Phantomatic M3

CNC machining centres

CNC machining centre, with 3 controlled axes; the spindle has an automatic tool slewing system on 3 fixed positions that allows processing on 3 sides of the workpiece. Designed for machining bars or parts made of aluminium, PVC, light alloys in general or steel up to 2 mm. It is provided with a manual tool storage magazine with 9 places to wich one or two additional automatic storage magazines with 4 places can be added at the sides of the machine. The workpieces is positioned by a pneumatic stop positioned at the left side of the machine, and is blocked by 4 strong clamps that are positioned by the slider on the X axis. Adding a second optional stop on the right side, the machine may perform extended machining of bars up to twice the work capacity. All CNC axes are absolute and do not require resetting upon machine restart. Moreover it is equipped with a movable work plane for easier workpiece loading/unloading; this also allows considerable increase in the machinable section.

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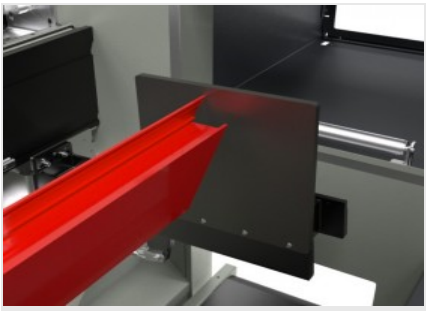
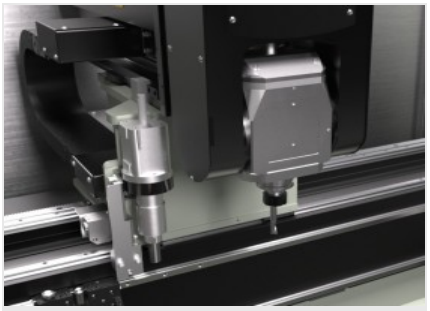
Operator interface

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 0° to 180° 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.

Automatic tool magazine (Optional)

The standard toolholder magazine has stations for 9 toolholders. It is manually-operated and foldable and is located on board the machine for easy access by the operator. As an option, the machine can be equipped with one or two additional automatic magazines at the sides of the cabin. Each of them can host 4 toolholders with respective tools and adjusted as desired by the operator.

High-performance industrial human-machine interface PC (Optional)

The high-performance industrial PC significantly improves the computing power of the operating system and the speed of the application software installed. This device allows to achieve a reduction in machine set-up time and manage the most complex cycles without slowdowns.

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AXIS STROKES

X AXIS (longitudinal) (mm)	3.000
Y AXIS (transversal) (mm)	274
Z AXIS (vertical) (mm)	390
Automatic electrospindle positioning on three fixed positions	-90° | 0 | +90°

POSITIONING SPEED

X AXIS (longitudinal) (m/min)	56
Y AXIS (transversal) (m/min)	22
Z AXIS (vertical) (m/min)	22

ELECTROSPINDLE

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

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)	Ø = 80 ; L = 150

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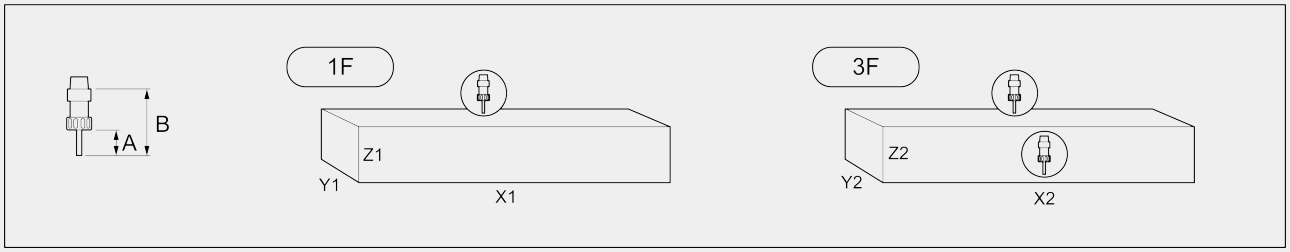
WORK AREA

1F = 1 face machining 5F = 5 faces machining



		A	B	X1	Y1	Z1	X2	Y2	Z2
PHANTOMATIC M3		45	102	3.000	250	210	3.000	100	210
	Machining within the work capacity with left automatic tool magazine	45	102	2.815	250	210	2.815	100	210
	Machining within the work capacity with left and right automatic tool magazine	45	102	2.630	250	210	2.630	100	210
	Extended machining with left automatic tool magazine	45	102	5.630	250	165(*)	5.630	100	165(*)
	Extended machining with left and right automatic tool magazine	45	102	5.260	250	165(*)	5.260	100	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 ○

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