THE COMPACT MACHINE

TO BRING YOUR IDEAS TO LIFE
The small size of the machine avoids disassembly for shipping, thus reducing installation time.

The dimensions do not limit the performances: it is possible to process very bulky parts even in pendular cycle.

With the 5-axis revolver machining head units all necessary tools are always ready-to-use.

This guarantees unparalleled machining speed. As an alternative, the machining head unit with single electrospindle L11 is used for complex operations with heavy duty stock removal.

Balestrini idea can be equipped with a bars or multifunction worktable.

The bars worktable has been designed to have maximum modularity according to the production needs. It is possible to fix the Combi, Jig free and CSR work piece locking devices, that adapt perfectly to process pieces of any shape.

The SCM aluminium multifunction worktable guarantees perfect lasting planarity. The direct integrated vacuum system and special T-grooves allow optimal work piece clamping.
SAFETY

To reduce the overall dimensions as much as possible and at the same time guarantee total safety, the machine is equipped with a protection enclosure with vertical sliding doors.

CLEANLINESS

The different cleaning systems that can be equipped on the machine allow to keep clean the work environment and greatly reduce maintenance operations.

INNOVATION

Machine control is easy, effective and of immediate use through the touch screen of the eye-M PRO console and the new Maestro active Human-Machine Interface.

The new Smart Pro CAD/CAM software allows to generate work pieces and machining operations, optimize tool paths automatically and simulate in a single work environment, reducing greatly programming time.

The perfectly integrated new Maestro connect IoT platform visualizes, analyzes and monitors all data coming from the machine, essential to increase productivity, reduce operative, energy and maintenance costs.
OVERVIEW OF TECHNICAL FEATURES

TECHNOLOGICAL ADVANTAGES

High vertical axis stroke which allows to process work pieces up to 620 mm in height.

Multifunction worktable suitable for any need of work piece referencing and locking.

Bars worktable configurable with Combi, Jig free and CSR work piece locking devices.

N°1 or 2 worktables
Bi-directional single-electrospindle or 5-axis revolver machining head unit with automatic tool change and liquid cooling.

eye-M PRO console installable on electrical cabinet or dedicated mobile support.

Linear tool store anchored to the upright of the gantry.
MACHINING HEAD UNITS

LI11 MACHINING HEAD UNIT
The LI11 machining head unit allows operations on complex-shaped elements, thanks to its extremely compact geometry. The 12 kW electrospindle makes the unit powerful, for an excellent price-performance level. Bi-directional unit rotating around the B and C axes, with automatic tool change and liquid cooling.

CS33 MACHINING HEAD UNIT
The CS33 machining head unit is equipped with 3 independent electrospindles always ready-to-use, one of which with tool change. Rotating around B and C axes, with a streamlined design, it allows to process extremely curved elements. The liquid cooling guarantees a perfect efficiency for heat dissipation.

<table>
<thead>
<tr>
<th></th>
<th>LI11</th>
<th>CS33</th>
<th>CS44</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal power</td>
<td>1 X 12</td>
<td>1 X 12</td>
<td>4 X 9.5</td>
</tr>
<tr>
<td>Speed max.</td>
<td>24000</td>
<td>24000</td>
<td>24000</td>
</tr>
<tr>
<td>Tool change</td>
<td>YES</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Tool chuck</td>
<td>HSK 63 F</td>
<td>HSK 63 F + ER40</td>
<td>ER40</td>
</tr>
<tr>
<td>Cooling</td>
<td>LIQUID</td>
<td>LIQUID</td>
<td>LIQUID</td>
</tr>
<tr>
<td>Tool diameter max. (mm)</td>
<td>400*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Unlimited B-axis rotation for tool diameter up to 200 mm. From 200 to 400 mm B-axis rotation limited to 110°.
CS44 MACHINING HEAD UNIT

CS44 is an entry-level machining head unit, characterized by 4 independent electrospindles, liquid cooled and without tool change. Rotating around B and C axes, with a streamlined design, it allows to process extremely curved elements.

ELECTROSPINDLE 9,5 KW

CS33 and CS44 machining head units are equipped as standard with Z-axis pneumatic balancing with closed circuit, fundamental requirement to achieve significant savings on compressed air consumption.
OPTIONS FOR MACHINING HEAD UNITS

DEVICE FOR TOOL MEASUREMENT AND AXES RE-SETTING
Mounted on a manually tilting column, it allows to:
- Measure tool diameter and length
- Re-set B and C rotating axes.

TOOL STORES

LINEAR TOOL STORE WITH 6 OR 8 POSITIONS
Linear vertical tool store anchored to the upright of the gantry.
The release movement with the crankshaft mechanism reduces tool change time.
It is possible to equip the machine with one additional tool store, fitted on the opposite upright of the gantry.

<table>
<thead>
<tr>
<th>LINEAR</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>For machining head units</td>
<td>LI11 - CS33</td>
</tr>
<tr>
<td>N° Positions</td>
<td>6</td>
</tr>
<tr>
<td>Centre distance between positions (mm)</td>
<td>115</td>
</tr>
<tr>
<td>Sawblade diameter max. (mm)</td>
<td>400</td>
</tr>
<tr>
<td>Tool length (tool-holder included) max. (mm)</td>
<td>180</td>
</tr>
<tr>
<td>Single tool weight max. (Kg)</td>
<td>6</td>
</tr>
<tr>
<td>Loadable weight on tool store max. (Kg)</td>
<td>20</td>
</tr>
</tbody>
</table>

DRILLING UNIT ON CS33 AND CS44 MACHINING HEAD UNITS
To execute multiple holes in a single operation. Mounted on the head unit side and available with 5 or 7 vertical spindles.
The bars worktable is the optimal solution for those requiring flexibility and ease of set-up. On the worktable one or more bars can be mounted to support specific work piece locking devices, such as Combi, Jig free and CSR.

UNIVERSAL CARRIAGE
Each work piece locking device is blocked on the bar by a universal carriage, which can be moved along the bar itself manually. Millimeter lines and reference pins make manual set-up very precise.

RETRACTABLE REFERENCE STOP
Positioned on the crossbar end or on the worktable side, it guarantees a correct work piece reference.
**COMBI**
The optimal device for locking jigs and large work pieces. Consisting of a vacuum table in squared bakelite and an aluminium table, arranged at right angles to each other.

**JIG FREE**
For the simple and rapid locking of long work pieces, with relatively small cross-sections and requiring machining operations on 5 faces.
The piece is correctly referenced thanks to a reference stop blocked on the Jig free side.

**VACUUM TABLE**
Vacuum table in squared bakelite that allows to lock devices or work pieces.

**CSR**
Economic solution in aluminium that allows to increase the height of the locked jigs, avoiding collisions between machining head unit and worktable.
The SCM aluminium multifunction worktable ensures maximum reliability. Characterized by a perfect lasting planarity, it does not deform despite changes in environmental factors such as temperature and humidity.

All over the worktable surface there are T-shaped grooves which allow rigid locking of any jigs and devices not provided by SCM. It is possible to configure the worktable with several types of suction cups, adding or removing them easily, according to the type and geometry of the work pieces.
OPTIONAL SYSTEMS

HEADSTOCK/TAILSTOCK NC “AXIS-LATHE” SYSTEM
Interpolated axis for machining long and cylindrical symmetrical work pieces up to 1050 mm in length.

VACUUM SYSTEM

Balestrini idea can be equipped with a vacuum system and a 90 m3/h vacuum pump for each worktable.

The vacuum system is necessary when used the equipment for multifunction worktable and work piece locking devices such as COMBI, CSR and Vacuum table.
SAFETY SYSTEMS

CE PROTECTION ENCLOSURE WITH VERTICAL SLIDING DOORS
The protection enclosure keeps the operator safe from accidental ejection of pieces and at the same time guarantees complete ergonomics in the manual or automatic loading/unloading process. The central bulkhead can be removed to double the workable volume.

CLEANING SYSTEMS

EXTRACTION SLOTS ON THE MACHINE BED
With direct connection to the extraction system to prevent shavings accumulation.

COLLECTION TANKS FOR SHAVINGS AND WASTE
Positioned at the machine bed side, they allow to convey shavings and waste towards the machine front and rear sides.
Operator panel with linear design, simple and elegant, emphasizing the "full screen" effect. The integrated LED bar allows the operator to know at any time the status of the machine.

2 possible installations: in the electrical cabinet or on independent mobile support.
Maestro Digital Systems

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

Maestro office

Office

Factory

Maestro active

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

programming and data generation

design

data generation

routing

drilling

cutting
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.

**DIGITAL SERVICES**

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.
SMART PRO is an extremely advanced CAD/CAM software. It enables to create and manage routing, drilling, cutting, etc. operations with simplicity and reliability. Smart Pro is available in two versions:

- **Basic version**: 3 axis CAD/CAM software, with the possibility of importing 5-axis paths from external software.
- **Advanced version**: 5 axis CAD/CAM software.

## FUNCTIONS

Thanks to the 3D design of the machine complete of its work piece locking devices, the software allows to perform:

### SIMULATION

The software allows to simulate a work cycle preview, visualizing any modification and optimization introduced with important time-saving in machine setting and sample piece manufacturing.

### COLLISION CONTROL

The software highlights any interference between tools and work piece or machine parts.

### OPTIMIZATION OF FREE PATHS

The software allows to optimize automatically the movements of the tools in the transition from one process to the next one.

### MACHINING MACRO

The software has MACROs that simplify and speed up the programming of repetitive work operations.

### INTEGRATION OF 5-AXIS TOOL PATHS

The software allows to import and integrate tool paths programmed on other CAD/CAM systems.

### CAD PERFORMANCES

The software allows to draw free paths and manage several CAD formats, so as to be able to easily import the drawings of the pieces to be placed and processed on the machine.
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**

Maestro active cnc

A REVOLUTIONARY APPROACH TO INTERACT WITH YOUR SCM MACHINE

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 events.

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 tool change phase.
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 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 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.
APPLICATIONS

KITCHEN DOORS

CHAIRS AND TABLES

BEDS

FURNISHINGS

MUSICAL INSTRUMENTS
## TECHNICAL DATA

### WORKTABLE DIMENSIONS

<table>
<thead>
<tr>
<th>MODEL</th>
<th>Y (mm)</th>
<th>X (mm)</th>
<th>L (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>balestrini idea</td>
<td>1100</td>
<td>680</td>
<td>1400</td>
</tr>
<tr>
<td>balestrini idea m mono</td>
<td>1100</td>
<td>1400</td>
<td>1400</td>
</tr>
<tr>
<td>balestrini idea m</td>
<td>1100</td>
<td>680</td>
<td>1400</td>
</tr>
</tbody>
</table>

(*) Nominal dimensions

### WORKABLE VOLUME

<table>
<thead>
<tr>
<th>MODEL</th>
<th>E (mm)</th>
<th>F (mm)</th>
<th>G (mm)</th>
<th>H (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>balestrini idea</td>
<td>700</td>
<td>1480</td>
<td>1200</td>
<td>620</td>
</tr>
<tr>
<td>balestrini idea m mono</td>
<td>1480</td>
<td>1480</td>
<td>1100</td>
<td>620</td>
</tr>
<tr>
<td>balestrini idea m</td>
<td>700</td>
<td>1480</td>
<td>1200</td>
<td>620</td>
</tr>
</tbody>
</table>

H = distance from worktable (tool-holder included)

### MACHINE OVERALL DIMENSIONS

<table>
<thead>
<tr>
<th>MODEL</th>
<th>A (mm)</th>
<th>B (mm)</th>
<th>C (mm)</th>
<th>D (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>balestrini idea</td>
<td>3300</td>
<td>4250</td>
<td>3300</td>
<td>2200</td>
</tr>
<tr>
<td>balestrini idea m mono</td>
<td>3300</td>
<td>3500</td>
<td>3470</td>
<td>2200</td>
</tr>
<tr>
<td>balestrini idea m</td>
<td>3300</td>
<td>4250</td>
<td>3300</td>
<td>2200</td>
</tr>
</tbody>
</table>
### LINEAR AXES

<table>
<thead>
<tr>
<th>Axis</th>
<th>Stroke (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>X-axis</td>
<td>1700</td>
</tr>
<tr>
<td>Y-axis</td>
<td>1800 – 1900</td>
</tr>
<tr>
<td>Z-axis</td>
<td>700</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Axes Speed (m/min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>X-Axis</td>
</tr>
<tr>
<td>Y-Axis</td>
</tr>
<tr>
<td>Z-Axis</td>
</tr>
</tbody>
</table>

### WORKTABLES

- Type: Bars worktable - Multifunction worktable

### MACHINING HEAD UNITS

<table>
<thead>
<tr>
<th>Type</th>
<th>Li11 - CS33 - CS44</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Max. Rotation Speed (rpm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Li11</td>
</tr>
</tbody>
</table>

### ROTATING AXES

<table>
<thead>
<tr>
<th>Rotation</th>
<th>Li11</th>
<th>CS33 and CS44</th>
</tr>
</thead>
</table>

### TOOL STORES

<table>
<thead>
<tr>
<th>Linear</th>
<th>Positions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Li11</td>
<td>6 - 8</td>
</tr>
</tbody>
</table>

### INSTALLATION

<table>
<thead>
<tr>
<th>Nominal Compressed Air Pressure (bar)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Li11</td>
</tr>
<tr>
<td>Compressed Air Consumption (NL/min)</td>
</tr>
</tbody>
</table>

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 prescribed by CE Norms.

Maximum recorded noise levels based on functioning parameters established by ISO 3746/1995. Acoustic pressure while working 83 dB(A) (measured according to EN ISO 11202:1997, K variance = 4 dB).

Despite the existence of a correlation between “conventional” noise emission values mentioned above and average personal exposure of the operators during the 8 hours, these also depend on the specific functioning conditions, length of exposure, acoustics characteristics of the working environment and by the presence of additional sources of noise, that is the number of machines and adjacent processes.
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

SCM GROUP, A HIGHLY SKILLED TEAM EXPERT IN INDUSTRIAL MACHINES

INDUSTRIAL MACHINERY

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

WOODWORKING TECHNOLOGIES

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

industrial equipment and components for machining the widest range of materials.

AND COMPONENTS

INDUSTRIAL COMPONENTS

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

- HITECO
  - SPINDLES AND TECHNOLOGICAL COMPONENTS
- es
  - ELECTRIC PANELS
- steelmec
  - METALWORK
- scmfonderie
  - CAST IRON

is more