

AQUA SERIES

VERTICAL WASHING MACHINES
FOR FLAT GLASS



 **INTERMAC**

INTEGRATED WASHING AND DRYING IN A SINGLE SOLUTION

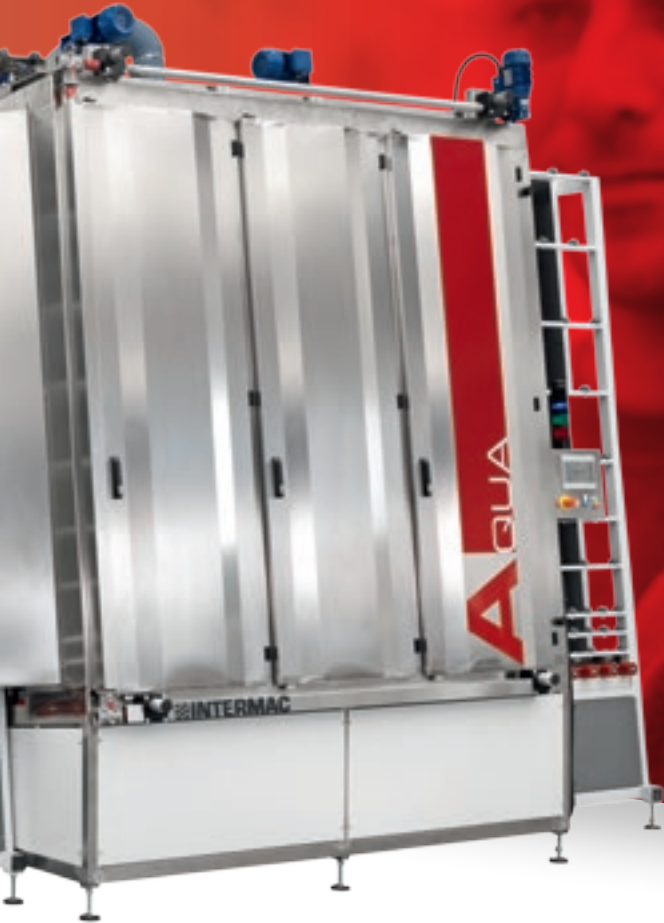


THE MARKET CALLS FOR

an evolution in production processes, coupled with quick and certain delivery times, to meet the ever-growing demand for bespoke products that meet the specific requirements of customers. This is coupled with the need to maintain high quality standards whilst offering product customisation.

INTERMAC RESPONDS

with technological solutions that enhance and support technical abilities and the knowledge of processes and materials. The **Aqua series** is the Intermac range of washing machines which can be fully integrated with vertical machining centres, enabling processed glass to be washed and dried in accordance with the highest standards. Aqua guarantees extreme cleaning of all the impurities accumulated during the machine operations carried out on glass sheets, preparing these perfectly for subsequent processing operations or for leaving the machining cycle.



AQUA SERIES

- ✓ PERFECT IN LINE INTEGRATION WITH VERTICAL MACHINING CENTRES
- ✓ DEDICATED TECHNOLOGY FOR AUTOMATIC MANAGEMENT OF ALL TYPES OF GLASS ON THE MARKET
- ✓ LONG-TERM RELIABILITY THANKS TO A ROBUST STAINLESS STEEL STRUCTURE
- ✓ IDEAL FOR INFINITE WORK CYCLES
- ✓ EXTREMELY USER-FRIENDLY.

INFINITE WORK CYCLES

Aqua can be fully configured in accordance with varying production requirements courtesy of the length-adjustable inbound and outbound conveyors, both for stand-alone and in-line installations. The solution offers maximum flexibility when it comes to glass loading and unloading widths, thanks to the 3 dimension types (1.0/1.5/2.0 m), which can be combined with one another. It is also possible to configure the processing direction, from right to left and from left to right.



The central washing and drying unit is constructed entirely from stainless steel, guaranteeing safety and durability over time.

The passage of the glass through the washing machine is a crucial stage in the glass processing cycle as it removes all the impurities from the sheet that may have been deposited during previous processes, as well as preparing the glass for subsequent processing operations such as tempering, screen printing, lamination, digital printing and double glazing, where the glass must be perfectly clean when it enters the machine. The Intermac Aqua range washes and dries processed glass to the highest standards.

An automatic adjustment system enables Aqua to handle glass sheets with thicknesses of up to 32 mm, and can be interconnected with other machines in the same line, allowing the processing speed and the machine opening to be managed in accordance with the thickness of the sheet of glass in question.



AQUA GUARANTEES INFINITE USE, ADAPTING PERFECTLY TO THE SPEEDS OF THE MACHINING LINE

High-quality components

The feed rollers that move the glass forward work as a single unit, and are made from a one piece of vulcanised and ground rubber; they are non-marking and antistatic, they do not absorb oil or generate dirt, and are not charged with electrostatic current.

The transmission of the drive rollers takes place by means of bevel gear sets in plastic material, which are devoid of any type of lubrication.



Entry sensors

The machine can be equipped with entry sensors, enabling automatic measurement of the glass thickness.

ATTENTION TO DETAIL

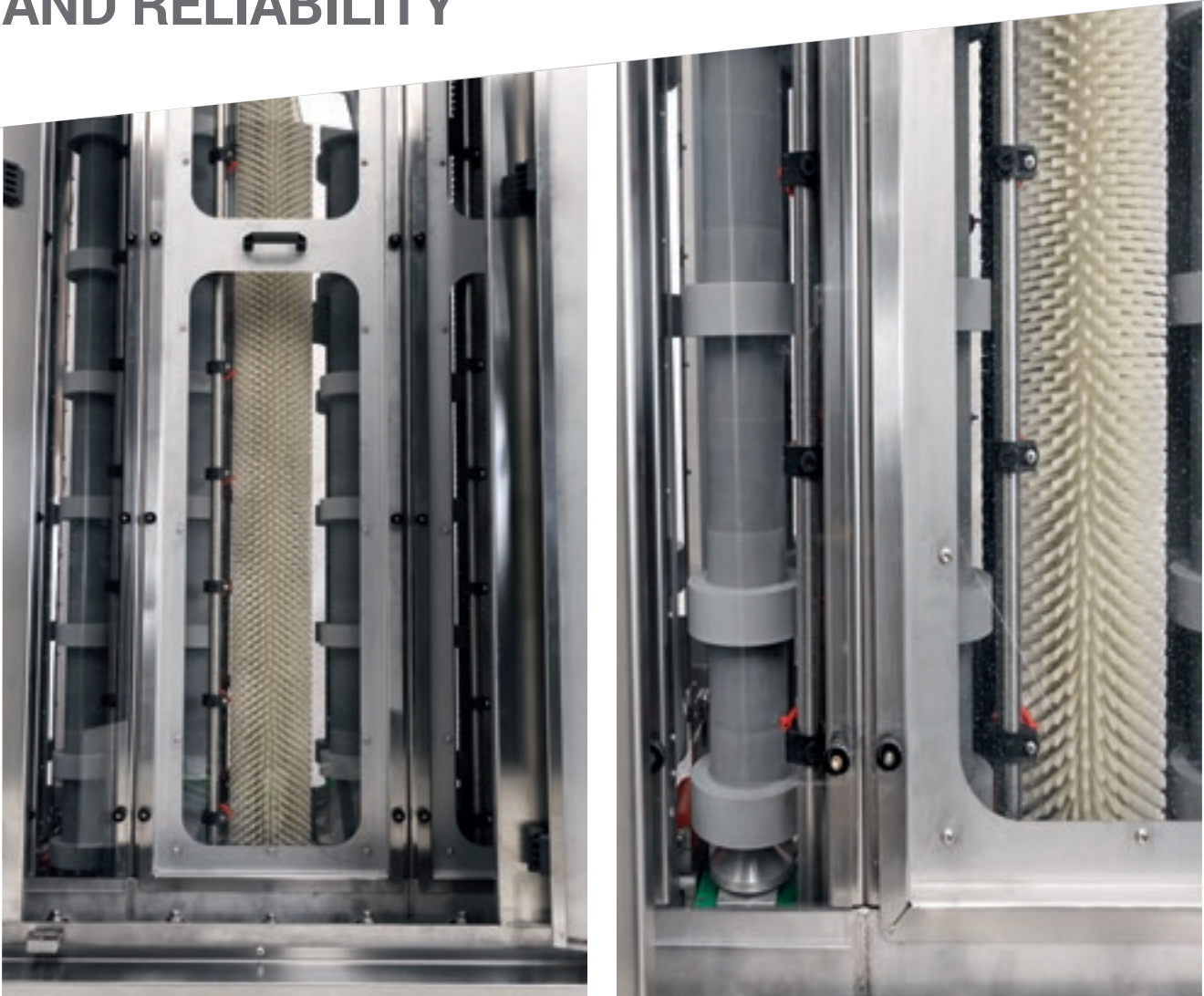


PRE-WASHING OF THE GLASS

The entire Aqua range features a glass pre-wash system; this step is fundamental, particularly when the washing machine is combined in line with other machines.

The pre-wash process is performed by spraying hot water onto the glass, and does not use brushes: this step enables around 80% of the accumulated residues to be removed without damaging the glass.

SAFETY AND RELIABILITY



A targeted jet of water is directed towards the glass during the washing and rinsing phases, courtesy of bars fitted with special nozzles that guarantee perfect coverage of the entire sheet of glass.

WASHING

Washing is performed by two or three pairs of brushes.

The machine can also be equipped with soft front brushes, which are particularly suitable for washing delicate types of glass (low-e).

Each washing section has its own tank, with independent pumps.

RINSING

Where subsequent processing operations are due to take place, it is advisable to fit the machine with a purification system for demineralising the water, for an improved glass drying result (no droplets or rings).

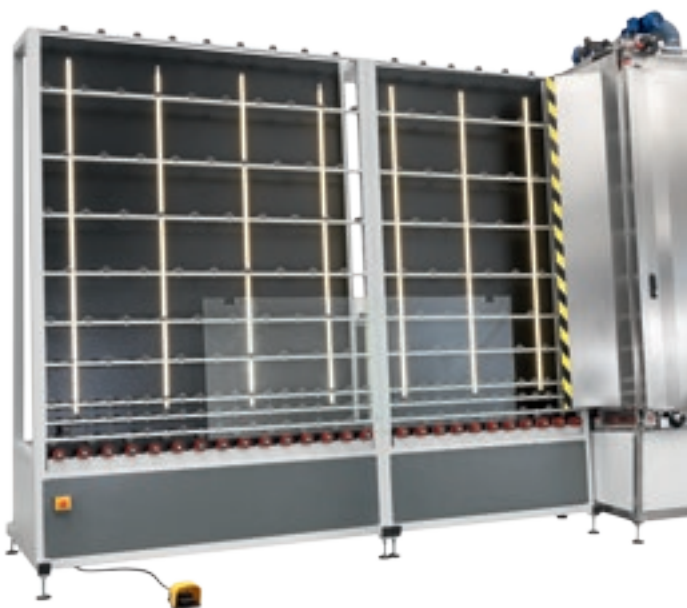
HIGH-QUALITY RESULTS



DRYING

The glass sheets are dried by two blowers.

- ▶ Air blade (blowers) in stainless steel ensure absolute durability over time.
- ▶ The machine can be equipped with antistatic bars, to eliminate the current generated during the drying operation.
- ▶ The fan power can be managed via the inverter in accordance with the speed of work.



Easy access and inspection.

The lights fitted in the area where the glass exits the machine enable perfect inspection and quality control at the end of the processing operation.

EASY ACCESS AND MAINTENANCE



The roller and brush transmission system are positioned on the upper part of the machine for improved protection against water, and to enable facilitated inspection and maintenance.



Transmission belt with high resistance to wear, easy to maintain. Modular, no need to replace.



The tanks are mounted on wheels to facilitate movement during the cleaning phase. The water inside the tanks passes through two different stages of filtration before being recirculated inside the machine. The tank of the first pair of brushes contains a heating element and a thermostat for water heating. The option of heating the water in the other tanks facilitates the removal of residues and helps to dry the glass sheets. (optional).

EASE OF USE



7" TOUCH SCREEN CONTROL PANEL

- ▶ Option of controlling the working temperature from the control panel
- ▶ Energy saving kit: energy savings are achieved by switching off the motors in the main work unit when the machine is in standby mode.
- ▶ Adjustable working speed, from 2 to 7 m/min.
- ▶ The working thickness can be adjusted to the millimetre.

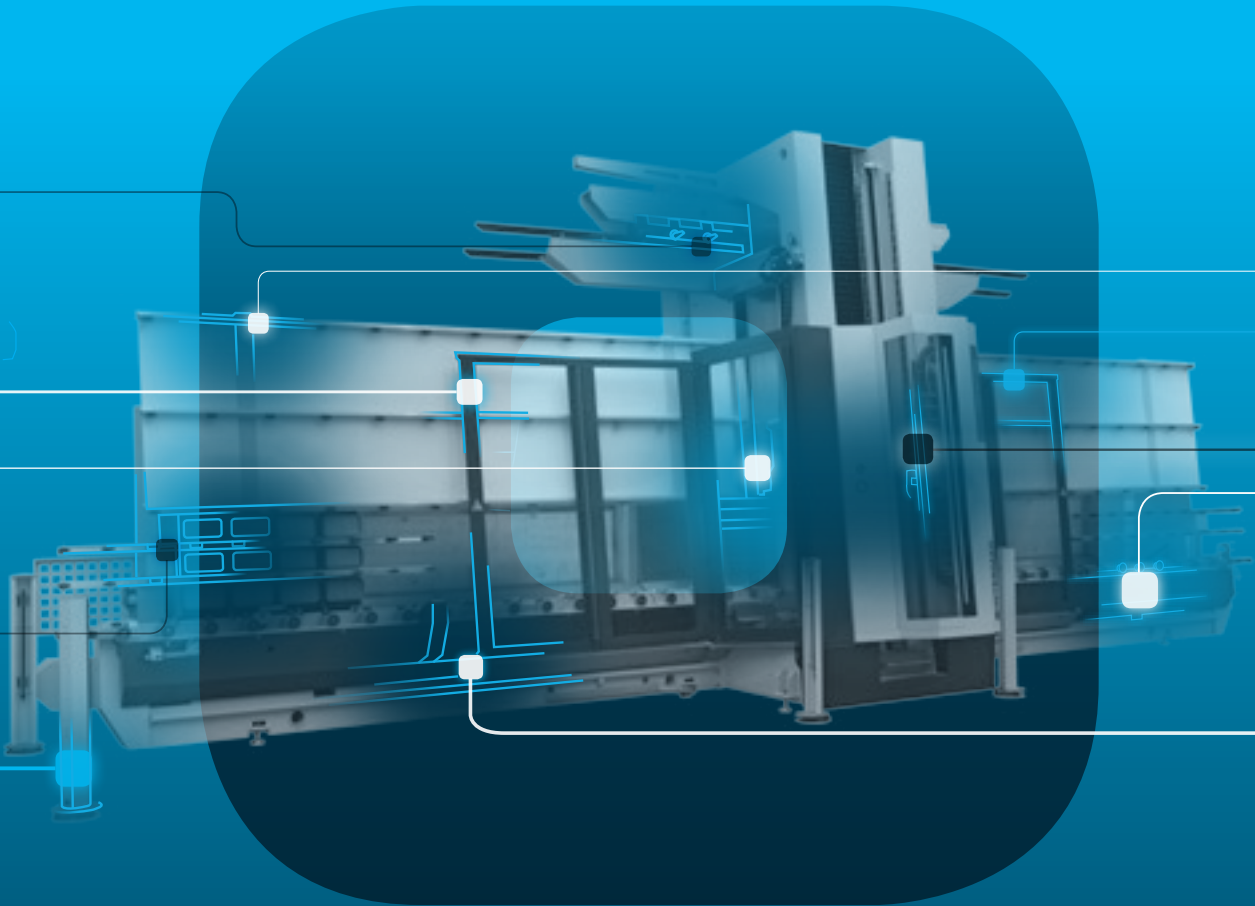
PERFECT IN LINE INTEGRATION WITH INTERMAC VERTMAX VERTICAL MACHINING CENTRES.



The height of the work table can be changed in accordance with the size of the Vertmax vertical machining centre (750/550 mm).

SOPHIA

GREATER VALUE FROM MACHINES



The InterMac IoT platform which enables customers to access an extensive range of services to streamline and rationalise their work management processes.

□ SERVICES

□ PROACTIVITY

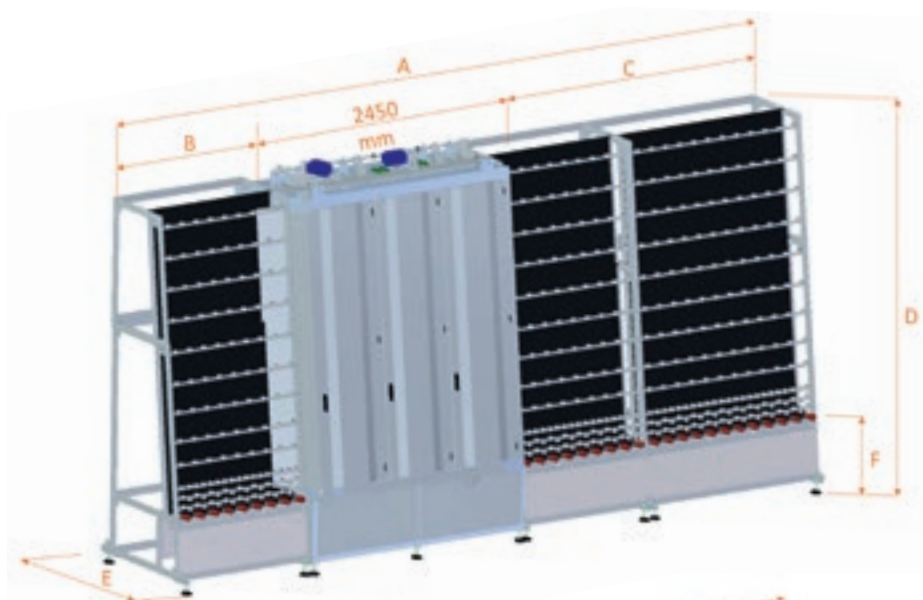
□ ANALYSIS

 **INTERMAC**

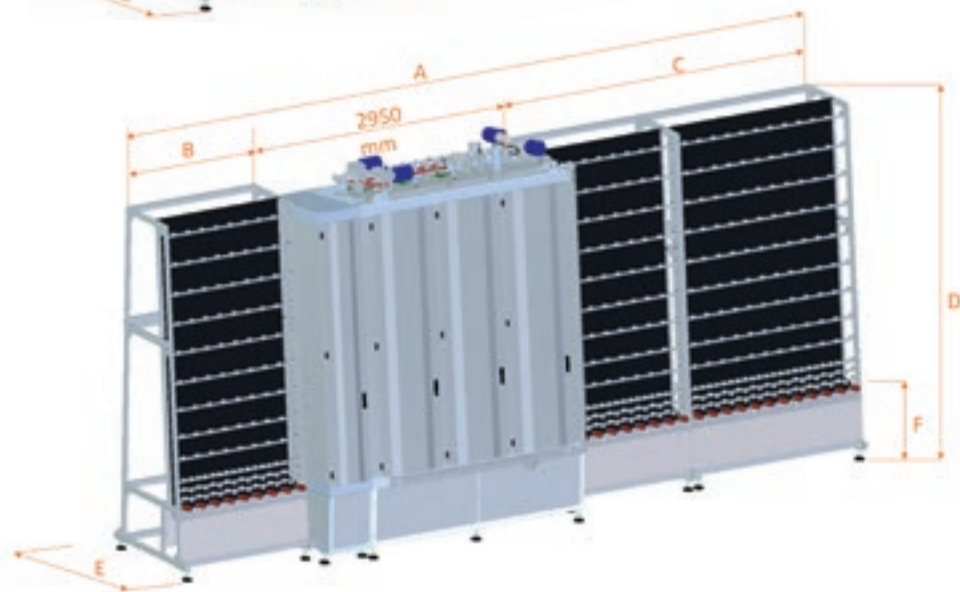
in collaboration with **accenture**

TECHNICAL DATA

▶ **AQUA series**
 4 brushes
 2 blowers



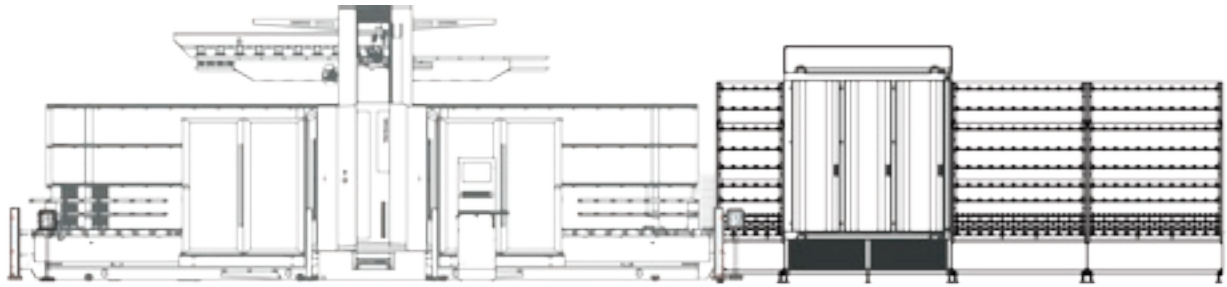
▶ **AQUA series**
 6 brushes
 2 blowers



DIMENSIONS

AQUA SERIES		A = B + C + Central module		D	E	F
		B*	C*			
1.6	mm	1000	2500	2700	3000	640
2.2	mm	1000	3500	3450	3000	750
2.6	mm	1000	5000	3850	3000	750
2.8	mm	1000	5000	4000	3000	750
3.3	mm	1000	6000	4500	3000	750

* The configuration can be varied according to customer requests.



Vertical washing machine Aqua in line with vertical CNC Vertmax.

AQUA		2.2 V-4.2	2.2 V-6.2	2.6 V-4.2	2.6 V-6.2	2.8 V-4.2	2.8 V-6.2	3.3 V-4.2	3.3 V-6.2
Maximum height	mm	2.200	2.200	2.600	2.600	2.800	2.800	3.300	3.300
Minimum size	mm	400 x 200	400 x 200	400 x 200	400 x 200	400 x 200	400 x 200	400 x 200	400 x 200
Machinable thickness	mm	from 3 to 32	from 3 to 32	from 3 to 32	from 3 to 32	from 3 to 32	from 3 to 32	from 3 to 32	from 3 to 32
Advance speed	m/min	2 - 7	2 - 7	2 - 7	2 - 7	2 - 7	2 - 7	2 - 7	2 - 7
Work table height	mm	750	750	750	750	750	750	750	750
Buffing Unit		4	6	4	6	4	6	4	6
Blowers		2	2	2	2	2	2	2	2
Water tanks		4	5	4	5	4	5	4	5
Brush diameter	mm	150	150	150	150	150	150	150	150
Pre-washing		yes	yes	yes	yes	yes	yes	yes	yes

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.

Weighted sound pressure level A (LpA) during machining at the operator's workstation on the vane-pump machine LpA=79dB(A) Lwa=96dB(A) Weighted sound-pressure level A (LpA) at the operator's workstation and sound power level (LwA) during machining on the cam-pump machine Lwa=83dB(A) Lwa=100dB(A) Measurement uncertainty K 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.

SERV ICE & PARTS

Direct, immediate coordination of service requests between Service and Parts. Support for key customers from specific Intermac personnel, in-house and/or at the customer's site.

INTERMAC SERVICE

- ▣ Machine and line installation and start-up.
- ▣ Training centre for Intermac field technicians and subsidiary/dealer personnel; customer training directly at the customer's site.
- ▣ Overhaul, upgrade, repairs and maintenance.
- ▣ Remote diagnostics and troubleshooting.
- ▣ Software upgrade.

85

Intermac field technicians in Italy and worldwide.

20

Intermac technicians working in Teleservice Centre.

35

certified dealer technicians.

50

training courses in a variety of languages every year.



SERVICE TEAM

The Biesse Group promotes, cares and develops direct and constructive relationships with the customers to meet their needs, improve after-sales products and services through two dedicated areas: Intermac Service and Intermac Parts. With its global network and highly specialised team, the company offers on-site and on-line assistance and spare parts for machines and components anywhere in the world, 24/7.

INTERMAC PARTS

- Original Intermac spare parts and spare parts kits customised to suit the machine model.
- Spare part identification support.
- Offices of DHL, UPS and GLS couriers located within the Intermac spare parts warehouse, with multiple daily pick-ups.
- Optimised order dispatch time, thanks to a global distribution network with de-localised, automated warehouses.

95%
of machine downtime orders dispatched within 24 hours.

95%
of orders dispatched on time.

30
spare parts staff in Italy and worldwide.

150
orders processed every day.

COMPLETE RANGE OF SOLUTIONS FOR GLASS



TABLES FOR FLOAT GLASS CUTTING



Genius RS-A Genius CT-A series Genius CT-PLUS Genius CT-RED series

TABLES FOR LAMINATED GLASS CUTTING



Genius LM series Genius LM-A series

MACHINES FOR LAMINATED AND FLOAT GLASS CUTTING



Genius Comby Lines

LINES FOR LAMINATED OR FLOAT GLASS CUTTING



Genius Lines & Systems

WATERJET



Primus series

DOUBLE ENDING MACHINES AND SYSTEMS



Busetti FK series Busetti F series Busetti P series Customised solutions

WORK CENTRES



Master 23 Master ONE Master 33.3-38.3-45.3 Master 33.5-38.5-45.5- 45.5 Plus

SPECIAL WORK CENTRES AND AUTOMATIC CELLS



Master 63-65 Master 95 Master 185

SPECIAL WORK CENTRES AND AUTOMATIC CELLS



Master with belts Master working cell

WORK CENTRES ENGRAVING



Master 34

VERTICAL MACHINES



Vertmax series V-Loader

VERTICAL WASHING MACHINES



Aqua series

TOOLS FOR GLASS



Diamut tools

STORAGE & HANDLING SYSTEMS

STATIC STORAGE



MOVETRO SERIES - Classifiers

CLASSIC DYNAMIC STORAGE



MOVETRO SERIES - Loading machines

INNOVATIVE DYNAMIC STORAGE FOR MASS PRODUCTION



MOVETRO SERIES - Shuttle storage systems

INNOVATIVE DYNAMIC STORAGE FOR DYNAMIC PRODUCTION



MOVETRO SERIES - Overhead crane - Telescopic loading machines - Arpa

MADE WITH ZYTRONIC

THE UNMISTAKABLE FINGERPRINT OF THE CNC MASTERS

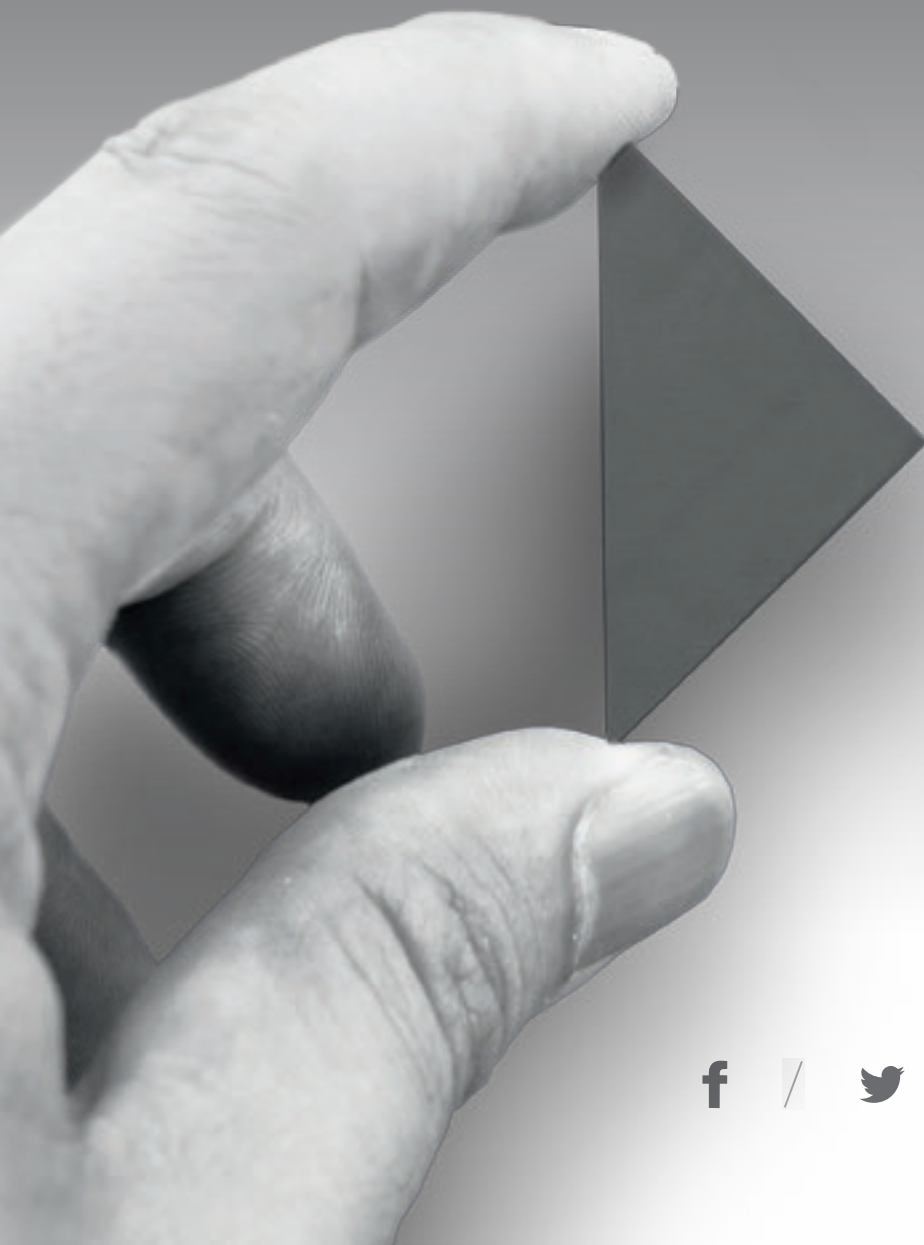
Zytronic, a company that produces tactile technology and touchscreen solutions, opts for the sophisticated technology of Intermac machining centres to guarantee the highest level user experience. When using a touch screen or any device to purchase a train ticket, make a withdrawal from an ATM, purchase a soft drink or play at a slot machine, response time is the factor that determines user satisfaction for the interaction with the electronic device. That's why Zytronic develops innovative, patented tactile solutions that have made it the leader in touchscreen solutions for the past 15 years. To serve such a wide-ranging market the company needs to develop great flexibility in the production of various screen types, and Intermac has, over

time, proven to be the perfect supplier for technology that guarantees quality, precision and impeccable finishing. Zytronic and Intermac boast a historic relationship based on mutual trust and respect, and the company already owns two Intermac machines: a Master 33 and a superb Compact Edge, which have proven to be the ideal choice for guaranteed quality and reliability over time. Production Director Adrian Leyland explains: "We need to be able to offer unique products for our customers, guaranteeing the highest level user experience with regard to the interaction with touch technology. In addition, the size of touchscreens is increasing, with shapes becoming more and more complex; this is precisely why the flexibility that the Master 23 guarantees when

machining glass into the shapes that we want is absolutely fundamental." All of these factors led us to choose Intermac once again. The decision has bolstered Zytronic's market success, which was already strong thanks to years of experience in the glass machining sector. Sales and Marketing Director, Ian Crosby, adds: "We keep receiving more and more requests from our customers for frameless touchscreens, and once again the Master 23 helps us find the right solution and outdo the competition. Thanks to Intermac, we are sure to win the challenge of providing the utmost user experience".



LIVE THE EXPERIENC



BIESSEGROUP.COM

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Interconnected technologies and advanced services that maximise efficiency and productivity, generating new skills to serve better our customer.

LIVE THE BIESSE GROUP EXPERIENCE AT OUR CAMPUSES ACROSS THE WORLD.

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