



Core Axis Global Solutions

DEHTU[®] Group of Companies



- Multi Product Manufacturing Solutions
- Your One-Stop Solution for Boiler & Power Plant Needs
- Integrated Manufacturing and Machining Facility



Visit Our Website

www.coreaxisglobal.com

Core Axis Global Solutions

Dehu Group of Companies



Dehu Engineering (India) Private Limited is a Globally Renowned, Multifaceted Manufacturing unit headquartered in Pune, India, with proven expertise in producing **Boilers and Various Pressure Parts components** that conform to **ASME, Indian Boiler Regulations (IBR) and other benchmarks.**

Our Multimodal facility is dedicated to Manufacturing **Top-Quality Equipment and Pressure Parts for both Domestic and International Markets.** We cater to a wide range of sectors including **Energy, Oil & Gas and Process Industries,** providing customised solutions that are tailored to the specific needs of each client.

We are committed to providing reliable and unmatched economic solutions that optimise energy consumption and maximise sustainable profitability.

Core Axis is a multifaceted company specializing in a diverse range of products and services. We offer comprehensive solutions for **Boilers and Power Plants,** including **Energy-Saving Initiatives, Retrofitting and Renovation, Air Pollution Control Equipment, Steam at Cost, Boiler Spare Parts** and add-ons, **Operation and Maintenance** etc.

Core Axis is an **ISO 9001:2015 certified company.** This accreditation applies for the **Design, Manufacture, Installation and Commissioning of Boilers and EPC (Power Plants).** Our manufacturing facilities / associates are geared to produce quality material at very competitive prices.

Core Axis is Specialized in **Design and Supply of Various Type of Boilers** with different technologies and with best and experience Designers & Technocrats on board, Core Axis is most suitable to supply range of boilers suitable to fire various fuels like Bagasse, Rice Husk, Wood Chips, Straws, Mustard stalk and other Biomass, Coals, Lignite, Pet Coke etc.

- **Atmospheric Fluidized Bed Combustion (AFBC) Boilers**
- **Circulating Fluidized Bed Combustion (CFBC) Boilers**
- **Spreader Stoker Traveling Grate (TG) Boilers**
- **Vibrating Grate / Reciprocating Grate / Straw fired Boilers**
- **Slop / Distillery effluent / Vinsasse fired Boilers**
- **Oil and Gas fired Boilers**
- **Waste Heat Boilers**

Core Axis also deals in **EPC Contracting of Power Plants** offering wide range of solutions for various Industry segments which includes:

- **Captive Power Plant Solutions**
- **Cogeneration Power Plant Solutions for Sugar, Paper, Textile, Food Processing & Chemical Industries**
- **Independent Power Plant solutions for Biomass & other sectors**
- **Energy from waste solutions**

Core Axis has highly qualified and trained manpower in key domain areas such as Application Engineering, Proposal, Detail Engineering and Project Management facilities specialized in using latest Software's and Engineering Techniques for timely and successful execution of Projects.

Certifications

- Boiler Manufacturer, Class 1 – Water Tube Boiler upto 125 Kg/Cm² (g)
- Boiler / Economiser Repairer, Class 1 – Pressure upto 125 Kg/Cm² (g)
- Economiser Manufacturer, Class 1 – Pressure upto 125 Kg/Cm² (g)
- Pipe Fabricator, Class 1 – Pressure upto 125 Kg/Cm² (g)
- Pressure Part Manufacturer – Special Class Pressure > 125 Kg/Cm² (g)
- Pressure Vessel Manufacturer – Special Class Pressure > 125 Kg/Cm² (g)
- Plates & Flanges, Upto 1000 NB



ASME 'S'



ASME 'U'



ASME 'R'



IBR (Indian Boiler Regulation)



ISO 14001 : 2015



ISO 9001 : 2015



OHSAS 45001 : 2018



Infrastructure

- 1,00,000 Sq. Feet Land
- 35,000 Sq. Feet Covered Shed
- 200 HP Power/200 KVA DG Backup
- 16 MT EOT Cranes
- 14 MT Hydra Cranes 3 Nos
- SMAW / TIG / MIG / ARC Welding Facilities
- Multiple Tube Bending Machines
- Multiple Welding Machines
- Multiple Radial Drill Machines
- Multiple Conventional Lathe Machines
- Multiple CNC/VMC Machines
- Multiple Bandsaw Machines
- Equipped with many more facilities for Manufacturing



Accomplishments

- 700+ Customers Across India and Abroad
- 30,000+ Tons of General and Non Pressure Parts Fabrication Multiple Boilers Supplied of Various Capacity
- Multiple Steam & Water Drums and Shells
- 600+ Headers
- 200+ Waterwall Panels
- 80,000+ Bed Coils and Bed Super Heaters
- 10,000+ Economiser Coils
- 30,000+ Bank Tubes
- 5,000+ Superheater Coils
- 1,00,000+ Boiler Bends
- Multiple Nos of APH Assembly, Pressure Vessels & Tanks Multiple Nos of Heat Exchangers
- Multiple Nos of Sparger Headers Assembly
- Multiple Nos of Expansion Joints & Dampers
- Various Pressure and Non Pressure Parts Spares



Our Vision, Mission & Values



COMPANY VISION

Our customers are at the heart of everything we do and we are committed to providing them with High-Quality Products related to Boiler Power Plants, Process Industries and Oil & Gas along with excellent customer service.



COMPANY MISSION

We are constantly striving to improve our products and services to exceed our customer’s expectations. Our dedicated team of professionals work tirelessly to ensure that our customers receive the best possible solutions and support.



COMPANY VALUES

We are committed to delivering exceptional quality, fostering customer satisfaction, driving creativity, upholding integrity and championing sustainability in all our endeavors.



Product & Services

- **Boiler**

1. AFBC Boiler
2. CFBC Boiler
3. Slop Fired Boiler
4. Biomass / Agriculture Waste fired Boilers
5. Waste Heat Recovery Boilers
6. Rice Paddy Straw Fired Boiler

- **Spares**

1. Pressure Parts
2. Non-Pressure Parts
3. ETP/WTP

- **Steam at Cost / Operation & Maintenance**

- **Retrofitting & Renovation / Modernization & Efficiency Improvement / Fuel Conversion & Capacity Enhancement**

- **Air Pollution Control Equipment**

1. ESP
2. Multi Cyclone Dust Collectors
3. Bag Filter
4. Flue gas Desulphurisation
5. Wet Scrubbers
6. Selective Non-catalytic Reduction (SNCR)

Retrofitting & Renovation

Retrofitting & Renovation

Boiler retrofitting & renovation aims at increasing overall efficiency of steam boiler system by adding new technology, parts and equipment in an older system. Steam boiler retrofitting allows a business to benefit from new technology and design improvements while spending less in comparison to a new steam boiler system.

BENEFITS OF STEAM BOILER RETROFITTING & RENOVATION:

- **Fuel Cost Saving** – As efficiency of the system is one of the prime decision point for boiler retrofitting; it allows the steam boiler system to consume less fuel for generating same amount of steam.
- **New Boiler Cost Saving** – Cost of retrofitting a steam boiler is less than the cost of purchasing a new boiler. Moreover, the time taken for delivery and installation for retrofitted parts is very less in comparison to time taken for installation of a new boiler system.
- **Enhanced Function** – Boiler retrofitting improves the quality of its overall output. The boiler may maintain better, more specific range of temperature or pressure.
- **Less Pollution** – One of the advantage of boiler retrofitting is a reduction of pollution and carbon emissions. As the retrofitted boiler system has better efficiency, the emissions are lesser in comparison. The retrofitting process can also include modern air pollution control devices which can further lower down the particulate levels.
- **Better Technology** – Newer and better technology is a part and parcel of any retrofitting project. The business can benefit from advanced technology in form of efficient operations, requirement for lesser human intervention, better material and new controls and failsafe.

FACTORS THAT DECIDE WHEN TO RETROFIT A STEAM BOILER SYSTEM

Condition Of steam boiler system – Routine inspection of steam boiler can give you inputs if retrofitting is a good option for your system.

- **Age Of Steam Boiler System** – Aged steam boiler might be functioning on older technology and retrofitting can enhance its efficiency.
- **Capacity** – If the capacity of steam generation has been on constant decline, a business may consider retrofitting of the boiler system.
- **Operating Pressure and Temperature** – If the boiler is having issues in maintaining the correct operating pressure or operating temperature, boiler retrofitting might be beneficial for the system.
- **Fuel-to-Steam Efficiency** – If the fuel to steam efficiency i.e. fuel used for generating a unit of steam is on constant decline or is not as it was when the boiler was new, this could be a sign of need for retrofitting.
- **Costs** – Retrofitting costs are always lesser in comparison to cost of buying and installing a new steam boiler system. If a business is in need of a new steam boiler, they might consider steam boiler retrofitting.

WHY CORE AXIS FOR RETROFITTING OF INDUSTRIAL STEAM BOILERS?

- We provide customized solutions for steam boiler retrofitting & enhancements delivering maximum efficiency at lower fuel costs.
- Steam Boiler Retrofitting solutions are cost effective with low capital investment, with shorter payback period.
- Extensive experience with Steam Boiler Retrofitting projects for boilers operating on varied fuels.
- Strict quality control.
- Adherence to strict timelines through state-of-the-art time management schedules and processes.
- Our steam boiler retrofitting saves Operations and Maintenance costs for businesses.

Steam at Cost

Core Axis offers a **“Steam At Cost”** business model for corporates to save capital cost on steam boiler set-up, operations and fuel while getting desired steam output.



What Is “Steam At Cost”?

In simple terms, “Steam At Cost” model allows businesses to get steam without investing in the infrastructure/steam boiler associated with it. The investment for infrastructure/boiler system is done by Core Axis and we charge our customers only for the steam used by them.

Who Oversees the Steam Boiler Operations?

Steam boiler operations are run by Core Axis’s team of professional boiler operators & engineers. We employ a Boiler Engineer, Qualified Boiler Operators, Instrumentation/Electric technician, Supervisor, Fireman & Helpers etc. for boiler operations.

Who Bears The Fuel Costs?

Fuel costs are borne by Core Axis. Fuel procurement and usage is Core Axis’s responsibility. Customers only have to provide fuel storage area and have to give access for fuel loading/unloading.

How Is Steam Priced?

Based on properties of the steam (pressure/temp/saturation, etc.) required by the client, Core Axis’s engineers calculate the viable costs. Customers have to pay for the metered steam consumption, just like water/electricity bill.

Benefits of “Steam at Cost” Model:

- Investment Cost: Businesses can save on investment costs (that can reach up to crores) for setting up a new steam boiler system. Under “Steam At Cost” model, this infrastructure cost is borne by Core Axis.
- Committed Steam Supply: Through SLA, businesses are guaranteed continuous supply of required quantity of steam to run process/power systems.
- Steam Boiler Operations Management: Steam boiler operations are managed by Core Axis’s professional team of boiler operators and engineers.
- Fuel Procurement: As fuel procurement is handled by Core Axis, businesses do not have to negotiate or source for fuel from different sources.
- Steam Boiler Maintenance: Timely maintenance and regular check-ups are done by Core Axis’s technical team.
- Staffing: Complete steam boiler operations are managed by Core Axis. As a result businesses need not worry about hiring professionals for different tasks involved in steam boiler operations.

Operation & Maintainance

Core Axis provides a comprehensive plan for steam boiler/ power plant operations and maintenance for various industrial units. Under this plan, Core Axis deploys technical staff and other required manpower at client's site and takes responsibility for running steam boiler/ power plant operations. We also maintains the system for better efficiency.

Advantages of Outsourcing Steam Boiler/ Power Plant Operations and Maintenance

- Efficiently run steam boiler/ power plant operations
- Saves on operation costs.
- Business gets highly technical manpower to run their operations.
- Manpower backup.
- Quick and timely maintenance of system by professionals.
- Compliance with govt. norms and procedures

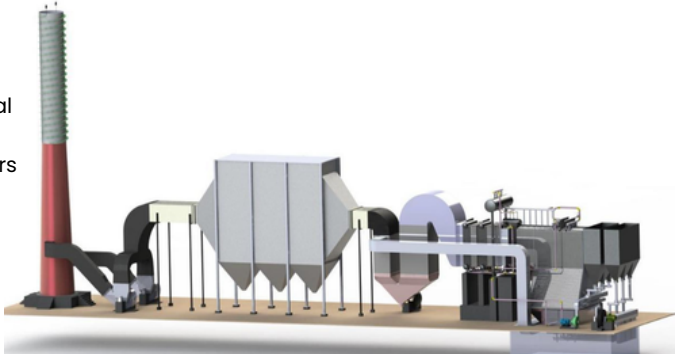
Why Core Axis?

- We have highly experienced team of engineers, boiler operators and maintenance staff.
- Our systematic structure enables us to provide efficient services to our clients.
- Our steam boiler operation's process is highly streamlined which allows us to quickly analyse different scenarios for the benefit of client.
- We have a special team on standby to take care of immediate client needs.
- Outsourcing steam boiler / power plant operations has cost advantage for businesses.
- We follow govt. norms for safe and secure steam boiler operations.

Modernization & Efficiency Improvement

Why Core Axis For Industrial Steam Boiler Efficiency Enhancement?

- We provide customized solutions for steam boiler efficiency enhancements delivering maximum efficiency at lower fuel costs.
- Steam Boiler Efficiency Enhancements solutions are cost effective with low capital investment, with shorter payback period.
- Extensive experience with Steam Boiler Efficiency Enhancement projects for boilers operating on varied fuels.
- Strict quality control.
- Adherence to strict timelines through state-of-the-art time management schedules and processes.
- Our steam boiler retro fitting saves Operations and Maintenance costs for businesses.



Need For Steam Boiler Efficiency Enhancement.

- Investment Cost benefit: Instead of buying a new steam boiler system, enhancing efficiency of steam boiler is a more profitable proposition. Businesses can save on investment costs.
- Low Fuel Cost: Enhancing efficiency of a steam boiler, helps in lowering the overall fuel cost. Fuel costs are one of the major operating costs for an industrial unit.
- Better Fuel Utilization: One of the parameters that increases steam boiler's efficiency is better fuel combustion. It helps in utilizing lesser fuel quantity for the process.

Factors That Contribute To Heat Losses.

- In order to improve boiler efficiency, it is important to ensure complete combustion of the fuel so that there is no unburnt fuel in the residue.
- Re-inject the unburnt carbon found in the discharge from the furnace for facilitating complete combustion of fuel.
- Utilize the high sensible heat of bottom ash from the boiler to preheat the air or water used in a boiler.
- Maintaining optimum ratio of fuel to air by keeping the excess air as low as possible can increase the furnace temperature and radiation heat leading to higher efficiency. Reducing excess air by 5% can increase boiler efficiency by 1%.
- Using moisture free fuel does away with the need of utilizing heat for drying up the moisture. This heat can be used for efficient fuel combustion instead.
- Dry flue gases leaving the boiler at high temperature account for major heat loss. Conduct regular boiler maintenance and remove the scale deposited on the heat transfer tubes for facilitating proper transfer of heat between flue gases and water.
- Continuous blowdown of water helps in keeping water impurities to optimum level but results in heat loss. So, keep a check on number of blowdowns per day and install a blowdown heat recovery system to preheat the water or air entering the boiler for reducing heat loss and improving boiler efficiency.
- Radiation and convection losses add to the heat loss. Although not measurable, these losses can be reduced by regular maintenance and insulation of the boiler.
- Condensate water, produced after transfer of heat from injected steam, has high temperature. It can be recovered using Condensate Recovery Module and reused to preheat water or air being fed into the boiler.

Some other ways of improving boiler efficiency are by installing Waste Heat recovery boilers/devices, Economisers (for retrieving heat from flue gases), Air pre-heaters, superheaters, etc. to facilitate the use of any waste heat in the process.

INDUSTRIES WE SERVE

- | | |
|-------------------|----------------|
| • Rice Mills | • Pharma |
| • Paper | • Distilleries |
| • Sugar | • Brewery |
| • Textiles | • Chemicals |
| • Food Processing | • Power |
| • Plywood | • Steel |

Fuel Conservation & Capacity Enhancement

Conversion of Steam Boiler

With varied fuel prices and changes in regulatory norms, it is vital for many businesses to shift their steam boiler and power plant operations to a different fuel set for maintaining sustainability and generating profits. For industrial boilers, conversion of steam boiler from Oil fired to Biomass (Rice Husk/ Straw, Bagasse, Wood chips and other crops/ process waste) is a profitable equation.

Why Core Axis For Conversion of Steam Boilers?

- We aim at achieving better efficiency of steam boiler operations on new fuel.
- Our steam boiler conversion solution allows businesses to save on fuel costs.
- At Core Axis, steam boiler conversion is a cost effective solution with low capital investment and shorter payback period.
- Extensive experience in converting wide range of boilers to operate on multiple fuels.
- Core Axis offers turnkey steam boiler fuel conversion.
- Strict quality control in engineering, installation/ construction & operations.
- Our Fuel Conversion team is highly experienced in achieving the desired output and efficiency.
- We adhere to strict timelines through state-of-the-art time management schedules and processes.
- We offer Flexible & Reliable steam boiler fuel conversion solutions to businesses.

At Core Axis, we offer

1. Steam boiler fuel conversion for 2-100TPH capacity boilers.
2. Steam boiler conversion to allow biomass and coal as fuel.
3. Assistance in maintenance and operation of steam boiler.

Converted Steam Boilers Can Operate On Following Fuel Types

- Rice Husk
- Wood Chips
- Bagasse
- Biomass Pellets
- Biomass Briquette
- Indian Coal
- Imported Coal
- Petcoke

Benefits of Fuel Conversion For Steam Boilers.

- Cost Benefit: Converting your steam boiler to low cost, high CV fuel helps in saving cost of plant operations.
- Latest Technology: During the process of steam boiler fuel conversion, latest technology components and modern engineering processes are incorporated, which helps in increasing the efficiency of operations and overall life of the system.
- Multi-Fuel Operations: Steam boiler fuel conversion allows businesses to use multiple fuels in the system. This gives businesses flexibility in planning their operations due to seasonal and regulatory changes.
- Saves Investment: Fuel conversion of existing steam boilers allows businesses to avoid buying a new boiler system. It allows them to convert their existing steam boiler to operate on a different set of fuel, thereby saving on the initial investment done by the business.

A Few of Our Customers



and many more...



Core Axis Global Solutions

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