CNC MACHINING CENTER FOR CUTTING AND DRILLING/MILLING

Model "MC 316"

Piece to be worked: Profile in Aluminum or PVC (to be defined at order)

Process working: cutting, milling e drilling

Loading of the bar from LEFT

MACHINE CONFIGURATION
General structure

1. Loading bar device
2. Feeding bar device
3. Machining unit, with slewing ring equipped with electro spindles
4. Cutting unit with blade d. 550 mm
5. Unloading table
6. Electrical cabinet
7. Control unit with PC

DESCRIPTION

BAR LOADING

Maximum length of the bar 7200 mm
Minimum length of the bar 1000 mm
On the loading table are positioned the profiles at step distance, till a maximum total loading width of 2200 mm and weight of 500 kg.

The CNC manage the feeding of the loading table where profiles placed and the automatic positioning for the feeding arm.

Reference point on the LEFT.

The loading table can also be activated in a manual mode in order to simplify the loading operation of the profiles before the start of the working cycle.

LOADING TABLE WITH PUSHER ARM

The loading table with automatic feeding of the profile is made of an electro welded steel structure, where is mounted a beam with linear guides and linear bearings and where is placed a precision rack with inclined teeth for the movement of an automatic pusher arm along the U axis of the machine.

The pusher arm is CNC controlled is equipped with a gripper that take the profile loaded on the table and transfer it in the machining/cutting area.

Profile slides a long a track equipped with neutral rollers that avoid scratch of the piece.

The gripper unit is controlled by 3 axes (U, V, W)
U Axis Bar feeding – Stroke = 9350 mm
V Axis Horizontal adjustment – Stroke = 225 mm
W Axis Vertical adjustment – Stroke = 200 mm
C Axis Gripper rotation 0° - 180° (optional)

MILLING AND DRILLING UNIT

4 CNC controlled axis with brushless motors X-Y-Z-A (swelling ring)

All the milling and drilling units are mounted on the swelling ring, these can be positioned in continuous mode from 0° a 380° (-190° +190°) controlled by CNC, maximum number of electro-spindles is 6 units.

The cooling of the tools is made by MQL (Minimal Quantity Lubrication)

All the sliding guides and screws with round and linear bearing are lubricated by means of an automatic centralized.

n. 4 electro spindles kW 4,5 24000 rpm

Tool holder nut ER 32

Manual tool change

Air-cooling

Machining capacity of the profile L 250 **(subject to technical verification of the machining)**

Machining capacity of the profile H 150 **(subject to technical verification of the machining)**

CUTTING UNIT   3 Axis

The cutting unit with descending movement, CNC rotation of the unit within 180°, controlled by brushless motors.

Saw Blade d. 550

Horizontal and vertical clamps

Cutting capacity L 250 **(subject to technical verification of the machining)**

Cutting capacity H 150 **(subject to technical verification of the machining)**

Saw blade motor kW 2,7

Safety sensors

Minimum cut 90° = 0

Minimum cut 45°/ 135° = 370 mm (you can automatically download)

Venturi Lubrication

UNLOADING TABLE

The unloading table, is made of a steel and aluminum structure with the presence of a bent conveyor.

A moveable edge pneumatically activated push the profile in a specific parking area, where there are a series of belts which guarantee good wear resistance and a low coefficient of friction, so the machined profile slides out easily.

Table dimension: 5000 x 1700 mm

Optional: 7200 x 1700 mm

HARDWARE/SOFTWARE/ELECTRICAL SCHEME

PC Desktop, Windows 10, monitor TFT-LCD, keyboard QWERTY, mouse USB

Operating system is Windows, programming of working is user friendly with a simplified operator interface.

Storage of profile information

Managing working list from external programs

Parametric programming

Network interface

Able to manage label printer (optional)

Interface capability for Industry 4.0

Self-diagnostic

Net-service for remote connection

*** The data and pictures indicated in the offer are susceptible to changes relating to modifications or improvements to the machines themselves.