

F4



CNC PRODUCTION CENTRE FOR WINDOW FRAMES

SAC

F4

Tenoning spindle by continuous axis. Hydrostatic positioning fences to avoid wear and maintenance.

2 profiling spindles 320 mm long to avoid any tool change.

Feed system by rubberized rollers with universal joint transmission. Feed rollers pressure and working speed adjustable by the operator.

Automatic horizontal movement for cut off saw unit to get different tenoning depths on the same piece.

Microprocessor central unit to memorize all working programmes and manage all machine operations.

2 pneumatics clamps for a safe locking of the workpiece.

Automatic positioning of the anti-splinter disc according to the tool in operation.

Adjustable length fence for slanted tenons +/- 60°

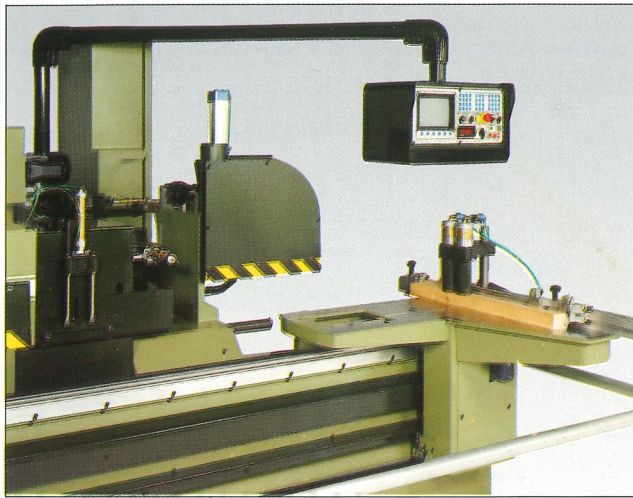
Left hand fence to get a perfect finishing and even with imperfect workpieces.

Automatic transfer of the workpiece from tenoning to profiling unit.

Tenoning sliding table with electronically variable working speed 3 to 10 m/min. Forwards-backwards fast speed 35m/min.

Heavy monobloc frame.



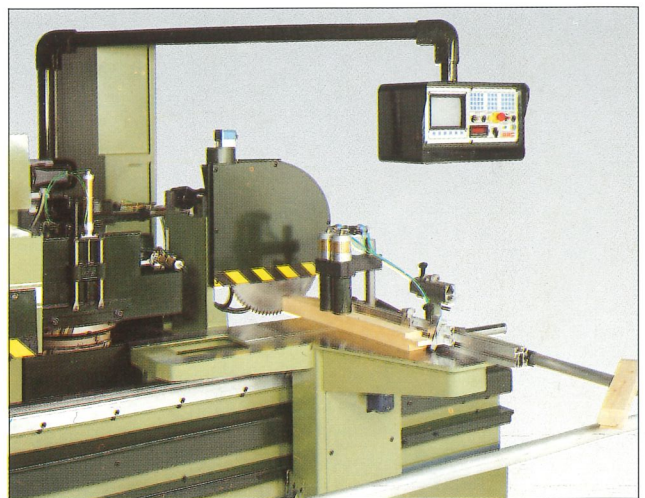
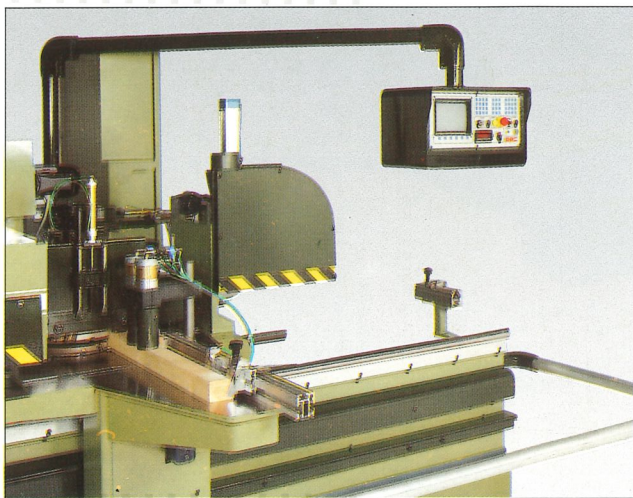
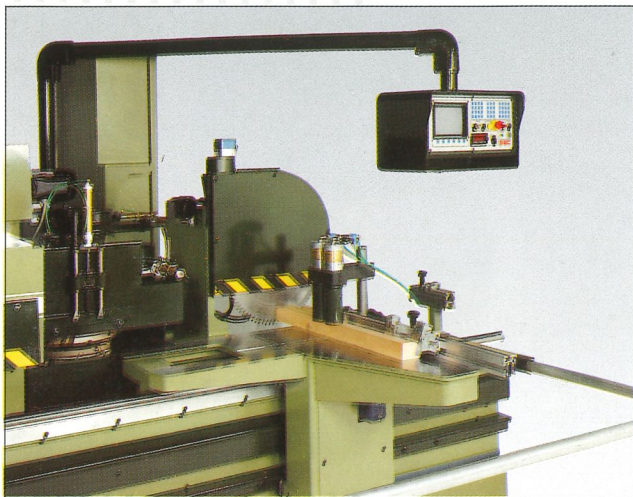


The right solution to produce window frames:

- even small batches of different sizes
- by series or by sequence (window by window)
- no tool change
- great accuracy and high finishing level
- correct working system and high performance
- memorized working programmes.

CNC PRODUCTION CENTRE FOR WINDOW FRAMES F/4

Never like today the market of window frames has been so changeable. Great batches are more and more replaced by small lots of different sizes, as a consequence of the new trend of the building trade. What examined here above lets us understand that one of the main feature for a modern window working centre must be its FLEXIBILITY, the power of producing by units or small batches with short or even without losing time for machine fixing, thus avoiding stock storage. Other features have to be considered always to be on the forefront of such a new and changeable market, they are:



- 1 - Workpiece positioning on the tenoning sliding table for tenoning and profiling.
- 2 - Cut off saw unit with automatic horizontal movement
- 3 - Workpiece tenoning
- 4 - Cut off saw unit

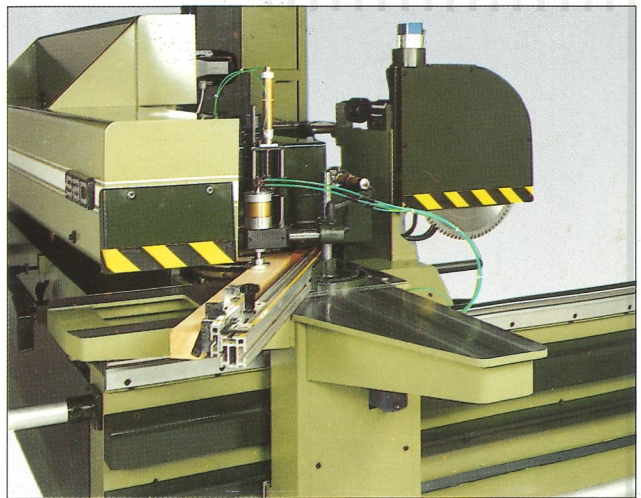
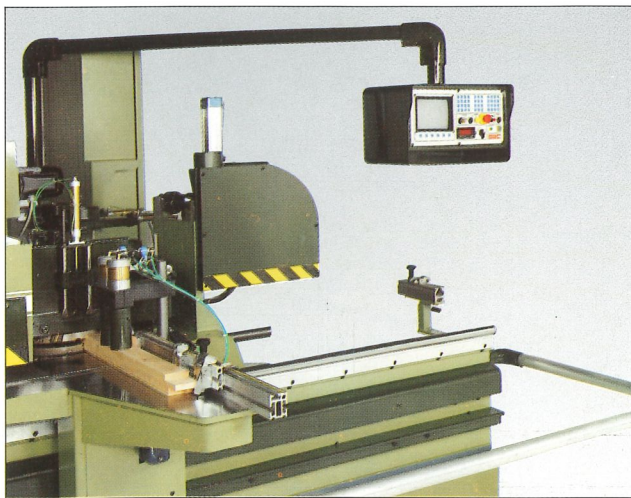
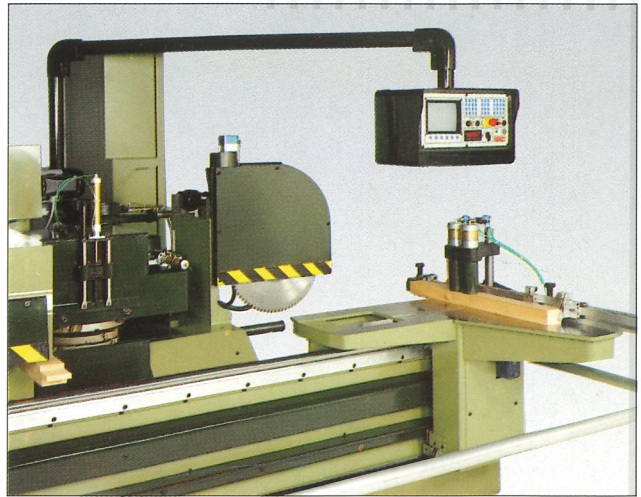
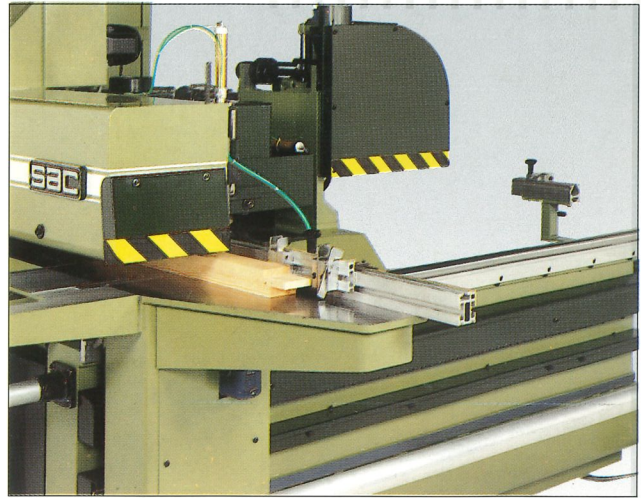
- technology
- finishing level
- new European regulation
- observance of the aesthetical tradition
- competition
- service and dealing.

A machine whose features comply with all the above mentioned ones will, as a consequence, maintain low costs.

Our aim, since the planning of this machine, was to offer a solution for this new kind of market and the F4 is the result of our experience of about 12 years in the production of window working centres.

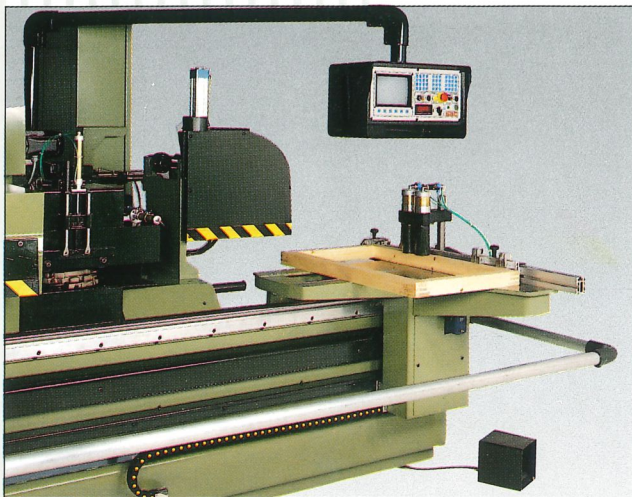
The working centre F4 is addressed to those firms having to produce from 5 up to 5 windows a day, in the complete respect of the above mentioned points.

The working centre F4 with its inimitable features of accuracy, flexibility, reliability, simple use and safety is the ideal machine to become the heart of a modern joinery.



- 5 - Workpiece tenoning
- 6 - Automatic transfer of the workpiece from the tenoning to the profiling unit
- 7 - Working of the next workpiece at the same time as the previous workpiece is profiled
- 8 - Tilted fence +/- 60° to get slanted workpieces



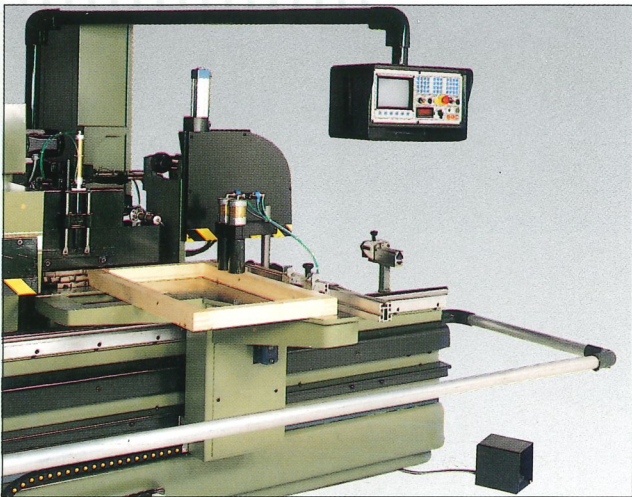


Electronic control of every machine operation by microprocessor programming:

- 99 memorizable programmes
- free programming by the operator
- working programme by sequences (window by window)
- working programme by series (piece by piece)
- electronic positioning for tools by continuous axis (250 positions can memorized for each spindle)
- start and stop of motors
- electronic braking of spindle motors
- electronic troubleshooting by monitor and leds

Hydrostatic guides for tool positioning: an oil film under pressure separates guide-slides surface thus avoiding the static coefficient of friction

- no clearance with use
- no mechanic adjustment
- no wear
- no guides lubrication

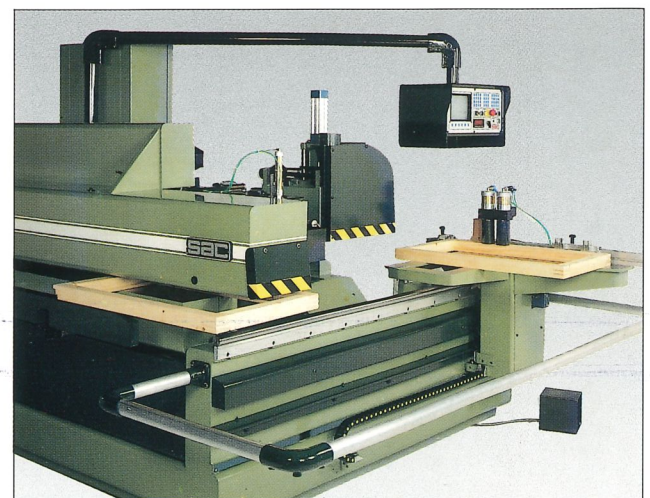
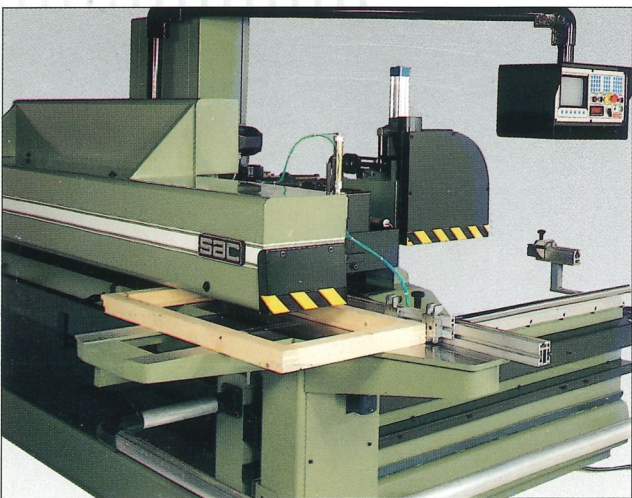


Workpiece feed system with variable speed for all working phases

Workpiece feed system on the profiling side by rubberized feed rollers with universal joint transmission and pneumatically adjustable working pressure.

Anti-splinter disc on the tenoning side, automatic positioning according to the working tool.

Anti-splinter operation on the profiling side by left hand rotation of the first spindle with jump operation. Automatic transfer of the workpiece from the tenoning to the profiling unit.



- 9 - Positioning of the sash on the tenoning sliding table for the outside sash profiling
- 10 - Outside profiling of sash rail on tenoning spindle, pressure wheels avoid vibrations and hold the sash perfectly on the sliding table
- 11 - Automatic transfer of the sash from the sliding table to the profiling unit for the stile outside profiling
- 12 - Working of the next sash at the same time as the previous sash is being profiled on the outside

The outside sash profiling is obtained in two passes with respect to the right support surfaces thus ensuring 90° accuracy between stiles and rails

- highest working speed
- greatest precision of sizes and geometry
- easy operation

No tool change for the complete working of the window

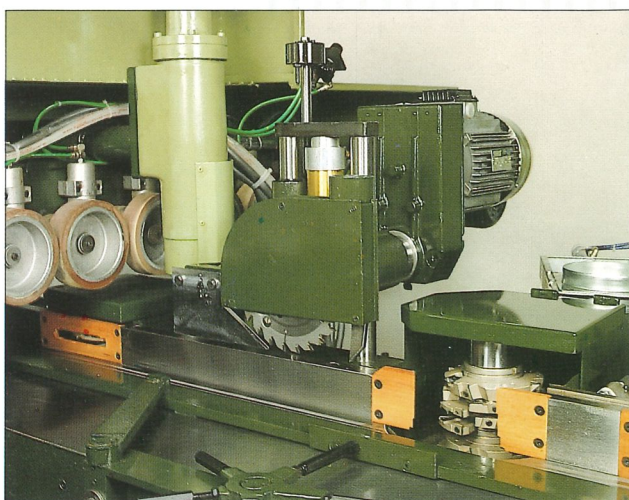
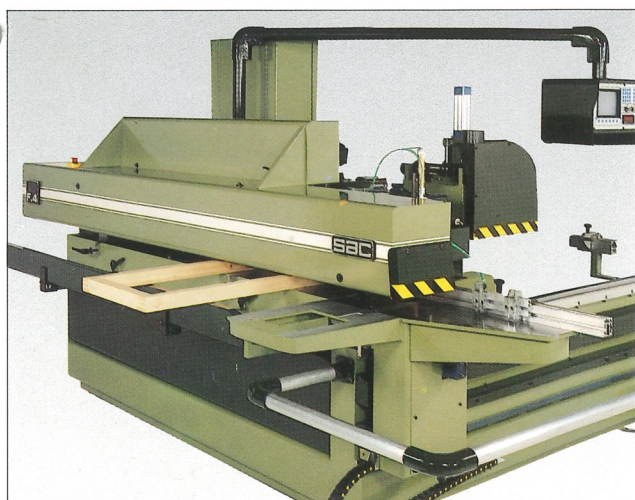
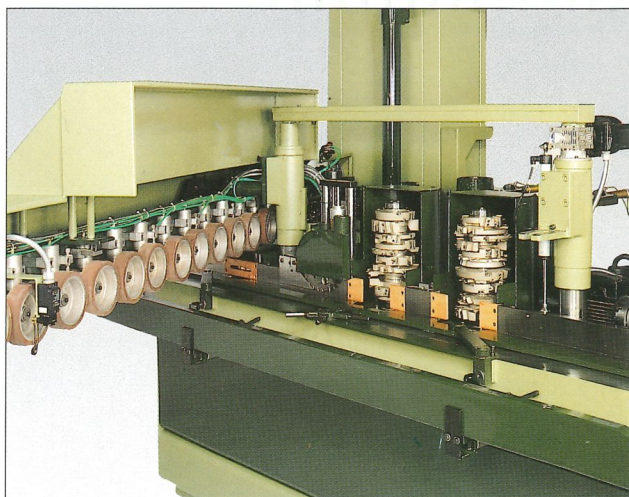
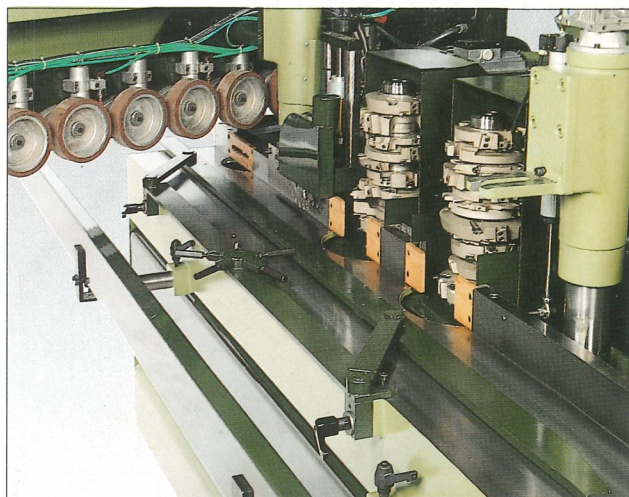
Double side profiling is possible by adding an extra unit with left hand spindle.

Tilted guide +60°/-60° to get slanted workpieces.

All SAC SUERI production centres can be provided with a control unit able to hold a dialogue with external units by means of serial connection RS232 or by floppy disc.

This in order to allow a personal computer to directly send to the machine all production data (workpiece shape, size and quantity). The same control unit allows the traditional use of the production centre by entering data directly from the keyboard.

SAC SUERI production centres are characterized by reliability and precision, already consolidated since more than 10 years of experience, with a simplicity and easiness of programming, allowing the operator to learn in a few minutes all the information required for the correct and complete use of the machine.

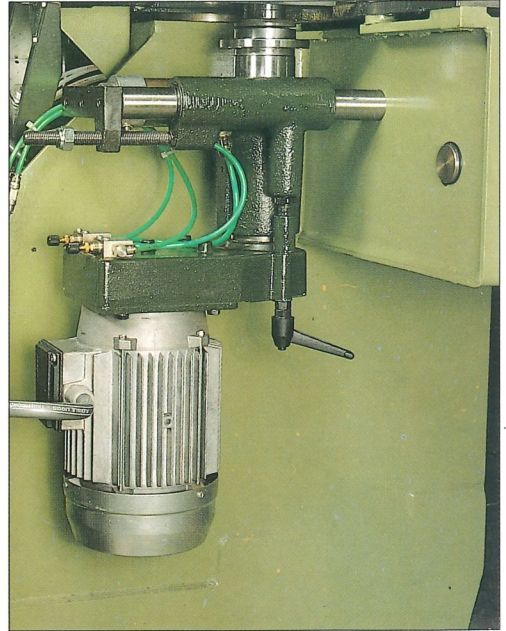


- 13 - Outside profiling of the sash only on profiling unit
- 14 - Left side fence to get perfect profiling in size and geometry and a better stability to the workpiece for a better finish
- 15 - Profiling units with middle fence automatic positioning according to the working tool
- 16 - Glass bead recovery unit

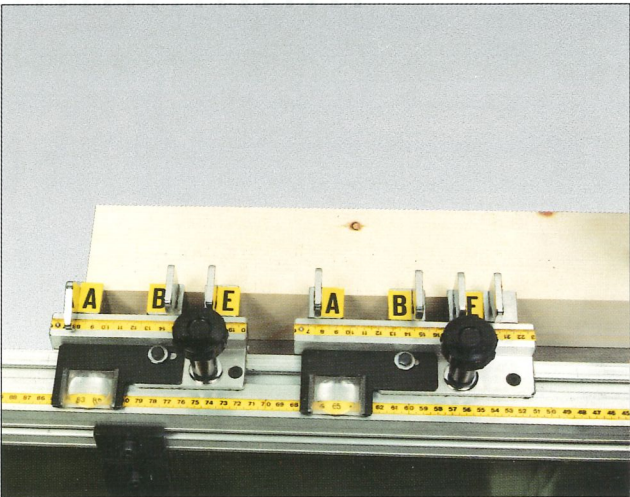




17 - The control panel with display to check every machine operation and the name of the workpiece can be moved to the more suitable position for the operator



18 - Auxiliary head for hardware grooving (on request) with or without device for automatic vertical positioning in two different positions



19 - Programmable length stops for the workpiece.

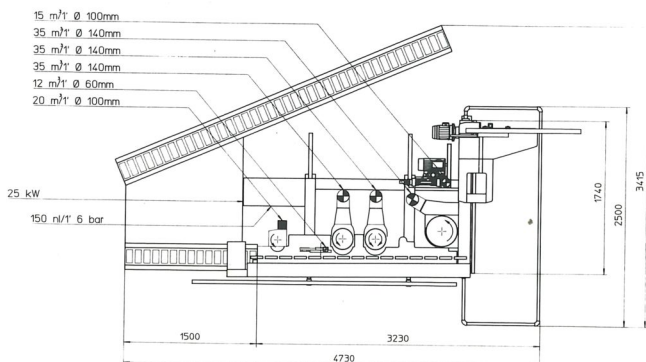


20 - Spindles are not counter-supported thus allowing an easy and simple access for tool change.



TECHNICAL DATA

TENONING SIDE		F/4	
TENONING SLIDING TABLE			
Table size	900 x 750	mm	
Motor power	1,5	HP	
Variable working speed-electronic control	3/10	m/min	
Forw. -backw. fast speed	35	m/min	
Automatic positioning for anti-splinter disc	4		
Tilting fence	+60°/-60°		
CUT OFF SAW UNIT			
Motor power	4	HP	
Blade diameter	400	mm	
Blade speed	3000	r.p.m.	
Spindle diameter	30	mm	
Blade horizontal movement	130	mm	
Dephts for horizontal positioning	16		
Max. height of cut	105	mm	
TENONING SPINDLE			
Spindle diameter	50	mm	
Spindle length	320	mm	
Spindle vertical stroke	275	mm	
Spindle speed	3500	r.p.m.	
Motor power	7,5	HP	
Max. tool diameter	350	mm	
PROFILING SIDE			
PROFILING SPINDLES			
Profiling spindles	2		
Spindle diameter	50	mm	
Spindle length	320	mm	
Spindle vertical stroke	275	mm	
Spindle horizontal stroke	80	mm	
Spindle speed	6000	r.p.m.	
Motor power	7,5	HP	
Base tool diameter	110 -140	mm	
Max. tool diameter	240	mm	
Spindle with left + right hand rotation (anti-splint)	1st		
GLASS BEAD RECOVERY UNIT			
Motor power	3	HP	
Blade diameter	200	mm	
Blade speed	6000	r.p.m.	
Blade horizontal movement	40	mm	
FEED UNIT			
Motor power	1	HP	
Feed speed (variable)	4-20	m/min	
Number of feed rollers	15		
Diameter of rubberized feed rollers	145	mm	
Pneumatically adj. pressure			
Universal joint transmission			
NET WEIGHT	3950	Kg	



OPTIONAL EXTRAS		F/4	
AUXILIARY HEAD FOR HARDWARE GROOVING			
Motor power		4	HP
Spindle diameter		30	mm
Spindle speed		6000	r.p.m.
Spindle horizontal stroke		60	mm
Spindle vertical adjustment		40	mm
With or without device for automatic positioning in two different positions (max. difference 40mm)			
CUT OFF SAW UNIT 140 MM HEIGHT OF CUT			
Motor power		4	HP
Blade diameter		400	mm
Blade speed		3000	r.p.m.
Spindle diameter		30	mm
Blade horizontal movement		130	mm
Depths for horizontal positioning		16	
Automatic vertical positioning		140	mm
Max height of cut		140	mm
AUTOMATIC SHUT OFF GATES FOR SUCTION HOODS			
AUTOMATIC OPENING AND CLOSING ACCORDING TO THE SPINDLES IN OPERATION			
DELTA-STAR STARTING FOR MAIN MOTORS			
UP RATED MOTORS			
AUTOMATIC CALCULATION OF QUANTITY AND SIZES BY SIMPLY ENTERING QUANTITY AND DIMENSIONS OF REQUIRED SECTIONS.			
CUT OFF SAW AND LENGTH STOP WITH AUTOMATIC POSITIONING.			
POSSIBILITY TO LINK IT UP TO PERSONAL COMPUTER BY MEANS OF SERIAL CONNECTION RS232 OR BY FLOPPY DISC.			

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