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NC EDGEBANDING MACHINING CENTRE YEARS **図BIESSE BIESSEGROUP**

WORKING CENTRES FOR SHAPED EDGEBANDING



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

Biesse meets these requirements with technological solutions that enhance and support technical expertise as well as process and material knowledge. Edgebanding machining centres from the Rover B Edge range allow users to carry out machining operations to shape and edgeband panels on a single machine. The wide range of sizes, availability of working units and technologies, means that the Rover B Edge is ideal for medium to large as well as prototype production environments.



ROVER B EDGE

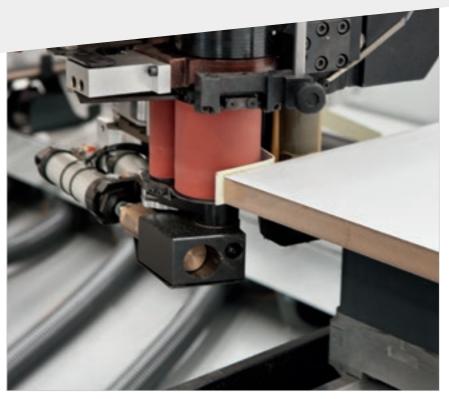
- UNIQUE TECHNOLOGICAL SOLUTIONS FOR OPTIMAL PERFORMANCE
- OPTIMAL EDGE GRIP
- FULL WORKABILITY WITH LARGE PANELS
- **REDUCED TOOL CHANGEOVER TIME**
- OPTIMAL FINISH QUALITY
- HIGH-TECH BECOMES ACCESSIBLE AND INTUITIVE.

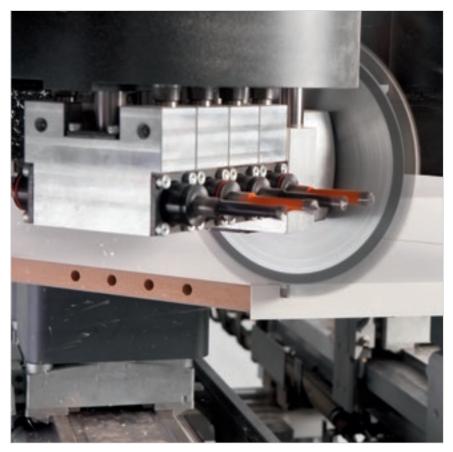
HIGHER STANDARDS ON ANY APPLICATION

Rover B Edge allows you to carry out a wide range of operations on a single machine, ensuring quality, precision and absolute reliability over time.



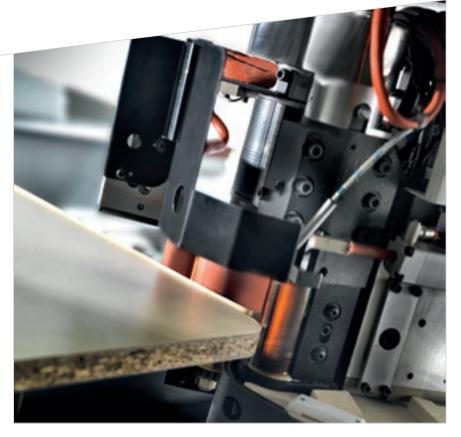






OPTIMAL EDGE GRIP

Optimal edge pressure quality during gluing on shaped panels thanks to the twinroller edge pressure system.



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Similar to straight line edgebanding machines, the glue is applied directly onto the panel in order to ensure optimal adhesion quality. It supports the use of thin or transparent (3D) edges, as well as thicker and sturdier edges.



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Glue feed occurs during the machining process via the granule feeding system within in integrated glue head. With the glue being stored in granules, only the required quantity is released for melting. This ensures optimal adhesion whilst preserving the glue characteristics.

FIRM, STABLE ADHESION

Biesse offers specific solutions for the use of polyurethane glues resistant to heat, humidity and water.



PU granule adhesives.





Additional glue pots fitted with quick-release electrical system for PU granule adhesives.



Nordson pre-melter for high production needs. An exclusive direct injection system for non-stop machining operations at high speed and consumption levels.

Biesse offers specific solutions for the highest quality of the finished piece through the use of RayForceSystem zero-joint technology.



RayForceSystem equipment, interchangeable with the use of EVA or PUR glues, for the highest quality of the finished product.

ROWER EGGE

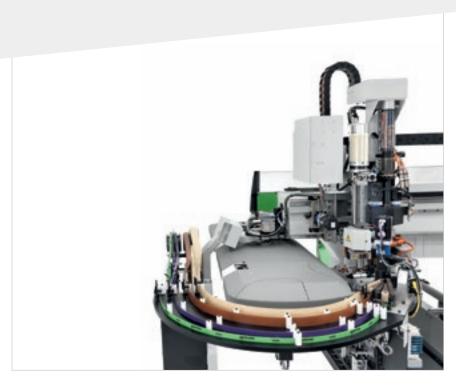
ROBUST EDGEBANDING

Maximum bonding, possibility of applying thin edges and 3D transparent edges, easy maintenance and panel cleaning during the machining cycle.

Edgebanding has always been based on applying glue directly to the panel; Biesse has followed this principle and applied it to straight edgebanding as well as shaped edgebanding performed by machining centres.



SOLUTIONS THAT INCREASE MACHINE PRODUCTIVITY





The automatic edging feeder, mounted on the X carriage, allows the user to change between thin or thicker edges during the same machining cycle.





Quick change of the coils with the banding material container positioned outside the safety fences.

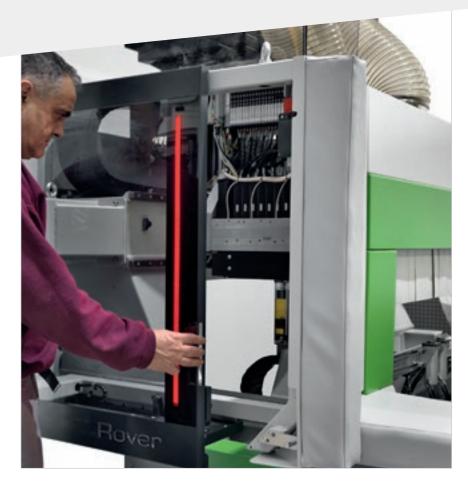






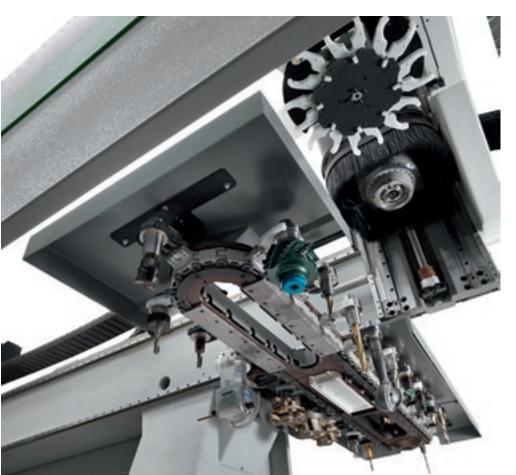


The machine can house up to 41 aggregates and tools.



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Quick and easy drill change due to the exclusive spindle snap-on coupling system.



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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.

MANY SOLUTIONS FOR PERFECT FINISHES

AGGREGATES FOR THE FINISHING OF THE UPPER AND LOWER PART OF THE EDGE APPLIED ON THE PANEL

ET60C



Trimming aggregate, 30 mm or 18 mm minimum internal radius with flat knives.

ETG60C



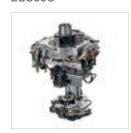
Trimming aggregate, glue scraper, 30 mm minimum internal radius.

ETS60C



Trimming aggregate, non-stick liquid, 80 mm minimum internal radius.

EGS60C



Edgebanding strip scraping aggregate, glue scraper, 30 mm minimum internal radius.

EF60B



Edgebanding strip finishing aggregate with three functions: trimming, edgebanding strip and glue scraping; 30 mm minimum internal radius.





Bench to facilitate the adjustment of the edgebanding strip finishing aggregates and can be used externally to the machine.

A COMPLETE RANGE OF AGGREGATES FOR ALL MACHINING OPERATIONS



Trimming/ rounding tool



Trimming aggregate, 215 mm blade



260 mm blade for 5 axes edge trimming



300 mm blade for 5 axes edge trimming



Edge trimming/ rounding aggregate with horizontal copying function



Finishing aggregate of the edgebanding applied on corners that end up on postformed shapes.

TOP-QUALITY FINISHED PRODUCT



Blower and anti-adhesive liquid dispensing aggregate.



Trimming aggregate with non-stick liquid delivery.



Brusher aggregate with glue removal liquid dispenser.



Cold or hot air blower unit to brighten up the colour of the edgebanding strip.



Blower unit.



4-outlet blower unit for edgebanding strip finishing aggregates.

A COMPLETE RANGE OF AGGREGATES





Aggregate for milling of 90 internal corners.



UNPARALLELED TECHNOLOGY

Biesse's high technology responds to increasingly complex market demands by developing an all-new technology like none other of its kind for the application of edges on shaped panels: RAY FORCE SYSTEM. Its revolutionary nature is based on an exclusive technique which uses infrared lamps to fuse a reactive layer. A solution that is comparable to Air Force System technology applied to linear edge.

The advantages are unmatched:

- r maximum quality of finish,
- r lower electrical consumption,
- r ease of use.



UNIQUE TECHNOLOGICAL SOLUTIONS FOR OPTIMAL PERFORMANCE

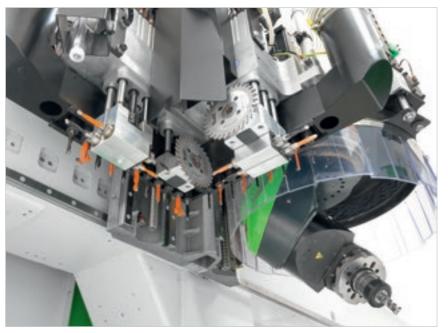
5 customisable configurations for the widest range of production needs.





Technological solutions designed to meet the needs of flexible production without sacrificing productivity. The combination of 5 axis together with 4 axis electrospindles allows the processing of many types of components.

Allows to perform vertical milling operations simultaneously with the two electrospindles (without aggregates).





5-axis operating section of 16.5 kW, designed for solid wood. Greater power and rigidity for using large tools and carrying out heavy-duty removal operations.

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

A team of specialised sales engineers can understand production requirements and suggest the optimal machine configuration.



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3 or 4 axis configuration allows for the processing of all types of furniture elements, with a minimal investment.

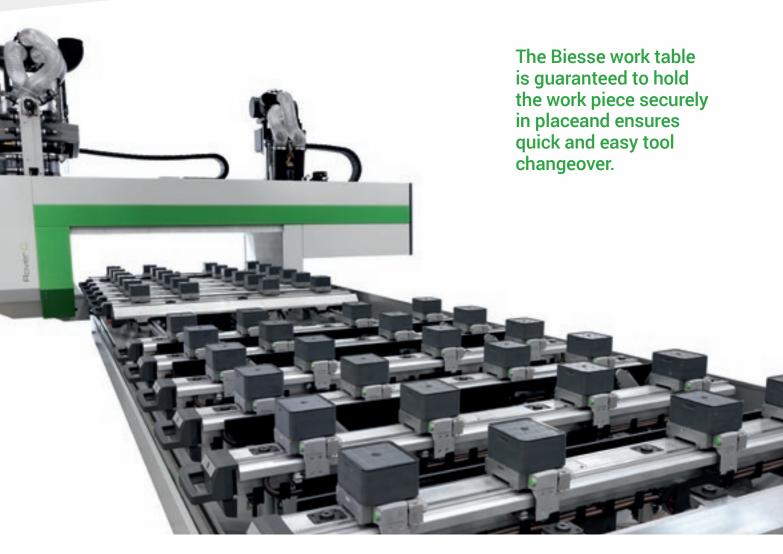




The combination of 4 axis electrospindles allows for flexible production whilst maintaining high rates of productivity.

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.

REDUCED TOOL CHANGEOVER TIME





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



Uniclamp clamps with pneumatic system.



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

DIFFERENT WORK TABLE AVAILABLE ACCORDING TO DIFFERENT NEEDS





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 them.



MAXIMUM WORKING PRECISION MAINTAINED OVER TIME

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





Rigidity and lack of vibration ensures consistent and reliable quality of machined components.

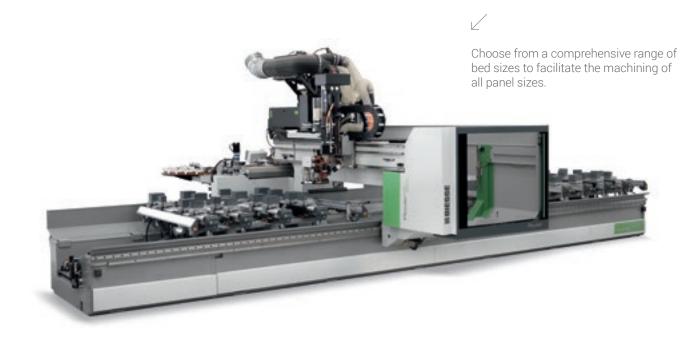




The double X-axis motorisation supports high speeds and accelerations whilst ensuring high quality finish and precision.

FULL WORKABILITY WITH LARGE PANELS

The rigid structure of the machine and the width of the Y axis allows users to machine panel widths of up to 2208 mm with all available tools.





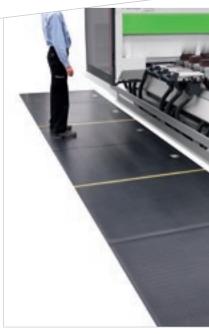


Two machines in one: the full functionality and quality of a true pantograph table are guaranteed by the CFT (Convertible Flat Table), which supports the machining of thin panels, nesting and folding.

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.



NC controlled chip deflector.



6-position adjustable suction hood.

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.

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.

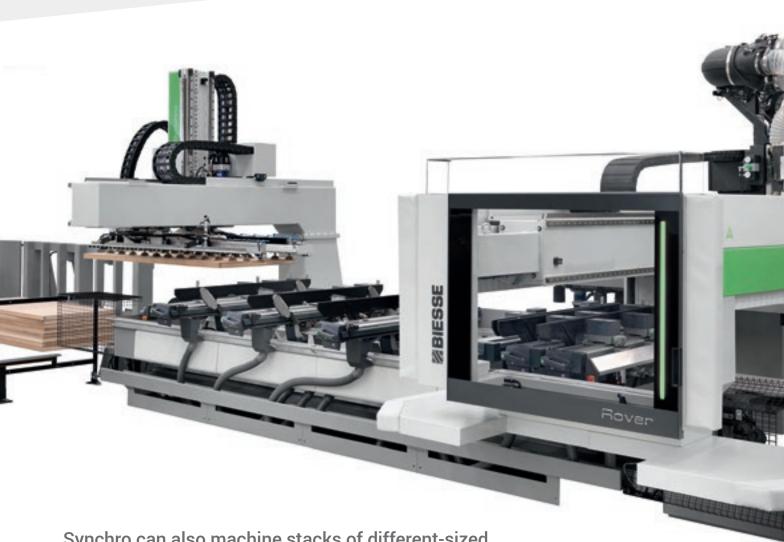




Panel pick-up device with automatic positioning of the suction cup holder rods

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.



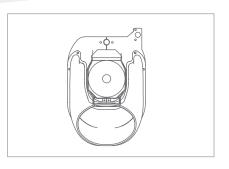


Bar code scanner for automatically sending the machining program of the Rover machining centre.

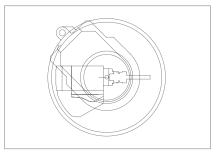
Dedicated configuration for the simultaneous loading/unloading of 2 panels, to maximise machining centre productivity:

- 0 operators
- **►** 2 panels

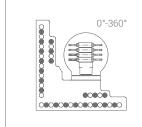
WORKING UNIT CONFIGURATION

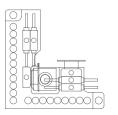


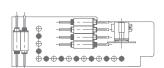
Milling unit with air or liquid cooling, ISO 30, HSK F63 and HSK E63 couplings and power from 13.2 to 19.2 kW.

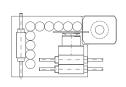


5 axes 13 kW with 24000 rpm or 16 kW with 18000 rpm.



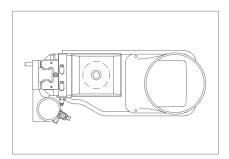




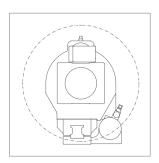


Boring head available from 9 to 56 tools.

Vertical and horizontal boring solutions: BH17 L, BH29 L, BH30 2L or dedicated vertical BHC42 with units for horizontal rotary TCH9 L or fixed TCH14 2L.



6 kW vertical milling unit.



Multi-function, with 360° rotation.











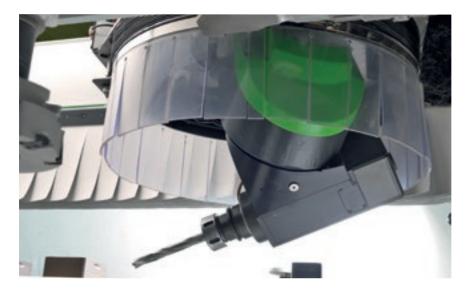
Electrospindles 4 and 5 axis, boring heads and aggregates are designed and manufactured for Biesse by HSD, the global leader in the mechatronics sector.







The new BH30 2L boring head is equipped with automatic lubrication and a metal dust extraction cover which, together with liquid cooling guarantees maximum precision and long term reliability.





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.).

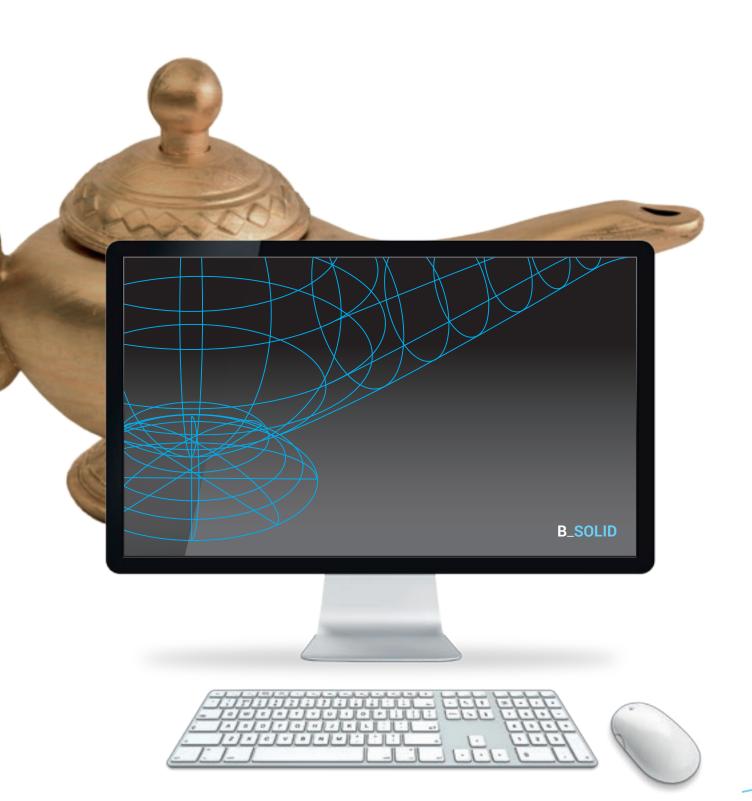
HIGH-TECH BECOMES ACCESSIBLE AND INTUITIVE



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



SIMPLIFYING EDGEBANDING PROGRAMMING



B_EDGE IS A B_SUITE PLUG-IN, SEAMLESSLY INTEGRATED FOR EDGEBANDING PLANNING. BY UTILISING B_SUITE'S DESIGN AND SIMULATION CAPABILITIES, B_EDGE MAKES EDGEBANDING EVEN THE MOST COMPLEX SHAPES, VERY SIMPLE.

- Automatic generation of the edgebanding operation sequence.
- Easy to understand and operate.
- Simplified management of edgebanding aggregates.



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.

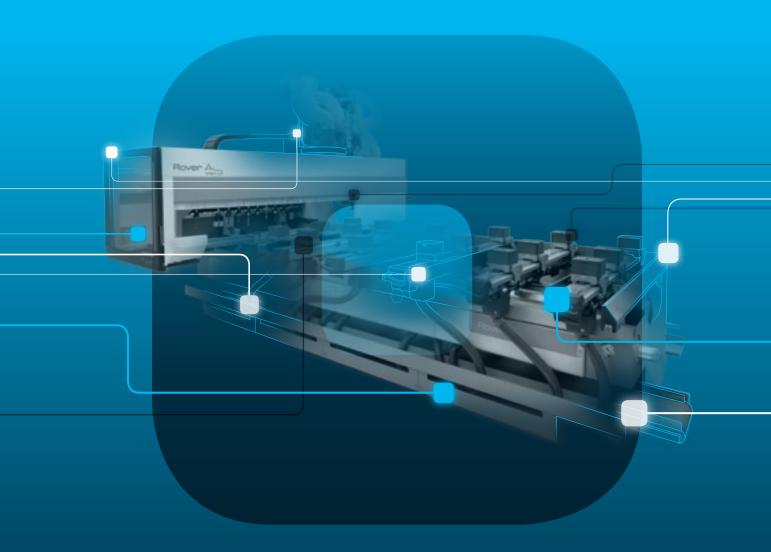
B_CABINET FOUR (SUPPLEMENTARY MODULE) MAKES IT EASY TO MANAGE ALL THE WORK PHASES (CUTTING, MILLING, BORING, EDGEBANDING, ASSEMBLY, PACKAGING), JUST WITH A CLICK.

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 P H I A 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.

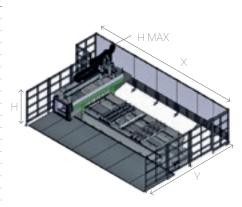




TECHNICAL SPECIFICATIONS

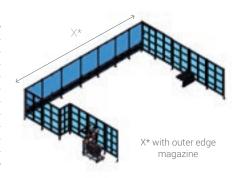
WORKING TABLE

		X1 milling	Y1 milling	X2 edgebanding	Y2 edgebanding		Z2 milling modules H29
Rover B Edge 1638	mm	3855	1600	2900	1600	245	290
	inches	151,8	63,0	114,2	63,0	9,6	11,4
Rover B Edge 1660	mm	5055	1600	4100	1600	245	290
	inches	199,0	63,0	161,4	63,0	9,6	11,4
Rover B Edge 1667	mm	6735	1600	5780	1600	245	290
	inches	265,2	63,0	227,6	63,0	9,6	11,4
Rover B Edge 1684	mm	8415	1600	7460	1600	245	290
	inches	331,3	63,0	293,7	63,0	9,6	11,4
Rover B Edge 1650	mm	5055	1900	4100	1900	245	290
	inches	199,0	74,8	161,4	74,8	9,6	11,4
Rover B Edge 1667	mm	6735	1900	5780	1900	245	290
	inches	265,2	74,8	227,6	74,8	9,6	11,4
Rover B Edge 1984	mm	8415	1900	7460	1900	245	290
	inches	331,3	74,8	293,7	74,8	9,6	11,4
Rover B Edge 2250	mm	5055	2200	4100	22000	245	290
	inches	199,0	86,6	161,4	86,6	9,6	11,4
Rover B Edge 2267	mm	6735	2200	5780	2200	245	290
	inches	265,2	86,6	227,6	86,6	9,6	11,4
Rover B Edge 2284	mm	8415	2200	7460	2200	245	290
	inches	331,3	86,6	293,7	86,6	9,6	11,4



FOOT PRINT

	Χ	X*	Υ	Н	H MAX
	mm	mm	mm	mm	mm
Rover B Edge 1638	8440	8680	5990	2000	2650
Rover B Edge 1650	9620	9860	5990	2000	2650
Rover B Edge 1667	11280	11520	5990	2000	2650
Rover B Edge 1684	12980	13220	5990	2000	2650
Rover B Edge 1950	9620	9860	6340	2000	2650
Rover B Edge 1967	11520	11280	6340	2000	2650
Rover B Edge 1984	12980	13220	6340	2000	2650
Rover B Edge 2250	9620	9860	6680	2000	2650
Rover B Edge 2267	11520	11280	6680	2000	2650
Rover B Edge 2284	12980	13220	6680	2000	2650



WORKING TABLE SYNCHRO

Length (min / max)	mm	400 / 3200 *
Width (min / max)	mm	200 / 2200 *
Thickness (min / max)		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 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.

Il rilevamento è stato eseguito rispettando la norma UNI EN 848-3:2007, UNI EN ISO 3746: 2009 (potenza sonora) e UNI EN ISO 11202: 2009 (pressione sonora posto operatore) con passaggio pannelli. I valori di rumorosità indicati sono livelli di emissione e non rappresentano necessariamente livelli operativi sicuri. Nonostante esista una relazione fra livelli di emissione e livelli di esposizione, questa non può essere utilizzata in modo affidabile per stabilire se siano necessarie o meno ulteriori precauzioni. I fattori che determinano il livello di esposizione a cui è soggetta la forza avoro comprendono la durata di esposizione, le caratteristiche del locale di lavoro, altre fonti di polvere e rumore ecc., cioè il numero di macchine ed altri processi adiacenti. In ogni caso, queste informazioni consentiranno all'utente della macchina di effettuare una migliore valutazione del pericolo e del rischio.

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

MADL 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.



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

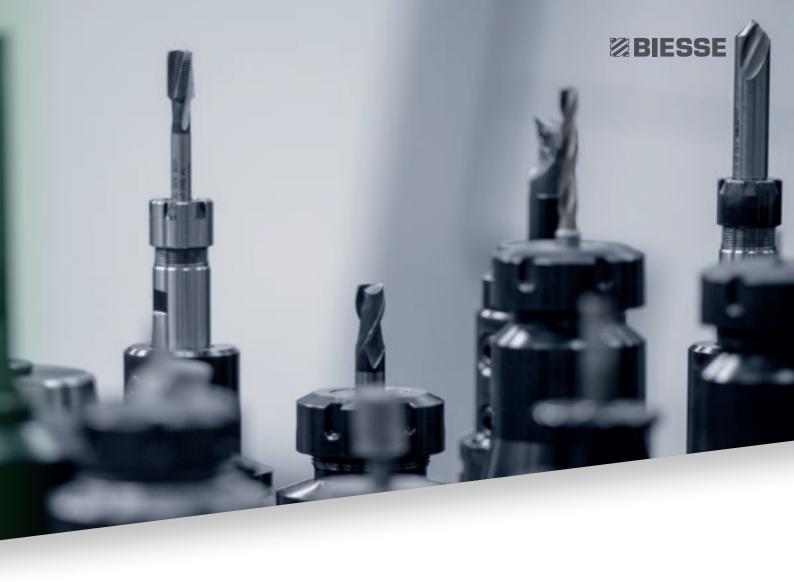
Biesse engineers manning a Teleservice Centre.

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.





