

®

FOUNDRY DIVISION
Performance. Value. Trust

The Mahendra Foundry Division has always strived to stay relevant to modern times with its fully integrated, state-of-the-art infrastructure. Having embedded deep in its DNA, progressive growth has fuelled the Foundry Division to achieve quality manufacturing practices, rigorous quality control and meticulous fault detection capabilities. The diverse in-house resources of the Foundry aid in optimizing production costs and lead time resulting in a much superior level of customer service and satisfaction.



# THE GROUP

The Mahendra Group through its 5 operating divisions manufactures, markets and distributes a wide range of motors, pumps and compressors that find application in the industrial, agricultural and domestic sectors. Mahendra pumps carry the legacy of 50 years of expertise and quality. With 11 sales branches and representation in 18 locations across the country, the company's service and distribution network covers almost every part of the country. The company also has a significant export presence in world markets including Middle East, Far East, Australia, Sri Lanka, Africa and Europe.

#### MISSION

Our mission is to apply the talents, knowledge and skills of our people to make the Mahendra Foundry Division a global leader in cast iron solutions, and through our continued innovation, we enable our customers operate with a significant competitive advantage.

The above will be ensured by,

- A clear understanding of the requirements
- · Being the best-cost producer
- Providing cutting edge technology
- Providing quality engineering and warehousing services
- Being a clean and green foundry

# **FOUNDRY DIVISION**

The Mahendra Foundry Division boasts of a fully-integrated modern infrastructure. It has the capacity to produce 400 metric tonnes of Grey and SG Iron per month with competencies of handling iron weights ranging between 1kg - 25kg. The foundry caters to a broad range of industrial markets. This state-of-the-art facility operates from a 20,000 sq. ft. area and is situated in Kalapatti, Coimbatore, South India.

Superior customer service, progressive technology, state-of-the-art equipment and rigorous quality control hallmark the credibility of the products from the foundry division. Understanding customer requirement and delivering value is characteristic of Mahendra. This has endeared the Foundry Division amongst its distinguished customers for over 40 years.

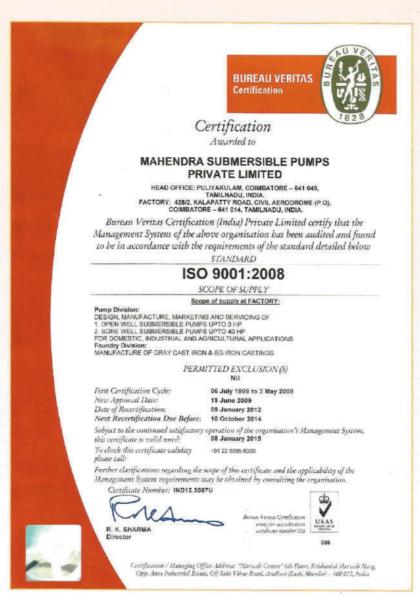
Meticulous in detecting problems and defects in castings, diverse in-house resources help Mahendra optimize production costs and lead time resulting in the delivery of quality cast iron at extremely market sensitive pricing. The experienced and highly qualified technical engineers also ensure product and process standards are maintained. Accredited with ISO certification since 1998, Mahendra products enjoy very high credibility amongst customers for quality.

The Mahendra Group's adherence to environmental compliance norms reflects its commitment to CSR practices that emphasize its concern for environmental and social accountability; a respect for the community and its various stakeholders.



# CERTIFICATION

We always treat quality as an ongoing improvement process which has no end to itself. Our obsession with quality has earned us the ISO 9001:2008 certification in the year 2011. We achieve our objectives by creating a more quality conscious environment, developing for quality suppliers, development of human resources by imparting proper training at all levels and motivating the people to have the urge for continual improvement.





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Performance Value Trust



## **MACHINERY**

# **Production Department**

- 2 Inductotherm Induction Furnaces with a capacity of 1,500 kilograms per hour with mono track control system
- 2 pairs of A 300 machines with 400x520x120 height, 520x520x150 & 400x520x150 height
- 2 sets of sand muller with 500 kilograms capacity (20 tons per hour)
- 3 Hook Type Shot Blasting Machine 250 & 500 kilograms capacity
- Cold Box Core Shooter 5 kilograms & 10 kilograms capacity
- 2 Core Sand Mixer 250 kilograms
- 1 Electric Core Oven
- Sand hopper with 40 & 60 metric tons
- · Sand cooler with vibrating system
- Ambient control equipment for pollution control
- · Well equipped fettling shop

#### **Quality Department**

- 1 Spectrometer capable of testing all the 16 iron-based elements
- 1 Chemical Analysis Lab
- 1 Sand Analysis Lab
- 1 Brinell Hardness Testing Machine (Blue Star make) of 3,000 kilograms capacity (Model B/3000/0)
- 1 UTM 40 Tons (Blue Star make)
- Image Analysis Station. Imported Dewinter make with DIGI EYE (High resolution digital camera eye piece)
- 1 Mould Hardness Tester
- · Vernier callipers, depth vernier and pistol callipers for measurement
- Surface plate and vernier height gauge for marking patterns and castings





# IN-HOUSE CAPABILITIES

#### Pattern Shop

A fully equipped pattern shop with necessary machine tools and other equipments are available for the development of new patterns and maintenance of existing patterns. The R&D centre helps in the development of patterns according to specific customer needs.

## Core Shop

The core shop is equipped with a cold box shooter, air set cores, CO2 core making process unit and sand drier machine to meet the requirements of the moulding section.

#### Sand Plant

- The plant is mechanized with a 20 tonnes per hour sand processing unit
- The plant is equipped with return sand conveyor, magnetic separator, bucket elevator and polygonal sieve
- The plant has 2 sets of sand mullers with 500 kilograms capacity in the sand additive hopper
- The plant also has sand aerators, prepared sand distribution system and individual machine feed hoppers
- Sand property checking equipments like GCS, GSS permeability and moisture checking form an integral part of the sand plant
- · 40 MT capacity sand cooler with vibrating system

#### Fettling

Fettling is carried out by a 500 kilograms shot blasting machine with in-house grinding, finishing and red oxide coating facilities.

#### Moulding

Machine moulding consists of two pairs of machines with individual closing units, a mould conveying facility and 2 knock-out machines of one ton capacity each. Box sizes available are 400x520x120mm and 400x520x150mm.

#### Melting

The melting department is equipped with two inductotherm duraline induction furnaces (Medium frequency) with  $550~{\rm KW}$  /  $500~{\rm kilograms}$  capacity. Metal handling and pouring systems are executed by a mono rail system.





# QUALITY CONTROL

#### Spectro Lab

For testing the incoming raw materials and process control, a full fledged modern chemical lab is available. A 16-channel spectrometer is used for the most accurate and quickest results. In addition to testing the components for its metallurgical/mechanical properties during every batch of production, the components are inspected visually and dimensionally at pre-fettling and pre-dispatch stages.

#### Sand Lab

The following equipments are available to ensure the sand quality:

Universal strength m/c - To ensure good stripped mould production

Permeability meter - To find the venting quality of the mould

Digital weighing scale - For an accuracy of 0.001 grams during weighment

Muffle furnace - To find sand or carbonaceous materials LOI, VM %, etc.

We also have an auto clay washer machine to find the clay content ratio in the sand system.

# Image Analysis Station

- Imported Dewinter make with DIGI EYE (High resolution digital camera eye piece)
- Universal Testing Machine of 40 tons Blue Star make
- · BHN Machine Blue Starmake

#### **Powerfacilities**

The foundry has a connected TANGEDCO load of 1,700 KVA at 11 KV. For standby purposes,, a set of 2 generators with capacities of 380 KVA and 125 KVA are in place. The plant has enough reliable power backups to face load shedding or power shortage.

#### Weigh Bridge

The foundry has its own weigh bridge facility with a capacity of 50 metric tons.

#### CNC

The Mahendra Group has over 25 CNC and VMC machines to provide customers with machined castings as per specifications.





# **PRODUCT RANGES**

- Pump valve casings
- Bracket
- Pressure plates
- · Compressor block
- · Crank shaft
- Cylinders
- · Fly wheel
- · Impellers

- Motor bodies
- Motor frames
- · Motor castings covers
- Piston bushes
- Pump covers
- Rotor body
- Tractor parts

# **OUR VALUABLE CUSTOMERS**

- Auto Links (Supplier to Simpson)
- 2. Karunya Exports & Imports (Supplier to Tafe)
- 3. KSB Pumps Ltd.
- 4. Mahee Engineering (P) Ltd.
- Siegar Spintech Equipments Pvt. Ltd.
- 6. Diesel Machinery Works
- 7. Form Tech Engineering
- ELGI Electric and Industries
   Ltd.
- Madras Radiators And Pressing Ltd.
- Classic Automation (Supplier to Wipro)
- 11. Super Tech Industries
- 12. Moreind Automation

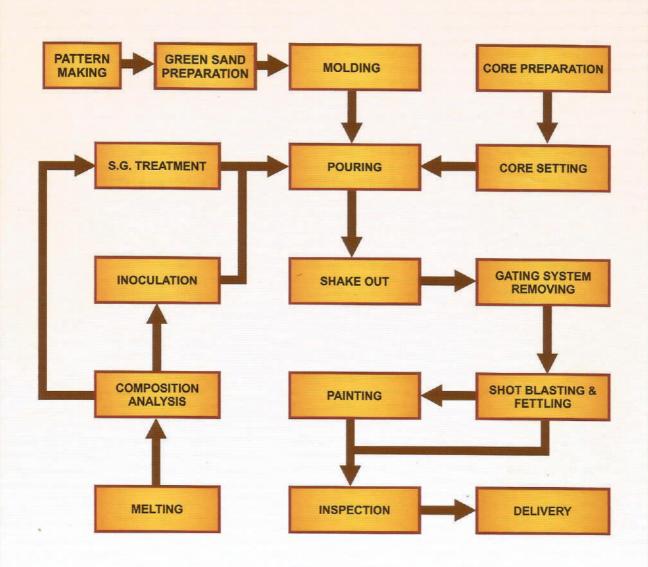
- 13. Orbinox India Pvt. Ltd.
- 14. Rotork Controls
- 15. Geekeyy Engineering (Rotork items)
- 16. Universal Mould & Dies
- 17. Steer Engineering Ltd.
- 18. MM Gears Pvt. Ltd.
- 19. Penta Auto Equipment
- 20. Coimbatore Premier Industries
- 21. Vaas Pvt. Ltd., Chennai
- Ferro Fusion Fastener, Mysore
- 23. Hiwin Technologies India Pvt. Ltd.



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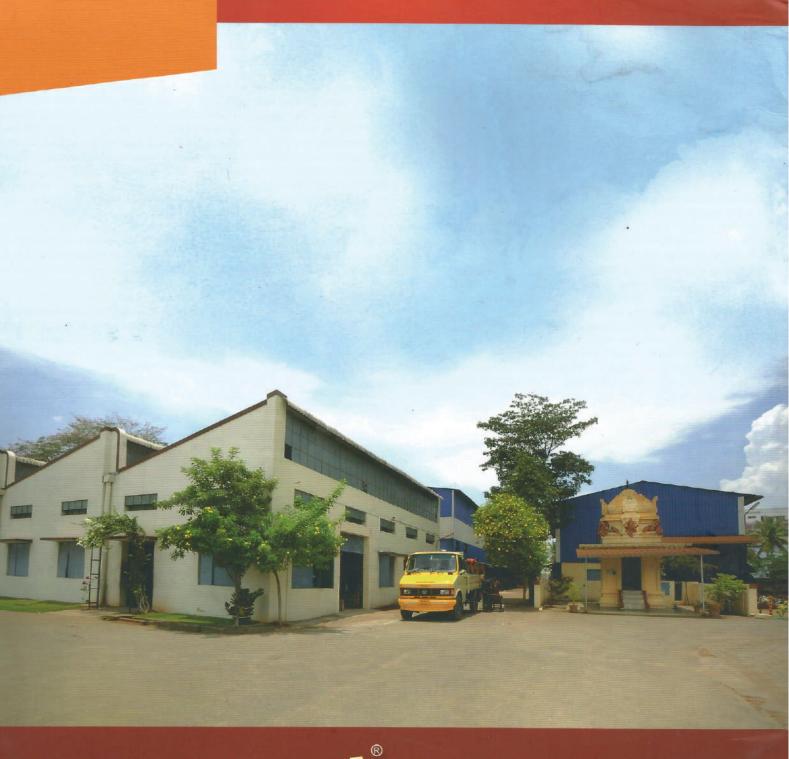


# MANUFACTURING PROCESS









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# MAHENDRA SUBMERSIBLE PUMPS (P) LTD. FOUNDRY DIVISION

An ISO 9001: 2008 Company

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