

GE NIUS LM SERIES

TABLES FOR LAMINATED
GLASS CUTTING

 **INTERMAC**

THE PERFECT COMBINATION OF QUALITY AND PRECISION



THE MARKET CALLS FOR

a change in production processes to meet the ever-growing request for personalised products to satisfy customers' specific needs. This is coupled with the need to maintain high quality standards whilst offering product customisation with quick and clearly-defined delivery times.

INTERMAC RESPONDS

with **technological solutions that enhance and support technical abilities and knowledge of processes and materials.** Genius LM is the range of cutting tables for laminated glass aimed at companies that wish to automate their laminated glass cutting processes, and which require superior ease of use and an intuitive approach to machining for all glass thicknesses. The Genius LM family is designed to facilitate the handling of glass sheets and of the machine crosspiece, significantly improving productivity. The perfect combination of quality, productivity and flexibility, with maximum efficiency guaranteed.

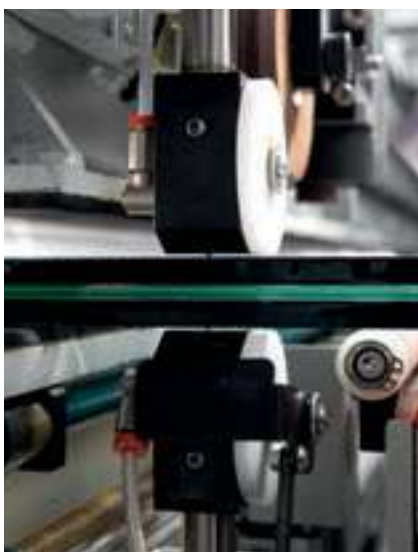


GENIUS LM SERIES

- ▀ SIMPLE, INTUITIVE TECHNOLOGY
- ▀ MAXIMUM PERFORMANCE THANKS TO SUPERIOR ERGONOMICS AND FACILITATED HANDLING WHEN CHANGING BETWEEN MACHINING OPERATIONS
- ▀ COMPACT WORKING DIMENSIONS ENHANCED BY THE VERTICAL BUFFER (PATENTED) FOR ROTATION OF CROSSPIECES
- ▀ EXCELLENT CUTTING PRECISION.

SIMPLE, INTUITIVE TECHNOLOGY

Genius LM guarantees the same technological solutions as the high-level systems used in the cutting lines of the largest industrial companies.

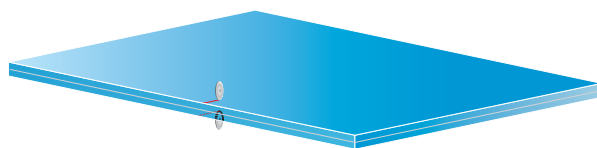


CUTTING

The Genius machines are equipped with a photocell to detect the beginning and end of the sheet, enabling free and angled cuts to be completed.

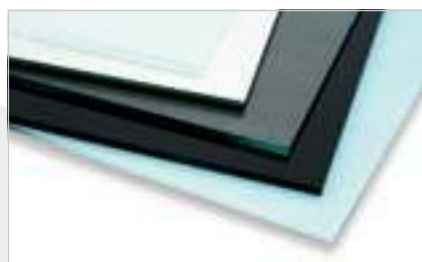
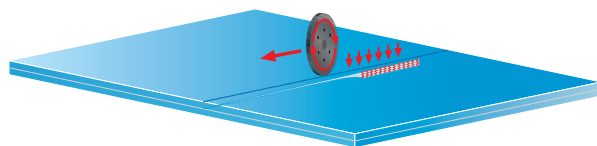
The cutting is carried out using very sensitive chucks mounted on carriages that are driven by brushless motors.

The cutting quality is guaranteed by the proportional electro-pneumatic control system that enables the power/speed ratio to be measured correctly.

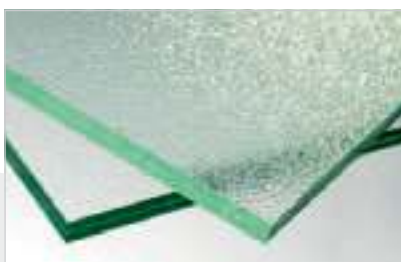


LOWER BREAKING OPERATIONS

Lower breaking operations are carried out using a pneumatically-driven wheel, which is fitted directly onto the upper cutting carriage.



Machinable float glass.



Printed C glass.



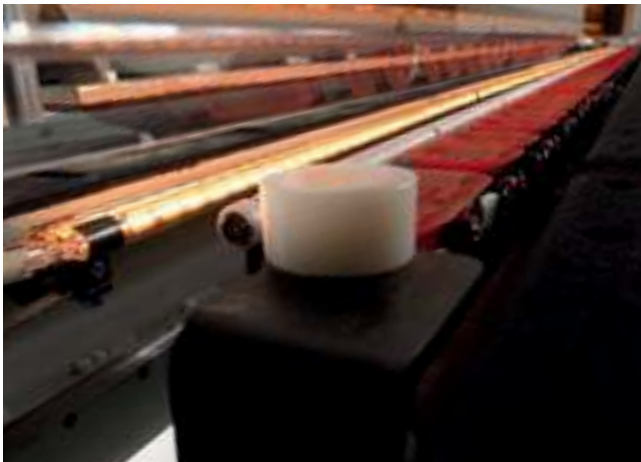
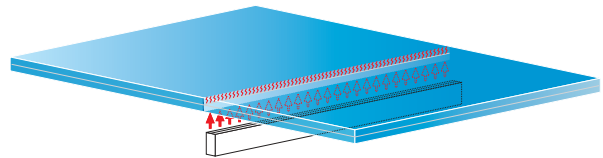
Laminated glass.

The rigid structure of the cutting bridge ensures superb results when machining glass of any thickness.



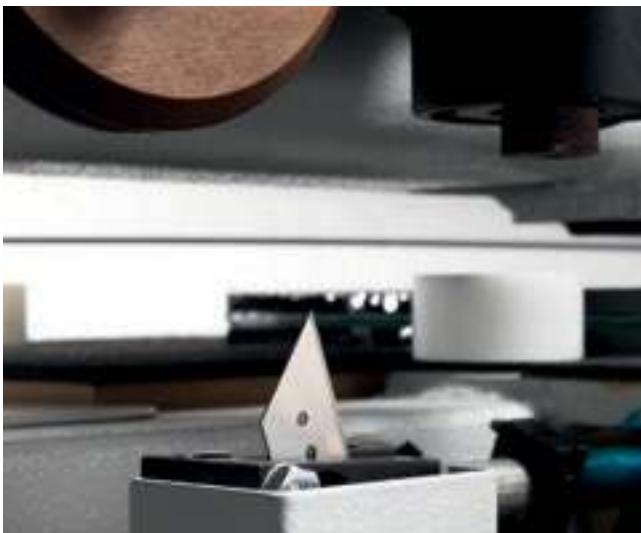
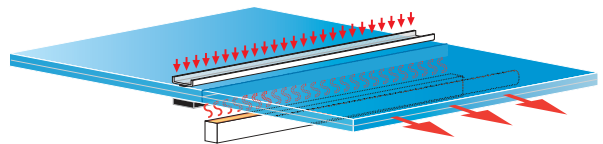
UPPER BREAKING

The two-position breaking bar, which can be programmed in accordance with the thickness of the glass, automatically shears the upper plate. On the surface of the bar there is a coloured line, to be used as a reference for angled cutting operations.



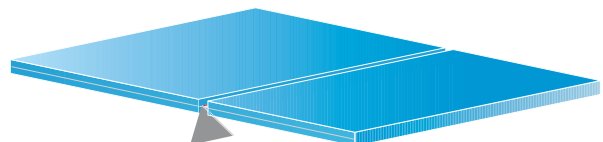
HEATING OF PLASTIC FILM

A short wave lamp warms the plastic film without overheating the glass. At the same time, the upper cutting bridge ensures that a portion of the sheet is held in place by pressing down on it, and a suction cup bar, which is pressed against the underside of the glass, enables the separation of the finished volume.



BLADE FOR CUTTING PVB

The blade mounted on the lower cutting carriage is particularly suitable for cutting PVB (> 0.76 mm), ensuring a high-quality finish on the edge.



ERGONOMICS AND FACILITATED HANDLING

The sliding adjustment bridge, positioned under the work table, renders the working area fully accessible, facilitating handling when switching machining operations.

ERGONOMICS

The machine is fully open at the front, enabling the operator to follow all phases of the cycle in real time. The cutting, breaking, removal and diagonal positioning operations are fully visible, enabling each stage to be checked. The unloading of the finished volumes and waste is free from obstructions, and takes place directly in the operating zone, with no need to move.



TILTING ARMS

The machines are equipped with electro-pneumatic tilting arms for loading and unloading the sheets. Maximum sheet capacity 3710x2600 mm with a thickness of 1010.4.



HIGH PERFORMANCE



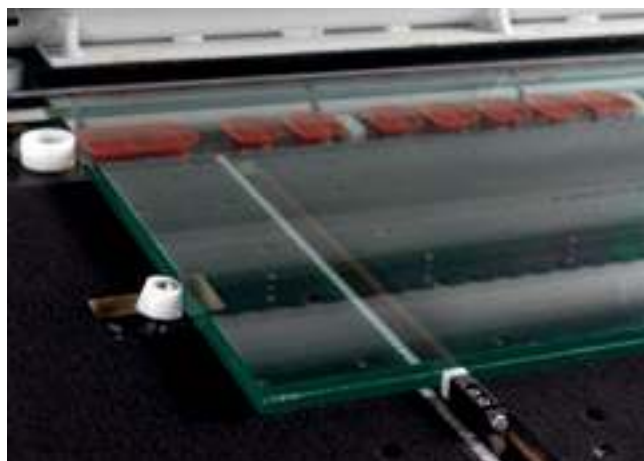
GCR (GRINDER COATING REMOVAL) DEVICE

for removing the low emissivity film with a 20 mm diameter cup grinder. Constant removal quality, thanks to automatic grinding wheel wear compensation.



LASER FOR INCLINED CUTS

laser tracking system for diagonal cutting of coloured glass and/or high opacity glass.



AUTOMATIC REGISTRATION OF MEASUREMENTS

retractable mobile stop system for guidance - the operator pushes the plate against the stops to obtain the correct cutting dimensions. The stops are mounted on an adjustment bridge that slides under the table, leaving the work surface completely free from obstacles.



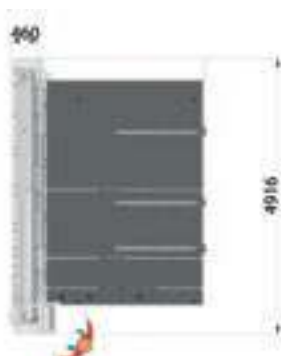
BELT UNIT 'AT ENTRANCE TO CUTTING MODULE

Thanks to the support of the belt assembly at the entrance of the cutting module, the operator remains in the zone for commanding operations/ unloading the finished volumes at all times, enabling high levels of productivity. The crossbar moves automatically until the last volume is reached.

A SOLUTION FOR EVERY NEED

Intermac can offer solutions for the various different types of manufacturing operations and requirements of customers.

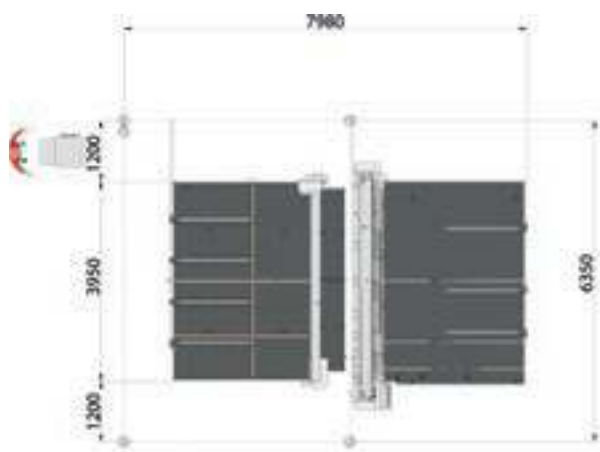
GENIUS 37 LM



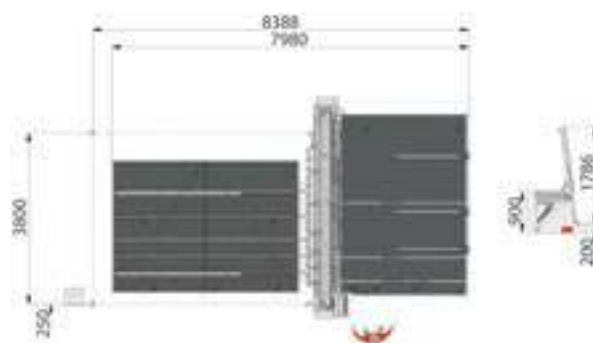
GENIUS 37 LM - GENIUS RC



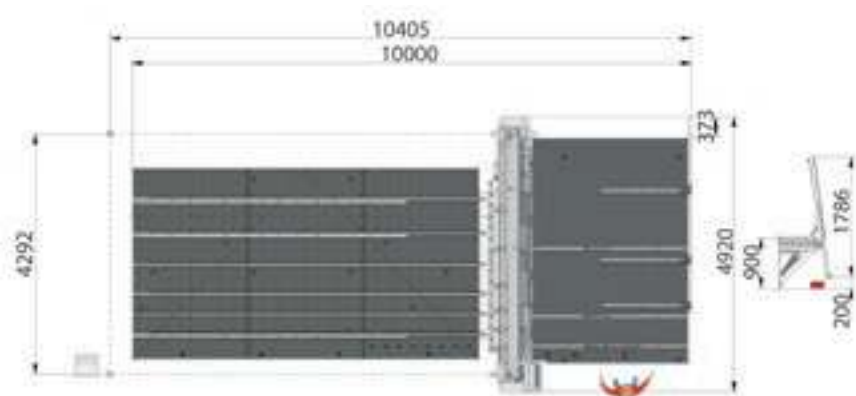
GENIUS 37 LM - GENIUS RS



GENIUS 37LM - C37



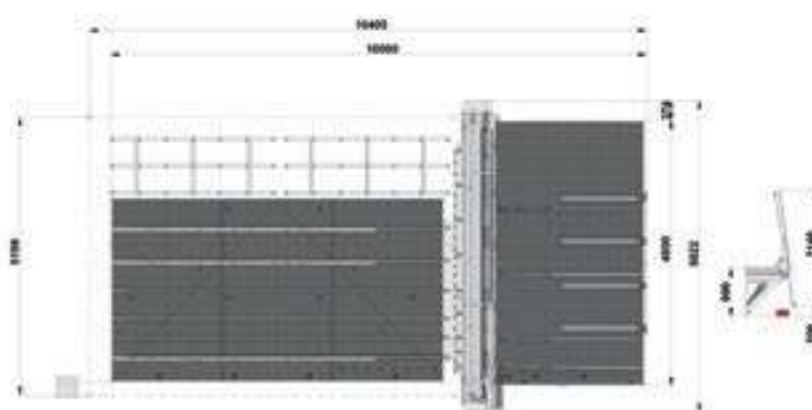
GENIUS 37LM - C61



GENIUS 46 LM

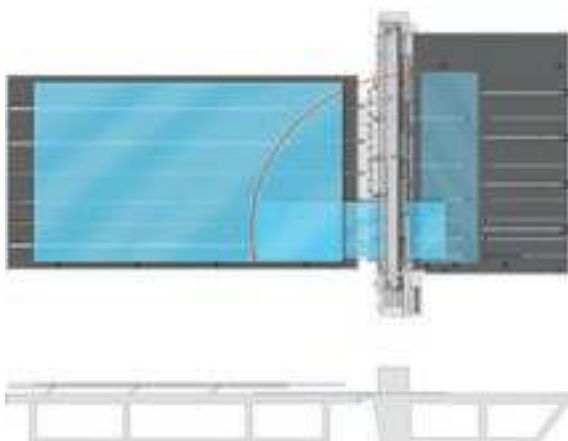


GENIUS 46 LM - C61



OPTIMISATION OF SPACE WITHOUT COMPROMISING ON PRODUCTIVITY

- Maximum process automation, enabling more than 400 square metres of laminated glass be produced during each shift, within a limited space.
- The movement of the glass is completely automated.
- Option of performing X static breaking of crosspieces on float glass for Comby lines. This function can be facilitated by the addition of the RB management table for managing the breaking process at the end of the line.

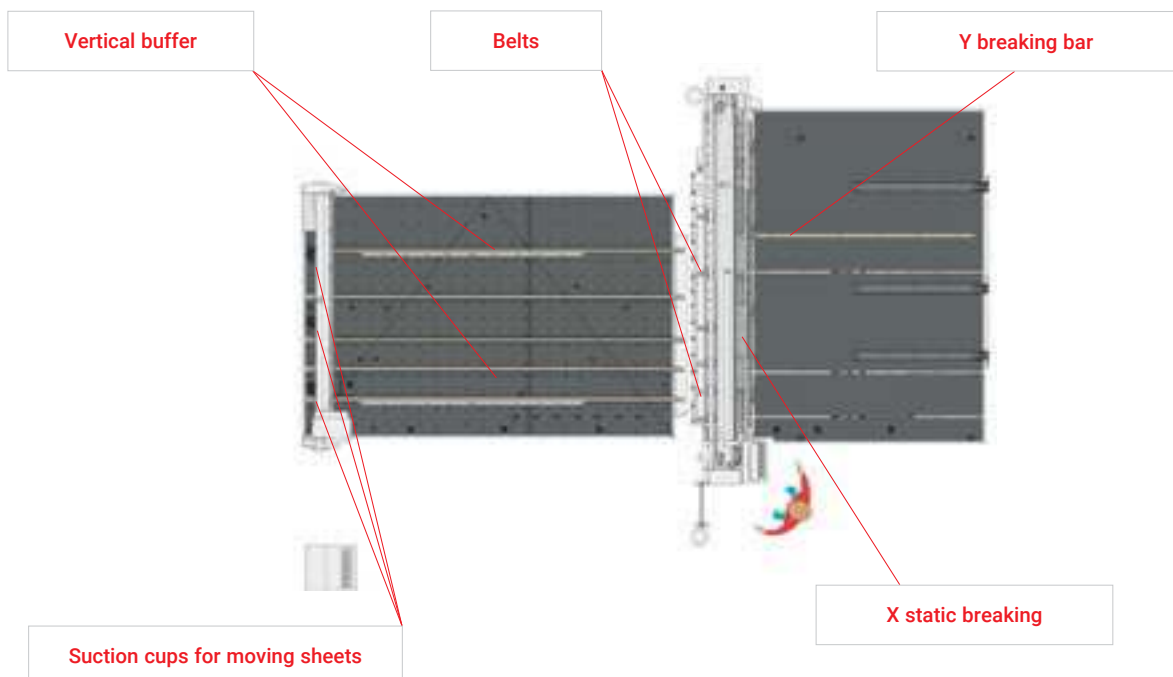


VERTICAL BUFFER

This patented Intermac solution serves to lift the sheet, enabling the crosspiece to be positioned underneath so that “Y” cuts can be performed. Significant reductions in overall dimensions when installed, without compromising productivity.

INTELLIGENT COMBINATIONS

The Comby lines represent the perfect combination of the two cutting tables, thanks to the addition of the belts on the table, the suction cups on the float cutting bridge, the vertical buffer, the belts on the LM cutting module and the breaking bar on the laminate table.



COMBY

INTERMAC TECHNOLOGY

20% reduction in the production area required, as well as a 70% increase in productivity compared to a normal combination.

Comby lines are combined lines that were introduced onto the market by Intermac for high productivity cutting operations, and are the result of a clever combination between the Genius CT-A and CT-Red cutting tables (for float glass cutting) and the Genius LM and LM-A tables (for laminated glass cutting): two automatic lines, one for float glass and one for laminate, for perfect integration even in smaller spaces.

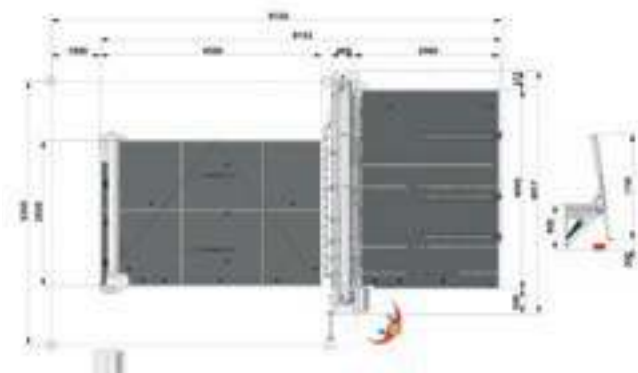


A SOLUTION FOR EVERY NEED

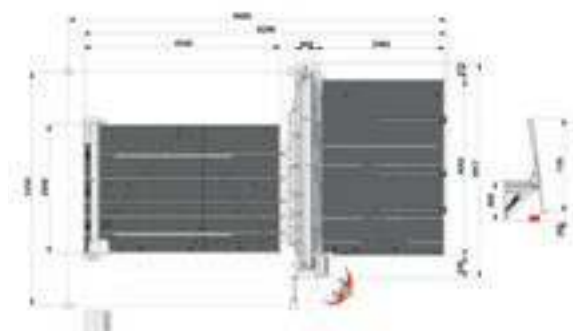
Intermac can offer custom solutions in accordance with the specific needs and production specifications of customers.

COMBY LINES

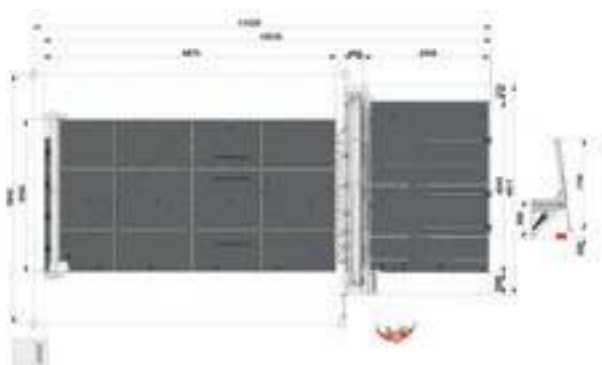
COMBY R-37
Stand-alone configuration



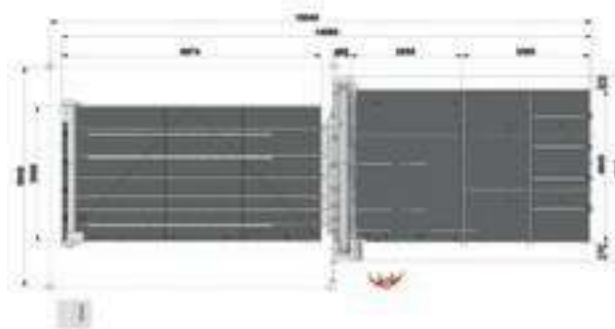
COMBY R-37
Configuration with belts



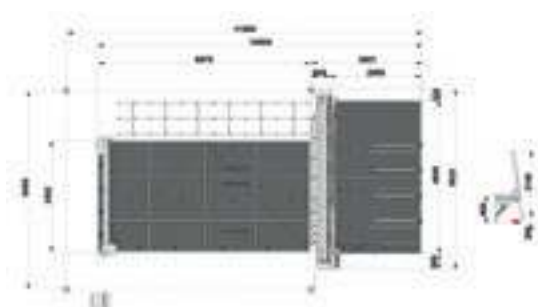
COMBY J-37
Stand-alone configuration



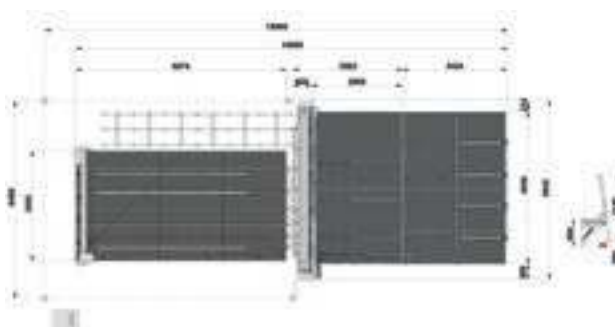
COMBY J-37
Configuration with belts for automatic line



COMBY J-46
Stand-alone configuration



COMBY J-46
Configuration with belts for automatic line



INDUSTRY 4.0 READY

Industry 4.0 is the latest industry frontier, based on digital technologies and machines that speak to the companies. The products can be interconnected with the production processes via smart networks.

Intermac's commitment is to transform our customers' factories with real-time technology, ready to guarantee digital manufacturing opportunities, with smart machines and software packages becoming vital tools that facilitate the daily tasks of people all over the world processing glass, stone, metal and more. Our philosophy is a practical one: to supply entrepreneurs with solid data that can help them to lower their costs, optimise their processes and improve their results.

And that means being 4.0 ready.

INDUSTRY 4.0 **READY**



MAXIMUM EASE OF USE

The operator interface is simple and intuitive, and enables cutting programmes generated by a range of the optimisers present on the market to be imported, courtesy of the integrated OTD (Optimiser Transferring Data) universal interface that automatically defines cutting parameters and generates the programme for the cutting table.

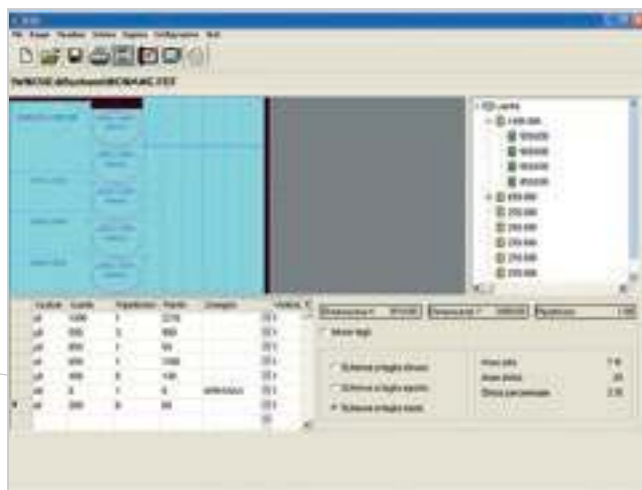


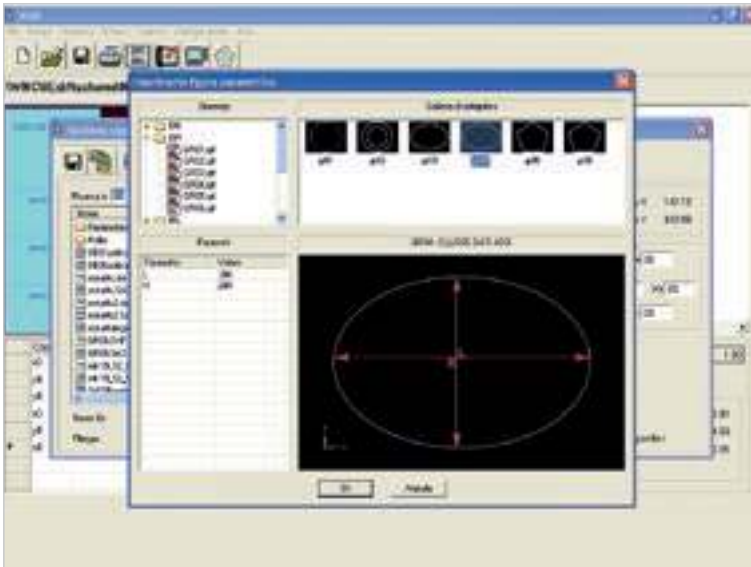
NUMERICAL CONTROL ON PC IWNC BASIS (IWNC - INTERMAC WINDOWS NUMERICAL CONTROL)

- ▀ Ideal both for those using CNC machines for the first time and those who already have programming experience.
- ▀ Management of the working parameters of the machine.
- ▀ Creation and modification of the cutting patterns and/or of geometric or non-geometric shapes.
- ▀ Modules for performing quick estimates and creating production reports.

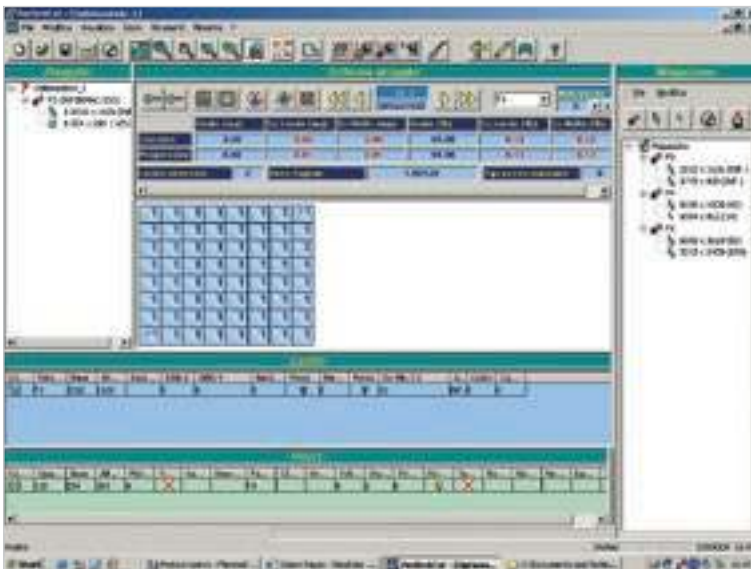


Cutting editor in the Windows environment, with a user-friendly graphic interface, for making straight cuts on sheets without employing the optimisation program. Particularly recommended for quick, immediate cuts, it can manage an endless number of nesting levels and also offers a function for inserting shapes in the glass sheets before cutting.

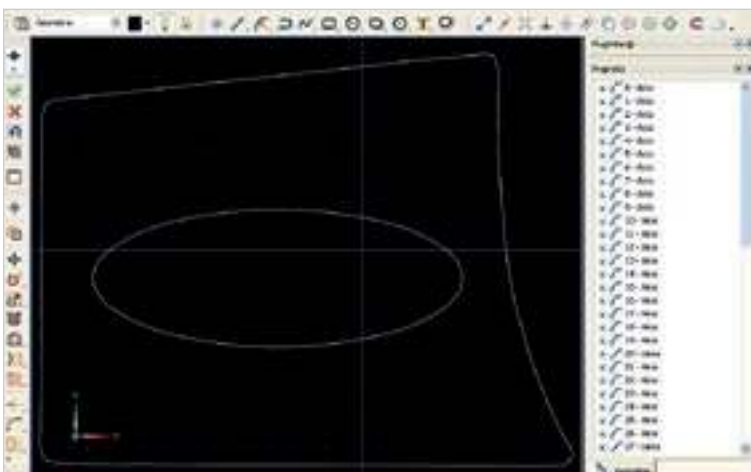




Parametric library on the machine, containing parametric shapes ready for the optimised cut and working directly on the machine.



Optimiser for straight and shaped cuts. Ideal for shaped cuts and open cuts, this software allows even the most complex production to be optimised to ensure minimum wastage.



Multi-tasking programming software in the Windows environment, for designing shapes complete with parametric programming, automatic geometric profile regeneration functions using a FreeForm function and an automatic function for optimising and regenerating the geometries of artistic shapes in .dxf format (for cuts on vinyl).

SERV ICE & PARTS



Direct, immediate coordination of service requests between Service and Parts. Support for key customers from specific Intermac personnel, in-house and/or at the customer's site.

INTERMAC SERVICE

- ▣ Machine and line installation and start-up.
- ▣ Training centre for Intermac field technicians and subsidiary/dealer personnel; customer training directly at the customer's site.
- ▣ Overhaul, upgrade, repairs and maintenance.
- ▣ Remote diagnostics and troubleshooting.
- ▣ Software upgrade.

85

Intermac field technicians in Italy and worldwide.

20

Intermac technicians working in Teleservice Centre.

35

certified dealer technicians.

50

training courses in a variety of languages every year.



SERVICE TEAM

The Biesse Group promotes, cares and develops direct and constructive relationships with the customers to meet their needs, improve after-sales products and services through two dedicated areas: Intermac Service and Intermac Parts. With its global network and highly specialised team, the company offers on-site and on-line assistance and spare parts for machines and components anywhere in the world, 24/7.

INTERMAC PARTS

- ▀ Original Intermac spare parts and spare parts kits customised to suit the machine model.
- ▀ Spare part identification support.
- ▀ Offices of DHL, UPS and GLS couriers located within the Intermac spare parts warehouse, with multiple daily pick-ups.
- ▀ Optimised order dispatch time, thanks to a global distribution network with de-localised, automated warehouses.

95%
of machine downtime orders dispatched within 24 hours.

95%
of orders dispatched on time.

30
spare parts staff in Italy and worldwide.

150
orders processed every day.

TECHNICAL SPECIFICATIONS

		GENIUS 37 LM	GENIUS 37 LM - C37	GENIUS 37 LM - C61
Maximum effective cut length	mm	3710		
Minimum squaring	mm	110		
Maximum squaring (opt. 3210)	mm	2750		
Laminate sheet thicknesses	mm	33.1 / 88.12		
Float glass sheet thicknesses	mm	3 - 10		
Minimum breaking	mm	60		
Minimum separation	mm	60		
Maximum loadable sheet size	mm	3710 x 2600 x 1010.4		
Maximum loadable crosspiece	mm	3710 x 2600 x 66.4 (300 kg)		
Max cutting speed	m/min	100		
Cutting accuracy	mm	+/- 0.5		
Rectilinear optimisation		optional		
Work table height	mm	900		
Single/dual lamp power requirements	kW	16.8 / 22.6	23.5 / 29.3	27.5 / 33.3

		GENIUS 46 LM	GENIUS 46 LM - C61
Maximum effective cut length	mm	4600	
Minimum squaring	mm	110	
Maximum squaring (opt. 3210)	mm	2750	
Laminate sheet thicknesses	mm	33.1 / 88.12	
Float glass sheet thicknesses	mm	3 - 10	
Minimum breaking	mm	60	
Minimum separation	mm	60	
Maximum loadable sheet size	mm	3710 x 2600 x 1010.4	6000 x 3300 x 1010.4
Maximum loadable crosspiece	mm	3710 x 2600 x 66.4 (300 kg)	
Max cutting speed	m/min	100	
Cutting accuracy	mm	+/- 0.5	
Rectilinear optimisation		optional	
Work table height	mm	900	
Power required	kW	19.3	30

COMPLETE RANGE OF SOLUTIONS FOR GLASS

TABLES FOR FLOAT GLASS CUTTING



Genius RS-A



Genius CT-A series



Genius CT-RED series

LAMINATED GLASS CUTTING BENCHES



Genius LM series



Genius LM-A series



Genius Comby Lines

MACHINES FOR CUTTING LAMINATED AND FLOAT GLASS

LINES FOR CUTTING FLOAT OR LAMINATED GLASS



Genius Lines & Systems

WATER JET CUTTING SYSTEMS



Primus 184



Primus series



Busetti F series



Busetti P series



Soluzioni su misura

MACHINES AND SYSTEMS FOR DOUBLE-EDGING GRINDING

MACHINING CENTRES



Master 23



Master 30



Master 33.3-38.3-45.3



Master 33.5-38.5-45.5-45.5Plus



Master 63-65



Master 95



Master 185

SPECIAL PROCESSING CENTRES AND AUTOMATIC CELLS

SPECIAL PROCESSING CENTRES AND AUTOMATIC CELLS



Master con cinghie



Celle di lavoro Master

PROCESSING CENTRES FOR GROOVING OPERATIONS



Master 34

VERTICAL CNC



Vertmax series



V-Loader

The technical specifications and drawings are non-binding. Some photos may show machines equipped with optional features. Biesse Spa reserves the right to carry out modifications without prior notice.

Weighted sound pressure level A (LpA) during machining at the operator's workstation on the vane-pump machine LpA=79dB(A) Lwa=96dB(A) Weighted sound-pressure level A (LpA) at the operator's workstation and sound power level (LwA) during machining on the cam-pump machine Lwa=83dB(A) Lwa=100dB(A) Measurement uncertainty K dB(A) 4.

The measurement was carried out in compliance with UNI EN 848-3:2007, UNI EN ISO 3746: 2009 (sound power) and UNI EN ISO 11202: 2009 (sound pressure levels at workstation) during panel machining. The noise levels shown are emission levels and do not necessarily correspond to safe operation levels. Despite the fact that there is a relationship between emission and exposure levels, this may not be used in a reliable manner to establish whether further measures need to be taken. The factors determining the exposure level for the workforce include length of exposure, work environment characteristics, other sources of dust and noise, etc. i.e. the number of other adjoining machines and processes. At any rate, the above information will enable the operator to better evaluate dangers and risks.

MADE WITH INTERMAC

GLASS ART AND CUTTING-EDGE TECHNOLOGY

"In Fiam's workshops, we have always tried to respond to designer ideas, even when they were apparently impossible to implement. Designers, like artists, have a creativity that stimulates cutting-edge innovation. So, over time, we have been able to develop new technologies that have allowed us to create unique objects on an industrial scale".

"Everything started with a stool. A glass stool, of course. A photographer friend came to see me in my glass workshop, saw me standing on the stool and took a picture that was published in some newspapers. That's when I thought: why

not try to make furniture with this material?

From the first, self-built oven to bend glass sheets through to the first collaborations with artists and designers, it's been an ongoing learning curve.

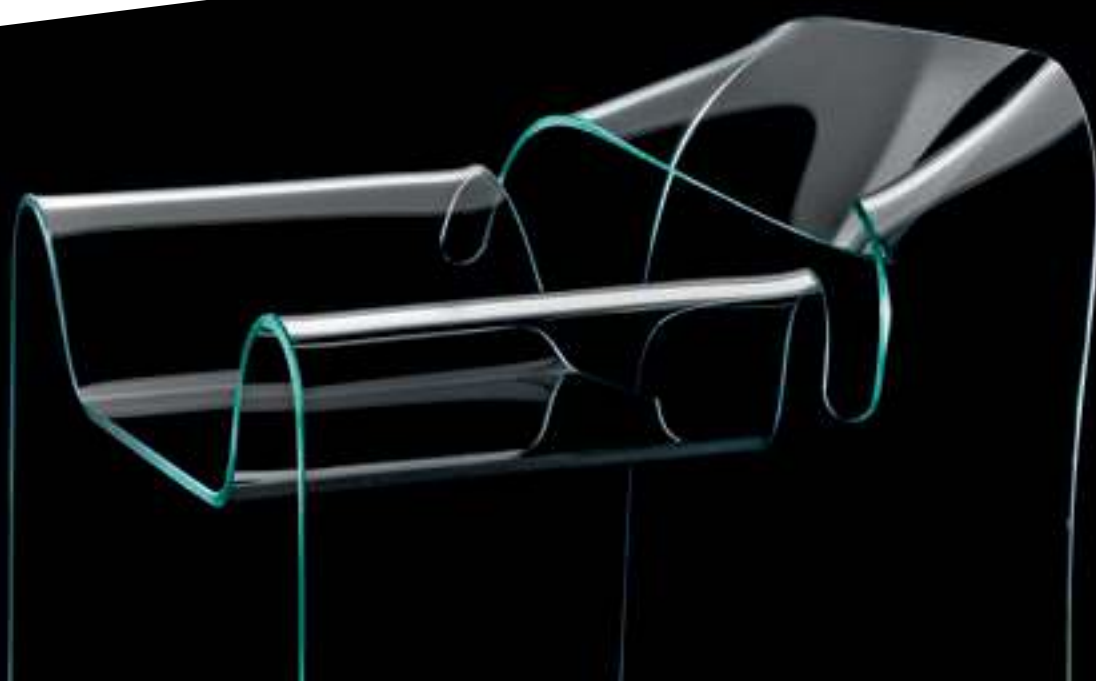
Along with design innovation, Fiam has always invested in technological innovation too. In this respect, the partnership with Intermac for the development of solutions such as double-edging grinding machines and the Master processing centres range is a strategic one.

Our company has always worked in

partnership with internationally-renowned Italian and foreign designers.

People like Massimo Morozzi, Rodolfo Dordoni, Giorgetto Giugiaro, Enzo Mari, Cini Boeri through to Vico Magistretti, Ron Arad, Makio Hasuike. Not forgetting Philippe Starck, Daniel Libeskind and Massimiliano Fuksas".

*Vittorio Livi,
founder and sole director
Fiam Italia, Italy*



THE GRO UP

IN

1 industrial group,
4 business sectors
and 9 manufacturing sites

HOW

14 mln €/year in R&D
and 200 patents filed

WHERE

37 branch offices
and 300 agents
and select partners

WITH

customers in 120 countries:
manufacturers of furniture, design
items and door/window frames,
producers of elements for the
building, nautical and aerospace
industries

WE

3800 employees worldwide



 **BIESSE**GROUP

 **BIESSE**

 **INTERMAC**

 **DIAMUT**

MECHATRONICS

