

INTER MAC MULTI PRO

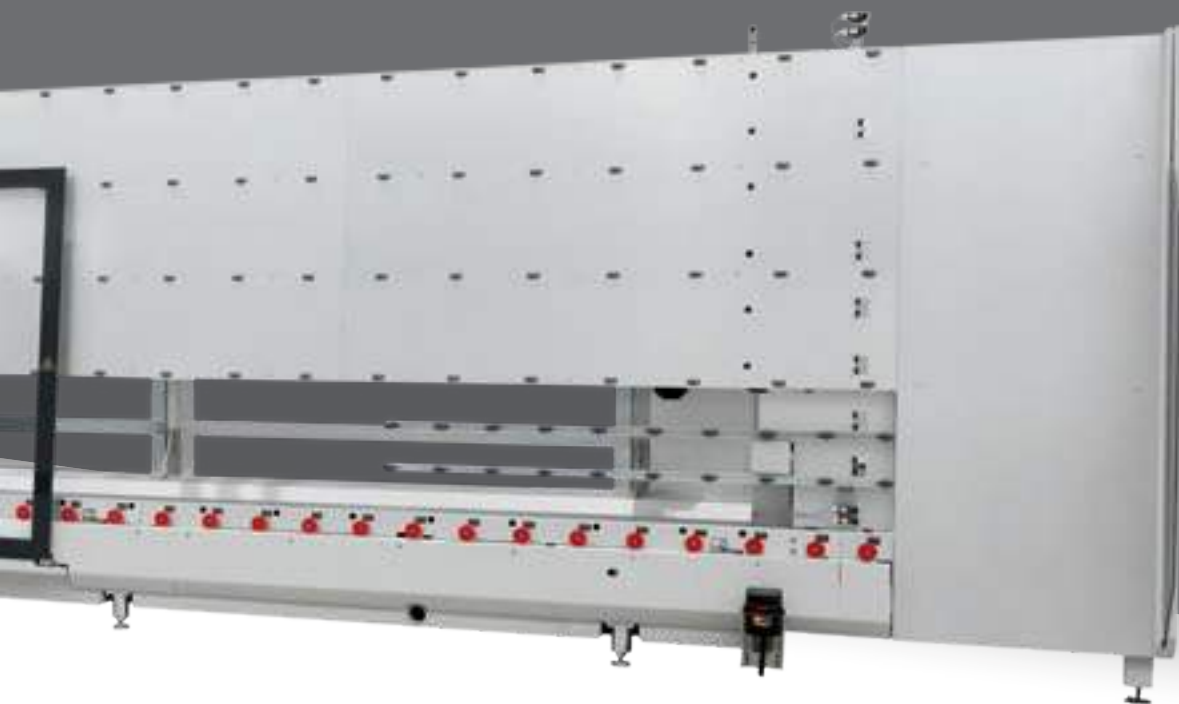
VERTICAL CNC MACHINING
CENTRE



VERTICAL FLEXIBILITY



Intermac Multi Pro is the vertical machining centre based on a revolutionary workpiece handling concept:
Ideal for medium and large companies that want to have advanced technology and productivity.



INTERMAC MULTI PRO



FINISHING QUALITY

Excellent edge finish quality thanks to the Pilot System that supports the glass in a stable manner during the processing phases.



PRODUCTIVITY

Batch one productions with zero set-up times thanks to automatic workspace set-up and IC software optimization. Reduction of production times by favouring loading and unloading of pieces in hidden time.



SAFETY

High standard of operator safety thanks to laser scanners positioned in the loading and unloading areas and integrated with the machine software.



FLEXIBILITY

Wide range of finished products guaranteed by the new Helix drilling function (drilling/countersinking). Automatic waste management thanks to the configuration of the suction cup carriages and the IC software. Multiple machining operations available: grinding, polishing, milling, drilling/countersinking and araising.

IDEAL FOR ANY TYPE OF PROCESS



Drilling with two heads.

Intermac Multi Pro is the perfect solution for producing doors, shower boxes, display cases, cupboard doors, furnishing items, household appliances, windows for industrial vehicles, and structural façades.

1 BORE IN A MAXIMUM OF 30'



Grinding and polishing.



Milling.



Intermac Multi Pro can easily carry out drilling, countersinking and milling operations; the complete version of the machine also allows grinding, polishing and arrising operations on the sheet edge, with the addition of a specific optional extra.

High-speed arrising.



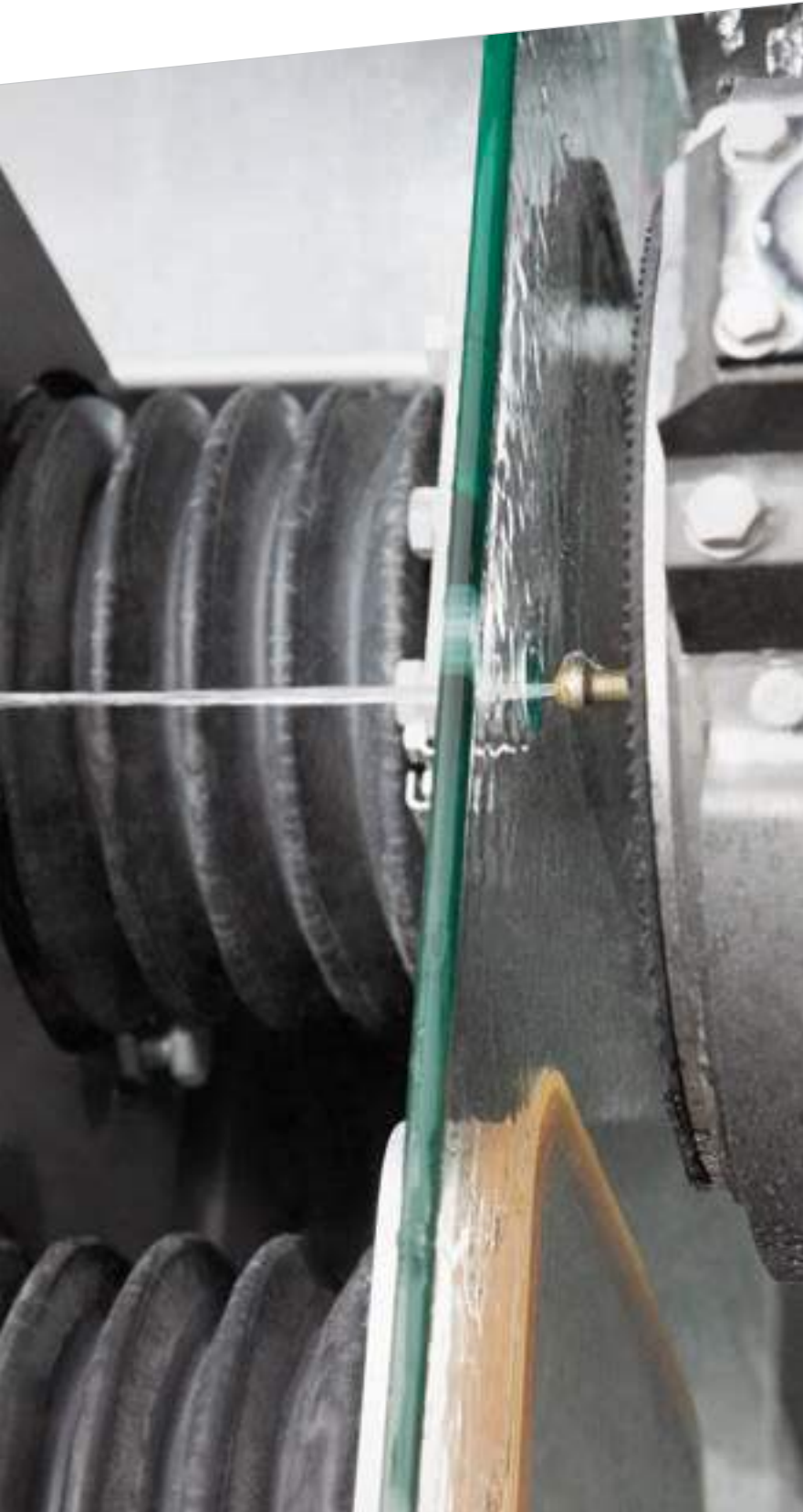
PILOT SYSTEM

Pilot System is an innovative technology that guarantees unprecedented polishing results during vertical machining, minimising vibrations and maintaining perfect tool centring while the edge is being machined, even when far away from the suction cup holding area.

The new system designed for Intermac Multi Pro has a compact structure and design, allowing unbeatable machining even on internal radii. It contains a new multi-nozzle tool cooling unit that ensures outstanding quality and machining speed.

The Pilot System technology includes the C axis that is essential for machining the profiles of all possible geometries, thereby guaranteeing the best glass grip and stability at all times.

REVOLUTIONARY DRILLING



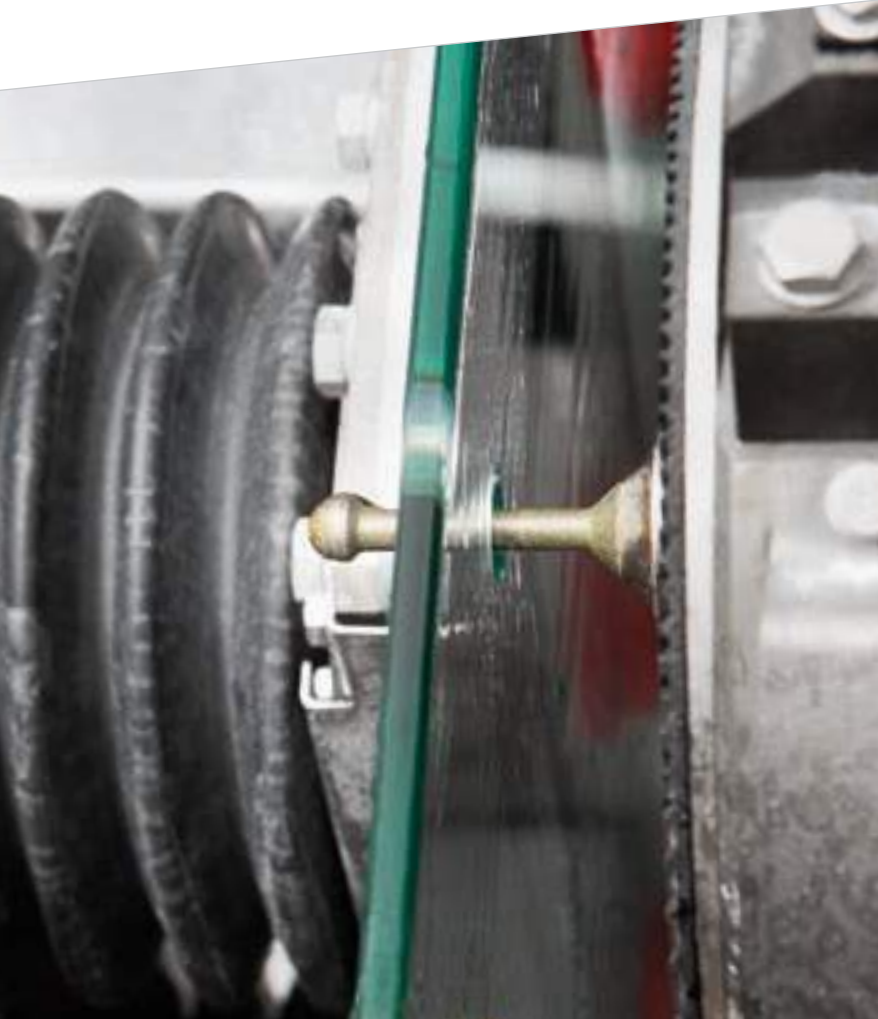
Helix is the Diamut tool that, when combined with Biesse software, exceeds all the limits of the traditional drilling systems, using one single tool for all the boring and countersinking operations on glass sheets of up to 19mm.

The new standard for boring operations for float glass. Helix System was born of the desire to develop a revolutionary boring system unlike anything seen on the market to date, capable of boring holes with an integrated upper and lower countersink on glass sheets up to 19mm thick, using a single tool on CNC machines.

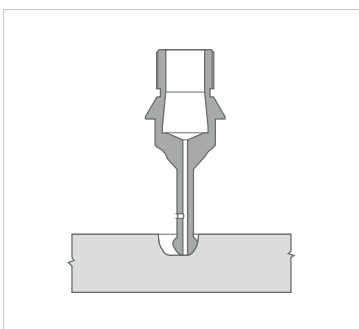
DEVELOPED AND PATENTED QUALITY

The Helix system is the perfect combination of hardware and software, used across the entire Intermac Multi Pro range of vertical machining centres.

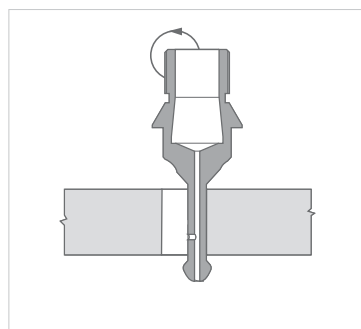
INTEGRATED DRILLING SYSTEM



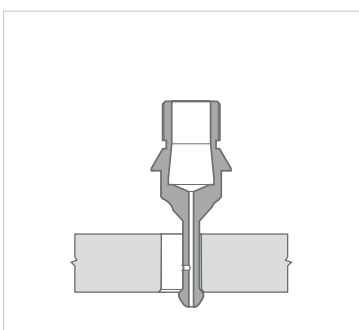
An innovative tool,
managed by specific
software.



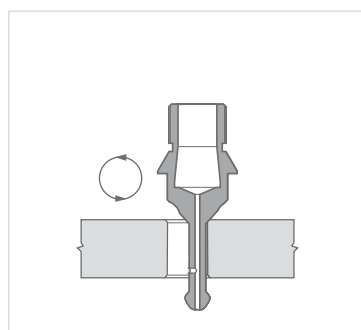
1_Drilling with helical movement



2_Lateral grinding



3_Lower countersinking



4_Upper countersinking

- Maximum finishing quality
- Machining tolerances are halved
- Holes of different diameters with a single tool
- Can also be used on laminated glass
- Integrated upper and lower countersinking
- Machining operations even over the suction cups

TOOLING TIMES CUT TO ZERO

Intermac Multi Pro allows operators to carry out all the machining operations necessary to create a product, without having to worry about preparing the work table or think about the machining operations needed.



Patented system with 4 fully-independent suction cup carriages, each with 3 suction cups, guaranteeing maximum production flexibility and quality thanks to the optimised vacuum hold on the entire surface to be machined.



The motorised roller system allows the glass to be loaded at any point, so that the machine can begin to work completely automatically.



The patented dynamic repositioning system for the suction cup carriages is designed to process a piece without ever leaving it halfway between one suction cup carriage position and the next.

The independent carriage system guarantees unparalleled machining quality.



The dynamic repositioning of the suction cups allows for:

- increased final piece productivity
- process glass, unstable glass or glass which cannot be machined in traditional vertical machines
- increased final machining precision.

MAXIMUM PRODUCTIVITY

Thanks to the tandem machining process, work pieces can be loaded and unloaded while the machine is operating, thus increasing productivity.

| | | 2200 | 2800 | 3300 |
|---|---------|-----------|---------------|---------------|
| The maximum panel size permitted for pendular machining | mm/inch | 2100/82.6 | 2500/98.4 new | 2500/98.4 new |



HIGH TECHNOLOGY AS STANDARD



Maximum machining simplicity, with a reduction in human error.

Innovative self-learning system of glass dimensions. The system allows to automatically detect the size of the sheet to be processed, reducing a possible data entry error by the operator.

The dressing devices are integrated into the working area for fast, easy, automatic tool dressing operations, ensuring high quality and speedy execution at all times.



Diamond grinding wheel pre-setter.



Measurement and drill dressing system integrated into the basic machine configuration.



Dressing stick for dressing diamond grinding wheels and grinding device for polishing wheels.

WIDE RANGE OF READY-TO-USE TOOLS



Example of a 20-position tool magazine



Example of a 10-position tool magazine

Up to 45 tools ready to use on the machine.

The standard equipment consists of 10 front positions (15 on model 3.3) and 10 rear positions, appropriately protected from water jets and machining waste.

As an alternative to the standard tool magazine, the machine can be equipped with a tool magazine, composed of:

- ▣ 25 positions (15 front + 10 rear) mod. 2200
- ▣ 35 positions (20 front + 15 rear) mod. 2800
- ▣ 45 positions (25 front + 20 rear) mod. 3300

PRO DUCT IVITY



The automatic setting of the work table and the quick tooling make Intermac Multi Pro the ideal solution, always ready for both large batches and batch-one production.

Intermac Multi Pro is the innovative solution based on a revolutionary vertical work piece handling concept. The innovative patented system with 4 fully-independent suction cup carriages, each of which is equipped with 3 suction cups, enables the automatic configuration of the position of the suction cups on the work piece, in accordance with the shapes to be created, with work table setting times reduced to zero.

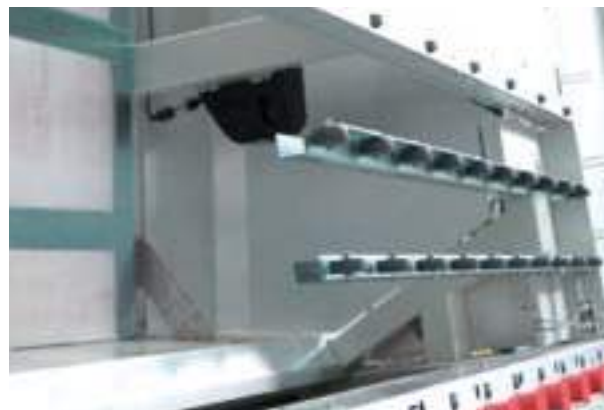
OPTIMUM SAFETY AND PROTECTION IN ALL WORK PROCESSES

In Intermac Multi Pro vertical machining centres, the operator is protected from:

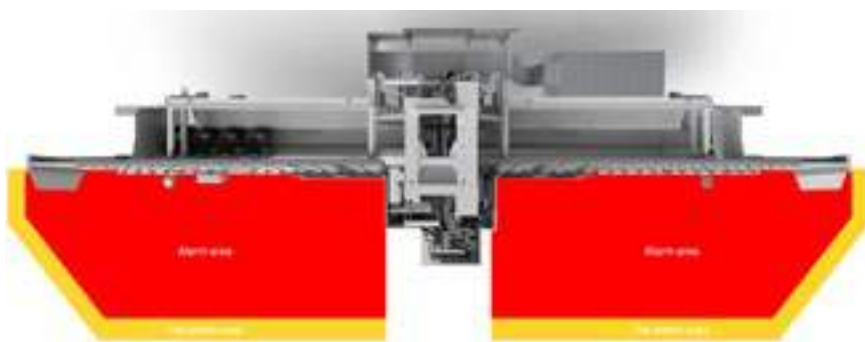
- ✔ Ergonomic front guards
- ✔ Tandem machining (for glass sheets with a maximum length up to 2500 mm) in complete safety.
- ✔ No access to moving machine parts
- ✔ A clean working environment (water and machining residues are not dispersed)
- ✔ Reduced noise levels, fully complying with the machinery directive



Laser scanner loading and unloading area.



Laser scanner internal working area.



→ AREA
LASER
SCANNER



Full respect for machinery directives and workplace health and safety regulations is an indispensable condition for obtaining any sort of financing.

UNPARALLELED COMPONENTS

Patented cooling system.

Intermac Multi Pro is fitted with spindles made by HSD - a world leader in its sector. They guarantee optimum power, compact dimensions, extremely high finishing standards and maximum reliability.



DPC (patented) - Controlled loss distributor
A patented system that ensures excellent reliability and a long lifespan, thanks to the innovative seal system with no mechanical contact.

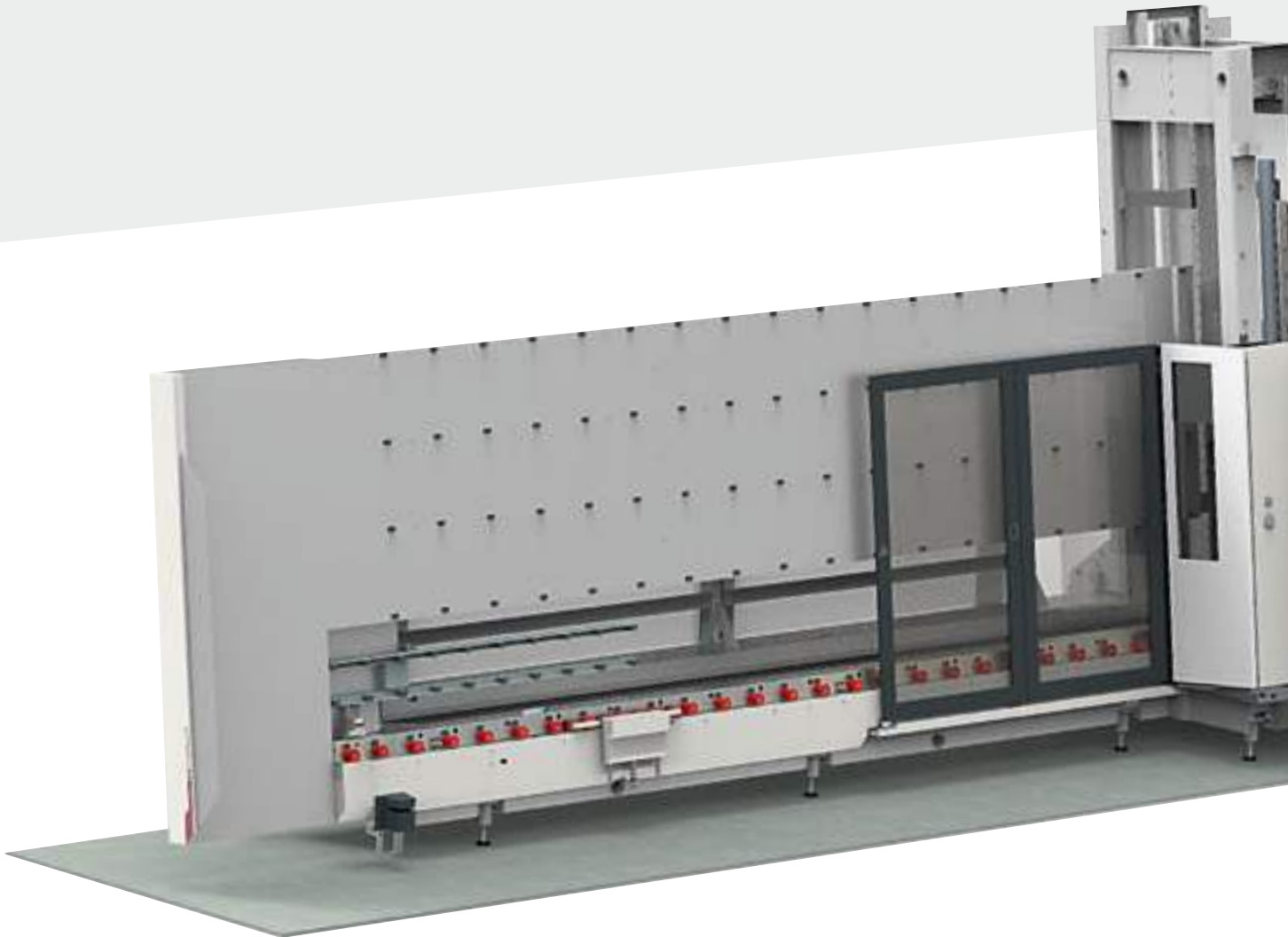


Glycol-based cooling systems with a closed circuit that guarantees constant results over time and resistance to the maximum machining stress levels.

- 1. High-temperature fluid (cooling system with heat exchanger).
- 2. Low-temperature fluid



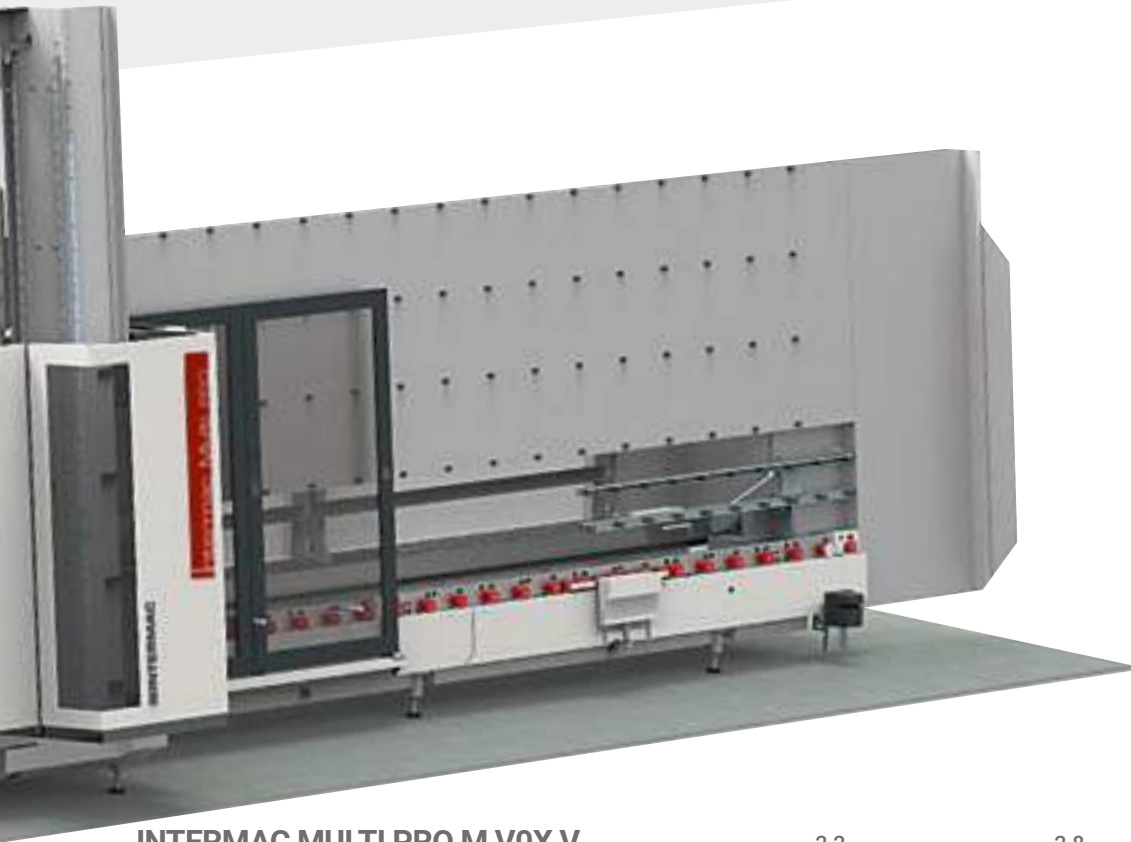
TECHNICAL DATA



The technical specifications and drawings are non-binding.
Some photos may show machines equipped with optional features. Biesse Spa reserves the right to carry out modifications without prior notice.

A weighted sound pressure level (L_{pA}) during machining for operator workstation on vane-pump machine L_{pA}=79dB(A) L_{wA}=96dB(A) A-weighted sound-pressure level (L_{pA}) for operator workstation and sound power level (L_{wA}) during machining on cam-pump machine L_{wA}=83dB(A) L_{wA}=100dB(A) K measurement uncertainty dB(A) 4.

The measurement was carried out in compliance with UNI EN 848-3:2007, UNI EN ISO 3746: 2009 (sound power) and UNI EN ISO 11202: 2009 (sound pressure levels at workstation) during panel machining. The noise levels shown are emission levels and do not necessarily correspond to safe operation levels. Despite the fact that there is a relationship between emission and exposure levels, this may not be used in a reliable manner to establish whether further measures need to be taken. The factors determining the exposure level for the workforce include length of exposure, work environment characteristics, other sources of dust and noise, etc. i.e. the number of other adjoining machines and processes. At any rate, the above information will enable the operator to better evaluate dangers and risks.


INTERMAC MULTI PRO M VOX V
2.2
2.8
3.3

| | | 2.2 | 2.8 | 3.3 |
|---|-----------|--|--|--|
| Machine size (X-Y-Z) | mm/inch | 12900 x 4325 x 4500 507.8 x 170.2 x 177.1 | 16330 x 4900 x 4500 642.9 x 192.9 x 177.1 | 18310 x 5400 x 4500 720.8 x 212.5 x 177.1 |
| Maximum machinable sheet size | mm/inch | 3500 x 2200 137.7 x 86.6 | 5100 x 2800 200.7 x 110.2 | 6000 x 3300 236.2 x 129.9 |
| Minimum machinable sheet size (without pilot system) | mm/inch | 500 x 320/19.6 x 12.5 R=0.5 with pilot system | 500 x 320/19.6 x 12.5 R=0.5 with pilot system | 500 x 320/19.6 x 12.5 R=0.5 with pilot system |
| | | 500 x 320/19.6 x 12.5 R=0.5 without pilot system | 500 x 320/19.6 x 12.5 R=0.5 without pilot system | 500 x 320/19.6 x 12.5 R=0.5 without pilot system |
| Machinable glass thicknesses | mm/inch | 4 - 30 0.15 - 1.18 | 4 - 30 0.15 - 1.18 | 4 - 30 0.15 - 1.18 |
| Y-axis speed | m/ft/min | 50/164 | 50/164 | 50/164 |
| Speed of glass feed on input and output roller modules | m/ft/min | 20/65.6 | 20/65.6 | 20/65.6 |
| Electrospindle power | kW | 6 + 6 | 14 + 6 | 14 + 6 |
| Maximum spindle rotation | rpm | 12000 | 12000 | 12000 |
| Maximum diameter of the front head grinding wheel | mm/inch | 150/5.9 | 150/5.9 | 150/5.9 |
| Maximum diameter of the rear head grinding wheel | mm/inch | 80/3.14 | 80/3.14 | 80/3.14 |
| Maximum drill diameter | mm/inch | 50/1.96 | 50/1.96 | 50/1.96 |
| Tool coupling | | ISO 40 | ISO 40 | ISO 40 |
| Tool magazine | positions | 10+10 up to 15+10 | 10+10 up to 20+15 | 15+10 up to 25+20 |
| Maximum power requested (max) | kW | 30 | 30 | 30 |

IC: THE TOTAL GLASS EXPERIENCE IN A SINGLE SOFTWARE PACKAGE



IC WAS CREATED FROM THE EXPERIENCE AND RELIABILITY OF ICAM WHICH, WITH OVER 7500 PACKAGES INSTALLED IN 180 COUNTRIES, IS THE MOST WIDELY USED CAD/CAM SOFTWARE IN THE WORLD WHEN IT COMES TO GLASS APPLICATIONS.

- **RENEWED GRAPHIC INTERFACE THAT'S USER-FRIENDLY AND EASY TO PICK UP THANKS TO SELF-LEARNING CONCEPTS, BUT WITHOUT COMPROMISES IN TERMS OF FUNCTIONS AND PROGRAMMING FLEXIBILITY**
- **ROBUST, RELIABLE PLATFORM**
- **ENHANCED CALCULATION POWER THANKS TO THE USE OF THE LATEST DEVELOPMENT TECHNOLOGIES**

- **MODERN INTERFACE:** similar to the most modern apps, it can be used with a touch screen.
- **EXTREMELY USER-FRIENDLY:** assisted design in 5 steps.
From the drawing to the machine in just a few seconds.
- **TOTAL CONTROL OF THE DESIGN PROCESS, FROM THE DRAWING TO THE FINISHED PIECE.**
- **SOLUTIONS FOR LARGE-SCALE OR ONE-BATCH PRODUCTION:**
the possibility to manage libraries of models (even parametric).
- **SUPPORT SERVICE ALONGSIDE THE CUSTOMER:**
IC is equipped with "AIC Log" technology: in the event of problems and/or a need for support, Biesse Service can see the operations that have been carried out, and can quickly intervene.



IC: SEE, DESIGN, CREATE

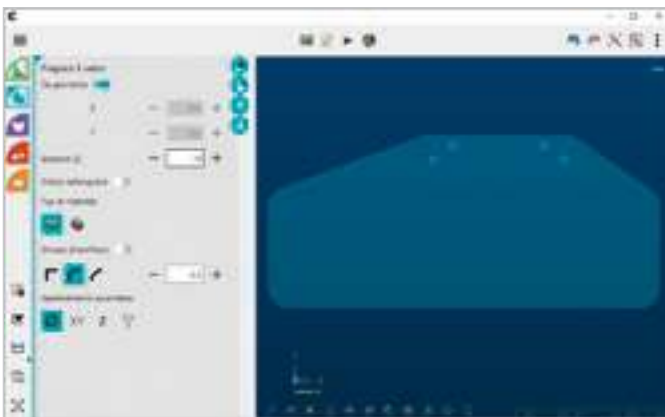
The software suggests the correct sequence of the 5 steps for the design phases.

1. SIMPLIFY
2. IDENTIFY
3. APPLY
4. PROCESS
5. EXECUTE



SIMPLIFY

In this step, an imported drawing can be simplified, the geometries needed for the machining operation can be identified, and any possible imperfections can be corrected.



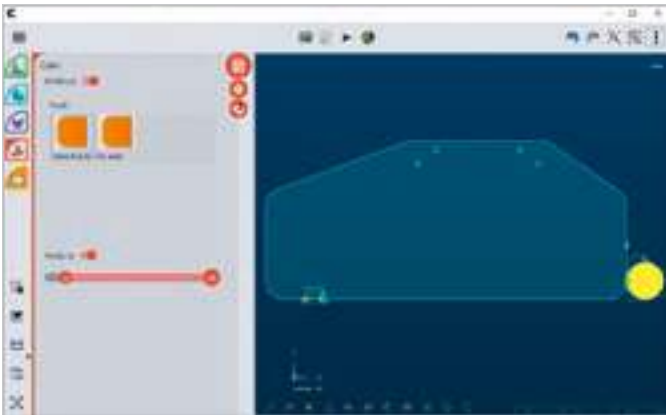
IDENTIFY

The glass to be worked in the machine is easily identified, starting from the drawing previously processed or specifying its dimensions.



APPLY

With a simple drag&drop, additional elements such as notches or hardware items can be parametrically applied to the piece. These elements can be easily added and personalised by the customer.



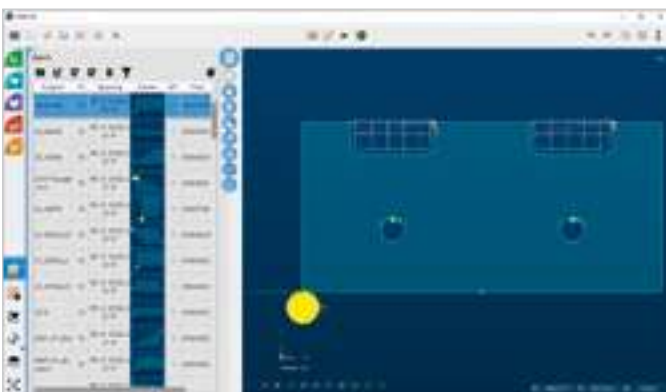
PROCESS

The geometries are automatically processed with a click: circles become bored holes, profiles become milling operations, glass is ground; the software identifies and suggests machining operations such as internal profiling and notches. The layers can be associated with specific machining operations.



EXECUTE

The piece is prepared so it's ready to be executed in the machine. The carriage positions are calculated and the necessary suction cups are enabled. Possibility to intervene manually for collision control.



IC BATCH

Option of importing and automatically programming a list of designs (in standard DXF, DWG or IC formats) and sending them directly to the machine. Option of modifying the pieces after the automatic calculation.

IC AUTOMATICALLY SIMPLIFIES COMPLEX DRAWINGS, IDENTIFYING THE GLASS TO BE MACHINED AND ALL THE OPERATIONS REQUIRED TO PRODUCE IT.

CUSTOMER CARE IS WHO WE ARE

SERVICES is a new experience for our customers, to offer not just excellent technology but the added value of an increasingly direct connection with the company, the professionals who work there and the experience they embody.



ADVANCED DIAGNOSTICS

Digital channels for remote interaction online 24/7. Always ready to intervene on-site seven days a week.



A WORLDWIDE NETWORK

39 branch offices, over 300 certified agents, retailers in 120 countries, and spare parts warehouses in America, Europe and the Far East.



SPARE PARTS AVAILABLE IMMEDIATELY

Identification, shipping and delivery of spare parts for every need.



EVOLVED TRAINING OPPORTUNITIES

Lots of on-site, online and classroom training modules for personalised growth.



VALUABLE SERVICES

A wide range of services and software packages to help our customers achieve continuous improvements in performance.

AN EXCELLENT LEVEL OF SERVICE

+550

HIGHLY SPECIALISED
TECHNICIANS AROUND
THE WORLD, READY TO HELP
CUSTOMERS WITH EVERY
NEED

90%

OF MACHINE DOWN CASES
WITH RESPONSE TIME
UNDER 1 HOUR

+100

EXPERTS IN DIRECT
CONTACT THROUGH
REMOTE CONNECTIONS
AND TELESERVICE

92%

OF SPARE PARTS ORDERS
FOR MACHINE DOWNTIME
PROCESSED WITHIN 24
HOURS

+50.000

ITEMS IN STOCK IN THE
SPARE PARTS WAREHOUSES

+5.000

PREVENTIVE MAINTENANCE
VISITS

80%

OF SUPPORT REQUESTS
SOLVED ONLINE

96%

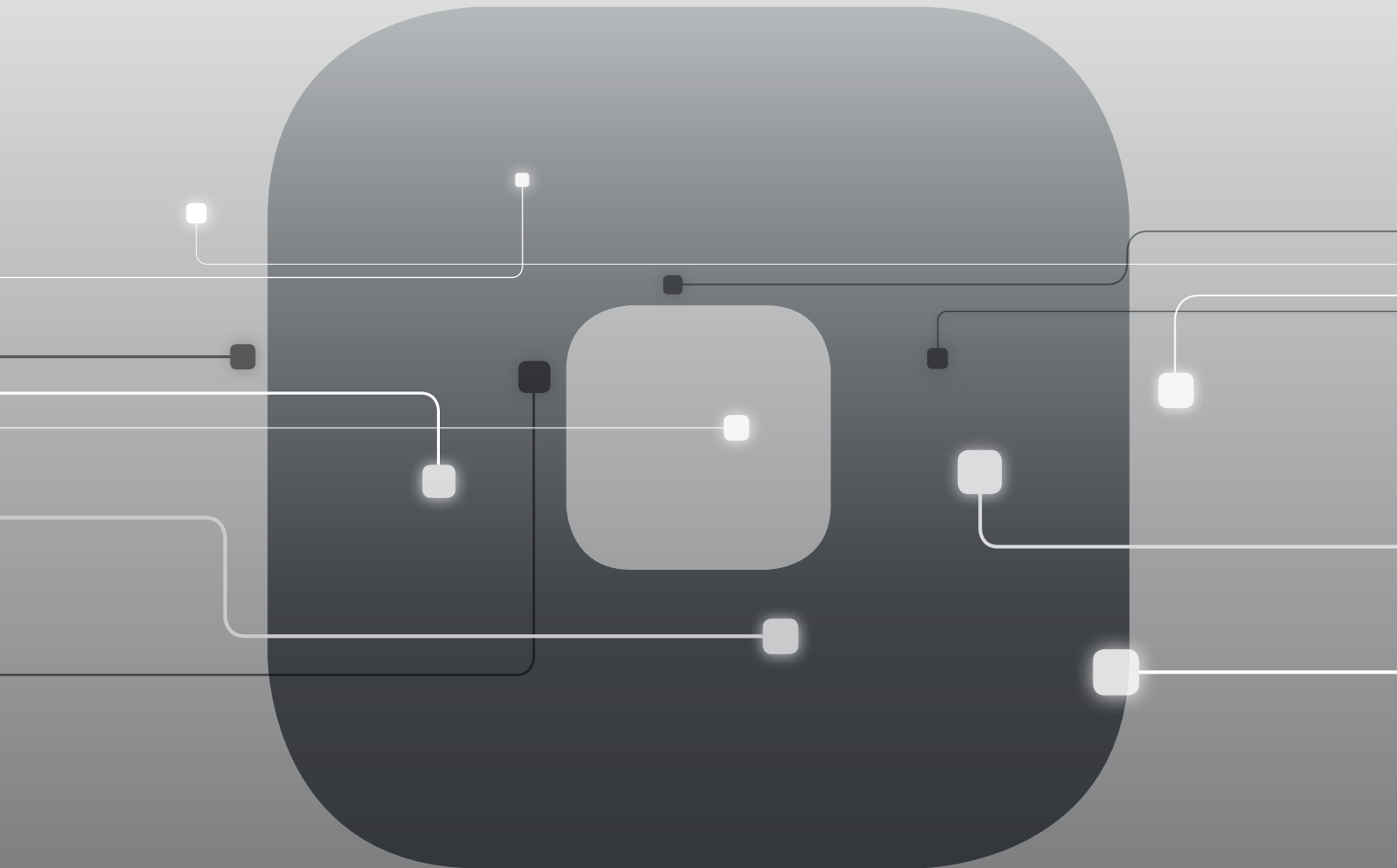
OF SPARE PARTS ORDERS
DELIVERED IN FULL ON TIME

88%

OF CASES SOLVED WITH
THE FIRST ON-SITE VISIT

SOPHIA

GREATER VALUE FROM MACHINES



SOPHIA is the IoT platform created by Biesse in collaboration with Accenture which enables its customers to access a wide range of services to streamline and rationalise their work management processes.

It allows alerts and indicators to be sent to the customer in real time, in relation to production, the machines used and the type of process carried out. These are detailed instructions for more efficient use of the machine.

10% CUT IN COSTS

50% REDUCTION
IN MACHINE DOWNTIME

10% INCREASE
IN PRODUCTIVITY

80% REDUCTION IN PROBLEM
DIAGNOSTICS TIME

SOPHIA TAKES THE INTERACTION BETWEEN
CUSTOMER AND SERVICE TO A HIGHER LEVEL.

iOT
SOPHIA

IoT - SOPHIA provides a comprehensive overview of the specific machine performance features, with remote diagnostics, machine stoppage analysis and fault prevention. The service includes a continuous connection with the control centre, the option of calling for assistance from within the customer app (such calls are managed as priorities), and an inspection visit for diagnostic and performance testing within the warranty period. Through SOPHIA, the customer receives priority technical assistance.

PARTS
SOPHIA

PARTS SOPHIA is the easy new, user-friendly and personalised tool for ordering Biesse spare parts. The portal offers customers, dealers and branches the chance to navigate within a personalised account, consult the constantly updated documentation of the machines purchased, and create a spare parts purchase basket indicating the real time availability in the warehouse and the relative price list. In addition, the progress of the order can be monitored at all times.

 **Biesse**

Founded in Italy,
international native.

We simplify your
manufacturing
to make the process
of any material



ur
g process
potential
I shine.

We are an international company that manufactures integrated lines and machines to process wood, glass, stone, plastic and composite materials and what will come next.

Thanks to our rooted competence nurtured by an ever-growing worldwide network, we support your business evolution – empowering your imagination.

Master of materials, since 1969.

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Biesse world.

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