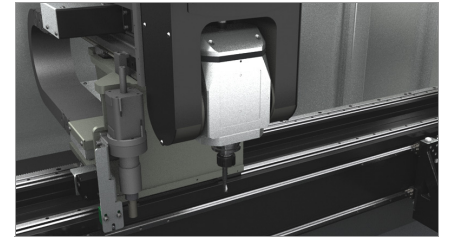


Clamps 01



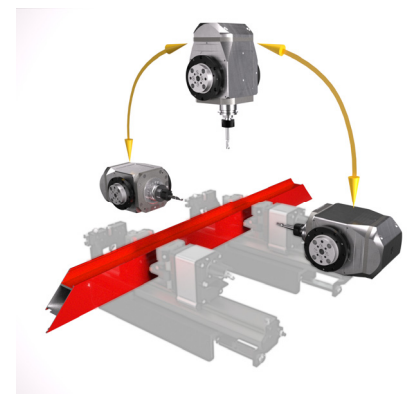
Electrospindle 02

# Phantomatic M4 L

Machining centre



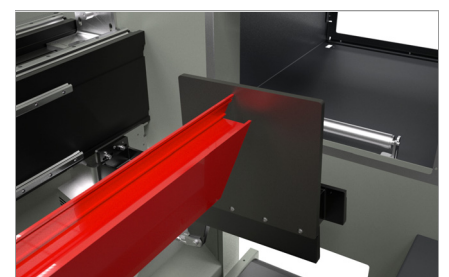
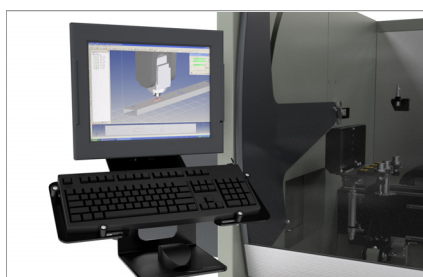
CNC machining centre with 4 controlled axes and automatic tool rotation enabling machining on 3 sides of the workpiece. Designed for machining bars or workpieces made of aluminium, PVC, light wood in general and steel up to 2 mm thick. It has a manual 9-station tool magazine and an automatic 4-station 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. It also has a mobile work surface that facilitates the piece loading/unloading operation and significantly increases the workable section.



Automatic tool magazine 03

Operator interface 04

Pneumatic stops 05



# Phantomatic M4 L

Machining centre

## 01 Clamps

The machine software is able to determine, in complete safety, the position for each clamp unit in accordance with the length of the piece and the work to be carried out. The automatic positioning system can engage each clamp unit and move it into position with the carriage. This operation happens with maximum speed and precision, reducing downtime and avoiding the risk of collision, making the machine easy to use, even by less-experienced operators. The mobile work table facilitates the piece loading/unloading operation and significantly increases the workable section.

## 02 Electric head

The 4 kW electrospindle in S1 can reach 20,000 rpm. The electrospindle moves along the A axis allowing rotations from 0° to 180°, so the profile can be machined on 3 faces without being repositioned. It can be used on profiles made of aluminium, PVC and light wood and can process extruded steel that is 2 mm thick.

## 03 Automatic tool magazine

The standard version of the machine is equipped with two tool magazines. The fold-away manual tool magazine has stations for 9 tool holders. It is located on board the machine for easy access by the operator. Inside the safety guard on the left-hand side, there is an automatic tool magazine that can accommodate 4 tool holders with their respective tools, which can be configured to suit the requirements of the operator. The machine may also be equipped with an optional second automatic tool magazine on the right-hand side; this can accommodate an additional 4 tool holders.

## 04 Operator interface

The new control version, with suspended interface, allows the operator to view the screen from any position, thanks to the possibility to rotate the monitor on its 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 mouse and keyboard, and also has provision for the connection of a barcode reader. IT IS equipped with a front USB for data exchange.

## 05 Pneumatic stops

There are robust stops in the machine that allow bar reference; one is placed on the left (standard) and on the right (optional). Every stop is activated by a pneumatic cylinder and is recessed and is automatically selected by the machine software according to the processing to be implemented. The advantage of the dual stop system is that allows repositioning of the bar or piece when machining particularly long profiles.



Single piece mode

AXES TRAVEL	
X AXIS (longitudinal) (mm)	3,000
Y AXIS (transversal) (mm)	274
Z AXIS (vertical) (mm)	390
AXIS A (spindle rotation)	-90° to +90°
POSITIONING SPEED	
X AXIS (m/min)	56
Y AXIS (m/min)	22
Z AXIS (m/min)	22
A AXIS (spindle rotation) (°/min)	9,000
ELECTROSPINDLE	
Maximum power in S1 (kW)	4
Maximum speed (1/min)	20,000
Tool connector cone	HSK-50F
Automatic tool holder attachment	•
Liquid cooling	•
Automatic tool rotation	-90° to +90°
TOOL MAGAZINE	
Manual tool magazine maximum number	9
Automatic tool magazine with 4 places (left)	•
Secondary automatic tool magazine with 4 places (right)	○
Magazine system loadable blade diameter (mm)	80
TAPPING CAPACITY (with tap on aluminium and through hole)	
With compensator	M5
With helical interpolation	•
PROFILE POSITIONING	
LEFT stop pneumatically moved workpiece reference	•
RIGHT stop pneumatically moved workpiece reference	○
WORKPIECE CLAMPING	
Clamps, standard number	4
Automatic clamp positioning through X axis	•
SAFETY DEVICES AND PROTECTIONS	
Integral safety guard	•
Side tunnels	○