



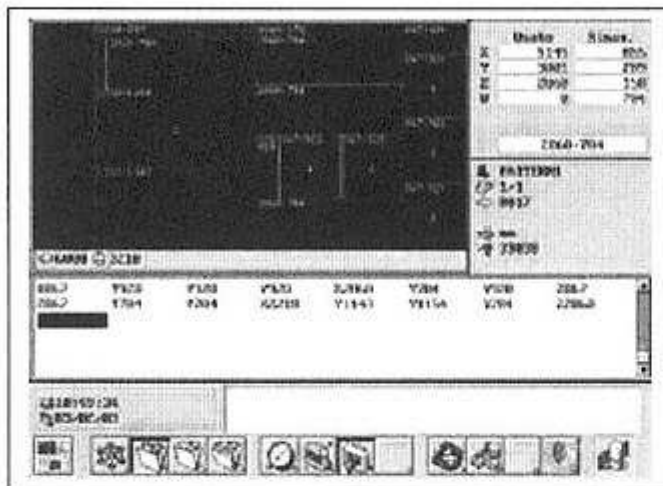
535 AVL/AVM



MAIN CHARACTERISTICS OF THE 535 AVL / 46 MODEL

The 535 AVL /46 model stands out for its high levels of "MODULARITY" and "AUTOMATION".

The overall machine controls is managed by PC equipped with a flat screen for the operator interface.



The operator interface allows easy input of the production data and the "Supervisor" function displays the machine status and the work cycle underway.

Every machine configuration can be equipped with the Bottero Job Manager control software.

The customer may also request the network electronic cards for connection to the company network or modems for connection to the "remote-assistance" service.

The module and work panel of the 535 AVL / 46 model are the core of Bottero technology in the laminate glass cutting sector.

Main characteristics of the Cutting module:

Oversized structural elements of the cutting and separating bridges and related tracks of the cutter and breakout carriages: electrically welded components for all the structural parts, units made of aluminium alloy for the "dynamic" and precision elements.

Pair of bridges with automatic locking system for glass sheet cutting and breakout and separating the PVB to obtain a product with a high quality cut, as per BOTTERO PATENT.

Use of special rubber coated rolls to enable efficient separation of the glass without the risk of damaging it.

The PVB is separated using an HP Resistance; an infrared electrical resistance. The physical properties of the infrared rays make it possible to heat the P.V.B. without overheating the glass, thus avoiding breakages when cutting.

Reference system for diagonal cutting ("Laser pointer" device).

Main characteristics of the operating panel:

Meticulously designed worktable in terms of planarity, the quality of the felt used and the air cushion efficiency.

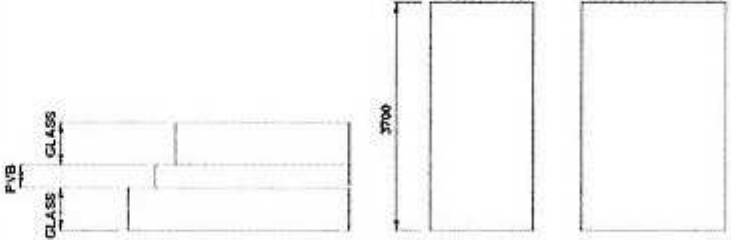
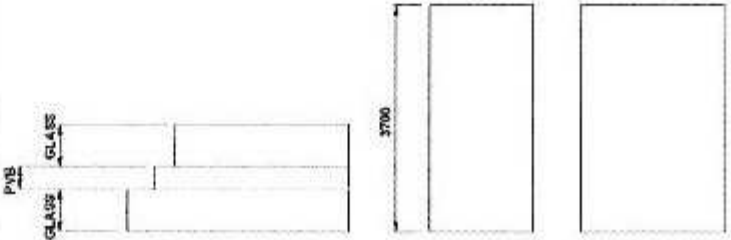
Frontal squaring bridge with retractable lugs, the operating surface of the machine is easily accessible by the operator.

Electric unloading arms fitted as standard, incorporated into the operating panel.

The 535 AVL / 46 model has a number of optional accessories which complete functionality and the range of use.

OPTIONS AVAILABLE

"GRINDING WHEEL" device (refittable)	Unit for removing LOW-E surface coatings. Grinding width: 20 mm. Maximum grinding speed: 60 m/min. Max. grinding glass thickness: 12+12+4.56
"High thickness" arrangement (not refittable)	Arrangement for the breakout of 12+12 glass, pvb maximum 2.28 Manual operating method: cutting/breakout sequence – on operator input. Piece movement method: manual.

"Blade" device (refittable)	PVB cutting with blade, The device improves considerably the cycle time for increased thickness
Automatic cycle	Fully automatic cycle for maximum cutting length with blade of 3700 mm and for the following thickness: Glass PVB 2+2 min. 0,38 - max 4,56 3+3 min. 0,38 - max 4,56 4+4 min. 0,38 - max 4,56 5+5 min. 0,38 - max 4,56 6+6 min. 0,76 - max 4,56 8+8 min. 0,76 - max 4,56 10+10 min. 0,76 – max 4,56 12+12 min. 0,76 - max 4,56 
Manual cycle	The maximum cutting length with blade is 3700 mm in case of manual cycle (PVB ≤ 4,56, glass ≤ 12+12 mm). 

Power supply	Voltage: 400V-415V (+/- 10%), Frequency 50-60 Hz without tension converter. Or Voltage: 200V-240V (+/- 10%), Frequency 50-60 Hz with tension converter. Or Voltage: 440V-600V (+/- 10%), Frequency 50-60 Hz without tension converter. Compressed Air: Minimum pressure 7 Bar Dew point < 5°
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PROJECT AND PRODUCTION STANDARDS

	Standards Adopted
The machine is designed, built and installed in consideration of the safety standards in force. Importance is placed upon the following aspects: Easy use. Ergonomic work place. Easy access to organs requiring maintenance. Reliability of the machine and its components. Reduced noise levels. Power savings.	IEC 204/1, CELENEC EN 60204-1, CEI 44-5, EEC Low Voltage Directive 73/23, EEC Directive 93/68. The following versions are available: Arrangement in compliance with the European Standard and CE mark. Arrangement in compliance with American Standards, UL-CSA (OPTIONAL) marks. Arrangement in compliance with project standards suggested by APAVE FRANCIA.

CUTTING BRIDGE PRECISIONS

Measurement bridge positioning	+/- 0,5 mm
Straightness	0,5 mm
Parallelism	1 mm
Maximum length difference between two diagonals. (Area rectangle < 2 sqm)	2 mm

All tolerances are measured on 3 mm thick glass.

SAFETY DEVICES

Electromechanical safety	Hardware safety circuits comprising special safety modules.
Management of Moving Parts	Electromechanical hardware brake or lock (with guaranteed stroke end and opening devices).

INSTALLATION AND CONDITIONS OF USE

Dimensions	3781 x 6130 mm (149" x 241")
Module weight	3300 Kg
Panel weight	2300 Kg
Work Counter Height	930 (+/- 20)
Basic installed power	18 KVA
Air Consumption (Max.)	500 NL/Min.
Air characteristic	Filtering : 5 micron Dew point : + 10°C of ambient temperature
Storage: Temperature and Humidity	From - 25 ° to + 75°, Reference pressure 1 Bar 90% relative humidity at 20 ° (without condensation) 50% relative humidity at 40 ° (without condensation)
Use: Temperature and Humidity	From +5 ° to +40 °, Reference pressure 1 Bar 90% relative humidity at 20° (without condensation) 50% relative humidity at 40° (without condensation)

TECHNICAL CARD

Maximum measurement		3210 mm
Minimum measurement		125 mm
Maximum cutting length		4600 mm
Minimum cutting length		150 mm
Processable glass thickness		Monolithic: 3 - 10 mm Laminate: 2+0.38+2 (22-1) minimum 10+4,56+10 (1010-12) maximum 12 +12 + 2.28 (1212-2.28) optional
Maximum Cutting Carriage Speed		140 m/min.
Maximum grinding speed		60 m/min. (optional – small wheel)
Loading/unloading maximum glass weight on arms		450Kg
Time of cycles for L = 3210mm (cut, breakout, detach)		Time in seconds (at room temperature, equivalent to 18° centigrade)
GLASS	P.V.B.	STANDARD
3+3	0.38	25
4+4 / 3+5	0.38	26
5+5	0.38	27
6+6	0.38	28
3+3	0.76	32
4+4	0.76	33
5+5	0.76	34
6+6	0.76	35
3+3	1.52	41
4+4	1.52	43
5+5 / 4+6	1.52	45
6+6	1.52	47
8+8	4.56	130

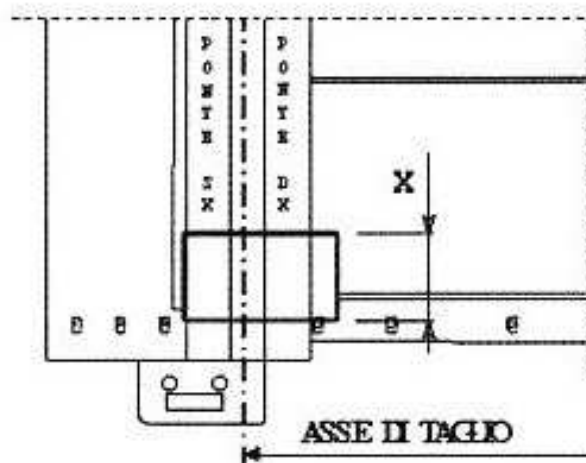
Maximum cut

X=4600 mm

Minimum cut

X=150 mm

LEFT BRIDGE RIGHT BRIDGE
CUTTING AXIS



Maximum measurement

L=3210 mm

Minimum measurement

L=125 mm

LEFT BRIDGE RIGHT BRIDGE
MEASUREMENT BRIDGE
CUTTING AXIS

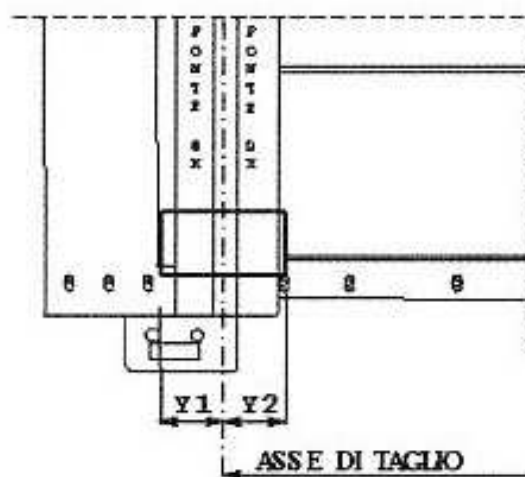


Minimum breakout

Y1=90 mm

Y2=125 mm

LEFT BRIDGE RIGHT BRIDGE
CUTTING AXIS





MODULINEA
100 BLC

100 BLC

JUMBO TILTING

LOADING AND WORK MACHINE FOR FLAT GLASS.

Machine for the handling, loading and breakout of sheets of flat glass.

Structure made up of electro-welded steel tubular pipes, protected by two layers of paint: rust-prevention and coloured enamel.

Accurately flat and wool felt padded wooden table surface to ensure maximum air cushion performance.

Powerful air cushion system with a blower to create the "air cushion" between the table and the glass.

This permits a drastic reduction of the friction and it eases all handling operations of the glass itself.

The sound threshold of the air system is comprised within the limits required by current regulations.

Tilting working table controlled by two hydraulic cylinders that permit the sub-vertical (80°) position to ease manual loading of the glass.

Series of pneumatic lifting timing belts for the loading of the loader and the unloading to the glass working area.

Pneumatically activated glass sheet loading lugs with "dead centre" cam wheels and pneumatic solenoid valve with bistable logic (if there is no consent it cannot move).

The edges of the working table are made of solid wood to enable the manual breakout of the glass.

TECHNICAL SUMMARY

Maximum glass size	"JUMBO size " glass 6100 x 3300 mm "JUMBO size" glass 240" x 130"
Glass Thickness	2 : 19 mm 5/64" : 3/4"
Working table tilting	Hydraulic with 2 cylinders.
Air cushion device	Air cushion device for the pneumatic support of the glass.
Glass transport	Series of pneumatic lifting timing belts.
Working table	Wool felt covered working table, accurate in flatness and free of obstacles to the glass.

GENERAL PERFORMANCE

Max transport speed on belts.	40 m/ min 1575"
Tilting motion operating time (up + down)	50 s
Air cushion power	200 mm minimum of water column 7 7/8" minimum of water column

SAFETY FEATURES

Hydraulic tilting	Flexible pipes protected by cut-prevention steel plait. Safety valves on the cylinder breeches (if a hose loses pressure the cylinder will automatically be blocked).
Electromechanical safety	Hardware security systems through special safety modules.

INSTALLATION AND CONDITIONS OF USE

Overall dimensions	7100 x 3660 mm 280" x 144"
Weight	3300 Kg 7276 lb
Work surface height	920 (+/-20) mm 36 1/4" (+/- 3/4")
Installed Power	18 KVA
Air consumption (max)	500 NL/Min 17.656 cfm
Air characteristic	Filtering : 40 micron Dew point : + 10°C of ambient temperature Dew point : + 50°F of ambient temperature
Stocking, temperature and moisture	From - 25 ° to + 75°, Reference pressure 1 Bar 90% of relative moisture at 20 ° (w/o condensation) 50% of relative moisture at 40 ° (w/o condensation) From – 77 °F to + 167 °F, Reference pressure 14.5 psi 90% of relative moisture at 68 °F (w/o condensation) 50% of relative moisture at 104 °F (w/o condensation)
Use, temperature and moisture	From + 5 ° to + 40 °, Reference pressure 1Bar 90% of relative moisture at 20° (w/o condensation) 50% of relative moisture at 40° (w/o condensation) From + 41 °F to + 104 °F, Reference pressure 14.5 psi 90% of relative moisture at 68 °F (w/o condensation) 50% of relative moisture at 104 °F (w/o condensation)

Power supply	Voltage: 400V-415V (+/- 10%), Frequency 50-60 Hz without tension converter. Or Voltage: 200V-240V (+/- 10%), Frequency 50-60 Hz with tension converter. Or Voltage: 440V-600V (+/- 10%), Frequency 50-60 Hz without tension converter.
	Compressed Air: Minimum pressure 7 Bar (101.5 psi) Dew point < 5 °C (41 °F) (Dew-Point)

DESIGN AND PRODUCTION STANDARDS

	Adopted Standards
The machine has been designed, built and installed according to current regulations concerning Safety. Importance has been given to the following Aspects: Ease of use. Ergonomics in the work place. Easy access to organs needing maintenance. Reliability of the machine and its Components. Contained Noise Levels. Energy saving	IEC 204/1, CELENEC EN 60204-1, CEI 44-5, Low Tension Directive 73/23/EEC, Directive 93/68/EEC. The following versions will be used: Equipping in line with European Regulations, E.C. Hallmark Equipping in line with American Regulations, UL - CSA Hallmarks (OPTION)

AVAILABLE OPTIONS

Quick blower closure	Blower-integrated system to quickly decrease the power of the air cushion.
Lean-to device	Couple of pneumatic cylinders that ease the loading of the glass with the aid of the Bottero tong

BOTTERO 535AVM-L/4600 LAY-OUT

