

TKE 984

Machining centre

ex TK 441/3

Tool magazine 01

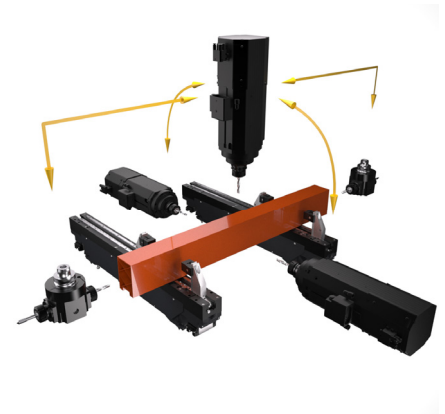
Clamps 02



Mobile gantry CNC 4-axis machining centre, designed for drilling, milling, threading and cutting at any angle from -90° 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 9 kW electrospindle with HSK-63F tool connection is able to perform even heavy-duty machining with excellent, rapid and accurate results. A fixed tool magazine with 14 places is installed on the left-hand side of the machine. It can be fitted with a second 14-place magazine on the other side of the machine or replaced by a single 14-place motorised magazine which, with its own NC axis, follows the mobile gantry in the two work areas, reducing the required number of tools and tool holders and considerably optimising programming.

The machine can be used in double mode, a work method that reduces machine stop times to a minimum as it allows workpiece change time (loading/unloading) to be run "while the machine is operating". Furthermore, different workpieces can be machined between the two work areas.

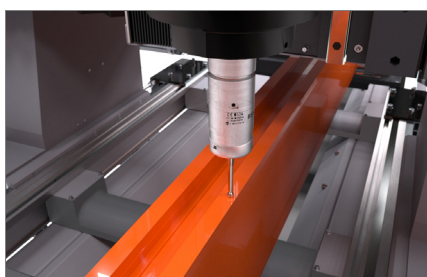
The machine is equipped with a cabin covering of the gantry that not only protects the operator, but also reduces the noise impact.



Dimensional profile measurer (optional) 03

Electric head 04

Profile positioning 05



TKE 984

Machining centre

01 Tool magazine

A spacious tool magazine with 14 places is installed on the side of the machine. The housing with automatic cover offers optimum protection for the tool holder cones from swarf and accidental knocks. To work in double mode, a second 14-place magazine can be added to the other side of the machine, managing an independent set of tools in each work area. As an alternative to the fixed magazines, a single 14-place motorised magazine with its own NC axis can be fitted, which follows the mobile gantry in the two work areas. This solution drastically reduces the time required for tool changes and optimises the required number of tools and tool holders.

02 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 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 can be configured with a double presser, to machine two profiles in parallel.

03 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.

04 Electric head

The electrospindle - 9 kW in S1 - with HSK-63F tool connection and water cooling with chiller unit is able to machine even typical heavy pieces in the industrial sector. Moreover, the high torque ensures easy drilling, milling and cutting operations. The movement of the electrospindle along the B axis allows rotations of -90° to +90°, so the profile can be machined on 3 faces without having to be repositioned.

05 Profile positioning

A retractable reference stop is installed on the left-hand side of each of the two work areas. In this configuration, up to two pieces can be machined in multi-piece or double mode. The right stop can be simply moved to the end of the machine for machining extra-long workpieces. With similar operations and using up to 4 additional optional stops, the machine demonstrates all its working versatility. A laser system is available for accurately positioning the pieces on the work surface; this reads each profile and sets the reference without the need for mechanical stops.

AXES TRAVEL

X AXIS (longitudinal) (mm)	6,700
Y AXIS (transversal) (mm)	8,400
Z AXIS (vertical) (mm)	1,350
Z AXIS (vertical) (mm)	610
B AXIS (vertical axis rotation of the head)	-90° + +90°
B axis positioning increments	0.01°

ELECTROSPINDLE

Maximum power in S1 (kW)	9
Maximum speed (r/min)	24,000
Maximum torque (Nm)	14.3
Tool connector cone	HSK - 63F
Water cooled with chiller unit	•

AUTOMATIC TOOL MAGAZINE

Max. number of tools, standard fixed magazine (left)	14
Max. number of tools, optional fixed magazine (right)	14
Max. number of tools, optional motorised magazine (replaces the fixed magazines)	14
Maximum size blade that can be inserted in magazine (mm)	Ø = 160 L = 200

FUNCTIONALITY

Multi-piece operation	•
Double mode operation	•

MACHINABLE FACES

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

MACHINING CAPACITY

Drilling on solid aluminium AL99 – Ø max. (mm)	20
Drilling on solid steel FE370 D FF – Ø max. (mm)	14
Straight milling on solid aluminium AL99 – max. thickness (mm)	15
Straight milling on solid steel FE370 D FF – max. thickness (mm)	5
Tapping on solid aluminium AL99 (mm)	M12
Tapping on solid steel FE370 D FF (mm)	M8

PROFILE POSITIONING

Pneumatically moved workpiece reference stop	2
Additional pneumatically moved workpiece reference stop (up to max. 4 stops)	○
Laser system for reading profile position for multi-piece machining	○

WORKPIECE LOCKING UNIT

Clamps, standard number	6
Clamps, maximum number	8
Clamps, maximum number	12
Automatic clamp positioning through X axis	•
Double horizontal presser on pneumatic clamps for machining two profiles in parallel	•

FUNCTIONS

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	○

• included

available