NC PROCESSING CENTRE



RAPID RETURN ON INVESTMENT



THE MARKET DEMANDS

The market demands a change in manufacturing processes, enabling companies to accept the largest possible number of orders. This is coupled with the need to maintain high quality standards whilst offering product customisation with quick and defined delivery times, as well as responding to the needs of highly creative designers.

BIESSE RESPONDS

with **technological solutions** that enhance and support technical expertise as well as process and material knowledge. **Rover B** is the machining centre designed for both skilled craftsmen and large-scale industry. Configurable and high-performance, it ensures a quality finish and is reliable under all working conditions.



ROVER B

- 5 CUSTOMISABLE CONFIGURATIONS FOR THE WIDEST RANGE OF PRODUCTION NEEDS
- VINIQUE TECHNOLOGICAL SOLUTIONS FOR OPTIMAL PERFORMANCE
- **REDUCED TOOL CHANGEOVER TIME**
- MAXIMUM WORKING PRECISION MAINTAINED OVER TIME
- FULL WORKABILITY WITH LARGE PANELS.

A SINGLE WORK CENTRE FOR MANY TYPES OF MACHINING OPERATIONS

2 Y-axes for maximum productivity in all machining operations. It is possible to machine two panels at the same time, and to change the tool while the machine is still running, ensuring that there is always a tool working

on the product.



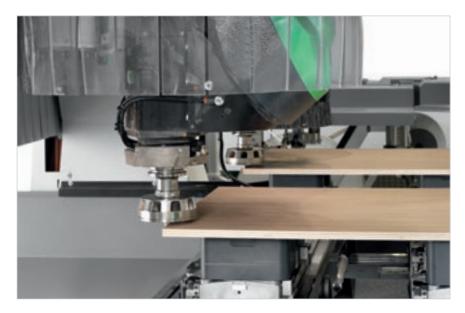
The compact size of the fifth axis combined with the high drilling capacity allows users to perform operations in all production ranges, for processing simple and more complex structures.



This configuration is designed for optimum productivity. Simultaneous machining of two pieces in milling and boring is possible. Tool change can occurr while the machine is running.



The combination of 5 axis together with 4 axis electrospindles allows for flexible production without sacrificing high rates of productivity



TOP-OF-THE-RANGE COMPONENTS



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BHC 42 boring head, liquid-cooled and automatically lubricated. Combined with the rotary unit for horizontal boring operations and blade cuts, it guarantees high-precision boring and 360° orientation for horizontal boring.





Electrospindles, boring heads and aggregates are designed and manufactured for Biesse by HSD, the global leader in the mechatronics sector.



INNOVATIVE GEAR-FREE C AXIS TORQUE - MORE PRECISE, MORE RAPID, MORE RIGID.

REDUCED TOOL CHANGEOVER TIME

The Biesse work table is guaranteed to hold the work piece securely and ensures quick and easy changeover of pod and clamps.



Modules for vacuum locking system. Jig equipped with rubber components to increase the resistance against horizontal forces exerted during edgebanding operations.



Hyperclamps for rigid and precise lock-



ATS (Advanced Table-Setting System) For the quick and easy manual positioning of the clamping systems.



SA (Set Up Assistance)

For the quick, easy and controlled manual positioning of the clamping systems. The linear sensors in the work table, along with the collision control function, reduce the risk of collisions

EPS (Electronic Positioning System)

For the quick, automatic positioning of the clamping systems in the programmed positions. The motors, along with the collision control function, ensure controlled positioning movements to reduce the risk of collisions

FPS (Feedback Positioning System)

evolution of the EPS system, with the addition of linear sensors that indicate the position of the carriages in real time, reducing the time needed to position



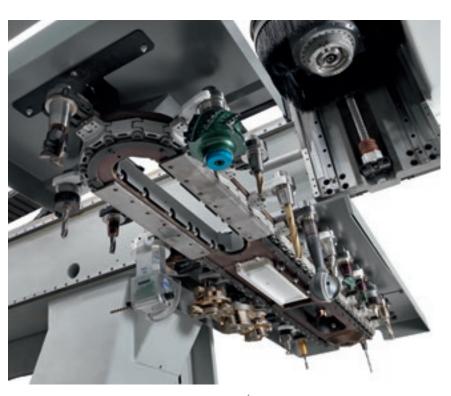
SIMPLE, QUICK WORK TABLE TOOLING





Easy Zone

Supplementary vacuum system for the quick and easy clamping of several elements on the machine.





It is possible to switch from one machining operation to the next with no need for operator intervention for tool changes, thanks to the large number of tools and aggregates available in the tool magazine.



The **Pick Up** station supports automatic tool-holder rack tooling.

AXES

USER-FRIENDLY TECHNOLOGY

The high technological content of the world's most popular machining centres, meets the requirements of wood industry professionals.

The 5-axis operating head, equipped with 13 kW or 16.5 kW HSD spindle and with 360° continuous rotation on the vertical and horizontal axes, enables the machining of complex-shapes ensuring quality, precision and absolute long term reliability.



ABILITY TO PROCESS LARGE SIZES

The Gantry structure has been designed to improve the precision and reliability of machining operations.





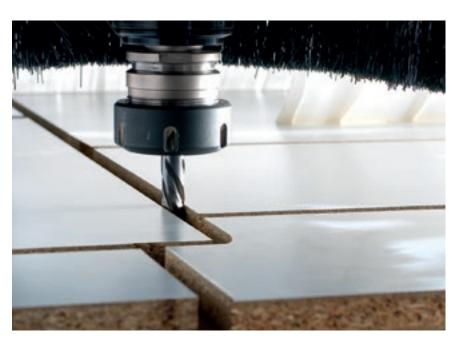
The 290mm piece passage makes Rover A extremely flexible and able to process even considerably thick pieces.

CFT: TWO MACHINES IN ONE





The full functionality and quality of a true pantograph table is guaranteed by the CFT (Convertible Flat Table), which allows for the machining of thin panels, nesting and folding on a machine equipped with a roller bar table.



PRACTICAL DESIGN

An innovative yet simple design is the hallmark of Biesse's distinctive identity.

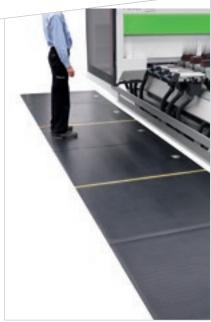
The transparent polycarbonate reinforced protection door is designed to guarantee maximum visibility for the operator. Fitted with 5-colour LEDs indicating machine status, it ensures that processing phases can be easily and safely monitored.



MAXIMUM OPERATOR SAFETY

Safety and flexibility thanks to the new bumpers combined with photocells with no footprint and dynamic tandem loading.





Pressure-sensitive floor mats enable the machine to operate at constant maximum speed.



Side curtain guards to protect the working unit, which are movable to enable the machine to work at maximum speed in total safety.



Remote control panel for direct and immediate operator control.



Maximum visibility of machining operation. **LED bar with 5 colours** showing machine status in real time.

OPTIMAL CLEANING OF MACHINED COMPONENTS AND WORK AREA



Motorised conveyor belt for the removal of chips and waste.

Worktops with hidden connections to provide excellent chip evacuation capacity.



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Adjustable suction hood with 8 settings (for 4 axes) and 12 setting (for 5 axes).

THE MOST ADVANCED TECHNOLOGY CLOSE AT HAND

BPAD

Wi-Fi control console for performing the key functions required during the preparation of the working area and the tooling of the working units and tool holder warehouses.

The bPad is a valuable tool for supporting teleservicing, courtesy of the camera and bar code reader functions.



'BTOUCH

The new 21.5" touch screen which enables you to carry out all of the functions previously performed using the mouse and the keyboard, enhancing the direct interaction between the user and the device. Perfectly integrated with the bSuite 3.0 interface (and with later versions) and optimised for touch, this solution is incredibly simple, and makes the best possible use of the Biesse software functions installed on the machine.

BPAD AND BTOUCH ARE AN OPTIONAL FEATURE WHICH CAN ALSO BE BOUGHT AFTER PURCHASING THE MACHINE, IN ORDER TO IMPROVE THE FUNCTIONALITY AND APPLICATION OF THE TECHNOLOGY AVAILABLE.

INDUSTRY 4.0 READY



Industry 4.0 is the new industry frontier, based on digital technologies and on machines that speak to companies. The products driving this revolution can communicate and interact independently within production processes, which in turn are connected via intelligent networks.



Biesse is dedicated to transforming the factories owned by our customers into real-time factories that are ready to provide digital manufacturing opportunities. Intelligent machines and software become indispensable tools that facilitate the daily work of those who machine wood and other materials on a daily basis.

INDUSTRY 4.0 READY

LOADING AND UNLOADING SOLUTIONS

Automated cell for machining a batch of panels or doors.

Synchro is a loading/unloading device that transforms the Rover machining centre into an automatic cell for producing a stack of panels autonomously (without the need for an operator):

- it eliminates the risk of damage in the case of heavy panels that need to be handled by 2 operators
- it's easy to use, because the machining centre program also contains the Synchro command instructions
- it has limited overall dimensions, and can be positioned to the left or right of the machining centre
- it comes with various configurations, depending on the size of the panels to be handled and the layout of the stacks.





It increases the reliability and the repeatability of the automatic cell operation cycle, even when machining porous materials or those with special finishes, which are often supplied with a protective film.

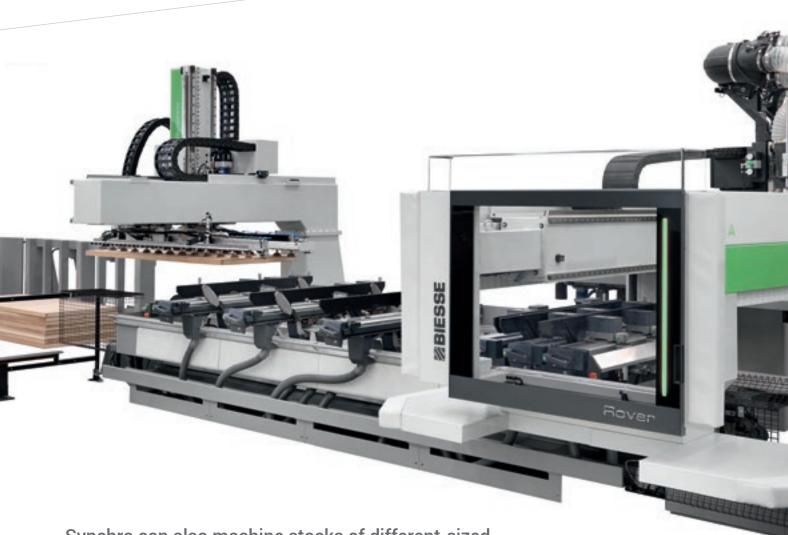




Panel pick-up device with automatic positioning of the suction cup holder rods

In accordance with the size of the panel to be picked up:

- ▼ no operator intervention is required to attach or remove the suction cup holder rods
- ✓ Idle time during format change operations is dramatically reduced
- ▼ the risk of collisions caused by incorrect tooling operations is reduced.



Synchro can also machine stacks of different-sized panels, thanks to stack reference device and the panel pre-alignment cycle, which is performed while the machine is running, while the Rover machining centre processes the previous panel.



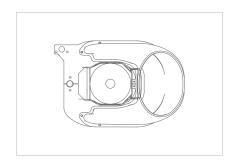


Bar code scanner for automatically sending the machining program of the Rover machining centre.

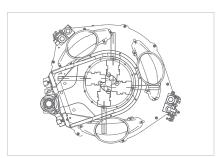
Dedicated configuration for the simultaneous loading/unloading of 2 panels, to maximise machining centre productivity:

- 0 operators
- ✓ 2 panels

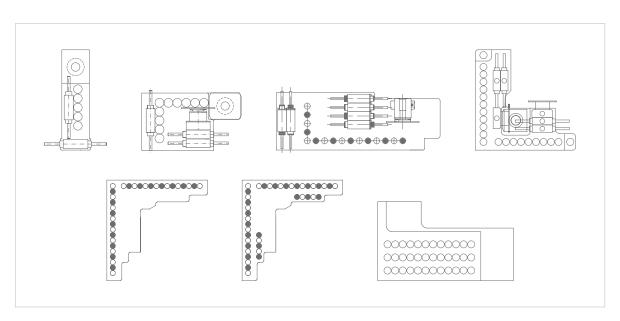
WORKING UNIT CONFIGURATION



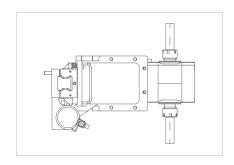
Electrospindle with air or liquid cooling and power options of up to 30 kW.



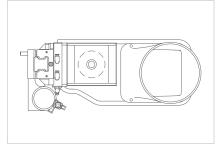
5-axis head with 13 to 16.5 kW power options.



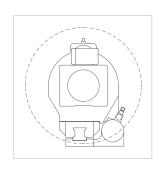
Boring heads available from 9 to 42 spindles: BH9, BH17 L, BH29 L, BH 30 2L, BHC 32, BHC 42, BH 36.



Horizontal milling unit with 2 outputs.



6 kW vertical milling unit.



Multi-function, with 360° rotation.

A COMPLETE RANGE OF AGGREGATES



EXCEPTIONAL FINISH, INCREASED PRODUCTIVITY



Horizontal motor with two outlets for the routing of locks and horizontal machining operations.



Fixed vertical motor dedicated to additional milling machining operations (slot, anti-splintering, etc.).

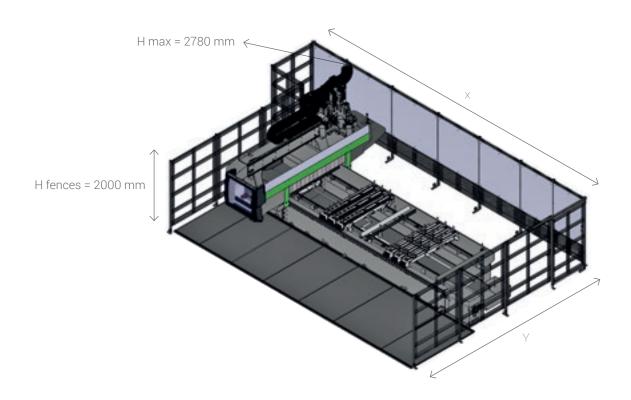


The multi-function unit, which can be continuously positioned over 360° by NC, can house aggregates used to carry out specific machining operations (pocketing for locks, hinge housings, deep horizontal bores, edge trimming, etc.).



The cross-head thickness tracer enables operators to measure panel dimensions with absolute precision.

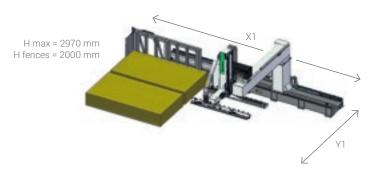
TECHNICAL SPECIFICATIONS



WORKING FIELDS		ROVER B				SYNCHRO	
	Fences			Bumper			
Working table CE (mm)	X	Υ	Х	Υ	X1	Y1	X + X1
Rover B 16.38 conf. 1 - 3	7881	5657	8181	5647	4170	5215	12051
Rover B 16.50 conf. 1 - 3	9094	5657	9364	5647	4170	5215	13264
Rover B 16.67 conf. 1 - 3	10757	5657	11057	5647	4170	5215	14927
Rover B 16.84 conf. 1 - 3	12480	5657	12720	5647	4170	5215	16650
Rover B 19.38 conf. 1 - 3	7881	5857	8181	5797	4170	5215	12051
Rover B 19.50 conf. 1 - 3	9094	5857	9364	5797	4170	5215	13264
Rover B 19.67 conf. 1 - 3	10757	5857	11057	5797	4170	5215	14927
Rover B 19.84 conf. 1, 1 - 3	12480	5857	12720	5797	4170	5215	16650
Rover B 22.38 conf. 1, 1 - 3	7881	6740	8181	6680	4170	5215	12051
Rover B 22.50 conf. 1 - 3	9094	6740	9364	6680	4170	5215	13264
Rover B 22.67 conf. 1 - 3	10757	6740	11057	6680	4170	5215	14927
Rover B 22.84 conf. 1 - 3	12480	6740	12720	6680	4170	5215	16650
Rover B 16.38 conf. 4 - 5	7941	6210	8241	6200	4170	5215	12111
Rover B 16.50 conf. 4 - 5	9154	6210	9424	6200	4170	5215	13324
Rover B 16.67 conf. 4 - 5	10817	6210	11117	6200	4170	5215	14987
Rover B 16.84 conf. 4 - 5	12480	6210	12720	6200	4170	5215	16650
Rover B 19.38 conf. 4 - 5	7941	6410	8241	6350	4170	5215	12111
Rover B 19.50 conf. 4 - 5	9154	6410	9424	6350	4170	5215	13324
Rover B 19.67 conf. 4 - 5	10817	6410	11117	6350	4170	5215	14987
Rover B 19.84 conf. 4 - 5	12480	6410	12720	6350	4170	5215	16650
Rover B 22.38 conf. 4 - 5	7881	6740	8181	6680	4170	5215	12051
Rover B 22.50 conf. 4 - 5	9094	6740	9364	6680	4170	5215	13264
Rover B 22.67 conf. 4 - 5	10757	6740	11057	6680	4170	5215	14927
Rover B 22.84 conf. 4 - 5	12480	6740	12720	6680	4170	5215	16650

WORKING FIELDS

	Fences		Bun	nper
Working table NON CE (mm)	Х	Υ	Х	Υ
Rover B 16.38 conf. 1 - 2 - 3	7881	5457	8181	5497
Rover B 16.50 conf. 1 - 2 - 3	9094	5457	9364	5497
Rover B 16.67 conf. 1 - 2 - 3	10757	5457	11057	5497
Rover B 19.38 conf. 1 - 2 - 3	7881	5657	8181	5647
Rover B 19.50 conf. 1 - 2 - 3	9094	5657	9364	5647
Rover B 19.67 conf. 1 - 2 - 3	10757	5657	11057	5647
Rover B 16.38 conf. 4 - 5	7941	6010	8241	6050
Rover B 16.50 conf. 4 - 5	9154	6010	9424	6050
Rover B 16.67 conf. 4 - 5	10817	6210	11117	6050
Rover B 19.38 conf. 4 - 5	7941	6210	8241	6200
Rover B 19.50 conf. 4 - 5	9154	6210	9424	6200
Rover B 19.67 conf. 4 - 5	10817	6210	11117	6200



WORKING TABLE ROVER B

Working table CE (mm)	Χ	Υ	Z
Rover B 16.38 conf. 1 - 3	3855	1650	245/290
Rover B 16.50 conf. 1 - 3	5055	1650	245/290
Rover B 16.67 conf. 1 - 3	6735	1650	245/290
Rover B 16.84 conf. 1 - 3	8415	1650	245/290
Rover B 19.38 conf. 1 - 3	3855	1930	245/290
Rover B 19.50 conf. 1 - 3	5055	1930	245/290
Rover B 19.67 conf. 1 - 3	6735	1930	245/290
Rover B 19.84 conf. 1, 1 - 3	8415	1930	245/290
Rover B 22.38 conf. 1, 1 - 3	3855	2230	245/290
Rover B 22.50 conf. 1 - 3	5055	2230	245/290
Rover B 22.67 conf. 1 - 3	6735	2230	245/290
Rover B 22.84 conf. 1 - 3	8415	2230	245/290
Rover B 16.38 conf. 4 - 5	3855	1650	245/290
Rover B 16.50 conf. 4 - 5	5055	1650	245/290
Rover B 16.67 conf. 4 - 5	6735	1650	245/290
Rover B 16.84 conf. 4 - 5	8415	1650	245/290
Rover B 19.38 conf. 4 - 5	3855	1930	245/290
Rover B 19.50 conf. 4 - 5	5055	1930	245/290
Rover B 19.67 conf. 4 - 5	6735	1930	245/290
Rover B 19.84 conf. 4 - 5	8415	1930	245/290
Rover B 22.38 conf. 4 - 5	3855	2230	245/290
Rover B 22.50 conf. 4 - 5	5055	2230	245/290
Rover B 22.67 conf. 4 - 5	6735	2230	245/290
Rover B 22.84 conf. 4 - 5	8415	2230	245/290

WORKING TABLE SYNCHRO

Length (min / max)	mm	400 / 3200 *
Width (min / max)	mm	200 / 2200*
Thickness (min / max)	mm	8/150
Weight (1 panel/ 2 panels)	Kg	150 / 75
Useful height of stack	mm	1000
Height of stack from ground (including 145 mm Europallet)	mm	1145

^(*) The Min and Max values may vary in accordance with the configurations of Synchro and the Rover machining centre to which Synchro is linked.

The technical specifications and drawings are non-binding. Some photos may show machines equipped with optional features. Biesse Spa reserves the right to carry out modifications without prior notice.

A weighted sound pressure level (LpA) during machining for operator workstation on vane-pump machine Lpa=79dB(A) Lwa=96dB(A) A-weighted sound-pressure level (LpA) for operator workstation and sound power level (LwA) during machining on cam-pump machine Lwa=83dB(A) Lwa=100dB(A) K measurement uncertainty dB(A) 4.

The measurement was carried out in compliance with UNI EN 848-3:2007, UNI EN ISO 3746: 2009 (sound power) and UNI EN ISO 11202: 2009 (sound pressure levels at workstation) during panel machining. The noise levels shown are emission levels and do not necessarily correspond to safe operation levels. Despite the fact that there is a relationship between emission and exposure levels, this may not be used in a reliable manner to establish whether further measures need to be taken. The factors determining the exposure level for the workforce include length of exposure, work environment characteristics, other sources of dust and noise, etc. i.e. the number of other adjoining machines and processes. At any rate, the above information will enable the operator to better evaluate dangers and risks.

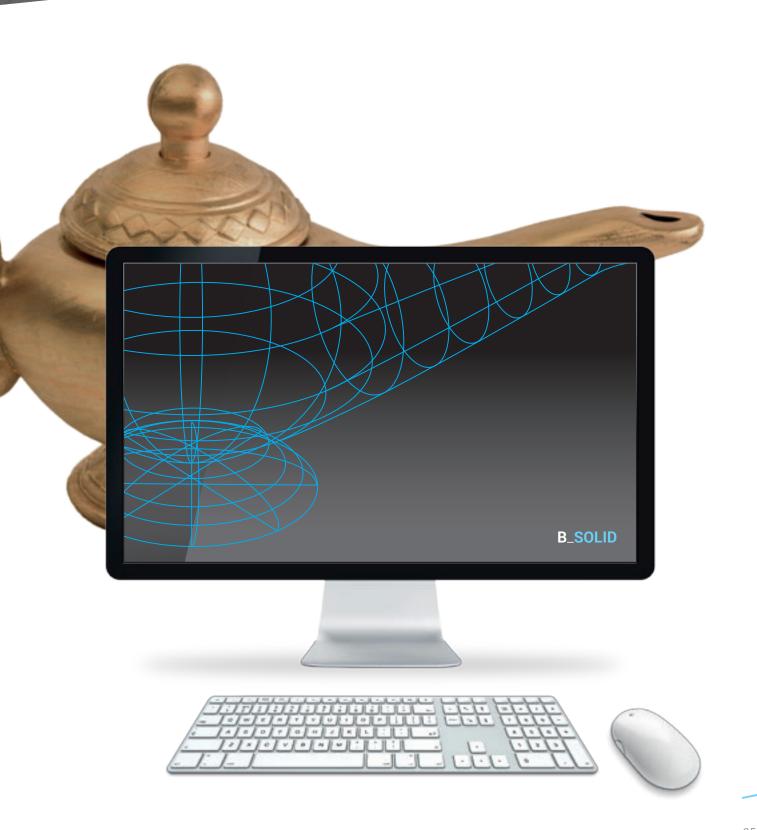
HIGH-TECH BECOMES ACCESSIBLE AND INTUITIVE



B_SOLID IS A 3D CAD CAM SOFTWARE PROGRAM THAT SUPPORTS THE PERFORMANCE OF ANY MACHINING OPERATION THANKS TO VERTICAL MODULES DESIGNED FOR SPECIFIC MANUFACTURING PROCESSES.

- Planning in just a few clicks.
- Simulating machining operations to visualise the piece ahead of manufacturing and have some guidance for the planning phase.
- Virtual prototyping of the piece to avoid collisions and ensure optimal machine equipment.
- Machining operation simulation with a calculation of the execution time.

B_SOLID



IDEAS TAKE FORM AND SHAPE



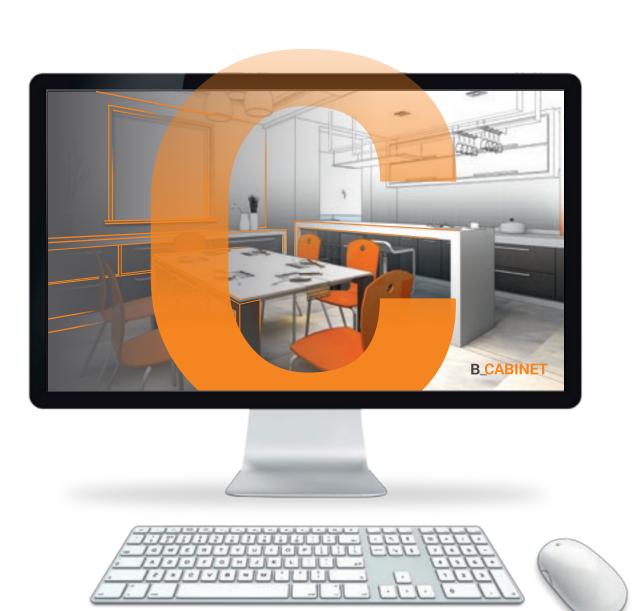
B_CABINET IS A UNIQUE SOLUTION FOR MANAGING FURNITURE PRODUCTION FROM THE 3D DESIGN PHASE TO PRODUCTION FLOW MONITORING.

IT'S NOW POSSIBLE TO PLAN THE DESIGN OF A SPACE AND QUICKLY PASS FROM CREATING THE SINGLE ELEMENTS TO GENERATING PHOTO-REALISTIC CATALOGUE IMAGES, FROM GENERATING TECHNICAL PRINTS TO PRODUCING REQUIREMENT REPORTS, AND ALL IN ONE SINGLE ENVIRONMENT.

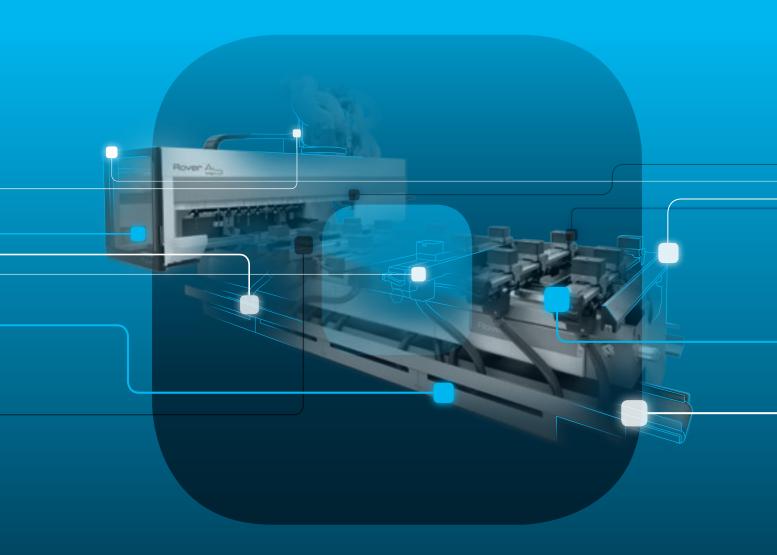
B_CABINET FOUR (SUPPLEMENTARY MODULE) MAKES IT EASY TO MANAGE ALL THE WORK PHASES (CUTTING, MILLING, BORING, EDGEBANDING, ASSEMBLY, PACKAGING), JUST WITH A CLICK.

B_CABINET FOUR INCLUDES AN ENVIRONMENT DEDICATED TO THE REAL TIME MONITORING OF THE PROGRESS OF THE PRODUCTION PHASES. THAT MEANS COMPLETE CONTROL OF THE ORDER STATUS, STEP BY STEP, THANKS TO CHARTS AND 3D IMAGES.

B_CABINET



S PHIA GREATER VALUE FROM MACHINES



SOPHIA is the IoT platform created by Biesse in collaboration with Accenture which enables its customers to access a wide range of services to streamline and rationalise their work management processes.

It allows alerts and indicators to be sent to the customer in real time, in relation to production, the machines used and the type of process carried out. These are detailed instructions for more efficient use of the machine. ■ 10% CUT IN COSTS

■ 50% REDUCTION IN MACHINE DOWNTIME

■ 10% INCREASE IN PRODUCTIVITY ■ 80% REDUCTION IN PROBLEM **DIAGNOSTICS TIME**

SOPHIA TAKES THE INTERACTION BETWEEN **CUSTOMER AND SERVICE TO A HIGHER LEVEL.**



IoT - SOPHIA provides a comprehensive overview of the specific machine performance features, with remote diagnostics, machine stoppage analysis and fault prevention. The service includes a continuous connection with the control centre, the option of calling for assistance from within the customer app (such calls are managed as priorities), and an inspection visit for diagnostic and performance testing within the warranty period. Through SOPHIA, the customer receives priority technical assistance.

PARTS SOPHIA

PARTS SOPHIA is the easy new, user-friendly and personalised tool for ordering Biesse spare parts. The portal offers customers, dealers and branches the chance to navigate within a personalised account, consult the constantly updated documentation of the machines purchased, and create a spare parts purchase basket indicating the real time availability in the warehouse and the relative price list. In addition, the progress of the order can be monitored at all times.





Direct, seamless co-ordination of service requests between Service and Parts. Support for Key Customers by dedicated Biesse personnel, either in-house and/or at the customer's site.

BIESSE SERVICE

- Machine and system installation and commissioning.
- Training centre dedicated to Biesse Field engineers, subsidiary and dealer personnel; client training directly at client's site.
- Overhaul, upgrade, repair and maintenance.
- Remote troubleshooting and diagnostics.
- Software upgrade.

500

Biesse Field engineers in Italy and worldwide.

50

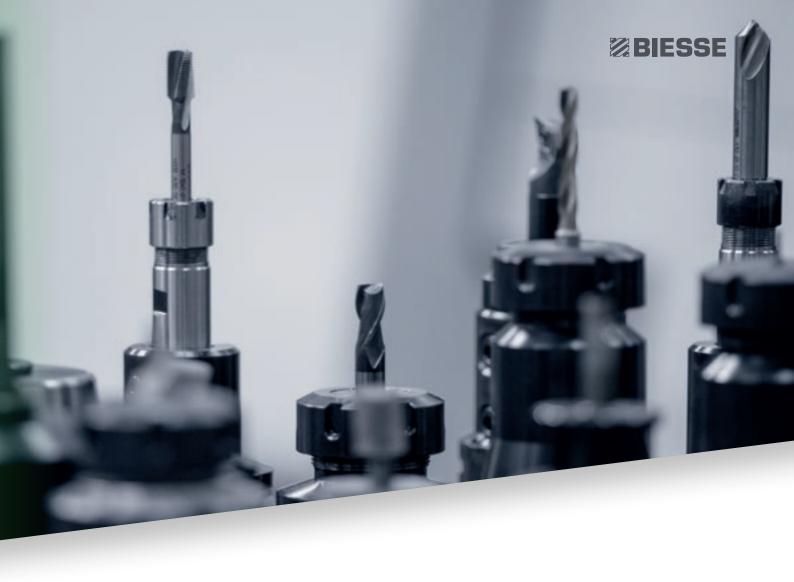
Biesse engineers manning a Teleservice Centre.

550

certified Dealer engineers.

120

training courses in a variety of languages every year.



The Biesse Group promotes, nurtures and develops close and constructive relationships with customers in order to better understand their needs and improve its products and after-sales service through two dedicated areas: Biesse Service and Biesse Parts.

With its global network and highly specialized team, it offers technical service and machine/component spares anywhere in the world on-site and 24/7 on-line.

BIESSE PARTS

- Original Biesse spares and spare kits customized for different machine models.
- Spare part identification support.
- Offices of DHL, UPS and GLS logistics partners located within the Biesse spare part warehouse, with multiple daily pick-ups.
- Order fulfillment time optimized thanks to a global distribution network with de-localized, automated warehouses.

92%

of downtime machine orders fulfilled within 24 hours.

96%

of orders delivered in full on time.

100

spare part staff in Italy and worldwide.

500

orders processed every day.

MADE WITH BIESSE

BIESSE GROUP TECHNOLOGY SUPPORTS THE MANUFACTURING EFFICIENCY OF THE WORLD'S LARGEST FURNITURE MANUFACTURERS

"We were looking for a solution that would be so innovative that it would satisfy all our needs at the same time," states the manufacturing manager of one of the world's largest furniture manufacturers.

"Most of our production was already made using numerical control tools, but now everything that we produce is made with these technologies. This is why it was necessary to increase our production capacity. Biesse offered a solution that we liked very much, a veritable range of processing centres and automatic magazines. Innovative, fascinating and decidedly powerful. With Biesse we defined a "turnkey" solution to be planned, built, tested, installed, inspected and commissioned within a precisely defined schedule".

Source: excerpt from an interview to the manufacturing manager of one of the world's largest furniture manufacturers.



BIESSE TECHNOLOGY PULLS DOUBLE-DUTY AT MCM

One of the secrets to cost-justifying an investment in flexible, labor-saving technology is finding ways to keep it busy.

MCM Inc. of Toronto has mastered that trick of the trade. To maximize the return on investment for some of its plethora of CNC machinery, the company has purchased equipment that can be used both to fabricate parts for its custom office and retail environment projects and to manufacture acoustical ceiling panels it produces for another company. Many of the machines pulling double duty on MCM's shop floor sport the Biesse logo. "For our company, this is a great combination because the CNC machining for the acoustical product is fairly simple; it's just a lot of holes," said Gregory Rybak, who founded MCM, short for Millworks Custom Manufacturing, in 2001. "But having this technology greatly helps us with all of the custom work, especially for very intricate shapes and profiles. The acoustical ceiling panels are helping fill up our capacity, which is why we can afford to have all of these machines. If it were just for custom work, we would never be able to buy all of them." MCM has so many Biesse machines that Rybak said even he loses count. He then proceeded to rattle them off resulting in the following list of 11 Biesse machines: Rover C9 5-axis CNC machining center with a combination table: Rover A 5-axis CNC machining center with a combination table; Two Rover B7 flat table CNC nesting routers; Rover G5 flat table machining center: Rover S CNC machining center with a 4x8 flat table; Rover A 1536G CNC nested-base workcell; Skipper 100 drilling machine, winner of an IWF 2006 Challengers Award: Two Selco beam saws Stream edgebander. Rybak prides MCM's ability to tackle custom retail and office projects most of its competitors can't. In addition to its wealth of woodworking technology, MCM has custom veneer layup capabilities, a 40,000-square-foot metal fabrication shop and a 140-foot-long flat line finishing system. "We truly are a one-stop shop," Rybak said. "We have a lot of processes within our company that most of our competitors do not. We have a full woodshop and a full flat line painting line where we can paint a lot of paneling. Our metal shop is thoroughly sophisticated with CNC lasers, bending machines, and all sorts of welding machines. We also have our own installation crews. When a designer has an idea for a structure that is built in steel, aluminum, solid wood, decorative panels or a combination, we can do it and meet their deadlines." MCM's one-stop-shop approach to servicing customers has served the company well. Over the first 15 years of its existence, MCM has expanded several times and now occupies three buildings totaling 240,000 square feet and employs 250 people. Even working almost around the clock six days a week is not enough to eliminate the need for more space. "We are out the door in our current location," Rybak said. "We are planning on buying another building and having more warehouse space because a lot of our production has to be stored." MCM's newest Biesse machine is a Rover S CNC flat table machining center. It is mainly used in tandem with the Skipper to manufacture acoustical ceiling panels, but also gets pressed into service from time to time to fabricate parts for commercial and office projects. "Making acoustical panels is a very simple process," Rybak said. "The Skipper has 62 boring heads to drill many holes at a time in the veneered MDF panels for sound absorption. While the Skipper is drilling a panel, the same operator is using the Rover S to drill holes from the other side of the board. This makes the operation very fluent and more productive." The Rover S, which is also used to fabricate parts from plastic and non-ferrous metals, replaced the job performed by one of MCM's two Rover B CNC nesting routers. Both Rover B machines are now dedicated to custom products. The Rover C9, a five-axis router with a flat table, is another example of a machine doing production and custom work. "The C9 is a combination machine that we use for the acoustical product but get used more for three-dimensional parts. We recently used the C9 to cut a railing that went through three floors of an office". The railing was actually glued-up solid oak about 2-3/8 inch. The top of the railing for each landing had a fairly intricate spiral design. "The five-axis machines have the most downtime; we may only use them 20 percent of the time." Rybak said. "But without the five-axis capacity we wouldn't be able to do a lot of the parts, like the railings. While you pay a premium for it, for us it's worth it.'

IT'S BEEN A GOOD MARRIAGE. BIESSE IS A WORLD-CLASS SUPPLIER AND HAS BEEN A GOOD COMPANY FOR US OVER THE YEARS IN TERMS OF SERVICE AND SUPPORT







