



OPTIMISTIC[®]

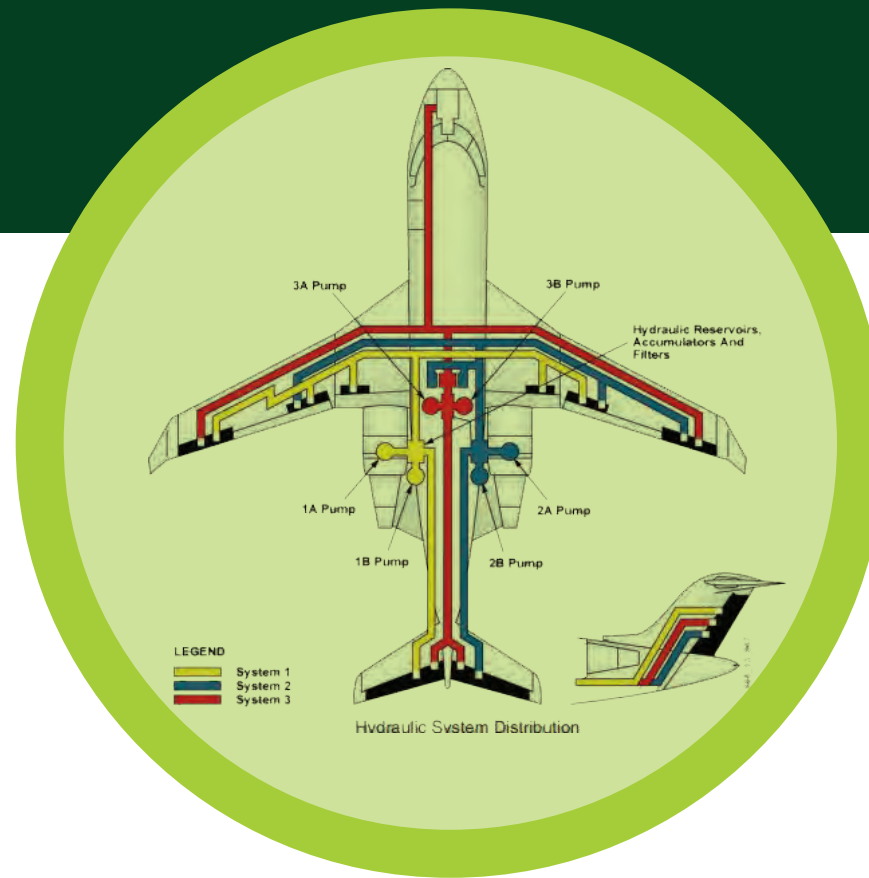
MOVE TO SUCCESS

DESIGN AND MANUFACTURE OF AIRCRAFT GROUND EQUIPMENT



AVIATION HYDRAULIC TEST BENCH

AVIATION

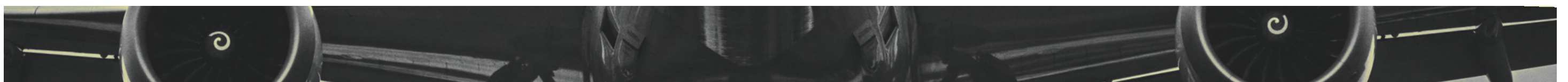


This tester is newly designed to perform all functional and operational tests of new generation commercial aircraft hydraulic components including actuators and control valves, from both large and mid-size body aircrafts.

This tester ranging from simple manually operated component test benches to automatic multi-functional computer controlled units that include touch screen control and data logging. Many of our test benches are utilized in aircraft equipment applications and by other hydraulics companies to test their components.

Our benches include:

- Flexible designs for testing a range of components.
- Bespoke production line test benches to test single components and minimize testing time.
- Working fluids from standard mineral oil to specialist military and aircraft fluid including Skydrol.
- Working pressures up to 800 bar for proof testing.
- Computer controls with data logging and automatic test report formulation.



TURBINE ENGINE FUEL-NOZZLE TEST BENCH

AVIATION



This device can be used to test all types of turbine engine fuel nozzles. Spray angle is measured in this device with image processing technology.

This device can be designed and manufactured with different ranges requested by dear customers.

FUEL PRESSURE	UP TO 1000 psi
Fuel Flow	Up to 2000 pph

This device is designed and produced in order to test the fuel nozzle using up-to-date knowledge and utilizing parts of prominent American and European manufacturers, taking into account complete safety measures. In addition to designing and manufacturing, the company in charge of installing and setting up the device on the site of the employer company is also responsible for training the operator and the person responsible for repairing and maintaining the device. In addition to the construction of the device, all technical documents, including the following, will be delivered to the customer:

- Manufacture Process
- Operation Manual
- Maintenance Manual
- Calibration Procedure



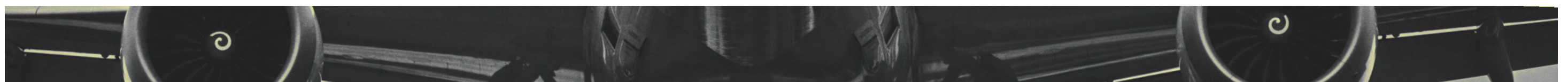
PNEUMATIC AND AIRCONDITION TEST BENCH

AVIATION



Features and capabilities of the test device:

1. The device is started with three-phase 50 Hz input power.
2. Equipped with DC power supply with voltage of 0-28 volts and current of 5 amps.
3. Equipped with three-phase AC power converter with voltage of 115 volts and current of 5 amps and frequency of 400 Hz
4. Maximum Flow air output 8 cubic meters per minute
5. The maximum pressure of the device is 300 psi.
6. The device has a hand pressure indicator with different ranges in the relevant circuits independently.
7. The device is equipped with a flow meter (Transmitter) which, in addition to displaying analog pressure, allows viewing the pressure in HMI.
8. The device is equipped with PLC & HMI and industrial computer for complete display and monitoring electronically.
9. The device has a professional body with static powder paint.

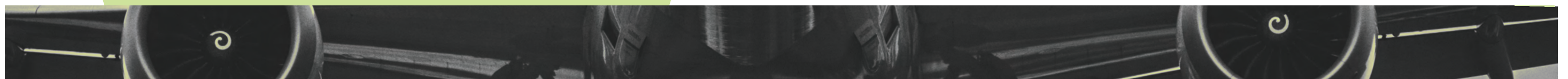
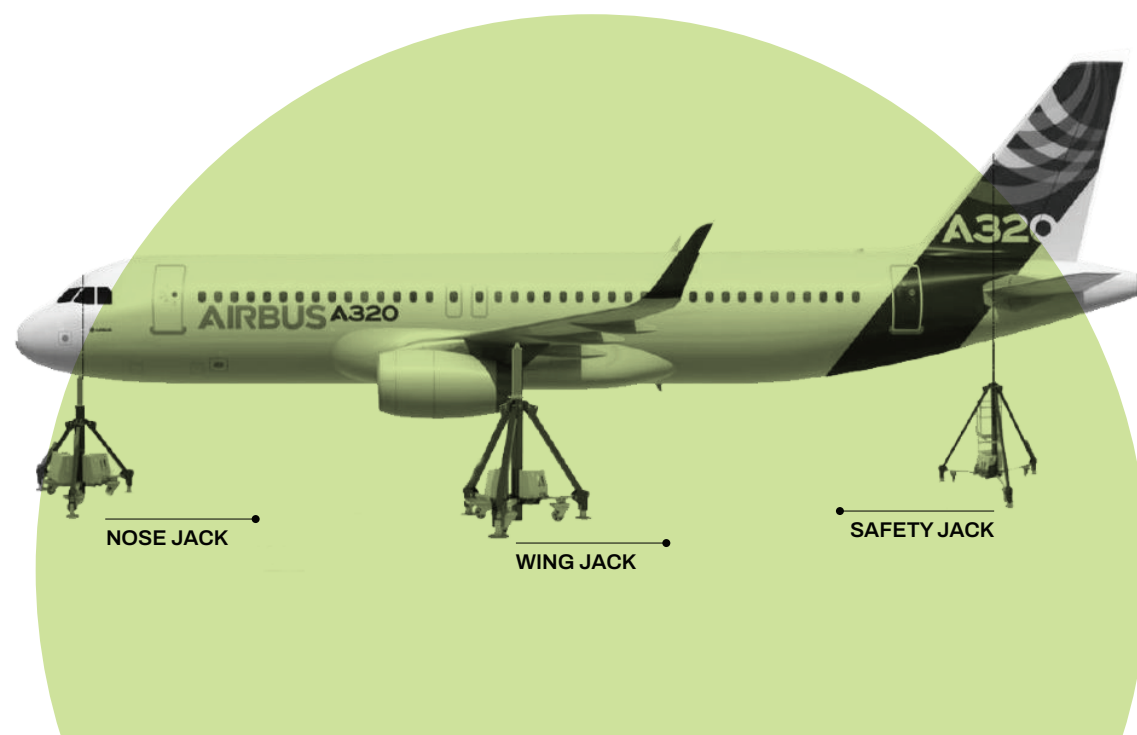




Our tripod-jacks facilitate highly cost-effective and efficient maintenance of your aircraft. The consistent modularity allows them to be configured according to your specific requirements. Various configuration options, from the basic to the high-end versions, are available.

Standard Features:

- Steel reservoir with sight gauge
- Load/pressure gauge • Static load test capability
- 15% jack capacity side load
- Hydraulic fluid: MIL-PRF-5606
- Air driven hydraulic pump
- Threaded rams with improved hand wheel style safety nut
- Quick rising center extension
- Chrome plated cylinder bore
- Adjustable leveling feet with leveling bubble
- 6 inch spring loaded locking casters for easy maneuverability

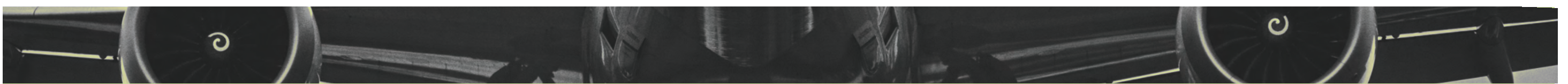




OPTIMISTIC developed and produced custom Aircraft cradles. The cradles have been designed to support Aircraft fuselage during heavy maintenance.

Each frame cradle has been engineered with ease of operation and maintenance in mind. This cradle consists of two section,

left and right. Each Section of Cradle incorporates four heavy-duty swivel casters and can be maneuvered by one person. Lifting is performed through four screw jacks, each featuring a precision worm gear set, powerful lead screw, robust housing and two integrated lubrication mechanisms.

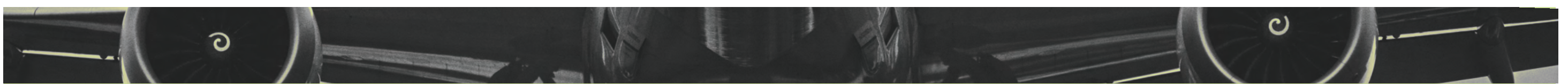


AIRCRAFT GROUND POWER UNIT

AVIATION



- Hydraulic Ground Power Unit used for maintenance and testing of mainline aircraft hydraulic systems (ATA Chapter 29). Designed for all aircraft types with 3000psi or 5000psi hydraulic systems and a flow rate of up to 60USgpm
- Single system or dual independent systems (two motors and two pumps)
- Easy pressure control using the 0psi, 3000psi / 5000psi push buttons as applicable
- Very suitable hydraulic supply for “Ram Air Test Ground Checks” (together with the Airbus certified TEST-FUCHS RAT Tester P/N PGRAT 1, P/N RATMK, P/N RATMK 350, P/N RATMK 380) > Automatic over temperature shutoff feature at 70°C (160°F)
- Ramp function for soft pressure build-up > Pressure and flow rates are infinitely variable and limitable
- The customer can choose whatever matches his requirements: A wide range of options and accessories are available
 - In addition, any customer requirement will be respected



CABLE TENSILE TESTER

AVIATION

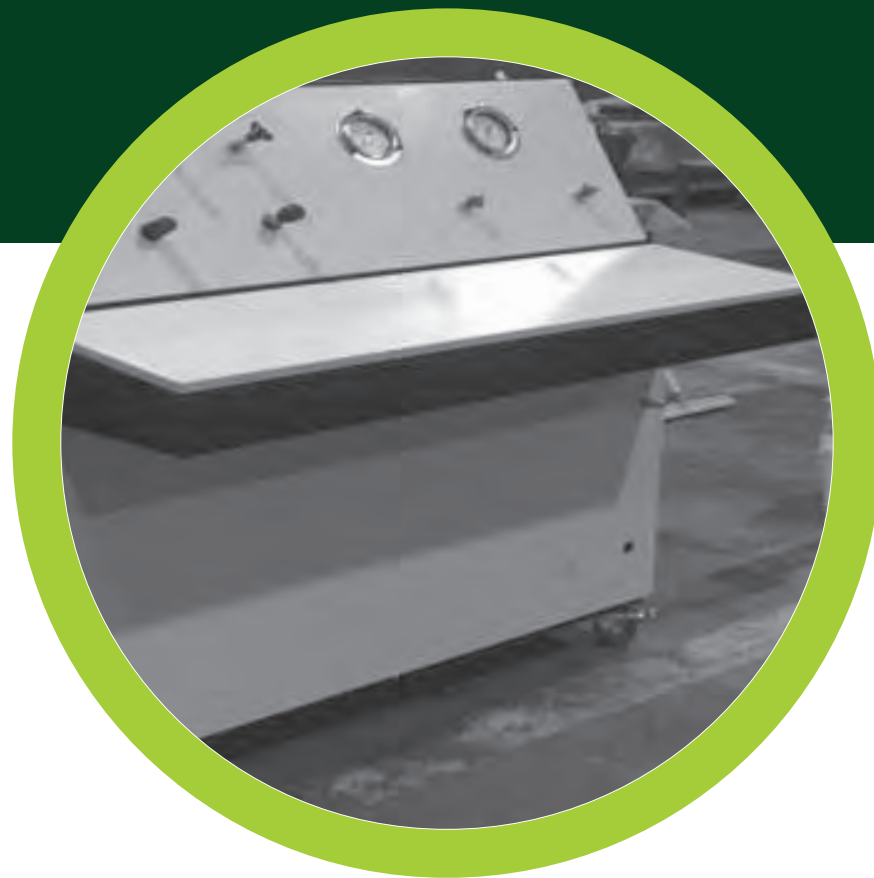


- This device is equipped with a servo motor with brakes and has the ability to perform tensile testing of various cables. The force is measured by the load cell and all data is recorded.
- In this device, the amount of load applied to the cable, the stopping time under load and the number of cycles desired, are entered by the user into the device and the operation is recorded completely automatically by the device. Another application of this device is in estimating the life of parts under linear motion performance.



WHEEL AND BRAKE

AVIATION



1. STANDNOSE BREAKER

2. MAIN BREAKER STAND

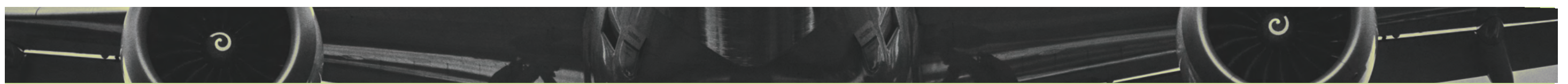
3. TIRE BRAKE TESTER(SKYDROL)

4. GREASE FILLING MACHINE

5. ROTATING TIRE STORAGE RACK

Aircraft wheel and brake shop equipment is used to inspect, service, repair, and overhaul aircraft wheel and brake systems while the plane is in the hangar or on the ramp.

Our aircraft equipment sets standards with leading edge technology for aircraft wheel and brake service and overhaul



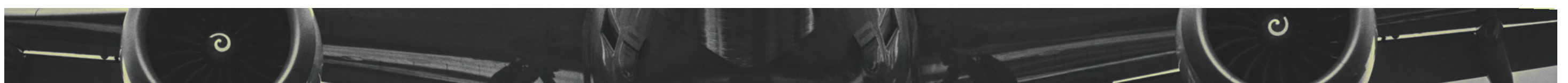
WHEEL AND BRAKE

AVIATION



Stewart mechanism: a platform is a type of parallel manipulator that has six actuators, commonly hydraulic jacks or electric-linear actuators, attached in pairs to three positions on the platform's baseplate, crossing over to three mounting points on a top plate. All 12 connections are made via universal joints.

Devices placed on the top plate can be moved in the six degrees of freedom in which it is possible for a freely-suspended body to move: three linear movements x , y , z (lateral, longitudinal, and vertical), and the three rotations (pitch, roll, and yaw).



CONVERTIBLE UMBRELLA WITH A FOLDING ARM SYSTEM

ARCHITECTURE



These umbrellas work with a central hydraulic system and can be made to cover an area of up to 400 square meters.

The material used in the cover of these umbrellas is very durable against environmental conditions.

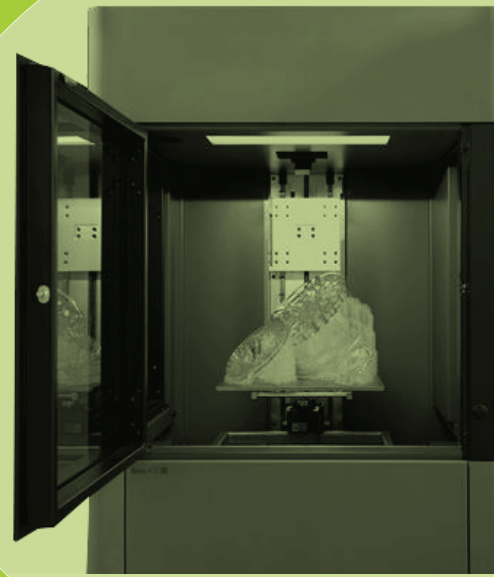
In addition to UV-stability, the material had to have an extremely high tensile strength owing to wind load, maximum flexibility, colorfastness, fire resistance, as well as effective shading and appropriate light transmission.

Oriental patterns made from blue PTFE ribbons were applied to the underside of the umbrella. With careful adjustment of the weaving machine, the consistent quality of the giant fabric surface was guaranteed. The outcome of shading with PTFE fabric was a reduction in ambient temperature by at least 8 °C.



3D PRINTING

RAPID PROTOTYPE



FDM (or FFF) is mainly characterized by the extrusion and selective deposition of thermoplastics into layers that build up to create a three-dimensional object. This may sound a bit vague, so let's explore the process in more detail here.

At its core, the FDM technique is relatively straightforward. Its main functions are performed by two distinct systems: one responsible for the extrusion and deposition and the other for the print head movement.

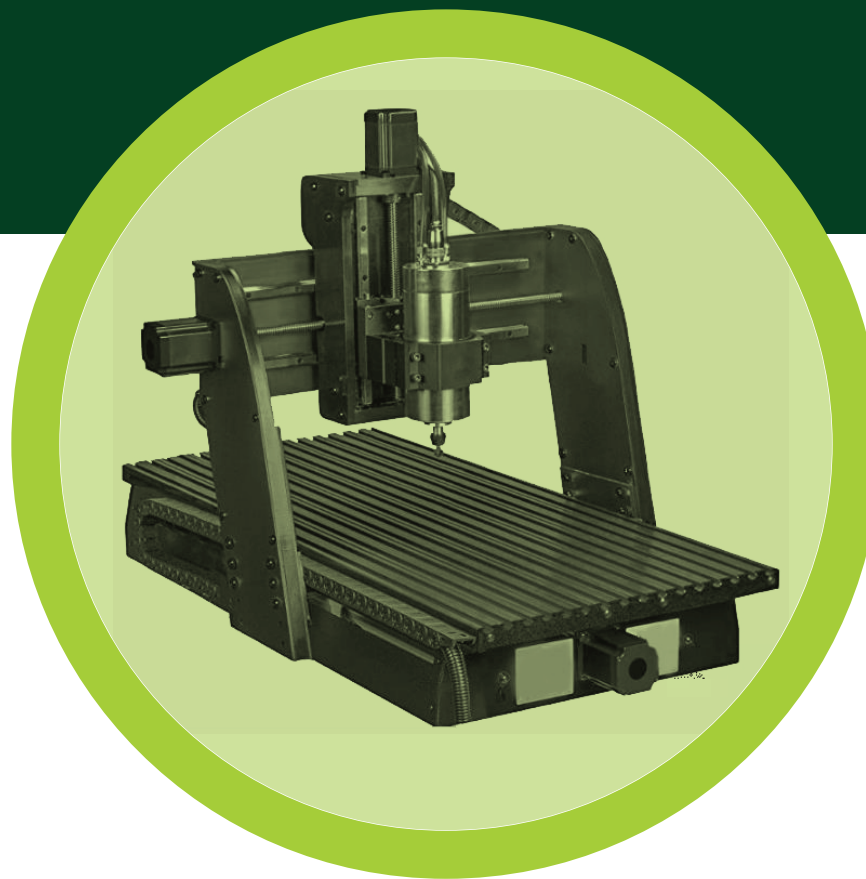
These printers can be made up to 40*40 * 40 cm desktop dimensions.

Also, the movement mechanism of these printers can be made in the form of ball screw, timing belt or rack and pinion gear, depending on the customer's order.



MILLING MACHINE

RAPID PROTOTYPE



- Aluminum interlocking slotted table track for highly customizable clamping, Includes the latest VCarve Desktop Design software now incorporating Cut 3D functionality, Rotary compatible, and Vector Art 3D Sampler Pack. Color Touch Screen pendant controller system. Also includes Ready2 Control software.
- Table dimensions: 16" x 36", XYZ travel: 13" x 24" x 7", Overall dimensions: 24-1/4"W x 36"L x 24-1/2"H
- Built to handle larger 2.25 HP routers with 3.5 inch barrel diameter like Dewalt 618, PC, Bosch (router sold separately) Comes with 2 Hold Down clamps Carbide V Bit
- Virtual Zero Unlimited Requires a PC computer with USB 2.0 port
- RAPID PROTOTYPE
- Milling Machine





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The ISO 9001 certification includes
the headquarters and the industrial
units in Batalha and Torres Vedras.

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