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| **Offer** | 332/24 | **Date** | 28/05/2024 |
| **Customer** | **SC TERRA MACHINES SRL** | **Validity** | 27/06/2024 |
| **Address** | TERGU NEAMT<br>PETRA NEAMT<br>ROMANIA | | |
| **Model** | SMART 30 5 ASSI | | |
| **Reference** | **Mr. Barbu Neculai** | | |

# Offer

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| 1 | S 30 5° | **CNC WORKING CENTER 5-AXIS SMART 30** |

CNC machine mod. 5-AXIS SMART 30 with **WITH CONTINUOUS SINGLE SIDED HEAD** characterized by a fixed working table and open bridge suitable for woodworking, multi-layers, medium density, plastic materials, thermoformed and other similar materials.

STRUCTURE

The structure is composed by fixed working table and open bridge that allows to occupy at least the space available as the movements in X, Y and Z are carried out by the mobile portal where the operating heads and any aggregate groups are installed.
The pieces are always fixed to the table, as movements along the three axes X, Y and Z are carried out by the head carriage and the operating head.
The base frame and the head carriage are made of electric welded steel, which is normalized and suitably ribbed in order to obtain maximum stiffness and long-lasting life.

The X axis movement is carried out on a high precision rack system, while the Y and Z axis movement is carried out by means of threaded worm screws coupled to high precision and high reliability preloaded ball lead nuts with slack recovery.
All slidings run on linear guides with prismatic geometry fitted with ball circulation tracks coupled to high precision preloaded slides.
The screws are driven by brushless motors to achieve the best finish and long-term reliability.

TECHNICAL DATA

Quick speed X-axis: 60 m/min
Quick speed Y-axis: 60 m/min
Quick speed Z-axis: 15 m/min
vectorial speed 85 m/minute
Stroke X-axis: 3550 mm

Stroke X-axis: 3550 mm
Stroke Y-axis: 1790 mm
Stroke Z-axis: 750 mm

Max passage piece with bar top 200 mm
Max passage piece with Cosmec table 250 mm
Working area: 3100 mm. x 1350 mm.

Working pressure 7 bar
Suction nozzle 200 mm
Air consumption per suction 2650 mc / h

The machine does not require particular environmental conditions: it must be installed inside an illuminated, ventilated building with a solid and level floor.

**VACUUM SYSTEM**
The system controls both working areas for pendular loading/unloading operations.
It is equipped with vacuum pressure switches that permit monitoring of the level achieved in each area and consequently the clamping of the pieces to be machined.
Properly sized electrovalves connected to the relevant vacuum tanks, built-in in the structure of the machining centre, assure the connection to the pump.

**LUBRICATION**
The machining centre is equipped with a centralized automatic lubrication system with distribution pump, complete with tank. The system is managed by the CNC with programming of intervention times. The CNC displays messages relating to the achievement of the minimum lubrication level.

**Single sided Birotative Head**
Made of steel to get stiffness. The movements of the rotary axis C and of the oscillating axis B occur through a Bruschless motor connected to a Harmonic Driver thanks to a toothed belt with a rounded profile.
Positioning is ensured by the torque of the motors and the reducers. Accuracy is guaranteed by an encoder reading system.
The head can operate in the space for continuous processing of solids or to position itself to work on inclined tops even of fractions of degree.
C axis rotation with +/- 220 ° recharge
Axis oscillation A +/- 110 °
head pivoting height 70 mm

**PROTECTION SYSTEM**
The machine, which is equipped with standard CE NORMS, is provided with safety mats on the front side and a perimetral net with access door, controlled by an electromechanical system.
The safety mats are divided into No.3 working areas:
- right area, that allows the operator to perform safe loading and unloading operations while

- right area, that allows the operator to perform safe loading and unloading operations while the machine work cycle operates on the opposite side of the working table.
- left area performs in the same way than the right one.
- On the front of the machine there are two columns with start botton to restart the cycle.

**AIR CONDITIONER ON ELECTRICAL PANEL.**

To avoid the infiltration of dust and allow the perfect functioning of the electronic equipment even in the presence of high temperatures, the electrical cabinet is watertight according to IP 55 standards, without external fans and is equipped with an internal air conditioner to maintain good temperature .

The machining centre is provided with a numerical controller, which contains all the functions for proper management of the three encoder axes.
The server-client functions of the controller allow an easy running of complex applications.

The controller programming can be carried out in a simple and guided way by means of a user friendly graphic interface, to automatically generate the part program.

CONTROLLER TECHNICAL DATA
OSAI SERIES OPEN CNC
The controller and all electronical components are installed inside the electrical cabinet, while the latest-generation PC (equipped with I-5, I-7 or higher processor) is located on a movable console. This system allows the operator to stay in the most appropriate position to the working requirements.

The machine is equipped with a **MOBILE TOUCH PENDANT** containing the main operating functions of the machine so that it can operate near the workpiece if it is too far from the control console.

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| 1 | SM 02A0 | WORKING TABLE WITH "Y" UP TO 1350 mm<br><br>The working table,designed for a quick and easy set-up, is composed of:<br><br>- No. 06 panel supports (l = 1350 mm including all the parts that compose it)<br>Each support slides along the X axis on hardened and rectified round bars and 04 ball couplings.<br>The support locking takes place on the round bars by means of No.2 cylinders, and is controlled by a push-button placed in front of the panel support.<br>The correct positioning of the movable panel support takes place on a metric scale along the X axis.<br>Each bar is complete with a reference stop.<br><br>- No. 12 jigs (dimensions 120 x 120 x 70 (h) mm) or 50 (h) mm) for piece passage 200 mm, sliding along the Y axis.<br>The correct positioning of the jig is guaranteed by the presence of a metric scale on each bar.<br>Jig locking/unlocking takes place by means of a pneumatic manual unlocking device, located on a side of the jig.<br><br>- No. 02 bar supports to facilitate the loading of heavy and/or big panels.<br><br>- No. 02 fixed bars, one on the right side and the other on the left side, each provided with No.2 controlled reference stops. |
| 1 | SM 03B | **100 MC/H VACUUM PUMP**<br><br>100 mc/h vacuum pump. It is driven by a 3.3 Kw three-phase asynchronous motor and creates a vacuum by rotating high-strength abrasive blades<br>This system guarantees the absence of vibrations and the maximum silence of the vacuum system.<br>Air cooling guaranteed by a fan installed inside the structure. |

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| 1 | SM 04A1 | **13 KW HSK ROUTER WITH LIQUID SYSTEM FOR 5 AXIS HEAD**<br><br>With forced fluid recirculation cooling. Rotation on ceramic bearings with permanent grease lubrication. HSK F63 tool holder with automatic tool attachment by means of springs and pneumatic release. The power of the spindle motor allows excellent removal work even at low rpm:<br><br>TECHNICAL CHARACTERISTICS:<br><br>- 11 kW (14.7 HP) in class S1<br>- 13 kW (17 HP) in class S6<br><br>- ceramic bearings<br>- left and right rotation<br>- CNC programmable rotation speed from 500 to 20,000 rpm |
| 1 | SM 04OB | **TOOL CHANGER 10 POSITION HSK F63**<br>Automatic tool changer system with 10-position tool carousel, installed on the machine portal.<br><br>- max. no.10 consecutive tools, 150 mm diam.<br>- max. tool diametre: 250 mm<br>- max. tool length: 200 mm<br>- max. no.2 aggregates<br>- max. weight (each tool or aggregate): kg 6<br>- max. total weight: kg 40<br><br>Tool holders are not included. |
| 1 | SM 08A | **TELESERVICE**<br><br>It allows an immediate and direct access to the machine numerical control via modem. This way it is possible to check machine data, user programs, input/output signals and system variables, and to install software updates, therefore granting:<br>. real-time answers<br>. quick problem solving<br>. strong reduction of machine downtime<br>. real-time software updates |

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| 1 | SW 02B | **ASPAN PRO**<br><br>Aspan Pro is a CAD-CAM. Users draw their production parts quickly and easily in the CAD environment and then transfer these to the CAM environment to prepare the optimized machine programs needed to actually produce the part.<br><br>A set of easy to understand commands (e.g. "Draw Holes", "Draw Grooves") and automatic routines (e.g. "Assign tools", "Optimize machining sequence") make it easy for users to define the machining operations to be performed on the unfinished parts.<br><br>1) CAD - this is the drawing environment used to create graphic entities such as various types of hole (e.g. standard, countersunk, in lines, angled, hole barriers) and routings (e.g. straight grooves, arcs, ellipses, rectangles, points). Standard commands (e.g. "Join", "Rotate", "Auto-join") and advanced functions (e.g. Text", "Empty area", "Inclined surfaces") are used to create the drawings<br>themselves.<br>2) CAM - this is the environment where drawings are converted into machine programs. This is done using a series of utilities for operations such as automatically assigning tools and optimizing machining sequences. A series of special commands (e.g. "Inputs/Outputs", "Multi-machining") makes it possible to configure the machine program with the exact specifications (e.g. tools, speed,<br>worktable) of the machine currently being used.<br>3) Links to machines: Aspan handles various machine types and will generate programs for multiple machines starting out from a single drawing. Aspan can also reconstruct a drawing starting out from a machine program. This function can be used as a vital link between machines making it possible to pass data from one machine to another.<br>4) Links to other programs: Aspan can be linked to a variety of external programs such as "IMOS", "KDCw", "Pattern System", "Cabinet Ware" and "Drill Mate". This is done using ASC, an AutoSoftware proprietary format, and DXF files. This means that users can prepare designs with their drawing program of choice and then use Aspan functions to generate the machine programs necessary. Linking one program to another is made easy by a series of Aspan utilities such as the "Import CSV file" function.<br>5) Customized commands: Aspan has its own integrated programming language - AutoSoftware Programming Language (APL). With APL users can create new CAD and CAM commands to optimize their design procedures. |

**TOTAL: € 128.501,00**

# General terms and conditions of sale

**Delivery:**

**Goods:**
Ex-works

**Packing:**
Not necessary

**Test:**
COSMEC TECHNOLOGY Loc.Fosci 28 - Poggibonsi (SI) - ITALY

**Start-up and training course:**
Included

**Warranty:**
12 months at End-User's site

**Payment:**

**Voltage:**
380 V 50 Hz 3 ph. + GND

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