

brembana kratos

5-axis milling machine



CMS is part of SCM Group, a technological world leader in processing a wide range of materials: wood, plastic, glass, stone, metal and composites. The Group companies operating throughout the world are reliable partners of leading manufacturing industries in various market sectors, including the furniture, construction, automotive, aerospace, ship-building, and plastic processing industries. SCM Group coordinates, supports and develops a system of industrial excellence in 3 large highly specialized production centers employing more than 4,000 workers and operating in all 5 continents. SCM Group can offer the most advanced expertise worldwide in the design and construction of machinery and components for industrial processing.

CMS SpA manufactures machinery and systems for processing composite materials, carbon fiber, aluminum, light alloys, plastic, glass, stone, and metals. It was established in 1969 by Pietro Aceti, with the aim of offering customized and state-of-the-art solutions based on an in-depth understanding of customers' production needs. Significant technological innovations originating from substantial investments in research and development and take-overs of premium companies have led to constant growth in the various sectors.

brembana kratos

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CMS Stone Technology implements cutting-edge solutions in the marble, natural and composite stone processing sectors. In the '80s, under the Brembana Machine brand, CMS Stone Technology was the first stone machining center manufacturer, thanks to an idea from its founder Pietro Aceti. **CMS Stone Technology** has always been a reliable technological partner capable of designing unique solutions for any need in the world of construction, architecture, interior and exterior decoration and wherever stone and marble products are needed.



APPLICATIONS



bathroom and kitchen tops | inlays and mosaics | thresholds, stairs and window sills



furniture | funerary art | street furniture | architecture and construction



Strong.

Modern.

Adaptable.

Reliable.

Technological solutions.

SMART machines for your pro-
duction **needs.**

5-axis milling machine

BREMBANA KRATOS

TECHNOLOGICAL BENEFITS

5-AXIS CNC BRIDGE MILLING MACHINE

Brembana kratos is the new generation of 5-axis CNC bridge milling machine. Its robust, sparse construction is designed to fit easily into both laboratories and automated production lines.

It is built for maximum strength and productivity, without compromising precision in any machining process: from cutting strips from hard stone blocks up to 250 mm thick, to cutting thin ceramic slabs to make kitchen worktops.

The vacuum manipulator features a large gripping width and an increased suction surface divided into multiple zones. With a capacity of 500 kg, it can handle anything from long, narrow splashbacks up to jumbo slabs.

Brembana kratos can exploit three tools without operator intervention:

- Diamond disks from 300 mm to 725 mm in diameter.
- Drill bits and core drill bits (right-hand ½G thread) or polishing tools can be used up to 6,000 rpm.
- Cylindrical cutters and engraving bits (right-hand ½" G thread) can be used up to 14,000 rpm.

When equipped with the latest on-board software version, brembana kratos is able to meet the needs of every marble mason.

KEY BUYER BENEFITS

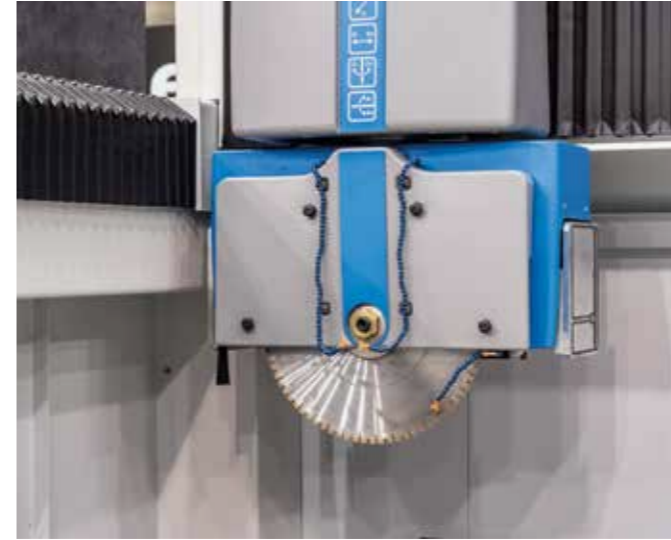
- + **+92% manipulator width** compared to the competition, to improve handling of longer workpieces.
- + **+16% work area** compared to the competition: angled cutting over the entire slab, even of the "super jumbo" type.
- + **CMS ACTIVE BRIDGE SAWS**: new comprehensive, user-friendly user interface and software integrated into the machine.
- + **Disk motor + side electrospindle**: 3 tools always available for maximum productivity.
- + **Polishing with dynamic monitoring** of tool wear: guaranteed quality when polishing surfaces.
- + **Uncompromising mechanical structure**: guarantees constant long-term accuracy and precision in every machining process.



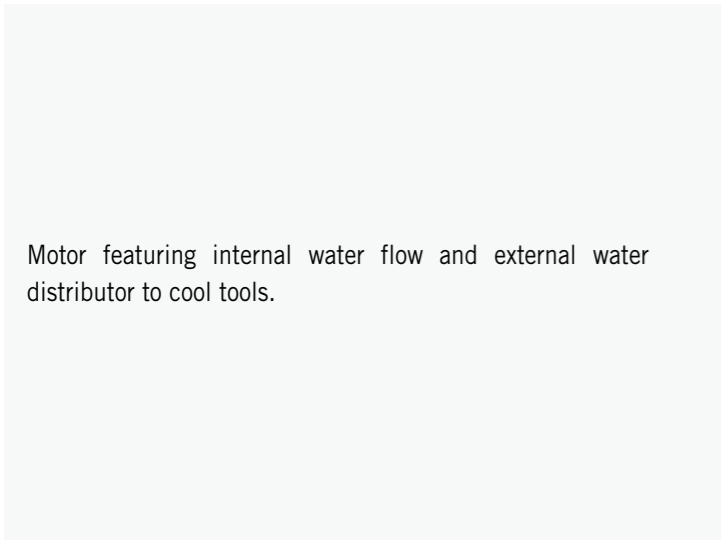
STANDARD ACCESSORIES



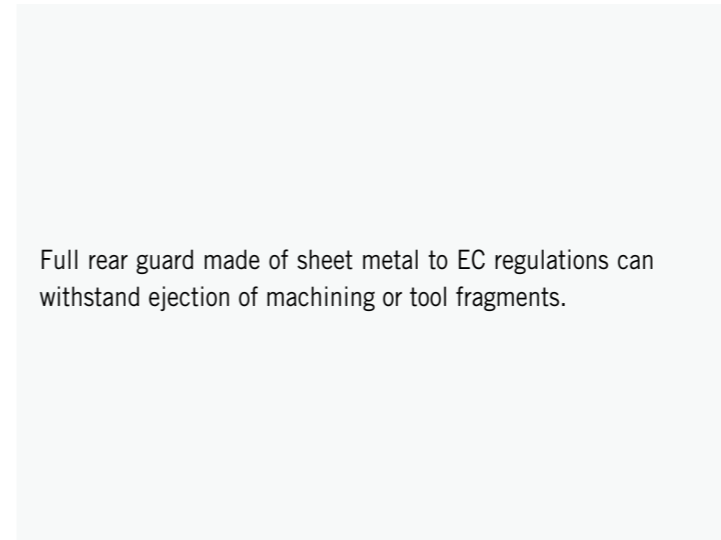
Electrospindle operated by an inverter offering variable speed from 0 to 6,000 rpm. Can be used with diamond tools such as end millers or core drill bits. Tools are changed manually.



Built-in disk holder casing for disks from 300 to 725 mm in diameter.



Motor featuring internal water flow and external water distributor to cool tools.



Full rear guard made of sheet metal to EC regulations can withstand ejection of machining or tool fragments.



Crosshair laser to acquire a two-dimensional shape for use in subsequent machining.



Air conditioning unit to control the temperature and humidity in the electrical cabinet.

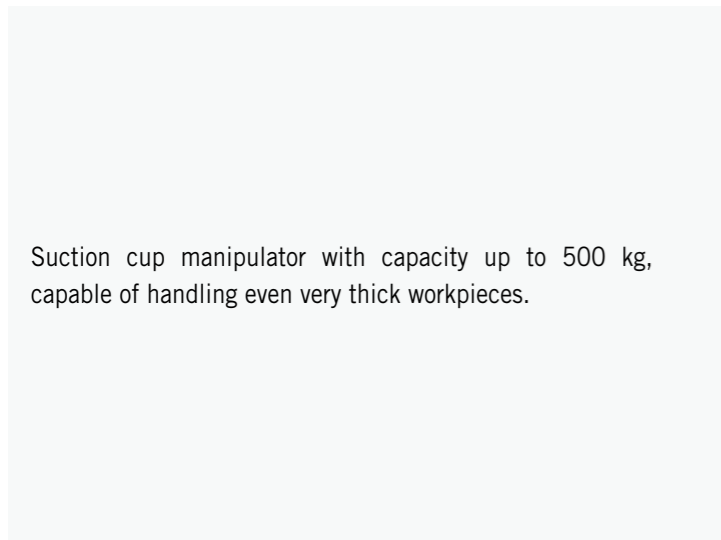
OPTIONS



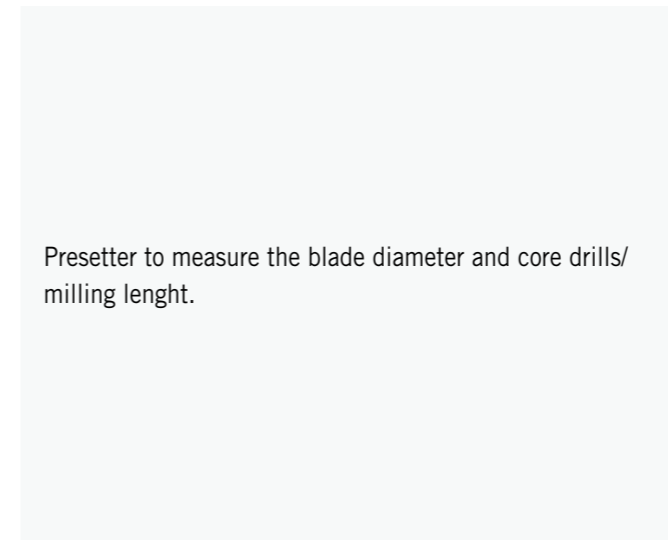
Additional 3.7 kW 14,000 rpm side spindle with manual tool change. It allows an additional tool to perform milling, drilling, lettering, engraving and bas-reliefs without having to remove the tool from the main motor. It can be used for high-speed machining that cannot be handled with the blade motor alone.



Unit to automatically dress diamond disks.



Suction cup manipulator with capacity up to 500 kg, capable of handling even very thick workpieces.



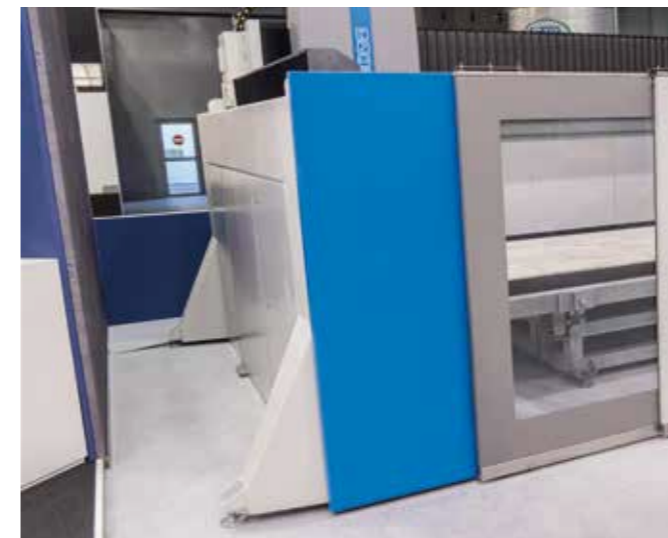
Presetter to measure the blade diameter and core drills/milling length.



Structural steel supports.



Fixed or tilting worktable, hot-dip galvanized to protect against corrosion, with rubber work surface or cutting mat. It can be combined with optional extensions so that workpieces can be moved in the event of interfering cuts.



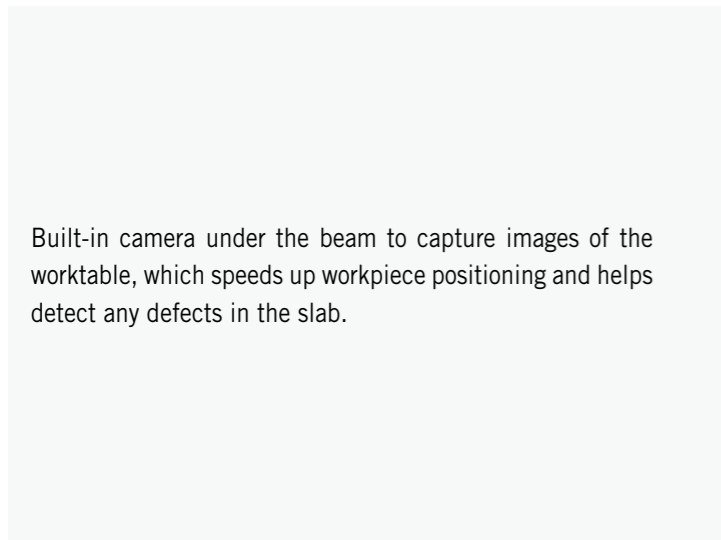
OPTIONS



Slab thickness prober built into the suction cup manipulator to automatically measure the thickness of stone or ceramic workpieces.



Range of lathes to meet all workshop needs: Ø 700 mm – 700 kg / Ø 1,200 mm – 5,000 kg.



Built-in camera under the beam to capture images of the worktable, which speeds up workpiece positioning and helps detect any defects in the slab.



Unit for lower part cut to engrave the lower side of the slab; it allows to insert countertops supports. It can be equipped with drilling unit to realize holes to fix kitchen/bath countertops. The operations are managed automatically by the machine and need the use of the vacuum manipulator.

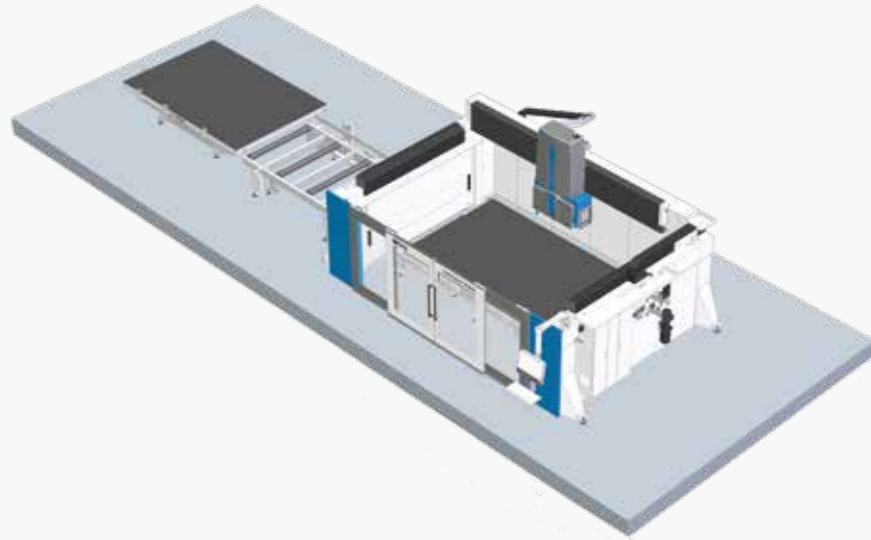


Remote control pendant to control up to 6 axes, making it possible to work close to the cutting table and set multiple origins.



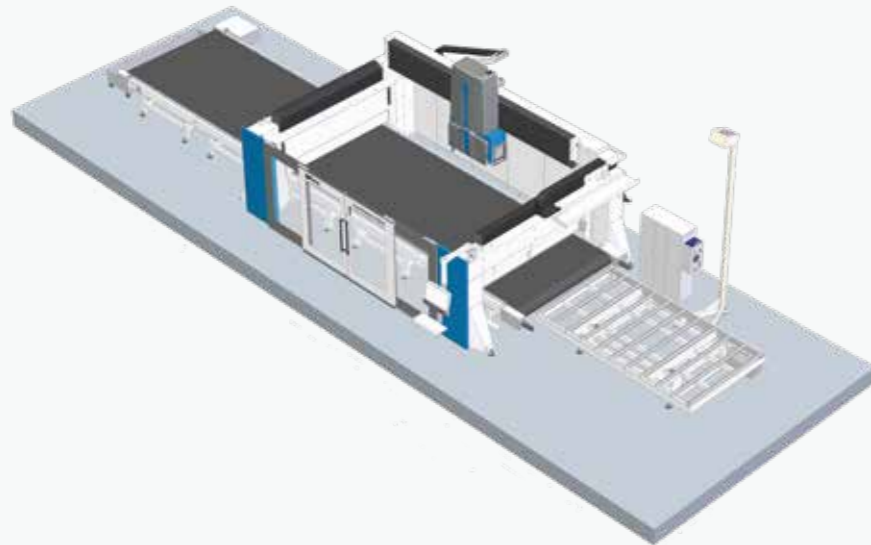
Barcode reader supplied complete with dedicated software to read the code and call up the machining program.

SPECIAL SOLUTIONS



SOLUTION WITH PALLET CHANGER

A cutting line consisting of an automatic worktable changing system so that the slab to be cut can be loaded off-machine while the machine is cutting another slab. This system reduces loading/unloading times, thereby increasing machine productivity.



SOLUTION WITH BELT

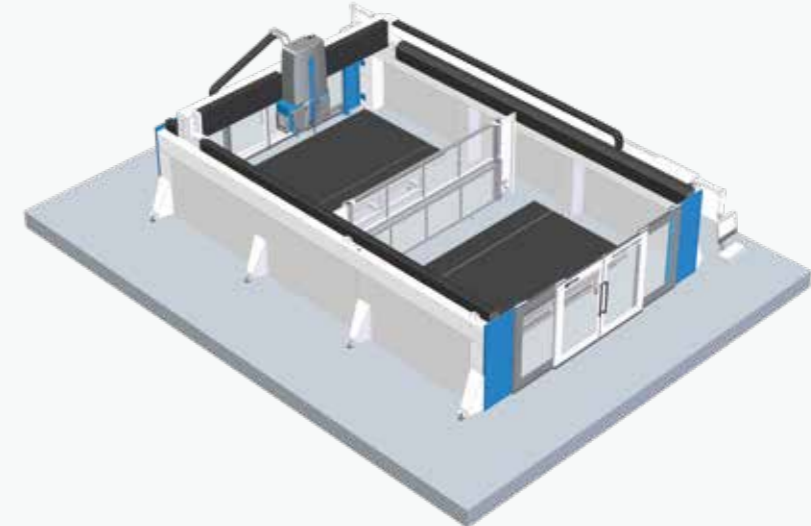
Cutting line consisting of a worktable with belt. It can be configured with automatic loading/unloading systems for full process automation, thereby increasing machine productivity.

PRODUCTIVITY COMPARISON (8 WORKING HOURS)		
	SQUARE METERS CUT	SLABS CUT
BREMBANA KRATOS	124	23
BREMBANA KRATOS DUAL	211	39
BREMBANA KRATOS BT	243	45

The data shown is purely indicative and may vary with the material type, thickness, disk used and other factors that do not depend directly on the machine

SOLUTIONS FOR PENDULAR MACHINING

The bridge saw is installed on strokes that are long enough to meet customers' needs, so the machine can work in one area while the operator is completely safe in the other area. This system minimizes loading/unloading times, thereby increasing machine productivity. Also available for the combined Brembana Kratos Jet version.



PRODUCTIVITY COMPARISON (8 WORKING HOURS)		
	SQUARE METERS CUT	SLABS CUT
BREMBANA KRATOS JET	81	15
BREMBANA KRATOS JET TWIN	151	28

The data shown is purely indicative and may vary with the material type, thickness, disk used, HP pump and other factors that do not depend directly on the machine.

SOFTWARE

CMS bridge saws work with SMART SAW and EASYSTONE programming software.

SMART SAW

Installed as the operator interface on the PC, it allows the machine to be operated in manual, semi-automatic or automatic mode. Simple and intuitive controls can be used to make single, multiple, circular, horizontal and parametric cuts. There are also dedicated functions to automatically cut tiles or soffits (both 90° and 45°), or copy templates and perform flattening.

Additional modules allow advanced machining such as milling, 3D profiling (linear or curved), and slab polishing.

If the machine is equipped with an automatic slab image acquisition system, the software can nest the pieces directly on the slab being machined.

If the machine is equipped with a suction cup manipulator, the software optimizes the cutting sequence to minimize machining waste and operator intervention.

EASYSTONE

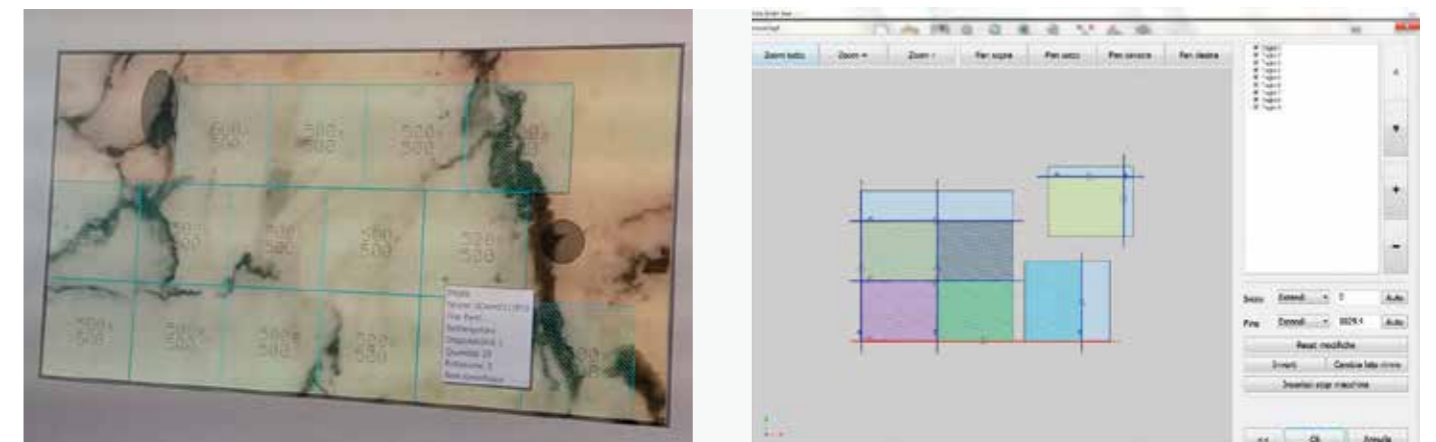
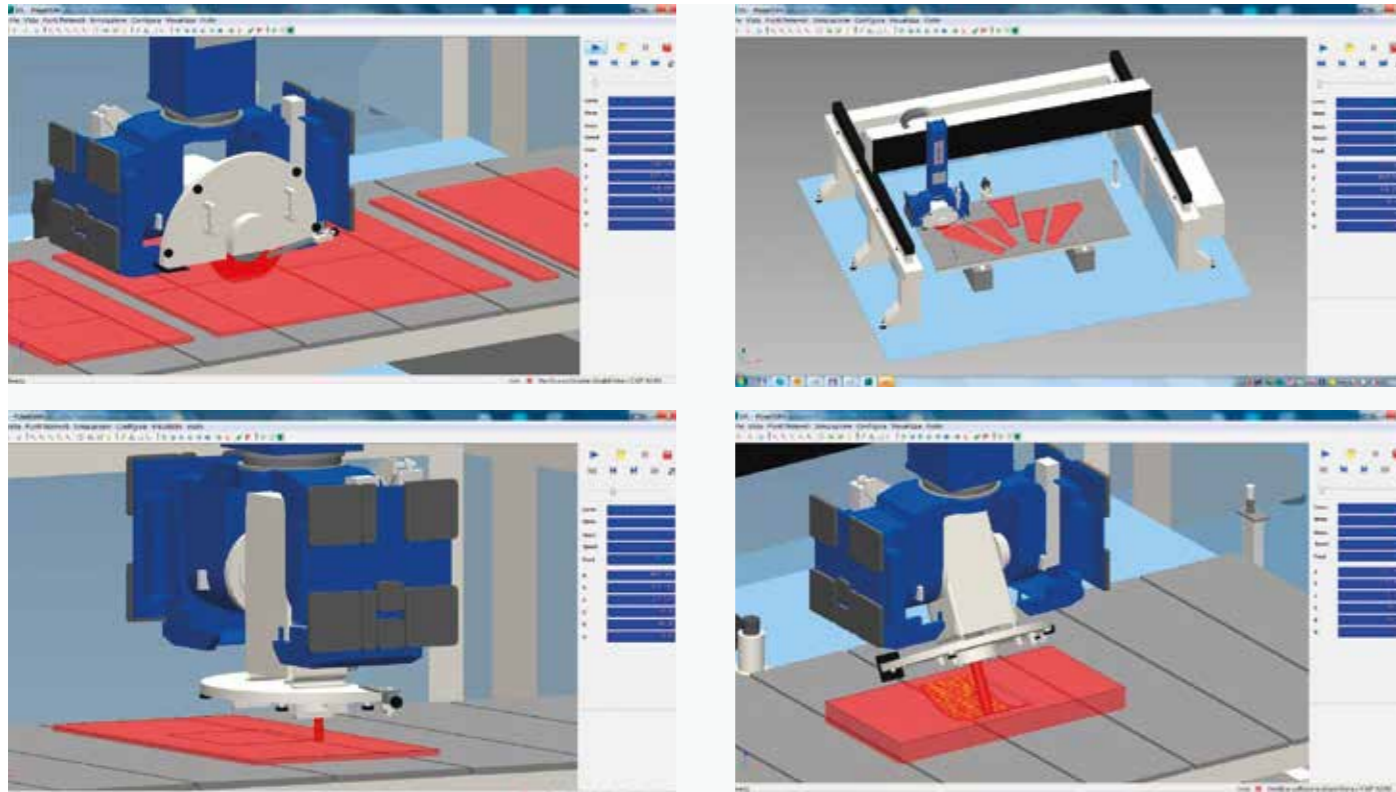
EasySTONE is powerful CAD/CAM software, which is customized for CMS machining centers specifically for the stone fabrication industry.

The software can be used to draw freely (using native CAD) and import 2D and 3D files in DXF, IGES, STL, STEP, SAT, and RHINO formats.

Multiple machining processes can be defined, such as drilling, milling, profiling, polishing, engraving/lettering, and pocketing using a disk or tool. A 3D simulation of the process is generated, which shows all machine movements during machining so that the operator can preview the work to be performed.

If the machine is equipped with a suction cup manipulator, the nesting module helps optimize the piece positions and generate the cutting program, which moves them fully automatically so that even interfering cuts can be made. This accessory minimizes machining waste without stopping the machine, thereby increasing machine productivity.

When installed on the machine PC, the DDX Photo software application captures an image of the actual slab with a digital camera, which can be used to define the useful cutting area and highlight material defects so that the operator can isolate these areas from the pieces to be cut, and manage vein continuity.



BREMBANA KRATOS

DIMENSIONS AND TECHNICAL DATA



BREMBANA KRATOS: TECHNICAL DATA

BLADE DISK DIAMETER	300 – 725 mm without side spindle or with side spindle off 300 – 425 mm with side spindle on
MAXIMUM WORKPIECE THICKNESS WITH BLADE DISK	250 mm
BLADE MOTOR	18.5 kW
BLADE MOTOR SPEED	0 – 6,000 rpm
OPTIONAL SIDE ELECTROSPINDLE	3.7 kW – 6 Nm, 14,000 rpm
TOOL TYPES	With RIGHT-HAND ½" gas thread
HEAD ROTATION (C AXIS)	± 185° (370°)
HEAD TILT (A AXIS)	0° / +90°
X-AXIS TRAVEL AND SPEED	3,900 mm – 36 m/min
Y-AXIS TRAVEL AND SPEED	2,450 mm – 36 m/min
Z-AXIS TRAVEL AND SPEED	550 mm – 8 m/min
WORKTABLE DIMENSIONS	3,800 x 2,500 mm
WORKTABLE CAPACITY	3,000 kg static load, 2,000 kg tipping load
MINIMUM INSTALLATION SPACE*	7,080x5,310 mm, H max. 3,300 mm (overall machine dimensions)
TOTAL MACHINE WEIGHT	7,000 kg

* excluding space to access the electrical cabinet

CMS connect is the IoT platform for perfect integration with the latest generation of CMS machines

CMS Connect offers customized micro services through the use of IoT Apps that support the daily activities of industry operators - improving the availability and use of machines or systems. The data collected by the machines in real time can be used to **increase machine productivity, reduce operating and maintenance costs and cut energy costs.**



APPLICATIONS

SMART MACHINE: continuous monitoring of machine operation, with information on:

Status: machine status overviews. These can be used to verify machine availability and identify possible bottlenecks in the production flow;

Monitoring: real-time live display of the operation of the machine, its components, running programs and potentiometers;

Production: list of machine programs run within a given time frame with best time and average running time;

Alarms: active and logged warnings.

SMART MAINTENANCE

This section provides an **initial approach to predictive maintenance** by sending notifications when machine components indicate a potentially critical state on reaching a specific threshold. This makes it possible to **take action and schedule maintenance work without any production downtime.**

SMART MANAGEMENT

Section that presents the KPIs for all machines connected to the platform. The indicators provided can be used to assess machine availability, productivity and efficiency, as well as product quality.

MAXIMISED SECURITY

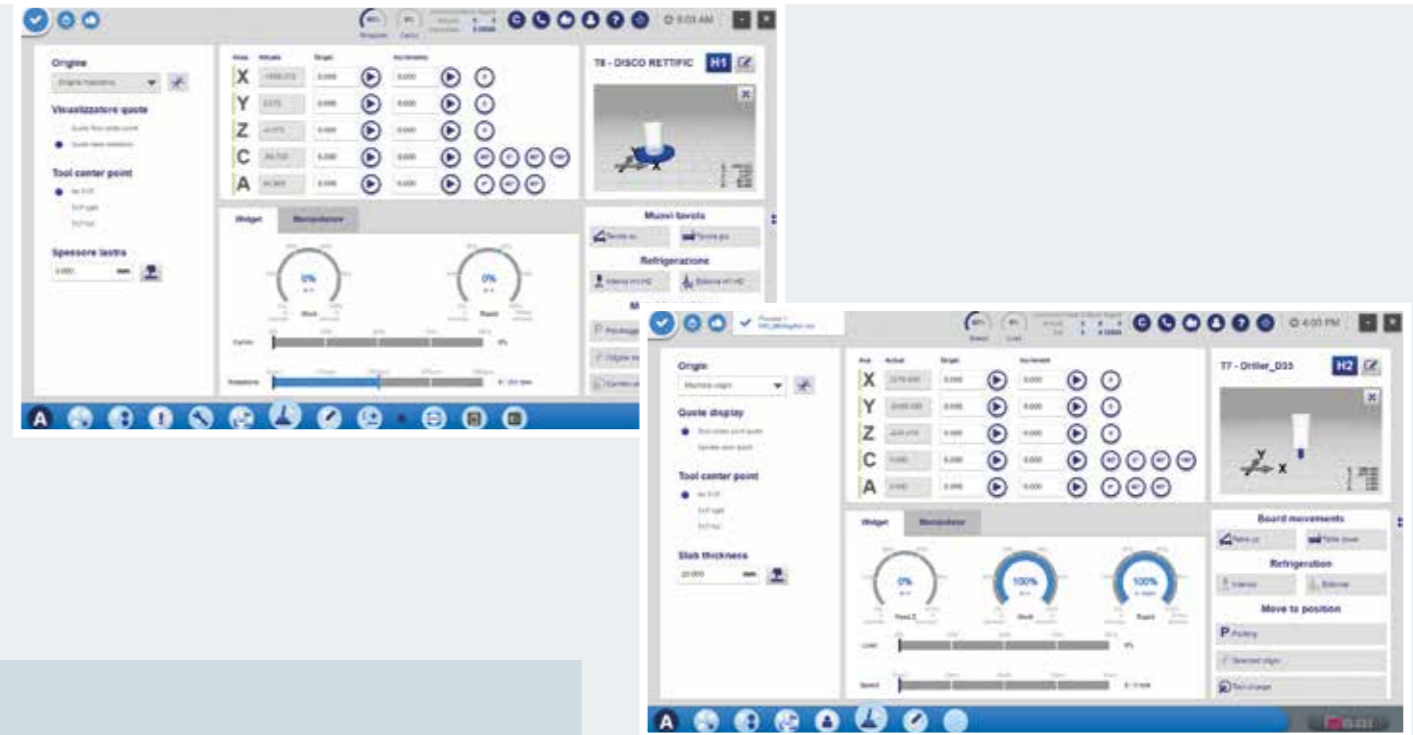
CMS Connect uses the standard OPC UA communication protocol, which guarantees data encryption at the Edge interface level. The Cloud and DataLake levels meet all of the latest cyber-security requirements. Customer data is encrypted and authenticated to ensure full protection of sensitive information.

ADVANTAGES

- ✓ Production performance optimization
- ✓ Diagnostics to support component warranty optimization
- ✓ Productivity increase and machine downtime reduction
- ✓ Improvement of quality control
- ✓ Lower maintenance costs

CMS Active for Bridge Saws: the new interface developed exclusively for stone machines

CMS Active for Bridge Saws is the new CMS interface developed and supplied exclusively for CMS Stone Technology machines. CMS Active for Bridge Saws is completely new and has been designed with the help of the best professionals in the sector.



EASE OF USE

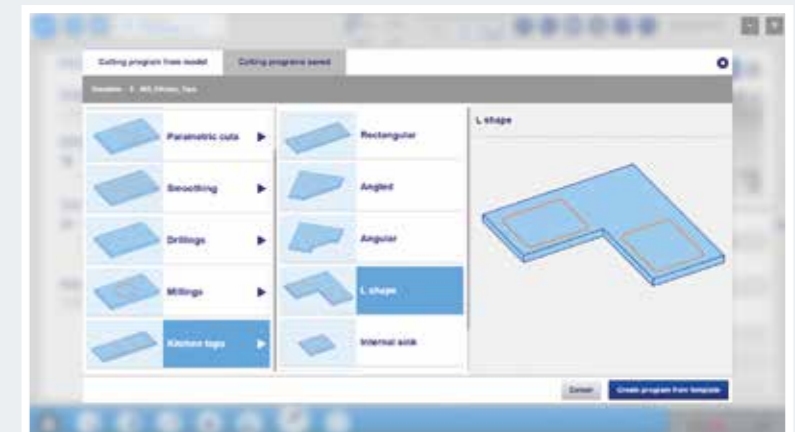
The new interface has been specially designed and optimized for immediate use via a touch screen. Graphics and icons have been redesigned to make navigation convenient and intuitive.

READY-TO-USE MACHINING PROCESSES

CMS Active for Bridge Saws provides a set of ready-to-use machining processes. The operator just needs to set the desired dimensions and start machining. The work proceeds with a few clicks and without the complications typical of CAD-CAM software.

TOOL SET-UP? NO PROBLEM

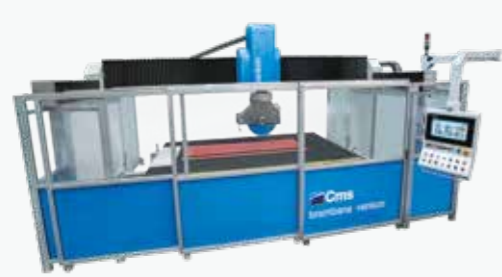
CMS Active for Bridge Saws supports the operator in many ways, such as during tool set-up: The operator is guided to enter only the parameters that apply to the selected tool type (blade, cutter, core drill, etc.).



THE CMS STONE TECHNOLOGY RANGE

FOR STONE PROCESSING

5-AXIS BRIDGE SAWS



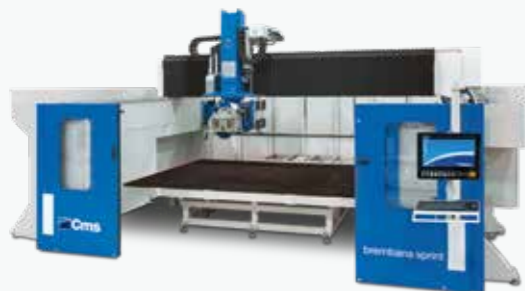
BREMBANA VENKON



BREMBANA KOSMOS



BREMBANA KRATOS



BREMBANA SPRINT



BREMBANA GIXA

SAW-JET MACHINES



BREMBANA KOSMOS JET



BREMBANA FORMAX JET / SPRINT JET

CNC MACHINING CENTERS



BREMBANA ELECTA



BREMBANA SPEED



BREMBANA SPEED TR



BREMBANA KARTESIA

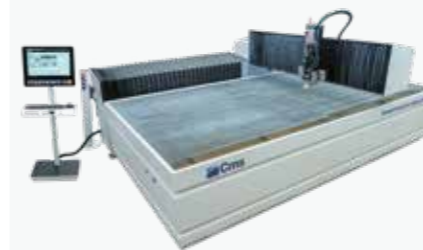


BREMBANA MAXIMA



BREMBANA G-REX

WATERJET CUTTING SYSTEMS AND PRESSURE INTENSIFIERS



BREMBANA EASYLINE



BREMBANA MILESTONE S



BREMBANA PROLINE



BREMBANA AQUATEC



BREMBANA JET POWER EVO



BREMBANA GREENJET EVO



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