BENCHTOP BAND SAW

FACULTY OF ARCHITECTURE & PLANNING, AKTU

Specifications:

Motor- 230v/50Hz,350W
BLADE SPEED- 2500 RPM
THROAT- 228MM
CUTTING DEPTH- 89MM

Model & Make: **VZBS0903 VOLTZ**

Size: **508 X 457 X 736 MM**

Purpose: **SHEARING**

Materials Used: **SUNSHEET, MDF, HDF, ACRYLIC, PLASTIC, PLYBOARD AND WOOD.**

ABOUT:

Benchtop band Saw is a compact Shearing Machine which makes shearing work efficient and convenient. This is Electrically Operated Shearing Machine in which an Electric Motor Rotates a wheel and the blade wrapped over this wheel in Band form, later the motion is transferred to the other wheel thus maintaining Equilibrium and help Band Blade complete loop. The exposed part of the blade near Work Bed is used for Shearing Work piece.

The work bed is made out of Cast Iron and Consist of Straight And Angular Gauge to Support Different profile of Job.

SOP:

- Wear safety glasses, confine long hair and secure loose clothing.
- Ensure the blade is sharp, properly set, and under tension. Make sure all guards are in place and adjusted correctly.
- Secure the workpiece with clamps or a vise.
- Turn off the saw and wait for it to stop before making adjustments or changing the blade.
- Keep the area around the saw clean and free of obstructions.

VARIABLE SPEED SCROLL SAW

FACULTY OF ARCHITECTURE & PLANNING, AKTU

Specifications:
MOTOR- 230V/50Hz, 120W
SPEED- 550-1600 SPM
BLADE-127MM

Model & Make: **SSA16LVRF VOLTZ**

Size: **660 X 431 X 406 MM**

Purpose: **SHEARING**

Materials Used: **SUNSHEET, MDF, HDF, ACRYLIC, PLASTIC, PLYBOARD AND WOOD.**

ABOUT:

Variable Speed Scroll Saw is Tabletop Profile Shearing Machine used for cutting Complex profile and arc's. The Machine consists of two Arms that makes Linear Motion(To-and-Fro) and a Blade in Form of Thread is Connected between these arms does the cutting action.

Work bed in this machine is made out of cast aluminum and has hole in center to let pass the blade through it.

SOP:

Ensure the scroll saw is securely fixed on a stable and level surface.
Ensure the machine operator zone is clearly marked.
Choose the correct size and style blade for the material and the type of cutting planned.

DUAL DISC AND BELT SANDER

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Specifications:

MOTOR- 230V/50Hz 500W
MOTOR SPEED- 2980RPM
BELT SIZE- 100 X 915MM
DISC SIZE- 150MM

Model & Make: **DS500 VOLTZ**

Size: **482 X 432 X 330 MM**

Purpose: **SANDING**

Materials Used: **SUNSHEET, MDF, HDF, ACRYLIC, PLASTIC, PLYBOARD AND WOOD.**

ABOUT:

Dual Disc Belt Sander is an electrically operated Sanding Machine power by Electric Motor to achieve Angular Momentum. This machine has a Disc and Belt consists of abrasive particles. When the Work piece is brought in contact with is rotating disc sanding action is Achieved.

SOP:

- Avoid wearing gloves, rings, or jewelry.
- Material placement: Place material on the table on the downward side of the disc travel. Hold the material firmly against the table or stops before applying pressure.
- Sanding: Keep fingers clear of the disc or belt while sanding.
- Machine operation: Only one person should operate the machine at a time. Allow the machine to reach maximum revolutions before operating.
- Adjustments: Turn off the machine and bring it to a complete standstill before making adjustments.

OSCILLATING SPINDLE AND BELT SANDER

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Specifications:

VOLTAGE- 230V/50Hz 450W
NO LOAD SPINDLE SPEED- 2000RPM
NO LOAD BELT SPEED- 480MPM
STOKE LENGTH- 16MM
TABLE SIZE- 430 X 410MM

Model & Make: **TSPST450 TRITON**

Size: **482 X 482 X 482 MM**

Purpose: **SANDING**

Materials Used: **SUNSHEET, MDF, HDF, ACRYLIC, PLASTIC, PLYBOARD AND WOOD.**

ABOUT:

Oscillating spindle and belt sander is an Electrically operated sanding machine powered by electric motor. In this machine two arms consisting of roller are connected to motor which provide them angular momentum and at the same time they also make to-and-fro motion in –Y,Y direction with the lift of 16mm. The rollers are wrapped with belt consisting of abrasive particles which provide sanding operation.

SOP:

- Check the correct table insert corresponds with the drum size being used.
- Slowly move the workpiece into contact with the oscillating bobbin sanding drum.
- Avoid kickback by sanding in accordance with directional arrows.
- Keep hands & fingers clear of the oscillating bobbin sanding drum when machine is running.
- Never remove waste dust material from the table while the machine is running.
- Operator ONLY must switch off the machine – don’t leave until the machine has stopped.
- Set any guards to the SAFE position after the machine has stopped.

RMO FORMING MACHINE

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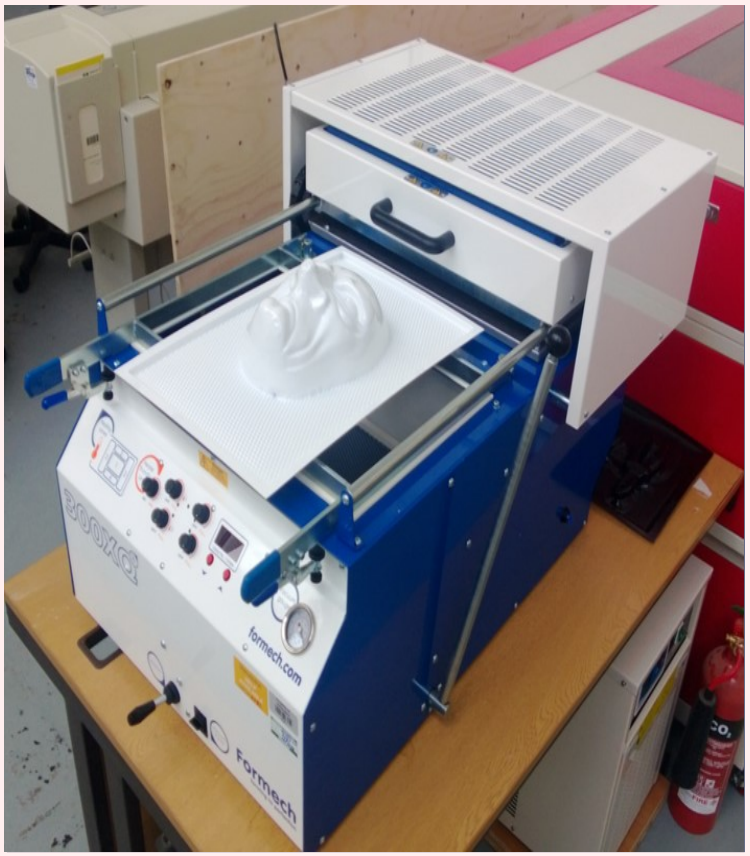
Specifications:

HEAD HEIGHT- 130MM
FORMING AREA DEPTH- 230 X 280 MM
HEATING ELEMENT- 9 NOS. ROD HEATER
HEATER MOMENT- MANUAL(HAND WORK)
ELECTRICAL LOAD- 3 KW



Model & Make: **DT-SAI-TH RMOFORMER**

Size: **939 X 533 X 711 MM**

Purpose: **FORMING OPERATION**

Materials Used: **THERMOPLASTIC, HIPS, PVC, PET.**

ABOUT:

RMO Forming Machine is a type of automatic thermoforming machine specifically designed for precision forming of plastic sheets into complex shapes. These machines are known for their high-speed production capabilities and consistent output quality. The RMO Forming Machine offers various advantages, including efficient use of materials, high repeatability, and reduced waste.

SOP:

- Pre-Check Inspection: Ensure all safety guards are in place, check for damage or leaks, and verify emergency stop functionality. Wear appropriate PPE (gloves, safety glasses).
- Safe Operation: Keep hands and tools away from moving parts and heated areas. Monitor temperature and pressure regularly during the process.
- Emergency Stop: Be familiar with the location of emergency stop buttons; use them immediately if any malfunction or abnormal noise is detected.
- Shutdown and Cleanup: Turn off heating elements, allow cooling, and clean any residual plastic. Follow lockout/tagout (LOTO) procedures for maintenance.

CO_2 LASER CNC MACHINE

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Specifications:

LASER TYPE- 150 WATT CO_2 Tube
X-Y AXIS- 900MM X 1400MM
X-Y AXIS MOMENT- RACK AND PINION
POWER SUPPLY- 220V/50Hz

Model & Make: **1490 PRAKASH**

Bed Size: **1400X 900MM**

Purpose: **CUTTING AND ENGRAVING**

Materials Used: **ACRYLICS, LEATHER, MDF, FABRICS, PLASTICS, RUBBER, GLASS ETC**

ABOUT:

Carbon Laser Machine is an Electrically Operated Machine Capable of Performing cuts and Etching using a high power Laser on Materials up to 15mm thick. Nozzle moment on This Machine is Electrically Controlled Via XY- axis while lift is Manually set using gauge.

SOP:

- Pre-Check: Inspect the machine, ensure all guards are in place, and verify the cooling and ventilation systems are operational.
- Wear PPE: Use laser safety glasses, gloves, and a mask to protect against laser exposure and fumes.
- Setup: Secure the workpiece, set the correct power and speed settings, and check the focus.
- Monitor Operation: Do not leave the machine unattended; watch for sparks or smoke and use the emergency stop if needed.
- Shutdown and Maintenance: Turn off the machine, clean the area, and perform regular maintenance checks. Only trained personnel should operate it.

CNC ROUTER MACHINE

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Specifications:

X-Y AXIS WORKING AREA- 1300 X 2500 MM
Z AXIZ WORKING AREA- 200MM
SPINDLE POWER- 6KW 3PHASE 18000 RPM
X-Y AXIS MOMENT- RACK AND PINION
Z AXIS MOMENT- BALL SCREW

Model & Make: **1325HD KAMDHENU 3D GLOBAL**

Bed Size: **1300X 2500 MM**

Purpose: **CUTTING AND ENGRAVING**

Materials Used: **ACRYLICS, WOOD, PLYBOARD, MDF AND HDF.**

ABOUT:

CNC Router Machine is an Electrically operated machine Capable of performing many Carpentry shop Machines such as the Panel Saw, the Spindle Molder, and Boring Machine. They can also cut joinery such as mortises and tenons. Machine is equipped with rails for motion in XY directions which are Electrically operated and a lift in Z-directions also Electrically operated.

SOP:

- Pre-Check: Inspect the machine for any damage, ensure all guards are secure, and verify the tool bit is correctly installed.
- Wear PPE: Use safety glasses, ear protection, and a dust mask to guard against flying debris and noise.
- Setup: Secure the workpiece properly, set correct speed and feed rates, and double-check tool paths before starting.
- Monitor Operation: Keep hands away from the cutting area; do not leave the machine unattended during operation. Use the emergency stop if necessary.
- Shutdown and Clean: Turn off the machine, remove the workpiece carefully, clean the area, and perform routine maintenance checks.

VACUUM FORMING MACHINE

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Specifications:

POWER CONSUMPTION - 5KW/3PHASE
HEATER- CERAMIC HIGH HEAT.
MOTORS- 2 NOS. CROMPTON 1 HP 1PHASE
SHEET THICKNES- .15MM TO 2MM.
COMPRESSOR – 2KW
PNUMATIC-2 NOS. OF 10 BAR EACH
STROKE- 5MM TO 12MM.

Model & Make: **FULLY AUTOMATIC VACUUM FORMING MACHINE.**
MAKE- SHRIRAM INDUSTRIES.

Machine Size: **2300 X 1300 X 1700 MM**

Purpose: **FORMING OPERATION.**

Materials Used: **THERMOPLASTIC**
THERMOPLASTIC, HIPS, PVC, PET.

ABOUT:

A Fully Automatic Vacuum Forming Machine is designed to mold plastic sheets into specific shapes using a combination of heat and vacuum pressure. It automates the process of heating, forming, and cooling, allowing for high-speed, consistent production of plastic parts. Common applications include packaging, automotive components, and consumer products.

SOP:

- Pre-Check: Inspect the machine for any damage, ensure all safety guards are in place, and verify the heating elements and vacuum system are functioning correctly.
- Wear PPE: Use heat-resistant gloves, safety glasses, and protective clothing to handle hot materials and avoid burns.
- Monitor Operation: Do not leave the machine unattended during forming; watch for any issues like overheating or misalignment, and use the emergency stop if needed.
- Shutdown and Maintenance: Turn off the machine, allow it to cool, clean the area, and perform regular maintenance checks for optimal performance.

CIRCUIT MAKER MACHINE

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Specifications:

NUMBER OF HEADS- 1 NOS.
MAX. MEDIA WIDTH- 720 MM.
MAX. CUTTING WIDTH- 610 MM.
MAX. COLOUR CUTTING WIDTH- 570 MM.
MAX. FORCE- 800 G.
PROCESSOR MEMORY- 128 MB.
MAX. MOVINR SPEED- 700 MM/S.
MAX. CUTTING SPEED- 600 MM/S.
CUTTING PRECISION- +/- 0.01 MM.

Model & Make: **SKYCUT C24, MY PRINT.**

Size: **3124 X 2108 X 1803 MM**

Purpose: **PLOTTING,CUTTING AND ENGRAVING**

Materials Used: **PAPER, STICKERS, ADHESIVE VINYL, WINDOW FILM.**

ABOUT:

- 800G material cutting force which helps to cut materials like cardstock, fabric etc.
- Supports multi-languages that cover almost all languages.
- Less Space covering plotter.
- Multi-interface which support USB, hard drive and WIFI etc.

SOP:

- Keep hands, long hair, loose clothing, jewelry, etc. away from the moving parts.
- Do not move the Skycut or touch any circuitry while it is plugged in.
- DO NOT touch or jam the plotter's track while it is operating.
- DO NOT cut any materials that have staples or other embellishments attached.
- Always turn off the Skycut before unplugging the power adaptor or removing the power cable from the wall outlet or power strip.

FIBER LASER MACHINE

FACULTY OF ARCHITECTURE & PLANNING, AKTU

Specifications:

NUMBER OF HEADS- 1 NOS.
MAX. CUTTING LENGTH-3000 MM.
MAX. CUTTING WIDTH- 1500 MM.
CURB WEIGHT- 3800 KG.
LASER SOURCE- RAYCUT/MAX/IPG.
CNC SYSTEM- CYPCUT
CUTTING PRECISION- +/- 0.01 MM.

Model & Make: **FM3015, UMPIRE TECHNOLOGIES.**

Size: **4725 X 2590 X 1900 MM**

Purpose: **CUTTING AND ENGRAVING.**

Materials Used: **MILD STEEL, SS, GI & ALUMINIUM.**

ABOUT:

Fiber Laser Machine is a high-precision tool designed for cutting a wide range of metals like Mild/Carbon Steel, Stainless Steel, Aluminium, Brass, Copper, Titanium, Gold, Silver. The machine uses a fiber laser beam to cut through metals with extreme accuracy and speed, making it ideal for industrial and commercial applications.
The machine features a high-power fiber laser source, which provides strong and consistent cutting performance. It also utilizes advanced laser cutting technology to deliver clean and smooth edges, making it suitable for precision-cutting intricate designs and patterns.

SOP:

- Keep hands, long hair, loose clothing, jewelry, etc. away from the moving parts.
- Use safety glasses, ear protection, and a dust mask to guard against flying debris and noise.
- Do not leave the machine unattended; watch for sparks or smoke and use the emergency stop if needed.

MULTIPURPOSE PLANNER MACHINE

FACULTY OF ARCHITECTURE & PLANNING, AKTU

Specifications:

CUTTING WIDTH X-AXIS- 1300MM.
CUTTING WIDTH Y-AXIS- 2500MM.
CUTTING SPEED- 600 MM/MIN.
MOTOR- SINGLE PHASE MOTOR.
POWER- 2.2KW/3.0KW.
VOLTAGE- 230V.
X/Y/Z/ AXIS REPOSITIONING ACCURACY--0.1MM
MAX. CUTTING SPEED- 1200 MM/MIN.
CUTTING PRECISION- +/- 0.01 MM.

Model & Make: **SEMI AUTOMATIC PLANER MACHINE.**

Size: **1066 X 990 X 1168 MM**

Purpose: **PLANING AND SURFACE FINISHING.**

Materials Used: **WOOD .**

ABOUT:

The planer is a machine tool designed to create precise flat surfaces and cut slots with efficiency. It shares similarities with the Shaper Machine, but its larger size sets it apart. In the planer, the work piece slots move between points during operation, whereas the work piece slots remain stationary in the shaper. The planer employs a single-point cutting tool. The credit for inventing the planer goes to General Bentham, making it a significant and indispensable machine tool in the manufacturing process.

SOP:

- Start-up: Power on the machine, set the desired speed, and perform a test run to ensure proper functioning.
- Maintenance: Regularly clean and lubricate parts, replacing worn components as needed.
- Shut-down: Turn off the machine, clean the parts, and store materials safely.

THICKNESS PLANNER MACHINE

FACULTY OF ARCHITECTURE & PLANNING, AKTU

Specifications:

PLANING THICKNESS - 200 MM.
PLANING WIDTH - 330 MM.
MAX. SPEED- 1440 RPM.
MOTOR- THREE PHASE MOTOR.
POWER- 3 HP.
VOLTAGE- 220V/50Hz.
MAX. CUTTING SPEED- 600 MM/S.
CUTTING PRECISION- +/- 0.01 MM.

Model & Make: **SEMI AUTOMATIC PLANER MACHINE.**

Size: **915 X 710 X 965 MM**

Purpose: **PLANING AND SURFACE FINISHING.**

Materials Used: **WOOD .**

ABOUT:

A **Planer Machine** is a robust machine used to remove material from work pieces to achieve flat and smooth surfaces with high precision. These machines are widely utilized in workshops and manufacturing industries for shaping metals, woodworking, and producing large and heavy components such as steel plates, machine beds, and industrial molds. With its ability to handle substantial work pieces and deliver accurate results, the planer machine remains an indispensable asset in modern machining processes

SOP:

- Start-up: Power on the machine, set the speed, and check the alignment of rollers before starting.
- Operation: Monitor the material as it passes through, adjusting settings for consistent thickness and quality.
- Shut-down and Maintenance: Turn off the machine, clean it, and check for any wear on rollers or components