

340 BCS^{classic}

Numeric Control Cutting Machine for Flat Glass



MAIN CHARACTERISTICS OF THE MODELS 340BCS^{classic}

Cutting machine completely combinable with manual and automatic loading and breakout modules.

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

Accurately flat and carpet padded wooden table surface.

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

Possibility of producing any complex cutting scheme including straight cuts and outline cuts.

Cutting bridge made up of steel and placed transversally to the machine fitted with state-of-the-art motoring.

Electronic search glass squaring (mechanic if the machine is associated to automatic breakouts).

Cutting parameters adjustment directly from keyboard with possibility to memorise parameters linking them to the type of glass making the use of the machine simple and intuitive.

The electronic control of all the parameters (pressure, speed, cutting acceleration, quantity of oil on cut, head descent time, beginning of cut head pressure delta) is constantly ensured by the machine control program. In this way there is an excellent and constant cutting quality which permits a good glass breakout.

Special solenoid valve for lubrication control, allocated close to the cutting wheel, proper for high evaporating oils use.

Equipment's for cutting head safety:

Linear encoder for glass detection.

Collapsible cutting head element, easy to change, that in case of accidental impact avoids to stress the carriage and the bridge.

Control panel inclusive of machine calculator (Personal Computer and C.P.U. with remote machine control cards on BUS-ETN) power logic with relative controls and safety logic.

Bridge movement driven by motor gripping on pinions with gripping gear facing downwards with the natural advantage of avoiding the deposit of impurities between the teeth.

Head holder carriage activated by direct drive engine on precision racks.

Man-machine dialogue simple and intuitive owing to a software interface which takes into account all the glassmaker's requirements.

The operator is guided step-by-step, during the introduction of the cutting data and in all operative functions of the machine by the software that helps him and highlights any possible errors.

TECHNICAL SUMMARY	340BCS-J	340BCS-R	340BCS-TS
Maximum glass size	6100x3300 mm	3650x2750 mm	3710x3355 mm
Glass Thickness	2 : 25 mm (1" : 10")		
Operator Interface	Bottero Numeric Control on PC; management of three interpolated axes. Learning and use facilitated by drop down menus and soft function keys. Possibility of display personalisation.		
Data Entry	Alphanumerical keyboard integrated in control panel. Production data on Hard Disk or 3 ½ ".floppy disk. Also through serial connection with the office.		
Glass transport	Series of pneumatic lifting timing belts.		
Working table	Carpet covered working table, accurate in flatness and free of obstacles to the glass.		
Glass squaring	Electronic and Mechanic.		
Straight and outline cut	<p>Steel cutting bridge, motoring according to the pinion – racks scheme, upturned teeth rack.</p> <p>Cutting head carriage in light aluminium alloy.</p> <p>Cutting head with glass detection device, automatic lubrication of the cutting wheel, management of cutting pressure.</p>		
Surface grinding with wheel Easy delation (optional)	Vertical grinding for removal of LOW-E glass. Grinding residue aspiration by Venturi meter		
Grinding wheel rectification (optional)	Automatic with dedicated cycle		
Noise L_{eq}(A)	77 ± 2 dB(A)		

GENERAL PERFORMANCE		340BCS-J	340BCS-R	340BCS-TS
Cutting bridge	Maximum speed and acceleration	140 m/min 3.0 m/s ²		
	Speed and acceleration (during grinding easy delation)	20 m/min 1.8 m/s ²		
Head holder carriage	Maximum speed and acceleration	160 m/min 6.0 m/s ²		
	Speed and acceleration (during grinding Easy delation)	20 m/min 1.8 m/s ²		
Easy Delation (optional)	Grinding wheel rotation speed	30000 giri/1'		
	Grinding wheel size	D. 20 mm, H.=10 mm		
	Glass Thickness	3 ÷ 25 mm		
Air cushion power		200 mm minimum of water column		
"Shape Scanner"		Electronic Outline detection system. It replaces the traditional "mechanical drafting" digitalisation systems.		
Glass Thickness Sensor		Automatic glass thickness detection device, allows an automatic adjustment of cutting pressures.		

CUTTING BRIDGE PRECISIONS	340BCS-J	340BCS-R	340BCS-TS
Operating head positioning precision Outline working	+/- 0.15 mm		
Maximum length difference between two diagonals. (Area rectangle < 2 m ²)	1 mm		
Maximum length difference between two diagonals. (Area rectangle > 2 m ²)	2 mm		
Straightness tolerance	0.5 mm		

All tolerances are intended as measured on glass with 2 mm thickness.

SAFETY FEATURES	340BCS-J	340BCS-R	340BCS-TS
Mechanical safety barriers combined with photocell barriers (where available)	Side mechanical barrier system integrated by front 4 rays photocells to guarantee maximum protection to operator during the activity of the cutting bridge.		
Electromechanical safety	Hardware security systems through special safety modules.		
Moving parts management	Block with electro-mechanical hardware breaking (with guaranteed maximum machine opening)		

INSTALLATION AND CONDITIONS OF USE	340BCS-J	340BCS-R	340BCS-TS
Overall dimensions	7690 x 4030 mm	5330 x 3430 mm	5060 x 4030 mm
Weight	2500 Kg	2000 Kg	2500 Kg
Work surface height	900 mm +/- 20 mm		
Installed Power	16 KVA	15 KVA	16 KVA
Additional power (easy delation)	0.8 KVA (optional)		
Air consumption (max)	70 NL/min 500 NL/min (con gruppo easy delation)		
Air characteristic	Filtering : 40 micron Dew point : + 10°C of ambient temperature		
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 (Dew-Point)		
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)		
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)		

AVAILABLE OPTIONS	340BCS-J	340BCS-R	340BCS-TS
Air Cushion	Powerful air cushion system with two blowers to create “air cushion” between the table and the glass.		
Backward Transport	Possibility of transporting the glass in both directions with respect to the direction of the glass flow.		
Easy Deletion	Vertical axis wheel for Low-E removal.		
Plastic cut	Incision system of the plastic layer placed on the glass before the sanding.		
Second oli tank	Selection from operator PC for second tank (Standard with optional Easy Deletion).		
Air conditioner	Air conditioner for electrical control cabinet		

PROJECT AND PRODUCTION STANDARDS	Standards Adopted
<p>The machine is designed, built and installed in consideration of the safety standards in force. Importance is placed upon the following aspects:</p> <ul style="list-style-type: none"> Easy use. Ergonomic work place. Easy access to organs requiring maintenance. Reliability of the machine and its components. Reduced noise levels. Power savings. 	<p>The following versions are available:</p> <p>Arrangement in compliance with the European Standard and CE mark. IEC 204/1, CELENEC EN 60204-1, CEI 44-5, Direttiva 2006/95/CE Direttiva 98/37/CE Direttiva 2004/108/CE</p> <p>Arrangement in compliance with American Standards, UL-CSA (OPTIONAL) marks.</p> <p>Equipment complying with the regulations and planning standard suggested by APAVE FRANCE.</p>