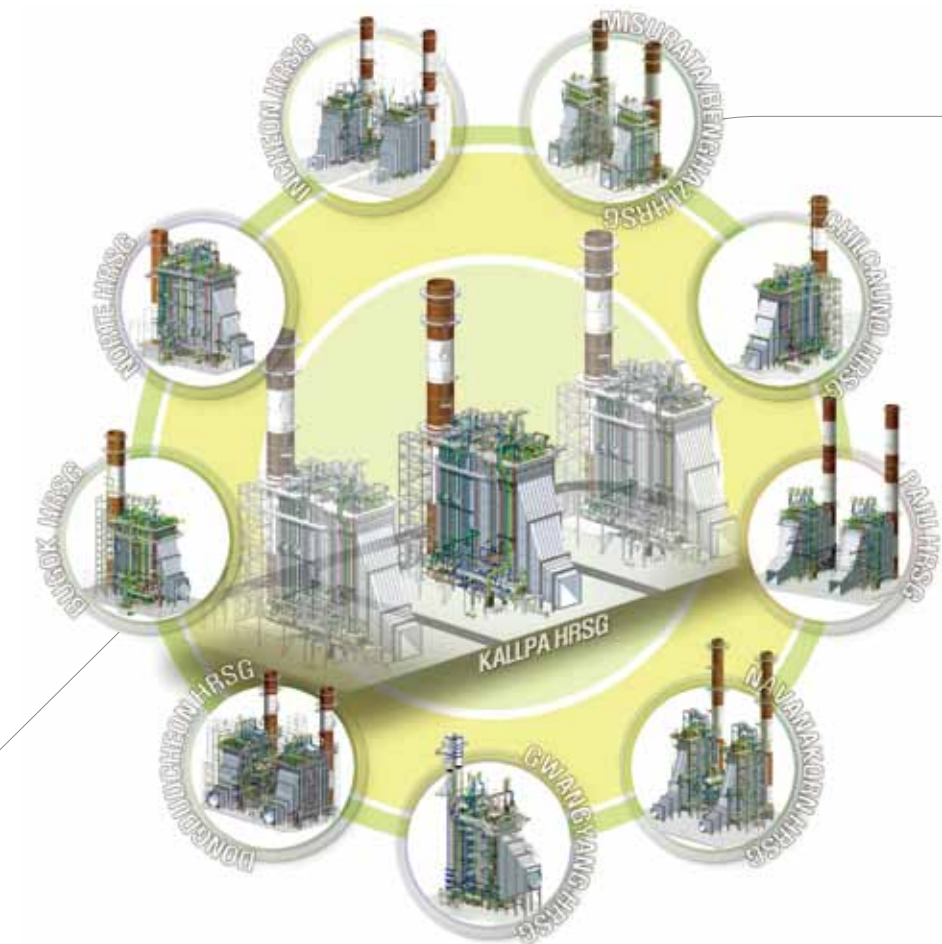
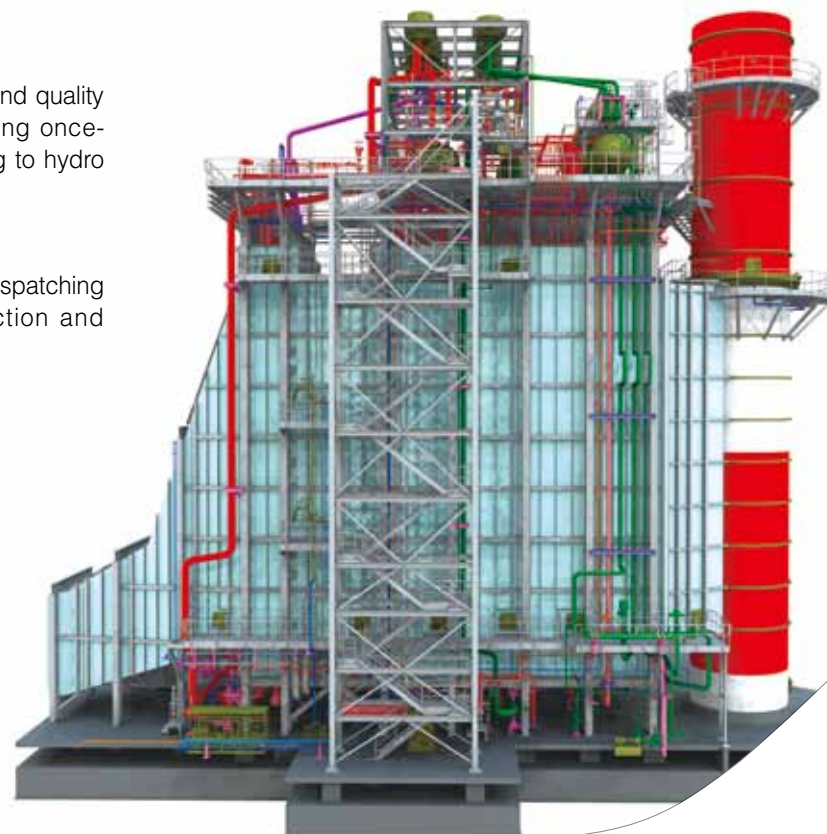
Robust internal hanger support configuration and static/ dynamic load analysis for steel structure and piping.

Fabrication and Quality Control

Established zero-defect fabrication and quality control procedures by implementing once-through production line, from finning to hydro test, at BHI's world-class Moro shop.

Field Supervision and A/S

Utilize experienced manpower by dispatching technical supervisor during erection and commissioning processes.



Harp Assembly / Module / C-Frame(Section) / O-Section

BHI modular design is presented as a fully-assembled solution, achieving a higher level of quality and reducing unnecessary field labor. BHI provides several different casing configurations to accommodate the particular constraints of each jobsite. BHI can supply HRSG in four forms : without casing (HARPS), partially-cased (MODULES), and fully-cased (C-SECTIONS and O-SECTIONS)



PC Boiler

Pulverized Coal Boiler

Step Forward as Technology Owner

Having signed a License Agreement with Amec Foster Wheeler since 2008 for wall fired pulverized coal ('PC') boiler, BHI proved its capability in the marketing by supply 2 units of Ultra Supercritical ('USC') boilers to its client. In year 2017, BHI made a historical movement where it decided to acquire Amec Foster Wheeler Power Equipment Company, a company which holds all of PC technologies of Amec Foster Wheeler. By doing so, BHI became one of the pioneers of steam generators and now equipped with not only wall fired technology, but also different types of firing technology such as tangential firing and arch firing. Through such bold movement, we have secured our position as original equipment manufacturer and we ensure to bring greater reliability and comfort to our clients.

PC Boiler



- Capacity : Up to 930MWe in service / Over 150,000MWe in Design / Operation Worldwide
- Operating Pressure : Natural Circulation : 180 bar / Super Critical : over 250 bar
- Operating Temperature : up to USC class (over 600°C)
- Emissions : Best available technology
- Fuels : Standard : Lignite, Sub-Bituminous, Bituminous and Anthracite
- Alternate Fuels : Oil, Natural Gas, Refinery Bottoms, Delayed Pet-coke, Biomass (blend)

Going Supercritical and Beyond

PC steam generators with advanced BENSON Vertical-Tube (BVT) supercritical steam technology can achieve plant efficiencies well beyond subcritical drum type units, thereby producing more electricity with less emission. By coupling these technologies together, we offer a steam generator with proven and advanced features, such as :

- Simple vertical tube furnace design which is economical in terms of fabrication, construction, and maintenance.
- Built-in self-cooling characteristics for maximum furnace life
- Optimized furnace area for complete combustion of fuel
- Different types of pulverizers (MBF or ball mill) for the widest solid fuel range
- Low NOx Combustion System

PC Boiler Technology

Highly reliable wall-fired low NOx burners



Dependable Performance

- Six-lobe opti-flow nozzle has over 50% more peripheral exposure for devolatilization compared to round nozzles
- Improves emissions, erosion, slagging, turndown, and boiler performance
- Reliable online tuning

Repeatable Controllability

- Two air zones, three linear drives, for independent swirl and airflow control
- Fixed vane swirlers minimize binding
- Non-pitot air flow measurement-strong DP signature, low clogging

BHI-FW ball mills are rugged and highly reliable



- High chrome abrasion resistance and long life grinding liners
- High-efficiency static M-style classifier
- Reliable direct measure level control
- Positive conveyor coal feed
- Coal distribution control to burners

Advanced arch-fired low NOx preheat burners



- Multi-level air staging for the lowest NOx emissions
- Fuel preheating for improved combustion efficiency
- Air separating cyclone burners for easy ignition
- Natural hot gas recirculation for flame stability
- Unit turndown to 40% load without support oil

BHI-FW MBF coal pulverizers are designed and built to handle the widest range of coals



- Ceramic or high chrome composite grinding rollers and table segments
- Refractory lined classifier housing and mill discharge assembly
- Refractory lined roller coal shields
- Individually tensioned, fixed rollers
- Three point maintenance access
- Low internal fuel air velocities



Wall-Fired Supercritical BENSON Vertical Tube Steam Generator

Project Summary

Location : Gangwon-do Province, South Korea
Customer : GS Donghae Electric Power Co., Ltd.
Status : Commercial Operation
Capacity : 2 x 600 MWe
Fuel : Bituminous coal, oil



Arch-Fired Once-Through Supercritical Steam Generator

Project Summary

Location : Heshan City, Guangxi Province, China
Customer : Datang Guiguan Heshan Power Gen Co., Ltd.
Start-Up Year : 2012
Capacity : 2 x 670 MWe
Fuel : Anthracite Coal

CFBC Boiler

Circulating Fluidized Bed Combustion Boiler

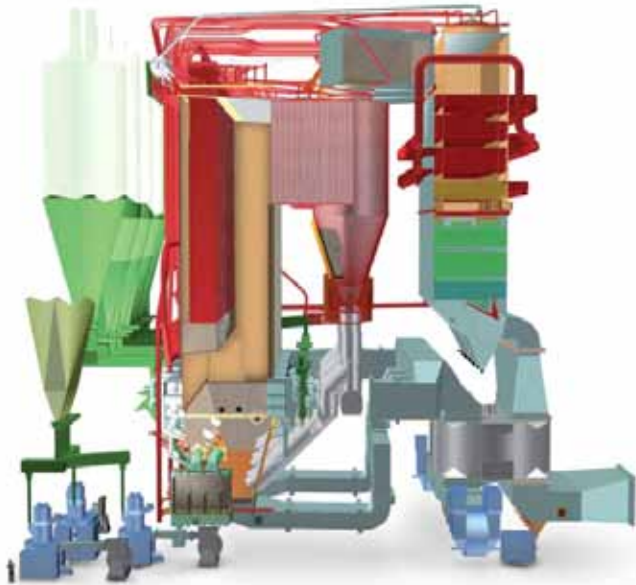
CFBC Technology - Creating A Greener Planet

As part of our solution for the clients and owners, BHI has successfully acquired Circulating Fluidized Bed Combustion(CFBC) boiler technology from Amec Foster Wheeler the CFB market leader & pioneer. CFBC boilers have many distinguishable advantages. One of them is the very low NOx and SOx emission, as the boiler captures sulfur contents of the fuel during the burning process. The CFBC technology is not only eco-friendly, but also economical : it is more efficient than any other type of boiler. Moreover, its flexibility with different types of fuels allows the owner a wider selection of materials.



Flexible & Reliable

The extensive experience of our licensor, Amec Foster Wheeler, allows BHI's CFBC boiler to utilize nearly all solid fuels, including wastes and biomass fuels. These solid fuels include but are not limited to coals, lignite, biomass and petcoke. Amec Foster Wheeler's extensive experience with CFBCs proves the reliability of BHI's CFBC boilers as the technology has proven itself with more than thirty million hours of operation.



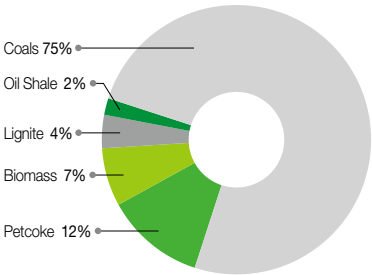
Going Green

As one of the leading boiler suppliers in the field, BHI is concerned with preserving the environment. On top of the low emissions of NOx and SOx, CFBC boilers also use biomass as one of its fuels, reducing carbon dioxide emissions.

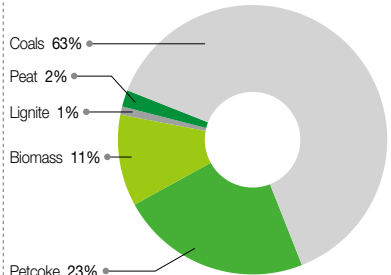
- Pulp & papermaking waste
- Fast-growing energy crops
- Agricultural waste
- Industrial waste
- Municipal refuse-derived fuel(RDF)
- Forestry operations
 - Thinning, bark, stumps
 - Harvesting waste
- Wood processing waste
 - offcuts, sawdust



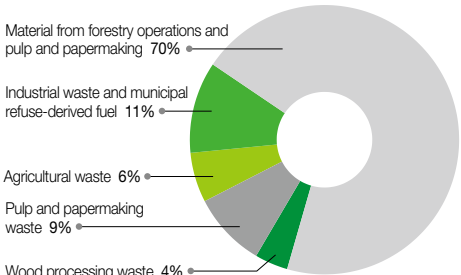
CFBC Fuel Experience
(% of operating FW CFB capacity utilizing these fuels as primary fuel)



Industrial Fuel Experience
(% of operating industrial FW CFB capacity utilizing these fuels as primary fuel)



Renewable CFBC Fuel Experience
(% of operating FW renewable capacity utilizing these fuels as primary fuel)



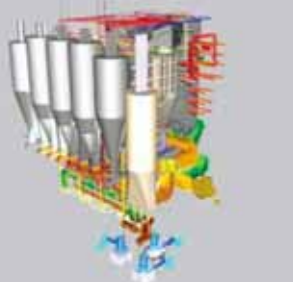
DOMINION VIRGINIA CITY HYBRID ENERGY CENTER

Location : St. Paul, Virginia
Customer : Shaw Group / Dominion Virginia Power
Start-Up Year : 2012
Capacity : 2 x 300 MWe
Fuel : High Ash Coal & Wood Waste



CLECO

Location : Boyce, Louisiana
Customer : Shaw Group / Cleco Power LLC
Start-Up Year : 2009
Capacity : 2 x 330 MWe
Fuel : Petroleum Coke, PRB, Lignite



SANDOW

Location : Rockdale, Texas
Customer : Bechtel / TXU
Start-Up Year : 2009
Capacity : 2 x 315 MWe
Fuel : Texas Lignite

Copyright : Amec Foster Wheeler

Oil & Gas Boiler

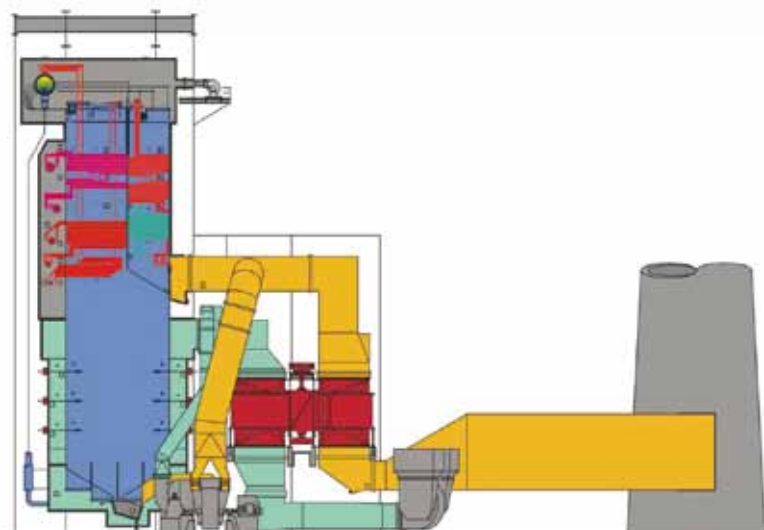
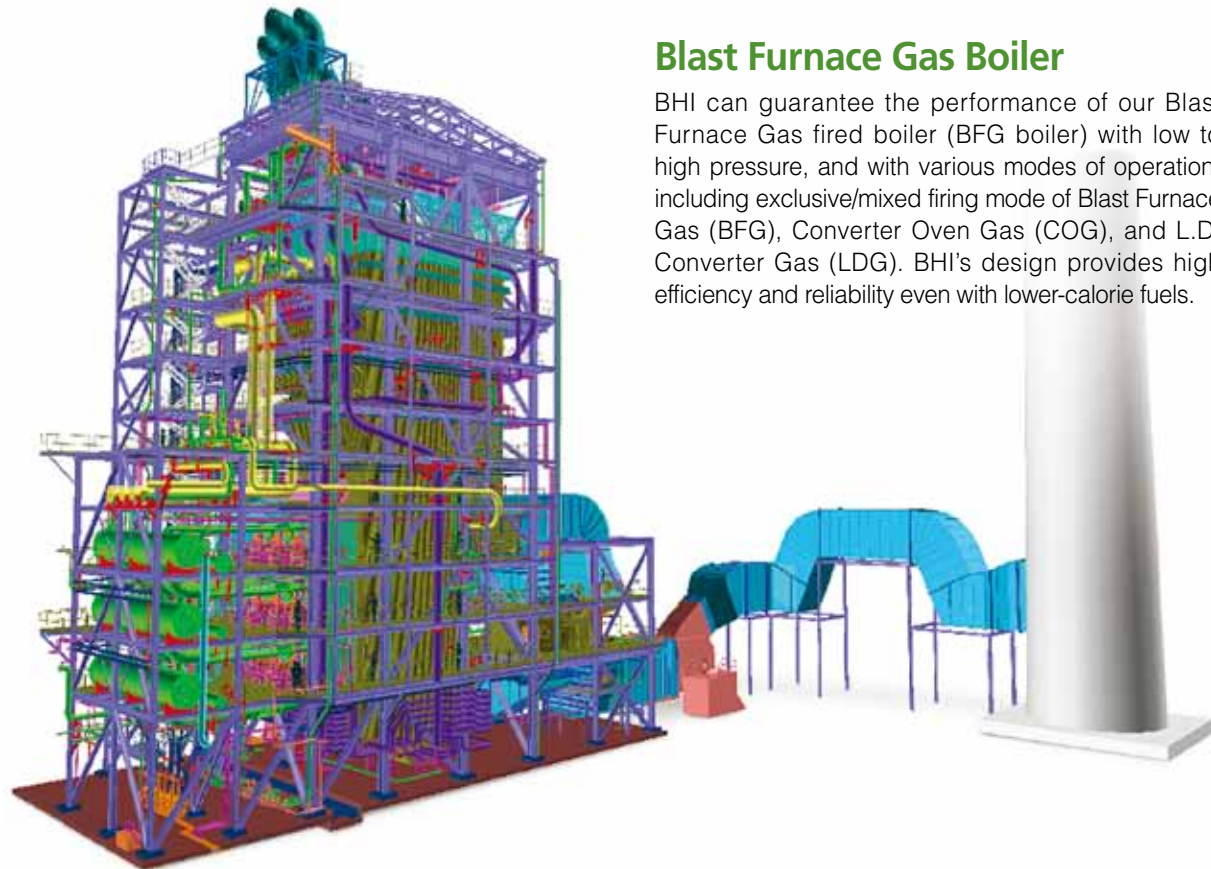
Based on License Agreement with Amec Foster Wheeler, BHI has been designing and manufacturing Oil and Gas-fired boilers that provides high efficiency and reliability. Our Oil & Gas natural circulation boilers are inherently safe, increasing water flow as tube heat flow increases and not relying on pumps under normal or upset scenarios.



Oil & Gas Boiler

Blast Furnace Gas Boiler

BHI can guarantee the performance of our Blast Furnace Gas fired boiler (BFG boiler) with low to high pressure, and with various modes of operation, including exclusive/mixed firing mode of Blast Furnace Gas (BFG), Converter Oven Gas (COG), and L.D. Converter Gas (LDG). BHI's design provides high efficiency and reliability even with lower-calorie fuels.



Oil & Gas Boiler Design Features

Box Type Design

- Front firing in furnace
- Parallel pass construction
- Complete-drain construction
- Low power consumption and high plant efficiency
- Compact size & economical design

Gas Recirculation System

- SH, RH Steam temperature control
- Reducing NOx emissions
- Complete performance guarantee on the H-Oil, BFG in exclusive/mixed firing mode

Mono-wall Construction

- Lightweight construction of insulation and casing
- Best suited for water washing of furnace
- High welding intensity
- Durable construction of the furnace wall and reliable gas-tightness



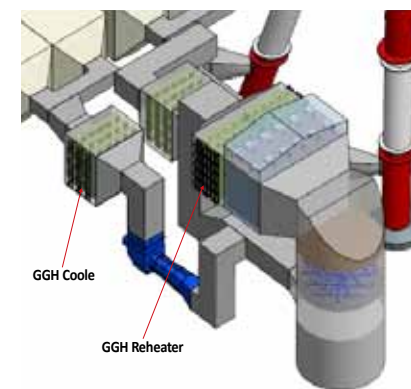
AQCS

Air Quality Control System

Innovative Technologies for Clean Air

BHI signed a license agreement with Amec Foster Wheeler for environmental equipment. BHI offer a complete range of specialist services and industry-leading products to help our clients meet their environmental objectives with a full line of air pollution control technologies for the utility power, iron and steel, pulp and paper, cement, mining, foundry, petroleum refinery, chemical, and refuse-to-energy plant sectors.

Non-Leakage Gas to Gas Heater (GGH)



Benefits

- Effective operating of FGD System. (Flue Gas Desulfurization System.)
- Reduce water consumption of FGD.
- Good diffusion of exhausted gas.
- Prevention of the visible gas from the stack.
- Reduce corrosion rate of duct and stack. (Lower grade material can be used for GGH downstream equipment.)
- Decrease fine dust emission through to the stack.

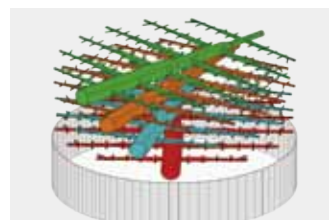
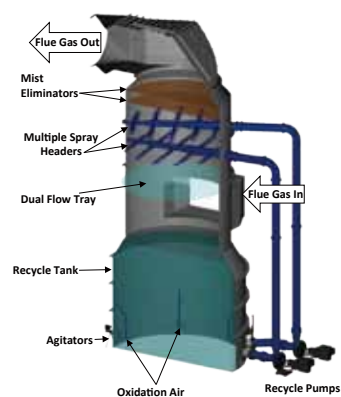


Non-Leakage GGH Cooler
Design : 2 x Vertical Flow
Spiral Fin-Tube



Non-Leakage GGH Reheater
Design : 1 x Horizontal Flow
Spiral Fin-Tube with
Enamel Coating

Wet Flue Gas Desulfurization (WFGD)



Wet Flue Gas Desulfurization (WFGD)

- High Multi-Pollutant Capture Capability
- WFGD utilizes slurry of alkaline sorbent, usually limestone or lime to treat the flue gas
- Solution for rebuilds / retrofits
- Lower capital cost

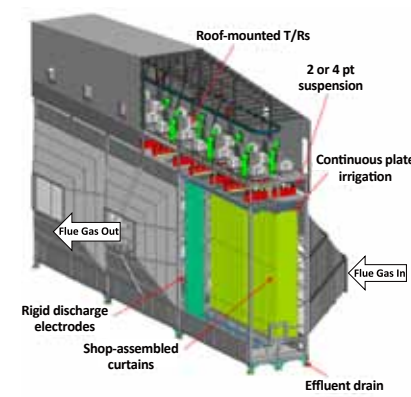


Experience : 890 MW TECO Big Bend Station, Units 1 & 2
Location : Apollo Beach, Florida, USA
Customer : TECO
Start-Up Year : 1999
Capacity : 890 MWe
Flue Gas Flow : 3,102,000 Nm³/h



Experience : PSNH Merrimack Power Station, Unit 1 & 2
Location : Bow, New Hampshire, USA
Customer : PSNH
Start-Up Year : 2012
Capacity : 457 MWe
Flue Gas Flow : 1,688,000 Nm³/h

Wet Electrostatic Precipitator (WESP)



Benefits

- Removal of fine particles (PM 2.5), and acid aerosol (SO₃) and mercury
- Various configurations of horizontal gas flow type
- Compact Size to minimize space and cost



Largest Wet ESPs
References in World
Design : 2 x Plate Horizontal Flow
Capacity : 2 x 800 MW



WET ESP &
GGH Reheater hybrid type.

CFB Scrubber (CFBS)

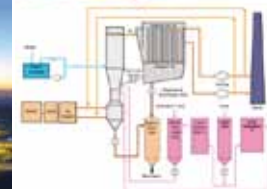


Design Features of CFB Absorber

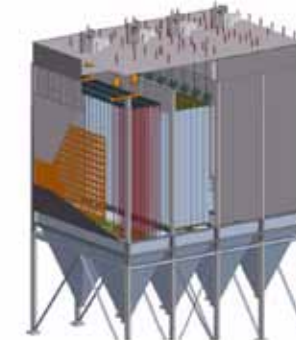
- Turbulent CFB absorber provides optimized conditions for multi-pollutant capture
- Flexible process provides wide performance and load range
- Low Maintenance
- Multiple venturis allow single absorber designs up to 800 Mwe



Largest CFB Scrubber is at Dry Fork Station
Location : Gillette, Wyoming, USA
Customer : Basin Electric Power Cooperative
Start-Up Year : June 26, 2011
Capacity : 420 MWe
Flue Gas Flow : 1,580,000 Nm³/h per unit



Dry Electrostatic Precipitator (DESP)



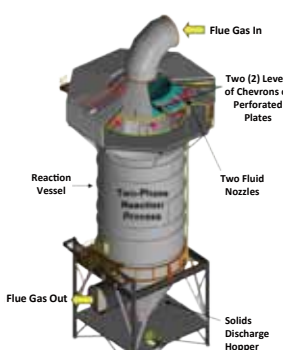
Benefits

- 99.9+% removal capability
- Low pressure drop
- Tumbling hammer and gravity impact rapping designs available



Particulate Control Dry Electrostatic Precipitator (DESP)
Design : 4 x HaRDE ESP
Capacity : 2 x 600 MW

Spray Dryer Absorber (SDA)



Spray Dryer Absorber (SDA) Technology Design Details

- Spray Dryer Absorber (SDA) utilizes hydrated lime to treat the flue gas
- Lime slurry is atomized as droplets into the flue gas
- Solution-based designs for Customers specific needs



Spray Dryer Absorber (SDA)
Largest SDA Reference : 3 x 600 MW



Particulate Control Fabric Filter (FF)



Features

- ≥ 99.9% PM Removal
- Low cleaning frequency resulting in long bag life
- On-line or off-line cleaning for operational flexibility
- Simple design, one step bagging with no special tools required



Pulse Jet Fabric Filter (FF)

- Plant Location : Monroe County, GA, USA
- Customer : Southern Company
- Plant Start-Up : ► Unit 1, 2, 3 ~ 2009
► Unit 4 ~ 2010
- Plant Electrical Output : 4 x 818 MW
- Flue Gas Flow : 6,412,338 Am³/hr
- Fuel : Sub-Bituminous (PRB) Coal
- AQCS Configuration : 1 x 100%
► DESP + FF(new)
- PM Removal : 88.8%
- Outlet PM : 10.15 mg/Nm³ @ 6% O₂

Industrial Boiler

BHI can provide various types of industrial boilers for various type of plants which require steam for plant's operation. BHI's industrial boiler can burn different types of fuels, from liquid to gas, to form combustion in order to produce adequate steam for the plant's purposes. Depending on the steam evaporation capacity, different types of boiler configuration is applied as well as the total numbers of burners utilized may vary.

BV & BH Type

	BV Type	BH Type
Max. Steam Capacity	~400 Ton/Hr	~250 Ton/Hr
Max. Steam Operating Pressure	120 kg/cm ² g	110 kg/cm ² g
Max. Steam Operating Temperature	540 C	490 C



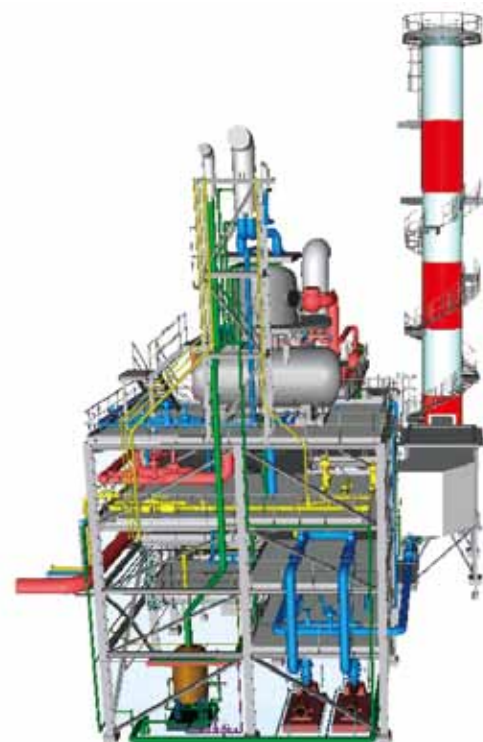
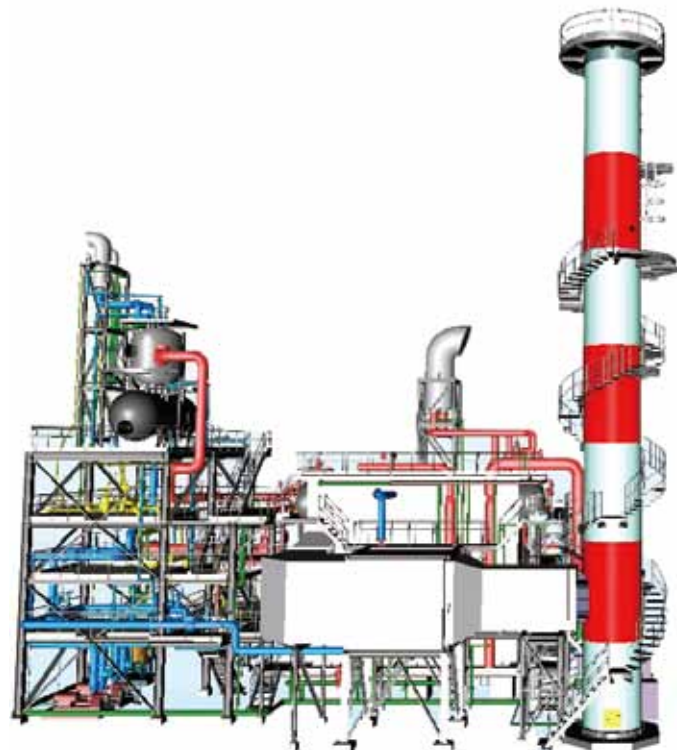
BV type Features

- The BV type is a pre-engineered, bottom-supported two-drum unit available for industrial power and process use. It also comes in a variety of steam ratings, pressures, and steam temperatures.
- Many shop-assembled component parts are in modular form, permitting SHORTER DELIVERY and QUICK ERECTION on site.



BH type Features

- Maximum shop-assembly (packaged type) is available on request.
- Construction is flexible, leading to lower installation and maintenance costs.



B.O.P.

- Surface Condenser
- HP / LP Feedwater Heater
- CCW Heat Exchanger
- Deaerator
- Pressure Vessel
- Heat Exchanger (Shell and Tube Type)
- Air Cooler Condenser



Surface Condenser

BHI has designed and manufactured surface condensers for a wide range of power plants, with profound technical understanding and extensive manufacturing experience. Our surface condensers have up to 1,400,000 sq.ft of surface area and can accommodate plants with up to 1,400 MWe capacity.

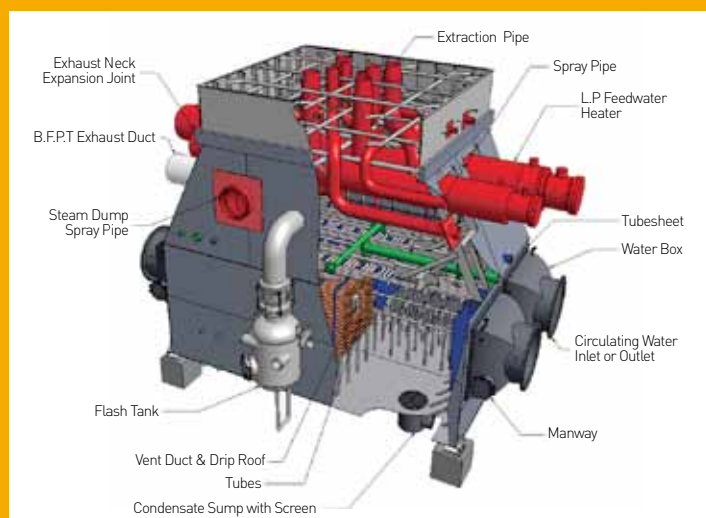


Typical Condenser for 1,400MWe Nuclear Power Plant

- A. Surface area : 100,200m² (3 shells / unit)
- B. Size (W x L x H) : 10,940 mm x 26,500 mm x 20,600 mm / shell
- C. Weight : 680 tons / shell
- D. Tube material : Titanium



BHI is a world-class supplier of steam surface condensers. Our steam surface condenser offers an evolution of advanced technology, offering maximum thermal efficiency and superior mechanical design to reduce forced outages and increase availability. Our goal is to supply the best quality of steam surface condensers at competitive prices, while meeting delivery requirements to satisfy the needs of our customers.

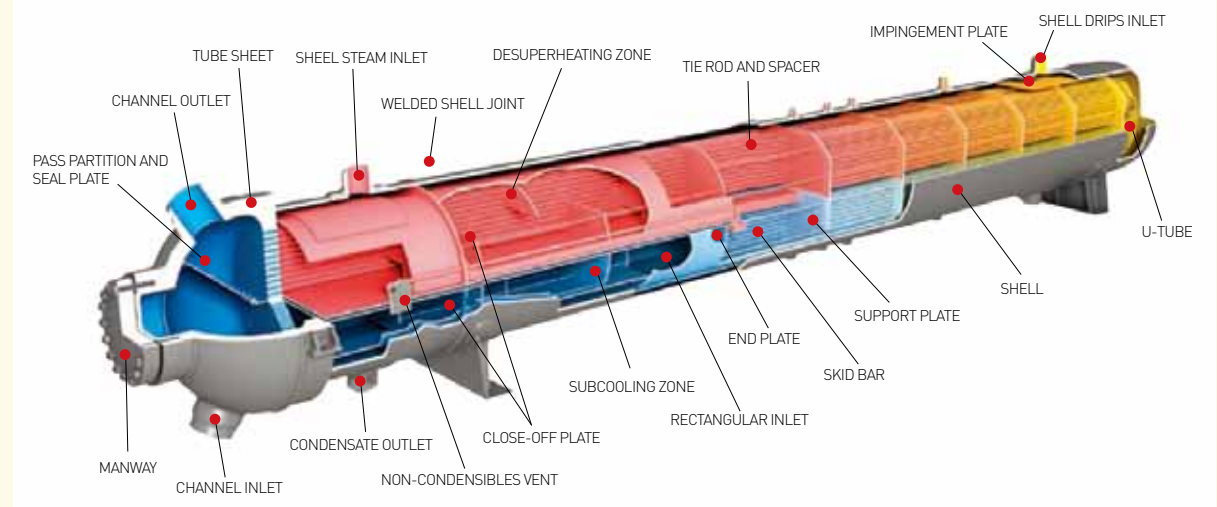


HP/LP Feedwater Heater

BHI has designed and manufactured LP, HP Feedwater Heaters with extreme performance criteria. Computerized thermal and mechanical design plus extensive background knowledge in seismic and stress analysis provides highly reliable equipment to our clients and end-users. The interior of our Feedwater Heaters is divided into 3 different zones : the desuperheating zone, the condensing zone, and the drain-cooling zone.



Typical Three Zone Feedwater Heater

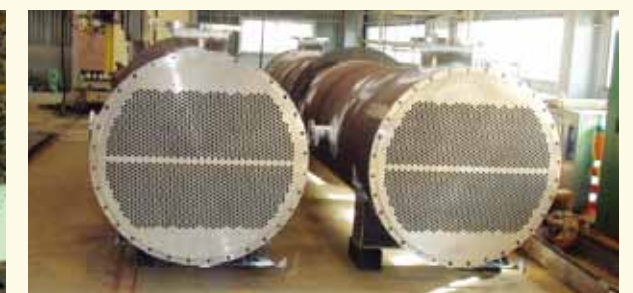


CCW Heat Exchanger

CCW Heat Exchanger is a device used to cool the purified water in the plant cycle, using seawater or service water, which flows past the tubes of the heat exchanger.

Typical CCW Heat Exchanger for 800MWe TPP

- A. Material : A516-70 / B111-70600
- B. Design pressure : 10.5 kg / cm²g
- C. Design temp. : 60°C
- D. Size (L x OD x T) : 14,700mm x 1,706mm x 13mm
- E. Weight : 54.5 tons



Deaerator

CCW Heat Exchanger is a device used to cool the purified water in the plant cycle, using seawater or service water, which flows past the tubes of the heat exchanger.

Typical Deaerator for 1000MWe Nuclear Power Plant

A. Design pressure : 5 kg / cm² B. Design temp. : 162°C C. Size (OD x L x T) : 3,700mm x 37,200mm x 20mm D. Weight : 200 tons



Pressure Vessel

Regarding pressure vessels, quality assurance is our first priority. BHI also strives to meet different technical specifications from domestic and overseas clients. BHI can manufacture high-temperature, high-pressure vessels according to the needs of our clients.



Heat Exchanger (Shell and Tube Type)

BHI designs and fabricates Shell and Tube Type Heat Exchangers made of various types of metal for almost every industrial sector. Numerous units are designed for operating pressure of over 3,000 psig. Also, BHI has extensively used high chrome alloys, which are known to be very difficult to fabricate.

A. Design pressure : 40 kg / cm²g B. Design temp. : 260°C C. Size (OD x L) : 3,000mm x 20,000mm D. Weight : 50 tons / set



Air Cooler Condenser

ACC is a direct dry cooling system where condenses the steam turbine exhaust flow and returns the condensate to the boiler without water loss.

As there is no intermediate surface condenser like with indirect dry cooling, the overall performance of such cooling system is better. ACC requires no water for operation.

ACCs are used in the utility, industrial and renewable markets of large and small plants. BHI's ACCs have a unique mechanical and thermal integrity, offer excellent corrosion and freeze resistance, have low fan power consumption and require few maintenance.

BHI Co., Ltd. acquired Air Cooled Condenser ("ACC") Business from KC Thermal Co. as of November 29, 2019.

Prior to BHI ownership, KC Thermal was a company founded by BHI, JNK Heaters, and KC Green Holdings.

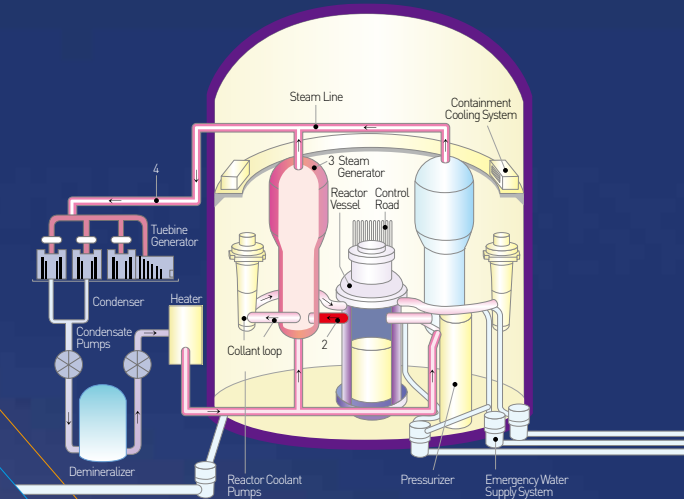
Through the acquisition, BHI has rights to KC Thermal's ACC Business including but not limited to its technical know-how, patent rights, trade secrets, proprietary and confidential information, and any other technical information.

BHI ACCs have been provided globally with a combined generation capacity of over 7,500MW. Our ACCs are installed in S. Korea, U.S., Canada, Chile, Mexico, Egypt, Australia, Saudi Arabia, etc.



Nuclear Power Plants

- CLP Containment Liner Plates
- SSLW Stainless Steel Liner Work
- CPTS Containment Post-Tensioning System
- MSR Moisture Separator Reheater
- ECCS Sump Strainer
- CPP Containment Piping Penetrations



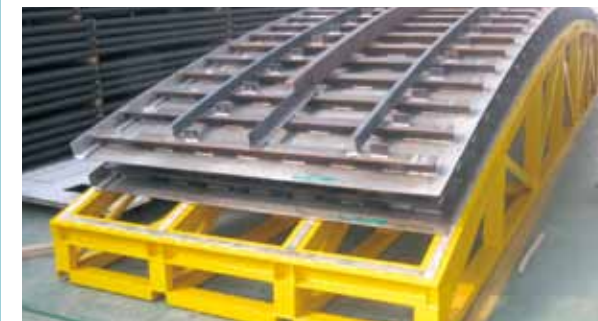
CLP Containment Liner Plates

1. Containment Liner Plates (CLP) are installed at the inner wall of a nuclear power plant's containment building and act as a protection plate against leakage of radiation.
2. One can enter the containment building through designated entrances only, and there are two entrances in total. One of them is called the Personnel Air Lock (PAL), which is used during normal operations, and the other one is called the Emergency Air Lock (EAL), used during emergency operations. Equipment transportation is only available during plant shut-down, and it allows easy access to necessary equipment.



SSLW Stainless Steel Liner Work

Stainless Steel Liner Work (SSLW) is a passage that encourages the safe preservation of not only the chemical and radioactive materials, but also their replacement and transfer canal. Stainless Steel Liner Plate is located on the walls of the concrete water tank, and it prevents water from flowing out, while blocking the entry of pollutants.



CPTS

Containment Post-Tensioning System

1. CPTS contains nuclear reactor pressure vessels and primary equipments. It also protects the primary system from risk factors from emergency operations.
2. Its purpose is to prevent discharge of high-temperature and high-pressure steam and radiation to the atmosphere, as CPTS absorbs the abnormal load within the tension limit of pressed steel wire.
3. The containment building cannot avoid cracks in the concrete if it does not utilize CPTS because the wires will be stretched due to tensile force.



- ① Sheathing Duct ② Wedge
③ Trumpet assembly ④ Tendon



MSR

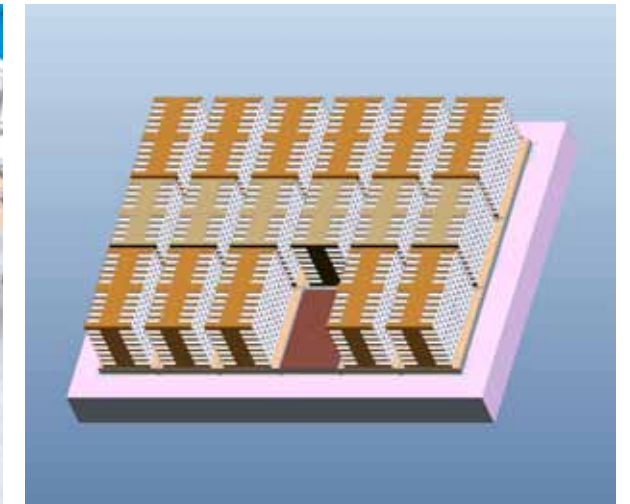
Moisture Separator Reheater

The moisture separator reheater's function is to improve the quality of the high-pressure exhaust steam from the HP turbine before it enters the LP turbine. The operation mechanically removes the moisture from the HP turbine exhaust, then reheats the dried steam almost to its initial temperature by passing it through bundles of hot tubes. This "drying and reheating" operation minimizes erosion of the LP turbine, as well as loss of momentum due to excessively moist steam. The net results are increased plant efficiency and longer life of the LP turbine.



ECCS Sump Strainer

Strainers of Emergency Core Cooling Systems (ECCS) are needed to protect pumps from debris in the event of LOCA (Loss of Coolant Accident). BHI's Lattice Type Sump Strainer features greatly increased surface area within a small space. Furthermore, since the lattice type is fabricated by assembling filter screens, it can be easily installed and maintained.



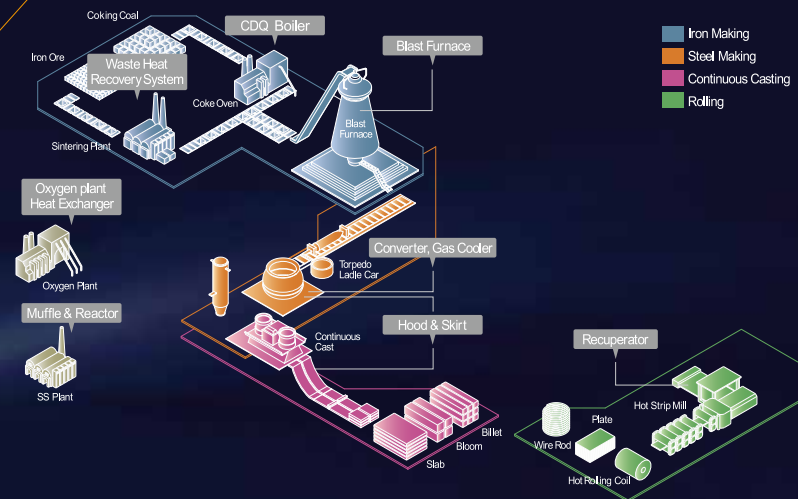
CPP Containment Piping Penetrations

CPP is a special fitting that connects the piping throughout the containment building. It is composed of cooling fin assemblies, which prevents rise of temperature due to internal fluids. CPPs can be categorized as A3, B2, C2, and C3 type.



Steel Plants

- CDQ Boiler Coke Dry Quenching Boiler
- Sinter Plant Boiler
- Steel Making Plant Boiler
- Converter
- Muffle / Reactor
- Evaporation Cooler
- Hood & Skirt
- Recuperator



CDQ Boiler

Coke Dry Quenching Boiler

CDQ boiler is a waste heat boiler that generates steam by using waste heat from steel making processes. The steam from CDQ boilers operates a turbine by using kinetic energy and generates electricity.

This equipment gradually cools hot coke produced from the coke oven by using gaseous nitrogen, which allows the coke to have constant size. It is an environment-friendly cooling process, which does not involve cooling water or produce fine dust. Such feature greatly reduces coke crack and improves coke quality. BHI provides efficient energy-saving devices, suggesting fundamental cost reduction measures in this era of high fuel prices.



- A. Material : STB410 and others
- B. Design pressure : 105 kg / cm²
- C. Design temp. : 545°C
- D. Size (L x OD x T) : 10,800mm x 14,950mm x 33,450mm
- E. Weight : 716.5 tons

Steam drums are basic features of water tube boilers. It is a reservoir of water/steam, located at the top end of the water tubes in the boiler.

They store the steam generated in the water tubes and act as a phase separator for the steam/water mixture.



Steam Drum

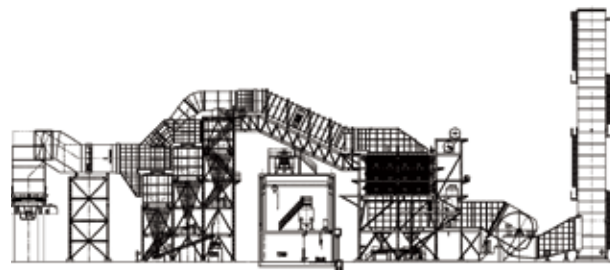


- A. Material : SB480N-2SR, SS400
- D. Weight : 55 tons

- B. Design pressure : 125 kg / cm²
- E. Shell thickness : 106mm

- C. Design temp. : 321°C

Sinter Plant Boiler



| Steam |

A. Flow : 40 tons / hr
B. Pressure : 12 kg / cm²g
C. Temp. : 197°C

| Gas |

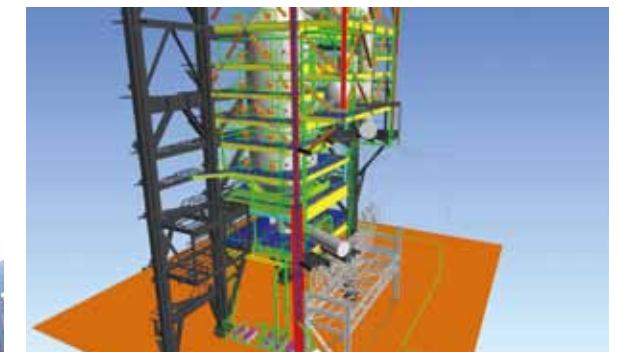
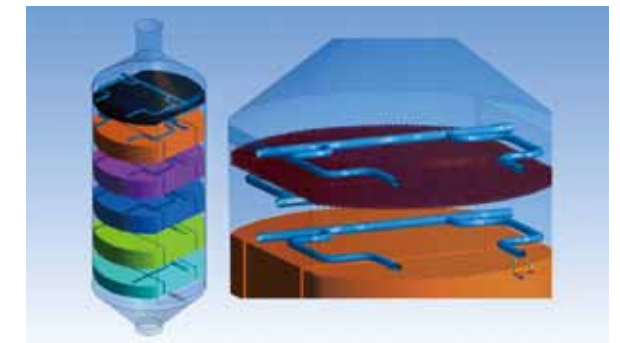
A. Flow : 720,000Nm³ / hr
B. Temp. : Nor.300°C
C. Dust contain : 0.5~1.0g / Nm³

Steel Making Plant Boiler



A. Material : STB340S
B. Weight : Approx. 150 tons
C. Outlet temp. : Max. 1,000°C
D. Gas volume : 200,000Nm³ / hr(day)
E. Dust contents : Max. 110g / Nm³

Finex Boiler



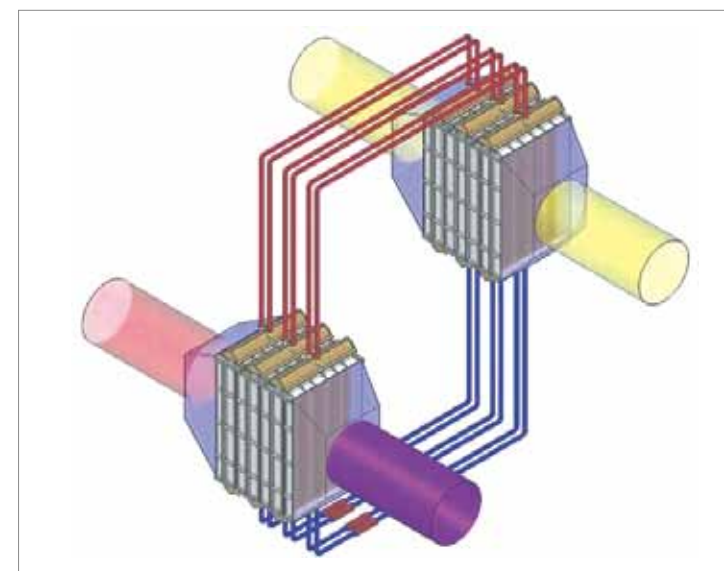
2FINEX 1.5M

Main steam flow : 40 ton / hr
Design Pressure : 12.5 barg
Design Temperature : 260°C

3FINEX 2.0M

Main steam flow : 78.9 ton / hr
Design Pressure : 12.5 barg
Design Temperature : 260°C

BFG Preheating System



A. Pressure : 10 kg / cm²g
B. Temp. : 180 °C
C. Inlet Gas : 563,254 Nm³ / h x 180°C
D. Capacity : For 100MW Boiler



Converter

Converters normally process 300 tons or more of scrap and hot metals in a single batch or “heat”. The scrap is added first, followed by hot metal. A water-cooled lance is lowered into the hot metal to deliver a high pressure stream of pure oxygen that triggers chemical reactions, converting impurities into gases and slags.



A. Material : STB340H B. Size(L x W x H) : 12,200mm x 5,200mm x 5,500mm C. Temp. : 235.5°C
D. Weight : 580 tons E. Thickness : 180mm

Muffle / Reactor



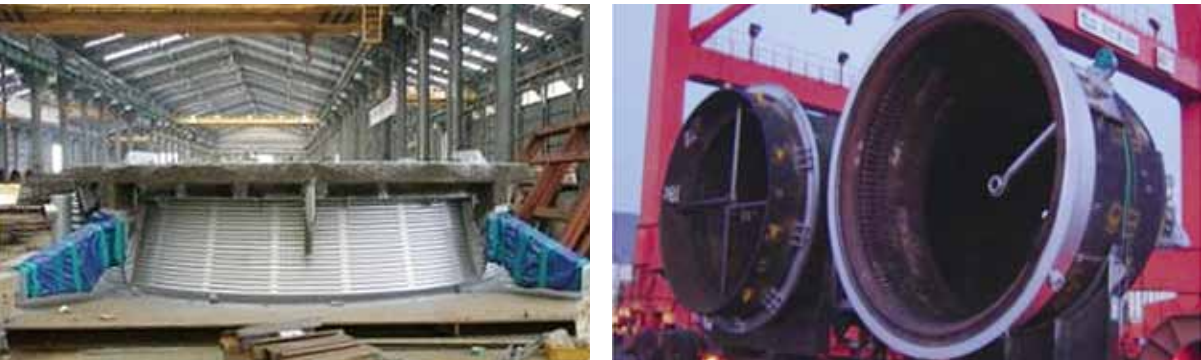
A. Use : 250 tons / hr Reheating Furnace B. Material : SICROMAL 12, SICROMAL 10, DIN 1.4720 C. Design temp. : 900°C
D. Size(W x L x H) : 1,625mm x 2,650mm x 4,390mm E. Weight : 8,812 tons

Evaporation Cooler



A. Material : 16Mo3 B. Inlet dust temp. : 1,200°C C. Water pressure : 4 bar
D. Casing diameter : 6,800mm E. Wall thickness : 10~15mm

Hood & Skirt



A. Material : STB340S B. Size(OD x L) : 5,000mm x 1,200mm C. Weight : Hood 36 tons, Skirt 15 tons
D. Cooling water flow rate : 170m³ / hr

Recuperator



A. Use : 250 tons / hr Reheating Furnace B. Material : SICROMAL 12, SICROMAL 10, DIN 1.4720 C. Design temp. : 900°C
D. Size(W x L x H) : 1,625mm x 2,650mm x 4,390mm E. Weight : 8,812 tons

Manufacturing Facilities

BHI has the Boiler Tube Panel Welding Line and the Boiler Coil Bending Line, equipped with CIM(Computer Integrated Manufacturing) system, which allows the manufacturing process to be automatic, controlled by computers.



Boiler Panel Bending Machine



Boiler Coil Bending Line : 2 Lines

- A. Head : 4 / set, 2 / set
- B. Max. length : 50m
- C. Tube thickness : 4~12, 3.2~10
- D. Bending angle : ± 200 , ± 191
- E. Auto butt welding : Yes
- F. System : CNC(Computer Numerical Control)
- G. Bending length : Max. R15,000mm



Gantry Type Panel Auto-Welding Machine



Shot & Painting Facility



Heat Treatment Facility



Auto Submerged ARC Welding Machine



Orbital Welding Machine



Expander

Boiler Tube Panel Welding Line : 2 Lines

- A. Max. width : 2m
- B. Max. length : 22m
- C. Speed : 100~1500mm / min.
- D. AMP : 60~800A
- E. Torch : 6poles $\times$ 2, 4poles $\times$ 2
- F. Membrane calibration : Yes
- G. Tube blasting : Yes
- H. Welding capacity : 100 tons / month



CNC Cutting Machine



3-Roll Bending Machine



Laser Cutting Machine



Finning Machine



Fin Tube Bending Machine



Hydro Test Bed

Technology of Management

The right conduct and value judgment criteria that BHI personnel must comply with

R&D Center

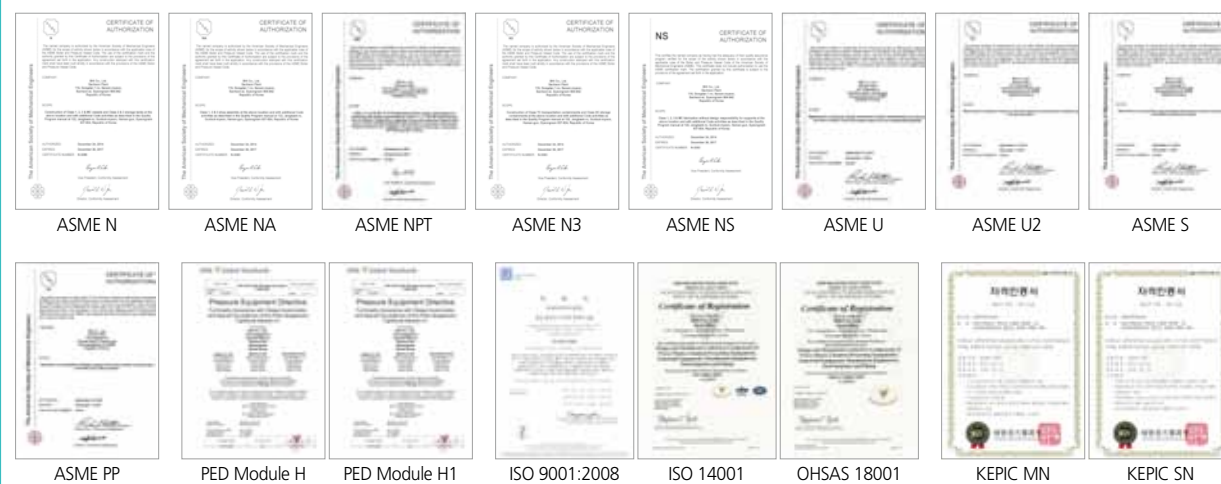


BHI's R&D Center was established in May 2001 and has played a key role in our steady and stable growth. The main purpose of the R&D Center is to develop valuable, future-oriented technology for BHI to contribute to the development of the industry and the society. BHI has closely cooperated with related companies, research institutes, and universities, conducting research projects through continuous cooperation and joint efforts. Our R&D Center serves as a stepping-stone for BHI to improve the level of our technology.

Quality Management Structure



Certificates



We wish you all happy life and prosperity

BHI will make every effort to maintain clear and reasonable business practices that contribute to customers and the society based on our ethical management policies.

Contributes to **Humans**
Energy, Steel, Oil & Gas Refinery

BHI will contribute to the sustainable progress of mankind with its products and service.

Contributes to **Environment**
High efficiency & renewable energy

BHI will care for the environment via ethical business practices in concert with society.

Clients OVERSEAS



Clients DOMESTIC

