

TKE 955

5-axis machining centre

Tool magazine 01

Vices 02



Mobile gantry 5-axis CNC machining centre for drilling, milling and tapping, at any angle from -90° to $+90^\circ$, on bars or workpieces in aluminium, PVC, lightweight alloys and steel up to a thickness of 2 mm. The mobile part of the machine is composed of a dual drive gantry on a high precision rack.

The local guarding cabin, made of technopolymer, has been designed to offer optimal functionality, accessibility, soundproofing and lighting while fulfilling safety and ergonomics requirements. Large glass windows allow the operator to monitor the machining operations being executed, as well as an easy access during cleaning and maintenance phases.

The inside of the cabin ensures the conveying of swarf into the collection system available at the base. The 11 kW electrospindle allows performing machining operations, even heavy-duty ones, with optimal results in terms of speed and precision.

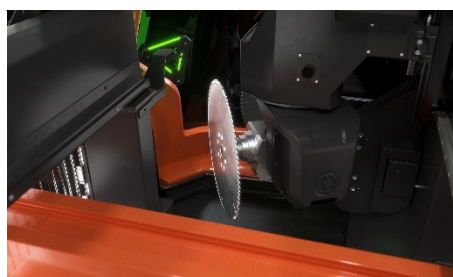
The tool magazine integrated into the mobile gantry can house 10 tools; a second magazine features two special positions for a blade with a diameter of 400 mm and a second blade with a diameter of 180 mm. It features two different operating modes: the first, in single-area mode, allows machining entire bars having a maximum length of 7 m in a single work area; the second one, in tandem machining mode, allows machining several workpieces in the two different work areas. In the version with system for moving vices on H and P axes, it is possible to use the machine in dynamic tandem machining mode; this operating mode allows reducing machine downtimes to a minimum, since it allows the vices to be automatically set, in concurrent operation time, to the operation processes of the spindle in the opposite work area.

TKE955 is equipped with a laser scanner allowing the most precise and advanced control of the machine front access, raising safety and operator/machine interface standards. In tandem machining mode, the laser scanner allows programming asymmetrical work areas on X axis so that workpieces having different sizes can be machined by making use of 4 different set-ups, in order to increase machine operation flexibility.

Full protection cabin 03

Electric head 04

Laser scanner 05



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5-axis machining centre

01

Tool magazine

The toolholder magazine has 10 positions on the operator's side and an additional two-place magazine for Ø400 and Ø180 mm blades on the operator's back side. The position of the magazine, installed on board the gantry, allows minimising the tool change times and optimising the work cycles. A solution has been designed to keep the housing of the toolholder cones separated from the machining area for a better magazine cleaning.

02

Vices and dynamic tandem

The vice unit can ensure the correct and safe clamping of large aluminium, steel and light alloy profiles. The vice structure, in particular the wide Y stroke, allows the machining of large profiles, thus meeting the typical requirements of industrial and door applications. Each vice unit can be configured with double presser for the machining of two parallel profiles. In the HP version, vice positioning is managed by additional CNC axes. In dynamic tandem mode, the CNC simultaneously manages the movement of the vices and of the mobile gantry in the two separate work areas, thus allowing significant increases in productivity.

03

Full protection cabin

The local guarding cabin has been designed to offer optimal functionality, accessibility and lighting while fulfilling safety and ergonomics requirements. The innovative and refined design makes the machine unique and unmistakable. Large glass windows allow the operator to monitor the machining operations being executed and a large access to internal areas is provided for cleaning and maintenance operations. The internal structure optimises the conveying of swarf and scraps to the lower side, simplifying the maintenance and cleaning phases on all delicate parts.

04

Electric head

The 11 kW electrospindle in S1 with HSK-63F toolholder with encoder for heavy-duty machining and rigid tapping, water cooling with chiller unit, allows even heavy machining operations, typical of the industrial sector. Electrospindle rotation along A and C axes allows working on 5 faces of the profile, with no need of repositioning.

05

Laser scanner

The protection of the operator is entrusted to a monitoring system of the work area with laser scanner. This intelligent control system, together with the absence of fixed references at the centre of the machine, is specially useful in tandem machining mode, since it allows managing the two work areas with a variable set-up, even asymmetrical, programming them from time to time. The machine is safe and flexible at the same time, suited to different work requirements.

AXES TRAVELS

X AXIS (longitudinal) (mm)	7,500
Y AXIS (transversal) (mm)	1,280
Z AXIS (vertical) (mm)	640
B AXIS (head vertical-horizontal rotation)	-90° + +90°
C AXIS (rotation on head vertical axis)	-180° + +180°
H AXIS (vice position.) (TKE 955 HP) (mm)	6,600
P AXIS (vice position.) (TKE 955 HP) (mm)	6,600
B axis positioning increases	0.01°
C axis positioning increases	0.01°

ELECTROSPINDLE

Maximum power in S1 (kW)	11
Maximum power in S6 (60%) (kW)	13.5
Maximum speed (rpm)	24,000
Maximum torque in S6 (Nm)	10.7
Toolholder cone	HSK - 63F
Water cooling with chiller unit	•
Encoder on electrospindle for rigid tapping	•

AUTOMATIC TOOL MAGAZINE

Maximum number of magazine tools on board the gantry	10
Automatic 2-place blade magazine on board the gantry	•
Maximum size of tools that can be loaded onto the magazine – 10 central positions (mm)	Ø = 80 L = 170
Blade dimensions (mm)	Ø = 400 Ø = 180

FUNCTIONALITY

Static tandem operation	•
Dynamic tandem operation (according to model)	•
Basic multi-step machining - up to 5 steps	•
Cut and separation from the bar	•
Stylus electronic system	○
Machining of two parallel profiles (excluding internal machining, on profile opposite faces)	○
Extended machining, up to twice the maximum nominal length in X	○
Automatic management of multi-step mode machining	○

WORKABLE SIDES

With direct tool (upper face, side faces, heads)	5
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PROFILE POSITIONING

Workpiece reference stops with pneumatic movement	2
Maximum number of reference pneumatic stops	4
Pair of pneumatic central stops with separate clamp control system	○

WORKPIECE LOCKING

Standard number of vices	8
Maximum number of vices	12
Maximum size in Y of the workpiece which can be clamped with 2 standard terminals of 45 mm for three-face machining operations (mm)	480
Automatic vice positioning through X axis	•
Vice automatic positioning through independent H and P axes (according to model)	•
Double horizontal presser on pneumatic vices for the machining of two parallel profiles	○

• included ○ available