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CNC machining centres: the latest from SCM at Ligna for the furniture industry and solid-wood machining

MORBIDELLI M100: NEW “FLEXDRIVE" SYSTEM

Reliable as an automatic work table, practical as a manual one. This is **FlexDrive**, the new system presented at Ligna for the **morbidelli m100** CNC machining centre for routing and drilling and also available on the morbidelli m90, m200, m220 and morbidelli p200 CNC machining centre for drilling, routing and edgebanding.
Reliability, fast and user friendly are the features of FlexDrive which, thanks to an innovative positioning technology, allows to **manually set up a work table through LED light indicators** positioned both on bars and locking systems.
The main advantage is the elimination of any possible error when positioning the locking systems thanks to automatic verification: if the set-up is not correct, the program won’t start. Indeed, the system is the only one on the market capable of identifying not only the position but also the type of locking systems.
Even set-up times are minimized thanks to the lights that guides the operator by indicating the exact position of the bars and locking systems.
Furthermore, thanks to FlexDrive there is no need for an expert operator: LEDs make the machine more intuitive and user friendly.

Morbidelli m100 CNC machining centre for drilling and routing is highly modular and the answer to every wood-machining problem. This model features "ALL-IN-ONE" technology: indeed, with a single CNC machining centre, it satisfies the needs of companies and artisans from numerous fields.
In addition, the **Maestro cnc** software allows to create and produce pieces of any shape in just a few clicks, making use of specific modules for each production process.
The design of morbidelli m100 means operators can load and unload large sized panels in complete freedom. The **Pro Space** safety system and the absence of perimeter protections guarantee greater availability of occupied space in the factory and allow for maximum loading ergonomics with access to the worktable from all sides of the machine.
Considerable improved productivity is achieved thanks to the drilling heads with **RO.AX spindles** (Rotoaxial spindle technology) which, thanks to the innovative structure and high rigidity, allow higher rotation speeds and can work without maintenance for more than 1,000 working hours.
The possibility of making **tool changes in less than 15 seconds**, thanks to the FAST 14 system, also means clients can save additional time and increase the productivity of more complex programs.
Lastly, the machining unit's high level of configurability offers the machine **maximum flexibility**. It is possible to install up to four work units including the JQX 5-axis electrospindle that ensures total absence of vibration even with large material removal rates for unparalleled finishing.

NESTING, MORBIDELLI X200: NEW IN-CAB LABELLER

Also on display at Ligna is the **morbidelli x200** CNC nesting machining centre for drilling and routing with a new **automatic in-cab labeller**.

This unique SCM device allows automatic label print even without a complete cell, creating an economic and automated system that does not require operator supervision.
The advantage is the **elimination of any possible kind of human error** and a guarantee of an uninterrupted and **continuous work cycle**.
Cleaning and safety are other advantages of this innovative system. The protective case prevents dust and wear of the labeller while the ergonomic position of the labeller ensures total safety during maintainance operations.

M**orbidelli x200** CNC nesting machining centre meets the requirements of a market increasingly focused on "batch 1" flexible productions, combining excellent performance and high levels of configurability. The model allows to perform nesting machining even on shaped pieces, with widely varying sizes and shapes, at **a cutting speed of up to 50 m/min** and unique productivity levels for this technology.
Thanks to the **X-POD** suction cups any machining takes place without removing the spoil panel. This dramatically reduces the machine's set-up times.
The work cycles are further speeded up by the FAST tool changer with 18 positions.
The horizontal drilling is fully flexible, even in nesting, thanks to the lowered spindles.
Another advantage is its **maximum precision**: even the smallest pieces can be blocked during machining thanks to the **new X-Vacuum system** which activates a dynamic vacuum concentrated on the worktable zone where machining is ongoing.
Machining creativity is also enhanced with the **Maestro cnc** software.

MORBIDELLI P200: THE CNC EDGEBANDING REVOLUTION

Visitors to Ligna can take a closer look at **morbidelli p200** in digital form via remote link up with SCM's Technology Center in Rimini.
This machining centre is highly modular because it can perform drilling, routing and edgebanding on panels of any shape.
Customisation and flexibility are some of the main advantages of this machine, which has a wide range of options designed for both batch 1 and project production.
Maximum machining **quality** is ensured by the edgebanding unit that can edge panels of **up to 80 mm thick.**
The highly versatile and freely configurable **TV FLEXMATIC** worktable guarantees zero downtimes for set-up operations and no compromise in performance. In addition, **HE POD suction cups** allow workpieces to be lifted in order to make maximum use of the worktable's dimensions and to obtain more workpieces from a single positioning.
The completely open worktable makes panel loading simple and easy even with large-size pieces (up to Y of 2200 mm).

ACCORD 500: THE NEW CNC MACHINING CENTRE FOR DOORS, WINDOWS, STAIRS AND SOLID WOOD ELEMENTS.

Optimising and speeding up production processes, while simultaneously guaranteeing excellent finishing quality is the accomplishments achieved by **accord 500**, the CNC machining centre on show at Ligna that puts the customer's time at the centre. Each technical feature is designed to save time at the most crucial stages for each industry manufacturer: from machine programming to set-up, from the machining process to maintenance.
SCM **increases productivity by 30%** compared to market standards thanks to the **"gantry" structure** with closed frame that, in continuity with the *accord* project, allows for sturdiness and precision to be achieved even at maximum advancement speed and with the most difficult machining.
The **routing speed** is further increased and now exceeds 15 metres per minute with the new **5-axis KPX** operating unit with Hiteco 17 kW electrospindle, designed to always allow the most complex operations to be carried out rapidly and accurately.

Even the **production cycle times** are **dramatically reduced** with the exclusive **BRC-S** unit, that is even more flexible and compact and allows to complete all the cutting, routing and drilling machinings typical of window components.
Set-up times are also reduced to zero thanks to the **MATIC automatic worktable** with simultaneous positioning of bars and pods or clamping devices: the ideal solution for machining pre-finished elements that involve workpiece repositioning within the programme.
Another significant new entry is the quick access to more than **100 tools** easily available and ready for use with the new **Caddy 35** storage, unique both for its capacity as well as its structure because it is integrated into the machining centre without increasing the machine's bulk.

Tool management is further optimised and simplified by the new **Maestro Power TMS** software, integrated with SCM's Maestro suite. Thanks to this program that maximises the ability of the storage and optimises programming, there is no need for the operator to waste time and energy in looking for the most suitable tool: the software will identify and indicate the tool's exact position in the storage thus minimising machining times.

The cleanliness of the working environment is another crucial issue in solid wood machining; to solve this problem, SCM has designed a new **chip deflector device** that is automatically positioned according to the machining programme, so as to have maximum suction efficiency under all conditions.

HYPSOS: FOR 3D MACHINING OF ELEMENTS WITH MORE COMPLEX SHAPES AND DIMENSIONS

Hypsos is the universal 5-axis machining centre with integrated cabin, designed to process **complex shaped elements** in curved wood or solid wood: armchairs, chairs, stairs, furniture and design furnishing accessories.

The architecture of the machine, characterized by the **large-sized working area** and the **wide vertical stroke** of the machining unit, offers maximum volume availability and new production opportunities.

Completely closed during the processing, hypsos is also fitted with the most efficient dust containment and suction systems to ensure cleanliness of the working environment, safety for the operator and total reliability.

High accuracy thanks to the **sturdy monolithic structure** made of a fixed base with integrated worktable and large section movable beam supporting the machining unit.

The worktable, available in phenolic multilayer or aluminium, has an **integrated vacuum system** and grooves on the entire surface; it is possible to use clamps or suctions cups for performing elements having different shape and size.

The machining unit enables to perform **heavy duty operations** on solid wood to carry out three-dimensional elements with the best finish quality, and the **several automatic tool change solutions** guarantee cycle time reduction.

The productivity is also optimised by **Maestro** active cnc HMI software, installed in all the SCM machining centres, that simplifies the operator's work by monitoring all the required information in real time.