morbidelli n100
CNC nesting machining centres for drilling and routing
FOR COMPANIES DEMANDING FLEXIBILITY AND HIGH PERFORMANCE
Machining centre designed and engineered for machining wood, plastics and non-ferrous metals. Due to the unique design and PRO-SPACE safety systems, it requires less floor space and can be operated from all sides for material handling of smaller components.
exclusive features

MINIMUM OVERALL DIMENSIONS AND MAXIMUM FLEXIBILITY: “PRO-SPACE” PROTECTIONS
Loading zone completely free to reduce the space occupied to the minimum.
The absence of perimeter protections facilitates the work table access on all the sides of the machine.

TOTAL LACK OF VIBRATIONS: MOBILE GANTRY STRUCTURE
Performance without comparison with the mobile gantry structure that allows for high machining speeds whilst guaranteeing the best end products quality.

THE PERFECT DRILLING: RO.AX SPINDLE
Zero play during machining with the new RO.AX technology (Rotoaxial spindle technology), the most efficient spindle on the market with rotation speeds up to 8000 rpm. The sturdiness of drilling heads is proven by the reduced maintenance costs: five times less than that imposed by the majority of other machine manufacturers.

UNIQUE CREATIVITY: MAESTRO CNC
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.
Optimal precision and flexibility in all conditions of use with the 3 or 4-axis routing unit up to 15 kW power. The electrospindle can be equipped with a liquid cooling group that allows to maintain constant the operating temperature.

NO LIMITS TO MACHINING:
INTERPOLATING VECTOR AXIS
360° rotation and automatic positioning on X-Y axes of all angular heads with the interpolating Vector axis digitally managed by the NC.
Efficiency and rigidity during the machining thanks to the drilling heads with up to 18 independent spindles. Easy grooves machining on the sides of the furniture thanks to the integrated blade unit.

THE PERFECT DRILLING: RO.AX SPINDLE
Zero play during machining with the new RO.AX technology (Rotoaxial spindle technology), the most efficient spindle on the market with rotation speeds up to 8000 rpm.
morbidelli n100

tool changers and machine management

Maximum versatility thanks to the TR side tool changer that greatly reduces the tool changing times.

One position “Pick-up” tool changer with pneumatic positioning fitted on the mobile cross beam.
Ideal set-up for large sized angular heads.

Consolle with integrated PC “eye-M”
Industrial PC with multi-touch colour display, 21.5” screen size, Full HD, positioned on a support base with displacement wheels, for an easy handling of the mobile console along the machine perimeter.
DESIGNED FOR EFFICIENCY AND SAVING: “H.E.” (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.

Wide choice of MPS vacuum pods and MODULSET to lock the pieces on the work table depending on the machining operations to be carried out.

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. By pressing close to the working area, 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.
morbidelli n100
loading/unloading automation

Clean work environment with the chips conveying device positioned between the work table and the unloading belt.

No dust with the upper extraction system for the work table cleaning.

Unloading belt with photocell detection system.

100% productivity with the pusher that moves the processed work pieces on the unloading belt.
The perfect solution to easily assist the operator’s work
Nesting cell with loading lifting table and unloading belt (also available with the loading version only or the unloading one).

Panel cleaning system
which provides an optimum holding down: air micro-jets clean the infeed panel. Automatic lifting of tool changer.

Perfect alignment of the loaded panels thanks to the aligning device for infeed work pieces.

Precise and rapid panels positioning on the work table with the vacuum pods system.

Lifting table for the management of panels stacks with height up to 700 mm.
The modular project of the whole system allows to install the whole cell both with the working flow towards the right side and the left side.

Partial compositions
It is possible to configure the cell with loading only, or with unloading system, with or without belt.
Manual label printer
The operator manually applies the label on the work pieces coming out of the machine.
DEVICES FOR PARTICULAR APPLICATIONS

**Air blower on electrospindle**
For generic applications.

**Ionized air blower on electrospindle**
It is suitable to eliminate the electrostatic charges due to the cut material, making easier the shavings suction (advisable for plastic materials machining).

**Air blower with microlubrication**
Air blower with very little oil quantity for the tool lubrication and cooling when used on coated panels.

**Guides protections, X-Y axes**
By means of dedicated cleaning and protection system, it allows the machining also on abrasive materials (this device is compulsory for machining on plasterboard material).
morbidelli n100

other devices

“ALL” AT YOUR FINGERTIPS:
TECPAD CONTROL
Management of machine controls with the 7” colour remote control with touch-screen function that facilitates and speed up the setting operations.

Bar-code reader
Quick and simple scanning of the label associated to the panel by means the bar-code reader.

Tool length detection device
Positioned on the machine base side, it allows to automatically detect the length of the tool.
Possibility of extensive customisation
With angular heads having 1, 2 and 4 outlets with HSK taper couplings for angled routing, drilling and blade grooving, with plays elimination system or fixed mechanical couplings.
## morbidelli n100

### OVERALL DIMENSIONS AND LAYOUT

#### STAND-ALONE

<table>
<thead>
<tr>
<th>morbidelli n100</th>
<th>Unit</th>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>mm</td>
<td>2190</td>
<td>2552</td>
<td>4565</td>
</tr>
<tr>
<td>15</td>
<td>mm</td>
<td>2190</td>
<td>2852</td>
<td>5765</td>
</tr>
<tr>
<td>18</td>
<td>mm</td>
<td>2190</td>
<td>3152</td>
<td>5765</td>
</tr>
<tr>
<td>22-31</td>
<td>mm</td>
<td>2190</td>
<td>3472</td>
<td>5215</td>
</tr>
<tr>
<td>22-43</td>
<td>mm</td>
<td>2190</td>
<td>3472</td>
<td>6402</td>
</tr>
</tbody>
</table>

* It includes the operating area

#### LOADING/UNLOADING AUTOMATION

<table>
<thead>
<tr>
<th>morbidelli n100</th>
<th>Unit</th>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>mm</td>
<td>2385</td>
<td>2552</td>
<td>9760</td>
</tr>
<tr>
<td>15</td>
<td>mm</td>
<td>2385</td>
<td>2852</td>
<td>13375</td>
</tr>
<tr>
<td>18</td>
<td>mm</td>
<td>2385</td>
<td>3152</td>
<td>13375</td>
</tr>
<tr>
<td>22-31</td>
<td>mm</td>
<td>2385</td>
<td>3472</td>
<td>11610</td>
</tr>
<tr>
<td>22-43</td>
<td>mm</td>
<td>2385</td>
<td>3472</td>
<td>15215</td>
</tr>
</tbody>
</table>

* It includes the operating area
### OVERALL DIMENSIONS AND LAYOUT

#### LOADING AUTOMATION

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>morbidelli n100 12</td>
<td>2190</td>
<td>2552 (3552°)</td>
<td>7096 (8096°)</td>
</tr>
<tr>
<td>morbidelli n100 15</td>
<td>2190</td>
<td>2852 (3852°)</td>
<td>9495 (10495°)</td>
</tr>
<tr>
<td>morbidelli n100 18</td>
<td>2190</td>
<td>3152 (4152°)</td>
<td>9495 (10495°)</td>
</tr>
<tr>
<td>morbidelli n100 22-31</td>
<td>2190</td>
<td>3472 (4472°)</td>
<td>8340 (9340°)</td>
</tr>
<tr>
<td>morbidelli n100 22-43</td>
<td>2190</td>
<td>3472 (4472°)</td>
<td>10725 (11725°)</td>
</tr>
</tbody>
</table>

* It includes the operating area

#### UNLOADING AUTOMATION

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>morbidelli n100 12</td>
<td>2385</td>
<td>2552 (3552°)</td>
<td>7250 (7750°)</td>
</tr>
<tr>
<td>morbidelli n100 15</td>
<td>2385</td>
<td>2852 (3852°)</td>
<td>9650 (10150°)</td>
</tr>
<tr>
<td>morbidelli n100 18</td>
<td>2385</td>
<td>3152 (4152°)</td>
<td>9650 (10150°)</td>
</tr>
<tr>
<td>morbidelli n100 22-31</td>
<td>2385</td>
<td>3472 (4472°)</td>
<td>8500 (9000°)</td>
</tr>
<tr>
<td>morbidelli n100 22-43</td>
<td>2385</td>
<td>3472 (4472°)</td>
<td>10875 (11375°)</td>
</tr>
</tbody>
</table>

* It includes the operating area
Maestro Digital Systems

SMART SOFTWARE AND DIGITAL SERVICES TO ENHANCE PRODUCTIVITY OF WOODWORKING AND FURNITURE INDUSTRIES.

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

**Maestro office**

**Maestro active**

**Office**

**Factory**

programming and data generation

cutting

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.

Transforming the way it delivers services to its customers through digital technologies and particularly, the IoT platform that collects and analyses data coming from the machine, SCM created a world of services enabled by Maestro connect.

Meaning that connecting an SCM machine through Maestro connect will let customer subscribe a program of fast-evolving services and 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.
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.

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 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 cnc**

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**
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**

**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.
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 fast-evolving 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.

SMART TECH: 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.
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) 83 dB(A) (measured according to EN ISO 11202:2010, uncertainty K = 4 dB)
Acoustic power in process (routing) 102 dB(A) 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.

Company with quality system certified by DNV GL
= ISO 9001 =

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.
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.

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

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

<table>
<thead>
<tr>
<th>INDUSTRIAL MACHINERY</th>
<th>INDUSTRIAL COMPONENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stand-alone machines, integrated systems and services dedicated to processing a wide range of materials.</td>
<td>Technological components for the Group’s machines and systems, for those of third-parties and the machinery industry.</td>
</tr>
<tr>
<td>scm</td>
<td>HITECO</td>
</tr>
<tr>
<td>Cms</td>
<td>Electric panels</td>
</tr>
<tr>
<td>Woodworking Technologies</td>
<td>Spindles and technological components</td>
</tr>
<tr>
<td>Technologies for processing composite materials, aluminium, plastic, glass, stone, metal.</td>
<td>steelmec</td>
</tr>
<tr>
<td>scmfonderie</td>
<td>cast iron</td>
</tr>
</tbody>
</table>