

Double Edgers

Flat edge



EN

Flat Glass Technology

Copyright © 2019 BOTTERO S.p.A. All Rights Reserved

we • glass

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 grind glass

The ideal choice for intensive applications

Bottero produces a complete range of solutions for flat edge two-sided grinding, which can satisfy the requirements of small, medium and large glass factories with fixed or flexible production, thanks to the vast possibilities of choice and configuration of the products.

Bottero machines are ideal for processing structural glass, partition walls, shower cubicles, shelves, balustrades, steps and furnishing elements, providing productivity, precision and reliability over time to operate on multiple shifts, up to 24/7 service.



The Bottero flat edge two-sided machines are designed to support the high production flows typically required by the industry. Thanks to the significant flexibility, however, these machines are effective and profitable even when applied in small and medium glass factories with flexible production.



The Range

The Bottero range of double edgers for flat edge processing has been designed to meet all requirements of performance and quality.



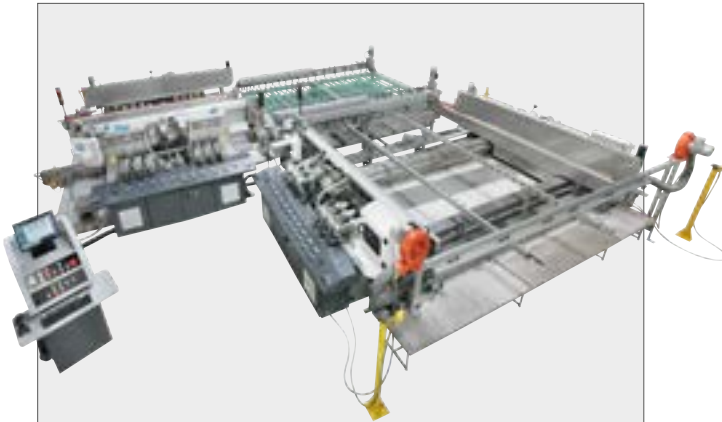


TwinEdge

The 4 configurations that make up the Twin-Edge range enable the processing of flat edge, of threads and possibly the removal of the edge.



Type of processing	Flat edge
Special edge processing	-
Maximum sheet dimensions	Up to Jumbo size
Automation level	★★★★●



Titan

The 6 configurations that make up the Titan range enable the processing of flat edge, of threads and possibly the removal of the edge.

Type of processing	Flat edge
Special edge processing	-
Maximum sheet dimensions	Up to Jumbo size
Automation level	★★★★●



TwoB

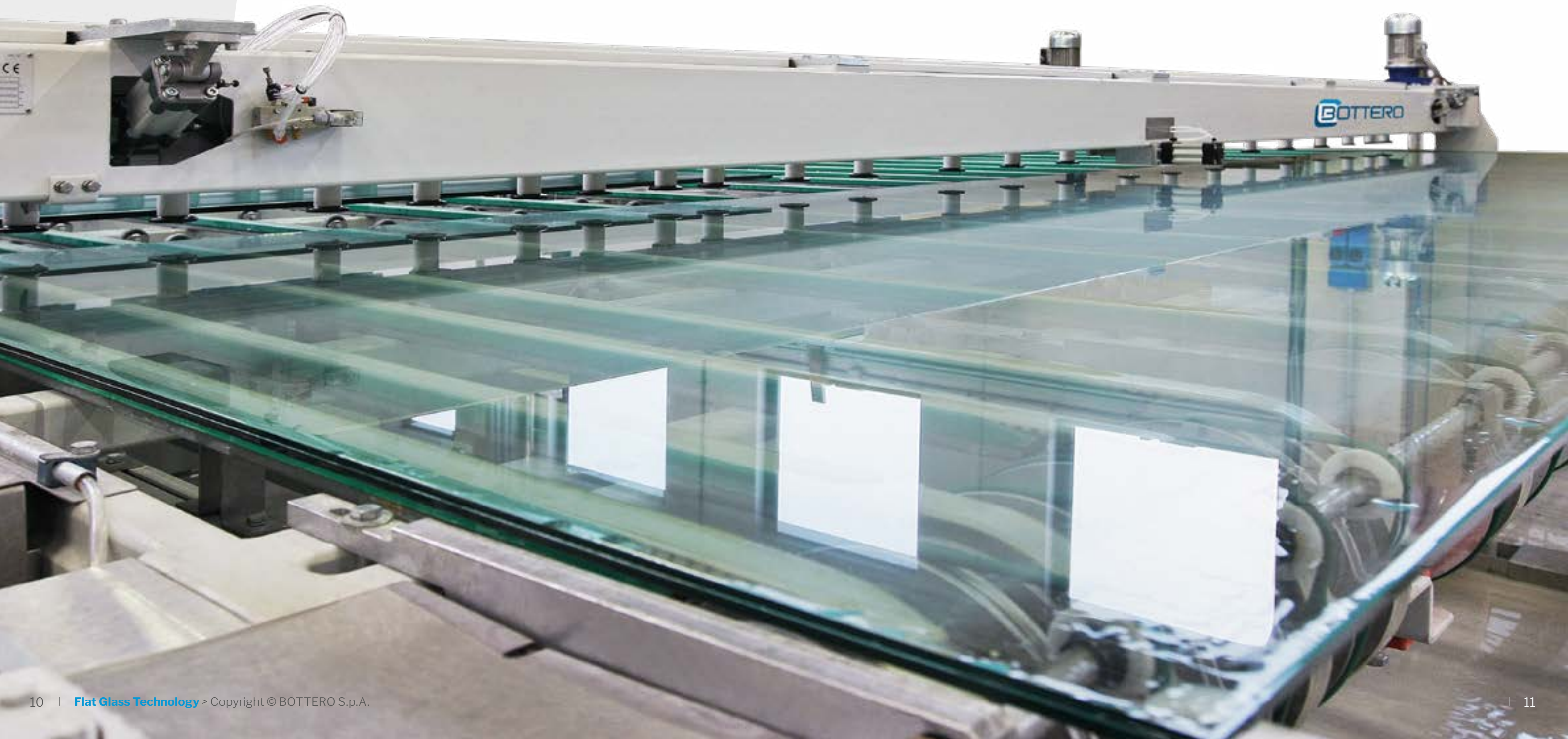
From the co-operation between Bottero S.p.A. and Attilio Busetti, the best double edger ever developed. Every solution in this machine has been designed to provide the best performance, flexibility and sturdiness and to carry out various special processing on the glass profile.

Type of processing	Flat edge / Round edge
Special edge processing	Yes
Maximum sheet dimensions	Up to Extra-Jumbo size
Automation level	★★★★★

Evaluation based on comparison with other Bottero products of the same category.

Why Choose Them?

Why choose the Bottero double edger flat edge?



Because of their high build quality



The Twin-Edge, Titan and TwoB edgers comprise of a sturdy electrowelded steel structure. Stainless steel and other anti-corrosion materials such as technical polymers are extensively used.



All components coming into contact with water are constructed from stainless steel. This in order that we are able to guarantee the durability of the components.



The automatic lubrication system guarantees perfect work conditions of the machine and eliminates many manual maintenance operations.



The choice of mechanical and electronic trade components by leading manufacturers ensures reliability and availability over time.

Because they guarantee quality

The coaxial spindles guarantee vibration-free operation and as a result maximum grinding efficiency. The absence of belts and pulleys reduces the number of parts subject to wear and replacement.



The belts are made in polyurethane with stainless steel inner cables and ground on the back and sides to ensure high precision of glass advancement. The width of the belts is modular, depending on the type and weight of the glass to be conveyed. The large-sized pulleys enable the specific load to be divided when working with heavy glass. This means longer lifespan for the belts.





The automatic squaring device guarantees the squareness and parallelism of the processed pieces.



A large number of tools and automatic consumption control systems guarantee high quality polishing and finishing on any type of profile.



The diamond spindle slides are equipped with stepper motors to automatically recover the work position when the glass is approached. The wheels reset cycle is therefore rapid and does not require an operator.



The brushless motors to open the carriage are connected to an electric axis. The motors are controlled via a closed loop drive thus making high speed traversing, movement fluidity, and optimal positioning precision possible.



Because they make sense



The air knives installed at machine exit, avoids contaminated water from the grinding process being transferred to the washing machine. This improves wash quality.



The passage from the upper surface to the belts is assisted by a pneumatic wheel system that avoids any type of damage to the glass.



The ammeters to detect the current absorbed by the processing motors have been placed next to the corresponding spindles in order to facilitate readings by the operator engaged in adjusting the wheels.



Safe glass processing with pvb
The casings containing the wheels are extremely large in size to easily discharge plastic residues, while special, easily removed separation filters enable you to recover plastic material and prevent it from being sucked in by the recirculation pumps.

Because they are easy to use



The user friendly software, allows the operator to configure the system in moments.



The barcode reading system allows the Operator machine setting is extremely user friendly.

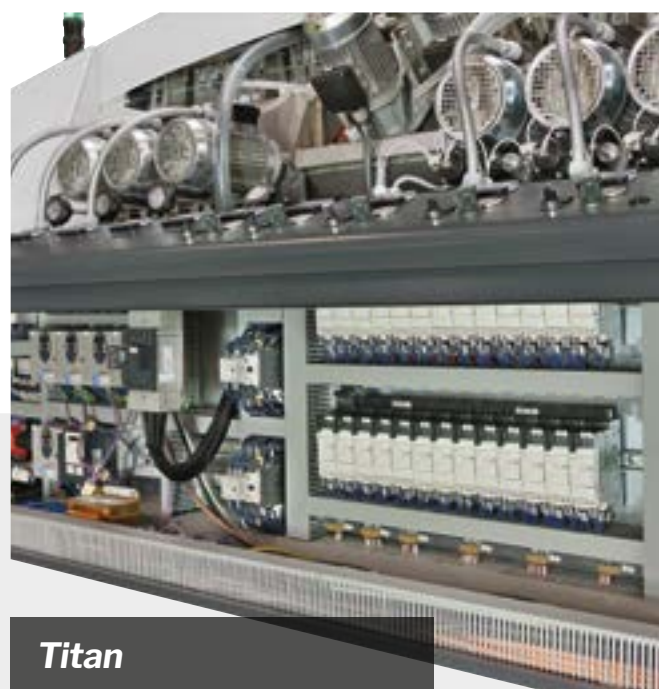


4x4 Traction
Utilization of an individual motor foreach gripping belt eliminates the need for transmission shafts. As a result access to the machine is improved and maintenance operations are also made easier.



Ample access is made available to the operator for maintenance operations, thanks to the ascent of the pressers and the simultaneous opening of the mobile carriage. Replacement of tools is extremely quick thanks to the use of only one screw to fasten the tools.

Performance

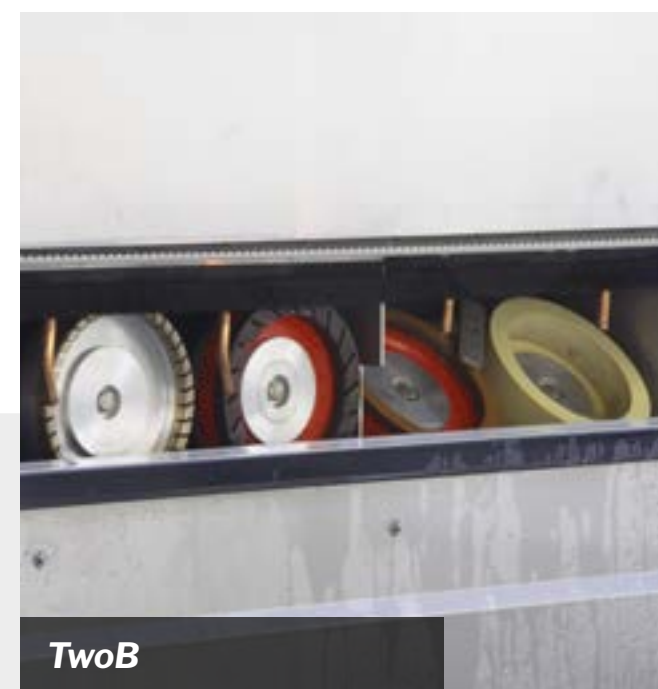


Titan

All machine axis are simultaneously executed, resulting in extremely efficient machine set-up times being achieved.



Coolant water is delivered to the wheels by copper tubing. As copper is not affected by the grinding residues. Greater longevity of the components are achieved.



TwoB

The diameter of the wheels, 175 mm, ensures powerful removal capacity, complete flatness of the ground edge, and longer tool life.



Titan | TwoB

As an option, a tube washing sprayer can be installed, consisting of a bar with nozzles spraying clean water, which are automatically activated according to the width of the glass exiting the machine.

Because they offer something extra



The automatic dubbing facility enables the finished pieces to be transferred immediately to the toughening process. The dubbed corners are also safer to handle.

In models Titan and TwoB the edge spindle can be:

- **Pneumatic** (standard model): manual tracking speed adjustment and manual edge dimension adjustment (without changing the size of the wheel).
- **Electro-Pneumatic**: manual tracking speed adjustment and motorised edge dimension adjustment from control panel (without changing the size of the wheel).

Vacuum belt system



TwoB

Bottero patented vacuum belt system is the most advanced answer to the request of the glass industry to process special glasses. The innovative concept requires less energy consumption than the old generation belts, has no limitation in length and can be used in most of the grinding process at high speed, with high thickness glasses.

Bottero patented vacuum belt system for double edgers exceeds the current limitation of speed and dimension of old generation vacuum belts. The new belt has reduced consumption, and can transport the glass at a speed up to 20 m/min with no limitation in length.



The use of vacuum belt system requires no upper pressure system to guide the glass. This guarantees no scratches on the upper surface, improves the accessibility to the wheels and minimize the downtime for tool changeover.



Originally designed for soft coated glasses, the vacuum belt system by Bottero is suitable to process most of the glasses in the market. In particular the system has been successfully tested with high thickness glasses up to 30 mm.



TwinEdge

The Bottero double edgers range enable the processing of flat edge, of threads and possibly the removal of the edge.

220 N

The 220 N is the classic double edger designed for who needs to produce large quantities of glass with precise orthogonality, which vertical machines are not able to offer. Its configuration has, on each side, 3 diamond wheels and 3 polishing wheels for flat edge and 2 diamond wheels and 2 polishing wheels for threads.

222 D

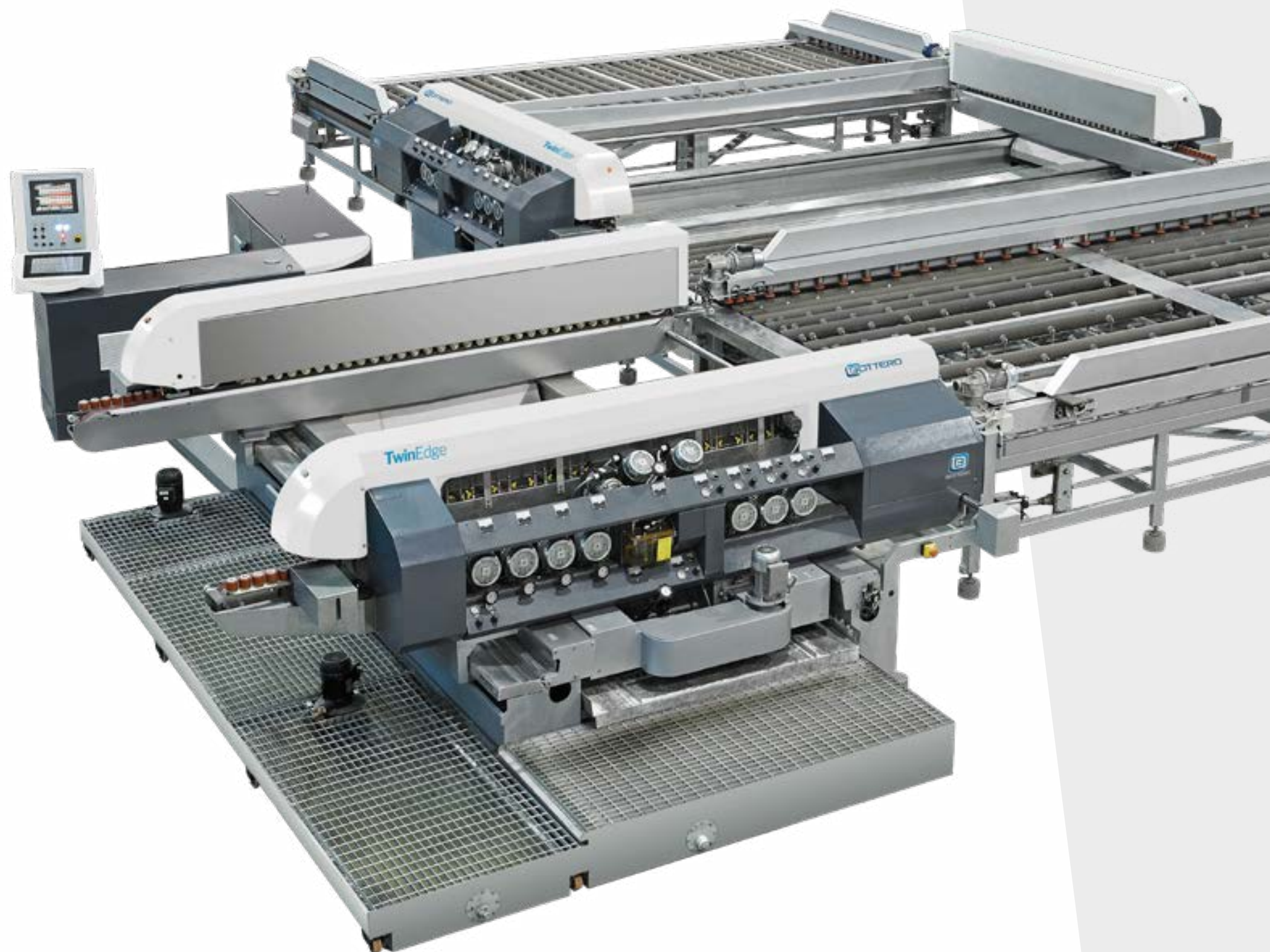
The 222 D is ideal for customers who need to grind with large removal of material. Its configuration has, on each side, 4 diamond wheels and 3 polishing wheels for flat edge and 2 diamond wheels and 2 polishing wheels for threads.

222 L

The 222 L is the ideal machine for customers who need to obtain a product with a better degree of polishing. Its configuration has, on each side, 3 diamond wheels and 4 polishing wheels for flat edge and 2 diamond wheels and 2 polishing wheels for threads.

224 N

The 224 N is the highest performing machine of the Twin Edge range. Its configuration has, on each side, 4 diamond wheels and 4 polishing wheels for flat edge and 2 diamond wheels and 2 polishing wheels for threads.



Technical features













Metric	220 N	222 D	222 L	224 N
Minimum glass dim	160 x 160 mm	160 x 160 mm	160 x 160 mm	160 x 160 mm
Glass thickness	3 ÷ 30 mm	3 ÷ 30 mm	3 ÷ 30 mm	3 ÷ 30 mm
Speed	0,6 ÷ 6 m/min (1 ÷ 10 m/min opt.)	0,6 ÷ 6 m/min (1 ÷ 10 m/min opt.)	0,6 ÷ 6 m/min (1 ÷ 10 m/min opt.)	0,6 ÷ 6 m/min (1 ÷ 10 m/min opt.)
Installed power	55 KVA (45 KW)	61 KVA (45 KW)	61 KVA (45 KW)	66 KVA (45 KW)
Weight	6090 Kg	6170 Kg	6170 Kg	6250 Kg

Imperial	220 N	222 D	222 L	224 N
Minimum glass dim	6"19/64 x 6"19/64	6"19/64 x 6"19/64	6"19/64 x 6"19/64	6"19/64 x 6"19/64
Glass thickness	8/64" - 1"12/64	8/64" - 1"12/64	8/64" - 1"12/64	8/64" - 1"12/64
Speed	24 ÷ 240 ipm (39 ÷ 394 ipm opt.)	24 ÷ 240 ipm (39 ÷ 394 ipm opt.)	24 ÷ 240 ipm (39 ÷ 394 ipm opt.)	24 ÷ 240 ipm (39 ÷ 394 ipm opt.)
Installed power	65 A@480V	72 A@480V	72 A@480V	78 A@480V
Weight	13426 lbs	13602 lbs	13602 lbs	13779 lbs





Wheel configuration


← Work management


220 N			
222 D			
222 L			
224 N			


Key


 Diamond


 Resinoid


 Polishing


 Felt


 Cerium impregnated wheel

 Stone

 Bevelling wheel

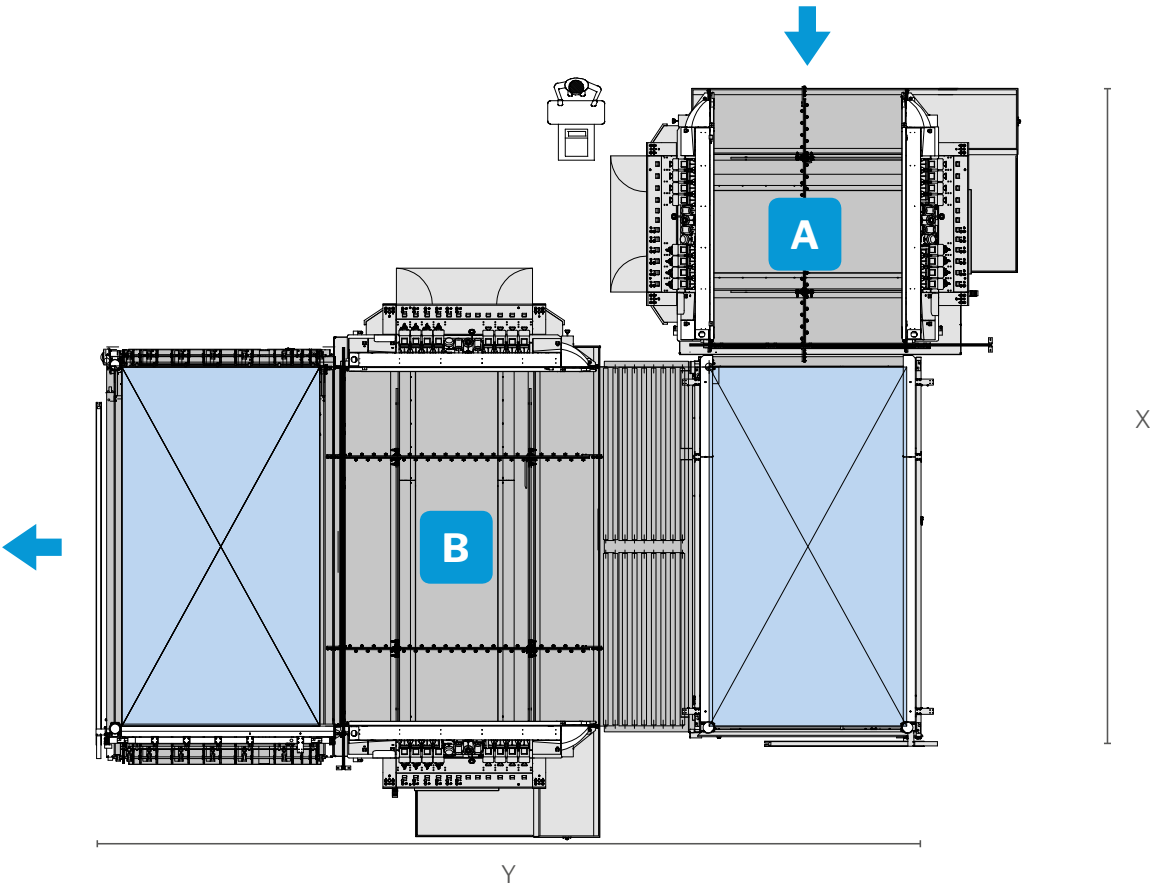
 Corner dubbing

 Front arris wheel

 Rear arris wheel

Machine overall dimensions

Metric				
Dim. max. A	1000 mm 2600 mm	2000 mm 3600 mm	2600 mm 4000 mm	2600 mm 5000 mm
Dim. max. B	2000 mm 4000 mm	3000 mm 2600 mm	2600 mm	3600 mm 2600 mm
Y	7664 mm 10309 mm	9284 mm 9295 mm	9284 mm 9669 mm	10284 mm 9669 mm
X	7375 mm 10366 mm	8995 mm 11005 mm	9995 mm 12146 mm	10612 mm 13146 mm
Imperial				
Dim. max. A	39" 24/64 102" 23/64	78" 47/64 141" 47/64	102" 23/64 157" 31/64	102" 23/64 196" 54/64
Dim. max. B	78" 47/64 157" 31/64	118" 7/64 102" 23/64	102" 23/64	141" 47/64 102" 23/64
Y	301" 47/64 405" 55/64	365" 33/64 365" 60/64	365" 33/64 380" 43/64	404" 56/64 478" 12/64
X	290" 23/64 196" 54/64	354" 9/64 102" 23/64	393" 32/64 380" 43/64	417" 51/64 517" 36/64



Titan

The Bottero double edgers range enable the processing of flat edge, of threads and possibly the removal of the edge.

220 N

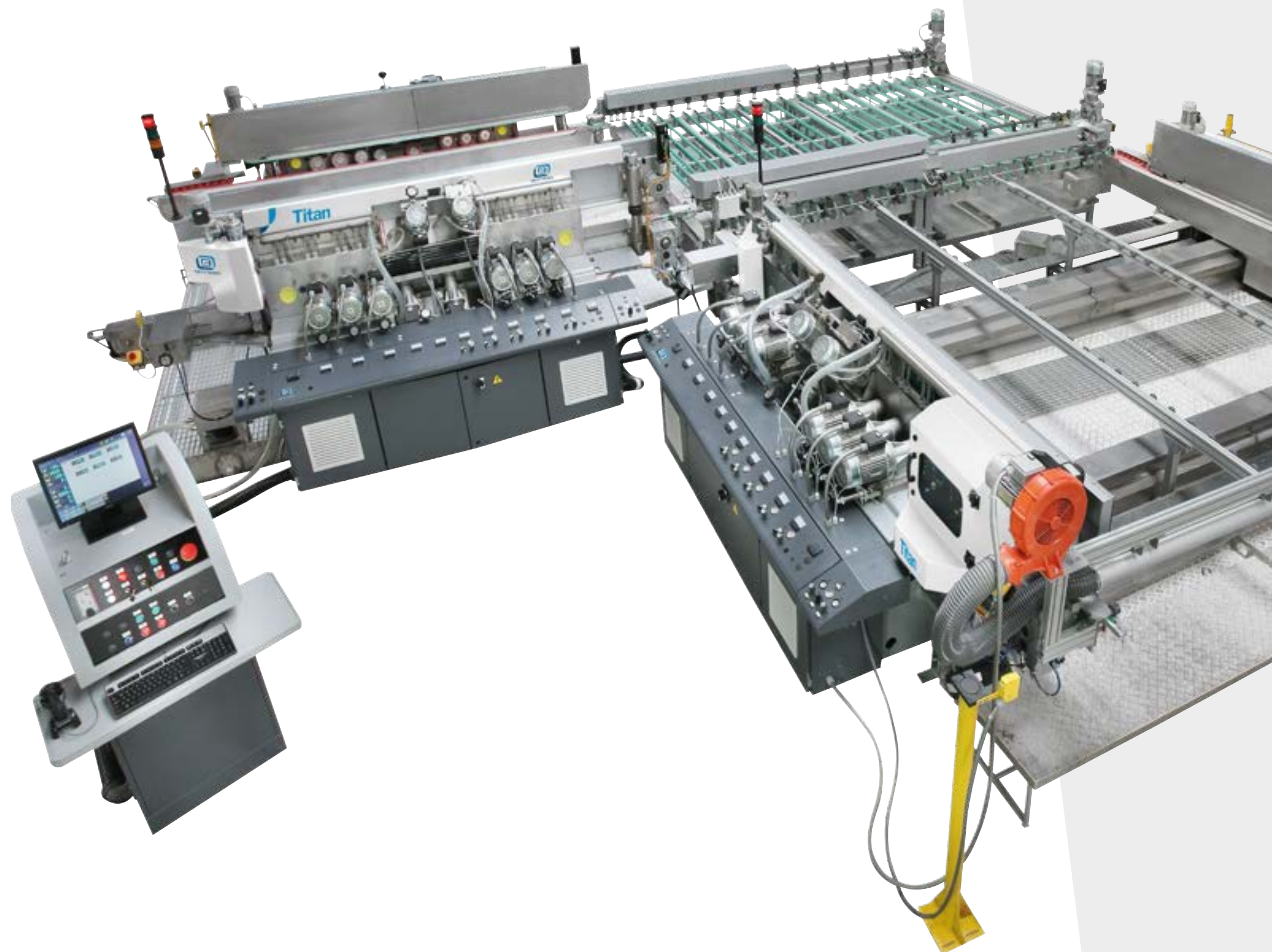
The 220 N is the classic double edger designed for who needs to produce large quantities of glass with precise orthogonality, which vertical machines are not able to offer. Wheels configuration for each side is 3 diamond grinding wheels and 3 polishing wheels for the edging process and 2 diamond wheels and 2 polishing wheels for arising.

222 D

The 222 D is the ideal machine for customers needing to remove high amounts of material in a single pass. The wheel configuration of the 222 D is: On each side of the machine. 4 diamond grinding wheels and 3 polishing wheels for the glass edge and 2 diamond grinding wheels with 2 polishing wheels for performing mitres on the edge of the glass.

222 F

The 222 F machine is targeted at companies that do not need to produce mitres above 45 degrees. The wheel configuration of the 222 F is: On each side of the grinding machine. 3 diamond wheels and 3 polishing wheels for producing the glass edge. Plus 2 diamond wheels and 1 polish wheel for the upper mitre and 1 diamond wheel and 1 polish wheel for the lower mitre.





222 L

The 222 L is the ideal machine for customers wishing to manufacture a product with a high quality polish. The wheel configuration of the 222 L is: On each side of the grinding, 3 diamond wheels and 4 polish wheels for producing the glass edge. Plus 2 diamond wheels and 2 polish wheels for each of the arrises.

224 N

The 224 N is the highest performing machine of the Titan range. Its configuration has, on each side, 4 diamond wheels and 4 polishing wheels for flat edge and 2 diamond wheels and 2 polishing wheels for threads.

224 F

The 224 F is the machine that, through its configuration with 3 additional spindles dedicated to the top thread, allows having bevels of considerable thickness and quality.

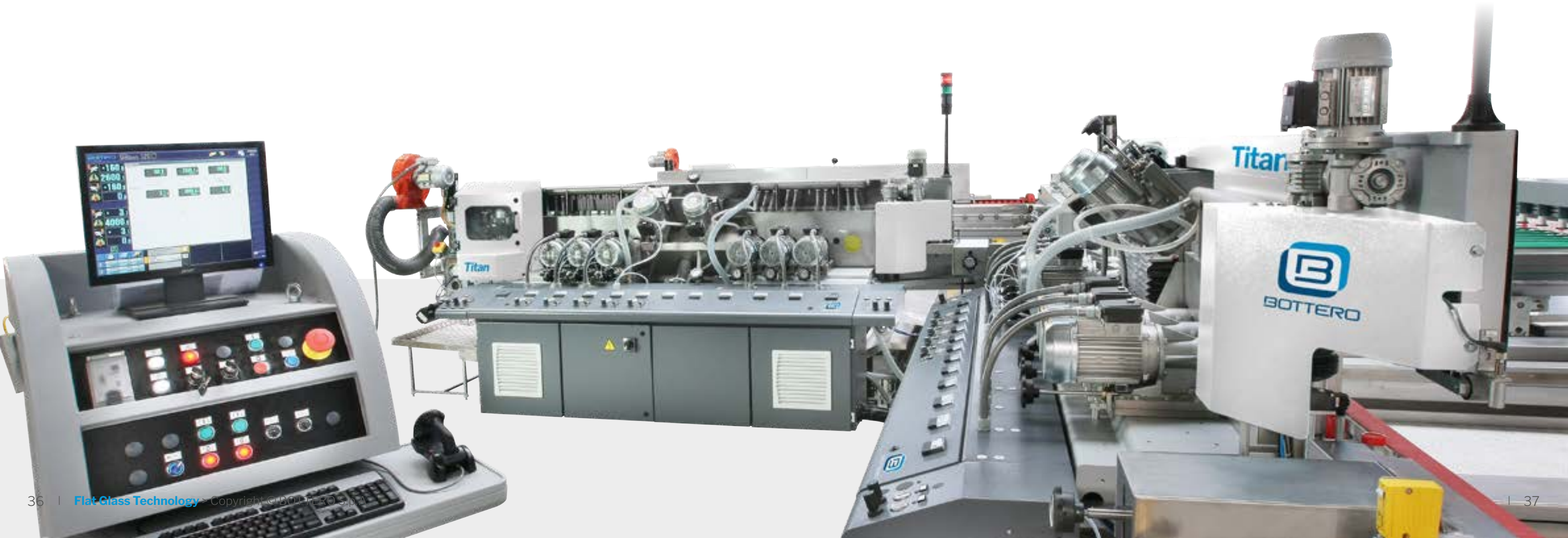
Technical features

Metric	220 N	222 D-F-L	224 N-F
Minimum glass dim	160x160 mm	160x160 mm	160x160 mm
Glass thickness	3 ÷ 30 mm	3 ÷ 30 mm	3 ÷ 30 mm
Speed	0,1 ÷ 10 m/min	0,1 ÷ 10 m/min	0,1 ÷ 10 m/min
Installed power	56 KVA (45 KW)	61 KVA (49 KW)	66 KVA (53 KW)
Weight	6090 Kg*	6170 Kg*	6250 Kg*
Worktable height	950 ± 50 mm	950 ± 50 mm	950 ± 50 mm
Max opening speed	30 m/min	30 m/min	30 m/min

*Max. glass 4000 mm

Imperial	220 N	222 D-F-L	224 N-F
Minimum glass dim	6”19/64 x 6”19/64	6”19/64 x 6”19/64	6”19/64 x 6”19/64
Glass thickness	8/64 ÷ 1”12/64	8/64 ÷ 1”12/64	8/64 ÷ 1”12/64
Speed	4 ÷ 394 ipm	4 ÷ 394 ipm	4 ÷ 394 ipm
Installed power	79,3 A@480V	86,4 A@480V	93,5 A@480V
Weight	13426,2 lbs	13602,5 lbs	13778,9 lbs
Worktable height	37” 26/64 ± 1”62/64	37” 26/64 ± 1”62/64	37” 26/64 ± 1”62/64
Max opening speed	1181 ipm	1181 ipm	1181 ipm

*Max. glass 157” 31/64



Wheel configuration

← Work management

220 N

222 D

222 F

224 L

224 N

224 F

Key

Diamond

Resinoid

Polishing

Felt

Cerium impregnated wheel

Stone

Bevelling wheel

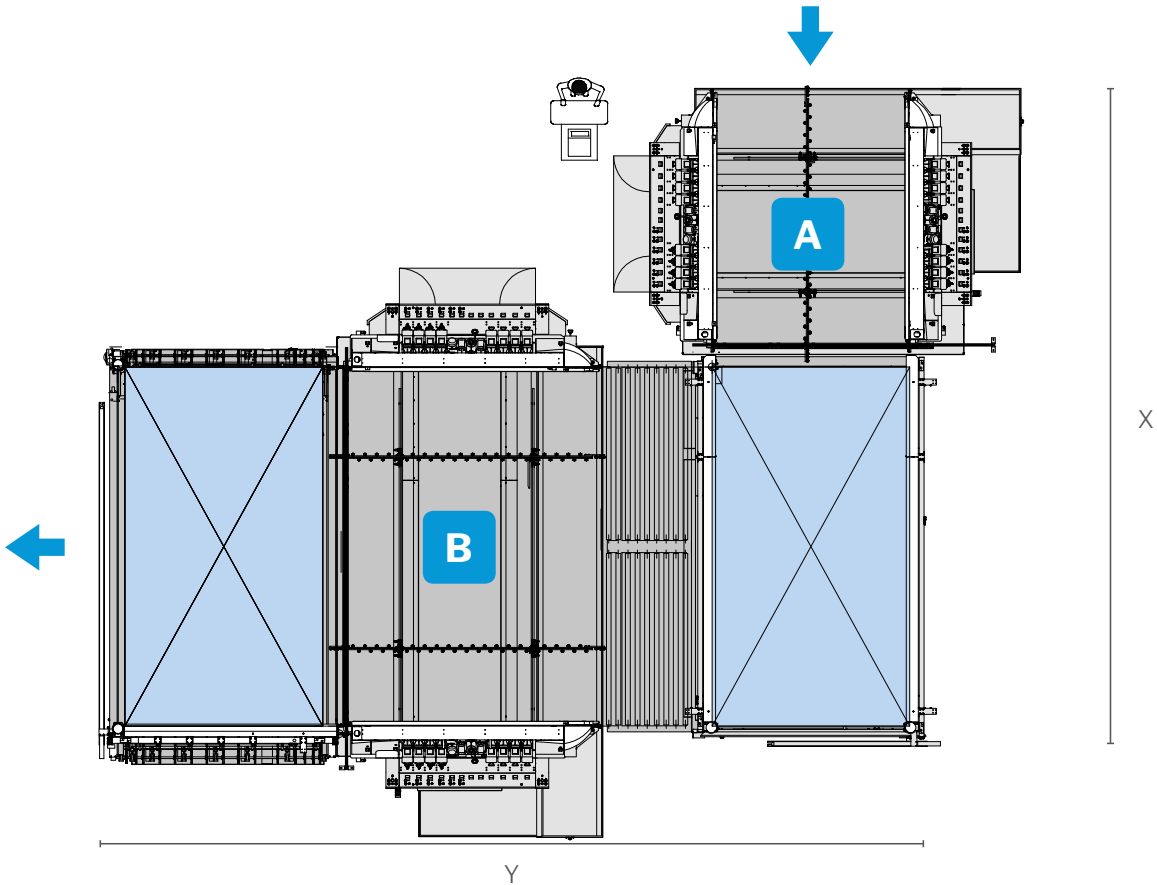
Corner dubbing

Front arris wheel

Rear arris wheel

Machine overall dimensions

Metric				
Dim. max. A	1000 mm 2600 mm	2000 mm 3600 mm	2600 mm 4000 mm	2600 mm 5000 mm
Dim. max. B	2000 mm 4000 mm	3000 mm 2600 mm	2600 mm	3600 mm 2600 mm
Y	7664 mm 10309 mm	9284 mm 9295 mm	9284 mm 9669 mm	10284 mm 9669 mm
X	7375 mm 10366 mm	8995 mm 11005 mm	9995 mm 12146 mm	10612 mm 13146 mm
Imperial				
Dim. max. A	39" 24/64 102" 23/64	78" 47/64 141" 47/64	102" 23/64 157" 31/64	102" 23/64 196" 54/64
Dim. max. B	78" 47/64 157" 31/64	118" 7/64 102" 23/64	102" 23/64	141" 47/64 102" 23/64
Y	301" 47/64 405" 55/64	365" 33/64 365" 60/64	365" 33/64 380" 43/64	404" 56/64 478" 12/64
X	290" 23/64 196" 54/64	354" 9/64 102" 23/64	393" 32/64 380" 43/64	417" 51/64 517" 36/64



TwoB

Bottero double edgers platform for the processing of flat edge.

The TwoB double sided edging machine can be configured with 10, 12, 14 or 16 grinding wheels. TwoB is particularly suited to process large sizes and thickness. The TwoB double edger platform can be integrated with totally automatic lines for flexible productions, in small or large batches, with automatic dimension changes managed by the dedicated software.

Peripheral wheel profiles

Engraving wheels



Wheels for arrises



Peripheral wheels for step and edge



Pencil edge peripheral wheels



Wheels for over 45°



Wheels for under 45°



Edge grinding cup wheels



Technical features

Metric

Feasible openings	1300 6100 9000 mm *
Glass thickness	3 ÷ 19 mm standard max. 38 mm laminated (opt.) *
Travel speed	0,1 ÷ 12 m/min
Removal per side	0,5 ÷ 5 mm
Max opening speed	20 m/min

* Other dimensions upon request

Imperial

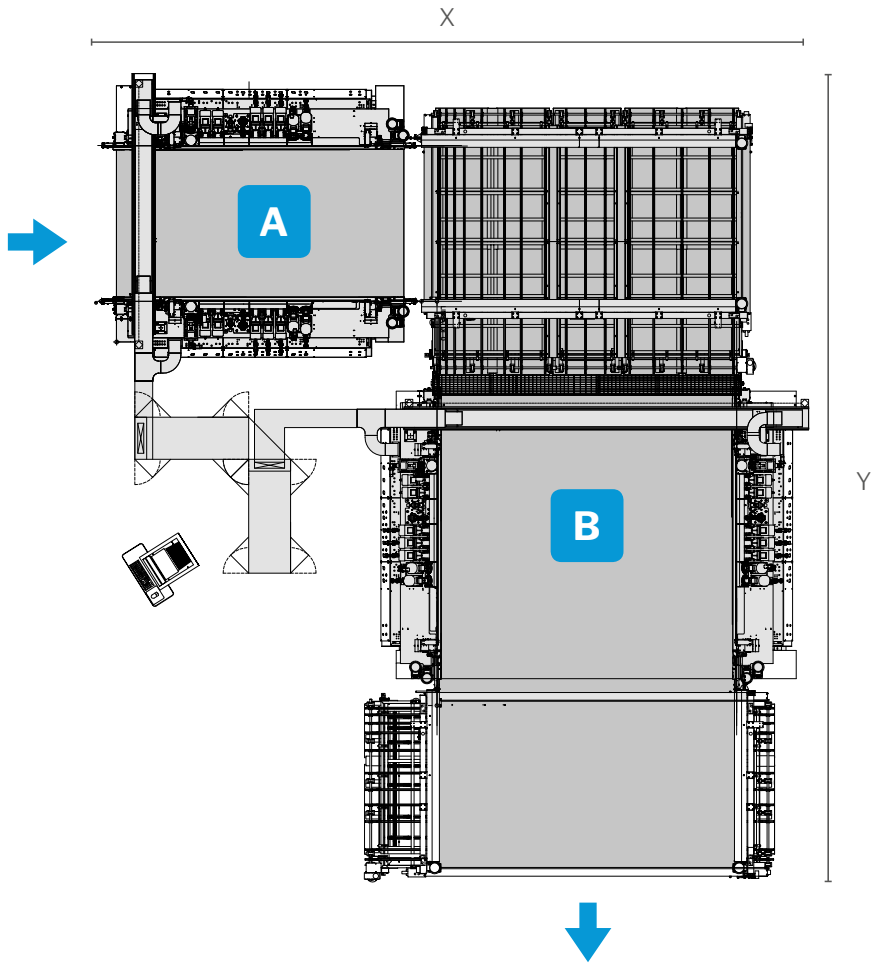
Feasible openings	51" 3/16 240" 10/32 354" 21/64 *
Glass thickness	8/64" ÷ 48/64" standard max. 1" 32/64 laminated (opt.) *
Travel speed	4 ÷ 472 ipm
Removal per side	1/64" ÷ 13/64" mm
Max opening speed	787 ipm

* Other dimensions upon request



Machine overall dimensions

Metric	10	12	14	16
Dim. max. A	2600 mm 3300 mm	2600 mm 3300 mm	2600 mm 3300 mm	2600 mm 3300 mm
Dim. max. B	4600 mm 6000 mm	4600 mm 6000 mm	4600 mm 6000 mm	4600 mm 6000 mm
X	11560 mm 12960 mm	11980 mm 10800 mm	12400 mm 13800 mm	-
Y	10380 mm 11080 mm	13380 mm 11500 mm	11220 mm 11920 mm	-
Imperial	10	12	14	16
Dim. max. A	102" 130"	102" 130"	102" 130"	102" 130"
Dim. max. B	181" 236"	181" 236"	181" 236"	181" 236"
X	455" 510"	472" 425"	488" 442"	-
Y	409" 436"	527" 453"	543" 469"	-



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.

more than
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

Bottero S.p.A. - Trana
Trana - Italy

Bottero S.p.A. - Pesaro
Pesaro - Italy

Revimac S.r.l.
Vicenza - Italy

Bottero GmbH
Grevenbroich - Germany

Bottero UK Limited
Rochdale - Great Britain

Bottero France SA
Nice - France

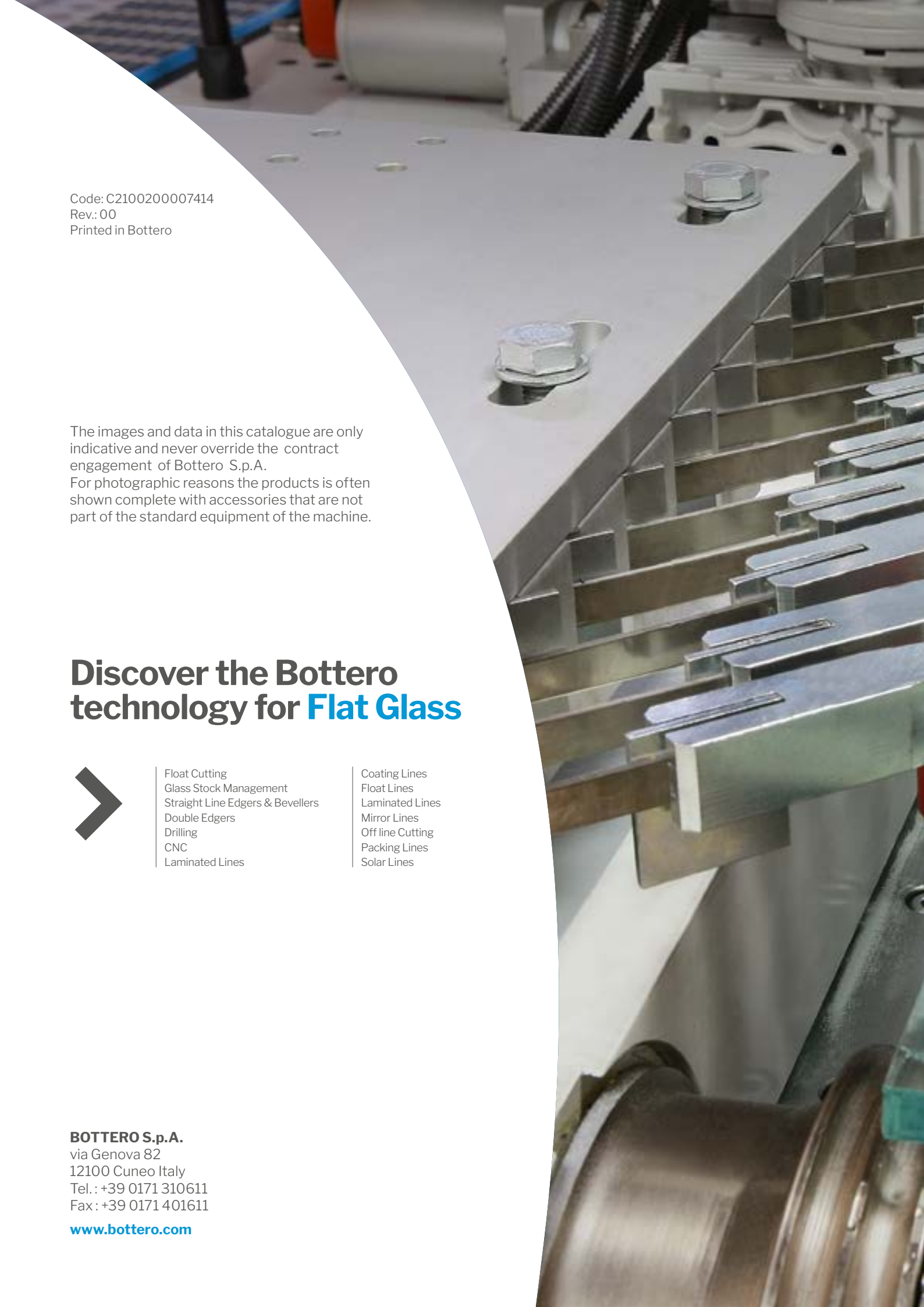
Bottero do Brasil
S.Paolo - Brasil

Bottero Flat Glass Inc.
Kernersville - North Carolina - USA

Bottero Glass Industry Co. Ltd
Shanghai - China



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



Code: C2100200007414
Rev.: 00
Printed in Bottero

The images and data in this catalogue are only indicative and never override the contract engagement of Bottero S.p.A.
For photographic reasons the products is often shown complete with accessories that are not part of the standard equipment of the machine.

Discover the Bottero technology for **Flat Glass**



- Float Cutting
- Glass Stock Management
- Straight Line Edgers & Bevellers
- Double Edgers
- Drilling
- CNC
- Laminated Lines

- Coating Lines
- Float Lines
- Laminated Lines
- Mirror Lines
- Off line Cutting
- Packing Lines
- Solar Lines

BOTTERO S.p.A.
via Genova 82
12100 Cuneo Italy
Tel.: +39 0171 310611
Fax: +39 0171 401611

www.bottero.com