

GB

PM SA



WOOD DIVISION

CMS Worldwide Leader in the Construction of Numerically Controlled Machining Centers for the Woodworking Industry

Since 1969, CMS has built special machines for the woodworking industry. CMS was one of the first companies that applied computerized numerical control systems to woodworking machinery, making greater productivity and flexibility possible.

Over the years, CMS has grown to become a large group comprised of many companies. It has gained international recognition as a leader in manufacturing CNC machining centers, having production and commercial units both in Italy and abroad.

The structural and functional characteristics of CMS machines also make them well suited for machining plastics, composites, light non-ferrous metals, aluminium, marble, and glass.

Innovation and Reliability: A Winning Manufacturing Philosophy

CMS's manufacturing philosophy is based on these simple concepts:

- **A modular designed system:** technology groups designed to be suitable for different types of machines which guarantee that even "custom-tailored" machines have the reliability of widely proven technologies
- **Attention to technological evolution:** technologically advanced and innovative choices using components corresponding to the highest market standards
- **Research to yield performance, corresponding to the client's requirements:** machines designed to provide high productivity, flexibility, and low operating costs; machines built to do complex work, but easy to use and simple to control; machines that are always reliable and safe, complying with international regulations

Over 30 Years of Experience More Than 2,500 Machining Centers Operating All Over the World

Experience and a strong presence in all the most important international markets attest to the high professional ability of CMS. CMS Group is all inclusive, incorporating design, engineering, software development and programming, installation, and full support; all of which are independent of outside companies. Therefore, CMS can quickly answer any customer's specific requirement and guarantee the quality of a total solution. This forms the foundation of CMS's success - a success confirmed by thousands of machining centers installed in many different fields as well as the most diverse applications; a success demonstrated by the complete satisfaction of many CMS customers.

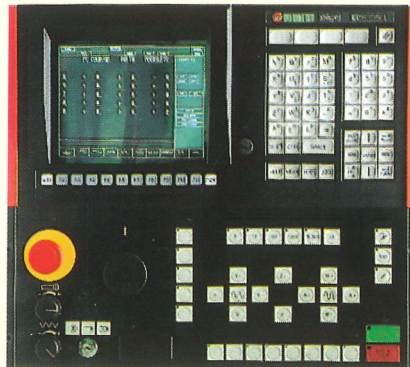


Automation and Software: Integrated Systems

CMS machining centers are driven by numerical controls. These controls represent the best brands available on the market and have been specifically studied for diverse applications. A team of skilled engineers develops and installs the machine

logic (PLC) on different selected controls in cooperation with the customers' specifications. All numerical controls include the following functions:

- Graphic visualization (also available in color) and tool path process simulation
- A large user's memory
- Spiral interpolation
- A serial interface for external communication, including the software to manage it
- Parametric functions
- Guided menu selection
- Tool radius and length compensation
- Brief description of the tool path for the simple generation of part programs



Processing Software Originated at CMS

CMS has its own internal Software Division that has developed different software packages (CAD CAM), providing real support tools for the generation of CNC programs. The software, combined with coordinate measuring machines (digitizing tables, 2D, and 3D), make programming possible for even the most complex profiles. All software takes the utmost advantage of any capability of the CMS machining center by carrying out unique machining requirements and capitalizing

on the customers' technological know-how. Moreover, CMS has created software packages for specific products, such as wooden staircases, kitchen countertops, window and door frames, etc. The Software Division is even able to develop personalized software and post-processors both for CMS machining centers and machinery of other brands.



Personalized Training

CMS, thanks to its technical staff, offers the customers personalized training at any level, from the basic concepts for machine programming and functioning to advanced programming and use of the auxiliary software. Custom-tailored manuals, available to the customers at no charge, enable the user to work independently.



Skilled and Prompt Customer Service

CMS provides free telephone assistance to permit customers to locate and resolve problems immediately. The technical staff will provide assistance to customers within 48 hours after call. Modem service is also available to permit the transmission of information from any of our assistance points. The CMS warehouse provides spare parts for all machines on a quick

turn around basis. Programming service is also available to provide custom programs for extremely complex parts and to advise the most suitable use of the machines.



Technological Product Improvement: Quality That Lasts.

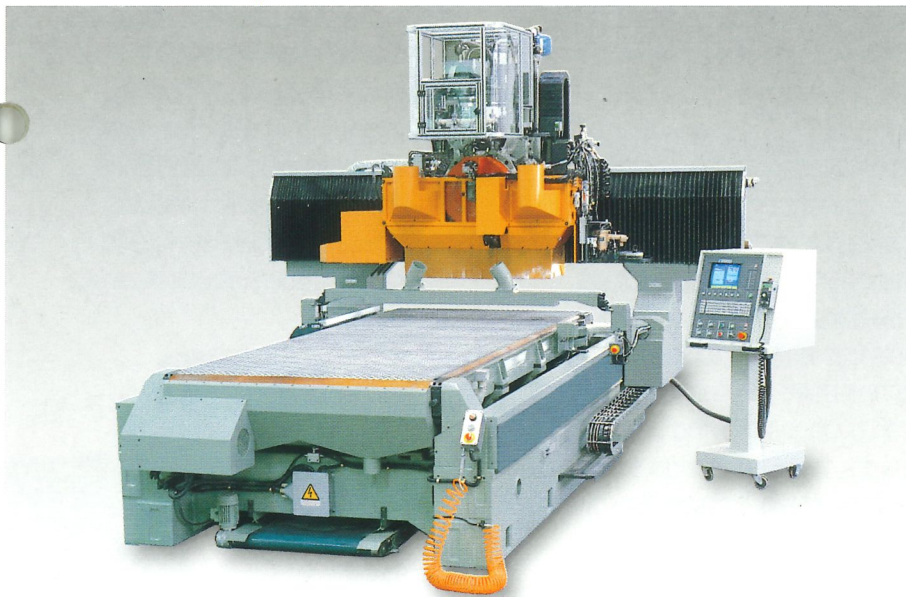
CMS's Technical and Automation Departments assist customers in the study and application of new solutions on CMS machines already installed-solutions, that

permit technological improvement of a machine to meet new requirements. CMS machines never become obsolete.

OUR SPECIAL MACHINES

We strive to supply customer-oriented products, an insight that has influenced our production philosophy right from the beginning and has proven itself over the years. Having perceived this philosophy years ago, CMS now has an unparalleled, competitive advantage (in prices too) because of our technology, intelligently managed and oriented toward the clients' requirements. Certainly, the most significant portion of our technical position is made up of the

countless modular groups (MODULI), which have been conceived for every technical problem: operational units for all types of production, ad hoc aggregates, various drilling groups, efficient work-piece clamping systems, multi-function worktables, and functional loading/unloading systems. CMS software is also included in this concept of ultimate modularity. CMS's numerically controlled machining centers, having a mobile bridge structure (PM Series), specialize in loading/unloading and clamping pieces; while those with an open structure (SA Series) specialize in an enormous variety of worktable configurations. Combining existing modules with the special manufacturing and dimensional features of the various structures brings about an almost infinite number of different operational configurations. In this panoramic range of solutions (the catalog is the largest in the world), there are special solutions with fully tried and tested technology for all the specific production/economic requirements of every customer. CMS's engineers are problem solvers; they are always ready with new solutions (in terms of technological product innovation) when new problems arise. CMS's experience ensures that the objectives agreed upon by the customer are reached, both at the planning level and the complete reliability of the final product.



PM SERIES

Lengthy and Productive Tables

The machining centers of the PM Series are distinguished by their mobile bridge structure. The transverse (Y) and the vertical (Z) movements are made on the bridge beam, while the longitudinal (X) movement is made by the bridge itself along the length of the work table. The work table is fixed and rests on the ground. This type of machine is suitable for machining large-sized pieces. The X stroke of the bridge is limitless, so it is adapted to the machining of parts as diverse as travel trailer sides, aerospace parts, and boat plugs for hauls. It is also adapted to machining structures such as architectural beams, and for cutting panels into shaped forms. CMS has used the possibilities, offered by these moving bridge structures, to bring the machine into a context of a feed-through line and

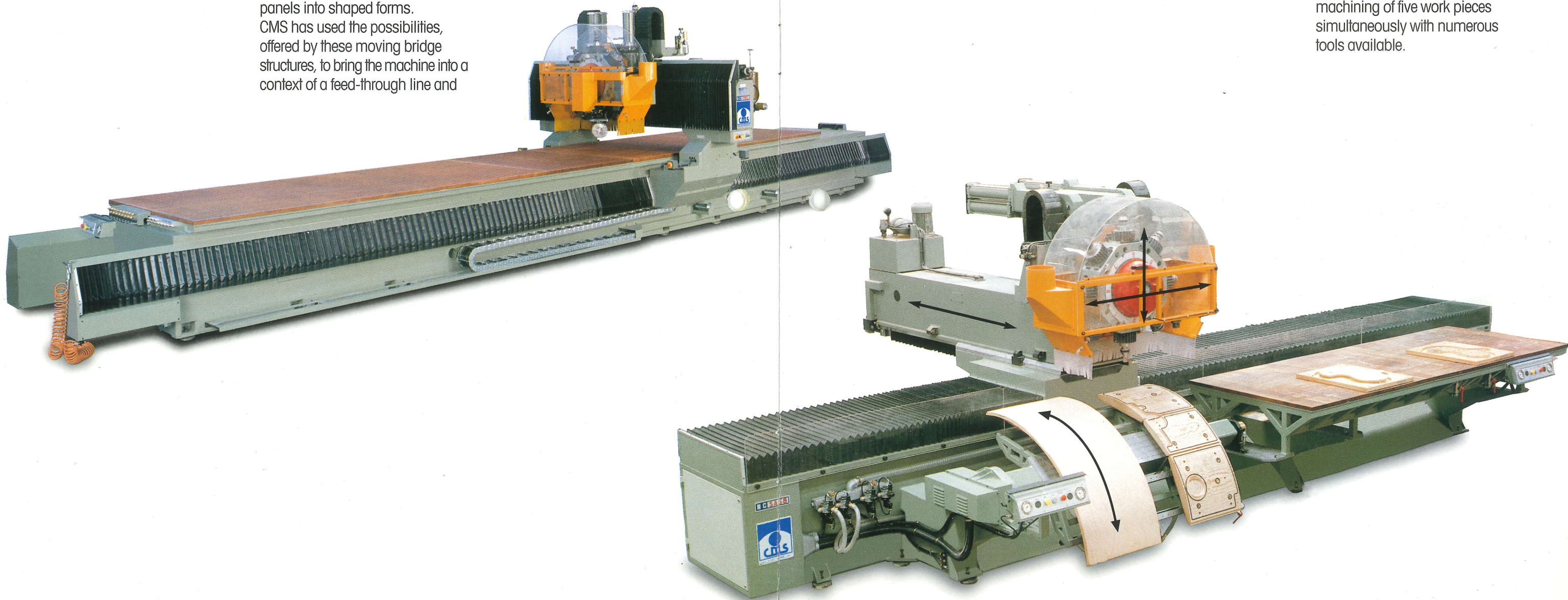
JIT manufacturing:
- Loading on one end and unloading on the other
- Feeding, positioning, clamping, machining, and unloading work pieces automatically for production without dead time, even when every piece is different. Solutions have been developed for using mobile vacuum mats, suction rollers and vacuum tables, and rollers and vacuum cups; all of which are positionable by NC axes, infeed grippers, and pressure rollers on the mobile bridge. To these highly advanced solutions, which give superb automation, are added other more traditional solutions with manual loading and unloading or with automatic systems external to the machine, using vacuum tables, modular subpieces, and other devices to meet all customers' requirements.

SA SERIES

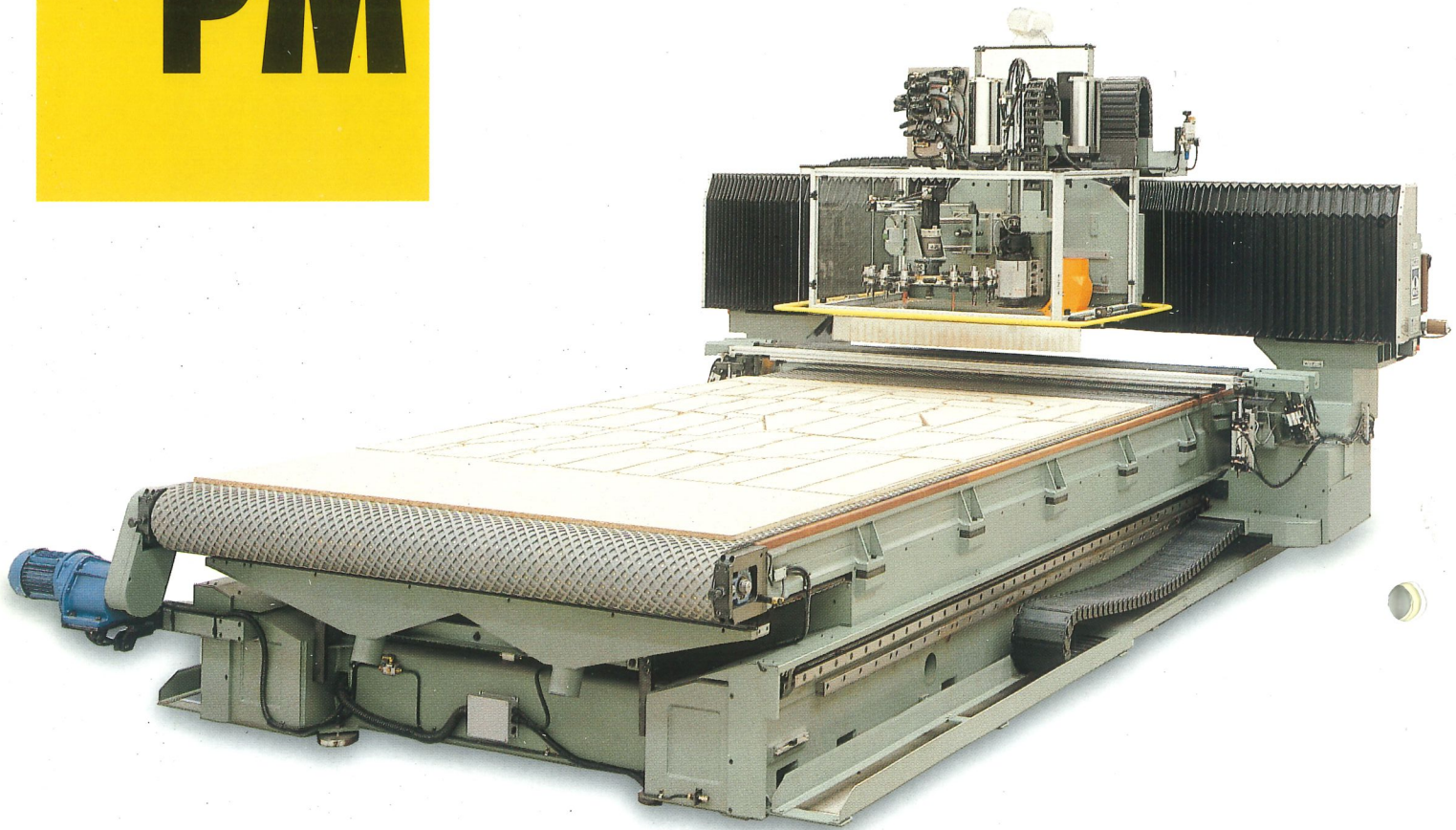
Open to All Solutions

The machining centers in the SA Series are distinguished by their open structure - a fixed work table (open) in front of the operator with all the axial movements on board the machine. The carriage for the X (longitudinal) movement runs along the machine bed behind the work table. Mounted on it, and with a movement perpendicular to it, runs the carriage with the transverse (Y) and vertical (Z) movements. The open structure and its ability to make lengthy longitudinal strokes makes this machine especially useful for the combined uses of several work table systems.

The compelling factor of the SA machine, with its open structure, is the tilting work table, which is the most technologically advanced answer to the problems of machining curved parts. This work table permits the simultaneous machining of several work pieces for pendular (non-stop) work. Rotating platforms can be attached to the tilting tables. These movements, added to those of the operational units, allow the machining of even the most complicated pieces. Full access to the work table allows these machining centers to be equipped with devices such as a hopper feeding system for raw pieces, automatic loading and unloading systems, and work cell type set-up for JIT manufacturing. The standard CMS solution of stacked revolvers enables the machining of five work pieces simultaneously with numerous tools available.

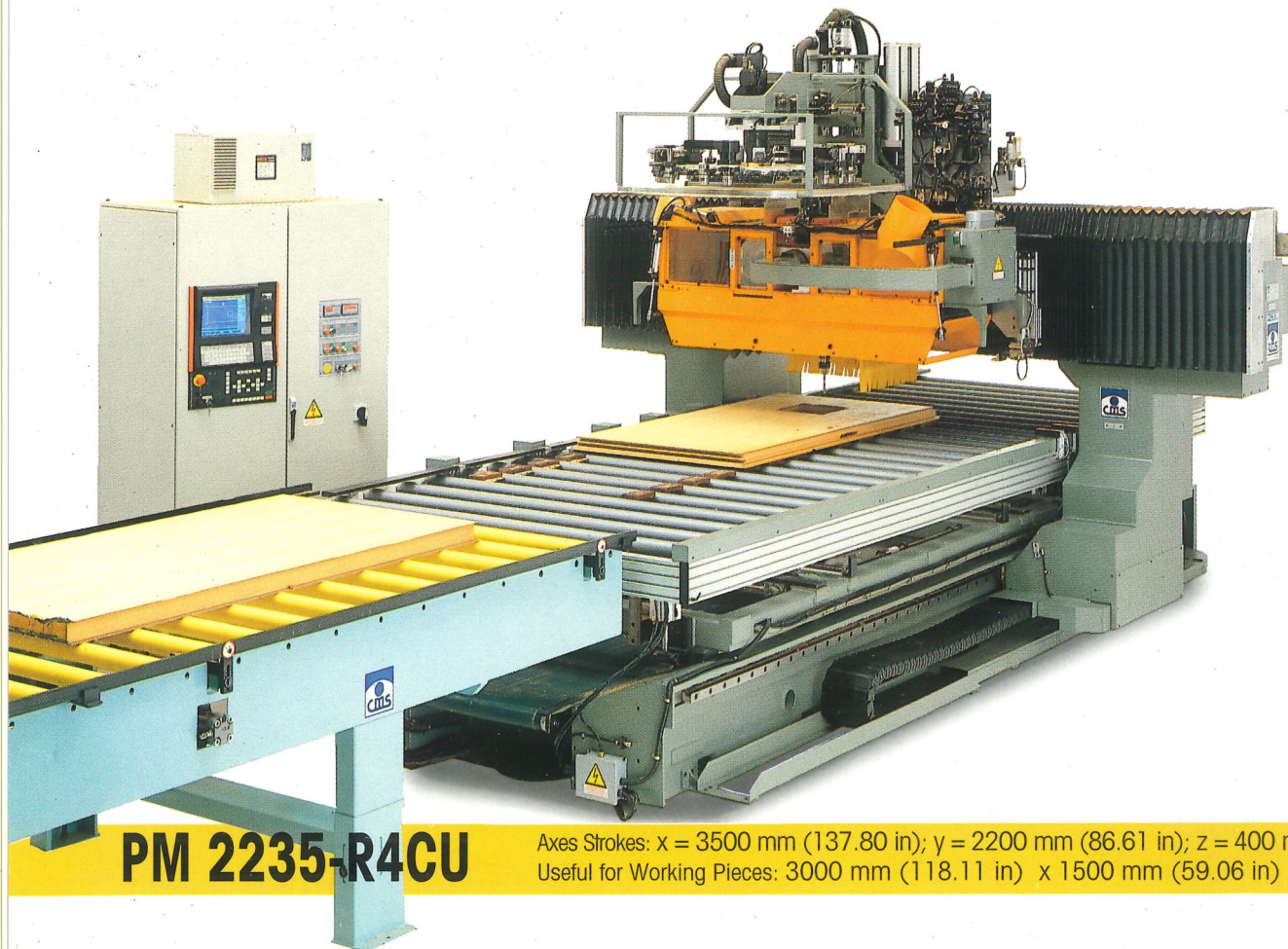


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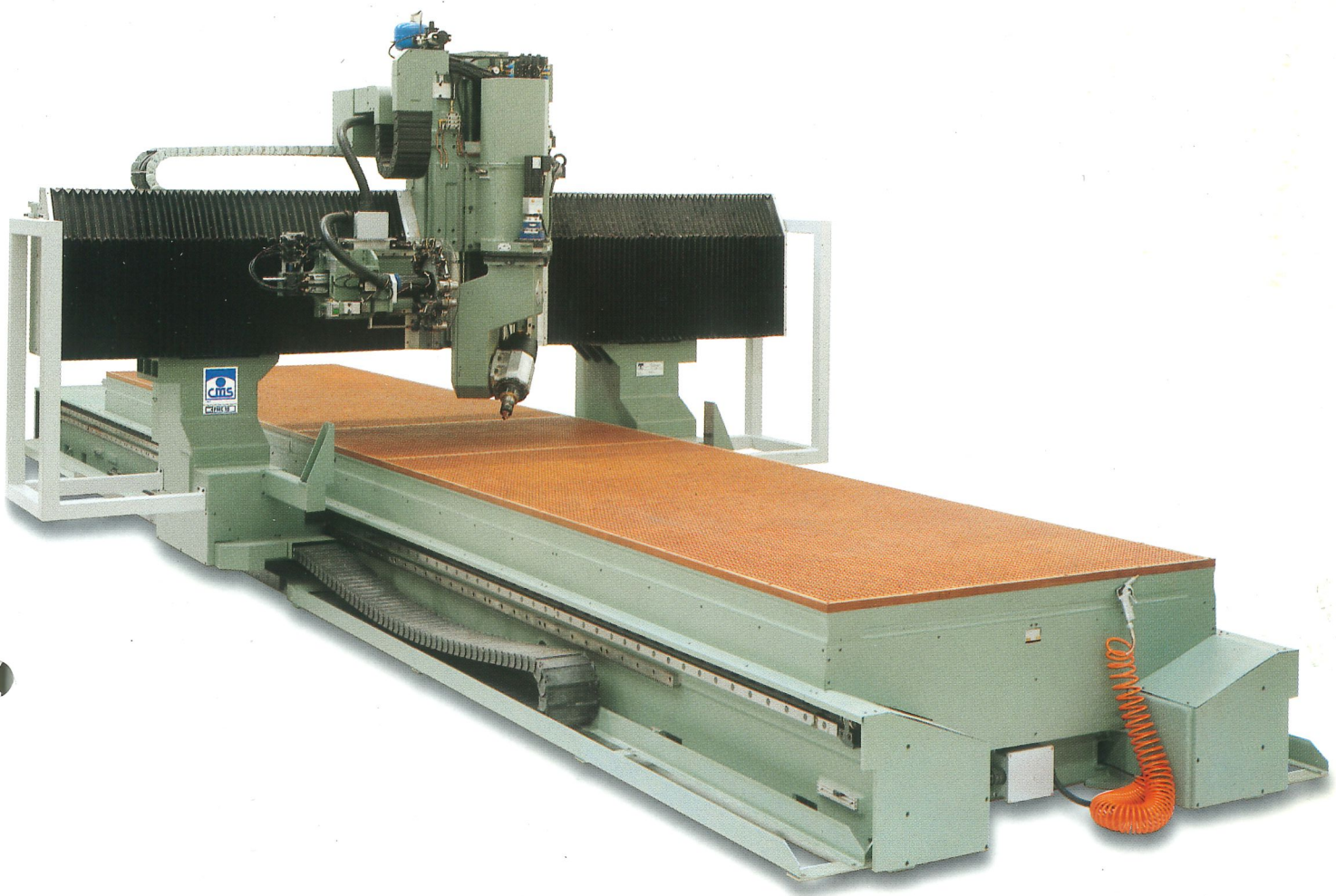
PM 2640-TCU

Axes Strokes: x = 4000 mm (157.48 in); y = 2600 mm (102.36 in); z = 250 mm (9.84 in)
Useful for Working Pieces: 4000 mm (157.48 in) x 2200 mm (86.61 in)



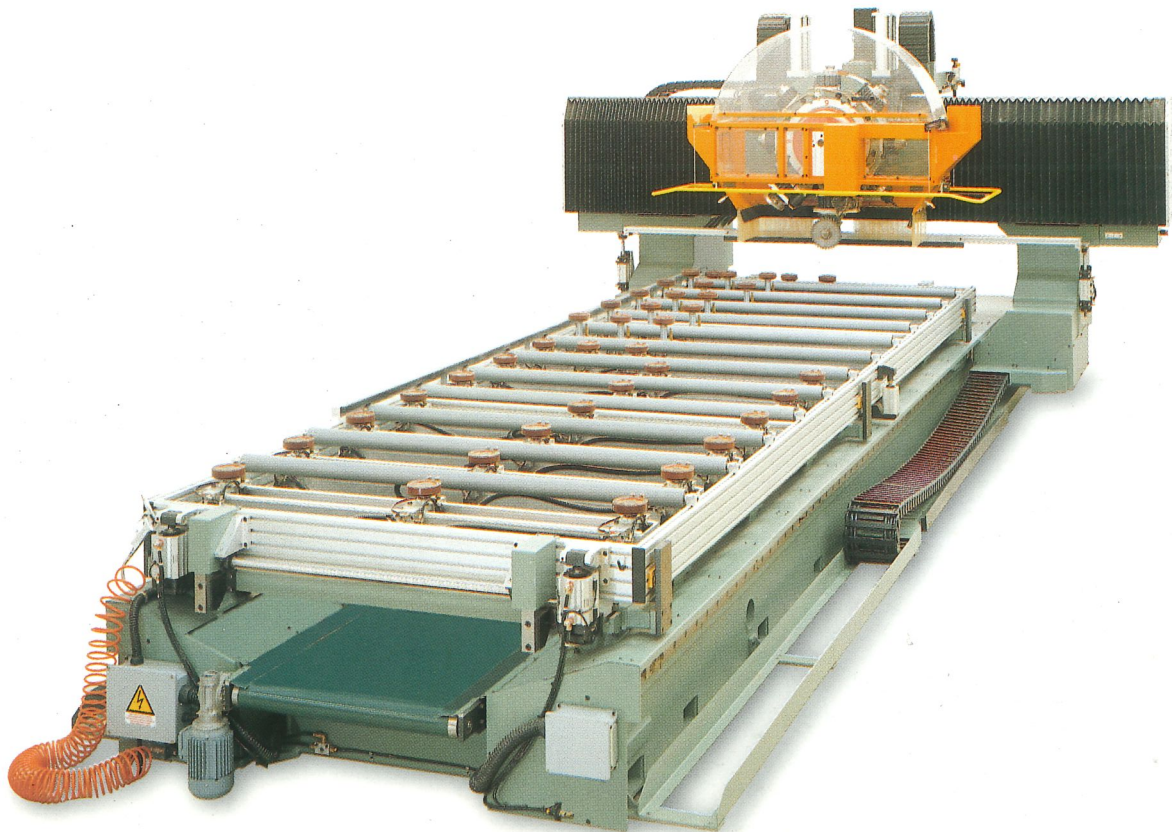
PM 2235-R4CU

Axes Strokes: x = 3500 mm (137.80 in); y = 2200 mm (86.61 in); z = 400 mm (15.75 in)
Useful for Working Pieces: 3000 mm (118.11 in) x 1500 mm (59.06 in)



PM 2285-TUCU

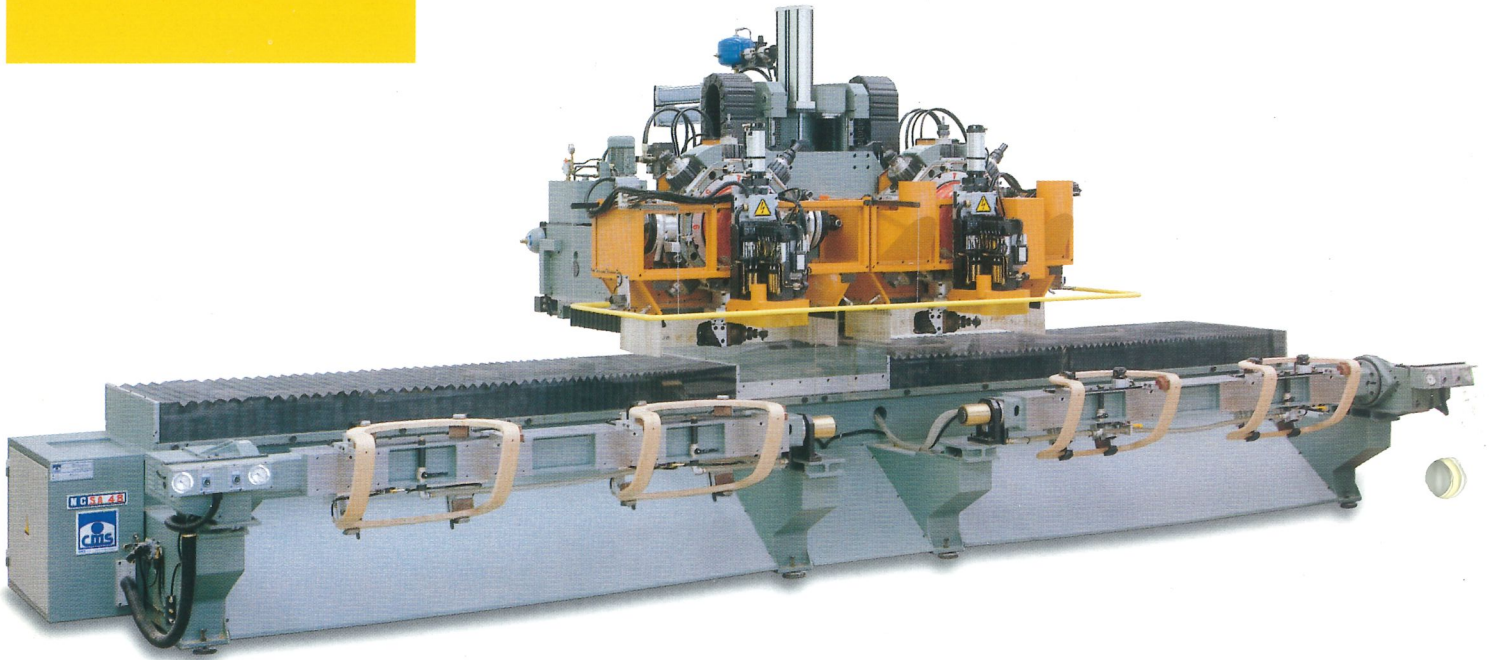
Axes Strokes: x = 8500 mm (334.65 in); y = 2200 mm (86.61 in); z = 770 mm (30.31 in)
Table Sizes: 8520 mm (335.43 in) x 1650 mm (64.96 in)



PM 2255-R8

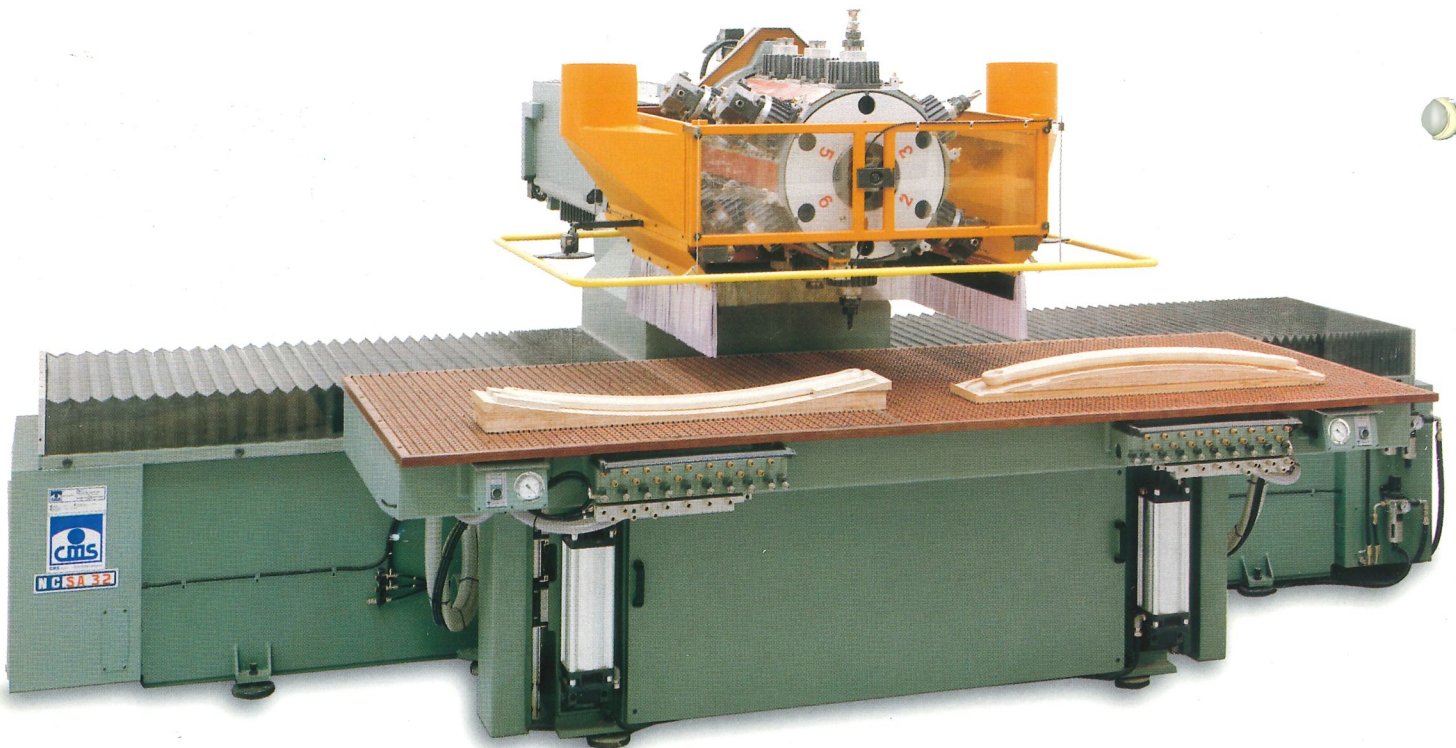
Axes Strokes: x = 5500 mm (216.54 in); y = 2200 (86.61 in) mm; z = 250 mm (9.84 in)
Useful for Working Pieces: 5000 mm (196.85 in) x 1600 mm (62.99 in)

SA



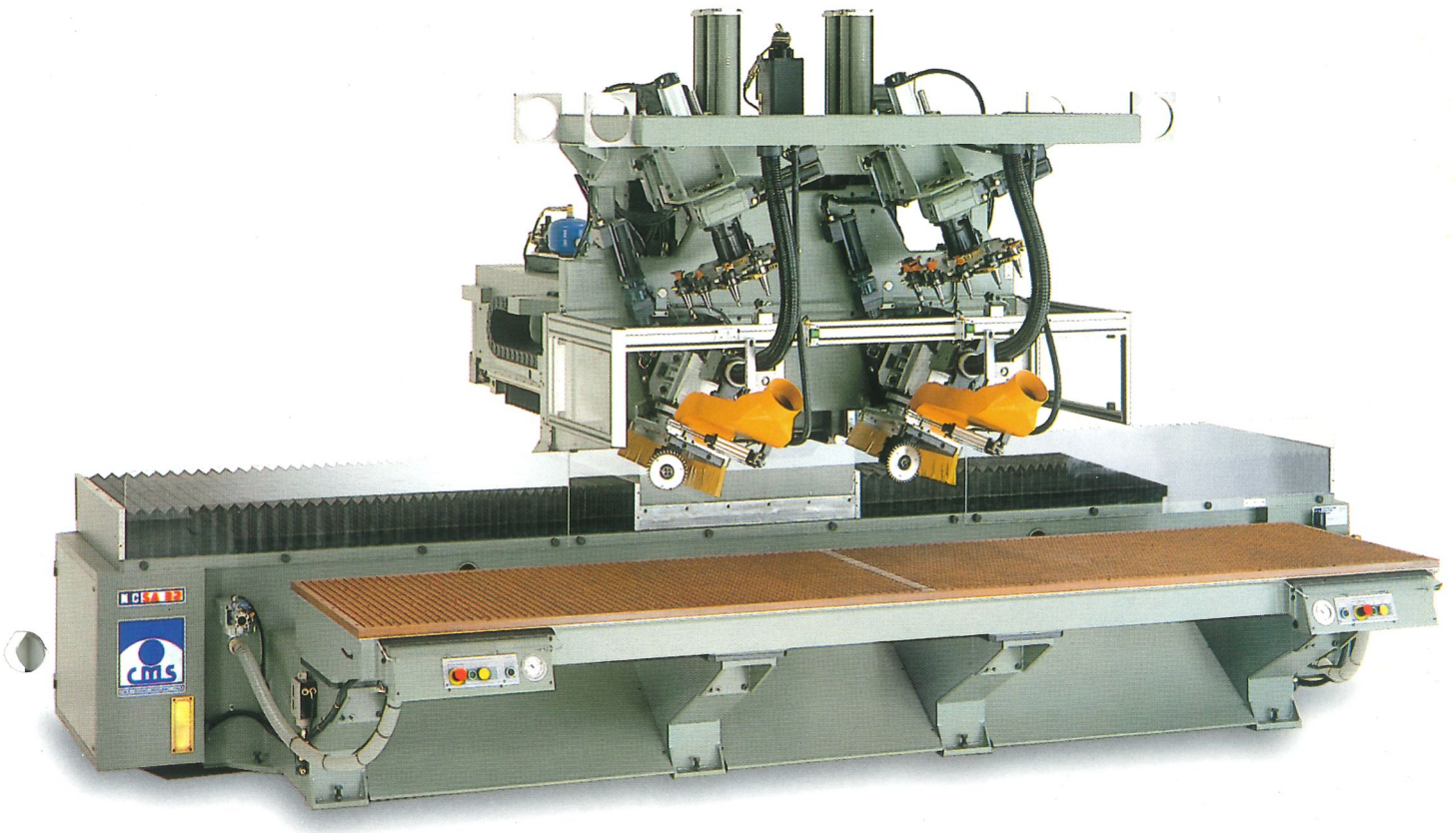
SA 48-2R8-RR-GF

Axes Strokes: x = 4800 mm (188.98 in) ; y = 1100 mm (43.31 in); z = 400 mm (15.75 in)



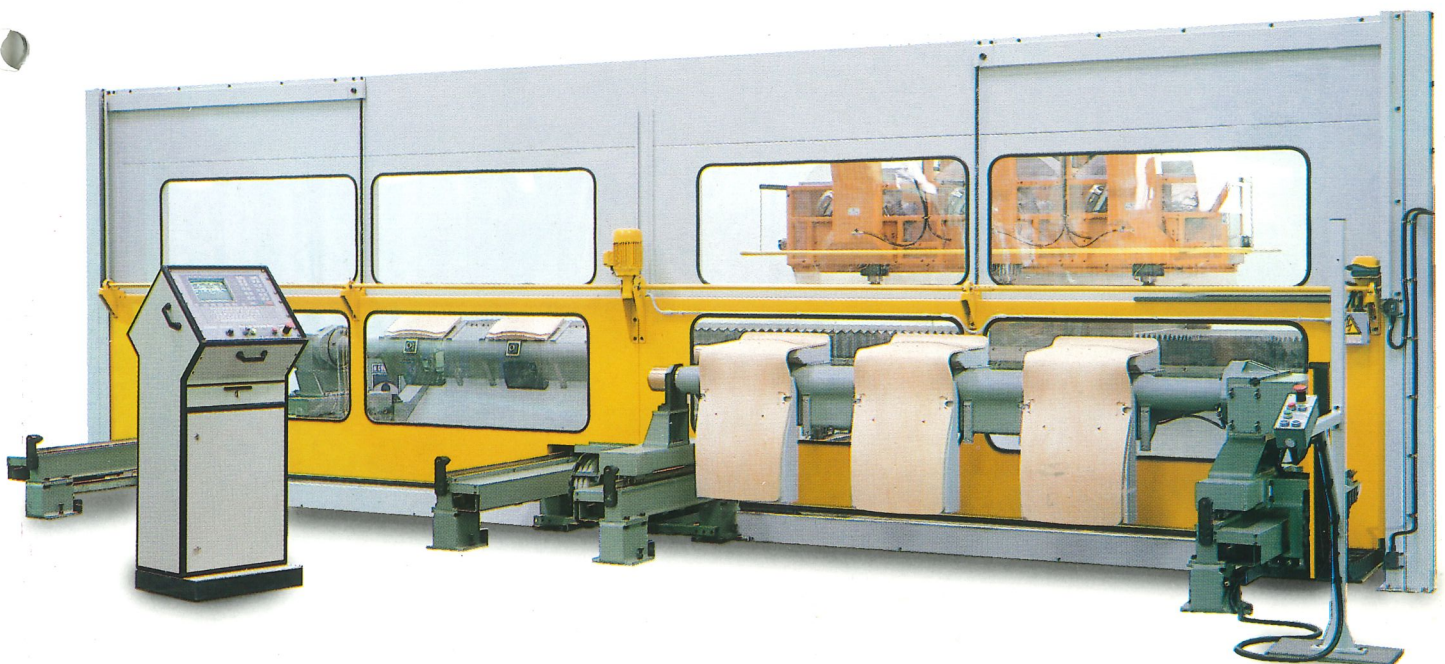
SA 32-R63

Axes Strokes: x = 3250 mm (127.95 in) ; y = 800 mm (31.5 in); z = 250 mm (9.84 in)
Table Sizes: 3240 mm (127.56 in) x 1200 mm (47.24 in)



SA 32-2TROR CU

Axes Strokes: x = 3250 mm (127.95 in); y = 1250 mm (49.21 in); z = 400 mm (15.75 in)
 Table Sizes: 4200 mm (165.35 in) x 900 mm (35.43 in)

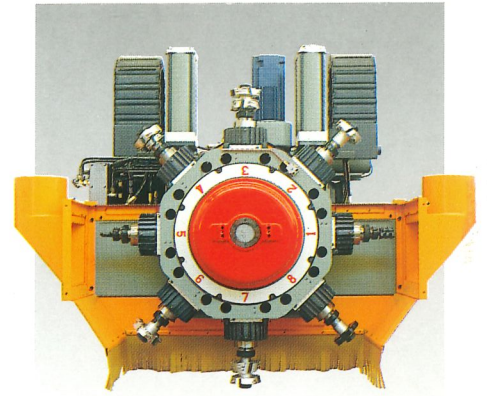


SA 48-3R3

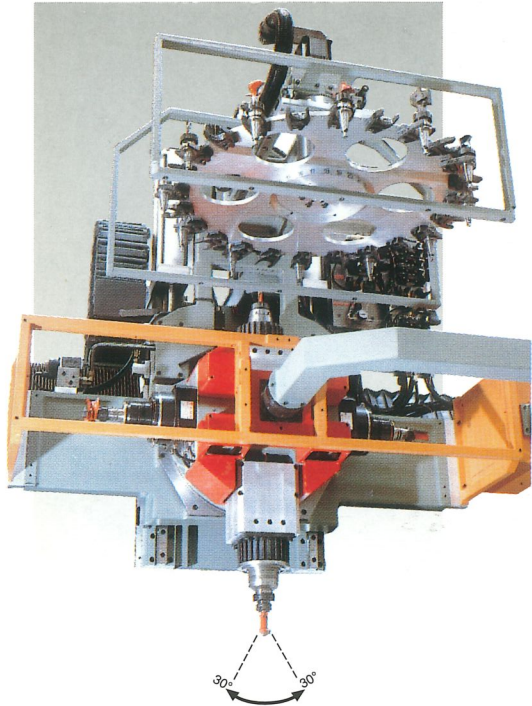
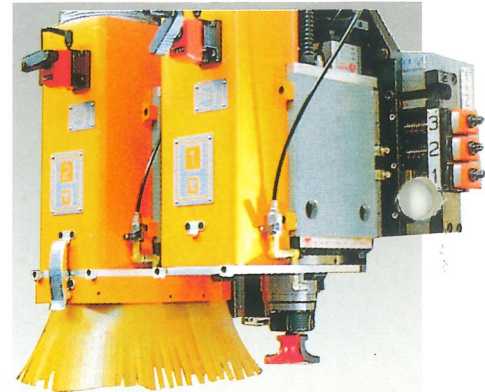
Axes Strokes: x = 4800 mm (188.98 in); y = 1250 mm (49.21 in); z = 400 mm (15.75 in)

OPERATING UNITS

**Revolver:
The Fastest
Tool Changer**

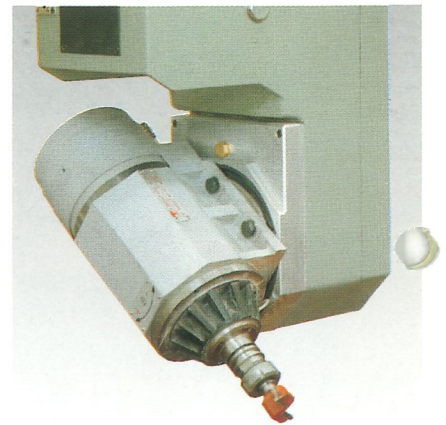


**Heads in Line:
Grouped for
Higher Production**

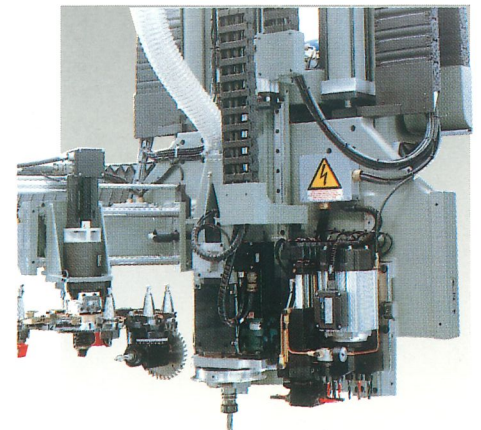
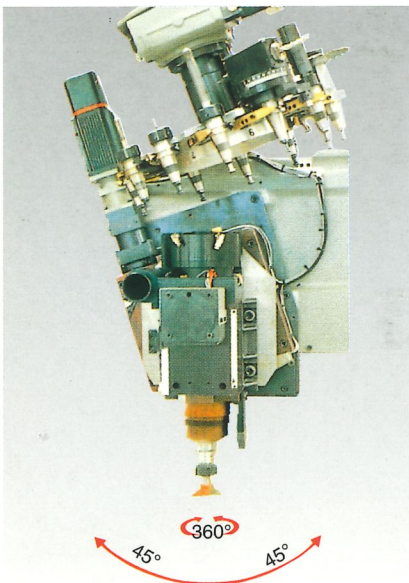


**Revolver with
Tool Changer:
Even More Options**

**Universal Head:
No Limits to the
Shape to be
Machined**



**Heads with
Tool Changer:
Productive
and Operational
Capabilities**

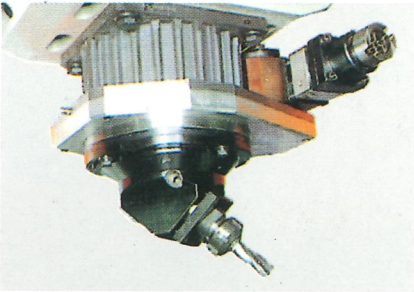
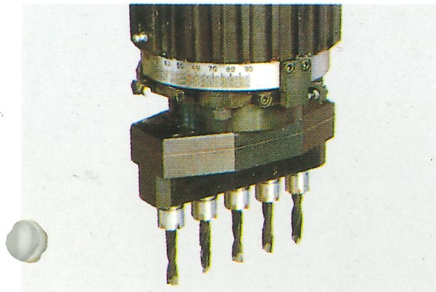
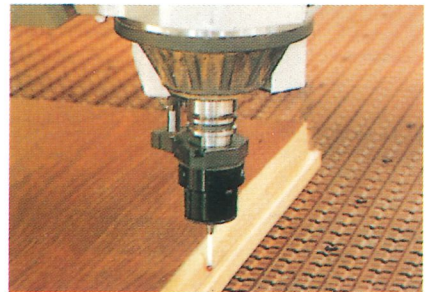
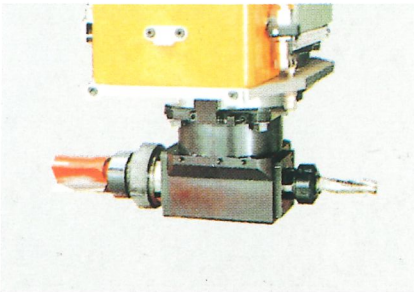
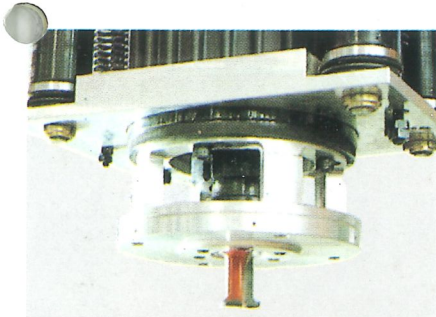
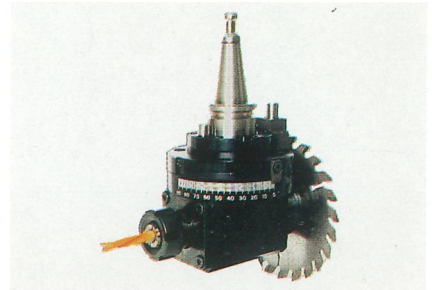
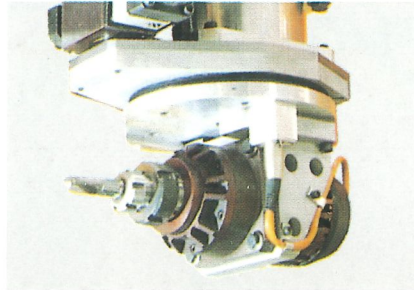
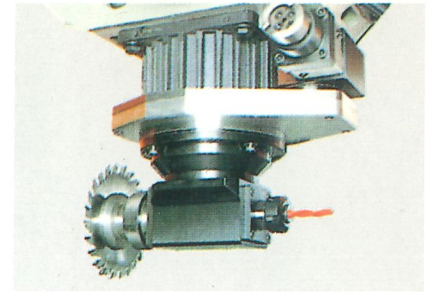
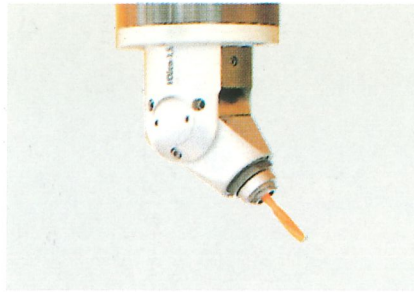


SOLUTIONS FOR MANY REQUIREMENTS

Aggregates

A number of different aggregates are available that broaden the work capabilities of CMS machining centers.

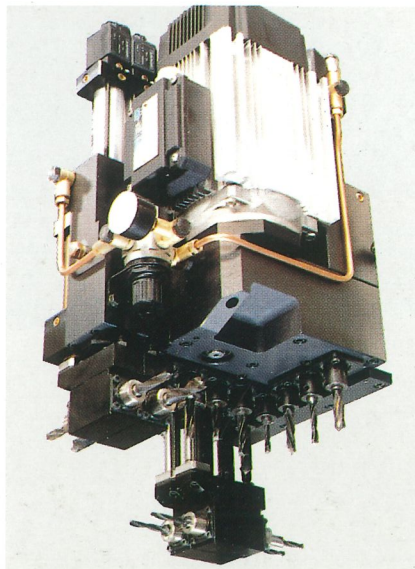
The characteristics and number of these aggregates are continually expanding. All new developments are passed on to our customers.



Drilling Group

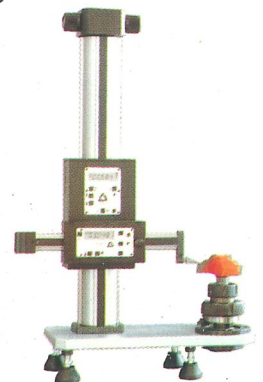
Various types of drilling groups are available and arranged in line, in a "T" form or "L" shape.

The individual machining movement of each drill means that vertical and horizontal drilling can be carried out either in multiples or one drill at a time.



Presetting

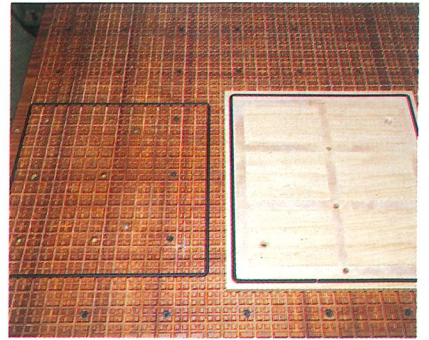
Thanks to a digital electronic "presetting" device, it is possible to measure the tool radius and length to a precision of one hundredth of a mm (or one thousandth of an inch).



WORK TABLES FOR EVERY CLAMPING REQUIREMENT

Lignostone Vacuum Table

Lignostone tables can easily and quickly create vacuum zones for clamping work pieces via subpieces



Smooth Table

The smooth table uses the standard subpiece and locator system, thus doing away with specific fixtures.

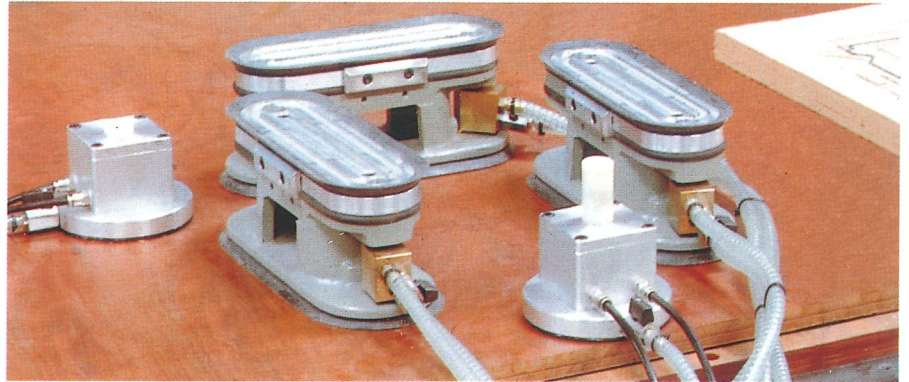
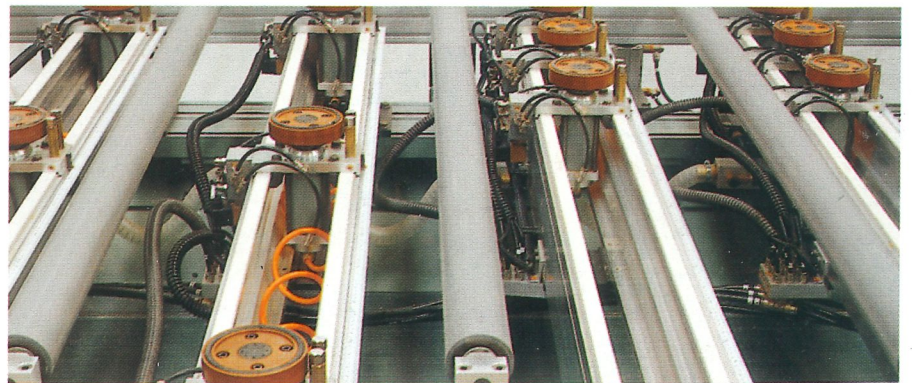
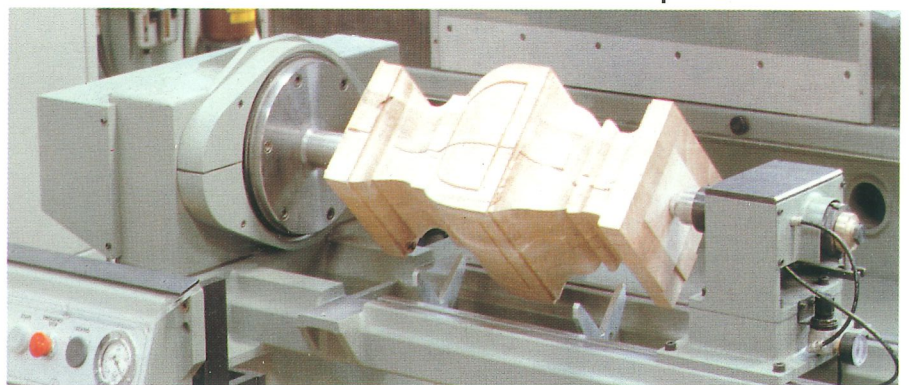


Table with Rollers and Vacuum Cups

The right solution to machining in-line panels with shaped edge profiles, such as work surfaces for office furniture, kitchen countertops, and travel trailer sides.

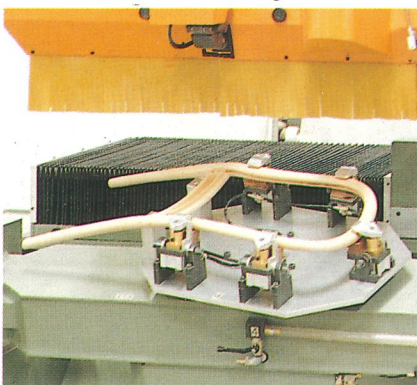


Detail of a Driver-Tailstock Group



Detail of a Tilting-Group with Rotating Table

Clamping Equipment for Chair Frames on Rotating Table and Tilting-Plane



**ACCURACY
AND
FLEXIBILITY**





CNC Machining Centres

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