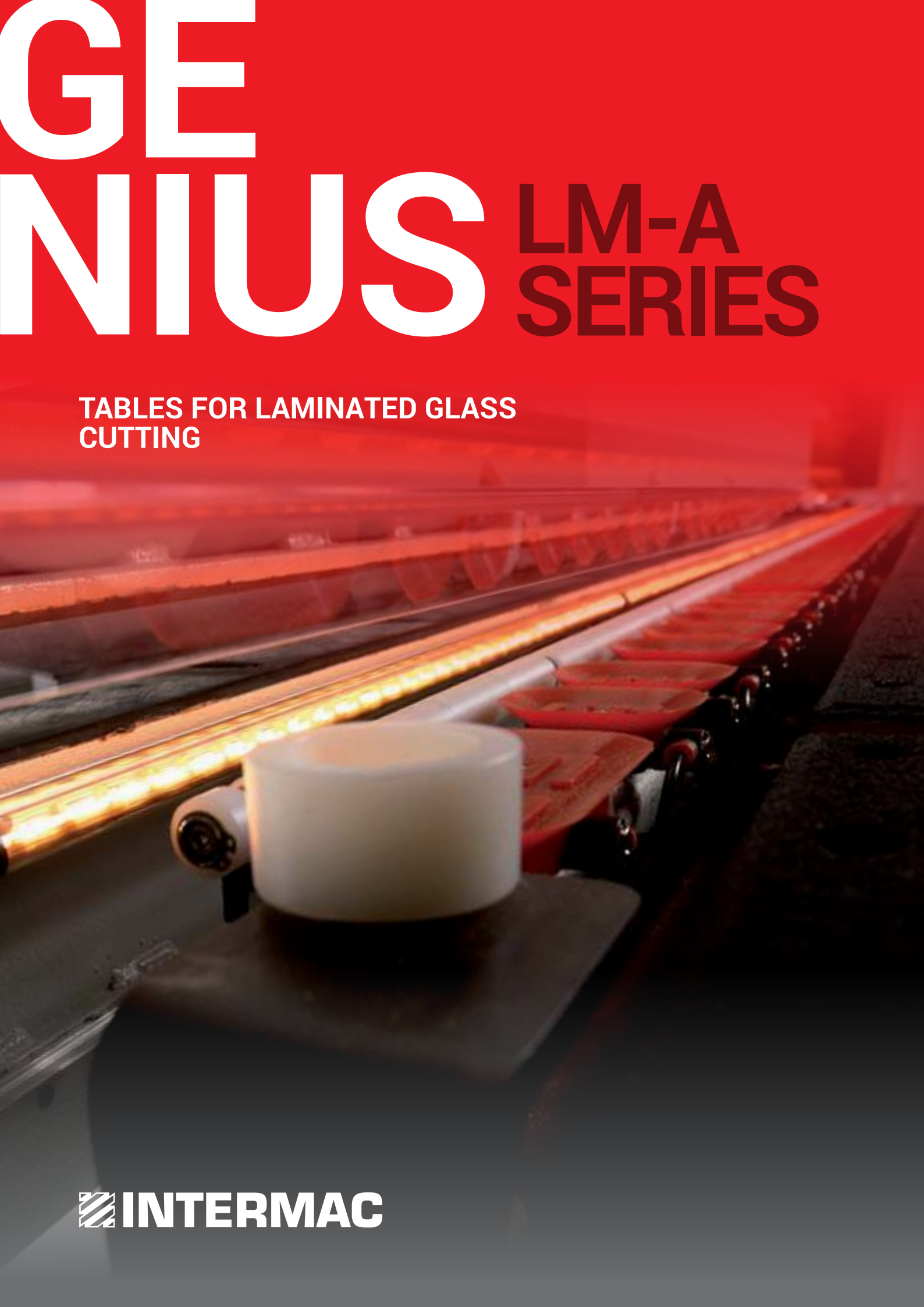
GE NIUS LM-A SERIES

TABLES FOR LAMINATED GLASS CUTTING



INTERMAC

MAXIMUM PRODUCTIVITY IN SMALLER SPACES



THE MARKET CALLS FOR INTERMAC RESPONDS

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

with manufacturing technologies that enhance and support technical abilities and knowledge of processes and materials. **Genius LM-A** is the range of laminated glass cutting tables for companies that need high levels of productivity, with requirements of more than 400 square metres per shift and the option of automating the entire cycle, from loading to unloading of the finished volume. Patented by Intermac, these extremely innovative solutions enable the insertion of a line for laminated glass in drastically reduced spaces, with no compromises with regard to productivity.

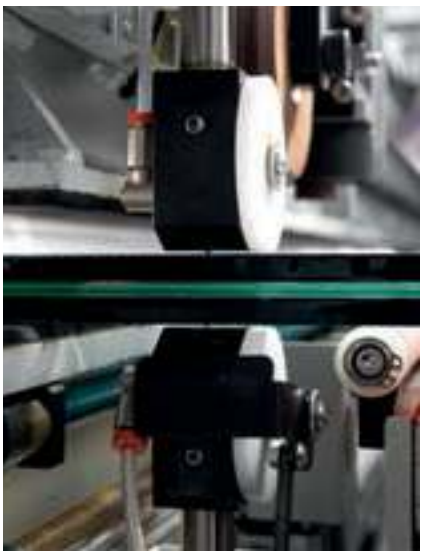


GENIUS LM-A SERIES

- MAXIMUM AUTOMATION OF PROCESSES FOR HIGH LEVELS OF PRODUCTIVITY IN LIMITED SPACE
- FULLY AUTOMATED GLASS HANDLING
- EASY TO LOAD AND UNLOAD FOR THE OPERATOR
- AUTOMATICALLY-CONTROLLED DIAGONAL CUTTING
- REDUCED CYCLE TIMES
- EXCELLENT CUTTING PRECISION

SIMPLE, INTUITIVE TECHNOLOGY

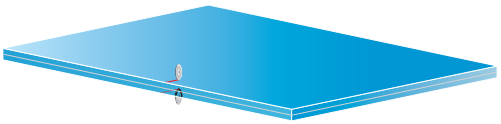
Genius LM-A guarantees the same technological solutions as the high-level systems used in the cutting lines of the largest industrial companies.



CUTTING

The Genius machines are equipped with a photocell to detect the beginning and end of the sheet, enabling free and inclined cuts to be completed.
The cutting is carried out using very sensitive chucks mounted on carriages that are driven by brushless motors.

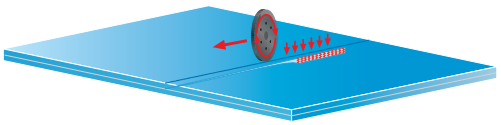
The cutting quality is guaranteed by the proportional electro-pneumatic control system that enables the power/speed ratio to be measured correctly.

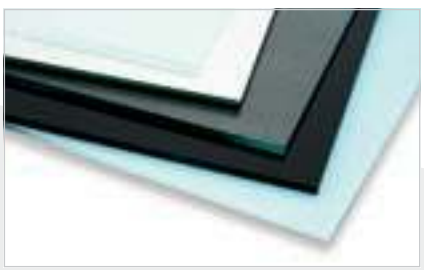




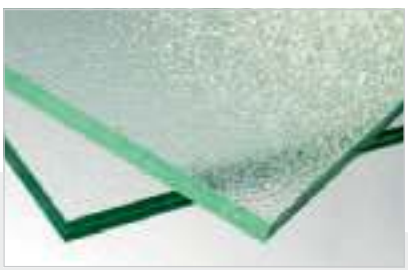
LOWER BREAKING OPERATIONS

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





Machinable float glass.

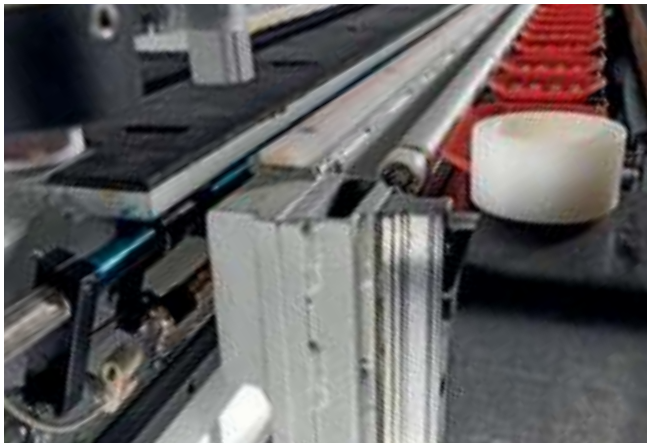


Printed C glass.



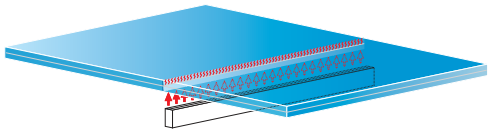
Laminated glass.

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



UPPER BREAKING GREATER THICKNESSES

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 inclined cutting operations.





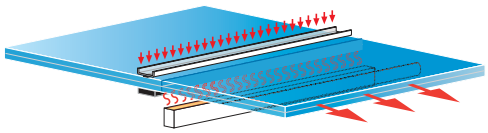
UPPER BREAKING

Reduction in cycle times courtesy of the innovative Intermac-patented system that enables operators to perform upper breaking operations during the heating phase of the PVB.



HEATING AND REMOVAL OF PLASTIC FILM

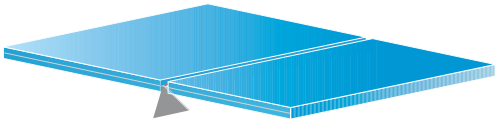
A short wave lamp warms the plastic film without overheating the glass. At the same time, the upper cutting bridge ensures that a portion of the sheet is held in place by pressing down on it, and a suction cup bar, which is pressed against the underside of the glass, enables the separation of the finished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



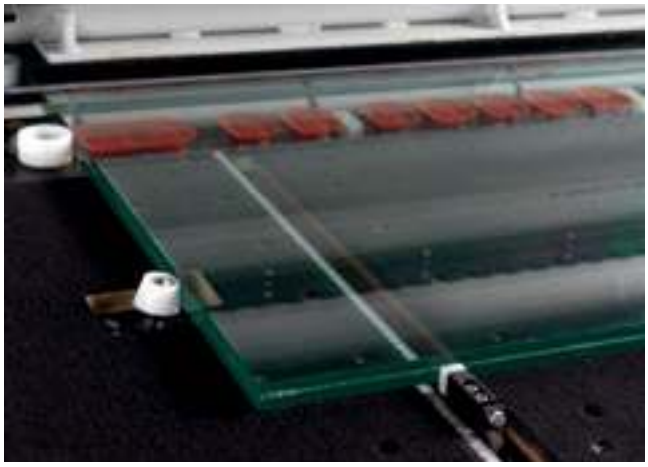


BLADE FOR CUTTING PVB

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.



HIGH PERFORMANCE



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.



LASER FOR INCLINED CUTS

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



BCR DEVICE (BRUSH COATING REMOVAL)

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



ZERO MM SQUARING

Ability to carry out Low-E removal on the edge of the sheet or crosspiece.
Increases the ability to generate different finished volumes.

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.

MAXIMUM FLEXIBILITY IN WASTE MANAGEMENT

Three levels of waste management automation are available.



Cutting + breaking + standard removal, 60 mm.



Cutting + automatic breaking + manual removal, 20 mm.



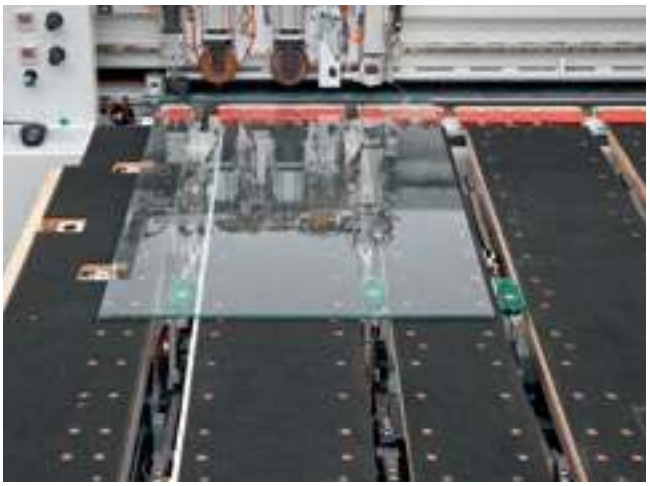


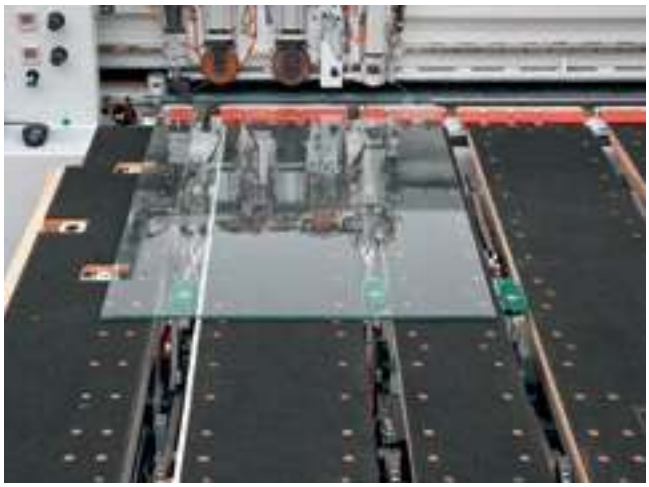
Cutting + breaking + automatic removal, 20 mm.

CUTTING, BREAKING AND REMOVAL OF SHAPED LAMINATED GLASS

A solution that allows for cutting, breaking and removal operations on shaped sheets to be carried out automatically on both sheets at the same time, in accordance with the desired level of optimisation. Enables shaped volumes of considerable size to be created, with maximum machine performance; even on arched windows measuring 6000 x 3000 mm.



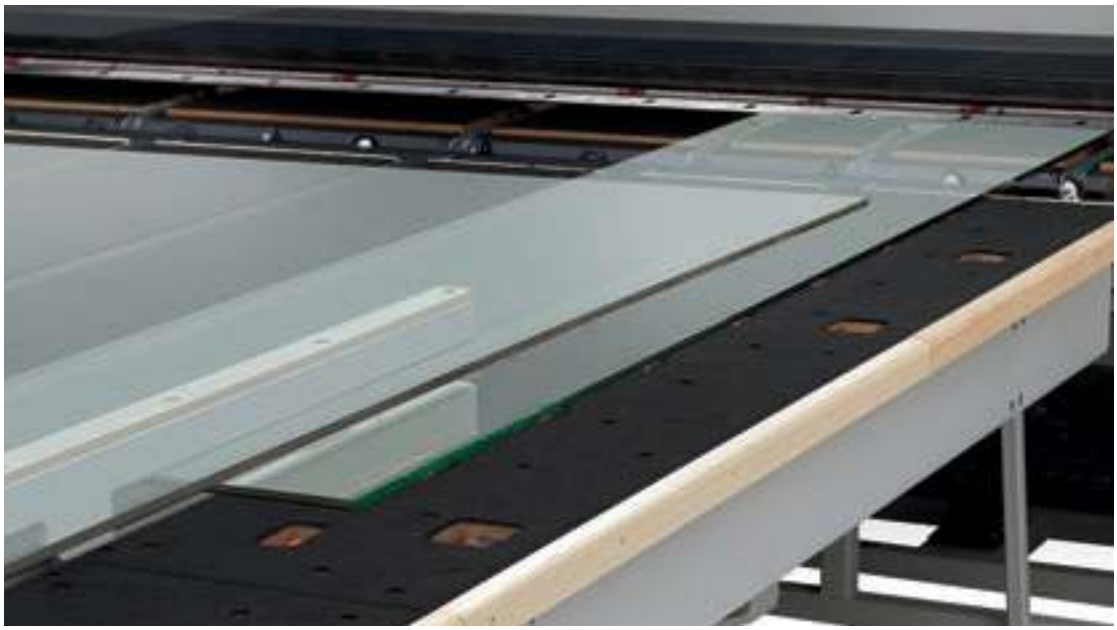


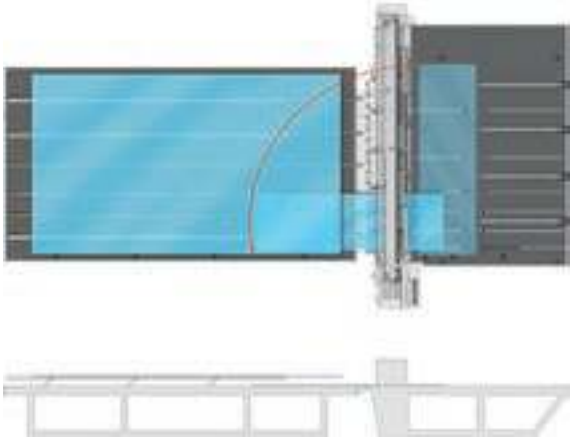




OPTIMISATION OF SPACE WITHOUT COMPROMISING ON PRODUCTIVITY

- 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.
- Automatically-controlled diagonal cutting.
- 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.

AUTOMATIC SOLUTIONS



CROSSPIECE ROTATION

Automatic rotation of the crosspiece to carry out Y and Z cuts. After rotation, the crossbar is already in position for the squaring operation, in line with the first cut in Y.



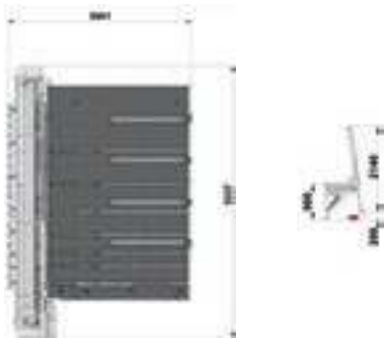
BELT ASSEMBLY AT ENTRANCE

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

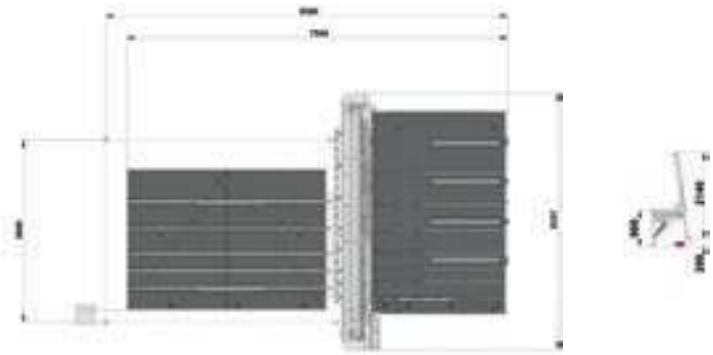
A SOLUTION FOR EVERY NEED

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

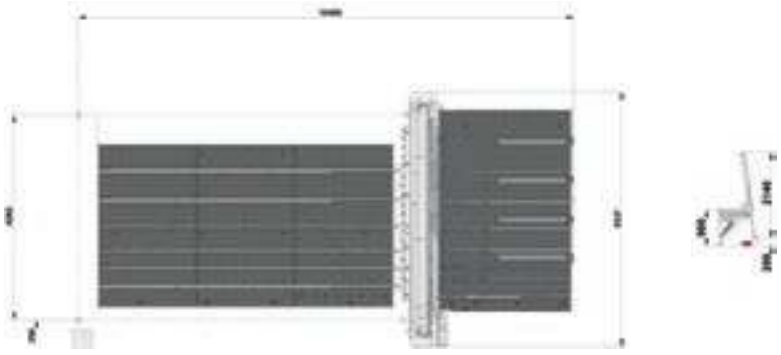
GENIUS 37 LM-A



GENIUS 37 LM-AC37



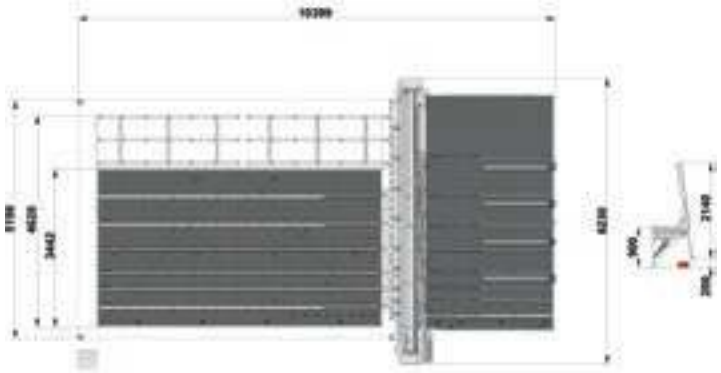
GENIUS 37 LM-AC61



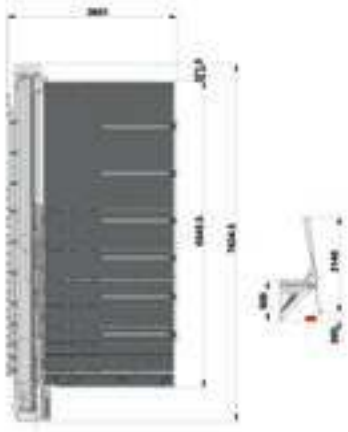
GENIUS 46 LM-A



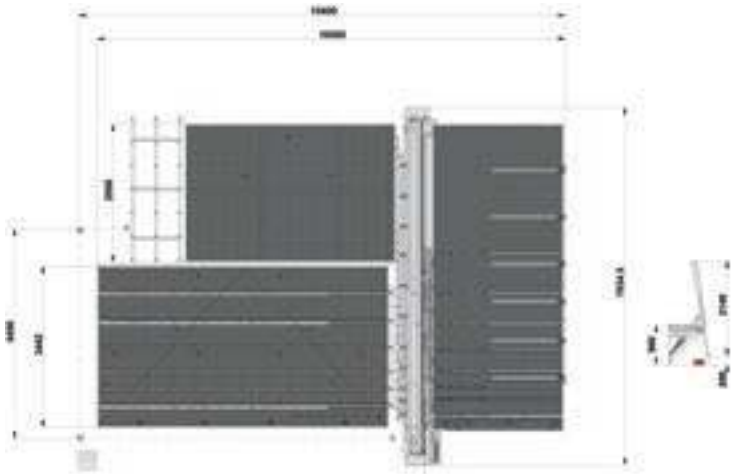
GENIUS 46 LM-AC61



GENIUS 60 LM-A



GENIUS 60 LM-AC61



COMBY

INTERMAC TECHNOLOGY

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

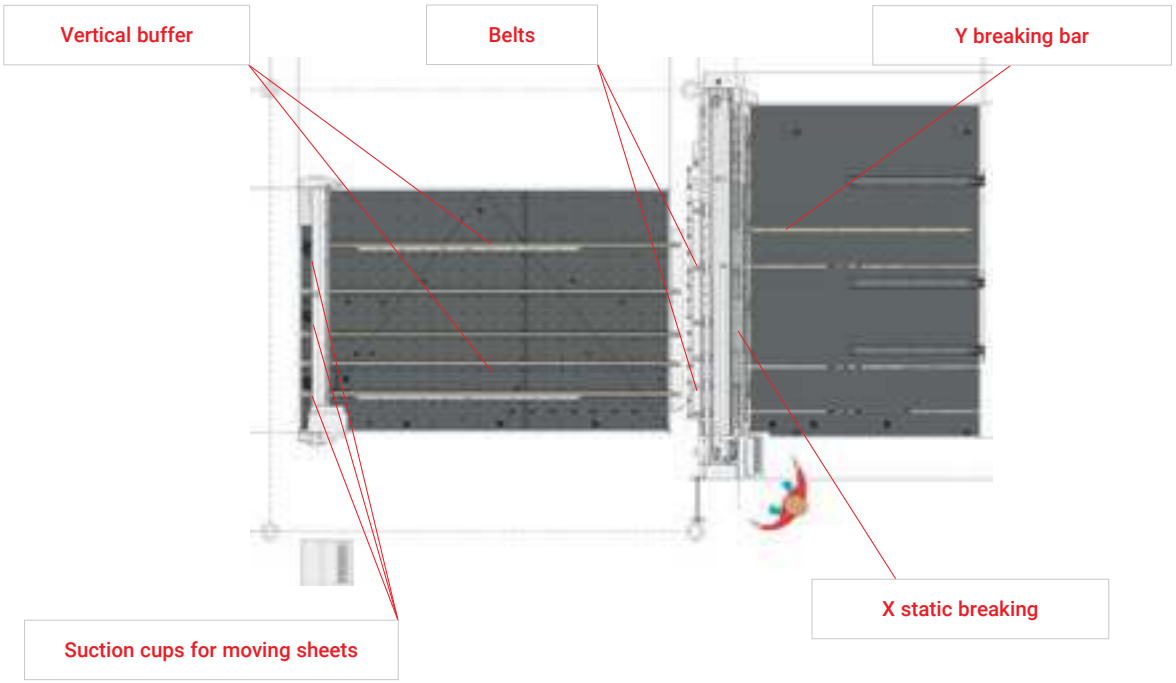
Comby lines are combined lines that were introduced onto the market by Intermac for high productivity cutting operations, and are the result of a clever combination of the Genius CT-A and CT-Red cutting tables (for float glass cutting) and the Genius LM and LM-A tables (for laminated glass cutting):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



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.



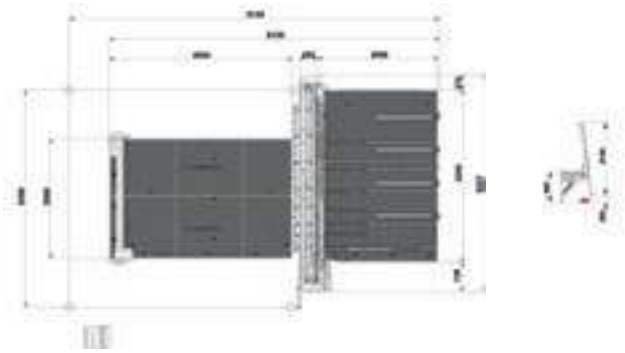

Vertical buffer
Belts
Y breaking bar
X static breaking
Suction cups for moving sheets



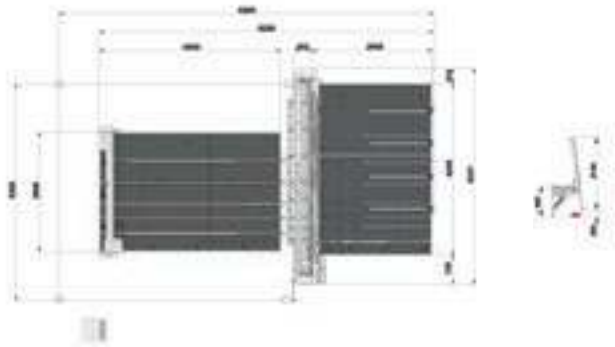
A SOLUTION FOR EVERY NEED

COMBY LINES

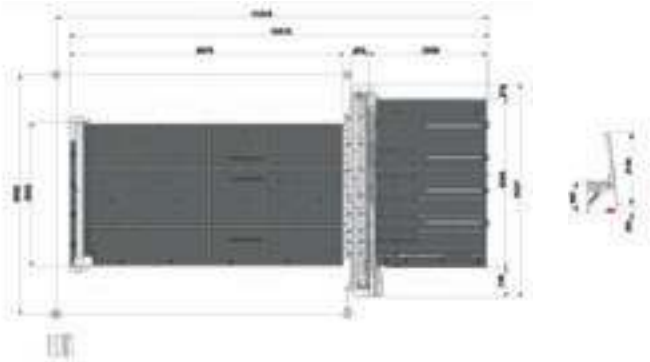
COMBY R-A37
Stand-alone configuration



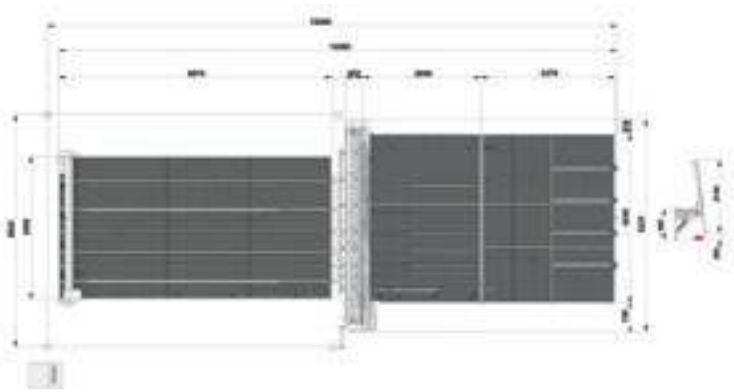
COMBY R-A37
Configuration with belts



COMBY J-A37
Stand-alone configuration

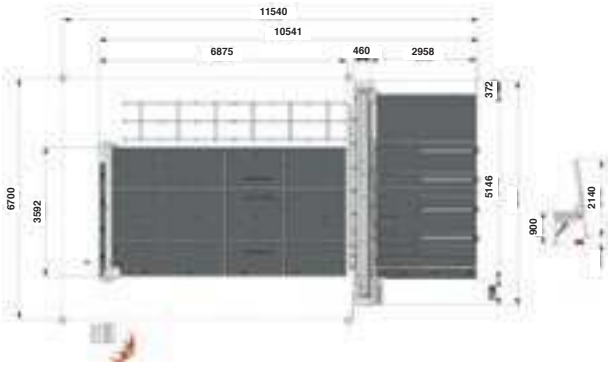


COMBY J-A37
Configuration with belts for automatic line

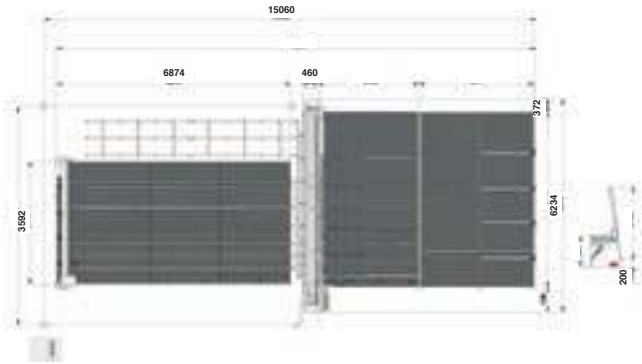


Intermac can offer custom solutions in accordance with the specific needs and production specifications of customers.

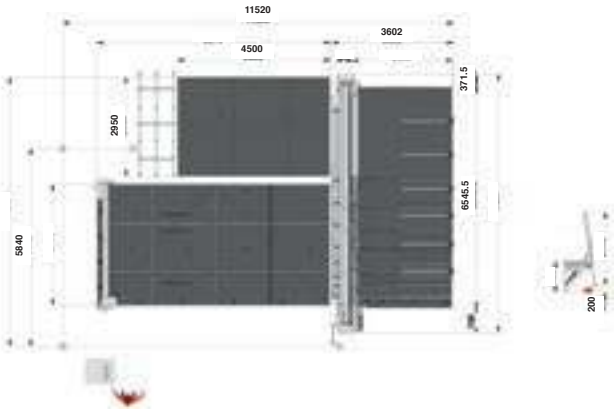
COMBY J-A46
Stand-alone configuration



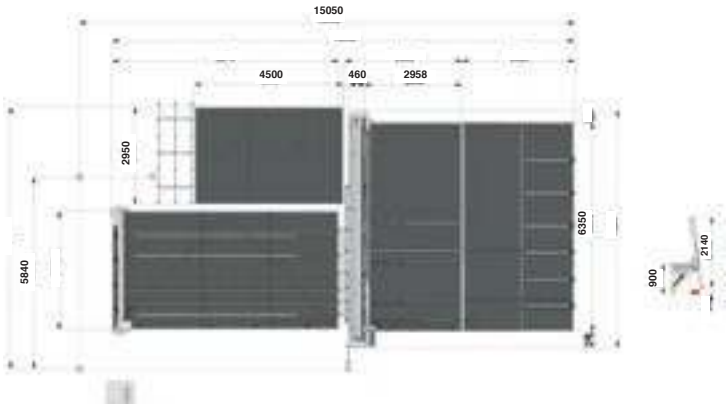
COMBY J-A46
Configuration with belts for automatic line



COMBY J-A60
Stand-alone configuration



COMBY J-A60
Configuration with belts for automatic line



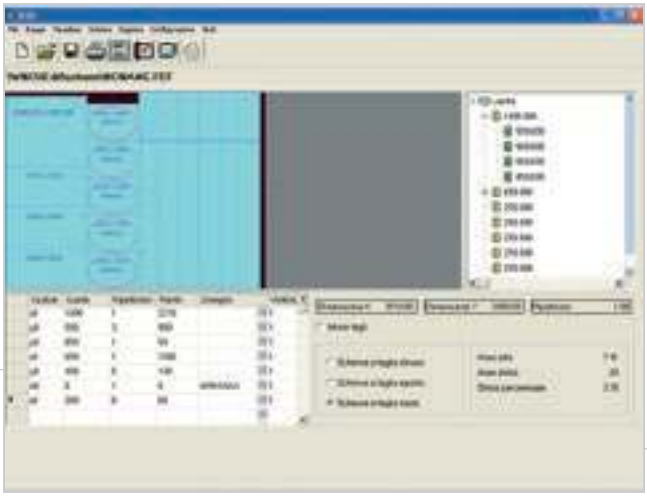
MAXIMUM EASE OF USE



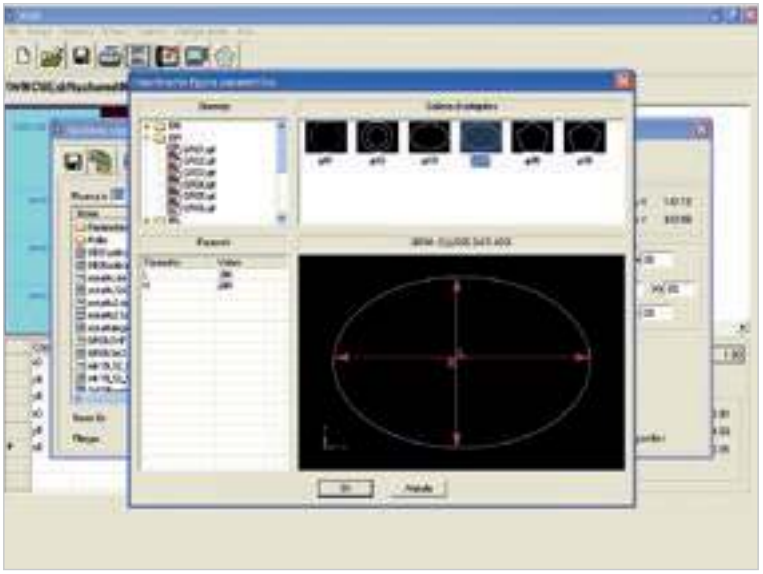
The operator interface is simple and intuitive, and enables cutting programmes generated by a range of the optimisers present on the market to be imported, courtesy of the integrated OTD (Optimiser Transferring Data) universal interface that automatically defines cutting parameters and generates the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

NUMERICAL CONTROL ON PC IWNC BASE (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.**



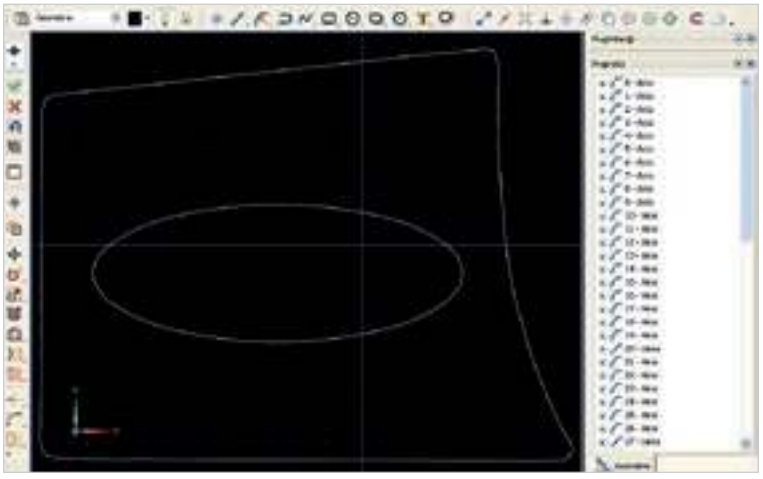
Cutting editor in the Windows environment, with a user-friendly graphic interface, for making straight cuts on sheets without employing the optimisation program. Particularly recommended for quick, immediate cuts, it can manage an endless number of nesting levels and also offers a function for inserting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

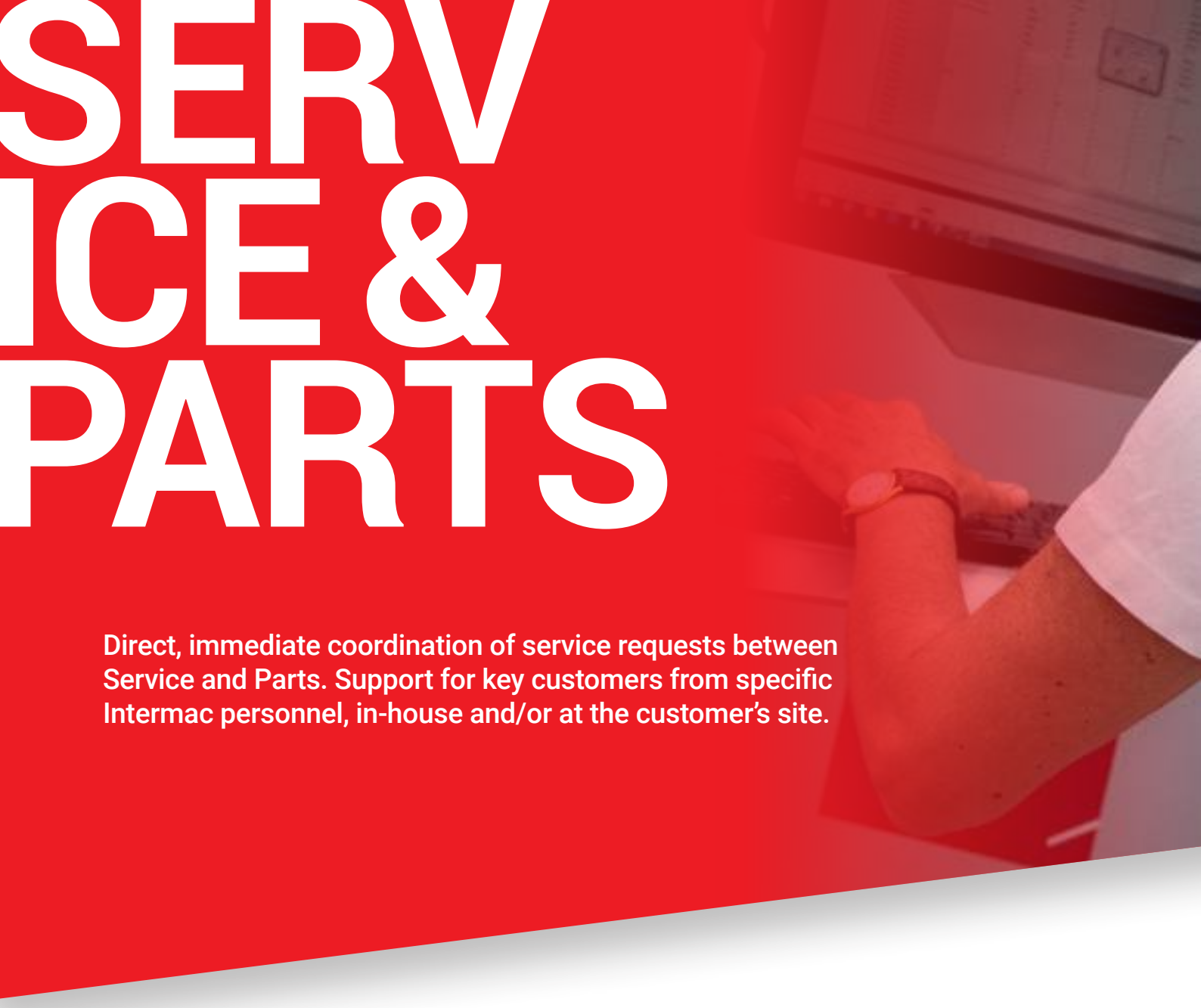


Optimiser for straight and shaped cuts. Ideal for shaped cuts and open cuts, this software allows even the most complex production to be optimised to ensure minimum wastage.



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).

SERVICE & 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.



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-A	GENIUS 37 LM - AC37	GENIUS 37 LM - AC61
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	150		
Cutting accuracy	mm	+/- 0.5		
Rectilinear optimisation		optional		
Work table height	mm	900		
Single/dual lamp power requirements	kW	20 / 23.6	28.3 / 31.9	31.6 / 35.2

		GENIUS 46 LM-A	GENIUS 46 LM - AC61
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	
Single/dual lamp power requirements	kW	23.6 / 27.2	36.3 / 40

		GENIUS 60 LM-A	GENIUS 60 LM - AC61
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

TABLES FOR LAMINATED GLASS CUTTING



Genius LM series



Genius LM-A series

MACHINES FOR CUTTING LAMINATED AND FLOAT GLASS



Genius Comby Lines

LINES FOR CUTTING FLOAT OR LAMINATED GLASS



Genius Lines & Systems

WATER JET CUTTING SYSTEMS



Primus 184



Primus series

MACHINES AND SYSTEMS FOR DOUBLE-EDGING GRINDING



Busetti F series



Busetti P series



Made-to-measure solutions

MACHINING CENTRES



Master 23



Master 30



Master 33.3-38.3-45.3



Master 33.5-38.5-45.5-45.5Plus

SPECIAL PROCESSING CENTRES AND AUTOMATIC CELLS



Master 63-65



Master 95



Master 185

SPECIAL PROCESSING CENTRES AND AUTOMATIC CELLS



Master con cinghie



Master work cells

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.

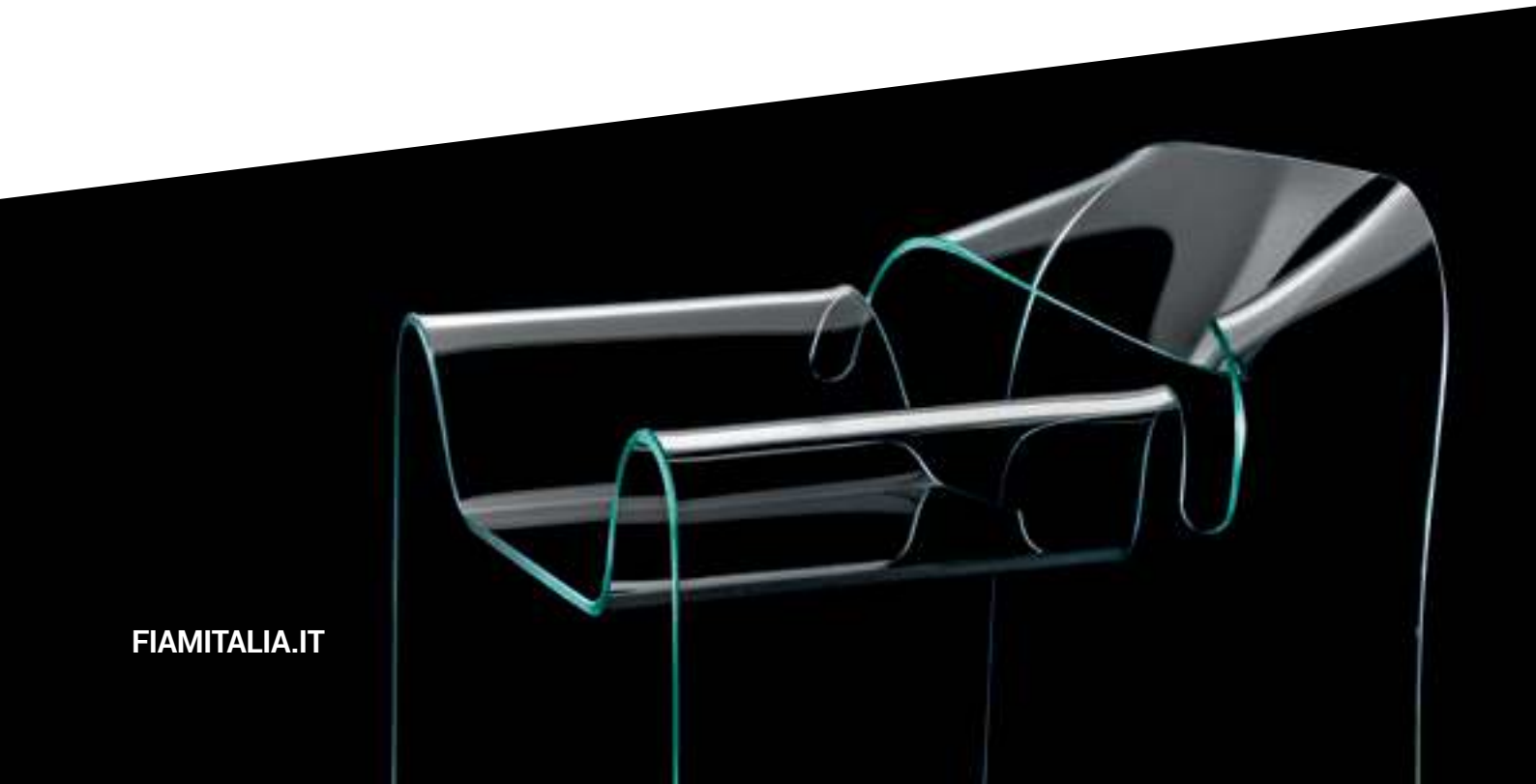
The measurement was carried out in compliance with UNI EN 848-3:2007, UNI EN ISO 3746: 2009 (sound power) and UNI EN ISO 11202: 2009 (sound pressure levels at workstation) during panel machining. The noise levels shown are emission levels and do not necessarily correspond to safe operation levels. Despite 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 of Fiam Italia, Italy



FIAMITALIA.IT

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

BIESSEGROUP

BIESSE
INTERMAC
DIAMUT
MECHATRONICS

P5812P0709 September 2017

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