



## Metallurgical Equipments & Metallurgical Solutions

- » Continuous Casting Machines
- » Rolling Mills
- » VD / VRH
- » D.R.I.
- » ARC Furnaces
- » Ladle Furnaces
- » T. C. Tips
- » Automation of Steel Plants



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Started in 2009, **M.J.Exporters** has come a long way since then. The company that had originated as a manufacturer of simple horizontal continuous casting machines has now metamorphosed into a company whose strength lies in its innovative technological approach and constant up gradation of its designs and products with users across the globe.

**M.J.Exporters** technology is reliable, economic & simple to adopt for production of casting machine&rolling mill. **M.J.Exporters** has become an established name in the field of continuous casting. The company is committed to technical innovation and continual research to provide its users with the benefits of the latest engineering developments based human machine interface

## Our Philosophy

Each Continuous Casting machine is built to the customer's requirements. The machine range indicates the 'standard' machines available but we do manufacture machines that the customer requires. We have a small dedicated team who are fully involved in the development, construction, installation and servicing of our Continuous Casting machines.

## Infrastructure

**M.J.Exporters** has developed a contemporary infrastructure support. This helps us to carry out our business operations in a systematic & precise manner. Infrastructure is the basic physical and organizational structure needed for the operation of a society or enterprise or the services and facilities necessary for an economy to function. It facilitates the production of goods and services, and also the distribution of finished products to markets, we have in-house Tool room facility for smooth functioning of manufacturing process. We have a strong power back up facility to face any eventuality arising out of power failure. Our versatile infrastructure, coupled with an enviable product range and large production output, has made us the leading producers of casting machines



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**Mr. Shaikh Jeelani**  
CEO

**M.J.Exporters** – is a company formed under the able hand of **Mr. Shaikh Jeelani**. The vast experience in design, fabrication, installation, commissioning and operation has given us an upper hand. Our presence is now prominently felt in medium and small steel plants by virtue of our ability to help in improved productivity and quality. Continuously striving to augment its resources, **M.J.Exporters** highly experienced Key Personnel have further strengthened its Design, Implementation and Installation wing.

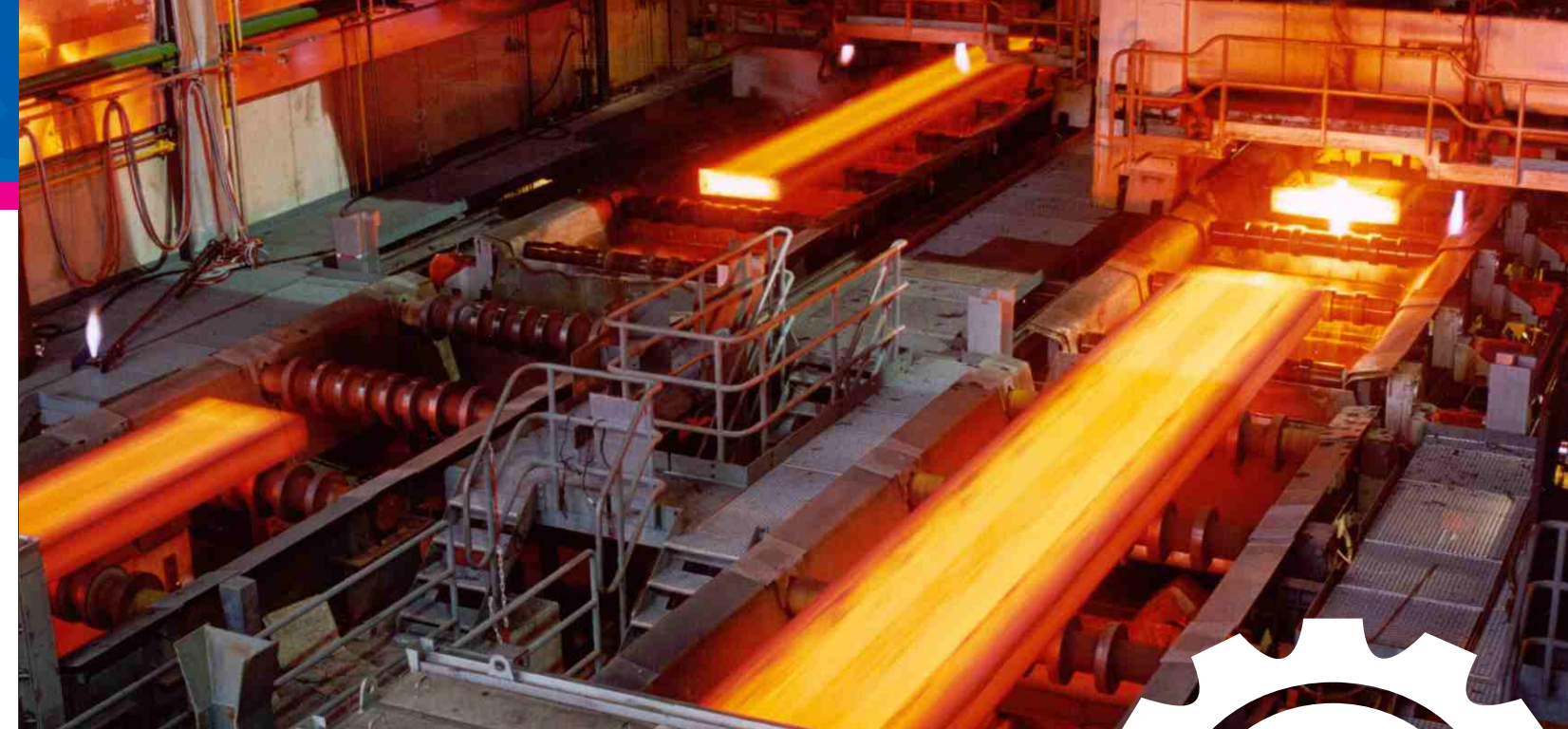
In addition to supplying Continuous Casting Machines **M.J.Exporters** also are well equipped to handle challenges in providing Consultancy Services. We have the expertise of all allied steel plant equipment such as Electric Arc Furnace, Ladle Refining Furnace, Argon Oxygen De – carbonizing vessel for stainless steel refining, Ladle Turret, Sequencing Cars and various other steel mill equipments for large and medium scale steel plants. We are now equipped to implement State – Of – Art plants. Added to the Casters are Mechanical Robots, Automation of Power Plants using Waste Heat Recovery Technique and Rolling Mills.

We, at **M.J.Exporters** are looking forward to contribute our mite towards improved productivity and quality in Steel Industry by time bound services

- Supply, Installation & Commissioning
- Consultancy
- Fabrication & Supply of Critical Components
- State – Of – ART Automation
- Performance Analysis and improvement of existing plants

#### Work Culture

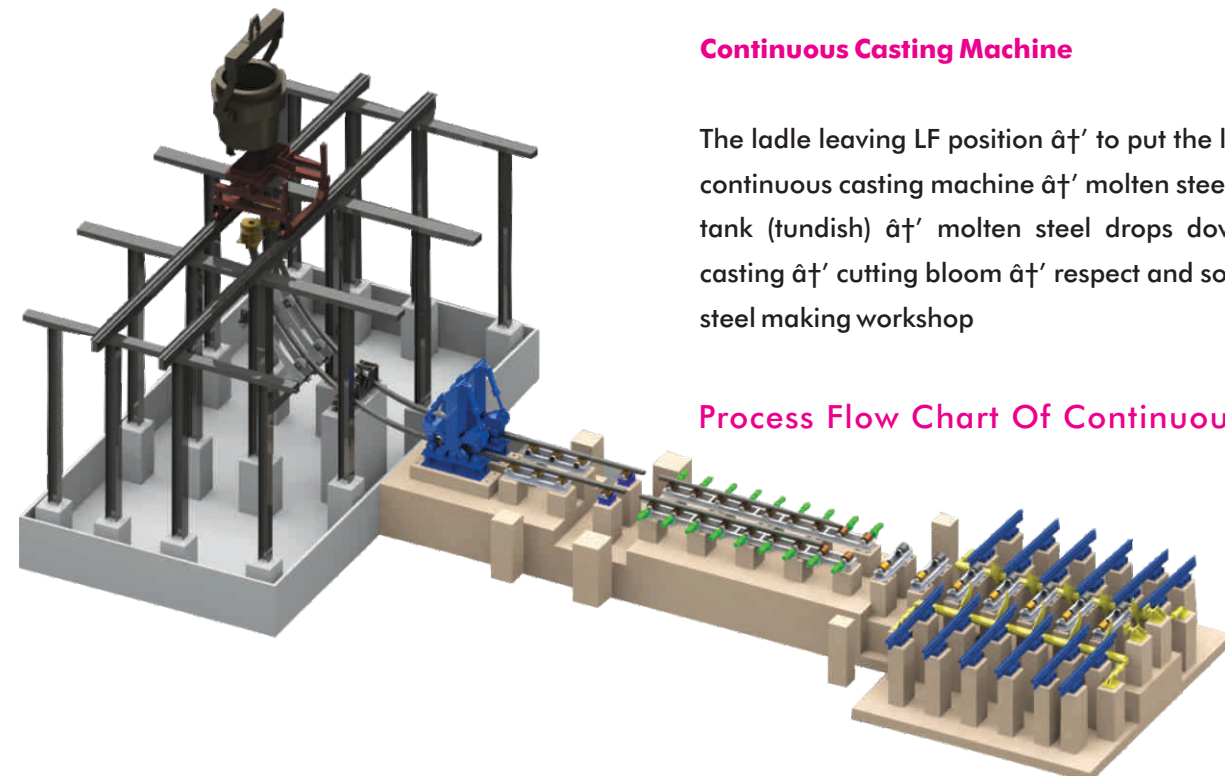
- Engage with Customer and Suppliers
- Employee Development & Empowerment
- Team-work
- Communication
- Diversity & Inclusion



## Continuous Casting Machine

Continuous casting machine automates the production of polymer matrix for cast polymer manufacturing. Replacing manual mixing with the continuous casting machine can significantly increase productivity, cut material cost and improve quality. This is to increase profits for all leading manufacturers of polymer.

The ladle containing qualified liquid steel is hoisted to a ladle rotator of continuous casting machine and then it taps from the base of the receiving ladle to tundish, after that, it drops down into crystallizer to cast into bloom, which are severally straightening and cut to set dimensions and sent to a cooling bed through a roller table. It turns into qualified bloom.

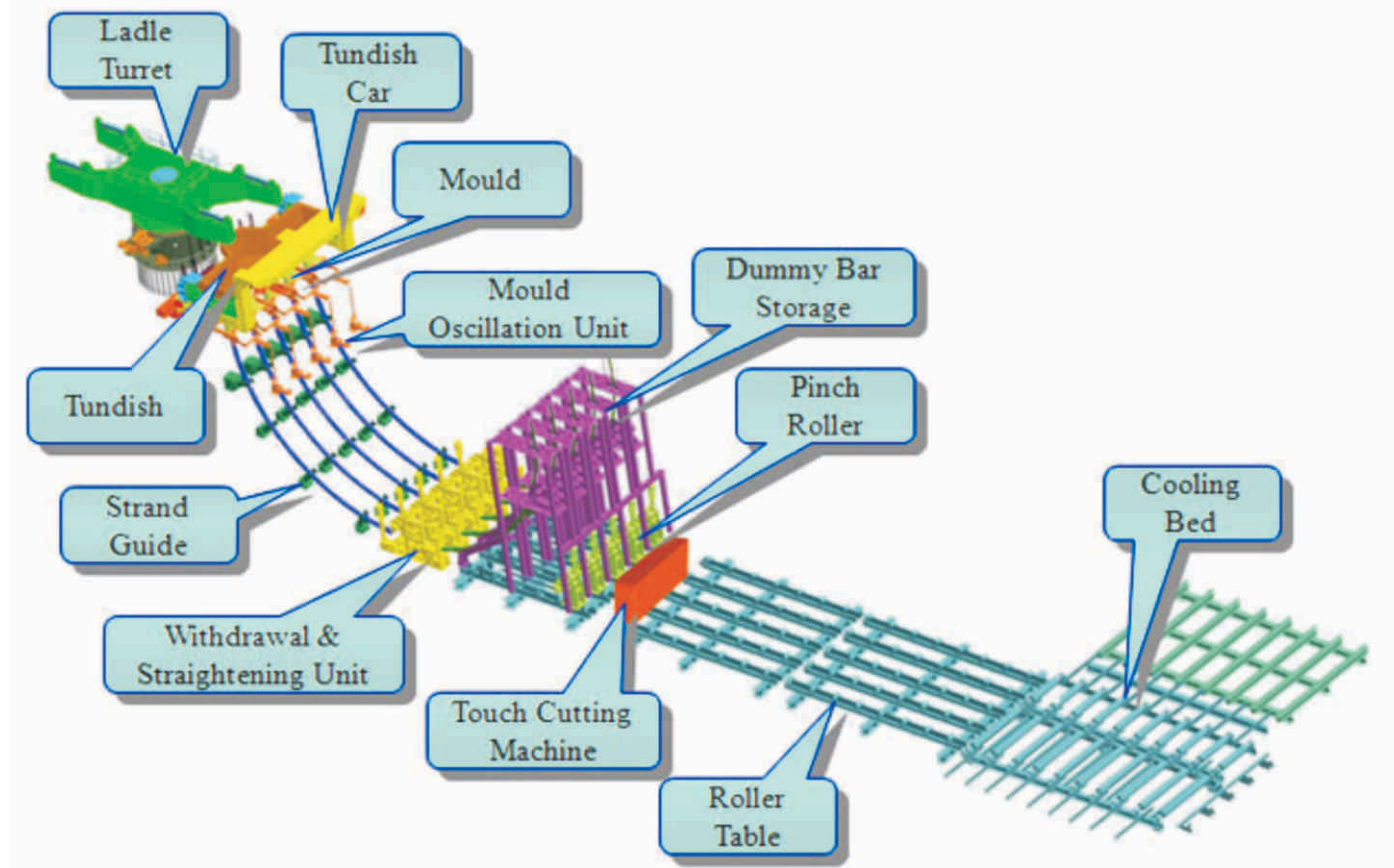


#### Continuous Casting Machine

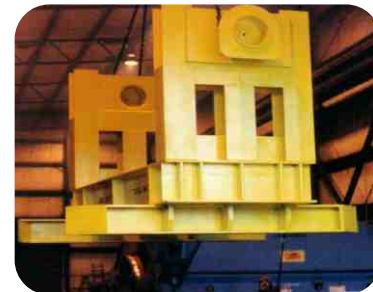
The ladle leaving LF position â†’ to put the ladle on ladle rotator of continuous casting machine â†’ molten steel drops down into surge tank (tundish) â†’ molten steel drops down into crystallizer â†’ casting â†’ cutting bloom â†’ respect and so on â†’ bloom is sent to steel making workshop

#### Process Flow Chart Of Continuous Caster Line

# Continuous Casting Machine



## One, (Two) - Position Ladle Car



## Tundish



## Storage Stand For Dummy Bar



## Mould Jacket



## Withdrawal And Straightening Machine



## Rigid Dummy Bar



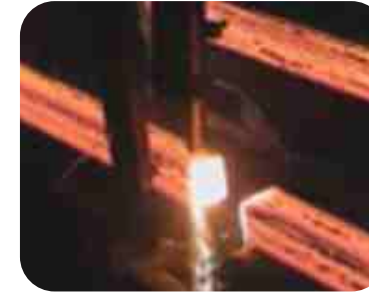
Ladle



Expansion Electrical Control Panel



Auto Touch Cutter



Chain Conveyor



Mould Oscillator



Cooling Bed



Roller Table



Sharing Machine



Gear Motor



Pusher





## Rolling Mills

### Automatic Rack Type Cooling Bed

#### 1.0 Cooling Bed (66 Meter x 6 Meter) Straightening Grid

Quantity	1 set
Arrangement	Directly below twin channel for receiving the bars
Function	Cooling of the bars with simultaneous straightening effect Grid plates with serrated surface and provided with ventilation opening, cross transfer of the bars over the grid by means of moving rakes

#### 1.2 Fixed and moving rakes.

Quantity	1 set
Function	Cooling of bars and cross transfers at the same time
Length of each rake	4000mm
Notch pitch of rake	80 mm
Drive	DC Motor 70 KW

#### 1.3 Aligning Device

Quantity	1 set
Arrangement	In the stationary rake system of the cooling bed in front of the discharging device
Function	Aligning the nose of the rolled bars in direction of forward transportation
Type	Individually driven
Numbers of driven rollers	20
Number of non- driven Rollers	15
Drive	0.75 KW AC geared Motor

#### 1.4 Bar Lift and Transfer system

Type	Lift and Transfer system
Qty	1 set
Total Length	55 meters
Lever spacing	1 meter
Lever operation	AC motor with gear- box

#### 1.5 Run –out Roller Table

Quantity	1
Arrangement	Cooling bed discharge
Roller table length	66
Roller spacing	1,200 mm
Numbers of rollers	37
Roller dia	270
Roller length	700 mm
Drive	AC Motor group Drive

#### 2.0 Bar Bundling Equipment

##### 2.1 Chain Cross Transfer

Type	Chain conveyor
Quantity	One (1)
Conveyor width	Approx. 13.5 m
Conveyor length	Approx. 5 m
Conveyor speed	Approx. 7 m/min
Consisting of	Tilting device at the roller table For lifting the bars and transfer

##### 2.2 Stopper And Chute

Type	Single rotating shaft
Quantity	One (1)
Drive	AC motor through worm gear box And brake

##### 2.3 Trough Type Conveyor

Type	Individual drive type by geared motor
Quantity	One (1)
Table length	Approx. 28m
Table speed	Approx. 2m/s
Roller pitch	1000mm
Including	Bundle former Disappearing stop Load cell for weighing

##### 2.4 Chain Transfer

Type	Chain conveyor
Quantity	One (1)
Conveyor width	Approx. 14 m
Conveyor length	Approx. 3 m
Conveyor speed	Approx. 15m/min

### QST / TMT Equipment

**Quenching and self tempering** system also known as **Thermo mechanical treatment** Consist of a steel fabricated quenching box where Hot bar during rolling is subjected to rapid Cooling by a series of cooling elements Located with in. Water from a circulation system is pumped to these cooling nozzles through control valves. With in the box, bar surface is rapidly cooled with core of the bar remaining hot. Once the bar exit out of quenching box, heat from the core will reach the outer surface to give a tempering effect.



#### SPECIFICATIONS

Range	: Dia 8mm to Dia 32mm
Lines	: 3 nos
Length	: 10 meters
Water flow	: 220 cubic meters / hour

#### INSTRUMENTATION

All process parameters are precisely controlled to achieve the right mechanical properties of the finished QST bar through a dedicated instrumentation system.

System consists of two radiation pyrometers to monitor the bar temperature before & after the quenching process, Transmitters to monitor the water flow, pressure, temperature. All process parameters are displayed on operator computer monitor. Water flow to the system is controlled by a motorized control valve on the main header.

#### BY PASS LINE

A by pass line is provided on the quenching box frame to convey the non quenched bar to cooling bed when the QST process is not in operation.

### Continuous Shear For Bar Dividing Application

Continuous shear designed for dividing the finished QST / TMT bars to the desired length for further handling at cooling bed.

Shear is built on a gear box with body fabricated out of steel plates and with hardened and ground gears running on antifriction bearings. Gears and bearings are forced oil lubricated by a dedicated oil lubrication system. Blades are made of Die steel and heat treated for right hardness.

A pneumatic operated bar shifter will divert the cut bar to two finished bar line on the cooling bed.

#### SPECIFICATIONS

Shear centers	: 500 mm
Capacity	: To cut dia 8mm to dia 12mm QST / TMT bars
Shear speed	: 19 meters per second
Motor capacity	: AC Motor 45KW
Controls	: Digital AC motor controller with programmable logic controller for total shear control



## Flying Shear For Bar Dividing Application

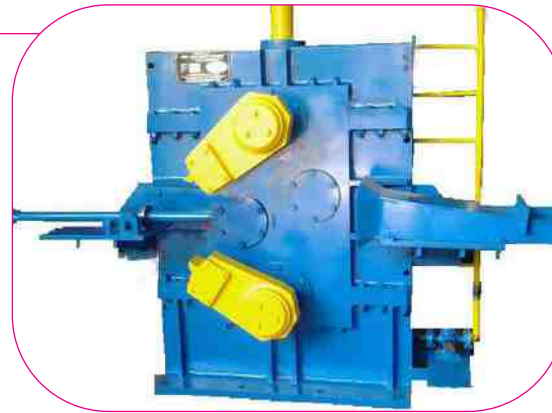
Flying shear designed for dividing the finished QST / TMT bars to the desired length for further handling at cooling bed. Shear is of direct driven, start – stop type.

Shear is built on a gear box with body fabricated out of steel plates and with hardened and ground gears running on antifriction bearings. Gears and bearings are forced oil lubricated by a dedicated oil lubrication system. Blades are made of Die steel and heat treated for right hardness.

A pneumatic operated bar shifter will divert the cut bar to two finished bar line on the cooling bed.

### SPECIFICATIONS

Shear centers : 1000 mm  
Capacity : To cut dia 8mm to dia 25mm QST / TMT bars  
Shear speed : 4 to 17 meters per second  
Motor capacity : DC Motor 135KW  
Controls : Digital DC motor controller with programmable logic controller for total shear control



## Pneumatic Operated Pinch Roll/tail Braking Pinch Roll

Pinch roll unit is a part of the QST system built to guide the rolled bar from finishing stand through the water quenching unit. Pinch roll unit is also used as a braking unit to retard the cut bar during rolling at high speeds

Equipment consists of a set of rolls made of wear resistant casting, mounted on shafts supported on antifriction bearings. Top and bottom roll bearing housings are located on fabricated links pivoted on pivot frame. Top roll link is connected to a pneumatic cylinder which will control the pinching pressure of rolls on the bar.

Drive to the rolls from Motor is transmitted through a pinion gear box with hardened and ground gears. Gears and bearings of the gear box are splash oil lubricated. Pinch roll unit, gear box and motors are mounted on a common base frame.

### SPECIFICATIONS

Roll Diameter : 300mm max, 270mm min  
Roll width : 70mm  
Speed : 4 to 17 meters per second  
Motor : 22Kw, 1440 RPM



## Consumables and Refractories

### Consumables

Bearing Chock



Bearing Sleeve



Cutting Torch



Fiber Bearing



Fiber Key Pad & Nylon Pad



Gas Cutting Nozzle



**Hose Pipe**



**O-ring**



**Slide Gate Hose**



**Sprocket**



**Collector Nozzle**



**Composit Nozzle & Well Break**



**Ladle Nozzle**



**Refractories**

**Ladle Well Block**



**Nozzle Filling Compound (NFS)**



**Porous Plug**



**60 S Castable**



**70 K Mortar**



**90 K Mortar**



**Porous Plug Well Block**



**Ramming Mass**



**Slide Gate Plate**



**Borick Powder**



**Bush Nozzle**



**Casting Powder**



**T C Tips**



**Tunidsh Well Block**







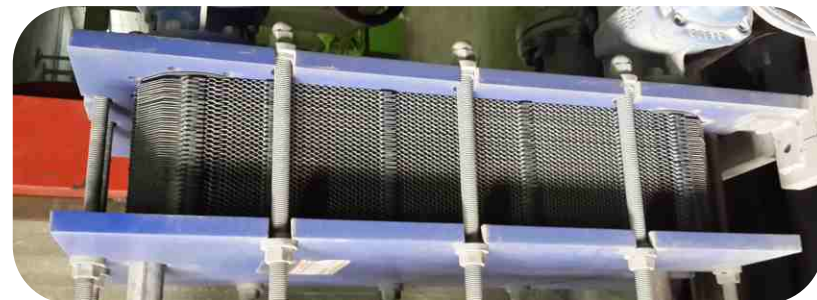
## Arc furnace

Source of Melting Scraps to make quality steel. In arc furnace We can maintain the sulphur, phosphorus, carbon below as required by the manufacturer of steel.

EAF arc for a heat source to scrap as raw material for steel smelting general, high-quality carbon steel, alloy steel of various equipment for smelting. Its structure for the furnace cover Rotary Open Top feeding, torque motor electrodes automatic adjustment movements, large cross-section of water-cooled cables, furnace and the furnace cover upgrading Tilting rotation using hydraulic, electrical control by PLC control, Technology Advanced.



## Heat Exchanger



## Ladle refining furnace

The ladle refining furnace is used for refining the molten steel from the smelter (steel making arc furnace , medium frequency furnace , converter furnace ) It's the important metallurgical equipment for refining the high quality carbon steel , alloyed constructional steel , bearing steel , tool steel , stainless steel and etc. and can meet the demand of continuous casting and tandem rolling. LF, VOD, optional series according to the different function of the ladle refiner.

They are important metallurgical installation. Arc heating, vacuum degassing, argon stirring, oxygen decarbonisation, normal pressure or vacuum feeding, temperature measuring, Alloy adding, TV shooting, spark observation are provided in the refining installation,

We mainly produce the furnaces with capacity from 10 tons to 150 tons; it is generally consisted of the following equipments;

### Description

- Refining Ladle and Ladle transportation car
- Roof (fire resistant roof or fully water-cooling roof)
- Arc heating mechanism
- Vacuum degassing system,
- Electrode lifting device and computer controlling
- Hydraulic station and controlled valves system
- Argon bubbling agitation unit, oxygen, compressed air system
- Temperature measuring and sampling device,
- Electric Control System
- Microcomputer PLC automatic control system and CRT displaying are available
- Low and High Voltage electric control system
- High Current circuit system
- Wire feeding and powder injection and other auxiliary equipments.
- Acceptance or rejection on the equipments above mentioned could be determinated according to the end-user's demand.



## Induction furnace

### Medium Frequency Electrical Melting Induction Furnace

MF Induction furnace is mainly used in the melting cast iron, cast steel, stainless steel and non-ferrous metal or its alloy such as copper or aluminum, etc. It can also be used together with cupola furnace, arc furnace and ladle refining furnace.

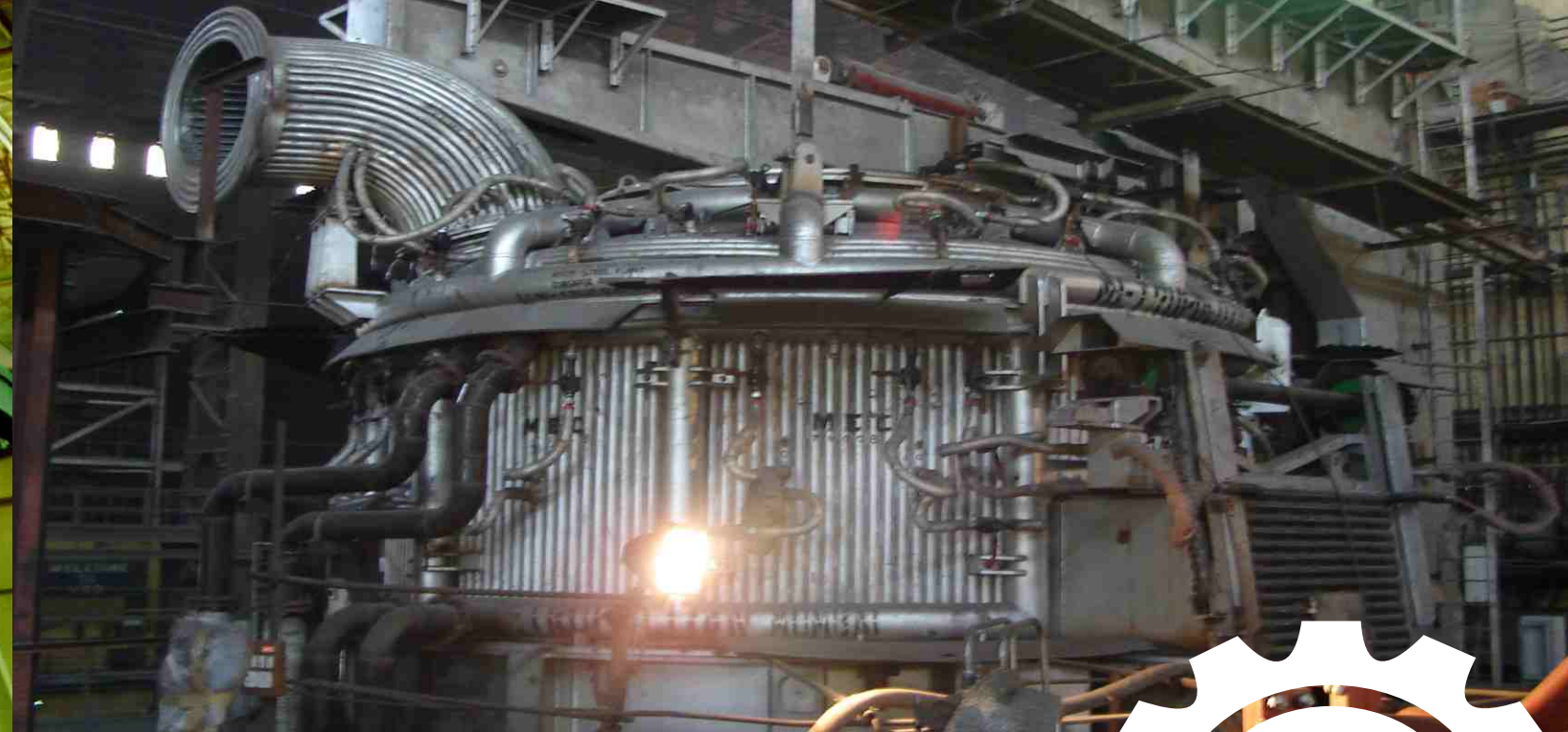
Furnace consists of shell, bracket, furnace cover, emptying furnace unit, induce loop, magnet yoke. It also including rising furnace liner unit, furnace leak alarm unit.

IF power supply use ABB technology, which has excellent steadiness and saving energy function.

Rectification trigger use numeric circuit. The reliability of overload protection and short circuit protection can reach 100%.

Power supply use numeric scanning starting trigger. This unit let the whole system has excellent tracking and locking circuit function, it also has excellent anti-jamming function. It makes system working steady

Control system use current and voltage closing ring technology. It increase the steady when it faces the huge changes of power net and load.



## Submerged Arc Furnace

Submerged Arc Furnace - This Furnace Is Generally Used For Making Ferro Alloys Products Like Silicon Manganese, Ferro Manganese, Ferro Silicon, Ferro Chrome, Calcium Carbide.

Ferro Alloys Consumed For Various Type Of Steel Making Like Stainless Steel, Alloys Steel, High Chrome Steel





## E.O.T. Cranes and Magnets

For Continuous Material, This sets the highest performance requirements:

Steel Mill Duty Cranes designed by **M.J.Exporters** for large range of plants capacities and they have become the industry standard. Task specific equipment such as Molten Metal Handling, Scrap Handling, Coke Handlings, billet, Handling Etc Are designed. And manufactured in-house from proven components with is not only more efficient and reliable, the payback time is shorter with us. Our cranes are designed for the smoothest & downtime principle.

Our special easy to maintain design of equipment provide maximum benefit to the end-user i.e. shop floor people, operators & maintenance crew for easy going process. Our group has firm believe in designing a qualitative products engineered to lowest maintenance cost & least .Further our 24 hours service network professional maintenance programs ensure maximum availability cranes to protect entire web of your steel processing cycle.

As far as our presence in steel industry, the ever growing clients-list of us corroborates to the fact that had become a important part of steel industries. Steel Mill Dty Cranes designed by **M.J.Exporters** for large range plant capacities and they have become the industry standard. Task-specific of following unlimited range is available with us.

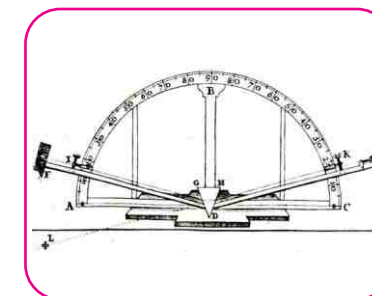
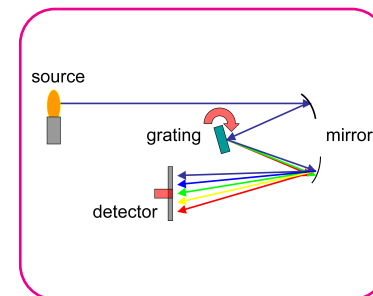
- Steel Melting Shop or Molten Metal Handling Crane.
- Casting Bay cranes.
- Charging or Magnet Cranes.
- Coal/coke Handlings Cranes.
- Scrap Handling Grabbing Cranes.
- Rolling Mill Process Handling Cranes.
- Turbine Handling Cranes in Power Plants.
- Billet Handling Cranes.



## Quality Control Equipment For Steel Melting

### Quality Policy

Quality, above all, is a prime factor behind the success of **M.J.Exporters** and for adherence of the same, everything starting from raw material to the end product passes through strict quality control measures under the supervision of most qualified & experienced staff resulting in a growing list of satisfied customers, the most valuable asset of **M.J.Exporters**



“ Automation For Cost Saving Without Compromising Of Quality ”

## OUR TEAM



### Shajan Mathew – ( Projects )

B.E. ( Mechanical )

Looking after project execution and equipment manufacturing. Having experience of 20 years in the field of steel industry and ferro alloys industry.

We are trying to execute the project as per customer time schedule with optimized cost. We are keeping quality in our mind at all our stages of execution and produce equipment which exceeds customer satisfaction.



### Shaikh Mohd Kashif – ( Marketing )

M.A. Geography ( Mumbai University )

Looking after steel plant equipment and continuous casting machine marketing. Having experience of 10 years in the field of marketing of equipments required for steel industry.

It is expected that steel consumption will rise and steel equipment manufacturing industry will grow. **M.J.Exporters** producing state of the art machines will have ample scope in the future to grow.



## OUR NETWORK

### Client Base

Customer satisfaction is our encouraging and propelling force. We have been striving to offer better product quality and latest international standards, since the very inception of our company. Stringent and scrupulous measures are taken right from the initial stage of manufacturing to the final stage. Our company commands a pool of highly qualified and experienced professionals from technical and other fields, in order to meet the diverse requirements of clients, and satisfy their specifications by innovation from time to time. M.J.Exporters. is widely represented all over the globe.

