

SPECIAL INGOT
MAKING PLANT

SPECIAL CASTING
MAKING FOUNDRY

REBAR MAKING
PLANT

BILLET MAKING
PLANT

REFRACTORY
SMELTING PLANT

ROLLING
MILL

WIRE ROD
MILL



ELECTRIC
ARC FURNACE

LADLE REFINING
FURNACE

CONTINUOUS
CASTING MACHINE



VACUUM DE-GASSING
SYSTEM

VACUUM OXYGEN
DECARBURIZATION
SYSTEM

ARGON OXYGEN
DECARBURIZATION
SYSTEM



FUME EXTRACTION
SYSTEM

FERRO ALLOYS &
FLUX ADDITION
SYSTEM

WIRE FEEDER
MACHINE



AUTOMATION
&
IoT
INDUSTRY 4.0

TURN KEY STEEL PLANT

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Melting Challenges, Refining Values



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Introduction :

At Doshi Technologies, we specialize in providing comprehensive turnkey solutions for steel manufacturing plants, delivering seamless integration from concept to completion. Our team of experts is dedicated to ensuring the success of every project, offering a wide range of services tailored to the unique needs of our clients.

From the initial planning and design stages to procurement, construction, and commissioning, we manage the entire project lifecycle with meticulous attention to detail. We have a proven track record of successfully delivering projects on time, while adhering to the highest quality standards.

Our turnkey solutions encompass a comprehensive range of services, including equipment selection and installation, process optimization, automation and control systems, and plant maintenance. We leverage advanced technologies and industry best practices to ensure that our clients' steel plants operate at peak performance, achieving maximum productivity and profitability.

- ✚ Rebar Making Plant
- ✚ Billet Making Plant
- ✚ Special Ingot Making Plant
- ✚ Special Casting Foundry
- ✚ Forging Ingot Making Plant
- ✚ Refractory Smelting Plant
- ✚ Electric Arc Furnace
- ✚ Ladle Refining Furnace
- ✚ Continuous Casting Machine
- ✚ Vacuum De-gassing System
- ✚ Vacuum Oxygen Decarburization System
- ✚ Argon Oxygen Decarburization System
- ✚ Rolling Mill
- ✚ Wire Rod Mill
- ✚ Ferro Alloys & Flux Addition System
- ✚ Fume Extraction System
- ✚ Wire Feeder Machine
- ✚ Material Handling Equipment
- ✚ Cooling Water System
- ✚ High Voltage Distribution & Control System
- ✚ Automation & MIS with Internet of Things(IOT), Industry 4.0



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Vision

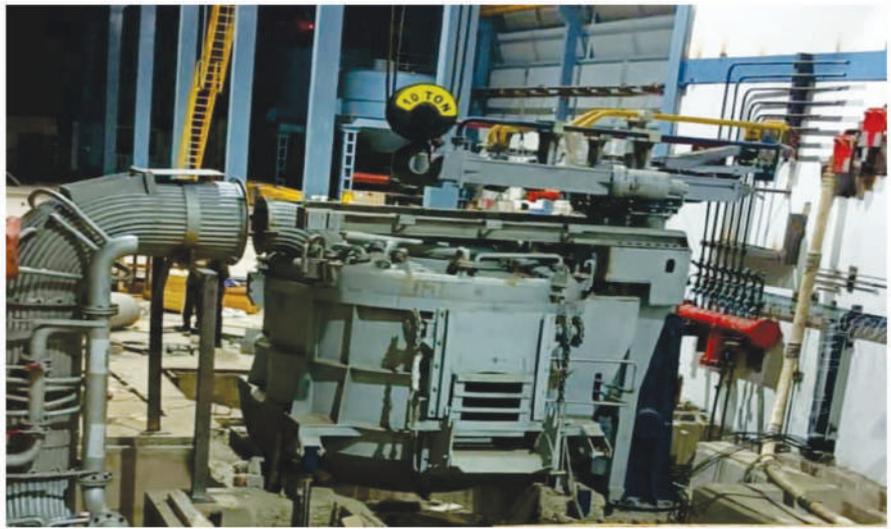
Doshi technologies stands for futuristic technologies & extraordinary service across globe in plant construction in the world of metal industries.

- ✦ We use our years of experience, our unique expertise in terms of value addition & we are the right partner for our customers for their challenging projects.
- ✦ Doshi Technologies Encourages and motivates employees, vendors & customers for achieving delightful satisfaction for their being.
- ✦ As one of the world's leading project companies, we help our customer to make superior quality of steel to increase their productivity & to lower environmental impact in a sustainable way.



Outlook of Arc Furnace Industry

- ✦ Steel & Metal industry are core sector industries
- ✦ Arc Furnace route for steel making and smelting is established technology with continuous demand fuelled by developing economies around the world
- ✦ Present Indian & global developing markets scenario advocates growth & investment in Power & Infrastructure related core area like steel & metal industry. Doshi Technologies support this development with its Arc Furnace & other offerings for the core sector industry.
- ✦ A realm of business potential is envisaged by serving, Large companies operating in melting and smelting projects.
- ✦ Doshi Technologies has vision to be one of the prominent machinery provider to such companies and strengthening Indian and world economy.



Electric Arc Furnace (EAF)

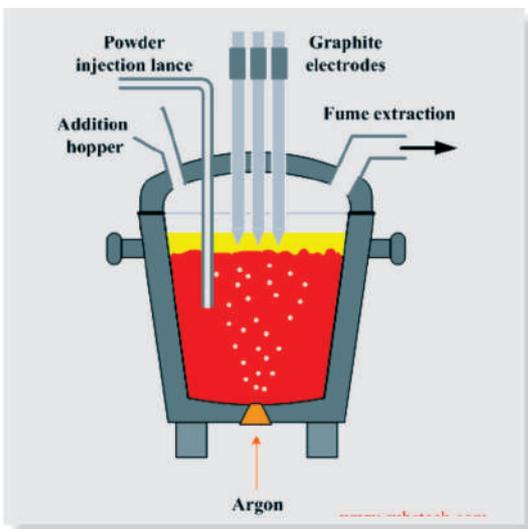
- ✦ Proven Design
- ✦ Conductive or Conventional Electrode Arms
- ✦ EBT or Launder Tapping
- ✦ Water Cooled Shell & Roof
- ✦ Exact guidance of electrode mast with Prismatic Guide Rollers
- ✦ Conventional & Split Shell Design
- ✦ EAF Capacity 1 MT onwards for Foundries
- ✦ Large EAF for Steel Plant Application

Electric Arc Furnace (EAF)

Main Advantages & Features

- ✦ AC EAF UHP design
- ✦ Modern Digital Control Electrode Regulation System
- ✦ EBT for Slag Free Tapping
- ✦ Continuous DRI/HBI feeding System
- ✦ EAF supplied with Transformer, De-dusting & Axillaries





Ladle Refining Furnace (LRF)

Ladle Refining Furnace (LRF) is used for post melting treatment of steel & release the primary melting (EAF, Induction Furnace etc...) for further melting

LRF are installed in basic oxygen plants as well as in electric arc furnace & Induction Furnace based melt shops.

There have been considerable and continuous efforts in improving the productivity and reducing the over all processing time at the primary melting unit. This has led to developing appropriate processes for the refining of steel outside the main melting furnaces.

By Positioning the Ladle Refining Furnace in between the Melting Furnace and the casting facilities (Continuous Casting or ingot Casting) the following advantages can be achieved :

- ✦ Exact casting temperature and Homogenous metal leading to better casting quality
- ✦ Reduced Tapping time at Primary Melting Unit
- ✦ Buffer function for sequence casting
- ✦ Better recovery of Alloys
- ✦ De-Sulphurization
- ✦ Fine Chemistry Controls



Higher Productivity of Melt Shop

Arcing on Demand

Refined Steel

Basic Slag

Steel Temperature

Arc Heating

Controlled Steel Chemistry

- Higher Recovery of Alloys
- Homogenization Metal
- Exact Chemistry Control

Gas Purging

Doshi's Ladle Refining Furnace



Main Features & Characteristics

- + Low energy & Electrode consumption
- + Optimized pitch circle diameter
- + Heating Rate up to 5°C/min
- + Current Conductive & Conventional Electrode Arms
- + Water Cooled Furnace Roof
- + Proven Mechanical Design
- + User Friendly Operation
- + PLC Based Operation & Control
- + Modern Digital Electrode Regulation System
- + Reputed suppliers of Key Components (Transformer, Hydraulics...)
- + Complete and tailor made design, engineering and supply of all related auxiliary equipment





Continuous Casting Machine

- ✦ To cast billets of multiple cross section & length.
- ✦ Customized design suitable to plant layout.
- ✦ Various types available i.e. Billet caster, bloom caster, slab caster & round caster.

Vacuum De-gassing System (VD) & Vacuum Oxygen Decarburization System (VOD)

- ✦ Vacuum De-gassing system & Vacuum Oxygen Decarburization system is used in the secondary refining of steel.
- ✦ VD is used for removal of dissolved gases i.e. hydrogen, oxygen, nitrogen from molten metal.
- ✦ Vacuum is achieved using dry running screw mechanism type vacuum pump.
- ✦ VOD is mainly used for deep decarburization of high alloy steel grades, to remove carbon without affecting chromium in stainless steel grades.





Fume Extraction System (FES)

- ✦ Tailor made solutions
- ✦ Individually design to suit customer plant layout
- ✦ System design for Primary & Secondary fume Extraction system to meet local emission stander
- ✦ Specially designed for electric arc furnace, Ladle refining furnace.
- ✦ Control system implemented in the plant control argon oxygen decarburization, vacuum degasing, vacuum oxygen degasing.
- ✦ Dog house type FES for induction furnace.

Argon Oxygen Decarburization System (AOD)

- ✦ Argon Oxygen Decarburization is used to make stainless steel and specialty alloys such as silicon steels, tools steels, nickel base alloys and cobalt base alloys.
- ✦ AOD provide economical way to produce stainless steel with a minimum loss of precious elements.
- ✦ AOD offers high element recovery, rapid & efficient desulphurisation and good control of slag chemistry.



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Ferro Alloys & Flux Addition System (FAFA)

- ✦ Customized design suitable to plant layout and requirement.
- ✦ Fully/Semi Automated system suit to the plant requirement.
- ✦ Auto/Manual batching system.
- ✦ Vibro feeder with fine and coarse control for feeding

Scrap Handling Equipment

- ✦ Covers entire scrap handling equipment range required to every melting facilities
- ✦ Hydraulic or Vibrating option are available for scrap feeding to Induction furnace.
- ✦ Cup & cone type scrap bucket for charging the Electric Arc Furnace.
- ✦ Suitably designed for respective plant capacity.





Auxiliary Equipment Inert Gas Stirring System

- ✦ Skid mounted Gas Stirring System with necessary Pressure & flow control Valves
- ✦ Control system implemented in the LRF control



Wire Feeding Machine

- ✦ Single, double or three core machines
- ✦ Horizontal or vertical feeding arrangements
- ✦ Accurate wire length measuring
- ✦ Mechanical wire end detection system
- ✦ Local and remote operation
- ✦ Control system implemented in the LRF control





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