

# TKE 944

## Machining centre

ex TK 447

Electric head 01

Tool magazine 02

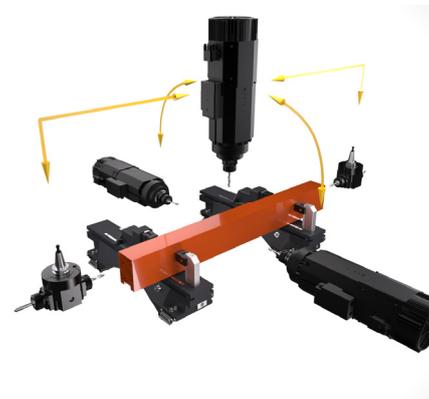


Mobile gantry CNC 4-axis machining centre, designed for drilling, milling and threading at any angle from  $-90^{\circ}$  to  $+90^{\circ}$  on bars or pieces in aluminium, PVC, light alloys in general and steel. The mobile part of the machine mainly consists of a gantry equipped with precision motorisation rack. The 8.5 kW electrospindle with ISO 30 tool connection is able to perform even heavy-duty machining with excellent, rapid and accurate results.

The machine can be used in double mode (mod. 7,000), a machining method that reduces machine stop times to a minimum by allowing workpiece changes (loading/unloading) "while the machine is running". Furthermore, different workpieces can be machined between the two work areas.

The automatic tool magazine is available in a fixed solution on board the machine with 4/8 places, suited for single piece machining. As an alternative, an 8-place magazine mounted on the gantry is available, ideal for rapid tool changes and suited for double mode machining operations.

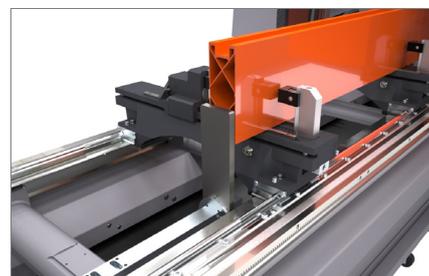
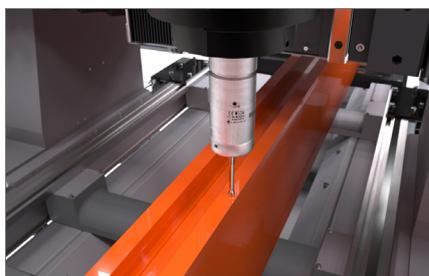
The machine is equipped with a cabin covering of the gantry that not only protects the operator, but also reduces the noise impact.



Clamps 03

Dimensional profile measurer (optional) 04

Profile positioning 05



The pictures are provided by way of illustration only

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## Machining centre

### 01 Electric head

The 8.5 kW electro spindle in S1 with high torque is suited for heavy duty machining. 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 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.

### 02 Tool magazine

The automatic tool magazine comes in two different configurations. The first has one or two fixed 4-place magazines installed on the left-hand side of the machine and is specific for operation on a single work area in single or multi-piece mode. The second configuration excludes or integrates the fixed magazines, with an automatic 8-place magazine installed on the gantry moving on the X axis. This solution, required for machining in double mode (mod. 7000 mm only), considerably reduces the tool change times and consequently increases the machine productivity and efficiency.

### 03 Clamps

The clamp unit ensures the correct and safe locking of aluminium, PVC, steel and light alloy profiles. The clamp sizes, and the long Y travel of the electrospindle allows for machining large profiles for all kinds of civil and industrial applications. Each unit slides on special linear guides along the machine. The positioning is managed by the X axis. Counterblocks can be mounted quickly and accurately, making the machine extremely versatile. The clamp unit is available optionally in double presser version to machine two profiles in parallel.

### 04 Dimensional profile measurer (optional)

The machine can be optionally equipped with an electronic device that automatically corrects workpiece dimensional errors in length, width and height. In this way, the accuracy of the machine is not influenced by the differences between theoretic and actual workpiece dimensions during machining. This device accurately probes the rough workpiece in several positions, correcting the machining along its whole length, even with deformed or warped profiles.

### 05 Profile positioning

The machine is equipped with two sturdy and precise retractable manual reference stops, used to machine one or two profiles in multi-piece or double mode (model 7000 only). A laser system is available for accurately positioning the pieces on the work surface; it reads each profile and sets the reference without the need for mechanical stops.

#### AXES TRAVEL

X AXIS (longitudinal) (mm)	4,000 7,000
Y AXIS (transversal) (mm)	1,070
Z AXIS (vertical) (mm)	550
B AXIS (vertical axis rotation of the head)	-90° + +90°
B and C axis positioning increments	0.01°

#### ELECTROSPINDLE

Maximum power in S1 (kW)	8.5
Maximum speed (rpm)	20,000
Maximum torque (Nm)	8.7
Tool connector cone	ISO 30
Air cooling with electric fan	●

#### AUTOMATIC TOOL MAGAZINE

Automatic 8-place tool magazine mounted on the gantry (*)	○
Maximum dimension of tools that can be loaded into the revolver magazine (mm)	Ø = 180 L = 200
Fixed 4-place tool magazine on left-hand side	○
Fixed 4-place additional tool magazine on left-hand side	○
Maximum dimension of tools that can be loaded into the fixed magazine (mm)	Ø = 120 L = 180

#### FUNCTIONS

Multi-piece operation	●
Double mode operation (model 7000 only)	●

#### MACHINABLE FACES

With direct tool (upper face, side faces)	3
With angular unit (top face, side faces, heads)	1 + 2 + 2

#### MACHINING CAPACITY

With compensator	M8
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#### PROFILE POSITIONING

Manually moved workpiece reference stop	2
Laser system for reading profile position for multi-piece machining	○

#### WORKPIECE LOCKING UNIT

Clamps, standard number (4000/7000 version)	4 - 8
Clamps, maximum number (4000/7000 version)	6 - 10
Automatic clamp positioning through X axis	●
Double horizontal presser on pneumatic clamps for machining two profiles in parallel	○

#### OPERATION

Extra-length machining, up to twice the nominal maximum length in X	○
Electronic touch probe system	○
Machining of two profiles in parallel (excluding internal machining, on the opposite faces of the profiles)	○
Multi-piece double mode machining (model 7.000 only)	○

● included

available