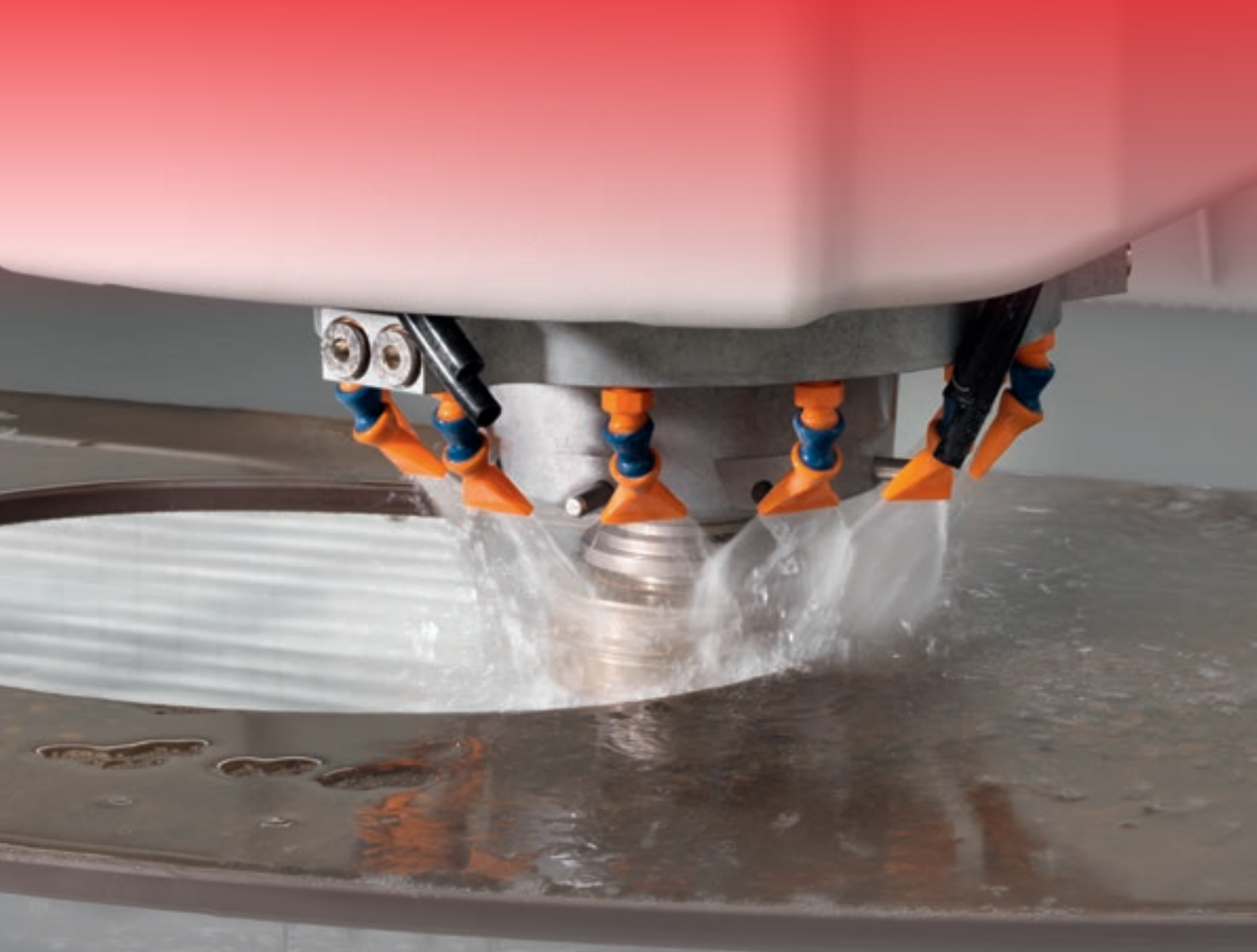


MASTER 23

CNC WORKING CENTRE
FOR STONE



 **INTERMAC**

A COMPACT SOLUTION FOR EVERY NEED



THE MARKET CALLS FOR

a change in production processes to meet the ever growing request for personalised products to satisfy customers' specific needs. This is coupled with the need to maintain high quality standards whilst offering product customisation with quick and defined delivery times.

INTERMAC RESPONDS

with technological solutions that enhance and support technical expertise and knowledge of processes and materials. The **Master 23** is the most compact machining centre created by Intermac for the machining of stone. It is suitable for the needs of large companies that need to produce large batches, but also for small artisans who decide to invest in the growth of their company and in the evolution of the production process.



MASTER 23

- ✓ COMPACT DIMENSIONS MAKING IT IDEAL FOR COMPANIES WITH LIMITED SPACE.
- ✓ OPTIMUM VERSATILITY THANKS TO THE WIDE VARIETY OF POSSIBLE MACHINING OPERATIONS.
- ✓ MAXIMUM QUALITY AND PRECISION.

OPTIMUM VERSATILITY THANKS TO THE WIDE VARIETY OF POSSIBLE MACHINING OPERATIONS

The Master 23 can handle the most diverse and complex machining operations, guaranteeing the highest quality finish for the machining of natural stone, granite, marble, synthetic materials and ceramics for bathroom surfaces and kitchen tops. It can load sheets up to 3200 mm long and just machine the hole for the sink, shower floors or headstones.



Milling.



Boring.



Grinding and polishing.



Tapering.



Ageing.

MACHINING QUALITY AND SPEED

Intense activity in research and development has brought about continuous improvement for Intermac, to the point that the company has obtained cutting edge solutions and stands out on the market for its reliability and for the high quality finishing it offers. The company has placed itself as the best technological partner for the production of machinery in the stone working industry.



Writing.



Inlay.



Bas relief.



The Master 23 guarantees the highest precision and clarity of details in the creation of bas reliefs and 2D-3D writing.



INNOVATION

INTERMAC TECHNOLOGY

The high technological content of the world's most popular working centres satisfies the specific needs of the stone industry.

Configurations with 3 or 4 axes fitted with aggregates for managing a vast range of machining operations. For all the configurations, the components are the same as for the top-of-the-range solutions.

23



MAXIMUM MACHINING RELIABILITY AND PRECISION



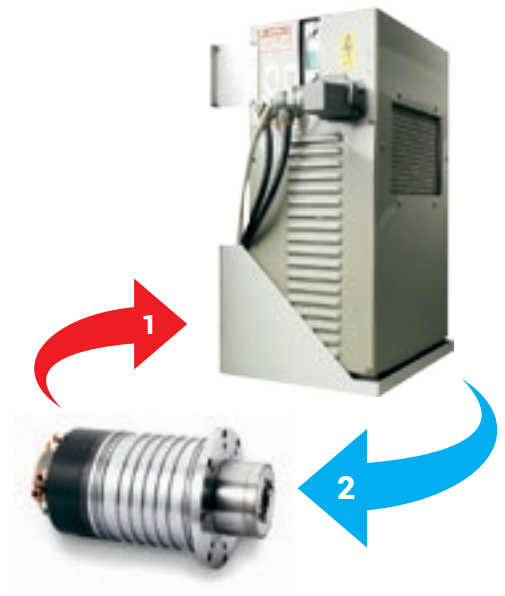
The Master range is fitted with spindles manufactured by HSD - a world leader in its sector. They guarantee optimum power, compact dimensions and extremely high finishing standards.

- ▀ **+60% spindle lifespan and noise reduction** thanks to 4 ceramic bearings that offer greater resistance to mechanical stress.
- ▀ **Greater reliability** thanks to the use of stainless steel and the 55mm spindle shaft.



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.



Optional **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**



Master 23 is equipped with an integrated system for the automatic greasing of the movement axes, ensuring constant and precise maintenance every day.

The machine work table is an extremely sturdy structure. It supports a refaced aluminium covering that ensures the perfect planarity of the working area - fundamental for first class machining results.

The machine is designed to work in twin-station mode too.

The beam is moved by means of twin-motor gantry technology to ensure greater accuracy and a longer lifespan.



FAST, PRECISE TOOLING



Rear tool change with casings for machining residue protection on the 18-position cones, and automatic tool loading via the working unit.

MACHINING QUALITY AND SPEED

Maximum results, thanks to the possibility to equip the machine with a series of optional elements using top quality components.



Master 23 can be fitted with the mechanical pre-setter which has a fully automatic system that quickly and simply ensures highly accurate and updated tool measurements during the machining processes, thereby avoiding any risk of error on the part of the operator.



Pressure intensifier for the external water

This is a circular wheel with small nozzles that increase the pressure of the external water. The optional device has a 3-position vertical movement to ensure that the water impact point is always the best, regardless of tool radius and height. Ideal for machining with grinding wheels and for kitchen tops.



Drill dressing

The device for dressing is placed near the working area for the immediate adjustment of tools, to guarantee the best quality and quickest execution all the time.

EASE OF USE

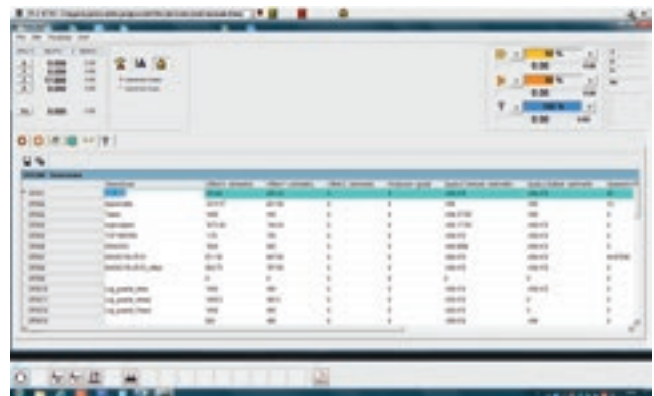
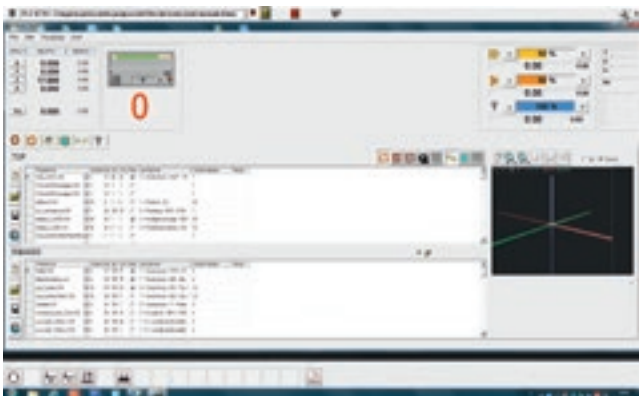


Extremely easy to use, thanks to the ergonomic console and user-friendly operator interface.

The use of a PC with Windows guarantees a particularly easy, user-friendly approach for the operator and allows for CAD-CAM programming directly beside the machine.

The user interface in a Windows environment allows the operator to:

- ▀ easily set the work list to optimise production.
- ▀ rapidly handle the work origins and tool parameters
- ▀ see the execution time for each piece.



HIGH TECH BECOMES ACCESSIBLE AND INTUITIVE

WITH OVER 6,500 PACKAGES INSTALLED AND USED BY SATISFIED CUSTOMERS IN 180 COUNTRIES THROUGHOUT THE WORLD, ICAM IS A HIGHLY RELIABLE AND ROBUST SOFTWARE THAT COMBINES TOP PERFORMANCE WITH EXTREMELY EASY USE.

▸ **User-friendly**

A simple, powerful interface for working quickly and easily.

▸ **Time saving**

Positioning of stops and suction cups within the CAD/CAM environment, minimising tooling times even with project modifications.

▸ **Innovative**

A unified interface for the CAD and CAM environments.

▸ **Automated**

The parametric library and Indoor module allow machining operations to be generated quickly and automatically on the basis of the item being created.

▸ **Service quality**

Worldwide Service with a high level of expertise.

DESIGNED TO MEET THE REAL PROGRAMMING NEEDS OF MASTER WORKING CENTRES, WITH THE AIM OF MAKING THE JOB QUICKER AND EASIER. SOLUTIONS BASED ON THE STANDARDS BUT FOCUSED ON THE FUTURE.



PROTECTION AND SAFETY FOR ALL MACHINING OPERATIONS

Intermac has always paid the utmost attention to the health and safety of its customers. The protection of every operator during the use of the machine is of vital importance, preventing any possible distraction or error that could lead to inconvenience or even accidents.



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

With Master working centres, the operator is protected by:

- ▀ Ergonomic front guards of a suitable height that are also explosion-proof (certified by external bodies with "detonation" tests).
- ▀ Side and rear guards made of a metallic material subjected to special anti-corrosion painting cycles.
- ▀ Electric and pneumatic systems fully integrated in the machine and protected by closed doors.
- ▀ Inaccessibility of moving machine parts.
- ▀ A clean working environment (water and machining residues are not dispersed).
- ▀ Reduced noise levels, fully complying with the machinery directive.



Optimum convenience in the operations thanks to a hand-held terminal with:

- ▀ Quick, simplified positioning of the stops and suction cups thanks in part to the option of tooling the work table with doors open.
- ▀ Simplified tool preparation, thanks to the optimum control of the working head directly on the piece to be machined, and no limits between operator and Master.
- ▀ Machining speed control.
- ▀ Emergency button always near the operator's hand.
- ▀ Start buttons for the two machining stations.
- ▀ A machining pause and restart button.

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 system 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 manning a Teleservice Centre.

35

certified dealer technicians.

50

training courses in a variety of languages every year.



SERVICE TEAM

Intermac promotes, nurtures and develops direct, constructive relationships with customers in order to better understand their needs and improve its products and after-sales service via 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.

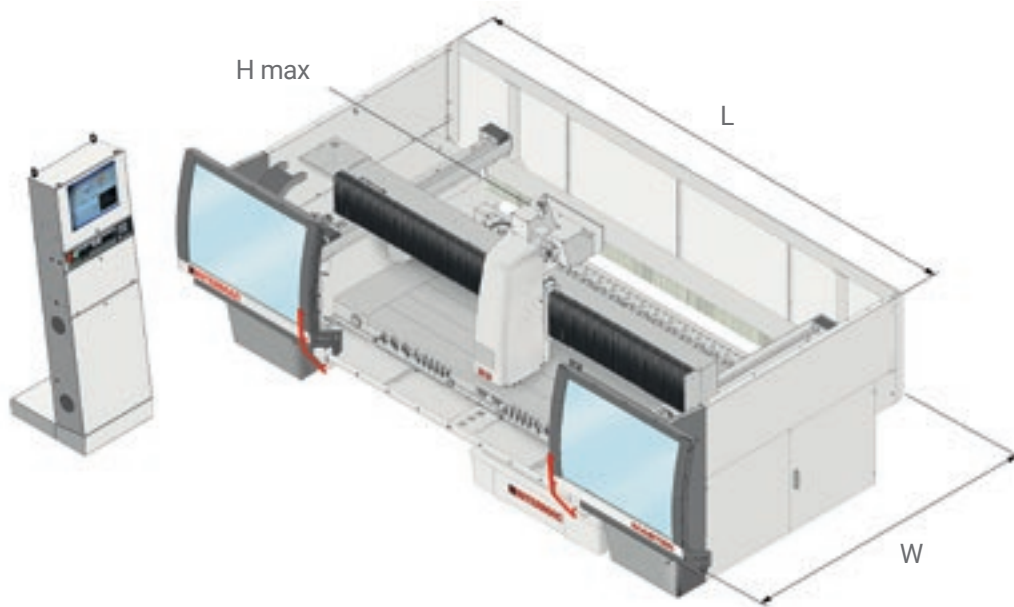
30

spare parts staff in Italy and worldwide.

150

orders processed every day.

TECHNICAL SPECIFICATIONS



MASTER 23

Maximum piece size for machining with a 100m grinding wheel (peripheral grinding)	mm	2500x1200
Z axis stroke	mm	275
Overall machine dimensions	mm	X: 5380 (doors open) X: 4700 (doors closed) Y: 2680 Z: 2620
C axis stroke (optional)	mm	∞
Max axis speed (X - Y - Z)	m/min	60 - 30 -15
Work table height	mm	730
Electrospindle power	kW	7.5
Max electrospindle rotation	rpm	12000
Tool coupling		ISO 40
Maximum tool diameter	mm	150
Rear tool magazine (optional)	positions	18
Tool magazine on head (optional)	positions	8 (6 if the C axis is fitted)
Working air pressure	bar	7
Max air consumption	NI/min	160
Internal water consumption	l/min	10.5

RANGE OF INTERMAC WORKING CENTRES FOR MACHINING STONE

MACHINING CENTRES



Master 23



Master 30

MACHINING CENTRES



Master 33.3-38.3-45.3



Master 33.3 Plus-38.3 Plus-45.3 Plus



Master 33.5 Plus-38.5 Plus-45.5 Plus

UNIVERSAL MACHINING CENTRES



Master 850-1200

UNIVERSAL AUTOMATIC MACHINING CENTRES



Mastersaw 625 Double Table

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.

MADE WITH INTERMAC

FROM NATURAL STONE TO THE BEST MANUFACTURED PRODUCTS

Generelli SA, a company from Ticino with headquarters in Rivera, Switzerland, has been converting natural stone into superb manufactured products for over forty years. At Generelli the most advanced stone processing techniques are constantly paired with the skilful artisanry fostered in Ticino. With this mission the Swiss company, which was founded in **1974** and directed by founder **Generelli Guido** before his son **Moreno** took the helm, has now reached the third generation with **Matteo**. Natural stone, quartz compounds, plastic materials and ceramic are the daily bread of creativity and are converted into art, "from a simple granite windowsill to more complex 3D machining," says Moreno as he explains how slabs of stone become "everyday" objects: not just surfaces for kitchens and bathrooms, but also stairs, floors, fireplaces

and swimming pools, destined to enrich and highlight living spaces all over the world.

"Thanks to Intermac technology we can achieve complex shapes, and increase productivity and autonomous work."

Nothing is outsourced: Generelli carries out every single step internally, to guarantee the highest quality. "Today technology is an integral and irreplaceable part of our company: we wouldn't be where we are today without it" Matteo confirmed. If that technology comes from Italy, which is where Moreno believes the best companies are still to be found, all the better. For production, in fact, the crown goes to the **Master 33** and the **Primus** 5-axis waterjet by Intermac, a company whose history of collaboration with Generelli dates all the way back to 1996. And it's the Primus, one of the newest additions in

production, that has helped the company surpass previous limits, as Matteo explains: "With it we are capable of producing shapes of various sizes, with very precise cuts, and can create double-curved 3D inlays, increasing productivity and autonomous work". Equipped with the latest generation of tools, "with technical features that are more evolved compared to the past", these mechanical powerhouses were designed for power and precision and anticipate a time in the future when, as envisioned by Matteo, "technology will increasingly be present throughout production and will play a greater role in designing and programming thanks to increasing levels of intelligence and autonomy. But all this can only be achieved if the companies that use these machines are able to evolve with the machines".



THE GROUP

IN

1 industrial group,
4 business sectors
and 9 manufacturing sites

HOW

14 mln €/year in R&D
and 200 patents filed

WHERE

37 branch offices
and 300 agents
and select partners

WITH

customers in 120 countries:
manufacturers of furniture, design
items and door/window frames,
producers of elements for the
building, nautical and aerospace
industries

WE

3800 employees worldwide



BIESSEGROUP



BIESSE



INTERMAC



DIAMUT

MECHATRONICS

