



# TKE 743

## Machining Centres

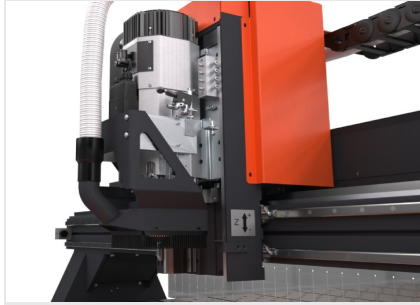


3-axis CNC machining center featured with a clamping system made up of vacuum tables that allow panels and plates to be held by vacuum; this solution is useful to obtain an extremely efficient machining of thin components that could hardly be fixed by means of a traditional clamping system. The machining center is equipped with a series of valves that turn on/off different areas of the machining table, thus concentrating the suction on one area and optimizing the clamping of components with limited dimensions. It is designed for drilling and interpolated milling operations on composite panels, panels and plates in aluminum and steel. To create programs that control the machines, Tekna provides user-friendly software tools that can be used both by professional CNC programmers, who can implement the most complex solutions, and by completely inexperienced users; after a few training hours the customer will be able to operate the machining center using a graphical programming. Software solutions offered by Tekna result from an accurate design and from the actual customer needs analysis.



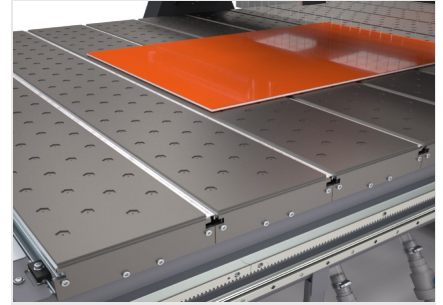
**Tool magazine**

Fixed 12-place tool magazine on board the machine. A mechanically moved mobile cover protects the tools from swarf and dust produced during machining.



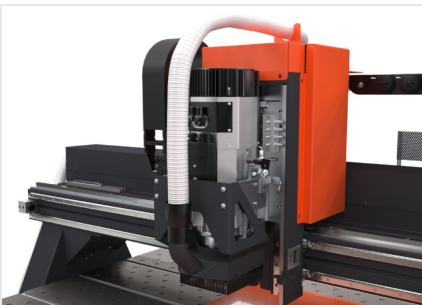
**Electrospindle**

10 kW S1 high torque electrospindle allows heavy duty machining. It can be used both with some types of extruded steel and with aluminium profiles, thanks to the lubrication system with oil emulsion spray mist or, as an option, with minimal diffusion oil.



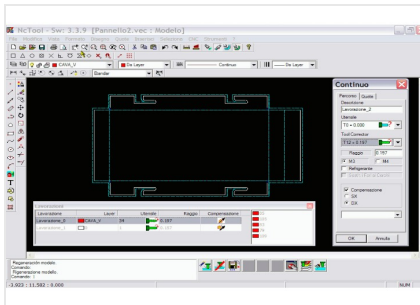
**Vacuum table**

The panels are clamped in position by a vacuum table. The plastic table is laid over and fixed to the aluminium cross members and provides efficient suction over the entire surface area, while providing protection against the ingress of lubricating liquid.



**Swarf removal system**

The machining unit has a built-in suction system connected to an industrial extractor. This system effectively removes the machining dust, maintaining the extraction holes free and ensuring high-performance locking. It also makes machine cleaning operations between one load and the next much easier, eliminating much of the swarf that would compromise the correct clamping of the panel to the surface.



**Software**

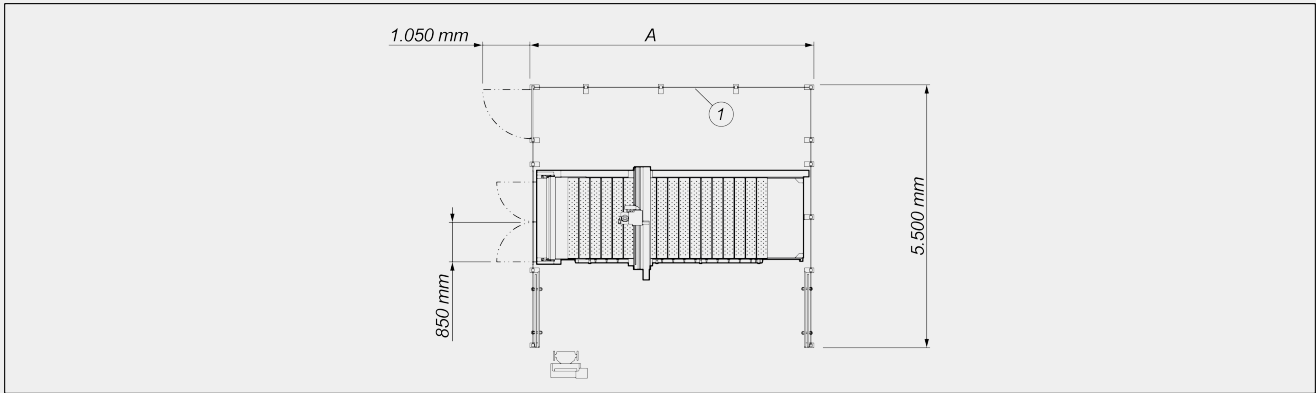
The CN6 numeric control management software monitors all the machining centre functions by means of a graphic interface. It includes an ISO language editor and allows viewing the complete workpieces of the set machining operations in 3D.





**TKE 743 / MACHINING CENTRES**

**LAYOUT**



**A**

<b>TKE 743 - 4016 (mm)</b>	5.900
<b>TKE 743 - 5016 (mm)</b>	6.700

1. Enclosure guard of the 4th side (optional)

The overall dimensions may vary depending on the product configuration.

**AXIS STROKES**

X AXIS (longitudinal) (mm)	4.000 ; 5.000
Y AXIS (transversal) (mm)	1.600
Z AXIS (vertical) (mm)	100

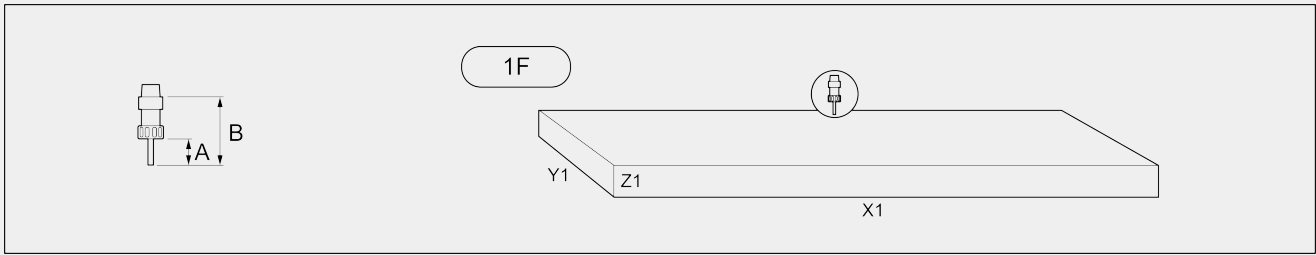
**ELECTROSPINDLE**

Maximum speed (rpm)	24.000
Maximum power in S1 (kW)	10
Maximum torque (Nm)	10,2
Air cooling with electric fan	●



**WORK AREA**

**1F = 1 face machining**



	<b>A</b>	<b>B</b>	<b>X1</b>	<b>Y1</b>	<b>Z1</b>
<b>TKE 743 - 4016</b>	120	165	4.000	1.600	40
<b>TKE 743 - 5016</b>	120	165	5.000	1.600	40

Dimensions in mm

**AUTOMATIC TOOL MAGAZINE**

Maximum dimension of the tools that can be loaded into the magazine (mm)	Ø = 80 - L = 165
Machine on-board 12-place tool magazine	●
Presetting tool device: automatic on-machine tool length measurement	●

**SAFETY DEVICES AND PROTECTIONS**

Metal enclosure guard on two sides	●
Photoelectric barrier system to protect access to work zone	●
Tool magazine mechanically mobile covering	●

**PANEL POSITIONING**

Workpiece reference pneumatic stops in X (optional)	2
Workpiece reference retractable pneumatic stops	○
Workpiece reference pneumatic stops in Y (optional)	3



## WORKPIECE LOCKING

Automatic management of on/off valves for different worktable areas	<input checked="" type="radio"/>
Vacuum locking system with suction tables	<input checked="" type="radio"/>
Vacuum beam size (mm)	230 x 1.600

## MACHINING UNIT

Gantry structure	<input checked="" type="radio"/>
Electrospindle controlled on 3 axes with the possibility of simultaneous interpolation	<input checked="" type="radio"/>
Swarf removal system	<input checked="" type="radio"/>
Swarf exhauster mod. MG2-TP	<input type="radio"/>
Tool minimal pressurized oil diffusion lubrication system	<input checked="" type="radio"/>
Additional automatic filling system of the minimal lubrication system - capacity 15 litres	<input type="radio"/>
Centralised automatic lubrication of recirculating ball sliding blocks	<input type="radio"/>

Included ● Available ○