Venture of

Equinox Enermech Limited

ENGINEERING
AT CORE

A brief story about the company

EQ Mechtech was formed in 2013 with a quest to make sustainable and innovative advancements to mechanical and electrical processes.

In 2020, we upgraded our machine shop with advanced machines and skilled machinists, offering services like CNC turning and vertical milling with a **4th axis.** By 2024, we further enhanced our capabilities by establishing an advanced forge shop with a dedicated tool room and **state-of-the-art 1600-ton and 630-ton presses.**

EQ Mechtech provides **ferrous** and **non-ferrous** metal parts through **forging and bar routing**, offering precision-engineered components tailored to project needs. Utilizing advanced technology and sustainable practices, we ensure efficient production and customer satisfaction.

TUV SUD Certified ISO 9001:2015

Zed Bronze Certified

Certification applied

IATF 16949

LEAN

VISION

to enrich mankind through continuous quest and execution of a sustainable and innovative solution.

MISSION

Humane

Respect and Dignity of everyone is to be honoured unbiased approach in terms of class, creed, race & gender who are part of Ecosystem.

Integrity

Only announce /promote/promise thing which we are committed to do Be answerable and responsible for your actions.

Customer-centric

Our prime focus is providing a quality product, service, and design to the customer which proactively suffice his /her requirements.

Professionalism

Time is money - we respect our and others‘ time. Always have well organized & systematic approach Quick Acknowledgment and Timely Responsive

WHAT SETS US **APART**

EQ Mechtech combines technical knowledge with industrial expertise to deliver tailored services. The company emphasizes teamwork to address client challenges and achieve goals while maintaining quality. It builds strong relationships with industry professionals to offer innovative solutions for machining timeline and quality issues.

Innovation & Industrial 4.0

We recognize innovation as a product of incremental improvements, systematically refining processes to enhance overall value. **Industry 4.0** advances digital technology through the integration of **Internet of Things (IoT)** connectivity, real-time data accessibility, and the implementation of cyber-physical systems within smart factories.

Expertise

By assessing our strengths, we foster an environment that establishes us as a leading supplier. Our proficient workforce, state-of-the-art machinery, and high-quality equipment play a crucial role in achieving this goal. Our team comprises **eight mechanical engineers,** complemented by a dedicated technical staff of **70 individuals.**

Modern Infrastructure

With modern facilities and comprehensive amenities, we aim to be a leading forge and machine factory in **Rajkot, Gujarat.** Our new, precision designed machines and presses operate on a **4-acre area,** with plans to potentially expand to **10 acres.**

Precision Work

EQ Mechtech aims for precise daily operations, emphasizing the significance of execution and assessment. Equipped with top VMC and CNC precision tools from 2020, our workshop embodies freshness and craftsmanship, enabling us to establish a world-class **tool room for die manufacturing** with advanced machinery and testing instruments.

GROWTH
IN MOTION

2022

construction of new factory

A new machine shop facility was constructed in 4 months, featuring a **15,000 sq ft shed** and equipped with 3 VMC and 4 CNC machines.

2023

Promotion and Activation

Three new machines added to a total of ten. Office construction covers 2,500 sq feet, along with labor colony construction.

2024

Construction of Forging plant

We installed 1600- ton forging press in a 25,000 sq ft forge shop, totaling **40,000 sq ft** including an advanced **testing laboratory.**

2025

Developing new product & services

We will explore the electric mobility and heavy engineering sectors by setting up **630-ton screw press.**

Capacity
400 tons per month

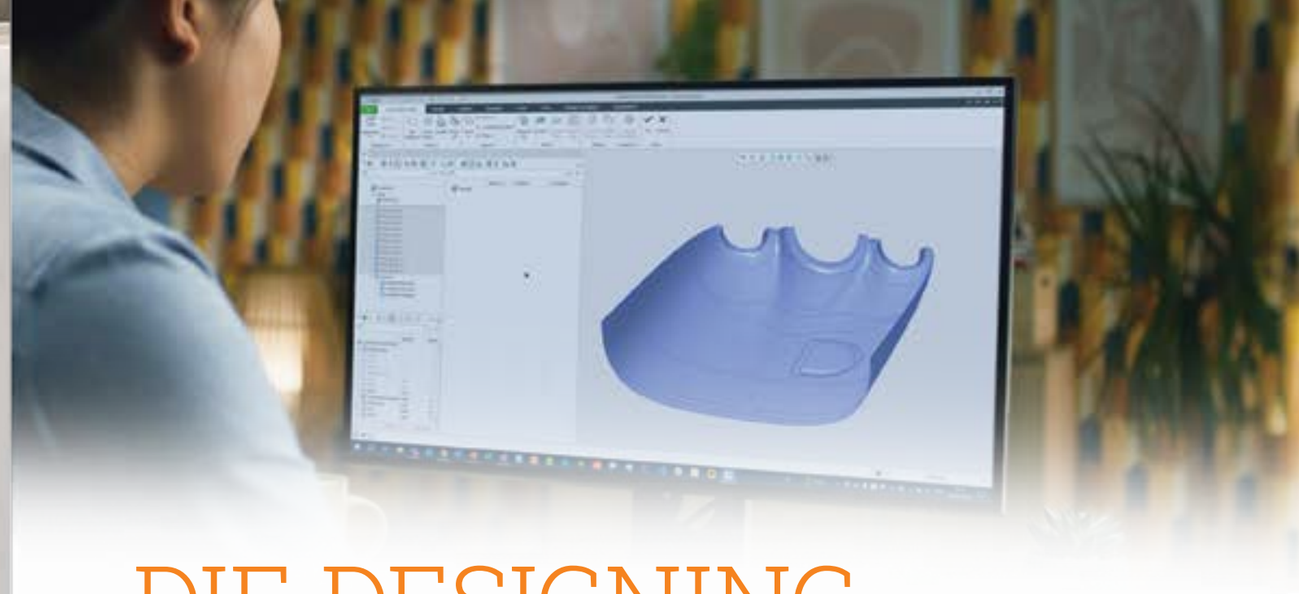
2026

Developing new production line

We will enter the heavy earth moving industries with a new **2500- ton screw press and a a 1,200-ton hydraulic press** with warm forging capabilities.

Capacity
1200 tons per month

DIE MAKING **PROCESS**

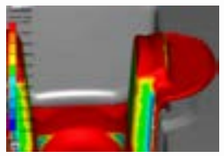


DIE DESIGNING **AND SIMULATION**

To maintain the quality and result, we are making the entire die process in-house, ensuring that every stage is meticulously controlled and optimized for precision. This approach allows us to implement the latest innovations in die technology and adapt quickly to any necessary adjustments. Our in-house team of skilled designers and engineers works collaboratively to create robust and efficient dies that meet the exacting standards required by our clients. By integrating advanced software tools like **AutoCAD, CREO, and Tranvalor Forge,** we can simulate and test various scenarios digitally, saving time and resources while enhancing the performance and longevity of the dies.

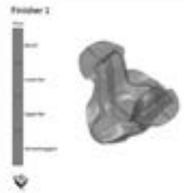
AUTODESK › creo › TRANSVALOR FORGE

Fill up and die life analysis



Fold-crack and temperature analysis

Grain flow analysis



Flash analysis

DIES BUILT FOR **PRECISION**

We possess VTL, VM3, and VM2 die molding machines specifically engineered for enhanced rigidity, ensuring that we meet our clients' precise die specifications. These in-house machines significantly enhance the accuracy and efficiency of our processes. We also have a handheld hardness tester and a handheld temperature gun available for measuring the hardness of dies and their temperature.

Additionally, our dedicated die storage area and testing benches facilitate effective segregation and maintenance of the dies.

RAW MATERIAL **HANDLING**

Material segregation

Raw materials are colour-coded, segregated, and stored safely for easy FIFO access. Hand-held spectrometry and spark tests ensure correct forging material for the end customer and accurate identification of materials. This process maintains efficiency and quality control, guaranteeing that materials meet standards for optimal results and reinforcing our commitment to excellence in production.

Material cutting

We have introduced an advanced automatic circular saw cutting machine capable of efficiently slicing 110 mm round billets with precision. Additionally, our reliable band saw cutter is prepared to handle irregular sizes and remnants with ease. This state-of-the-art machine seamlessly integrates with our press forging processes, significantly enhancing our production capacity while optimizing both time and cost savings.

TEMPERATURE
IN CONTROL

Induction billet heater

We have installed a 450 kVA for a 1600 ton press and 250 kVA for a 630-ton press, an induction billet heater, utilising IGBT technology and featuring four coil sizes. This advanced automatic induction heater is equipped with an integrated pyrometer that accurately indicates the temperature necessary for forging. Furthermore, a pokayoke system has been implemented to ensure the rejection of billets that do not meet the required heat specifications, whether insufficient or excessive.

Descalling process

This new technology allows us to utilize water for the removal of a scale, which is undesirable in forging finishing processes. Additionally, it contributes to maintaining a clean facility. The descaling process not only ensures cleanliness but also extends the lifespan of the dies by effectively eliminating the scale that accumulates after heating and gives better as forged surface finish.

FORGING **WITH PRECISION**

Press 1600 and 630 tones

We have advanced presses with capacities of 1,600 tons and 630 tons, featuring a three-stage direct drive screw mechanism for precise energy in forging components. These CNC- controlled presses enhance operational efficiency and accuracy.

Main Forging Press

1600T DD Screw Press

Round Job Blank (Hot Forge)

0.5 to 19 kg (Cutting weight)
Maximum O.D.: 250mm

Bevel Gears with Teeth (Hot Forge)

Maximum O.D.: 170mm

Bevel Gears with Teeth (Warm Forge)

Maximum O.D.: 150mm

Profile Job (Hot Forge)

3 to 12 kg (Cutting weight)

BACKING

THE FORGING PROCESS

Trimming press (H frame)	200 Ton
Piercing press (C frame)	160 Ton
Punching & marking press	20 Ton
Shot blasting	500 kg
Electro polish and pickling plant	Under process
Heat treatment	Continuous type Normalizing, Isothermal annealing Under process

MACHINING **FOR FINAL ACCURACY**

Type	Make	Model	Size	Origin
VTL	Jyoti	**750A**	200*500	**INDIA**
VMC	Hass	**VM-3**	1050*650	**USA**
VMC	Hass	**VM-2 with 4th axis**	850*550*550	**USA**
VMC	Hass	**VF-2 with though collant**	850*550*550	**USA**
VMC	Hass	**VF-2 with 4th axis**	850*550*550	**USA**
CNC	Ace	**Supper Jobber**	200*500	**INDIA**
CNC	Ace	**Supper Jobber**	200*500	**INDIA**
CNC	Lmw	**LX-20TT**	200*550	**INDIA**
CNC	Lmw	**LX-20TT**	200*550	**INDIA**
CNC	Hass	**SL-20**	200*550	**USA**

TESTED TO STANDARDS

MPI

UTM

Polishing machine

Rockwell hardness tester

Spectro machine

Brinell hardness tester

Impact tester

Metallurgical microscope
With Software

Muffle furnace

Jominy apparatus

INCOMING INSPECTION

Chemical Composition | Harden ability | Decarburization
Inclusion Rating | As Rolled Hardness | Reduction Ratio

FUTURE-READY
INFRASTRUCTURE

01

Foundation of 630 screw press

Timeline 2025 End

02

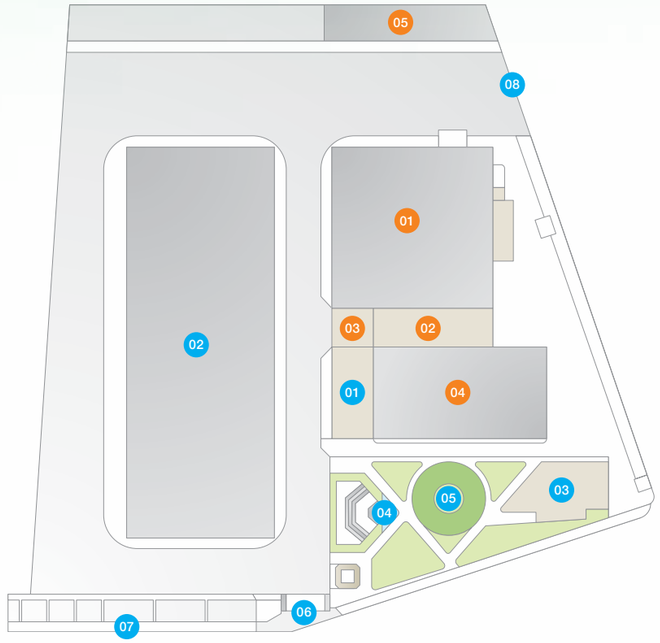
1200 Ton hydraulic press
2500 Ton screw press

Timeline 2026 Mid

POWERING SUSTAINABILITY **WITH GREEN ENERGY**

Our manufacturing plant operates on **a 500KW solar setup** — ensuring cleaner energy, reduced carbon footprint, and a commitment to a greener tomorrow.

NEXT-PHASE **EXPANSION**



Existing plant

01 Forging Unit
02 Connection of units
03 Loading area
04 Machining unit
05 Staff quarters

Extension

01 Office extension
02 Extension of forging unit
03 Canteen
04 Open air theatre
05 Landscaping and waterbody
06 Main entry
07 Parking
08 Material gate

WHERE **OUR COMPONENTS PERFORM**

Automotive

Oil and Gas

Electrical

Industrial

General Engineering

Earth Moving Equipments

Tractor

Railways

Heavy Engineering

Minning

Agriculture

Referifaration

PREFERRED BY **LEADING BRANDS**

SHAKTIMAN

PHILIPS Healthcare

GM G M ENGINEERING PVT. LTD.

GOKULANAND

Raychem RPG

Tyco Electronics

PREVAIL CASTING PVT. LTD. MFR.: INVESTMENT CASTING

SYNNOVA SYNNOVA GEARS & TRANSMISSIONS PVT. LTD.

NOTES

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