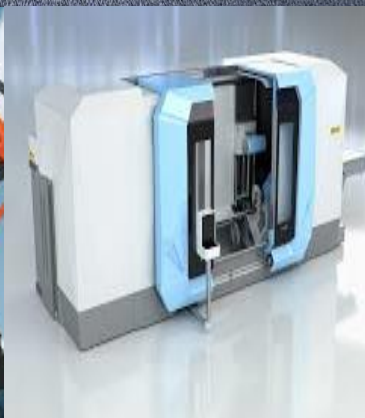




*NEPTUNE SYSTEMS*





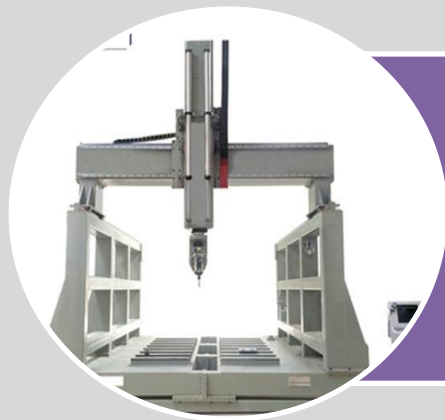
## ***Factory Automation***

- Industry 4.0
- Vision Systems
- IOT



## ***Automatic cutting machine***

- Online Cutting Machine
- Automatic cutting and Deburring Machine



## ***Special purpose machine***

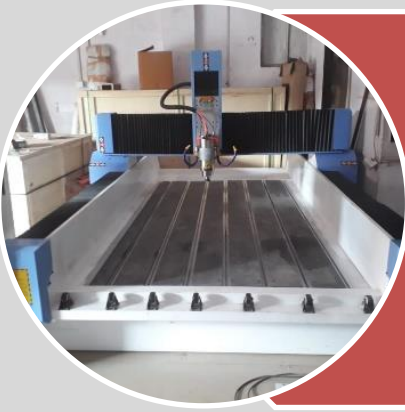
- Five axis CNC machine
- Hydro Testing Machine
- Bearing Automation



## ***CNC Machine***

- CNC Drilling Machine
- CNC Gun Drilling Machine
- Horizontal Machining Centre
- Drilling and spot facing
- PCB drilling machine
- CNC Drilling machine Gantry type





### ***CNC cutting machine***

- 2D/3D Laser Cutting Machine - Metal and Non-metal
- 2D/3D Robot Laser Cutting -Metal and Non-metal
- Robotic plasma/laser cutting and drilling for angles and channles
- 2D/3D Plasma Cutting Machine
- Portable Plasma/Flame Cutting Machine



### ***Robot***

- Epson Robots      - Fanuc robots
- Kuka robots      - ABB robots
- Motoman robots      - Kawasaki robots
- Gantry Robots      - Customized Robot



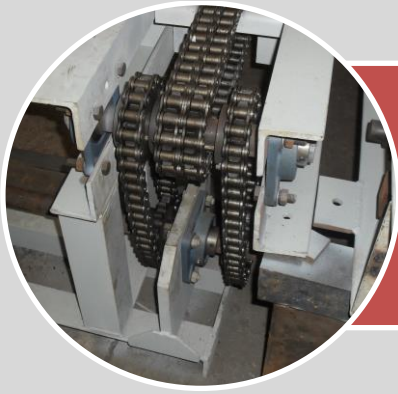
### ***Automated guided vehicle***

- Tunnel type
- Forklift type



### ***CNC Routers***

- CNC router metal
- CNC router wood
- CNC router ceramic



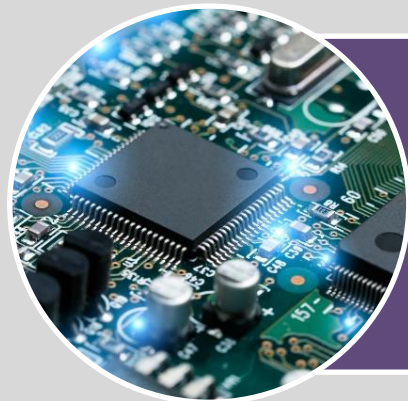
## ***Conveyors***

- Belt Type
- Slate Type
- Chain Type



## ***Consulting***

- Turnkey projects
- Automation projects



## ***Embedded Solutions***

- Raspberry PI
- Arduino
- Arm
- AVR
- PIC



## ***Humanoid Robots***

## About Us

*Neptune systems promoted by young dynamic, qualified technocrats having vast experience in design development & manufacturing. We at Neptune strongly believe in creating synergy specially for providing custom solutions as per requirements. Neptune systems range of products / services operate at critical areas, we therefore cherish and go all out to achieve flawless integration of systems, products and services.*

## Mission

*Our mission is to transforming ideas into reality:*

- With a vision of catering the need of engineering industries for precision automatic high productive machines in cost effective manner to make the Indian engineering industry globally competitive.*
- Neptune Systems made a rapid growth towards the perfection by development of various unique innovative products with motto of —Transforming ideas into reality.*
- Neptune Systems fully equipped with design, manufacturing, installation and providing turnkey solutions for precision and quality equipment with latest automation techniques.*
- Change as a continuous process has been adopted by our development team to provide the value for money to our esteemed customers.*
- The core strength of our group is business ethics, commitment and technical competency- the most ideal combination to rely upon.*

## About Promoters

**M. M. GOKULE**

*{DME, AMIE (Mech.), BE (IE), MDAA, DBM, MMS, ADCSSAA, MCA, PGDAPR, Siebel CRM, (PGOR), (ICWAI)}*

*25 Years of design development, 5 years of SPM's maintenance, 3 years of Fabrication & Erection experience, started company during 2007, developed first time in India unique online / off line Automatic Cutting & De burring machines, Automatic CNC drilling machine, Auto Loaders, Pick & Place low cost Robotic Arms, Leakage Testing machines & conveyor Systems.*

**REENA BIRADAR**

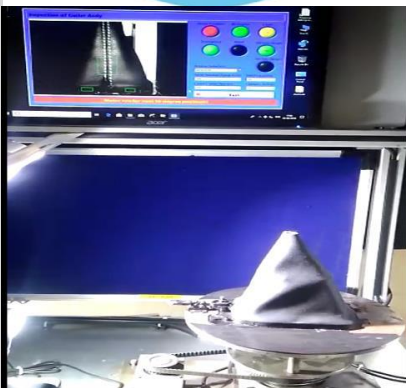
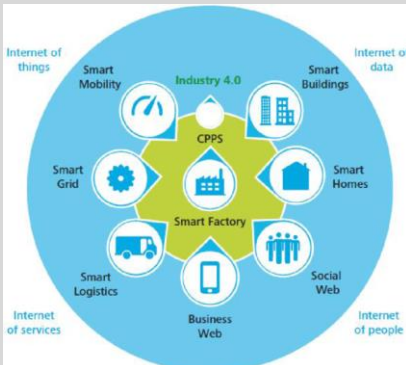
*{DERE, BE (Electronics), ME (VLSI & Embedded)}*

*2 Years PLC & HMI Programming, developed controllers based on embedded system, presently working on Incident detection system using Image processing.*

# OUR PRODUCTS

## 1. FACTORY AUTOMATION

### - Industry 4.0



*Our automation engineering consultants can help you upgrade or use your existing systems and infrastructure to enhance your plant-centric processes and operations for stronger business performance. Specific industrial automation service areas include:*

- *Assembly and Handling Systems, Linear Positioning Systems Robotics*
- *Industrial Image Processing Systems*
- *Control Systems, PLC, SCADA*
- *Sensors and Actuators*
- *Industrial PCs*
- *Embedded Systems*
- *Measuring and Test Systems*
- *Industrial Automatic Data Capturing and Identification Systems*
- *Automation Services*
- *Industrial Automatic Data Capturing and Identification Systems*

### - Vision Systems



*Neptune systems have arrangement with TEJ controls Thane who are pioneer in vision systems, Vision Inspection Systems uses camera to grab image of the component to be tested, once image is taken Image Processing Algorithms are used to detect any visual flaws in component. Vision Inspection systems can be used for faster and accurate automated visual inspection. The typical examples of vision inspection systems include automated sorting systems, Automated Optical Inspection (AOI), Automated Optical Measurements (AOM), Pattern Matching, Optical Character Recognition (OCR), Colour Inspection or colour matching, Go - No Go inspection systems etc. We provide vision inspection systems using National Instruments Vision Development Module and we work with various cameras like NI smart camera, fire wire cameras, GigE Cameras, USB cameras. We provide vision inspection systems using National Instruments Vision Development Module and we work with various cameras like NI smart camera, fire wire cameras, GigE Cameras, USB cameras. We listen to your requirements and develop a customized solution which provides you with optimal cost quality and performance. Depending on custom requirements*

*we design system & simulate depending on requirements for any requirements don't hesitate to ask for demos.*



## **- Automated Test Equipment**

Automated test equipment help you deliver products with consistent quality and at the same time they reduce your testing costs by reducing labour cost. This means you reduce your overall costs and yet deliver superior product to your customer. Better product quality leads to more demand for your product at premium pricing.

## **- Vision based sorting system / Conveyor**



Vision based Sorting systems PC program is interfaced with the Camera and Conveyor systems. Camera takes image of every part on conveyor arriving at test station and sends it to PC. PC analyses the image to measure various parameters like Outer Dia., Inner Dia., length, distance, presence / absence of proper component etc. and based on the result it decides "in which bin the part should be dropped" the result is then given to conveyor system to put the part in appropriate bin.

Free from manual errors

- 100% testing as every component is tested
- High speed testing

## **Solutions**

Vision based sorting can be used in many industries some examples are –

- Auto components: discs, circlips assemblies etc.
- Book Publishing: sorting based on barcode
- Pharma: blister inspection, capsule inspection etc.
- Small Arm Ammunition: For manufacturing defects / Inspection
- Textile
- FMCG
- Automobile

## **-Internet of Things (IoT)**



### **1. For predictive maintenance:**

Physical parameters of the machinery like the vibrations produced by the equipment, the temperature generated while its operation, pressure exerted on a particular part etc. some of the parameters used to monitor the health of the equipment. Such parameters produce a large amount of data that has to be stored and processed in order to forecast potential hazards and determine when industrial equipment is likely to fail. An IoT – based solution, allows storing terabytes of data and running machine learning algorithms to determine the condition of the equipment and save

a lot of time and money required for the maintenance as well as increasing the production.

## *2. Increasing the Productivity:*

*Increased productivity through monitoring the interconnected robots/equipment with the help of sensors is the major advantage of using IOT in manufacturing.*

## *3. Warehouse monitoring system:*



*Video Link:*

*Many products such as food products, medicines, chemicals etc. have to be preserved under predefined conditions like controlled temperature, humidity etc. Instead of taking manual readings from digital meters the parameters (temperature /humidity) can be automatically streamed in real time to the IoT Cloud. By this way, we can get real time result anywhere any time and take decisions on time to save products from damage.*

## **2. AUTOMATIC CUTTING MACHINE**

### **- Online Cutting Machine**



*Cold cutting is an essential part of the tube mill, which enables cutting of the tube to the pre-set length by a cut off machine. Designed for overall productivity & consistent product output. This system handles all types of products – circular, square & rectangular sections, cutting synchronization with use of AC Servo motor having inbuilt resolver for main drive faster response and better accuracy at higher speeds, feed AC Servo motor for cutting, this enables faster cutting and improved blade life. This system has provisions for HSS / Friction cutting / TCT blades*

*as per requirement, this is a unique feature of our system operator has provisions for type of blade selection rest of cutting parameters will be taken default, controlled cold/ TCT cutting results in clean cutting of the end without need for any end facing, system contains most modern technology & totally user friendly.*

### *Product Characteristics:*

- Rigid fabrication structure fitted with solid machined alloy steel rail for smooth vibration free running of trolley.*
- Cutting arm and clamping assemblies are hydraulically operated. Vibration free rigid design.*
- The trolley Drive is through steel reinforced timing belt driven through AC Servo inbuilt resolver within built zero back lash planetary gear Box.*
- Blade driven through high torque AC Motor through a Zero back lash helical reduction Gear Box, specially designed in compact form for Cold Sawing application.*
- Saw Blade is made of coated HSS material with special tooth profile for cold sawing application.*
- Complete system designed to suit your existing mill.*
- Full-automatic control*



➤ Liquid crystal display, human-computer interface

➤ Used for round, square & rectangular sections

*Main Performance and Technical Data:*

Model	Product Dia (mm)	Wall thickness (mm)	Specified length (m)	Cutting precision (mm)	Tracking speed (m/min)
<b>CTC32</b>	$\phi 12-\phi 38$	0.6-2.5	4-16	$\leq \pm 1.5$	Max.90
<b>CTC50</b>	$\phi 19-\phi 63$	0.8-3.0	4-16	$\leq \pm 1.5$	Max.90
<b>CTC76</b>	$\phi 21-\phi 80$	0.8-3.5	4-16	$\leq \pm 1.5$	Max.80
<b>CTC114</b>	$\phi 60-\phi 114$	0.8-4.0-	4-16	$\leq \pm 1.5$	Max.60

Video Link:

## **- Automatic Cutting and De-Burring Machine**



**By Tool :** For inline tube end de burring by means of ID /OD tools making the automatic inside & outside removal of bur, This machine is used for 16 mm to 52 mm OD higher size is also possible, it can be directly mounted on the unloading table of the mill and the tube movements will be fully automatic.

**By Brush :** For finishing tube end by using Imported SS brush, brush position will be vertical and horizontally adjustable, with their speed will be controlled by inverter tube movement on roller conveyors and working speed are automatically controlled through PLC Pipes of

assorted length in the form of bundle will be loaded and get singled one by one automatically, singled pipe will be passed through Servo controlled length measuring system, depending on set length through operator panel initially it will cut first 10 mm followed by set length, if pipe to be cut less then set length pipe will be collected in rejection bin. For balancing cutting time & de burring time buffer is created between cutting & De burring operations, after De burring on one end pipe will be taken on other end for second side, after completion it will be collected on O/p stretchable belt collector.

*Main Performance and Technical Data*

Model	Product Dia(mm)	Wall thickness (mm)	Specified length (m)	Cutting precision (mm)	Output/Hr
<b>CTC32</b>	$\phi 12-\phi 38$	0.6-2.5	2-16	$\pm 1.0 / 0$	Max.120
<b>CTC50</b>	$\phi 19-\phi 63$	0.8-3.0	2-16	$\pm 1.0 / 0$	---
<b>CTC76</b>	$\phi 21-\phi 80$	0.8-3.5	2-16	$\pm 1.0 / 0$	---
<b>CTC114</b>	$\phi 60-\phi 114$	0.8-4.0-	2-16	$\pm 1.0 / 0$	---

Video Link:

## **- Automatic offline cutting & deburring machine:**

### *Features:*



- *Input Pipe is in the form of Bundle of Varying Lengths, Size of 150 Nos. and weight max. Of 5 tons*
- *Cut Length Accuracy can be achieved  $\pm 1$  mm for the length of 16 meters*
- *Pipe OD – 16 mm to 100 mm*
- *Wall Thickness–1mm to 3.5mm (Pipe Wall Thickness less than 1mm, client has to specify)*

- *Ovality – Maximum 50 Microns*
- *HMI (Human Machine Interface) will be have following settable parameters –*
  - *Cut Length b) Pipe Diameter c) Wall Thickness d) Fast Forward & Cutting Advancement*
  - *Servo Speed for Pipe Advancement / Cutting Position*
- *Cut Length can be varied depend on requirement between 2 meters to 16 meters through HMI and pipes will be cut on set lengths. In the event of cut length is less than 1 mm as per set parameters, pipe will get rejected and thrown in the Rejection Bin.*
- *After the end of cut for current pipe, the end piece will get pushed by new pipe which will be loaded from Singling Conveyor, in the event of cut length is within set parameters it will be cut and pushed to accepting buffer else if it is less than set length, will be rejected.*
- *For De Burring, Pipe Dia. Varies from 16 mm TO 100 mm.*
- *De Burring will be done for OD, ID & Facia together with the help of Plunge Tooling.*
- *Cutting & De burring operations are Simultaneous.*
- *Flexible Tooling – Same tooling can be used for various diameters without changing frequently.*
- *Repeatability of 0.1 mm can be achieved without affecting Cut Length.*
- *Ovality of 50 microns is achievable.*
- *Online De Burring can be augmented with existing Friction/Cold Cutting.*
- *Rate of de burring speed will be at par with the Tube Mill Speed.*
- *Length Variation – 4 meters to 22 meters Material – Carbon Steel / Stainless Steel Tooling – Plunged (TCT Tool) for ID/OD/Facia OR Wire Brush as per client's requirement Tooling Advancement/Feeding – Servo OR Pneumatic as per client's requirement.*

*Video link - [https://youtu.be/a\\_LYqUZpPT0](https://youtu.be/a_LYqUZpPT0) , <https://youtu.be/uukgu9vXocc> , <https://youtu.be/mPOw9dUqUgM>*

### 3. SPECIAL PURPOSE MACHINE

#### - 5 Axis CNC Routers



The 5 Axis Large Format Overhead Gantry CNC Machine is a continuous-use, heavy duty machine that is feature rich, and can be used to process a wide variety of applications ranging from foam to aluminium. This machine can be manufactured with a universal fixture table, which can perform multiple tasks without requiring the user to stop production. The design of this machine allows for easy loading/unloading of large materials, as the front doors slide open and close. The universal fixture table gives your business the option to improve productivity by reducing downtime between part runs. This machine features an all steel frame, which is stress relieved and welded in-house to ensure the highest quality.

#### Main performance and Technical data

Particulars	
MODEL no.	TC- 2030
Table Size :	3400X5000 mm
Engraving Size :	2000X3000 mm
Z – Axis travelling :	1500mm
Feeding Height :	1500 mm
Body :	Fabricated Steel Stress Relieved (12 mm Steel Plate)
Z – Axis :	U Shape CI Structure
Y- Axis wall :	12 mm Steel Structure
X- Axis Gantry :	12 mm Steel Structure
X,Y,Z- Transmission :	5010 Hiwin Double nut Auto anti Gap Ball nut
LM Rail :	50 mm Hiwin
X,Y,Z,A& C –	Axis Motors YASKAWA Servo Motors
Spindle Speed –	0 – 24000 RPM
Controller –	OSAI Italy
Working Speed :	1500 mm/min
Resolution :	0.001/Pulse
Tool Dia :	ISO 30
Machine Power Supply :	380 V, 50 Hz
Spindle Power :	9.0 Kw

Video Link:

#### - Leakage / Hydro Testing Machine

The requirement may be for standard or special purpose, Neptune test machines capabilities is enhanced by our experience in automated production line equipment and process automation resulting in complete service to industry. Neptune Systems has the knowledge and expertise to assist the customers specify the acceptance leakage rate or limit and in designing and supply the leakage testing machine to reliably test how much an item is leaking. Different forms of leakage testing equipment supplied include manually loaded test benches to fully automatic leakage testing machines for 100% testing. Test methods include pneumatic leakage testing





to hydro testing. If you have current projects that you are already looking at or you are considering improvements.

#### *Features Areas of Application*

- *Quantifiable*
- *Fast clean & dry*
- *Easily incorporated into automatic or Manual Line*
- *Automatic Pass / Fail limit*

➤ *Automatic Pass / Fail Mark*

➤ *Data Outputs for SPC analysis*

#### *Areas of Application*

- 1) *Auto Parts*
- 2) *Engineering*
- 3) *Pharma & Food Processing Industries*

#### **- Bearing Automation**



*Neptune Systems designed & developed custom type Bearing Automation for Rieter India. Machine need to assemble following:*

- 1) *Inner Bearing*
- 2) *Outer Plastic Ring*
- 3) *Main Casting Body*

*After loading Inner bearings on Gravity Chute, Plastic Rings on Stacker & Outer body on Indexing mechanism, operator simply press cycle start button Inner bearing gripper arm picks inner bearing, simultaneously second arm picks outer plastic from stacker places it on assembly area, during placing inner bearing by first picking arm it checks whether plastic outer is placed on assembly area or not, after detecting plastic ring first picking arm advance for inner bearing insertion, after insertion first pick arm takes home position, Assembled sub assembly picked by picking cum main assembly arm and place & press it on outer casting body.*

## **4. CNC MACHINE**

#### **-CNC Gantry type Drilling Machine**



#### **Machine**

- *Body Fabricated & Stress relieved*
  - *Bed Size 2000X3000 mm*
  - *Clamping - Hydraulic*
  - *LM Guides & blocks - Hiwin*
- Spindle (HAAS Equivalent) through coolant*

- *Spindle Motor – 7.5 Kw*
- *Spindle taper – BT-40*
- *Spindle speed 0 to 3000 rpm*

#### **Electrical**

- *Axis motors 3.2 Kw servo (X,Y & Z)*
- *Hydraulic Power pack - 5 Kw*
- *Controller – Mitsubishi M-80*
- *Control Panel – Rital Equivalent*
- *S/W gears – Standard make*

<i>Particulars</i>	
<i>Spindle accuracy</i>	<i>5 Micron</i>
<i>Drill Dia.</i>	<i>0.5 mm to 40mm</i>
<i>Spindle motor</i>	<i>1 KW to 7.5 KW Induction motor</i>
<i>Drill speed (Max)</i>	<i>8000 rpm</i>
<i>Stroke</i>	<i>150 to 300</i>
<i>Feed motor</i>	<i>400W to 3 KW AC Servo</i>
<i>Linear Operation (Optional)</i>	<i>Available as per requirement</i>
<i>Rapid Approach</i>	<i>300mm/sec Max</i>
<i>Cutting speed</i>	<i>0.1 mm/rev</i>
<i>X, Y, Z</i>	<i>Available as per requirement</i>
<i>Job clamping/Holding</i>	<i>Hydraulic /Manual/ Pneumatic</i>
<i>Job Loading/Unloading</i>	<i>Manual / Auto</i>

### **- Automatic CNC Drilling Machine**



*High rigid & long stroke (up to 300 mm) drill units with compact size, variety of models available for wide range of machining requirements*

*High quality servo motor for feed & precise ball screw designed eliminate feed rate fluctuation of feed speed by drilling forces; less burr generation for through hole drilling and longer tool life, High precision, high efficiency, less space and cost reduction that are Critical for the machining operation*

*can be gained.*

#### **Features:**

- *High quality Drilling - The fluctuation of feed speed is eliminated by the precision angular bearing supporting spindle and the high quality ball screw. As the result the generation of burr is reduced and the tool life is reduced.*
- *High rigid precision Structure - Rigid structure the spindle ball screw and linear guide making the drill unit body rigid and strong enough to step and spot facing and burnishing drill*
- *High efficient deep hole drilling - Coolant centre through is available for Mechatronic series for efficient deep hole drilling by oil hole drill tool*

- *High flexibility - Spindle rotation is varied by attached inverter. Optimize speeds to adapt to different cutting requirements*
- *Multi job loading Option/Multi axis operation - More than one job can be loaded for alternate operation /available as per requirement*
- *Easy Operation - 5.7" touch panel type colour display makes it easy to make CNC programming and operate even for a beginner operator.*

#### *Main Performance and Technical Data*

<i>Particulars</i>	
<i>Spindle accuracy</i>	<i>5 Micron</i>
<i>Drill Dia.</i>	<i>0.5 mm to 26mm</i>
<i>Spindle motor</i>	<i>.700 Kw to 3.7 Kw Brushless DC</i>
<i>Drill speed (Max)</i>	<i>6000</i>
<i>Stroke</i>	<i>300</i>
<i>Feed motor</i>	<i>400 Kw to 2.7 Kw AC Servo</i>
<i>Linear Operation (Optional)</i>	<i>Available as per requirement</i>
<i>Rapid Approach</i>	<i>300mm/sec Max</i>
<i>Cutting speed</i>	<i>16.7 mm/sec</i>
<i>X, Y, Z</i>	<i>Available as per requirement</i>
<i>Job clamping/Holding</i>	<i>Hydraulic / Pneumatic</i>
<i>Job Loading/Unloading</i>	<i>Manual / Auto</i>

*Video link - <https://youtu.be/MOvAmxSMX7Y>*

#### **- CNC Gun Drilling Machine**



*Suitable for drilling extremely deep holes & small dia. Versatile machines to compliment job shops / dedicated machines for high volume production drill sizes ranging from 1.5 mm to 25 m Allows high level flexible for accommodating range of standard components.*

- *Coverage - Varied Industries like Defence, Pharma, Automotive, oil & Gas and General Engineering Etc.*

- *Automatic / Semi-Automatic - Depending of requirement machine can be designed for mode of loading & unloading of jobs.*

#### *Main Performance and Technical Data*

<i>Particulars</i>	
<i>Drill Dia Range</i>	<i>5 to 25 mm</i>
<i>Spindles</i>	<i>1-2-4</i>
<i>Spindle motor / Spindle( HP)</i>	<i>5 to 10</i>
<i>Drill Depth (mm)</i>	<i>400/600/1000</i>
<i>Drill Feed Range mm/min</i>	<i>0-1000</i>
<i>Spindle Speed Range (RPM)</i>	<i>500 to 6500</i>
<i>Components OD</i>	<i>800 mm</i>
<i>Rapid Approach</i>	<i>300mm/sec Max</i>
<i>Cutting speed</i>	<i>16.7 mm/sec</i>
<i>X, Y, Z</i>	<i>Available as per requirement</i>



<i>Job clamping/Holding</i>	<i>Hydraulic / Pneumatic</i>
<i>Job Loading/Unloading</i>	<i>Manual / Auto</i>

Video Link:

## **- Horizontal Machining Centre**



*Compared to the years we have been developing control technology and machining centres, our nearly decade long experience may seem short. However, we've leveraged our overall machine tool experience and efficient process approach to ensure that each decision we make meets our objective to deliver manufacturing technology that helps our customers increase profitability. We know that premium components and expert design are critical in machine tool development. Therefore, you will have the peace of mind that our HMC's will be reliable and rigid.*

*Design + Construction: We use thick-walled, fine-grain cast iron for the major structural assemblies (base, head stock, and cross*

*slide). The rigid one-piece machine base*

*Casting is designed to yield excellent static and dynamic performance in addition to outstanding dampening properties that inhibit thermal deformation and twisting. The box type cross slide ensures the turret remains rigid and stable even during the most rigorous cycles. We also use extra wide linear guide ways that are strategically spaced to provide excellent support to the cross slide.*

*Our horizontal machining centre is optimum for low to medium-batch or large parts manufacturing production runs. The design promotes better chip control—gravity does the work with chips falling effortlessly. We design & manufacture wide range of HMC's & VMC's as per requirements designed fully integrated pallet changing system for higher production runs. We offer HMC's /VMC's of superior capabilities at affordable prices and the user friendly control makes setups and programs you will find our HMC's are the perfect job shop machines for those looking for return on investment in less time than ever before.*

### **Features:**

➤ **Spindle Motor and Drive:** *The spindles poly Timer belts, which are ideal for machining. The spindle speed ranges have been engineered for the best metal removal rate for a given chuck size, up to 6,000 rpm. We use precision steel bearings packed with lifetime grease, which results in a maintenance-free lubrication. The brushless, AC motor drives the spindle and delivers impressive power and torque.*

➤ **Guide ways:** *The guide mechanism for the axes is fitted with precision linear ball rails*

➤ **Ball Screws:** *For feed drive elements, we use premium, quality designed, pre-tensioned ball screws. With up to 98% efficiency, the re-circulating ball nut ensures low friction power transmission from the screw to the slide. This guarantees the combination of high accuracy, high rapid traverse rates, and high feed thrust. Large diameter X-axis and Z-axis double nut ball screws are hardened and ground, cantered between the guide ways, and anchored at both ends with pre-loaded precision class angular contact thrust bearings. This combination prevents backlash and provides outstanding positioning repeatability with virtually no thermal growth.*

➤ **Axis Drives:** To maintain a leading edge in motion control technology all ball screws are driven by servo systems with closed-loop adaptive tuning and high-resolution feedback to obtain the utmost in system performance and reliability. The AC servo motors are direct-coupled to the ball screws for the highest level of accuracy. The brushless AC servo drive motors provide high torque to inertia ratio for the axis drives. The X and Z axis motors deliver impressive torque for peak thrust during heavy cuts.

➤ B axis rotary

➤ Higher Productivity

➤ Fast Automatic Tool Changer

➤ Auto manual coolant

➤ Centralized programmable lubrication

#### Main Performance and Technical Data

Particulars	
Table size(mm)	500x450
X/Y/Z travel(mm)	900×450×500
Distance from spindle nose to table surface(mm)	140 approx.
Spindle type	BT40
Spindle diameter	100
Spindle speed(r/min)	6000 RPM
Spindle braking time	≤4S
Spindle Spindle power(HP)	HAAS Equivalent 7.5
Ball screw Ball screw support bearing Positioning accuracy(mm)	HIWIN NSK/SKF 0.01
Repeatability(mm)	0.06
Parallelism between X axis and B axis (swivel to any angle)	≤0.02
Rapid Traverse speed(mm/min)	≥15000mm/min
Cutting feed rate	8000mm/min

#### - Drilling and spot facing:



Yoke is a part of Drive Shaft which is required when power is to be transmitted from engine to differential of an automobile. A yoke for a universal joint is used to join fork halves; each comprising a base component and a bearing component. During drilling and spot facing on the flanges of Yoke, vibrations takes place and it leads to tool breakage. Hence the tool changing time is increased. Thus there is a need to design a fixture to nullify the problems. We have designed such a fixture which will carry out the drilling operation efficiently. The newly designed fixture uses an insert type of drilling U drill which removes the material as

per requirement, which reduces the vibrations and tool breakage and ultimately reduces the tool changing time.

*Spot facing: Spot facing is the operation of smoothing and squaring the surface around and at the end of a hole so as to provide a smooth seat for a nut or for the head of a cap screw. Spot facing is generally done on castings and forgings.*

#### *Main Performance and Technical Data*

<i>Particulars</i>	
<i>Max Drill size</i>	<i>50mm</i>
<i>Spindle speed</i>	<i>3000rpm</i>
<i>Spindle Nose</i>	<i>BT 40</i>
<i>Spindle motor</i>	<i>5HP</i>
<i>Drive</i>	<i>Through timer, belt and pulley</i>
<i>Travel</i>	<i>100mm</i>
<i>LM Guides and Ball screw</i>	<i>Hiwin</i>

*Video link - <https://youtu.be/PR6qrLPnzGg>*

### *- PCB Drilling & Routing CNC Machine*



*PCB Drilling & routing CNC Machine offered come designed and developed using latest technology support and provides for reliable and consistent performance. Some of its features include:*

#### *Single Spindle CNC*

- Gantry type strong machine.*
- Programming in G code standard.*
- Very good strength for PCB routing.*
- Drill sequence designer/ editor.*
- Developed software as per Indian market requirement*

- User Friendly*

## *5. CNC CUTTING MACHINE*

### *- Automatic pipe cutting machine*



*A fully automatic pipe cutting machine with bundle cut option. Standard 90° cutting. PLC control machine with 7" touch screen interface with single length cutting schedule.*

*Counter stopper and resettable counter for complete data keeping. 6 interlock/ protection (alarms) eliminate malfunction or accident due human or other circumstantial mistakes/error. Length tolerance within +/- 0.2 mm. Self-written software allows continues upgrades which are free for all previous machine owners. On- board error detection system allows immediate help and repair of machine of*

*most parts. Manual use option to use the machine on manual mode.*

*User can feed in actual RPM required on the touch screen, no switch selection or chart calculation like other imported machine of same range. Input air pressure maintaining switch cum alarm. These features are not available with any machine of same range. Current overload protection is through software interlock, which is very precise, no chance of malfunction. Thus prevents blade breakage up to 80%.*



### Features:

- Auto feed (Bunch Cutting) – Auto Clamping – Auto Cut piece Ejecting, PLC Control Machine, Length Accuracy  $\pm 0.2$  through DRO length setting
- Main Motor 5HP/3HP with VFD

Particulars	
Max. OD	100mm
Max. size bunch	70X70
Max. Thickness	7mm
Bade size	250/275/300/315
Clamping	Auto-hydro pneumatic
Feed	Hydraulic/Servo
Cutter head Advancement	LM guide ball screw/hydraulic
Length setting	Through HMI
Max. / Min. length	50mm/3000mm

Video Link:

### - 3D Laser Cutting- Metal and Non-Metal



Cooling system with Automatic Alarm system.

Square rail and ball screw transmission enable machine high precision & stable performance

Optical components adopt imported USS 26 mirrors and ZNSE focus lens for high quality cutting effect.

Constant Optical source to fix the laser path ensure stable beam transmission.

Japan YASKAWA and PANASONIC servo motors and drives.

### Main performance & Technical Data

Particulars	
Working Area	1300X2500 / 1500X3000
Working Environment	Temperature 0-45 Degree, Humidity 5% to 95%
Cooling	Water
Laser output power	300W/500W / 1000W
Energy	0-100 Step less control
Adjustment	0-100% Adjustment(Software)
Laser Type	Co2 Sealed Laser Tube
Support Format	PLT,DST,DXF,BMP.AL, Support Auto CAD, CorelDraw
Control System	Digital Offline Control
Drive System	Servo motors & Drives with high precision Ball screw
Voltage	AC200V/110V $\pm$ 10 50Hz/60Hz
Accuracy	0.05mm
Letter Size	English :2mm

### - 3D laser cutting robot



- It is an extremely flexible high-precision cutting device.
- The entrance of three-axis laser guarantees the complete operation of the robot.
- No mechanical contact with the work piece and then simplifying the loading
- Low maintenance, 8 hour per year

- High execution speed
- Excellent level of finish of the board, lint-free
- High cutting speed
- Equipped with RF laser sources
- Low operating costs
- Programming

a} Off line via —robot studio

b} By self-learning

➤ The optic connection with articulated arm means that robots and lasers can be optimized for specific applications due to its high flexibility, for many applications such as:

- Finishing compounds of sports goods and protective equipment

Sl. No.	Description	Specification	Remarks
1	Robot to suit machine model	200T	
2	Strip (Kick) Stroke ( X Axis) (min)mm	250	Can be customized as per Requirement
3	Vertical stroke (Y Axis) (min)mm	800	
4	Traverse Stroke (Z Axis)(min)mm	1200	
5	C –Axis	90-180 Degree	
6	A- Axis ( rotation )	None	
7	Max Pay load (Kg)	4	
8	Placement/Unload Side	On Conveyor / work table	
9	X - Axis speed (m/s)	.3	
10	Y - axis speed -Vertical axis (m/s)	.5	
11	Z - Axis (m/s)	.3	
12	Part placement height from floor(mm)	1100	
13	Maximum part length(mm)		
14	Maximum part height(mm)		
15	Required Air pressure (Bar)	5-6	
16	Vacuum Circuit	Vacuum generator	Pneumatic gripper
17	Pneumatic Circuit	Yes	
18	freely programmable Input	Yes	

19	<i>freely programmable Output</i>	<i>Yes</i>	
20	<i>Control</i>	<i>PLC</i>	
21	<i>Teach Box</i>	<i>HMI</i>	
22	<i>Control Software</i>	<i>Ladder Base</i>	
23	<i>Gripper interface</i>	<i>PLC</i>	
24	<i>Conveyor Signal</i>	<i>Through Control Panel</i>	
25	<i>Gripper interface</i>	<i>PLC</i>	
26	<i>Gripper function</i>	<i>Suction (Vacuum)</i>	<i>Pneumatic gripper</i>

*Video Link:*

### ***-Robotic Plasma/Laser cutting and drilling for angles and channels***



<i>Machine Capability</i>	
<i>Produces Quality Bolt Holes (Approved for Structural Joints)</i>	<i>YES</i>
<i>Maximum Hole Diameter</i>	<i>24" (609 mm)</i>
<i>Produce Layout Marks for Clips &amp; Stiffeners</i>	<i>YES</i>
<i>Downloads from Design / Detailing Software (TEKLA, SDS/2, StruCAD, ProSTEEL, AUTOCAD)</i>	<i>ANY SHAPE</i>
<i>Time to Cut-to-Length one W24 x100</i>	<i>1 MIN 15 SEC</i>
<i>Automatic Part Handling (set it and forget it)</i>	<i>YES</i>
<i>Cut Copes with CNC Accuracy</i>	<i>YES</i>
<i>Make Cutouts for Bracing &amp; Knife Connections</i>	<i>YES</i>
<i>Text Scribing (any size)</i>	<i>YES</i>
<i>Fabricate Complete Stair Stringers (including Tread Layout)</i>	<i>YES</i>
<i>Miter Cut</i>	<i>YES</i>
<i>Cut Slots &amp; Any Other Shapes</i>	<i>YES</i>
<i>Weld Prep Bevel Cut</i>	<i>YES</i>
<i>Rip I-Beams into T-Beams</i>	<i>YES</i>
<i>Tool Change Required</i>	<i>NEVER</i>
<i>Overall Production Output</i>	<i>FASTEST</i>
<i>Price</i>	<i>MID RANGE</i>



## **- Plasma Cutting Machine**



*A versatile CNC cutting machine which can be applied throughout the industry reaching from small workshops to big factories. The application range of the entry version with rails in X direction dedicated to fully automated oxyfuel cutting or cutting with conventional plasma can be enhanced to a variety of high precision plasma cutting applications including pipe, profile or elbow cutting and marking.*

*We provide quality Plasma Oxy Fuel Cutting Machines. These machines have dual usages such as it is used for plasma as well as oxy fuel. These machines are suitable for accurate cutting of carbon steel with various thickness, stainless steel and non-ferrous metal plate. These machines are non-corrosive and require minimal maintenance.*

### *Features:*

- *Corrosion resistance*
- *Durability*

### *Main Performance and Technical Data*

<i>Particulars</i>	
<i>Working length</i>	<i>3000 – 30000 mm</i>
<i>Working width</i>	<i>1500 – 4000 mm</i>
<i>Max. number of tool stations</i>	<i>4 (6G)</i>
<i>Max. thickness of material cut by plasma</i>	<i>according to a plasma source</i>
<i>Max. thickness of material cut by oxyfuel</i>	<i>150 mm (optionally 200 mm )</i>
<i>Positioning speed</i>	<i>up to 30 m/min (depends on version)</i>
<i>Positioning accuracy</i>	<i>± 0,12</i>

*Video Link:*

## **- Portable Plasma / Flame Cutting Machine**



### *Description:*

- *Machine Base have good stability*
- *Double side rail with high accuracy and*
- *Detachable structural Design convenient to Transport and install*
- Rigid Rail made in Steel*
- *CNC micro Step control Technology Light & portable*

### *Characteristics:*

- *High reliability, such as anti-plasma jamming, and lightning strike, Surge*
- *32-64MB large users program storage capacity.*

- During plasma processing, auto-complete the speed Control of the corner
- Rich software features and practical flame/plasma cutting processes
- Dynamic graphics zoom in 1-8X of the graphics, fixed point for automatic tracking
- Using USB Flash Drive reading helps in easy program management & software up-gradation
- Built-in the rich graphics, makes programming easy to learn
- It can be used for cutting any shape that consists of arc and straight lines

#### Main performance & Technical Data

Particulars	
Input Voltage	220V
Power Frequency	50Hz
Rated Power	180W
Display	7inch
Gas Depression	Max 0.1 MPA
Oxygen Depressions	Max 1.5 MPA
Suitable Gas	Acetylene, Proagas, Methane
Cutting Type	Flame
Total weight(depending on model)	80Kg to 150Kgs
Effective Cutting Width	According to Model
Effective cutting length	According to Model
Effective cutting thickness	Flame cutting : 0-150mm Plasma Cutting: 6-150mm
Speed	Plasma cutting 0-4000 mm/min unload > 8m Flame cutting 0-1000 mm/min unload > 8m

Video link:

### - Fiber Laser Cutting Machine



In recent years, laser cutting technology has become more and more widely used in metal cutting and non-metal cutting in the processing industry of sheet metal, handicrafts, etc. The technology of laser cutting machines is quite mature, and the optical fibre cutting machine is the cutting machine using the fibre laser generator as the light source is different from the small laser engraving machine in that it can perform both plane cutting and bevel cutting, and the edges are neat, smooth, and widely used, compared with ordinary laser cutting machines. It saves space and gas consumption, and has

a high photoelectric conversion rate. It is a new energy-saving and environmentally friendly product and one of the leading technology products in the world.

#### Features:

- Ultra-low cost
- Only consumes electricity per hour - KW

- *High speed*
- *High efficiency*
- *High precision*
- *Cutting speed of up to ten meters per minute*
- *Cutting edge quality*
- *Easy to operate*
- *Flexible and convenient.*

#### *Main Performance and Technical Data*

<i>Particulars</i>	
<i>Machine type</i>	<i>TC-A3-3015-T5</i>
<i>Name</i>	<i>Metal Laser Cutting Machine</i>
<i>X, Y working area</i>	<i>1500mm*3000mm</i>
<i>Cutting focus camera</i>	<i>F=80mm</i>
<i>Master/slave pulsed laser power supply</i>	<i>Output-500w, frequency-300Hz, Power supply width- 0.5-2ms</i>
<i>Laser tube</i>	<i>YAG 1.64um, double gold –plating cavity</i>
<i>Computer</i>	<i>19”LCD</i>
<i>Cutting Interface card</i>	<i>CNC 3000 control card</i>
<i>Cutting Software</i>	<i>PLT.DXF format and etc.</i>
<i>Cooling System</i>	<i>Refrigeration power : 4 HP</i>
<i>Driving motor</i>	<i>Japan Yaskawa Servo-driven</i>
<i>X/Y/Z screw</i>	<i>Taiwan Hiwin C3 grade grinding screw</i>
<i>X/Y/Z rail</i>	<i>25H grade square rail HIWIN</i>
<i>Repeatable Positioning Accuracy</i>	<i>±0.03/300mm</i>
<i>Empty Speed</i>	<i>0-20000mm/min</i>
<i>Cutting Speed</i>	<i>0-15000mm/min</i>

*Video link*

## **6. ROBOTS**

### **- Epson Robots:**

Neptune Systems have arrangement with Epson Robots which are the industrial robot of choice for super high precision, high speed, high performance, ease of use and overall value. From our 300+ G-Series robots with respectabilities down to 5 microns to our unique RS-Series SCARA+ robots Epson leads the industry in providing a wide variety of selection for your next SCARA robot application. But our product line only starts with SCARA robots. We offer a complete line-up of SCARA, 6-Axis and Linear Modules and unlike most of our competitors, we also offer a 2 tiered controller approach with our value oriented RC180 Controller and our powerful Industry Leading Open Architecture RC620+ and new RC700A Controllers. Our goal is to provide our customers with the power of choice to select the right robot.

## SCARA Robots



*With over 300 models available, Epson G-Series robots provide extreme Power of Choice for our customers. Our G1 Mini SCARA robots have repeatability down to 0.005mm and our G20 Heavy Duty SCARA robots can handle extremely heavy payloads (up to 20Kg). Models are available from 175mm to 1000mm in length with Clean/ESD, IP54 or IP65 (dust or wash down) as well as wall, ceiling, and table top models available. Also, with our new Max- E work envelope saving design, curved arm options for the G3 and Max-R high performance arm rigidity design, G-Series robots lead the industry in variety, features and performance. Show us your application and chances are we have the right SCARA robot for your next job.*

## 6 Axis Robots



*EPSON C8 6-axis robots add more payload, more reach and faster cycle times to the C-Series 6-axis line-up. In addition, EPSON C8 arms have the same unique Slim Line design as the C4 that allows the arms to reach into confined/restricted work spaces from many angles with smooth motion not achievable with competitive models. The Slim Line body and compact wrist of the C8 enables great motion range and less mechanical restrictions making C8 robots the most compact and flexible robots in the market today. And with the C8, the maximum payload is now up to 8kg. With more payload, more speed more reach with 700, 900 and 1400mm models there are more possibilities, and more applications for EPSON C-Series Robots.*

## KUKA Robots



*NEPTUNE Offers a comprehensive range of industrial KUKA robots. You will always find the right, no matter how challenging the application:*

- Six-axis robots in virtually all sizes with different payload capacities and reaches and a wide range of different variants, including used robots.*
- HRC-capable lightweight robots for direct human-robot collaboration*
- Heat- and dirt-resistant robots for extreme ambient conditions*
- Industrial robots in cleanroom variants for strict hygiene requirements*
- Small robots with waterproof equipment suitable for use in machine tools*
- Press-to-press robots with enormous reaches for loading and unloading large parts in press- linking*
- Palletizing robots for handling tasks of all kinds*
- Welding robots designed for accuracy and utmost agility*
- Shelf-mounted robots in all variants*



➤ *High-accuracy robots for utmost precision*

Video link: <https://www.youtube.com/watch?v=ThWHHlHr-80&t=60s> ,  
<https://www.youtube.com/watch?v=CBhRPQkJxE8>  
<https://www.youtube.com/watch?v=u0xG48aQ2xo&t=34s> ,  
<https://www.youtube.com/watch?v=GFwI7aWZV8Q>

### *ABB Robots*

*ABB is a leading supplier of industrial robots and robot software, equipment and complete application solutions. Neptune offers a unique solution to following milling and 3D Laser Cutting for metal and non-metal industrial applications.*



### *MILLING APPLICATION*

*ABB milling robots are able to cut away material from a work piece to make specific shapes in sheet metal. By using ABB milling robotics in your workplace, you are introducing a new level of accuracy and precision to your milling application. One model, the ABB IRB 6660, is designed for versatile machining and milling applications.*

Video link: <https://www.youtube.com/watch?v=gn0whytzD3o&t=2s>

### *GANTRY Robot*



*For Injection Moulding Machine (Range from 250 Tons to 1350 Tones)*

*Features:*

- *Increase in Productivity*
- *Reduces Cycle Time*
- *No Human Intervention*
- *Low Power Consumption*
- *3 Axis Servo along with C Axis*
- *Robust Design*
- *Rack & Pinion For linear motion*
- *Multi-Layer safety*
- *Customization as per requirement*

### *Main Performance and Technical Data*

<i>Sl. No.</i>	<i>Description</i>	<i>Specification</i>	<i>Remarks</i>
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<i>2</i>	<i>Strip (Kick) Stroke ( X Axis) (min)mm</i>	<i>250</i>	<i>Can be customized as per requirement</i>

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4	Traverse Stroke (Z Axis)(min)mm	1200	
5	C –Axis	90-180 Degree	
6	A- Axis ( rotation )	None	
7	Max Pay load (Kg)	4	
8	Placement/Unload Side	On Conveyor / work table	
9	X - Axis speed (m/s)	.3	
10	Y - axis speed -Vertical axis (m/s)	.5	
11	Z - Axis (m/s)	.3	
12	Part placement height from floor(mm)	1100	
13	Maximum part length(mm)		
14	Maximum part height(mm)		
15	Required Air pressure (Bar)	5-6	
16	Vacuum Circuit	Vacuum generator	Pneumatic Gripper
17	Pneumatic Circuit	Yes	
18	freely programmable Input	Yes	
19	freely programmable Output	Yes	
20	Control	PLC	
21	Teach Box	HMI	
22	Control Software	Ladder Base	
23	Gripper interface	PLC	
24	Conveyor Signal	Through Control Panel	
25	Gripper interface	PLC	
26	Gripper function	Suction (Vacuum)	Pneumatic Gripper
27	Pneumatic Gripper	Servo	
28	Machine Interface	Digital Interface	
29	Part Pick Drop Conveyor	Optional	
30	Rejection conveyor		
31	Safety Fencing -		
32	Safety	Interlocking with machine	Ref. Euro map 67
33	Installation & Training	Yes	

## ***Customized Robot***



*Neptune system have own customized 4-Axis robot for Shot Blasting application.*

*It's having a payload of 15 kg.*

*It has the reach of 1900mm and the accuracy of 0.03 mm.*

*Video Link:*

## ***- Our Solutions***

*Epson Robots has been a leading supplier to many different manufacturing industries for over 30+ years. Our customers include many fortune 100 companies as well as small manufacturing shops with thousands of different applications currently running throughout the world. While our expertise lies in high speed, high precision assembly and material handling as well as many process applications it's tough to pin us down to just a few application types. We run into new industries, new applications and new challenges every week and our commitment to our customers is to help them solve their manufacturing problems through the use of robots and automation tools. The bottom line is that we help manufacturing companies solve tough manufacturing problems by improving quality, increasing throughput, improving yields and helping companies improve their bottom-line numbers through innovative manufacturing solutions. Some of the industries we serve include the following:*

### ***Automotive Solutions***

*Epson Robots have helped leading tier 1 and tier 2 automotive suppliers build world-class manufacturing solutions for over 30+ years. With extensive knowledge of the Automotive Industry and applications, chances are we have seen your application before or something similar and can help provide a solid solution to meet your automotive manufacturing needs. With high speed and precision capabilities, Epson Robots are the robot of choice for most small to medium automotive applications. Shown below are just a few of the applications we have worked on for automotive components, sub-assemblies and more.*

- Mirror / Glass Assemblies*
- Screw driving for transmission components*
- Ignition module assembly*
- Head and tail light assembly and test*
- Brake line assembly*
- Crankshaft and camshaft sensor assembly*
- Hood and trunk latch / lock assembly*
- Fuel injector assembly*
- Bearing assembly*

## ***Food Solutions***

*Epson has wash down (IP65) robots made just for the food industry. With our integrated conveyor tracking and vision guide options, working with food from conveyors for packaging or processing is one of our strong points. Whether it be bread, cakes, pizza, sandwich assembly, meat handling or others we have the right Epson Robot for the job.*

- *Candy bar material handling*
- *Pizza crust quality assurance inspection*
- *Pre-processed food material assembly*
- *Pre-processed food weighing and packaging*
- *Singulating of cheese products*
- *Vegetable processing and inspection*
- *Food product quality sorting*
- *Cake decorating*

## ***Medical Solutions***

*Epson Robots has helped a large number of world class medical, pharmaceutical and lab automation companies build world class automation systems for a wide range of applications. From dental instruments to pacemaker assembly to blood handling, Epson Robots are involved in a broad range of mission critical high performance applications.*

*With some of the tightest tolerance requirements, FDA testing requirements, medical system certifications, etc. the medical industry has high manufacturing requirements which is perfect for using Epson Robots. As the reliability leader in small assembly and material handling robots, our G-Series SCARA and C3 6-Axis robots are breaking into new medical applications on a regular basis. Shown below are just a few of the many medical related applications we have worked on.*

- *Scalpel blade machining*
- *Bariatric device testing*
- *Dental instrument insert moulding*
- *Small sized battery pack assembly*
- *Cardiac pacemaker battery assembly*
- *Pipette, test tube and syringe handling/packaging*
- *Dental drill bit packaging*
- *Medical and dental implant assembly*
- *Shunt assembly*
- *Hearing aid assembly*
- *Precision fluid dispensing for DNA testing*



- *Contact and glass lens manufacturing*

### **Lab Automation Solutions**

*Epson Robots use in lab automation has been growing at rapid pace over the past few years due to the addition of our C3 6-Axis robots and wide variety of G-Series and unique RS-Series SCARA robots. Applications such as pipette handling or dispensing, precision fluid dispensing, blood analysis/testing, and many more are being done by Epson Robots in labs and hospitals every day. We have extensive experience in a wide variety of lab automation applications so let us help you find a solution for your next application. Shown below are a few of the applications where Epson Robots are being used.*

- *Pipette packaging*
- *Test tube capping*
- *Handling of test tubes for diagnostics*
- *Blood analysis/testing*
- *Precision fluid dispensing for DNA testing*
- *Drug research testing*
- *Well plate inspection & processing*
- *Test tube inspection*

### **Electronic Solutions**

*Epson Robots have a long history as the solution of choice for the semiconductor and electronics industries. With a large selection of ISO 3 clean room robots including G-Series SCARA and C3 6-axis models, Epson robots are commonly found in clean rooms throughout the world. But our electronics manufacturing experience doesn't stop there. With applications from custom chip assembly to wire bonding, cell phone manufacturing and Aerospace component assemblies, Epson Robots are used for a wide range of Electronic and Semiconductor related applications. Shown below are a few applications where are Epson Robots are currently being used.*

- *Custom chip assembly*
- *Wire bonding*
- *Automated circuit board testing*
- *Electronic encoder assembly*
- *Laser diode fibre optic test system*
- *Electronic components assembly*
- *Automated cleaning, soldering and dipping of circuit board components*
- *PC board assembly*
- *Automated board inspection*
- *Wafer handling*
- *Touch panel assembly*

- *Connector assembly*

## **Solar Solutions**

*Epson Robots are used for material handling for different stages of solar panel assembly. From alignment for stringing to testing and inspection, Epson Robots are busy building Solar Panels for a number of solar power companies throughout the world. With high yield in handling delicate photovoltaic cells being critical in Solar Panel manufacturing, Epson Robots precision and smooth motion help companies succeed in maximizing yields and overall throughput. Here are a few areas where Epson Robots are being used in the solar energy industry.*

- *Alignment for Stringing*
- *Test and sort of unpackaged cells*
- *PV cell inspection*
- *Solar panel assembly*
- *Converter encapsulation*
- *Wafer handling*

## **Consumer Solutions**

*Consumer products are one of the broadest areas supported by Epson Robots. The applications possibilities for robots are endless and Epson Robots are used for hundreds and hundreds of different consumer product applications today. From paint brush manufacturing to window and door assemblies to speakers and even chain saws and weed trimmers Epson Robots have built millions of consumer products used in the world today. Our wide variety of arm types and selection as well as high precision and high performance allows us to find the perfect fit for most consumer product applications brought our way. Show us your parts and we'll be glad to help find solutions for your next consumer product application.*

- *Appliance touch panel assembly*
- *Paint brush assembly*
- *Electronic toothbrush assembly*
- *Door lock assembly*
- *Printer component assembly*
- *Speaker manufacturing*
- *Chain saw motor assembly*
- *Light bulb assembly*
- *Appliance assembly*
- *Air freshener assembly*
- *Writing instrument assembly*

## ***Packing Solutions***

*With robots capable of handling up to 20Kg payloads and with reaches of up to 1000mm and vertical reaches up to 450mm Epson Robots are commonly used for packaging applications for a wide variety of industries. From meat and produce to medical and pill packaging our robots and robot systems are able to singulate, find with vision, inspect before packaging, and much more.*

- *Meat packaging*
- *Medicine packaging*
- *Modular plastic components packaging*
- *Produce inspection and packaging*
- *Pill dispensing/packaging*
- *Automated prescription fulfilment systems*
- *Syringe packaging*
- *Memory module packaging*
- *Pharmaceutical tablet packaging*

## ***Industrial Solutions***

*Epson Robots are ideal for a wide variety of industrial product manufacturing. With protected (wash down/dustproof) models available, some of our robots work in very nasty environments building products 24/7 365 days a year. Reliability and high performance is the key in industrial product manufacturing applications and those are some of Epson Robots strongest traits. With hundreds of industrial applications being done today, we're sure we can help you with your next application as well. Show us your parts and we'll be glad to help you find solutions for your next industrial assembly or manufacturing application.*

- *Coil winding around motor shaft*
- *Industrial consumable load/unload*
- *Light bulb assembly*
- *Hydraulic valve testing and assembly*
- *Battery manufacturing*
- *Flooring manufacturing*
- *Hinge assembly*
- *Smoke detector assembly*
- *Industrial flow and couplings assembly*
- *Casket assembly*

## Applications videos

Over the years Epson has helped thousands of companies with 10's of thousands of applications. Most of these applications are proprietary to the companies we help but from time to time we are allowed to share some of our customers incredible manufacturing solutions. We also do many demos for trade shows every year. You can see these customer solution videos and the trade show demos here. We have grouped the videos both by application and by robot type. There are a ton of different applications and different robots here so be sure to look closely as we might even have a sample video of something similar to your next application.

G-Series	General Videos and Trade Show Demos	<a href="https://youtu.be/6SH6S6gTbHM">https://youtu.be/6SH6S6gTbHM</a>
G-Series	General Videos and Trade Show Demos	<a href="https://youtu.be/0hFpJcfNUZs">https://youtu.be/0hFpJcfNUZs</a>
G-Series	Vision Guidance	<a href="https://youtu.be/iFvjFO5Pbv8">https://youtu.be/iFvjFO5Pbv8</a>
G-Series	Vision Guidance	<a href="https://youtu.be/eHed2zqkP5k">https://youtu.be/eHed2zqkP5k</a>
G-Series	Pick and Place, Parts Transfer	<a href="https://youtu.be/vpIN3desi_g">https://youtu.be/vpIN3desi_g</a>
G-Series	Labels, Boxes, Box Cutting, Palletizing	<a href="https://youtu.be/3w-4ITkFAWo">https://youtu.be/3w-4ITkFAWo</a>
G-Series	Robot Force Sensing	<a href="https://youtu.be/noILz7YPadM">https://youtu.be/noILz7YPadM</a>
G-Series	Packaging Applications	<a href="https://youtu.be/pI6IP6FWNUM">https://youtu.be/pI6IP6FWNUM</a>
LS-Series	General Videos and Trade Show Demos	<a href="https://youtu.be/T7llyKXV7g">https://youtu.be/T7llyKXV7g</a>
LS-Series	General Videos and Trade Show Demos	<a href="https://youtu.be/pzbfn3K1c_c">https://youtu.be/pzbfn3K1c_c</a>
Pro Six 6-Axis Robots	Dispensing and De burring	<a href="https://youtu.be/FWxAnOztpmA">https://youtu.be/FWxAnOztpmA</a>
Pro Six 6-Axis Robots	Packaging Applications	<a href="https://youtu.be/nY0bh3mrD0c">https://youtu.be/nY0bh3mrD0c</a>
RS-Series	Vision Guidance	<a href="https://youtu.be/uU53jpEv0gA">https://youtu.be/uU53jpEv0gA</a>
RS-Series	Pick and Place, Parts Transfer	<a href="https://youtu.be/3bvtkbdd6eo">https://youtu.be/3bvtkbdd6eo</a>
RS-Series	Lab Automation	<a href="https://youtu.be/8uobJGNcnj8">https://youtu.be/8uobJGNcnj8</a>
S5-Series	General Videos and Trade Show Demos	<a href="https://youtu.be/GzDFrKNdDzE">https://youtu.be/GzDFrKNdDzE</a>
S5-Series	Lab Automation	<a href="https://youtu.be/TJrC2hEpBwk">https://youtu.be/TJrC2hEpBwk</a>

## Used robots

We deal in all type of used robots, robot and controller spare parts and its integration & service as well. So you can rely on us not only for buying and selling the robots but for the complete solution to optimize the production.



### • FANUC ROBOT:

Assembly, palletizing, packaging, machine tending, part transfer, material removal, welding, painting, and dispensing robots are designed to meet the specifications of our clients automation solution.



- **KUKA ROBOT:**

*KUKA Robot presents the absolute specialist for arc welding: the KR 5 arc HW (Hollow Wrist). KUKA offers you a broad range of ready-made application software, tailored to the most common robot applications.*

- **ABB ROBOT:**

*ABB is a global leader in power and automation technologies that enable utility and industry customers to improve their performance while lowering environmental impact.*

- **MOTOMAN ROBOT:**

*The Motoman HP robot series is a precision-based line of robots used for material handling applications. The large payload range and high flexibility of this robot series also makes them candidates for arc welding, spot welding, and plasma cutting applications.*

- **KAWASAKI ROBOT:**

*Kawasaki Robotics Paint Systems Group can design, build and install anything from a one robot paint cell up to a fully automated, multi-robot, high production automotive paint line.*

- *Robot to carry Payloads-From 5kg till 160kg As per Customer Application Requirement.*

- *Robot to reach - From 1000mm Till 2500mm As Per Customer Application Requirement.*

*We have more than 500 robots in stock which includes FANUC, KUKA, ABB, NACHI, KAWASAKI, etc.*

## **7. COBOTS**

*Neptune Systems have arrangement with Universal Robots which are the industrial robot of choice for super high precision, high speed, high performance, ease of use and overall value. The e-Series family has 3 members – the UR3e, UR5e and UR10e. Each cobot has a different reach and payload, but they share the same precision, accuracy, and dependability that makes them a valuable addition to any production facility.*

### **- UR3e**



*The e-Series UR3e is the small but powerful version of the ground-breaking collaborative robot technology from Universal Robots, market leader in cobots. The UR3e lets your business seamlessly integrate a cutting-edge robot into your existing production environment to fully explore and benefit from the opportunities that automation offers. Boost productivity, improve quality and increase job satisfaction.*

*The UR3e lets anyone program in just minutes. Use the intuitive Teach Pendant to program by simply moving the cobot to the desired waypoints or select from pre-programmed functions on the touchscreen. The built-in Force Torque sensor delivers maximum precision and allows the UR3e to be programmed for highly sensitive applications.*

### - UR5e



*The UR5e is ideal for automating processing tasks with its 5 kg payload and 850mm reach radius. Easy to program and fast to set up, the UR5e strikes the perfect balance between size and power, this versatility is supported by the Universal Robots + ecosystem, an online showroom that provides cutting-edge products to customize the UR robot application that perfectly meets your requirements.*

*Quickly and easily automate almost any task with virtually unlimited applications in your production and deploy the UR5e as often as required.*

### - UR10e



*The e-Series UR10e is the most powerful version of the ground-breaking collaborative robot technology from Universal Robots.*

*The UR10e is ideal for automating processing tasks with its 10 kg payload and 1300 mm reach radius.*

*Our cobots are certified by TUV NORD for ISO 10218-1 and safety functions are rated as Cat.3 PL d according to ISO 13849-1 and, subject to risk management, can typically work safely alongside operators on the production line, all thanks to built-in and customizable safety features.*

## 8. AUTOMATED GUIDED VEHICLE (AGV)



*An Automatic Guided Vehicle (AGV) is a mobile robot that follows markers or wires in the floor, or uses vision or lasers. They are most often used in industrial applications to move materials around a manufacturing facility or a warehouse. Application of the automatic guided vehicle has broadened during the late 20th century.*



*Automated guided vehicles (AGV) increase efficiency and reduce costs by helping to automate a manufacturing facility or warehouse. The AGV can tow objects behind them in trailers to which they can autonomously attach. The trailers can be used to move raw materials or finished product. The AGV can also store objects on a bed. The objects can be placed on a set of motorized rollers (conveyor) and then pushed off by reversing them. Some AGV's use for lifts to lift objects for storage. AGV's are employed in nearly every industry, including pulp, paper, metals, newspaper and general manufacturing. Automated Guided Vehicle from Ingenium uses the Tape for navigation. The tapes can be one of two styles: magnetic or coloured. One major advantage of tape over wired guidance is that it can be easily removed and relocated if the course needs to change.*

*It has load carrying capacity up-to 200 to 500 kg and pulling or towing capacity up-to 1000 kg.*

Video link:

## 9. CNC ROUTERS

### - Metal Engraving Machine- I



The metal engraving machine uses a laser beam to remove a specific portion of the metal material to achieve the desired effect or logo. In metal engraving applications, the laser beam is like a chisel used for engraving, cutting away excess metal material such as a small CNC engraving machine. Suitable materials are mould industry engraving, plastic mould industry, watch glasses industry, mobile phone manufacturing, fine die, bronzing die, high-frequency die, embossing wheel die and graphite electrodes, copper electrode processing.

Features:

- Strong Steel
- Good Stability
- Large Bearing Capacity

#### Main Performance and Technical Data

Model No	I3STC-660
X,Y,Z Travel	600mm*600mm*250mm
Table size	600mm*600mm
Max Load of Material	300kg
Accuracy	±0.02/300mm
Positioning Accuracy	±0.005/300mm
Table	Casting Iron, Grinding
Spindle Power	4.2KW Constant Spindle
Spindle Speed	6000-24000(r/min)
Controlling System	Taiwan SYNTEC
The max cutter clamp	ER25
3axis Servo motor power	Japan Yaskawa Servo-driven 750w
3 axis max moving speed	10m/min
3axis max cutting speed	8m/min
Cooling system	Water cooling + Chiller
The max cutter diameter	Φ16mm
Net weight	2800kg
Machine size	1600mm*2000mm*1900mm
Sidewall, Beam, Body, Chassis	Casting iron with CNC router processing
Y axis dust-proof	Stainless dust-proof
X/Y/Z guide rail	Taiwan Hiw in guide rail with HG Range 25 Square rail
X/Y/Z ball screw	Taiwan Hiw in Range C3 Grinding Screw
Movement Way	Table Moving

Video Link

## - Metal Engraving Machine- II



In the metal engraving machine industry, the most widely used application automation products are CNC metal engraving machines. The CNC metal engraving machine generally consists of an input device, a numerical control system, a servo system, a measurement link, and a metal-engraving machine tool body (the mechanical components that make up the metal engraving machine body). The numerical control device is the core and leader of the CNC metal engraving machine. It completes the processing and calculation of all processing data, and finally realizes the command of each function of the CNC metal engraving machine. It contains the circuits of microcomputers, various interface circuits, CRT monitors and other hardware and corresponding software such as small CNC engraving machines.

### Main Performance and Technical Data

Item no	3STC-6090XB
Platform Size	650mm(W)*1000mm(L)
Working size	600mm(W)*900mm(L)
Z axis Travel	180mm
Feeding Height	250mm
Fuselage Structure, Beam	Cast Iron machined by CNC center
Frame	Steel machined by CNC center
Table material	3mm*5mm*24mm(T slot aluminium)
Z axis Clevis	U-shaped cast aluminium machined by CNC center
Sidewall of Y axis	Cast Iron machined by CNC center
Sheet metal for X axis Drag Chain	Cast Iron machined by CNC center
Sheet metal	2mm baking paint sheet metal
X,Y,Z axis Transmission	Hiwin 2510 C5 grade Ball screw
Rail Configuration	Hiwin 20 Square Guide rail
Positioning accuracy	$\pm 0.03/300\text{mm}$
Spindle power	2.2KW
Spindle Rotating Speed	0-24000r/min
Empty speed	0-12000mm/min
Processing Speed	0-8000mm/min
Resolution	0.00625/Pulse
Converter	2.2KW Converter( Sunfar)
Y axis Dual drive	Shenzhen Leadshine Stepper motor 86
X, Z axis Driving	Shenzhen Leadshine stepper motor 86
Movement Control System	NC studio Control System
Cooling System	Water Pump
Code format	G-code,U00, MMG, NC
Stainless Steel Water Tank	2mm
Tool diameter	3.175mm, 4mm, 6mm, 8mm, 10mm, 12.7mm



<i>Movement way</i>	<i>Gantry Moving</i>
<i>Actual weight</i>	<i>1400kg</i>
<i>Machine Power</i>	<i>380V50Hz±10 (internal switch power)</i>
<i>Electric Box</i>	<i>With Tool-checking Hand wheel, Man-machine interface electric cabinet</i>

*Video Link:*

### **- Ceramic Mould Engraving Machine:**



*The ceramic engraving machine can carry out high-tech automatic computer-controlled engraving equipment for three-dimensional drawing and graphic engraving on natural stone, glass and ceramics. At this time, the three-dimensional stone carving industry is undergoing a major transformation. Three-dimensional stone engraving machine can be carved in stone, ceramics, ceramic tiles, calligraphy and painting, to meet the requirements of personalized home decoration, tooling art design, can be used as Decoration Company, handicraft industry, stone industry, inscription industry, Ceramics Company advanced engraving processing equipment.*

*Features:*

- *Strong steel,*
- *High processing speed,*
- *High precision,*
- *Large diameter rotary shaft can be configured*

*Main Performance and Technical Data*

<i>Item no</i>	<i>4STC-6090HC</i>
<i>Platform Size</i>	<i>1000mm(W)*1300mm(L)</i>
<i>Max working range</i>	<i>600mm(W)*900mm(L)</i>
<i>Z axis Travelling Height</i>	<i>550mm</i>
<i>Feeding Height</i>	<i>650mm</i>
<i>Structure</i>	<i>8mm Square tube</i>
<i>Table material</i>	<i>3mm*5mm(sidewalls)*24mm.Thickenedaluminium</i>
<i>Thickness of gantry</i>	<i>8mm Square tube</i>
<i>Sheet metal</i>	<i>2mm baking paint sheet metal</i>
<i>X,Y,Z axis Transmission</i>	<i>Hiwin 2510 Auto Anti-gap &amp; double nuts Ball screw</i>
<i>Rail Configuration</i>	<i>Hiwin 25 Linear Square Guide</i>
<i>Positioning accuracy</i>	<i>±0.05/300mm</i>
<i>Spindle power</i>	<i>2.2KW</i>
<i>Spindle Rotating Speed</i>	<i>0-24000r/min</i>
<i>Empty speed</i>	<i>0-20000mm/min</i>
<i>Processing Speed</i>	<i>0-20000mm/min</i>
<i>Resolution</i>	<i>0.00625/Pulse</i>

<i>Converter</i>	<i>2.2KW Converter( Sunfar)</i>
<i>Y axis Driving Motor</i>	<i>Shenzhen Leadshine 86</i>
<i>X, Z axis Driving</i>	<i>Shenzhen Leadshine 110</i>
<i>Movement Control System</i>	<i>NC studio Control System-53B</i>
<i>Cooling System</i>	<i>Pump</i>
<i>Carving Instruction</i>	<i>G-code, ENG, U00, MMG, NC</i>
<i>Stainless Steel Water Tank</i>	<i>2mm</i>
<i>Collet</i>	<i>3.175mm, 4mm, 6mm, 8mm, 10mm, 12.7mm</i>
<i>Movement way</i>	<i>Gantry Moving</i>
<i>N.W 1000kg</i>	
<i>Machine Power</i>	<i>110/220/380V50Hz±10 (internal switch power)</i>
<i>Electric Box</i>	<i>Computer Cabinet</i>

*Video Link:*

## **- CNC Wood Working Engraving Machine**



*Engraving machine, CNC woodworking engraving machine, compared to artificial sculpture, woodworking engraving machine operation is easier, and the effect of carving is more exquisite than most artificial sculpture. Can sculpt a lot of detailed patterns, and more and more accurate, has brought great help to the current carpenters, but also let us enjoy more carpentry design engraving.*

*Features:*

- Large-scale high-speed multi-function 8 CNC woodworking engraving machine*
- Capable of processing three-dimensional process*
- Complex technology*
- Can be carved 360 degrees of the human body, Buddha statues, sculptures, crafts, furniture and so on.*

*Main Performance and Technical Data*

<i>Item no</i>	<i>9STC-2412-8</i>
<i>Platform Size</i>	<i>2400mm(W)*1400mm(L)</i>
<i>Max working range</i>	<i>2400X1200mm Φ300*1200mm</i>
<i>Z axis range</i>	<i>250mm</i>
<i>Max Height of material</i>	<i>450mm</i>
<i>Machine Structure</i>	<i>8mm thick heavy-duty tubular steel frame</i>
<i>Surface material</i>	<i>Thickened Aluminium</i>
<i>Z axis clevis</i>	<i>U-shaped cast aluminium machined by CNC center</i>
<i>Sidewall of Y-axis</i>	<i>Cast iron machined by CNC center</i>
<i>Fuselage</i>	<i>8mm Steel machined by CNC center</i>

<i>Sheet metal for X-axis Drag Chain</i>	<i>Cast Aluminium machined by CNC center</i>
<i>The Beam</i>	<i>8mm steel machined by CNC center</i>
<i>Frame</i>	<i>6mm steel machined by CNC center</i>
<i>Sheet metal</i>	<i>2mm baking</i>
<i>Absorption Method</i>	<i>With T-slot for clamp fixturing</i>
<i>X,Y Transmission</i>	<i>Germany Slanting Rack</i>
<i>Z Transmission</i>	<i>HIWIN 25 Ball screw</i>
<i>XYZ axis dual drive</i>	<i>Stepper Motor Leadshine 110</i>
<i>Rail Configuration</i>	<i>HIWIN 25 Square guide rail</i>
<i>Positioning accuracy</i>	<i>±0.1/300mm</i>
<i>Spindle power</i>	<i>8*2.2kw water cooling(4axis)</i>
<i>Spindle Speed</i>	<i>0-24000r/min</i>
<i>Empty speed</i>	<i>0-20000mm/min</i>
<i>Processing Speed</i>	<i>0-15000mm/min</i>
<i>Resolution</i>	<i>0.00625/Pulse</i>
<i>Converter</i>	<i>8 Sunfar Brand Converter</i>
<i>Control System</i>	<i>V-10 four axis original controlling system</i>
<i>Cooling System</i>	<i>Water Pump</i>
<i>Code Formats</i>	<i>G-code, U00, MMG, NC</i>
<i>Tool diameter</i>	<i>3.175mm, 4mm, 6mm, 8mm, 10mm, 12.7mm</i>
<i>Movement way</i>	<i>Gantry Moving</i>
<i>Actual Weight</i>	<i>3500kg</i>
<i>Machine Power</i>	<i>380V50HZ±10 (internal power)</i>
<i>Electric Box</i>	<i>Integrated Computer control cabinet</i>
<i>Cylindrical Machining range</i>	<i>Φ300x1200mm</i>

*Video Link*

### ***Double Woodworking Engraving Machine:***



#### *Features:*

➤ *Heavy bed, not easy to deform, the product is smooth, not easy to break the knife. In the work process, the carving speed is very fast, the power is very large, and it cannot shake and be more stable in high-speed processing.*

➤ *Each spindle is equipped with a separate drive, which is more powerful, more stable, and not easily damaged. Constant power high-speed spindle, a large amount of cutting, 4 bearing motor is not easy to wear.*

➤ *The use of Taiwan's original silver guide rails, high precision, high rigidity, wear resistance, slider sealing is*

*good, and the slider is not easy to damage.*

➤ *CNC engraving machine system uses genuine computer operating system, easy to operate, fast, and strong stability.*

➤ *All motors adopt imported servo, high precision, high speed.*

- All the three-axis drive adopts the original screw on Taiwan's silver, the precision is higher.
- Woodworking engraving machine will produce a lot of dust during work, all three-axis software dust cover.

*Main Performance and Technical Data*

<i>Item no</i>	<i>13STC-1625-2D-6</i>
<i>Platform Size</i>	<i>1700mm(W)*3100mm(L)</i>
<i>Max working range</i>	<i>1600mm(W)*2500mm(L)</i>
<i>Z axis Travelling Height</i>	<i>180mm</i>
<i>Feeding Height</i>	<i>200mm</i>
<i>Structure</i>	<i>12mm thick heavy-duty tubular steel frame, full-welded, VSR processed</i>
<i>Surface material</i>	<i>3mm(Top thickness)x5mm(sidewall)x24mm(height)aluminium alloy</i>
<i>Z axis clevis</i>	<i>U-shaped cast aluminium machined by CNC center</i>
<i>Sidewall of Y-axis</i>	<i>Cast iron machined by CNC center</i>
<i>Fuselage</i>	<i>10mm Steel machined by CNC center</i>
<i>Sheet metal for X-axis Drag Chain</i>	<i>Cast Aluminium machined by CNC center</i>
<i>The Beam</i>	<i>8mm steel machined by CNC center</i>
<i>Frame</i>	<i>12mm steel machined by CNC center</i>
<i>Sheet metal</i>	<i>2mm baking sheet metal</i>
<i>XYZ axis dual drive</i>	<i>Japan Yaskawa Servo-driven</i>
<i>X,Y Transmission</i>	<i>Taiwan HIWIN 3210 Ball screw</i>
<i>Z Transmission</i>	<i>Taiwan HIWIN 25 Ball screw</i>
<i>Rail Configuration</i>	<i>Taiwan HIWIN 25 Square guide rail</i>
<i>Positioning accuracy</i>	<i>±0.05/300mm</i>
<i>Spindle power</i>	<i>6*2.2kw Water cooling</i>
<i>Spindle Rotating Speed</i>	<i>0-24000r/min</i>
<i>Empty speed</i>	<i>0-20000mm/min</i>
<i>Processing Speed</i>	<i>0-15000mm/min</i>
<i>Resolution</i>	<i>0.00625/Pulse</i>
<i>Converter</i>	<i>6* Sunfar brand</i>
<i>Control System</i>	<i>6A dual Z NC studio Control System of Shanghai</i>
<i>Cooling System</i>	<i>Water Pump</i>
<i>Code Formats</i>	<i>G-code, U00, MMG, NC</i>
<i>Tool diameter</i>	<i>3.175mm, 4mm, 6mm, 8mm, 10mm, 12.7mm</i>
<i>Movement way</i>	<i>Gantry Moving</i>
<i>Actual Weight</i>	<i>400kg</i>
<i>Machine Power</i>	<i>380V50HZ±10 (internal power)</i>
<i>Electric Box</i>	<i>Integrated Computer control cabinet</i>
<i>Fixturing Method</i>	<i>With T-slot for clamp fixturing</i>

*Video Link*

## **- Multi-Functional Wood Working Engraving Machine**



Suitable for- wood, plastic, synthetic board, acrylic, aluminium, stainless steel plate cutting, silk flower; curtain wall cutting; door sculpture; PVC / PP board cutting; high precision hand board, three- dimensional processing of the point fixture; and can process all other non-metallic materials.

### *Features:*

➤ Heavy-duty bed, not easily deformed, the machine does not shake during high-speed operation, the machined surface of the product is smooth and it is not easy to break the knife. The full welding process and the

vibration aging treatment can ensure that the machine does not shake at high speed operation.

➤ X, Y axis transmission adopts original imported German helical teeth, Z axis adopts Taiwan's Shangyin high-precision double-nut screw, and the guide rails are original Taiwan's silver square rails. High processing precision, low noise, long service life.

High power transverse torque spindle, large bearing, high speed, large amount of chip, and the motor is not easy to damage.

### *Main Performance and Technical Data*

<i>Particulars</i>	
<i>Item no</i>	<i>4STC-1325A</i>
<i>Platform Size</i>	<i>1450mm(W)*2900mm(L)</i>
<i>Max working range</i>	<i>1300mm(W)*2500mm(L)</i>
<i>Z axis Travelling Height</i>	<i>180mm</i>
<i>Feeding Height</i>	<i>200mm</i>
<i>Machine Base</i>	<i>8mm thick heavy-duty tubular steel frame</i>
<i>Cutting Bed</i>	<i>3mm*5mm*24mm (Thickened aluminium)</i>
<i>Z axis clevis</i>	<i>U-shaped cast aluminium machined by CNC center</i>
<i>Sidewall of Y-axis</i>	<i>Cast iron machined by CNC center</i>
<i>Fuselage</i>	<i>8mm Steel machined by CNC center</i>
<i>Sheet metal for X-axis Drag Chain</i>	<i>Cast Aluminium machined by CNC center</i>
<i>The Beam</i>	<i>8mm steel machined by CNC center</i>
<i>Frame</i>	<i>6mm steel machined by CNC center</i>
<i>Sheet metal</i>	<i>2mm baking paint</i>
<i>Fixturing Method</i>	<i>With T-slot for clamp fixturing(Vacuum table for option)</i>
<i>X,Y Transmission</i>	<i>Germany Slanting Rack</i>
<i>Z Transmission</i>	<i>HIWIN 2510 Ball screw</i>
<i>XYZ axis dual drive</i>	<i>Stepper Motor Leadshine 86</i>
<i>Rail Configuration</i>	<i>Taiwan HIWIN 25 Square guide rail</i>
<i>Positioning accuracy</i>	<i>±0.15/300mm</i>
<i>Spindle power</i>	<i>3KW Water cooling</i>
<i>Spindle Speed</i>	<i>0-24000r/min</i>
<i>Empty speed</i>	<i>0-20000mm/min</i>



<i>Processing Speed</i>	<i>0-15000mm/min</i>
<i>Resolution</i>	<i>0.00625/Pulse</i>
<i>Control System</i>	<i>NC studio Control System</i>
<i>Cooling System</i>	<i>Water Pump</i>
<i>Code Formats</i>	<i>G-code, U00, MMG, NC</i>
<i>Tool diameter</i>	<i>3.175mm, 4mm, 6mm, 8mm, 10mm, 12.7mm</i>
<i>Movement way</i>	<i>Gantry Moving</i>
<i>Actual Weight</i>	<i>2200kg</i>
<i>Machine Power</i>	<i>380V50HZ±10 (internal power)</i>
<i>Electric Box</i>	<i>Integrated Computer control cabinet</i>

*Video Link*

## **- Aluminium Engraving Machine**



*Suitable for aluminium plate, stainless steel plate cutting, silk flower cutting; curtain wall cutting; all kinds of stone carving and cutting; tombstone carving processing ; stone wall carving, stone archway, gate carving; PVC/PP board cutting; high precision hand board, electronic rule With three-dimensional processing, and processing all non-metallic materials (such as various types of wood, plastic, synthetic board, acrylic, etc.).*

*Features:*

- The bed is a T-shaped steel bracket, full welding process and after vibration aging treatment, to ensure that the machine does not shake in the telling operation, continuous knife, the product processing surface is highly smooth;*
- X, Y, Z axis adopts Taiwan's Shangy in high-precision nut screw, guide rails are original Taiwan's Shangy in square track, high processing precision, low noise, long service life;*
- High-power constant torque spindle, large bearings, high speed, large amount of cutting, and the motor is not easy to damage.*
- Original genuine computer operating system, responsive, high stability, and simple and convenient operation*

### *Main Performance and Technical Data*

<i>Item no</i>	<i>11STC-1325</i>
<i>Platform Size</i>	<i>1380mm(W)*2900mm(L)</i>
<i>Max working range</i>	<i>1300mm(W)*2500mm(L)</i>
<i>Z axis Travelling Height</i>	<i>180mm</i>
<i>Feeding Height</i>	<i>200mm</i>
<i>Structure</i>	<i>8mm thick heavy-duty tubular steel frame</i>
<i>Table material</i>	<i>23mm Thickened aluminium alloy</i>
<i>Thickness of gantry</i>	<i>8mm CNC machining &amp; full welded VSR process</i>
<i>Thickness of Sidewall</i>	<i>25mm, iron casting, CNC machining</i>
<i>Fixed mode</i>	<i>T-clip (Vacuum Table, pressure roller for option)</i>
<i>Sheet metal</i>	<i>2mm baking paint sheet metal</i>

<i>X,Y Transmission</i>	<i>Hiwin 3210 Auto anti-gap &amp; double nuts ball screw</i>
<i>Z Transmission</i>	<i>Hiwin 3210 Auto anti-gap &amp; double nuts ball screw</i>
<i>XYZ axis dual drive</i>	<i>Japan Yaskawa Servo driven</i>
<i>Rail Configuration</i>	<i>Taiwan HIWIN 25 Linear Square guide</i>
<i>Positioning accuracy</i>	<i>±0.05/300mm</i>
<i>Spindle power</i>	<i>3KW constant power(4.5KW/5.5KW/6KW for option)</i>
<i>Spindle Speed</i>	<i>0-20000r/min</i>
<i>Empty speed</i>	<i>0-20000mm/min</i>
<i>Processing Speed</i>	<i>0-20000mm/min</i>
<i>Resolution</i>	<i>0.00625/Pulse</i>
<i>Control System</i>	<i>NC studio original 53B Control System</i>
<i>Cooling System</i>	<i>Water chiller</i>
<i>Code Formats</i>	<i>G-code, ENG, U00, MMG, NC</i>
<i>Tool diameter</i>	<i>3.175mm, 4mm, 6mm, 8mm, 10mm, 12.7mm</i>

*Video link*

### **- Vacuum System CNC Router**



*Features:*

- *Fabricated and stress relived structure ensures min. rigidity & distortion*
- *Double motors on Y axis ensures steady movement*
- *Rack & gear transmission ensures fast speed and high accuracy*
- *High power spindle with low noise*
- *Function of continuous working at stop point during power failure*

➤ *Optional- Vacuum system*

#### *Main Performance and Technical Data*

<i>Particulars</i>	
<i>Working Area</i>	<i>1300X2500 / 1500X3000</i>
<i>Tool Dia</i>	<i>Dia 3.175, Dia4, Dia6, Dia12</i>
<i>Spindle speed</i>	<i>3000-24000RPM</i>
<i>Spindle motor</i>	<i>3Kw Air cooling</i>
<i>Working Instruction</i>	<i>HPGL, G Code, ENG</i>
<i>Feeding Height</i>	<i>200mm</i>
<i>Working Voltage</i>	<i>380V</i>
<i>Max. travelling Speed</i>	<i>20000mm/min</i>

*Video Link:*

## **- Pneumatic Three Head Routers**



### *Features:*

- *Mainly used for tool changing during processing, during processing some time need two or three different tools carving pattern effect in order to shorten the tool change above system proves to coideal.*
- *Rigid cast body bed ensures min vibration & distortion*
- *Double motors & drive for Y axis ensure steady movement*
- *High accuracy Rack & gear transmission ensures fast speed & high accuracy*
- *High power spindle*
- *Optional – Vacuum cleaner*

### *Main performance & Technical Data*

<i>Working Area</i>	<i>1300X2500 / 1500X3000</i>
<i>Tool Dia</i>	<i>Dia3.175, Dia6, Dia 12</i>
<i>Spindle speed</i>	<i>6000-18000RPM</i>
<i>Spindle motor</i>	<i>4.5Kw Air coolingX3</i>
<i>Working Instruction</i>	<i>HPGL, G Code, ENG</i>
<i>Feed Rate</i>	<i>200mm</i>
<i>Working Voltage</i>	<i>380V</i>
<i>Max. travelling Speed</i>	<i>800mm/min</i>

*Video Link*

## **- Multi Heads CNC Router:**



### *Features:*

- *And stress relived structure ensures min. rigidity & distortion*
- *Fabricated Double motors on Y axis ensures steady movement*
- *Rack & gear transmission ensures fast speed and high accuracy*
- *High power spindle with low noise*

- *Function of continuous working at stop point during power failure*
- *Optional- Vacuum system*

### *Main performance & Technical Data*

<i>Working Area</i>	<i>1600X2500 X180mm / 1325X2500X180 mm</i>
<i>Tool Dia</i>	<i>Dia 3.175, Dia4, Dia6, Dia12</i>
<i>Spindle speed</i>	<i>3000-24000RPM</i>

Spindle motor	1.5 Kw (Optional 2.2Kw/3 Kw)
Working Instruction	PLT/G Code, ENG/UG
Control System	DSP Control (Optional handle control)
Working Voltage	220V/50 Hz (Optional 380V)
Max. travelling Speed	20000mm/min
Motor Drive	Stepper Motor

*Video Link*

### **- Four Spindle CNC Router:**

*Features:*



- Double Fabricated and stress relived structure ensures min. rigidity & distortion
- Motors on Y axis ensures steady movement
- Rack & gear transmission ensures fast speed and high accuracy
- High power spindle with low noise
- Function of continuous working at stop point during power

*Main performance & Technical Data*

Working Area	1600X2500 X180mm / 1300X2500X180 mm
Tool Dia	Dia 3.175, Dia4, Dia6, Dia12
Spindle speed	3000-24000RPM
Spindle motor	1.5 Kw (Optional 2.2Kw/3 Kw)
Working Instruction	PLT/G Code, ENG/UG
Control System	DSP Control (Optional handle control)
Working Voltage	220V/50 Hz (Optional 380V)
Max. travelling Speed	12000mm/min
Motor Drive	Stepper Motor

*Video Link*

### **- Steel Structure Wood Working CNC Router**



*Features*

- Fabricated and stress relived structure ensures min. rigidity & distortion
- Double motors on Y axis ensures steady movement
- Rack & gear transmission ensures fast speed and high accuracy
- High power spindle with low noise
- Function of continuous working at stop point during power failure

- Optional- Vacuum system

### *Main performance & Technical Data*

<i>Working Area</i>	<i>1300X2500 X200mm/1500X3000X200mm/2000X3000X200mm</i>
<i>Tool Dia</i>	<i>Dia 3.175, Dia 4, Dia 6, Dia 12</i>
<i>Spindle speed</i>	<i>3000-24000RPM</i>
<i>Spindle motor</i>	<i>3Kw</i>
<i>Working Instruction</i>	<i>PLT/G Code, ENG/UG</i>
<i>Feeding Height</i>	<i>100mm</i>
<i>Working Voltage</i>	<i>220V/50 Hz (Optional 380V)</i>

*Video Link*

### **- Acrylic Cutting With ATC**



#### *Features*

- *Fabricated & stress relieved structure*
- *Rigid High speed LM guides & blocks*
- *5.5 Kw imported spindle*
- *Heavy original NC studio control system with hand wheel for positioning operation*
- *Auto lubrication system*

### *Main performance and technical data*

<i>Working Area</i>	<i>1200X1200X150 mm/1300X2500X200mm</i>
<i>Drive</i>	<i>YASKAWA servo</i>
<i>Spindle speed</i>	<i>0-24000RPM</i>
<i>Spindle motor</i>	<i>5.5 Kw (Water cooled)</i>
<i>Fixing Method</i>	<i>Double layer vacuum Absorption</i>
<i>Operating System</i>	<i>NC Studio</i>
<i>Working Voltage</i>	<i>380V/50 -60Hz</i>
<i>Max. travelling Speed X &amp; Y</i>	<i>30000mm/min</i>
<i>Z axis</i>	<i>15000mm/min</i>
<i>Position Accuracy</i>	<i>0.025mm</i>
<i>X, Y and Z</i>	<i>Helical rack &amp; Pinion, Z axis Ball screw</i>
<i>Tool Magazine</i>	<i>Circular, 8 Tools</i>

*Video Link:*

### **- Low Cost CNC Milling Machine (Retrofitting)**

*The compact machine utilizes the same technology and manufacturing standards that are found in larger fully-lubrication fledged CNC machines, including linear guide ways, machine have heat treated cast iron structure and one shot system. Machines come standard with a spindle rated at 6000RPM, or when upgraded to a BT30 spindle, 8000RPM. The spindle is driven by a 2.2kW BLDC motor. This CNC machines require single phase power supply as standard. Machine features high quality HIWIN H class linear and ball screws, with home*



and limit switches on all axes. The compact form factor allows for 4th axis with harmonic drive upgradability, quick tool change and 8 tool automatic tool changer options. Coming standards with an industrial USB CNC.

#### *Main performance and technical data*

<i>Description</i>	<i>Milling Machine</i>
<i>Auto Table Travel</i>	<i>X-600 mm, Y-350 mm, Z-400 mm</i>
<i>Spindle Tork</i>	<i>9 Kw</i>
<i>Table Size</i>	<i>1200 X 250 mm</i>
<i>AC Servo Drive &amp; Motor</i>	<i>X - 2.4 Nm, Y - 2.4 Nm, Z - 4.7 Nm</i>
<i>Ball Screw (Hiwin)</i>	<i>Ø 40</i>
<i>Spindle Speed</i>	<i>100 to 10,000</i>
<i>Tool Holder Taper</i>	<i>BT 40</i>
<i>Tool Clamp</i>	<i>Hydraulic Automatic</i>
<i>Coolant Pump</i>	<i>Automatic</i>
<i>Lubrication</i>	<i>Automatic</i>
<i>CNC Controller</i>	<i>Mach3 / Siemens*/Delta</i>
<i>Max User</i>	<i>Heavy Full Production</i>
<i>Note: Machine Size is variable as per customer requirements.</i>	

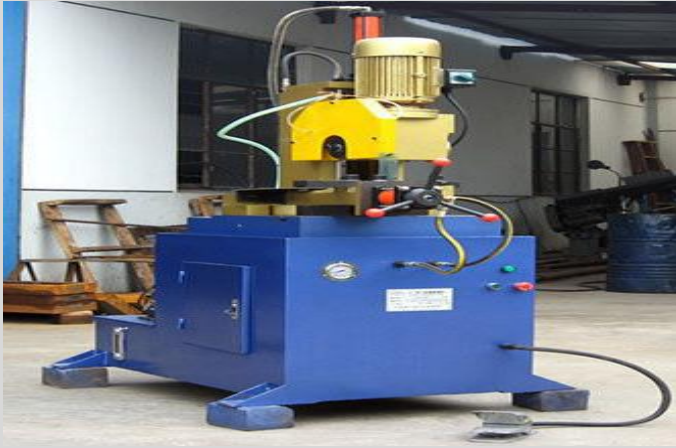
*Video Link:*

#### **- Low Cost Pc Base CNC / NC Machines**

Neptune Systems developed standard LOW COST PC base Automatic / Semi-Automatic CNC/NC machines for the following operations

- *Electric Discharge Machining ( EDM)*
- *Wire EDM*
- *Water Jet Cutters*
- *Sheet Metal Works (Turret Punch)*
- *Wire Bending Machines*
- *Surface Grinders*
- *Cylindrical Grinders*
- *Induction Hardening Machines*
- *Glass Cutting machines*
- *Shearing / Cold cutting Machines*

## **- Semi-Automatic Cold Cutting**



*Ideal for cutting of small bars, round pipes & sections, feed clamping advancement through Hydro pneumatic and cutting head is having arrangement for setting angle as per requirement.*

### *Features:*

- *Two-sided clamp reducing noise and vibration.*
- *Self-centering clamp system*
- *Groove clamp jaws for working a variety of materials.*
- *Blade rotation automatically start/ stops with cycle*
- *Built in blade lubrication system with recovery tank.*
- *Easy to use angle adjustment for material cuts. Up to 45° in both directions.*
- *High performance worm gear arrangement*
- *Two selectable blade rotation speeds*
- *Variable speed air over oil blade feeding system*
- *Adjustable feed stroke for top and bottom of cut.*
- *Foot pedal or push button cycle start activation. Both included*
- *Adjustable length stop*

*Video Link:*

## **10. CONVEYORS**

### **- Belt Type**



*We offer industrial belt conveyors, which are used in agriculture, pharmaceutical and various other industries for efficient and quick transfer of material from one place to another. Belt conveyors are material handling systems that use continuous belts to convey products or material. The belt is extended in an endless loop between two end-pulleys. Usually, one or both ends have a roll underneath. The conveyor belting is supported by either a metal slider pan for light loads where no friction would be applied to the belt to cause drag or on rollers.*

*Power is provided by motors that use either variable or constant speed reduction gears. These easy to install conveyors require little human intervention and can perform smoothly in long production runs.*

### **- Slate Type**



*Power is provided by motors that use either variable or constant speed reduction gears. These easy to install conveyors require little human intervention and can perform smoothly in long production runs. We are offering our customers an excellent quality range of Slate Conveyors. These are manufactured from qualitative range of raw materials, which is quality checked by our team of experienced professionals. We offer these Slate conveyors at most competitive price. For handling of bottles, or small similar items. In aid of our dexterous team of experts, we offer our esteemed clients an ultra-quality range of Slate Conveyor. These chain type conveyors are extensively used for assembly of equipment, painting of components and other usages. These systems are manufactured from superior grade components at our well-equipped production unit the minute vigilance of eminent experts in adherence to international standards. Moreover, we our offering these products to our esteemed clients in requisite quantity.*

### **- Chain Type**



*A chain conveyor is a type of conveyor system for moving material through production lines. Chain conveyors utilize a powered continuous chain arrangement, carrying a series of single pendants. The chain arrangement is driven by a motor, and the material suspended on the pendants are conveyed. Chain conveyors are used for moving down an assembly line and around a manufacturing or warehouse facility. Chain conveyors are primarily used to transport heavy unit loads, e.g. pallets, grid boxes, and industrial containers. These conveyors can be single or double chain strand in configuration.*

### **- Auto Loaders**



*Auto Loader designed for picking & Placing of pipe components, operator need to load components to be machined in gravity chute, picking gripper picks new components await for components under machining, after getting cycle completion signal its picks finished component from second gripper places fresh component & releases finish component on o/p conveyor. Auto loader operations are completely integral part of CNC machine with proper inters locks.*

## **- Auto Unloaders**



*Auto Un loader designed for un loading pipes from induction machine where in pipes of different sizes need to hardened after each heat cycle output jobs get collected on machine taken one by one on un loader get collected on output buffer & released on auto stretchable belt. Machine need to heat mainly three sizes of pipes depending on pipe sizes pipes bundling depends, operator simply enter sizes through HMI on un loader it counts no. of pipes after*

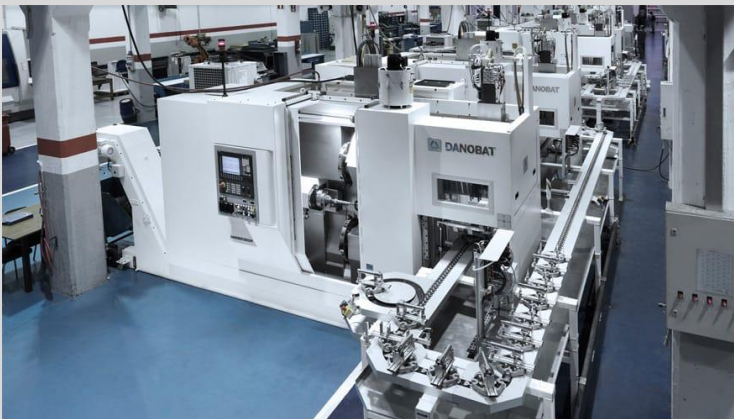
*completion of bundle counts complete bundle belt buffer descends down flashes' audio visual sound, operator tie bundle & removes bundle from the buffer.*

*Video Link*

## **11. CONSULTING**

*Neptune systems is a “Turnkey Systems House” providing all aspects of automation engineering and information management. Our mission is to help our clients achieve a competitive edge in their respective markets through the integration of real-time control and information systems. Integrity is our bottom line. Our client base consists of small to large sized manufacturers and industrial facilities from coast to coast. We provide high to low end solutions depending on the requirement and budget of the client. It is important to select an experienced solution provider and our team has successfully completed many automation projects.*

## **-Trunkey solutions**



*We have been providing turnkey installations for over 12 years. Neptune systems range of services provide support, lower operating costs, and a faster return on investment.*

### **Automated assembly**

*At Neptune systems, leveraging a broad array of components has helped us implement projects. These include projects that have large production volumes, and fully manual, semi-automatic, and*

*fully automatic processes.*

### **Automated machining**

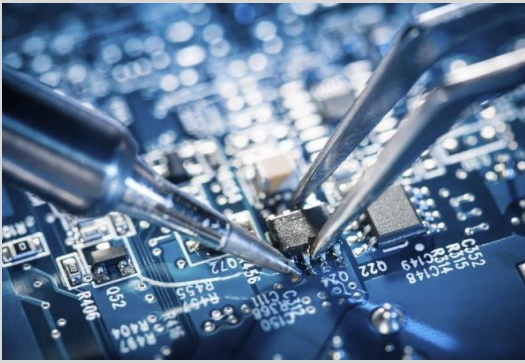
*Machining solutions from Neptune systems serve customers by increasing production and lower costs for automated processes such as: parts loading, unloading, turning, milling, and grinding.*

### **Automated material handling & logistics**

*Neptune systems offers expertise in material handling solutions; from glass handling to working with molten metal. We also employ robots, gantries, conveyors and other solutions to meet our customer's needs.*



## 12. EMBEDDED SOLUTIONS



*We provide Microcontroller based design services (using PIC, AVR, ARM, Raspberry pi, Arduino)*

- *Embedded software development*
- *Vision based automation services*
- *IOT based applications.*
- *Prototype design and development*

- *PCB designing services*
- *Embedded systems training, Academic projects*

### ***-Tools and Technologies***

- *Embedded C programming*
- *Assembly language programming*
- *Python programming*
- *Linux*
- *PCB designing in Eagle*
- *Interfacing hardware with desktop applications using core java*
- *MATLAB*

### ***-Products***

#### *1. GSM operated relay Features:*

*This device remotely controls relay through SMS provides SMS and call alerts, can be programmed to be controlled by 5 authorized users. This is a universal system within built program that can be used in a variety of applications.*

#### *2. Home security system Features:*

*This is a standalone device which provide SMS and call alerts in case of security breaching. PIR sensor detects a human motion and alerts the registered numbers. Can send the SMS and call alerts to 5 registered users.*

#### *3. Settable timer relay Features:*

*The relay operation can be programmed in a cyclic order, eg. Relay ON for 5mins and OFF for 5mins. The relay operation can be RTC based, eg. Relay is turned ON every day at 10:00 hrs for 5 mins.*



## *-Customized projects*



*sent to the cloud database in real time.*

*1. Raspberry Pi based project, where the data from 5 work stations had to be monitored on the web browser.*

*2. WIFI relay, where the relay was operated based on the settable timer in a windows based software. ESP8266 was used, no hardware rtc was used, and RTC was read using NTP protocol.*

*3. GSM based motor controller where the motor is turned ON/OFF with a SMS. Single phasing, motor overload, dry run conditions were also notified through an SMS.*

*4. Working on vibration monitoring system, this is an IOT based application where the data collected from the vibration sensor is*

## **13. HUMANOID ROBOTS**



*We at Neptune Systems help you design the next generation of humanoids. Humanoids typically use brushed DC (BDC), brushless DC (BLDC), and Stepper motors, controlled by embedded microcontrollers together with dedicated motor driver ICs; TI's multi-cell battery solutions for charging, balancing, monitoring, gauging and protection guarantee the critical requirement for safety, lifetime and durability & sensors system, 3D machine vision system and wireless connectivity solutions help to build flexible and advanced HMIs. Neptune's fully tested reference designs help you quick-start your own new humanoids design or retrofit. Neptune designs demonstrate methods to quickly add innovative features to your humanoids:*

- High resolution and low cost 3D machine vision for location, mapping and gesture recognition*
- High efficiency and reliability servo motor drive for more precise, smooth motor drive and control system*
- Advanced HMIs technology with cost, performance and reliability optimum*

## ***LIST OF CUSTOMERS***

<i>Sl. No. Customer Name</i>	<i>Project Executed</i>
<i>1 Innoventive Industries, Sanaswadi, Pune</i>	<i>Automatic Online Flying Cold saw cutting Machine</i>
<i>2 Ratnamani Metals &amp; Tubes Ltd, Anjar Gujarat</i>	<i>Fully Automatic Cutting &amp; De burring Machine</i>
<i>3 Varad Engineers Chakan, Pune</i>	<i>CNC Turning Machine</i>
<i>4 Sandvik Asia Dapodi, Pune</i>	<i>Automatic CNC Drilling Machine</i>
<i>5 Sandvik Asia Dapodi, Pune</i>	<i>Induction Furnace Auto Unloader &amp; Bundler</i>
<i>6 Tamboli Engineers Nanded Phata Pune</i>	<i>CNC Gun Drilling (Retrofitting)</i>
<i>7 Rieter India Sanaswadi, Pune</i>	<i>Bearing Assembly Machine</i>
<i>8 Rieter India Sanaswadi, Pune</i>	<i>HMC</i>
<i>9 Polly Rub India Chakan, Pune ( Second Party )</i>	<i>Hydro Testing Machine</i>
<i>10 Transfix India, Ranjangaon , Pune (Second Party )</i>	<i>Automatic Furnace Conveyor</i>
<i>11 Innoventive Industries, Sanaswadi, Pune</i>	<i>CNC Mc Auto Loader / Un loader</i>
<i>12 Sarathi Enterprises Delhi</i>	<i>CNC Router</i>
<i>13 Varroc Polymers, Ranjangaon, Pune</i>	<i>Assly Fixture</i>
<i>14 JK Autocomponents, Chakan Pune</i>	<i>Automatic Drilling &amp; Spot facing</i>
<i>15 TAL Automation Chinchwad Pune</i>	<i>Conveyor System Integrated with robot</i>
<i>16 Prism Surface Coating Banglore</i>	<i>4-axis robot for shot blasting application</i>
<i>17 Excel Enterprises, Bhosri Pune</i>	<i>6-axis Robot for NDT</i>
<i>18 Temple packaging, Daman, Gujrat</i>	<i>SCARA robot</i>
<i>19 FORD (Executed By Neptune Associate Bhosle Engenieers) for Mayur Industries – FORD supplied</i>	<i>Vision System and Industry 4.0 (GAITER assembly )</i>
<b><i>DEFENCE PROJECTS</i></b>	
<i>1 Ammunition Factory Khadki, Pune</i>	<i>Automatic Sorting Switch for 9mm Ammunition &amp; Bullet Assly Fixture</i>
<i>2 IAT Grinagar, Pune</i>	<i>6 Axis Dolphin Robot</i>
<b><i>PROJECTS UNDER EXECUTION /COMISSIONING</i></b>	
<i>1 Varroc Polymers Ranjangaon, Pune</i>	<i>Automatic 4 Axis Laser Cutting machine</i>
<i>2 Symphony Graphics, Jaipur Rajasthan</i>	<i>Gantry Type CNC drilling machine</i>
<i>3 PSL limited Daman, Gujrat</i>	<i>Gantry Type CNC drilling machine</i>