

# MAT ERIA CL

CNC MACHINING  
CENTRE

# EXTREME MACHINING OPERATIONS WITH GROUND-BREAKING TECHNOLOGY



## THE MARKET DEMANDS

a change in manufacturing processes that enables 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.

## BIESSE RESPONDS

**with high-tech, innovative solutions** for machining technological materials. **Materia CL** is a range of versatile, compact, 5-axis processing centres designed to meet a wide variety of high-speed machining needs in relation to the milling of advanced and compound materials and special or stratified resins for mould models, the machining of thermoformed elements, unusually shaped three-dimensional elements, and components for the aeronautical sector, boats and the car industry.



# MATERIA<sub>CL</sub>

- ✓ TOTAL PRECISION FOR MACHINING OPERATIONS ON ANY TYPE OF MATERIAL
- ✓ TOP QUALITY AND RELIABILITY FOR EVERY TYPE OF MACHINING OPERATION
- ✓ EXCELLENT OPERATOR SAFETY DURING MACHINING OPERATIONS



WATCH THE VIDEO

# TOTAL PRECISION FOR MACHINING OPERATIONS ON ANY TYPE OF MATERIAL





THE STATE-OF-THE-ART MATERIA CL GANTRY PROCESSING CENTRE IS ESPECIALLY SUITABLE FOR MILLING OPERATIONS AND FOR CUTTING THREE-DIMENSIONAL ELEMENTS IN THE CAR MANUFACTURING, AEROSPACE AND NAUTICAL FIELDS.



# TOP QUALITY AND RELIABILITY FOR EVERY TYPE OF MACHINING OPERATION



**Electrospindle** for the continuous 5-axis machining of three-dimensional pieces.

**The head has a reduced size, offers structural rigidity and vibration damping, and can be equipped with various electrospindles.**

In addition, the heads can be configured with continuous rotation, electrospindle encoders and direct encoders and pneumatic brakes on the rotary axes, in accordance with the requirements of each individual application.

The high-performance milling electrospindles are available in three different sizes (6.5 Kw, 11 Kw and 15 Kw), depending on the type of machining operation required.

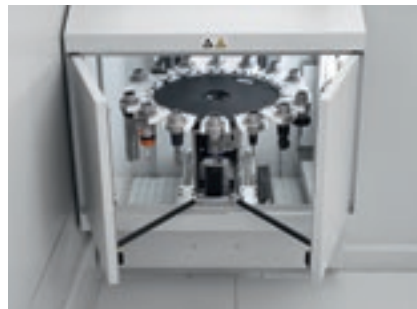
# REDUCED TOOL CHANGE TIME



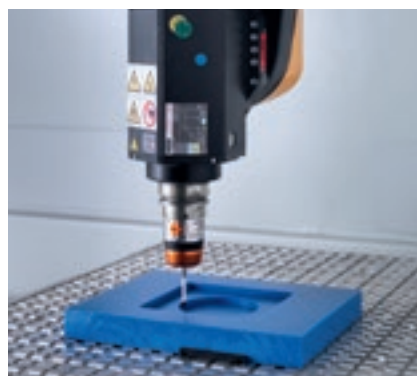
"Pick-up" tool change within the working area.



Tools are easy to load thanks to the ability to fill the magazine via an external access door, ensuring maximum safety for the operator.



The machine can also be equipped with a rotating magazine (holding up to 16 tools) on the right-hand side to facilitate tooling operations.



Materia CL can be equipped with a contact thickness tracer or a laser probe for tool pre-setting, and a radio frequency thickness tracer for acquiring the piece coordinates and dimensions.



# MACHINE PERSONALISATION TO SUIT A WIDE VARIETY OF PRODUCTION NEEDS

Materia CL can be configured with four different work tables: open gridded, stratified phenolic resin grid, gridded aluminium, or gridded aluminium with "T" slots obtained from steel plates.



The grid surface allows the operator to insert the gasket in any configuration, creating a specific vacuum area. An internal chamber ensures the even distribution of the vacuum all over the work table.

Each area is controlled by a piece locking button, an area selection button, and a start button.





# PENDULAR FUNCTION AND MOTORISED MOBILE SHEETS



**MAXIMUM PRODUCTIVITY AND EFFICIENCY. THANKS TO THE SYSTEM OF TRANSFER TABLES, STANDBY TIMES BETWEEN ONE MACHINING OPERATION AND THE NEXT ARE ELIMINATED, BUT IN TOTAL SAFETY.**

A removable partition can be installed in the working area to permit pendular machining.

The operator can load/unload a piece while the machine carries on working. The electric sensors inside the machine guarantee the safety of the operator.



# TECH NOLO GY

## CREATIVE TECHNOLOGY

**Versatility, precision and dynamism are the strengths of the Materia range. Numerical control processing centres that can handle very diverse composites, guaranteeing precision and constant reliability.**

High-quality and accurate electrospindles, numerous optional and standard systems (on the basis of the material being machined), two numerical control systems (Osai OPENprime or Siemens SINUMERIK 840D sl, particularly requested in the automotive sector), a robust structure and the perfect combination of speed and precision. A variety of models to match every production need.





# EXCELLENT CLEANING OF THE PRODUCT AND THE WORK AREA



The Materia CL can be equipped with a full open upper cover that completely encloses the machine.

Depending on the type of machining operation to be carried out, Materia CL can be fitted with a spray mist lubrication/cooling system outside the spindle, or simply with compressed air.



THE CEILING-MOUNTED BELLOWS GUARANTEE A SAFE WORK ENVIRONMENT FOR THE OPERATOR, ESPECIALLY WHEN MACHINING MATERIALS THAT PRODUCE LARGE AMOUNTS OF DUST. THE MANUAL OPENING ALLOWS THE PIECE TO BE LOADED BY MEANS OF A BRIDGE CRANE.

# USER FRIENDLY

MATERIA CL IS AVAILABLE WITH TWO DIFFERENT TYPES OF NUMERICAL CONTROL - OSAI AND SIEMENS - TO MEET ALL THE NEEDS OF THE MARKET.



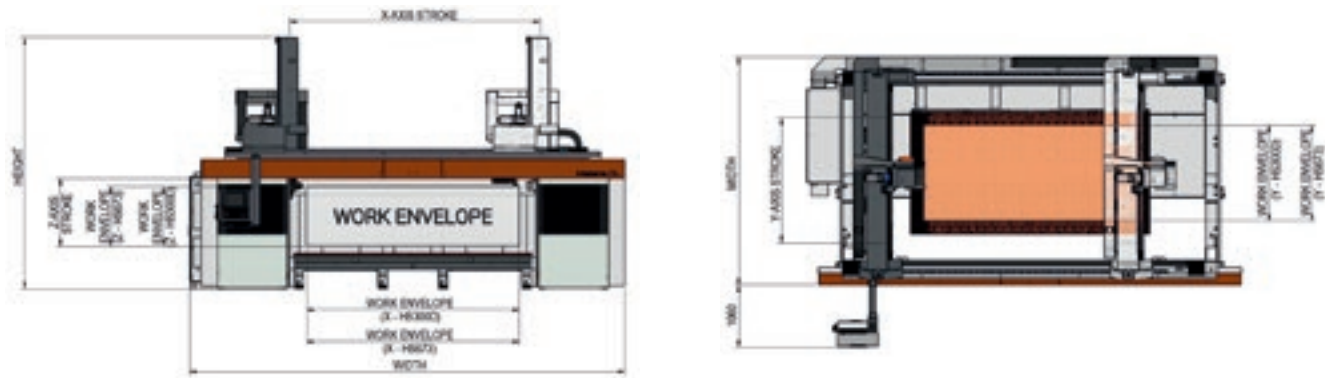
Siemens HT2



Osai ITP

Hand-held keyboard for axis handling in manual mode, necessary when preparing the working area and tooling the machine.

# TECHNICAL DATA



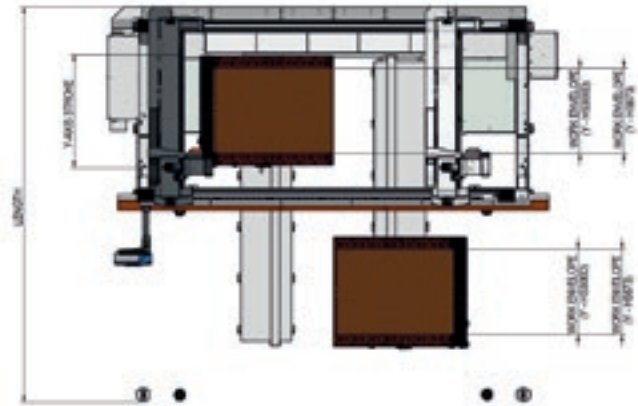
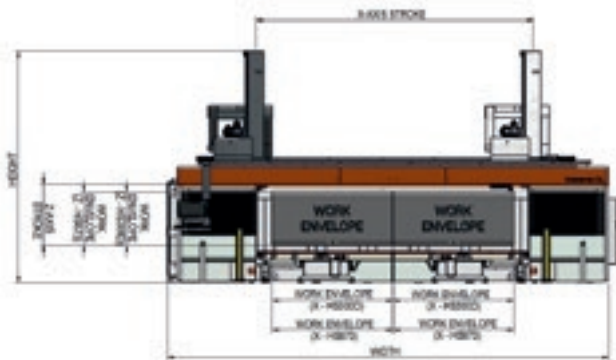
MATERIA CL		CL 3015	CL 4015	CL 5015	CL 3020	CL 4020	CL 5020	
<b>Machine dimensions (without accessories)</b>								
Width	inch/mm	256/6500	295/7500	335/8500	256/6500	295/7500	335/8500	
Length	inch/mm	1.3/3400	1.3/3400	1.3/3400	1.3/3400	1.3/3400	1.3/3400	
Height	inch/mm	173,22/4400	173,22/4400	173,22/4400	173,22/4400	4400	173,22/4400	
Weight	kg	6900	7350	7900	7200	7650	8200	
<b>Linear axis stroke</b>								
X axes	inch/mm	129/3280	168/4280	208/5280	129/3280	168/4280	208/5280	
Y axes	inch/mm	64/1630	64/1630	64/1630	84/2130	84/2130	84/2130	
Z axes	inch/mm	47,24/1200	47,24/1200	47,24/1200	47,24/1200	47,24/1200	47,24/1200	
<b>Linear axis speed</b>								
Asse X	ft/min m/min	279/85	279/85	279/85	279/85	279/85	279/85	
Asse Y	ft/min m/min	197/60	197/60	197/60	197/60	197/60	197/60	
Asse Z	ft/min m/min	197/60	197/60	197/60	197/60	197/60	197/60	
<b>Machine in function - HS300D head</b>								
Pivot	inch/mm	7,18/182.5	7,18/182.5	7,18/182.5	7,18/182.5	7,18/182.5	7,18/182.5	
Work volume (spindle nose)	inch/mm	X	115/2915	154/3915	193/4915	115/2915	154/3915	193/4915
		Y	50/1265	50/1265	50/1265	69/1765	69/1765	69/1765
		Z	40,05/1017.5	40,05/1017.5	40,05/1017.5	40,05/1017.5	40,05/1017.5	40,05/1017.5
<b>Machine in function - HS673 head</b>								
Pivot	inch/mm	8,54/185	8,54/185	8,54/185	8,54/185	8,54/185	8,54/185	
Work volume (spindle nose)	inch/mm	X	112/2910	151/3910	191/4910	112/2910	151/3910	191/4910
		Y	47/1260	47/1260	47/1260	67/1760	67/1760	67/1760
		Z	32,51/930	32,51/930	32,51/930	32,51/930	32,51/930	32,51/930

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.

Machining a 92 mm thick piece of alder. A-weighted surface sound pressure level A (LpA) 83 dB (A). A-weighted surface sound pressure level A (LwA) 106 dB (A). Machining a 19 mm thick MDF workpiece. A-weighted surface sound pressure level A (LpA) 79 dB (A). A-weighted surface sound pressure level A (LwA) 79 dB (A). Uncertainty factor K = 4 dB

Reference standards: EN ISO 3746 - EN ISO 11202. 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.





**MATERIA CL TT**

**CL 5020 TT**

Machine dimensions (without accessories)			
Width	inch/mm		342/8700
Length	inch/mm		323/8200
Height	inch/mm		173,22/4400
Weight	kg		10200
Linear axis stroke			
X axes	inch/mm		208/5280
Y axes	inch/mm		84/2130
Z axes	inch/mm		47,24/1200
Linear axis speed			
X axes	ft/min m/min		279/85
Y axes	ft/min m/min		197/60
Z axes	ft/min m/min		197/60
Machine in function – HS300D head			
Pivot	inch/mm		7,18/182.5
Work volume (spindle nose)	inch/mm	X (SX)	96/2452
		X (DX)	96/2452
		Y	69/1765
		Z	40,05/1017.5
Machine in function – HS673 head			
Pivot	inch/mm		8,54/217
Work volume (spindle nose)	inch/mm	X (SX)	95/2450
		X (DX)	95/2450
		Y	67/1760
		Z	32,51/930

# 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.

## AN EXCELLENT LEVEL OF SERVICE

**+550**

HIGHLY SPECIALISED  
TECHNICIANS AROUND  
THE WORLD, READY TO HELP  
CUSTOMERS WITH EVERY  
NEED

**90%**

OF MACHINE DOWN CASES  
WITH RESPONSE TIME  
UNDER 1 HOUR

**+100**

EXPERTS IN DIRECT  
CONTACT THROUGH  
REMOTE CONNECTIONS  
AND TELESERVICE

**92%**

OF SPARE PARTS ORDERS  
FOR MACHINE DOWNTIME  
PROCESSED WITHIN 24  
HOURS

**+50.000**

ITEMS IN STOCK IN THE  
SPARE PARTS WAREHOUSES

**+5.000**

PREVENTIVE MAINTENANCE  
VISITS

**80%**

OF SUPPORT REQUESTS  
SOLVED ONLINE

**96%**

OF SPARE PARTS ORDERS  
DELIVERED IN FULL ON TIME

**88%**

OF CASES SOLVED WITH  
THE FIRST ON-SITE VISIT



# 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 long-term 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.



Founded in Italy,  
international native.

We are an international company that manufactures integrated lines and machines to process wood, glass, stone, plastic and composite materials and what will come next.

Thanks to our rooted competence nurtured by an ever-growing worldwide network, we support your business evolution – empowering your imagination.

Master of materials, since 1969.

We simplify your  
manufacturing  
process to make  
the potential of  
any material  
shine.



Join the  
Biesse world.

[biesse.com](https://www.biesse.com)



