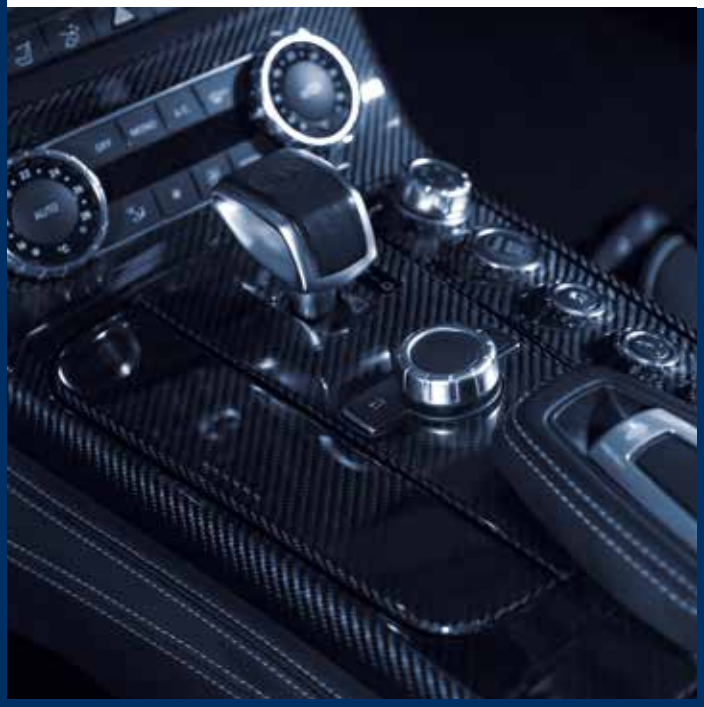
ADVANCED MATERIALS

ikon

Monobloc CNC machining centers for horizontal milling



Cms
advanced materials technology

CMS is part of SCM Group, a technological world leader in processing a wide range of materials: wood, plastic, glass, stone, metal, and composites. The Group companies, operating throughout the world, are reliable partners of leading manufacturing industries in various market sectors, including the furniture, construction, automotive, aerospace, ship-building, and plastic processing industries. SCM Group coordinates, supports, and develops a system of industrial excellence in three large, highly specialized production centers employing more than 4,000 workers and operating in five continents. SCM Group: the most advanced skills and know-how in the fields of industrial machinery and components.

CMS SpA manufactures machinery and systems for the machining of composite materials, carbon fiber, aluminum, light alloys, plastic, glass, stone, and metals. It was established in 1969 by Mr Pietro Aceti with a vision 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 fiber, aluminum, and light alloys. Substantial investiments in research and development have allowed the brand to always be on the forefront of cuttingedge 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.

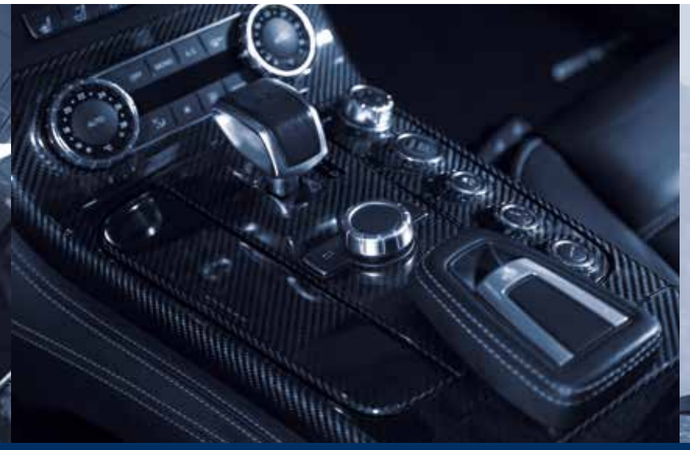
scm group | *industrial machinery and components*

Cms | *your technology partner*

ikon

a company of scm group

APPLICATIONS



carbon fiber components | aluminum parts | F1 & automotive

aerospace | trains | automotive | aeronautics

IKON
TECHNOLOGICAL BENEFITS

Ikon is a 5-axis geometry machining centre with two vertical tables for the processing of aluminium and composites materials. Equipped with one or two horizontal operating units, it ensures high productivity.

- Excellent floorspace / working area ratio.
- Easy integration in highly automated contexts.
- Ergonomic design for loading /unloading operations.
- Increased productivity thanks to the double independent operating units.
- Full enclosure, clean environment, safety for operators.
- Easy removal of scraps and dust.
- Complete inner view by the operator.

KEY BUYER BENEFITS

+ **Power and accuracy.** Ikon is fitted with 2 vertical rotary tables for equipping and loading/unloading of workpieces without stopping operations and double 5-axis operating unit for simultaneous machining of 2 workpieces or combined machining of both units on a large-sized workpiece. High operating power, geometric precision and reliability even in the most complex machining operations lead to a single result: producing better workpieces more quickly.

+ **Total flexibility.** The geometry of the machining center, fitted with vertical rotary tables, is characterized by extremely compact dimensions, 41% smaller than usual configurations, to allow handy and cost-effective installation in all production contexts. Besides, the accessibility for loading/unloading outside the work area makes the operation safe and efficient as well as easily-integrated in highly-automated contexts.

+ **Dust? no problem!** The machine can be completed with a total enclosure to retain dust, chips and noise produced during machining and for maximum safety of the operators. A motorized belt attends to the automatic evacuation of chips, which are dropped due to the special vertical table geometry of the machining centre, while special suction inlets carry out the dust cleaning operation.

OPERATOR'S WORKSTATION
Complete inner view by the operator

TOOL CHANGER MAGAZINE
Safe access and protection from dust

WORKING TABLE
Customized working table in accordance with customers' specific needs (Zero-Point, Vacuum, T-Slots..etc.)

DOUBLE OPERATING UNITS
Simultaneous machining with two operating units

CHIP CONVEYOR
Easy removal of scraps and dust

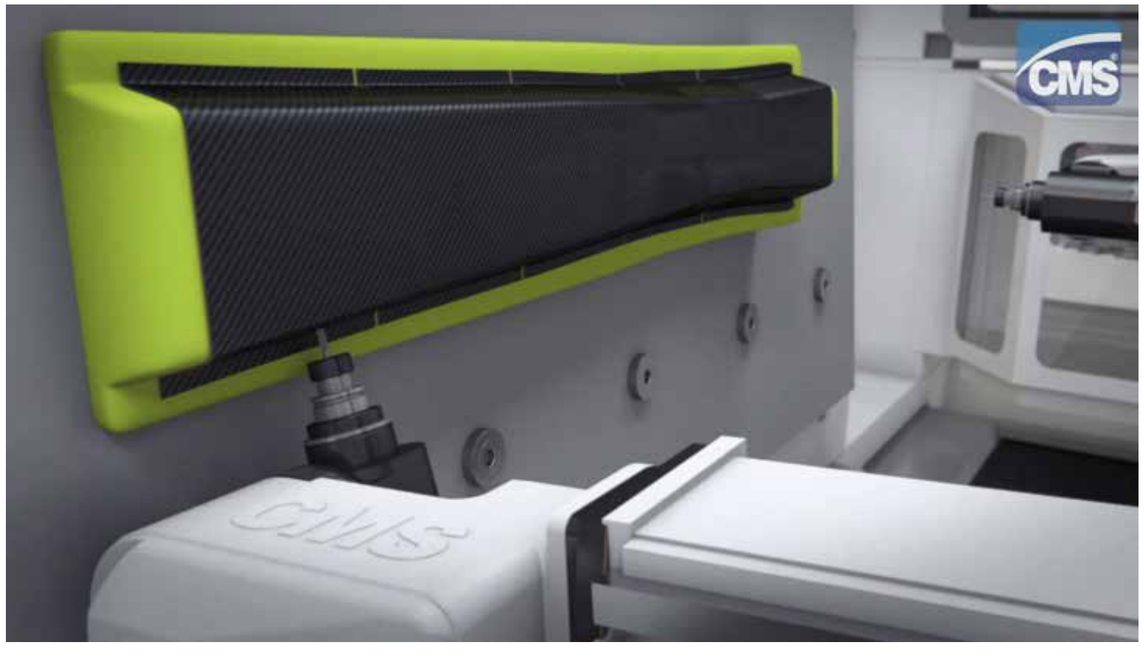
FULL ENCLOSURE
Full Enclosure with rear bellows

IKON
TECHNOLOGICAL BENEFITS

ONE OR TWO INDEPENDENT WORKING UNIT FOR HIGHEST FLEXIBILITY AND PRODUCTIVITY

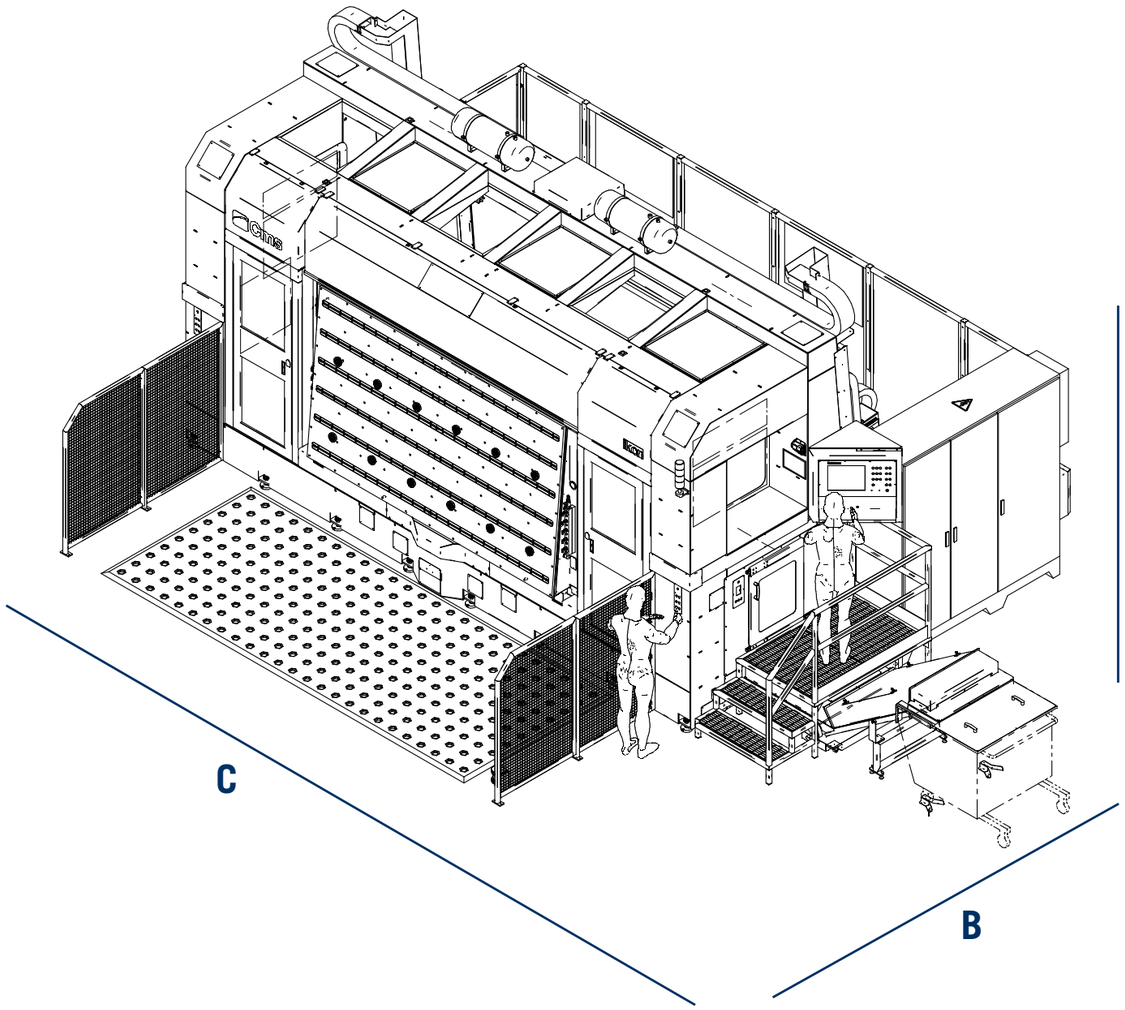
Up to five operating modes:

1. Only one operating unit used (the unused one stays idle and parked).
2. One operating unit is used at a time - the deadtime for tool changing is masked.
3. Two coupled operating units - Simultaneous machining of two identical workpieces.
4. Two coupled and mirrored operating units - Simultaneous machining of two symmetrical workpieces.
5. Two fully independent operating units - Two machines in one.



IKON

OVERALL DIMENSIONS AND TECHNICAL DATA



OPERATING UNITS AND TOOLCHANGER MAGAZINES	
PX5 WORKING UNIT (12 KW)	12 kW / 24,000 rpm HSK63F - Pneumatic brakes on A and C axes. Liquid cooled
PX5 WORKING UNIT (15 KW)	15 kW / 24,000 rpm HSK63F - Pneumatic brakes on A and C axes. Liquid cooled
PX5 WORKING UNIT (20 KW)	20 kW / 24,000 rpm HSK63A - SYNCHRONUS. Pneumatic brakes on A and C axes. Liquid cooled
TOOL CHANGER MAGAZINES	16 positions each operating unit

each bridge

IKON												
MODEL	AXES STROKES					WORKING TABLE	SPEED					VACUUM PUMPS
	[mm]			[*]		[mm]	[m/min]			[*/min]		
	X	Y	Z	A	C	X - Y	X	Y	Z	A	C	
IKON	3600	2000	900	±120	±270	3100x1600x2	80	80	70	9000	9000	-
IKON DB (Double Bridge)	2400*	2000	900	±120	±270	3100x1600x2	80	80	70	9000	9000	-

* Each bridge

WORKING PLACE AND ENVELOPE *[mm]**					
MODEL	A [mm]	B [mm]	C [mm]	WORKING ENVELOPE [mm]**	
IKON	3880	6300	7000	(X) 3000 x (Y) 1400 x (X) 600	
IKON DB (Double Bridge)	3800	6300	7000	(X) 3000 x (Y) 1400 x (X) 600	Two units working simultaneously on 2 parts (X) 1800 x (Y) 1400 x (X) 600 for X1 or X2

* Approssimative dimensions
** 5-axis working cube considering PX5 working unit ETS32 collet and 80mm long tool

CMS connect the IoT platform perfectly integrated with the latest-generation CMS machines

CMS Connect is able to offer customised micro services through the use of IoT Apps that support the daily activities of industry operators - improving the availability and use of machines or systems. The platform displays, analyses and monitors all data from connected machines. The data collected by the machines in real time become useful information increase machine productivity, reduce operating and maintenance costs and cut energy costs.

CMS active a revolutionary interaction with your CMS machine

Cms active is our new interface. The same operator can easily control different machines as the “CMS Active interfaces maintain the same look&feel, icons and iteration approach.

APPLICATIONS

SMART MACHINE: Section designed for the continuous monitoring of machine operation, with information on:

Status: machine status overviews. The representations provided allow machine availability to be checked - to identify possible bottlenecks in the production flow;

Monitoring: instantaneous, live display of the operation of the machine and its components, of currently running programs and potentiometers;

Production: list of machine programs run within a given timeframe with best time and average running time;

Alarms: active and historical warnings.

SMART MAINTENANCE

This section provides a first approach to predictive maintenance by sending notifications when machine components indicate a potentially critical state associated with reaching a certain threshold. In this way, it is possible to take action and schedule maintenance ser- vices, without any down-time.

SMART MANAGEMENT

Section designed for KPI presentation for all the machines connected to the platform. The indicators provided assess of the availability, productivity and. The indicators provided assess of the availability, productivity and efficiency of the machine and the quality of the product.

MAXIMISED SECURITY

CMS Connect uses the standard OPC-UA communication protocol, which guarantees the encryption of data at Edge interface level. CMS Connect’s Cloud and DataLake levels meet all state-of-theart cyber-security requirements. Customer data are encrypted and authenticated to ensure total protection of sensitive information.

ADVANTAGES

- ✓ Optimisation of production performance
- ✓ Diagnostics to support components warranty optimisation
- ✓ Productivity increase and downtime reduction
- ✓ Improvement of quality control
- ✓ Maintenance costs down

EASY OF USE

The new interface has been especially developed and optimized to be immediately used via touch screen. Graphics and icons have been redesigned for user-friendly and comfortable navigation.

ADVANCED ORGANIZATION OF PRODUCTION

Cms Active enables configuring different users with different roles and responsibilities according to the operation mode of the machining centre (e.g.: operator, maintainance man, administrator, ...).

It is also possible to define the work shifts on the machining centre and then survey activities, productivity and events that have occurred in each shift.

ABSOLUTE QUALITY OF THE FINISHED WORKPIECE

With CMS aActive the quality of the finished workpiece is no longer jeopardized by worn-out tools. The new Tool Life Determination system of CMS Active sends warning messages when the tool life is running out and recommends its replacement at the most appropriate time.

TOOL SET-UP? NO PROBLEM!

CMS Active guides the operator during the tool magazine set-up phase, also allowing for the programs to be run.

CMS ADVANCED MATERIALS TECHNOLOGY RANGE OF MACHINES

MONOBLOC CNC MACHINING CENTERS FOR VERTICAL MILLING

ARES

ANTARES

ANTARES K

ATHENA

POSEIDON K

ETHOS K

GANTRY CNC MACHINING CENTERS FOR LARGE-SIZE WORK AREAS

MX5

POSEIDON

CONCEPT

CRONUS

ETHOS

MONOBLOC CNC MACHINING CENTERS FOR HORIZONTAL MILLING

IKON

FOR COMPOSITE MATERIALS, ALUMINUM AND METAL PROCESSING

FIXED AND MOBILE BRIDGE CNC MACHINING CENTERS

FXB

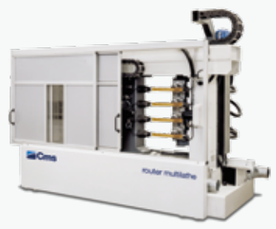
AVANT

MBB

CNC MACHINING CENTER FOR THE EYEWEAR INDUSTRY

MONOFAST

CNC MACHINING CENTERS FOR GUNSTOCKS PROCESSING



MULTILATHE

MONOFAST

KARAT

WIND BLADE WORKING SYSTEMS

EOS

AC-IKON-0620E

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

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