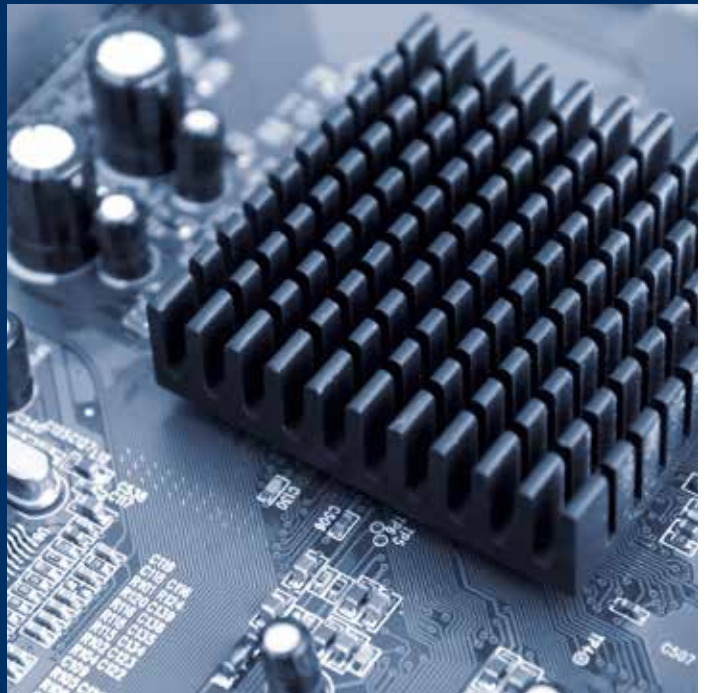


# dmc metal system

Dry deburring-finishing machine



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.

# dmc metal system



**CMS Metal Technology** is the brand dedicated to the production of metalworking machines and technical articles offering a wide range of complete water-jet cutting systems, pressure intensifiers and dry or wet deburring and satin finishing machines. Since the 90's, thanks to the acquisition of Tecnocut and constant internal developments, **CMS Metal Technology** has been able to gain high international prestige, boasting more than 1,500 installations worldwide. **CMS Metal Technology** is the reliable partner of leading industries in various sectors such as automotive, aerospace, machining, furniture and industrial architecture.

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# APPLICATIONS



electronics | exterior design | fluid power industry



metal constructions | heavy duty machines | metals processing

**Genial.**

**Reliable.**

**Efficient.**

**Adaptable.**

**Technological solutions.**

**GREAT** machines for metal processing.

Dry deburring-finishing machine

# DMC METAL SYSTEM

## TECHNOLOGICAL BENEFITS

### DRY DEBURRING-FINISHING MACHINE

From our 50 years' experience in the design and manufacturing of machines using flexible abrasives we have developed a new and innovative line of dry surface processing machines for metal.

- Cutting-edge technology solution
- Maximum user-friendliness
- Powerful and reliable design



### KEY BUYER BENEFITS

- + **Wide radius: up to 2 mm edge rounding.** Exclusive planetary unit using gears, with disc brush rotation speed independent from the speed of the head, for a more effective deburring and edge rounding up to 2 mm even on plates larger than 1 meter.
- + **Modular structure to adapt to production needs:** available with frame structure configurable up to 10 working units. The modular frame allows to replace a working unit or change the position rapidly and economically.
- + **Long-life mechanic drive belt:** multi-groove Poli-V belt with self-tensioning system for an extremely powerful, efficient and silent transimission, independent of the abrasive belt used, even in the most demanding working conditions.
- + **Best in class for severe and large batch processing:** "Medium" frame structure for heavy duty applications and capability to fit up to 45 kW motors and contact rollers up to 400 mm diameter for large removals.



# DMC METAL SYSTEM TOPTECH

## A NEW GENERATION OF WORKING GROUP THE PLANETARY UNIT

An exclusive planetary unit using gears, with brush rotation speed independent of the planetary discs speed thus guaranteeing the best Results for deburring, oxide removal, as well as general finishing.



## QUICK ABRASIVE DISC REPLACEMENT SYSTEM

The conical coupling system allows the operator to change the abrasives of the planetary unit for any kind of application while at the same time providing the maximum safety thanks to the unique locking system.

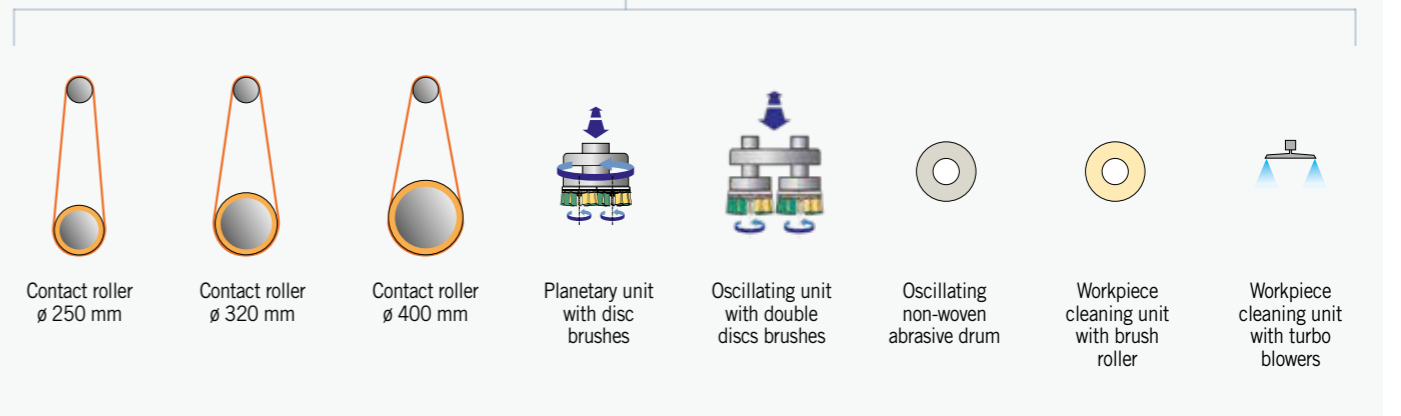
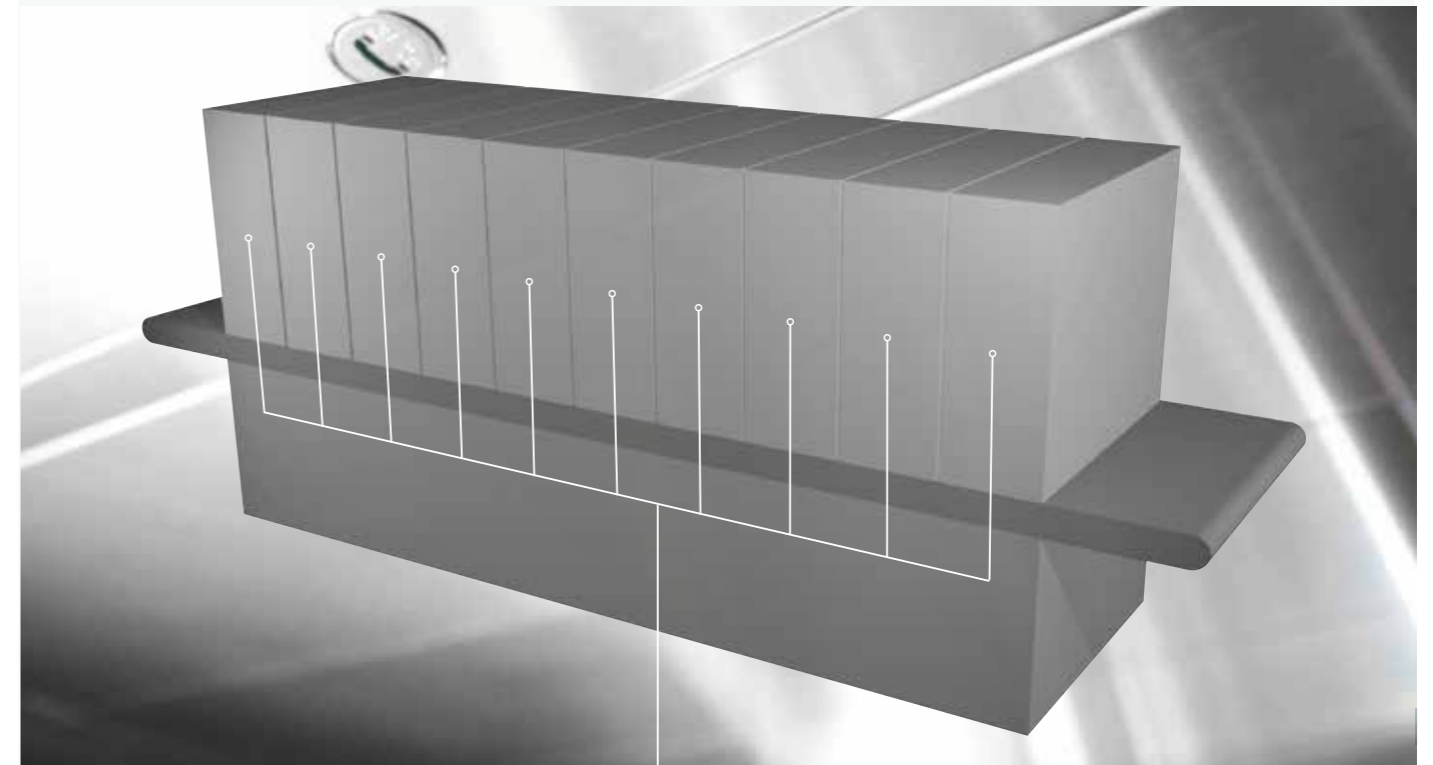
## TRANSMISSION SYSTEM DRIVEN BY POLI-V BELTS

The utilization of multi-groove belts with a self-tensioning system ensures an extremely powerful, efficient and silent transmission, even in the most extreme processing conditions.



## MODULAR STRUCTURES FOR MAXIMUM CUSTOMIZATION

Dmc Metal System is available with base structures capable of holding up to 10 working units in order to perfectly perform any deburring or graining application. The modular structure of the machine along with the newly designed working units (each incorporating its own electronic and pneumatic elements) allows for maximum flexibility within the machine in order to meet the changing needs of production. In fact any single working unit can be replaced quickly and economically (or simply swapping the position inside the machine).



# DMC METAL SYSTEM

## WORKING UNITS



### R - CONTACT ROLLER UNIT

A wide range of rollers are available for the new Dmc Metal System to meet any specific deburring or graining application.

- Diameters available: 250, 320, 400 mm
- Helical grooving surface for better cooling and for the efficient removal of dust
- Oil and heat resistant rubber coating, with hardness ranging from 20 sh to 90 sh
- ON/OFF pneumatic cylinder to set the roller in the working position via the electronic control and for the quick exclusion in case of an emergency (standard)
- Increased eccentric hub, to mount both traditional abrasive belts or “surface conditioning” belts (standard)
- Electronic grit-set for fine adjustment of the working position of the roller through the electronic control (optional)
- Manual adjustment of the position of the roller with digital read-out of the working height (standard for machines without electronic grit-set)
- Timed oscillating blowers, for abrasive belt cleaning and cooling (optional)

Electronic adjustment of the working units is achieved by linear stepper motors, managed by the machine control PLC via CAN BUS connection thus ensuring fast and precise positioning of the units with constant accuracy over time. The positioning of the rollers can be saved inside the single work programs making it possible to recall the most suitable positioning of the units for every type of application, depending on the thickness of the abrasive belts used as well as the necessary working pressure.



The transmission of the motor power to the contact roller is carried out by a “Poli-V” belt, to maximize efficiency and reduce noise levels to a minimum. In addition, the automatic tensioning system of the “Poli-V” belt guarantees that the tension remains constant regardless of stress.

This last feature, together with the increased eccentric hub for the contact roller shaft, allows to setup the group with thicker abrasive belt, in particular the “surface conditioning” type (abrasive cloth).

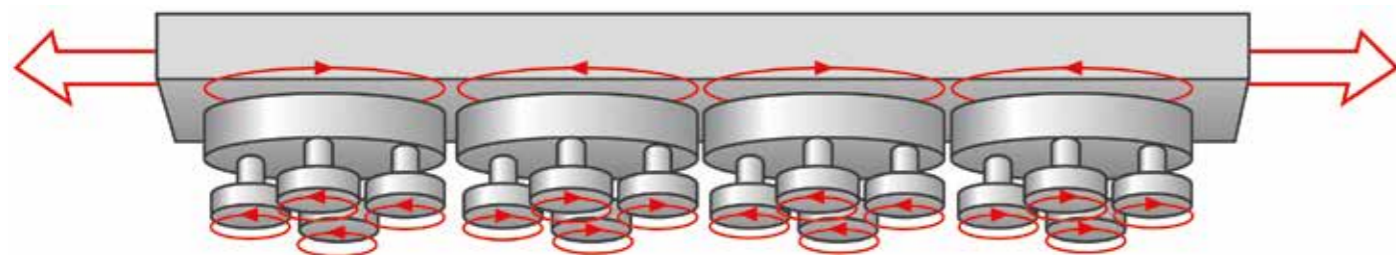
# DMC METAL SYSTEM

## WORKING UNITS



### DP - PLANETARY UNIT WITH DISC BRUSHES

The innovative DP Planetary unit was developed in response to the more complex needs of deburring and rounding of workpiece edges. All of the motor transmissions in the unit are driven by sealed and splash lubricated gears (NO DRIVE BELTS ARE USED!), thus ensuring the unit is capable of working with high torque even on 3 shifts per day. These exclusive construction features of the unit guarantee high levels of reliability as well as minimal noise levels during operation.



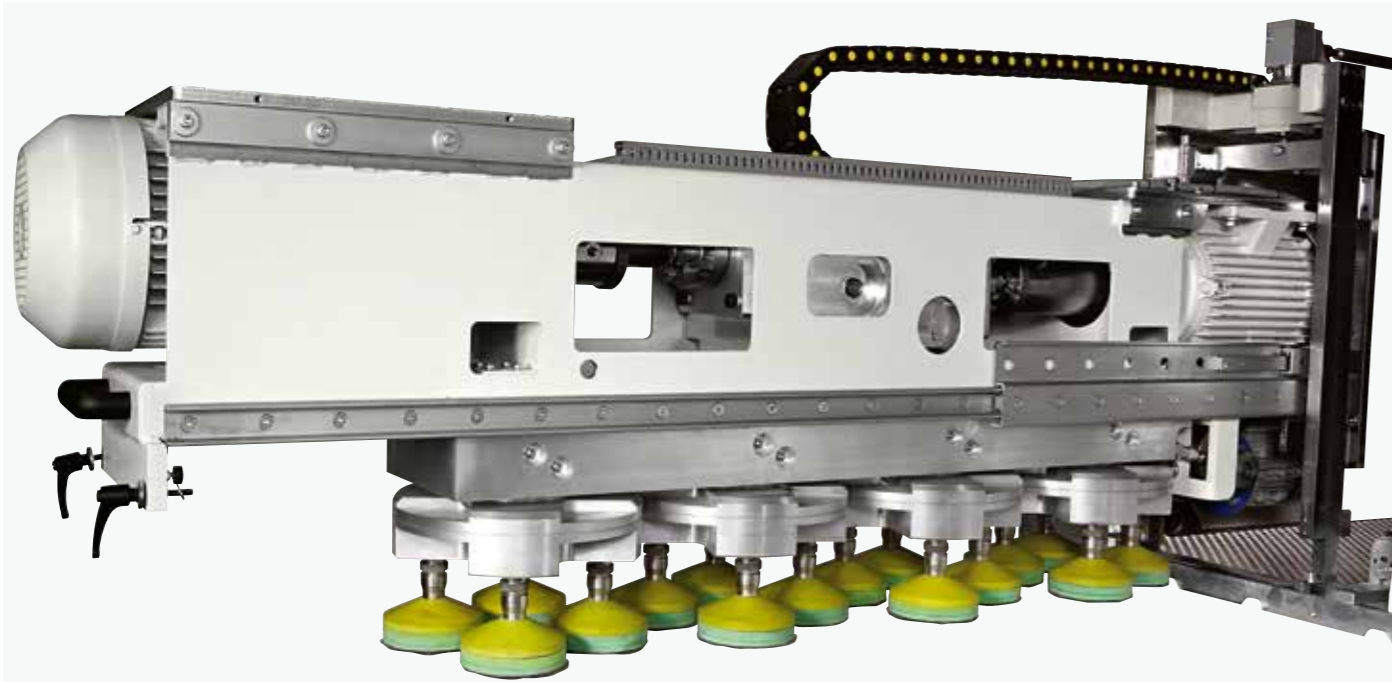
The multi-directional action is what makes the DP unit unique and, especially, efficient. The three movements of the unit (rotation of the abrasive brushes, counter-rotation of the brush holder discs and lateral movement of the head) are driven by independent motors, all controlled by inverters making it possible for the operator to choose the most suitable combination of speeds according to the specific type of application.



The fast locking system of the brushes with large diameter conical coupler allows a considerable working pressure even when machining large pieces.

# DMC METAL SYSTEM

## WORKING UNITS



The absence of directional scratch, in addition to deburring and rounding edges, enables the planetary DP unit to be used to obtain an extremely homogenous finish with an index of roughness unmatched by traditional operating units. Furthermore, by equipping the unit with the appropriate set of discs while adjusting various working parameters, it makes possible to achieve a vast range of exclusive surface finish effects.



The quick-coupling system for the brush discs, long tested, at the same time provides maximum reliability and safety of the locking mechanism.



# DMC METAL SYSTEM

## WORKING UNITS



### D - OSCILLATING UNIT WITH DOUBLE DISCS BRUSHES

Equipped with the appropriate types of abrasive brushes, the D unit guarantees excellent results throughout a wide range of applications, in particular:

- Rounding of sharp edges
- Removal of burrs from holes
- Removal of oxide



The side extraction of the unit, required to replace the brushes and for regular maintenance, is carried out by a telescoping system on linear bearing guides, ensuring maximum stability and reliability. To achieve the best results in deburring pieces of large dimensions the oscillating movement of the unit is operated by a transversal motor coupled with double connecting rods.



# DMC METAL SYSTEM

## T4 1350 RDDD



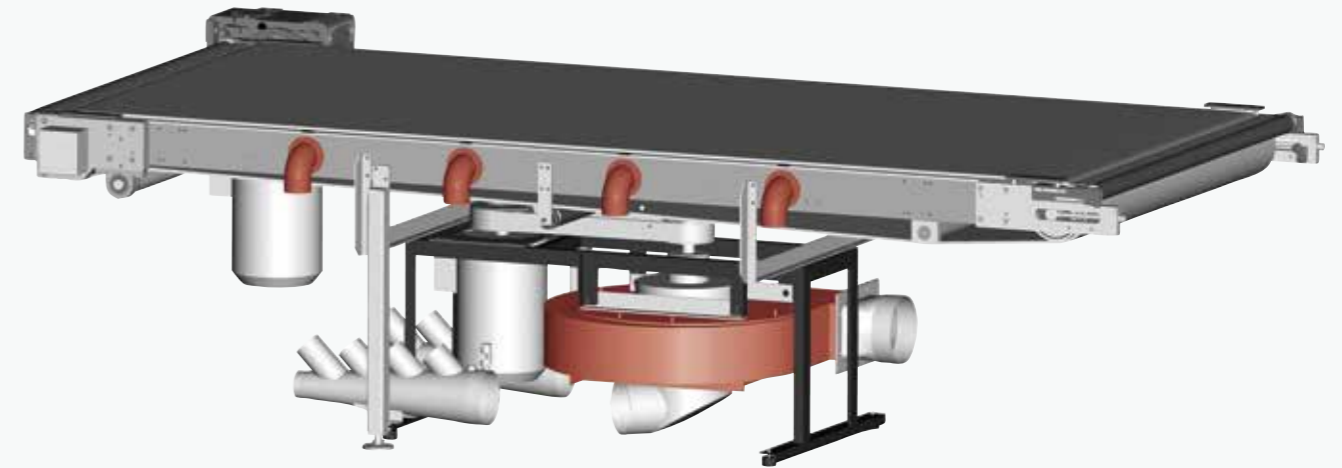
### METAL SYSTEM T4 1350 RDDD

The Dmc Metal System T4 1350 RDDD deburring machine is a heavyduty solution dedicated to the medium and large industrial companies, as well as experienced contractors, who seek a combination of productivity, reliability and flexibility necessary to complete often changing work orders. In a single pass through the machine, you have the possibility to:

- remove large burrs from cutting
- efficiently remove sharp edges while creating a radius
- deburr and radius the edges of holes, even of a small diameter
- efficiently remove oxide generated while cutting, whether on the external perimeter of a piece or inside a hole.



Thanks to the exclusive combination of a contact roller, 320 mm in diameter, a planetary unit "DP" and two oscillating units with disc brushes, the new Dmc Metal System T4 1350 RDDD is configured to be a highly productive working center designed to accomplish the most demanding requirements in deburring metal sheets.



1. The winding roller increases the contact surface area between the drive roller and the conveyor belt thus guaranteeing efficient feeding of work pieces even in the most demanding applications.
2. The electro fan for the vacuum of table is positioned inside the base to reduce the footprint of the machine as well as to decrease the level of acoustic emissions.
3. The concentration of the vacuum below every working unit, with air extraction from both sides of the working table, has the following advantages:
  - Increased efficiency when working very small pieces
  - Possibility to use smaller fan motors, compared to traditional systems
  - Possibility of preventing dust particles from accumulating inside the working table.
4. The new conveyor belt centering system with pivoting tensioning roller enables the conveyor belt to keep proper positioning, even in the cases of heavy workpieces (strong removal on pieces of large dimensions) and high feed speed.

# DMC METAL SYSTEM

## T2 1350 RD



### METAL SYSTEM T2 1350 RD

Compact and flexible, the Dmc Metal System T2 1350 RD deburring machine was designed to meet the changing demands of machine manufacturers and contractors. The complete range of working units along with advanced technological solutions make the machine extremely safe and simple to use.

The RD version is equipped with a contact roller, 250 mm in diameter, in first position, and an oscillating unit with vertical brushes "D" in second position: thus, the machine can deburr pieces and round edges in a single pass. The possibility of equipping the roller unit with finishing abrasive belts as well (including the "surface conditioning" type), enables the machine to also be used to create a satin or brushed effect finish.



The new system for fastening the units at the base frame and the digital read-out of the working height with centesimal resolution makes setting the machine extremely fast and precise.



# DMC METAL SYSTEM SOFTWARE

All the machine management software is proprietary, developed specifically by CMS engineers and perfected with feedback provided by its customers. The result is an extremely simple and reliable user interface, able to perfectly fulfill the requirements of the most demanding operators.

## HYDRA CONTROL MAIN FEATURES:

- Management of working thickness
- Speed management of conveyor belt, abrasive belts and brushes rotation
- Working height adjustment of the disc units
- Cascade automatic starting of main motors
- Timed activation of cleaning blowers for abrasive belts and unloaded workpieces
- Operational report (working hours / running hours)
- Machine trouble-shooting and fault diagnosis of the electronic boards
- Histograms graphics for tracking abrasive belt wear (opt)



## HYDRA V-PAD CONTROL PANEL, STANDARD DEVICE ON THE MACHINE:

The Hydra V-Pad control is used to set all the operating parameters on the touch screen.

Features:

- 10.4" touch-screen display
- 120 configurable working programs by the operator
- real time monitoring of correct machine operation

## CONSOLE WITH INTEGRATED PC "EYE-M" AND HYDRAPC MONITORING (OPTION)

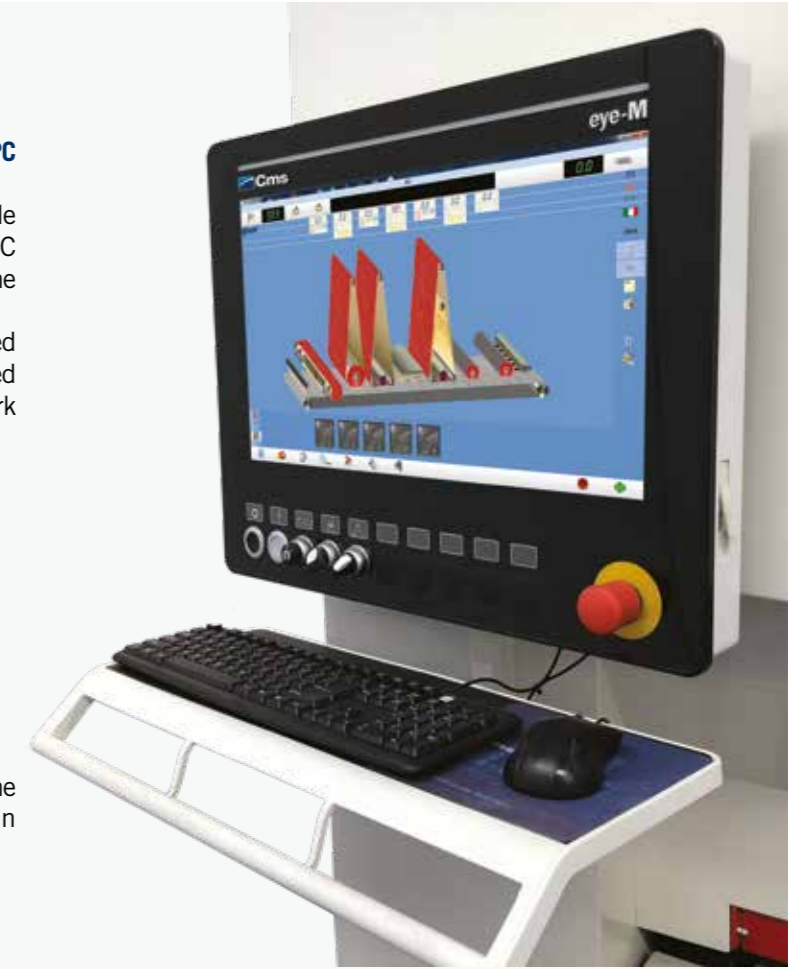
Device connected to the machine with adjustable gluing arm and fitted with fanless Industrial PC (PC Panel) and IP53 protection rating to withstand the more onerous environments.

The 21.5" touch colour display ensures advanced control of the machine parameters and a simplified interfacing outwards thanks to a LAN network connection.

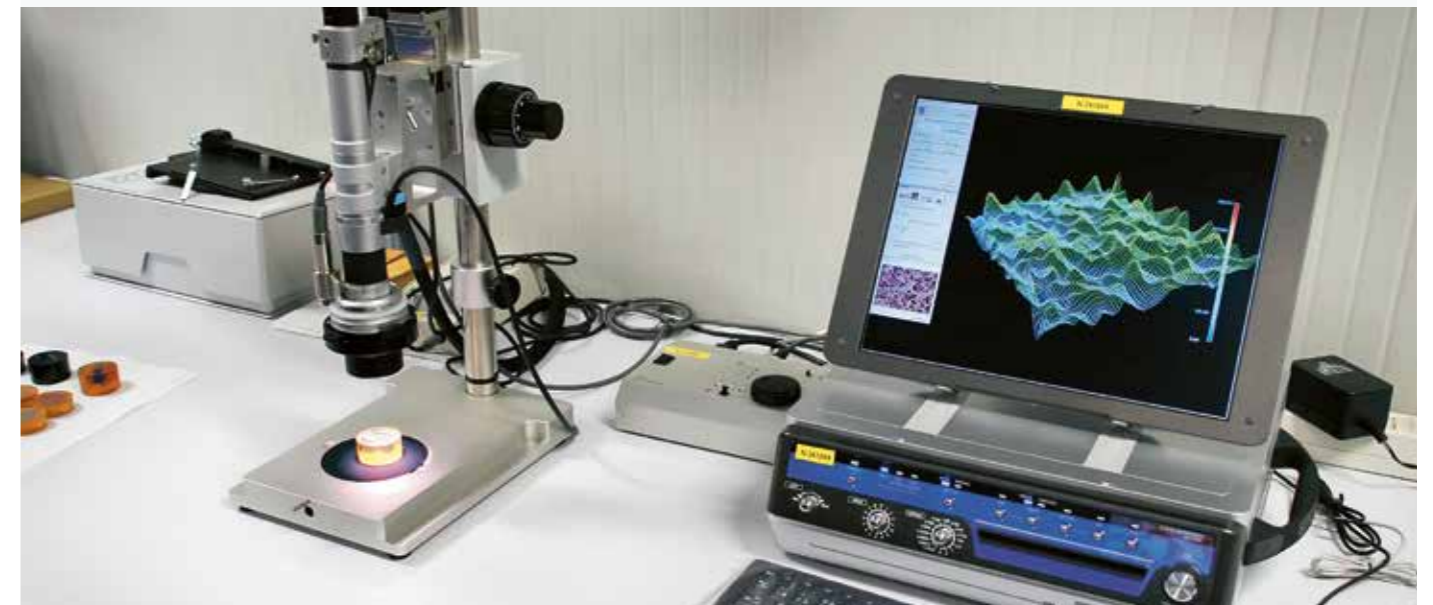
## KEY SPECIFICATIONS:

- storage of up to 1999 work programs
- production report
- Machine alarms management and fault diagnosis with integrated manual for easy identification
- integrated digital instructions and maintenance manual
- LAN network connection.

In conjunction with the remote customer service, the device offers an industrial and advanced solution in line with industry 4.0 technological requirements.



Excellent structure designed to carry out research on abrasive materials and materials processed by flexible abrasive machines, but also for finishings on innovative materials like Corian®, inert materials, quartz, polyurethanes, mineral wools, and fibre-cement etc. The operating unit is run by highly qualified personnel and is equipped with sophisticated instruments for capable of analysing the materials to be processed and the various types of abrasive. Thanks to the numerous demonstration machines, it can carry out any process testing to rapidly provide customers with detailed information on the best way to tackle any problem concerning a process in which a flexible abrasive machine is used, and achieve the new finishes requested by the market.



# DMC METAL SYSTEM

## TECHNICAL DATA



### DMC METAL SYSTEM: TECHNICAL DATA

MODEL	1350	1650 *
Number of operating units	2 ÷ 10	2 ÷ 10
Working width	1350 mm	1650 mm
Min / Max standard working thickness	0,5 ÷ 170 mm	0,5 ÷ 170 mm
Sanding belt dimensions	1370 ÷ 2620 mm	1370 ÷ 2620 mm
Max motor power per operating unit	45 kW	55 kW
Fixed height of worktable from the ground (opt.)	900 mm	900 mm

\* Model on request. It requires analysis of feasibility and delivery time

The technical data can vary according to the requested machine composition. In this catalogue, machines are shown with options. The company reserves the right to modify technical specifications without prior notice; the modifications do not influence the safety foreseen by the CE Norms.



Maximum noise levels measured according to the operating conditions established by EN 1870-13:2012  
 Acoustic pressure in process 89 dbA (measured according to EN ISO 11202:2010, uncertainty K = 4 dB)  
 Acoustic power in process 103 dbA (measured according to EN ISO 3746:2010, uncertainty K = 4 dB)

Even if there is a correlation between above mentioned "conventional" noise emission values and average levels of personal exposure over eight hours of operators, these last also depend on the real operating conditions, duration of exposure, acoustic conditions of the working environment and presence of further noise sources, this means the number of machines and other adjacent processes.

# THE RANGE OF CMS METAL TECHNOLOGY

# FOR METAL AND TECHNICAL ARTICLES PROCESSING

## WATERJET CUTTING MACHINES



TECNOCUT SMARTLINE



TECNOCUT PROLINE



TECNOCUT AQUATEC



TECNOCUT WATERSPEEDY S

## PRESSURE INTENSIFIERS



TECNOCUT EASYPUMP



TECNOCUT JETPOWER EVO



TECNOCUT GREENJET EVO

## DRY DEBURRING-FINISHING MACHINES



DMC M950



DMC EUROSYSTEM



DMC METALSYSTEM

## WET DEBURRING-FINISHING MACHINES



DMC M950 WET



DMC TOP METAL



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