



We •

glass

As a global leader in flat glass and hollow glass processing technology, we have been helping to shape one of the most beautiful and useful materials in the world for over 60 years. Its unique qualities, combined with the passion for technology and innovation, guide us in seeking for newer and more effective solutions to improve and expand its use.

we cut glass



BCS: the highest productivity and quality standards in the industry

BCS cutting tables are designed to withstand the high workloads typically adopted during single- or even multiple-shift production of windows or panels in the furniture sector, as well as of components for household appliances, in the automotive industry and in many other areas. BCS cutting tables are among the most popular and sought-after in the world, and in the market they represent a major benchmark in terms of production capacity and reliability.



BCS cutting tables ensure the highest standards of performance, precision and reliability over time.



The Range





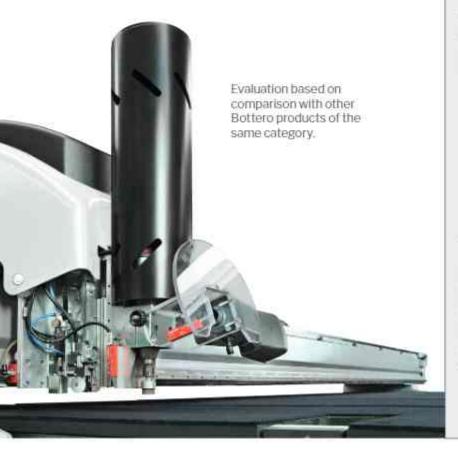
The BCS range stands out due to its modularity and versatility, thanks to which the float cutting tables can be totally configured according to specific customer requirements: from stand-alone cutting tables intended for small productions, up to intensive high automation level production systems, fully integrated with Low-E grinding devices and marking, and loading and breakout modules.





343 BCS

Cutting, grinding and marking table fully integrated with manual or automatic loading and breakout modules, intended for applications requiring high productivity. The 343 BCS cutting table is fixed and complete with belt conveyor, automatic selection of cutting pressures, Shape Scanner + Scan Cad, optimiser on the machine and BCMS Windows.



Plank Type	On-line Cut	
Processed glass	Float / LOW-E	
Processing	Cut + 1 Additional Tool	
Automation level	****	







Loading, cutting, grinding, marking and breakout table intended for the wider range of applications.

The 353 BCS cutting table is available in the two fixed and tilting versions and is complete with air cushion with quick closing, automatic selection of cutting pressures, Shape Scanner + Scan Cad, optimiser on the machine and BCMS Windows.

Plank Type	On-line Cut	
Processed glass	Float / Laminated / LOW-E	
Processing	Cut+1 Additional Tool	
Automation level	****	



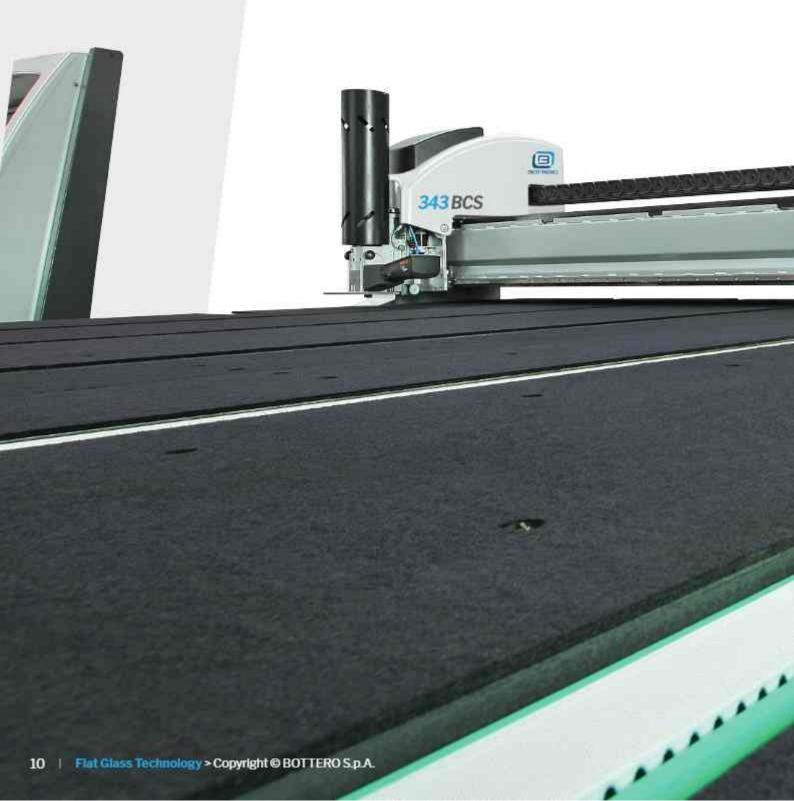
363 BCS

Loading, cutting, grinding, marking and breakout table fully integrated with manual or automatic loading and breakout modules and it can be coupled with cutting tables for laminated glass.

The 363 BCS cutting table is available in the two fixed and tilting versions and is complete with air cushion with quick closing and belt conveyor, automatic selection of cutting pressures, Shape Scanner + Scan Cad, optimiser on the machine and BCMS Windows.

Plank Type	On-line Cut	
Processed glass	Float / LOW-E Cut +1 Additional Tool	
Processing		
Automation level	****	

Features





With the aim of meeting all production needs, the BS cutting tables allow also fitting the cutting carriage with one of the various accessories available.

Each constructive and functional features of the BCS range is designed to ensure extreme processing precision and maximum productivity, at the service of each specific production requirement.



Devices and accessories





LMT

Surface removal system on Low-E glass with 200 mm peripheral wheel and maximum working speed of 160 m/min, is the ideal solution for large productions of lowemissivity glass.

You can install grinding wheels with different thicknesses for different production needs, and the wheel is also able to remove any protective films.

The total coverage of the area being processed and the presence of the vacuum cleaner cancel the dispersion of dust in the environment, thus ensuring maximum safety for the operators.

Easy deletion

for the operators.

Surface removal system on Low-E glass with 20 mm baffle grinding wheel and maximum working speed of 80 m/min, is the ideal solution for occasional productions of lowemissivity glass.

The approach stroke of the grinding wheel is managed via proportional valve and its path is also optimised for cut to shape, thus allowing to speed up the machine cycle time. The total coverage of the area being processed and the presence of the vacuum cleaner cancel the dispersion of dust in the environment, thus ensuring maximum safety







PPL

The automatic labelling system is the best solution to obtain the glass traceability and consequently the more efficient organisation tool of the subsequent processes within the company.

The labelling system fitted on the BCS cutting tables allows performing the labelling cycle and cutting cycle simultaneously, with total flexibility on the label position and on the printed text, ensuring a significant reduction of the machine cycle times.

LAMShape

Cutting, breakout and detachment system for the production of small batches of laminated glass to shape within a normal float glass production.

The innovative system patented by Bottero optimises the radiant power without overheating the glass and allows performing the final glass detachment operation without the use of other tools.

The total coverage of the area being processed avoids flash leakage, thus ensuring maximum safety for the operators.

Tilting Frame

- Electric control cabinet that can be repositioned 1 externally for cleaning and maintenance.
- Double tank for use of differentiated oils in the processing of special glass.
- Small and immediately accessible hydraulic tilting control unit.
- Fan for air cushion with quick closing system, installed directly on the tilting frame.
- Air distribution circuit integrated within the structural frame.
- 6 Fully machined, electro-welded steel frame.
- Longitudinal and transversal wood breakout bars, 7 activated by dedicated pneumatic cylinders.
- Tilting system with two hydraulic cylinders, 8 balancing valves and controlled acceleration and deceleration ramps.
- Mobile floor pedals for controlling the breakout bars, 9 air cushion and loading and squaring lugs.







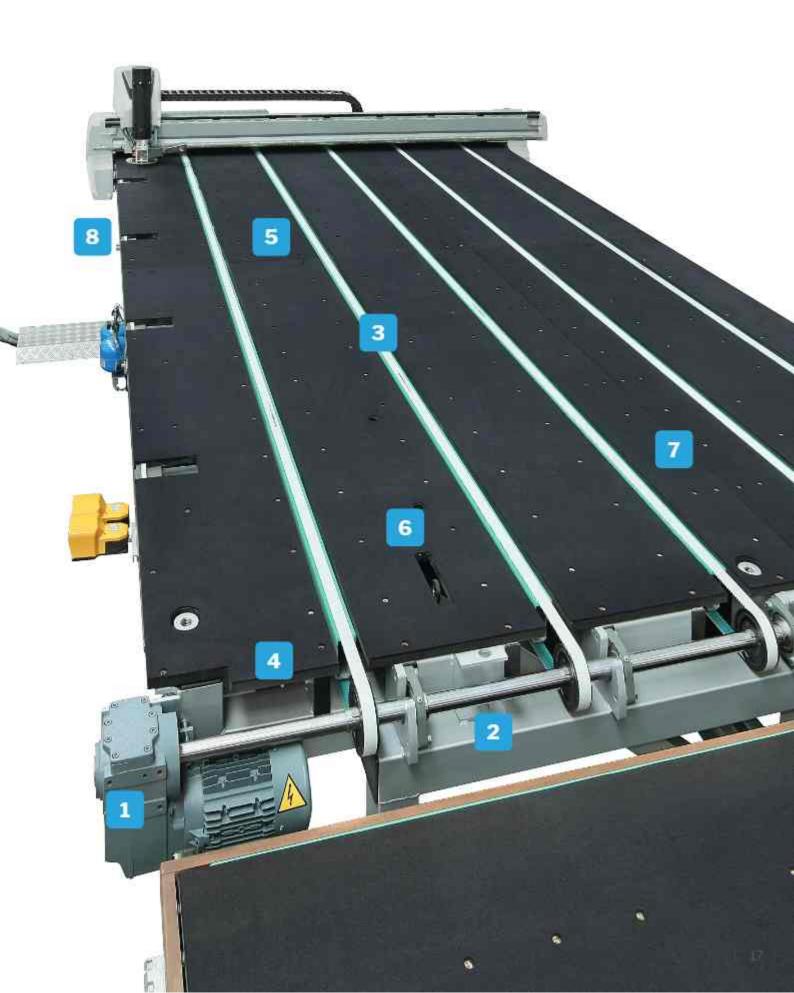


Fixed table with belts

- 1 Direct motoreducer on torque shaft without returns.
- Electro-welded steel frame with high stiffness and solidity.
- Inverter-controlled polyurethane belts for handling the sheet in both directions.
- Rectified and fully replaceable wooden panels with felt, mounted on a machined surface.
- 5 Highly homogenous and resistant 3 mm felt.
- Sheet position detection sensors and independent 6 safety device for belt locking.
- Additional air cushion for handling 25 mm thick sheets
- Retractable squaring lugs driven by one dedicated 8 pneumatic cylinder.
- Ergonomic and mobile control pulpit, complete with high-definition colour monitor and intuitive optimisation and CAD software.







Tilting Panel

- Mobile floor pedals for controlling the breakout bars, 1 air cushion and loading and squaring lugs.
- 2 Armoured cable sheaths for maximum protection.
- Retractable loading lugs driven by one dedicated pneumatic cylinder and guaranteed outlet system.
- 4 Independent safety device for locking belts.
- Inverter-controlled polyurethane belts for handling 5 the sheet in both directions.
- Rectified and fully replaceable wooden panels with 6 felt, mounted on a machined surface.
- 7 Sheet pusher for sheet loading with glass take out.
- Highly homogenous and resistant 3 mm synthetic 8 felt.
- Additional air cushion for handling 25 mm thick 9 sheets.







Carriage and cutting head

Cut

Motorised cutting head, formed by an aluminium alloy body and rod with cutting tool or plastic cut. Automatic glass thickness measurement by linear encoder and consequent automatic loading of the cutting parameters preset in the software.

Cutting pressure adjusted by means of proportional solenoid valve and glass surface compensation system.

Safety

Glass presence detector and end element of the rod with controlled breakage, easily replaceable, to avoid mechanical stresses on the carriage and bridge in case of collision.

Trolley

Aluminium carriage with control and management electronics of the on-board head, complete with optical sensor able to perform the electronic squaring of the sheet and automatically acquire a shape thanks to the Shape Scanner system.





Cutting bridge

Structure

Steel cutting bridge placed crosswise to the machine for maximum solidity and resistance to torsion.

Drive

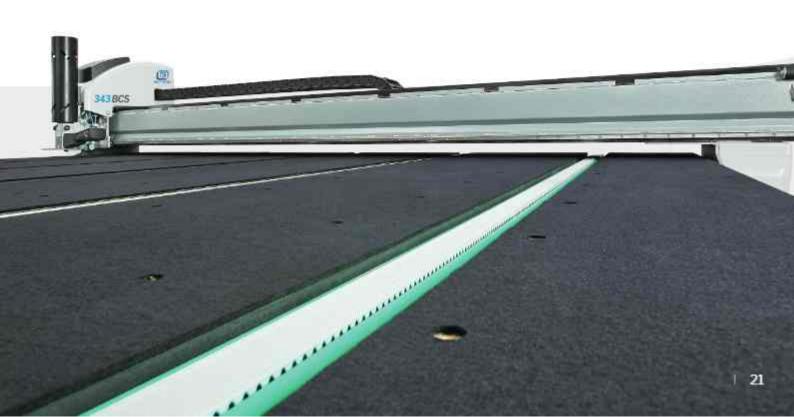
Single brushless motor with pinion motor belt transmission.

Transmission unit

Torque shaft for the accurate and balanced motion transmission along the bridge.

Carriage handling

High precision and low noise carriage linear sliding guides, ground and installed on machined surface.



Bridge Handling

Guides

High precision and low noise bridge sliding guides, ground and installed on machined bed, ensuring a perfectly straight cut without the need for adjustment.

Materials

Components made of highly durable and minimal wear materials, ensuring optimal performance over time.





Racks

Ground racks, ensuring maximum positioning and cutting precision, and facing down to prevent the accumulation of dirt.

Maintenance

Easily accessible components, ensuring immediate and fast maintenance.







Control cabinet

Pulpit

Ergonomic and mobile control pulpit on independent wheels, for easy access to the interface and safety controls, complete with high-definition colour monitor and intuitive optimisation and CAD software developed on Windows operating system.

Software

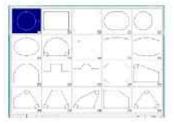
Original software able to realise any cutting, grinding or labelling scheme with optimisation of the tool path to minimise the machine cycle time.

Constant electronic control of all cutting parameters, ensuring an excellent and constant engraving quality for an easy and fast breakout.

High level CAD and optimisation software can also be installed.









Interface

Simple and intuitive operator interface developed on Window operating system, bearing in mind the various needs. The operator is guided by the interface during the entering of cutting data and in all machine operative functions. All software indications and commands are available in multiple languages.

Editor

Editor for the manual composition of the cutting schemes, or for editing imported cutting optimisations. Particularly suitable for fast and immediate cuts, it allows entering different nested cutting levels, as well as diagonal and shape cuts.

Shapes Catalogue

Library of parametric shapes, allows entering the most common shapes in the cutting scheme, customising them by entering the relevant parameters. The Scan Cad program allows modifying and optimising the shapes in simplified CAD environment.

Optimiser

Simple and efficient optimiser with reduced set of parameters for greater ease of use, it processes the data while the machine is operating, without stopping or delaying the main sheet cutting function.

Remote assistance

Remote assistance and diagnostic service through Internet connection, which ensures rapid and effective intervention of a qualified technician directly on the control panel.

Details

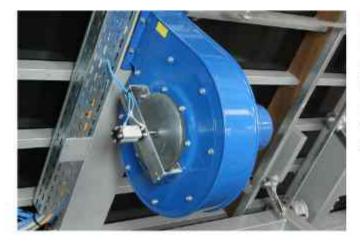
The high quality standard of the BCS range is particularly noticeable in the care for details: each component is carefully studied and designed to offer performance measuring up to the most demanding requirements, making the machine even safer and more performing.



Electric control cabinet and sheaths

Electric control cabinet that can be repositioned externally for easier cleaning and maintenance.

Armoured cable sheaths for maximum protection against accidental cuts.



Fan with quick closing

Fan for air cushion with quick closing system, installed directly on the tilting frame to ensure the absence of leaks.

Air distribution circuit integrated within the structural frame, for a perfect efficiency and power of the air cushion.





Structural frame

Highly stiff solid electro-welded steel frame to eliminate any vibration, fully machined to ensure a perfect planarity of the work table.



Tilting

Tilting system with two hydraulic cylinders fitted with independent fall protection safety valves, balancing valves and controlled acceleration and deceleration ramps. Down tilting managed by non-self-maintained push-buttons, further guarantee of operator safety.



Pedal commands

Mobile floor pedals for managing the breakout bars, air cushion and loading and squaring lugs, fully repositionable as required.



Double oil tank

Double tank for use of differentiated oils in the processing of special glass, especially Low-E glass, for maximum production flexibility. The type of lubricant is selected by the operator or directly by the software according to the machined glass.

Tanks with visual indicators for the immediate control of the amount of residual oil.



Tilting control unit

Small and immediately accessible hydraulic tilting control unit for easy maintenance.



Breakout bars

Longitudinal and transversal wooden bars, activated by dedicated pneumatic cylinders, for an immediate and effective breakout of the glass.

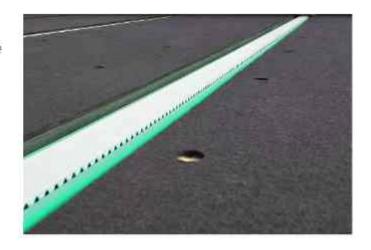






Conveyor belts

Inverter-controlled polyurethane belts for the safe and fast handling of the sheet in both directions.



Panels

Rectified and fully replaceable wooden panels with felt, mounted on a machined surface for a perfect planarity of the work table.

Highly homogenous and resistant 3 mm felt, ensuring high performance and minimal wear.



Squaring lugs

Retractable squaring lugs driven by one dedicated pneumatic cylinder. Easy and immediately replaceable PTFE lug coverage.

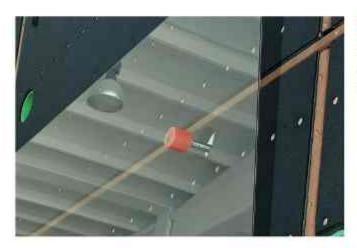




Loading lugs

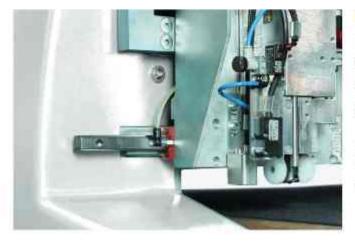
Retractable loading lugs driven by one dedicated pneumatic cylinder, complete with mechanical safety system for forced lowering after sheet loading.

Easy and immediately replaceable rubber lug coverage.



Sheet pusher lugs

Sheet pusher lugs for easier take out extraction in case of sheet loading with glass take out.



Cut lubrication

Cut lubrication control by means of special manual valve, also suitable for use with high evaporating oils, to ensure an excellent and constant engraving quality.

The BCS control software controls the opening and closing of the lubrication valve so as not to have excess oil at beginning and end of cut.



Plastic cut

Engraving system of the plastic layer on the glass before the subsequent sandblasting process.

Automatic management of the plastic engraving pressure and lubrication cancellation.



Sheet conveyor

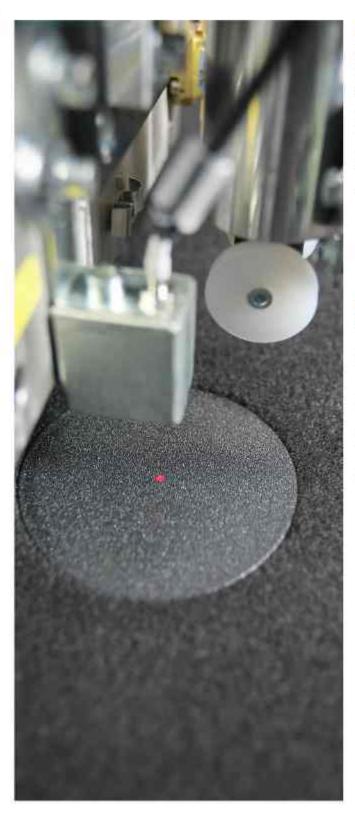
Sheet conveyor system with suction cups or lugs, driven by non-self-maintained push-buttons, to ensure operator and process safety, it allows handling the sheet on the breakout table without any effort.



Specular Cycle

Thanks to this function, you can also cut a scheme on both sides of a laminated glass. The cycle can also be performed with schemes containing very complex shapes. In the presence of the Lam Shape option, in addition to the cut, the BCS can also breakout and separate the PVB.





Electronic squaring

Squaring of electronic search sheet as well as significantly speed-up the machine cycle time allows the operator to position the glass without having to square it on mechanical references. The system also allows measuring with decimal precision the glass to be cut and it can be used on the automatic lines to check the integrity of the sheet.

Shape scanner

The shape scanner or the electronic detection and digitisation system of the templates allows maximum flexibility of production. It can detect various materials, from glass to paper, and it can detect up to 20 templates simultaneously. The software integrated with the option allows modifying the acquired profiles in a few steps and correct any template imperfections.



Wheel grinding and measurement

Fully automatic peripheral wheel grinding and measurement cycle, to always ensure its excellent performance.

Low-E removal tool is constantly measured in order to adjust the rotation speed and ensure maximum performance. The control software also alerts the operator when it must be replaced.

The tool grinding, automatically set by the operator, ensures maximum quality and sharpness of the processing.



Performance

A complete, modular and versatile range, fully configurable according to each specific production requirement.

The Bottero tables guarantee top performances at 360°, intended as cycle execution speed, accuracy and reliability over time.

Working speed	343	353	363
Maximum bridge speed	140 m/ min	140 m/ min	140 m/ min
Maximum carriage speed (*)	200 m/ min	200 m/ min	200 m/ min
Maximum grinding speed with Easy deletion	80 m/ min	80 m/ min	80 m/ min
Maximum grinding speed with LMT	160 m/ min	160 m/ min	160 m/ min

^(*) the maximum carriage speed is 160 m/min in the presence of LMT, PPL or LAM Shape set-ups.

Thicknesses which can be cut	343	353	363
Standard thicknesses	2 ÷ 19 mm	2 ÷ 19 mm	2 ÷ 19 mm
Optional thickness	19 ÷ 25 mm	19 ÷ 25 mm 0,4 ÷ 2 mm	19 ÷ 25 mm
Accuracy	343	353	363
Cutting accuracy on straight processes	± 0.15	± 0.15	± 0.15
Work table	343	353	363
Worktable helght	930 ± 40 mm	930 ± 40 mm	930 ± 40 mm
Compressed air consumption	343	353	363
Compressed air consumption	70 NL/min	70 NL/min	70 NL/min



Air consumption with Easy Deletion	343	353	363
Air consumption with Easy Deletion	500 NL/min	500 NL/min	500 NL/min
Installed power	343	353	363
Jumbo	16 KVA	12,5 KVA	24 KVA
Regular	15 KVA	10,25 KVA	17 KVA
Additional powers	343	353	363
Titting Panel	3	2,75 KVA	2,75 KVA
Air cushion		3 KVA (R) - 6 KVA (J)	
Easy Deletion	1KVA	1 KVA	1 KVA
LMT	2 KVA	2 KVA	2 KVA
PPL	1KVA	1KVA	1 KVA



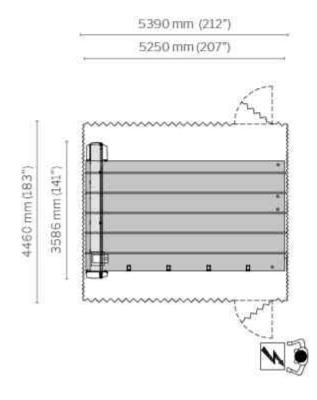
Dimensions

A complete, modular and versatile range, fully configurable according to the specific customer's overall requirements.

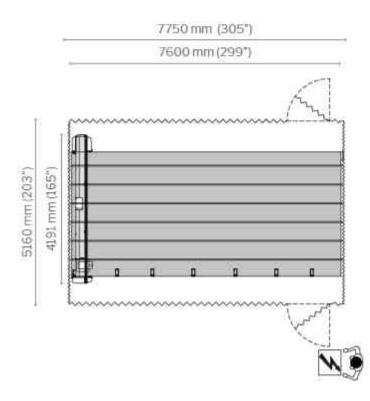
The following pages show some layouts of tilting tables and standard lines, or in jumbo and regular dimensions. However, it is important to know that the BCS range can be customised and process sheets of up to 12 metres.

343 BCS Regular

	mm	in
Maximum dimension of processable sheet	3810 x 2750	150 x 108







353 BCS Regular

353 BCS Jumbo

	mm	In		mm	In
Maximum dimension of processable sheet	3810 x 2750	150 x 108	Maximum dimension of processable sheet	6100x3355	240x132
4-	7125 mm (281*)	,,,	() ·	9425 mm (37	1")
	4825 mm (190 °)	*);	(()	7125 mm (281°)
3586 mm (141")			5810 mm (229") 4191 mm (165")		

353 BCS + 103 BBM

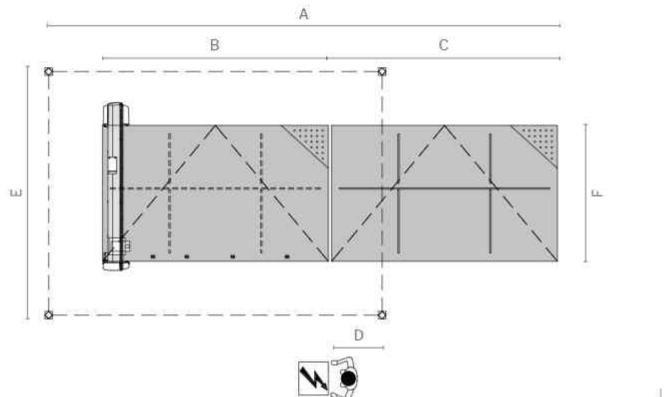
	A	В	C	D	E	F
Regular	10870 mm	4825 mm	4825 mm	1150 mm	5205 mm	2905 mm
Jumbo	15470 mm	7125 mm	7125 mm	1150 mm	5810 mm	3510 mm
Regular	428 in	190 in	190 in	45 in	205 in	114 in
Jumbo	609 in	280½ in	280½ in	45 in	229¾ in	138 in



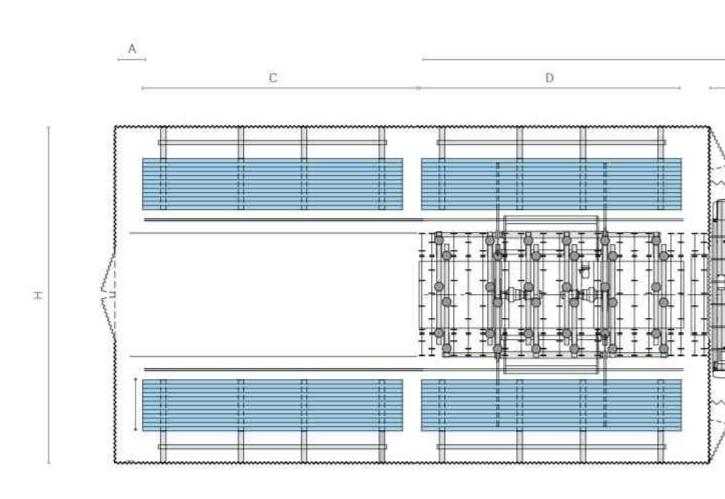
363 BCS Regular

363 BCS Jumbo

		mm	in		mm	In
	n dimension of able sheet	3810 x 2750	150 x 108	Maximum dimension of processable sheet	6100x3355	240x132
	Air-	5315 mm (209°)			7615 mm (300°).
	-18	4825 mm (190 °)			7125 mm (281°)	
4940 mm (194") 3586 mm (141")				4191 mm (165")		



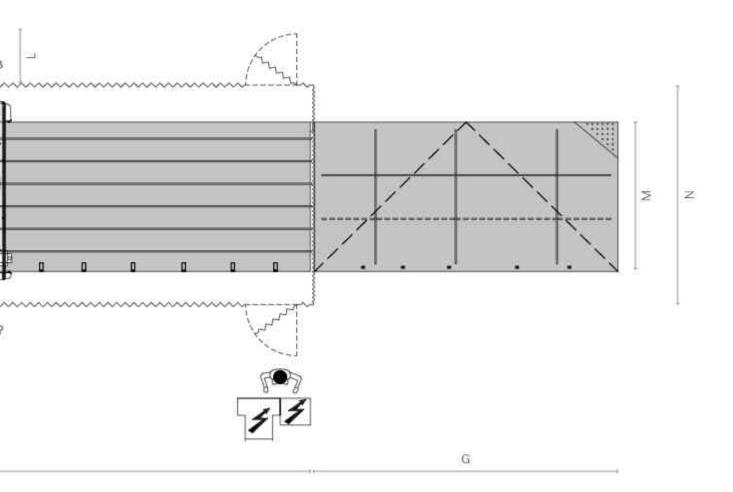
630 CBM + 343 BCS + 103 BBM



	Α	В	С	D	E
Regular	810 mm	14498 mm	4100 mm	3650 mm	5390 mm
Jumbo	655 mm	21658 mm	6550 mm	6100 mm	7750 mm
Regular	32 in	571 in	161 in	144 in	212 in
Jumbo	26 in	853 in	258 in	240 in	305 ln



B E



F	G	н	1	L	M	N
9643 mm	4825 mm	7700 mm	1200 mm	1370 mm	2905 mm	4660 mm
14533 mm	7125 mm	7900 mm	1200 mm	1520 mm	3510 mm	5160 mm
380 in	190 in	303 in	47 in	54 in	114 in	183 in
572 in	280 in	311 in	47 in	60 ln	138 in	203 in

Options and set-ups

	343-R	343-J	353-R	353-J	363-R	363-J
Assembly For Labeling System		3.00	*	1:00		*:
Assembly For Low-E Edge Deletion By Cup Wheel		()	•	300		*
Assembly For Low-E Edge Deletion By Peripheral Wheel	*	•	*	•		•
Assembly LAM-Shape - Includes Easy-Deletion			•	(*)		
Differential Circuit-Breaker For TT Power Supply Systems		3.00	*	1:00		*:
Transformer For Power Supply Different From 380/400/415Volt		()	•	(66)		•
1 Automatic Frontal Squaring Lug			•	•	•	•
1 Automatic Lateral Squaring Lug			•	•		•
1 Manual Insertion Frontal Lug For Reference Guiding For Lamilinea		(0)	٠	:00	*	*
1 Manual Insertion Lateral Lug For Reference Guiding For Lamilinea				1961	4.1	
Additional Breakout Bar				•		•
Additional Longitudinal Breakout Bar						
Air Conditioning System For Electrical Cabinet		(9)		((•)	.*0	*
Air Cushion Module W = 380mm For Coupling Between Machines				1:4:	4.1	•
Air Cushion	•					
Automatic Squaring Lugs						•
Automatic Tilting Arms						*
Backward Transport - From Table To Loader						
Backward Transport - From Breakout To Cutting Table						
Breakout Bars Assembly (1+1)						
Breakout Bars Assembly (2+1)				•		



	343-R	343-J	353-R	353-J	363-R	363-J
Cutting Head Approaching Device		•	٠			
Double Cutting Oil Tank (Already Included On Machines With Assembly E/F/L/Q/T)	•	•	٠	•		*
Foot Pedal Switch For Slow Transport - Loading Table Joined With Belts Cutting Table	•	:•::				*
Frame Hold-On The Sheet Of Glass (Only If Combined With 548LAM)						٠
Glass Cleaning Kit For Labeling System	*	•	*	.*)		
GS - Cutting Up To 25mm Glass Thickness	•:	•		S ● 1		*
Kit For Covering The Slots Created By The Absence Of Breakout Bars				1.00		
Kit For Minimum Glass Transporto (400x300mm) Mandatory For Combination With S48LAM + Kit LMC-D-E108	*	•			*:	*
Kit For Minimum Glass Transporto (500x500mm) Mandatory For Combination With 548LAM	٠	•				•
Kit For Special Glass Reading Or Other Materials (Ultrasonic Sensor)	*		*		***	*
Lean-To Device			•		•	•
Loading LuGS			*	:,•)		•
Longer Connection Between Machine And Control Cabinet	•:	:•:		:•:		*
Lugs For Glass (Max 19mm) Transport On Air Cushion			*	::•:		
Manual Tilting Arms						*
Rollers Module W = 380mm For Coupling Between Machines			· (::0)		•
Sandblast Plastic Cutting	•:	:•:		:•:		
Tilting Motion Assembly			*		***	*
Vacuum Cups For Glass (Max 19mm) Transport On Air Cushion			٠			
Vacuum Cups For Glass Transport On Air Cushion For Dual Line With 520LAMe			٠	•		
Double Control (Foot Pedal) For 1 Breakout Bar				•	*	•
Push Button Panel For Glass Transport	•:			:.•:	:0:2	*
Connection To An Existing Loading Machine	*					*
Optimization + Labels + Shape Catalogue + Cad	*:	•	•	•	*	
1 Label Roll For PPL Printers (1 Roll = 2000 Labels)	٠	•	*			

^{*}already included with Easy deletion and LMT set-ups
** only for machines equipped with labeller

Bottero, the choice of the greatest

With us, you have all the experience and technology that we use to serve the largest industries

With Bottero, you don't simply buy products but the entire experience, the technology and the organisational skills of a company that can provide very high productivity glass processing plants, and the selected supplier of some of the most important companies in the world.





50.000 installations all over the world



With thousands of installations spread all over the world, Bottero guarantees first-class technical and commercial assistance.

Bottero S.p.A. - Headquarters

via Genova 82 - 12100 Cuneo - Italy

Revimac S.r.I.

Vicenza - Italy

Bottero GmbH

Grevenbroich - Germany

Bottero UK Limited

Rochdale - Great Britain

Bottero France SA

Roanne - France

Bottero do Brasil

S.Paolo - Brasil

Bottero Flat Glass Inc.

Kernersville - North Carolina - USA

Bottero Glass Industry Co. Ltd

Shangai - China







Above and to the side: some high-productivity lines manufactured by Bottero.

