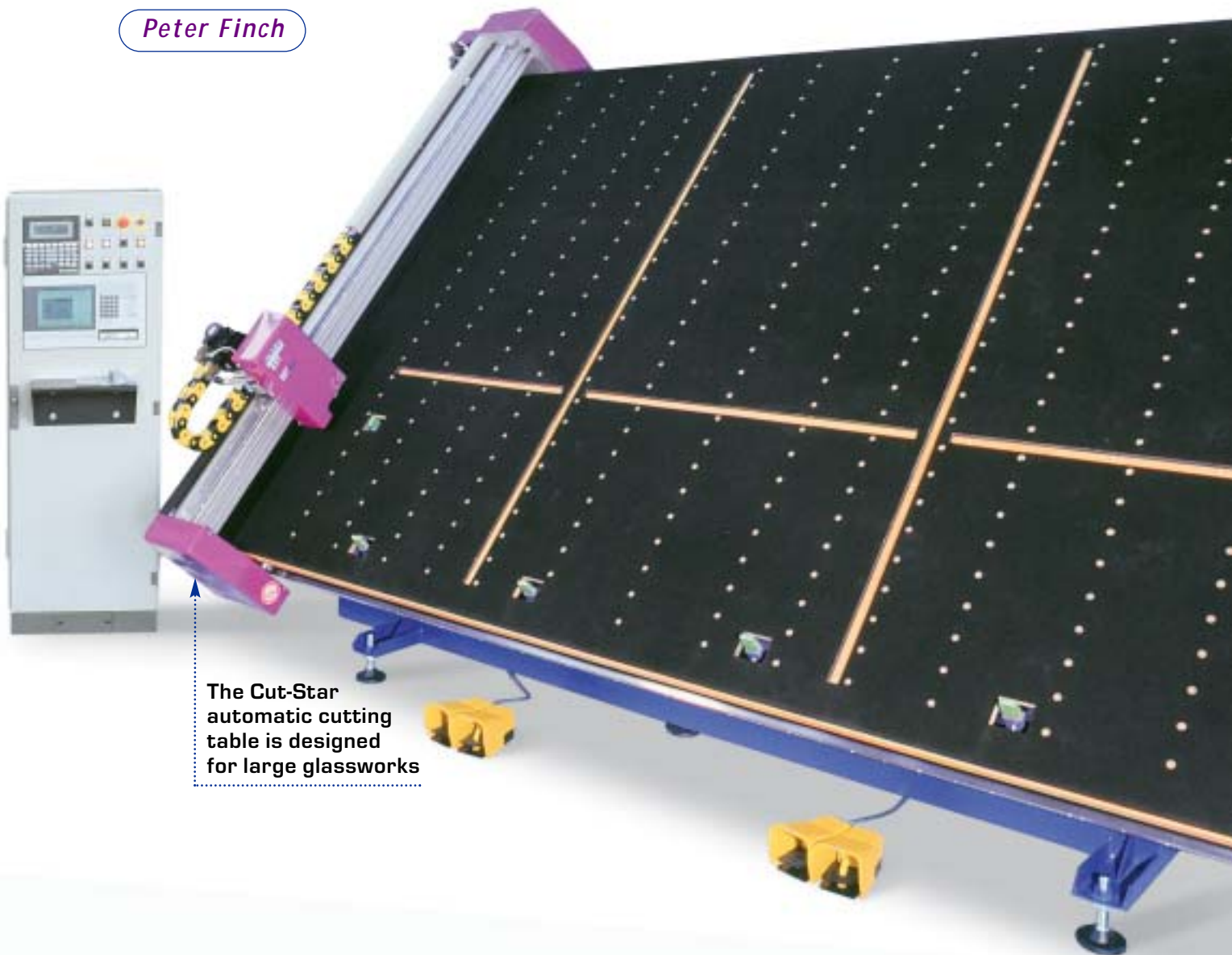


High cutting principles

Advanced technology and quality components alone would not be sufficient to guarantee the success of glass processing machinery. These two factors are certainly strongpoints of the product range of glass machinery manufacturer Macotec, but they are also not the only reason for the Italian company's growing reputation.

Peter Finch



The Cut-Star automatic cutting table is designed for large glassworks

What makes Macotec glass cutting equipment a solid investment for glassworks is more than just the latest software and control systems combined with high-quality components. The peace of mind of glass processors is also assured by the fact that the technology and components are in the hands of a dynamic team of highly-skilled and experienced designers and technicians. With "raw materials", which include the latest Windows-based optimization software from *Optima* and pneumatics from Bosch, the Macotec workforce builds an array of glass cutting equipment able to meet the production needs of not only small and medium-sized glassworks, but also large-scale operations.

STATE-OF-THE-ART DUO

Macotec production ranges from glass storage racks to manual and automatic cutting tables, to complete lines for the cutting of laminated glass. Two of the company's top products are the Cut-Star automatic cutting table and the Strato-Line series for the straight cutting of laminated glass.

Cut-Star

The Cut-Star is designed for large glassworks and is able to carry out both straight and shaped cutting of sheets measuring up to 6,000 x 3,210 mm. According to the company, the machine is equipped with state-of-the-art electronics and pneumatics, which deliver

CUT-STAR TECHNICAL DATA

	<i>Cut-Star 3</i>	<i>Cut-Star 4</i>	<i>Cut-Star 6</i>
GLASS SIZE (MM):	3,300 x 2,600	4,500 x 2,600	6,000 x 3,210
MAX CUTTING SPEED (M/MIN):	140	140	140
GLASS THICKNESS (MM):	2-19	2-19	2-19
CUTTING ACCURACY (MM):	± 0.2	± 0.2	± 0.2
INSTALLED POWER	7.5kW; 380V; 50Hz	8kW; 380V; 50Hz	9kW; 380V; 50Hz
WEIGHT (KG):	2,300	2,600	4,600
OVERALL DIMENSIONS:	4,300 x 3,220	5,300 x 3,200	7,500 x 3,870
BREAKOUT BARS:	3	3	5

multiple cutting pressures, enabling open cuts even on shaped glass.

Features of the tiltable Cut-Star table include welded steel construction, digital brushless motors, toothed rack transmission, pedal-operated air cushion for glass sheet movement, security photo-cells, three-axis interpolated numerical control, and industrial computer at the side of the machine. Also available as options are dual reference stops for the automatic cutting of laminated glass, additional breakout bars, hardware (PC and printer) for data processing and transmission, as well as CAD software and a table digitizer for the input of irregular shapes.

Of particular interest on the Cut-Star are its table digitizer and vinyl cutter.

The table digitizer is mounted on the cutting head. After placing the client-defined shape template on the table, the operator uses a joystick to move the laser and "plot" points following the edge of the template. Macotec claims that this semi-automatic system is, in fact, much faster than a fully automatic one. The only condition is that the template supplied by the client must not be black, as this is a colour which would fail to show up against the black matting of the table.

The template data is transferred to the PC next to the machine, where CAD software transforms the points into the continuous outline required to cut the glass sheet. All data is then stored and client-referenced for future use.

The vinyl cutter is designed to cut away the

High cutting principles



Strato-Line can straight-cut laminated glass

STRATO-LINE TECHNICAL DATA

	Strato-Line 3	Strato-Line 4.5
MAX CUT (MM):	3,300	4,500
MAX BRIDGE RUN (MM):	2,400/3,000	2,400/3,000
MIN BRIDGE RUN (MM):	300	300
CUTTING SPEED (M/MIN):	80	80
SHEET THICKNESS (MM):	3+3/8+81	3+3/8+8
MIN. AUTOMATIC CUT LENGTH (MM):	150	150
PVB THICKNESS (MM):	0.38-1.52	0.38-1.52
POSITIONING PRECISION (MM):	± 0.5	± 0.5
STRAIGHT-LINE CUT PRECISION (MM):	± 0.5	± 0.5
PARALLEL PRECISION (MM):	± 0.5	± 0.5
INSTALLED POWER	8kW; 380V; 50Hz	10kW; 380V; 50Hz
TABLE HEIGHT (MM):	950	950
WEIGHT (KG):	3,800/4,000	4,500/4,700

underlines that it does represent a particularly effective cutting method for geometric and graphically less complex shapes. An archive of shapes is being compiled, though the system does, in fact, accept all DXF files.

Strato-Line

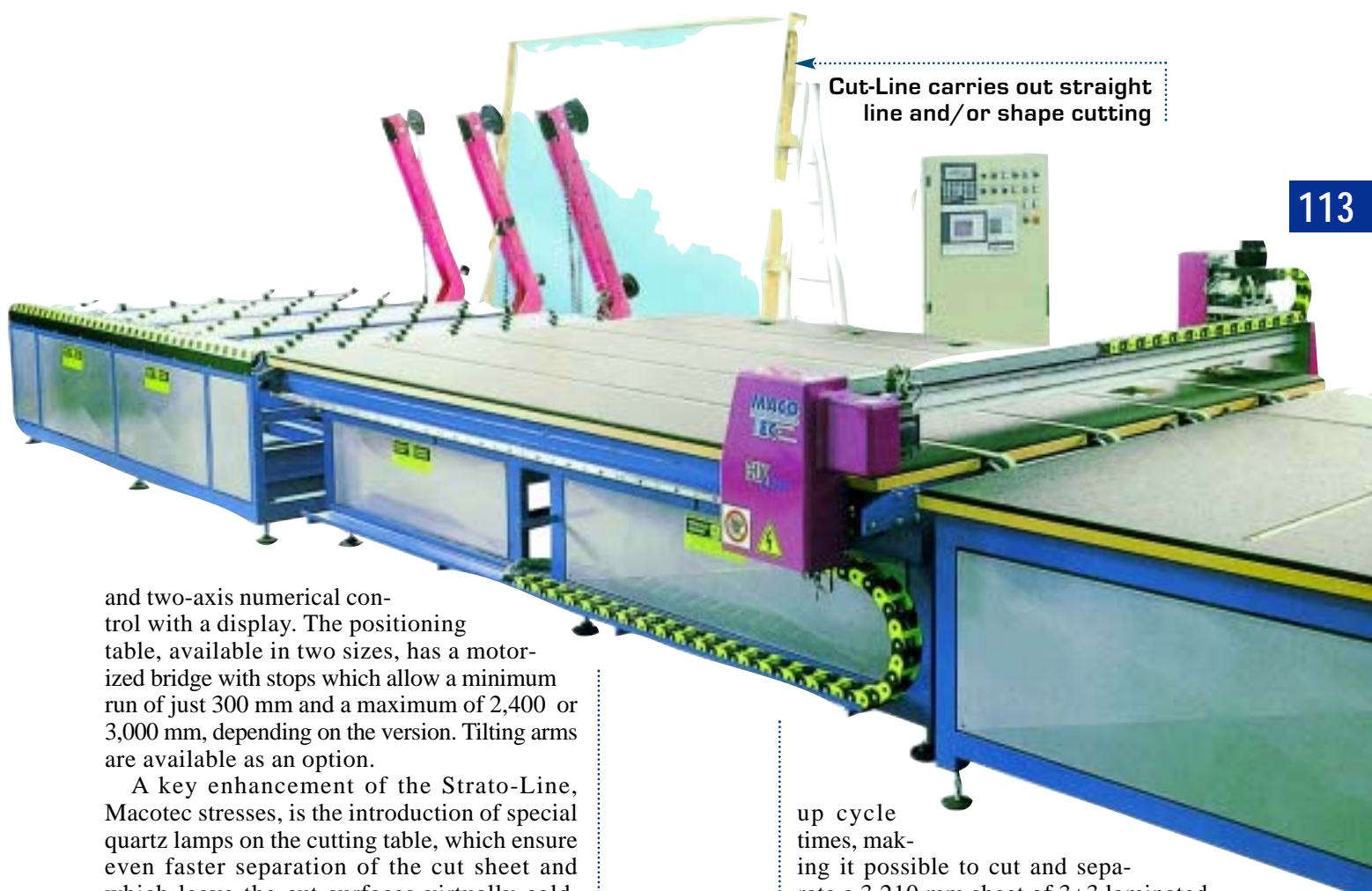
The Strato-Line cutting table is designed for the straight cutting of laminated glass and consists of a Lami-Strato cutting table and an automatic sheet positioning table. It is available in two glass-size configurations.

The Lami-Strato table features an air cushion for sheet movement, roller-based separation

protective vinyl and/or paper used in the sandblasting process. A special blade replaces the cutting wheel, enabling the operator to cut away a precisely shaped piece of vinyl or paper and expose the area of glass which is to be sandblasted. Although the cutter is not intended to totally replace the generally used plotter, the company



Detail of the Strato-Line showing the numerical control display



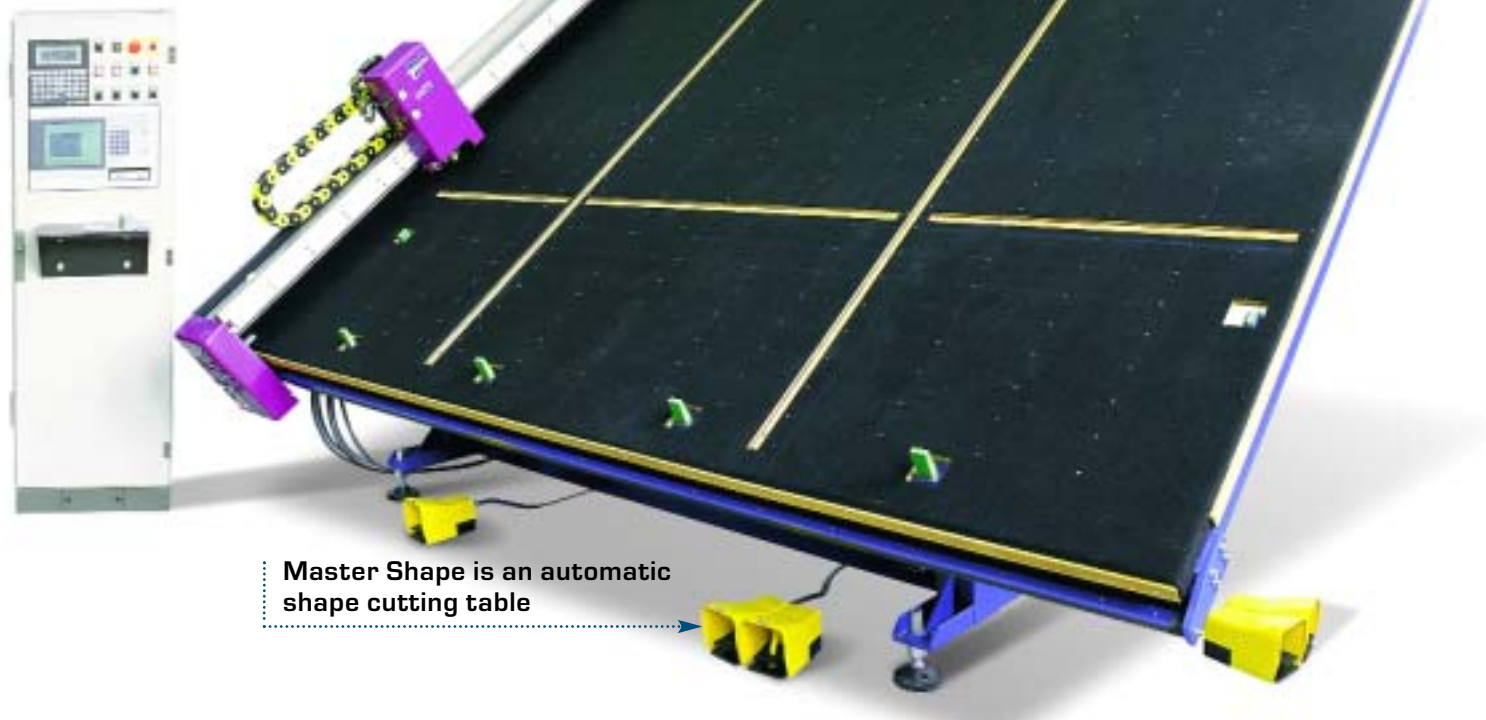
Cut-Line carries out straight line and/or shape cutting

and two-axis numerical control with a display. The positioning table, available in two sizes, has a motorized bridge with stops which allow a minimum run of just 300 mm and a maximum of 2,400 or 3,000 mm, depending on the version. Tilting arms are available as an option.

A key enhancement of the Strato-Line, Macotec stresses, is the introduction of special quartz lamps on the cutting table, which ensure even faster separation of the cut sheet and which leave the cut surfaces virtually cold, ready for further cutting. Two types of lamp are available: an optional high-performance lamp (HP), which allows the cold opening of the PVB, and a standard high-quality version (LP) which, however, reaches higher temperatures than the HP lamp.

Brushless motors also help speed

up cycle times, making it possible to cut and separate a 3,210 mm sheet of 3+3 laminated glass with a 0.38 mm PVB interlayer in 35 seconds. The edge is clean, with no splintering and with the PVB perfectly cut.



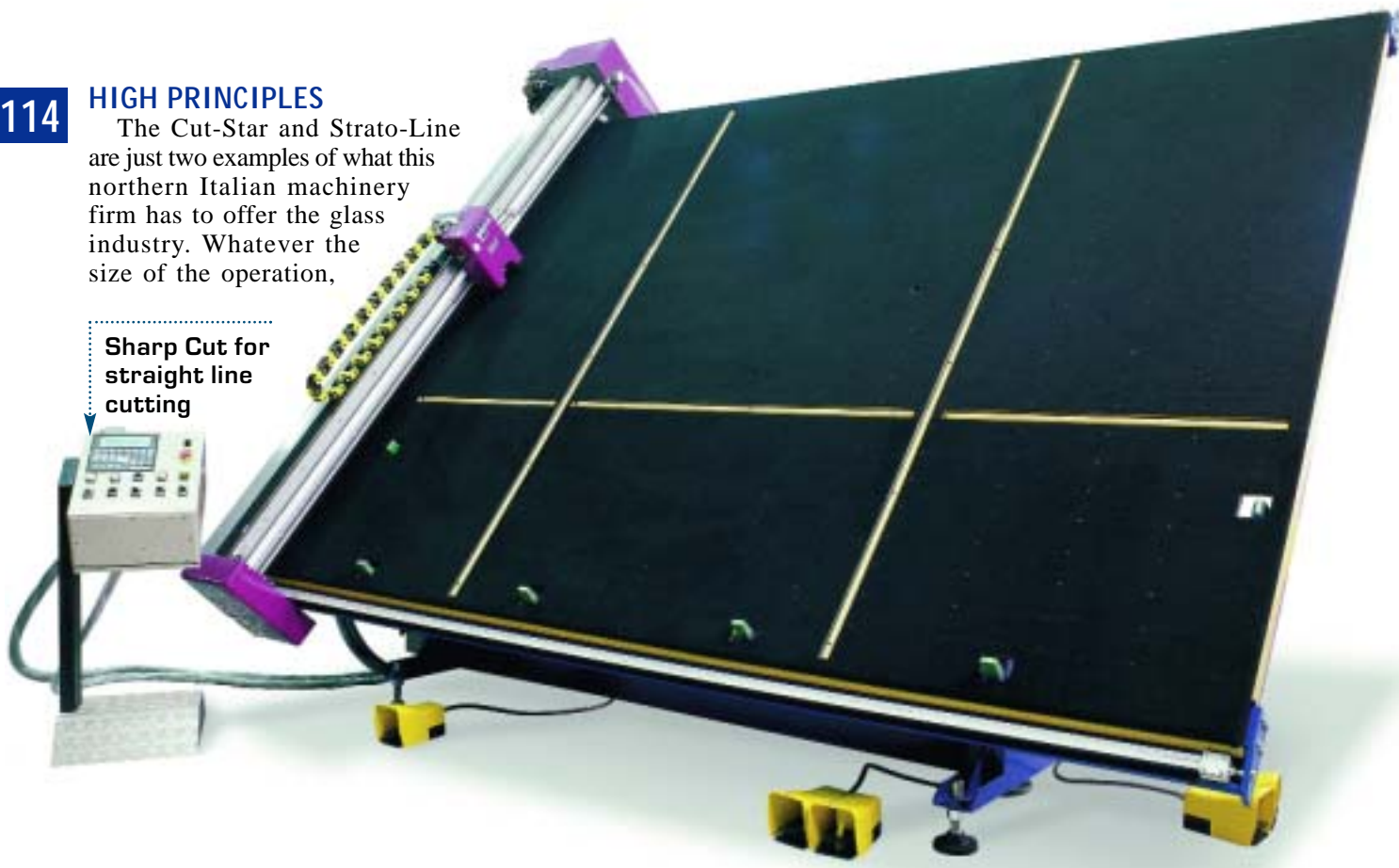
Master Shape is an automatic shape cutting table

High cutting principles

114

HIGH PRINCIPLES

The Cut-Star and Strato-Line are just two examples of what this northern Italian machinery firm has to offer the glass industry. Whatever the size of the operation,



Sharp Cut for straight line cutting

MACOTEC PRODUCT PORTFOLIO

HAND-CUT	manual straight line cutting table with display
SHARP-CUT	automatic straight line cutting table with belt transmission and optimizer
MASTER-CUT	automatic straight line cutting table with toothed rack transmission and optimizer
MASTER-SHAPE	automatic shape cutting table with toothed rack transmission and optimizer
CUT-STAR	automatic shape cutting table with toothed rack transmission and optimizer
PANTHER	automatic straight-line and/or shape cutting table with toothed rack transmission, optimizer and suction cups for sheet loading
FREE FALL	fixed automatic cutting table for "free-fall" sheet loading directly from glass storage rack
CUT-LINE	line for straight line and/or shape cutting (loader, cutting table, breakout table)
PANTHER LINE	line for straight line and/or shape cutting (automatic glass storage, Panther cutting table, breakout table)
LAMI-STRATO	automatic cutting table for laminated glass
STRATO-LINE	automatic cutting line for laminated glass (Lami-Strato cutting table, automatic positioning table)
LOADING TABLE - BREAKOUT TABLE - LOADER - GLASS RACK - AUTOMATIC GLASS STORAGE	

whatever the task in hand and whatever the machinery chosen for that task, Macotec principles remain unchanged: high-quality construction and high-level performance, combined with ease of use, low maintenance and great reliability. ■