

From working stone to mastering glass

Building on its success with machines for working stone and marble blocks, Intermac has evolved the Top Master 655 series, a 5-axis machine particularly suited to working large sheets of curved glass and performing other three-dimensional tasks. Outsize glass is also catered for by its

Master Edge 6000 series, specially conceived to handle large float glass sheets aimed at the structural glass

sector. Glass Technology International talked to Intermac Sales Manager Roberto Bacchini about the thinking behind the development of these machines.



Dermot Heaney

With nearly two thousand machines sold in just over a decade, Intermac reveals plans to consolidate its present clients and attract fresh ones with a new policy of converting successful stone processing plants into innovative glass working technology.

In keeping with its dynamic image, Pesaro-based company Intermac unveils two new glass working centres that should satisfy producers who need a flexible machine that can cope with a wide



production range. Moreover, close team work between Intermac and other members of its parent group Biesse Corporate to develop increasingly effective NC work centres allows the company to provide high-performance plants at an accessible price. Intermac is now in the enviable position of offering a five-axis, multi-function glass working machine together with a three-axis edging and polishing machine at a price that is largely made possible by its ability to draw on the resources of an important group.

NEW FIVE-AXIS WORK CENTRE

The *Top Master 655* began its working life as a machine for working stone and marble. Its functions included carving, drawing, grinding and polishing, milling, cutting and mosaic work. The idea of applying the machine's resources to glass working came as a result of a specific request from a producer of armoured automotive glass for an important German car maker. The producer needed to carry out three-dimensional work on curved glass and was seeking a high-performance, accessibly priced machine to perform this function. "Five years ago we installed a prototype

of this machine for an Italian producer of curved automotive glass," explained Roberto Bacchini, Intermac Sales Manager. Further demand for such a machine spurred Intermac to develop dedicated software that could then be applied to a new machine conceived to work stone and marble. Intermac is now in the position to offer a new machine to the market, which may certainly not be an extensive one, but nevertheless includes a significant number of glassmakers. "Up until now there were no purpose-built series models available for processors in this sector, who were forced to find personal solutions to their production needs. What Intermac is now offering is a series model plus the technical expertise and assistance needed for this kind of glass processing," stressed Mr. Bacchini. Proof of the wisdom of this move came in a recent Open House hosted by the company where, Mr. Bacchini claims, five curved glass producers expressed keen interest in the machine.

MODELS AND FUNCTIONS

The *Top Master* is a five-axis machine that features horizontal axis, vertical axis, tilting axis,

From working stone to mastering glass

158

and rotating axis and can work on both horizontal and vertical surfaces. The machine comes in three versions. The standard 655 model mounts a fixed work-table inside the machine, measuring 4,000 x 2,100 mm. The 655TB is a "twin-bed" system mounting two semi-work-tables measuring 2,000 x 2,100 mm. This means that while one work-table is in operation the other can be set up, guaranteeing a continuous production cycle and allowing for product flexibility. The series is completed by the 655 2P, a double work-table system featuring twin tables measuring 4,000 x 2,100 mm. When *Glass Technology International* visited the Intermac facility in July, trials were underway to test the plant's ability to carry out contouring on a curved sheet of bullet-proof automotive glass. The machine not only offers glass processors traditional two-dimensional glass working functions but also an exciting range of three-dimensional functions. In this specific case, working on armoured automotive glass composed of sheets of glass, the machine completes contouring of a single sheet every 13 minutes.

SOFTWARE EVOLUTION

The secret of this successful evolution lies in the specially designed 3D CAD-Cam software package, operating in a "Windows Environment". The machine can be run using a pre-existing programme or using a sample of the glass piece to be produced.

In addition it is also possible to select a finished piece of glass, use a tracer to record all the co-ordinates, which are then processed by Intermac's dedicated software and, having obtained the three-dimensional image of the glass piece, it can be precision worked by the Top Master.

The machine's high degree of autonomy provides further dividends because it

requires just a single operative who, once the machine has been loaded and programmed, can be assigned to other tasks.

FLEXIBLE APPLICATIONS

The applications of the Top Master are not confined to automotive glass. "The machine is equally valid for structural glass for architectural projects," claims Mr. Bacchini. Indeed Intermac has been approached by a number of clients who produce curved glass, which needs further working on completion of the curving phase. "The Top Master is the ideal answer, both in terms of precision and its capacity to handle a wide range of curve depths," explains Mr. Bacchini. The machine has a vertical movement of 650 mm which can handle glass that has been curved to that depth. Taken with a capacity to work glass dimensions of 4,000 x 2,100 mm, it is obvious that the machine should be of particular interest to producers of structural glass.

NEW DIRECTION

The development of the Top Master series for glass working marks something of a new departure for Intermac. As Mr. Bacchini explained: "The company now plans to develop similar machines along the same lines, in a development policy based on the evolution of tried and tested stone processing machines into plants for working glass, thanks to the development of specific

software and to the necessary mechanical modifications."

This union of the stone and glass sectors should be a source of particular vitality in the near future and the company is confident that it will be able to anticipate many customers' needs and certain market trends by adopting this policy. "The Top Master is the only machine of its kind at the moment, and we expect to follow it with other equally innovative





solutions,” explained Mr. Bacchini.

It is important to realise that the synergy between the stone and glass sectors has an added advantage, in that it makes it possible for the company to immediately offer series models to customers. “This is the underlying spirit of all Intermac production,” confirms Mr. Bacchini. “Some machines may grow from the specific needs of individual clients, but the company’s ultimate aim is to produce a series model, because this has obvious benefits in terms of the potential number of clients and the cost of the machine for each customer. Moreover, construction times for series models are far shorter, which also has obvious advantages.”

LARGE-SCALE PLANTS

The *Master Edge 6000 OT* is another example of Intermac’s ability to produce plants for large-scale glass sheets. The company has already produced and installed ten of these machines, which were conceived for edging large glass sheets measuring up to 6,000 x 3,210 mm. Originally this machine was produced to meet specific demand from glassworks and glass processors. Subsequently it evolved into a series model that meets the need to work increasingly large sheets of float glass for use as structural glass in architectural projects. “This is one of the areas where glass is being increasingly used, and Intermac realises the importance of providing machines that cater to the needs of that market,” adds Mr. Bacchini. As it is a series model, Intermac claims it allows companies who intend to specialize in this type of conversion to quickly equip themselves at a reasonable price with a machine that can handle virtually the entire range of glass sheets that are currently produced. Proof of the machine’s ability to deliver this kind of performance comes from the fact that it has been installed at facilities owned by prestigious companies, such as *Pilkington*, *Saint-Gobain* and more recently *Central Glass*.

Nevertheless, the machine combines an ability to work with large glass dimensions and the capacity to handle smaller pieces and standard production. This flexibility is due to the fact that the work-table can be subdivided and accessed from both sides of the machine. The machine uses the standard programmes mounted on other

Intermac plants and this gives it the kind of production scope typical of all Intermac machines.

EVOLVING SERVICE

The growing success of the company has been accompanied by greater awareness of the need for an effective service network. Mr. Bacchini detailed Intermac’s latest moves on the service front: “With such a high number of machines installed around the world, there is a growing need for an extensive technical assistance network.” Currently the company is in the process of setting up a number of service points worldwide. The starting point was the creation of warehouses and service points under the direct control of Intermac. These are located in countries as far apart as France, Singapore and Brazil. Other similar service points are planned elsewhere. The underlying reason for the company’s decision to start with a service rather than a sales network is quite simple. “The aim was to reassure our customers by providing accessible technical expertise in those areas where Intermac had a sales network but no adequate technical back-up. Once the foundations of technical assistance have been laid, then the company plans to develop commercial activities and create fully-fledged branch offices in strategic areas. “This will put us in a position to cover areas and markets which we regard as particularly important for Intermac,” explains Mr. Bacchini.

The programme is being pushed forward using Intermac technical staff who initially form a team with local technical personnel and prepare the ground for creation of an independent branch. “This is the advantage of being part of a large group,” comments Mr. Bacchini. “In pursuing this policy, Intermac has been able to draw on the experience of group leader Biesse, which has set up 14 branch offices worldwide, a record that will help Intermac consolidate its position on international markets.”