ADVANCED MATERIALS

antares mk3

Monobloc CNC machining centers for vertical 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 investments 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



antares mk3

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THE RANGE *18-19*



a company of scm group

APPLICATIONS





carbon fiber components | aluminum parts | F1 & motor sport





marine industry | defence | automotive | aeronautics





Unparalleled.

New.

Innovative.

Quality.

Ultra.

Effective solutions.

The **UNIQUE** cnc machines.

Monobloc cnc machining center for vertical milling

ANTARES mk3
TECHNOLOGICAL BENEFITS

DISCOVER MORE

INTERPOLATED 5-AXIS MACHINING CENTERS WITH MONOBLOC STRUCTURE FOR ADVANCED MATERIALS PROCESSING

Monobloc machining center for vertical milling, ideal for composite materials, aluminum, light alloys and metals processing. The advanced design of its structures, which is the result of continuous investment in research and development by CMS, and the sophisticated technological solutions adopted ensure rigidity, long-term precision and exceptional motion dynamics. These features ensure exceptional finishing levels and unparalleled accuracy.

Its small size means it can be integrated into any production environment, while ensuring high production volumes. The machine design offers better accessibility to the work area for loading and unloading workpieces, including with automated systems.



KEY BUYER BENEFITS

+ **MORE COMPACT:**
  - The monobloc structure ensures **rigidity and long-term precision.**
  - Esigned to ensure maximum performance in small production areas. **Space optimization** for maximum production efficiency.
  - **The machine can be transported fully assembled**, resulting in lower delivery and installation times.
+ **MORE RIGID:**
  - **Increased production efficiency**
  - **Better finishing quality**
  - **Less tool wear**
+ **QUIETER:**
  - Roof bellows or full cabinet to contain dust, liquid and noise generated during fabrication.

PROCESSING






ANTARES mk3 tr
TECHNOLOGICAL BENEFITS

All the potential of the antares mk3 machine with the advantages of rotating worktables, which can be loaded and unloaded outside the work area without interrupting production, for excellent worktable accessibility in areas protected from dust and noise.

KEY BUYER BENEFITS

+ **Smaller machine footprints** for the same work areas
+ **Easy to insert** the machine into any production layout
+ **Faster** loading/unloading



ANTARES mk3 flood
TECHNOLOGICAL BENEFITS

All the potential of the antares mk3 machine with the advantages of the cutting fluid system, which offers maximum removal for shorter cycle times with better chip extraction.

KEY BUYER BENEFITS

+ Solution designed to **recover and contain cutting fluid**
+ **Chip removal system** that ensures extraction from the machine
+ Treatment unit with **high-pressure pump**



OPERATING UNITS

PX5 WORKING UNIT



HX5 WORKING UNIT



FLOOD COLANT SYSTEM



ULTRASONIC



ACCESSORIES

BELLOW-TYPE ROOF





TOOL-CHAIN MAGAZINE WITH EXCHANGE HANDGRIP





THE POWER OF INNOVATION



All the **electrospindles are fully designed and manufactured within the group** and are the result of 30 years of experience and continuous innovation.
The wide range allows our customers to always have the electrospindle with the ideal torque, power, and RPM features for their machining, **maximizing the machine's productivity.**
In addition to the milling units, it is possible to add an ultrasonic cutting unit, combining the two technologies for an **exceptional synergy in the processing of core materials.**

CHIP CONVEYOR



ACCESSORIES



Laser device for measuring tool lenght and diameter



Device for rotary axis control and alignment



Electronic touch probe



OIL MIST SYSTEM



MQL SYSTEM

Maximum efficiency with minimum lubricant consumption. The MQL systems, associated with electrospindles with air/oil flow inside the tool, guarantee perfect lubrication even under critical situations.

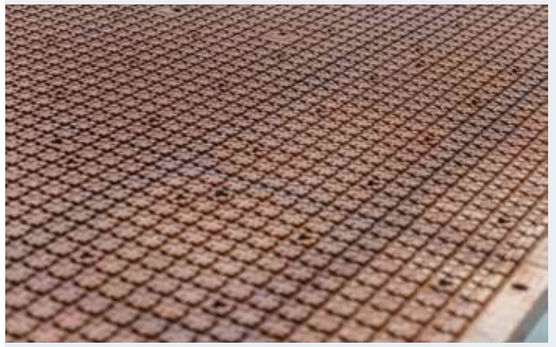
WORKING TABLES



Standard carpentry table



Aluminum vacuum table



Multilayer phenolic vacuum table



Aluminum vacuum table with T slots



Steel vacuum table with T slots



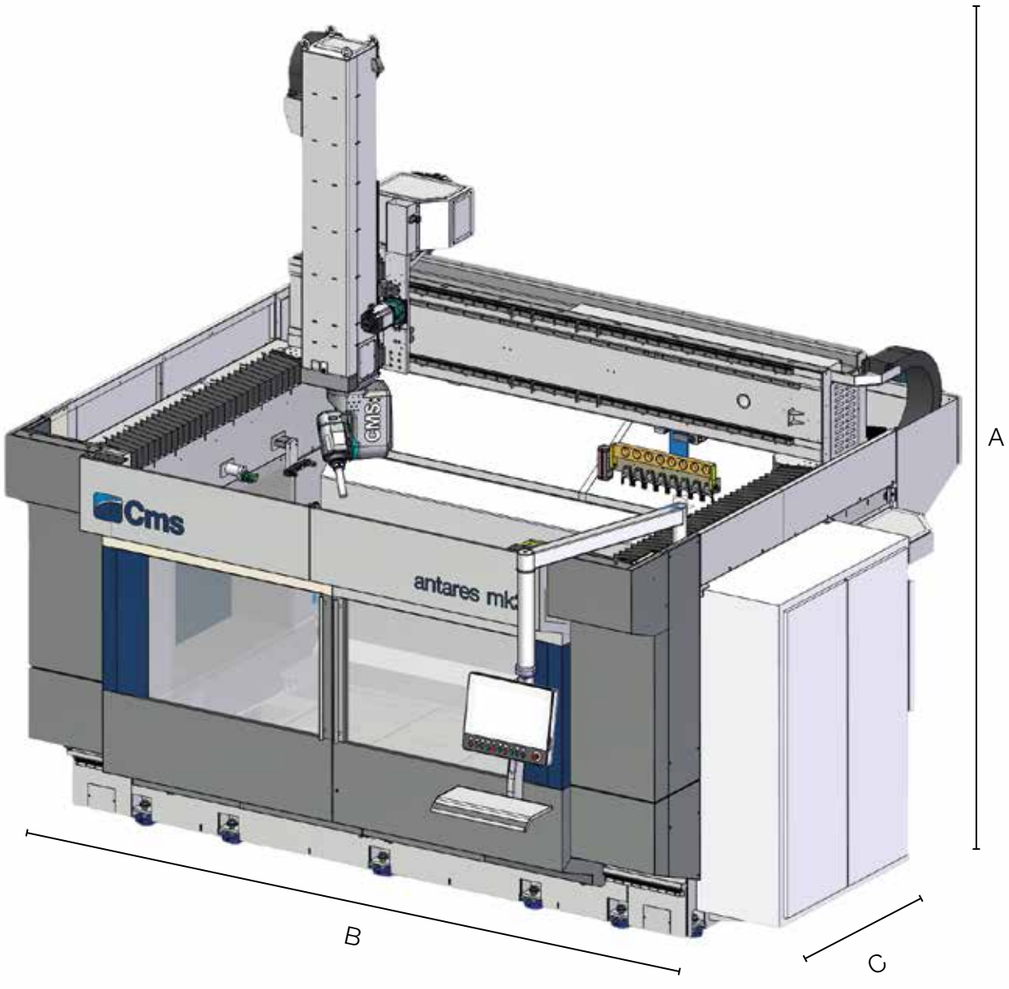
Vacuum / Air connections



Cold air gun

ANTARES mk3

OVERALL DIMENSIONS & TECHNICAL DATA



ANTARES MK3: WORKING UNITS AND ELECTROSPINDLES			
	PX5/HX5 - 12_24	PX5/HX5 - 15_24	PX5/HX5 - 20_24 (sincronous)
B, C STROKES	B=+\- 120°, C=+\- 270°		
RAPID B, C	9000°/min		
NOMINAL POWER (S1)	12 kW	15 kW	20 kW
MAX POWER	14 kW	17 kW	22,3 kW
MAX RPM	24.000 rpm	24.000 rpm	24.000 rpm
MAX TORQUE	11,1 Nm	13,8 Nm	20,1 Nm
TOOL CHANGER	MANUAL AND AUTOMATIC		
TOOL HOLDER	HSK 63 F	HSK 63 F	HSK 63 A
COOLING	LIQUID		

ANTARES MK3: ENCUMBRANCE		
A	Z AXIS STROKE	
	4300	
B	X AXIS STROKE	
	2600 4900	2600 C 7250
C	Y AXIS STROKE	
	1700 3650	2800 5150

ANTARES MK3: WORKING PLANS	
MODEL	DIMESIONS X (mm)
ANTARES MK3 26/17	2500x1700
ANTARES MK3 26/28	2500x2800
ANTARES MK3 TR	(1900x1100) x 2

ANTARES MK3: STROKES AND SPEEDS									
MODEL	AXIS STROKES					RAPIDS			
	(mm)			(°)		(m/min)		(°/min)	
	X	Y	Z	B	C	X/Y	Z	B	C
ANTARES MK3 26/17	2600	1700	1300	±120	±270	80	70	9000	
ANTARES MK3 26/28	2600	2800	1300	±120	±270	80	70	9000	
ANTARES MK3 TR	2600	1700	1100	±120	±270	80	70	9000	

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

EASE 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



ATHENA



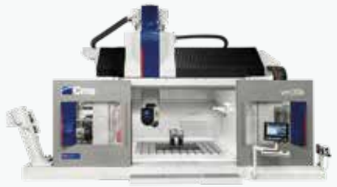
ANTARES MK3



ANTARES MK3 FLOOD



ARES



VM 30



ETHOS K

GANTRY CNC MACHINING CENTERS FOR LARGE-SIZE WORK AREAS



MX5



POSEIDON



ETHOS



CONCEPT

HYBRID ADDITIVE MANUFACTURING AND MILLING SYSTEMS



KREATOR ARES

MONOBLOC CNC MACHINING CENTERS FOR HORIZONTAL MILLING



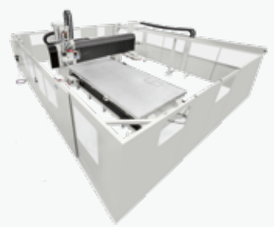
IKON

FOR COMPOSITE MATERIALS, 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

ACANTA-0225E

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

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