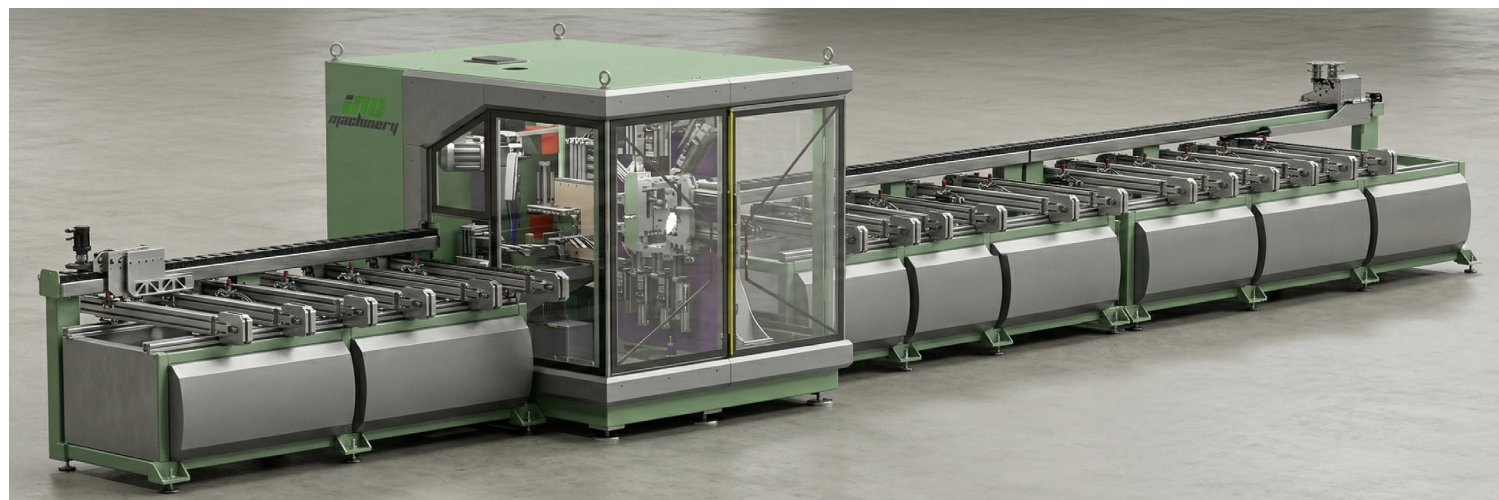


# BARCELONA

## CNC ALUMINIUM PROFILE CUTTING & MACHINING CENTER



### MACHINE DESCRIPTION

**Integrated Manufacturing Processes:** Integrating sawing, routing, drilling, and marking into a single machine enhances production speed and quality while eliminating the need for separate workstations.

**High Loading Capacity and Adaptive Gripper:** The machine can load up to 10 profiles simultaneously, each with a maximum length of 6,500 mm. The servo-controlled profile gripper automatically positions itself to accommodate various profile designs and sizes, significantly enhancing versatility.

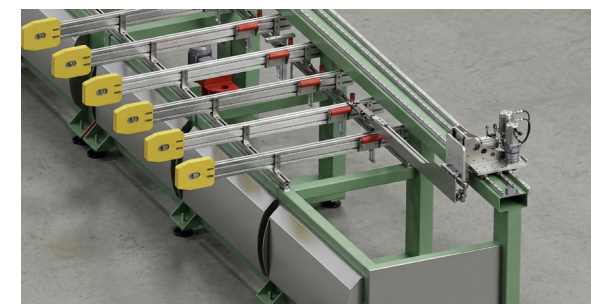
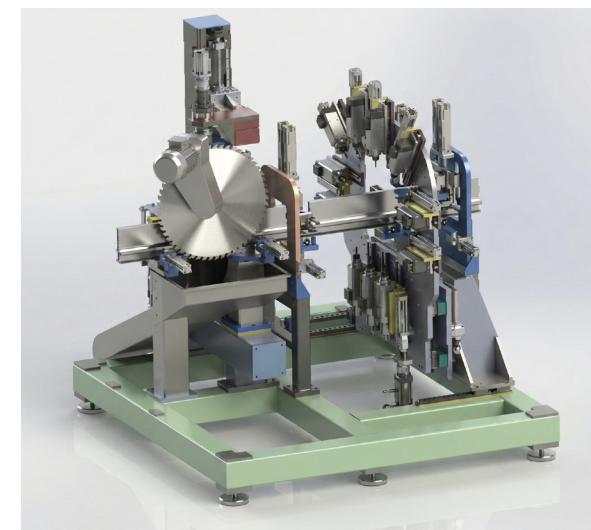
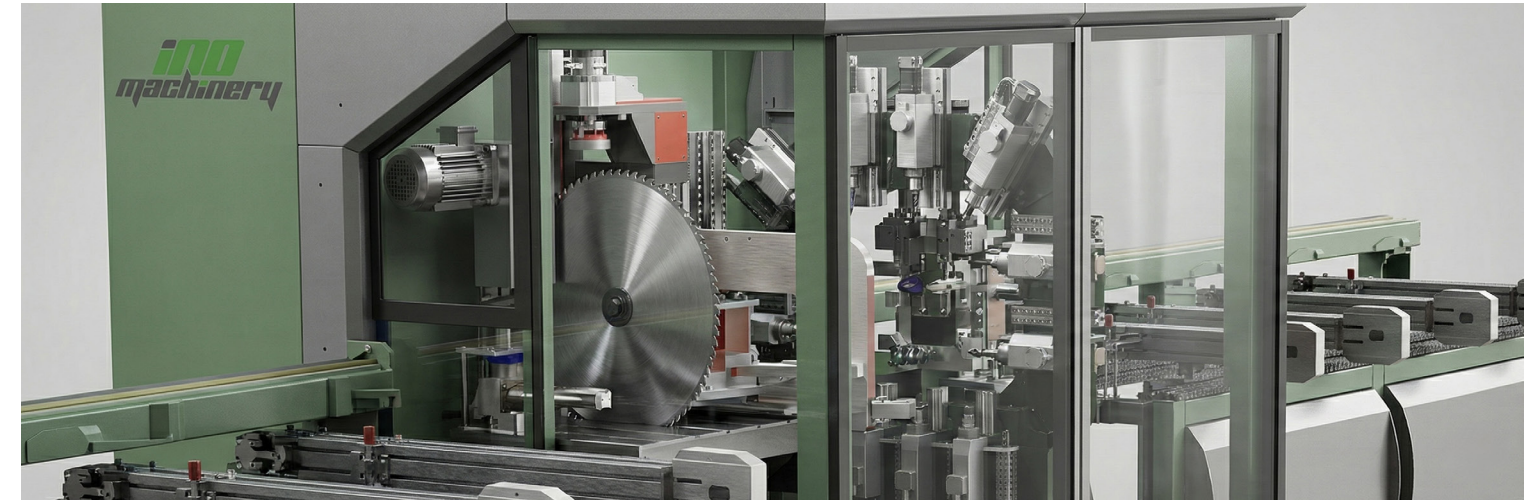
**High-Performance Industrial PC:** Featuring a 21" industrial PC running Windows 11, the machine offers an ergonomic design and a user-friendly interface for seamless operation. Its mounting on a movable arm ensures convenience, while the system supports remote service for efficient diagnostics and troubleshooting via an internet connection.

**Precision Machining with 3-Axis Movement:** The high-quality milling group features 3-axis (X-Y-Z) movement, facilitating precise operations such as drain slot routing, drilling, and milling. A 600 mm diameter vertical saw enables automatic cutting at angles between 30° and 150°, with all adjustments controlled by servo motors to ensure high-speed and accurate positioning.

**Automated Transfer and Labeling:** After cutting, profiles are automatically transferred to the exit station via the gripper system. An offloading system places the profiles onto a belted roller conveyor to prevent surface damage.

**Efficient Waste Management:** Scrap and waste generated during milling and cutting are handled by an automatic inclined conveyor system that transports them directly to a waste bin.

**Servo Motor Control:** The machine features a total of 9 servo motors: 3 for the gripper axes, 3 for the tool ring, 2 for the saw group, and 1 for the offloading system. With its advanced CNC controller, dedicated machining software, and comprehensive servo system, the inoBARCELONA CNC Aluminium Profile Machining Center is a premier solution for both architectural and industrial aluminium profile processing.



### DIMENSIONS

Saw-Blade Diameter	: 600 mm.
Max. Profile Length	: 6500 mm.
Min. Profile Length	: 330 mm.
Minimum Profile to Load	: 500 mm.
Max. Profile Height	: 190 mm. (with customized clamping for sliding frame profiles)
Min. Profile Height	: 30 mm.
Max. Profile Width	: 250 mm.
Min. Profile Width	: 30 mm.

### SPINDLES

The inoBARCELONA CNC Aluminium Profile Machining Center features a high-performance spindle and sawing unit designed for versatility and precision.

Power: 4.5 kW

Speed Range: 0 – 24,000 rpm

Cooling Method: Air-cooled

Control: A frequency inverter allows for variable speed adjustment. This spindle offers flexibility in speed control, enabling precise management of machining operations. The air-cooling system maintains optimal operating temperatures, ensuring consistent performance.

### SAWING UNIT

Motor Power: 3 kW

Speed: 2,800 rpm

Angular Rotation: Servo-controlled, adjustable from 30° to 150°

The sawing unit is equipped with a powerful motor capable of delivering high torque at a consistent speed. The servo-controlled angular rotation adds to the versatility of the unit, enabling precise cutting at various angles within the specified range. These units contribute to the inoBARCELONA's ability to perform a wide range of machining operations with accuracy and efficiency, making it an ideal solution for aluminium profile processing.

