



## *LaborMac*

**LaborMac** is a 5-axis machining center specifically developed to optimize the machining of molds and parts in aluminum and composite.

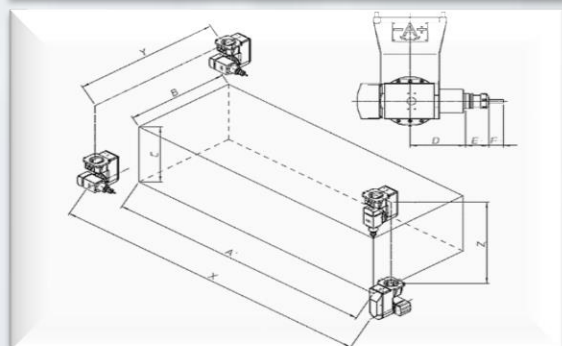


### Extremely rigid structure, monolithic

The extreme rigidity provided by the monolithic structure, with Gantry type mobile portal on the Y axis, significantly limits the vibrations helping to achieve very good quality even at high speeds.

	Axis / Assi	Speed / Velocità
X	2.600 mm	80 m/1'
Y	1.500 mm	80 m/1'
Z	1.000 mm	60 m/1'
A	+/- 120°	40 m/1'
C	+/- 365°	30 m/1'

Tools size / Ingombro utensili		
D	Pivot point - Spindle	185 mm
E	HSK F63 Cone / ER 40 Collet	70 mm
F	Tool Length	50 mm



Working cube / Cubo lavorabile		
A	Length / Lunghezza	1.990 mm
B	Width / Larghezza	890 mm
C	Height / Altezza	695 mm

Aluminum / Alluminio	✓	Automotive / Auto	✓
Light alloys / Leghe leggere	✓	Aerospace / Aerospaziale	✓
Composites / Compositi	✓	Moulding / Modelli	✓
Resin / Resine	✓	Industrial / Industria	✓
✓ Best application / Miglior applicazione ✓ Suggested application / Applicazione consigliata			

### LaborMac "C", for composites machining

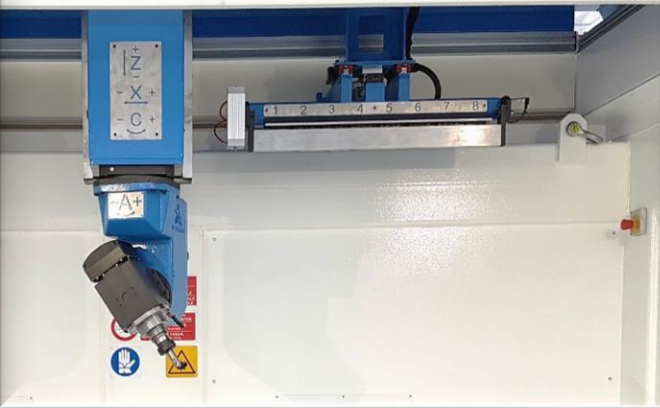
LaborMac version "C" provides high performances in modeling and trimming of composite materials and resins.

Space required / Ingombro macchina		
X	Length / Lunghezza	6.900 mm
Y	Width / Larghezza	3.200 mm
Z	Height / Altezza	4.450 mm

### LaborMac "A", for aluminum machining

LaborMac version "A", dedicated to aluminum machining typical of the automotive sector, is equipped with a working head of higher robustness, tool's cooling system by chemical water, steel table with T-slots and two chips conveyors.





### Tools' magazine

The "rack" type 8 positions tool magazine is located under the mobile bridge, granting the fastest tool changing time.

Other rack or rotating type tools magazine are also available.

Tools Magazine / Magazzino Utensili	
Linear ATC <i>Magazzino lineare</i>	8 - 10 pos.
Rotating ATC <i>Magazzino rotante</i>	10 - 12 - 16 pos.

### Tool setter

The tool setter precisely determines length and radius of the tool, measures single edged cutters and detects broken tools.

The device is mounted on a sliding support, with pneumatic movement in order to not restrict the working area.



Numerical control / Controllo Numerico	
<b>SIEMENS</b>	840 D SL



### Working head with 2 continuous interpolated axes

The transmission of the rotating axes movements (A and C) is made by servomotors with preloaded high precision reduction gears, while encoders and safety devices are installed, to avoid extra strokes and damages to the cable's wiring.

Both A and C rotary axis are equipped with locking device, useful for machining at fixed inclined angles (example: constant angle inclined cuts); this system gives more rigidity to the working head and avoid any wearing of the mechanical components.

### Working spindle

The 15kW(S1) 12Nm(S1) 17 kW(S2) electro-spindle is equipped with 4 high precision ceramic/steel ball bearings. The bearing area is protected from dust and dirt infiltration by pressurization and the lubrication of bearings is by grease of permanent type.



### Working table

Fix working table made of electro-welded steel bars on a cross grid structure, 2.450 x 1.550 mm, M8 threaded holes with 300 x 300 mm pattern on the surface to be used for clamping of jigs. On the perimeter of the table, the machine has slides for the evacuation of the scraps, while two collection bins are installed under the working table to facilitate the waste removal.

### Retractable folding roof

The retractable folding roof is a bellows that limits the escape of fumes, dust and chips from the workstation area.

This bellows reduces the suction force needed during the working of: carbon fibers, composite materials and vaporized cooling lubricant.

The special translucent fabric guarantees wide light in the work area.





Ciserano (BG) - Italy



Levate (BG) - Italy



Vigevano (PV) - Italy



Columbus - (OHIO) - USA



### THERMOFORMING

HOUSEHOLD APPLIANCES INDUSTRIAL

- THERMOFORMING MACHINES
- PUNCHING PRESSES
- PUNCHING MOLDS
- SHEET SINGLE STATION
- COIL UNWINDER
- AUTOMATIC LOADER

THERMOFORMING MOLDS

### PRESSES

- COMPRESSION PRESSES
- INJECTION PRESSES
- RECONDITIONING

### CNC CENTRES

- CNC MILLING
- WATERJET CUTTING
- LASER CUTTING

### ENGINEERING

- TURNKEY PLANTS
- SPRAYING UNITS
- WORKING AREAS



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