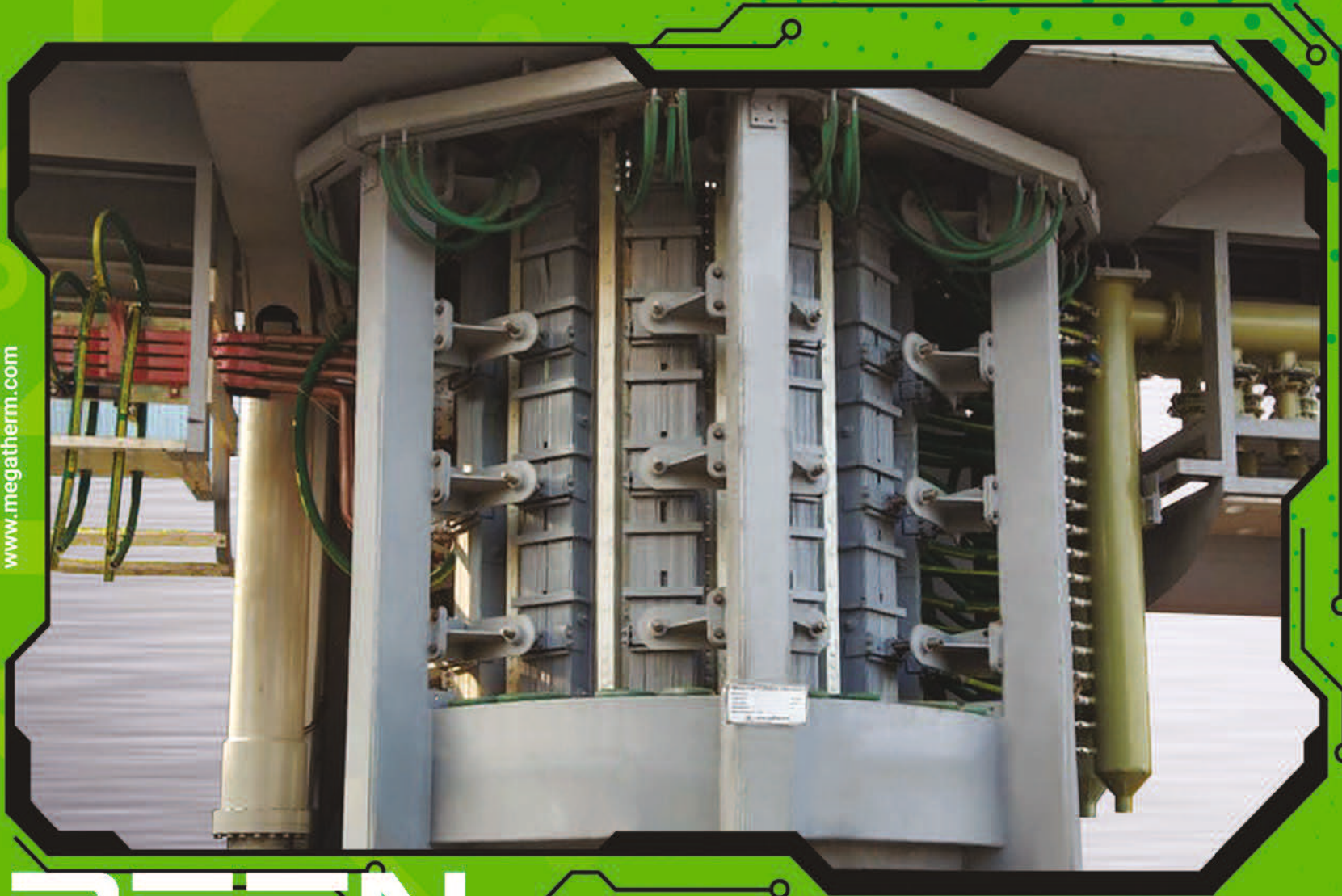


www.megatherm.com



GREEN FURNACE

 **megatherm**
THE FUTURE IS NOW

GLOBAL PRESENCE



**NEARING 3000 INSTALLATIONS
IN 44 COUNTRIES**

- Argentina
- Algeria
- Angola
- Afghanistan
- Azerbzlzan
- Bolivia
- Botswana
- Brazil
- Chile
- Cuba
- Ecuador
- Peru
- Bolivia
- Chile
- France
- Georgia
- Ghana
- Iraq
- Ivory Coast
- Indonesia
- Jordan
- Kazakhstan
- Kenya
- Kuwait
- Malaysia
- Mexico
- Nigeria
- Pakistan
- Poland
- Saudi Arabia
- South Africa
- Sudan
- Tanzania
- Tunisia
- U.A.E
- Uganda
- Uzbekistan
- Venezuela
- Yemen



ABOUT US

In 1989 we sparked off, banking on our team of Electro Thermal Processing experts and the capital of experience that we had gathered since 1970. We made our presence felt across Steel, Foundry, Forging and various other Metal Working Sectors, surging forward with spirits held high and the burning within.

Today, Meghatherm is recognized and preferred by its ever - extending list of Domestic and International Clientele. Our installations are spread over 40 countries around the globe. Megatherm is committed to customer delight and performance excellence. We have invested in progressive in-house R & D which in turn has yielded both pro and praise for the company. On an aggregate we are nearing 3000 customers of Electro Heating Equipment till date.

Megatherm is differentiated from other manufactures primarily due to its product innovation & continuous R&D. Over the years, Megatherm has led the way for most major design changes and additions to induction technologies which was later incorporated by the industry. Our research is focused and our systems are incorporated with the best contemporary technologies that ensure optimum utility and comprehensive productivity

Being certified as an ISO 9001-2015 Company, the name Megatherm today is synonymous to quality.

OUR GROUP OF COMPANIES



MEGATHERM INDUCTION LIMITED

- Manufacturing of all Induction melting & heating products
- After sales service for induction products
- Engineering of all products
- Turnkey projects
- R&D Lab
- Training Centre
- Testing Facility
- In house precision machine shop and fabrication unit in separate shed
- Infrastructure: Newly inaugurated plant on 15 acre plot in (Kharagpur, WB, close to IIT KGP) of which 9 acres have been developed. Covered area of 2,50,000 sq ft

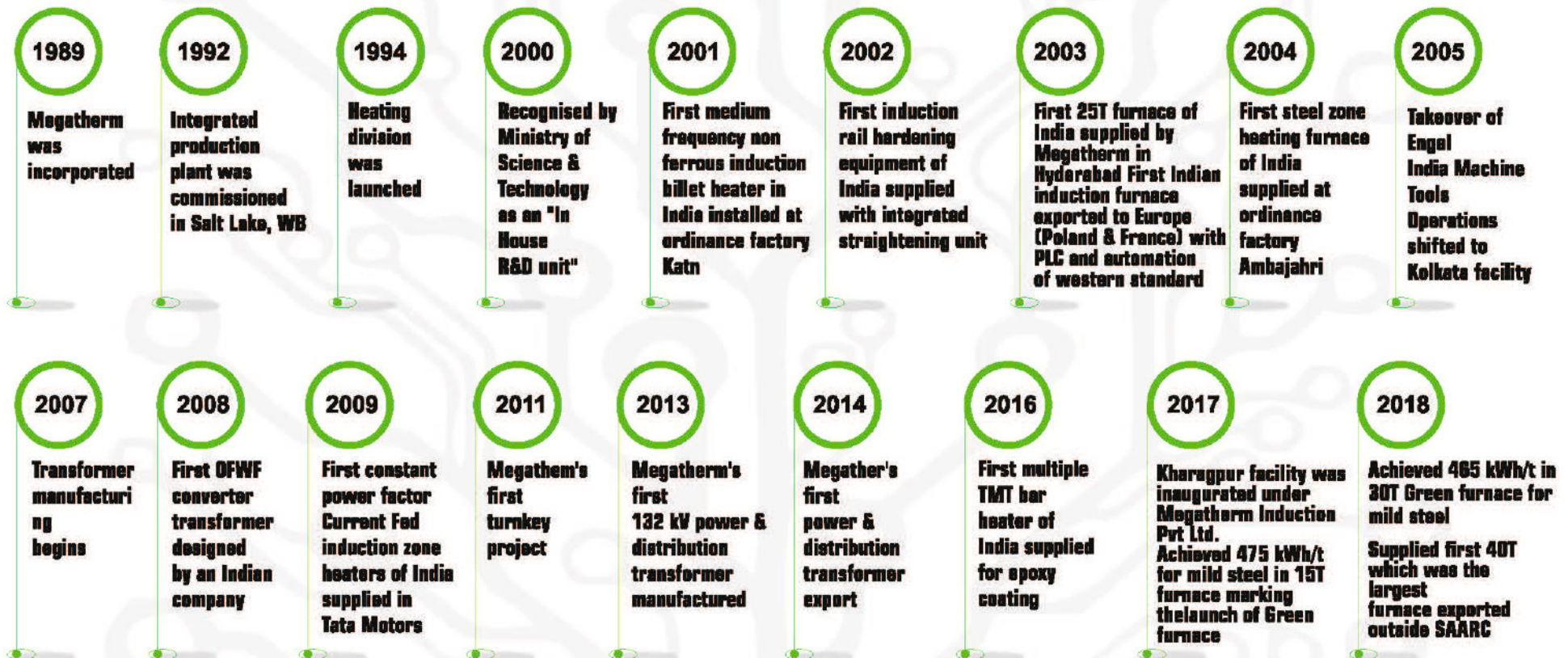
MEGATHERM ELECTRONICS PRIVATE LIMITED

- Process automation, power quality and IT solutions
- SMS operational excellence
- Commercial 2,00,000 sq ft IT Park, Megatherm Tower in Sector V (Kolkata's IT hub)
- Infrastructure: Captive design, engineering & IT office of 28,000 sq ft within Megatherm Tower

A HISTORY OF FIRSTS

Since inception Megatherm has ushered in most major new products and design changes which has been later adopted by the industry. Our history is a history of firsts and our clients are always years ahead in terms of technology and operational commercial benefits.

Milestone



GURANTEED 20 KWH/T TO 30 KWH/T LOWER THEN ANY OTHER MAKE

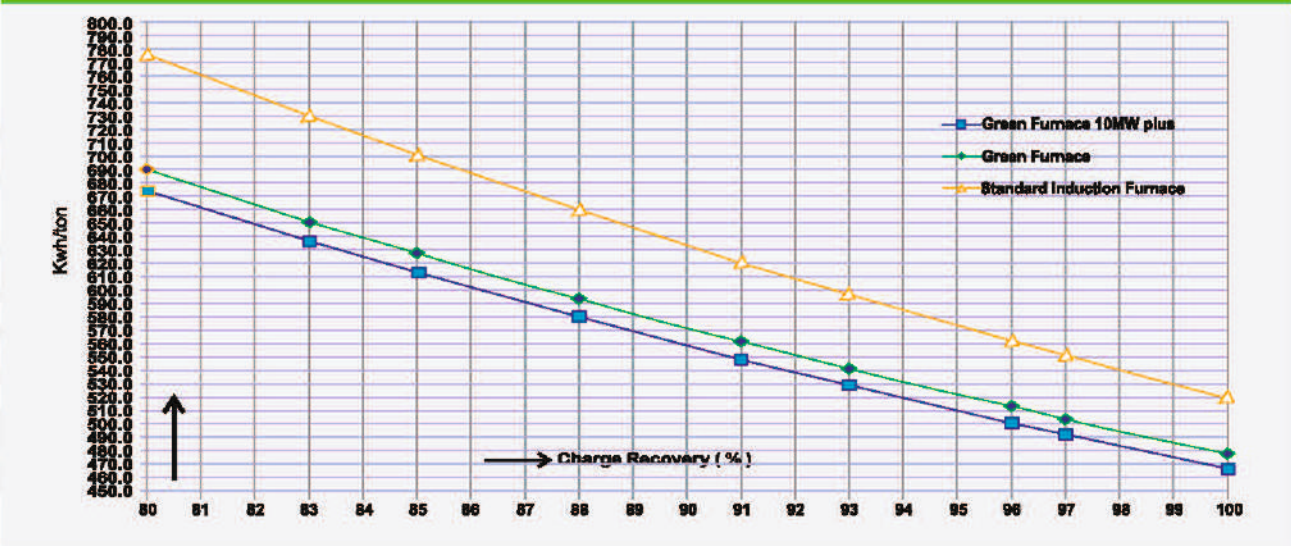
Avoid fraudulent best heat claims and always ask for month average

Charge Yield	Average Energy Consumption at 1600 degrees tapping temp	Productivity for 10MW Power Supply
Scrap (96% yield)	505 kwh/t	18.8 tons/hr
Sponge & Scrap Mix (89% yield)	580 kwh/t	16 tons/hr
Mainly Sponge with some Scrap and Pig Iron (yield 84%)	650 kwh/t (for pellets add 0.5 kwh/t – 1 kwh/t for every 1% of pellet use)	13.2 tons/hr



40 Ton capacity Induction Furnace Crucible

Energy Consumption vs Charge Mix



20 MW - 24 Pulse, Solid State Frequency Converter

GREEN FURNACE: THE MOST ENERGY EFFICIENT IMF IN THE WORLD FOR STEEL MAKING WITH BASELINE OF 460 KWH/T

Customer testimonials

Of all furnace brands in our plant Megatherm's Green furnaces are consuming less energy
"Executive Director, 15T, 20T (Largest single IMF steel plant with over 20 furnaces), Chattisgarh"

Green furnace has significant energy benefits compared to furnaces of others makes and Megatherm's older models
"MD, 30T, Chennai"

We witnessed substantial gains by upgrading existing furnace with green technologies and as a result have placed an order for a new green furnace
"MD, 25T, Indonesia"

We have purchased green furnace from Megatherm and performance commitments have been achieved. It is the most energy efficient furnace
"MD, 15T, Durgapur"

More than satisfied with energy consumption of newly supplied 20T Green furnace by Megatherm
"MD, 20T, Durgapur"

Client names can be published on request.

MARKET FEEDBACK: OVER 25 MTPA CAPACITY ADDED SINCE 2018 INCLUDING 8 MTPA FROM CLIENTS PREVIOUSLY USING OTHER FURNACES

Market Share: Highest Market Share with Over 45%

Example of bulk orders In East zone alone

- Rashmi Metallics 16 x 22T Green Furnace
- Prakash Industries 19 x Green Furnace (12T – 20T)
- Shyam Sel 15 x 22T, 12T, 10T Green Furnace
- Shyam Steel 7 x 15T Green Furnace
- Super Smelter Group 6 x 20T Green Furnace
- Gagan Group 5 x 22T Green Furnace
- RAIC Group 6 x 15T/20T
- Shaurya Ispat Group 9 x Furnaces (20T, 22.5T)
- Bajrang Group 7 x Furnaces (12T, 15T)

“ APART FROM NEW CAPACITY ADDITION OVER 200 OLD FURNACES UPGRADED WITH GREEN FURNACE TECHNOLOGIES ”



5x25T Green Furnace for Pakistan's renowned group Mughal for Pakistan's



40T Green Furnace For one of South East Asia's largest groups

TECHNOLOGY BEHIND THE GREEN FURNACE : A DECADE IN THE MAKING

Evolution of The Green Furnace

MTV545	MTV515	Low Frequency	Green
2004-2011	2012-2016	2016-2017	2017 Onwards
545 Kwh/t	515 Kwh/t	495 Kwh/t	460 kWh/t (10 MW & Above) 475 kWh/t (Under 10 MW)

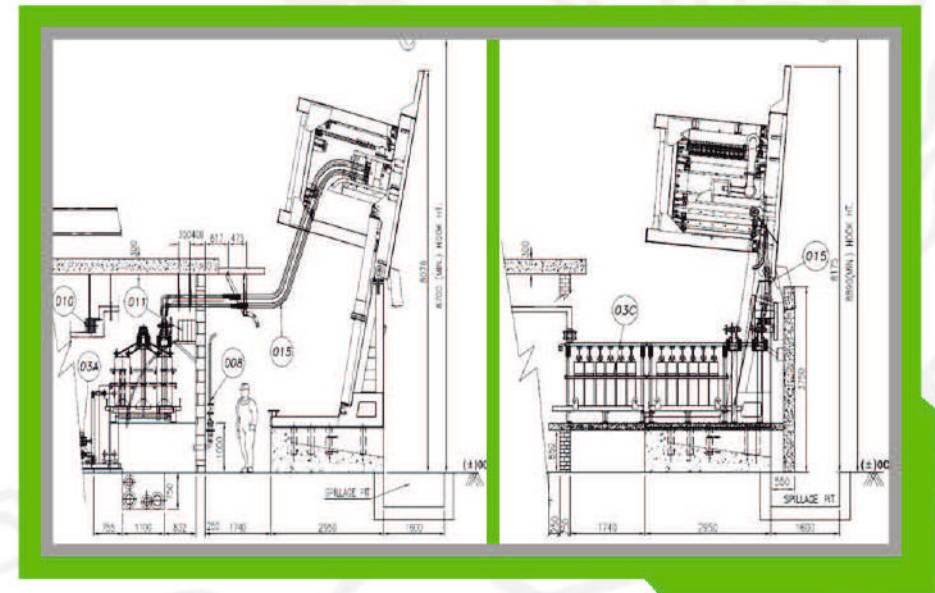
**For 100% yield and 1600 °c tapping*

Technology behind Green Furnace

- High power pickup and melt rate due to Voltage Boosting
- Unique Topology that mixes best of Parallel & Series Circuit
- No capacitor cutting resulting in tight frequency range
- 97% - 98% Power Factor
- Nano Cable design minimizes line losses

Nano Cable:

Compact layout reduces copper losses and improves system efficiency. Reduced size of water cooled cables further reduces copper losses. Reduced size of water cooled cable also lowers voltage drop between panel and coil and leads to faster power pickup and quicker melting



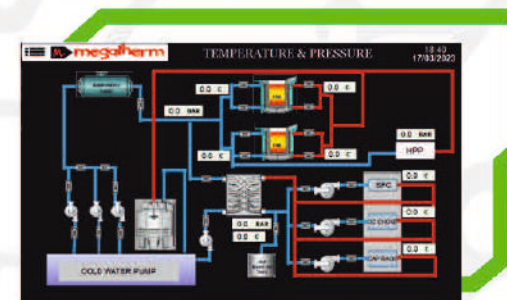
GENERATION 2 PLC SYSTEM

Digital Module:

- ❑ **SFC Parameters** – Digital display as well digital setting of parameters. No need to touch cards.
- ❑ **Remote Access (virtual SCADA)** – All parameters can be viewed and set remotely. Hence, remote diagnosis is possible. Virtual SCADA enables access to all the data & diagnostics on any device.
- ❑ **Energy Counter** – kWh limit for the heat can be set and the counter ticks down. Power can be reduced once limit has been exhausted.
- ❑ **Reports** – Power, voltage & pressure trends and graph for post-production analysis
- ❑ **Management MIS** - Daily reporting of no. of heats, total energy consumed, productive time, low power time, down time & slow charging incidents.
- ❑ **Auto Diagnostics & Preventive maintenance** - All interlocks displayed digitally. Temperature warning of DM Inlet, SFC outlet, chokes outlet, Capacitor rack outlet and crucible inlet / outlet. Pressure warning of DM water, raw water & Hydraulic oil (HPP). Water level & water quality measurement. Automatic maintenance alarms.

Unique Features:

- ❑ **Slow Charging Alarm** – Whenever charging is slow the system will give warning and the incident will be logged and displayed in reports for post-production analysis.
- ❑ **Liquid Metal Display** – Real time liquid metal level display
- ❑ **Lining Health Detection System & Accident Prevention Module**



HEAT No.	ON TIME	OFF TIME	kWh CONSUMPTION	PRODUCTIVE TIME	SLOW CHARGING TIME	LOW POWER TIME	LIQUID METAL (T)	LIMIT/ TON
1	9:0	9:10	0	0:0	0:0	0:0	80	80
2	9:0	9:10	0	0:0	0:0	0:0	80	80
3	9:0	9:10	0	0:0	0:0	0:0	80	80
4	9:0	9:10	0	0:0	0:0	0:0	80	80
5	9:0	9:10	0	0:0	0:0	0:0	80	80
6	9:0	9:10	0	0:0	0:0	0:0	80	80
7	9:0	9:10	0	0:0	0:0	0:0	80	80
8	9:0	9:10	0	0:0	0:0	0:0	80	80
9	9:0	9:10	0	0:0	0:0	0:0	80	80
10	9:0	9:10	0	0:0	0:0	0:0	80	80

Related Products

Megacast Caster

- ❑ Heavy Duty Export Grade Caster
- ❑ In-house precision machine shop
- ❑ PLC controlled speed and cooling water flow
- ❑ PLC based preventive maintenance for motors and critical components
- ❑ Option for Remote Access

Green Fume Extraction System

- ❑ Proper fumes calculation and data for correct specs
- ❑ VFD based system for minimum energy consumption
- ❑ Fully automatic and PLC based diagnostics

Scrap Processing Machine

- ❑ Tie up with Bon Figlioli Italy for heavy duty balers, shearing machines & shredding plants
- ❑ Chinese processing machines for shearing lower force requirements
- ❑ Over 80 equipment running in India & abroad





An ISO 9001 : 2015 Company



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Megatherm Induction Limited

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Kolkata - 700091, India

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Kharagpur - 721 301, India

