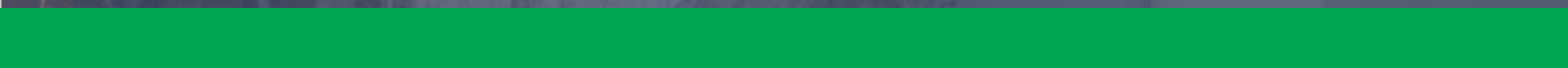




FOUNDRY DIVISION CAPABILITIES





Foundry Unit 1

Established in 1968, in technical collaboration with KRUPP Germany, LMW's Green Sand Foundry caters castings to OEMs in global & domestic market.

Infrastructure :

Capacity - 1800MT/Month

Green sand foundry is equipped with following moulding lines for captive and external customers.

Moulding Line	Weight Range	Mould Output	Box Size (mm)
SINTO	0.5 to 12 Kgs	200 moulds/hr	420 x 520 X 200 / 200
ARPA 300	0.5 to 12 Kgs	60 moulds/hr	400 x 520 x 130 / 130
ARPA 1300 - I	50 to 100 Kgs	30 moulds/hr	1150 x 1350 x 200 / 200
ARPA 1300 - II	50 to 120 Kgs	15 moulds/hr	1920 x 520 x 185 / 185 1150 x 1350 x 270 / 270



Sinto High Pressure Moulding (Green sand moulding)

This high pressure green sand line can take up castings weighing from 0.5 kgs to 12 kgs single piece weight, with annual volume requirements from 1,00,000 and above.

420 X 520 is the basic size of the Sinto moulding box.

GG 20, GG 25, GG 30, GGG 40, GGG 50, CGI castings are produced.

This Sinto high pressure moulding is attached with Auto pour facility with continuous monitoring of metal pouring temperature.

Quality Assurance:

Working team in QA is a highly motivated group of people working with specific targets.

Continual improvement of the employee is part of the HR initiative. Skill development of the employee is on top of the HR agenda.

Total Quality Management begins with testing from raw material stage, commencing from the basic sand, to ferro alloys to all input materials, upto final inspection.





Foundry Unit 2

Established in 1993, LMW's no bake foundry division caters to OEMs in global & domestic market with niche products.

The end users are in the emerging market segments of Rail transportation, Traction motors, Pumps & Valves, Machine Tools, Compressors, Power & Energy segments, Marine transmissions etc, both in domestic and export markets.

Castings are supplied in unmachined, pre-machined and fully machined condition. Facilities are in place to supply pressure tested and painted castings as per customer requirement.

Internationally renowned MNC companies have chosen Lakshmi Machine Works Limited Foundry Division as their key supply chain partner for their critical casting supplies.

Infrastructure :

Capacity – 1500MT/Month

This Foundry is equipped with following moulding lines.

Moulding Line	Weight range	Monthly off take	Box Size (mm)
FLL	100 to 300 Kgs	50 to 1000	1500 x 900 x 450 / 450
HMS 1	301 to 1000 Kgs	30 to 200	2250 x 1500 x 675 / 675
HMS 2	1001 to 4000 Kgs (GI) 1001 to 2500 Kgs (DI)	30 to 100	2800 x 2600 x 350 / 750 / 400



Fast Loop Line – FLL (No-bake moulding)

Fast Loop Line is equipped with new continuous mixer with 35 MT/hour capacity with IRIS (Intelligent Radio Information System) pattern recognition method.

- New Infrared Pre-drying Oven.
- Flood Coating to ensure uniform coating thickness.
- New Post Drying Oven making use of LPG.
- Shake out machines with size of 2500 X 2500 with 15 MTs/hour capacity.



Hand Moulding Section 1 & 2 (No-bake moulding)

Continuous mixers with capacity of 25 MT/hr and 30 MT/hr
Compaction Table : 4000 mm x 3300 mm with 15MT capacity in HMS2 & 3300 mm x 1600 mm with 7 MT capacity at HMS1.



Shakeout with size of 4000 mm X 4000 mm at HMS 2 with 20 MTs /hour, and 3200 mm X 2700 mm for HMS 1 with 20 MTs/hour are fitted with acoustic enclosure and dust collector for clean environment inside the shop floor.



Sand Plant

Fluidized Bed Cooler classifier - 20 MTs/hour & thermal reclamation with a capacity of (3 MTs/hour) are in place.

New sand drying plant of 5 MTs/hour.

Fully equipped sand testing laboratory to assure the quality of sand at various stages.

Melting & Metallurgical Lab

2500 KW Dual track Medium frequency Melting furnace with 3 MT, 4 MT, 2 MT & 2 MT of 1500 KW crucibles. Melting is also equipped with facility of Thermal Analysis of Molten Metal.

Sandwich process with Tundish cover is followed for SG Iron making.

Quality Assurance

Quality Assurance with stronghold manpower deployed in raw material inspection, process control inspection, post processing checks on casting and final inspection to take care of the quality of the products we make.



Optional Testing

- NDT – UT, DPT - Surface and Internal defects check (all in house)
- UT Velocity meter for Nodularity Check
- NDT – RG test – from external source
- NDT – MPI test – head shot – bench unit

Instruments for Quality control

- Vacuum Emission Spectrometer
- Ultrasonic Flaw Detector
- Universal testing machine
- Metallurgical microscope
- Impact Testing Machine
- Stick point tester
- Hot air oven
- Sieve Sifter
- Permeability meter
- Visco meter (Ford Cup)
- Hot tensile tester
- Scratch Hardness tester
- DFT / Cross hatch tester/ Gloss meter

Products & Segments

Foundry can do metal grades such as GG 20, GG 25, GG 30, GGG 40.0, GGG 40.3 & GGG 50, Nickel alloy Casting, Austempered Ductile Iron (ADI).

- Diesel & Electric Locomotives
- Marine Transmission
- Pumps & Valves
- Compressor Parts
- Engine Castings / Parts
- Machine Tool Castings

Engineering and Pattern Development

MagmaSoft Simulation software is used for Metal flow analysis, Hot Spot analysis, Velocity, Pressure and temperature analysis of the metal in the mold cavity.

Liquid to Solid Transformation with the Cooling curve is also derived using this Software.

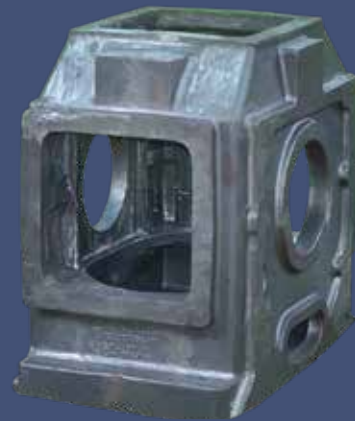
This helps us to get First Time Right castings from development onwards.

3D modelling software 'Solidworks' is used for creation and modification of 3D models.

Autocad software is used for pattern layout preparation, 2D drawing for preparation for accessories and other supporting drawings for casting manufacturing.

Certifications

- Quality Management Systems – ISO 9001:2015, Version 1
- Environment Management Systems – ISO 14001:2015
- Occupational Health & Safety – ISO 45001 : 2018



Environment

- Our foundries do have mandatory government consent letters from TNPCB.
- Discharge quantity of sewage & trade effluent are well within specified limits meeting statutory compliance.
- We have Effluent Treatment Plant (ETP), sewage treatment plant (STP) & Reverse Osmosis system (RO -I & RO -II) with mechanical evaporator for Zero Liquid Discharge.
- Sand is being recycled by thermal reclamation system.
- Air pollution control equipment are in place to ensure No Smoke, No Fume & No Dust.
- LMW Foundry division has put in extra efforts to improve their existing performance on all areas specifically on energy efficiency, renewable energy, Water conservation, carbon foot print reduction & waste management.
- LMW Foundry unit 1 & 2 Coimbatore underwent the GreenCo Rating Assesment by CII Godrej Green Business Centre in Feb 2019 & was rated GreenCo **GOLD**.



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