



SCM SURFACE TECHNOLOGIES.

INTEGRATED WITH A HUMAN TOUCH

3D LAMINATING

In this case, the process will involve sanding, with the innovative units for carving and brushing in the **dmc system range**, the **superfici bravorobot glue** for glue application, the efficient cartesian robots equipped with 3D scanning to achieve the selective spraying of edges and millings.

The process concludes with the **sergiani 3D form hp press**, a solution with high productivity levels and flexibility thanks to the “Flexy Pin” system and the configuration of the press up to three trays, that compact the cycle time into pressing time only. High definition of the end product even with the most complex 3D surfaces.

1 **SANDING:** dmc sanding and 3D effect panels

dmc system calibrating and sanding



This machine is configured with two curving units, a disc group and two abrasive brushes in order to carry out the milling and brushing process in one step.

In particular, we will create a 3D finish on the MDF panels which will then be brushed in order to be ready for the successful painting process.

To help and refresh we repeat the configuration: in this specific case we have **two 3D carving units**, an orbital disc group, and two longitudinal brushes.



The 3D carving unit consists of a planer with the movements of the y and z axis which are controlled by a brushless motor. This allows you to manage movements precisely to create the desired design lines. The planer shaft **can be equipped with knives of different profiles and make incisions that have a depth of up to 2mm**. Thanks the lateral extraction is easy to change the knife.



Following the milling **by means of 3D carving unit**, it is necessary to prepare the surface for the application of glue before the lamination. This operation is carried out by the orbital disc group, equipped with 19 discs which perform an edge rounding, and the longitudinal brushes for sanding the surface.

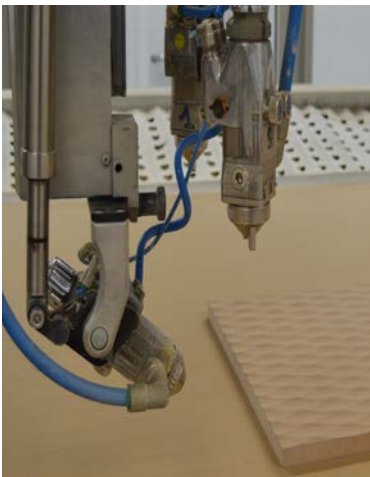
2 SPRAYING: superfici glue application and drying

valtorta bravorobot single spraying arm



GLUE APPLICATION needs extreme precision!

A complete charge of pieces loaded on the infeed conveyor enters in the spraying cabin while the load is going to be detected by a **3D scanner**. The 3D reading system consists of a camera which is able to analyze the pieces in the charge allowing to distinguish curved pieces, flat pieces, frames and milled pieces.



With a control panel and dedicated software the operator can load and customize the spray recipes. The machine has a large spray booth with filtering ceiling and side suction to create downward airflow that minimizes overspray and conveys polluted to the dry filtration systems placed on the side of the conveyor. The polluted air conveyor in the cabin is protected by paper. A paper unwinding and rewinding system always guarantees clean paper in the spraying area.

The spraying arm mounts 4 low-pressure guns, specific for glue application. Two guns are dedicated to the application on the surface, a vertical one is dedicated to the application inside millings and the last one is for the edge spraying. The edge gun has adjustable spraying angle controlled by software.



Once the spraying cycle has been completed, the arm can go to a specific cleaning position where an automatic brush cleans the guns nozzles



TOP IT OFF! The glue application process is completed by a suitable dryer to achieve the correct pre-drying, before going into the press line

2.1 SPRAYING: superfici glue application and drying

valtorta bravorobot double spraying arm



As an alternative to our single arm robot, Bravo 2 is **the double arm execution of our bravorobot**. The machine achieves higher capacity thanks to the availability of two arms. The arms can cooperate to efficiently spray a charge of pieces, thus reducing the required spraying time. The two arms can also work individually, so to have each of the arms dedicated to a specific job or paint type.

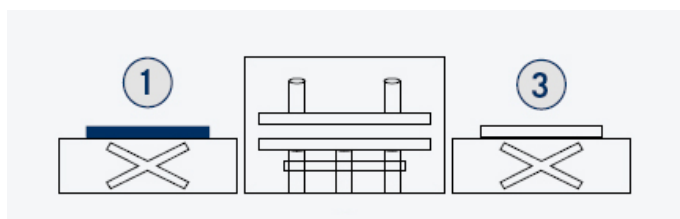


3 PRESSING: 3D panels laminating press

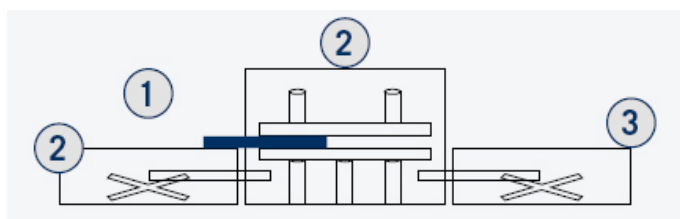
sergiani 3D form hp three trays press version



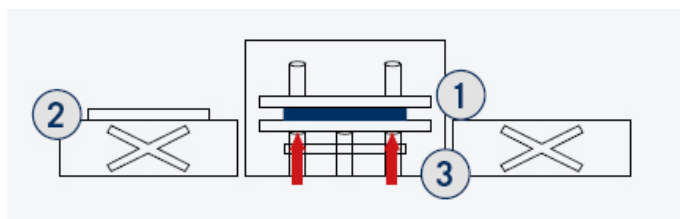
Perfect solution for the company requiring high productivity, reducing downtimes and the cycle time at the pressing time only.



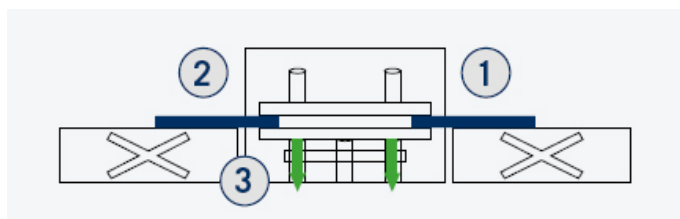
The cycle starts with tray n°1 being loaded in the composition station, tray n° 2 is inside a special daylight under the press while tray n° 3 is waiting at the unloading station.



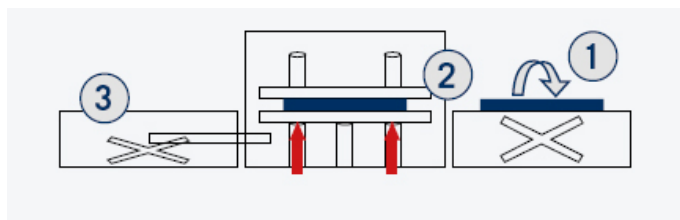
Once loading of tray n°1 is completed, it is sent inside the press, while tray n°2 is brought to the composition station and tray n°3 is inside a special daylight under the press.



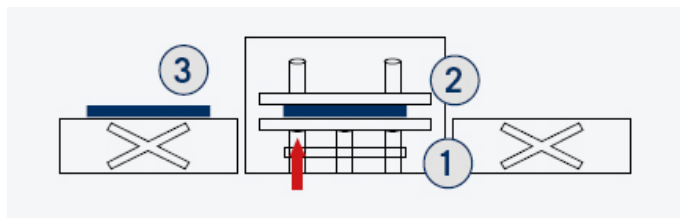
Tray n°2 is prepared in the composition table, while the pressing cycle for tray n°1 starts.



Once the pressing cycle is over, tray n° 1 is brought to the unloading station and simultaneously tray n° 2 is sent inside the press.



Tray n° 2 starts the pressing cycle and tray n°1 is unloaded by the tilting table (opt.). In the meantime, tray n°3 is brought from the daylight under the press to the composition table.



At this point the cycle starts again with tray n° 3 being loaded in the composition station while the pressing cycle for tray n°2 ends and tray n°1 is brought into the daylight below the press.



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