



karmetal
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VORTEX 150

HIGH PERFORMANCE AUTONOMOUS CIRCULAR SAWING MACHINE




*Photo may feature machine with optional accessories



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CUTTING CAPACITY

	Ø 460	Ø360
	155 mm	90 mm
	125 mm	65 mm

TECHNICAL SPECIFICATIONS

<i>Main Motor</i>	: 19 kW
<i>Hydraulic Motor</i>	: 4 kW
<i>Conveyor Motor</i>	: 0,37 kW
<i>Coolant Motor</i>	: 0,2 kW
<i>Chip Brush Motor</i>	: 2000 RPM, 4,6 Nm step motor
<i>Rear Feeding Stroke</i>	: 1100 mm (Multiple Index)
<i>Front Feeding Stroke</i>	: 20 mm (Multiple Index) (OPTIONAL)
<i>Rear Servomotor</i>	: 500 Watt, 2000 rpm
<i>Front Servomotor</i>	: 500 Watt, 3000 rpm (OPTIONAL)
<i>Bow Servomotor</i>	: 3500 Watt, 2000 rpm, with brake
<i>Blade Speed</i>	: 20 – 180 RPM
<i>Blade Dimensions</i>	: Ø460 x 2,7 mm Ø360 x 2,6 mm Ø460 x 3/5 mm (HSS Blade)
<i>Weight</i>	: 4.200 (5.200*) kg (*with loading magazine)
<i>Machine Dimensions</i>	: 2.100 (7.700*) x 2.900 x 1.900 mm (*with loading magazine)

STANDARD FEATURES

15" Industrial PC

- Only intelligent sawing mode,
- Record of all cutting data and ability to export this data
- User authorization definition
- Cutting information screen
- Ability to import worklist from Pc's or mobile devices
- Communication via LAN or Wi-fi
- Accessibility via mobile application



Intelligent Sawing (IPS)

- 13.000 different predefined material
- Materials are listed in 6 different standards
- 6 different sawing performance mode (Normal, Blade Saver, Extra Low Speed, High Performance, Ultra Performance, Customized)
- Heat treated material defining
- Automatically selection of most appropriate cutting parameters depending on the cutting channel, material grade, heat treatment, sawing mode, blade type and blade TPI according to predefined parameters in the database.
- Accurate calculation of sawing start/end points



Servo Controlled Bow Motion

- Linear motion with ball screw and linear guides
- Speed adjustment between 1~10.000 mm/min
- Full control on the cutting pressure



Mineral Casting

- The base of the machine is filled with specially developed mineral casting. Mineral casting is 80 times better vibration absorber with respect to steel.

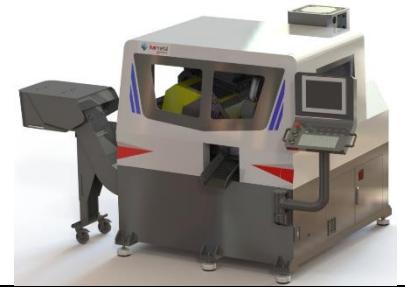


Servo Controlled Rear Vise

- Servo motor controlled, 1100 mm stroke rear vise
- Both rear and front vises close to 20 mm
- After the cut is finished, rear vise moves opposite direction of blade to avoid blade friction

Cover

- Elegant design
- Compatible with international safety regulations (2 contact safety relay etc.)
- Noise and steam isolation



7 Color LED Display

- Blue when standby
- Green while in operation
- Red while not suitable for operation
- Yellow while there is a warning during operation
- Flashing red while operation is interrupted because of an alarm during operation
- Flashing green when operation is finished
- There is also another display on the top of the machine



19 kW High Torque Main Motor

- 1200 Nm nominal output
- No loss of torque in neither low nor high frequency
- Closed loop operation (Thanks to the encoder on) provides full torque control
- High efficiency Mitsubishi Inverter
- External coolant fan
- Direct drive; no belt or gear reduction
- Capability to perform sawing between 20-260 RPM without any loss of torque



Pallet Type Chip Conveyor

- Speed control via frequency inverter
- External warning light for faults on conveyor
- Easy adjustment of operation frequency and duration



Mist Coolant System

- Coolant is executed by spraying herbal oil to the cutting area
- In case, bore oil could be used to execute coolant



6 Meters Automatic Material Loading Magazine

- 6 meters long, 120 cm. stocking area automatic loading magazine



Hydraulic Front and Rear Vises

- Both vises on the machine are hydraulic
- Front vise has the pressure switch, Sawing cannot be executed if the front vise is open
- While feeding the material, feeding system is hydraulically lifted to avoid scratch on the front vise

Blade Cleaning Brush System

- There are two brushes on the machine. One is motorized and the other is run by the blade
- Motorized brush rotates up to 2000 RPM
- Brush speed is adjusted by inverter according to blade speed

Adjustment Of Vise Pressures

Both rear and front vise pressures could be adjusted from the hydraulic control panel



Automatic Guide Lubrication

All of the guides and ball screws on the machine is lubricated periodically by the automatic lubrication system



Automatic Scrap Separator


- When a new material is loaded on the machine, the front and rear scraps are separated by the separator



Ø460 and Ø360 Blades

- Both Ø360 and Ø460 blades can be installed on the machine.

OPTIONAL FEATURES

<p>A. Mist Collector</p>	 A cylindrical mist collector with a white body and red end caps. The text "Mist Cleaner" is printed in red on the white section. It has various ports and a hose connection.
<p>B. 3rd Vise</p> <ul style="list-style-type: none">- When installed on the front of the machine, reduces remnant to 20 mm.	
<p>C. Bundle Loading Magazine</p> <ul style="list-style-type: none">- A special magazine which can be loaded more material with respect to standard magazine	
<p>D. Material Loading Tower</p> <ul style="list-style-type: none">- It has ability to stock different dimension and different featured materials.- It can load and unload the material to the machine unmanned- It is designed special for the customer depending on the place, number of cassettes, and the material size to be stocked up.	
<p>E. Unloading table for Cut Material</p> <ul style="list-style-type: none">- Instead of free fall of the cut material, moving the material far from the machine and unloads- Usually used for long material	
<p>F. Unloading Robot for Cut Material</p> <ul style="list-style-type: none">- Instead of free fall of the cut material, grabs the cut piece and aligns on the pallet or box in front of the machine	