



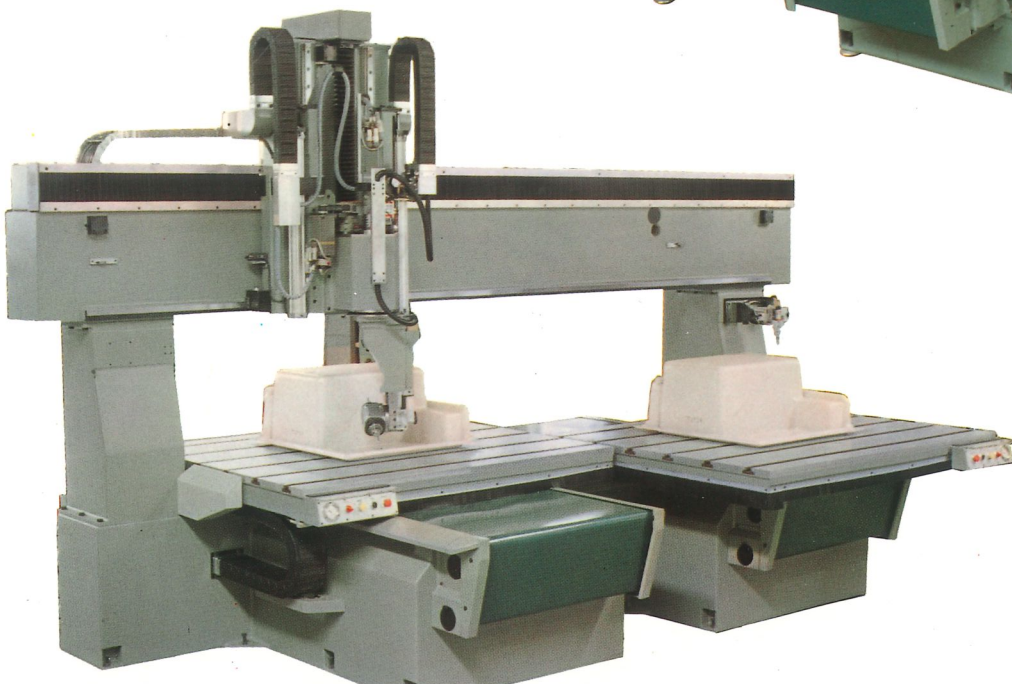
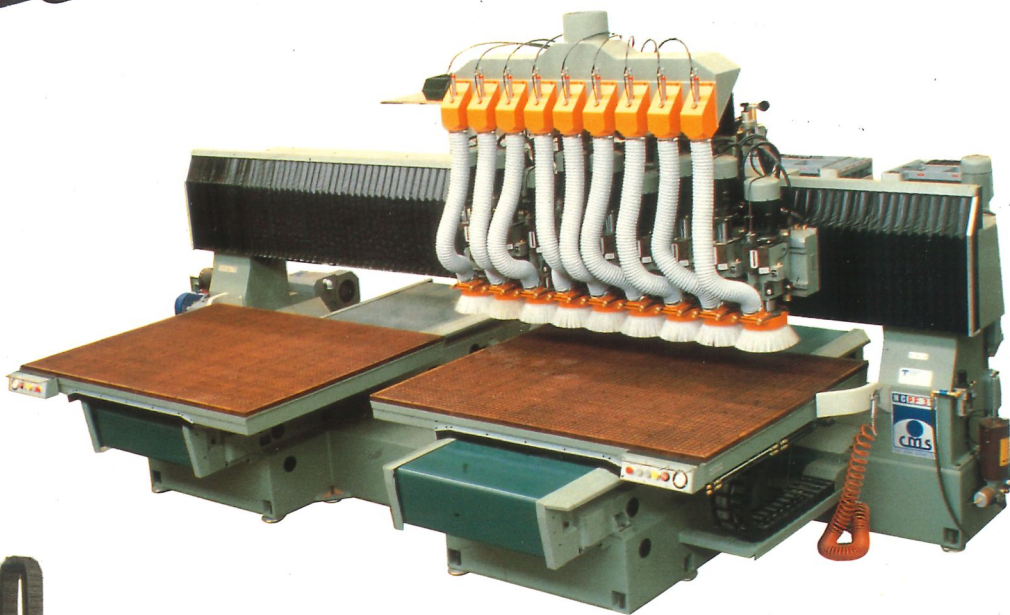
CMS's policy has always been that of developing extremely flexible working centres, in a wide range of sizes and with advanced concepts in order to solve the many production problems in response to different market demands.

CMS is famous for its complete product personalization, always guaranteeing reliability, safety, flexibility, power, accuracy and productivity.

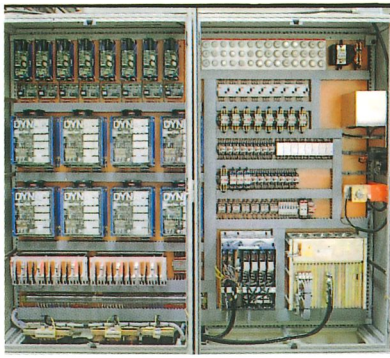


Any machine can be equipped with on-line heads (up to a maximum of 9 units), simple or multiple revolvers or vertical linear spindles and / or articulated 5D head, with automatic tool change. Moreover any of the following tables can be used:

- a) a lignostone suction table, with seal grid and additional equipment connecting and clamping bush grid
- b) aluminium table with T grooved steel inserts to clamp special mechanical or vacuum equipment for piece clamping



- c) table with special suction belts so that panels can be machined directly with slight tool interference to belt
- d) completely smooth table which clamps pieces with special "CMS" system using different shaped vacuum modules for different uses and which can be easily positioned.



In a single middle size cabinet, located at the machine side, equipped with an automatic control and heating system, the electric and electronic equipment is placed (Numerical Control - drives - power interface - electronic control interface - inverter, etc.).

The Numerical Control unit is set up in order to execute fully and perfectly all functions relevant to the machining of any workpiece and is supplied with videographic for the immediate check of programm geometry.



Presently, the considerable improvement of the microcomputer Hardware and Software technologies as well as the availability of scientific Software Graphics on small machines too,

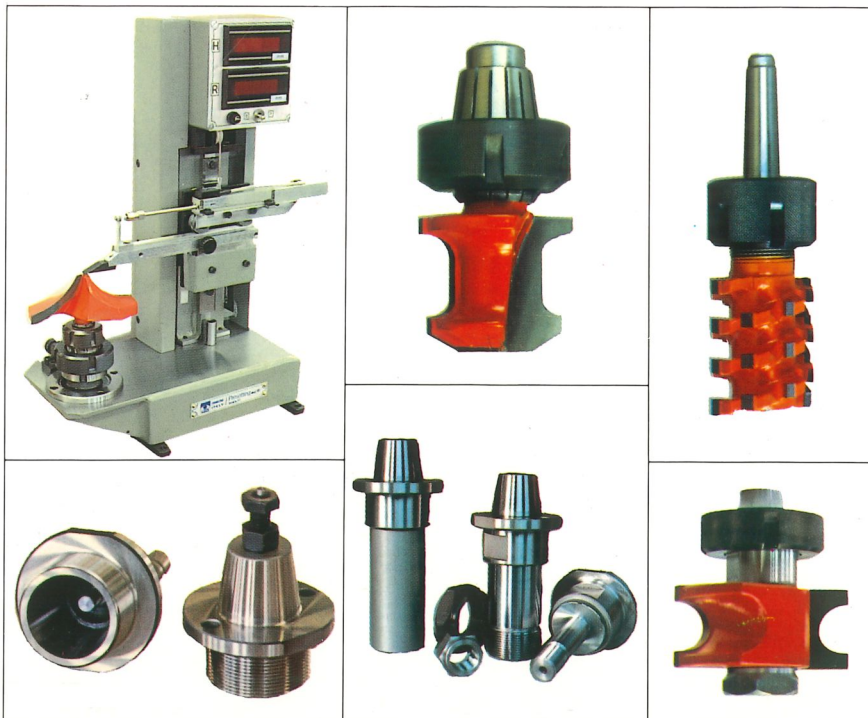
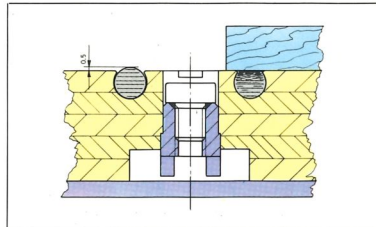
has put C.M.S. acquired know aims in supplying "finished Software products" instead of just the "personalized" Software support.

Beside these systems C.M.S. provides a range of automatic and simultaneously multi axes programming digitizing tables, both on drawings or samples, in order to supply complete programming systems to solve any problem and needs.

A special system created by CMS, used as a suction table, allows the equipment and the parts onto which the pieces are placed, to be changed rapidly. This parts is in Lignostone material, which does not suffer variations due to heat and humidity, and is 30 mm thick. The bottom part has large, 150 mm grid grooves, with a threaded brass bush inserted at every cross point, thanks to which the bottom part in constant depression may be connected rapidly to the top part which carries out vacuum works.



On the top part, after the perfect flattening carried out directly by the machine, a grid of semicircular grooves with cross points every 30 mm throughout the entire bed surface, is produced by means of a special program inserted into the CNC.



PREADJUSTABLE CMS TOOL HOLDERS

All our machines are equipped with original preadjustable tool holders onto which it is possible to assemble any type of commercial tool in the wood field.

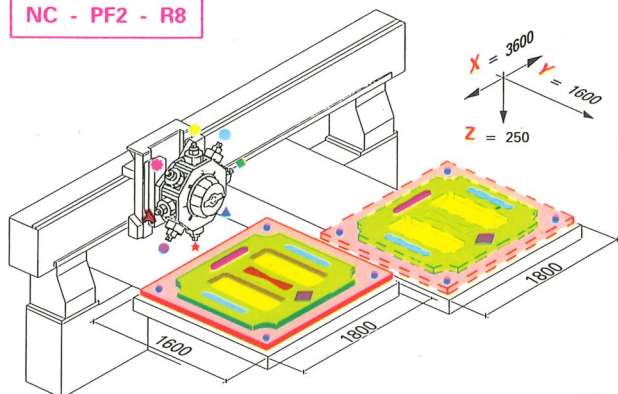
The three methods described below are interchangeable and the relevant tool carrying units for both rightward rotation and leftward rotation may be supplied.

A - Toolholder for cutters, having cylindrical leg by means of special high precision elastic pincers with total leg clamping, diameter 4 - 6 - 8 - 10 - 12 - 14 - 16 - 18 - 20 - 25 mm
 B - Toolholder for cutters, having cone-like leg, Morse Cone MK2, with threading diameter 20 x 1.5 mm and threading diameter 30 x 1.5 mm.

C - Toolholder for bored cutters. The shaft diameter (35 mm max.) and its length (100 mm max.) are as per customer's request, already threaded and with relevant ring nut.

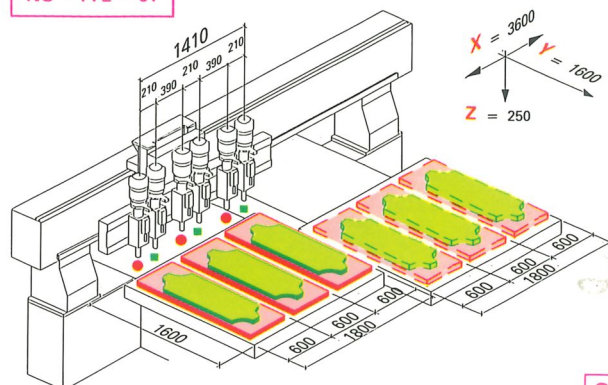
NC-PF2

NC - PF2 - R8



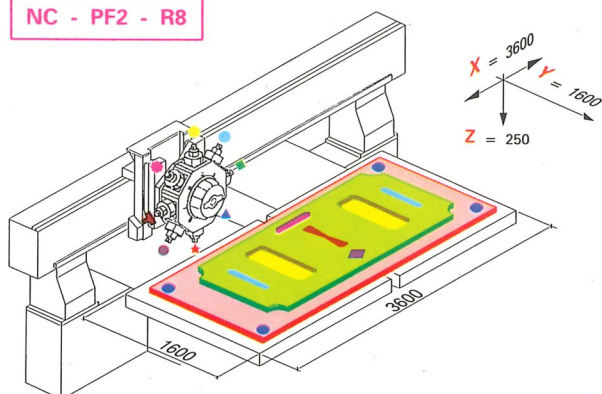
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NC - PF2 - 6T



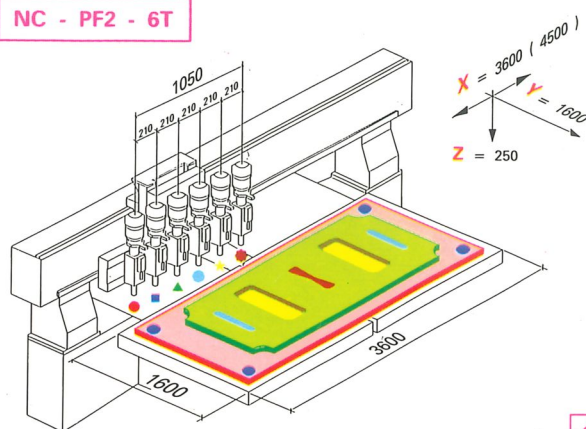
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NC - PF2 - R8



2

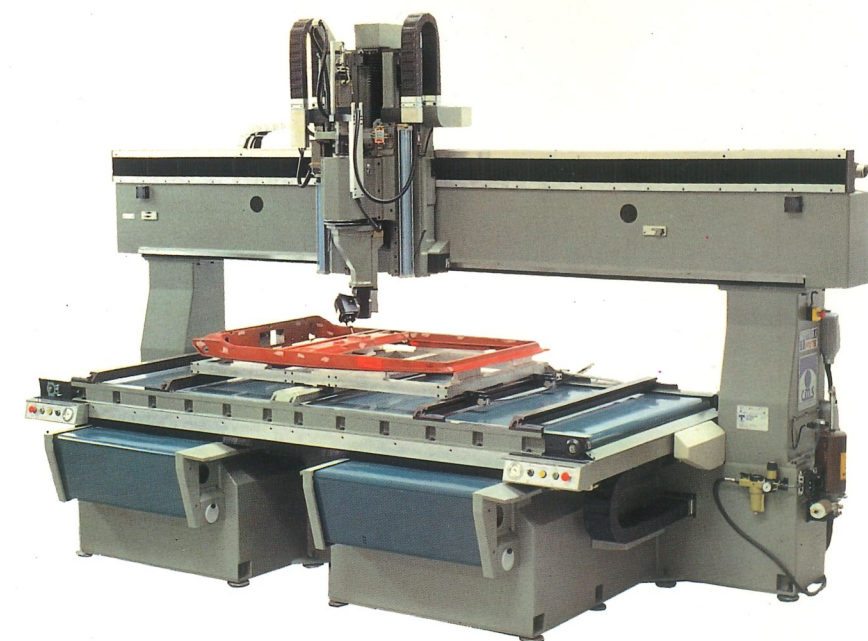
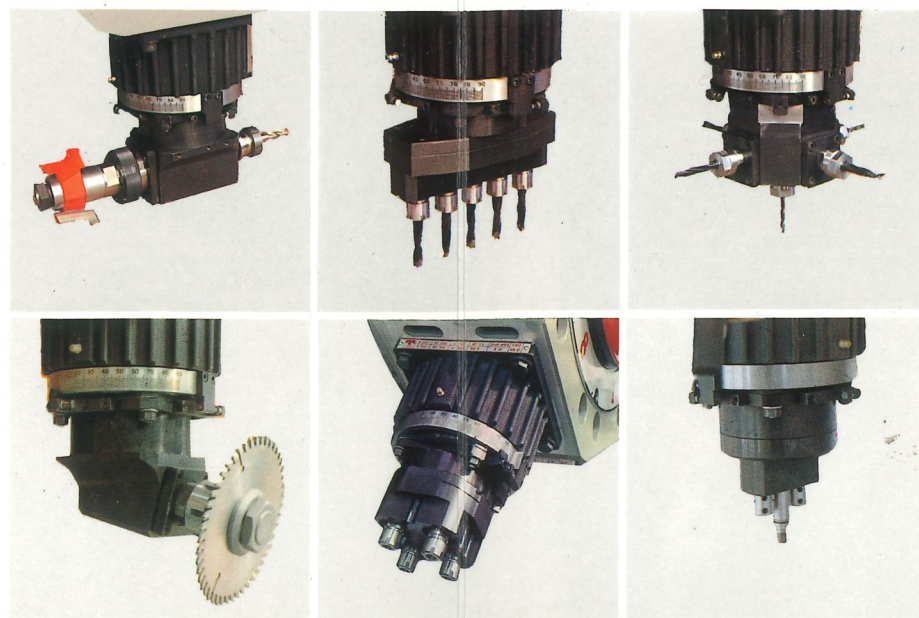
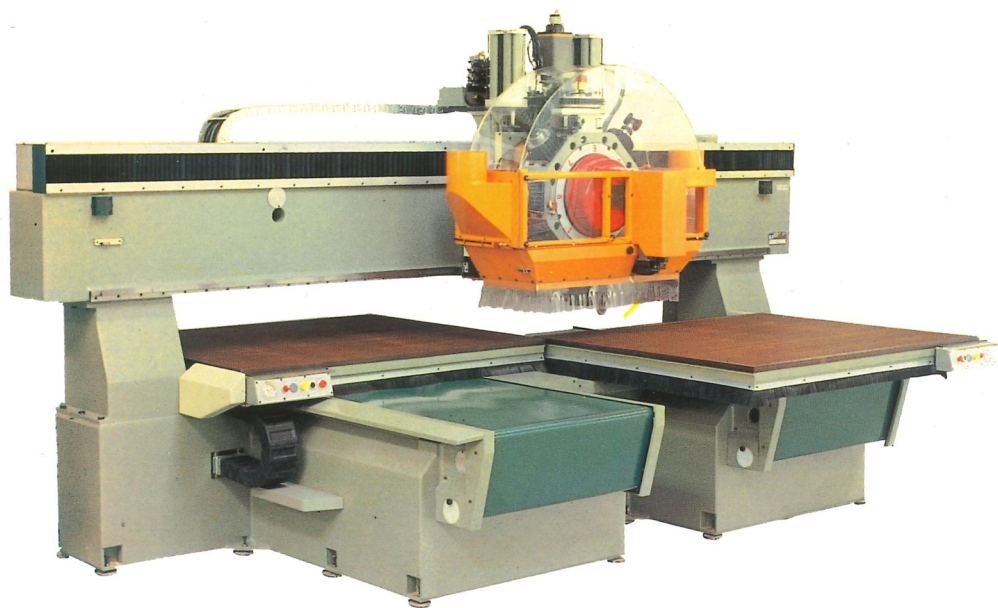
NC - PF2 - 6T



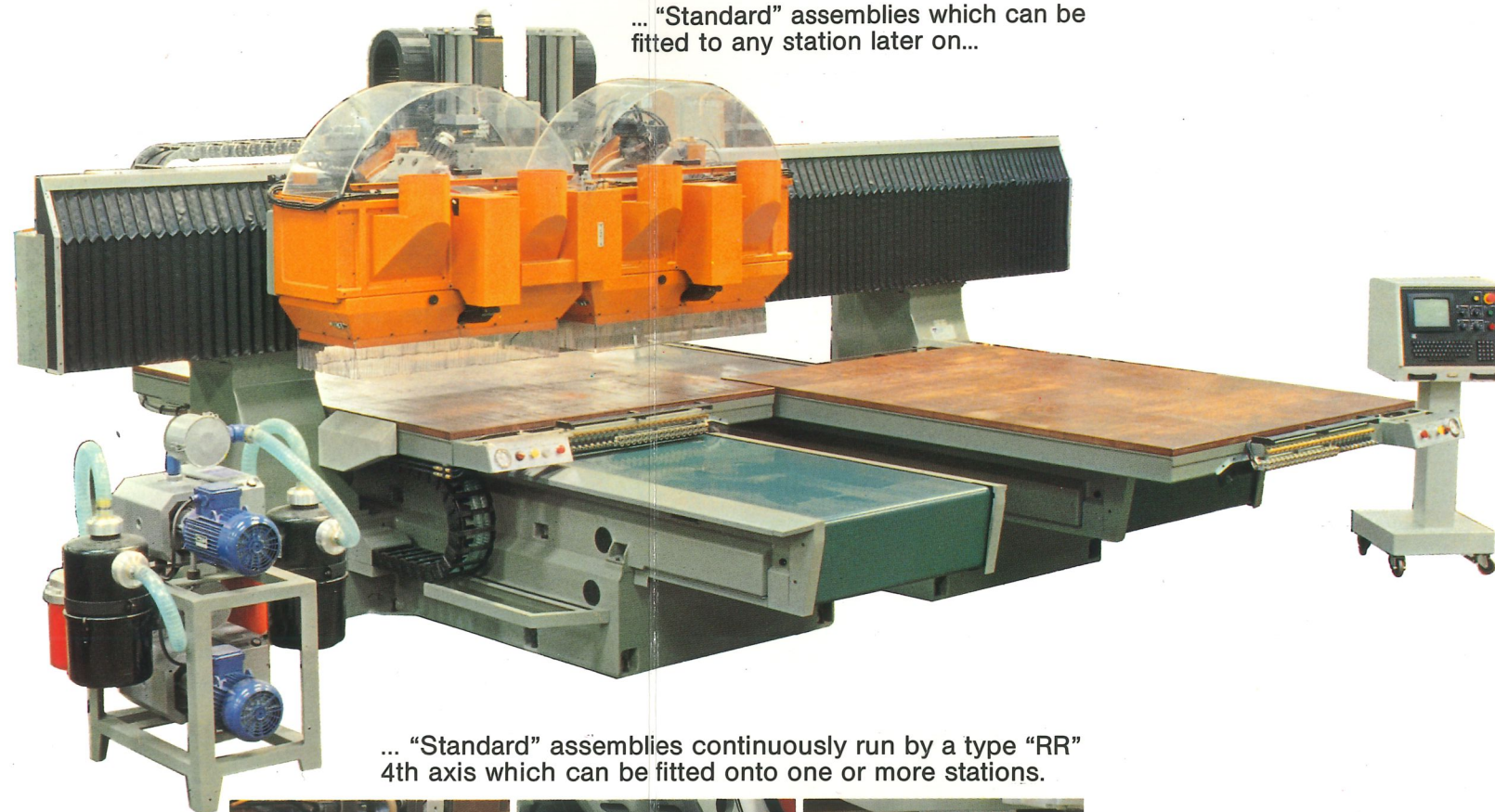
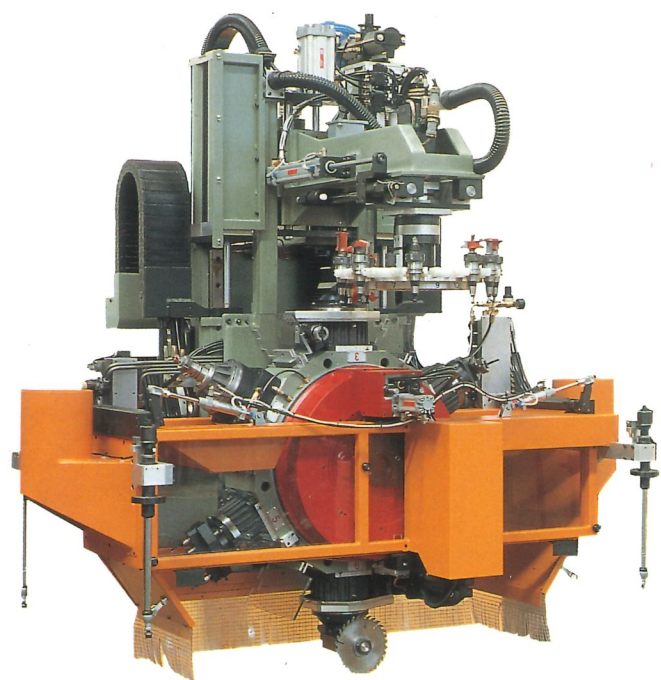
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Axes stroke	X axis (trans. movement of aggregates)	3,600 mm (4,500 mm)	
	Y axis (long. movement of the table)	1,600 mm (2 axes)	
	Z axis (vert. movement of aggregates)	250 mm (400 mm)	
	Z axis: special stroke for "UNIVERSAL HEAD" (5th and 6th axis)	700-1,250 mm	
	Additional axes...	upon request	
Table Sizes	With lignestone planes and single size (pendular work): N.B.: for pieces of whole surface, synchronized movement only.	1,770 x 1,500 mm (x 2)	
	Special metal planes with T-slots or special applications...	upon request	
Vacuum plant	2 Pumps complete with air and oil filter - capacity Motor power Vacuum value at outlet Automatic valves for vacuum Adjustable vacuumeter (under CNC)	100 m ³ /h each 4 HP each 0.9 Kg/cm ² 2 2	
Working Units	Heads in line	Nr. of heads Min./Max. distance Hydraulic insertion stroke Nr. of bearings Bearing lubrication Spindle diameter Suction opening diameter - on the heads - on the collector	from 0 to 8 210 ÷ 1,600 mm 100 mm (adjustable) 2 + 2 on the spindle unnecessary 35 mm 100 mm each 200 to 300 mm
	Single Revolver	Nr. of possible working stations	4 - 6 - 8
	Multiple Revolver	Nr. of revolvers Nr. of stations each revolver Spindle center distance	2 5 900 mm
		Nr. of bearings each motors Bearing Lubrication Spindle diameter Suction opening diameter	4 unnecessary 35 mm 2 x 200 mm each

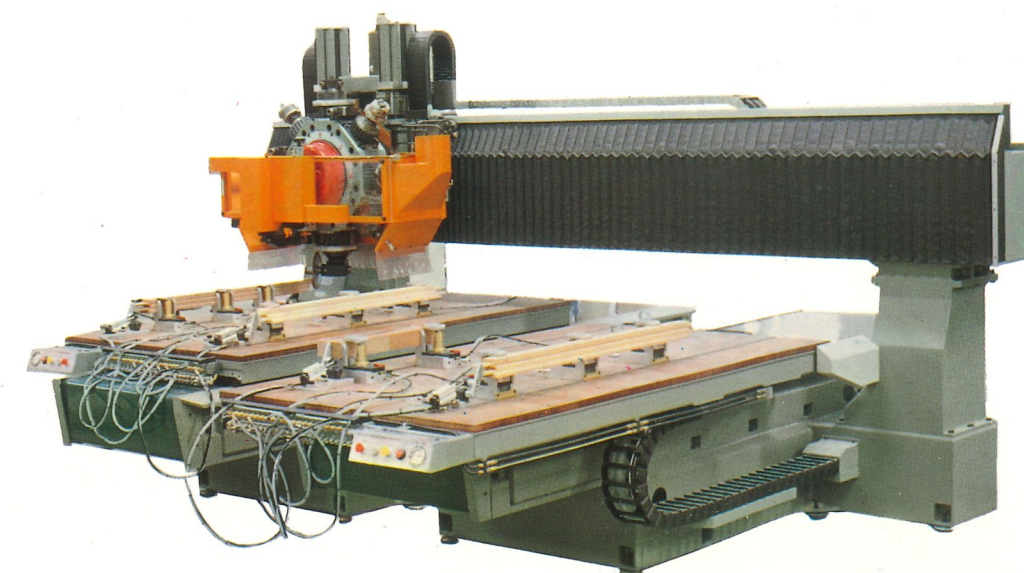
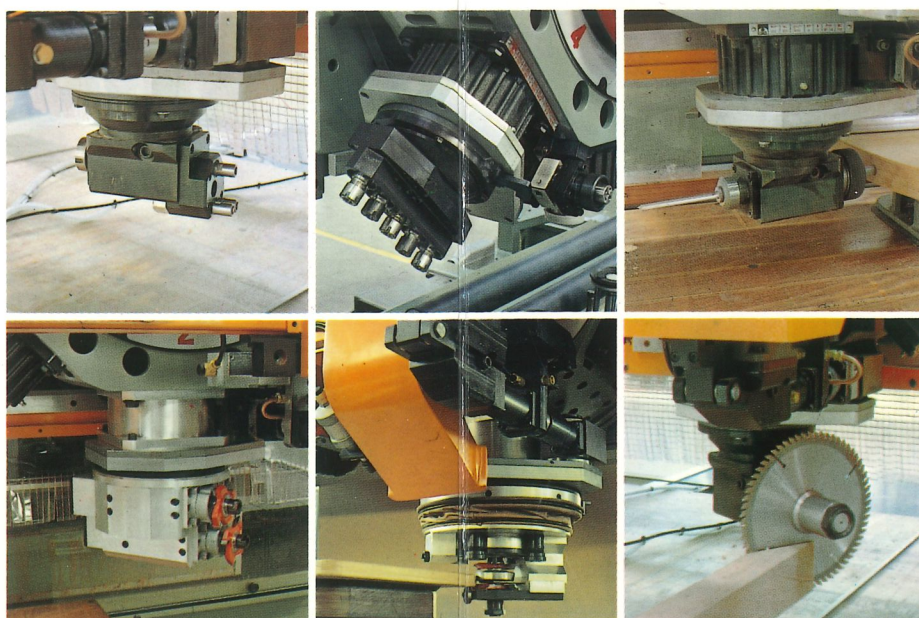
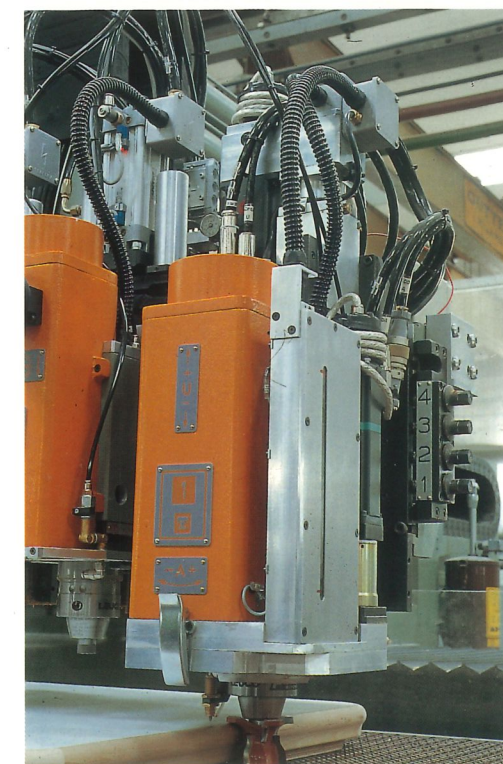
Motor power	The same for heads and revolver Nr. of possible poles Larger or special power	from 8 to 10 HP 2 - 4 - 8 upon request
Static convertors	...with 18 memorized and freely programmable ranges of speed Automatic brake and rpm control Rev./min adjustable from... to...	10 ÷ 15 KVA each motor 500 ÷ 18,000 r.p.m.
Maximum speeds	Programmable from... to...	0 ÷ 20 m/min.
Hydraulic power plant	Motor power Max. pressure (Heads and revolver movement and clamping)	1.5 HP 35 Kg/cm ²
Tool-holders (interchangeable on any working units)	- for cutters with straight shank - for cutters with Morse's taper - for cutters with central hole	Collets ø: 4-6-8-10-12-14 16-18-20 MK2 - 1.5 x 20 mm - 1.5 x 30 mm Hole-ø 35 mm max Outside-ø 12 mm max (160 mm for folding)
Angular transmissions (upon request)	With 1-2- or 5 exits both for milling and drilling with standard tool-holders also applied on rotating and floating aggregates run by an additional axis	
Pressure	Working pressure Consumption Possible CNC connections	6 Kg/cm ² insignificant 2 + 2 standard
Voltage	Standard Special Voltage	380 Volts - 50 Hz upon request
Needed space for working machine	Including CNC and convertor + safety space margin (excluding space needed for material)	6,000 x 4,000 mm
NC-PF2-MC		
...Main characteristics as for the PF2 model but with the following modifications:		
Table Sizes	Lignestone planes with single size Space between the two tables	2,160 x 1,500 (x 2) 420 mm
Working Units	With heads in line Working heads Center Distance min./max.	9 max. 210 ÷ 1,860 mm
N.B.: Structure with central upright. "Pendular work" on the two single tables only.		



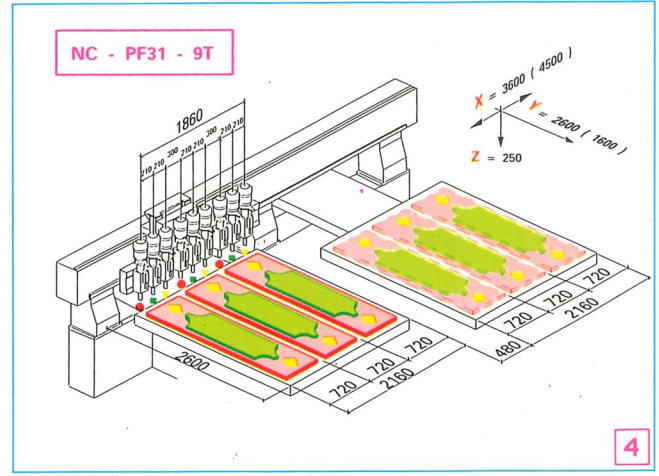
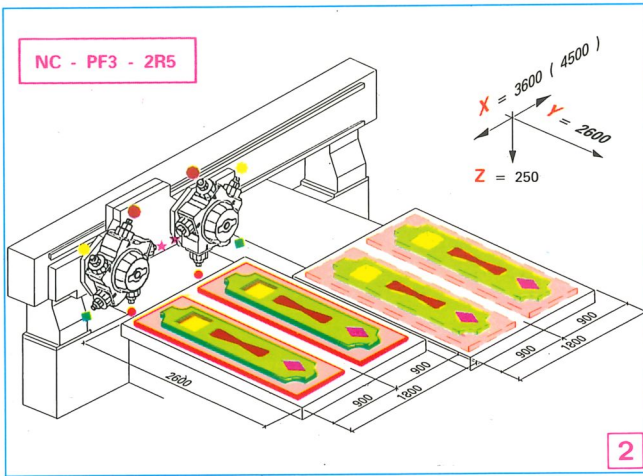
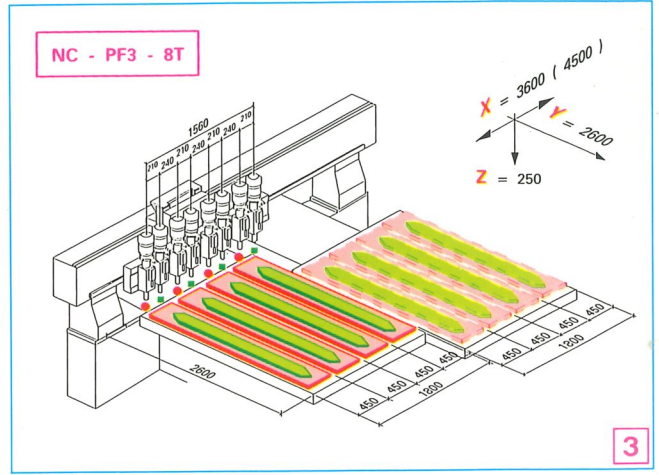
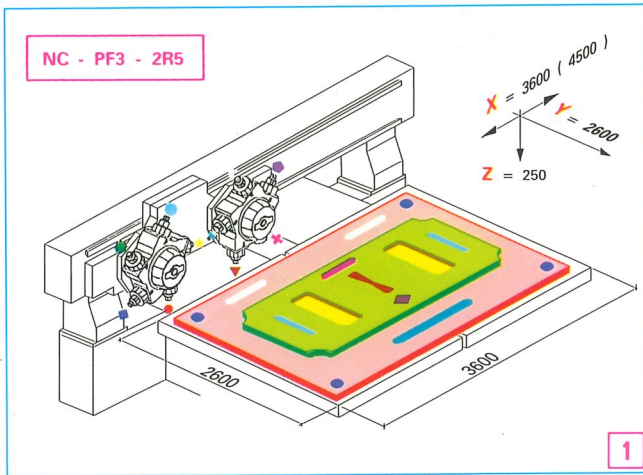
... "Standard" assemblies which can be fitted to any station later on...



... "Standard" assemblies continuously run by a type "RR" 4th axis which can be fitted onto one or more stations.



NC-PF3

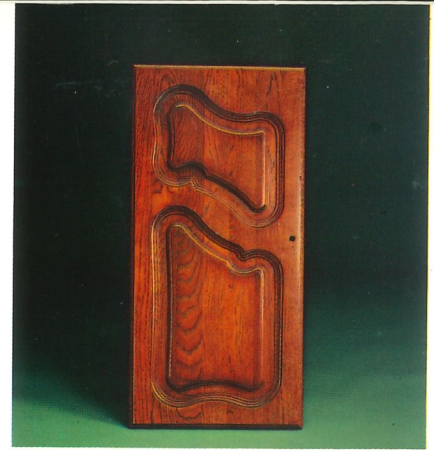


Axes stroke	X axis (trans. movement of aggregates)	3,600 mm (4,500 mm)	
	Y axis (long. movement of the tables)	2,600 mm (2 axes)	
	Z axis (vert. movement of aggregates)	250 mm (400 mm)	
	Z axis: special stroke for "UNIVERSAL HEAD" (5th and 6th axis)	700-1,250 mm	
	Additional axes...	upon request	
Table Sizes	With lignostone planes and single size (pendular work): N.B.: for pieces of whole surface, synchronized movement only.	1,770 x 2,520 mm (x 2)	
	Special metal planes with T-slots or special applications...	upon request	
Vacuum plant	2 Pumps complete with air and oil filter - capacity Motor power Vacuum value at outlet Automatic valves for vacuum Adjustable vacuumeter (under CNC)	100 m ³ /h each 4 HP each 0.9 Kg/cm ² 2 2	
Working Units	Heads in line	Nr. of heads Min./Max. distance Hydraulic insertion stroke Nr. of bearings Bearing lubrication Spindle diameter Suction opening diameter — on the heads — on the collector	from 0 to 8 210 ÷ 1,600 mm 100 mm (adjustable) 2 + 2 on the spindle unnecessary 35 mm 100 mm each 200 to 300 mm
	Single Revolver	Nr. of possible working stations	4 - 6 - 8
	Multiple Revolver	Nr. of revolvers Nr. of stations each revolver Spindle center distance	2 5 900 mm
		Nr. of bearings each motor Bearing lubrication Spindle diameter Suction opening diameter	4 unnecessary 35 mm 2 x 200 mm each

Motor power	The same for heads and revolver Nr. of possible poles Larger or special power	from 8 to 10 HP 2 - 4 - 8 upon request
Static convertors	...with 18 memorized and freely programmable ranges of speed Automatic brake and rpm control Rev./min adjustable from... to...	10 ÷ 15 KVA each motor 500 ÷ 18,000 r.p.m.
Maximum speeds	Programmable from... to...	0 ÷ 20 m/min.
Hydraulic power plant	Motor power Max. pressure (Heads and revolver movement and clamping)	1.5 HP 35 Kg/cm ²
Tool-holders (interchangeable on any working units)	— for cutters with straight shank — for cutters with Morse's taper — for cutters with central hole	Collets ø: 4-6-8-10-12-14 16-18-20 mm MK2 — 1.5 x 20 mm — 1.5 x 30 mm Hole-ø 35 mm max Outside-ø 12 mm max (160 mm for folding)
Angular transmissions (upon request)	With 1-2- or 5 exits both for milling and drilling with standard tool-holders also applied on rotating and floating aggregates run by an additional axis	
Pressure	Working pressure Consumption Possible CNC connections	6 Kg/cm ² insignificant 2 + 2 standard
Voltage	Standard Special Voltage	380 Volts - 50 Hz upon request
Needed space for working machine	Including CNC and convertor + safety space margin (excluding space needed for material)	6,000 x 6,000 mm
NC-PF3-MC		
...Main characteristics as for the PF3 model but with the following modifications:		
Table Sizes	Lignostone planes with single size Space between the two tables	2,160 x 2,520 (x 2) 420 mm
Working Units	With heads in line Working heads Center Distance min./max.	9 max. 210 ÷ 1,860 mm
N.B.: Structure with central upright. "Pendular work" on the two single tables only.		



Name of piece	Table support shoulder piece
Type of material	Solid wood
Size of the piece	480 x 630 x 45 mm.
N. of simultaneous axes	2
N. of different tools	3
N. of pieces worked simult.	1 ÷ 2



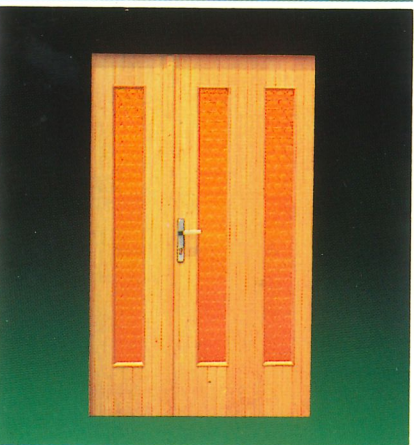
Name of piece	Cupboard door
Type of material	Solid wood
Size of the piece	460 x 1,000 x 22 mm.
N. of simultaneous axes	2
N. of different tools	4
N. of pieces worked simult.	1 ÷ 2



Name of piece	Oval table
Type of material	Solid wood
Size of the piece	1,100 x 1,600 x 40 mm.
N. of simultaneous axes	2
N. of different tools	3
N. of pieces worked simult.	1 ÷ 2



Name of piece	Sewing machine table
Type of material	Laminated M.D.F.
Size of the piece	500 x 1,050 x 40 mm.
N. of simultaneous axes	2
N. of different tools	2
N. of pieces worked simult.	1 ÷ 4



Name of piece	Door
Type of material	Lamellate wood
Size of the piece	2100x900x42 mm.
N. of simultaneous axes	2
N. of different tools	4
N. of pieces worked simult.	1



Name of piece	Back of armchair
Type of material	Solid wood
Size of the piece	940 x 220 x 42 mm.
N. of simultaneous axes	2
N. of different tools	3
N. of pieces worked simult.	1 ÷ 3



Name of piece	Bench side piece
Type of material	Solid wood
Size of the piece	840 x 500 x 35 mm.
N. of simultaneous axes	2
N. of different tools	3
N. of pieces worked simult.	1 ÷ 4



Name of piece	Kitchen cabinet door
Type of material	Solid wood
Size of the piece	380 x 560 x 20 mm.
N. of simultaneous axes	2
N. of different tools	3
N. of pieces worked simult.	1 ÷ 4

 **COSTRUZIONE
MACCHINE
SPECIALI**



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