

# antares

Monobloc CNC machining centers for vertical milling





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** 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 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.

# antares

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# 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 centers for vertical milling



# ANTARES / ANTARES TR

## TECHNOLOGICAL BENEFITS

### 5-AXIS HIGH SPEED CNC MACHINING CENTER WITH MONOBLOC STRUCTURE FOR ADVANCED MATERIALS PROCESSING

Its compact design easily fits into any production environment, while still benefitting from the large working envelope.

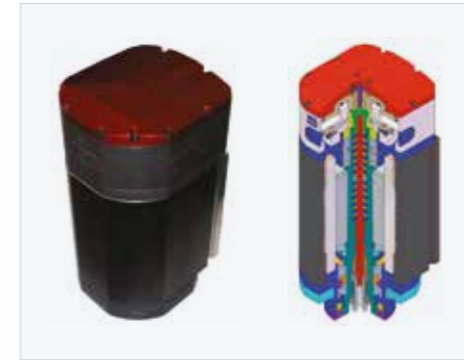
- The monobloc structure ensures stiffness and accuracy throughout its lifetime.
- Maximum accessibility to the working area for piece loading / unloading by manual or automated systems.
- Full acoustically-lined enclosure to contain dust and to reduce the noise generated by the machining operation.

Antares is also available with rotating working tables (TR). This model can offer reduced overall dimensions for the same working areas and an easier integration in the production flow. The rotating table (TR) is managed by an NC axes to ensure speed, accuracy, position repeatability and reliability.



## KEY BUYER BENEFITS

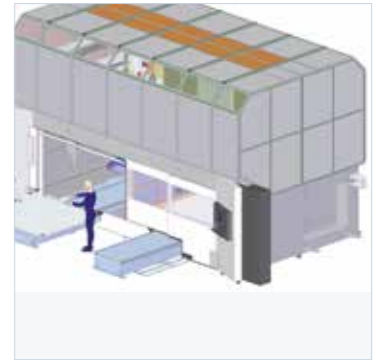
- + **Produce more and better: today and tomorrow** The advanced design of the structure, a result of CMS' research center, and the technical solutions adopted guarantee rigidity and precision over time so that the high finish and accuracy of the workpieces remains a constant feature of your production over the years. The accuracy of ANTARES CMS boasts the industry's best-in-class performance in its category: +23% machining precision and accuracy.
- + **Zero downtime** The maximum accessibility to the working area for workpiece loading and unloading operations, even with automated systems, makes production lean, handy and quick; moreover, the availability of a version provided with two working areas and rotary table enables zeroing equipping and loading/unloading times.
- + **Dust? no problem!** The machine has been designed to better manage dust, chips and noise produced during machining. The total enclosure and the outfit of a wide range of accessories and systems expressly designed for the various types of materials and productions ensures the safety of the operators, cleanliness of the working environment and production efficiency.



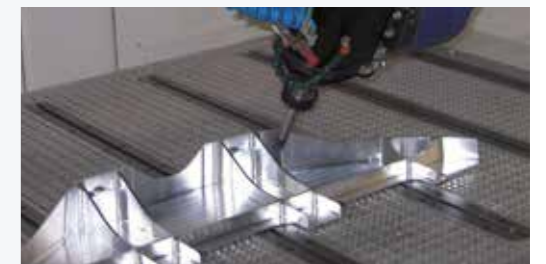
Wide range of electrospindle designed and manufactured inside SCM Group.



Rotary table: easy access to the work table in total safety



## PROCESSING



# ANTARES K

## TECHNOLOGICAL BENEFITS

### HIGH SPEED 5-AXIS CNC MACHINING CENTRE WITH MONOBLOC STRUCTURE AND FLOOD COOLANT SYSTEM

Antares k is a monobloc machine, specifically designed for flood coolant application.

- Monolithic structure
- Flood coolant system
- Integrated chip conveyor and filtering unit complete with high pressure pump
- Steel table with T-slots
- Large safety windows in laminated safety glass (impact resistant polycarbonate on the outside, hardened glass on the inside for chip resistance)
- Roller-type guides
- Full enclosure roof with pneumatic opening for crane loading/ unloading



### KEY BUYER BENEFITS

- + **Flexibility that counts.** The compact dimensions, with overall dimensions that are up to 11% smaller in its class, allow an easy and cost-effective installation in any production context; at the same time the wide working volume available does not limit the size of the workpieces.
- + **The machining center that can change your company.** Antares k is the solution with the best ratio between investment and productivity in the industry. The technical solutions adopted, such as the synchronous NC-controlled electrospindle for high torque already at low rpm, the effective power of 20 kW (S1-100%), the lubrication and cooling system, the monobloc structure with recirculating roller guides, the high axis accelerations, make it possible to obtain a removal volume in aluminium machining that is 33% higher than the average of the category.
- + **The power of water** Antares k is the only machine in its category designed with a built-in lubrication and cooling system for the machining of aluminium parts. Each component of the machining centre is specifically designed for this function: from the sealed base with built-in steel table, to the layered safety windows, to the evacuation system. Each detail is designed and integrated to ensure uncompromising performance.



### PROCESSING





# ACCESSORIES



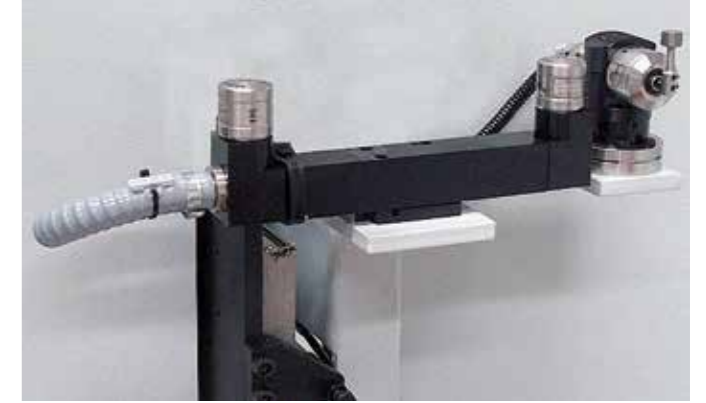
Cold air gun



Tool changer magazine; 16 stations



Vacuum / air connections



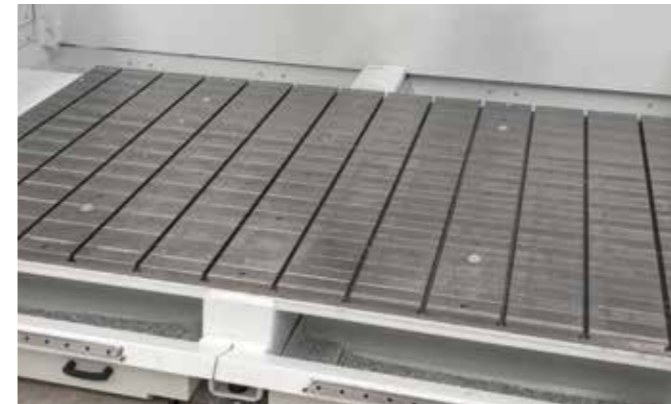
Rotary axis alignment with laser device for measuring tool length and diameter



Electronic touch probe



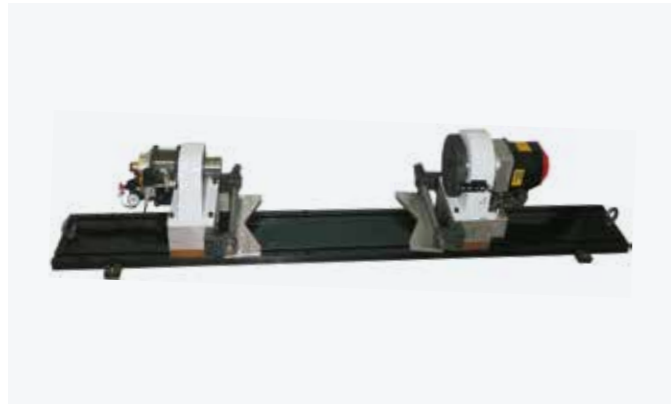
Oil mist unit



Steel table with T slots



Dust extraction vents



NC controlled - stock and tailstock group



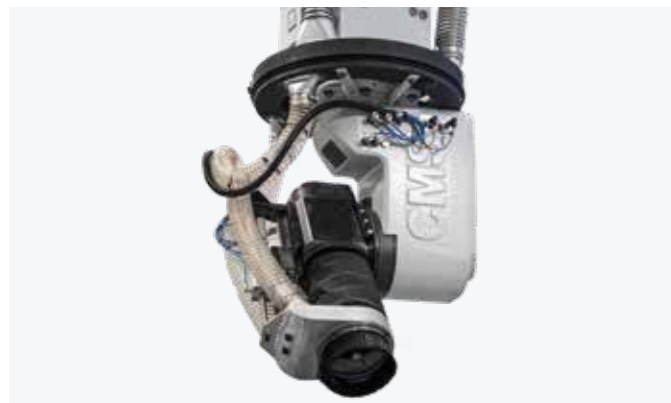
Soundproof full enclosure with pneumatic opening for the loading with the crane.



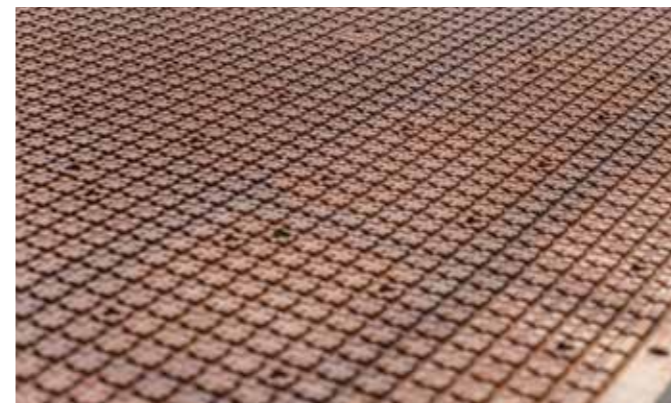
Aluminum vacuum table with steel T slots



Aluminum vacuum table



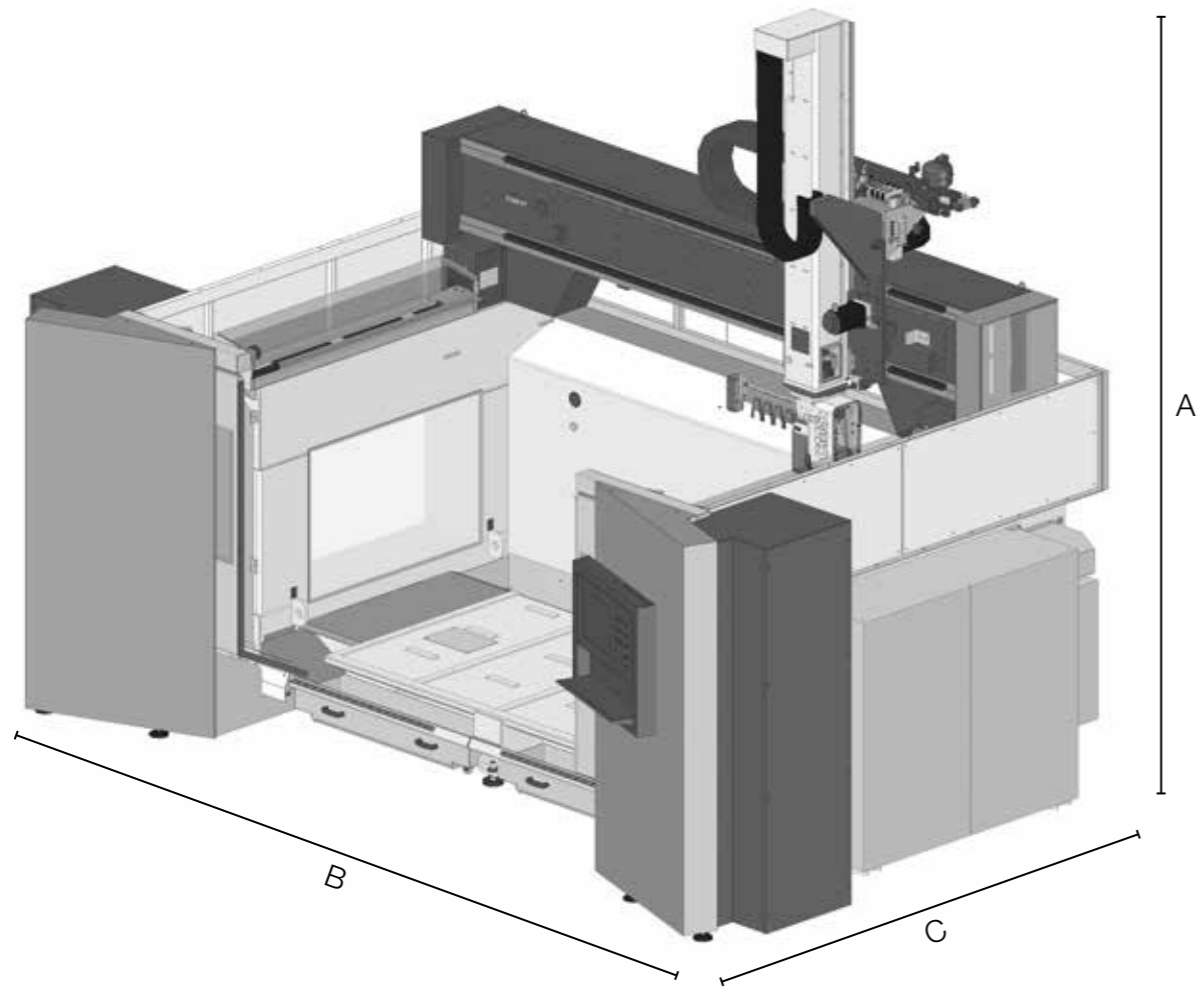
Dust suction hood



Multilayer phenolic vacuum table

# ANTARES

## OVERALL DIMENSIONS & TECHNICAL DATA



ANTARES: ENCUMBRANCE			
A	Z AXIS STROKE		
	4250/4500*		
B	X AXIS STROKE		
	2600 5500	2600 K Version 6580	
C	Y AXIS STROKE		
	1500 3200/5075	1700 3840	2800 5150

\* Dimension with roof

ANTARES: WORKING PLANE	
MODEL	DIMENSIONS X (mm)
ANTARES 26/15	2500x1500
ANTARES K	2600x1700
ANTARES 26/28	2500x2800
ANTARES 26/15 TR	(1900x1100) x 2

ANTARES: STROKES AND SPEEDS									
MODEL	AXIS STROKES					RAPIDS			
	(mm)			(°)		(m/min)		(°/min)	
	X	Y	Z	B	C	X/Y	Z	B	C
ANTARES 26/15	2600	1500	1200	±120	±270	80	70	9000	
ANTARES 26/28	2600	2800	1200	±120	±270	80	70	9000	
ANTARES K 26/17	2600	1700	1200	±120	±270	80	70	9000	
ANTARES 26/15 TR	2600	1500	1000	±120	±270	80	70	9000	

ANTARES: PRECISION AND REPEATABILITY			
LINEAR AXES*	REFERENCE STROKE	A	R
X/Y	2000 mm	0.022 mm	0.014 mm
Z	1200 mm	0.018 mm	0.012 mm
B	+/- 120°	26 arcsec	
C	360°	16 arcsec	

\* Precision with linear scales and direct encoders on PX5 Accuracy (A) and Repeatability (R) on the basis of the ISO-230-2 Regulations

ANTARES: WORKING UNITS AND ELECTROSPINDLES						
	CX5 - 8_40	CX5 - 8,5_24	CX5 - 10_24	PX5/HX5 - 12_24	PX5/HX5 - 15_24	PX5/HX5 - 20_24 (sincronous)
B, C STROKES	B=+/- 110°, C=+/- 360°			B=+/- 120°, C=+/- 270°		
RAPID B, C	10800 °/min			9000°/min		
NOMINAL POWER (S1)	8 kW	8,5 kW	10 kW	12 kW	15 kW	20 kW
MAX POWER	9 kW	10 kW	12 kW	14 kW	17 kW	22,3 kW
MAX RPM	40.000 rpm	24.000 rpm	24.000 rpm	24.000 rpm	24.000 rpm	24.000 rpm
MAX TORQUE	6 Nm	8 Nm	9,5 Nm	11,1 Nm	13,8 Nm	20,1 Nm
TOOL CHANGER	MANUAL AND AUTOMATIC					
TOOLHOLDER	HSK 32 E	HSK 63 F	HSK 63 F	HSK 63 F	HSK 63 F	HSK 63 A
COOLING	LIQUID					

ANTARES: TOOL CHANGER MAGAZINES					
	Standard FOR CX5	Standard FOR PX5	OPTIONS		
N. STATIONS	8 on board	8 on board	additional 8 on board	16 carousel	8 pick up
HOLDER INTERAXES (MM)	100	80	80	117	80
Ø MAX WITHOUT LIMITATION (MM)	90	70	70	110	70
Ø MAX WITH LIMITATION (MM)	250	400	400	230	400
MAX TOOL LENGTH (MM)*	265	265	165	300	465*
MAX WEIGHT SINGLE TOOL	3 kg	3 kg	3 kg	6 kg	5 kg

\* Values from the spindle nose



# 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 services, 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-the-art 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, maintenance 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.





## SERVICE OUR TECHICIANS BY YOUR SIDE ALL OVER THE WORLD

-  Training
-  Installation
-  Remote Customer Care (RCC)
-  On-site assistance
-  Maintenance
-  Changes & Retrofitting
-  Spare Parts

## A GLOBAL PRESENCE FOR BEST-IN-CLASS SERVICE

- 36,000 different codes to serve machinery of all ages;
- 1 central warehouse at the headquarters in Zogno and 6 bases around the world fully integrated at IT level and controlled by a shipping optimisation software to reduce waiting times;
- 98% of orders available in stock;
- spare parts guaranteed thanks to a scrupulous control process and validation via our internal quality laboratory;
- availability to draw up recommended spare parts lists based on client needs, to reduce down time to a minimum;

# CMS ADVANCED MATERIALS TECHNOLOGY RANGE OF MACHINES

# FOR COMPOSITE MATERIALS, ALUMINUM AND METAL PROCESSING

## MONOBLOC CNC MACHINING CENTERS FOR VERTICAL MILLING



**ARES**



**ANTARES**



**ANTARES K**



**ATHENA**



**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**

## FIXED AND MOBILE BRIDGE CNC MACHINING CENTERS



**FXB**



**AVANT**



**MBB**

## CNC MACHINING CENTER FOR THE EYEWEAR INDUSTRY



**MONOFAST**



**EOS**

## WIND BLADE WORKING SYSTEMS

## CNC MACHINING CENTERS FOR GUNSTOCKS PROCESSING



**MULTILATHE**



**MONOFAST**



**KARAT**





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