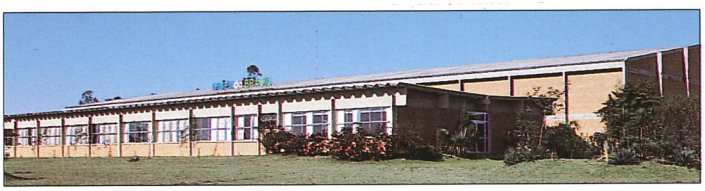
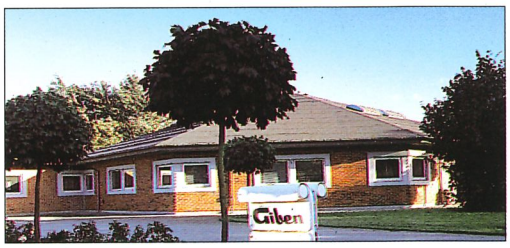
The new SIGMATIC systems

Giben®

Summary



GIBENdoBRASIL



GIBENSCANDINAVIA

GIBEN, the advantage of being specialists. GIBEN has always specialised in panel sizing and as a result has developed a truly unique knowledge of the subject.
The solutions achieved by GIBEN have not been reached by merely adapting to market conditions, but from having the foresight and experience to anticipate the origin and requirement of the user. Today GIBEN is a strong industrial group with four manufacturing plants and nine sales subsidiaries. With 8.000 GIBEN beam saws and more than 1.000 angle plants installed and operational around the world, GIBEN has an established world leadership.

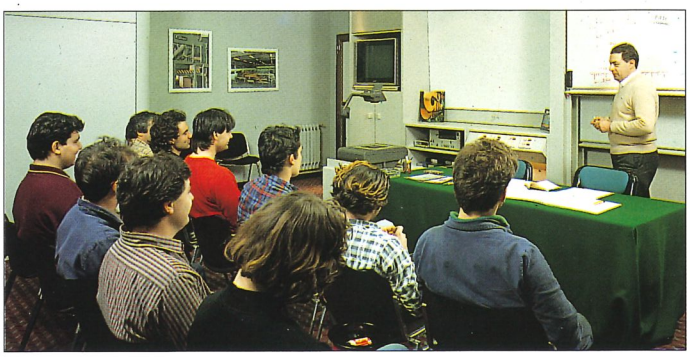
GIBENIMPIANTI - ITALIA

GIBENAMERICA

GIBENDEUTSCHLAND

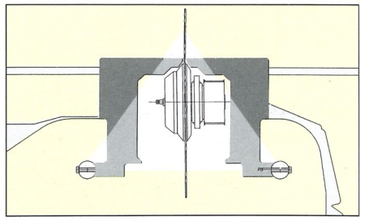
QUALITY
All GIBEN machines are designed and built to offer maximum reliability and efficiency. To this effect GIBEN products undergo very demanding quality tests and conform to the strictest international safety standards.

SPECIALIST ADVICE
From analysing the materials to be processed to evaluating complex parameters affected by financial and market conditions; GIBEN qualified personnel are able to advise and professionally support our customers.



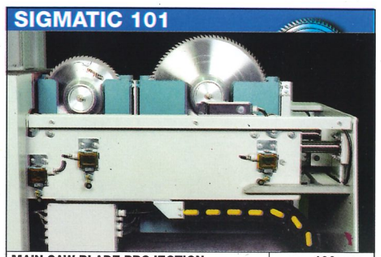
TRAINING
Training on operating GIBEN machines: to achieve optimum performance in the shortest possible time.

GIBEN acts as an ever present consultant, qualified to offer a universal service focused on the specific requirements of our customers.



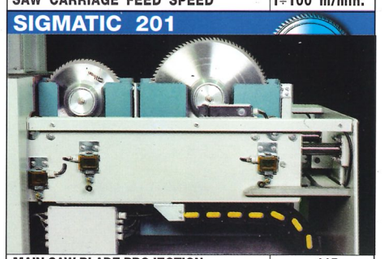
Saw carriage and “triangle shaped” guiding system that has been in use for more than 30 years on all GIBEN machines, guaranteeing sturdiness and maximum stability.

SIGMATIC 101



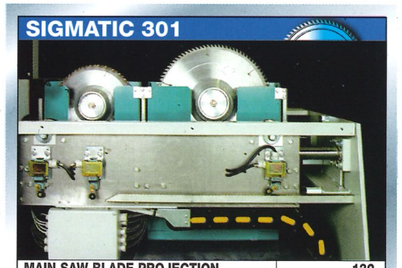
MAIN SAW BLADE PROJECTION	100 mm
MAIN SAW MOTOR	7,5 kW (11kW)
SAW CARRIAGE FEED SPEED	1÷100 m/min.

SIGMATIC 201

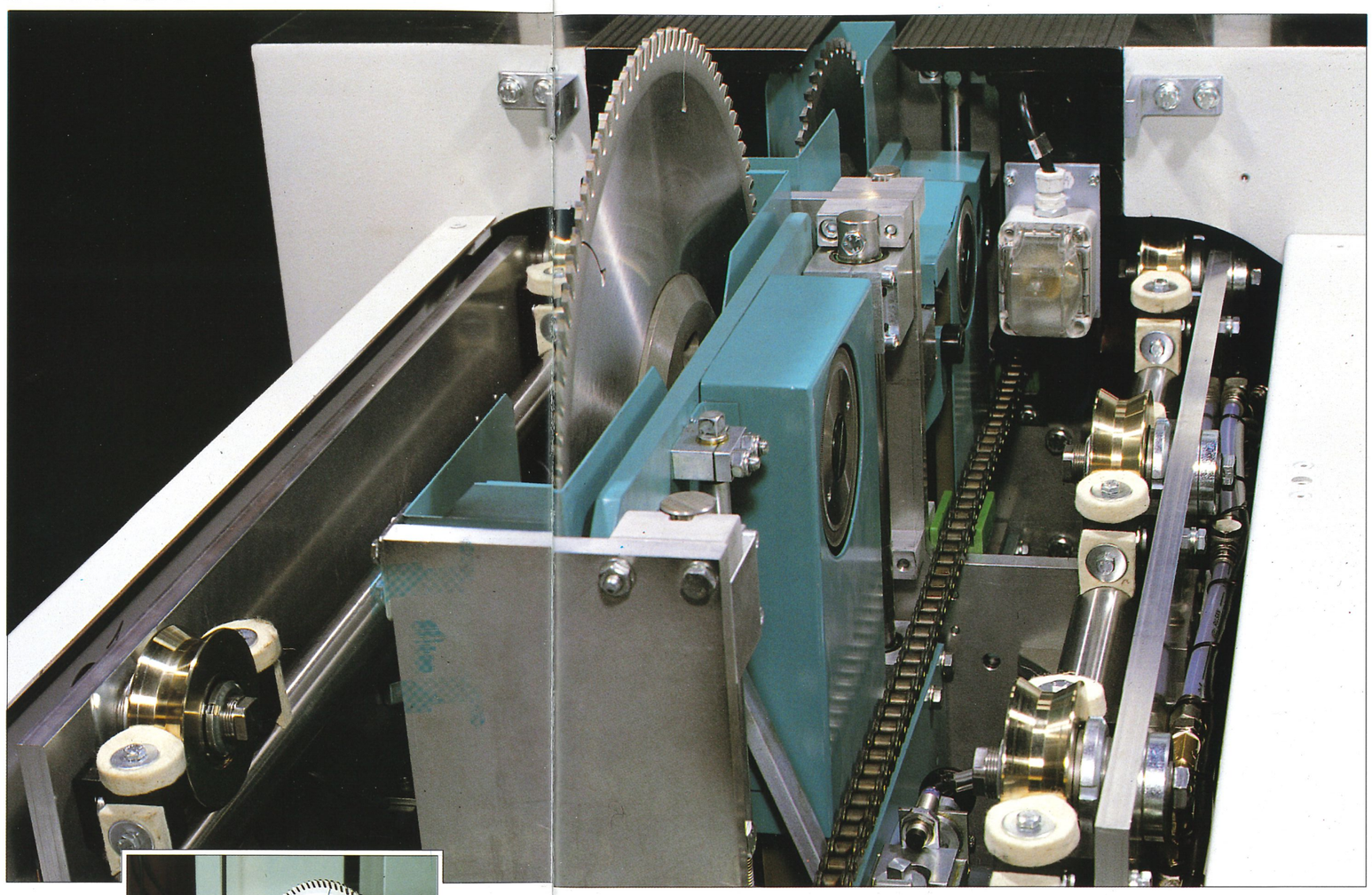


MAIN SAW BLADE PROJECTION	115 mm
MAIN SAW MOTOR	11 kW (13,2 kW)
SAW CARRIAGE FEED SPEED	1÷130 m/min.

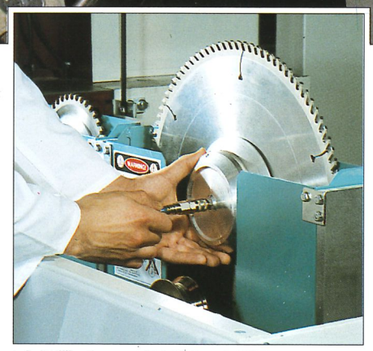
SIGMATIC 301



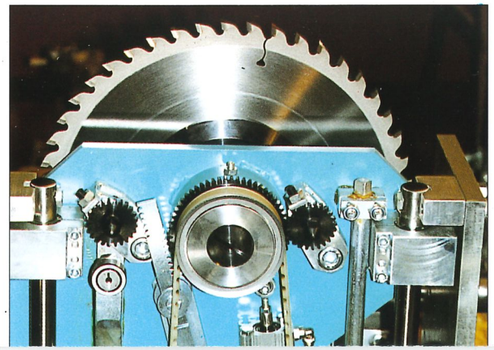
MAIN SAW BLADE PROJECTION	132
MAIN SAW MOTOR	15 kW (18 kW)
SAW CARRIAGE FEED SPEED	1÷130 m/min.



Vibration free continuous stroke. The drive chain slides on a supporting guide to avoid any side deflection. A special system keeps the chain automatically tensioned.



Quick pneumatic saw blade release.



Electrical adjustment of score. Horizontal and vertical adjustment are made while the blade is in operation with digital setting (optional).

Maximum rigidity. Because of the symmetrical design of the carriage, the load on the main blade caused by cutting through the stack, is equally distributed between the two guide ways.

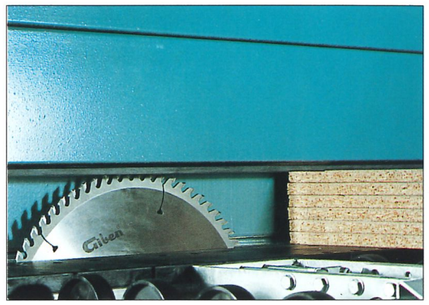
Maximum stability. The centre of gravity of the saw carriage remains well below the two guide ways even under the load of the cutting cycle.

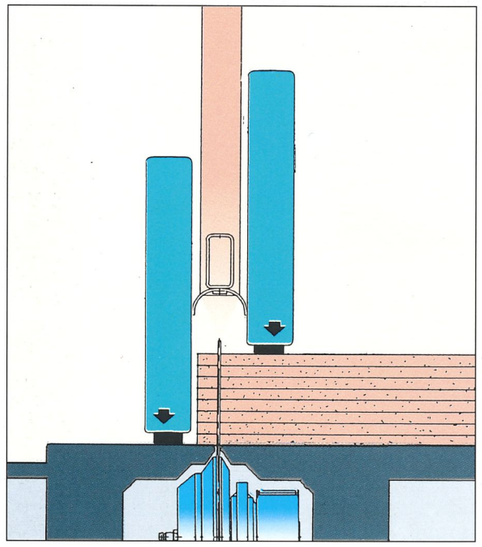
Minimum gap. As the blade is positioned at the apex of an “ideal triangle” and all other elements of the carriage are at the base of this triangle, GIBEN models feature the smallest clearance between the two sides of the cutting line, thus improving rigidity of structure and accuracy of cut.

Toothed belts for main and scoring saw blades. A toothed belt transmits the power from the motor with higher efficiency and avoids slipping; it does not require tensioning, has a longer life and is extremely easy to replace.

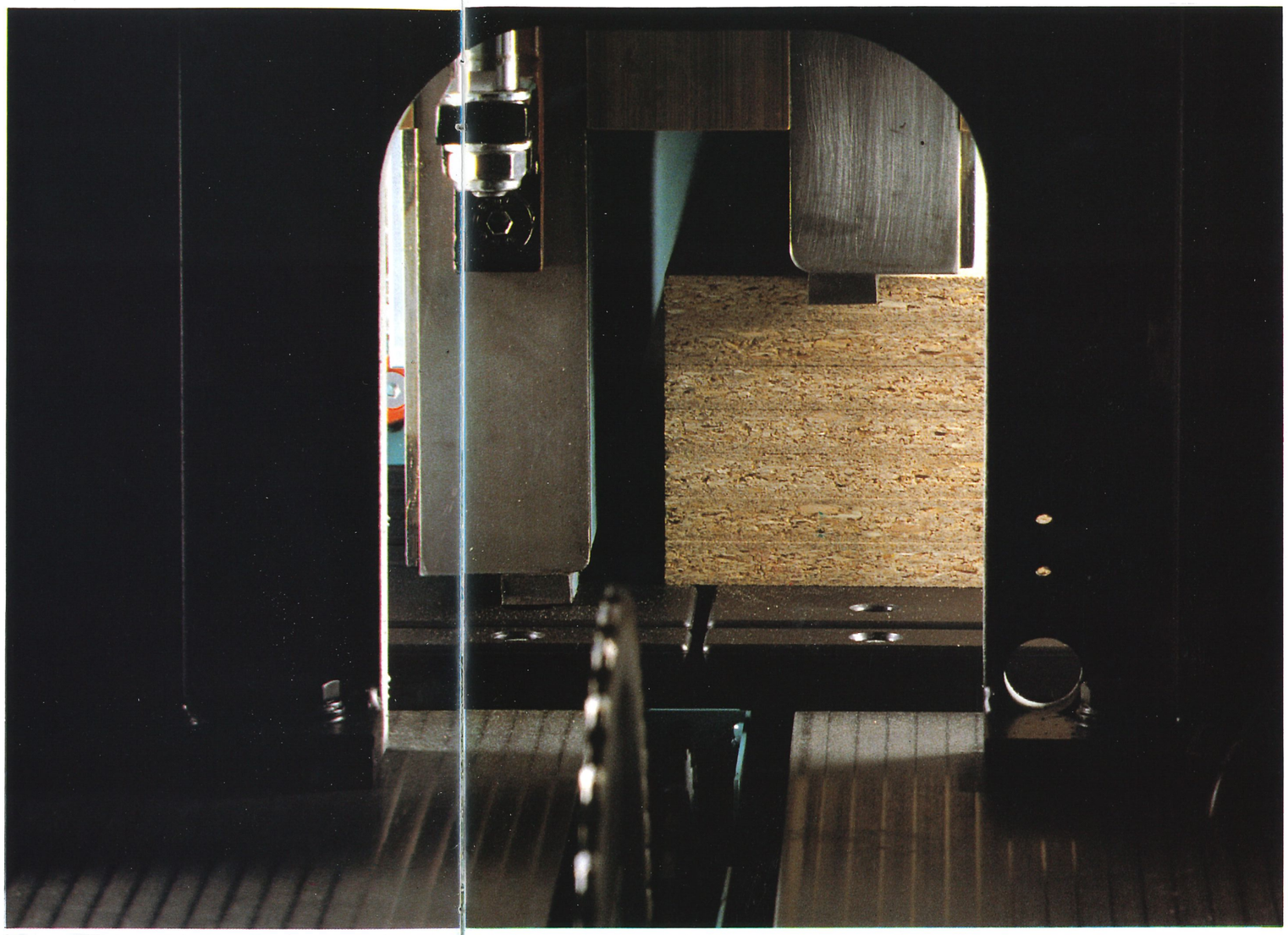
Automatic saw carriage stroke control relative to board size. This avoids any unnecessary saw carriage movement and increases machine productivity. Saw carriage feed speed adjustment directly from the control panel.

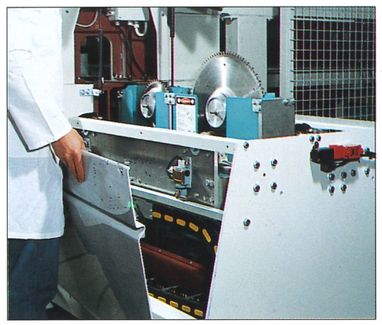
Split and independent pressure beam. Besides blocking the stack and applying equal pressure even during the last trim cut, the beam makes possible optimum dust extraction.





Minimum dust concentration level in the working area of the panel saw.





Side covers specially designed for noise reduction, allows easy access to all sections of the machine.

Electronic saw blade adjustment relative to the stack height.

The two pressure beams act separately on each side of the cutting line, exerting the correct pressure on the stack of boards.

A torsion bar running throughout each pressure beam ensures that both ends rise and fall in perfect alignment.

The entire stack is held firmly by pressure beam right up to the last trim cut. The GIBEN system features the grippers opening only after the front pressure beam has lowered securely onto the stack of boards, while the rear pressure beam lowers only once the pusher has retracted.

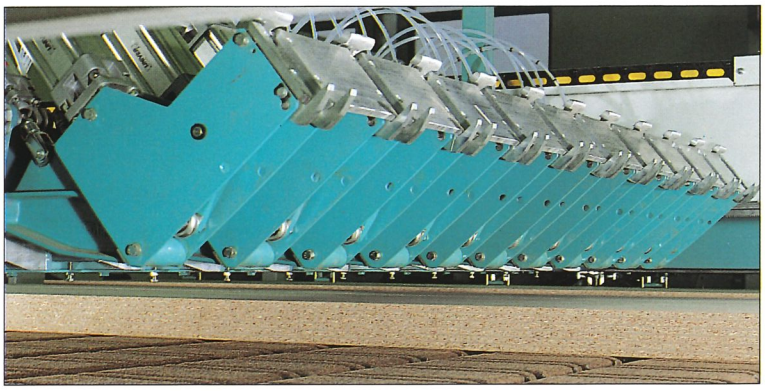
The split structure of the pressure beam is particularly effective with very narrow trim cuts: whilst one side of the pressure beam keeps the stack firmly in position, the other locks tightly onto the working table facilitating efficient dust extraction and avoiding scattering of offcuts.

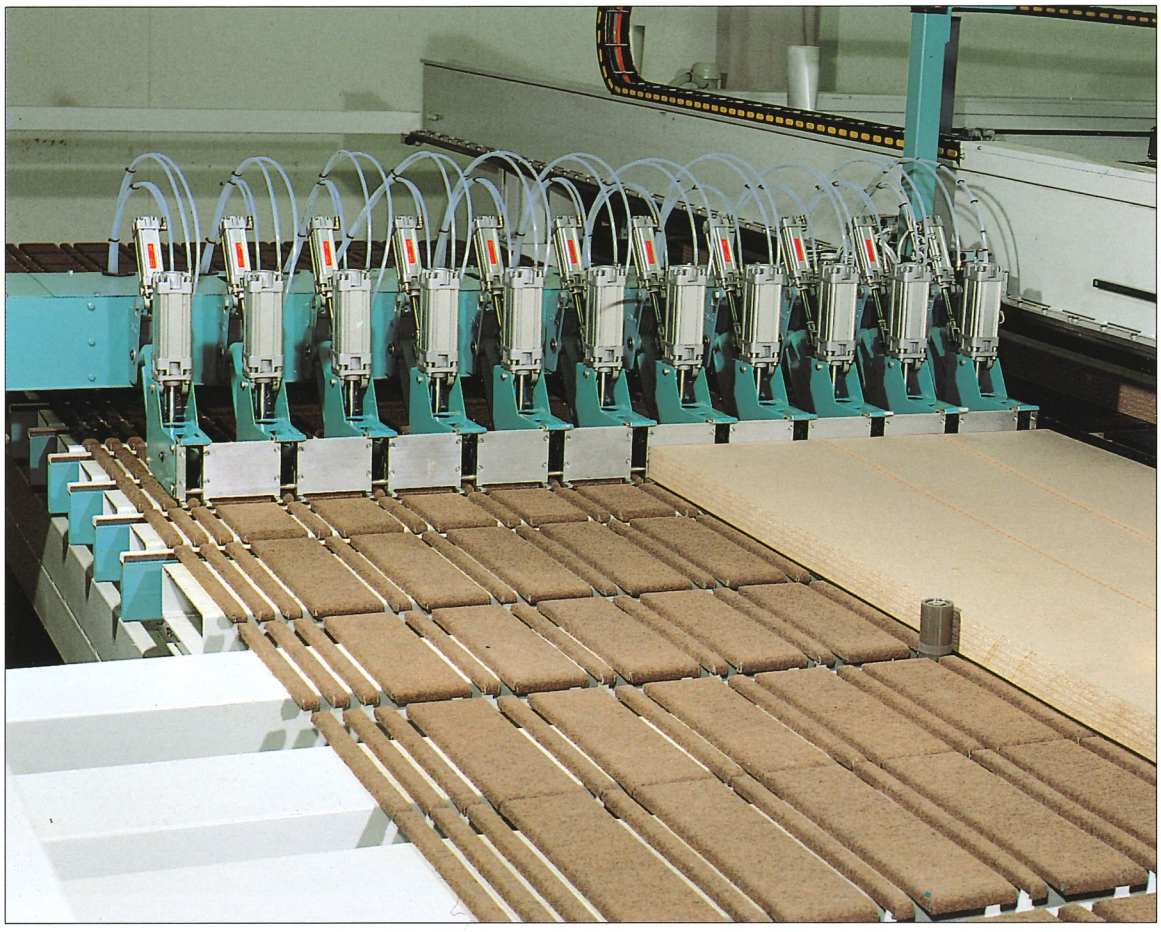
Perfect accuracy of the pusher.
The pusher carriage runs on two overhead side guides, in a parallel line relative to the saw carriage, driven by rack and pinion coupling. Two sets of racks are bolted on to the machined surfaces of the overhead side guides. Pinions are directly connected to, and moved by, equal gears. The pusher motor is positioned at an equal distance from the pinions; giving a perfectly balanced mechanism makes possible high accuracy and repeatability.

Fast transfer of the stack from the lift table.
With their bottom fingers retracted, the grippers pull the stack directly from the pile and transfer it to the support tables for front alignment. Only when alignment has been carried out do the grippers release the stack.

Blocking of the stack throughout the entire cutting cycle.
During the last cut, the grippers hold the stack firmly until the front split pressure beam reaches its lowest position. This helps to prevent even the slightest uncontrolled movement of the stack.

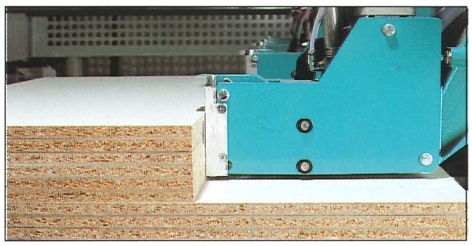
On its return stroke the cross pusher bar rises and travels over the stack of strips coming from the rip saw.



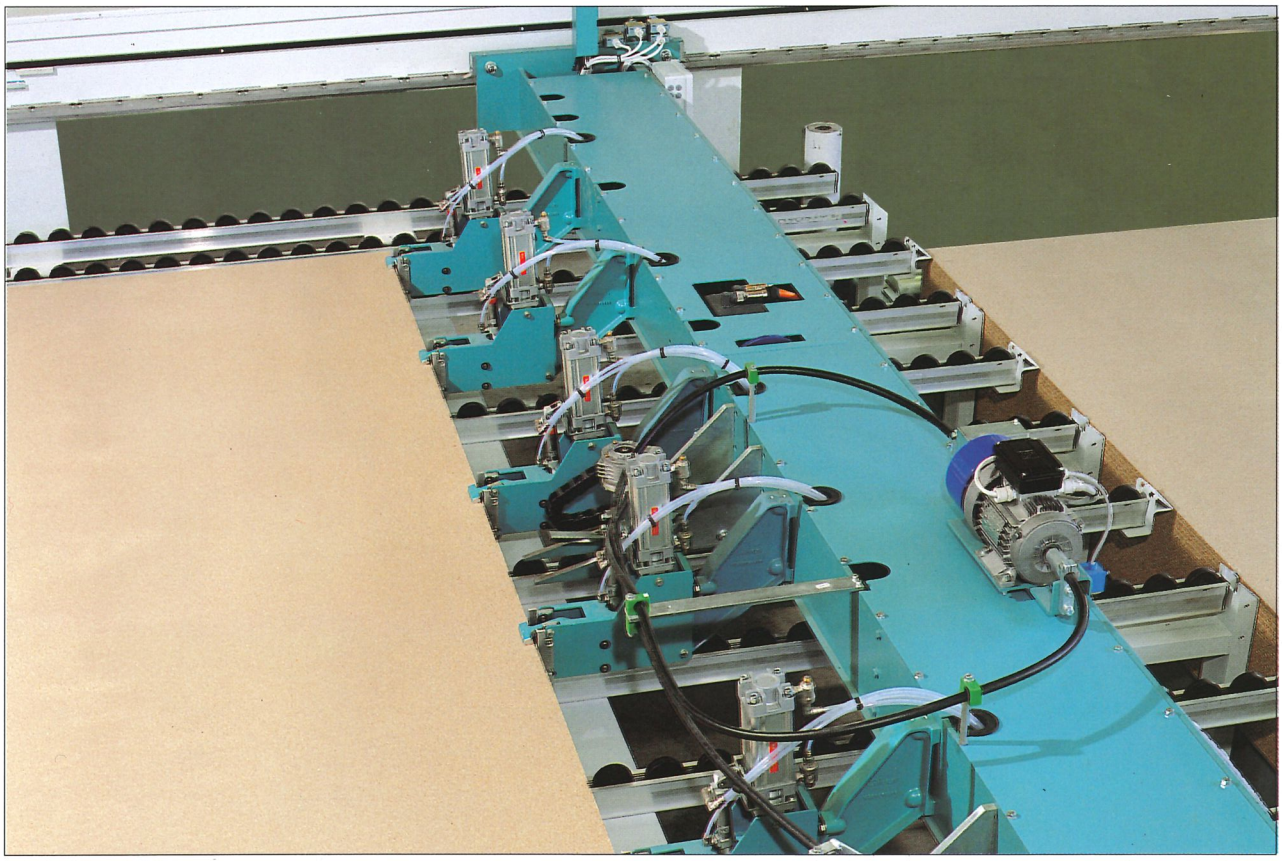


The pusher automatically transfers the stack of boards from the rip cutting area to the cross cutting area.

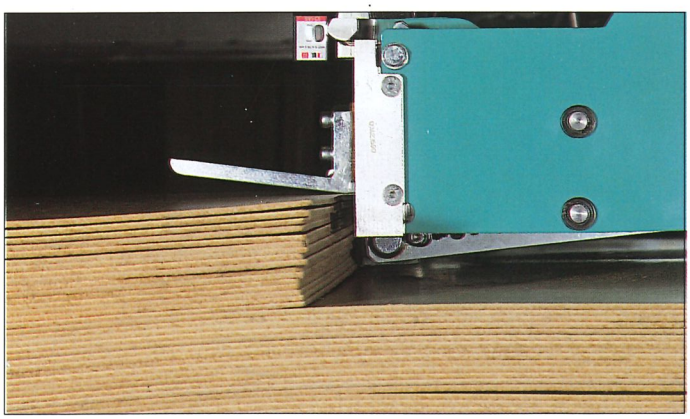
Electronically controlled pusher with overhead side guides. The grippers on the pusher, fitted with two bottom retracting fingers, keep the stack firmly in place during the entire cutting cycle until the last trim cut.



The grippers on the rip pusher are fitted with a disappearing lower finger that allows quick infeed from the lift table without the need for additional equipment.



Optimised pusher movements relative to board size, avoiding unnecessary strokes and consequent down time.



On request, a special device is available for automatic loading of thin and wavy material.

A **side aligner** with two independent retracting rubber coated rollers is fitted on a separate guide above the pressure beam.

At least two aligning rollers are always operating simultaneously, through to the last trim cut, when only the aligning roller on the outside of the pressure beam remains in position.

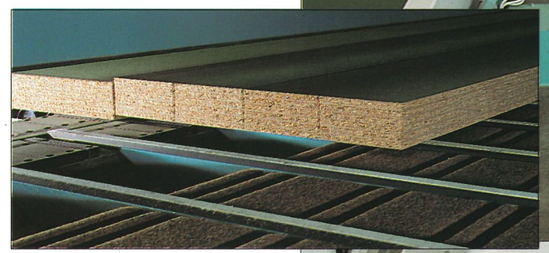
Independent "pop up" side aligners. This feature eliminates the pusher having to slow down which would otherwise be necessary to give the aligners time to retract.

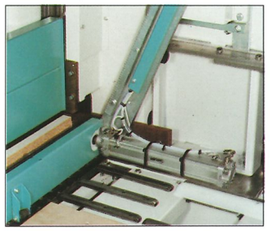
The aligners are activated only once per cross cutting cycle. The roller system provides constant alignment and the pusher does not have to stop intermittently to bring the aligning unit into action. This gives further reduction of cycle time.

Automatic device for rip off-cuts removal.

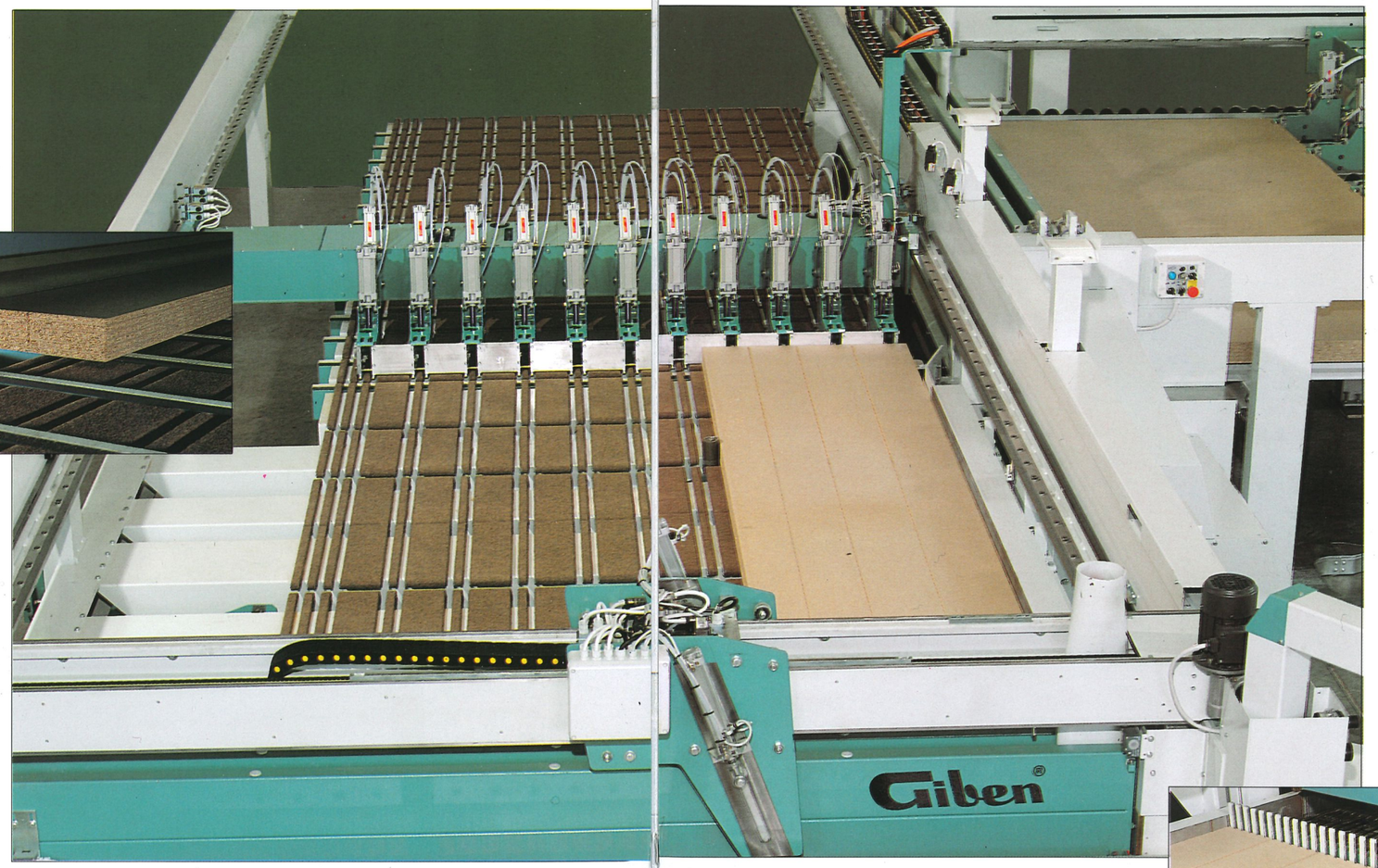
Connecting table between the rip and cross saws. Two packs can be positioned in this area simultaneously: one for rip cutting and one for the cross cutting.

A special moving table automatically transfers the stack of strips from the length cutting line.



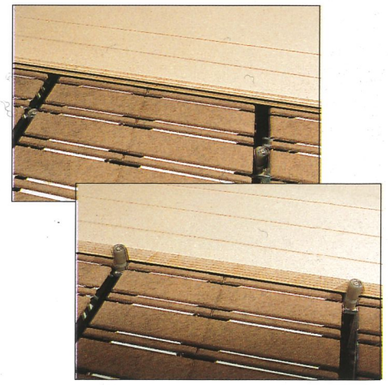


Device with ejection bar for the unloading of rear trim cuts (option).



The supporting tables in the cross cut zone are covered in carpet. Upon request the tables can be covered in a special anti-scratching material.

SIDE ALIGNMENT
Prepositionable side aligners with disappearing rollers are activated automatically during the transfer of stacks of strips to the cross cutting line. The stacks are kept pressed against the square fence throughout the entire cross cutting cycle, including the final trim cut.



FRONT ALIGNMENT
A full length bar aligns the stacks of strips against the cross pusher. The stacks are clamped by the grippers only once front alignment has been carried out.


Giben®

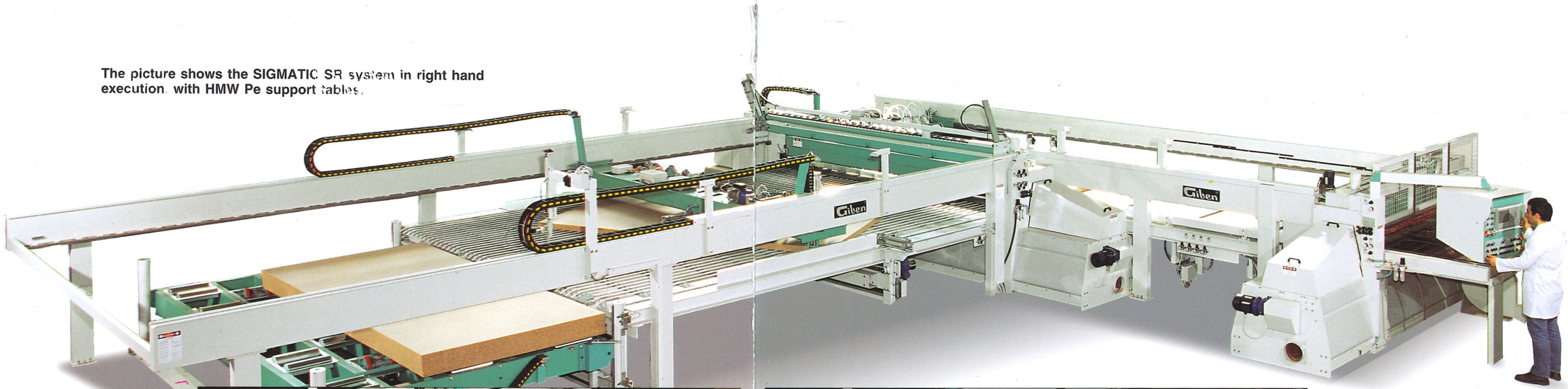
The New SIGMATIC automatic panel sizing centre.

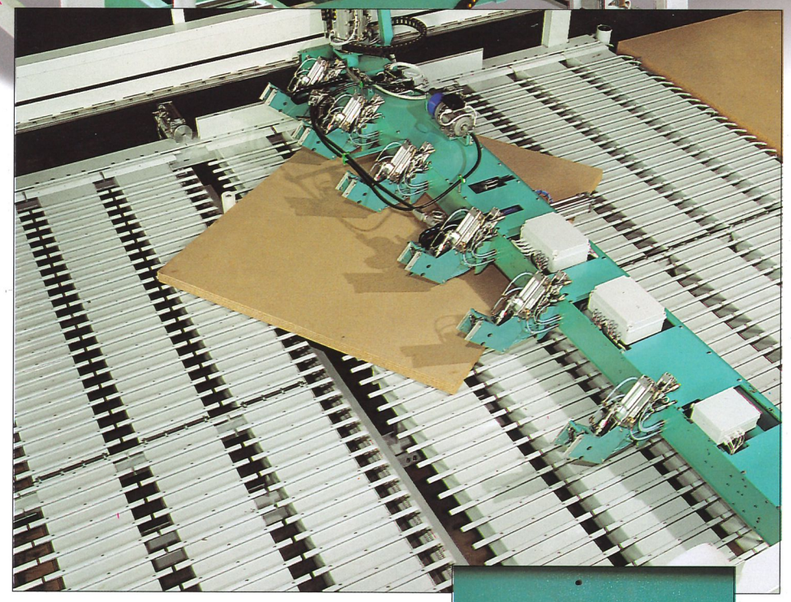
These systems also benefit from the most advanced technology promoted by GIBEN throughout the world: a panel sizing system for simultaneous rip and cross cutting of stacks in fully automatic cycle. The SIGMATIC is one of today's most advanced solutions in panel sizing, providing flexibility and productivity with fast working cycles. The saws of this angular system are Giben Prismatic, thus guaranteeing extreme accuracy and cutting quality, truly reliable mechanical structure and reduced running costs, all stemming from Giben's consolidated experience.

The picture shows the SIGMATIC STD system equipped with PIOS II and with additional in-feed roller conveyor.

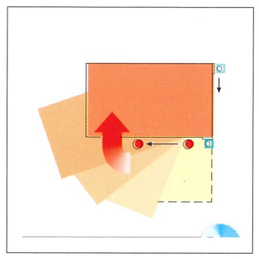
System to rotate the stack of boards in order to execute head cuts with the rip machine. This rotation is achieved by the combined action of a rotating gripper on the pusher and a mobile aligning roller. After the head cut has been executed, the same device is used for rotating the stack again bringing it back in its original position, ready for the rip cut. The system allows stack rotation to take place in close proximity to the "0" point of the machine.

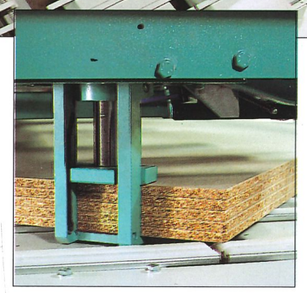
The picture shows the SIGMATIC SR system in right hand execution with HMW Pe support tables.



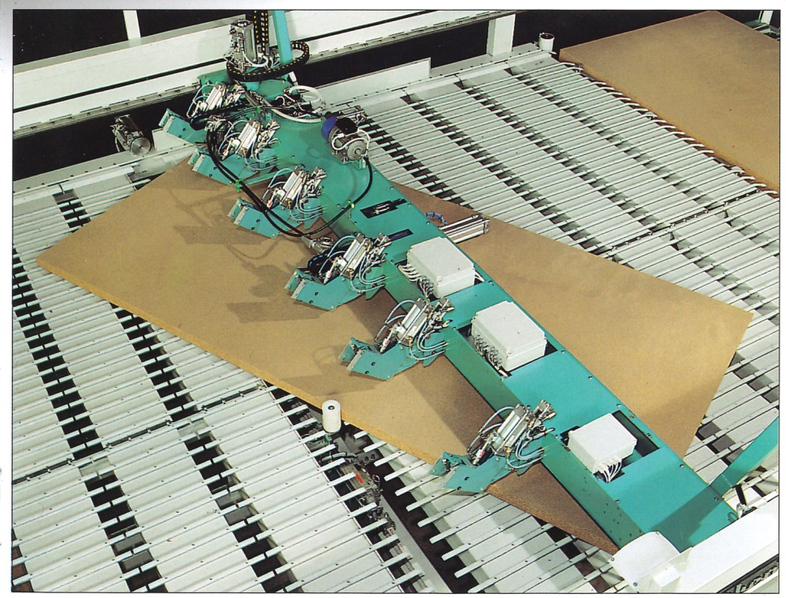


90° rotation of the main part of the stack to transfer it to the starting position ready for rip cutting.

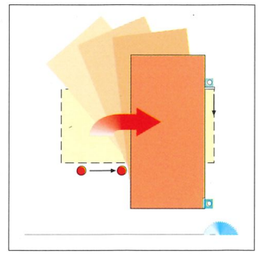


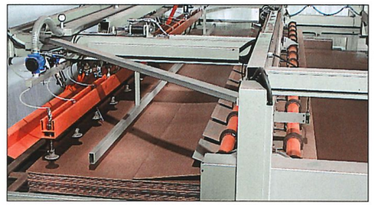


Rotating gripper for stack rotation.



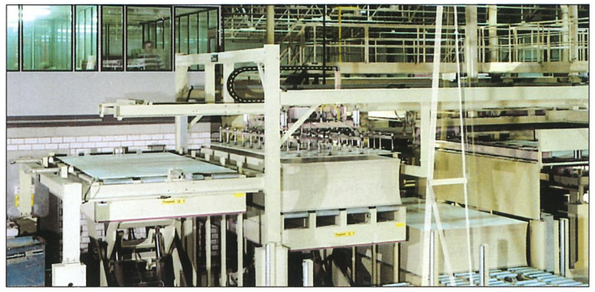
90° stack rotation for execution of one or more head cuts.





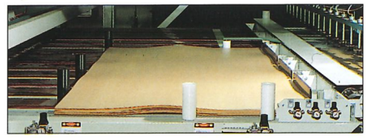
Rapid loading device with vacuum and nip rollers (optional).

Vacuum loading device for feeding boards from floor level (optional).

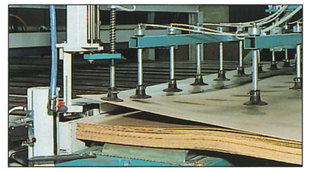


ADDITIONAL STATION (optional). The vacuum carriage can have an additional stroke to allow unloading of panels or loading of panels from two stations.

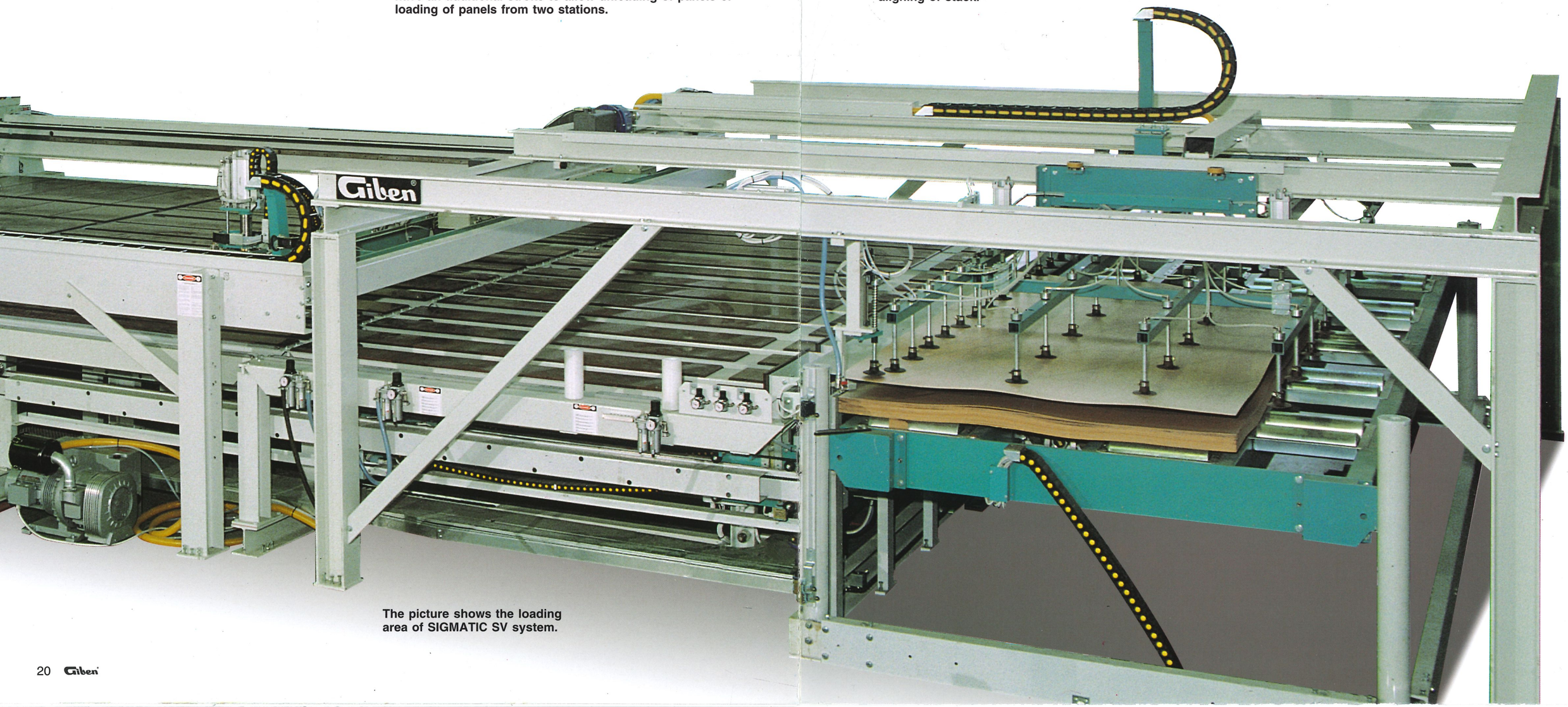
Vacuum loading device for automatic infeed of boards. This system is used mainly for loading boards with particularly delicate surfaces and also thin boards. The vacuum system is completely detached from the machine main frame avoiding any possible vibrations. The SIGMATIC SV version includes the infeed lift table, stack composition and aligning device and transfer unit to bring the stack to the pusher area.



Area for composition and aligning of stack.

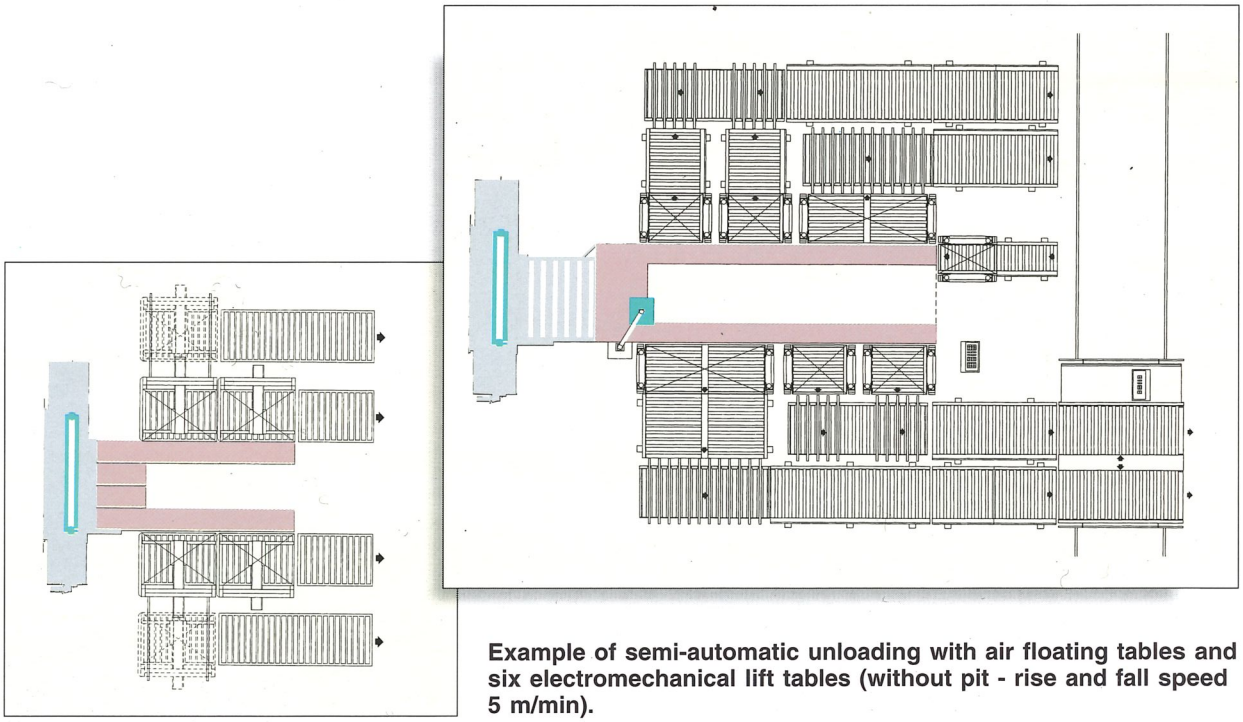


Auxiliary suction cup to ensure each panel is completely separated from the following one prior to loading.



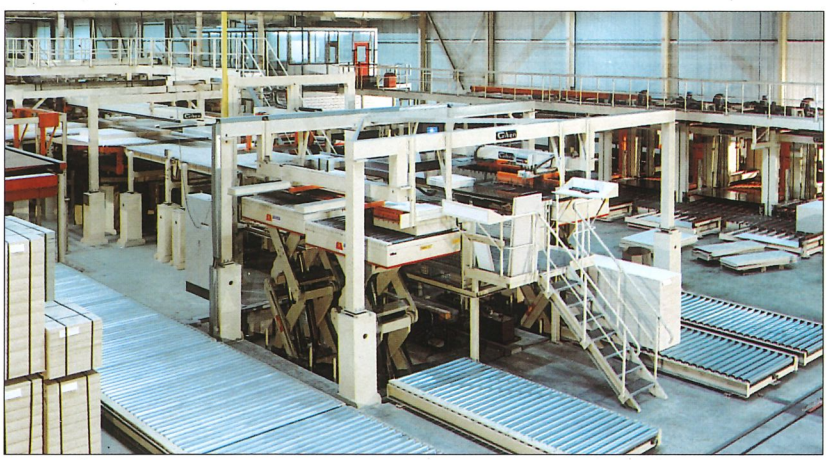
The picture shows the loading area of SIGMATIC SV system.

Sorting and unloading with manual pile recomposition of the parts. Various offloading systems and lay-outs are available with air flotation tables and lift tables which ease both transfer and offloading of the parts during sorting and pile recomposition.



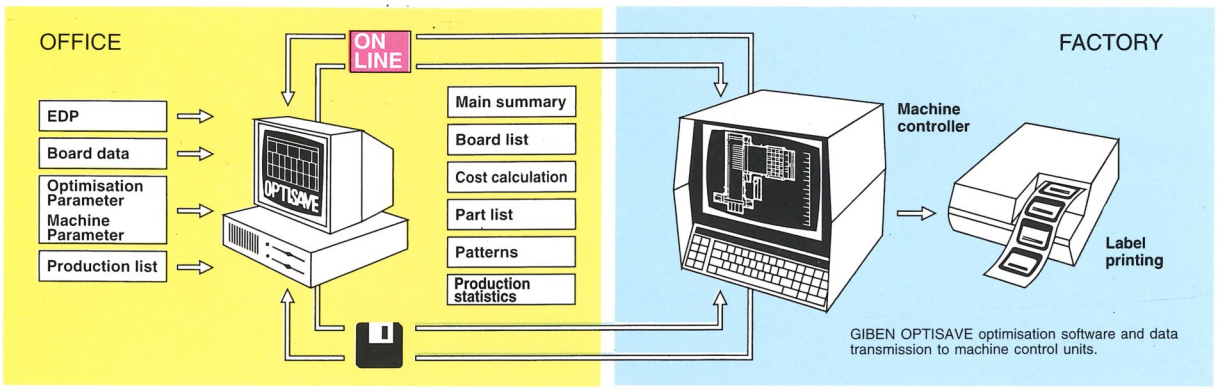
Example of semi-automatic unloading with air floating tables and six electromechanical lift tables (without pit - rise and fall speed 5 m/min).

Example of semi-automatic unloading with air floating tables and four hydraulic lift tables (two fixed and two movable).

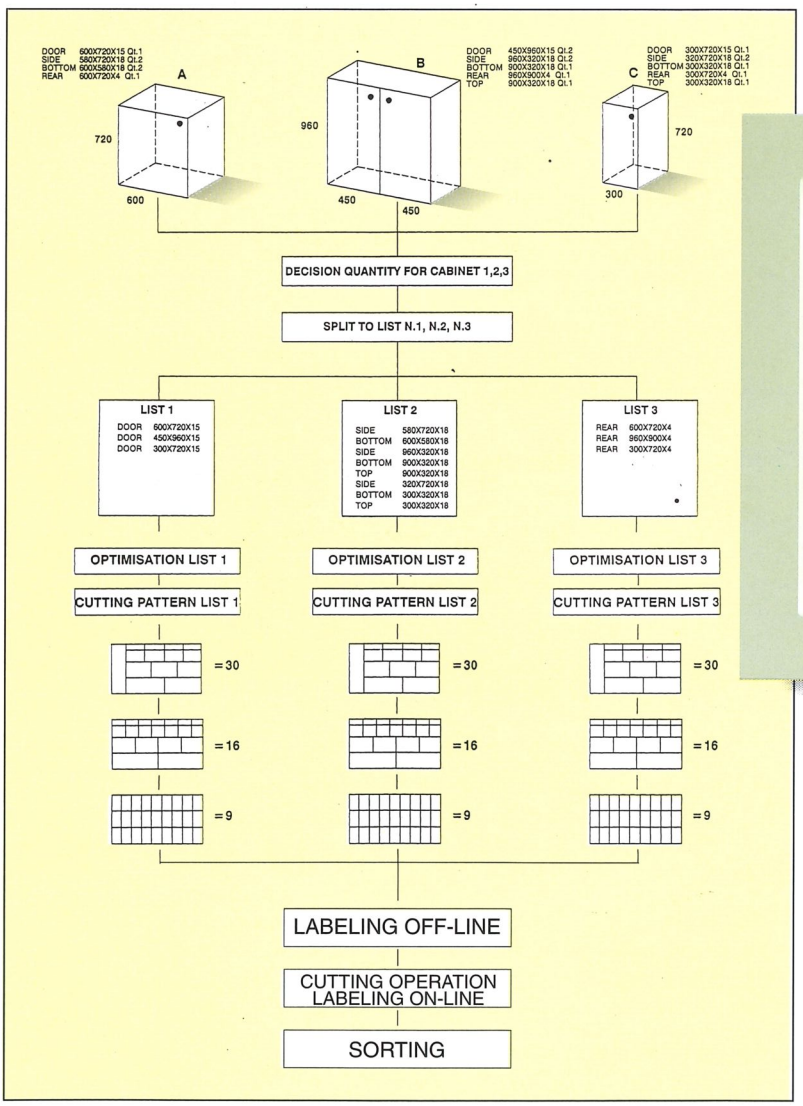


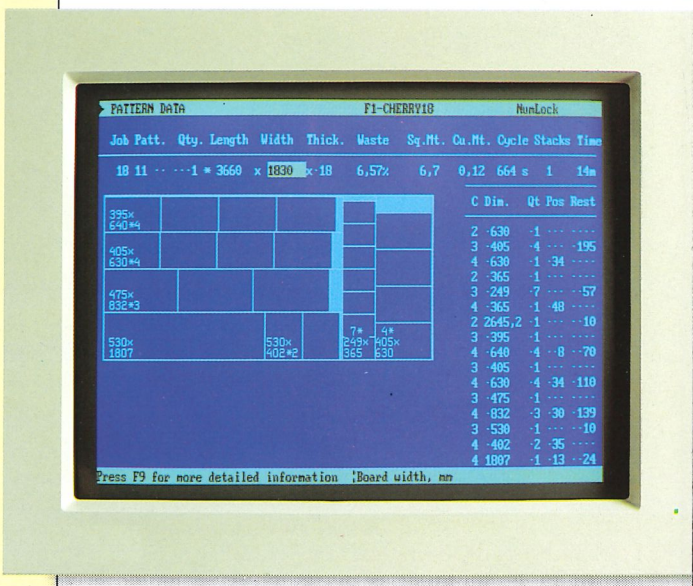
The picture shows a solution of sorting and unloading of the parts.

OPTISAVE, Giben's optimisation software, is a perfect example of Giben's implementation of advanced technology. Optisave provides the optimum cutting patterns, taking into consideration the waste factor, the cost of running the saw, cutting time and the cost of the material being cut. Window menu - on-line connection with the main computer and the machine controller - can be networked - batch processing - label printing in processing order with a bar code - control rest parts of stock records - re-use of rest parts for optimisation - "door" and "strip" optimisation - downloading management - cost calculation.



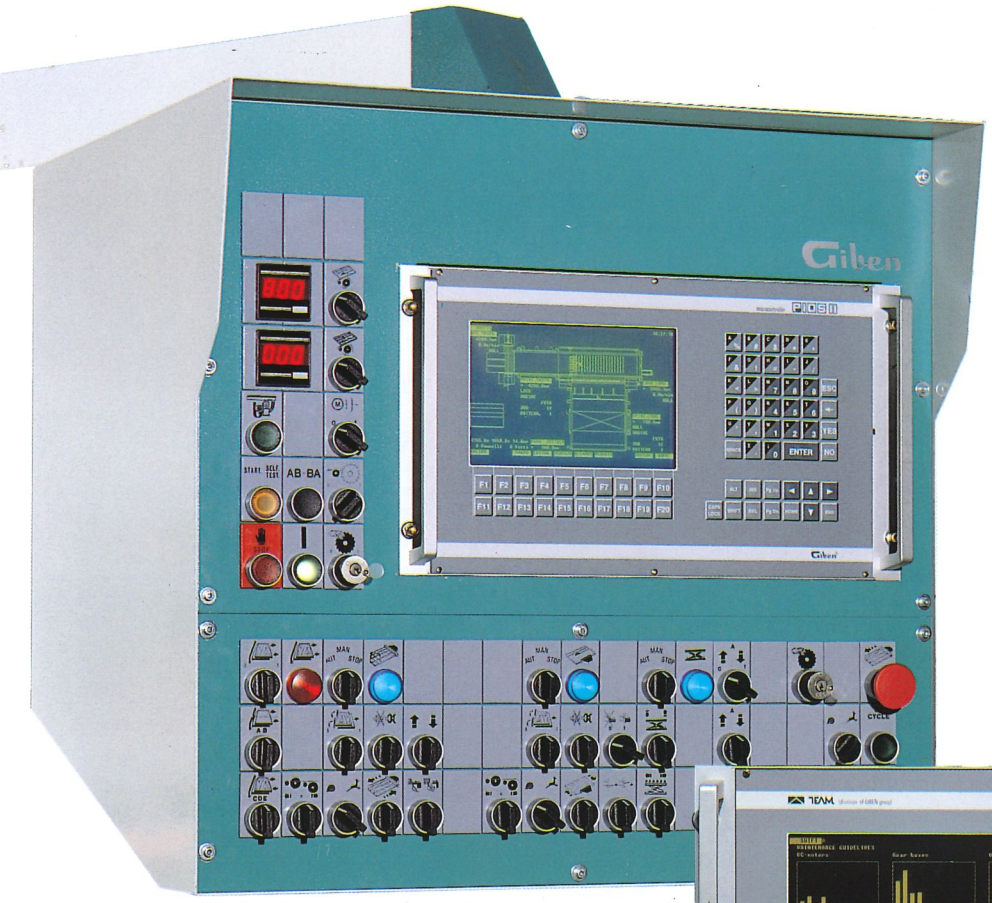
GIBEN OPTISAVE optimisation software and data transmission to machine control units.



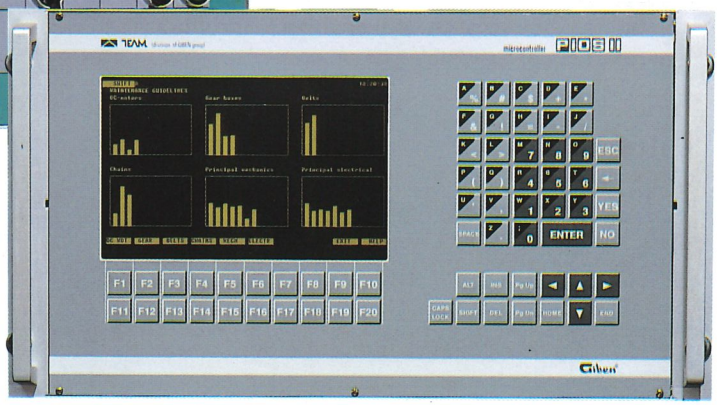


Optional on-line label printing.

PIOS II is a microprocessor for programming cutting patterns and operating system. Manual data entry is guided step by step by the microprocessor; graphic display of the cutting pattern to scale; sequenced execution of the cutting patterns; maximum automation; minimum cycle times; diagnostic; programme for preventive maintenance; automatic on line transmission of the cutting patterns (on request) using Giben's optimisation software, Optisave; highly reliable monochrome display.

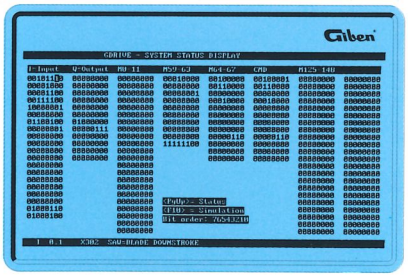


Easy access to the control panel. The control pad and the electronic programmer are positioned on a monitor on the left side of the machine. The monitor can rotate 180°.

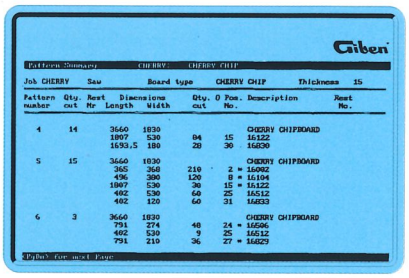


Detail of the video screen for "preventive maintenance" with histograms relevant to the various parts subject to maintenance.

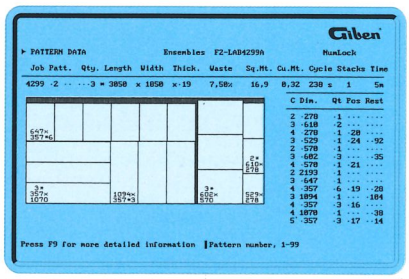
The G-DRIVE control works within a multitasking environment using an industrial standard PC for programming cutting patterns and for control of the machine. G-DRIVE's innovative feature is that the PC is used not just as the operator's interface (for programming and displaying cutting patterns, alarm signals, diagnostics, etc.), but also a direct control in real time of all the complex machine functions, leaving the PLC as a simple executional tool.
Maximum automation; easy to programme; minimum cycle times; diagnostics; simulation; can be networked; colour monitor. Automatic on line transmission of the cutting patterns (on request) using Giben's optimisation software, Optisave.



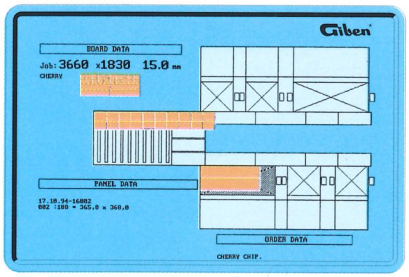
Run time diagnostic in clear text.



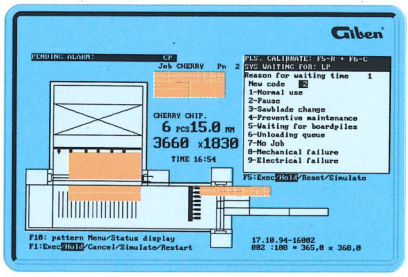
By-pattern summary of parts cut.



Pattern graphics shown on scale.



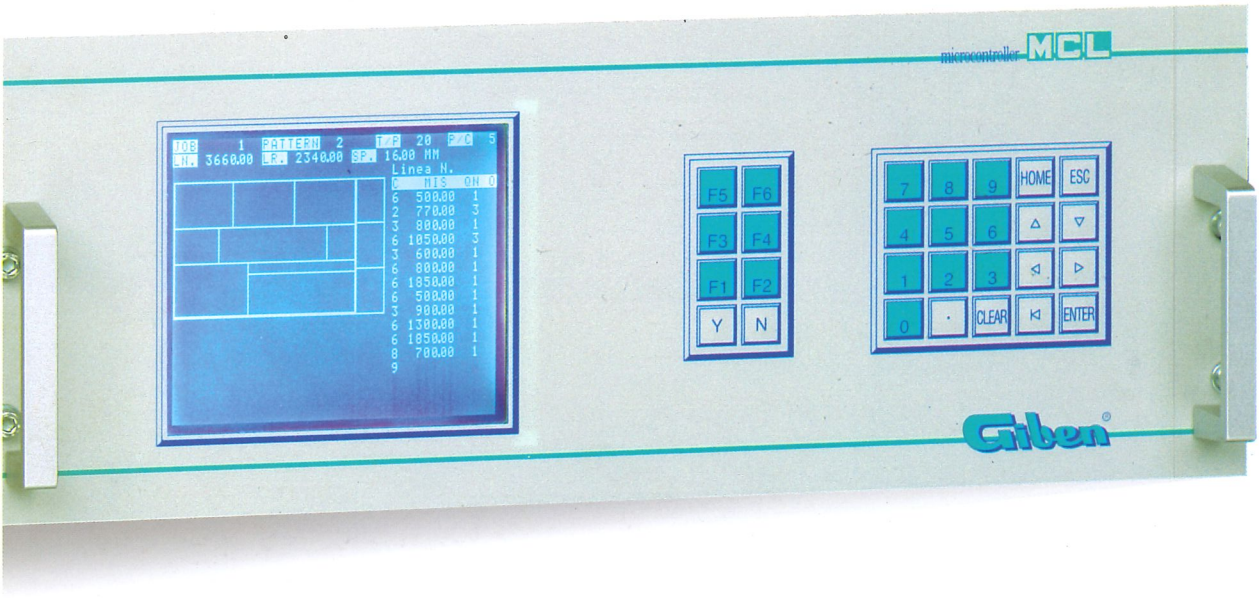
Real-time graphic showing sorting part and unloading.

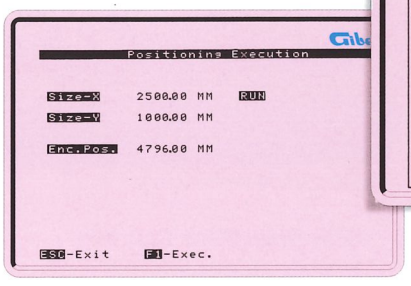


Real-time graphic of various operation phases.

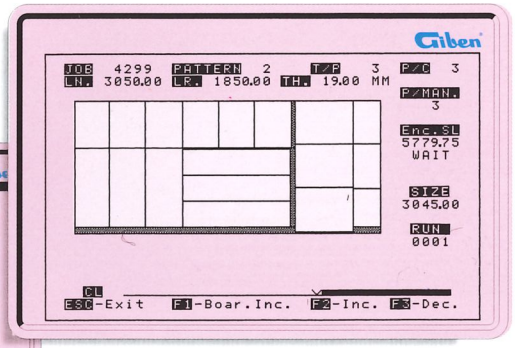
RTG (Real Time Graphic) display shows the machine layout and the cutting patterns to scale. The cutting operation is shown on the display in real time, giving the operator a step by step guide.

Microprocessor MCL for programming cutting patterns and for the overall control of the machine. Cutting pattern data input at the controller is made with the assistance of the pattern graphics. Simultaneous with the data input the cutting pattern is displayed on scale with material yield characteristics and automatic trim calculations. When in automatic step by step guidance of the execution is visualised on the screen.
Receipt of data from optimisation software such as Giben Optisave is an automatic feature of MCL.

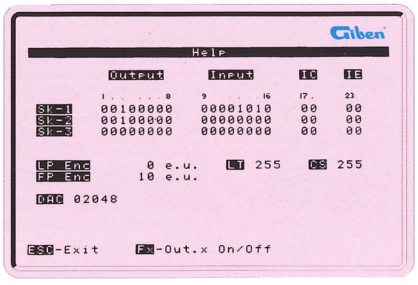




Execution of pusher positioning sequences.

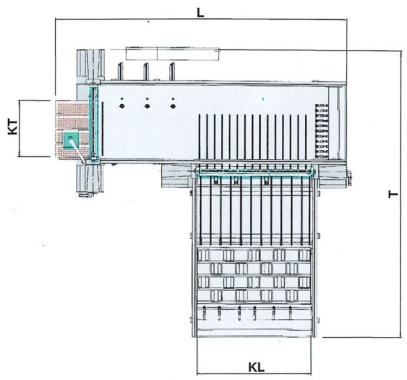


Pattern graphics shown on scale while in automatic mode.



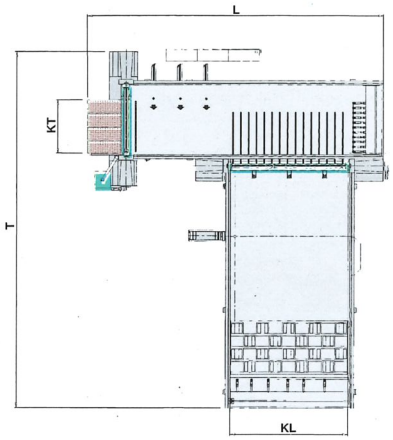
On-line service and diagnostic function.

SIGMATIC STD



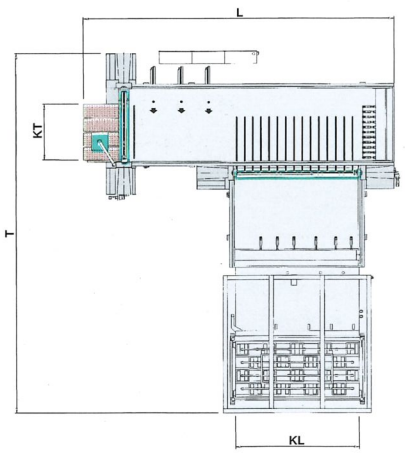
KL	KT	L	T
3800	1600	10705	9400
3800	2200	10705	11200
4500	1600	11405	9400
4500	2200	11405	11200
4500	2700	11405	12700
5700	2200	13105	11200
5700	2700	13105	12700

SIGMATIC SR



KL	KT	L	T
3800	1600	10705	13000
3800	2200	10705	14200
4500	1600	11405	13500
4500	2200	11405	14700
4500	2700	11405	15700
5700	2200	13105	15700
5700	2700	13105	16700

SIGMATIC SV



KL	KT	L	T
3800	1600	10705	12200
3800	2200	10705	14200
4500	1600	11405	12200
4500	2200	11405	14200
4500	2700	11405	16200
5700	2200	13105	14200
5700	2700	13105	16200

Technical specifications	**SIGMATIC 101**		**SIGMATIC 201**		**SIGMATIC 301**	
	Hz 50	Hz 60	Hz 50	Hz60	Hz 50	Hz60
Saw projection	100 mm	3,9"	115 mm	4,4"	132 mm	5,2"
Saw carriage ❑ feed speed ❑ return speed	 1÷100 m/min. 100 m/min.	 3÷328 ft/min. 328 ft/min.	 1÷130 m/min. 130 m/min.	 3÷427 ft/min. 427 ft/min.	 1÷130 m/min. 130 m/min.	 3÷427 ft/min. 427 ft/min.
Main saw ❑ motor	Ø 400 mm. 7,5 - (11) kW	Ø 15,7" 9 - (13,2) kW	Ø 430 mm. 11 - (13,2) kW	Ø 17" 13,2 - (16) kW	Ø 470 mm. 15 - (18) kW	Ø 18,5" 18 - (22) kW
Scoring saw ❑ motor	Ø 215 mm. 2,2 kW	Ø 8,4" 2,6 kW	Ø 215 mm. 2,2kW	Ø 8,4" 2,6 kW	Ø 215 mm. 2,2 kW	Ø 8,4" 2,6 kW
Pusher traverse ❑ fast feed (*) ❑ return (*)	 1÷55 m/min. 55 m/min.	 3÷181 ft/min. 181 ft/min.	 1÷55 m/min. 55 m/min.	 3÷181 ft/min. 181 ft/min.	 1÷55m/min. 55 m/min.	 3÷181 ft/min. 181 ft/min.
Dust extraction ❑ air speed ❑ dust extraction outlets	 30÷35 m/sec. Ø 200 mm Ø 115 mm	 98÷115 ft/sec. Ø 7,8" Ø 4,5"	 30÷35 m/sec. Ø 200 mm Ø 115 mm	 98÷115 ft/sec. Ø 7,8" Ø 4,5"	 30÷35 m/sec. Ø 200 mm Ø 115 mm	 98÷115 ft/sec. Ø 7,8" Ø 4,5"
Compressed air ❑ pressure ❑ consumption	 5÷6 bar 100÷120 l/min.	 5÷6 bar 100÷120 l/min.	 5÷6 bar 100÷120 l/min.	 5÷6 bar 100÷120 l/min.	 5÷6 bar 100÷120 l/min.	 5÷6 bar 100÷120 l/min.

(*) The feed speed of the pusher can be modified. The value stated above corresponds to a parametric data set during running tests. The data may vary country by country in relation to safety requirements.

MACHINES AND TECHNICAL DATA MAY VARY COUNTRY BY COUNTRY IN RELATION TO SAFETY REQUIREMENTS.

WE RESERVE THE RIGHT TO MAKE MODIFICATIONS WITHOUT PRIOR NOTICE PROVIDED THE OVERALL CAPACITY AND VALUE OF THE EQUIPMENT REMAIN UNCHANGED.

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