

area

CNC Machining centre for building components

CNC Machining Centres for Timber construction



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CNC Machining centre for building components

Area is the innovative CNC 5-Axis machining centre with a mobile gantry structure and modular composition for processing large timber construction elements, such as CLT/X-lam panels for walls, straight and curved structural beams. It allows machining of elements up to 4,5 m wide and 50 m long.

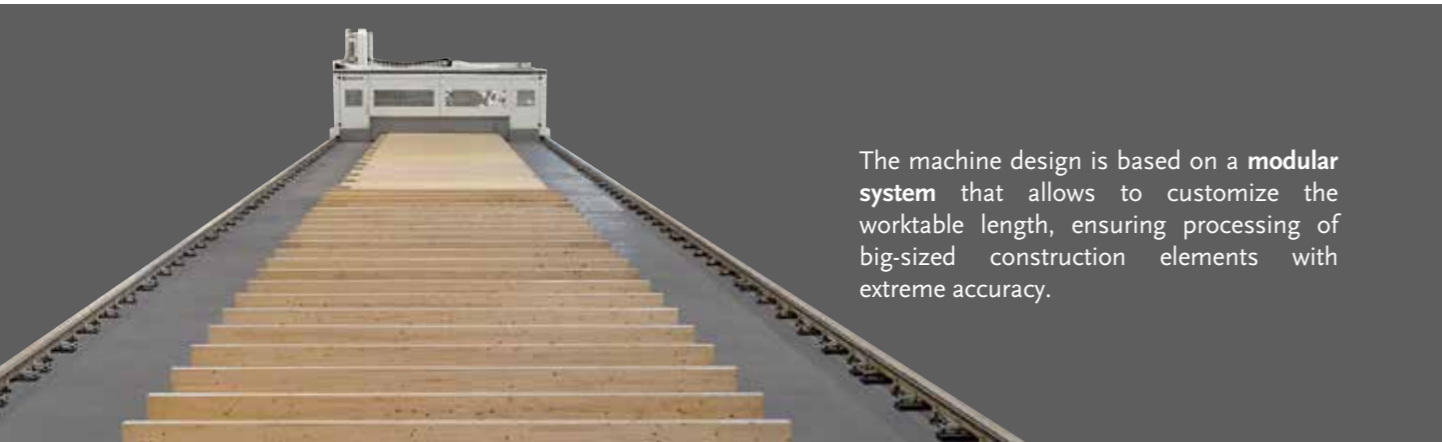
Easy access to the worktable for effortless loading of the elements, thanks to the use of sliding tracks with a low vertical profile and reduced footprint.

Effortless machining of very thick elements and use of sawblades up to 1020 mm diameter, with the specially designed 5-Axis machining head unit.

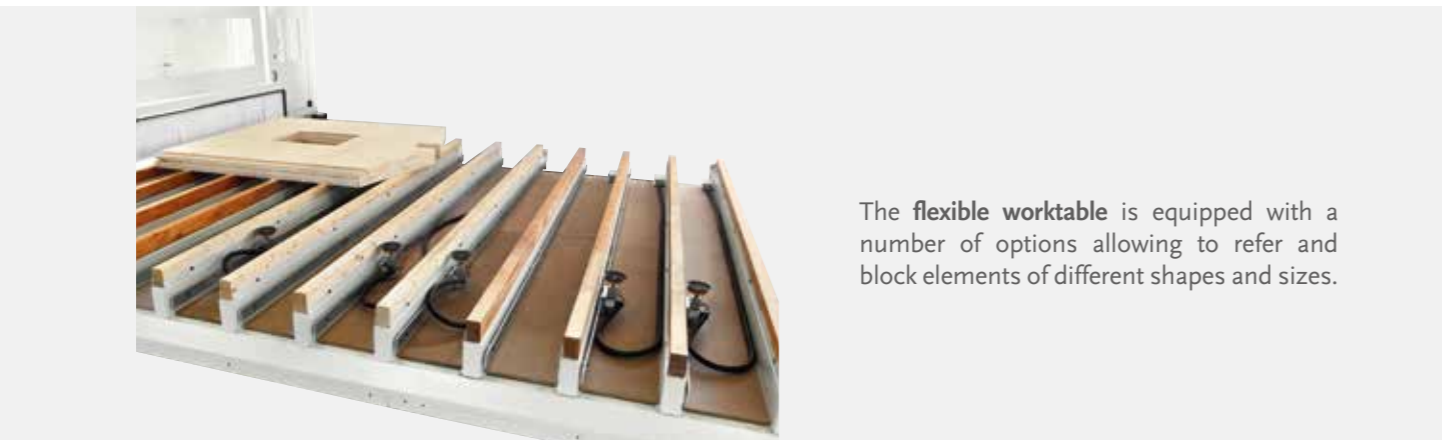
Easy to use machine and total integration with the most popular CADs, by means of the **Maestro Beam&Wall** software.

No risk of collisions and precise calculation of the production time thanks to the 3D simulation station.





The machine design is based on a **modular system** that allows to customize the worktable length, ensuring processing of big-sized construction elements with extreme accuracy.



The **flexible worktable** is equipped with a number of options allowing to refer and block elements of different shapes and sizes.



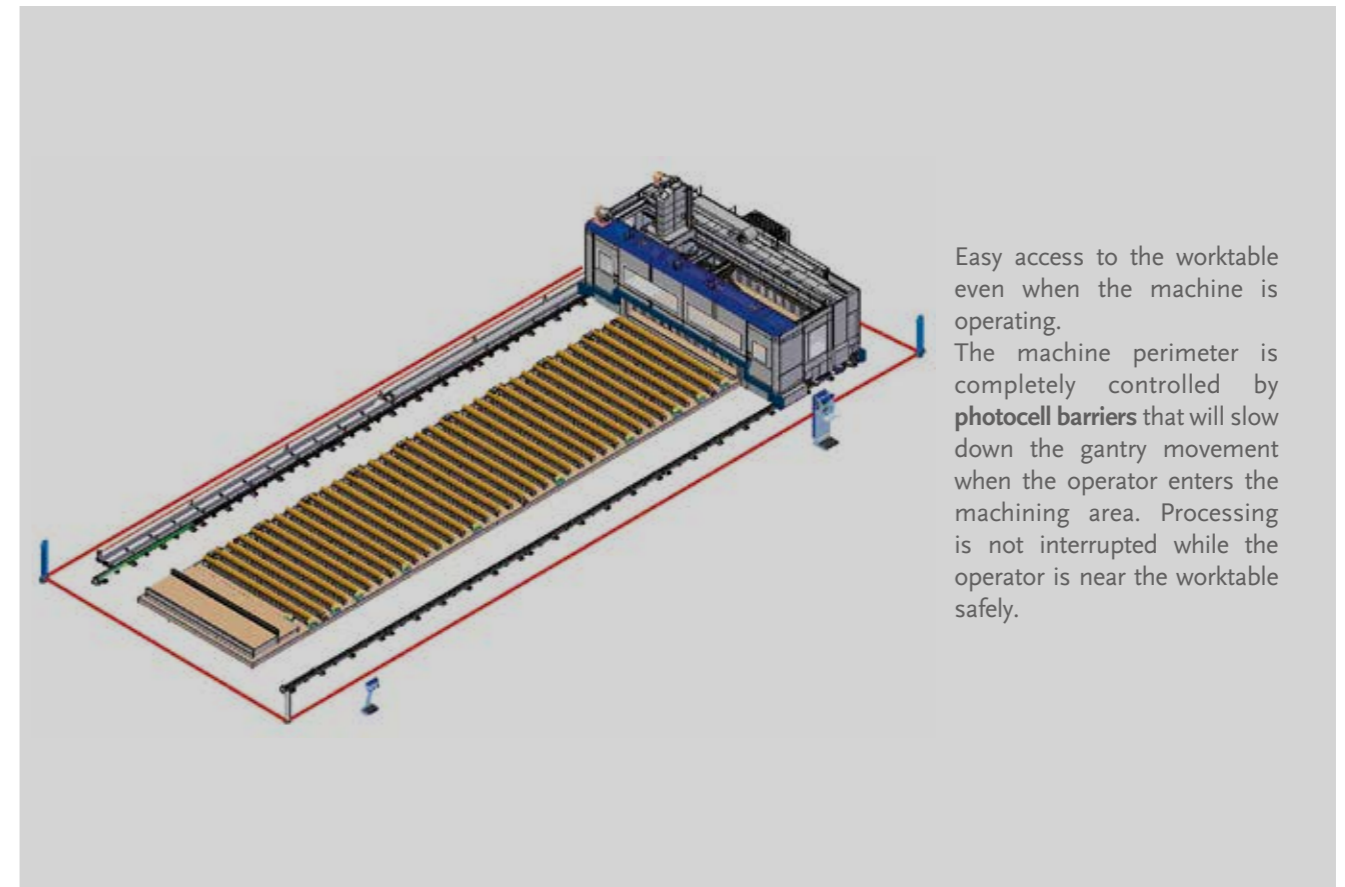
Safety and cleanliness thanks to the full enclosed machining area and the innovative system allowing free access to the worktable even with the machine on duty.



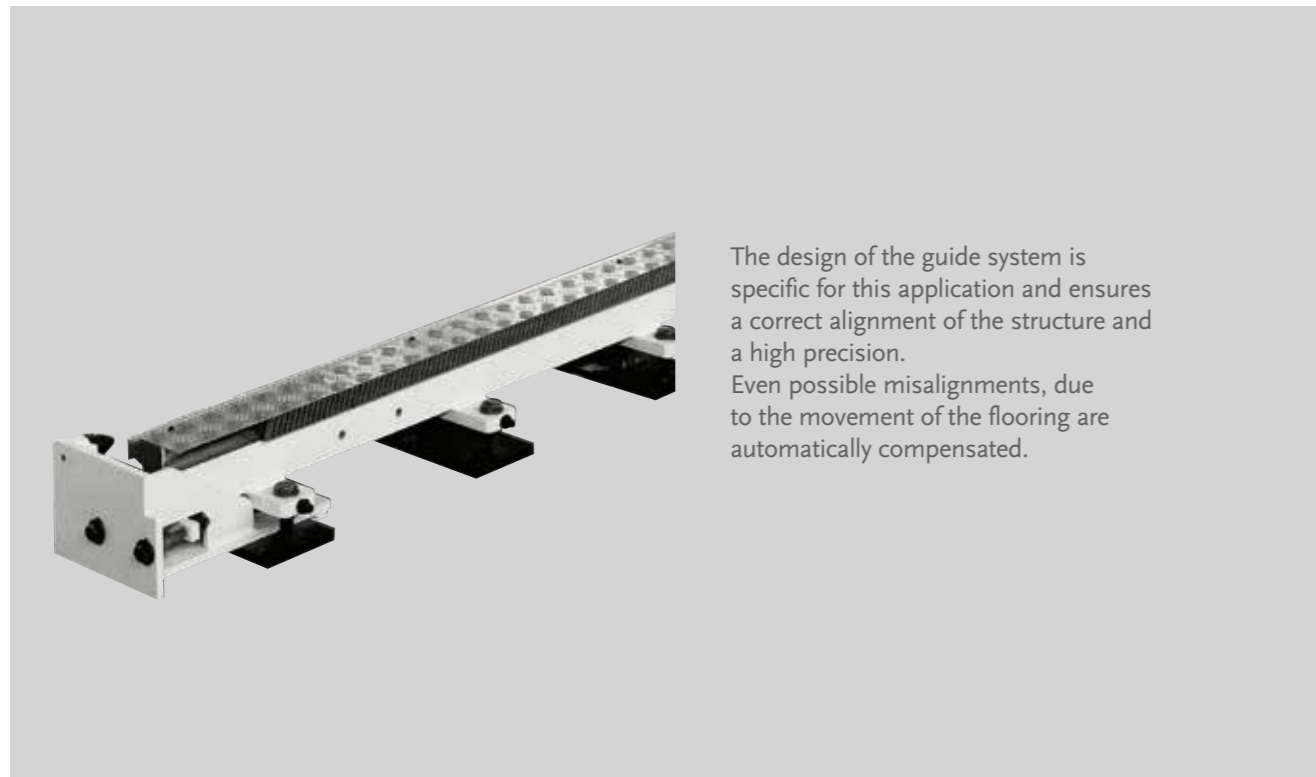


The solid and robust structure moves on precision rails with low vertical profile, to ensure high standards of accuracy and allowing the operator easy access to step over the worktable. The complete protection enclosure of the machining area gives the best results for a drastic reduction of dusts and noise. A large transparent window allows total control of operations.

ergonomics



Easy access to the worktable even when the machine is operating. The machine perimeter is completely controlled by **photocell barriers** that will slow down the gantry movement when the operator enters the machining area. Processing is not interrupted while the operator is near the worktable safely.



The design of the guide system is specific for this application and ensures a correct alignment of the structure and a high precision. Even possible misalignments, due to the movement of the flooring are automatically compensated.



Every detail has been designed with care, cleanliness of the machining area makes it safer and easier to operate.



Practical and robust remote control with wireless technology to manage the main functions in full freedom of movement.

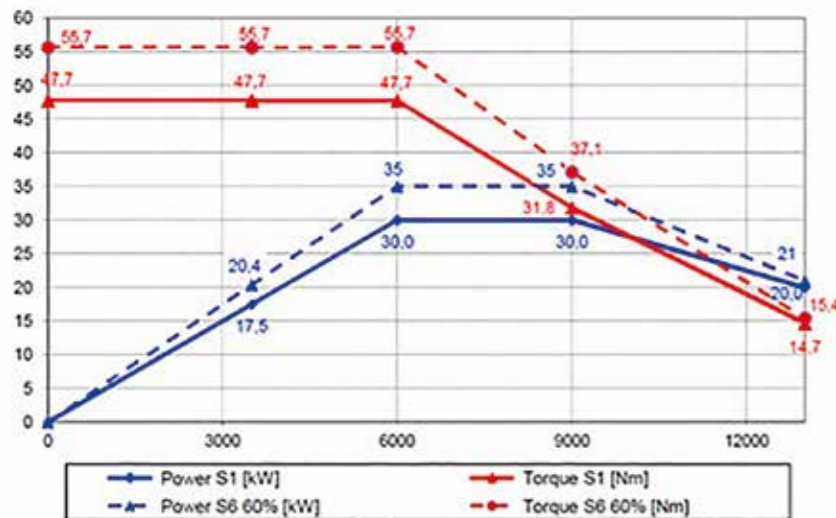
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machining head unit



Machining head unit and electrospindle are specially designed to perform all the operations required for the production of construction elements with heavy duty stock removal.

The electrospindle, designed and built by SCM, develops a power of **30 kW at 6000 rpm**, to be able to exploit power with tools of large dimensions and achieve a maximum rotation speed of **13000 rpm**. Excellent performances that make the machine ideal for **routing operations with heavy duty stock removal and profiling at high speed rotation**, ensuring precision and perfect finish quality.



tool stores



The tool store with **up to 12 positions** is designed to have on board all the tools necessary to complete the machining operations. Placed on the mobile gantry, it permits to have always available the right tool and to speed-up the execution time of the entire program.



Dedicated positions for special aggregates: **sawblade with up to 1020 mm diameter**, chainsaw and planing aggregate.



The machine design is based on a modular system allowing to customize the size of the worktable up to 50 m along the X-axis, to meet all production needs.



The structure of the worktable is anchored directly to the floor while the upper part is composed of material to be worked directly by the machine, in order to have a flat surface. It can be re-machined several times when surface gets scratched from use.

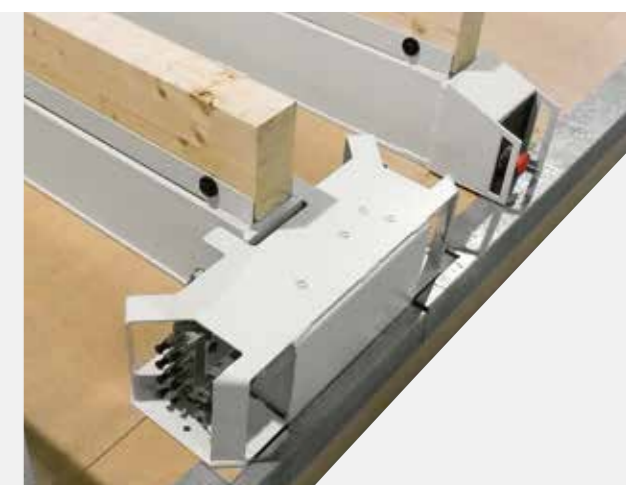
The worktable is designed to meet different needs. A number of options allow to refer and block elements of different shapes and sizes with safety and precision.



Heavy duty reference system on the sides of the worktable, to properly accommodate panels with large dimensions. After the work piece positioning, the reference stops are automatically lowering, leaving all the sides of the piece free for further processing.



The positioning of bulky and heavy elements such as CLT/X-lam panels might be awkward and difficult; the **laser system** simplifies this operation projecting the tool paths on the work piece with precision, and allowing the operator to center the program on the piece already loaded on the machine. Information is forwarded automatically to the CNC that modifies the part program, according to the new work piece position.



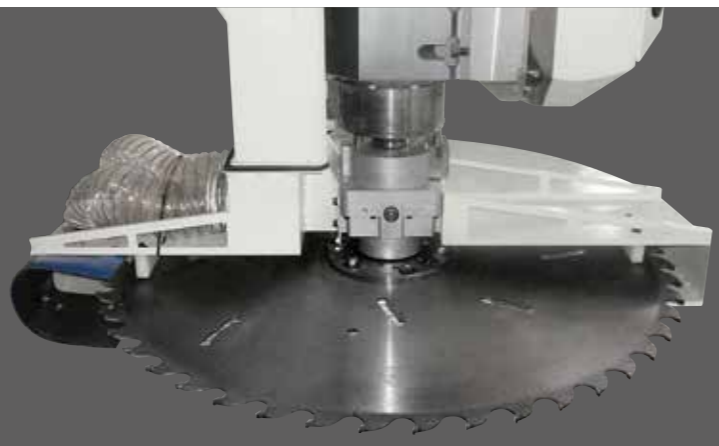
Even small work pieces can be blocked on the worktable thanks to the suction cup system. The suction cups with automatic exclusion are easily positioned across the work area and connected to the vacuum ports arranged on the machine with quick plug-in connectors on the perimeter of the table.



The aggregate "chainsaw" allows to quickly realize: 90° openings, cutting with nesting technology, deep grooves and slots on all sides of the element.

To cut elements up to 360 mm thick, it is possible to use a 1020 mm diameter sawblade with a dedicated suction hood.

Thanks to the reduction of rpm, it is possible to exploit the electrospindle performances at the maximum and execute cuts quickly even on elements of high thickness.



Planing aggregate equipped with a suction hood connecting to the suction system of the machine, to always keep the work area clean and visible.

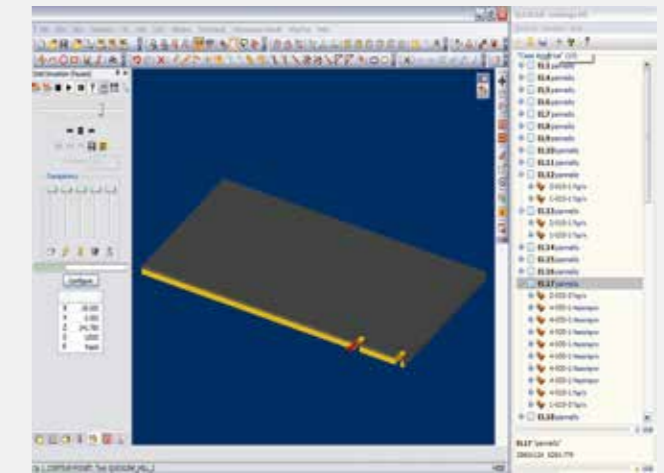


software

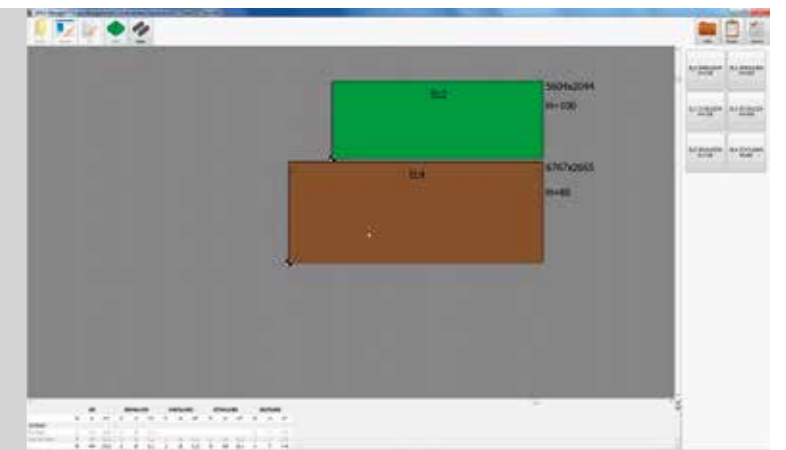


The AREA project is designed to aim to two main goals:

- Introduce innovative solutions to modernize the production cycle
- Take full advantage of the new technology with a software that is really easy to manage.



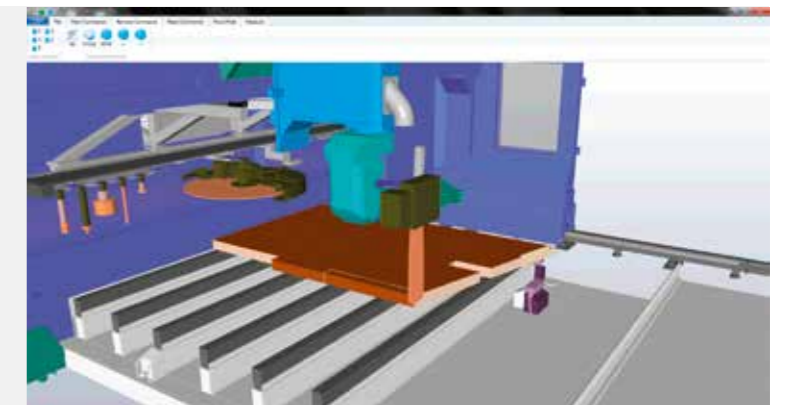
Maestro Beam&Wall, developed from the experience of SCM, allows to interface with the industry's best design CADs available on the market. With a few clicks, it is possible to switch from importing BTL files to running the work piece in the machine. It is not necessary to program the single elements, because Maestro Beam&Wall gets all the information from the CAD that designed the structure, and the software will do the rest.



Maestro Beam&Wall also provides the user with the flexibility typical of machining centres through a series of functions that facilitate the creation and customization of programs.

The **simulation station** makes it possible to test the programs in advance on PC and display the operations that will be performed during production, with obvious benefits for the customer:

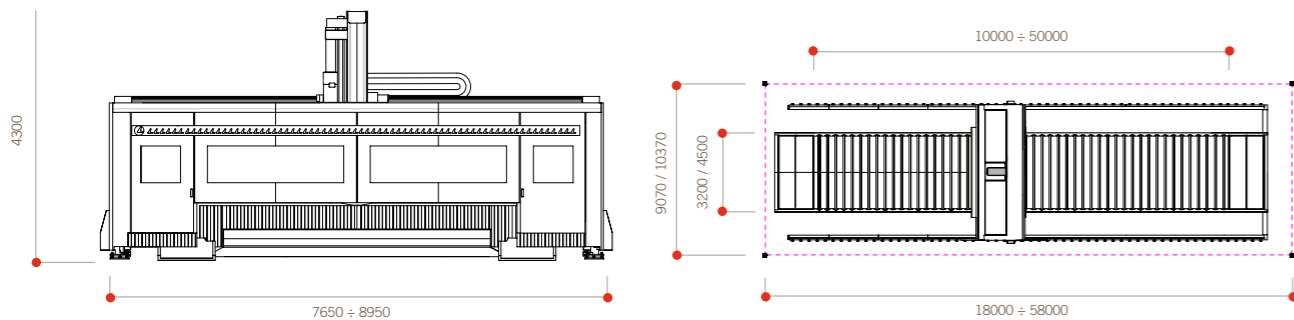
- To eliminate collision risks, errors and downtime
- To calculate production time and cost, resulting in easy determination of the yield of acquired orders.



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technical data

AREA		CNC Machining centre for building components	
Axes			
X-axis speed	m/min	50	
Y-axis speed	m/min	75	
Z-axis speed	m/min	50	
Electrospindle			
Max power at 6000 rpm	kW	30	
Max speed rotation	rpm	13000	
Max torque	Nm	47.7	
Max blade diameter	mm	1020	
Tool stores			
TR 12	nr. positions	12	
Installation			
Suction outlet diameter	mm	2 x 300 + 1 x 150	
Suction air speed	m/sec	28	
Suction air consumption	m ³ /h	2 x 7630 + 1 x 1900	
Compressed air consumption	NL/mix	300	
Machine weight	kg	from 16000 (according to machine length)	



Machining area (X-Y-Z)		
Machining area X	mm	from 10000 to 50000
Machining area Y	mm	3200 ÷ 4500
Work piece passage Z	mm	360

**COMPANY WITH
QUALITY SYSTEM
CERTIFIED BY DNV GL
= ISO 9001 =**

The technical data can vary according to the requested machine composition. In this catalogue, machines are shown with options. The company reserves the right to modify technical specifications without prior notice; the modifications do not influence the safety foreseen by the CE Norms.

Maximum recorded noise levels based on functioning parameters established by EN 848-3:2012. Acoustic pressure while working 80,7 dbA (measured according to EN ISO 11202:2010, K variance = 4dB) Acoustic power while working 97,7 dbA (measured according to EN ISO 3746:2010, K variance = 4 dB). Despite the existence of a correlation between "conventional" noise emission values mentioned above and average personal exposure of the operators during the 8 hours, these also depend on the specific functioning conditions, length of exposure, acoustics characteristics of the working environment and by the presence of additional sources of noise, that is the number of machines and adjacent processes.

THE STRONGEST WOOD TECHNOLOGIES ARE IN OUR DNA

SCM. A HERITAGE OF SKILLS IN A UNIQUE BRAND

Over 65 years of success gives SCM the centre stage in woodworking technology. This heritage results from bringing together the best know-how in machining and systems for wood-based manufacturing. SCM is present all over the world, brought to you by the widest distribution network in the industry.

- 65 years history
- 3 main production sites in Italy
- 300.000 square metres of production space
- 17.000 machines manufactured per year
- 90% export
- 20 foreign branches
- 350 agents and dealers
- 500 support technicians
- 500 registered patents

In SCM's DNA also strength and solidity of a great Group. The SCM Group is a world leader, manufacturing industrial equipment and components for machining the widest range of materials.

SCM GROUP, A HIGHLY SKILLED TEAM EXPERT IN INDUSTRIAL MACHINES AND COMPONENTS

INDUSTRIAL MACHINERY

Stand-alone machines, integrated systems and services dedicated to processing a wide range of materials.



WOODWORKING TECHNOLOGIES



TECHNOLOGIES FOR PROCESSING
COMPOSITE MATERIALS, ALUMINIUM,
PLASTIC, GLASS, STONE, METAL

INDUSTRIAL COMPONENTS

Technological components for the Group's machines and systems, for those of third-parties and the machinery industry.



SPINDLES AND
TECHNOLOGICAL COMPONENTS



ELECTRIC PANELS



METALWORK



CAST IRON