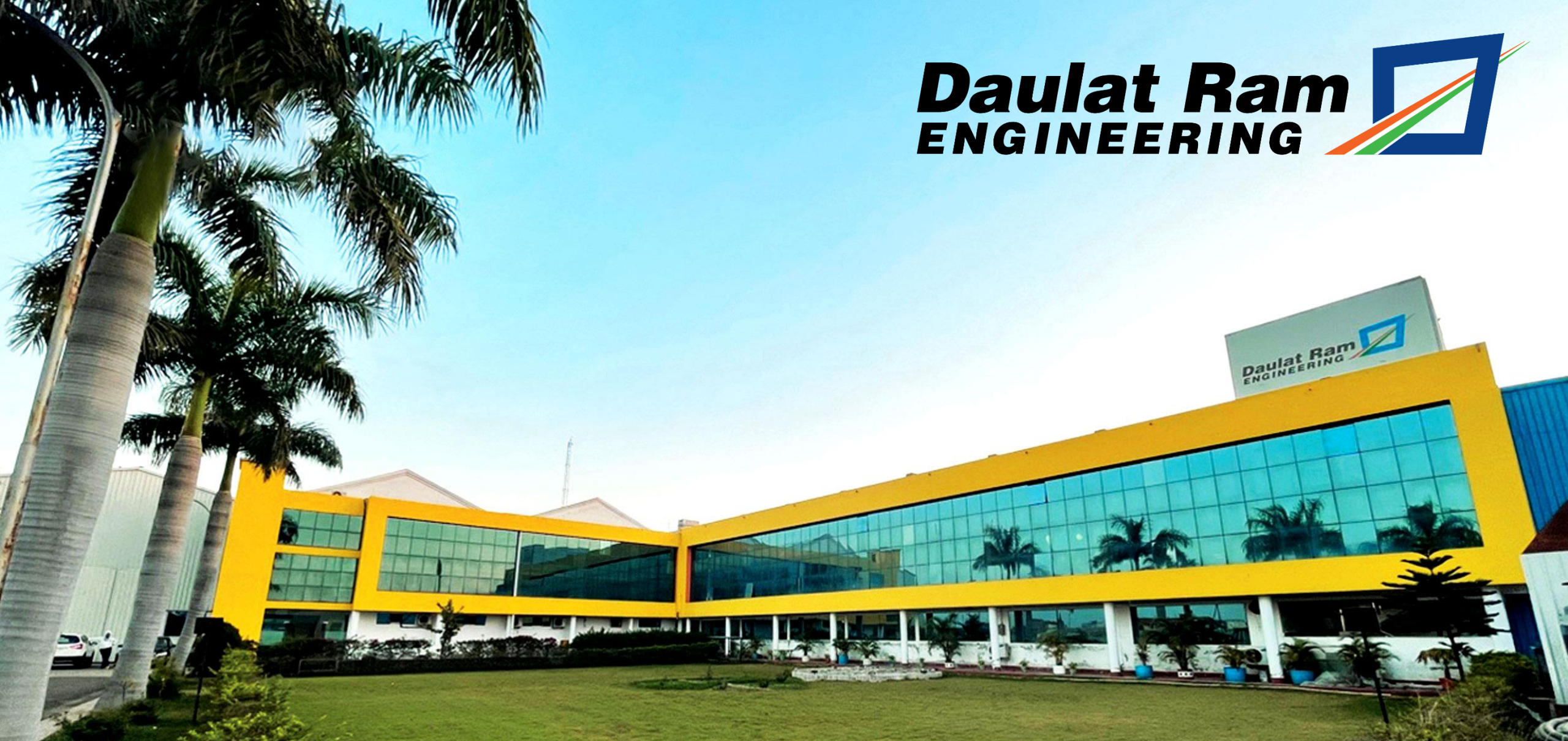


Daulat Ram
ENGINEERING



Welcome to Daulat Ram Engineering Services Ltd.
A multi-facet transportation technology company.

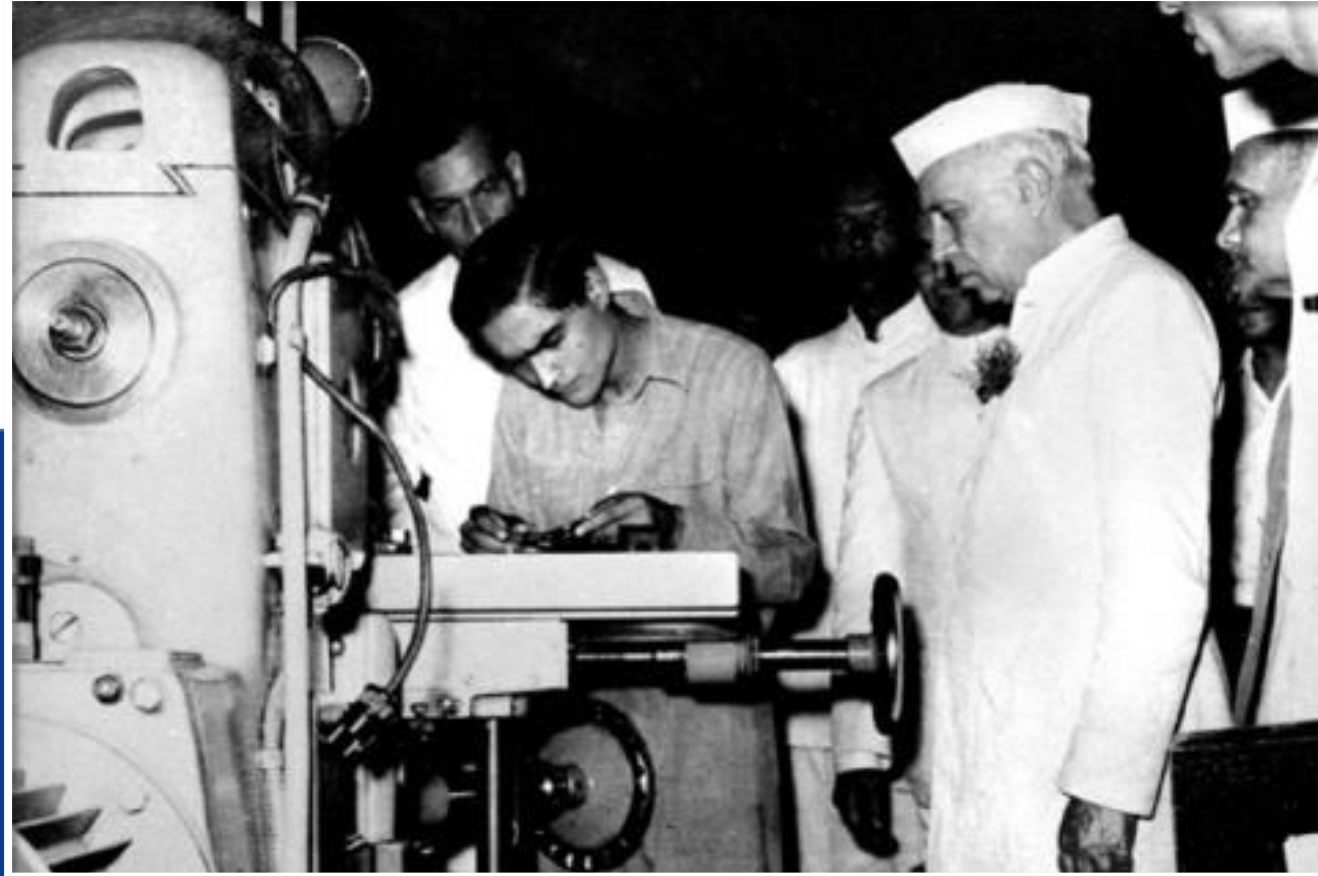


Pt. Daulat Ram Sharma

Lawyer by Profession and a Nationalist Freedom Fighter with Lala Lajpat Rai

Our Legacy

Daulat Ram
ENGINEERING 



**Late Shri Satish Nath Sharma with Independent India's 1st Prime
Minister Pt. Jawahar Lal Nehru**

Manufacturing facilities at Simrai



- Established in the 2003 Land Size 5.2 Acres
- Locomotives and Sub assemblies
- Motors and Alternators up to 2.8 MW
- AC & DC Cooling Fans
- HVAC Solutions
- Development center for New Tech

Manufacturing facilities at Mandideep



- Established in the 2013 Land Size 9 Acres
- Aluminum Gravity Die Casting
- SG & CI Casting
- Fractional HP Motors

Manufacturing facilities at Mandideep



- Established in the 2013 Land Size 0.5 Acres
- High Capacity Resistors
- Dynamic Braking Resistors
- Harmonic Filters
- Inverter Protection Resistors

Timeline



Underdevelopment

Certifications

Company Received Certifications specific to Railway Manufacturing Sectors those are recognized Worldwide



Company Highlights

Approved vendor with railways offering niche products, most of them are import substitute and safety equipment critical to operation of the trains.

- The Company is an approved vendor with the railways and provides niche product.
- One of the few companies to supply radiator cooling fans for Diesel Electric Locomotives in the World.
- One of the few private sector companies to supply locomotives to Indian Railways.
- One of the few companies approved as vendors by Government of India for the supply of escalators and elevators.
- Has 40 plus year of experience in dealing with Indian Railways.
- One of the most trusted partners for Indian Railways.

Experienced Management and Team

- Founder and Chairman, Mr. Chander Prakash Sharma, is the President of CII Railway Equipment Division and has an entrepreneurial bent of mind with focus on innovation in products.
- Capable operations management and technical leadership, team enjoys significant industry reputation.
- The team comprises of various ex-employees of Indian railways and has significant amount of experience in the sector.

Multi Product Company

Traction Machines

- Traction Alternators
- Traction Motors DC
- Traction Motor AC

Auxiliary Machines

- 18 kW Auxiliary Generator (AC-DC)
- 10 HP Inertial Blower Motor
- 7.5 HP Dustbin Blower Motor
- Eddy Current Cutch
- 3 Phase Induction Motor for Vertical Type DBR (MVRF)
- 3 Phase Induction Motors for Passenger coach Air Conditioners

Cooling Solution

- Radiator Cooling Fan (54",52",48")
- Dynamic Brake Cooling Fan (54",52",48")
- Transformer and Converter Oil Cooling unit

HVAC

- RMPU for LHB Coaches
- RMPU for Train 18 Coaches
- RMPU for Driver Train 18
- RMPU for Driver Cab Electric Locomotives
- RMPU for Driver Cab Diesel Locomotives

Locomotive Equipment

- Waterless Urinal

Dynamic Brake Resistor

- Radial Grid Dynamic Brake Assembly
- Dynamic Brake Hatch Assembly
- Force Cooled Roof Mounted DBR
- Vertical Type DBR
- Resistor Harmonic Filter
- Resistor over Voltage Protector (MUB)
- Pre Charge Resistor
- Inverter Protection Resistor (IPR)
- Crowbar Resistor
- Oil Cooled Resistor

Current Collection

- High Reach Pantograph
- High Speed Pantograph
- Pantograph for Freight Locomotives

Competencies

Our People and Our Approach

- Over 600 People Directly Employed.
- Strong focus on designing, manufacturing and after sales support.

Heavily Invested in Facilities

- Motor manufacturing
- Resistor manufacturing
- Aluminium foundry
- Air Conditioning Manufacturing
- Heavy CNC machining setup
- Sheet Metal Fabrication Setup



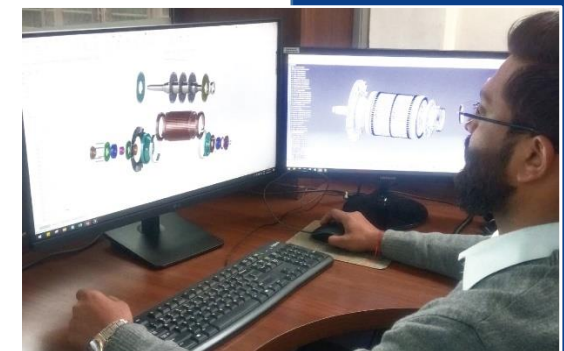
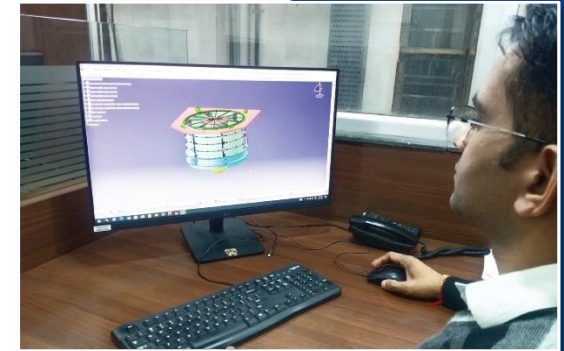
Focus on Forward and Backward Integration

- Forward looking Management that enables company to expose itself at various National and International Forums
- To Create a One Stop Shop for OEMs
- Being located in Bhopal (that is a major Hub for Traction Equipment Manufacturing), we avail great ancillary support and available huge pool of trained Manpower

Design Capabilities

Design and Development wing is comprised of experienced technocrats who lead teams on young engineers

- Team of 40 plus Engineers working in Design and Development Wing
- In-house Team having experience of more than 35 years in Field of:
 - ✓ Structure Designing
 - ✓ Fluid Mechanics
 - ✓ Motors & Generators Designing
 - ✓ Control System Designing
 - ✓ Die & Mould Designing
- Consultants placed in Europe to handle for System Integration with Customer Information System of Trains and Locomotives
- World Class Consultants are aligned with Core Design team to Meet Stringent Quality Requirements
- 3D Modelling and other software available trained Manpower.



Manufacturing Facilities

The Rotating Machines Manufacturing Set up consists of:

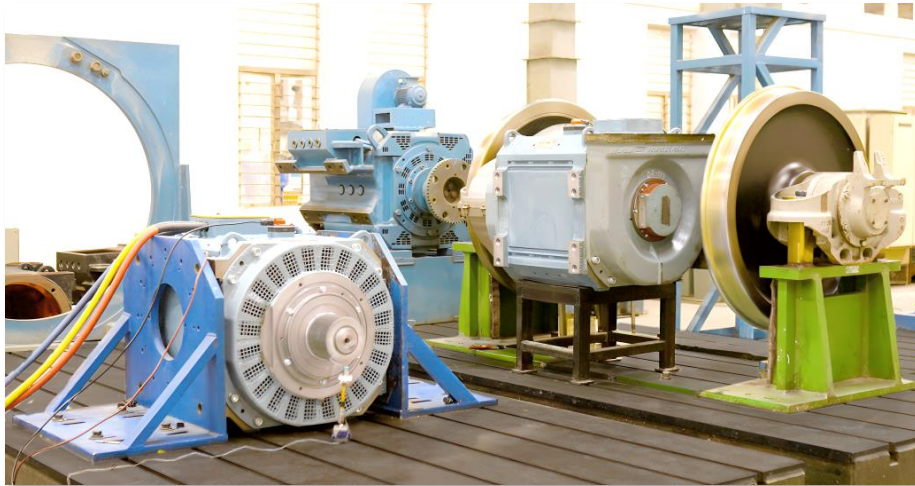
- CNC Coil Forming
- Air Conditioned Insulation Shop
- Induction Brazing Machine
- Resistance Brazing Machine
- Gas Brazing Set up
- Balancing Machines to Balance Rotor upto 3.5 Tons
- Dual Resin Vacuum Pressure Impregnation Plant
- Ovens for Curing
- Furnaces for Annealing
- CNC Turn-Mill Centre for Shaft and Bearing Components
- Horizontal Boring Machine for AC/DC Traction Motor Frame Machining and Gear Case Machining
- Hydraulic Stator and Rotor Core Press of 450T
- Other Fixtures and Jigs for Manufacturing



Total Covered Build Up
Area **2,00,000 Sqft.**

Manufacturing Facilities

Some Glimpses of Rotating Machines Manufacturing Facilities



Manufacturing Facilities

Some Glimpses of Rotating Machines Manufacturing Facilities



Product Range

Alternator for Heavy Duty Traction Application

- Offers critical Traction Machines such as:
 - ✓ Traction Alternators for EMD type Diesel Electric Locomotives.
 - ✓ Traction Alternators for Alco & GE type Diesel Electric Locomotives.
 - ✓ One to one replacement with OEM Parts.
 - ✓ Supplied more than 700 Alternators of these capacities.



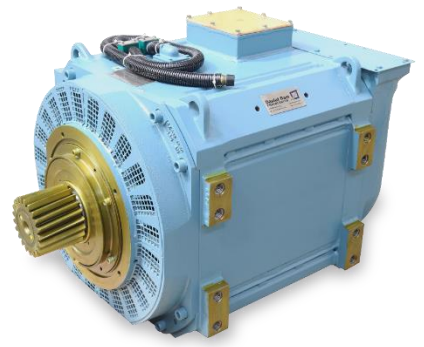
DR99/17AZ Replaceable with TA17-CA6



DR101/03AZ Replaceable with GTA17-PB1

Product Range

AC & DC Traction Motor for Rolling Stock Application



Traction Motor (DR48/06AZ)



Traction Motor (DR46/09AZ)



Traction Motor (DR47/40AZ)



Traction Motor (DR45/05AZ)



Traction Motor (DR46/26AZ)

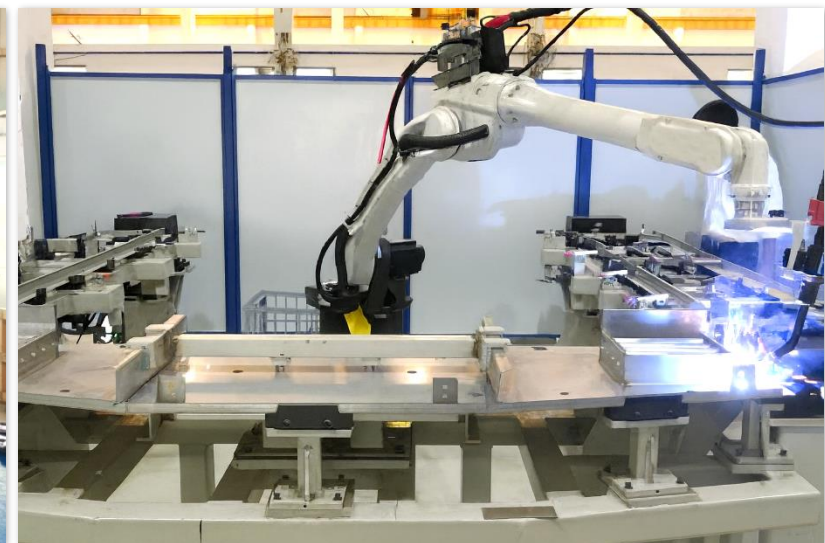


Traction Motor (DR47/21AZ)

Manufacturing Facilities for HVAC

- HVAC Manufacturing Setup Consists of:

- ✓ CNC Turret Punch
- ✓ CNC Fibre Laser Cutting System with Dual Pallet
- ✓ CNC Press Brake
- ✓ Robotic Welding Station
- ✓ TIG and MIG Welding Stations
- ✓ Pipe Processing Set up
- ✓ Heat Exchanger manufacturing Facility
- ✓ Electric Control Panel Manufacturing
- ✓ Brazing Stations
- ✓ Refrigeration Circuiting Wing
- ✓ Electrical Wiring Wing
- ✓ Other Manufacturing Jigs and Fixtures



Manufacturing Facilities

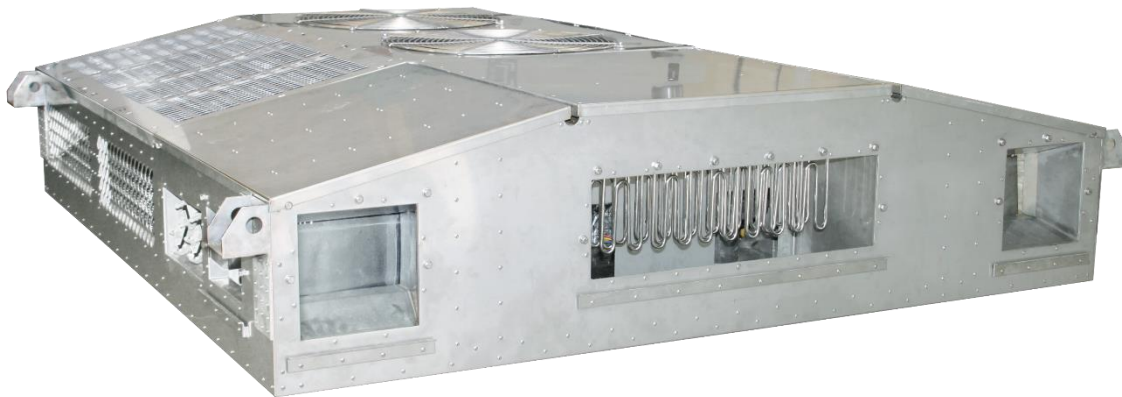
Some Glimpses of Air Conditioners Manufacturing Facilities



Product Range

HVAC Solutions for Rolling Stock Application

- Offers critical Air Conditioners such as:
 - ✓ Roof Mounted Package Unit for LHB Coaches
 - ✓ Roof Mounted Package Unit for SPIC



RMPU for LHB Coaches



RMPU for SPIC

Product Range

HVAC Solutions for Rolling Stock Application

- Offers critical Air Conditioners such as:
 - ✓ Roof Mounted Package Unit for Passenger Coaches of Train Set
 - ✓ Roof Mounted Package Unit for EMU



RMPU for Train Set



RMPU for EMU

Product Range

Auxiliary Cooling Solution



RMPU for Driver Cab with Built in Inverter (Diesel Locomotive)



RMPU for Driver cab (Train Set)



RMPU for Driver Cab (Electric Locomotive)



RMPU for Driver cab (DEMU)



Tower Type Air Conditioner for EMU

Testing and Validation facilities

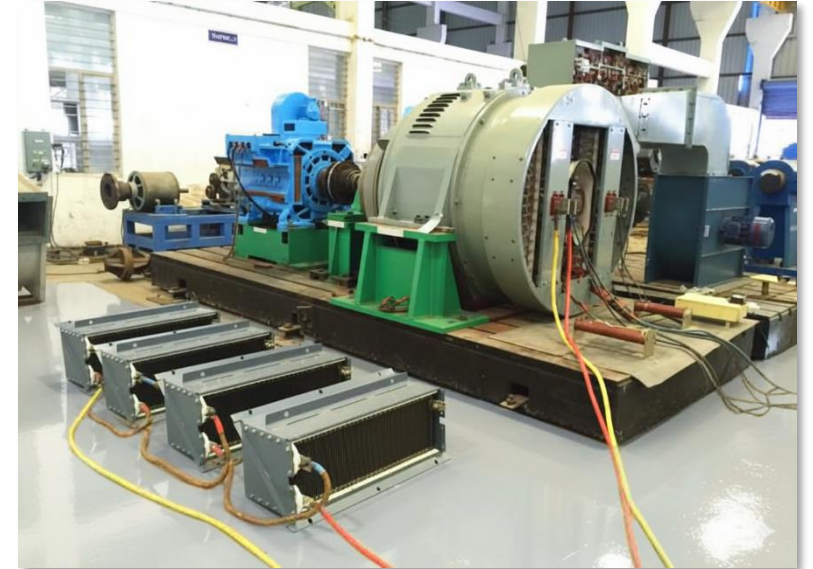
Routine, Type Test and Validation as per Customer Approved Quality Assurance Plant

- Back to Back Testing Setup for Traction Motors
- Traction Alternator Testing Facility
- Wind Tunnel Testing Facility for Air measurements in Fans & Blower
- Psychometric Lab set up for R&D
- Mechanical Testing Lab Facility
- Spectrometer for Elements Testing
- Salt Fog Testing Facility
- Rain Shower Simulation Setup for Water Ingression Testing



Testing and Validation facilities

Some Glimpses of Testing and R&D Facilities



Product Range

Pantograph for Electric Locomotive



High Reach Pantograph



Pantograph for Passenger locomotive



Pantograph for Freight Locomotive

Technical Details

- Speed
- Weight
- Maximum Extension
- Nominal Static Force
- Rated Current Running Vehicle)
- Nominal Operating Voltage
- Type

DRE HRF - 03

200 Km/h
 200 Kg
 3800 mm
 7±1.0 Kg
 600 Amps
 25 kV, 50Hz
 For Dedicated Freight Corridor

DRE ACP - 02

250 Km/h
 200 Kg
 2000 mm
 7±1.0 Kg
 400 Amps
 25 kV, 50Hz
 High Speed Passenger Locomotive

DRE ACF- 01

200 Km/h
 235 Kg
 2000 mm
 7±1.0 Kg
 400 Amps
 25 kV, 50Hz
 Freight Locomotive

Product Range

Cooling Solution



54" Radiator Cooling Fans



52" Radiator Cooling Fans



48" Radiator Cooling Fans



54" Dynamic Brake Cooling Fans



52" & 48" Dynamic Brake Cooling Fans



Transformer and converter oil cooling unit

Product Range

Auxiliary Motor and Generator

- Overview: Product Offered

- ✓ Auxiliary generator, auxiliary motors – Auxiliary generator is required to develop speed of engines required for battery charging which is further used for cranking the locomotives; Auxiliary motors are used to drive the inertial filter blowers.
- ✓ Dynamic brake resistors – Used to control the speed of the train on a continuous down gradient as well as on level section.
- ✓ Cooling solutions – Cooling fans are used to control the temperature of water which acts as a coolant in the locomotives manufactured by Indian railways; Oil cooling blowers are used for cooling the oil of transformer and three auxiliary converters that flows through the heat exchanger assemblies.



18 kW AC
Auxiliary Generator



18 kW DC
Auxiliary Generator



10 HP Inertial Blower
Motor



7.5 HP Dustbin
Blower Motor



Eddy Current
Clutch



3 Phase
Induction Motor
for Vertical Type
DBR (MVRF)

Product Range

Waterless Urinal for Electric Locomotive



- Body made of AISI 304 puff filled wall panels dully powder coated matt finish (RA. 7035).
- Base of body up to 450 mm height should be seal welded to make it leak proof.
- All hardware used in assembly are in stainless steel (IS. 1364-A2-70).
- SS western commode fitted with waterless urinal valve system with high performance hybrid. Epoxy coating which makes it water repellent & odorless.
- Automatic perfume dispenser air freshener with time based dispensing fitted on back panel on as per location.
- Sensor based sanitizer dispenser fitted on back panel.
- A computerized processing unit installed in urinal to interface with an external micro processor for interlocking.
- LED light 110V (D-type) fitted inside the toilet (make: approved source as per UYAM).
- Naphthalene balls chamber fitted in commode as suit to western commode.
- 10V LED light type fitted in commode for sterilization of inside area (make: Bivar, VCC, Nichia Corporation, Osram Opto Semiconductors, Crystal IS & Markech).
- Access control with interface to logo operation.
- Electromagnetic door lock programmable to user needs w.r.t. access control.
- Vibration sustainability using nitrile rubber WC seat cushioned securing..

Manufacturing Facilities

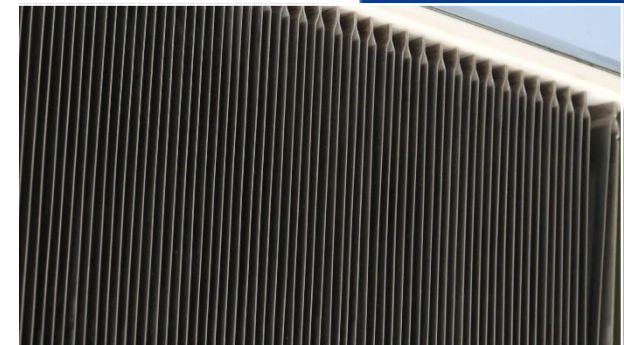
Resistor Facility & Aluminum Casting

• Resistor Manufacturing

- ✓ Strip Forming Machines
- ✓ Presses for Embossing and Straightening
- ✓ Seam Welding Machine
- ✓ Brazing Stations
- ✓ Thermoplastic Plate Assembly
- ✓ Resistor Box Assembly

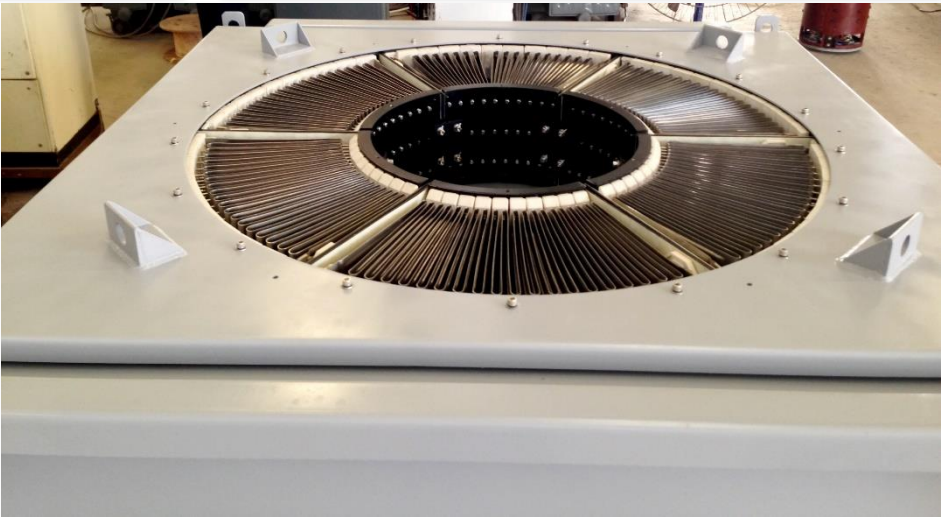
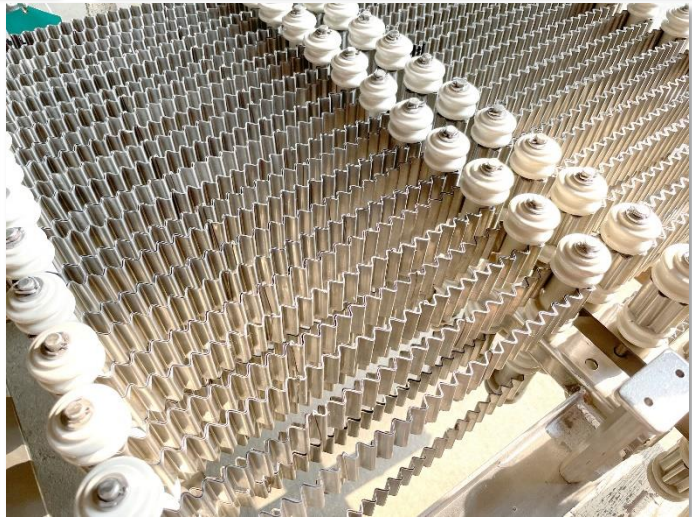
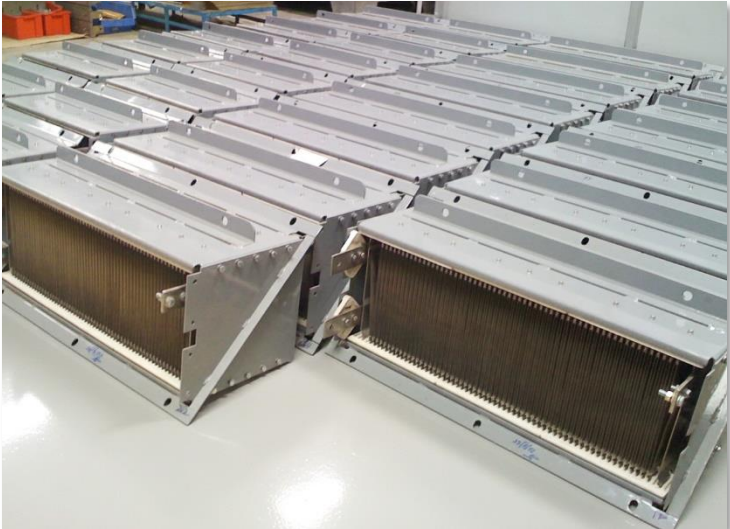
• Aluminium Foundry

- ✓ Melting Furnaces
- ✓ Holding Furnaces
- ✓ Metal Pouring Laden
- ✓ Spectrometer
- ✓ Universal Metal Test Lab
- ✓ Gravity Die Casting Setup
- ✓ Band Saws
- ✓ Heat Treatment Furnaces
- ✓ Water Quenching
- ✓ Shot Blasting Set up
- ✓ Component finishing tools and machines



Manufacturing Facilities

Some Glimpses of Resistor Manufacturing Facilities



Product Range

Dynamic Brake Resistors (DBR)

- Offers critical Dynamic Brake Resistor such as:
 - ✓ Radial Grid Dynamic Brake Assembly.
 - ✓ Dynamic Brake Hatch Assembly.
 - ✓ Forced Cooled Roof Mounted DBR Assembly With Short Hood.
 - ✓ Forced Cooled Roof Mounted DBR.
 - ✓ Vertical Type DBR.
 - ✓ Resistor Harmonic Filter
 - ✓ Resistor Over Voltage Protection (MUB).
 - ✓ Pre Charge Resistor.
 - ✓ Inverter Protection Resistor (IPR) and Crowbar Resistor for WDP-4/WDG-4 Locomotives.



Radial Grid Dynamic
Brake Assembly



Vertical Type DBR



DBR



Resistor Braking Grid
for Mining Truck

Product Range

Dynamic Brake Resistors (DBR)



Forced Cooled Roof Mounted DBR



Dynamic Brake Hatch Assembly



Resistor Harmonic Filter



Pre Charge Resistor



Crowbar Resistor

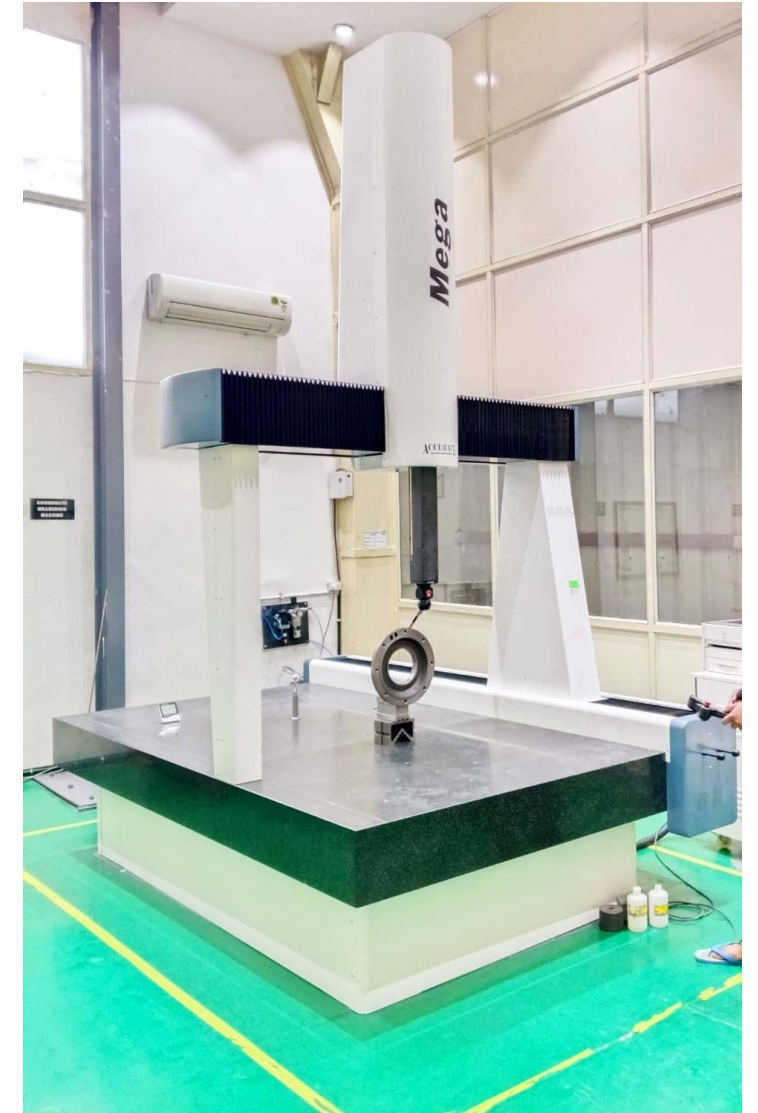
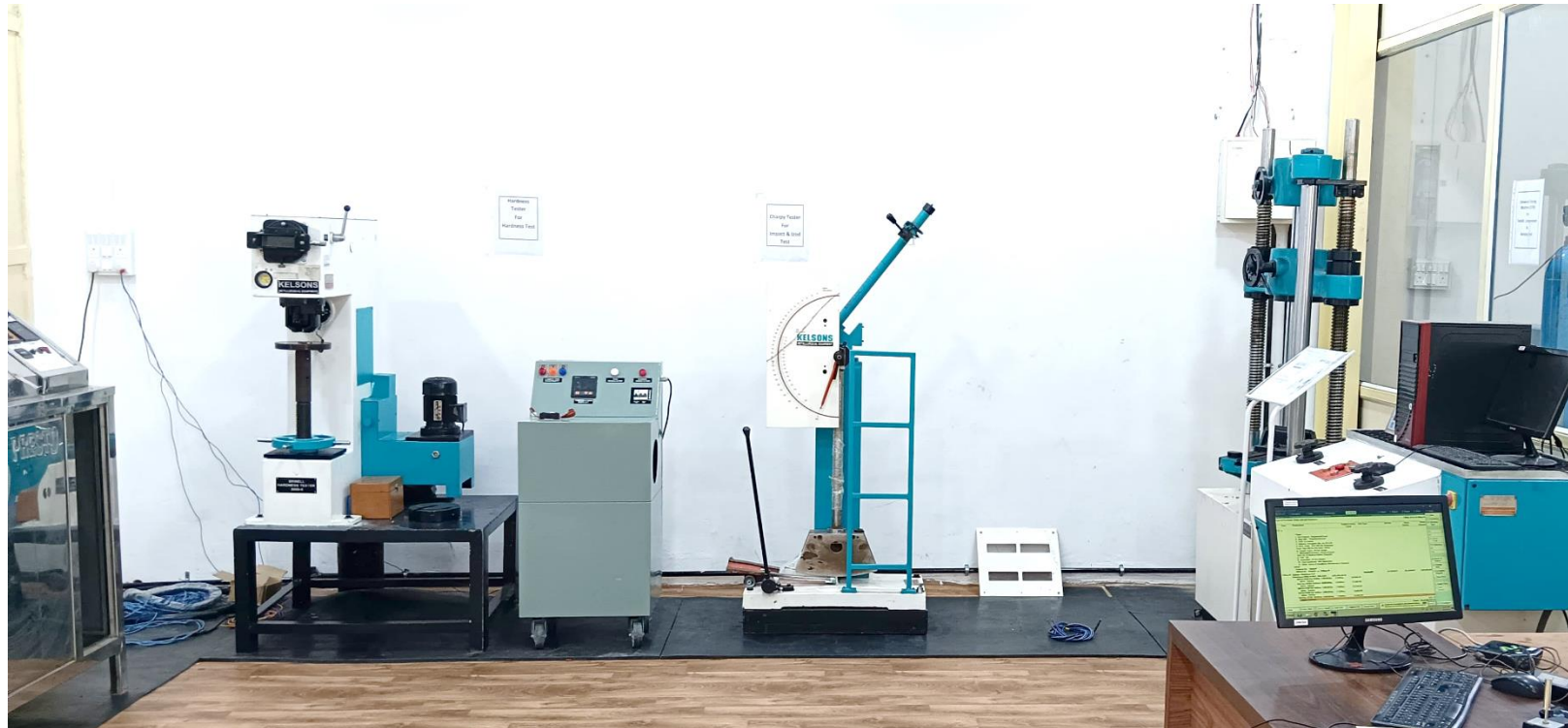


Oil Cooled Resistor



Mechanical Testing Lab & CMM Facility

Our **Technical Testing Laboratory** serves as the critical validation hub for our manufacturing output. We maintain uncompromising quality standards by employing sophisticated metrology equipment and rigorous analytical procedures. At the core of our dimensional verification process is the **Coordinate Measuring Machine (CMM)**. This advanced system utilizes precision probing to capture and digitize the geometric features of components, enabling a direct and comparative analysis against the nominal CAD model. This capability ensures that we consistently adhere to specified **tight tolerances** and complex geometric requirements, delivering verifiable **micron-level accuracy** for critical applications and providing comprehensive data reports for full process traceability.



Partnership with Wabtec

We are proud of our long-standing partnership with Wabtec India Industrial Pvt. Ltd., formerly known as GE Transportation System.

We were entrusted with the development of the **5GY72D4** blower for the **4500 HP and 6000 HP locomotives**, and successfully completed this milestone project in 2019.

The first lot of two blowers was supplied in the same year, marking the beginning of a strong and reliable collaboration. Since then, we have delivered more than **1,200 blowers** to Wabtec India and Wabtec USA, including 372 units supplied directly to Wabtec USA. With zero rejections to date, we proudly maintain a 100% quality rating.

We remain fully committed to delivering the same level of excellence and reliability in all future orders.



Partnership with Liebherr

We are proud of our long-standing partnership with Liebherr Mining Equipment Newport News Co., USA, for supplying of Brake Resistors for Mining Application Heavy Haulage Truck.

Daulatram supplies the brake resistors for the world's largest Heavy haul trucks using the Resistor system. These vehicles are operated in the main mining regions of the world under the most demanding conditions. Under full load, these trucks may reach a total weight of 560 Ton and requires braking power of more than 4000 kW.

We have been supplying Braking Grid Resistors for a **3000 kW system** to “**Liebherr Mining Equipment Newport News Co., USA**”, for mining applications in heavy haulage trucks with **a load capacity of 290 MT**.

Our supplies commenced in **2022**, and following rigorous field trials, the Quality and Testing teams at Liebherr approved the product. Since deployment, the braking resistors have been operating satisfactorily on Liebherr mining trucks, with no adverse performance reports to date.

Based on the proven field performance and successful validation, Liebherr's Technical Team approved our design and subsequently considered us for placing a purchase order for the complete Grid Box assembly, including the Blower Motor Assembly. This fully assembled system is designed for direct installation on the mining truck, meeting Liebherr's stringent technical and operational requirements.



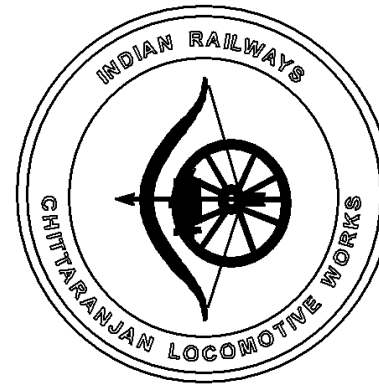
Service Support and Maintenance

We Stand by Our Products!!!

- All time availability of 20 Nos. Service Engineers in all Majors locations of Indian Railway Factories, Shed and Workshops.
- Service personnel reporting within 24 hrs of incidence reported (even in remote locations).
- Well trained support staff for preventive maintenance and periodic maintenance of all our products.
- We are ready to provide local service staff support at Riyadh for troubleshooting and maintenance services



Our Esteemed Indian Customers



Banaras



**Locomotive
Work**



**DIESEL LOCO
MODERNISATION
WORKS**

adani
Power

**एनटीपीसी
NTPC**

IRITES
THE INFRASTRUCTURE PEOPLE

सेल SAIL

**बी एच ई एम
BHEL**

Our Esteemed International Customers



GE Transportation
a Wabtec company

Progress Rail
A Caterpillar Company



INTEGRATED SOLUTIONS
LEGENDARY SERVICE



Thank You

At Daulat Ram we have always believed in predicting our future by building it ourselves.

Of all the products that we have designed and produced for our customers, have all been chosen with the spirit of building a Strong Nation, Strong Company and Strong Relationships.

This has always been at the core of our philosophy since our inception.

Jai Hind!

Thank You.

For further queries please contact

pulkit@daulatram.org

+919981543211

www.daulatram.com