



CNC Profile Machining Centre MECAL AYDO

The "Aydo" is the smallest of Mecal's CNC machining centres. It features 3+1 axis (X, Y, Z + A) and has been designed to work on aluminum and PVC extrusions. The machine is an ideal solution for aluminum and vinyl windows, light fixtures and other simple aluminum extrusion processing.

GENERAL

Mecal Aydo is a vertical spindle aluminum profile 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. Also equipped with a 5 tool magazine.

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 Aydo 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.

The machine sides can be open to fit profiles longer than 3000mm (10').

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.

CLAMPING

The Aydo aluminum profile CNC is equipped with manual clamps, hence a laser device is used to point the location of each clamp, so the operator knows exactly where to position them.

OPTIONALS

- Safety guard extensions to work double the useful length on the machine
- Extra clamps
- Bar code reader
- CAM 3D Machining simulator
- Interface drive for third party window making software
- CADLink 3D Driver to import STEP or IGES files

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 is manual
- 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
- Frontal safety door with increased visibility of the machining area

TECHNICAL DATA

- Max working length: 2900mm (114")
- Oversized machining capability up to twice the max. work-piece length capacity: 5800mm (19')
- Spindle power: 3.8kW
- Spindle rotation speed variably up to 18000 rpm
- Tool clamping system is ISO30
- 5 positions tool magazine
- 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