



CNC profile machining center MECAL NIKE

GENERAL

Mecal Nike is a vertical spindle aluminum extrusion CNC available in 3+1 axes. The machine can work with aluminum extrusions, as well as vinyl extrusions and light alloy profiles. It comes as standard with a 3.8 kW, 18000 rpm electro-spindle with ISO 30 tool holder system and a 5 tool magazine even if an additional side magazine is available as optional to reach a total of 10 tools available in the machine.

The 3+1 axes configuration features a rotating beam equipped with a clamping system to properly hold the extrusions during the machining process.

The Mecal Nike allows linear and circular interpolation on 3 axes (X,Y,Z). The A axis is the beam rotation on $\pm 90^\circ$ angles around X-axis, however the operator will have the possibility to manually adjust a mechanical pin to allow the beam to stop at intermediate angles. This enables machining on any surface generated by the rotation of the work-piece with standard tools.

Using a drill, milling bit or a tap, it is possible to work on 3 sides of the profile, also the machine can perform end-milling operations by using milling cutter.

The 2 pneumatically operated reference stops are standard and located on each end of the rotating beam.

CLAMPING

The Nike aluminum extrusion CNC can be equipped with manual or head driven (DPM) clamps. The head driven (DPM) clamps are capable to go to calculated positions moving one by one in a sequence.

PROGRAMMING

Programming both with Mecal ISO programming or Mecal CAD3D graphic CAD/CAM software are standard. Optional STEP/IGES driver CADLink is available for companies prefer to work with a third party 3D design software.

OPTIONALS

- Automatic Positioning Clamps (DPM): a pneumatic finger mechanically assembled to the spindle head descend, disengage the clamps and move them one by one to the positions previously set in the program.
- Extra clamps (standard clamps or DPM)
- Extra tool magazine
- Probe for the automatic detection of the tool length
- Bar code reader
- Electrospindle 5,5 Kw
- CAM 3D Machining simulator
- Interface drive for third party window making software
- CADLink 3D Driver to import STEP or IGES files

The "Nike" fits in the mid range of Mecal's CNC machining centres. It features 3+1 axis (X, Y, Z + A), a 3.8 kW electro-spindle, 5 tools magazine and automatic clamp positioning system. The "Nike" has been designed to work on aluminum, light alloys and PVC extrusions. It is an ideal solution for aluminum and vinyl windows, light fixtures and other simple aluminum extrusion processing.

FEATURES

- Vertical spindle CNC machining centre
- Axes drive system is consisting of a servo controller and a brushless DC servomotor. Position is tracked by an incremental encoder integrated in the drive motor
- Work pieces clamps are mounted on a pneumatic rotating beam
- Work piece clamps slide on precision linear guide rails
- Clamp positioning options: Manual (by referring to a scale or a laser pointer) or DPM: driven by the CNC head
- Working area can be divided in two zones
- 5 Tools capacity tool magazine is located on the right side of the machine.
- By using the disc cutter, it is possible to carry out end-milling operations on both the ends of the work piece
- Milling operations are performed with linear and circular interpolation of the X-Y-Z axes
- Pneumatically operated flipping reference stops
- Tool cooling via Minimum Quantity Lubrication
- Internal data transmission through optical cables (SSCNET III) ensures fast-reacting, flawless functioning of the machine
- All slide ways and ball screws are lubricated through an automatic central lubrication system
- Frontal safety door with increased visibility of the machining area

TECHNICAL DATA

- Max working length: 3270mm (128'")
- Oversized machining capability up to twice the max. work-piece length capacity: 6,540mm (21'")
- Spindle rotation speed variably up to 18000 rpm
- Tool clamping system is ISO30
- Clamp width: 250mm (9.8")
- Number of clamps in the standard configuration: 4
- Beam rotation axis (pneumatic) that allows the work-piece to be rotated within 180° ($\pm 90^\circ$) around X-axis
- Beam can stop at intermediate angles by adjusting a mechanical stop
- Electronic NC interface with a PC running on Windows 10 OS

STANDARD EQUIPMENT

- Electrospindle air cooled, ISO30, 18000 rpm, 3.8 kW
- Tool magazine with 5 tools capacity
- 4 x Pneumatic clamps
- 2 x flipping stops, pneumatically operated
- Startup tool kit
- Electronic NC interface with a PC running on Windows 10 OS.
- CAD CAM 3D Graphic software