



KERALA AUTOMOBILES LIMITED



GOVT OF KERALA UNDERTAKING
AN ISO 9001:2015 CERTIFIED COMPANY

www.kal.org.in

WHAT WE ARE

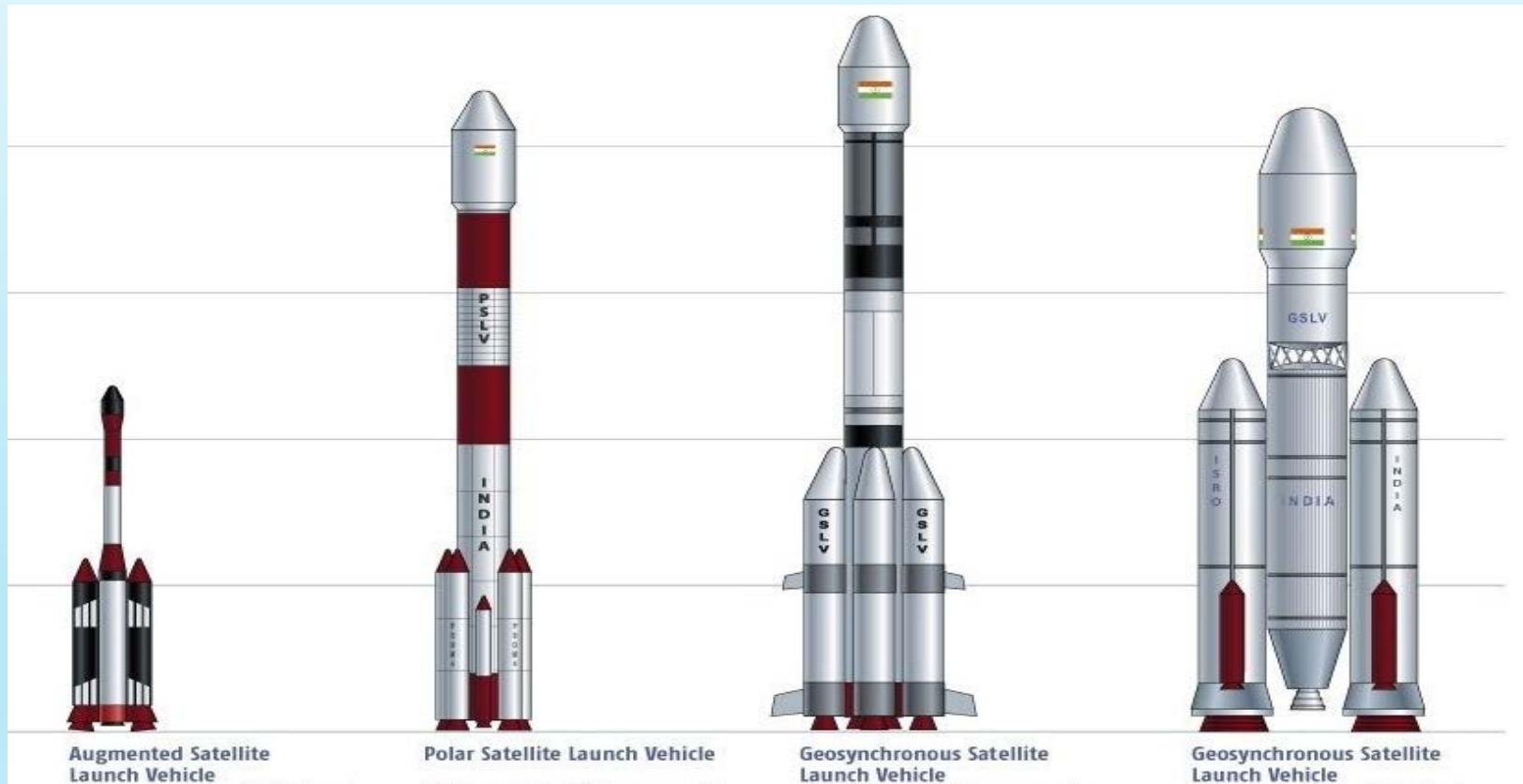
- ***KAL*** is an ISO 9001:2015 certified PSU under the Government of Kerala engaged in the manufacture of Automobiles. KAL was established in 1984.
- ***KAL*** is situated at Aralumoodu-Balaramapuram, about 16kms south-east from the capital city of Thiruvananthapuram, adjacent to NH-66.
- ***KAL*** is located in a campus of 11 acres. The main floor of the factory has a carpet area of about **1 Lakh square feet** of covered area.
- The total area of the factory building including the office block is about **1.44 Lakh square feet**.
- ***KAL*** had celebrated its Silver Jubilee of commencement of operations in 2009.
- ***KAL*** is currently involved in the manufacturing of Automobiles – **E AUTO, E CART etc.**

WHAT WE ARE.....

- From the year of 1987 onwards we are actively involved in the process of **ISRO-FLIGHT** works.
- Rate contract from various ISRO departments are still live which denotes the continual trust & bond which our customers have towards us regarding the Quality of manufacturing & standardized system which we always follow.
- The expertise's in various fields are running each departments of KAL which ensures proper work planning, man management, execution & satisfactory supply of hardware's.
- As we are having years of hands on experience in automobile industry, we are capable of making all types of gears.
- Rather than a normal manufacturing firm we are also skilled in various assembly activities.
- Special process like Heat treatment, Welding etc. also we are undertaking.

WHAT WE ARE.....

- From the flight ASLV onwards followed by PSLV, GSLV, GSLV MKII, GSLV MKIII we were actively contributing to ISRO.
- We are also contributing to ISRO's Prestigious mission named Gaganyaan [Human Mission].



- Our major clients are VSSC, MVIT, LPSC, IISU, BRAHMOS, KSCMMC etc...



Certificate of Registration

This is to certify that

KERALA AUTOMOBILES LIMITED (A GOVT. OF KERALA UNDERTAKING)

ARALMOODU P. O., NEYYATTINKARA, THIRUVANANTHAPURAM,
KERALA – 695 123, INDIA.

has been independently assessed by QRO
and is compliant with the requirement of:

ISO 9001:2015

Quality Management System

For the following scope of activities:

DESIGN, DEVELOPMENT, MANUFACTURE, MARKETING AND AFTER SALES SERVICE OF THREE WHEELER AUTOMOBILES.

Date of Certification: 26th October 2022

2nd Surveillance Audit Due: 25th October 2024

1st Surveillance Audit Due: 25th October 2023

Certificate Expiry: 25th October 2025

Certificate Number: 305022102609Q



Head of Certification

Validity of this certificate is subject to annual surveillance audits to be done successfully on or before 365 days from date of the audit.
(In case surveillance audit is not allowed to be conducted: this certificate shall be suspended / withdrawn).

The Validity of this certificate can be verified at www.qrocert.org

This certificate of registration remains the property of QRO Certification LLP, and shall be returned immediately upon request.

India Office : QRO Certification LLP

142, 144 Floor, Avatar Enclave, Near Paschim Vihar West Metro Station, Delhi-110063, (INDIA)
Website : www.qrocert.org, E-mail : info@qrocert.org



Assessment

GMR Certifications [GMRC]

Certifies that the Management Quality Analysis of

Kerala Automobiles Limited (A Govt. of Kerala Undertaking)

Aralumoodu P. O., Neyyattinkara, Thiruvananthapuram,
Kerala – 695 123, India.

Perfect Process

has been assessed and found to be in accordance with the requirements of the quality standards

Based on ISO 9001:2015

for the following scope of certification

Design, Development, Manufacture, Marketing and After Sales Service of Three
Wheeler Automobiles

Further clarifications regarding the scope of this certificate and applicability of ISO 9001:2015
requirements may be obtained by QRO Certification LLP

ISO 9001: 2015 Certification Body

QRO Certification LLP

ISO certificate no : 305022102609Q

Original Certificate Date : 26 OCT .2022

Assessment Expiration Date : 25 OCT. 2023



Certificate No :G100Q22110261



ISO /IEC 17020 Accreditation



For GMRC

Old GPO Jn Thiruvananthapuram-695001, Kerala, India .
Email-gmrctvm@gmail.com, Web-www.gmrcindia.org

This certificate will remain current subject to the company maintaining its system to the required standard(s). This will be monitored regularly by GMR Certifications.
This Registration does not assure the quality of the products produced by a Quality System.
This certificate is granted based on the limited sampling audit as per Organizational Quality Management System and GMRC is not responsible for clients failure to
maintaining management quality system. This certificate is property of GMR Certifications, and to be return upon request.

OUR SPECIALITIES

- . Professionally qualified and experienced Engineers.
- . Highly skilled workmanship & operators.
- . Hi-tech metal forming of Precision and Complex components on Steel, Inconel, Aluminium, Beryllium, Copper Alloys, etc.
- . Equipped with various kinds of sophisticated machineries & technologies.
- . Manufacturers of Aerospace Systems & High Tech Quality Components for ISRO.
- . ISRO audited Quality Management System to meet stringent quality and reliability
- . ISO Certified system.
- . We are equipped with all facilities & have large plant with all amenities for meeting the requirement of all types of EV works.
As we all know EV sector is booming day by day.

Few finished work images attached:-



VIKAS ENGINE CENTRAL SUPPORT



AVIONICS HOUSING ASSY



Few finished work images attached...



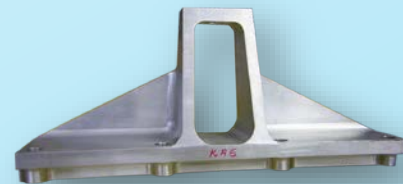
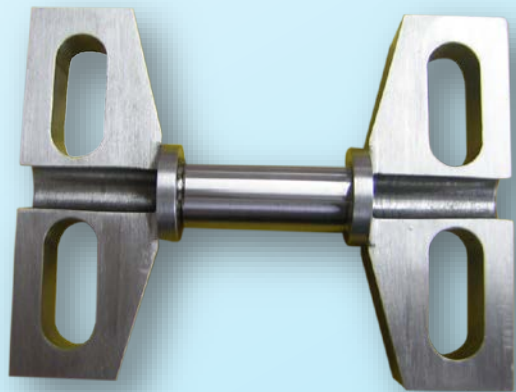
Separation Bands



Few finished work images attached....



Few finished work images attached....



PRODUCTS MANUFACTURED



E AUTO
KERALA NEEM G



E CART
KERALA GREEN STREAM

KAL PLANT AT A GLANCE



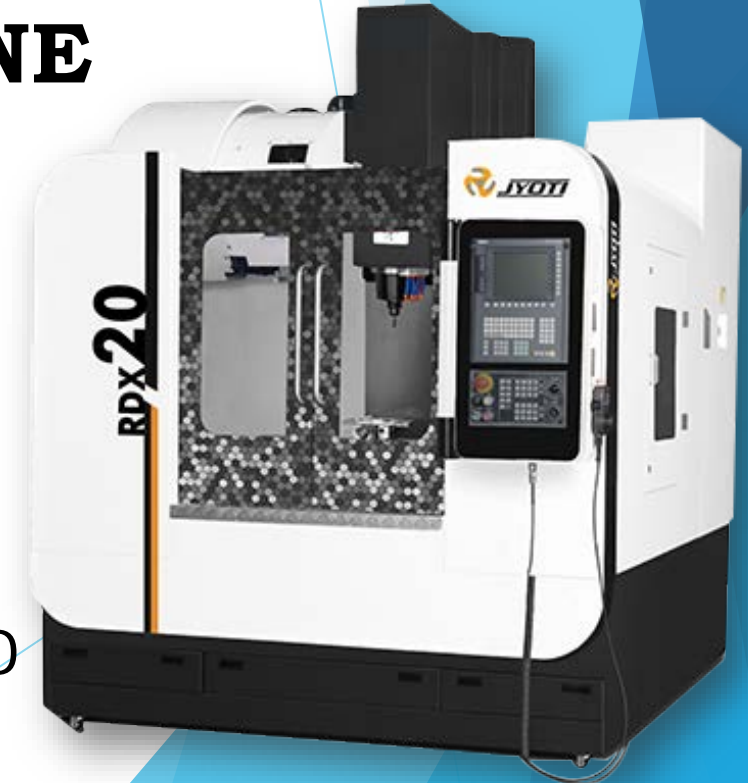
CNC MILLING MACHINE RDX 10 JYOTI



- Table size: 800 x 500 mm
- X: 600 mm Y: 450 mm Z: 510 mm
- Maximum spindle speed: 8000 rpm
- Number of tools in ATC: 20
- Input Power: 25 KW
- Control System: Siemens Sinumerik 828D

CNC MILLING MACHINE RDX 20 JYOTI

- Table size: 1000 x 530 mm
- X: 820 mm Y: 510 mm Z: 510 mm
- Maximum spindle speed: 8000 rpm
- Input Power: 25 KW
- Control System: Siemens Sinumerik 828D





CNC MILLING MACHINE VMC-1260DM JYOTI

- X: 1220 mm Y: 600 mm Z: 610 mm
- Spindle speed: 10000 rpm (max)
- Control System: Siemens Sinumerik 828D

CNC MILLING MACHINE PX 10 JYOTI

- Table size: 660 x 360 mm
- X: 510 mm Y: 410 mm Z: 510 mm
- Maximum spindle speed: 6000 rpm
- Control System: Siemens Sinumerik 828D



CNC MILLING MACHINE

AGNI BMW 45 TC24



- Table size: 900 x 450 mm
- X: 600 mm Y: 450 mm Z: 450 mm
- Spindle speed: 8000 rpm
- Number of tools in ATC: 24
- Input Power: 20 KW
- Control System: Fanuc Oi-MC

CNC LATHE TURNING LATHE

DX 200 JYOTI

- Swing over bed: 500 mm
- Maximum turning diameter: 320 mm
- Maximum turning length: 400 mm
- Maximum spindle speed: 4000 rpm
- X: 175 mm Z: 400 mm
- Power: 20 KW
- Control System: Siemens Sinumerik 828D



CNC LATHE TURNING LATHE- DX 350 JYOTI

- Swing over bed: 740 mm
- Maximum turning diameter: 600 mm
- Maximum turning length: 1000 mm
- Maximum spindle speed: 2500 rpm
- X: 310 mm Z: 1000 mm
- Power: 40 KW
- Control System: Siemens Sinumerik 828D



CNC LATHE TURNING LATHE- APOLLO ACE



- Swing over bed: 425 mm
- Distance between centers: 250 mm
- Maximum turning diameter: 190 mm
- Maximum turning length: 224 mm
- Maximum spindle speed: 4000 rpm
- X: 114 mm Z: 224 mm
- Power: 10 KW
- Control System: Siemens Sinumerik 828D

CNC LATHE TURNING LATHE- STC 25

- Maximum turning diameter: 200 mm
- Maximum turning length: 1000 mm
- Maximum spindle speed: 3500 rpm
- Number of tools in turret: 12
- Control System: Fanuc Oi-MC



CNC WIRE CUT EDM ULTIMA- 1F



- Table traverse: 500 x 300 mm
- Table size: 810 x 550 mm
- Max. Work piece height: 260 mm
- Resolution: 0.0005mm
- Max. Wire spool capacity: 8kg
- Control System: TURBO
- Dielectric fluid: De-ionized water
- Wire electrode diameter: 0.25 mm
(std) 0.1, 0.15, 0.2, 0.3(optional)

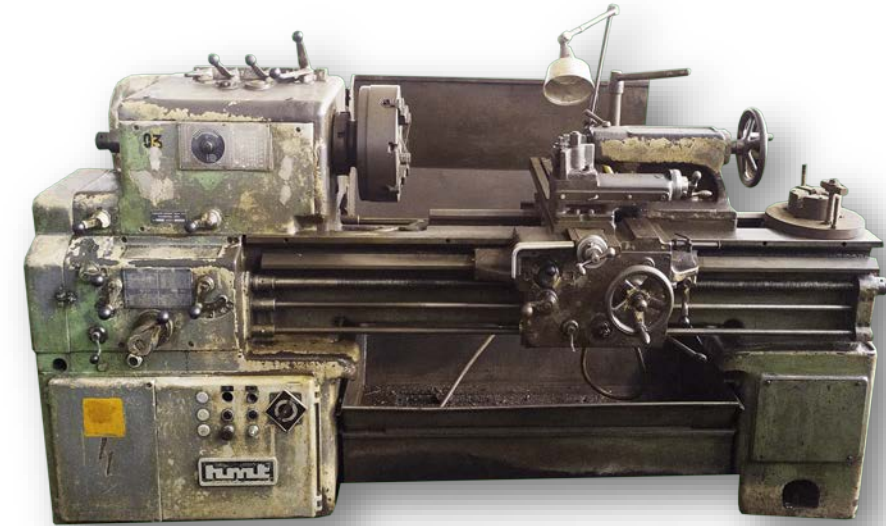
CNC SPARK EDM MACHINE

EDM- SPARKONIX



- Work Table Size: 800 (L) x 500 (W)
- X: 800 mm Y: 500 mm Z: 300 mm
- Max. Drilling Depth: 300mm
- Electrode Pipe Dia.: 0.3-3mm
- Dielectric fluid: Tap Water at Max 100 kg/ cm²

CONVENTIONAL LATHE HMT H22



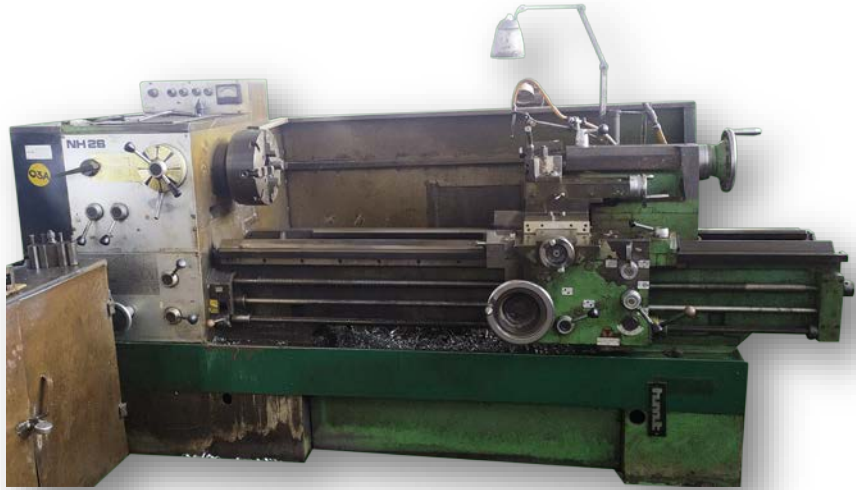
- Swing over bed: 500 mm
- Distance between centers: 1150 mm
- Height of centers: 260mm
- Swing over carriage wings: 545mm
- Swing over cross slide: 250
- Power: 12.5 KW

CONVENTIONAL LATHE HMT NH22

- Swing over bed: 500mm
- Distance between centers: 1500 mm
- Height of centers: 220mm
- Swing over carriage wings: 480mm
- Swing over cross slide: 270
- Width of bed: 415mm
- Power: 11 KW



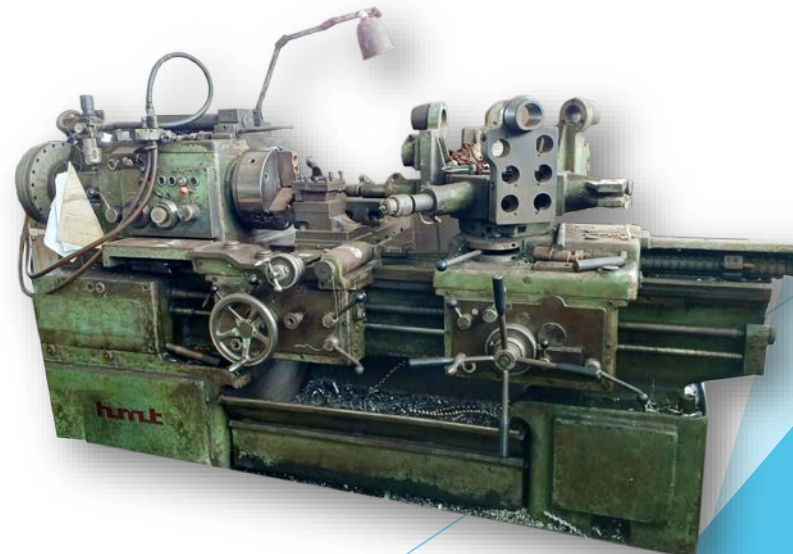
CONVENTIONAL LATHE HMT NH26



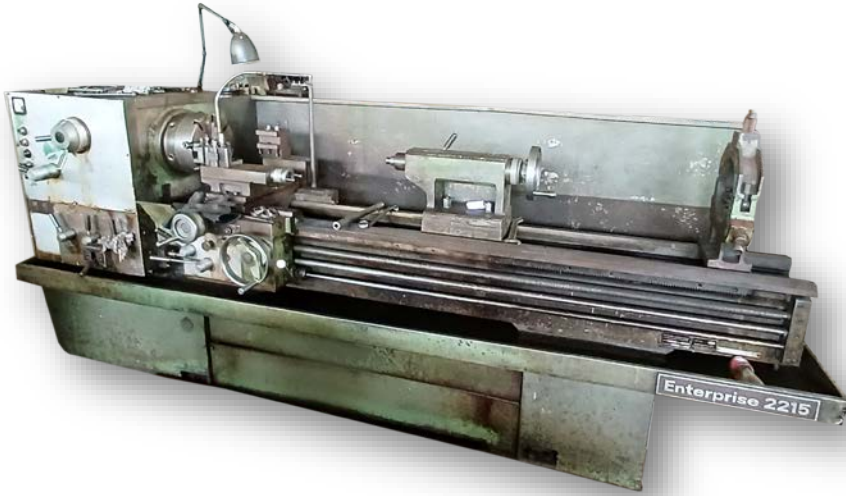
- Swing over bed: 575 mm
- Distance between centers: 1500 mm
- Height of centers: 260mm
- Swing over carriage wings: 545mm
- Swing over cross slide: 350
- Width of bed: 415mm
- Power: 11 KW

CONVENTIONAL TURRET LATHE-HMT

- Spindle bore: 65mm
- Speed range: 32-1400rpm
- Power: 12.5/1440 HP/rpm
- Centre height: 250mm



CONVENTIONAL LATHE- EP2215



- Size: 2000mm
- Max Swing over Bed: 250-500mm
- Max Spindle speed: 1000-2000rpm
- Max Turning diameter: 0-500mm

CONVENTIONAL LATHE - MK2D CAPSTAN

- Feed to capstan slide: 80, 160 & 320
- Cuts per inch: 32, 16 & 08 mm/rev



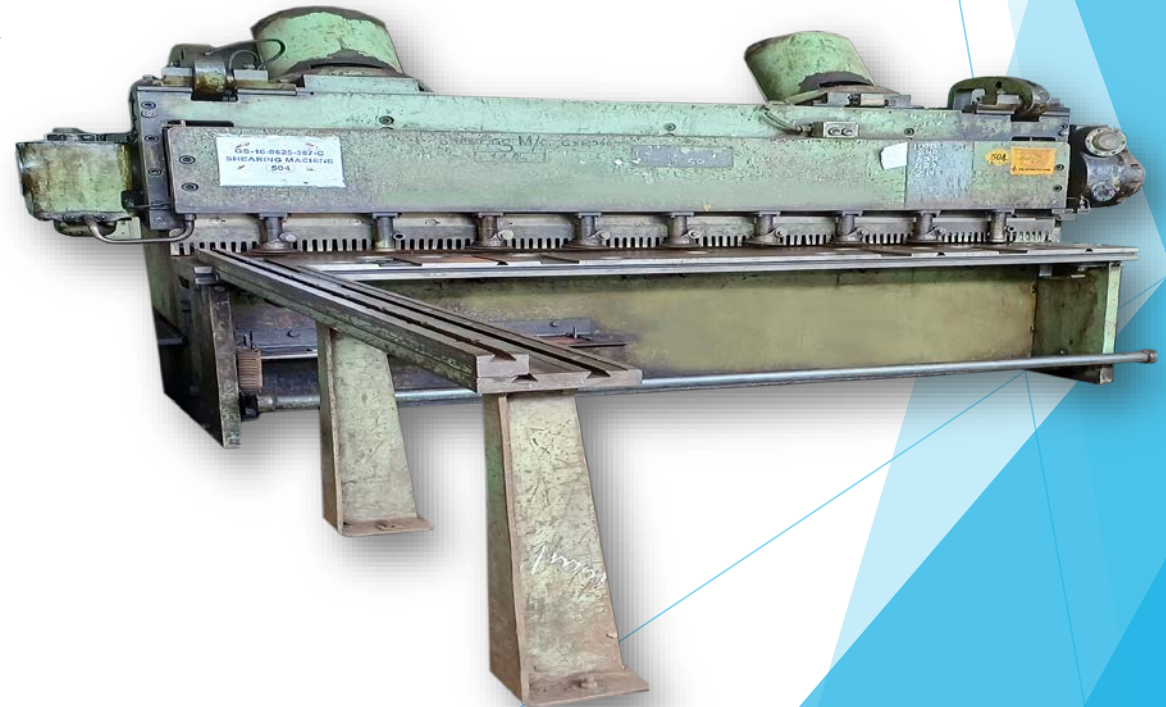
CONVENTIONAL LATHE - HMT NH32



- Swing over bed: 640 mm
- Distance between centers: 1500 mm
- Height of centers: 320mm
- Swing over carriage wings: 615mm
- Swing over cross slide: 420
- Width of bed: 415

SHEARING MACHINE

- Capacity: 6X2500mm
- Strokes/Min: 60



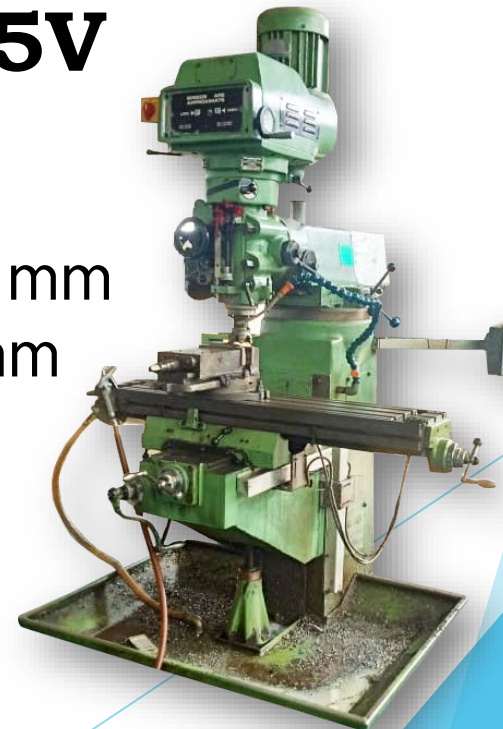
VERTICAL MILLING MACHINE HMT-FN2V2



- Table size: 1520x310 mm
- Longitudinal movement: 800 mm
- Transverse movement: 265 mm
- Vertical movement: 400 mm
- Speed: 35-1800 rpm/Power: 5.5 KW

VERTICAL MILLING MACHINE TRM-5V

- Table size: 1070x230 mm
- Centre distance: 63 mm
- Longitudinal movement: 760 mm
- Transverse movement: 305 mm
- Vertical movement: 400 mm
- Speed: 50-3500 rpm
- Power: 3.7 KW



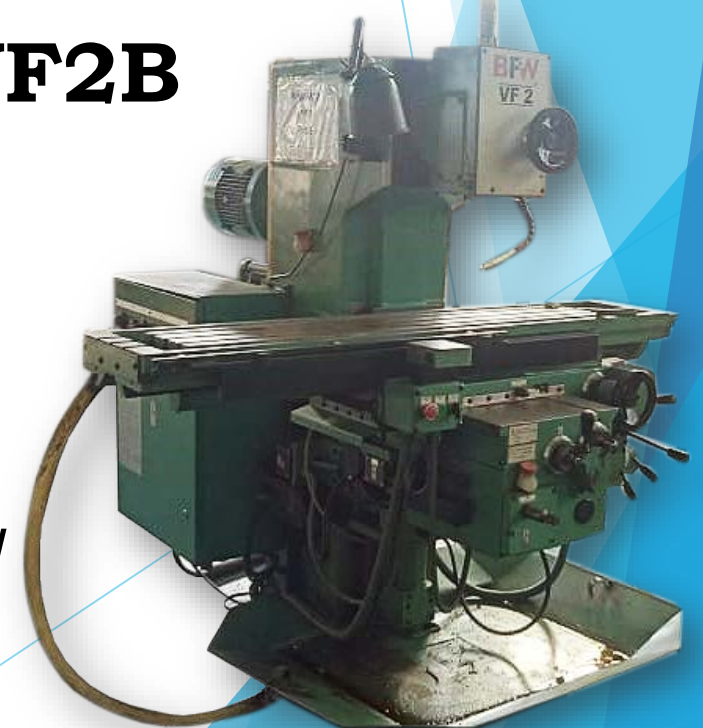
VERTICAL MILLING MACHINE BFW-VF2A



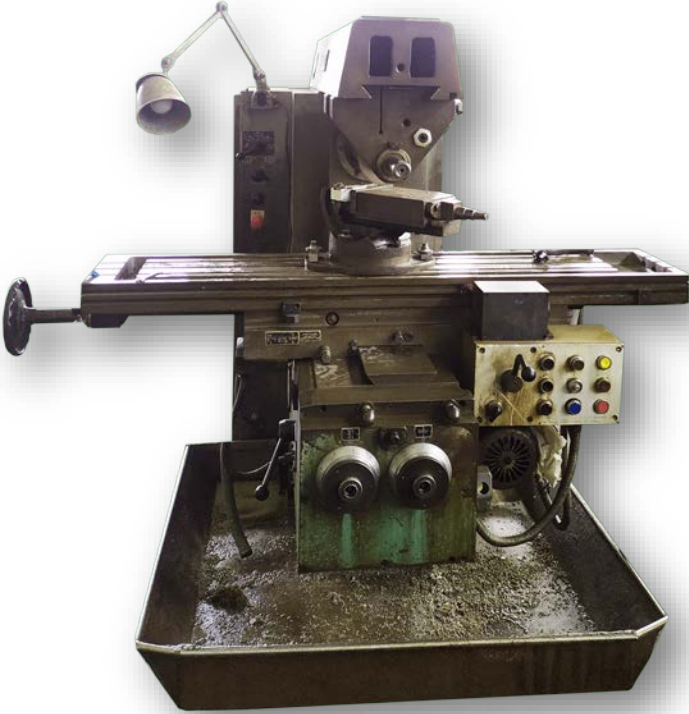
- Table size: 1350x315 mm
- Longitudinal movement: 800 mm
- Transverse movement: 230 mm
- Vertical movement: 400 mm
- Speed: 45-2000 rpm
- Power: 5.5 KW

VERTICAL MILLING MACHINE BFW-VF2B

- Table size: 1350x315 mm
- Longitudinal movement: 800 mm
- Transverse movement: 230 mm
- Vertical movement: 400 mm
- Speed: 45-2000rpm/ Power: 5.5 KW



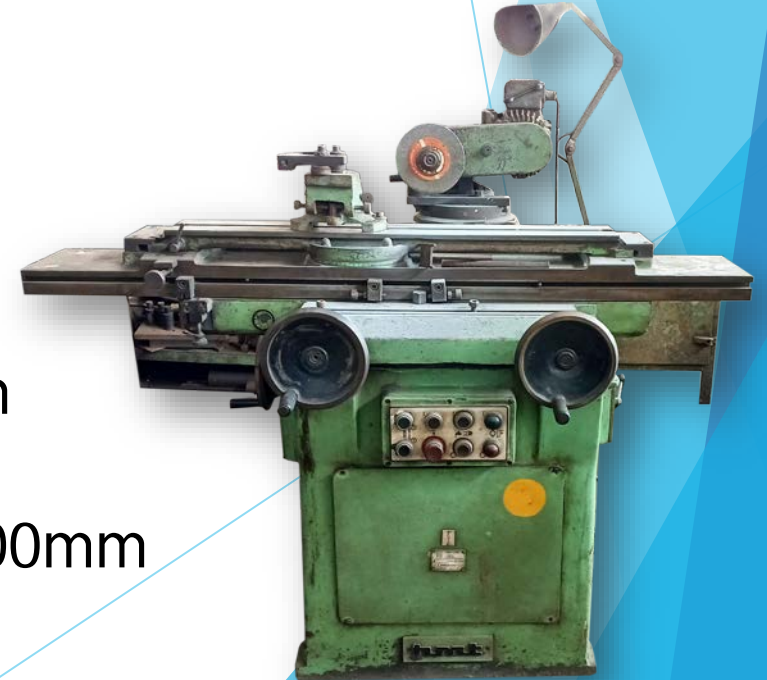
HORIZONTAL MILLING MACHINE FN2EH2



- Table size: 1520x310 mm
- Longitudinal movement: 800 mm
- Transverse movement: 265 mm
- Vertical movement: 400 mm
- Speed: 35-1800 rpm / Power: 5.5 KW

TOOL & CUTTER GRINDER GTC 28

- Output of main motor: 0.6/0.75Kw
- Swing diameter: 280mm
- Clamping width of table: 140mm
- Longitudinal Travel of table: 510mm
- Cross travel of table: 140mm
- Maximum dia. Of grinding wheel: 200mm



BROACHING MACHINE



- Supply: 3Phase, 415V
- Control Voltage: 220V
- Power Required: 6.5Kw
- Maximum Tractive force: 5000Kg
- Cutting speed: 1-10 m/min



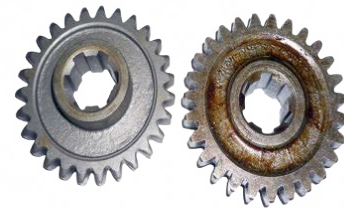
THREAD ROLLER



- Capacity: 45KW
- Min. Diameter of work: 1mm
- Max. Diameter of work: 50mm
- Maximum pitch: 4mm

GEAR HOBBER

- Work table diameter: 400mm
- Max. Hob diameter: 186mm
- Max. Length of Hob: 180mm
- Hob Spindle Speed: 40-240rpm



GEAR SHAPER

- Dual speed range: 180-630rpm
: 225-800rpm



NIBBLING MACHINE NM 4/1250

- Working speed: 1420/2875
- Straight cutting: 4mm
- Circle cutting: 3mm
- Louver cutting: 1.5mm
- Nibbling: 3mm



RADIAL DRILLING MACHINE BATLIBOI BVR3



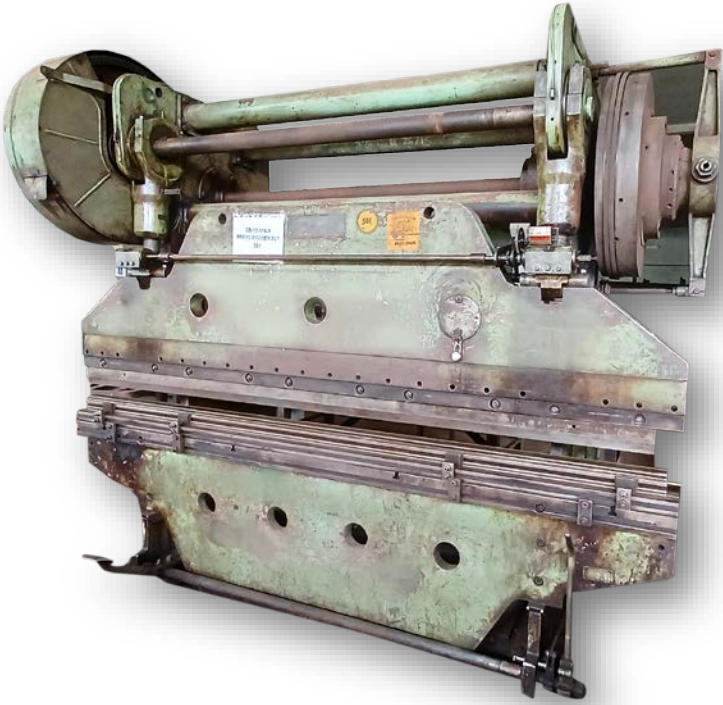
- Max. Drilling radius: 930mm
- Vertical movement of arm: 520mm
- Horizontal movement of head: 590mm
- Spindle speed: 56-2800rpm

COLUMN DRILLING MACHINE HMT- CD40

- Table size: 630X500mm
- High Speed: 50-2240rev/min
- Low speed: 40-1300rev/min
- Feed: 6Nos.



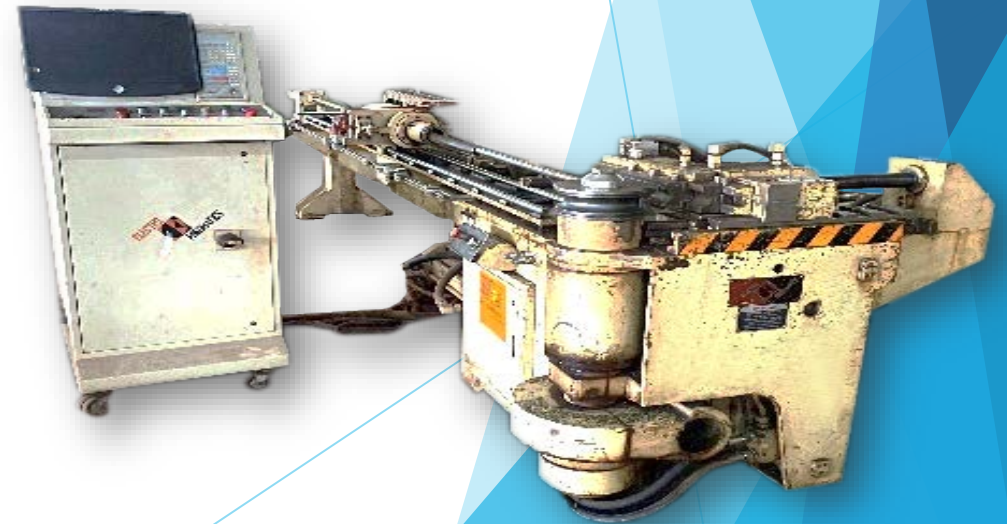
PRESS BRAKE GB 80-514A



- Capacity at mid stroke: 80T
- Stroke: 80mm
- Shut height: 315mm
- Strokes/minute: 40

TUBE BENDING MACHINE 65NCXR

- Max. Capacity: 65mm OD x 6 mm Thick
- Max. Bend radius: 300 mm
- Length over mandrel: 3 meter



16 T PRESS 44P

- Capacity: 16T
- Bolster Area: 450 x 380



160T PRESS PUX

- Capacity: 160T
- Bolster Area: 800 x 1250
- Strokes/minute: 40
- Slide: 60x105



40T - PRESS GNAP

- Capacity: 40 T
- Bolster Area: 710 x 450
- Adjustability: 63
- Shank Hole: 50 x 85



PROFILE PROJECTOR SIPCON SP-300

- Range: 200 x 200 mm
- Magnification: 10X, 20X & 50X

DIGITAL HEIGHT GAUGE TRIMOS- VECTRA TOUCH

- Range: 0-600 mm
- Least count: 0.0001





**HARDNESS TESTING MACHINE
ROCKWELL & BRINELL**



**UTM / COMPRESSION
TEST MACHINE**

HEAT TREATMENT FURNACES

MUFFLE FURNACE



INPUT POWER: 26KW & 9KW

BOGGIE FURNACE



INPUT POWER: 45KW

HEAT TREATMENT FURNACE GAS CARBURISING FURNACE



- Max. Working Temperature: 1000^oC
- Heating load: 68Kw
- Max. Gross Charge Weight : 500 Kg
- Total connected load: 72.4Kw
- Mode of control: Auto ON/OFF
- Diameter: 600mm
- Depth: 1200mm
- Recirculating Fan

FUTURE PLANS

- ▶ PRODUCTION OF,
 - ▶ E TIPPER
 - ▶ E PICKUP VAN
 - ▶ ELECTRIC BUGGY
 - ▶ HYBRID ELECTRIC VEHICLE
 - ▶ ELECTRIC POWER PACK AND RETRO FITMENT
- ▶ COORDINATE-MEASURING MACHINE-INSTALLATION IN PROGRESS
- ▶ FOR ACHIEVING AS9100 COMMON QUALITY MANAGEMENT STANDARD FOR THE AEROSPACE INDUSTRY.
- ▶ ASSEMBLY WORKS FOR LAS MODULES, PRESSURE TEST FOR VALVES, INJECTORS, WELDED COMPONENTS ETC..
- ▶ LOOKING FORWARD FOR MORE ORDERS.

- We are keeping the Quality standard always and its been yearly audited by ISRO & ISO Systems.
- KAL team is always working with passion & enthusiasm to ensure customer satisfaction.
- We always ensure proper communication & 100% customer satisfaction in all our works.
- In order to flourish in this competitive market we are seeking best ways to serve any companies by doing more critical works & by delivering the best quality products using our skill & facilities - thereby our growth also will be ensured.



THANK YOU