

# fxb / mbb

Fixed and mobile bridge CNC machining centers



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 3 large highly specialized production centres employing more than 4,000 workers and operating in all 5 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 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** is a leader in the field of numerically controlled machining centres for the working of advanced materials: composites, carbon fibre, aluminium and light alloys. Substantial investments in research and development have allowed the brand to always be on the cutting-edge, with machines that ensure best-in-class performance in terms of accuracy, speed of execution and reliability and that meet the needs of customers operating in the most demanding sectors. 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.

fxb / mbb

APPLICATIONS	4-5
TECHNOLOGICAL ADVANTAGES	6-7
MACHINING UNITS	8-9
STACK PROCESSING	10-11
PROCESSING LARGE ALUMINUM EXTRUDED PARTS	12-13
ACCESSORIES AND VARIOUS	14-17
TECHNICAL DATA	18-21
CMS CONNECT / CMS ACTIVE	22-23
THE RANGE	24-25



# APPLICATIONS



**W**inning.  
**O**perational.  
**R**eliable.  
**T**ailor-made.  
**H**igh technology solutions.

advanced plastic technical items | aluminum sailing boat masts |  
large extruded structural components



large aluminum plates, nesting and precision mechanics |  
aluminum pack metal sheet processing for the aerospace industry

The machines that are **WORTH** it.

Fixed and mobile bridge CNC machining centers

# FXB

## TECHNOLOGICAL ADVANTAGES

Fixed bridge CNC machining center with interpolated 3, 4 or 5 axes, for high-speed processing of light alloy pieces, pack metal sheet and composite materials.

- The entire fixed gantry structure is produced in single-block and allows you to achieve the maximum in terms of rigidity and stability.
- Possibility of configurations with multiple 3-axis, 5-axis machining units or solutions with 3 and 5 axes.

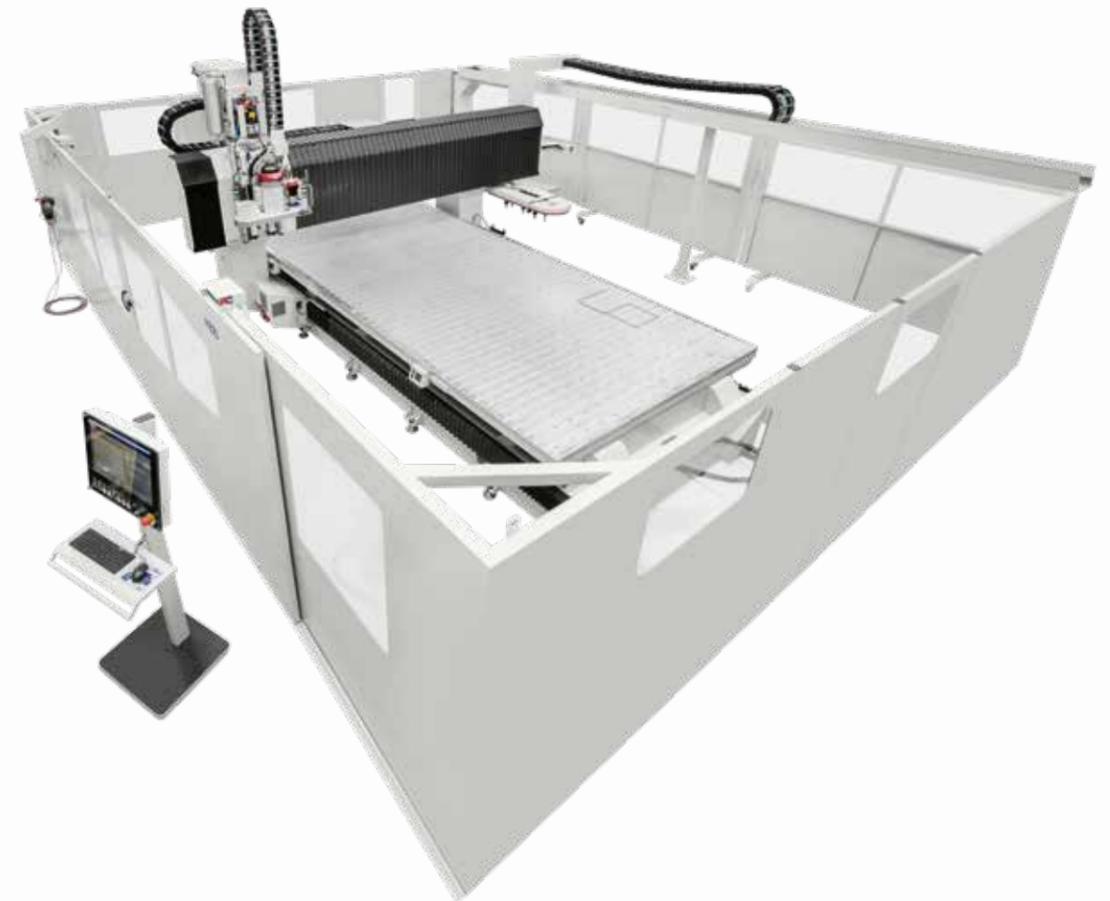


# MBB

## TECHNOLOGICAL ADVANTAGES

Interpolated 3, 4 or 5-axis mobile bridge CNC machining center specifically for the high speed processing of large panels or long, narrow pieces in composite materials, aluminum or sandwich of different materials and plastic technical items.

- Structures and mechanics (with high precision guides and racks) offer high power, structural accuracy and reliability for high speed processing even in the case of difficult processing work.
- Possibility to configure the machine with optical scales to further increase performance.



### KEY BUYER BENEFIT FXB E MBB

- + **DURABLE QUALITY:** the advanced design of the structures, the result of CMS' research, and the technical solutions adopted, guarantee rigidity and precision over time so that the excellent finishing and accuracy of the pieces remains unchanged over time.
- + **POWER AND PRODUCTIVITY:** **fxb** and **mbb** can be equipped with 3 or 5 axes single or multiple machining units and with a power up to 32 kW to guarantee maximum efficiency in any production situation. Machining units are available for special applications such as aluminum pack metal sheet processing or laser labeling of the pieces produced.

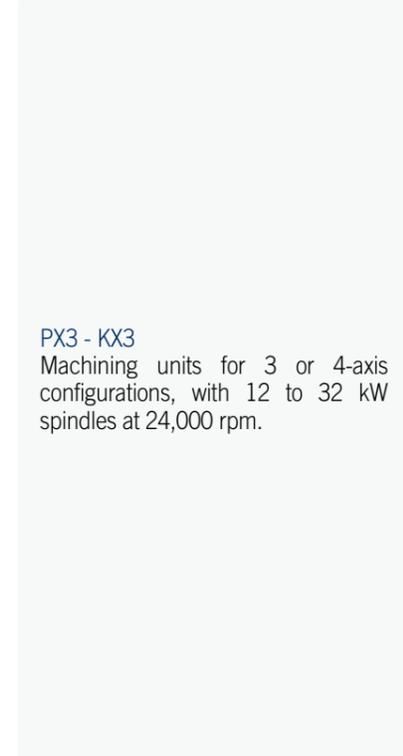
- + **360° CONFIGURABILITY:** **fxb** and **mbb** are available in different versions and have custom-designed worktables with locking systems that can be adapted to meet production needs.
- + **TOTAL INTEGRATION:** both machines can be integrated into unmanned production lines. Their reliability becomes a key element in advanced production systems.

# FXB / MBB

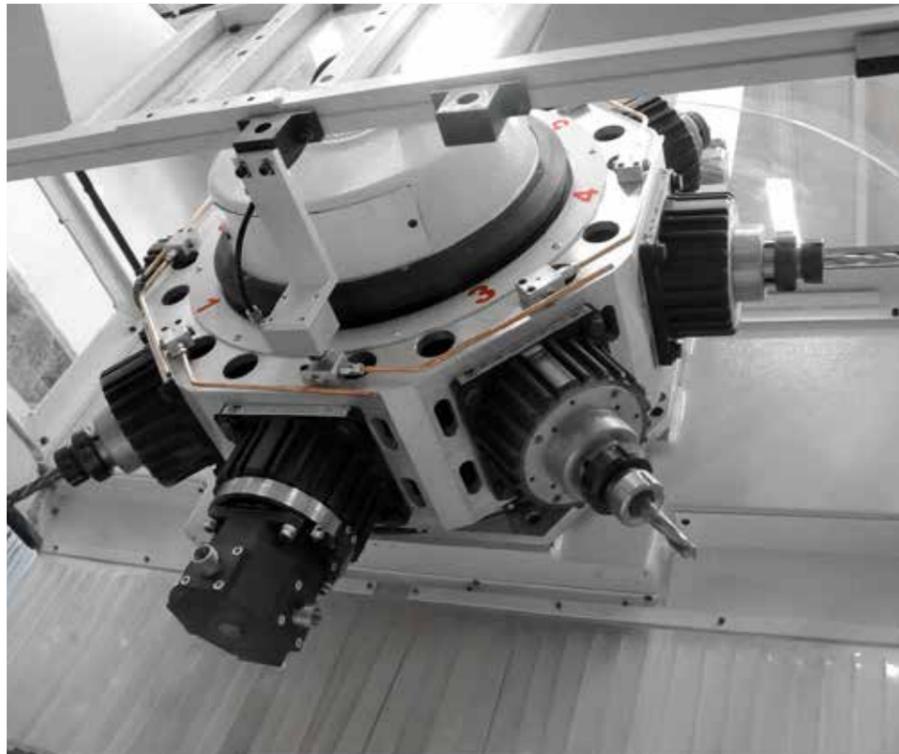
## MACHINING UNITS



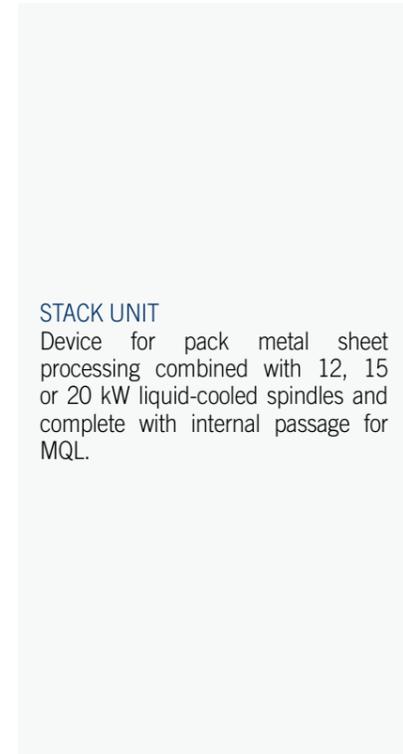
**PX5**  
5-axis unit with 12 to 20 kW spindles, cooling and lubricating system with internal passage to the tip of the tool and pneumatic brakes.



**PX3 - KX3**  
Machining units for 3 or 4-axis configurations, with 12 to 32 kW spindles at 24,000 rpm.



**R8**  
New revolver machining unit, with 8 spindles with different specifications and power of up to 8.5 kW. It offers top speed tool change, sturdiness and reliability.



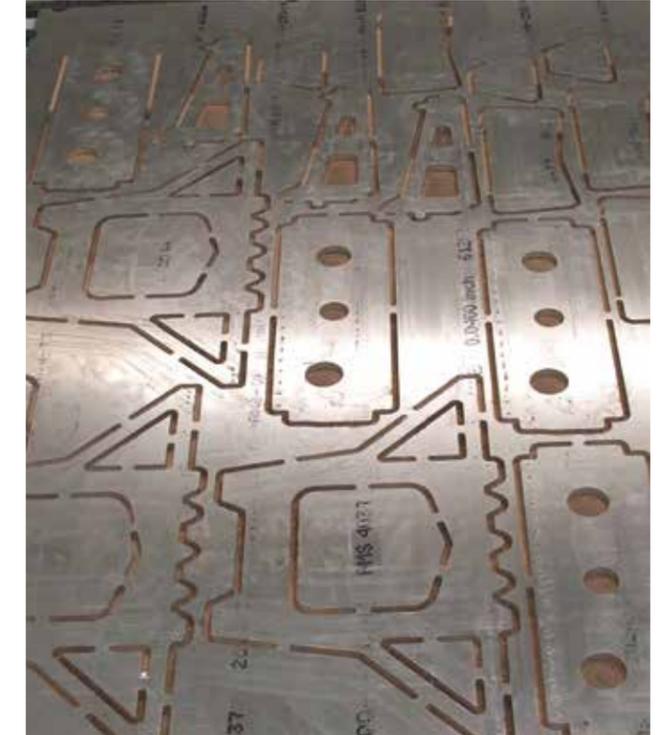
**STACK UNIT**  
Device for pack metal sheet processing combined with 12, 15 or 20 kW liquid-cooled spindles and complete with internal passage for MQL.



# FXB / MBB

## STACK PROCESSING

- FXB and MBB are the ideal machining centers for pack aluminum metal sheet processing. Their rigidity, precision and ideal working area compared to the bulk, make these machines a point of reference in the industry.
- FXB in configuration with double table and double machining unit allows for pendulum processing and, as a result, time saving when loading/unloading the pieces.
- FXB and MBB can be fitted with a special presser device developed by CMS and designed for pack aluminum metal sheet processing.
- The presser has low and high pressure modes that guarantee routings of pack metal sheet up to 12 mm in one single step; in high pressure mode, the bridges that hold the pieces integral between each other, without any movement in the end piece, are removed thanks to an eccentric movement of the tool in relation to the presser. The built-in shavings suction system, the presser ring with air-cushion and spray lubrication through the tool, guarantee clean, efficient processing.
- On FXB and MBB, the pack metal sheets can be blocked on the support panel using pneumatic locking systems with automatic control for activation and release to optimize the metal sheet to be cut and reduce scraps.

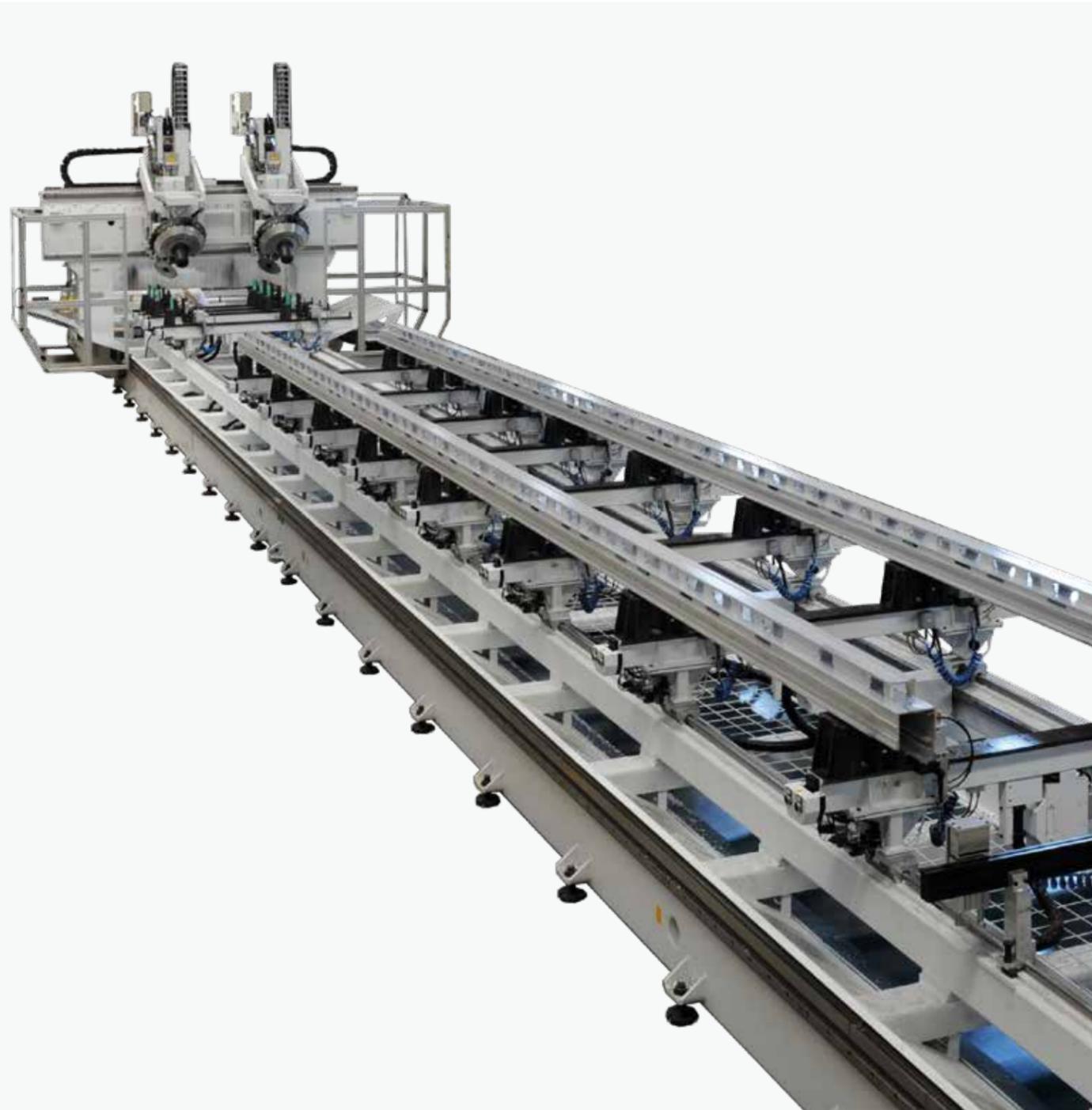


# MBB

## PROCESSING LARGE ALUMINUM EXTRUDED PIECES

In configuration with small pallets and with 5-axis double or single machining units, MBB allows aluminum extruded pieces to be processed that are large and very long.

- The small pallets can have CNC positioning and be equipped with single or multiple pneumatic clamps.
- The speed of the bridge up to 100 m/min guarantees fast positioning without compromising precision and repeatability.



### Sailing boat masts



### Large billboards and video-walls



### Structural components for trailers and semi-trailers



# FXB / MBB

## ACCESSORIES AND VARIOUS

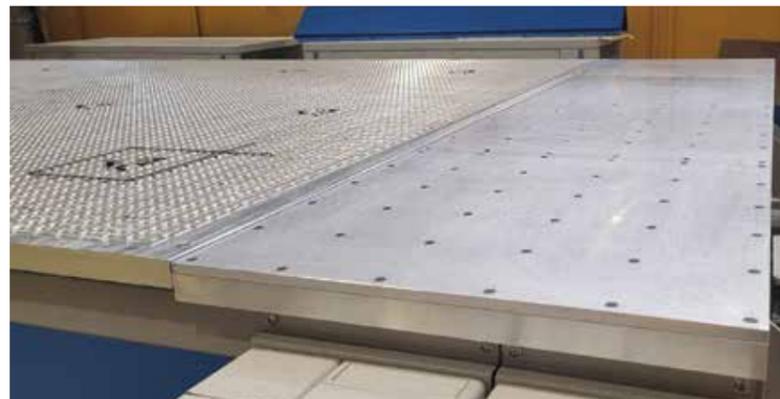
**CHAIN MAGAZINES**  
The magazines with 36 and 48 positions guarantee maximum flexibility and processing autonomy.



**DISC MAGAZINES**  
Disc magazines, built-in or on the side of the bridge, can hold from 8 to 16 tools.



**WORKTABLES**  
The worktables are designed with hybrid blocking systems (support panel, Vilmill, Vacmat...)



**REFERENCE STOPPERS**  
Reference stoppers (external or incorporated into the table) and built-in spheres facilitate the movement of the sheets to be processed on the work table, guaranteeing easy, fast positioning.

# FXB / MBB

## ACCESSORIES AND VARIOUS



**CNC EXTRACTOR HOOD**  
When the machine is fitted with a 5-axis PX5 machining unit, then a CNC extractor hood to remove dust from the processing can be foreseen.



**AIR/VACUUM DISTRIBUTION UNITS**  
To use clamps, suction cups or specific sub-pieces.



**RE-QUALIFICATIONS**  
Contact or laser re-qualifications are available to calibrate the axes and measurement of the diameters and tool lengths.

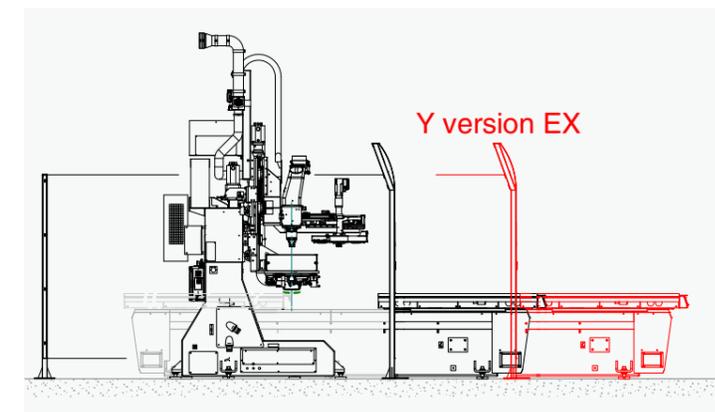


**MQL SYSTEMS**  
Maximum efficiency with maximum lubricant consumption. The MQL systems, in association with electro-spindles that allow for the flow of air/oil inside the tool, guarantee perfect lubrication even under critical situations.



FXB	
MACHINE FRONT	
SINGLE TABLE MODEL	TABLE FRONT/WIDTH
1T/6X	1 x 1.860 mm
1T/8X	1 x 2.520 mm
1T/8X	1 x 3.120 mm
DOUBLE TABLE MODEL	
2T/4X	2 x 1.260 mm
2T/6X	2 x 1.860 mm
2T/8X	2 x 2.520 mm
2T/10X	2 x 3.120 mm

FXB			
MACHINE DEPTH			
DEPTH VERSION	TABLE DEPTH/LENGTH	Y STANDARD	Y EX
X5	1.560 mm	2.490 mm	3.880 mm
X7	2.160 mm	3.090 mm	5.080 mm
X8	2.520 mm	3.450 mm	5.800 mm
X10	3.120 mm	4.050 mm	7.000 mm



**EXTRA stroke version**  
Both the versions, 1T and 2T, can be configured with full extraction of the table (Y version EX) for a complete separation of the work area, further improving the containment of dust, accessibility and safety.

# MBB

## TECHNICAL DATA



Perimeter protections for processing aluminum and light alloys.



Protections around the bridge, front flaps, bumpers and photocells to process composite materials and plastic.

# MBB

## TECHNICAL DATA

MBB	
VERSIONS AND TECHNICAL DATA	
MODEL	TABLE WIDTH
MBB 1T	1.530 mm
MBB 2T	1.950 mm
MBB 3T	2.450 mm
MBB 4T	2.750 mm
VERSION	TABLE LENGTH
/35	3.500 mm
/45	4.550 mm
/56	5.600 mm
/66	6.650 mm
/77	7.700 mm
/87	8.750 mm
/98	9.800 mm
Note: other versions available on demand.	
SPEED	
High speed up to 100 m/min	

# 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 downtime.

### SMART MANAGEMENT

Section designed for KPI presentation for all the machines connected to the platform.

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

- ✓ Optimization 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 center (e.g.: operator, maintenance man, administrator, ...).

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

### ABSOLUTE QUALITY OF THE FINISHED WORKPIECE

With CMS Active 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.



## CUSTOMER SERVICE OUR TECHNICIANS BY YOUR SIDE AROUND THE WORLD



Training



Installation



Remote Customer Care (RCC)



On-site assistance



Check-ups, preventive maintenance and calibrations



Modifications and retrofitting



Spare parts

## WORLDWIDE PRESENCE AND DEDICATED WAREHOUSES AT THE SERVICE OF EVERY CUSTOMER

- 36.000 different product codes to serve machines of all ages
- 1 central warehouse at the Zogno headquarters and 6 others around the world, fully equipped to optimise shipments and minimise waiting times
- 98% of orders in stock
- spare parts guaranteed by scrupulous control processes and validation at our in-house quality laboratory
- availability of recommended spare parts lists based on customer needs to minimise the risk of downtime

# 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**



**VM 30**



**ETHOS K**

## GANTRY CNC MACHINING CENTERS FOR LARGE-SIZE WORK AREAS



**MX5**



**POSEIDON**



**ETHOS**



**CONCEPT**

## HYBRID SYSTEM FOR ADDITIVE MANUFACTURING AND MILLING



**KREATOR ARES**

## MONOBLOC CNC MACHINING CENTERS FOR HORIZONTAL MILLING



**IKON**

## FIXED AND MOBILE BRIDGE CNC MACHINING CENTERS



**FXB**



**MBB**



**AVANT CARAVAN**

## CNC MACHINING CENTER FOR THE EYEWEAR INDUSTRY



**MONOFAST**

## WIND BLADE WORKING SYSTEMS



**EOS**

## CNC MACHINING CENTERS FOR GUNSTOCKS PROCESSING



**MULTILATHE**



**MONOFAST GUNSTOCKS**



**KARAT**

## WATERJET CUTTING SYSTEMS



**TECNOCUT PROLINE**



**TECNOCUT SMARTLINE**



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