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IBL Group of Companies

Marketing Offices :

- Ahmedabad
- Amritsar
- Bhilwara
- Chandigarh - Mohali
- Chennai
- Gorakhpur
- Hyderabad
- Indore
- Kanpur
- Pali
- Panipat
- Rajahmundry
- Surat
- Bharuch
- Bareilly - Kashipur

International Network :

- Colombo-Sri Lanka
- Kushtia-Bangladesh
- Chapai Nawabgonj-Bangladesh
- Dhaka-Bangladesh
- Lahore-Pakistan
- Ekaterinburg - Russia
- Nairobi-Kenya
- Dar es salaam-Tanzania
- Bangkok-Thailand
- Jakarta-Indonesia
- Sharjah-UAE
- Yangon - Myanmar

Ver.: 1.4 - 2020

INDUSTRIAL BOILERS LTD.

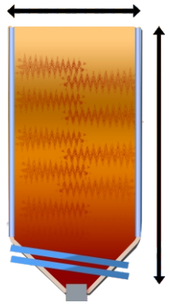
POWER BOILER

MAGNUM

UNIQUE FEATURES OF MAGNUM

QUICK START UP

At start-up the water circulation starts very quickly because there are short overflow distances from downcomer to heating surface on water side. Due to these short distances all water filled tubes reach saturation temperature very quickly at start-up. Dangerous material stress caused by different thermal expansion does not occur.

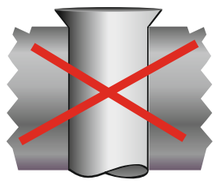


LARGE COMBUSTION ZONE

A Generous Combustion Volume above the Fluidised Bed ensures complete combustion of the Fuel, leading to Low Unburnt and High combustion efficiency. The Combustion Space is strategically expanded to reduce Flame Velocity and allow Radiation to impart its energy to the water Walls.

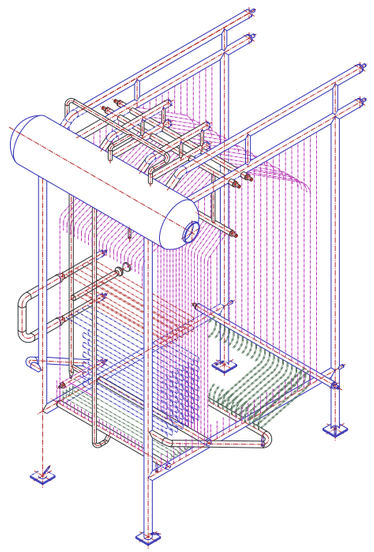
HIGH QUALITY STEAM

The water level in the drum keeps calm compared to Bi Drum boiler since Steam-Water mixture pre-separates externally before entering the Drum.



NO TUBE EXPANDING

The admissible temperature variation gradient is significantly higher due to welded construction, leading to a quick start-up. Welded tubes have always been more reliable than Expanded tubes.

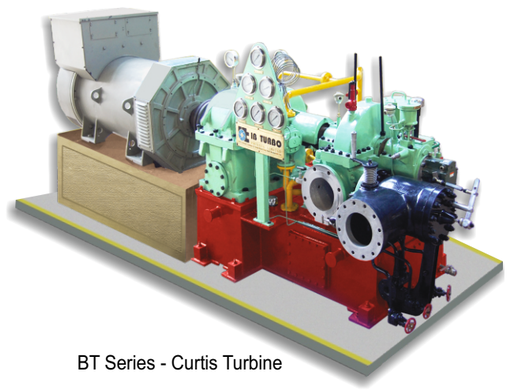


DEFINED DOWNCOMERS

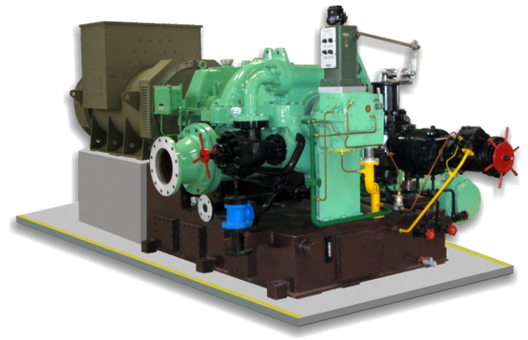
Unlike Bi-Drum Boilers where the Downcomer tubes also act as Riser Tubes at high load, Magnum has Separate and Distinct downcomers with large diameter. Steam bubbles forming at pressure fluctuations and high load change velocities cannot endanger the water circulation.

STEAM TURBINES

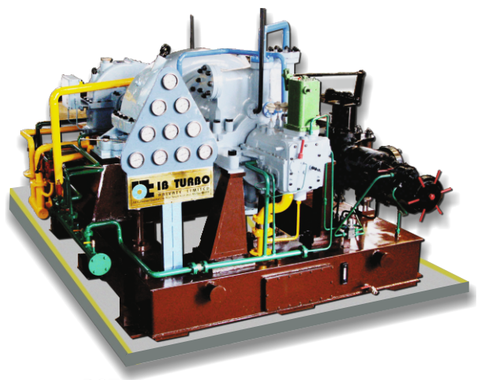
IB TURBO PRIVATE LIMITED



BT Series - Curtis Turbine



BMT - 6 Multistage Back Pressure Turbine



BCT - 6
CT - 6
Back Pressure Condensing Turbine

Extremely cost effective, cogeneration brings in rich financial rewards and a short payback period when installed correctly.

IB Turbo Works - Greater Noida

IBL offers a range of Steam turbines to perfectly match the Magnum boiler range.

The design and supply of a Cogeneration system of Boiler and Turbine from a single source ensures complete “Peace of Mind” and an assurance for Optimum performance, without the associated pitfalls of incompatibility.

The option to install Back Pressure driven Turbo Drives to operate Fans and Pumps is also available as an option to replace Deaerator steam Pressure Reducing Station in a most economic manner.

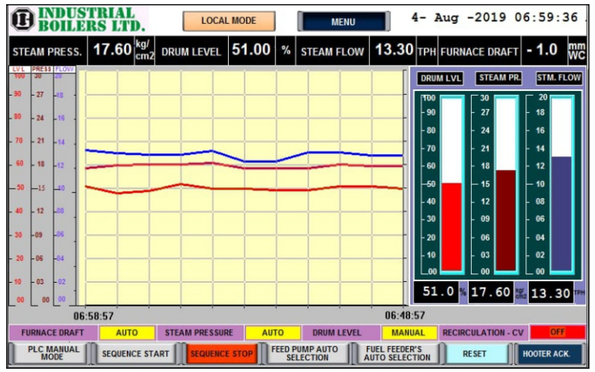
With extensive experience in cogeneration, IBL offers its expertise for the entire Power Generation Cycle.

Before installation, specific requirements are minutely observed, studied in detail by experienced IBL engineers and the most effective combination of Turbine and Boiler to match the process is suggested.

POLLUTION CONTROL EQUIPMENT

Bag Filter

Electrostatic Precipitator (ESP)



SCADA HMI Display

Trexma - Cyclonic Dust Collectors

IBL offers a wide range of Pollution Control Equipment

- **Cyclone and Multicyclones**
- **Bag Filters**
- **Electrostatic Precipitator**
- **So_2 Control Systems**
- **CO Control**
- **Ash Refiring Systems**
- **Ash Recirculating Systems**
- **Wet Scrubbers**
- **Dense Phase Ash Handling Systems**

Instrumentation and Control

Various options for the Control of Boiler operations are available.

- **SCADA Package with Data acquisition, Storage and Remote Monitoring.**
- **PLC with passive monitoring Software with MMI.**
- **Basic Control Loops thru individual instruments.**

MAGNUM

Magnum's extraordinary feature is its Cage-like design. The Cage ensures Mechanical Stability, Free Thermal expandability, Defined Water Circulation, Earthquake Proof and a defined Flue Gas path (No Short Circuiting).

The Water Wall Panels are supported on the Cage providing a Gas Tight Radiation wall.

The Boiler consists of a Robust, Self Supporting Downcomer Structure which provides Structural Stability and allows full upward and sideways expansion without hindrance.

This freely expandable feature allows the Boiler to be put on full fire within a few minutes of stabilising the flame with the result that the Steam pressure and Temperature can be achieved very quickly.

Tremendous amount of Startup Fuel is saved on the Magnum due to the quick startup

The entire boiler is of fully welded construction, unlike conventional boilers with Expanded Tubes. This makes the Boiler safe for quick response to fluctuating loads.

An extraordinarily large Furnace volume and high Freeboard allows complete combustion of the fuel thru ample retention Time, Temperature and a Proven Combustion System ensures Turbulence. This Performance is reflected in the quality of combustion and lack of combustible matter in ash, resulting in significant reduction in fuel consumption.

Minimal Refractories saves considerable fuel during shut down cooling and reduces Thermal inertia for efficient response.

Unlike Bi-Drum boilers, the pressure parts of the Magnum are Factory manufactured, ensuring Factory Built quality and Inspection procedures.

Stress Relief Furnace

FUELS FOR THE MAGNUM

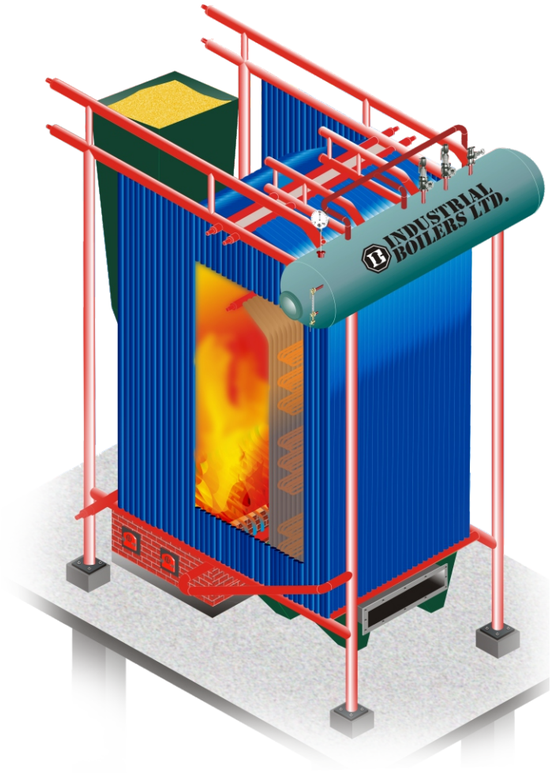
The Magnum is tailor made for a wide variety of fuels. Based on the fuels preferred by the customer, IBL design teams work to ensure that the boiler is designed to perform well on that particular fuel and consistently deliver the desired ratings.

IBL's vast experience in a range of Fuels and their combustion systems helps to deliver a proper package which is a delight to the customer.

CHOICE OF COMBUSTION SYSTEMS

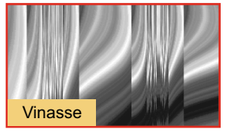
Magnum is offered with the following Broad Combustion choices

Coal / Lignite	Underbed FBC
Rice Husk / Coal / Petcoke / Saw Dust	Overfeed FBC
Mustard Straw / Bagasse / Parali	Stoker / FBC
Biogas / Methane / Husk	Underfeed with FBC
Wood Logs, Non Fluidisable Biomass	Brownian
Vinasse with Rice Husk, Palm Fibre	Overspray with Overfeed FBC



STD FUELS

SPL FUELS



Magnum's are manufactured from 8 Ton/hr to 150 Ton/hr, with Pressure ratings from 33 Bar to 132 bar.

Combustion system will be adapted to the fuels specified during order.