

CNC - machining centres

balestrini idea
numerical control machining centre



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THE COMPACT MACHINE



TO BRING YOUR IDEAS TO LIFE

COMPACTNESS



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.

RAPIDITY



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 LI11** is used for complex operations with heavy duty stock removal.

FLEXIBILITY



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



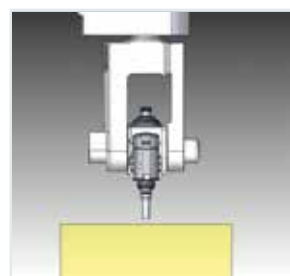
Machine control is easy, effective and of immediate use through the touch screen of the **eye-M PRO** console and the new **Maestro active** Human-Machine Interface.

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.



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



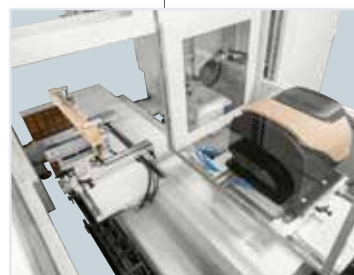
eye-M PRO console installable on electrical cabinet or dedicated mobile support.



Linear tool store anchored to the upright of the gantry.



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



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.

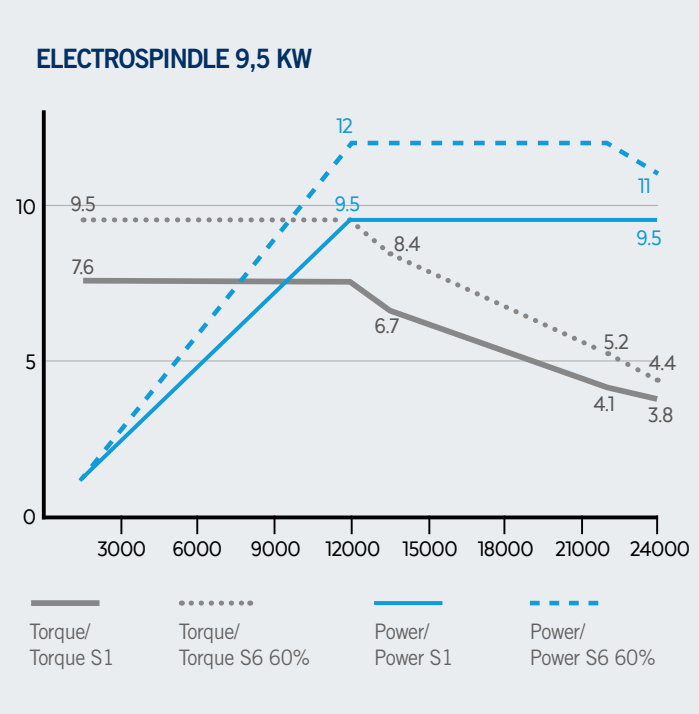
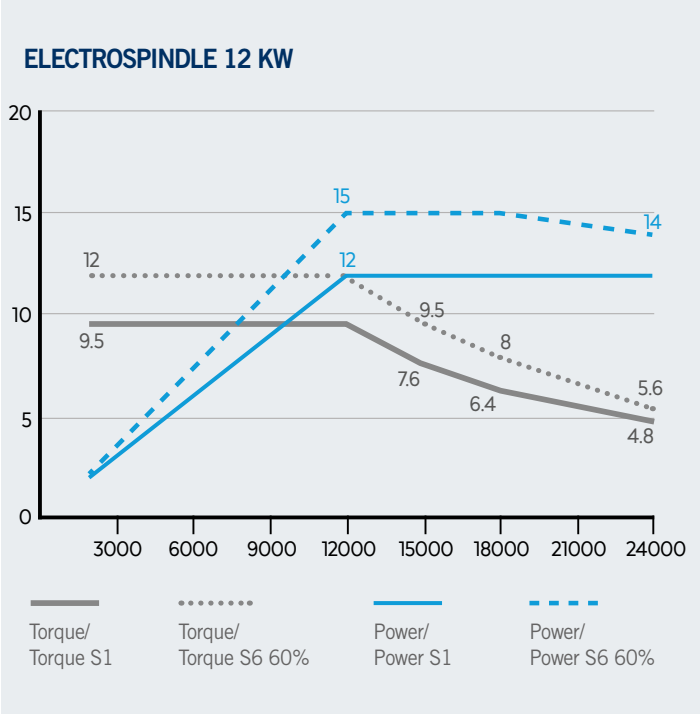


CS44 MACHINING HEAD UNIT

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.

	LI11	CS33	CS44
Nominal power	1 X 12	1 X 12 2 X 9.5	4 X 9.5
Speed max.	24000	24000	24000
Tool change	YES	YES	NO
Tool chuck	HSK 63 F	HSK 63 F + ER40	ER40
Cooling	LIQUID	LIQUID	LIQUID
Tool diameter max. (mm)		400*	

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



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.



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.

TOOL STORES



LINEAR TOOL STORE WITH 6 OR 8 POSITIONS

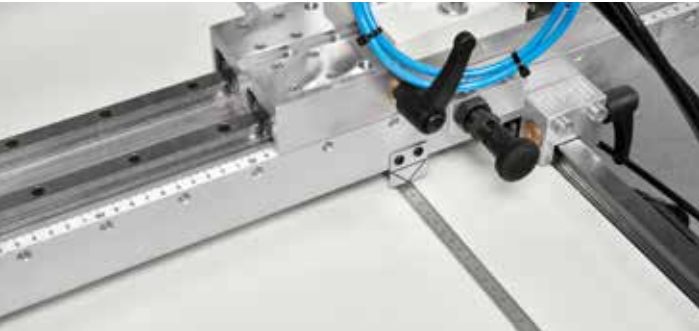
Linear vertical tool store anchored to the upright of the gantry. The release movement with the crankshaft mechanism reduces tool change time. It is possible to equip the machine with one additional tool store, fitted on the opposite upright of the gantry.

	LINEAR	
	LI11 - CS33	
For machining head units		
N° Positions	6	8
Centre distance between positions (mm)	115	82
Sawblade diameter max. (mm)	400	400
Tool length (tool-holder included) max. (mm)	180	180
Single tool weight max. (Kg)	6	6
Loadable weight on tool store max. (Kg)	20	20

BARS WORKTABLE



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.

BARS WORKTABLE

LOCKING DEVICES



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.



VACUUM TABLE

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



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.



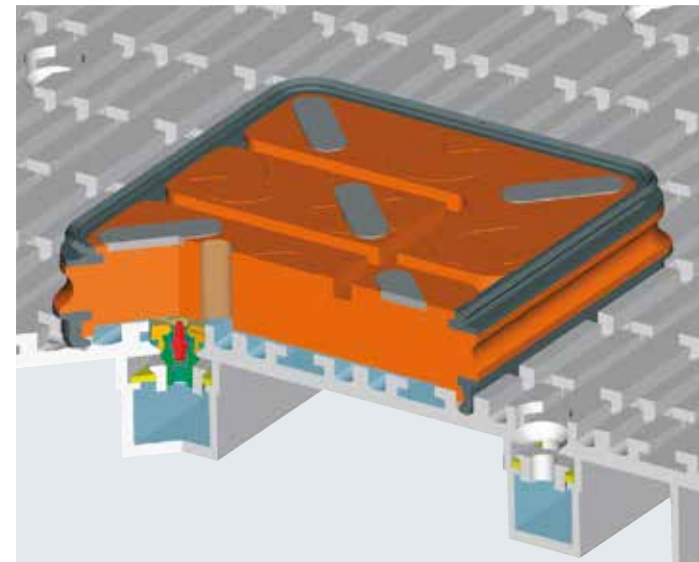
CSR

Economic solution in aluminium that allows to increase the height of the locked jigs, avoiding collisions between machining head unit and worktable.

MULTIFUNCTION WORKTABLE

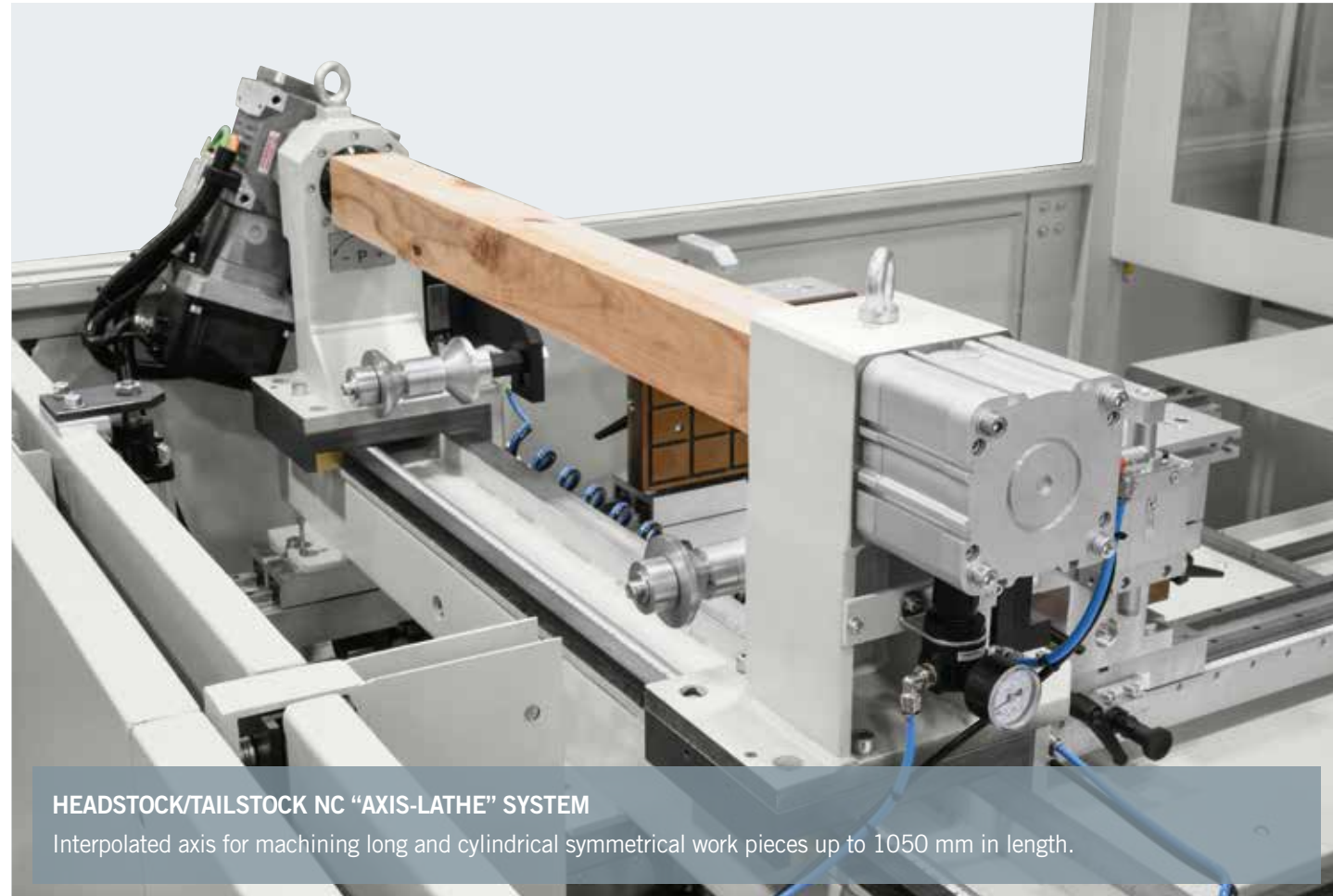


The **SCM aluminium multifunction worktable** ensures maximum reliability. Characterized by a perfect lasting planarity, it does not deform despite changes in environmental factors such as temperature and humidity.



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/TAILOCK NC "AXIS-LATHE" SYSTEM

Interpolated axis for machining long and cylindrical symmetrical work pieces up to 1050 mm in length.

SAFETY SYSTEMS

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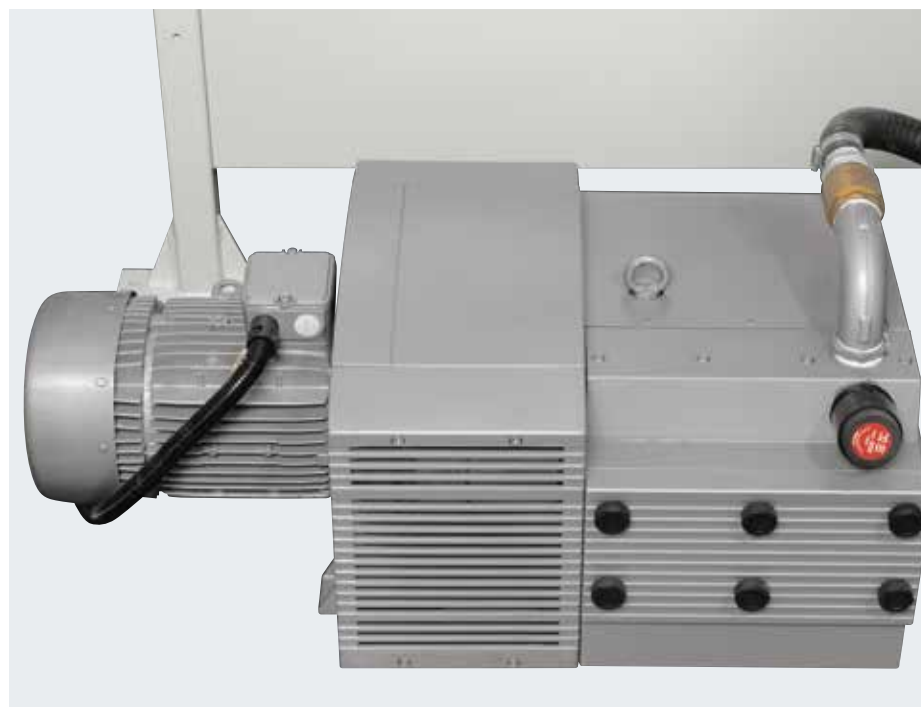
CE PROTECTION ENCLOSURE WITH VERTICAL SLIDING DOORS

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.

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.



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.



EYE-M PRO CONSOLE

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numerical control machining centre



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.

M Maestro Digital Systems

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

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.

design > programming and data generation

Maestro office

Office

Factory

Maestro active

cutting > routing drilling

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.

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.

1
Machine monitoring,
KPIs, early warning

2
Maintenance
equipment

3
Predictive
maintenance

4
Report and historical
data export to MES

5
Warranty
extension

6
Augmented
remote support

7
Smart learning,
SELF-HEALING, video
tutorials

Maestro connect
IoT Platform





Smart Pro

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.



SOFTWARE

Office

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

Factory

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.

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 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 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

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KITCHEN DOORS



CHAIRS AND TABLES



BEDS



FURNISHINGS

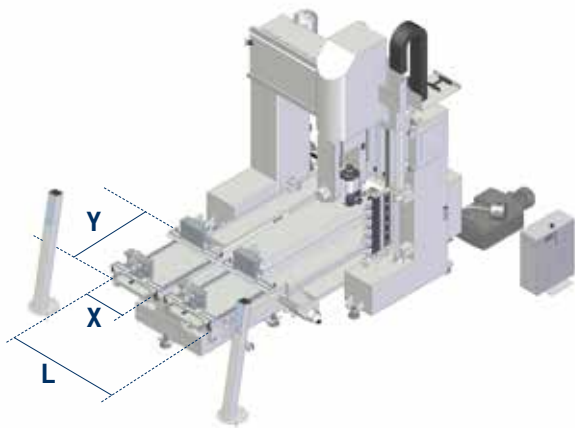


MUSICAL INSTRUMENTS

WORKTABLE DIMENSIONS

MODEL	Y (mm)	X* (mm)	L (mm)
balestrini idea	1100	680	1400
balestrini idea m mono	1100	1400	1400
balestrini idea m	1100	680	1400

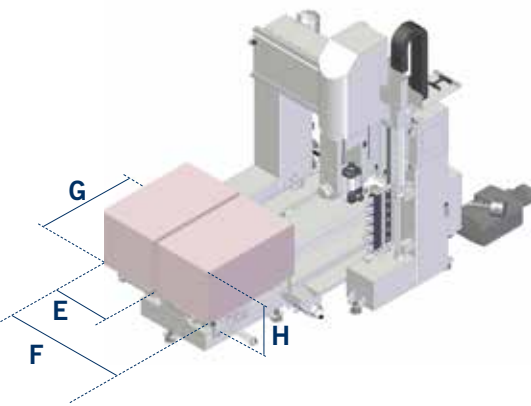
(*) Nominal dimensions



WORKABLE VOLUME

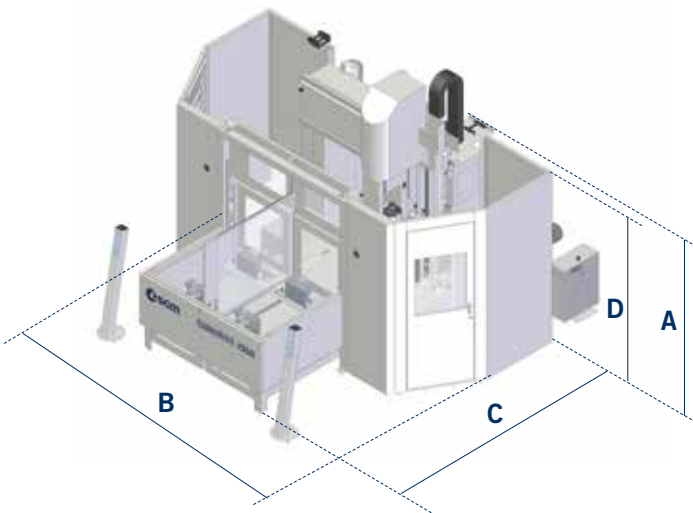
MODEL	E (mm)	F (mm)	G (mm)	H (mm)
balestrini idea	700	1480	1200	620
balestrini idea m mono	1480	1480	1100	620
balestrini idea m	700	1480	1200	620

H = distance from worktable (tool-holder included)



MACHINE OVERALL DIMENSIONS

MODEL	A (mm)	B (mm)	C (mm)	D (mm)
balestrini idea	3300	4250	3300	2200
balestrini idea m mono	3300	3500	3470	2200
balestrini idea m	3300	4250	3300	2200



LINEAR AXES		
X-axis stroke	mm	1700
Y-axis stroke	mm	1800 o 1900
Z-axis stroke	mm	700
X- Y- Z axes speed	m/min	90 - 90 - 60
WORKTABLES		
Type	Bars worktable - Multifunction worktable	
MACHINING HEAD UNITS		
Type	LI11 - CS33 - CS44	
Max. rotation speed	rpm	24000
ROTATING AXES		
B Rotation	°	+/- 120 (LI11) – 360 in continuous (CS33 and CS44)
C Rotation	°	+/- 370 (LI11) — +/- 370 (CS33 and CS44)
TOOL STORES		
Linear	N° Positions	6 - 8
INSTALLATION		
Nominal compressed air pressure	bar	6
Compressed air consumption	NI/min	200

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 prescribed by CE Norms.

Maximum recorded noise levels based on functioning parameters established by ISO 3746/1995. Acoustic pressure while working 83 dbA (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

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.



SPINDLES AND TECHNOLOGICAL
COMPONENTS



ELECTRIC PANELS



METALWORK



CAST IRON