# RO VERPLASTAFT

# CNC MACHINING CENTRE



# TECHNOLOGIES FOR MACHINING TECHNOPOLYMER, COMPOUND MATERIALS, RUBBER AND FOAM



# THE MARKET EXPECTS

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 reliable delivery times**.

# **BIESSE RESPONDS**

with high-tech, innovative solutions for processing technological materials.

**Rover Plast A FT** is the 5-axis machining centre for processing the technological materials typically used for the production of technical articles and in the motor, construction and wind energy sectors.

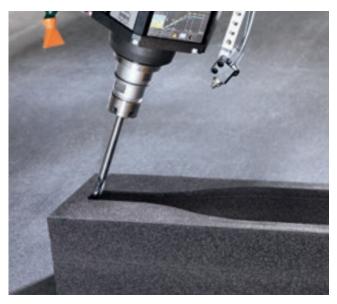


# **ROVER** PLAST A FT

- **A HUGE SELECTION OF APPLICATIONS AND MACHINABLE MATERIALS**
- HIGH PRECISION AND RELIABILITY OVER TIME
- SUITABLE FOR EVERY TYPE OF MACHINING OPERATION: MILLING, CUTTING, ETC.
- **CONFIGURABLE ON THE BASIS OF PRODUCTION NEEDS**

# A SINGLE PROCESSING CENTRE FOR MANY TYPES OF MACHINING OPERATIONS

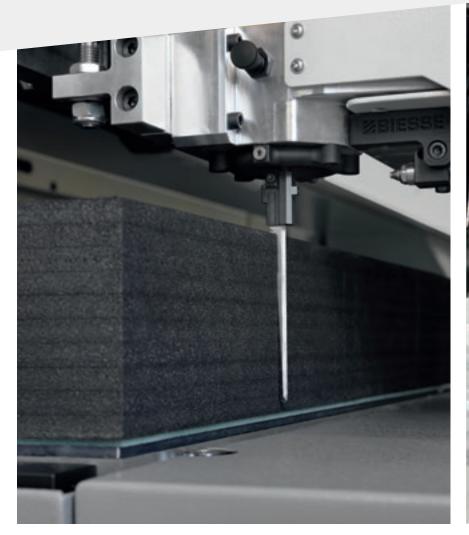




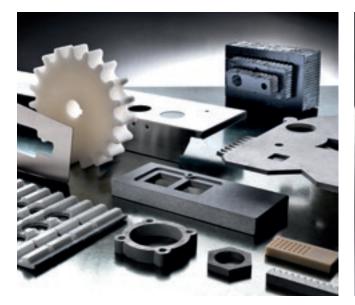
The 5-axis unit with direct drive motor offers maximum flexibility in inclined and interpolated machining operations, with no need to fear excessive stress.

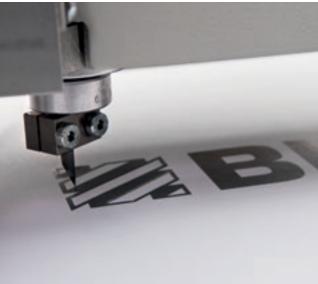
# **ROVER** PLAST A FT

BIESSE PROVIDES TECHNOLOGICAL SOLUTIONS FOR PROCESSING THE MOST COMMON MATERIALS REQUESTED BY THE MARKET: PE, PP, PVC AND PMMA, BUT ALSO COMPOUNDS, TECHNOPOLYMERS, RUBBER, EXTRUSIONS AND FOAMS.



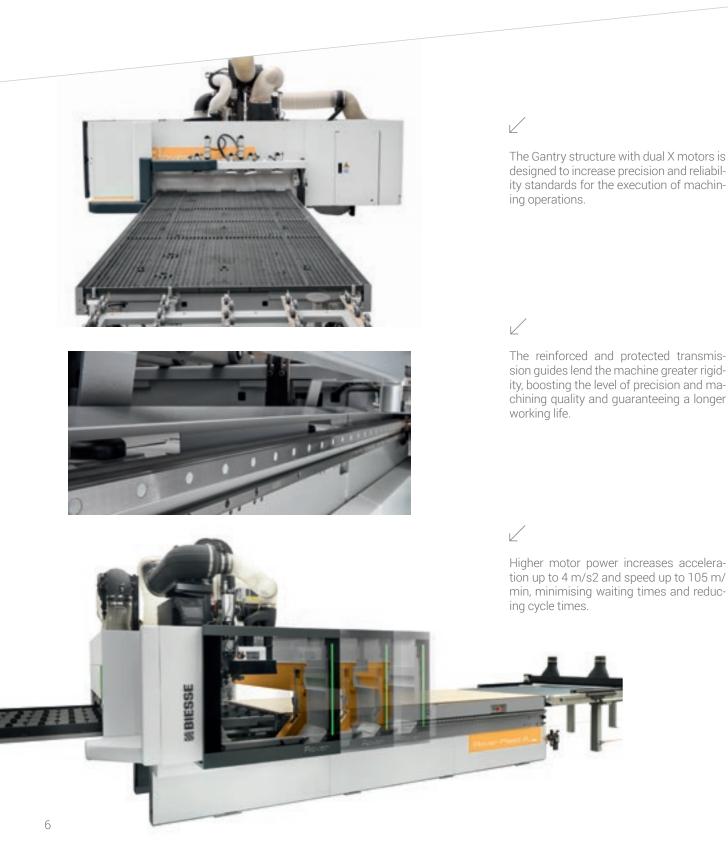






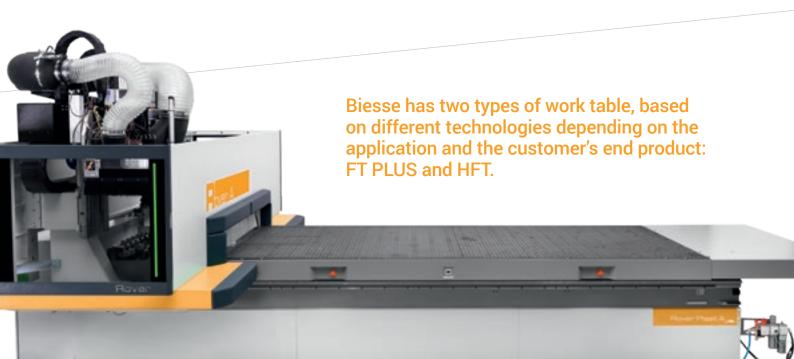
# RELIABLE TECHNOLOGY

The Rover Plast A FT is the ideal solution for machining materials of different formats, size, thickness and density. The extremely rigid and well-balanced structure is designed to withstand notable machining strain and ensure high levels of precision.



# WORK TABLES, UNIQUE ON THE MARKET

All Biesse FT tables use multi-zone technology, with areas where the vacuum is activated independently by the NC, allowing even the smallest pieces to be locked and minimising vacuum loss.





### FT PLUS

Allows Uniclamps to be used to clamp complex, small materials in place. The extensiveness and increase in payload provide maximum flexibility across machining operations.



### HFT (HIGH FLOW TABLE)

Inspired by the experience of our customers. The high vacuum flow rate renders the work table ideal for machining operations on sheets with automatic loading and unloading.



**FT modules with aluminium adapter** The FT PLUS table facilitates the positioning of the modules, ensuring maximum stability.



**The vacuum modules can be directly positioned on the support panel** The modules can be quickly and easily used, even without the auxiliary vacuum system, without compromising the hold on the material.

# TOP-OF-THE-RANGE COMPONENTS

Maximum results thanks to the option of equipping the machine with 5-axis technology.



### Air Jet system

cools the material and the tool during machining, using air that's up to 60° colder than the ambient temperature to improve the finish of the piece and lengthen the lifespan of the tool.

### Ioniser for neutralising electrostatic charges

eliminates the electrostatic charges that build up on the material being processed, aiding chip evacuation and improving the machining quality whilst helping to keep the machine and the working area clean.

### C AXIS TORQUE: MORE PRECISE, QUICKER, GREATER RIGIDITY

Electrospindles for every application: up to 19.2 kW or 36000 rpm.

The Rover Plast A FT can be fitted with the same components used on other top-of-the-range models. The electrospindle and aggregates are designed and manufactured for Biesse by HSD, the global leader in this sector.



# **ROVER** PLAST A FT

# TOOL MAGAZINES THAT CAN BE PERSONALISED TO MEET PRODUCTION NEEDS



### $\swarrow$

The rack magazine with 13/16 positions provides a simple and functional solution whilst keeping the overall dimensions of the machine as compact as possible.



8-position revolver integrated into the machine beam.





Revolver magazine with 8 overhead positions and 16 on the X carriage, enabling cycle times to be reduced to a minimum.

Tool change magazines with a total of up to 32 spaces. All tools and aggregates available at all times, with no need for operator intervention for tooling when switching from one machining operation to the next.

# PROCESSING FLEXIBILITY

The machine can be equipped with cutting units with different types of blade and geometry, to meet every type of requirement.

The machine can be fitted with **two cutting units**, guaranteeing optimum machining efficiency and the maximum diversification of the possible applications. The titanium components in the cutting unit guarantee long term life, reliability and quality.

The cutting unit can also house the **video camera for the optical recognition of the print markers**, which is a particularly useful feature in the graphic sector. The video camera can guide both the cutting units and the electrospindle.



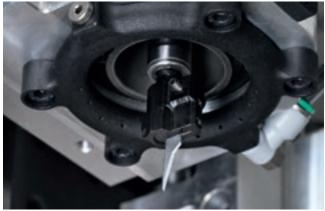


### Tool lubrication system for cutters

enables the blade to slide more smoothly in particularly dense or elastic materials, thanks to an air-oil nebulisation system that guarantees tool lubrication during the cutting operation.



**Extremely quick and simple blade changes** The operator can make a blade change in just a few steps, limiting the machine downtime.



Blower device for cutting units reduces blade overheating and hence the risk of damage to certain types of material, at the same time keeping the cutting area clean and free of dust and other machining waste.

# **ROVER** PLAST A FT

# COMPLETE DEVICE KIT FOR CUTTING UNITS WITH PLUG & PLAY REPLACEMENT



## $\swarrow$

The cutting unit can be equipped with long-range or high-frequency oscillating cutters, dragging cutters and cutters with circular blades, creasing machines and other interchangeable "plug & play" devices: it's possible to switch from a cut made with an oscillating blade to one made with a roller, or to a creasing, in a few simple steps.

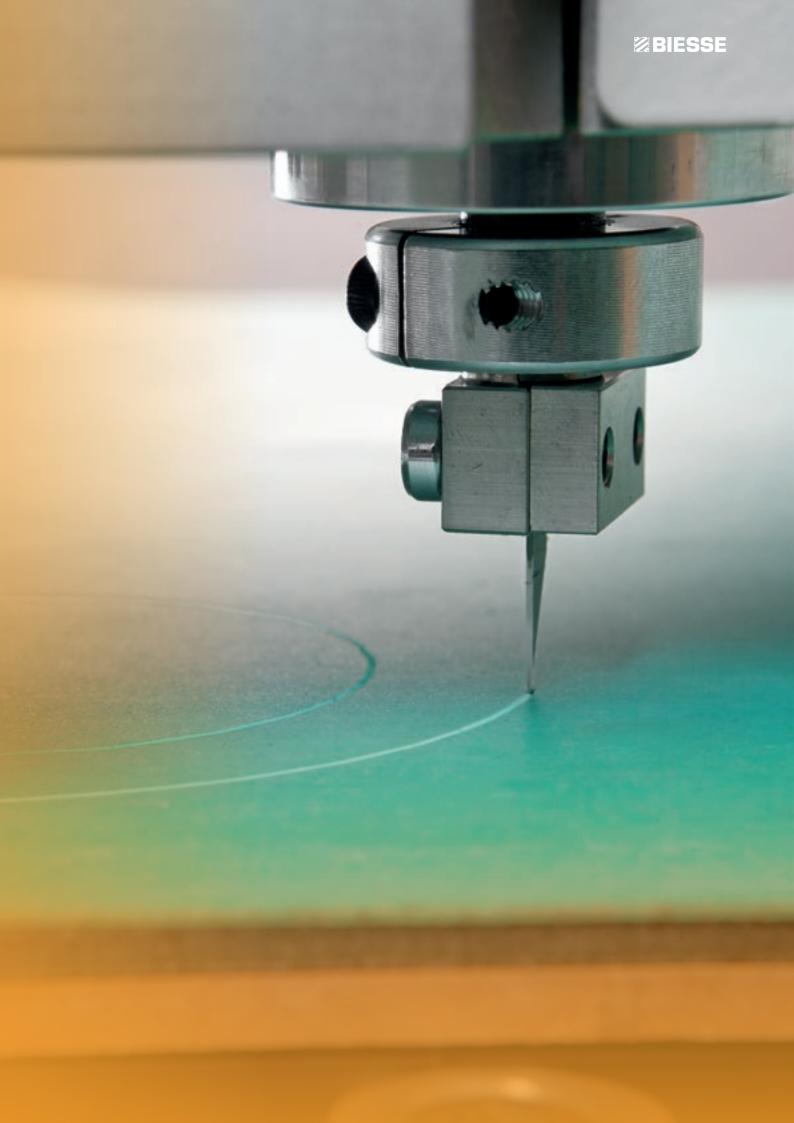
# POSSIBILITY TO MACHINE VERY THICK MATERIAL, OVER 100 MM



# PERFORMANCE WITHOUT LIMITS

The high technological content of the world's most popular machining centres meets the requirements of operators who process technological materials.

The only solution for performing milling and cutting operations on technological materials. The tangential/oscillating blade, combined with the video camera for the optic recognition of the print markers, makes the machine more versatile so it can adapt to every market requirement. The precision and quality of Rover's technology support the perfect execution of all machining operations typical of a processing centre.



# A MULTITUDE OF POSSIBLE CONFIGURATIONS

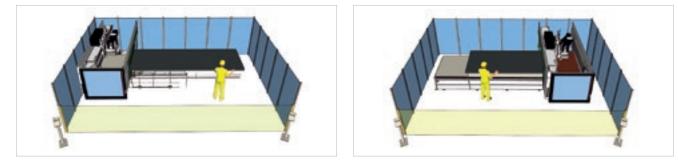
# FULL BUMPER CONFIGURATION: COMPACT AND ERGONOMIC

The full bumper version of Rover Plast A FT is one of the most compact solutions on the market.



**ROVER** PLAST A FT

# **PENDULAR CONFIGURATION: PRODUCTIVE AND SAFE**



The machine can be configured with tandem loading in order to alternately process sheets. This allows for loading or unloading to be carried out during machining operations.

# CONFIGURATION WITH AUTOMATIC LOADING AND UNLOADING SYSTEM: MAXIMUM EFFICIENCY

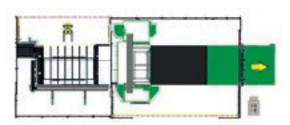


Rear access door to reduce tooling times.

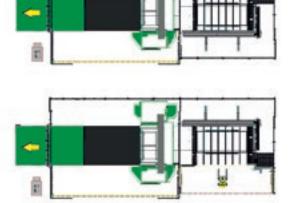
# CAN BE FULLY INTEGRATED INTO A WORKING CELL

 $\checkmark$ 

Rover Plast A FT can be adapted according to work flow and in line with customer requirements.



**Loading/unloading operations** are carried out simultaneously, allowing the operator to remove completed components from the unloading station in the utmost safety whist the machine is already processing the next material.





The technology of the independent suction cups for loading with detachment systems delivers a load flexibility that is unrivalled on the market.



# INVERTED FLOW LOADING SYSTEM

The suction cup loading system is fitted in accordance with the customer's flow requirements, to optimise internal logistics.

# LOADING AND UNLOADING SOLUTIONS

# SOLUTIONS DEDICATED TO THE MANAGEMENT OF POROUS AND THIN MATERIALS





The new alignment system manages the detachment and aligned loading of porous and/or thin materials up to 3 mm thick, or with strong bonding.

# Sheet loading systems with scissor lifter and automatic sheet alignment

The system's ease of use ensures long term reliability. The loading pallet positioned close to the machine ensures the overall dimensions on the ground remain compact.





 $\swarrow$ 

Sheet identification and traceability within the production flow thanks to **on-demand labelling system with touch screen**.

# ADVANCED LOADING SOLUTIONS, UNPARALLELED RELIABILITY





# **ROVER** PLAST A FT

The patented loading system, using collets, allows the loading of books of panels (or highly porous panels) that it would otherwise be impossible to move with the suction cups.



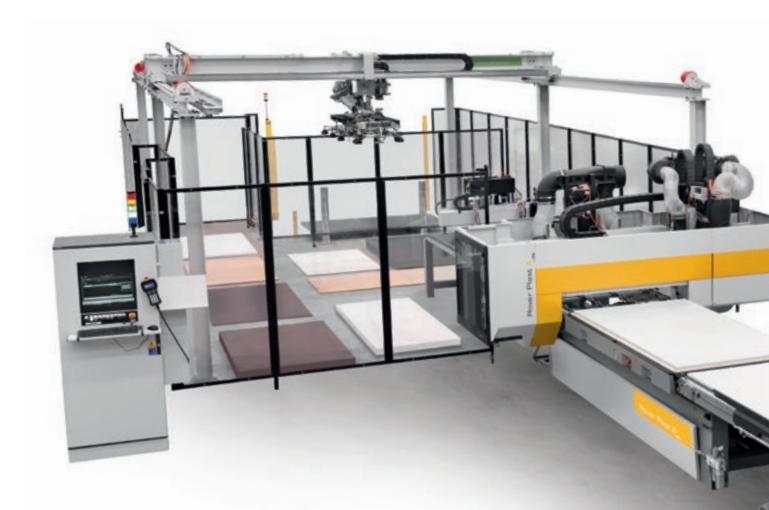




 $\swarrow$ 

The **roller presser** allows up to 3 overlapping sheets of porous material to be machined. Thanks to the automatic unloading function, there are no limits in the use of the working units.

# LEAN, EFFICIENT PRODUCTION FLOWS



**Winstore** is an automated magazine for the optimised management of sheets for companies who wish to increase their productivity, guaranteeing production with reduced times and costs.

Rapid return on investment thanks to increased performance and reduced costs

Production flow optimisation

Integration in the production line





The **Winstore** ensures that the materials to be machined are easily accessible at all times, so it is possible to substantially increase cell productivity compared to manual loading methods using a forklift truck, without frequent stack changes.

- Reduced delivery times
- Reduced warehouse space required
- Reduced labour
- Waste reduction
- Less risk of damaging materials



# **PROTECTION AND SAFETY FOR ALL MACHINING OPERATIONS**

Thanks to the bumper solutions combined with photocells, the operator can work in fully safe conditions and without any working area on the ground.

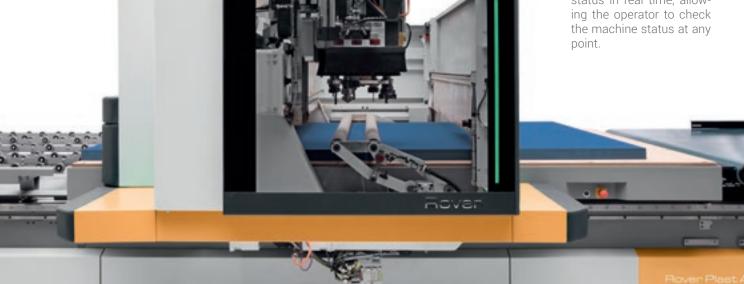




The large hatch, which can be opened, facilitates access for tooling operations and for cleaning the front of the machine.

# MAXIMUM VISIBILITY **OF THE WORKING UNIT** FROM ANY POSITION

LED bar with 5 colours, indicating the machine status in real time, allowing the operator to check the machine status at any point.

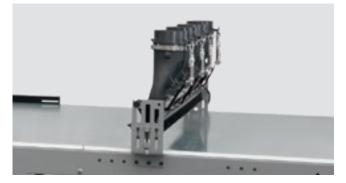


# EFFECTIVE DUST REMOVAL SYSTEMS

The machining of technological materials requires the complete and constant cleaning of the material being processed, to ensure high quality standards. Biesse can provide various dust and chip removal systems.

**New suction hoods** that can be adjusted in 12 positions (3 axes) or 19 positions (5 axes) for machining plastic materials, designed with a geometry that enables excellent chip removal and eliminates the risk of damaging the material being processed. The hood is electronically controlled by means of an axis, keeping it positioned just a few millimetres away from the sheet during the machining operations.





System with 2 to 4 suction hoods positioned above the unloading belt.

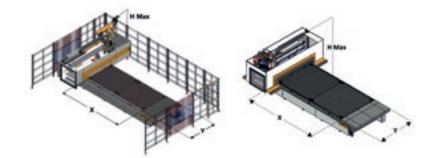


Chip removal system positioned between the machine and the unloading belt, guaranteeing optimal sheet cleanliness.



Intake manifold positioned at the end of the belt.

# TECHNICAL SPECIFICATIONS



### **WORKING FIELDS AND HEIGHT Z**

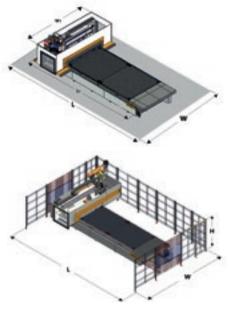
		X	Y	Pendular 4/5 axes NO suspension	Z	H max
Rover Plast A FT 1224	mm / inch	2465 / 97	1260 / 50	809/751 - 32/30	170(*)/200/250 - 6,7*/8/10	2750 / 108
Rover Plast A FT 1531	mm / inch	3100 / 122	1560 / 61	1126/1069 - 44/42	170(*)/200/250 - 6,7*/8/10	2750 / 108
Rover Plast A FT 1536	mm / inch	3765 / 148	1560 / 61	1459/1401 - 57/55	170(*)/200/250 - 6,7*/8/10	2750 / 108
Rover Plast A FT 1564	mm / inch	6450 / 254	1560 / 61	2801/2743 - 110 /108	170(*)/200/250 - 6,7*/8/10	2750 / 108
Rover Plast A FT 1836	mm / inch	3765 / 148	1875 / 74	1459/1401 - 57/55	170(*)/200/250 - 6,7*/8/10	2750 / 108
Rover Plast A FT 2231	mm / inch	3100 / 122	2205 / 87	1126/1069 - 44/42	170(*)/200/250 - 6,7*/8/10	2750 / 108
Rover Plast A FT 2243	mm / inch	4300 / 169	2205 / 87	1726/1669 - 68/66	170(*)/200/250 - 6,7*/8/10	2750 / 108

### SPEED

		x	Y	Z	Vector
Full bumper	m/min	25	60	20	65
	ft/min	82	197	66	213
High speed	m/min	85	60	20	105
	ft/min	279	197	66	213

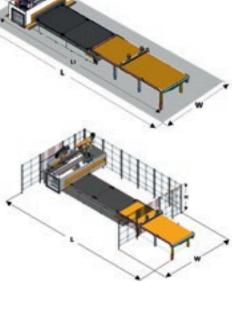
### **OVERALL** stand alone **DIMENSIONS**

Full Dummer		L	L1	W	W1
Full Bumper			CE/	ICE	
Rover Plast A FT 1224	mm	6380 (6640)*	5379 (5644)*	4136	3136
	inch	251 (261)*	212 (222)*	163	123
Rover Plast A FT 1531	mm	7020 (7300)*	6019 (6304)*	4436	3436
	inch	276 (287)*	237 (248)*	175	135
Rover Plast A FT 1536	mm	7680 (7960)*	6680 (6964)*	4436	3436
	inch	302 (313)*	263 (274)*	175	135
Rover Plast A FT 1836	mm	7680 (7960)*	6680 (6964)*	4752	3752
	inch	302 (313)*	263 (274)*	187	148
Rover Plast A FT 2231	mm	7020 (7300)*	6015 (6305)*	5082	4082
	inch	276 (287)*	237 (248)*	200	161
Rover Plast A FT 2243	mm	8210 (8500)*	7215 (7505)*	5082	4082
	inch	323 (334)*	284 (295)*	200	161
High Speed		L		W	
High Speed		CE	NCE <sup>(**)</sup>	CE	NCE (**)
Rover Plast A FT 1224	mm	6525	6475	4734	4752
	inch	257	254	186	187
Rover Plast A FT 1531	mm	7155	7075	5064	5052
	inch	282	278	199	198
Rover Plast A FT 1536	mm	7828	7772	5064	5052
	inch	308	305	199	198
Rover Plast A FT 1564	mm	10494	10420	5082	5052
	inch	413	410	200	198
Rover Plast A FT 1836	mm	7828	7775	5334	5247
	inch	308	306	210	206
Rover Plast A FT 2231	mm	7155	7075	5724	5547
	inch	282	278	225	218
Rover Plast A FT 2243	mm	8338	8320	5724	5547
	inch	328	327	225	218



(\*) With Sweeping Arm
(\*\*) In the NCE version, the height of the protective elements is 1.1 metres.

Eull Dummer er		L	L1	W	W1	
Full Bumper		CE/NCE				
Rover Plast A FT 1224	mm	8680	7680	4136	3136	
	inch	342	302	163	123	
Rover Plast A FT 1531	mm	9870	8965	4436	3436	
	inch	389	353	175	135	
Rover Plast A FT 1536	mm	11210	10306	4436	3436	
	inch	441	406	175	135	
Rover Plast A FT 1836	mm	11210	10307	4752	3752	
	inch	441	406	187	148	
Rover Plast A FT 2231	mm	9870	8965	5082	4082	
	inch	389	353	200	161	
Rover Plast A FT 2243	mm	12270	11367	5082	4082	
	inch	483	448	200	161	
link Croad		L		W		
High Speed		CE	NCE <sup>(**)</sup>	CE	NCE (**)	
Rover Plast A FT 1224	mm	8155	8135	4734	4752	
	inch	321	320	186	187	
Rover Plast A FT 1531	mm	9339***	9280***	5064	5052	
	inch	368***	365***	199	198	
Rover Plast A FT 1536	mm	10674***	10644***	5064	5052	
	inch	420***	419***	199	198	
Rover Plast A FT 1836	mm	10674	10644	5334	5247	
	inch	420	419	210	206	
Rover Plast A FT 2231	mm	9328***	9284***	5724	5547	
	inch	368***	365***	225	218	
Rover Plast A FT 2243	mm	11730***	11700***	5724	5547	
	inch	461***	460***	225	218	





### **OVERALL DIMENSIONS** of Nesting Cell

			L	w	
Nesting Cell - Type A		CE	NCE	CE	NCE <sup>(**)</sup>
Rover Plast A FT 1224	mm	10010	10065	4730	4730
	inch	394	396	186	186
Rover Plast A FT 1531	mm	11820***	11770***	5064	5052
	inch	465***	463***	199	198
Rover Plast A FT 1536	mm	13773***	13769***	5064	5052
	inch	542***	542***	199	198
Rover Plast A FT 1836	mm	13714	13780	5334	5247
	inch	539	542	210	206
Rover Plast A FT 2231	mm	11814***	11787***	5724	5547
	inch	465***	464***	225	218
Rover Plast A FT 2243	mm	15400***	15451 ***	5720	5547
	inch	606***	608 ***	225	218
		L		W	
Nesting Cell - Type B		CE	NCE <sup>(**)</sup>	CE	NCE <sup>(**)</sup>
Rover Plast A FT 1224	mm	12887	13255	4813	4807
	inch	507	521	189	189
Rover Plast A FT 1531	mm	14700***	15080***	5102	5216
	inch	579***	593***	200	205
Rover Plast A FT 1536	mm	16619***	16959***	5102	5107
	inch	654***	667***	200	201
Rover Plast A FT 1836	mm	16620	16960	5372	5307
	inch	654	667	211	208
Rover Plast A FT 2231	mm	14690***	15054***	5804	5802
	inch	578***	592***	228	228
Rover Plast A FT 2243	mm	18304***	18666***	5804	5802
	inch	721***	734***	228	228

(\*\*) In the NCE version, the height of the protective

elements is 1.1 metres
 (\*\*\*) The overall dimensions are increased by 460 mm in the presence of the dust collector grid on the ouput conveyor belt for overlapping panels

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.

Weighted sound pressure level A in: Operator workstation LpfA 76 dB (A). Loading unloading position LpfA 72 dB (A). Uncertainty factor K = 4 dB (A). Operating conditions: milling operations at a speed of 20 m/min, 20000 rpm.

The measurement was carried out in compliance with UNI EN ISO 3746, UNI EN ISO 11202, UNI EN 848-3 and subsequent modifications. The noise levels shown are emission levels and do not necessarily correspond to safe operation levels. Even though there is a relation between emission levels and exposure levels, this cannot be used reliably to establish whether further precautions are necessary. The factors determining the noise levels to which the operative personnel are exposed include the length of exposure, the characteristics of the work area, as well as other sources of dust and noise, etc. (i.e. the number of machines and processes concurrently operating in the vicinity). In any case, the information supplied will help the user of the machine to better assess the danger and risks involved.

# HIGH-TECH BECOMES ACCESSIBLE AND INTUITIVE

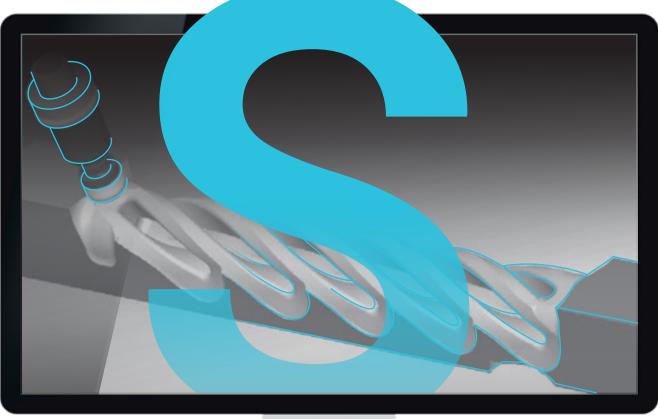


**B\_SOLID IS A 3D CAD CAM SOFTWARE PROGRAM THAT SUPPORTS THE PERFORMANCE OF ANY MACHINING OPERATION THANKS TO VERTICAL MODULES DESIGNED FOR SPECIFIC MANUFACTURING PROCESSES.** 

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.







# REDUCED TIME AND WASTE

# B\_N

**B\_NEST IS THE B\_SUITE PLUGIN SPECIFICALLY FOR NESTING OPERATIONS. IT ALLOWS YOU TO ORGANISE YOUR NESTING PROJECTS IN A SIMPLE WAY, REDUCING THE MATERIAL WASTE AND MACHINING TIMES.** 

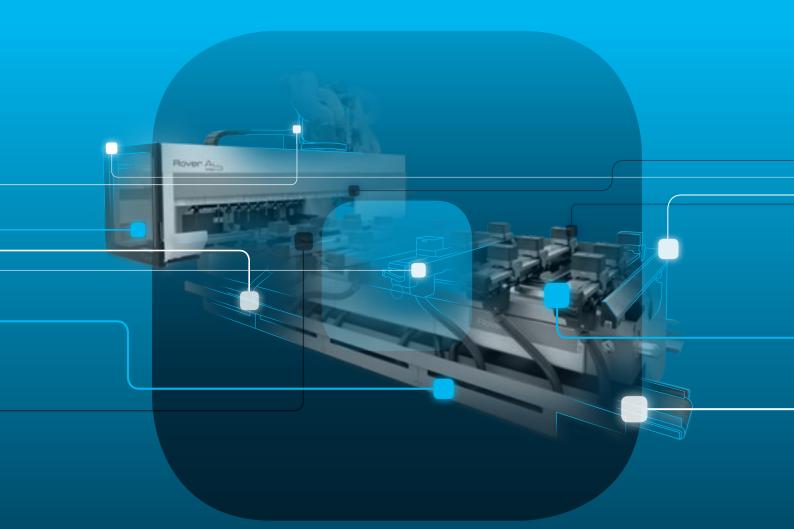
- Flexibility with reduced production times and costs.
- Optimisation for every type of product.
- Management of articles, sheets and labels.
- Integration with company software.











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.

# S OPHIA

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.





# CUSTOMER CARE IS WHO WE ARE

SERVICES is a new experience for our customers, to offer not just excellent technology but the added value of an increasingly direct connection with the company, the professionals who work there and the experience they embody.



### ADVANCED DIAGNOSTICS

Digital channels for remote interaction online 24/7. Always ready to intervene on-site seven days a week.



### A WORLDWIDE NETWORK

39 branch offices, over 300 certified agents, retailers in 120 countries, and spare parts warehouses in America, Europe and the Far East.



### SPARE PARTS AVAILABLE IMMEDIATELY

Identification, shipping and delivery of spare parts for every need.



### **EVOLVED TRAINING OPPORTUNITIES**

Lots of on-site, online and classroom training modules for personalised growth.

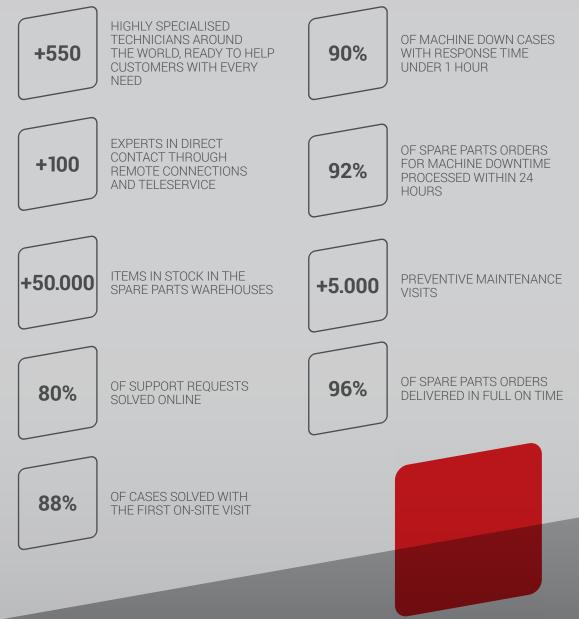


### VALUABLE SERVICES

A wide range of services and software packages to help our customers achieve continuous improvements in performance.

# **SERVICES**







# MADE WITH BIESSE

# **CROSA: EVOLVING IN THE FOOD & BEVERAGE SECTOR WITH PRECISION AND VERSATILITY**

Crosa has a fifty-year history in the distribution of industrial technical components and is known for its high quality service. The company from Piedmont is constantly growing and innovating and is a strategic partner in various industrial manufacturing settings, especially the food, beverages and packaging sector. At the dawn of the new millennium, it transitioned from being a parts dealer for cars to selling industrial components. In 2008 the company inaugurated a new machining operations department dedicated to plastics: a new business and the beginning of a longterm partnership with Biesse. "These days CROSA mainly operates as a sales company, but that's not all we are. We also have a manufacturing unit dedicated to the production of plastics for the mechanical sector, and the food & beverage sector accounts for 90% of our activities." explained CROSA owner Giovanni Sartore. The company purchased two Biesse machines in 2018: a 3-axis

machining centre, the Rover Plast A FT, and a 5-axis machining centre, the Materia CL. "Purchasing these machines boosted our machining quality and our ability to respond to the needs of our customers. Thanks to these technologies, we've been able to raise the level of complexity of the components we make". Sartore continued.

Precision machining, versatility and the capacity to cover every step in the creation of industrial technical components are some of the main advantages offered by the two Biesse machining centres. "We can guarantee the following machining phases for our customers: supplying the raw materials, supplying cut materials and supplying items processed from sheets of raw material. More specifically, thanks to the Rover Plast A FT we can obtain advanced nesting, while our pride and joy, the Materia CL, has opened us up to the processing of advanced materials, especially for the food sector", explained

Lorenzo, CROSA Production Manager. The company provides precise machining, milling and tapping for components used in the food & beverage sector. "Ever since we started using the Biesse machines, we've been able to offer higher quality and greater flexibility for our customers", Lorenzo stated in closing. The industrial technical parts sector is full of challenges and opportunities: the production of complex industrial parts requires ultimate precision, a distinctive trait of Biesse technology. "By opting for Biesse machining centres, we've introduced extremely innovative technology that allows us to satisfy requests entailing the machining of parts with complex shapes, sizes and materials, ensuring elevated precision, quality and reliability for our customers. I consider Biesse a partner for the coming future. The challenges will be increasingly complex, but I believe we'll have no trouble rising to the occasion together", Sartore concluded.

# THE EXPONENT

Interconnected technologies and advanced services that maximise efficiency and productivity, generating new skills to serve better our customer.

LIVE THE BIESSE GROUP EXPERIENCE AT OUR CAMPUSES ACROSS THE WORLD



# **BIESSE.COM**

LYQK400035 november 2021