

dmc metal system

dry deburring-finishing machine



SOLID



Sturdy main frame for high production capabilities.

Up to 45 kW power **for high deburring.**

MADE IN ITALY



From our 70 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.

RELIABLE



Technical and design features ensure a correct functioning and a **long-lasting reliability.**

MODULAR



The dry deburring-finishing machine is featured with modular devices that allow for **very large number of configurations**, from the most versatile and flexible to the most specialized one by type of application.

LEAN



The design, the concept and the general principles for the machine project are inspired by **lean production** to grant the customer a maximized result.

TECHNOLOGICAL



Dmc metal system, with its advanced technology, comes to the market as a **state-of-the-art dry deburring and satin-finishing process solution** for high production performance.

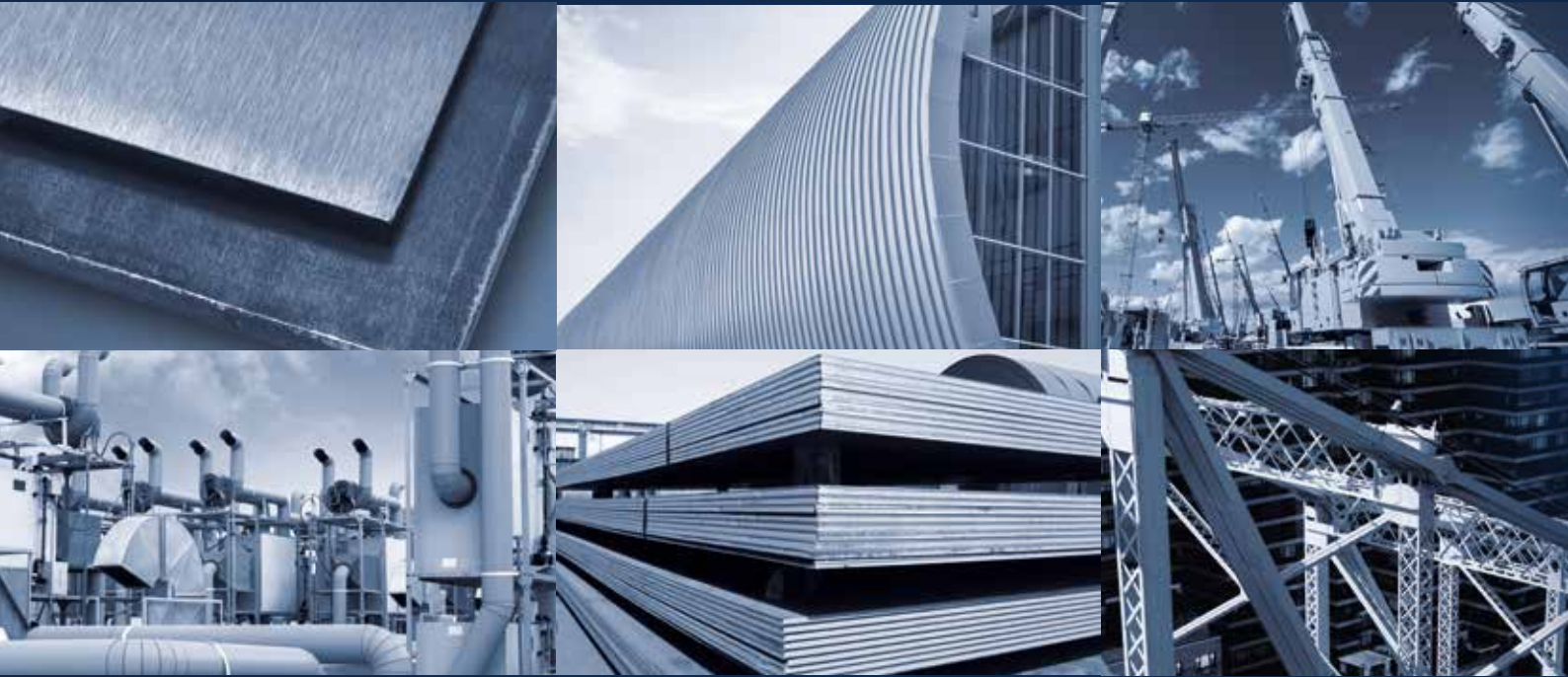
20

SOFTWARE

22

TECHNICAL DATA

APPLICATIONS



building construction | exterior design | fluid power industry



metal constructions | heavy duty machines | metals processing



Genial.

Reliable.

Efficient.

Adaptable.

Technological solutions.

GREAT machines for metal processing.

METAL SYSTEM

DRY DEBURRING-FINISHING MACHINE

From our 70 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 BENEFITS

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.



TECHNOLOGICAL FEATURES

TECHNOLOGICAL ADVANTAGES

A NEW GENERATION OF WORKING GROUP PLANETARY UNIT

An exclusive planetary unit using gears, with brush rotation speed independent of the planetary discs speed thus guaranteeing the best results for edge rounding, 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.

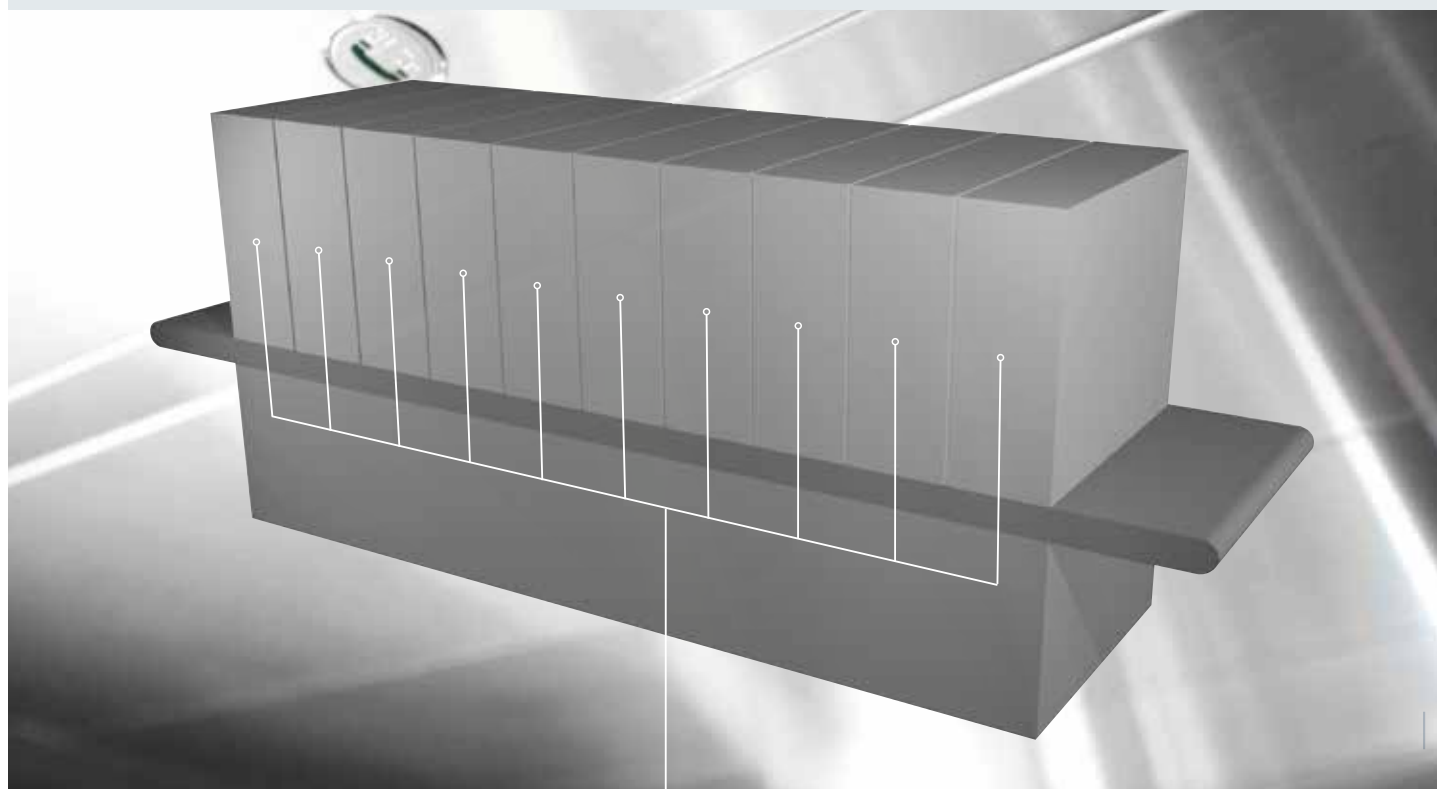
TRANSMISSION SYSTEM DRIVEN BY POLI-V BELTS

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 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).



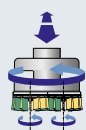
Contact roller
ø 250 mm



Contact roller
ø 320 mm



Contact roller
ø 400 mm



Planetary unit
with disc
brushes



Oscillating unit
with double
discs brushes



Oscillating
non-woven
abrasive drum



Workpiece
cleaning unit
with brush
roller



Workpiece
cleaning unit
with turbo
blowers

OPERATING UNITS

CONTACT ROLLER UNIT



R - CONTACT ROLLER UNIT

A wide range of rollers are available for the 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
- Increased eccentric hub, to mount both traditional abrasive belts or "surface conditioning" belts
- Electronic grit-set for fine adjustment of the working position of the roller through the electronic control
- Timed oscillating blowers, for abrasive belt cleaning and cooling

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).

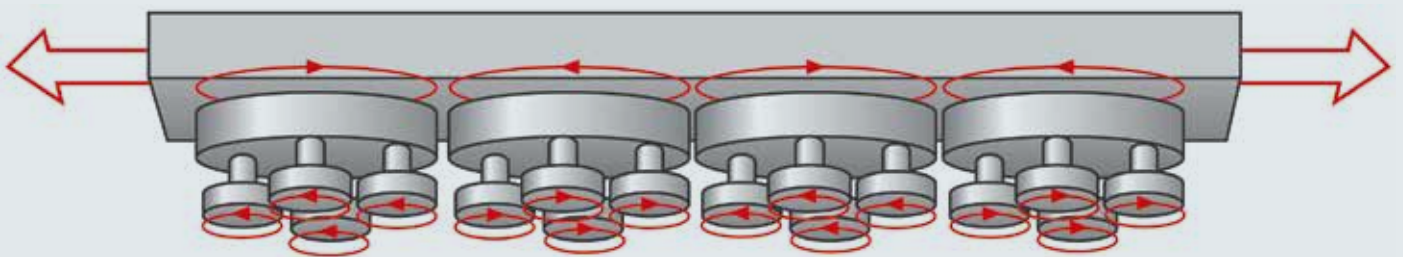
OPERATING UNITS

PLANETARY UNIT



DP - PLANETARY UNIT WITH DISC BRUSHES

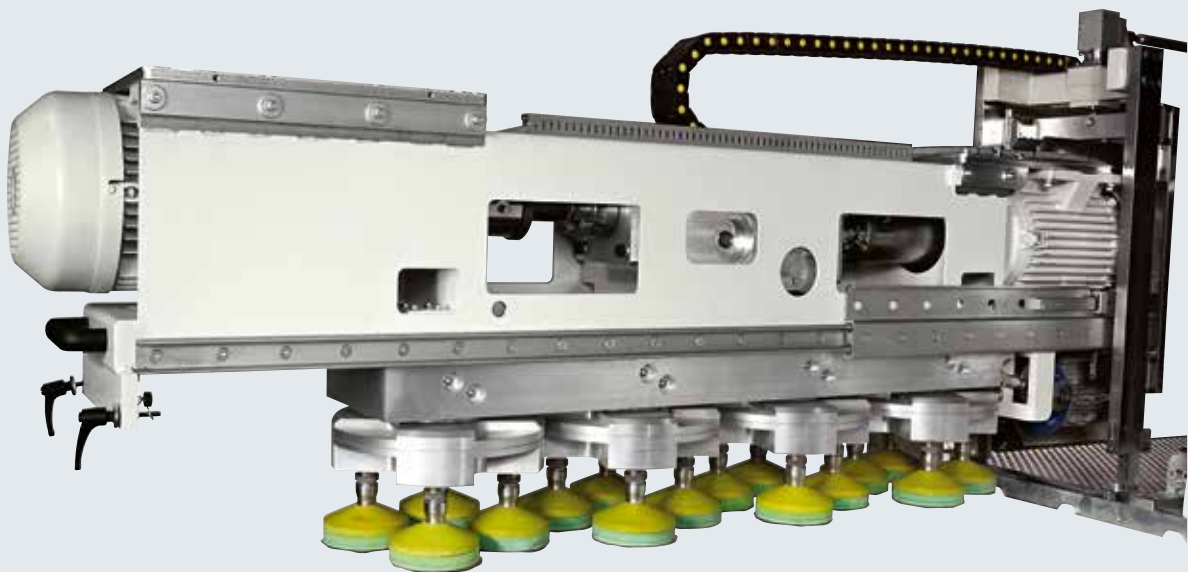
The innovative DP Planetary unit was developed in response to the more **complex needs of deburring and rounding of workpiece edges**. All of the motor transmissions in the unit are driven by sealed and splash lubricated gears (no drive belts are used), thus **ensuring the unit is capable of working 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.



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**.

OPERATING UNITS

OSCILLATING UNIT



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.



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



MAIN CONFIGURATIONS

HIGH PERFORMANCE SOLUTION



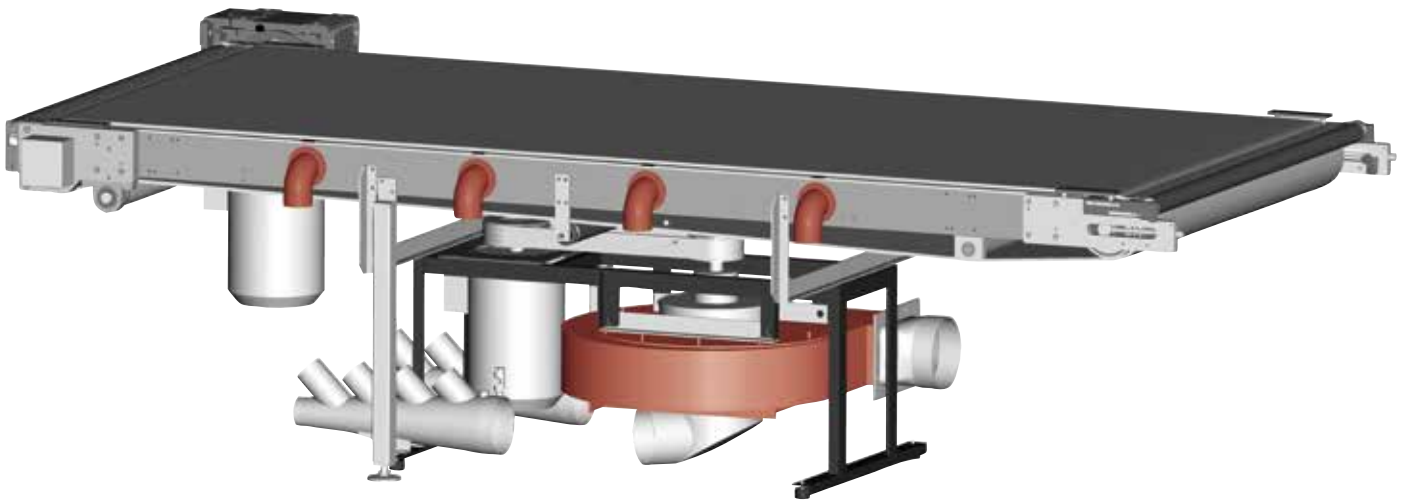
DMC METAL SYSTEM T4 1350 RDDD

dmc metal system T4 1350 RDDD deburring machine is a **heavy-duty 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 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 **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.

MAIN CONFIGURATIONS

HIGH FLEXIBILITY SOLUTION



DMC METAL SYSTEM T2 1350 RD

Compact and flexible, the dmc metal system T2 1350 RD deburring machine was **designed to meet the changing demands**. 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**, "R" 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 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.





Maestro active sand

Maestro active is the new operator interface software which has been unified across all SCM technologies. A single operator can easily and confidently run multiple machines due to controller and interface consistency: regardless the machine, Maestro active maintains the same *look&feel*, with many identical icons and navigation buttons, thus ensuring the same approach to interaction.

EASE OF USE

The new interface has been specifically designed and optimized for immediate use via touch screen. Graphics have been redesigned for simple and comfortable navigation, with tablet-like icons on touch screen controller.

“ZERO” ERRORS

Improved productivity thanks to guided procedures that reduce the possibility of error from the operator's side.

SOFTWARE

Factory

Maestro active sand

Maestro active sand is the innovative software interface specifically designed for automatic dry deburring-finishing machine

FULL CONTROL OF PRODUCTION PERFORMANCES

The creation of customizable reports by operator, shift, program, forecast period (and much more) allows to monitor, optimize and improve the production performance.

ADVANCED PRODUCTION ORGANIZATION

Maestro active sand allows to create different users with different roles and authorizations depending on the machine's use (e.g.: operator, maintainer, administrator, ...), to detect activities, productivity and events that occurred in each shift.

TOTAL QUALITY OF THE FINISHED PRODUCT

With Maestro active sand the quality of the finished piece is no longer put at risk by abrasive belts wear. New tool store management function **enables to execute the inventory** of all the tools available on the store, **to register the belts** and **to automatically prepare bar chart reports to control their status** and to alert the operator when they have to be replaced.

EASY TO USE

Main functions:

- Tool store management
- It indicates the quantity per type of belts and automatically warns when they are running out
- Barcode management: reading of customer's barcode and automatic association of the working programme and working thickness to be used
- Creation of programs for each individual part
- Machine status management
- Following Industry 4.0 principles

MACHINE CONTROLS

dmc metal system
dry deburring-finishing machine



EYE-S CONTROL PANEL: EASILY AVOIDING MISTAKES

Simple and intuitive control panel with 15" touch-screen and **Maestro active HMI**, to improve dry deburring-finishing machine experience.

It allows the machine to be managed in manual mode or with working programs that can be configured by the operator.

"eye-S" includes **new features enabling proper management and costs reduction** of the abrasive tools.

The possibility to store **up to 999 work programs** to recall the most frequently used machine settings makes it **ideal even for less experienced users**.



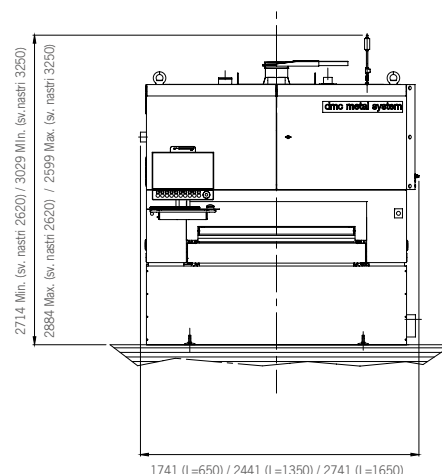
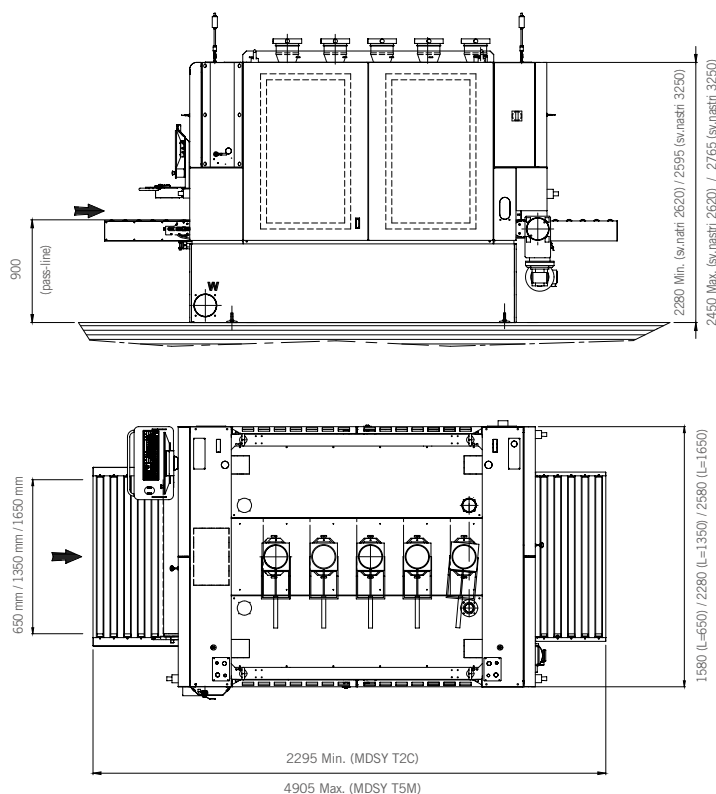
EYE-M CONTROL PANEL WITH MAESTRO ACTIVE SAND ELECTRONIC CONTROL

The "**Maestro active sand**" control allows you to set all the machining parameters from the "eye-M" console with 24" touch screen and **to check the correct operation** of the machine in real time. The powerful industrial PC with an **extremely simple and reliable user interface** can perfectly meet the requirements of even the most demanding operators (opt.).

OVERALL DIMENSIONS

TECHNICAL DATA





DMC METAL SYSTEM

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

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



THE USE OF POWER ONLY WHEN IT IS REQUIRED

SavEnergy allows making things operate only when they are really necessary. It means the machine automatically enters “stand-by” mode when there are no panels to be machined.

**COMPANY WITH
QUALITY SYSTEM
CERTIFIED BY DNV
ISO 9001**

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.



SERVICE AND MAINTENANCE



TRAINING SERVICE



SPARE PARTS



DIGITAL SERVICES

SCM OFFERS A FULL RANGE OF **HIGHLY SPECIALISED SERVICES** WITH A QUALITY AND RELIABILITY THAT STEM FROM 70 YEARS OF EXPERIENCE IN THE INDUSTRY.

From installation and production start-up to services and maintenance. From training to the supply of specific original spare parts: **we provide solutions designed around you!**

CONTACT

SCM SERVICE

via Emilia 77 - 47921 Rimini - Italy
tel. +39 0541 700100
scmservice@scmgroup.com
www.scmwood.com

SCM SPAREPARTS

Via Emilia, 61 - 47921 - Rimini - Italy
tel. +39 0541 674111
spareparts@scmgroup.com
www.scmwood.com



My Scm

WE'LL GO THE EXTRA MILE FOR YOU



SERVICE AND MAINTENANCE

- Remote support
- Scheduled maintenance contracts
- Warranty extension



TRAINING SERVICE

- Courses for machine operators
- Software and programming courses
- Training in production start-up



SPARE PARTS

- Recommended spare parts list
- E-shop
- Interactive spare-parts catalogues
- Repairs on electronic parts, glue tanks and electro-spindles



DIGITAL SERVICES

- Maestro Connect - IoT platform to be constantly connected with your machines
- Smartech - assistance with augmented reality
- My Scm portal - opening of service ticket and single point of access to the apps and Services tools

SOLUTIONS AND SERVICES ALWAYS CONNECTED FOR YOU

SCM, A STRATEGIC PARTNER, BY YOUR SIDE AT EACH STAGE OF YOUR BUSINESS PROCESS

SCM has always stood alongside companies in the woodworking sector, with **technological solutions and services which are constantly connected to maximise the machine's efficiency, improve product quality and reduce operating costs.**

70+ years history

3 main production sites in Italy

300.000 square metres of production space

20.000 machines manufactured per year

90% export

20+ foreign branches

400 agents and dealers

500 support technicians

500 registered patents

SCM GROUP, THE MOST ADVANCED SKILLS AND KNOW-HOW IN THE FIELDS

INDUSTRIAL MACHINERY

Stand-alone machines, integrated systems and services dedicated to processing a wide range of materials.



Woodworking
technology



Composite, aluminium,
plastic, glass, stone, metal
technology



Technologies for the profiles
processing of aluminium,
PVC and light alloy



Automated systems for
industry



OF MACHINERY AND INDUSTRIAL COMPONENTS OVER THE LAST 70 YEARS

INDUSTRIAL COMPONENTS

Technological components for the Group's machines and systems, for those of third-parties and for the mechanical industry.

HITECO

Electrospindles
and technological
components

Les

Electrical
panels

steelmec

Metalworking and
mechanical machining

scmfonderie

Iron castings



SCM GROUP SPA

via Casale 450 - 47826 Villa Verucchio, Rimini - Italy
tel. +39 0541 674111 - scm@scmgroup.com
www.scmwood.com