



# INDUSTRIAL BOILERS LTD.

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## 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

 **INDUSTRIAL  
BOILERS LTD.**

# AGROPAK<sup>®</sup>





## IBL - Generations Ahead !!

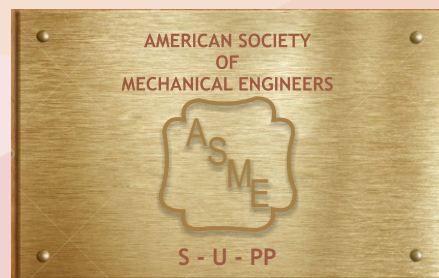
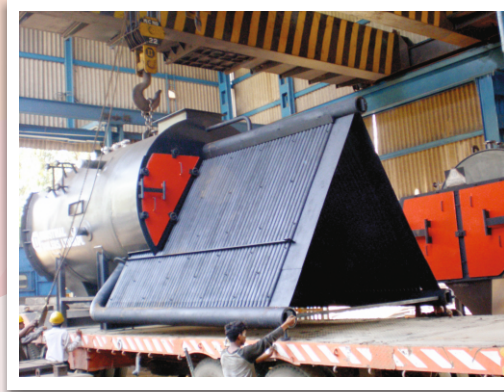
Industrial Boilers Ltd. are pioneers of Fluidised Bed Combustion Boilers in India.

FBC boilers from IBL are automatic and very simple to operate giving maximum efficiency with lowest fuel consumption. IBL technology is suitable for a diverse range of fuels from Coal, Lignite and Rice Husk to newer fuels like Petcoke, Wood Chips and Saw Dust.

From India's first commercially operational FBC boiler commissioned in 1985, Industrial Boilers Ltd has gone a long way ahead with the development of several models to meet the specific requirements of our users.

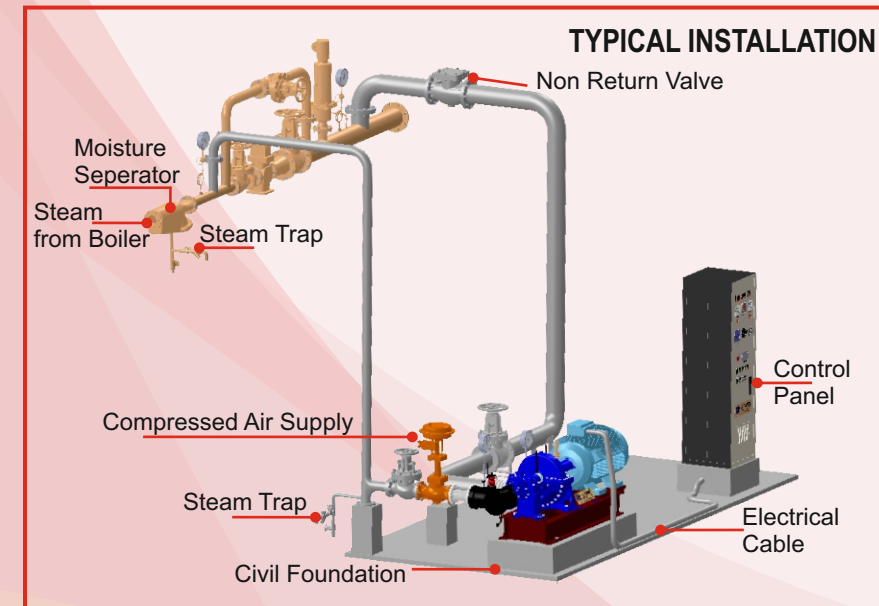
In this brochure, we present to your our finest FBC Technology. Undoubtably, IBL boilers are the most advanced boilers ever produced. No wonder, Industrial Boilers Ltd. is a reputed name synonymous with Steam Generation.

IBL focuses on building great products, innovating rapidly to improve them and keep them both affordable and highly efficient.



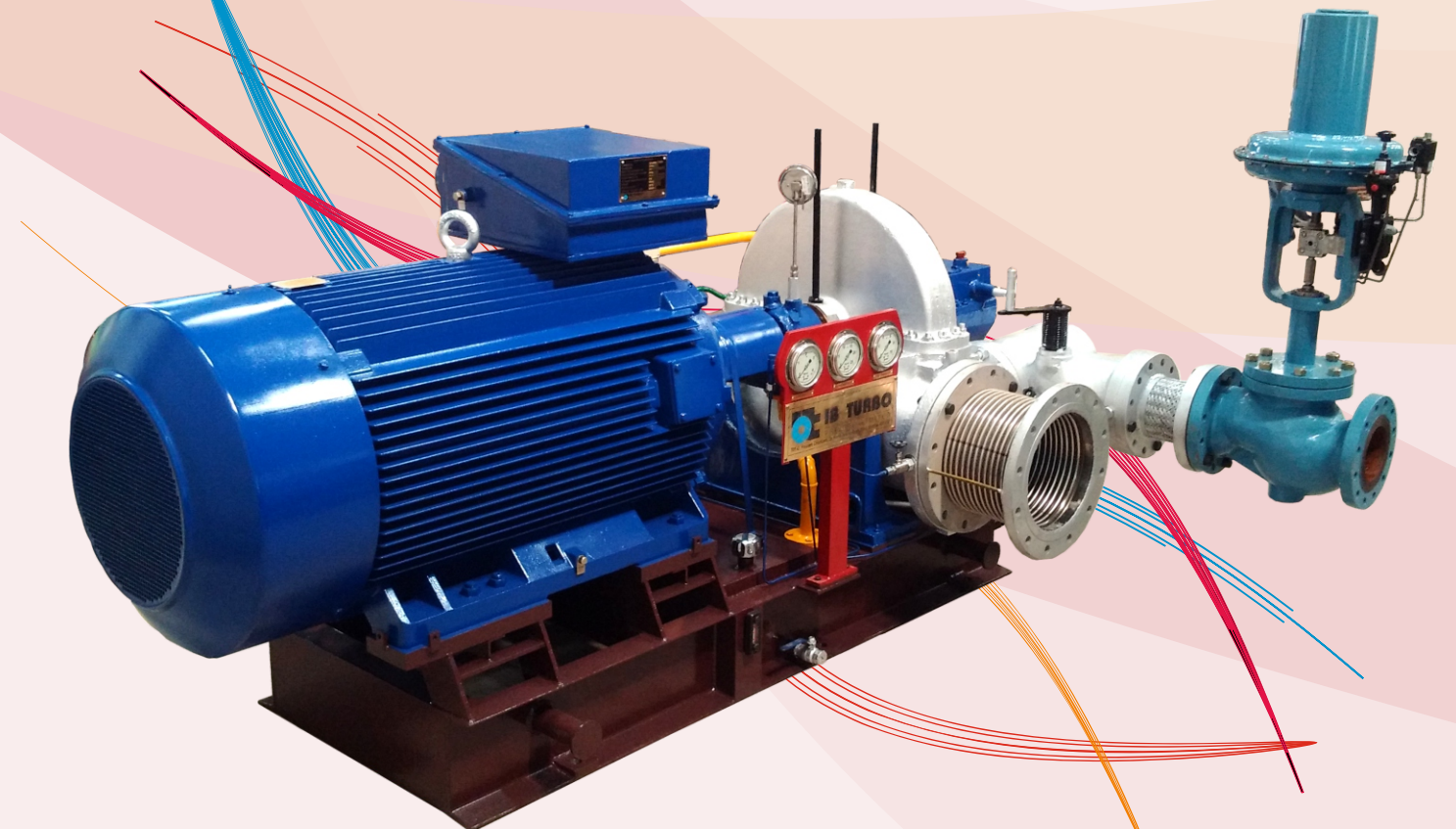
## Steam Turbines

The Pressure Reducing Turbine (PRT<sup>®</sup>) is a special purpose steam turbine to bypass the Pressure Reducing Station (PRS) while simultaneously generating power at the same time.



## 'PRT<sup>®</sup>' Pressure Reducing Turbines

- ⇒ India's first Pressure Reducing Turbine (PRT<sup>®</sup>) on Saturated Steam.
- ⇒ Fully grid synchronised with PLC control.
- ⇒ Maintains constant back pressure for process and generates power accordingly.
- ⇒ Electronic setting of process pressure on Control Panel
- ⇒ Designed to generate power with steam flow of 4 ton/hr onwards.
- ⇒ Typical steam outlet pressure for process use - 2 to 5 kg/cm<sup>2</sup>g







## Thermic Fluid Heater

### 'OLTEM'



**OLTEM** is the latest Hitech Thermic Fluid heater powered by IBL's advanced Fluidised Bed Technology. Four Heat Exchange Passes with Thermal Oil and a Single pass with Combustion Air enables OLTEM to extract maximum heat before the Flue gases exit to the Chimney.

#### OLTEM Combined Steam Generator - TFB

IBL now introduces a revolutionary Steam Generator Option within the OLTEM Thermic Fluid heater Unit.

This system utilizes Radiant energy within the furnace to generate Steam.

An optional Thermal load balancing system utilising Thermic Heat can also be provided.

### 'RADON'<sup>®</sup>



**Radon** is a compact, quick steaming, high efficiency FBC boiler with a large furnace volume, performing extremely well with high volatile fuels like Husk and Saw dust. It has an over-bed microprocessor based fuel feeding system, generous water and steam space and stainless steel FBC nozzles and ferrules.

Radon is the most successful small FBC boiler with hundreds of satisfied customers who vouch for its performance, trouble free operation and fuel savings.

*In an Era where Packaged Boilers are being marketed to 'Save Space and Erection Time', The **Radon** on the other hand has been designed to 'Save Fuel' which is a continuous saver over the Long lifetime of the boiler.*

## Pollution Control Equipment



Bag Filter



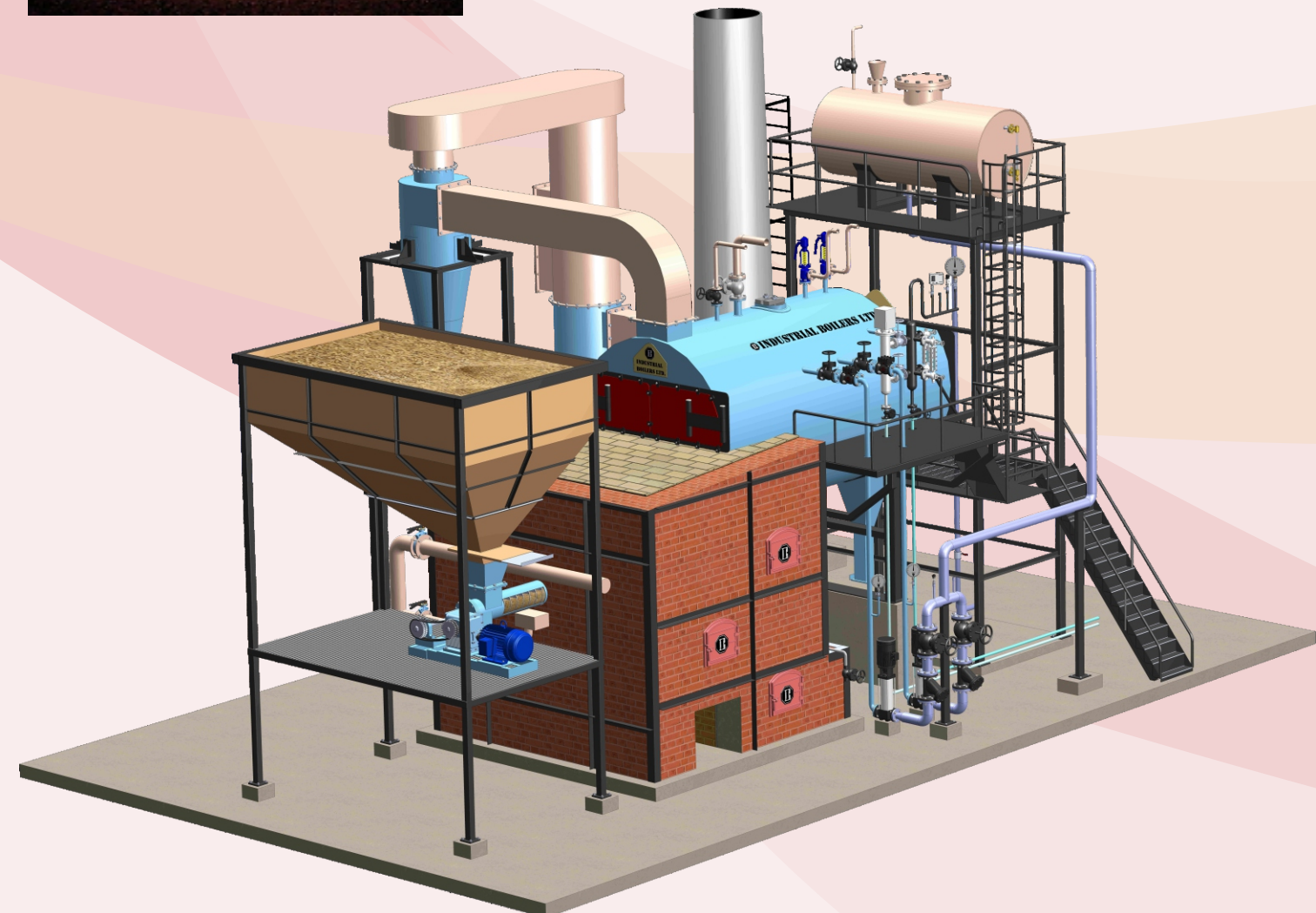
Trexma - Cyclonic Dust Collectors



Electrostatic Precipitator (ESP)

#### IBL offers a wide range of Pollution Control Equipment

- Cyclone and Multicyclones
- Bag Filters
- Electrostatic Precipitators
- SO<sub>2</sub> Control Systems
- CO Control
- Ash Refiring Systems
- Ash Recirculating Systems
- Wet Scrubbers
- Selective Catalytic (SCR)





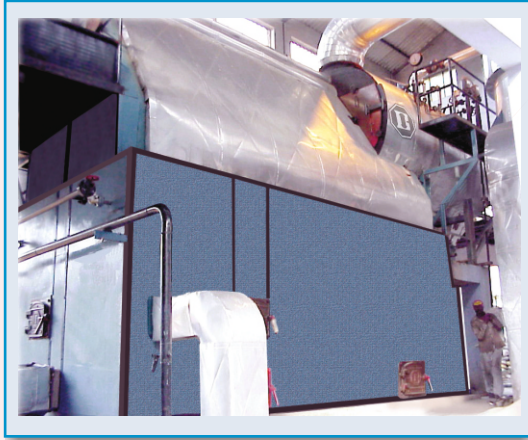


## POWER BOILERS

### 'AGROPAK<sup>®</sup>-C'

#### Fuels for Agropak - C\*

Indian Coal, Imported Coal, Lignite, Husk, Petcoke, Sawdust, Wood, Bagasse, Pith, Straw, Palm Bunches, Cow Dung (Uple), Cotton Stalks, Groundnut Husk, Coconut Shells, Wastes, Plastics, Rubber, etc.



#### Special Features

- Choice of FBC fuel feeding systems
  - Inbed for Coal and Lignite.
  - Overbed for Rice Husk and Petcoke.
- Large water cooled, safe furnace.
- Suvega Water wall.

### 'MAGNUM<sup>®</sup>'

The **Magnum<sup>®</sup>** range of Boilers are Fully Water - Walled, Single Drum Boiler of International Design & Quality.

#### Special Features

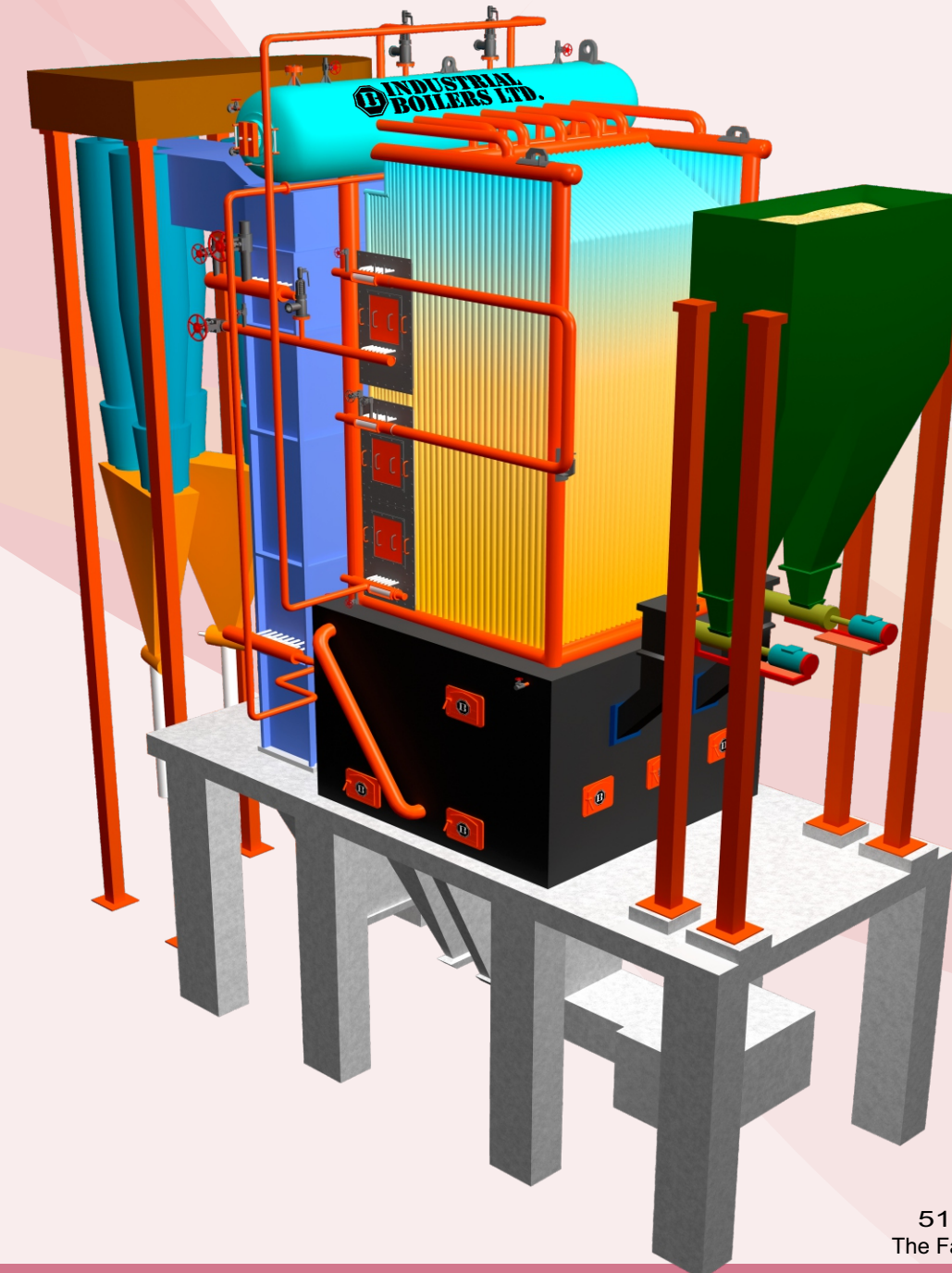
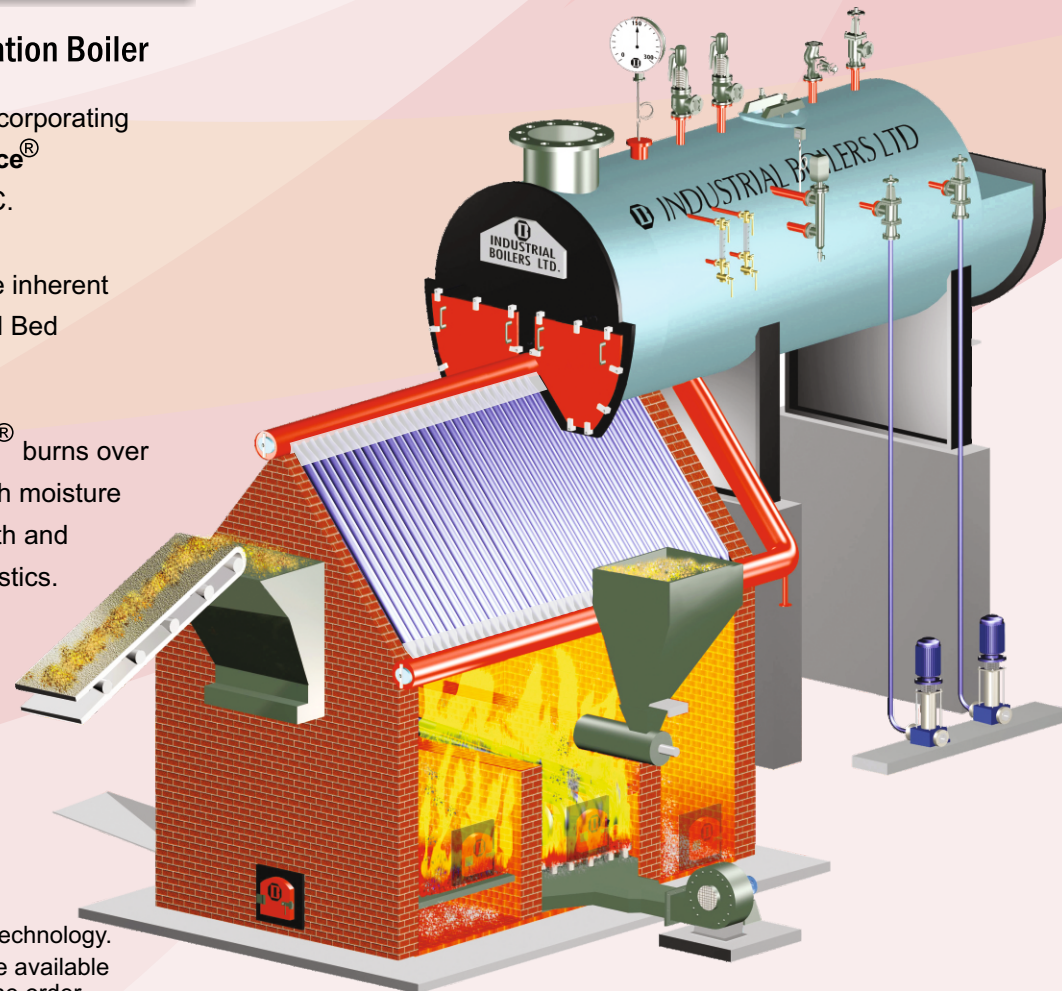
- Superfast Steam Generation.
- Fully Water Tube Boiler with least refractories.
- Fully welded, bottom supported permitting fast startup and quick response to steam demand.
- Saves space - Lowest foot print amongst all boilers.
- Semi Packaged Design - Shortest erection time.
- Fully drainable tubes for longer life and reliability.
- Large Furnace Volume ensures complete combustion.
- Excellent Electronic Controls with HMI Display.

#### The Versatile Combination Boiler

The most unique boiler incorporating **Brownian Motion Furnace<sup>®</sup>** technology alongwith FBC.

This boiler supplicates the inherent weakness of the Fluidised Bed Combustion system.

Brownian Motion Furnace<sup>®</sup> burns over sized fuels like Wood, high moisture fuels like Bagasse and Pith and Wastes like Rubber & Plastics.



Now also available with **RECO<sup>®</sup>** technology.  
\*All Fuel combinations may not be available and need to be specified with the order.

**MAGNUM<sup>®</sup>**  
51 / 69 / 87 / 132 Kg/cm<sup>2</sup>g  
The Fast Steaming, Low Footprint Boiler





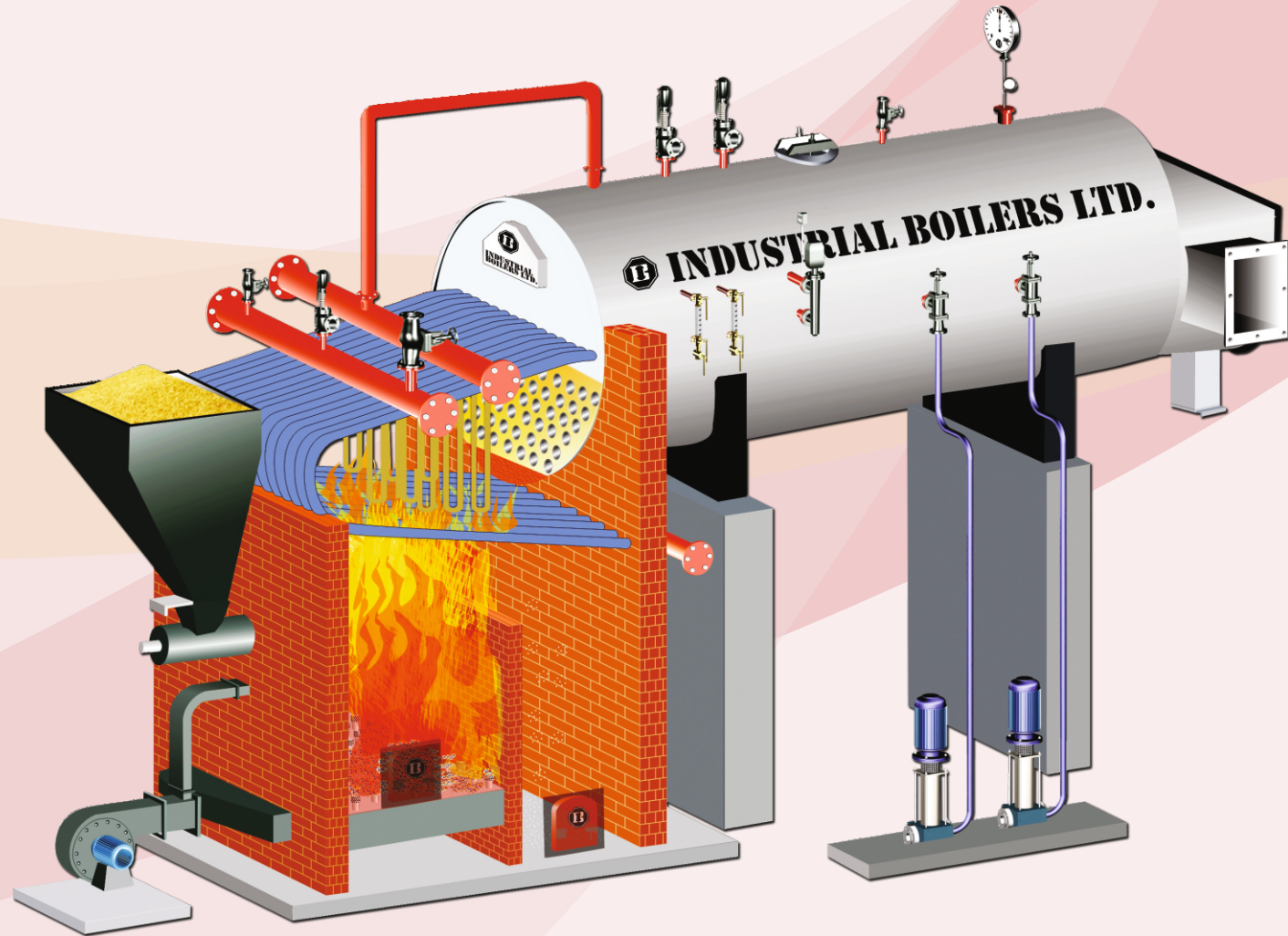
## POWER BOILERS



### 'SUPERGEN'<sup>®</sup>

**Supergen**, the Higher Pressure variant of the Radon has an in-built Radiant Super Heater.

This Packaged Boiler can be erected in the shortest possible time and gives excellent performance for small Co-gen systems and complements the BT-4 and PRT<sup>®</sup> series of Steam Turbines.



SUPERGEN<sup>®</sup>  
17.5 / 21 / 24 / 33 Kg/cm<sup>2</sup>g  
High Efficiency, Small Power Boiler for Micro Cogen.

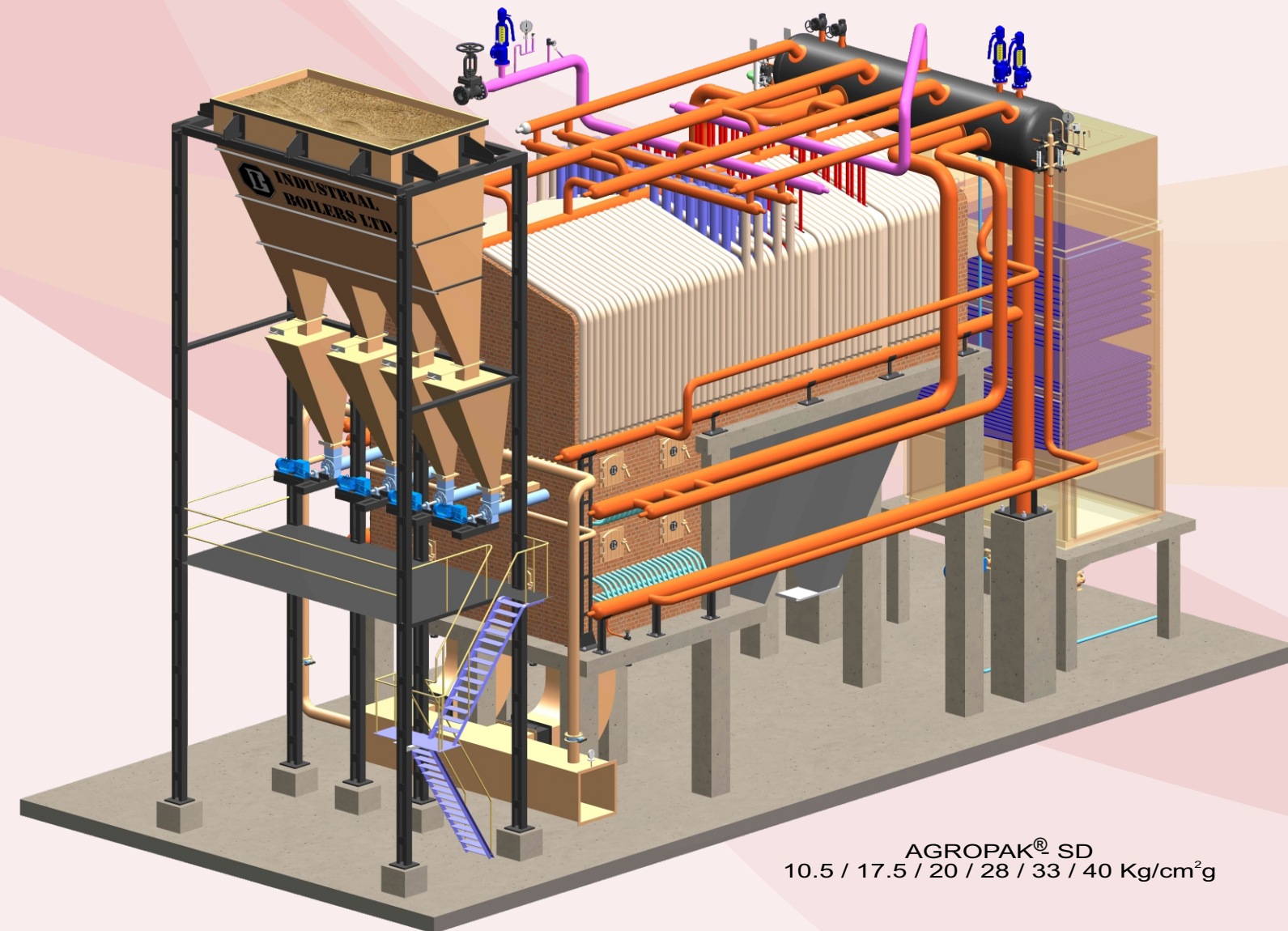
### 'AGROPAK'<sup>®</sup>-SD

**Agropak-SD** is the boiler of choice for Medium Pressure Steam generation applications. Various Fuel Firing options like FBC, Pulsating Grate and Brownian furnace are available.

This Boiler has option of a Superheater for Turbine applications. With the operational ease of a Low Pressure Boiler, it packs the performance of a workhorse suitable for 24 x 360 days continuous use.

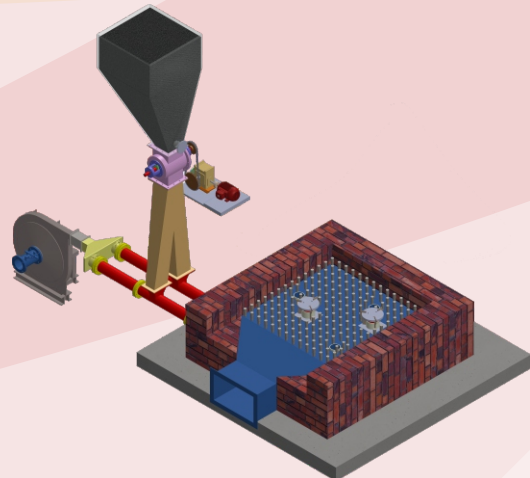
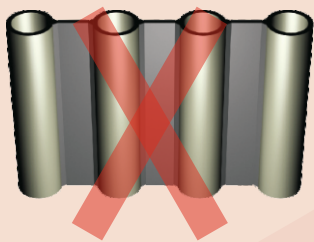
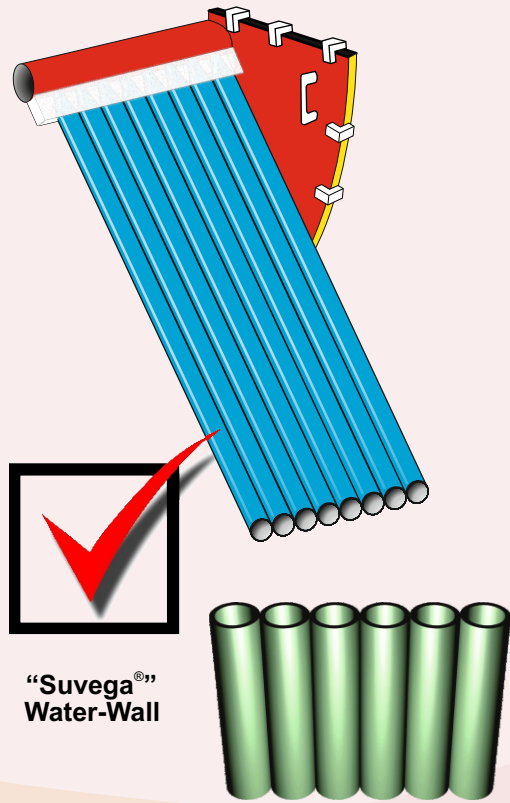
*Agropak-SD* is a single Drum Water Tube Boiler with a Pressurised Economiser and Air Preheater. It recovers heat instantly and in an extremely efficient manner.

It provides Consistent, Turbine Quality Steam inspite of Fluctuating Load conditions or variation in fuel quality and fully complements the PRT<sup>®</sup> Range of Steam turbines.



AGROPAK<sup>®</sup> SD  
10.5 / 17.5 / 20 / 28 / 33 / 40 Kg/cm<sup>2</sup>g





The ORIGINAL AGROPAK®, developed and launched by IBL for the world in 1992 is a much loved and respected boiler.

Today, it has been widely imitated but still remains unmatched for its performance and durability.

When launched, Agropak® revolutionised FBC boiler technology with its innovative furnace design and hybrid construction.

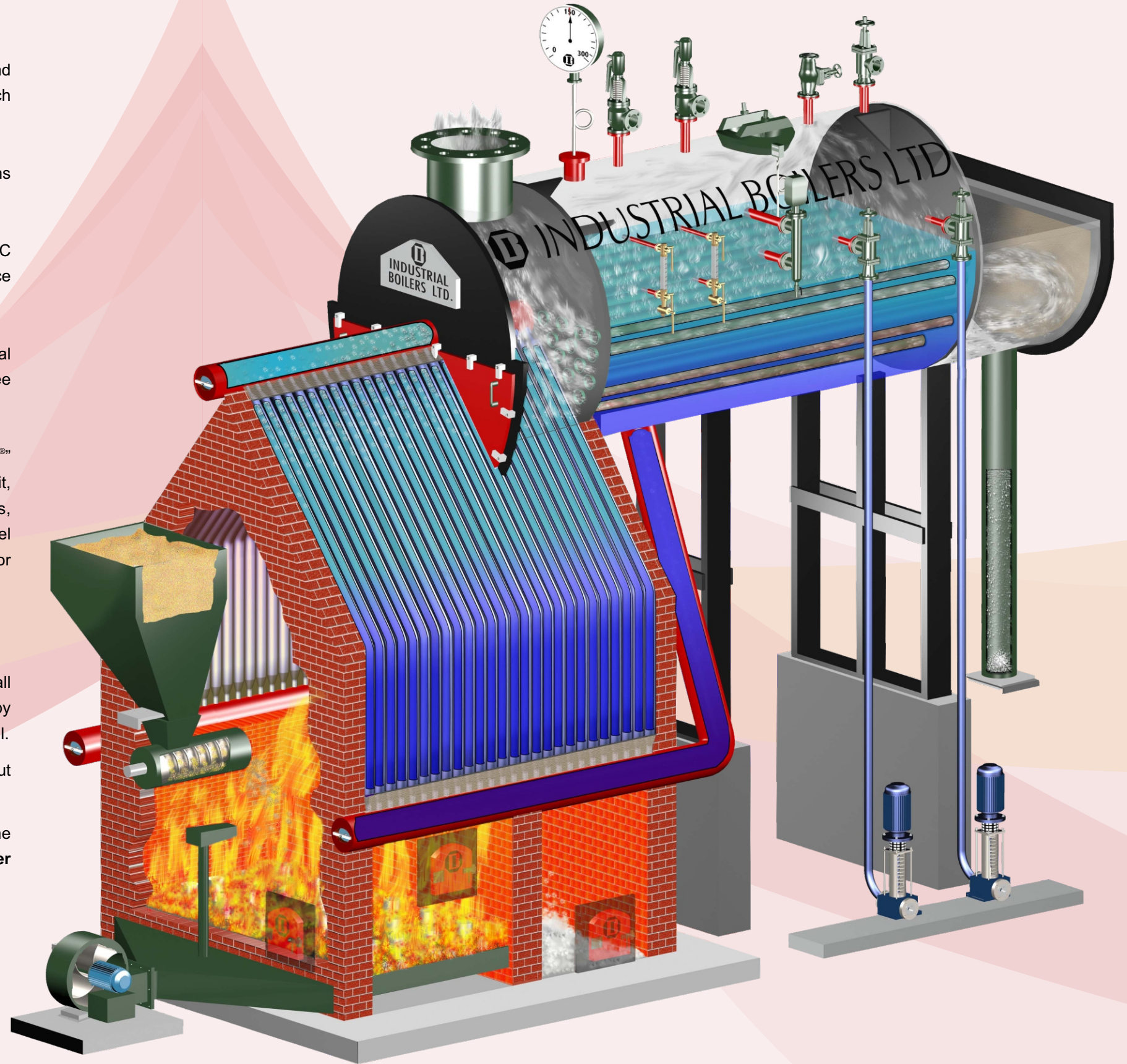
The Agropak® has been perfected with several secret innovations to achieve trouble free performance.

Publically known features are the "Suvega®" Water-Wall, Self Cleaning Heat Recovery Unit, Spiral Agitators, Stainless Steel Ferrules, Stainless Steel FBC Nozzles and Stainless Steel Feed Pumps with an advanced microprocessor based fuel feeding system.

IBL's unique 3rd Generation Suvega® Water Wall technology replaces Membrane Water Wall by the most advanced "TUBE TO TUBE" Water Wall.

It is the only **Genuine** WATER WALL without membrane filler steel strips!

Advantages include a **3** times more life of the water tubes within the furnace, **Higher Boiler Efficiency** and easy maintenance.



Under-Bed Feeding System for Coal / Lignite