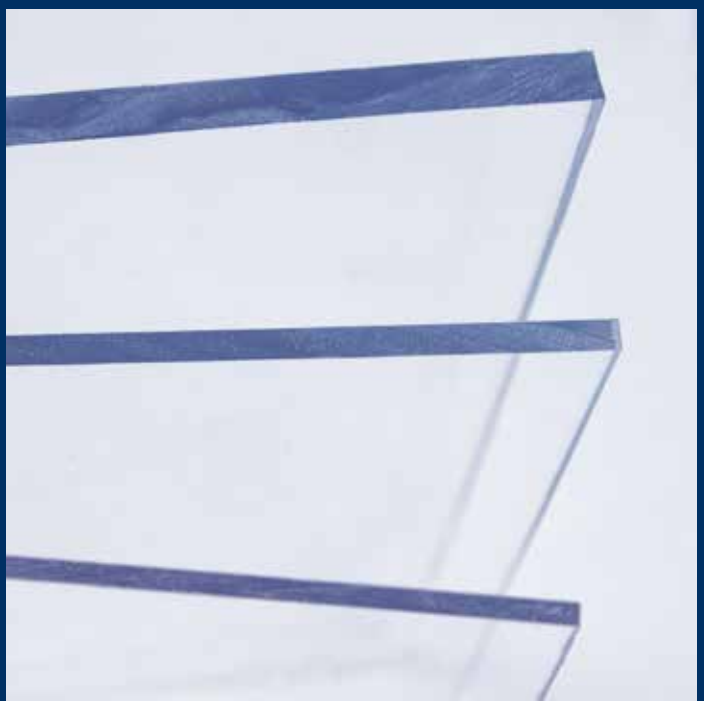
ADVANCED MATERIALS

cms range helix

beam saws



Cms
advanced materials technology

CMS is part of the SCM Group, a world leader in technologies for processing a wide range of materials: wood, plastics, glass, stone, metal and composite materials. The companies of the Group are the reliable partners of established industries operating worldwide in various trade sectors: from furniture to building, from automotive to aerospace, from boating to plastic materials. Scm Group coordinates, supports and develops a system of industrial outstanding realities, organized into 3 large highly-specialized production sites in Italy, with over 4,000 employees and a direct presence in the 5 continents.
SCM Group represents the most advanced skills in the design and construction of machines and components for industrial processing worldwide.

CMS SpA manufactures machinery and systems for the machining of composite materials, carbon fibre, aluminium, light alloys, plastic, glass, stone and metals. It was established in 1969 by Mr Pietro Aceti with the aim of offering customized and state-of-the-art solutions, based on the in-depth understanding of the customer's production needs. Significant technological innovations, originating from substantial investments in research and development and take-overs of premium companies, have enabled constant growth in the various sectors of reference.

Cms
advanced materials technology

CMS Advanced Materials Technology is a leader in the field of numerically controlled machining centers for the working of advanced materials: composites, carbon fibre, aluminum, light alloys and metal. Substantial investiments in research and development have allowed the brand to always be on the forefront of cutting-edge design, with machines that ensure best-in-class performance in terms of accuracy, speed of execution, and reliability; meeting the needs of customers operating in the most demanding divisions. Since the early 2000's**, CMS Advanced Materials Technology** has established itself as a technology partner in areas of excellence such as aerospace, aviation, automotive, race boating, Formula 1, and the most advanced railway industry.

scm group
Industrial Machinery and Components

Cms | your technology partner

Adaptable.
Global.
Innovative.
Lean.
Efficient solutions.

The **AGILE** way for sheets cutting.

cms range helix

a company of scm group

HELIX 80I
TECHNOLOGICAL BENEFITS

LEARN MORE

Floating collets: guarantee of excellent results
The special shape of the collets allows the safe gripping of sheets and panels, at maximum speed and with perfect parallelism even on surfaces that are not perfectly flat.

Selective air curtain: indispensabile tool
The possibility of enabling/ disabling the air curtain on each work surface thanks to the 4 independent motors ensures smoothness only where necessary and prevents the accidental falling of sheet portions temporarily laid on the work surfaces.

KEY BUYER BENEFITS

+ Single-blade beam saw managed by PC/PLC control dedicated to cutting sheets; **high performance, essential and flexible**, with **advanced technical solutions** and an incomparable **performance/price ratio.** Average **3% reduction** on purchasing price calculated on cutting phase, compared with the standard saws on the market.
+ **Ideal for small companies** or as an auxiliary machine for other advanced materials and plastic processing technologies.
+ The beam saw can be **easily integrated with an automatic** horizontal magazine of plastic sheets (available on request).

Carriage with blade unit and independent ascending engraver *(optional)*

Automatic pusher bar: accuracy in transversal cutting
The sliding device on linear recirculating ball bearing guides always ensures perfect cutting of the sheets.

TECHNICAL SPECIFICATIONS		helix 80I
CUTTING DIMENSIONS	mm	3300 x 2100 3300 x 3200 3800 x 3200 3800 x 3800 4300 x 3200 4300 x 4300
Blade projection	mm	80
Main blade / engraver blade diameter	mm	340 / 200
Maximum blade carriage speed	m/min	60 (opt. 120)
Max plunger speed	m/min	60 (opz. 70)
Blade motor power c/inverter (optional compulsory)	kW	7 (9) (11)
Engraver motor power	kW	1,5
Blade rotation speed c/Inverter	rpm	1.000 / 5.000
Engraver rotation speed (50 Hz)	rpm	5.850
Number of single-claw collets	std	5

HELIX 90m / 110m
TECHNOLOGICAL BENEFITS

LEARN MORE

KEY BUYER BENEFITS

+ Single-blade beam saw **specifically designed for cutting advanced and plastic materials**.
Capable of meeting all the **specific needs** of companies that process **plastic, acrylic and synthetic panels**.

+ Direct control of specific cutting parameters for **maximum flexibility in cutting.**
Directly available from control board: blade speed adjustment, optimized blade ascent, main blade cooling and tool lubrication.

+ **Selective air curtain work surfaces** dedicated to plastic materials. Capable of ensuring **excellent sliding of the sheets**, only where needed. A substantial help to the operator in the management of semi-finished sheets. Less than **9% of time** in sheet management.

Dedicated presser:
The sturdy structure of the presser equipped with an aluminium bottom plate prevents thin materials from vibrating during cutting operations, so as to guarantee maximum precision and finishing quality. The enhanced suction capability ensures total cleanliness of the worktable.

Floating collets:
guarantee of excellent results
The special shape of the collets allows the safe gripping of sheets and panels, at maximum speed and with perfect parallelism even on surfaces that are not perfectly flat.

Blade cooling and lubrication
Optimization of cutting quality and possibility to choose from the control whether to cool the blade or spray an air/oil mist.

TECHNICAL SPECIFICATIONS		helix 90m	helix 110m
CUTTING DIMENSIONS	mm	3200x2100 3200x3200 3800x3200 3800x3800 4500x3200 4500x4300	
Blade projection	mm	95	115
Main blade / engraver blade diameter	mm	380/200	400/200
Maximum blade carriage speed	m/min	135	
Max plunger speed	m/min	70	
Blade motor power c/inverter (optional compulsory)	kW	11, 15, 18	
Engraver motor power	kW	1,8	
Engraver rotation speed (50 Hz)	rpm	4500	
Blade rotation speed c/Inverter	rpm	1.200/3.800	
Number of double-claw collets	std	7	8

HELIX 130h
TECHNOLOGICAL BENEFITS

LEARN MORE

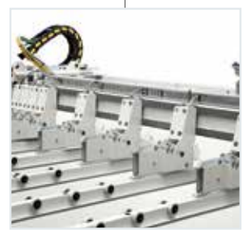
KEY BUYER BENEFITS

+ Superior cutting carriage technology thanks to the "**HI TRONIC Vertical stroke DEVICE**". The complete electronic control of the blades provides incomparable standards of finish and speed in the work cycles **when cutting advanced and plastic materials**.

+ **Fast and easy tool change**.
In few seconds the "SAW-SET" device performs a **quick and precise tool setting** thanks to the electronic adjustment and enables easy machine operations and increase in productibity. Less than **15% of time** in setting operations.

+ **Maximum working cleanliness** thanks to the automatic closing of the cutting line in order to prevent trimmings from falling into the machine compartment.

Presser: manifold qualities in a single structure
The structure guarantees uniform pressure and optimal suction of chips with the triple dust conveyor system (one above on the press bar, one below on the blade holder carriage and one on a side support).
Absence of maintenance thanks to the movement of the presser on prismatic guides.



Brushless motor plunger: consistently high performance
The best quality and maximum working speed owing to to the plunger stroke on ground round guides.
Machine worktable made of sturdy tubular steel with castor wheels, ideal solution to handle even the heaviest sheets without any damage.

Inverter: no compromise in plastics processing
The possibility to adjust the speed of the main blade is the fundamental condition that allows obtaining a superior cutting quality in the processing.

TECHNICAL SPECIFICATIONS		helix 130h
CUTTING DIMENSIONS	mm	3200x3200 3800x3800 4500x4300
Blade projection	mm	128
Main blade / engraver blade diameter	mm	430/200
Maximum blade carriage speed	m/min	150 (opz. 170)
Max plunger speed	m/min	70
Blade motor power c/inverter (optional compulsory)	kW	15 (opz. 18)
Engraver motor power	kW	1,8
Engraver rotation speed (50 Hz)	rpm	4.800
Blade rotation speed c/Inverter	rpm	1.200/3.800
Number of double-claw collets	std	8

HELIX 130k / 165k
TECHNOLOGICAL BENEFITS

LEARN MORE

KEY BUYER BENEFITS

+ Single-blade beam saw managed by PC/PLC control dedicated to the cutting of advanced materials and plastic sheets and characterized by an especially **rigid and stable** structure, **+19% on thickness** of workable pieces.
Ideal solution in state-of-the-art industrial environments and for the toughest applications.
+ Main blade motor available with powers **up to 37kW**.
+ **Best-in-class plunger,** characterized by maximum **linearity, precision and cyclic speed** thanks to the high return speed (up to 135 m/min).

Presser: manifold qualities in a single structure
The mechanical structure ensures a higher and more uniform pressure with optimal chips suction and easy maintenance.
Particularly useful conditions in the processing of sheets made of plastic and advanced materials, even of high thickness.

Floating double-claw collets:
Safe gripping at maximum speed on the square side, also with non-perfectly flat sheets of plastic material.

Sturdy blade carriage with independent pneumatic lifting *of the main blade and engraver on ball recirculation prismatic guides.*

TECHNICAL SPECIFICATIONS		helix 130k	helix 165k
CUTTING DIMENSIONS	mm	3200x3200 3800x3800 4500x4300	
Blade projection	mm	130	165
Main blade / engraver blade diameter	mm	430/200	530/200
Maximum blade carriage speed	m/min	170	
Max plunger speed	m/min	135	
Blade motor power c/inverter (optional compulsory)	kW	15 (opz. 18, 22, 30, 37)	18 (opz. 22, 30, 37)
Engraver motor power	kW	1,8	
Engraver rotation speed (50 Hz)	rpm	4800	
Blade rotation speed c/Inverter	rpm	1.200/3.800	1.000/2.950
Number of colletsstd	std	double claw	First 4 double-claw, then single-claw

CMS LINEAR CUTTING OPTIMIZATION PROGRAM

In the office **Maestro optiwise** and **Maestro pattern office** provide support during the design and optimization phases. **Maestro pattern office** is the standard optimization program that can be used from the office for simple and efficient creation of cutting programs. **Maestro optiwise** is the linear cutting optimization program created for production management directly from the office. Depending on users' parameters, it automatically generates the cutting patterns, identifying the best solution among different results.

SOFTWARE

Office

TO EACH HIS OWN OPTIMIZATION SOFTWARE

Maestro pattern office is the standard optimization program for all CMS machines. **Maestro optiwise** is the professional software for controlling the entire costing and optimization process of the beam saw.

ADDITIONAL FUNCTIONS

Maestro pattern office

Maestro pattern office is the office version of the standard optimization program for all CMS machines. Maestro pattern office is the result of the integration between Maestro pattern - the standard optimization program on all CMS beam saws controls – and Maestro pattern import.

Maestro optiwise

Maestro optiwise is the professional software supplied by CMS for beam saws management. The main strengths are:

- Improved user experience: The user can easily and effectively carry out all raw material optimization operations.
- Increased efficiency: Improved user-experience enables required tasks to be performed in less time, increasing productivity
- Less effort for customization: the application is designed with a modular architecture that allows it to be easily adapted to each customer's production logic.
- Faster user learning: The application is a useful and simple tool that allows users to be productive in the shortest possible time.
- Multi-machine management: The application is able to manage optimizations and create machine programs for single-blade panel saws and angular systems.

Maestro converter cut

Maestro converter cut is the module that allows to integrate any type of cutting optimization programs with CMS beam saws through PTX file (minimum release 1.14).

Maestro active cut

Maestro active is the new operator interface software which has been unified across all CMS 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 cut

A REVOLUTIONARY APPROACH TO INTERACT WITH YOUR CMS MACHINE

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

FULL MACHINE AWARENESS AND KNOWLEDGE MANAGEMENT SYSTEM
Maestro active allows to record the times related to setup, maintenance, training and other events, tracing all the activities in a database. The operator's know-how is also stored and made available to other people inside the organization thanks to the possibility to comment and document all production events or notifications.

ORGANIZE YOUR PRODUCTION
Maestro active allows to create different users with different roles and authorizations (e.g.: operator, maintainer, administrator, ...). Any user can only execute the functions whose permissions have been assigned to him. It is also possible to define the work shifts on the machine and then detect activities, productivity and events that occurred in each shift.

OPTIMIZATION FUNCTION ON BOARD MACHINE

Maestro pattern is the linear cutting optimization program for user who wants to optimize cutting patterns with a few simple clicks.

SUPPLEMENTARY MODULES

Maestro pattern import

Maestro pattern import is the optional plug-in module which enables Maestro pattern importing production data directly from an MS Excel file.

Cut editor

Labels printing software, panels editor, editor for Macro machining creation.

Cut utility

Cuts editor for panels de-tensioning: software program that reduces tensions inside the material on longitudinal cuts; additional optimisation functions; off-cuts stock management: identification and automatic insertion of the off-cuts for a future use.

Cut manager

Simulator for cycle time calculation, simulated execution of the cutting diagrams of single or multi orders in 2D mode; priority-based and date-based scheduling of the order; advanced report.

DIGITAL SERVICES

TO BE ALWAYS
BY YOUR SIDE

Maestro connect

CONNECT YOUR MACHINE AND GAIN ACCESS TO A WORLD OF SERVICES

Connecting your machine through IoT technology 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 CMS 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.

SMART MACHINE

THE ENTIRE MACHINERY FLEET AT YOUR FINGERTIPS

- **REAL-TIME MONITORING** of the machine status, components, and performance in term of availability and efficiency.
- **INSTANT NOTIFICATIONS** on pc, tablet, and smartphone when machine alarms occur, allowing you to act timely and avoid additional equipment damages.

SMART MAINTENANCE

PLANNING AND MAINTENANCE: PREVENTION IS BETTER THAN… REPAIRING!

- **PLANNING**: In the Smart Maintenance section, you can find all the tools you need to plan the maintenance of the entire machinery fleet to prevent downtimes.
- **TROUBLESHOOTING**: Thanks to intuitive smart documents, Maestro connect guides the operator in the maintenance activities procedures step by step.
- **SERVICE REQUEST**: Do you need further support? Open a ticket in one click, and our experts will assist you.

WARRANTY EXTENSION

Is your machine still under warranty?

You will be able to activate the second year of warranty with facilitated conditions directly via Maestro connect.

SMART ANALYTICS

REPORT AND KPI: GET TO KNOW BETTER YOUR MACHINE

Maestro connect reports and KPIs provide an in-depth analysis of production results, enabling you to know your machine's performance in detail.

OEE: WHY IT'S IMPORTANT TO KNOW IT

The Overall Equipment Efficiency Indicator (OEE) allows you to monitor the three variables: **Availability, Performance and Quality.** By doing so, you'll be able to detect the lower one and act on it: the performance of your machine will be the highest ever.

CONSOLLE EYE-M

CONSOLLE EYE-CMS

Simple, linear and elegant design with "full-screen" effect, entered horizontal lines are rendered brighter with LED.

ENERGY SAVING

SAV€NERGY

SAV€NERGY
LOWER CONSUMPTION = LOWER COSTS

Sav€nergy allows the use of power only when it is required, 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 at any particular time. Year saving up to 10% (optional).

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 1870-13:2012
Acoustic pressure in process 85 dbA (measured according to EN ISO 11202:2010, uncertainty K = 4 dB)
Acoustic power in process 103 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 of operators over eight hours, 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.

INTEGRATED SOLUTIONS

FLEXSTORE ELR STORAGE FULLY INTEGRATED IN THE BEAM SAWS:
OPTIMISING HAS NEVER BEEN SO EASY

Flexstore elr is the CMS solution for the **needs of companies making items to order** with "just-in-time" production: processing orders quickly, keeping costs down and high quality and productivity standards.
flexstore elr is the automatic storage system which is able to serve beam saws, guaranteeing **precision, high component quality and great reliability.**

The excellent materials management permits high productivity and flexible machining.

Ensure:

- material savings thanks to management of material remaining after machining
- maximum flexibility for multi-function cells
- optimised material management in the production process: less space occupied, without compromising on efficiency
- reduced risk of damage to material thanks to the absence of sliding movements
- machines with integrated production process
- reduced order execution times

SECURE AND PRECISE PANELS TRANSFER.
The suction cup arm automatically adapts to the different lengths and widths of the panels to be picked up.

THE RANGE OF CMS ADVANCED MATERIALS TECHNOLOGY

MONOBLOC CNC MACHINING CENTERS FOR VERTICAL MILLING

ANTARES MK3

ARES

ETHOS K

GANTRY CNC MACHINING CENTERS FOR LARGE-SIZE WORK AREAS

ETHOS

POSEIDON

CONCEPT

3/5-AXIS CNC MACHINING CENTERS, PASSAGE IN Z UP TO 500 MM

EVOTECH

SOLUTIONS FOR ADDITIVE MANUFACTURING

KREATOR ARES

MONOBLOC CNC MACHINING CENTERS FOR HORIZONTAL MILLING

IKON

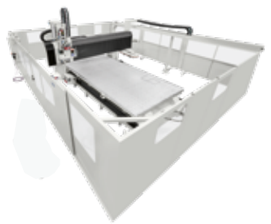
BEAM-SAWS

HELIX

FOR COMPOSITES, ALUMINUM AND METAL PROCESSING

FIXED AND MOBILE BRIDGE CNC MACHINING CENTERS

FXB



MBB

AVANT CARAVAN

CNC MACHINING CENTER FOR THE EYEWEAR INDUSTRY

MONOFAST EVO

WIND BLADE WORKING SYSTEMS

EOS

CNC MACHINING CENTERS FOR GUNSTOCKS PROCESSING

MULTILATHE

MONOFAST GUNSTOCKS

KARAT

WATERJET CUTTING SYSTEMS

TECNOCUT PROLINE

TECNOCUT SMARTLINE

ACHELIX-0625E

Technical data are not binding and may be changed by CMS without notice.

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