ADVANCED MATERIALS

monofast evo

CNC machining centers for the eyeglass industry

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 3 large highly specialized production centers employing more than 4,000 workers and operating in all 5 continents. SCM Group can offer the most advanced expertise worldwide in the design and construction of machinery and components for industrial processing.

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

Cms
advanced materials technology

CMS Advanced Materials Technology is a leader in the field of numerically controlled machining centers for processing 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, execution speed and reliability to 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, racing boats, Formula 1, and the most advanced railway industry.

scm group | *industrial machinery and components*

Cms | *your technology partner*

monofast evo

a company of scm group

APPLICATIONS

optical industry

Adaptable.

Compact.

Technological.

Innovative.

Valiant.

Easy solutions.

The **ACTIVE** way to run your processes.

CNC machining centers for the eyeglass industry

MONOFAST EVO
TECHNOLOGICAL BENEFITS

LEARN MORE

THE EVOLUTION OF MONOFAST: CMS INNOVATION

Since 1997, CMS has stood out as a pioneer in technology for the production of acetate eyeglass frames.

The company began its journey with the revolutionary monoposto machining center, and today presents **monofast evo**, an evolution that further refines the already established monofast model.

This exclusive system was developed specifically for the optical industry, and has won the trust of leading eyeglass manufacturers because its innovative features respond to the needs of highly automated production.

Its combination of speed, precision and automation makes **monofast evo** an indispensable tool to remain competitive in the dynamic eyewear sector.

KEY BUYER BENEFITS

+ **Fully automated.** All is worked out in detail! The high level of automation and **HW - SW integration** in the new advanced HMI make **monofast evo** the winning solution. The machine has blank magazines with automatic loading and unloading. It can turn the glasses over automatically, making it extremely easy to process all six sides. Maximum ergonomics and operator safety in a small space.

+ **New 20-position tool change magazine.** The new single-spindle operating unit with liquid cooling and ultra-fast 20-position tool change ensures fewer process interruptions and greater flexibility.

+ **New technology with direct torque motor** for the W rotary head and new rotary axis dynamics; no backlash, less maintenance and better quality. The entire process takes a step forward in efficiency.

+ **Guaranteed cleaning:** revised and optimized machine base, chip suction system, blowers and integrated ionizing bar, all to facilitate and limit cleaning procedures: cleaning becomes an added value.

+ **Compatibility** with programs made with the previous model for a smooth transition.

MONOFAST EVO
COMPONENTS - ACCESSORIES

Ionizing bar built into the base and laser to check the tool is present and intact

Processing of internal parts

Clamp change device with vertical movement controlled by CN axis and 0–180° rotation

Template processing

Blank magazine with simplified adjustment

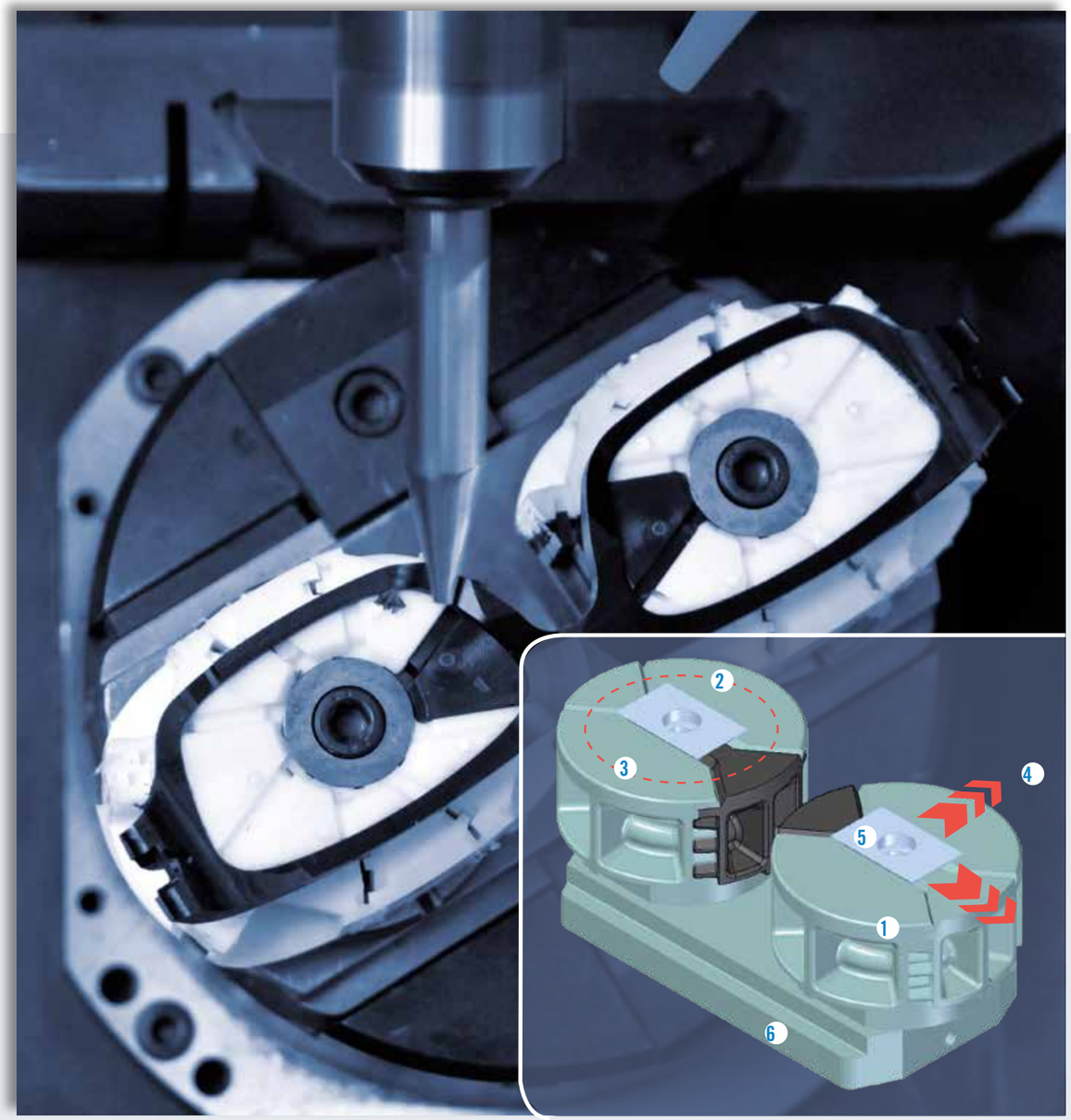
Workpiece rotation device

EXPANDERS

The CMS fixing plates, which are also compatible and used with previous generations of CMS machines (Monofast and Monoposto) can be configured with 8- and 4-sector expanders.

The **4-sector expanders** feature increased radial travel for **even smoother workpiece changeover**, a **more rigid clamping system** and fewer components for **improved reliability**.

The double-profile metal actuator cam also makes them ideal for processing lenses with small eye sizes.



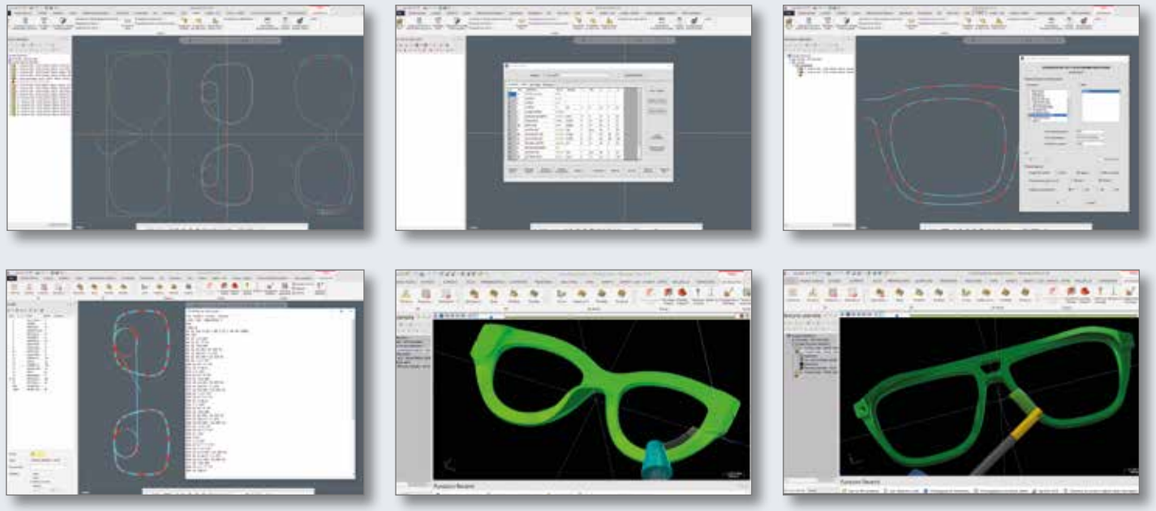
WINEYE

powered by Mastercam

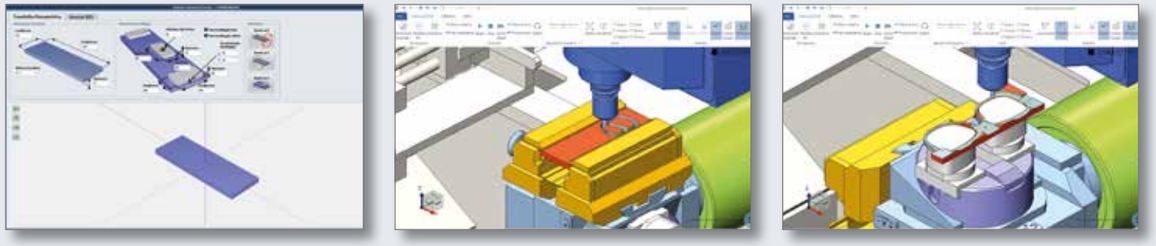
INTEGRATED CAD/CAM SYSTEM FOR THE EYEWEAR INDUSTRY

- Designed to **optimize the use of CMS Monofast Evo**
- **The experience of WinEye CMS and the power of Mastercam®** in a single package.
- Reduced training time. **Ease of use**.
- Virtual Milling: **processing simulation** that helps correct and optimize tool paths to reduce machine setup times.

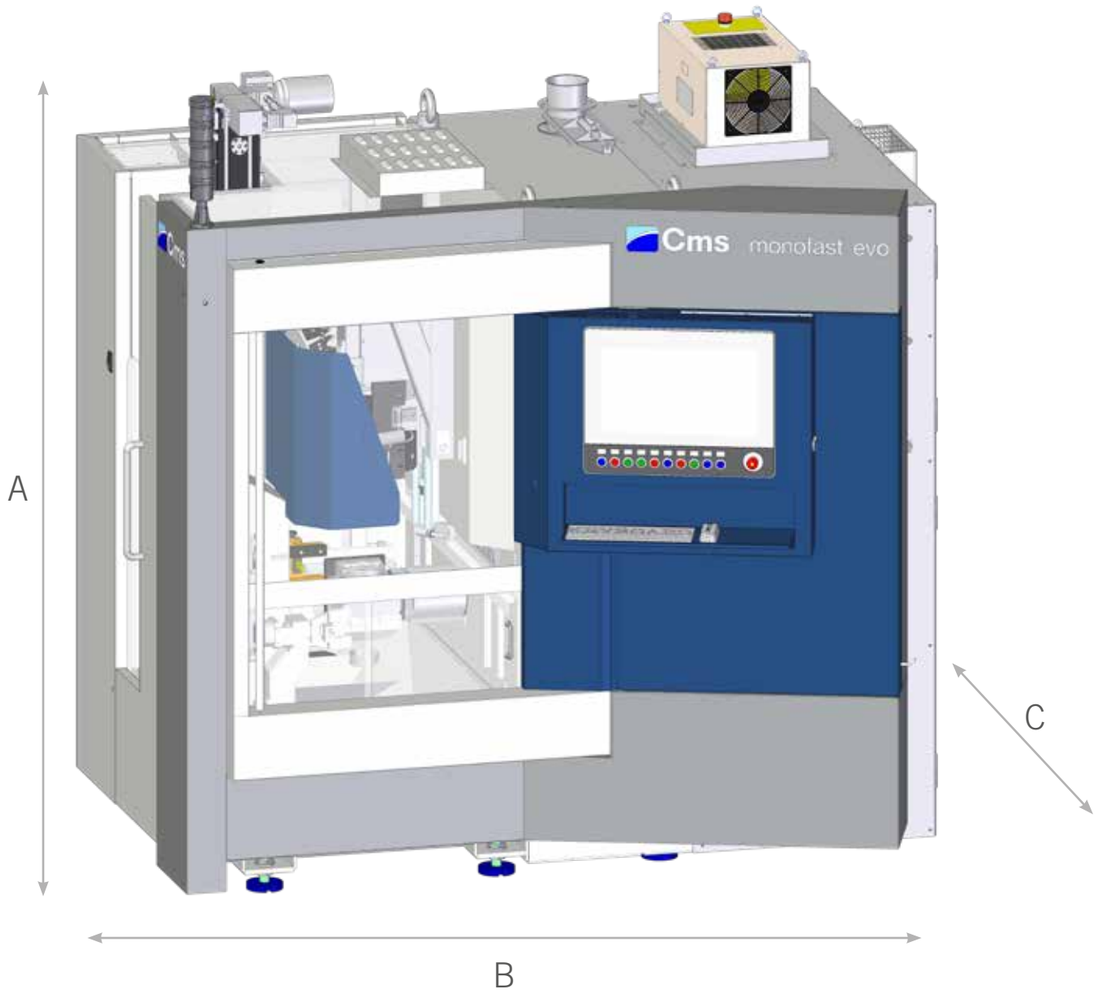
PROGRAMMING



SIMULATION



MONOFAST EVO
OVERALL DIMENSIONS & TECHNICAL DATA



DIMENSIONS OF BLANK STRIPS THAT CAN BE AUTOMATICALLY LOADED	
LENGTH	Min 130 mm - Max 210 mm
WIDTH	Min 30 mm - Max 80 mm
THICKNESS	Min 3 mm - Max 16 mm

MONOFAST EVO: TECHNICAL DATA				
AXIS STROKE	LINEAR	X	LONGITUDINAL TABLE MOTION	+235 / - 225 mm
		Y	TRANSVERSAL TABLE MOTION	+150 / -140 mm
		Z	VERTICAL SPINDLE	+380 mm (of which 150 mm for CU)
	ROTARY	V	SWIVEL HEAD	+ 120° / - 180° 120 rpm
		W	**TORQUE** ROTARY HEAD	± 360° continuous **500 rpm**
		B	TOOL MAGAZINE	\\
AXIS SPEED	UP TO		50 m/min	
STRIP FEEDER	AUTONOMY		80 PIECES (about 160 with stacked pieces)	
			SELF-CENTERING DEVICE	
			AUTOMATIC CYCLE STOP WHEN BLANK FEEDER IS EMPTY	
PROCESSING UNIT			UNIT WITH AUTOMATIC TOOL CHANGE SPINDLE	
	POWER (S1)		5 kW	
	MAX ROTATION		30,000 rpm	
	COOLING		LIQUID	
	TOOL MAGAZINES		20 POSITIONS	
NUMERICAL CONTROL			OSAI OPEN SMART – PC OFFICE	
ELECTRICAL CABINET	PROTECTION LEVEL		IP 55 COMPLETE WITH AIR CONDITIONER AND DOUBLE ACCESS DOOR TO SEPARATE THE MECHANICS FROM THE ELECTRONICS	
SIZE AND WEIGHT	WIDTH (B)		2570 mm	
	DEPTH (C)		2110 mm	
	HEIGHT (A)		2510 mm	
	WEIGHT		2600 kg	

CMS connect is the IoT platform for perfect integration with the latest generation of CMS machines

CMS Connect offers customized 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 data collected by the machines in real time can be used to **increase machine productivity, reduce operating and maintenance costs and cut energy costs.**

CMS active: revolutionary interaction with your CMS machine

CMS active is our new interface. An operator can easily control different machines as the CMS Active interfaces maintain the same look&feel, icons and approach to interaction.

SMART MACHINE: continuous monitoring of machine operation, with information on:

Status: machine status overviews. These can be used to verify machine availability and identify possible bottlenecks in the production flow;

Monitoring: real-time live display of the operation of the machine, its components, running programs and potentiometers;

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

Alarms: active and logged warnings.

SMART MAINTENANCE

This section provides an **initial approach to predictive maintenance** by sending notifications when machine components indicate a potentially critical state on reaching a specific threshold. This makes it possible **to take action and schedule maintenance work without any production downtime.**

SMART MANAGEMENT

Section that presents the KPIs for all machines connected to the platform.
The indicators provided can be used to assess machine availability, productivity and efficiency, as well as product quality.

UTMOST SECURITY

CMS Connect uses the standard OPC UA communication protocol, which guarantees data encryption at the Edge interface level. The Cloud and DataLake levels meet all of the latest cyber-security requirements. Customer data is encrypted and authenticated to ensure full protection of sensitive information.

BENEFITS

- ✓ Production performance optimization
- ✓ Diagnostics to support component warranty optimization
- ✓ Productivity increase and machine downtime reduction
- ✓ Improvement of quality control
- ✓ Lower maintenance costs

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.

ACMONOF-0125E

C.M.S. SPA
via A. Locatelli, 123 - 24019 Zogno (BG) - IT
Tel. +39 0345 64111
info@cms.it
cms.it

a company of scmgroup