

Under exclusive*
licensee
agreement with
NEM Energy
B.V., Netherlands



HRSG

Heat Recovery Steam Generators

2 x 50 TPH, HRSG
supplied to Toyo Engineering India Pvt. Ltd., a/c HURL, Gorakhpur



* for India

ENGINEERING FOR EXCELLENCE



Heat Recovery Steam Generators

Isgec with vast experience of supplying over 900+ boilers offers Heat Recovery Steam Generators under licensee from NEM Energy B.V., Netherlands, global leaders in HRSG having over 500 installations worldwide.

Unique Selling Points

- Customised Solutions & Innovative Products
- Thermal design by “NEM”
- Detail engineering by Isgec having experience of more than 50 years in “Boiler Detailing”
- Manufacturing at “Isgec state-of-the-art manufacturing facilities”, also used by global boiler manufacturers for manufacturing of their boilers
- High Quality & Reliability
- Isgec's strong global presence and network



Manufacturing of HARP

Features

- Tailor made design based on State-of-the-art-technology
- Optimised for lowest total installed cost
- Top / Bottom Supported
- Staggered tube design with one / two / three tubes between the headers
- Natural / Forced Circulation
- Loose harp / Modular HRSGs
- Single / Dual / Triple pressure HRSGs with Reheat and Condensate preheaters
- Fast gas turbine Start-up

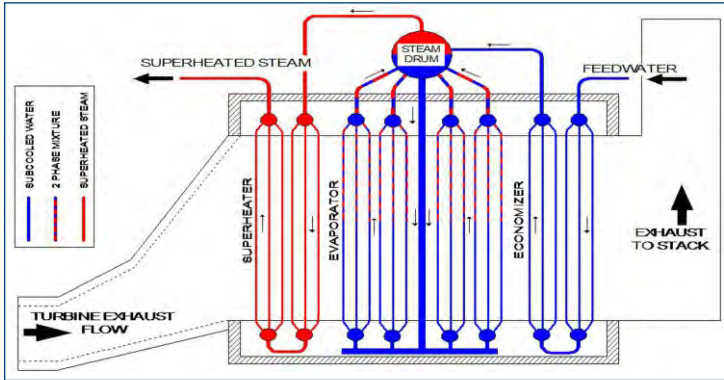
2 x 100 TPH HRSGs supplied to Technip India Ltd., a/c HURL, Sindhri



HRSG Types

Horizontal HRSGs

These HRSGs have a horizontal exhaust gas path with the heat exchanger tube bundles arranged vertically. The units are designed for natural circulation of the water steam mixture in the evaporator tubes. These horizontal HRSGs have a so called “cold” casing concept. The casing is completely internally insulated and lined with a sheeting that allows for thermal growth.

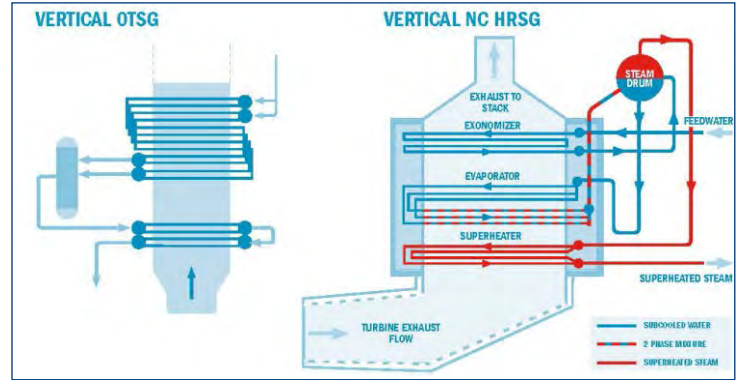


Features:

- Better suited for high gas temperature associated with modern gas turbines with / without supplementary firing
- Steel structure integrated in ducting
- Suitable arrangement of Sub systems like Attemperator, SCR (Silicon Controlled Rectifier) and Burner
- Integral Deaerator

Vertical HRSGs

These HRSGs are compact and flexible. They provide the performance and flexibility needed in the industrial power and cogeneration markets. Tailored to your needs and requirements, our boilers are designed as Natural or Forced circulation model. Vertical HRSGs being flexible on location and space limitations need less plot area than conventional models. Therefore they are well suited for brown field projects.



Features:

- Either Cold casing concept or can be externally insulated subjected to the gas turbine exhaust temperature
- Higher primary steel structure
- Easy access to tube -bends and headers (Inspection)
- Bundle design (serpentine, U-tube)

2 x 100 TPH HRSGs supplied to Technip India Ltd., a/c HURL, Barauni



Modular Construction

Features:

- Shorter delivery time: achieved by increasing the standardisation of the HRSG
- Lower construction costs: most internal piping is pre-installed in the workshop which results in a lower number of field welds
- Less work at site : non pressure parts are delivered in pieces that are as large as possible, thus requiring less work at site.
- Higher quality level and reduced risk : most critical welds are prepared under ideal conditions and resulting in a higher quality standard. Due to the lower number of man hours required at site, the overall project risk is minimised.



Harp Construction

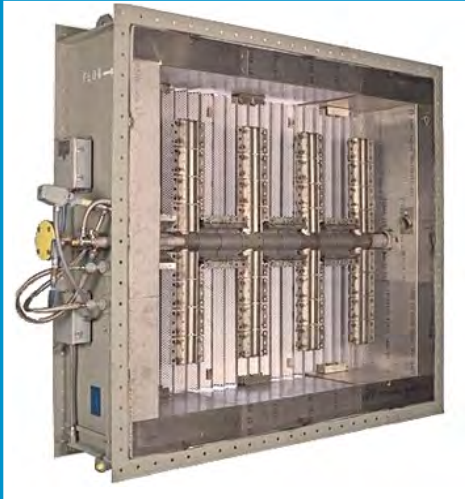
Features :

- Smaller Components and Limited Weight
- Easy Transportation
- No Heavy Crane usage at Site
- Individually Mounted Harps
- Separately installed Piping



Types of Burners used for Supplementary Fuel Firing

Duct Burner



Circular Burner



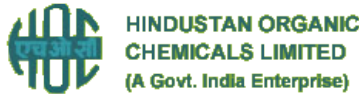
Our Benefits

- Specialist Know-how
- Wide International Experience
- Quality and Reliability
- Innovative
- Tailor-made Products
- Co₂ Reduction Solutions
- From Design to After Sales Service

Logistics



Some of our Prestigious Customers



HINDUSTAN PAPER CORPORATION LIMITED.
[A Govt. of India Enterprise]



Isgec Offerings

STEAM GENERATORS

- Pulverised Coal Fired (PC)
- Circulating Fluidised Bed Combustion (CFBC)
- Atmospheric Fluidised Bed Combustion (AFBC)
- Travelling / Pulsating / Pinhole / Dumping Grate
- Oil & Gas Fired
- Heat Recovery Steam Generators
- Waste to Energy
- Waste Heat Recovery
- Slop / Spent Wash / Vinasse Fired

AUXILIARY EQUIPMENT *

- Air Pollution Controller (ESP)
- Deaerator / Fans
- Valves
- Electricals & Instrumentations
- Burner
- Bed Ash Coolers
- DCS
- Feeders
- Pumps

STEAM GENERATOR SERVICES

- Site Construction & Commissioning
- Retrofitting and Modernisation
- Replacement / Upgradation of Parts
- Troubleshooting & Services
- Residual Life Assessment (RLA) Studies
- Training
- Spares
- Operation & Maintenance

EPC PROJECTS

- Independent Power Plants
- Cogeneration Plants
- Sugar Plants
- Bulk Material Handling
- Water Treatment Plants
- Distilleries
- Civil Construction including Factories
- Waste Water Treatment Equipment

* Only available with the Boiler

**Feed Cycle Equipment (HP Heater, LP Heater & Condenser)
Process Equipment • Presses • Castings • Contract Manufacturing**



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