OXYSER

VULCANO 3500

1. DESCRIPTION

Model VULCANO 3500 has been designed for oxy-fuel and plasma cutting, being able to assume extra functions like powder marking, punch marking or ink marking.

VULCANO 3500 is a great machine, it incorporates linear guides in all axes with self lubrication system.

Linear guide ways consists of a rail with ground ball tracks as well as a block. Continuously rotating balls ensure low friction and connect the block with the rail in two directions form-lockingly. The balls are kept in the slide way of the block by a cleat so that the installation of the components is possible without additional auxiliaries. The block is protected against the penetration of dust on every side by scrapers. The unit is lubricated by grease nipples that can be fitted on both sides.

In the transversal axis each cutting station is ported by 4 arc bearings moving trough linear guide.

The mechanical robustness on VULCANO 3500 model, offer us a new standard in precision, process speed, and low maintenance.

CNC is integrated on VULCANO model, as an option can be mounted separately using then, the video control system.

The controller installed in model VULCANO is a Mitsubishi M70, has all advantages about connectivity of a PC based controller but without their typical problems.

The Ethernet connection with the company network makes the loading of programs easy, fast and without limits of size.

Not having a PC is a big advantage in the industrial environment, no hard disc, no operating system, no problems.

Without problems but without losing capabilities until now only associated to PC based controllers, like remote control through internet or loading big files without waiting one second until 10Mb.

2. INCLUDED ELEMENTS

In this offer are included the following elements:

2.1 MACHINE CHASSIS.

Heavy structure bridge type, transversal beam.

Longitudinal trains, machined, supported each one by 2 ball recirculation blocks, these blocks are suited with lubricating system.

2. INCLUDED ELEMENTS

2.2 LONGITUDINAL TRACK.

Longitudinal track is formed by modules of limited length supported by stands to floor. It has all possible calibration needed.

In the track are the linear guides and the racks, laying in machined housings. Also metal protections cover the linear guides and racks from possible impacts.

Longitudinal track is expandable in any moment, thanks to its design.

2. INCLUDED ELEMENTS

2.3 LIFTERS

The lifters are used to adjust the vertical position of the cutting torches. They don't need to be adjusted as are suited with linear guides.

The useful movement length is 275 mm.

As an option it can be suited with electric igniters, auto height controller or collision sensor.

2. INCLUDED ELEMENTS

2.4 CABLE CHAINS SYSTEMS.

All conductions on the machine, cables or hoses are made trough cable chains.

Oxyser only uses high quality cable chains, all of them are closed format for preventing possible sparks in the conductions.

The inside area of the cable chains is structured with separators for guarantee cable life.
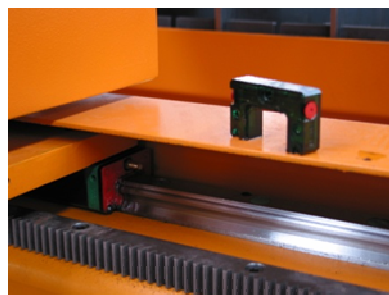
2. INCLUDED ELEMENTS

2.5 LUBRICATING SYSTEM.

Recirculation blocks on longitudinal axis are lubricated automatically thanks to oil dispense cartridges.

This detail is very important for having a long life in the moving systems of the machine. Reducing maintenance periods and avoiding any excess of oil, normal when manually lubricating. Also we save the time needed to manually lubricate the machine.

These cartridges are replaced every 6 months, work at one shift, and it is so simple as pulling them out by hand and installing a new one, without the need of any tool.

2. INCLUDED ELEMENTS

2.6 CNC

Numerical control installed in model VULCANO is a Mitsubishi M70. The communication between the controller and the servos is made trough optic fiber double channel, this made the fastest process speed of the industry.

The backup copy is made every time controller is switch on, this makes you to forget about it and that even in worst case if a controller must be replaced, it can be made in just 5 minutes and start working again in the same conditions.

Impressive is the ability to restart one program even after a power failure, directly in the point where was switch off.

PLC programming on the controller was made especially by OXYSER in collaboration with Mitsubishi ElectricsT, this gives us the ability to implement custom needs of any customer.

Agility assured with any request.

**MITSUBISHI CNC
70 Series**

2. INCLUDED ELEMENTS

The operator panel connects digitally with the controller, it has all needed functions for using the machine.

Hand wheel is included to provide better control of the manual positioning, being able to move in increments of 0,1 or 1 mm.

Pre-programmed shapes.

Ethernet connection

Remote assistance

Compact flash memory in front panel

Real time kerf compensation

Plate alignment

On screen messages

On screen help
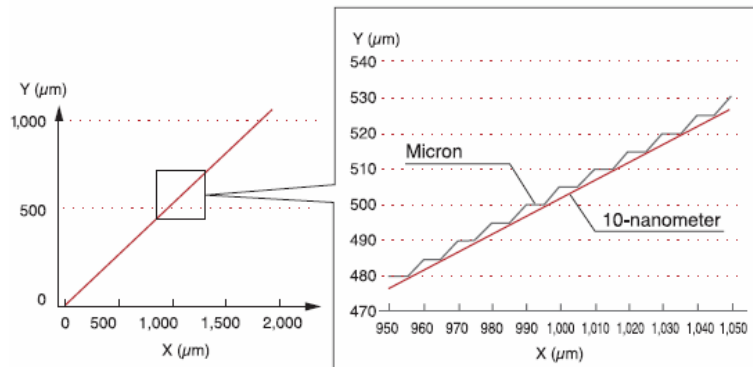
Automatic program restart

Automatic backups

2. INCLUDED ELEMENTS

Sub-micron control thanks to double optic fiber channel. In the oxy-fuel or plasma cutting process is not needed so high precision, but the smoothness is very important, thanks to this sub-micron control the cut edges are smoother than never before.

Program pre-visualization

Parameters change on the fly, while executing a program

Dynamic arc control

Active control of machine motion

High precision mode activated

ISO programming

On screen program edition

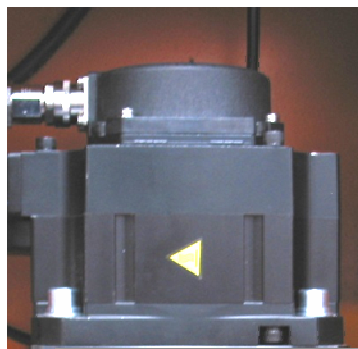Alphanumeric keyboard

Orthogonal follower

Look ahead

Integrated PLC

2. INCLUDED ELEMENTS

2.7 ABSOLUTE ENCODERS

All axes have absolute encoders, this is fundamental for all process, specially for the resuming of a program. Also the squareness of the machine is always safe thanks to the knowledge of the real position of the machine in every moment.

Encoders have 263.000 pulses per revolution.

2. INCLUDED ELEMENTS

2.8 GAS SYSTEM

Gases system in model VULCANO is fully electronic, has 3 proportional valves. One for propane/natural gas, another for heating oxygen and another for cutting oxygen pressure.

This system is always self adjusting, so the flow and pressure is always stable and precise. Also OXYSER has developed and linear ramp piercing that helps a lot in the piercing of thick material.

Proportional valve

OXYSER has been installing these systems for many years, without any problem.

2. INCLUDED ELEMENTS

VULCANO model incorporates filtering of gases, this guarantees no problem with the electronic regulation system.

There are displays in each regulator and also gages in the frontal gas control console.

2. INCLUDED ELEMENTS

2.9 FUME EXTRACTION TABLE WITH FILTRATION SYSTEM

In the plasma cutting process is strictly necessary to use filtering and fume extraction systems.

OXYSER´s extraction tables are built with double suction channel; this ensures the correct extraction of the fume eliminated in the cutting process.

Complete fume absence

This offer may includes 1extraction table (2.5 m x 12 m of work area). The table consists of double suction channel, having in this way 2 channels in the width of machine.

2. INCLUDED ELEMENTS

The machine incorporates one filter unit consisting of 12 filter cartridges.

The suitable design of this model is very important because it permits to avoid the problems related with fume elimination in the workspace.

2. INCLUDED ELEMENTS

2.10 PLASMA

This offer includes 1 mechanized plasma system
for cutting and gouging metal HYPETHERM **HPR260XD**

The **HPR260XD** combines fast cutting speeds, rapid
process cycling, quick changeovers, and high reliability
to maximize productivity, and is now available with
new patent-pending True Hole technology.

- Virtually dross free cutting capacity
  - mild steel 32 mm (1 1/4")
- Production pierce capacity
  - mild steel 38 mm (1 1/2")
- Maximum cutting capacity (edge start)
  - mild steel 64 mm (2 1/2")

2.11 Sensor THC

The Sensor THC is a full featured torch height control system specifically
designed to integrate with Hypertherm Automation's shape cutting
controls.

The Sensor THC incorporates the latest advancements in system
integration and hardware reliability. With integrated SoftMotion and
closed loop servo control, the Sensor THC simply outperforms the
competition.

The result is an easy to use height control that can significantly increase
the productivity and profitability of your shape cutting operation.

3. SOFTWARE

OXYSER RCAM-Pro v5

CAD/CAM System for True Shape Nesting, NC Programming and Documentation Creating, with Extended Functional Capabilities

OXYSER RCAM-Pro is a functionally extended variant of Vintech RCAM, intended for:
• Creating special and multi-torch technologies for processing plate parts.
• Creating technologies for true shape nesting for bevel cutting machines with NC control along 4 to 7 axes.
OXYSER RCAM-Pro provides advanced capabilities for programming of high-performance laser complexes and contemporary machines with combined processing methods such as bevel cutting, dimensional punching, contour cutting, vector engraving/marking, raster marking, processing by "frames".

Characteristics of OXYSER RCAM-Pro

Automates the building of common cuts

Functions widely applied in the laser and oxy-fuel cutting.

• OXYSER RCAM-Pro automatically or interactively nests a multitude of parts with common cuts,
• automatically or interactively creates common cuts for selected multitude of common line nested parts.
• creates a block with common cut by pairs from identical parts with opportunity to choose the places of start/end points and the direction of processing the paired parts.
✔ allows interactive "rolling side-by-side" of the parts and mirror nesting of the second part.

Builds automatically bridges

When the parts must not fall from the plate after they are cut.
The function builds automatically "part-plate" bridges (gaps) on each part in the current zone and manages:
• the minimum distance along the path between two bridges,
• the number of bridges on a part.

Create NC programs with technological tables

To generate NC programs with specific structure and to program heavy duty laser complexes.

• OXYSER RCAM allows working with dataset Technological tables from the Technological Knowledge Base,
• automatically loads the suitable Technological table in the NC program according to the grade and thickness of material and through the NC program in the CNC system.

Imports jobs for nesting

Provides import of jobs for design prepared by an ERP system.
Provides fast job transfer between different users.
Imports packages from file in the project for each part of the job:
Quantity and attributes: Name, Ref. N, Order, Product
• Geometry.

3. SOFTWARE

Has special functionality

For creating technology and NC programs in cases of:

• Pre-piercing of openings
For machines with capabilities for piercing or punching
dimensional perforations, combined with laser or plasma
contour processing or for piercing a start-up openings for
igniting the torch.
The function automatically determines the holes that will be punched and enables the user to choose the cutting torches.

• Processing by "frames". When the parts and the plates are longer than the machine's working area, and the machine or the equipment with it are capable to, the processing can be performed by "frames".

• Defining risky zones, determined by handles and bases on the plate.

• Control of sensors for tracking the height above the plate. With NC commands controls tracking over the machined part.

Builds bevels on the part model

OXYSER RCAM-Pro provides built-in functionality for creating bevels and chamfers.

• Builds one or three-torch bevels and allowances on outer and inner contours or on segments of part's contours,

• for each bevel adds a safe zone to the part's geometry, in order to prevent the nearly nested parts from damages caused by the bevel cutting,

• recalculates automatically the bevels' parameters in a mirror transformation of a part.

OXYSER RCAM-Pro builds paths for bevel cutting by automatically taking account of the cutting diameter and the bevel geometry.

• OXYSER RCAM allows extending or trimming of bevel paths,

• allows breaking the bevel paths at the places of bridges or gaps from other paths,

• controls automatically the torch inclination in the lead-ins, lead-outs and gaps(bridge "part – plate"),

• automatically controls the torch bending in lead-ins and lead-outs and in the gaps (bridge "part-plate")

• automatically controls the torch bending for walking corners or in chain-cuts between consecutively nested paths. Adds automatically an arc movement in inner bevelcorner, for preventing cutting off the part,

• allows building of pseudo-bridges – gaps on contours of neighbor parts which are created at the same time and are mutually oriented,

• provides interactive managing of processing sequence of vertical and bevel paths, as well as removing the vertical paths, that lie under bevel ones.

Bevels' definitions

The bevel in Vintech RCAM-Pro is a specialized system feature for modeling surfaces, created on the part sides.

• The bevels can be: top and bottom, single, composite, top and bottom chamfers on the part's sides.

• Unlimited number of bevels can be defined on a single part.

• The bevel profile is determined in the normal plane of the contour.

• Vintech RCAM-Pro represents the bevel by a line, resulted from the intersection of a beveled surface with the plate top surface.

4. INSTALATION

The installation always will be effectuated by the Oxyser´s staff; this is the only way we can ensure the correct functionality and maximum system accuracy.

The machines track is based on rigid supports every 2000mm. These supports are fixed to the installation floor by dowels; each support is fixed by 4 dowels.

The electrical power supply of 400v 3 phases should be in the range of 10% to ensure the correct work of machine.

Prior to installation, OXYSER will present plans of location, of dimensions, of gas´s supply points and sketches of cabinets required for the machine's operation.

The electrical panels are not included in this offer and must be completed before assembly.

The gas supply lines are not included in this offer and must be activated before the installation of the machine.

This offer does not include any type of civil work that may be necessary for the installation of the machine.

4. INSTALATION

REQUIRED ELEMENTS

Gas supply lines:

AIR

OXYGEN
PROPANE / NATURAL GAS

Switchboard:
    400 vac   max power 51 kW

Mounting Area:
    FLOOR   reinforced concrete flatness +
- 35mm.

The offer does not include the network cable from the office to the machine, although is not strictly necessary for the operation of the machine, it is advisable.

5. WARRANTY

The warranty of OXYSER´s machines is one year from commissioning.

The warranty includes the following sections:

Replaced parts

Transportation of items sent to the customer under warranty

Warranty excludes any expendables as nozzles and torches.

The warranty period of one year is not limited by hours of work of the machine; it doesn't depend on the work cycles or number of shifts.

6. TECHNICAL SERVICE

The OXYSER´s technical assistance service is a fundamental part of our company' functions, it insures that our customers' production will be not compromised by any unforeseen.

In the case of a failure of a piece of the machine, provided that is easily replaced without the need for expertise, OXYSER guarantees the fast delivery of it.

OXYSER maintains a large stock of spare parts for all machines, including models for over 10 years.

Free remote assistance.

OXYSER offers a scheduled maintenance service. This service includes the OXYSER´s technicians displacement every 6 months. This ensures the correct monitoring of maintenance and customer's tranquillity regarding the conditions of the machine.

The price of this service is offered in each case, depending on customer's location and type of machine.