TKE 955

Machining Centres

Mobile gantry 5-axis CNC machining centre for drilling, milling and tapping, at any angle from -90° to +90°, on profiles and plates with a thickness up to 10 mm if made of aluminium, lightweight alloys and PVC and up to 2 mm if made of steel. 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 or 9 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.

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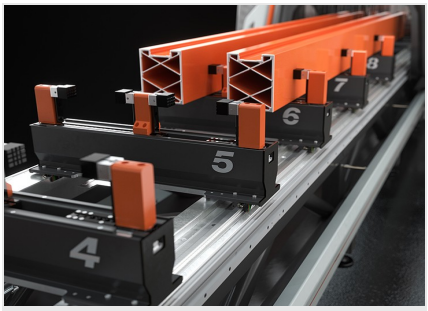
Tool magazine

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 on the rear side. The position of the magazine, installed on board the gantry, allows minimising the tool change times and optimising the work cycles. The housing of the toolholder cones is separated from the machining area for a better magazine cleaning.

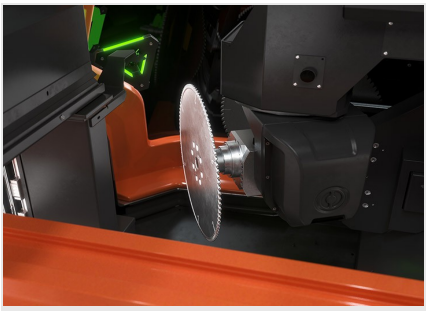


Vices and dynamic tandem

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.

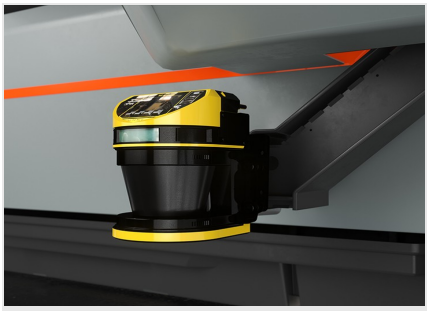
Full protection cabin

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 unmistakeable. 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.



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.



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 double operation 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.

Label printer (Optional)

The industrial label printer allows each cut profile to be identified with identifying features from the cutting list. In addition, barcode printing enables easy identification of the profile itself, which is particularly useful for subsequent machining steps on Machining Centres or assisted assembly lines.

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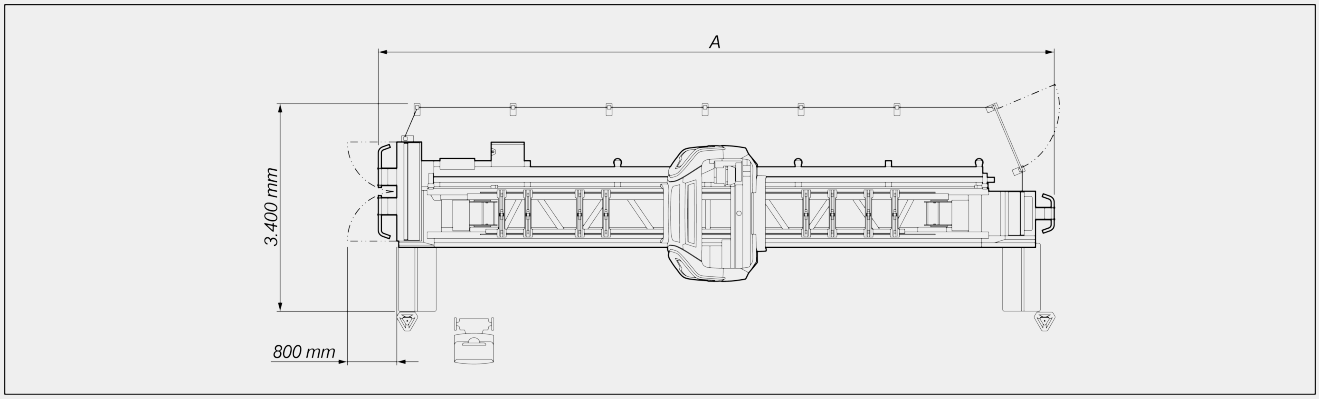
TKE 955 / MACHINING CENTRES

LAYOUT



	A
TKE 955 - 7m (mm)	11.000
TKE 955 - 9m (mm)	13.200

The overall dimensions may vary depending on the product configuration.

AXIS STROKES

X AXIS (longitudinal) (mm)	7.500 ; 9.700
Y AXIS (transversal) (mm)	1.280
Z AXIS (vertical) (mm)	640
A AXIS (head vertical-horizontal rotation)	-90° ÷ +90°
C AXIS (rotation on head vertical axis)	0° ÷ 360°
H AXIS (vice position.) (TKE 955 HP) (mm)	6.600 ; 8.600
P AXIS (vice position.) (TKE 955 HP) (mm)	6.600 ; 8.600
A axis positioning increases	0,01°
C axis positioning increases	0,01°

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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	●

WORKABLE SIDES

With direct tool (upper face, side faces, heads)	5
With blade tool Ø 400 mm (upper face, side faces, heads)	1 + 2 + 2

AUTOMATIC TOOL MAGAZINE

10-place automatic tool magazine on board the carriage	●
Maximum size of tools that can be loaded onto the magazine – 10 central positions (mm)	Ø = 80 - L = 170
Maximum diameters of blades which can be loaded onto the magazine– 2 side positions (mm)	Ø = 400 - Ø = 180
400 mm Ø blade	●
Presetting tool device: automatic on-machine tool length measurement	●

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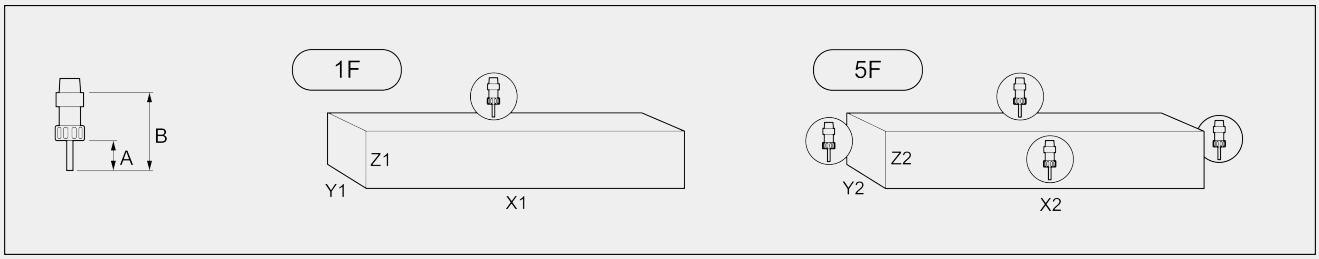
WORK AREA

1F = 1 face machining **5F = 5 faces machining**



			A	B	X1	Y1 (a)	Z1 (d)	X2	Y2 (a)	Z2 (d)
TKE 955 - 7	single mode		60	130	7.150	600	300	6.900	520	300
	asymmetrical double mode (b)	LH	60	130	1.330 ÷ 4.780	600	300	1.030 ÷ 4.480	520	300
	asymmetrical double mode (b)	RH	60	130	4.780 ÷ 1.330	600	300	4.480 ÷ 1.030	520	300
	symmetrica double mode	LH	60	130	3.050	600	300	2.750	520	300
	symmetrical double mode	RH	60	130	3.050	600	300	2.750	520	300
TKE 955 - 9	single mode		60	130	9.250	600	300	9.000	520	300
	asymmetrical double mode (b)	LH	60	130	1.870 ÷ 6.430	600	300	1.570 ÷ 6.130	520	300
	asymmetrical double mode (b)	RH	60	130	6.430 ÷ 1.870	600	300	6.130 ÷ 1.570	520	300
	symmetrical double mode	LH	60	130	4.150	600	300	3.850	520	300
	symmetrical double mode	RH	60	130	4.150	600	300	3.850	520	300
Ø 400 mm blade machinable section (c)	(separation cuts from rough bar included)	90°				350	110		350	110
Ø 400 mm blade machinable section (c)	(separation cuts from rough bar included)	45°				350	90		350	90

Dimensions in mm
(a) size clampable with vice without standard end pieces
(b) double operation mode on two different working areas controlled by laser scanner
(c) requires counterblock kit for machining facade aluminium profiles
(d) the application of counterblocks for facade profiles reduces the working capacity in Z to 230 mm

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TAPPING CAPACITY (with Tap On Aluminium And Through Hole)

Rigid	M10

FUNCTIONS

Static double operation (according to model)	●
Dynamic double operation (according to model)	●
Basic multi-step machining - up to 5 steps	●
Extended machining, up to twice the maximum nominal length in X	○
Bar repositioning for cut and separation	○
Cut and separation from the bar (**)	○
Automatic management of multi-step mode machining	○
Machining with autofeed system: milling and separation from the bar, with automatic cycle (**)	○
Multiple probe dimensioning module	○
Multi-piece and multi-piece swing mode machining	○
Printing labels in customised format	○

(**) the dimensions of the profile are reduced compared to the standard work capacity; not usable when two parallel profiles are loaded

WORKPIECE LOCKING

Standard number of pneumatic vices	8
Maximum number of pneumatic vices	12
Maximum number of vices per area	6
Vice automatic positioning through independent H and P axes (according to model)	●

Included ● Available ○

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