CNC – machining centres

morbidelli x50

CNC nesting machining centre for drilling and routing



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SCM GROUP SPA
via Casale 450 - 47826 Villa Verucchio, Rimini - Italy
tel. +39 0541 674111 - fax +39 0541 674274
scm@scmgroup.com
www.scmwood.com

00L0962421H

scm
woodworking technology

THE NEW NEXTING FRONTIER

FIND YOUR X

SCM NESTING MACHINES



MORBIDELLI X50





THE FIRST STEP INTO THE **WORLD OF NESTING**

FREE



360° all around accessibility and fully safe machining due to the possibility to choose between perimeter photocell protection system and PRO-SPACE version with bumpers safety system.

TOP QUALITY



High Grip Vacuum working table unique on the market for granting the **best workpiece locking.**

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

SMART



SMS - Spoilboard Management System: advanced solution to ease the spoilboard panel management by the operator.

X-POD reference system: perfect pieces and pods positioning with no limits, due to the advanced laser device.

FLEXIBLE



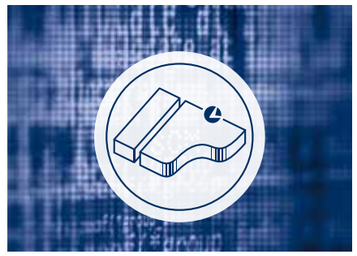
XS DEVICE, device that helps the operator in referring and machining extremely small parts.

SAFE



S.A.F.E. - Safe Advanced Fixed Equipment: protection system, unique in the market, able to grant maximum operator safety.

SOFTWARE



Maestro lab with **Smart cut** for an effective and automatic management of the nesting cut, by optimising the holding of workpieces of any shape and dimension.

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TECHNICAL FEATURES OVERVIEW

DETAILS THAT MAKE THE DIFFERENCE

Vectorial speed axes "PRO-SPEED" std. version: ***57m/1' - 186ft/1'***

Vectorial speed axes "PRO-SPACE" opt. version: **47m/1' - 155ft/1'**

Vacuum pumps
placed to occupy as little space as possible.



9,5 kW routing unit *and drill bits with* ***RO.AX.*** *technology.*

Tool changer into the machine base up *to 12 positions.*

S.A.F.E. System *- Safe Advanced Fixed Equipment: maximum operator safety.*

From 2 to 8 vacuum areas
with manual pneumatic activation.

Electrical cabinet integrated into the machine base.



PRO-SPACE safety system *with bumpers protections.*

SOFTWARE



Maestro lab

From the office, the Maestro lab design and programming system ensures that all machining can quickly and easily be programmed.
Transforming an idea into a finished product has never been easier.
More than 150 already integrated apps allow to generate cnc programs with just a few mouse clicks.



Maestro active cnc

Maestro active is the interface that the operator easily uses on all SCM machines: Maestro active interface software maintains the same look&feel, the same icons and the same approach to interaction.

EASE OF USE
The interface has been specifically designed and optimised for immediate use via touch screen, for a simple and comfortable navigation.

“ZERO” ERRORS
Improved productivity thanks to integrated help and recovery procedures that reduce the possibility of operator error.

Office | **Factory**

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, tools management and the relative machining operations.
All the procedures are contained in a perfectly integrated and high performance software.

SUITE

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

Maestro 3D
The module integrated in the Maestro suite is designed to program three dimensional objects on 5-axis machining centres.

Maestro apps
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
Connector for third-parties design software to grant high integrability.

Maestro nesting
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
Integrated module to manage label templates. Developing labels by inserting texts, images, parameters and the main barcode formats.

A REVOLUTIONARY APPROACH TO INTERACT WITH YOUR SCM MACHINE

FULL CONTROL OF PRODUCTION PERFORMANCES
The creation of customisable reports by operator, shift, program, forecast period (and much more) allows to monitor, optimise and improve the performance.

FULL MACHINE AWARENESS AND KNOWLEDGE MANAGEMENT SYSTEM
Recording of 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 organisation thanks to the possibility to comment and document all production events or notifications.

ORGANISE YOUR PRODUCTION
Creation of different users with different roles and authorisations (e.g.: operator, maintainer, administrator, ...). Possibility of defining the work shifts on the machine and then detect activities, productivity and events that occurred in each shift.

TOTAL QUALITY OF THE FINISHED PRODUCT
The quality of 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, taking into account the programs to be executed.

SOFTWARE

Maestro nesting

Goal
saving time and material scraps reduction.

How?
Through an optimisation software able to create cutting schemes always more compact keeping maximum machining quality.



Smart cut: the allied cutting strategy for nesting small pieces

It applies optimised cutting sequences and technologies that, without affecting the speed or layout of parts in the program, improve finish quality and reduce machining cycle times.

BENEFITS

ZERO UNPRODUCTIVE TIME
No need for any second routing passes for fast and efficient production.

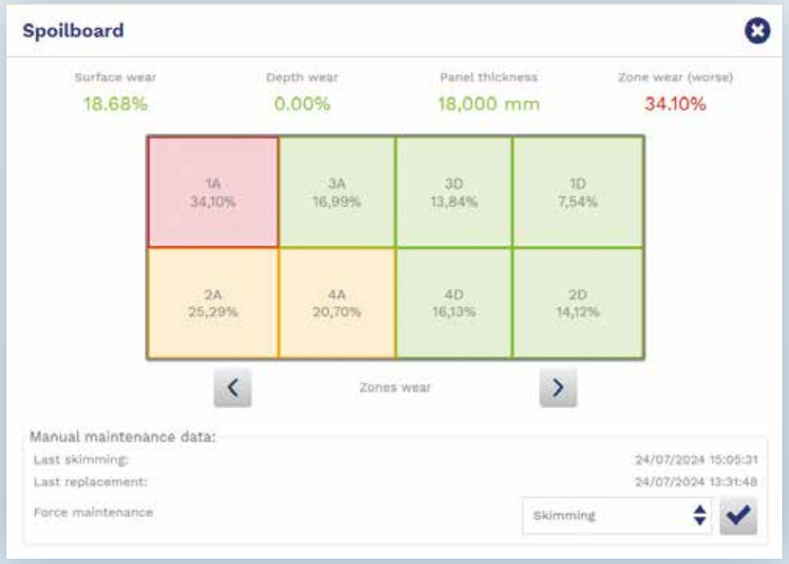
ZERO WASTE
No compromise in nesting cutting quality, to grant always precise and perfect machining with no defect.

REDUCTION OF ENERGY CONSUPTION
Thanks to the optimisation of routing paths/layouts and shorter machining cycles.

SMS - Spoilboard Management System

Advanced solution to ease the supporting panel management by the operator. The software is able to proactively report when it is necessary to rectify or replace it.





WORKTABLE

WORKTABLE WITH HIGH GRIP VACUUM TECHNOLOGY: STURDY, PRACTICAL, CRUSHPROOF AND EFFECTIVE.

It delivers **the best piece sealing**, due to the an exclusive SCM deflector able to distribute the vacuum on the entire work-table maximising the workpiece holding, even when machining panels smaller than the total area of the machine.



Any machining without removing the supporting panel and no obstacles due to the tubeless **X-POD pods**.



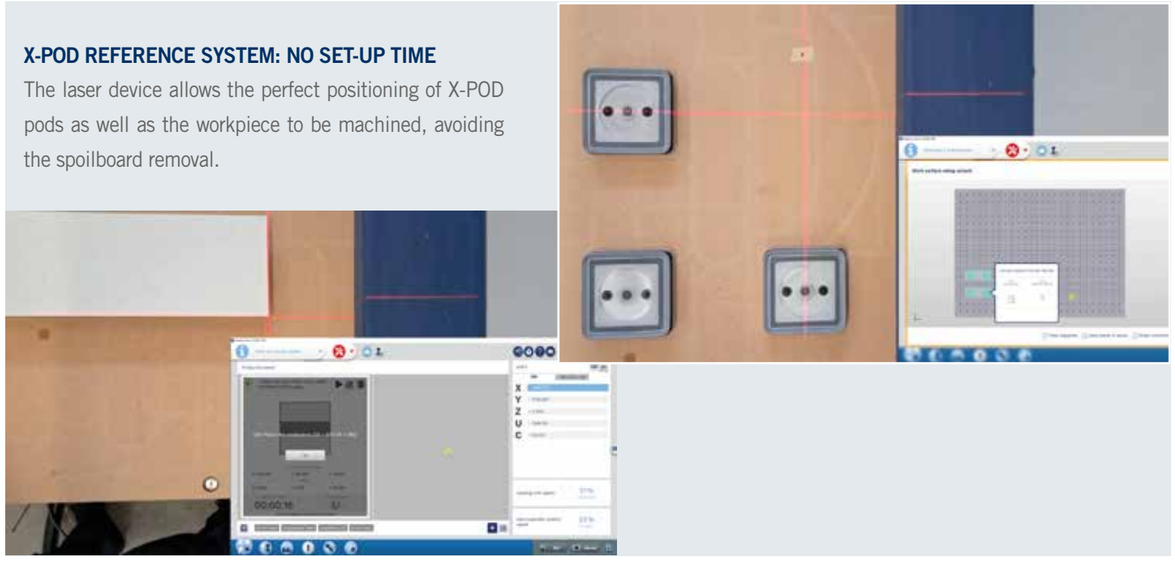
MAXIMUM WORKPIECES TIGHTENING WHEN IT IS REQUIRED

Pneumatically activated static vacuum with the possibility to select from 2 to 8 vacuum areas according to the worktable dimension.



X-POD REFERENCE SYSTEM: NO SET-UP TIME

The laser device allows the perfect positioning of X-POD pods as well as the workpiece to be machined, avoiding the spoilboard removal.



OPERATING UNITS

DRILLING UNIT

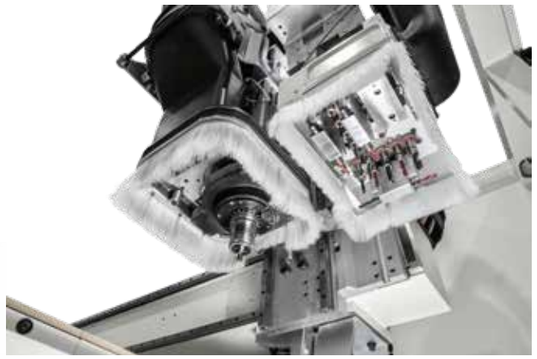
Performing drilling heads

Minimum drilling time, due to the accurate study of spindles position, combined with high-quality drilling, as they can rotate up to 8.000 r.p.m.

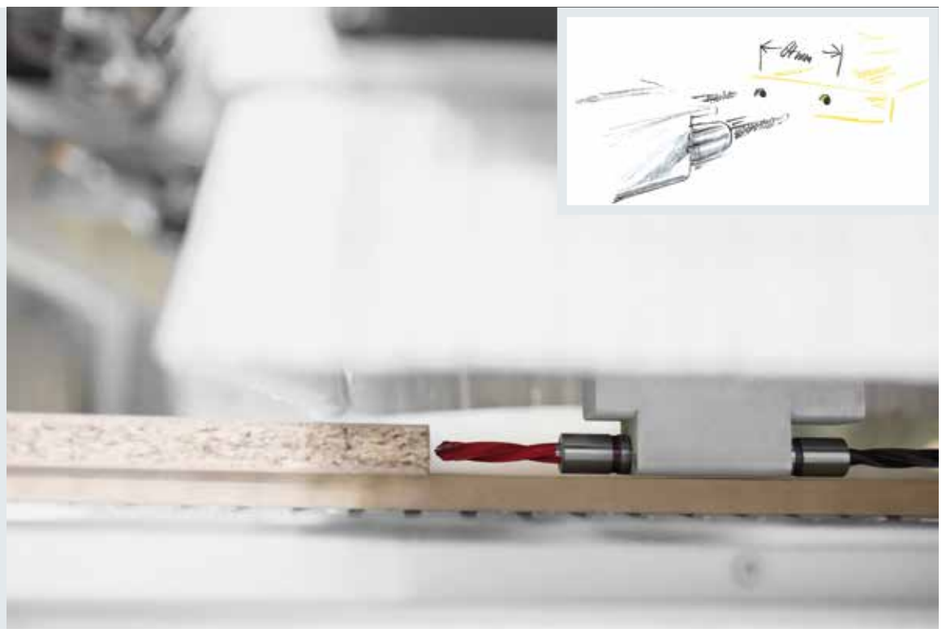
- Minimum drilling time (8.000 r.p.m.)
- Top productivity with maximum machine uptime ensured by drilling heads with RO.AX technology, which minimises the maintenance time to be carried out every 1000 working hours.







Ability to execute horizontal drilling with no need to lift workpieces from the spoilboard, due to **lowered horizontal drilling heads.**



ROUTING UNIT

Excellent machining precision with the 9.5 kW 3-axis electrospindles up to 24.000 rpm.



Nesting processing at 40 m/min or up to 25 m/min in PRO-SPACE version is now a reality.



OTHER DEVICES

TRB SIDE TOOL CHANGER
with up to 12 positions.





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 machining, with plays elimination system or fixed mechanical couplings.

SMART SOLUTIONS

XS DEVICE:

Manually insertable /extractable device **to refer all the pieces directly on the spoilboard,** even the smallest one that would not reach the reference stops of the machine.



EYE-M CONTROL PANEL

Modular control panel that combines ergonomic and flexibility to the SCM's high technological performances – all in an iconic design.



S-N-D SELECTOR

The machine dynamic you want at your fingertips: through a 3-position selector it is possible to easily change the machine dynamic, to immediately adapt to the required machining/operation.



Remote control for machine's management.

SAFETY SYSTEMS

TWO SOLUTIONS FOR WORRY-FREE MACHINING.

S.A.F.E. (Safe Advanced Fixed Equipment): SPEED MEETS WITH THE HIGHEST SAFETY STANDARDS

Unique protection system on the market for using the machine at its maximum feed speed, with no compromises on operator safety.



The machine is equipped with **PERIMETER PHOTOCELLS** system that allows free access on all four sides **for full-field machining.**

GUARANTEED SAFETY: BUMPERS PROTECTIONS

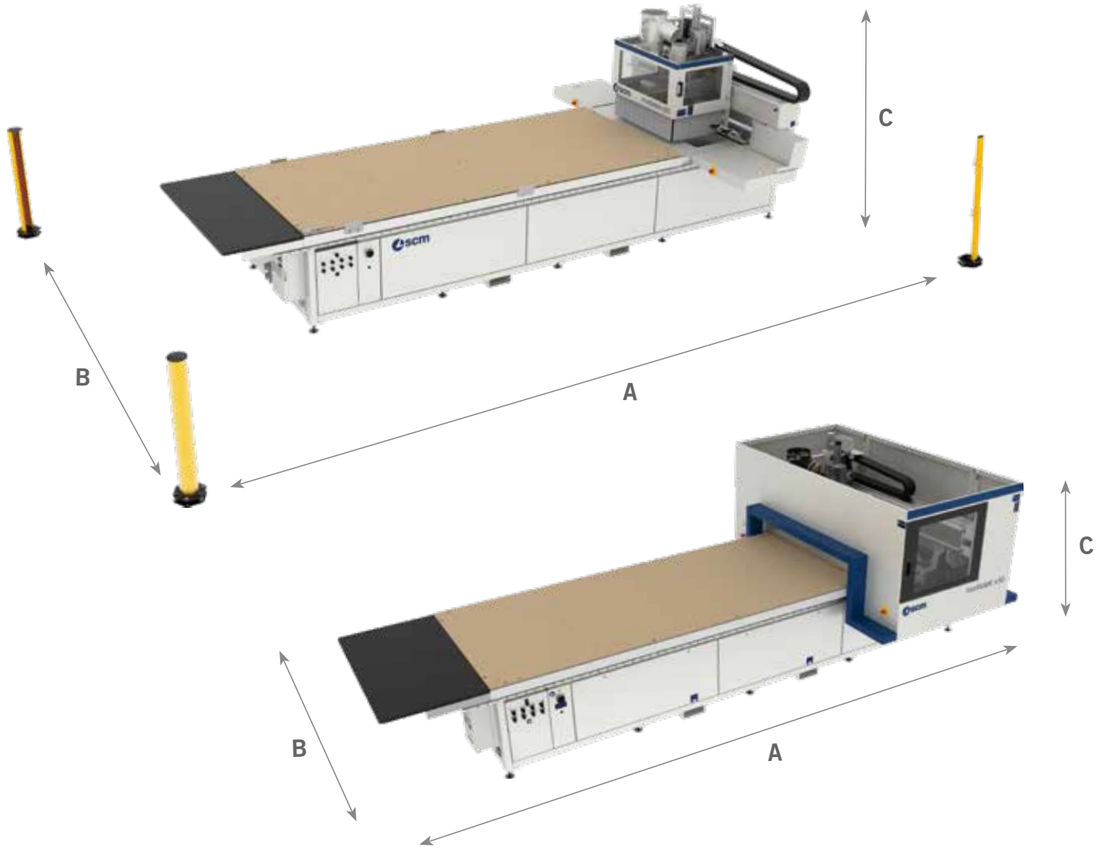
Fully safe machining with the bumpers safety system which locks the machine only in case of accidental contact with the operator.



OVERALL DIMENSIONS

MODEL		PRO-SPEED			PRO-SPACE*		
		A	B	C	A	B	C
morbidelli x50 1224	mm/feet	6300/20,7	4500/14,8	2100/6,9	6050/19,8	3750/12,3	2100/6,9
morbidelli x50 1536	mm/feet	7500/24,6	4800/15,7	2100/6,9	6950/22,8	4050/13,3	2100/6,9
morbidelli x50 1836	mm/feet	7500/24,6	5050/16,6	2100/6,9	6950/22,8	4350/14,3	2100/6,9
morbidelli x50 2231	mm/feet	6900/22,6	5400/17,7	2100/6,9	6350/20,8	4650/15,3	2100/6,9
morbidelli x50 2243	mm/feet	8100/26,6	5400/17,7	2100/6,9	7550/24,8	4650/15,3	2100/6,9

* maximum dimension with inspection door



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 edgebanding

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.



Maestro connect
IoT Platform

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

8 Asset management with e-shop SCM Spare Parts



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
MMaestro 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 means having your machine always at hand.
Maestro connect allows to display machine information in real time from any position and sends instant notifications to connected devices (PC, tablet, smartphones) in case of alarms or downtimes. Allowing customers to verify that recovery actions are immediate and without delay.

SMART MANAGEMENT: PRODUCTION PERFORMANCE OPTIMISATION
Reports and KPIs allow further analysis thus increasing Customer Knowledge about his performance and results.

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

SMART LEARNING: EXECUTE WORK AND RECEIVE PROBLEM SOLVING SUPPORT
Maestro connect provides an intuitive Problem Solving Management System to help the operator to self-solve any issue.

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

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

TECHNICAL DATA

morbidelli x50
CNC nesting machining centre for drilling and routing

morbidelli x50		
AXES		
Vectorial speed X-Y axes “PRO-SPEED” version	m/min feet/min	57m/1’ 186ft/1’
Vectorial speed X-Y axes “PRO-SPACE” version	m/min feet/min	47m/1’ 155ft/1’
Z-axis panel passage	mm inch	140 5.5
ROUTING UNIT		
Motor power 3axis	kW (hp)	9,5 (12,2)
Rotation speed (up to)	rpm	24000
Available tools on tool changer (up to)	positions	12
DRILLING UNIT		
Independent vertical spindles (up to)	n.	12
Independent horizontal spindles (up to)	n.	6
Rotation speed (up to/max.)	rpm	8000
Integrated blades (up to)	n.	1
Integrated blade in X, diameter	mm	125

SAV€NERGY

THE USE OF POWER ONLY WHEN IT IS REQUIRED

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

COMPANY WITH QUALITY SYSTEM CERTIFIED BY DNV
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.

Maximum noise levels measured according to the operating conditions established by EN 848-3:2012
Acoustic pressure in process (routing) 81 dbA (measured according to EN ISO 11202:2010, uncertainty K = 4 dB)
Acoustic power in process (routing) 98 dbA measured according to EN ISO 3746:2010, uncertainty K = 4 dB)

Even if there is a correlation between above mentioned "conventional" noise emission values and average levels of personal exposure over eight hours of operators, these last also depend on the real operating conditions, duration of exposure, acoustic conditions of the working environment and presence of further noise sources, this means the number of machines and other adjacent processes.

The brochure includes and refers to option devices as well.



scm | service

WE'LL GO THE EXTRA MILE FOR YOU

SCM OFFERS A FULL RANGE OF **HIGHLY SPECIALISED SERVICES** WITH A QUALITY AND RELIABILITY THAT STEM FROM 70 YEARS OF EXPERIENCE IN THE INDUSTRY.

From installation and production start-up to services and maintenance. From training to the supply of specific original spare parts: **we provide solutions designed around you!**

SERVICE AND MAINTENANCE

- Remote support
- Scheduled maintenance contracts
- Warranty extension

TRAINING SERVICE

- Courses for machine operators
- Software and programming courses
- Training in production start-up

SPARE PARTS

- Recommended spare parts list
- E-shop
- Interactive spare-parts catalogues
- Repairs on electronic parts, glue tanks and electro-spindles

DIGITAL SERVICES

- Maestro Connect - IoT platform to be constantly connected with your machines
- Smartech - assistance with augmented reality
- My Scm portal - opening of service ticket and single point of access to the apps and Services tools

CONTACT

SCM SERVICE
via Emilia 77 - 47921 Rimini - Italy
tel. +39 0541 700100
scmservice@scmgroup.com
www.scmwood.com

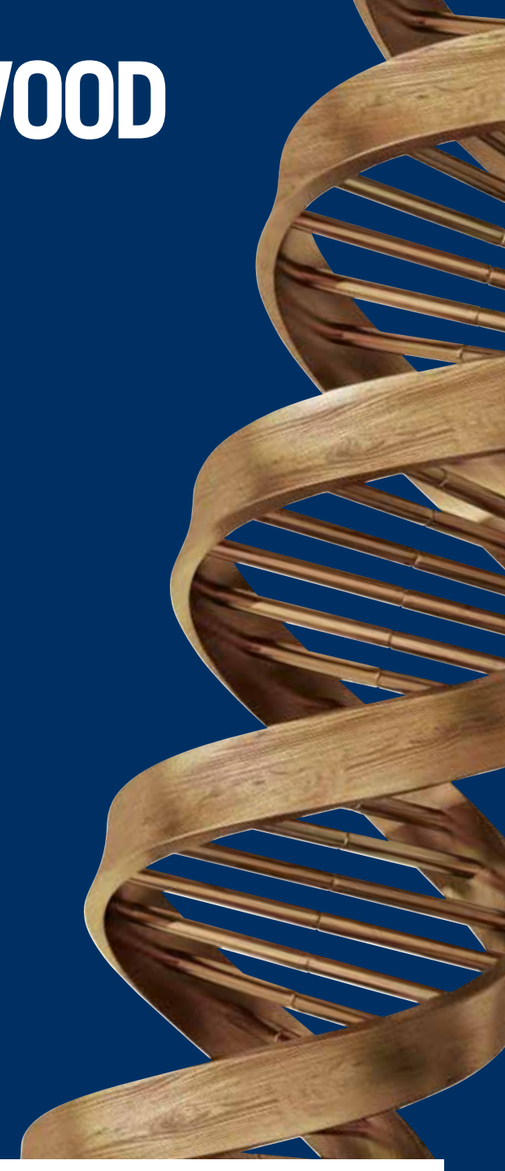
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Via Emilia, 61 - 47921 - Rimini - Italy
tel. +39 0541 674111
spareparts@scmgroup.com
www.scmwood.com

My Scm

THE STRONGEST WOOD TECHNOLOGIES ARE IN OUR DNA

SCM. A HERITAGE OF SKILLS IN A UNIQUE BRAND
70 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.

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



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

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

INDUSTRIAL MACHINERY

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

- scm — WOODWORKING TECHNOLOGIES
- Cms — TECHNOLOGIES FOR PROCESSING COMPOSITE MATERIALS, ALUMINIUM, PLASTIC, GLASS, STONE, METAL

INDUSTRIAL COMPONENTS

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

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

scm woodworking technology | is more