

morbidelli x200/x400

nesting machining centres for drilling and routing



MORBIDELLI X200 With Rake

QUOTE #: 00445 DATE: 04/23/2020

Rollouts Quick

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*Photo may include optional equipment



ABOUT SCM

SCM is an industry leader for the production of industrial woodworking machinery, as well as for machinery that processes advanced materials, with brands specializing in specific technologies, present across 5 continents for over 65 years.

65 years of history

3 main production sites in Italy

20 foreign branches

300,000 square meters of production space

17,000 machines manufactured per year

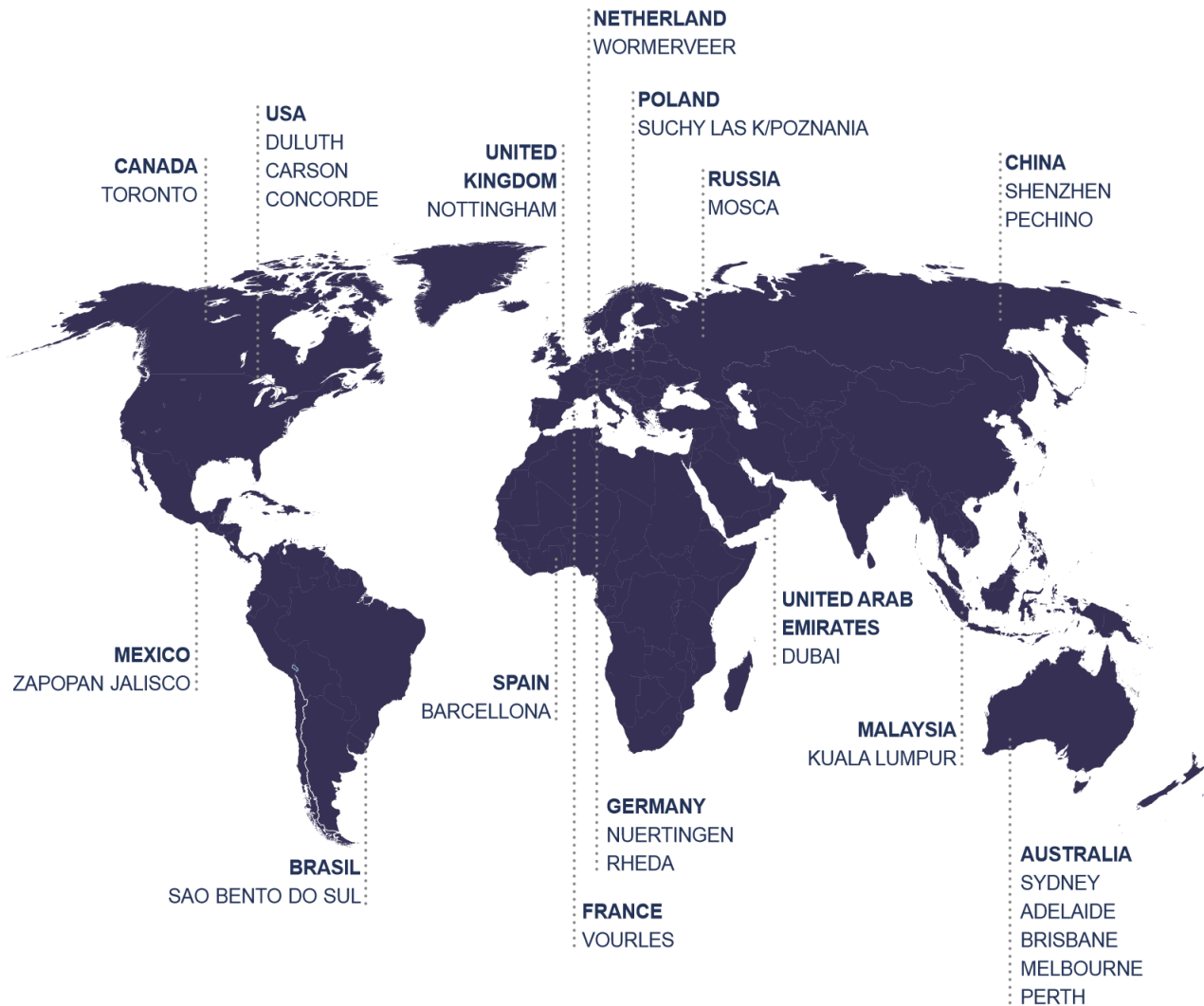
90% export

350 agents and dealers

500 support technicians

500 registered patents

THE MOST IMPRESSIVE DISTRIBUTION NETWORK IN THE WORLD



Dear Eric,

Thank you for your consideration in working with SCM. Attached is our proposal for the Morbidelli X200. If SCM has inadvertently omitted any portion or feature requested by the customer upon agreement, please contact SCM sales personnel for further clarification about this price quotation.

We appreciate your business and we look forward to hearing from you soon.

Sincerely,

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Morbidelli X200 – 5' X 10' With Rake R010201

(R0.01.84) Base Design and Construction

The bottom supporting structure has been designed to be assembled in a cage-like shape, with all the parts electro welded one and strongly ribbed one to the other so the reach the best rigidity possible; the particular structure, with a very wide base, grants long lasting stability and precision under all working conditions and doesn't require the machine being fixed to the ground.

The cage-shaped bottom structure provides also a solid support for the mobile unit on top of it: the operating units moving on the cantilever support take advantage of this balanced base thus granting the highest performances in quality and precision.

The mobile unit, cage-shaped and ribbed, is anchored to the base through a pattern of sliding supports moving on recirculating balls circuits on prismatic guides: this solution grants the best durability along the entire operating life of the machine.

The displacement of the mobile unit along the bottom frame (X axis) and the operating units along the mobile unit's beam (Y axis) is granted through a rack/pinion system designed with helical teeth so to allow tooth-to-tooth higher thrust thus allowing better acceleration and speed along both X and Y axis.

Helical teeth, once properly designed are able to reduce also wear on mechanical organs and noise in operating conditions.

The vertical Z axis is driven through a recirculating balls screw which ensures perfect balance under dynamic loads and bears very high acceleration and deceleration values.

The routing unit is directly installed on the Z-axis slide thus granting the highest finishing quality thanks to a complete absence of vibrations.

The displacements along X-Y-Z axes are managed through "brushless" motors driven by static inverters which grant:

- **Reduced cycle timing thanks to higher accelerations**
- **Better positioning precision through high resolution encoders**
- **No set-up operations once switching on the machine thanks to absolute encoders utilization**
- **No general maintenance operations thanks to the absence of brushes, "brushless" system**

The management of the axes displacement and generally the devices of the machine is assured by an industrial NC module with digital data transmission carried out through "CAN OPEN BUS" technology, able not only to reach the highest speed in communication intervals but also to be unaffected by external electromagnetic interferences.

These factors affect performances in reducing machining times at least by 20% and make possible performing complex operations with the maximum precision.

SOFTWARE:

Maestro CNC programming software

Minimum characteristics required for the software installation in office:

- Operating system: Windows XP Professional (SP2), Windows Vista or Windows 7
- Processor: Intel compatible, 2GHz minimum; multicore processor is advisable
- Memory ram: 1GB minimum, 2GB are advisable
- Space on hard disc: 5GB
- Graphic card: Open GL compatible

MAESTRO CNC SOFTWARE SUITE – USER INTERFACE AND PROGRAMMING

Maestro is the software platform equipping all SCM CNC machines.

Maestro is a 3D graphical CAD/CAM suite, developed by SCM GROUP's software department, which grants an easy and quick programming, basing on the following main functionalities:

- Part machining programming
- Tool database management
- Machine configuration management: operating units, working table, tools store management
- Locking devices management (pods, rails, clamps)
- Operative control and machine diagnostic



The user interface shows up with an easy-to-use graphics which utilizes the most actual tools in objects representation and follows this layout:

- Functions menu, divided in groups, top screen positioned
- Geometries drawing, in the middle of the screen
- Geometries and machining operations properties, right side positioned, with drop down menu
- List of operations, left side positioned, tree structured

CAD functions cover a wide range of choices through a sketching environment which includes basic geometries:

- **Point**
- **Line**
- **Arch**
- **Circle**
- **Ellipse**
- **Polyline**
- **Polygon**
- **Slot**
- **Text**

On these basic geometries additional operations can be performed such as chamfers, fillets and joints. Aided drawing functions are also available, same than any CAD software:

- **O-Snap**
- **Cut**
- **Copy**
- **Move**
- **Opposite**
- **Mirror**
- **Offset**
- **Rotate**
- **Reversed orientation on geometry**
- **Editable starting point on geometry**
- **Distance measuring**

Maestro CNC allows the operator create his own macros and sub-programs, to be added to the preconfigured apps (drilling patterns, routing patterns, geometries etc.) which represent the most common construction schemes on furniture. Parametric programming is included: parameters can be assigned on main machining program and/or sub-programs and/or macros.

Tools management

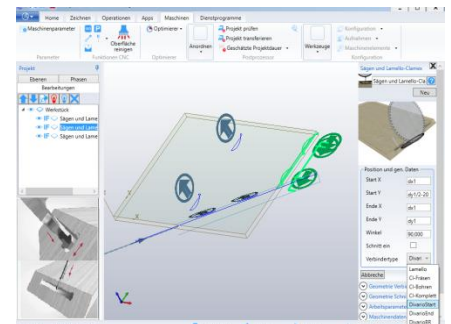
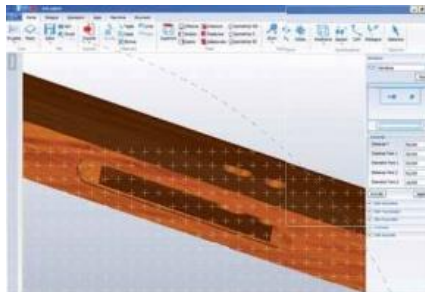
A dedicated application inside Maestro, named “Tool Manager”, takes care about it: this environment shows tools grouped in categories and graphically represented to grant an immediate and intuitive access to the operator.

Each tool has an identification tag so to be immediately recovered once the tool selection is required in programming mode.

Maestro APPS

A library of programming functions fully available and easy to use, developed by SCM Group and specific to machine furniture elements, doors, stairs, windows etc.

A simple “click” allows the operator get full access to SCM Group’s technological know-how.



Through Maestro APPS you have the ability to choose the type of machining required and drag it on the geometries you wish it to be applied on.

Working Table Management

Working table set-up definition is a totally graphic operation.

The operator has the ability to:

- Visualize the 3D model of the working table on his machine
- Through a “drag and drop” operation equip the working table with the necessary locking devices
- Drag rails/pods/clamps to the required position under the part to be machined
- Use parameters to define position on locking devices, a real effective function for those who produce in “batch 1” regime
- Insert a repositioning operation on rails/pods/clamps inside the same program
- Check eventual collisions between machining devices and locking ones
- Check aspect on finished parts
- Ask the software to define automatically the best positioning on locking devices (in case of Flexmatic table locking devices will set-up automatically on the working table)

Cycle Time Evaluation

Maestro is equipped with a preconfigured module which – according to the programmed operations, tool changes involved, tool paths defined etc. – is able to provide a numerical value of the timing required to execute a single program.

This function is strongly effective in:

- evaluating the productivity of your CNC machine before starting the production of a batch of parts
- comparing different versions of the same program so to optimize and reduce at the best the cycle time
- estimating the cost of a supply in terms of machining hours

Note - This software function provides only a simulation, the data obtained from a real processing cycle may vary in a value range by +/- 10%

Data Import

Maestro allows external files to be imported:

- DXF files import

Once a DXF file is imported, the operator may edit geometries through the drawing tools on Maestro and/or directly apply the required machining operations, exactly as they were being created through Maestro.

- PGM files import

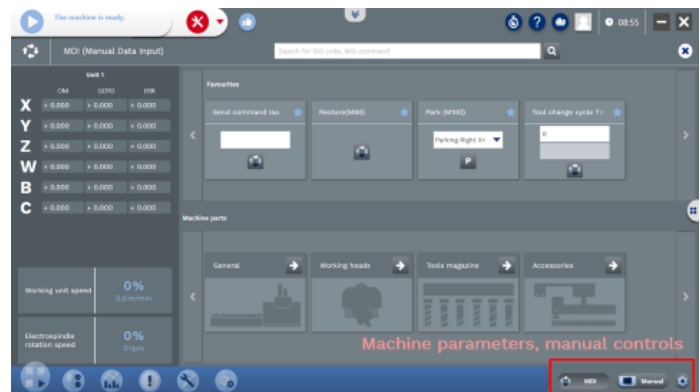
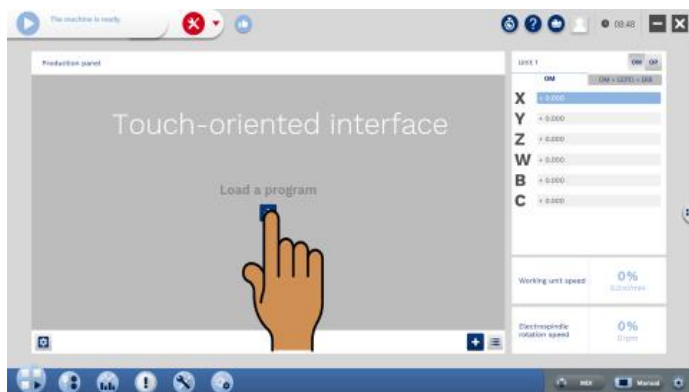
PGM programs – created through previous programming suite (Xilog Plus) or external software sources – can be imported; Maestro reads and converts them into PGMX format (standard Maestro format) so to be then completed with working table set-up module, cycle time evaluation module etc.

MSL Connector

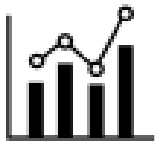
MSL Connector (Maestro Scripting Language) is the software module developed by SCM Group so to connect directly its own CNC machines with the main software on the market.

The data coming from external sources software are imported into the machine which – basing on the parts dimensions and the machining operations to be executed – manages the process strategies optimizing the position of the locking devices and the tool paths.

Software: General Features, Maestro Active



Maestro Active – HORIZONTAL FUNCTIONALITIES



Reports



Users and access management



Alarms/warning signalling



Shifts management



Languages management



Maintenance management



Machine master data

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Software Protection

Xilog Maestro is protected against unauthorized copy through hardware USB key.

Any CNC machine comes standardly equipped with no.2 USB keys so to allow the software suite be used both on the machine's PC console and any other external PC (minimum hardware requirements to be granted for a proper use) at the same time.

The additional hardware key is not associated to a single user or PC so the customer can install Maestro Suite on different PC consoles and use the one more suitable in any moment simply carrying the hardware key.

Xilog Maestro Training Course prior to install (2 Trainees)

This training seat(s) can be used in our Classroom setting or Self-paced online course. These courses are intended for designers, programmers or other individuals who are responsible for the programming of parts on a CNC Router or Machining Center utilizing the Xilog User Interface with Maestro CAD CAM software. It is designed specifically to teach the basic information necessary to design and produce programs for a SCM Group CNC Router.

Classroom Option

- This course is a classroom-based in Carson, CA or Duluth, GA, interactive workshop that includes theory, practice and hands-on application. Attendees will learn about basic G-Code commands and how to utilize G-Codes within the Xilog User Interface. They will also gain a good conceptual understanding of Maestro Software and the ability to create and modify 2D drawings. Exercises focus on drawing, tool definition and machining methods such as Rough/Finish. Additional subjects include pocketing, engraving, drilling and nesting. Course is good for one year from installation. The length of this course is 3 days, typically from Tuesday thru Thursday.

Self-paced Online

- This is a self-guided, self-paced online class. The course consists of several chapters containing tutorials in the form of documents or videos covering the basic functions of Maestro like: Tool definition, Cad tools, Machining, work planes and nesting. This option is intended for individuals with CAD experience that like to research and feel comfortable installing software and managing files.

SCM DIGITAL SOLUTIONS: MAESTRO CONNECT



MAIN BENEFITS

PREVENTIVE MAINTENANCE



Prevent failures through automatic maintenance notifications and scheduling. Automatic and periodic maintenance notifications allow timely planning and better maintenance work organization, including service scheduling in advance and routine maintenance planning.

REDUCTION IN PROBLEM DIAGNOSTIC TIME

Maestro Connect makes SCM machines even more valuable bringing the interaction between customer and service and service to a higher level.

Maestro Connect allows the SCM Service to have access to real time data and health records of the machine, so that Service can improve its performance by carrying out tasks faster.



STRONG REDUCTION IN MACHINE DOWNTIME through:

- Everywhere and at any time information. Immediate Instant notifications in case of alarms or downtimes allow customers to immediately take an action thus optimizing productivity.
- Functions for quick problem resolution like spare parts suggestions and self-healing videos.
- **FASTER SERVICE INTERVENTION.** A direct line with SCM telephone support: Click to Call allows the opening of an assistance request directly from the App. The button will call the Service number of the local country according to the service contract in place.

IMPROVE PERFORMANCE THROUGH CUSTOMER AWARENESS.



Reports and KPIs allow further analysis thus increasing Customer Knowledge about his performance and results. Suitable tools for observing actual production data are given in order to identify any production defects and plan corrective actions. .

(52.52.20) Maestro Connect: complete hardware preset for IoT platform

Required hardware equipment for activation of the the IoT subscription contract. The option includes an additional industrial PC with gateway function located inside the machine electrical panel, also dedicated to data collection and event processing. This system allows the reduction of data traffic to the cloud, processing them without using machine PC resources. In case of interruption of the Internet connection, it allows the recording of data locally and then download them when the service will be restored.

(52.52.25) Maestro Connect: 1 year subscription service

Maestro Connect is able to offer customized services through the use of an Industrial IoT platform that supports the daily activities of the Customer, improving availability and use of machines or systems.

Maestro Connect displays, analyzes and monitors all data coming from connected machines, transforming them into useful information to increase productivity, reduce operating and maintenance costs.

The option includes:

- Subscription to 1-year cloud services
- 5 simultaneous activations, i.e. the ability to create 5 users who simultaneously use the platform;
- An IoT Cloud level where data is aggregated;
- A database on Cloud (Data Lake) to store and analyze the detected data;
- A web portal and an App for smart device on which you can view reports on the machine operations, analyze its productivity, check the status and manage the maintenance.

Maestro Connect is accessible from a PC or smart device and inside it there are the following three sections:

- Smart Machine: for monitoring machines and main components;
- Smart Maintenance: for maintenance support services;
- Smart Management: for the control of the main performance indicators.

SMART MACHINE:

Section dedicated to the continuous monitoring of machine operations, with information about:

- Status: overview of machine status both live and historical. The provided representations allow the checking of the machine availability to identify possible bottlenecks in the production flow. For each state it is possible to obtain a detail of the causes that triggered it (by displaying, for example, the alarms descriptions that stopped the machine);
- Monitoring: instantaneous and live visualization of the machine operation and its critical components (electro-spindle, vacuum pump, etc.), running programs and potentiometers;
- Production: list of machine programs performed within a specific time frame with best time and average execution time;
- Alarms: active and historical warnings.

Periodically, the collected information is sent to the user via push notifications (via mail and mobile App).

SMART MAINTENANCE

Section dedicated to the:

- Programmed maintenance (scheduled);
- Identification of the extra maintenance (unplanned).

Programmed maintenance can be planned through Smart Maintenance to have a better control on the machine maintenance status. This can lead to:

- Decrease in unplanned maintenance work;
- Improving the product quality, monitoring that the machines and equipment operate in optimal conditions.

Functions available for maintenance management.

- Click 2 call: a direct line with SCM telephone support allows the opening of an assistance request (ticket) directly from the App or PC.



- Maintenance check: a push notification system will plan the scheduled maintenance operations and will regularly report to the customer all the deadlines and maintenance interventions related to the SCM machine.



- Maintenance management: connect both schedules and allows customer to assign a maintenance intervention. Not only can the Maintenance Operation be scheduled. It can be also assigned to an operator responsible to carry on the task.



- Smart Parts, Spare Parts suggestions and integration with Smart Parts e-shop are scheduled proactively since the system provides current information on the conditions of the machine parts.



- “How to”: self-healing utilities. Direct access to the machine's technical documents from the IoT app. Documents and Video Clip are provided on association with any ordinary maintenance action, so that customer can take an immediate quick self-made action solving the problem and saving time.



SMART MANAGEMENT

Section dedicated to the KPIs presentation for all the machines connected to the platform. Smart management automates the generation and presentation of the key metrics and qualitative information that companies use in their reliability programs, such as:

- The machine availability;
- The machine efficiency.

This kind of automation is a surprisingly powerful improvement lever, freeing maintenance staff from the time-consuming and error-prone process of data collection and analysis.

Moreover, it supports rapid trend identification, fact-based decision-making, and timely intervention, as well as changes in equipment investment, processes, and policies.



IMPORTANT: HIGHEST SECURITY STANDARDS

- Maestro Connect uses the standard OPC UA communication protocol, which guarantees the data encryption at the interface Edge level.
- Connect's Cloud and Data Lake levels meet all state-of-the-art cyber-security requirements. Customer data is encrypted and authenticated with password to ensure total protection of sensitive information.
- Maestro Connect uses separate hardware gateway. It benefits of the last and most effective Edge Computing technologies: using a powerful dedicated CPU cores in the hardware gateway, it's possible to post-process data events locally, saving money and time respect to sending everything to the Cloud. The gateway software will be continuously improved, with no impact on the machine performance and behavior: no software issues due to interference between IoT and machine, more security, save time and money.

SCM will guarantee to operate in compliance with the following guidelines:

- Data storage and Safety: SCM guarantees to collect and process data with the customer's exclusive authorization;
- Transparency: at any time the customer can request to verify the data subject to monitoring and analysis;
- Confidentiality: all data will remain for the exclusive Customer's and SCM's use and will not be passed on to third parties.

NOTE

Maestro Connect services will be automatically renewed at the current price of the subscription, unless canceled by the buyer within 30 days from its expiring.

CONFIGURATION

“Eye-M Pro” Mobile Console,

Device connected to the CNC machine which allows the usage of the supplied softwares.

The integrated LED light bar allows the operator to check in real time the state of the machine (emergency, operative, etc.) without the need to be on the console itself.

It is equipped with an iPC with "fanless" construction and IP53 grade protection (IP65 on the front side). This robust solution grants the highest durability even in the worst environmental conditions which an industrial site may present.

The 21,5" LCD color display through a 16/9 sized touch screen grants an unbeatable easiness and efficiency in controlling the main functions of the machine, also through:

- Full HD display resolution 1920x1080
- LED lighting
- Cmulti-touch screen – 10 points of contact
- Wide visual angle 176° Horizontal / 160° Vertical
- "Zero Pixel Defect" quality
- Intel i7 – 2,8 -3,8 Ghz
- RAM 8GB – DDR4
- Hard disk: 500GB – 7200rpm
- O.S. Windows Embedded Standard 10 - 64bit
- QWERTY keyboard with English layout
- Wired mouse – 3 functions
- Ethernet port RJ45
- USB port 3.0 protocol supported
- Nominal operating temperature: +5°C / +35°C



S-N-D, 3-positions selector

Machine dynamic selection when routing and drilling.

Through a 3-position selector it is possible to easily change the machine dynamic reaction even when the machine is moving, to immediately adapt to the required use.

Placed on the paddle of the machine, it allows the following settings:

- **Smooth:** machine with smoother movements to obtain an impeccable surface finish. Recommended for very delicate materials, it requires significant slowdowns in paths changes.
- **Normal:** ideal compromise between machine reactivity and piece yield. Recommended for the most of the machining.
- **Dynamic:** to turn the machine into a plotter. Ideal for routing where speed is essential, such as machining on 3D surfaces.

(52.52.50) Maestro Connect: hardware preset for later installation

Required hardware equipment to retrofit the machine with the “connect” service.

An additional specific hardware upgrade (not included with this device) will be required in case of function activation.

Electric cabinet with Air Conditioning Device

It keeps a constant temperature inside the electrical cabinet, granting electrical/electronic devices work properly.

(63.03.73) "TECPAD" Remote Control with 7" Touch-Screen Color Display

Mobile control panel able to fulfill multiple operations on the machine.

It is equipped with:

- No.2 override potentiometers to manage speed on operative devices (i.e. drilling bits rotation, main axes speed etc.)
- No.19 buttons on keypad: 6 keys are command keys, useful for a direct machine control while the remaining 13 keys are function keys, useful for navigating and operating through the panels of the software application (i.e. managing the positioning of pods and rails during set-up phase). The letter or the symbol printed on the keys reminds the function.
- No.1 red push-button to activate emergency state
- A rubber protection against accidental damages
- A left side handle to give the operator the ability to act easily on commands with the right hand free.
- Back side magnets to allow the operator an easy and immediate placement on the metallic parts of the machine so to have both hands free.



WIRED REMOTE CONTROL, practical device for the operator to carry out with him the main commands of the machine without being necessary manage them through the main console. Thanks to this device it is possible approaching the machine and command main axes X-Y-Z in a semi-automatic modality, enable/disable drilling spindles, set feeding speed etc.

It's also very effective once checking machining operations while being held or simply simulated so to double check programming before launching an automatic production cycle.

(52.43.79) Vertical router 14kW - 19 HP

Vertical electro spindle equipped on a cast aluminum support with sliding on linear recirculating ball linings; NC managed.

Technical data:

- HSK 63F attachment with double referencing surface to ensure a rigid connection between the tool-holder and the electro spindle itself
- Electronic rotation control on speed, from 1.500 to 24.000 rpm through static inverter, quick-stop function on rotation standardly equipped
- Constant power rate (S1/S6) 10/14 kW (13,6/19 HP) from 12.000 to 18.000 rpm
- Programmable left and right rotation
- Inner air blowing system to guarantee a proper fitting with tool-holder
- Cooling system through forced air ventilation circuit and fan
- Ceramic bearings as support on the main shaft
- Compressed air circuit inside the router cage as prevention against dust pollution



(63.03.44) Air Tool Blower

No.4 air blowers capable to convey the chips produced by the cutter during machining.. This facilitates the chip ejection.

(52.41.23) Preset for HITECO aggregates with 1 pneumatic outlet

Ring shaped device directly assembled on the main router to allow routing/drilling aggregates with anti-rotational pin be properly equipped (HITECO attachment).

It is provided with a pneumatic outlet for angular heads in need of an air flow (i.e. floating aggregates, horizontal routing aggregates etc.)

(63.03.54) Tool Length Detection Device

Electromechanical device located on the side of the bottom frame and able to detect the tool length through a dedicated software cycle.

The length just evaluated will be sent to the Numerical Control which update automatically the tool database in sight of any successive machining program (it is strongly suggested involving parametric programming to take full advantage from this practical function).



(52.43.90) FAST14 14 positions linear tool changer (15x)

Loading station for FAST tool changer

This device, when TRB tool changer is not installed on the machine frame, allows to automatically and easily equip the "FAST" tool changer positioned within the operating units protection.

Linear Tool Changer FAST 14

FAST tool change grants the best performances in terms of time during changing operations given the short distances from the router and the tool to be equipped and a dedicated software optimization managing changing sequence.

It is located inside the protective cage on the mobile unit and is able to host tools and/or angular heads (please refer to admitted dimensional limits reported on layout chapter).

Its steel frame construction grants the best rigidity possible in case the heaviest tools would be equipped on it. tool-holders housings are covered in plastics and built in aluminum providing an ideal connection between rigidity and flexibility during tools loading/unloading operations.

The rake and the tool-holders are properly protected against dust through a roof on its top.

Technical data

- Max. tool diameter: 160mm
- Distance between adjacent positions: min. 125mm
- Max. weight for each tool: 8Kg
- Max. total weight: 42Kg
- Max. weight for each head: 10Kg

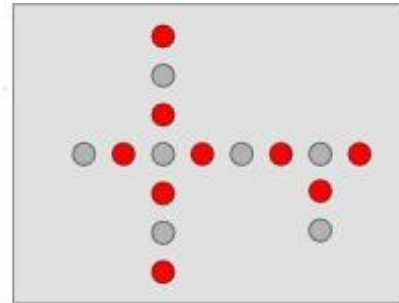


(52.45.08) Drilling unit F16V

The drilling unit is equipped with **new roto-axial technology Ro.Ax.**

Entirely developed by SCM Group, this project grants:

- Improving cutting quality, thanks to the increased rigidity of the spindle (enlarged diameter of the rotating shaft and direct connection, no mechanical interfaces involved, between drilling bit and the shaft itself thanks to Weldon attachment type)
- Increasing production rate thanks to a maximum rotation regime up to 8.000 rpm (with optional inverter) which allows a higher penetration speed into the material
- Reducing maintenance interventions, up to 1.000 hours with lubricating mechanical organs on the unit



F16V

Drilling unit includes:

- Bits attachment on vertical and horizontal spindles Ø 10mm, WELDON type (max. length of the bits 70mm)
- 32 mm step between adjacent spindles
- N°16 vertical spindles with independent pneumatic selection
- Rotation regime on drilling bits 4.500 (2.500 to 8.000 rpm with optional inverter)
- Driving motor power rate up to 3,9 kW (5,3 HP) – [2,2 kW (3 HP) with 50 hz frequency]
- 60mm on-off pneumatic stroke on vertical spindles and blade
- Locking system on drilling bit “quarterlock” type which allows assembling/disassembling tools through the use of single M8 screw and 90° rotation on the wrench
- Compressed air circuit with high pressure to grant more than 64 kgf thrust on each drilling spindle so to perform operations on the most resistant materials

(52.41.14) Drilling unit managed by inverter

The inverter managing the tools speed rotation on the router is connected also the driving motor on the drilling unit so to allow adjusting the speed rotation on bits up to 8.000 rpm and up to 10.000 rpm on the integrated saw blade.

NOTE - While executing a machining program, switching from routing to drilling operation, as well as the contrary, requires waiting for the router (or driving motor) stop before enabling driving motor (or router).

WORKING TABLE

(52.43.94) High Efficiency (HE) multifunction aluminum worktable

Aluminum table. Vacuum holes set at 120 mm pitch, closure by means of rapid magnetic system "patent pending". Grooves are set at 20 mm from each other for fixing of the workpiece using rubbers seals.

The WORK TABLE has been designed for a practical and safe use of any device equipping it and, most of all, for a quick and easy configuration during daily operations.

Built with inert material and immune to the main deformation factors it allows - through a 20x20mm grooves grid - to find always the optimal path to place the rubber gasket so to fix even the most complex pieces.

The specific design of the grooves grid allows also placing vacuum pods of different sizes in any position on the whole work table, making the machine suitable also for machining operations which require the single part be raised from the table (horizontal drilling, bottom edge rounding, bottom side machining etc.).

The work table equips a 120x120mm grid of vacuum outlets which can be opened and closed through metal "plugs". A magnetic insert on each outlet ensures a quick management of the vacuum configuration saving time while setting up the machine and granting the vacuum power to be distributed only where necessary.

The work table can be configured with aluminum reference stops to be placed on its four corners according the customer's requirement.

The machine is so capable to be configured in a proper way to process both large and small sized parts with no difficulties for the operator to place them on the work table.

A rich choice of accessories and configurations makes the machine capable to process the most various pieces and the customer able to fulfill any type of requirement coming from the market.

Features of the multi-areas work table

The division of the work table in multiple vacuum areas is recommended for the machining processes of panel with dimensions which are smaller than the entire work table.

The areas are chosen by an information system which allows the manual selection of the areas to be opened or closed. The operator has also the possibility to can also activate an automatism, where the control autonomously selects the vacuum area containing the dimensions of the piece.

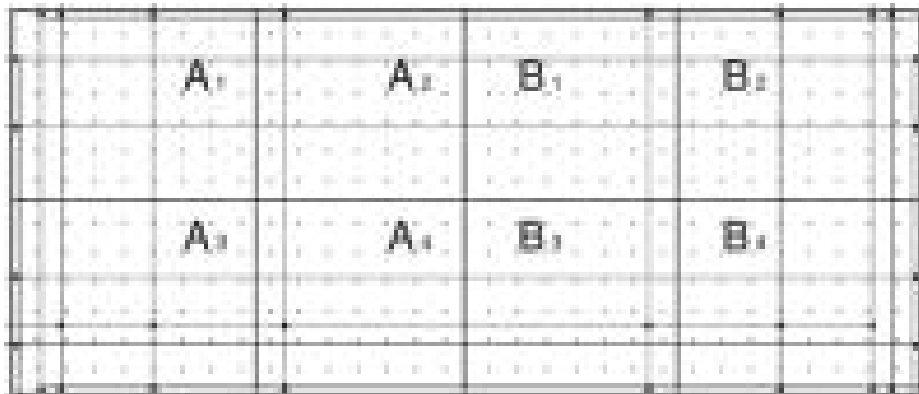
(52.43.98) Work table divided in 8 vacuum areas (15xx, 18xx, 22xx)

The perfect solution for medium-sized offcuts machining.

The minimum surface connected to the vacuum approximately corresponds to:

- X = ¼ of the working area
- Y = ½ of the working area

Manual or automatic selection of the areas according to workpiece dimension.



Peripheral working areas: features

Each working area consists of no.1 reference stop on the side (left or right dependently on the area itself) and accordingly to the frame size the stops along the X direction can vary in quantity:

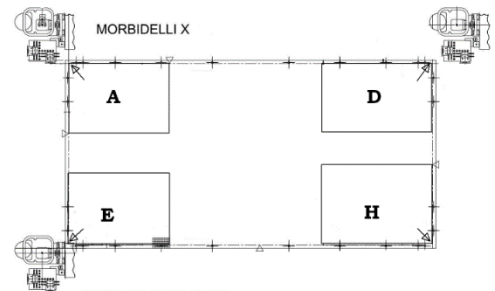
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Any stop has a vertical stroke of 30mm and equips an M6 female thread on top so to install eventual extenders. Single area allows the machining of a single piece at a time and the stops can be activated from the control console.

Rear external area - LEFT "A"

(52.44.03) Rear external area - RIGHT "D"

(52.44.04) Front external areas - LEFT and RIGHT "E" and "H"



(52.44.19) ON-OFF workpieces outfeed pusher

Automatic device which allows the following operations:

- The unloading of the worked pieces on the table side
- The direct positioning on the spoil board
- The spoil board cleaning by means of integrated suction and blower

It consists of a rigid rake (pusher) which touches the spoil board when enabled so to avoid any adjustment once switching to different panel thickness and at the same time it allows:

It consists of a rigid rake (pusher) which touches the spoil board when enabled so to avoid any adjustment once switching to different panel thickness and at the same time it allows:

- The mobile unit to push properly the cut parts – even the thinnest ones – towards the offloading station
- Dust and chips on the spoil board be properly evacuated (best hold down action, no discarded parts, and maximum safety on any successive panel) thanks to the adoption of blowers and a suction hood on the rake itself. The aspiration system is directly connected to the main dust extraction one on the machine, avoiding the addition of further tubes on the facility's aspiration system.

Best flexibility of usage thanks the ability to associate the outfeed pusher to one of these devices:

- Automatic motorized belt, optional for a quick panel replacement on the work table, no operator required to collect the parts during the unloading operation
- Manual offloading with pushbutton command, optional for a space saving solution, operator required to collect part by part during the unloading operation

(52.44.29) Lower exhaust hood between the work table and the outfeed

Grated stainless steel hood with dedicated connection for suction, able to intercept dust and small chips laying between the processed parts while being offloaded.

Characteristics:

- Exhaust outlet diameter = 200mm
- Exhaust air consumption = 2800 m³/h
- Air speed = 25 m/sec
- Automatic opening valve
- Aspiration tube on bottom position

(52.44.35) Side fences on the work table

Pneumatic device which avoids the ejection of pieces out of the work table during the automatic offloading phase.

This optional is strongly suggested once the machine is equipped as an automated nesting cell and is not suitable to work as front/rear references.

- Fences vertical on-off stroke = 25m

(52.41.40) Retractable safety strip curtains

Equipped with ON-OFF pneumatic vertical movement.

It is possible to program the lifting during the X axis rapid movements. This system allows to reduce the impact between work piece and strip in case of delicate panels.

(52.41.03) Rear inspection opening

Located on the rear left corner of the protective cage, this opening is equipped with a transparent ejection-proof material, swinging on hinges, and it allows easy maintenance operations on FAST 14 tool changer and the rear side of the operating units.

Vacuum pumps positioning

Basic machine cell models:

- The vacuum pumps are always located on the base left side, in the area below the unloading belt, even if the belt isn't present.

(63.00.51) Two (2) 300 Cubic Meter/Hour Becker Vacuum Pumps

The vacuum hold-down system features two 300 cubic meter/hour vacuum pumps. It offers the reliability of a substantial increase in vacuum power and allows the use of spoil boards for nesting full sheets.



Centralized optimized Exhaust Hood

The dust outlets, one each operating unit, are conveyed to a single main hood to which connect the general aspiration system. Inside the hood a system of on-off valves, pneumatically managed, opens only the dust extraction circuit relative to the unit currently working so to maximize the cleaning action on the part and reduce air consumption and noise.

(63.01.34) Automatic Central Lube System

The correct grease level on the machine moving parts is always maintained by means of an electronic control (X-Y-Z axes).

(63.03.43) Autotransformer

Autotransformer allows the choice of 208 / 230 or 460 volt, 3-phase, 60 cycle

Standard Equipment

Morbidelli X200 is equipped with a series of standard devices able to maximize its general efficiency during daily operations:

PRO SPACE safety system, the absence of fences surrounding the machine allows the operator access easily to the working table from any position around the machine with no need to wait for the program ending. The maximum speed of the axes, limited by software to 25 m/min and fulfilling current safety norms, grants the operator working in total safety condition.

PRO SPACE system allows X200 take a small sized footprint, thanks also to the exclusive solution in integrating the electrical cabinet and the vacuum pump inside the frame structure, thus giving the ability to install it even in the smallest shops avoiding repositioning on existing equipment with a big save of money and time.

BUMPERS PROTECTION (compliance with CE 2006/42 norm), which surrounds the operating units with a protective cage made up of a metal sheets construction.

The front side of the cage is provided with a wide visibility window in ejection-proof material with can be opened during maintenance operations.

Sensible soft cushions equip the left and right side of the cage: in case of contact with an obstacle the sensors on the cushions stop immediately any operation on the machine which enters the "emergency" state.

The absence of safety devices on the ground floor grants the highest grade of freedom to the operator making him take advantage on the full size of the working table in case of pendulum working.



TECHNICAL DATA

		1531
WORKING TABLE		
X: inside the stop-outside the table	mm inch	3117 122
X: outside the table-outside the table	mm inch	3156 124
Y: inside the stop-outside the table	mm inch	1557 61
Y: outside the table-outside the table	mm inch	1596 62,8
Panel length for alternated work process	mm inch	1073 42
No. of standard stops		5
Z panel clearance		150mm – 5,9inch
“pro-space” axes vectorial speed		84m/1' - 275ft/1'
“pro-speed” axes vectorial speed		113m/1' - 370ft/1'
STRUCTURE		
Type		mobile gantry
X motor power		double on both sides
X-Y transmission		Rack
DRILLING HEADS -option-		
Vertical spindles		up to 21 – 8.000rpm
Horizontal spindles		up to 12 – 8.000rpm
ELECTROSPINDLE		
Motor power (S6) 3-4 axes		from 9,5kW to 15kW – 24.000rpm
INSTALLATION		
Installed motor power		according to the composition
Exhaust outlet diameter		250mm
Exhaust air consumption		4430m ³ /h - 25m/s
Compressed air pressure		6,5bar
Average compressed air consumption		400NL/min

The above mentioned sizes have to be considered as indicative since the same can be varied according to the purchased options.

ATTENTION: MACHINE REGISTRATION REQUIRED

REGISTER YOUR MACHINE IN JUST A FEW SIMPLE STEPS

	<p>Mobile</p> <p>Scan the QR code below Fill out required fields Receive email confirmation</p>		<p>Web instructions</p> <p>Visit scmgroupna.com Go to the Service tab and click Product/Event Registration tab Fill out required fields Receive email confirmation</p>
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Register today and receive:

- Available warranty limit (e.g. 3 years or time of purchase)
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- Exclusive discounts and special offers

SCM North America | 10000 Highway 101, Suite 100, Houston, TX 77060 | 833.233.2290 

Warranty:

SCM warrants that the machinery will be free of defects in workmanship and materials for a period of one (1) year beginning on the date the machinery is accepted by the customer. This warranty includes belts, bearings, and common electrical parts, which carry a six-month warranty. This warranty does not include parts consumed during normal operation (wearable items) or maintenance required in the ordinary course of operation.

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Equipment Finance Application

Company Name: _____ Email Address: _____

Address: _____ City: _____ State: _____ Zip: _____

Phone: _____ Fax: _____ Years in Business: _____

Address of Equipment location: _____

Company Website: _____ Tax Exempt Yes No Fed ID #: _____

Check One: Corp. LLC Partnership Sole Prop. State of Incorpor: _____

Bank: Include copy of first page of Company's most recent 3 months bank statements

Vendor Name: _____ Contact: _____ Equipment Cost: _____

Equipment Description (attach sales order if available): _____

Please complete the following information, and signature, of each officer:

1) Owner's Name: _____ Title: _____

Social Security Number: _____ % Owner: _____

Address: _____ City: _____ State: _____ Zip: _____

2) Owner's Name: _____ Title: _____

Social Security Number: _____ % Owner: _____

Address: _____ City: _____ State: _____ Zip: _____

3) Owner's Name: _____ Title: _____

Social Security Number: _____ % Owner: _____

Address: _____ City: _____ State: _____ Zip: _____

I hereby certify that the information contained in the lease application is true and accurate and I hereby authorize our banks, trade references and financial institutions the right to release credit information. In states where permissible, I hereby authorize the filing and recording of UCC financing statements showing the Secured Party's interest in the equipment and grant the Secured Party's right to execute lessee's/debtors name thereto. A photocopy of this authorization shall be as valid as the original.

Signature: _____ Title: _____ Date: _____

Please fill out the information and submit to:

SCM Equipment Finance
2475 Satellite Blvd
Duluth, GA 30096

Phone: 800.292.1837
Fax: 770.813.8263
financing@SCMgroup.com

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