



# Phantomatic M4 L

CNC machining centres

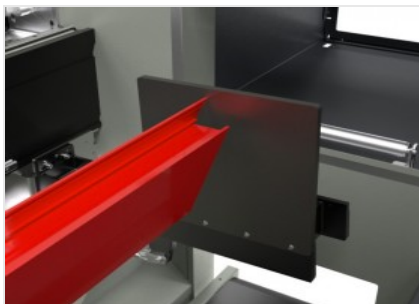


CNC machining centre with 4 controlled axes and automatic tool rotation enabling machining on 3 sides of the workpiece. Designed for machining bars or workpieces made of aluminium, PVC, light wood in general and steel up to 2 mm thick. It has a manual 9-station tool magazine and an automatic 4-station tool magazine located on the left side of the safety guard. An optional a second automatic 4-station tool magazine can be installed on the right side of the safety guard. The profile is positioned by a pneumatic stop on the left side. It is blocked by 4 sturdy clamps which are positioned automatically with axis X. The installation of a second pneumatic stop (optional) on the right side allows oversize machining of bars whose length is double compared to the work field. All CNC axes are absolute and do not require resetting upon machine restart. It also has a mobile work surface that facilitates the piece loading/unloading operation and significantly increases the workable section.



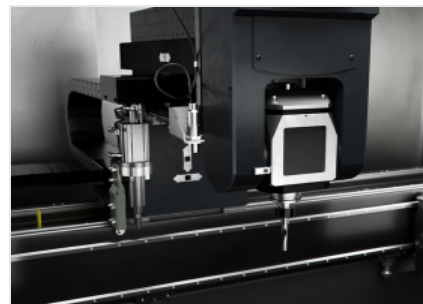
**Operator interface**

The new control version with suspended interface allows the operator to look at the monitor from any position, as it can be rotated around the vertical axis. The operator interface has a 15" touch screen display with all USB connections necessary to interface with a remote PC and NC. It has a push-button panel, mouse and keyboard. It is also set up for the connection of a barcode reader and remote push-button panel. It is equipped with a front USB socket for data transfer.



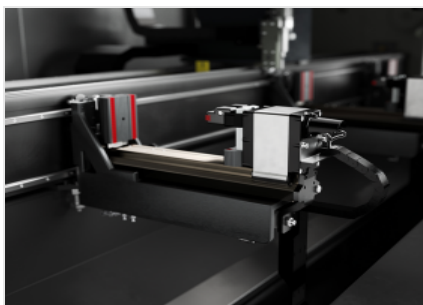
**Pneumatic stops**

The machine is equipped with strong stops allowing bar reference. One is positioned on the left side (standard) and the other on the right side (optional). Each stop is activated by a pneumatic cylinder, it is retractable type and is automatically selected by the machine software according to the machining to be performed.



**Electrospindle - M -**

The 4 kW electrospindle in S1 can reach 20,000 rpm. The electrospindle movement along A axis performs -90° to +90° rotation, allowing to work on 3 sides of the profile with no need to reposition it. It can be used on profiles made of aluminium, PVC and light wood and can process extruded steel that is 2 mm thick.



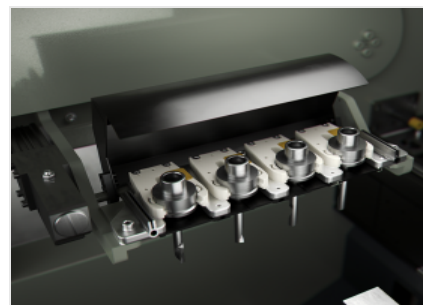
**Vices**

The machine software can calculate the correct positioning measure for each vice unit, according to the length of the workpiece and to the type of machining to be performed. The automatic positioner allows picking all vice units and moving them by means of the gantry. This operation is performed at the highest speed and with great precision and spares longer time and collision risks, so that the machine can also be easily used by less experienced operators. The mobile work table facilitates the piece loading/unloading operation and significantly increases the machinable section.



**Manual tool changer**

The standard, retractable toolholder magazine can house 9 toolholder cones that can be manually taken and installed on the spindle. The position numbering allows identifying the requested tool from the hmi for each machining. The magazine is located on board the machine, in a position suitable for easy access by the operator.



**Automatic left tool changer**

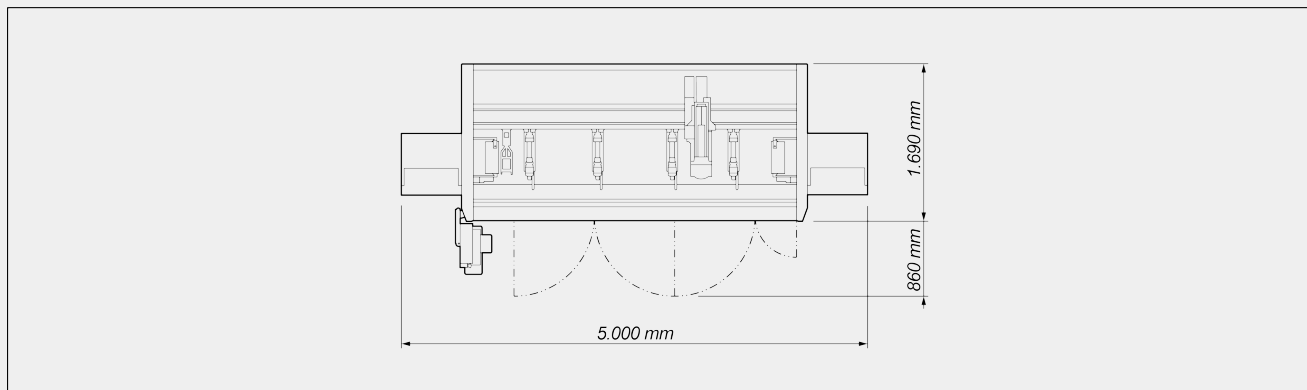
The machine is equipped with an additional tool changer, located on the left side of the cab. It can house 4 toolholders with respective tools and adjusted as desired by the operator. The tool change is managed by the cnc according to the programmed machining.





**PHANTOMATIC M4 L / CNC MACHINING CENTRES**

**LAYOUT**



The overall dimensions may vary depending on the product configuration.

**AXIS STROKES**

X AXIS (longitudinal) (mm)	3.000
Y AXIS (transversal) (mm)	274
Z AXIS (vertical) (mm)	390
A AXIS (electrospindle rotation)	- 90° ÷ + 90°

**POSITIONING SPEED**

X AXIS (longitudinal) (m/min)	56
Y AXIS (transversal) (m/min)	22
Z AXIS (vertical) (m/min)	22
A AXIS (electrospindle rotation) (°/min)	6.600

**ELECTROSPINDLE**

Maximum power in S1 (kW)	4
Maximum speed (rpm)	20.000
Toolholder cone	HSK - 50F
Automatic tool holder coupling	●
Liquid cooling	●
Automatic tool rotation	- 90° ÷ + 90°



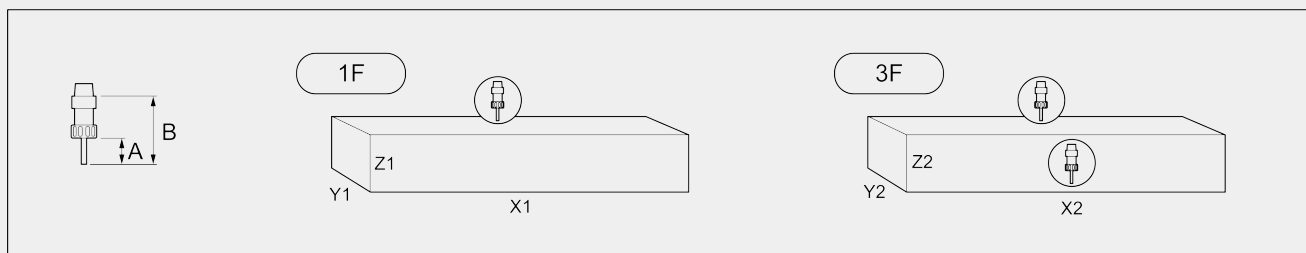
**TOOL MAGAZINE**

Maximum number of tools in manual magazine	9
Automatic tool magazine with 4 places (left)	●
Secondary automatic tool magazine with 4 places (right)	○
Maximum dimension of the tools that can be loaded into the magazine (mm)	∅ = 80 ; L = 150

**WORK AREA**

**1F = 1 face machining**

**3F = 3 faces machining**



	A	B	X1	Y1	Z1	X2	Y2	Z2
<b>PHANTOMATIC M4 L</b>	45	102	2.815	230	210	2.815	170	210
Machining within the work capacity with left automatic tool magazine	45	102	2.815	230	210	2.815	170	210
Machining within the work capacity with left and right automatic tool magazine	45	102	2.630	230	210	2.630	170	210
Extended machining with left automatic tool magazine	45	102	5.630	230	165(*)	5.630	170	165(*)
Extended machining with left and right automatic tool magazine	45	102	5.260	230	165(*)	5.260	170	165(*)

Dimensions in mm

(\*) with max.admissible length tools (B = 150 mm) charged into the automatic magazine the Z value decreases to 130 mm

**TAPPING CAPACITY (with Tap On Aluminium And Through Hole)**

With compensator	M5
With helical interpolation	●

**PROFILE POSITIONING**

Workpiece reference LEFT stop with pneumatic movement	●
Workpiece reference RIGHT stop with pneumatic movement for extended machining	○

**WORKPIECE LOCKING**

Number of vices	4
Automatic vice positioning through X axis	●

**SAFETY DEVICES AND PROTECTIONS**

Machine integral protection booth	●
Side tunnels	○

Included ● Available ○