



Your Reliable Partner for  
Cement Waste Heat Recovery



Power

## Thermax Group

Thermax Group is a leading provider of a range of engineering solutions to the energy and environment sectors. We are headquartered in Pune, India and operate globally through 33 International offices, 12 Sales & Service offices and 11 manufacturing facilities - 7 of which are in India and 4 overseas. Our presence spans 75 countries across Asia Pacific, Africa and the Middle East, CIS countries, Europe, USA and South America.

We have our own R&D Centre to add value to customer in the areas of Combustion & Heat Transfer, Biotechnology, Material Science and Solar Thermal.

Thermax's energy efficient and eco-friendly portfolio of technologies includes:



Boilers



Heaters



Absorption Cooling



Air Pollution  
Control Equipment



Chemicals



Solar



Power Generation



Water & Waste Solutions

## Power Division

Thermax's Power Division offers captive power plants and cogeneration systems for industry and independent power plants on EPC basis. We offer power generation solutions right from setting up of power plants to its

O&M services and spares. In setting up of power plants, we offer on time delivery, high performance and least lifetime cost.

Our solutions are based on variety of fuel types:



Cement  
Waste Heat  
Recovery



Steel  
Waste Heat  
Recovery



Coal



Biomass



Natural  
Gas



Solar



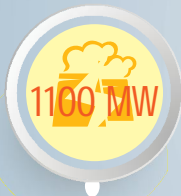


# Cement Sector Credentials

For 25 years Thermax has been the preferred EPC and O&M partner for power plants in cement sector.

We have a robust team of 500+ professionals for in house engineering, procurement and construction and more than 1500 of our associates operating and maintaining the power plants worldwide.

Thermax has been on the forefront of the cement waste heat recovery, for more than a decade. We have commissioned one of the largest CWHR power plant in Asia. Our innovative design and engineering expertise helps our customers recover maximum power out of the available waste heat.



Across 40+  
captive  
power plants



10+ cement  
waste heat  
recovery  
power plants



Cumulative  
O&M  
experience



Installations  
across Asia,  
Middle east  
and Africa



Global clientele -  
Dangote,  
Lafarge - Holcim,  
Sharjah cement





# The Thermax Edge

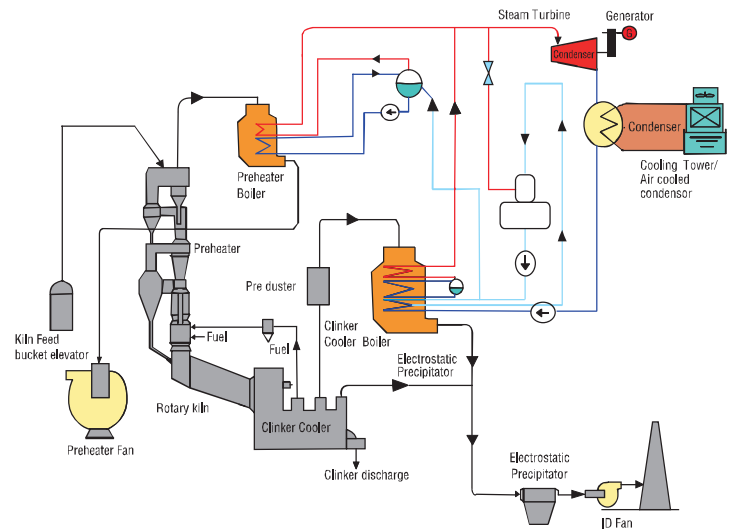
Cement manufacturing being a highly energy intensive process, using Waste Heat Recovery System (WHRS) to generate power helps customers become competitive

Our CWHR solutions are based on Steam Rankine Cycle with two recovery point's viz. Preheater / Calcliner Strings and Clinker Cooler (tapping at exhaust or mid-cooler).

Our turnkey solutions set the benchmark in waste heat recovery power plants by generating maximum power for the available waste heat

Our expertise in boiler design and experience in executing EPC projects globally makes Thermax the partner of choice for CWHR plants

## Schematic Diagram of Waste Heat Recovery System for Cement Plants



### Boiler for Preheater and Calcliner Strings

Installed between Preheater exhaust bold and ID fan

#### Salient Features:

- Proven technology to handle high dust laden gases from Preheater and Calcliner Strings
- Vertical Boiler with horizontal tubes resulting in lower foot print & duct work
- Natural circulation boiler resulting in lower auxiliary power consumption
- Counter flow gas direction offering efficient heat transfer
- Proven hammering mechanism for efficient dust dislodging and longer tube life .
- Higher water hold up capacity for load fluctuations
- Better accessibility for operation and maintenance

### Boiler for Clinker Cooler

Installed between Clinker Cooler Exhaust/ Mid Tap and ESP inlet

#### Salient Features:

- Vertical boiler with horizontal tubes resulting in lower foot print & duct work
- Integral Deduster for efficiently removing higher sized abrasive particles ,
- Counter flow gas direction & special finned tube design for efficient heat transfer
- Inline/staggered heat transfer area
- Natural circulations design for reduced auxiliary power consumption
- Higher grade material and lining at strategic locations to take care of temperature surges





# Thermax Advantage

1

Over 3200 MWe spread across 125 power projects contracted on EPC basis

2

World class execution offering on time delivery, high performance and least lifetime cost

3

In house manufacturing of boilers, ESP, bag filters, ACC, water treatment systems and speciality chemicals

4

More than 20 million safe man hours of project execution with OHSAS certification for all sites

5

Cumulative O&M experience of over 1500 MW, ensuring guaranteed plant performance





# Key Installations

## Wonder Cement

Nimahera, India

- Size : 18 MW
- Configuration : 4 WHRB + BoP
- No of Kilns : 2
- Kiln Size : 8500 TPD each
- In Operations Since – 2016



## Rain Cement

Kurnool, India

- Size : 6.4 MW
- Configuration : 2 WHRB + STG + BoP
- No of Kiln : 1
- Kiln Size : 4500 each
- In Operations Since - 2016



O&M  
by  
Thermax

## JK Cement Works

Nimbahera, India

- Size : 13.2 MW
- Configuration : 5 WHRB+BoP
- No of Kiln : 3
- Kiln Size : 1200, 1800 & 4800 TPD
- In Operations Since - 2008



O&M  
by  
Thermax

## JK Cement Works

Mangrol, India

- Size : 10 MW
- Configuration : 4 WHRB + STG + BoP
- No of Kilns : 2
- Kiln Size : 2000 & 5000 TPD
- In Operations Since - 2013

O&M  
by  
Thermax



## JK Lakshmi Cement

Sirohi, India

- Size : 12.1 MW
- Configuration : 5 WHRB + STG + BoP
- No of Kilns : 3
- Kiln Size : 2500, 4500 & 4500
- In Operations Since - 2011

O&M  
by  
Thermax



## Gujarat Sidhee Cement Ltd.

Veraval, India

- Size : 5.5 MW
- Configuration : 2 WHRB + STG + BoP
- No of Kilns : 1
- Kiln Size : 4500 TPD
- In Operations Since - 2018

O&M  
by  
Thermax





**THERMAX**

Sustainable Solutions in  
Energy & Environment

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**Thermax Business Portfolio**

- Heating
- Cooling
- Power
- Air Pollution Control
- Chemicals
- Water and Wastewater Solutions
- Solar
- Specialised Services



This brochure presents only some of our products and we reserve the right to amend any product details without notice. The photographs used in the brochure are indicative and may not match the actual plant.

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