

MATERIA CL

NC PROCESSING
CENTRE

 **BIESSE**

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

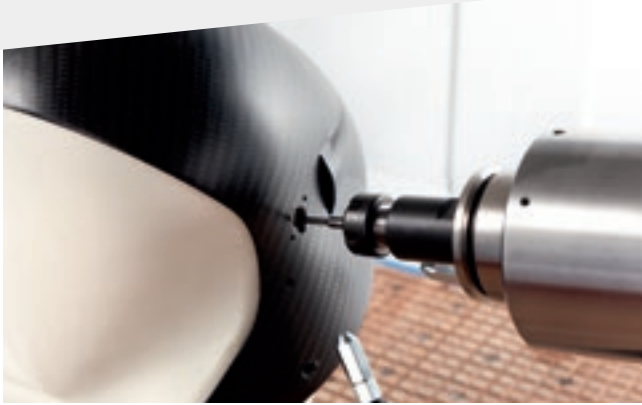
with high-tech, innovative solutions for machining technological materials. **Materia CL** is a range of versatile, compact, 5-axis processing centres designed to meet a wide variety of high-speed machining needs in relation to the milling of advanced and compound materials and special or stratified 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 CL

- ✓ 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.

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



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.



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.

REDUCED TOOL CHANGE TIME



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



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. 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.



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



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.

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.



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 and aluminum, 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 OPEN M 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 an upper closure system that completely encloses the machine.

Air Jet system for a thoroughly clean end product.



OPTIMUM SAFETY GUARANTEED BY
MANUAL OR AUTOMATIC DOORS OPENED
FROM THE FRONT AND FITTED WITH LARGE
INSPECTION WINDOWS.

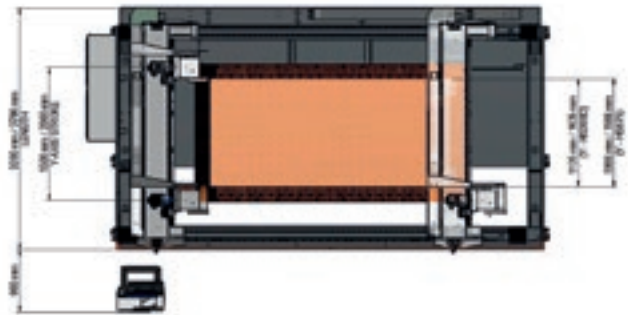
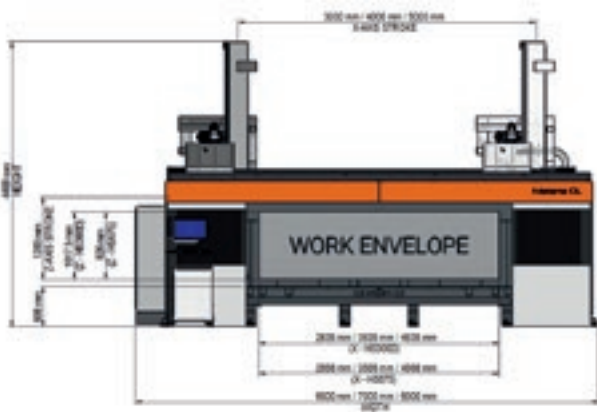
USER FRIENDLY

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



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

TECHNICAL DATA



MATERIA CL

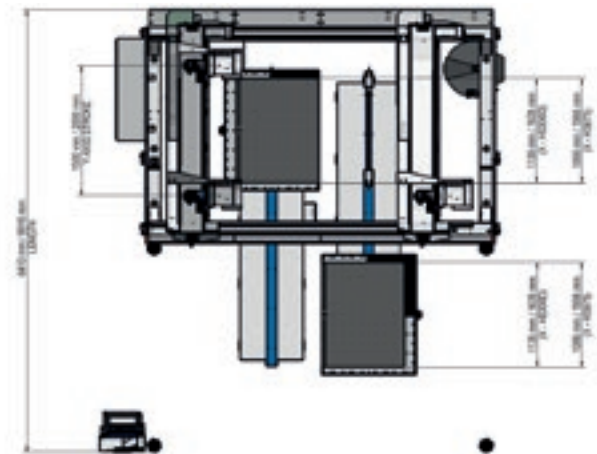
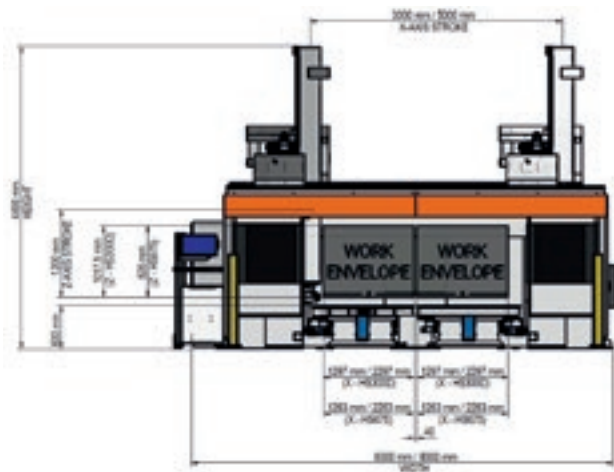
CL 3015 CL 4015 CL 5015 CL 3020 CL 4020 CL 5020

Machine dimensions (without accessories)		CL 3015	CL 4015	CL 5015	CL 3020	CL 4020	CL 5020	
Width	inch/mm	236,22/6000	275,59/7000	314,96/8000	236,22/6000	275,59/7000	314,96/8000	
Length	inch/mm	125,98/3200	125,98/3200	125,98/3200	145,66/3700	145,66/3700	145,66/3700	
Height	inch/mm	173,22/4400	173,22/4400	173,22/4400	173,22/4400	173,22/4400	173,22/4400	
Linear axis stroke								
X axes	inch/mm	118,11/3000	157,48/4000	196,85/5000	118,11/3000	157,48/4000	196,85/5000	
Y axes	inch/mm	59,05/1500	59,05/1500	59,05/1500	78,74/2000	78,74/2000	78,74/2000	
Z axes	inch/mm	47,24/1200	47,24/1200	47,24/1200	47,24/1200	47,24/1200	47,24/1200	
Linear axis speed								
X axes	m/min	85	85	85	85	85	85	
Y axes	m/min	60	60	60	60	60	60	
Z axes	m/min	60	60	60	60	60	60	
Machine in function - HS300D head								
Distance from spindle nose to work table	inch/mm	44,78/1137.5	44,78/1137.5	44,78/1137.5	44,78/1137.5	44,78/1137.5	44,78/1137.5	
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	103,7/2635	143,1/3635	182,4/4635	103,7/2635	143,1/3635	182,4/4635
		Y	44,68/1135	44,68/1135	44,68/1135	44,68/1635	44,68/1635	44,68/1635
		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
Machine in function - HS675 head								
Distance from spindle nose to work table	inch/mm	37,24/946	37,24/946	37,24/946	37,24/946	37,24/946	37,24/946	
Pivot	inch/mm	8,54/217	8,54/217	8,54/217	8,54/217	8,54/217	8,54/217	
Work volume (spindle nose)	inch/mm	X	101,2566	140,3/3566	179,7/4566	101,2566	140,3/3566	179,7/4566
		Y	41,96/1066	41,96/1066	41,96/1066	61,65/1566	61,65/1566	61,65/1566
		Z	32,51/826	32,51/826	32,51/826	32,51/826	32,51/826	32,51/826

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 (LpA) during machining at the operator's workstation on the vane-pump machine Lpa=79dB(A) Lwa=96dB(A) Weighted sound-pressure level A (LpA) at the operator's workstation and sound power level (Lwa) during machining on the cam-pump machine Lwa=83dB(A) Lwa=100dB(A) Measurement uncertainty K 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.



MATERIA CL TT

CL 3015 TT CL 3020 TT CL 5020 TT

Machine dimensions (without accessories)				
Width	inch/mm		236,22/6000	236,22/6000 314,96/8000
Length	inch/mm		252,36/6410	272,04/6910 272,04/6910
Height	inch/mm		173,22/4400	173,22/4400 173,22/4400
Linear axis stroke				
X axes	inch/mm		118,11/3000	118,11/3000 196,85/5000
Y axes	inch/mm		59,05/1500	78,74/2000 78,74/2000
Z axes	inch/mm		47,24/1200	47,24/1200 47,24/1200
Linear axis speed				
X axes	m/min		85	85 85
Y axes	m/min		60	60 60
Z axes	m/min		60	60 60
Machine in function – HS300D head				
Distance from spindle nose to work table	inch/mm		44,78/1137.5	44,78/1137.5 44,78/1137.5
Pivot	inch/mm		7,18/182.5	7,18/182.5 7,18/182.5
Work volume (spindle nose)	inch/mm	X (SX)	51,06/1297	51,06/1297 90,43/2297
		X (DX)	51,06/1297	51,06/1297 90,43/2297
		Y	44,68/1135	64,37/1635 64,37/1635
		Z	40,05/1017.5	40,05/1017.5 40,05/1017.5
Machine in function – HS675 head				
Distance from spindle nose to work table	inch/mm		37,24/946	37,24/946 37,24/946
Pivot	inch/mm		8,54/217	8,54/217 8,54/217
Work volume (spindle nose)	inch/mm	X (SX)	49,72/1263	49,72/1263 89,09/2263
		X (DX)	49,72/1263	49,72/1263 89,09/2263
		Y	41,96/1066	41,96/1066 61,65/1566
		Z	32,51/826	32,51/826 32,51/826

SERV ICE & PARTS

Direct, seamless co-ordination of service requests between Service and Parts. Support for key customers from specific Biesse personnel, in-house and/or at the customer's site.

BIESSE SERVICE

- ▣ Installation and start-up of machines and systems.
- ▣ Training centre for Biesse Field technicians, branch and dealer personnel, and training directly at customer's site.
- ▣ Overhaul, upgrade, repair and maintenance.
- ▣ Remote diagnostics and troubleshooting.
- ▣ 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 products and after-sales service through two dedicated areas: Biesse Service and Biesse Parts.

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

BIESSE PARTS

- Original Biesse spare parts and spare kits tailored to each machine model.
- 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 times optimised thanks to a global distribution network with delocalised, 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

UPM MODENA: FROM THE CONCEPT TO THE FINISHED PRODUCT

Matthew Galdi is the commercial director of Upm, the Modena-based company that has been operating for over seventy years in the visual communications and illuminated sign sector, as well as more recently in the general contractor industry. "We are able," states Galdi "to offer turnkey solutions, from concept to

finished product, tailored to the needs of our customers. We manage all design, technical, bureaucratic and logistics aspects with a winning combination of highly-qualified technical and graphics staff, who work with advanced tools, cutting-edge technologies and innovative materials." Biesse has played a de-

cisive role in transforming Upm's commitment to innovation into a reality: "We had always used machines that could be defined as slightly 'niche'. Then, we decided to equip ourselves with a more technologically-advanced and powerful machine: and we found the perfect solution with Biesse Group".



LIVE THE EXPERIENCE

BIESSEGROUP.COM



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.



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