

Pratica Plus

CNC Working Centre



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 shape glass

Practically perfect in every situation

Bottero machining centres are extremely powerful and flexible machines that can produce many processing operations with precision and reliability, such as profiling, drilling, edge finishing, cutting and much more. The ease and intuitiveness of the software are a great strong point for these machines that can be used in any advanced glass factory.



Bottero machining centres can operate both on glass and on stone, making their use even more flexible.

The Range

After the success of the first version, the Bottero Pratica CNC workcentres evolve with their new PLUS version. Both 3 and 4 axes versions are equipped with the new high performance pressurised spindle.

Pratica Plus 2500 / 3300 / 4000

Max. sheet dimensions **Up to 4000 mm**

Automation level **★★★★•**

Pratica Platform

Max. sheet dimensions **Greater than 4000 mm**

Automation level **★★★★•**



Processing

The standard version of the machine is able to perform the following operations on glass sheets:

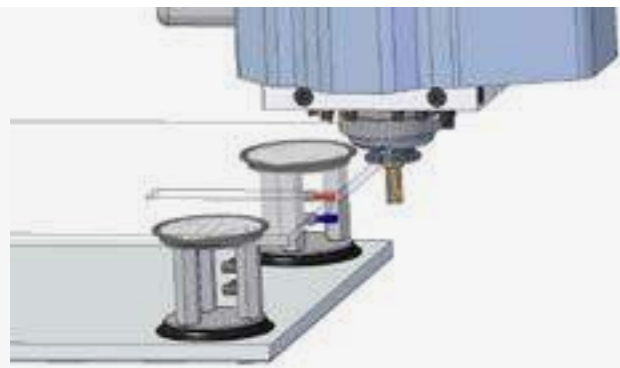
- Milling on the sheet with a rectilinear and/or curvilinear path.
- Edging and radial polishing on a straight and/or curved path on the edge of the sheet.
- Drilling and/or countersinking perpendicular to the surface of the sheet.
- Writing and drawing on the top side of the sheet.

By using optional aggregates the possibilities are expanded to:

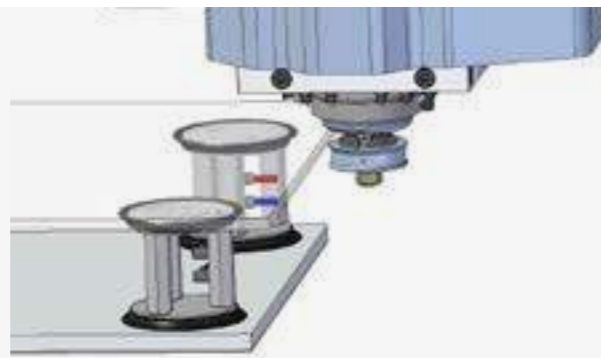
- Cutting with a straight diamond disc.
- Cutting with a straight diamond disc angled at 45°.
- Writing and drawing on the side surface of the sheet.
- Straight and/or curved beveling on the top side of the sheet.
- Straight and/or curved engraving on the top side of the sheet.
- Straight and/or curved cup grinding on the side surface of the sheet.
- Drilling on the underside of the sheet.



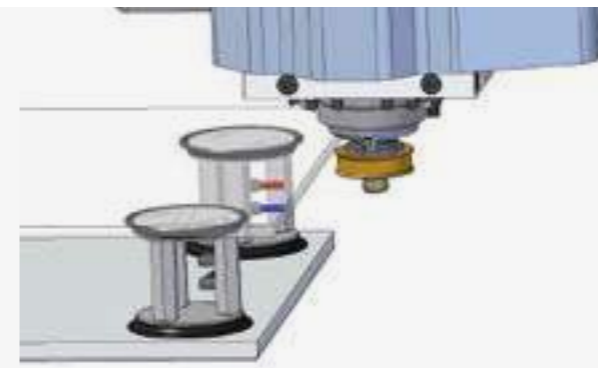
Pratica Plus 3 Axis



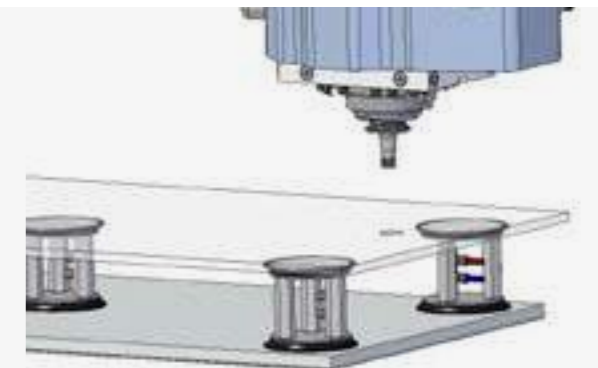
Milling



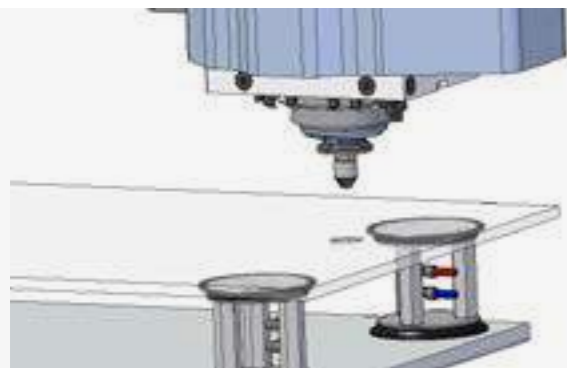
Edging



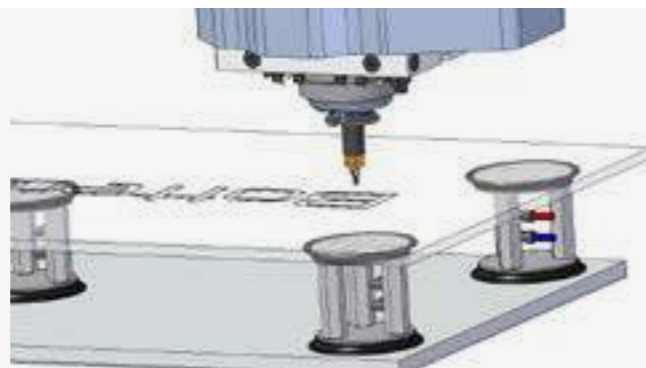
Polishing



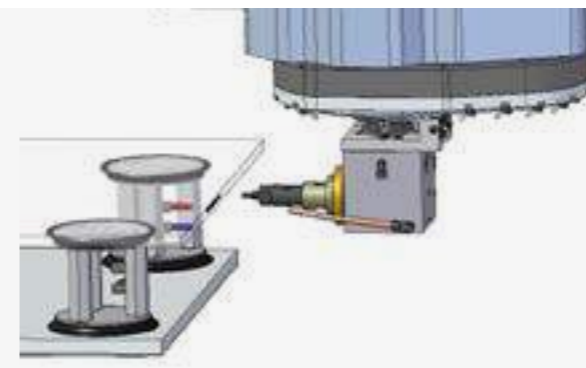
Drilling



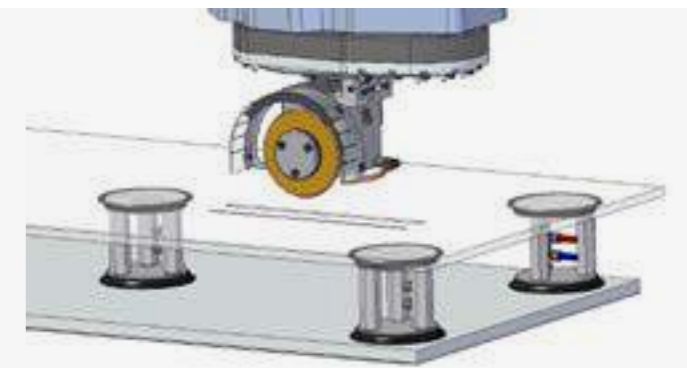
Countersinking



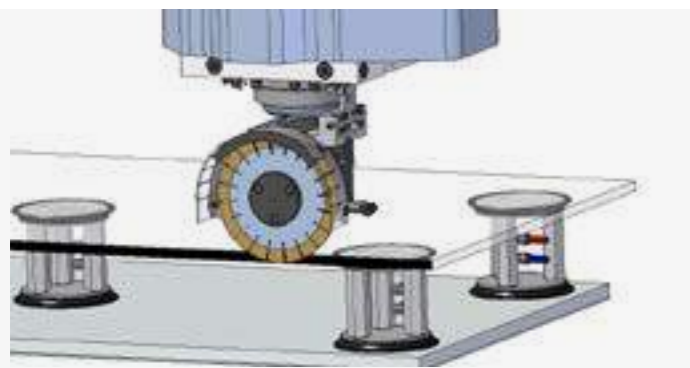
Surface Writing



Edge writing

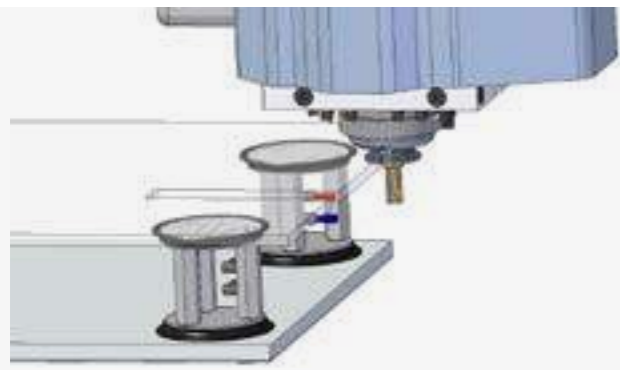


Engraving



Straight Cutting

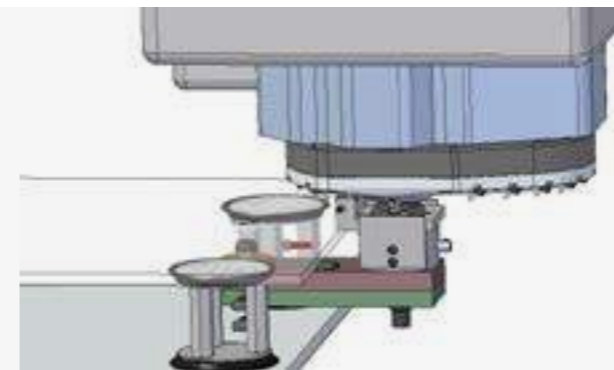
Pratica Plus 4 Axis



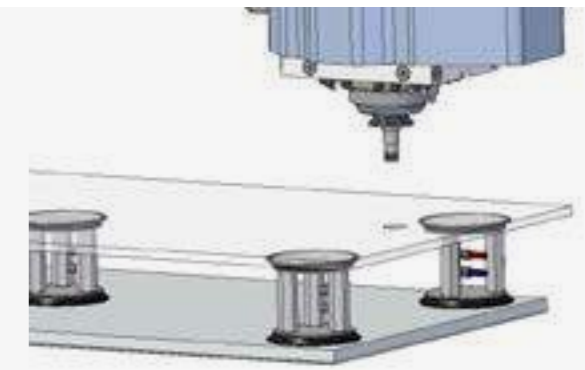
Milling



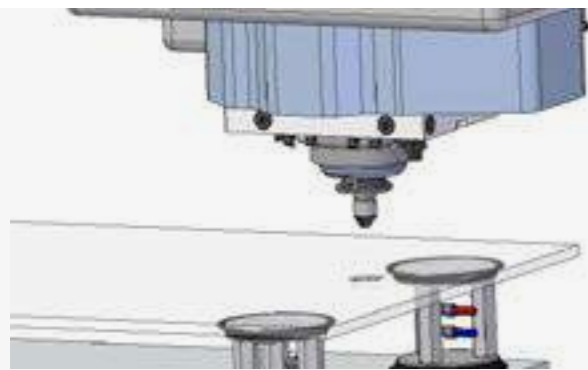
Edging & Polishing



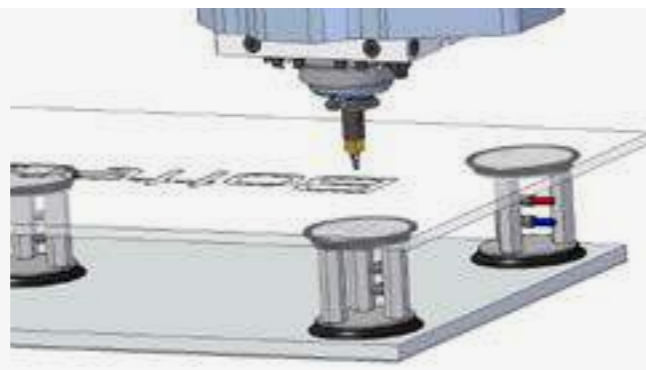
Upper and lower drilling



Drilling



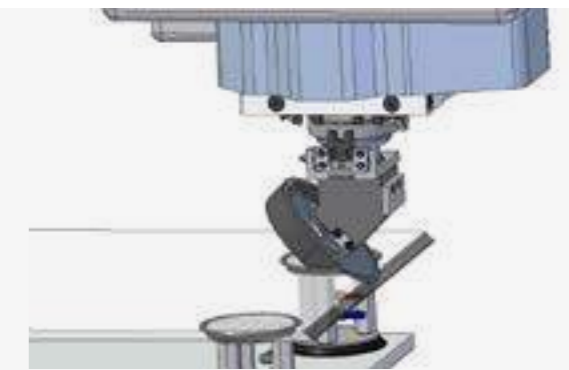
Countersinking



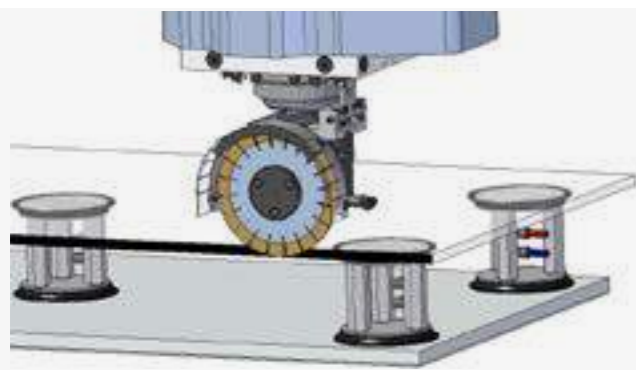
Surface writing



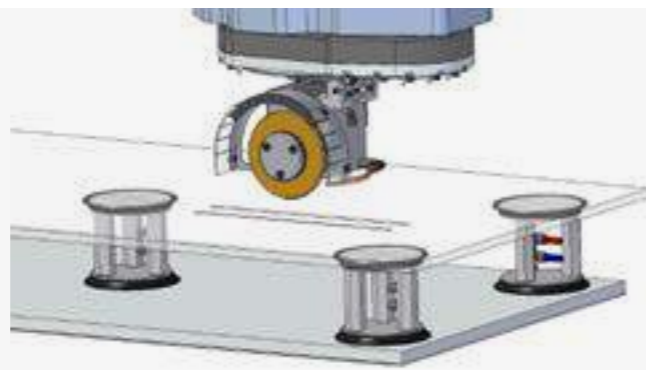
Cup wheel Edging



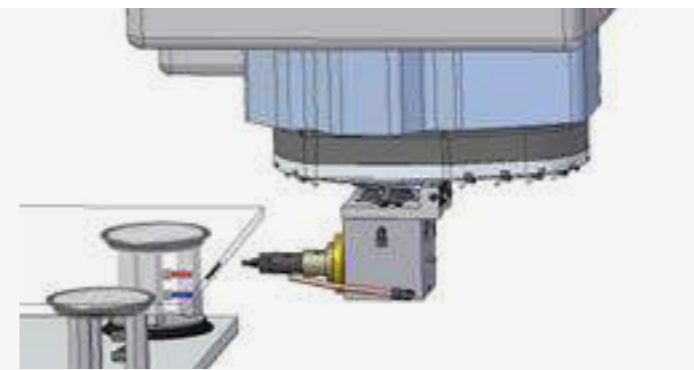
45° Bevel Cut



Straight and shape cutting



Straight and shape engraving



Edge Writing

Features

Pratica Plus + Platform

- 1 Easy to use and intuitive machine management and control software.
- 2 Spindle with self-ventilated air cooling is equipped with a pressurisation circuit.
- 3 Tool magazine located laterally to the work table.
- 4 Various sheet clamping devices and reference supports.
- 5 Extra thick aluminium or PVC work table.
- 6 Large sliding doors facilitate the loading.
- 7 Devices to perform the dressing of both core drills and polishing wheels.
- 8 All machine parts in contact with water are made of Stainless steel.



Details

The high quality standard of the **Pratica Plus** 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.





Sheet clamping system

Sheet clamping system on the work table consisting in:

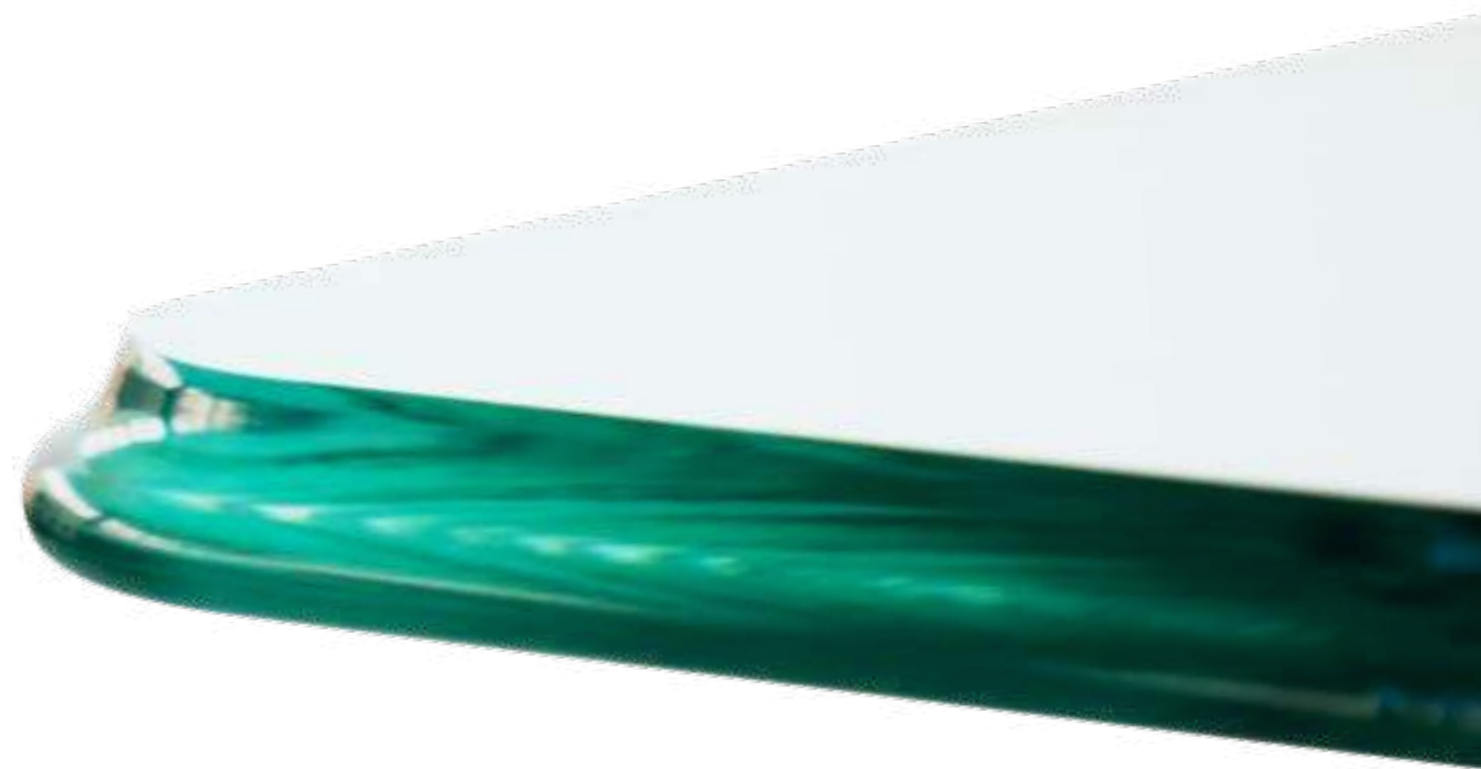
- Vacuum cups of different types so to be able to adapt to a wide range of different shapes to be processed; the vacuum cups are symmetric and therefore can be used in both directions (upside-down).
- Retracting telescopic stops to facilitate sheet positioning before machining.
- clamping circuits activated by manual control levers or pedal.

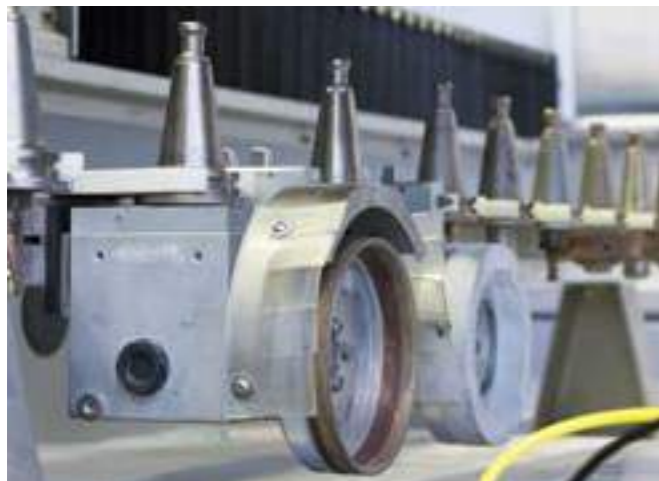


Electro-spindle

Including:

- Self-ventilated air cooling.
- Pressurized circuit to prevent leakage of potentially dangerous pollutant particles.
- Water distributor for the flow of the “internal” tool cooling water for increasing the machining performance.
- “External” water distribution system (automatically filtered recycled water) supplied from special nozzles around the tool.





Tools magazines

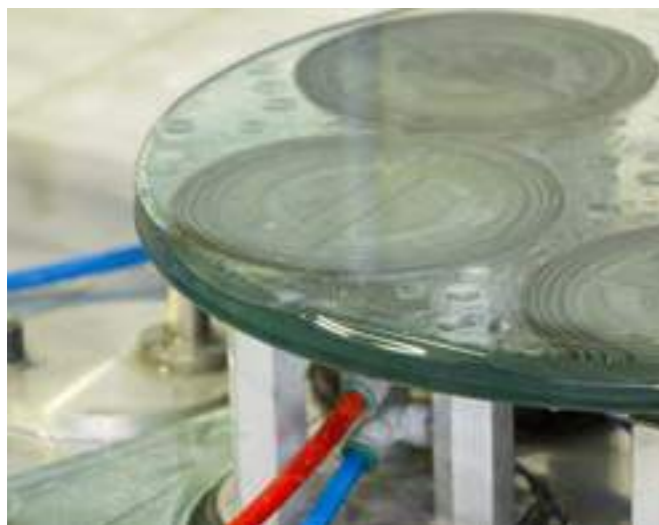
One easily accessible tools magazine located on one side of the machine is supplied as standard: fixed type (model 3300) or retractable type (model 4000 and optional on model 3300).

The machine can also be equipped with a second optional magazine with the same number of positions as the standard one.



Retractable tool magazine

Standard on model 4000, in alternative to the fixed one as supplied as standard in model 3300. In this way, there is a wider availability of working area. The number of positions for tools is the same as the fixed magazine. Possibility to install additional tool magazine in order to double the standard tool magazine number of positions.



Suction Cups and Work Table

The suction cups and stops are in turn secured to the work table (smooth and without any grooves of any type) again by means of a vacuum circuit, being connected to another dedicated circuit in which the vacuum is always present; in actual fact the suction cups are symmetrical and so can be used indifferently in one direction or the other. Because of the smooth work table with no grooves there are no limitations of any kind for positioning the suction cups and stops on it.

Drilling bit dresser

Drilling bit dresser + software program to allow the automatic redressing of drill bits.



Cleaning edge kit for polishing wheels

Cleaning edge kit for polishing wheels + software program to allow the automatic removal of the exceeding material on the edges of polishing wheels.



Laser tool presetter

For measuring the tool diameter and length directly on the machine and automatically during machining.





Matrix table

Either partially (50%) or totally (100%) covering the work area: innovative and fast positioning system for stops and suction cups avoiding the use of the traditional reference stop and without having to connect any pipe to supply air / vacuum to the various elements.



Remote control panel

Teach Pendent Pocket remote control panel for manual remote control of axes without always having to work from the control pulpit.



Shape scanner

Laser system for copying twodimensional shapes. By an almost automatic procedure, it is possible to scan the profile of a shape made of any material (including a drawn profile) in order to reproduce it accurately on a sheet of glass.

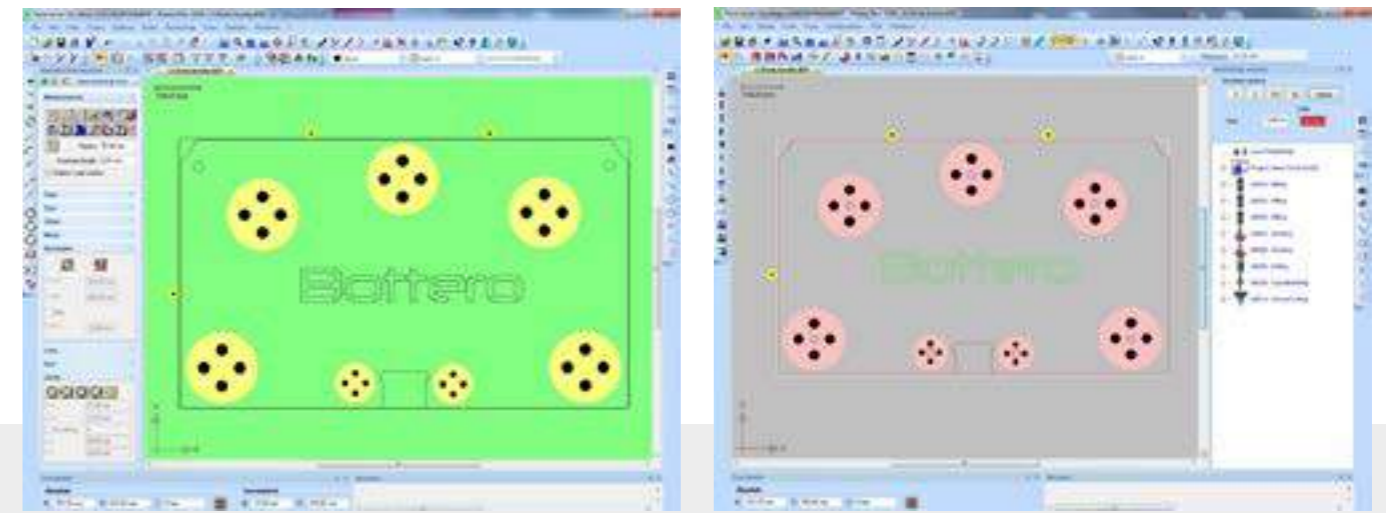


Software



Technohuman

- The machine operating software program is in Windows platform
- Available in operator language (including all CE languages), personalized translations can also be entered.
- Measurement units: metric and Imperial.
- Most of the information and controls are in graphic form making them extremely intuitive.
- The interface is furthermore divided up into various areas, each one dedicated to a particular set of functions (for example manual movements, machining program start up, tool table, origins table, etc...).
- Surfing between the different software pages thanks to the “tab menu” structure.
- Virtual simulator to test the machining program with either the machine stopped or in “idle cycle” in order to find and, if necessary, correct any error of programming and/or tool setup on the work table.
- Interface designed to be used with the touch screen monitor (option on request).



CAD

- Main geometrical drawing functions (lines, arcs, segments, etc...) and advanced ones (splines).
- Editing tools (trims, fillets, ...).
- DXF files import.
- Pre-loaded library of parametric figures (predrawn shapes of which only the dimensions need to be defined).

CAM

- Intuitive interface to define which parts are to be machined (including all of them) and in which way.
- Tools selection depending on the selected machining operation.
- Preset working parameters which can be modified according to individual needs.
- Working sequences database, including the customizations already made.
- Automatic generation of machining program (ISO program).

Technical Features

Electro spindle		2500	3300	4000
Maximum rotation speed	rpm	10.000	10.000	10.000
Power in continuous service (S1)	Kw	9,2	9,2	9,2
Torque in continuous service (S1)	Nm	30,3 up to 3.000 rpm	30,3 up to 3.000 rpm	30,3 up to 3.000 rpm
Power in intermittent service (S6)	Kw	11,04	11,04	11,04
Torque in intermittent service (S6)	Nm	36,4 up to 3.000 rpm	36,4 up to 3.000 rpm	36,4 up to 3.000 rpm

Tools magazines		2500	3300	4000
Magazine type	-	fixed	fixed	mobile
Without C axis	pos.	10 + 10	13 + 13	18 + 18
With C axis	pos	max. 8 + 8	max. 11 + 11	max. 15 + 15
Maximum tool diameter	mm	150	150	150

Weight		2500	3300	4000
Weight		3.990 Kg	4.180 Kg	4.800 Kg

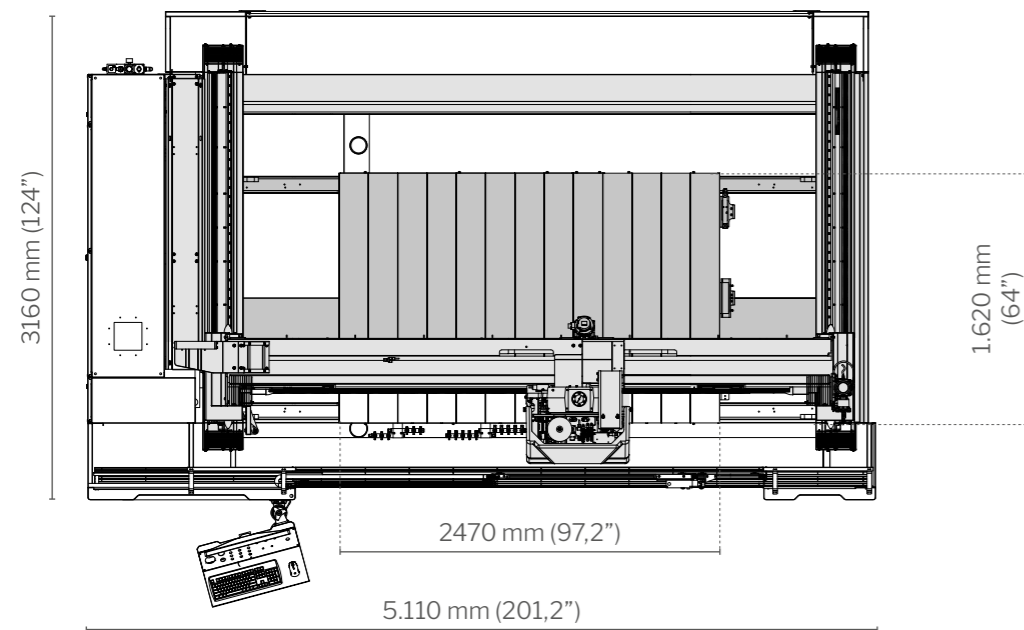
Maximum glass processing *		2500	3300	4000
Standard configuration **	mm	2545 x 1620	3300 x 1620	4300 x 2320

* With 100 mm tool diameter

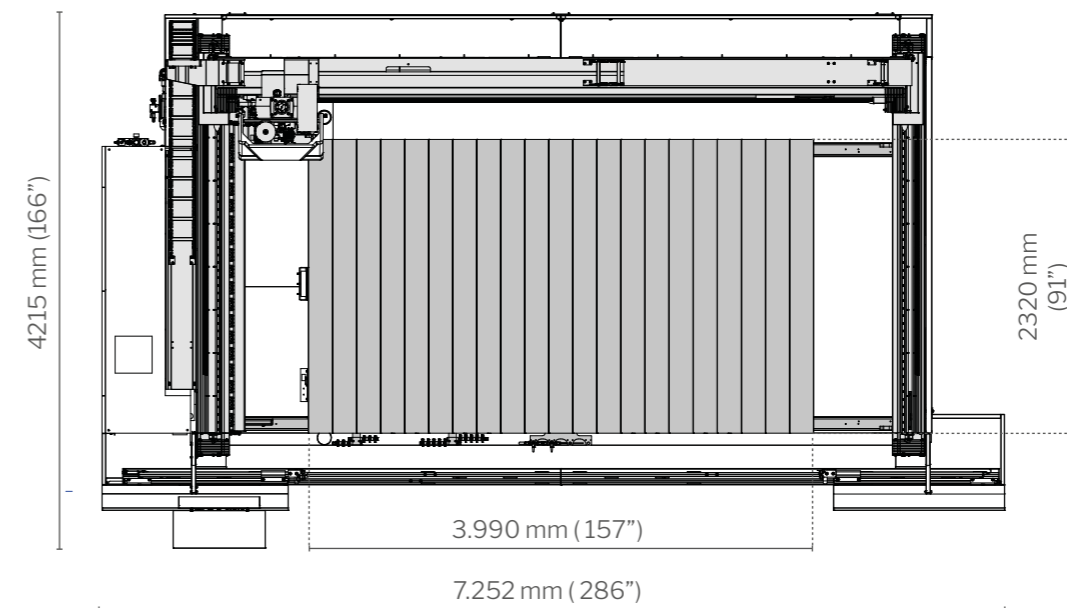
** Standard configuration for 3300 = left fixed tools storage / 3 axis
 Standard configuration for 4000 = left mobile tools storage / 3 axis
 For all the other configurations check the technical specifications

Dimension & Layout

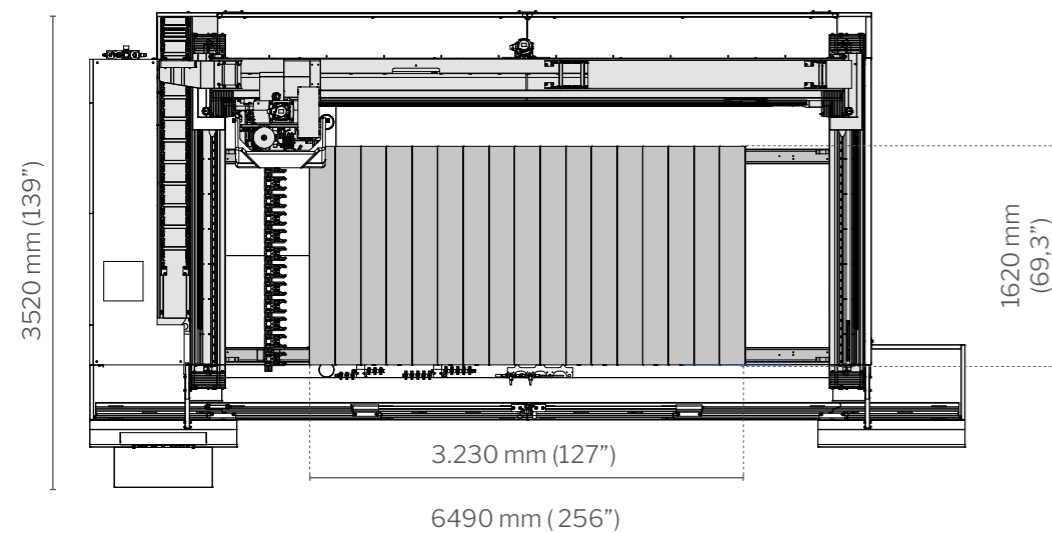
Pratica Plus 2500



Pratica Plus 4000

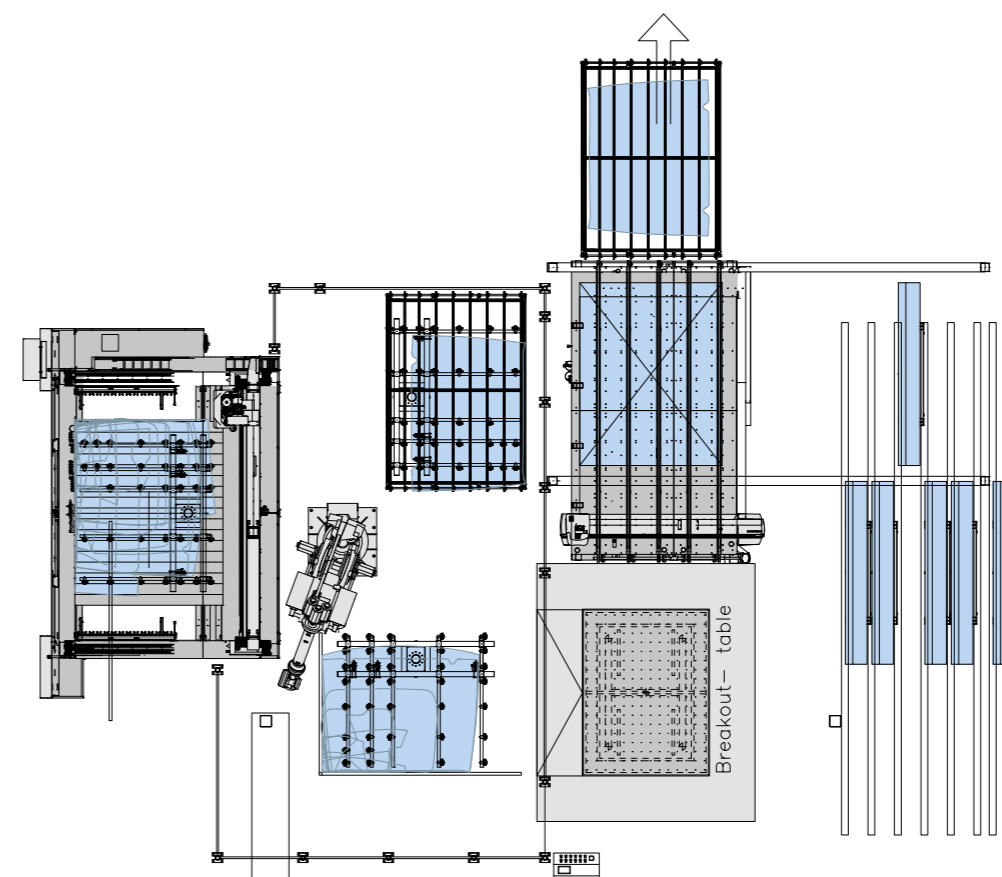


Pratica Plus 3300



Pratica Platform

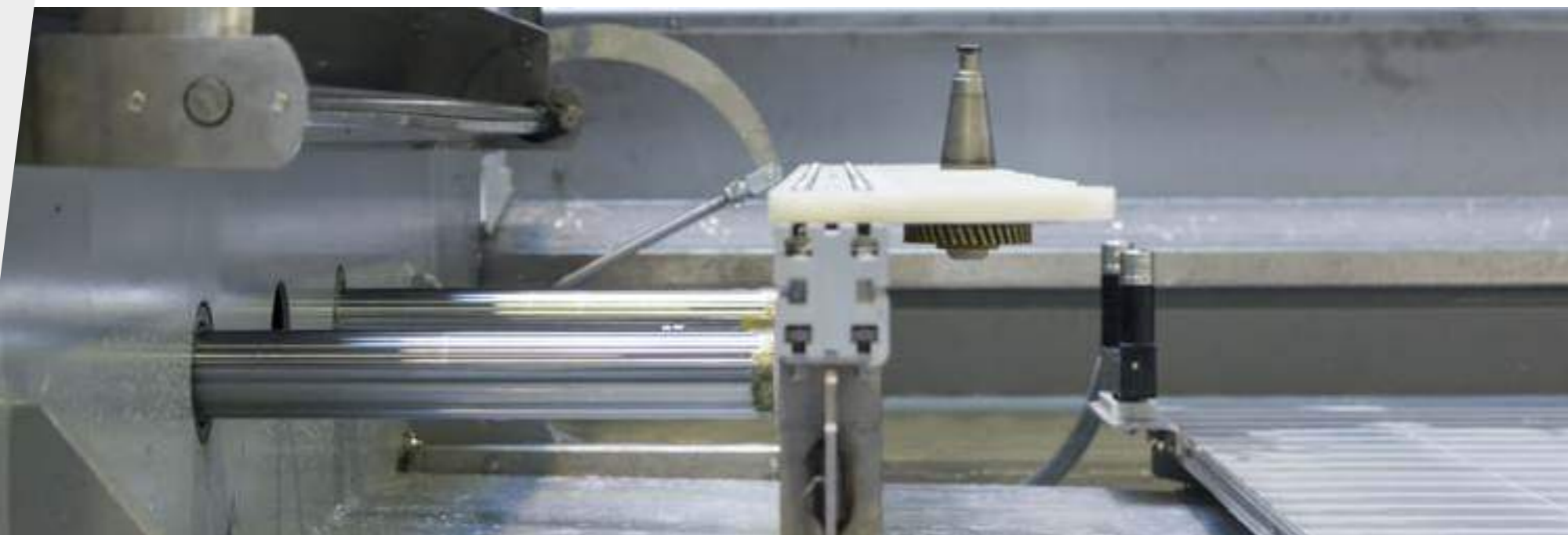
Glass Size	N° of modules	Machine dimension
3300 x 2250 mm	1	6490 x 4150 mm
3300 x 4500 mm	2	6490 x 6400 mm
3300 x 6750 mm	3	6490 x 8650 mm
3300 x 9000 mm	4	6490 x 10900 mm
3300 x 11250 mm	5	6490 x 13150 mm
3300 x 13500 mm	6	6490 x 15400 mm
3300 x 15750 mm	7	6490 x 17650 mm
3300 x 18000 mm	8	6490 x 19900 mm



Automatic breakout and grinding cutting line for automotive glass with a loading and unloading Robot for Pratica Plus.

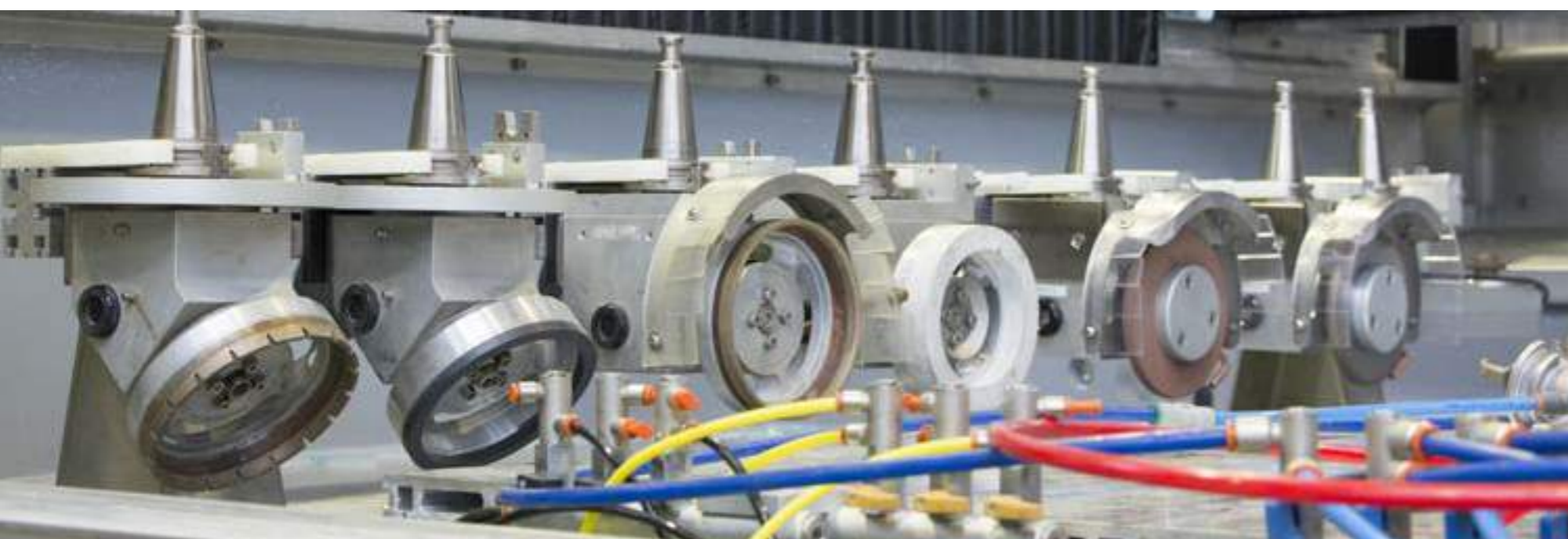


Option & Kit



Option

- Automatic laser tool measurement system
- Tilting carriage and roller conveyors for easy loading
- Laser projector for positioning suction cups and reference stops
- Shape Scanner with automatic template detection
- Touch-screen monitor
- Matrix Table
- PVC work table
- Retractable tool storage
- Additional tool storage
- Sheet clamping with foot pedal
- Portable pushbutton control panel for axes control
- Air conditioning system for electrical cabinet



Tools Kit

- Surface writing and decorating kit
- Edge writing and decorating kit
- Vertical saw kit
- 45° angled saw kit
- Shaped brilliant cutting kit
- Beveling kit (3°, 5°, 7° and 10°)
- 45° Mitering kit
- Cup wheel edge grinding kit
- Upper and lower drilling kit



Augmented Maintenance



It has been demonstrated that only 50% of the maintenance time is spent on direct intervention, the other 50% is spent gathering the required data information.



It can be activated by the machine user in order to get interactive information about the single Point of interest



It can be remotely activated by Bottero service to analyze the machine in real time and support the user



browse machine documentation:
productivity and operation data
- instruction book
- mechanical scheme
- wiring diagram
- maintenance guide
- spare parts link



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
Shangai - China



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