



THE FUTURE OF NESTING IS HERE...



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MORBIDELLI X200 / X400







MORBIDELLI X200/X400

FREE



Fully safe machining, both in PRO-SPEED and PRO-SPACE version with the bumpers safety system.

Accessible and ergonomic 360° all around, no floor obstructions: all the components are within the base.

Optimizing the space in your factory thanks to the solution without perimetral fences.

TOP QUALITY



Unrivalled finishing with new direct drive **JQX** (Just **Q**uality eXtreme) 5-axis electrospindle.

Reduced maintenance, thanks to the **RO.AX** (Rotoaxial spindle technology) drilling bits, recommended only after more than 1,000 hours of machining.

60% of time saved on drilling cycles with the new drill-bits designed to guarantee the best effectiveness on all types of material and any style of construction.

FASTER



Beyond imagination, more than 50 tools always available on board.

Faster machining cycles thanks to the **FAST** tool changer with up to 18 positions.

Maximum speed, nesting processing at 50 m/min is now a reality.



FLEXIBLE



Total flexibility with an operating group configurability unique to the market.

From wood to plastic, from panel to furniture, from kitchen doors to windows. The right solution configured for all your needs and your investment plan.

Sturdy, practical and resistant "HE" (High Efficiency) or **"PHE"** (Phenolic High Efficiency) work tables.

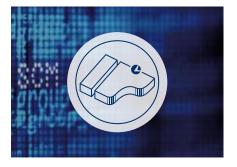
No limit for the work piece machining with thickness from 150 up to 180 mm.

MODULAR



The perfect solution to simplify work: cell version, available to configure the machine no matter the material flow required.

DIGITAL



CAD/CAM programming software to design all the production process. **Maestro cnc** allows easy, quick and errorless machine management.



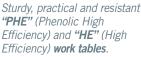
TECHNICAL FEATURES OVERVIEW

TECHNOLOGICAL ADVANTEGES

The new generation of 3, 4, 5-axis CNC nesting centres for drilling and routing. Models are also available in cell version with both automatic loading and unloading belt.



All at your fingertips with the **TECPAD 7**" remote control with color touch-screen.



Wide range of specific pods suitable for both HE work table and spoilboard.

morbidelli x200/x400

CNC nesting machining centres for drilling and routing



CSCM 7

SAFETY SYSTEMS

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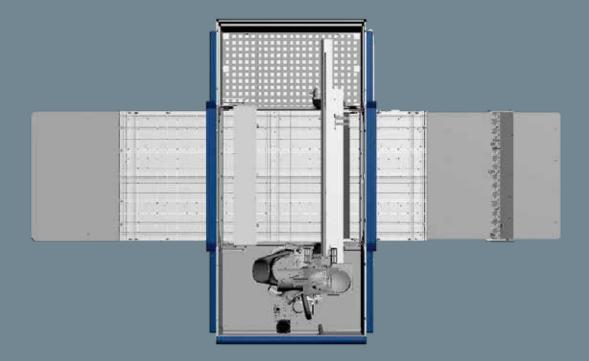
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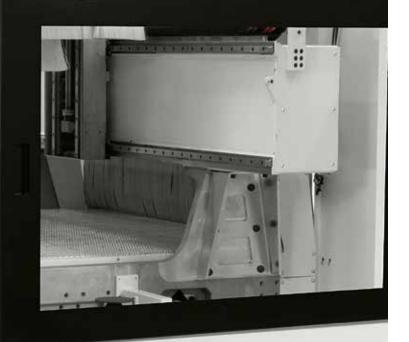
GUARANTEED SAFETY: BUMPERS PROTECTIONS

Fully safe machining with the bumpers safety system which locks the machine only in case of accidental contact with the operator.



The absence of perimeter fences facilitates the work table access on all the sides of the machine; panels can be loaded and unloaded from both the rear and front side thanks to the control devices located on both sides. The protections allow the machine to be used with a feed speed up to 25 m/min along the horizontal X-axis.





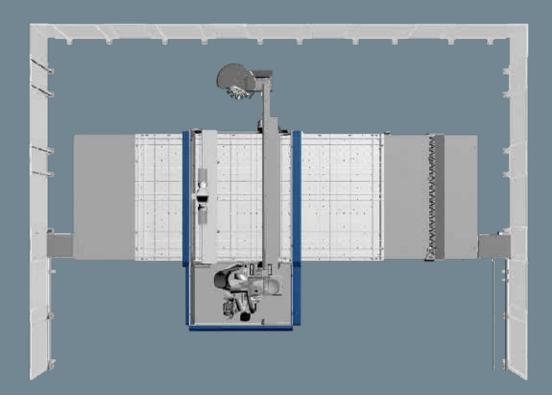


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TOTAL FREEDOM AND HIGH PRODUCTIVITY: PRO-SPEED

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Protection system for the machine use to the maximum speed. When the operator enters into the loading area, which is delimited by the front photocell barrier, the machine automatically reduces the speed; when the operator leaves the loading area, the system restores the maximum speed.





OPERATING UNIT: DRILLING UNIT



Saves 60% of time on drilling cycles thanks to the wide range of drilling heads, also with double saw-blade, designed to meet every machining need and to increase its effectiveness on every type of furniture component optimizing the implementation of any drilling pattern.

Reduced maintenance, thanks to the RO.AX (Rotoaxial spindle technology) drilling bits. It is recommended only after more than 1,000 hours of machining.





Lowered horizontal drilling heads: ability to execute horizontal drilling without removing the spoilboard.







OPERATING UNIT: DRILLING UNIT

Optimal machining precision with the **3 and 4-axis** electrospindles up to **24.000 rpm**.



MAXIMUM EFFICIENCY IN ALL MACHINING SITUATIONS: PRESSURE ROLLERS

Perfect holding down of small components or in conditions of reduced vacuum holding, thanks to the pressure rollers. The rollers are also ideal for the machining of overlapped panels. In case of machining where their use is not foreseen, the rollers are excluded maintaining unchanged the machine performance.





NESTING PROCESSING AT 50 M/MIN IS NOW A REALITY.





OPERATING UNIT: ADDITIONAL UNITS



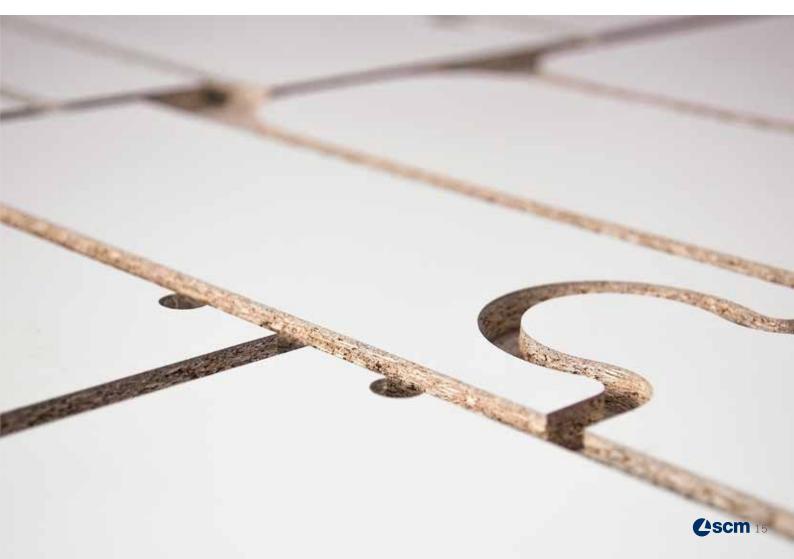
Easy cutting and grooving operations along X and Y direction thanks to the 0°-90° blade unit.







Higher efficiency and machining time reduction with the up to 5,4 kW additional routing unit.

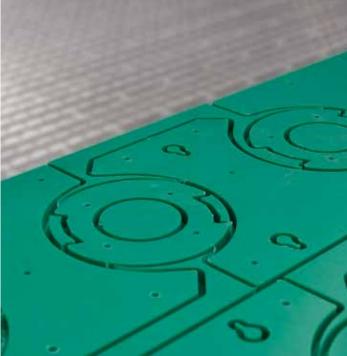


NOT ONLY NESTING



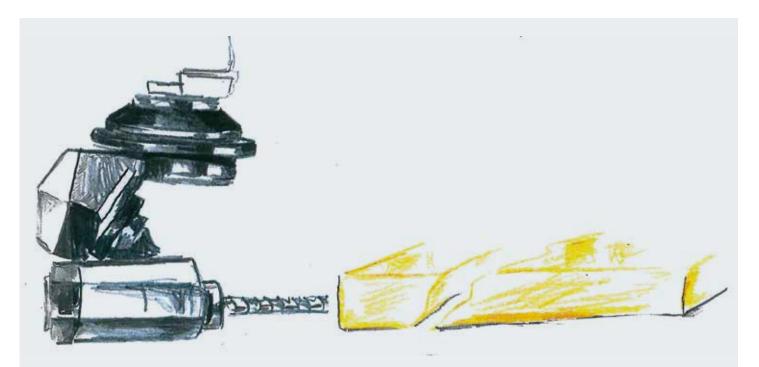
JQX ELECTROSPINDLE

Very high finishing quality with the **JQX** (Just **Q**uality e**X**treme) 5-axis electrospindle, with direct drive and up to 13,5 kW power, which ensures total absence of vibrations even with large material removals at high speeds.









THE BEST SOLUTION FOR THOSE LOOKING FOR A FLEXIBLE AND PRACTICAL PRODUCT BUT WITH HIGH LEVEL PERFORMANCE



TOOL CHANGERS

THE BEST IN ITS CLASS, UP TO 53 TOOLS AVAILABLE ON BOARD: ALWAYS READY TO MACHINE ANY PIECE

Faster machining cycles with the up to 18 position **FAST** tool changer: less than 15" for the tool change thanks to the linear tool changer directly installed on the mobile unit.







TRB side tool changer with up to 19 positions.



Many tools always available thanks to the **R16** rear tool changer.



One position **"Pick-up"** tool changer fitted on the mobile cross beam. Ideal set-up for tools and large sized angular heads.

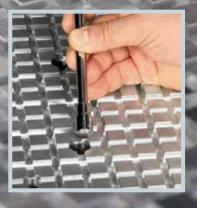


TOOL LENGTH DETECTION DEVICE

Positioned on the machine base side, it allows to automatically detect the length of the tool.



WORK TABLES



DESIGNED FOR EFFICIENCY AND SAVING: "HE" (High Efficiency) WORK TABLE

Sturdy and practical work table, resistant over time thanks to its laminate aluminum structure. Easy and quick setting with the magnetic locking system of the vacuum: in a few seconds the vacuum is activated only in the positioning area of the piece to be machined.



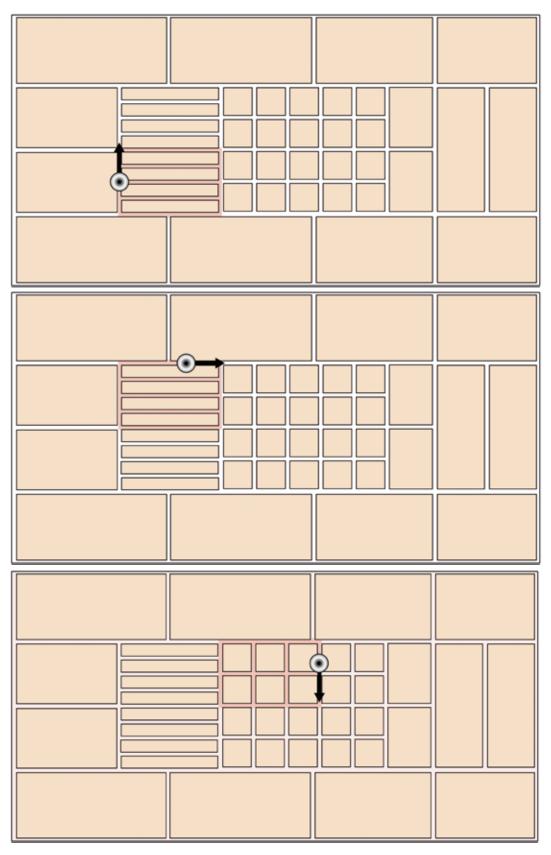
Maximum workpieces locking only where needed:

starting at 2 increasing up to 30 vacuum zones according to the table size.



X-VACUUM

Maximum vacuum holding capacity for processing small workpieces or highly breathable materials.



The vacuum is condensed into the area of the worktable where the workpiece is being processed.

WORK TABLES: ACCESSORIES

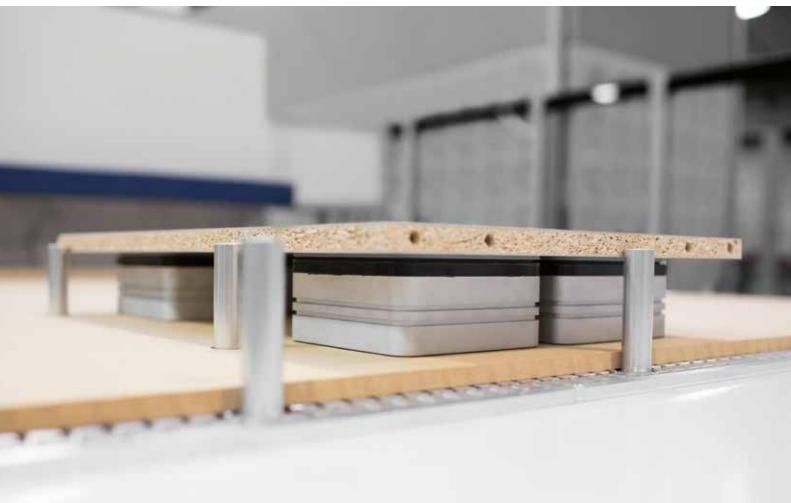
Any machining process without removing the spoilboard and no obstacles thanks to the tubeless X-PODs.

1.5



Available also a wide range of specific pods suitable also for HE or PHE work tables, when spoilboard is not used.







LOADING/UNLOADING AUTOMATION

No dust with the aspiration systems to eliminate any machining waste:

- bottom dust layer between the table and the belt conveyor;
- upper dust layer on the belt conveyor with vertical manual adjustment or vertical NC managed adjustment;
- bottom dust layer at the end of the belt conveyor.





High productivity: the pusher moves the processed work pieces on the unloading belt and simultaneously cleans the work table while the new panel to be machined is loaded.

The guides hold the workpieces of all shapes at the outfeed table to avoid any possibility of them falling off.

Precise and rapid panels positioning on the work table with a dedicated suction cups system which allows the positioning of



Lifting table for the management of panels stacks with height up to 700 mm.

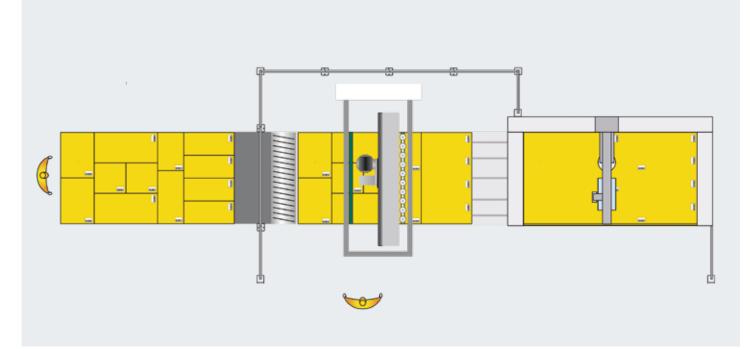
Complete machining cycle with the automatic labeling station that operates in hidden time directly on the stack of panels.

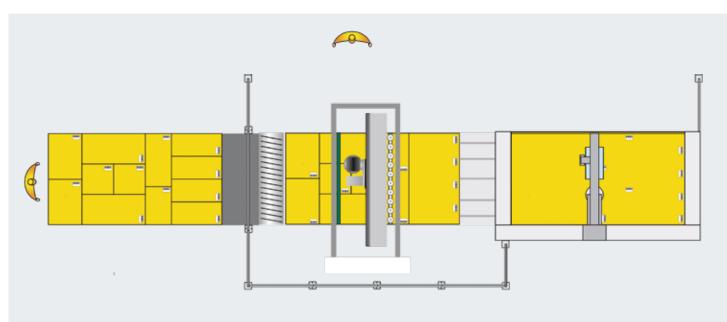


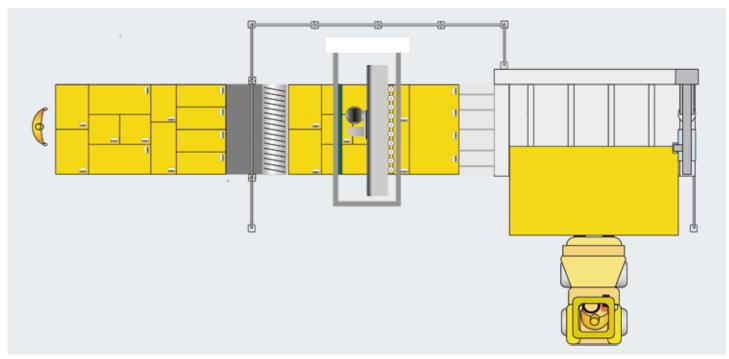


LOADING/UNLOADING AUTOMATION

No restrictions on material flow, from right to left or from left to right in both PRO-SPEED and PRO-SPACE versions.



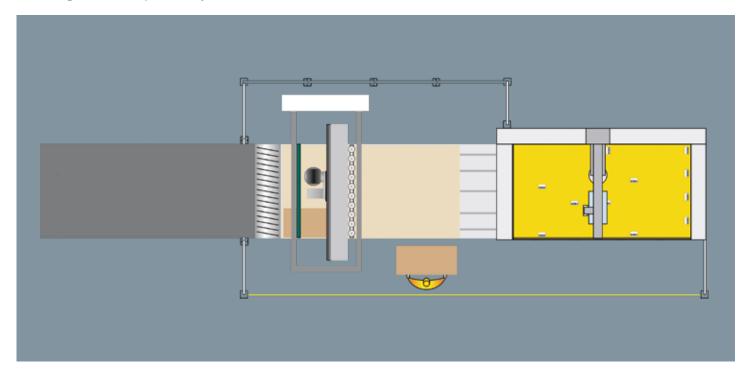




Non-stop machining cycles, thanks to the ability to load a new stack in hidden time.

MANUAL LOADING AND UNLOADING

Total flexibility: the cell can also be **used as a stand-alone machining centre** without removing the spoilboard with the ability of pendulum machining to maximize productivity.

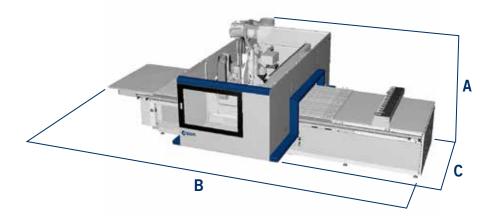




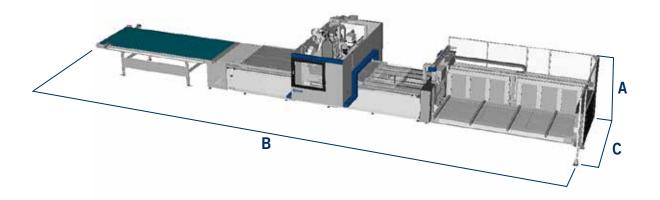
OVERALL DIMENSIONS PRO-SPACE

* It includes the operating area

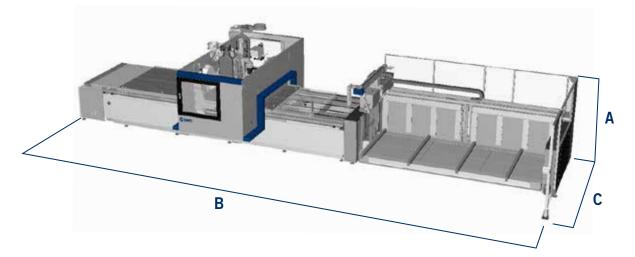
STAND-ALONE		Α	В	С
morbidelli x200/x400 1224	mm	2610/2790	6110/6350	3965/4465
morbidelli x200/x400 1531	mm	2610/2790	6710/6950	4265/4765
morbidelli x200/x400 1536	mm	2610/2790	7310/7550	4265/4765
morbidelli x200/x400 1836	mm	2610/2790	7310/7550	4565/5065
morbidelli x200/x400 2231	mm	2610/2790	6710/6950	4885/5385
morbidelli x200/x400 2243	mm	2610/2790	7910/8150	4885/5385



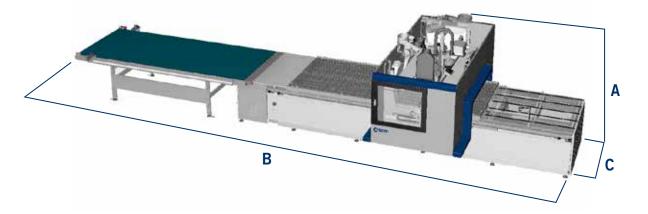
LOADING/UNLOADING AUTOMATION		Α	В	С
morbidelli x200/x400 1224	mm	2610/2790	10870	3890/4790
morbidelli x200/x400 1531	mm	2610/2790	12670	4190/5090
morbidelli x200/x400 1536	mm	2610/2790	14470	4190/5090
morbidelli x200/x400 1836	mm	2610/2790	14470	4490/5390
morbidelli x200/x400 2231	mm	2610/2790	12670	4810/5710
morbidelli x200/x400 2243	mm	2610/2790	16270	4810/5710



LOADING AUTOMATION		Α	В	C
morbidelli x200/x400 1224	mm	2615/2790	9000/9050	3890/4790
morbidelli x200/x400 1531	mm	2615/2790	10200/10250	4190/5090
morbidelli x200/x400 1536	mm	2615/2790	11400/11450	4190/5090
morbidelli x200/x400 1836	mm	2615/2790	11400/11450	4490/5390
morbidelli x200/x400 2231	mm	2615/2790	10200/10250	4810/5710
morbidelli x200/x400 2243	mm	2615/2790	12600/12650	4810/5710



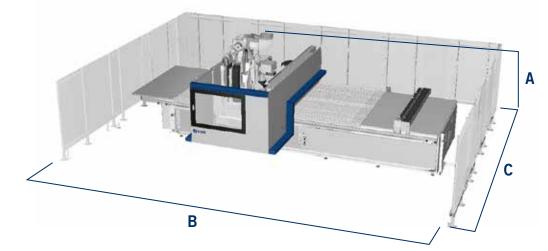
UNLOADING AUTOMATION		A	В	С
morbidelli x200/x400 1224	mm	2615/2790	8300/8490	3890/4790
morbidelli x200/x400 1531	mm	2615/2790	9500/9690	4190/5090
morbidelli x200/x400 1536	mm	2615/2790	10700/10890	4190/5090
morbidelli x200/x400 1836	mm	2615/2790	10700/10890	4490/5390
morbidelli x200/x400 2231	mm	2615/2790	9500/9690	4810/5710
morbidelli x200/x400 2243	mm	2615/2790	11900/12090	4810/5710



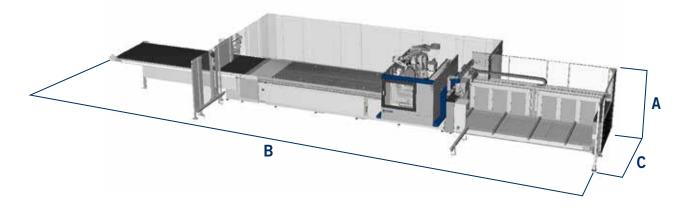
OVERALL DIMENSIONS PRO-SPEED

* It includes the operating area

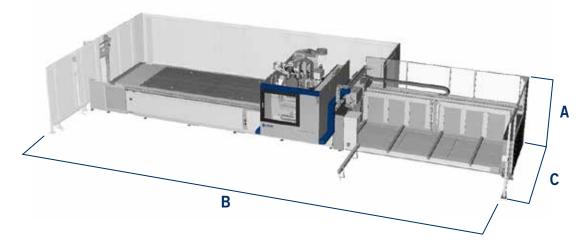
STAND-ALONE		Α	В	С
morbidelli x200/x400 1224	mm	2610/2790	6570	4190/5060
morbidelli x200/x400 1531	mm	2610/2790	7170	4490/5360
morbidelli x200/x400 1536	mm	2610/2790	7770	4490/5360
morbidelli x200/x400 1836	mm	2610/2790	7770	4790/5660
morbidelli x200/x400 2231	mm	2610/2790	7170	5110/5980
morbidelli x200/x400 2243	mm	2610/2790	8370	5110/5980



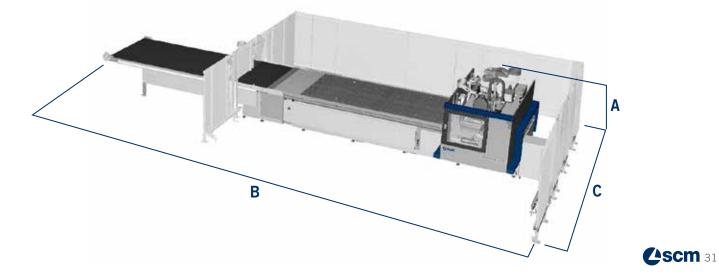
LOADING/UNLOADING AUTOMATION		Α	В	С
morbidelli x200/x400 1224	mm	2610/2790	10870	4500/4920
morbidelli x200/x400 1531	mm	2610/2790	12670	4800/5220
morbidelli x200/x400 1536	mm	2610/2790	14470	4800/5220
morbidelli x200/x400 1836	mm	2610/2790	14470	5100/5520
morbidelli x200/x400 2231	mm	2610/2790	12670	5420/5840
morbidelli x200/x400 2243	mm	2610/2790	16270	5420/5840



LOADING AUTOMATION		Α	В	С
morbidelli x200/x400 1224	mm	2610/2790	9000/9000	4500/4920
morbidelli x200/x400 1531	mm	2610/2790	10200/10240	4800/5220
morbidelli x200/x400 1536	mm	2610/2790	11400/11450	4800/5220
morbidelli x200/x400 1836	mm	2610/2790	11400/11450	5100/5520
morbidelli x200/x400 2231	mm	2610/2790	10200/10240	5420/5840
morbidelli x200/x400 2243	mm	2610/2790	12600/12640	5420/5840



UNLOADING AUTOMATION		Α	В	С
morbidelli x200/x400 1224	mm	2610/2790	8480/8670	4500/4920
morbidelli x200/x400 1531	mm	2610/2790	9680/9870	4800/5220
morbidelli x200/x400 1536	mm	2610/2790	10880/11070	4800/5220
morbidelli x200/x400 1836	mm	2610/2790	10880/11070	5100/5520
morbidelli x200/x400 2231	mm	2610/2790	9680/9870	5420/5840
morbidelli x200/x400 2243	mm	2610/2790	12080/12270	5420/5840





design

programming and data generation

Maestro office

Office

Factory

SOFTWARE

Simple, smart and open

Maestro software are tailored on the machine technology as well as on the entire process.All Maestro software share a common mission:

> easy to use, so that any operator can easily and confidently learn and use the software

> > **smart**, with algorithms and computing modules aiming at the best possible result

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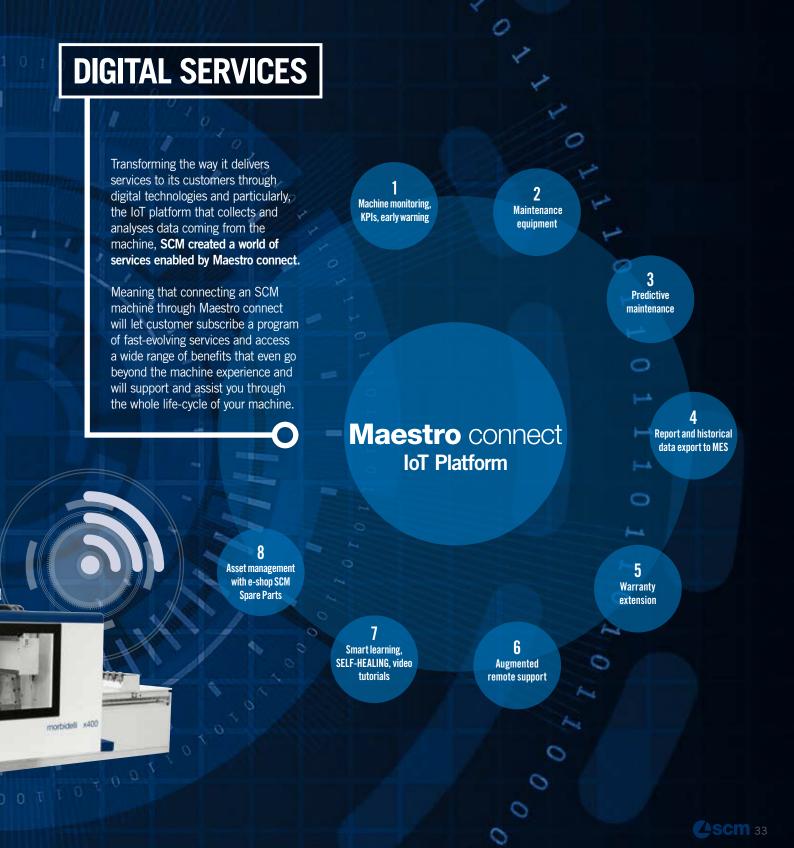
open in order to integrate existing software, and provide customer the coverage of all his process.

Maestro active



routing drilling SCM accompanies woodworking companies throughout their whole process combining machines with matching software solutions and digital services, with a constant strive to enhance company productivity.

The software solutions powered by SCM are developed to optimize machine usage as well as the entire process, providing integration with the different software existing in the company.



Maestro cnc

In the office, before the production, the design and programming system Maestro cnc ensures that routing, drilling or sawing can quickly and easily be programmed thanks to 3D graphics of work pieces and machining and clamping aids as well as a smart App and macros library to program any machine operation with a mouse click. Another click away and CNC programs are automatically generated.



SOFTWARE

Office

Maestro cnc

THE SOFTWARE THAT SIMPLIFIES THE WORK

CAD/CAM programming software to design all the production processes. Developed in Windows® environment it ensures easy programming with an advanced, simple and intuitive sketching environment that features all the tools necessary to design the parts, their layout on the work table, tools management and the relative machining operations. All the procedures are contained in a perfectly integrated and high performance software.

ADDITIONAL FUNCTIONS



Maestro pro view - Unique 3D display

3D Simulator that allows users access to a three dimensional model of their machine in their office and view the operations that will be carried out during the production in advance on their PC.

Maestro 3d - Unique in the creation of 3D objects

The module integrated in the Maestro suite is designed to program three dimensional objects on 5-axis machining centres.

Maestro apps - Unique know-how

Maestro apps is a library of programming functions that are always available and easy to use, developed by SCM for the production of parts for doors, windows, stairs, furniture and furnishings.



Maestro msl connector - Total integration

Connector for third-parties with design software.

SPECIALISED MACHINING



Maestro cabinet - Unique in the creation of furniture

This application is designed for the home and office furniture sector to design furniture and program cabinet production step by step.



Maestro nest - Unique nesting process

The module integrated in the Maestro suite provides all the functions necessary to manage the "nesting" process: from a simple "rectangular" piece to the most varied and complex "free form" geometrical shapes.

Maestro label - Unique labeling process

Integrated module to manage label's models, which develops labels by inserting texts, images, parameters and the main barcode formats.



Maestro active is the new operator interface software which has been unified across all SCM technologies. A single operator can easily and confidently run multiple machines due to controller and interface consistency: regardless the machine, Maestro active maintains the same look&feel, with many identical icons and navigation buttons, thus ensuring the same approach to interaction.

EASE OF USE

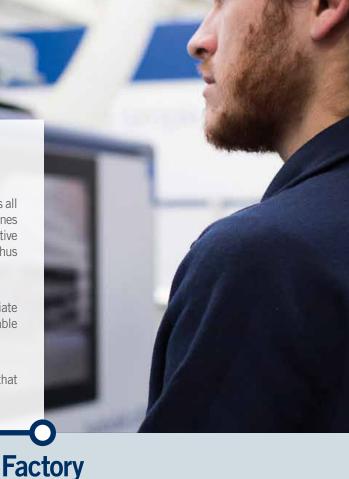
Scm

The new interface has been specifically designed and optimized for immediate use via touch screen. Graphics have been redesigned for simple and comfortable navigation, with tablet-like icons on touch screen controller.

"ZERO" ERRORS

Improved productivity thanks to integrated help and recovery procedures that reduce the possibility of error from the operator's side.

SOFTWARE



Maestro active cnc

A REVOLUTIONARY APPROACH TO INTERACT WITH YOUR SCM MACHINE

FULL CONTROL OF PRODUCTION PERFORMANCES

The creation of customizable reports by operator, shift, program, forecast period (and much more) allows to monitor, optimize and improve the production performance.

FULL MACHINE AWARENESS AND KNOWLEDGE MANAGEMENT SYSTEM

Maestro active allows to record the times related to setup, maintenance, training and other events, tracing all the activities in a database. The operator's know-how is also stored and made available to other people inside the organization thanks to the possibility to comment and document all production events or notifications.

ORGANIZE YOUR PRODUCTION

Maestro active allows to create different users with different roles and authorizations (e.g.: operator, maintainer, administrator, ...). Any user can only execute the functions whose permissions have been assigned to him. It is also possible to define the work shifts on the machine and then detect activities, productivity and events that occurred in each shift.

TOTAL QUALITY OF THE FINISHED PRODUCT

With Maestro active the quality of the finished piece is no longer put at risk by worn tools. The new Maestro Active Tool Life Determination system sends notification messages as the tool reaches its end of life and recommends its replacement at the most appropriate time.

TOOLS? NO PROBLEM!

Maestro active guides the operator during the magazine tooling phase, taking into account the programs to be executed.

ASCM 35

A WORLD OF SERVICES FOR GREATER EFFICIENCY

Maestro connect

CONNECT YOUR MACHINE AND GAIN ACCESS TO A WORLD OF SERVICES

Connecting your machine through Maestro connect will let you subscribe a program of fastevolving services. You will access a wide range of benefits that even go beyond the machine experience and will support and assist you through the whole life-cycle of your machine.

FASTER SERVICE INTERVENTION AND PROBLEM RESOLUTION

Maestro connect provides real time data and Health Records of the Machine also to SCM Service drastically reducing its troubleshooting time.

WORKING ALWAYS IN PERFECT CONDITIONS

Maestro Connect can provide a full kit of sophisticated sensor devices to detect and warn the operator in case of alarming conditions of the machine.

DIGITAL SERVICES

SMART MAINTENANCE: DOWN TIME REDUCTION

Maestro connect reduces maintenance downtime thanks to:

- automatic maintenance notifications and scheduling, to prevent failures and work in the best conditions of use
- direct connection to SCM Service thanks to an automatic ticket opening function

SMART MACHINE: ANYTIME, ANYWHERE AWARENESS

Connecting your SCM machine also means having your machine always at hand. Immediate instant notifications in case of alarms or downtimes allow customers to immediately take an action thus optimizing his productivity.

SMART MANAGEMENT: PRODUCTION PERFORMANCE OPTIMIZATION

Reports and KPIs allow further analysis thus increasing Customer Knowledge about his performance and results.

SMART PARTS: FAST PARTS REPLENISHMENT

Repairs are scheduled proactively since the system provides Spare Parts suggestions and a direct Integration with Smart Parts e-shop.

SMART LEARNING: EXECUTE WORK AND RECEIVE PROBLEM SOLVING SUPPORT

Maestro connect provides an intuitive Problem Solving Management System to help the operator to self solve any issue.

SMARTECH: FASTER AUGMENTED SUPPORT

Maestro connect allows augmented reality support by means of Smartech: the head-wearable computers with wireless connectivity that will bring the interaction between customer and SCM service to a higher level.

SMART WARRANTY: YOUR MACHINE ALWAYS IN PERFECT CONDITIONS

Together with scheduled maintenance contracts, you can take care of your asset by doubling the warranty from 1 year to 2 years* for complete peace of mind! * *please read the complete contract to understand terms and conditions.*

TECHNICAL DATA

morbidelli		x200	x400
AXES			
Vectorial speed X-Y axes "PRO-SPACE" version	m/min	8	34
Vectorial speed X-Y axes "PRO-SPEED" version	m/min	1	13
Z-axis panel passage	mm	150	180
ROUTING UNIT			
Motor power (up to) 3-4 axis 5 axis	kW (hp)	15 kW	/ (20,5) 13,5 (18,4)
Rotation speed (max.)	rpm	24	.000
Available tools on tool changer (up to)	positions	38	53
DRILLING UNIT			
Vertical spindles (max.)	no.		21
Horizontal spindles (max.)	no.		12
Rotation speed (max.)	rpm	80	000
Integrated blade in X, diameter	mm	1	25
INSTALLATION			
Exhaust air consumption	m³/h	44	430
Exhaust air speed	m/sec	2	25
Exhaust outlet diameter	mm	2	50



COMPANY WITH QUALITY SYSTEM CERTIFIED BY DNV GL = ISO 9001=

THE USE OF POWER ONLY WHEN IT IS REQUIRED

Sav€nergy allows making things operate only when they are really necessary. It means the machine automatically enters "stand-by" mode when there are no panels to be machined.

The technical data can vary according to the requested machine composition. In this catalogue, machines are shown with options. The company reserves the right to modify technical specifications without prior notice; the modifications do not influence the safety foreseen by the CE Norms.

Maximum noise levels measured according to the operating conditions established by EN 848-3:2012 Acoustic pressure in process (routing) 81 dbA (measured according to EN ISO 11202:2010, uncertainty K = 4 dB) Acoustic power in process (routing) 98 dbA measured according to EN ISO 3746:2010, uncertainty K = 4 dB) Even if there is a correlation between above mentioned "conventional" noise emission values and average levels of personal exposure over eight hours of operators, these last also depend on the real operating conditions, duration of exposure, acoustic conditions of the working environment and presence of further noise sources, this means the number of machines and other adjacent processes.



PROMPT AND EXPERT TECHNICAL SUPPORT THROUGH A NETWORK OF 1000 TECHNICIANS AND AN INVENTORY OF 36,000 SPARE PARTS.

HIGHLY SPECIALISED TECHNICIANS, EFFICIENT MANAGEMENT AND 6 SPARE PARTS BRANCHES AROUND THE WORLD GUARANTEE A CLOSE, SAFE AND EFFECTIVE TECHNICAL SUPPORT.

SERVICE

SCM provides a service that goes beyond the purchase, to guarantee the long term performance of your technological production system and peace of mind for your business.

A COMPLETE RANGE OF AFTER-SALES SERVICES

- installation and start-up of machines, cells, lines and systems
- tailored training programs
- telephone support to reduce times and costs when machines are not working
- preventive maintenance programs to guarantee long term performance
- complete renovation of machines and plants to renew the added value of the investments
- custom upgrading to update machines and plants and meet new production requirements

SPARE PARTS

SCM Group can count on 140 spare parts professionals worldwide to meet any request with real time shipments.



36,000 SPARE PARTS Our spare parts inventory, with a value of 12 million euros, covers every single machine



SPARE PARTS GUARANTEED We guarantee also hard to find parts, with 3,5 million euros invested in "critical" spare parts.



IMMEDIATE AVAILABILITY Over 90% of orders received are carried out the same day thanks to the huge inventory available.

6 BRANCHES AROUND THE WORLD The spare parts service can count on worldwide

support (Rimini, Singapore, Shenzhen, Moscow, Atlanta, São Bento do Sul



500 SHIPMENTS A DAY



THE STRONGEST WOOD TECHNOLOGIES ARE IN OUR DNA

SCM. A HERITAGE OF SKILLS IN A UNIQUE BRAND

Over 65 years of success gives SCM the centre stage in woodworking technology. This heritage results from bringing together the best know-how in machining and systems for wood-based manufacturing. SCM is present all over the world, brought to you by the widest distribution network in the industry.

65 years history
3 main production sites in Italy
300.000 square metres of production space
20.000 machines manufactured per year
90% export
20 foreign branches
400 agents and dealers
500 support technicians
500 registered patents

In SCM's DNA also strength and solidity of a great Group. The SCM Group is a world leader, manufacturing industrial equipment and components for machining the widest range of materials.

SCM GROUP, A HIGHLY SKILLED TEAM EXPERT IN INDUSTRIAL MACHINES AND COMPONENTS

INDUSTRIAL MACHINERY

Stand-alone machines, integrated systems and services dedicated to processing a wide range of materials.

Cms

WOODWORKING TECHNOLOGIES

TECHNOLOGIES FOR PROCESSING COMPOSITE MATERIALS, ALUMINIUM, PLASTIC, GLASS, STONE, METAL

INDUSTRIAL COMPONENTS

Technological components for the Group's machines and systems, for those of third-parties and the machinery industry.

(steelmec

SPINDLES AND TECHNOLOGICAL COMPONENTS

METALWORK

CAST IRON

Uscmfonderie





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