Comet R6 I
5-axis machining centre

5-axis CNC machining centre designed for working bars or parts in aluminium, PVC, light alloys in general and steel. It includes two different operating modes: the first one, in single-zone mode, for machining whole bars in a single working area, up to 7 m long; the second one, in double operation, for machining multiple workpieces in the two separate working areas.

All CNC axes are absolute and do not require resetting upon restarting the machine.

COMET R6, version "I", features independent servocontrolled clamps that, in dynamic double operation, position themselves in concurrent operation time with respect to the spindle machining processes in the opposite working field.

The 4th and 5th axis allow the electrospindle to rotate to CNC from –15° to 90° on horizontal axis, and from 0° to 720° on continuous vertical axis, to machine the top and all the side faces of the profile.

Features a 12-place tool magazine, on the gantry (X-axis), that can hold a blade with a maximum diameter of 250 mm.

The mobile worktable facilitates the workpiece loading/unloading operation fully ergonomically, and significantly increases the machinable section on the Y-axis.

User interface 03 Tool magazine 04 Dynamic double operation 05

The pictures are provided by way of illustration only.
The servocontrolled clamps, each with their own motor, can independently position themselves on the working field. The CNC simultaneously manages the handling of the clamps and the head of the electrospindle in the two different working fields in double operation. This enables significant increases in productivity. The use of absolute reference axes enables reducing the time for machine initialisation at each restart.

The 8.5 kW electrospindle in S1 with high torque also enables performing the heavy machining typical of the industrial sector. A 10.5 kW electrospindle with encoder for rigid tapping is available as optional. Electrospindle rotation along B and C axes allows working on 5 sides of the profile, with no need of repositioning. Normally used for machining extruded aluminium profiles, it also enables machining steel profiles thanks to the twin tank lubrication system: one with minimal oil diffusion, and the other with oil emulsion spray.

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The tool magazine is integrated into the X-axis trolley, in a recessed position with respect to the electrospindle, and it increases the machine’s productivity by reducing the time for tool changing. This advantage is highly prized in machining at head and end of profiles.

The tool magazine, with 12 places, enables loading a blade with a maximum diameter of 250 mm. Each position of the tool holder is provided with a sensor detecting the correct cone position.

The innovative machining mode allows reducing machine stop times during loading and unloading of the pieces to be worked. The system allows, in the two distinct and independent working areas, to simultaneously carry out the loading/unloading of extruded profiles on one side, and machining of workpieces on the other, with different lengths and/or codes. This solution makes the machine very flexible, which is highly suitable for the field of window/door frames and for small work orders, where machining is required for small lots of different pieces.