TKE 554 FIRST EDITION

DOUBLE MITRE-SAWS

Twin-head cutting-off machine with 3 controlled axes with automatic movement of the mobile head and electronic control of every angular setting within the range 45° (internal) to 22°30' (external). The feeding of the two 550 mm blades is driven by hydro-pneumatic cylinders.

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The right to make technical alterations is reserved.

Profile clamping

The profile to be cut is clamped by two horizontal hold-down devices with extreme precision and in absolute safety. For vertical clamping, particularly for special cuts, the machine can be equipped with a patented system of horizontal hold-down devices. When two considerable lengths are cut, the profile is supported by a manually positioned intermediate support.

Head guards

The machining zone is protected by two automatically positioned local guards installed on the cutting units. The guards are made of scratch-proof polycarbonate and they are opened/closed automatically by a pneumatic cylinder at the appropriate points of the cutting cycle.

Load and unload

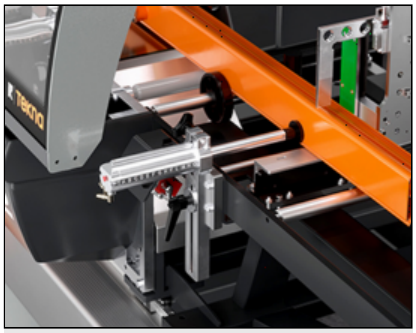
The cutting-off machine is equipped with a roller conveyor on a mobile head for standard loading and unloading procedures. The roller conveyor can be optionally fitted with an extra vice to immobilise the residual profile and an electronic machined profile thickness meter for automatic cutting positions correction in accordance with the real profile dimensions, with the associated surface treatments tolerance.

Control

The control panel, installed on a support sliding on bearings along the front side of the machine, allows correct mobile heads positioning in accordance with the required cutting schedule. The interface uses a 7” touch-screen and fully personalised software and is packed with bespoke functions that are unique to this machine. The machining cycle can be optimised by creating cutting lists, thereby reducing scrap and cycle times for parts loading-unloading.

Heads tilting

Servomotors with encoders provide the tilting of the mobile units, and the relevant positioning is electronically managed and parameterised by the control, which features a simple and intuitive operator interface.



Additional vice for profile support on mobile head roller conveyor

After each cut, the remaining profile short cut tends to fall on the roller conveyor, with the risk of hitting against the blade when the cut-off phase is still in progress. This movement may damage both the workpiece itself and the one just cut. The additional vice installed on the roller conveyor prevents this problem by keeping the profile locked for the entire duration of the cut-off cycle.

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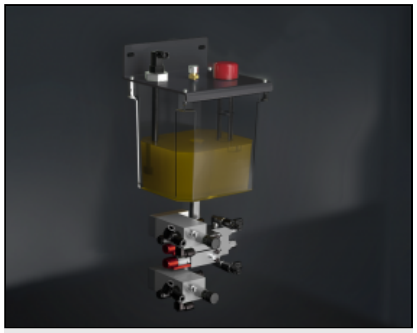
Electronic profile thickness gauge

This refined profile thickness control system enables automatic correction of the cutting dimension according to the actual size of the profile, with relative tolerance resulting from surface treatments such as painting, anodising, etc. The device can be used at the operator's discretion and in various modes according to different probing cycles resulting in correction of the entire cutting list, including the macrostructure formula.



Lubrica lubrication system

Lubrication system with minimal diffusion of cutting fluid that ensures proper lubrication and heat dissipation on the tool being machined. The frequency of the pumping pulses is manually adjusted by means of a timer; the flow rate of each pulse, visible by means of a graduated rod, can be set by manually acting on the knurled nut of each individual pump. The operator is alerted via the control panel when the oil level in the canister is too low and needs to be topped up.

Printer preparation

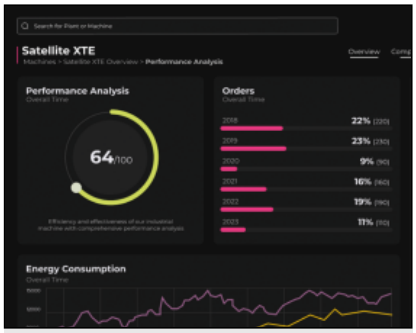
The machine is prepared for the installation of a printer that can be selected from compatible models. The set-up includes software enabling for the label printing function, mechanical support elements for positioning on the machine, wiring and preparation for electrical connection, and a folding cover to protect the printer from shocks and possible entry of swarfs.

Label printer with peeling device

Label printer with peeler allows each cut part to be identified with geometric and management characteristics 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.

Special cutting-off machine cut function software: PRO

Specific software to manage the full potential of the twin-head cutting-off machine through advanced functions. The PRO software manages longer, shorter and chamfered cut functions.



Voilap Connect Silver

Voilàp Connect is a cloud-based IoT platform that allows operators and production managers to monitor their machines and production status anywhere and in real time. The Connect Dashboard provides secure access to the history of all machine-generated data to analyse productivity, non-conformities, alarms and downtime.

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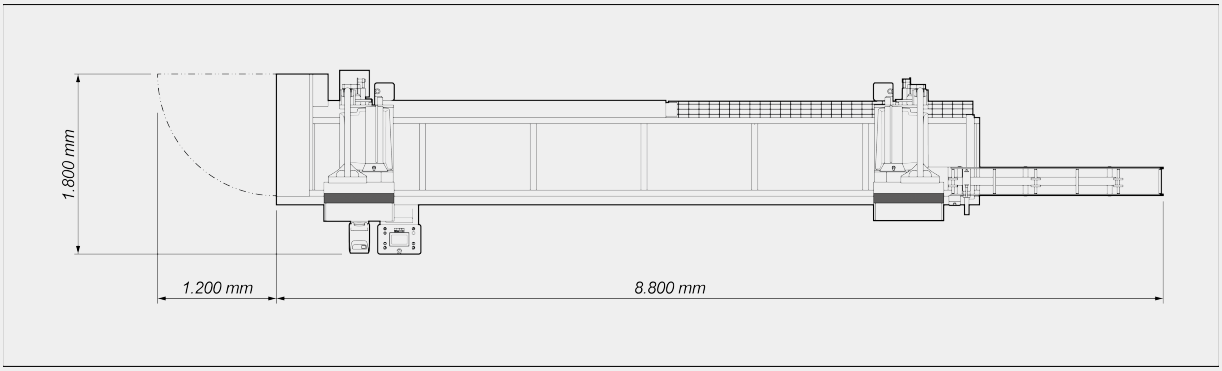
LAYOUT



The overall dimensions may vary depending on the product configuration.

MACHINE CHARACTERISTICS

Electronic control of the X axis	●
Blade diameter (mm)	550
Blade motor power (kW)	2,2
Electronic profile thickness gauge	●
Adjustable blade feed rate	●
Electronic head tilting	●
Cemented carbide blade	2
Hydropneumatic blade feed	●
X axis positioning speed (m/min)	25
Mobile head position reading with absolute magnetic strip direct measuring system	●
Detection of cutting unit tilting through direct measurement system with absolute magnetic strip	●
Electronic control of intermediate angles	●
Maximum internal inclination	45°
Maximum external inclination	22°30’

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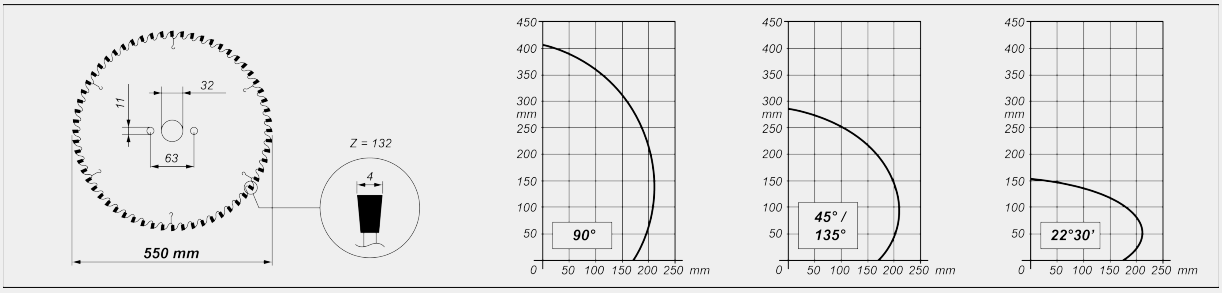
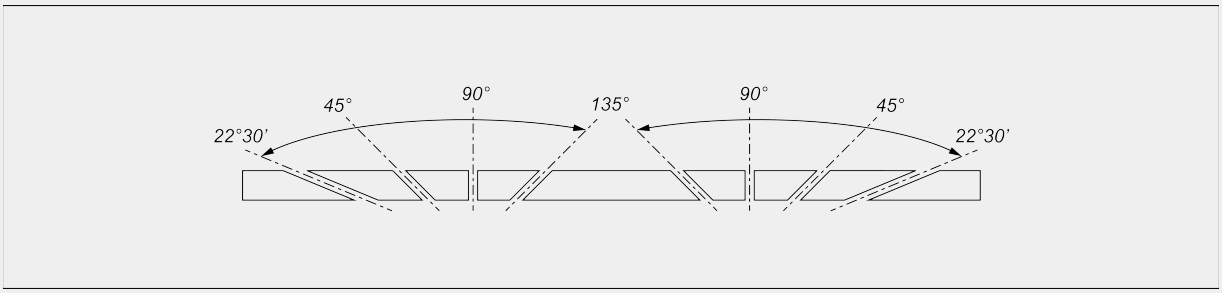
CUTTING DIAGRAM



CUTTING UNIT TILTING



Electronic adjustment of intermediate angles

SAFETY DEVICES AND PROTECTIONS

Pneumatically-operated front local protection	●

PROFILE POSITIONING AND CLAMPING

Pair of horizontal pneumatic vices with "low pressure" device	●

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LUBRICATION AND SUCTION

Minimal oil diffusion lubrication system	●

FUNCTIONS

Perform single cuts	●

Included ● Available ○

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