



# **VORTEX 100**

# HIGH PERFORMANCE AUTONOMOUS CIRCULAR SAWING MACHINE

\*Photo may feature machine with optional accessories



## **CUTTING CAPACITY**

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$\varnothing$	15-105 mm
Ø	15-85 mm

## **TECHNICAL SPECIFICATIONS**

Main Motor : 11 kW

*Hydraulic Motor* : 4 kW

**Conveyor Motor** : 0,37 kW

*Chip Brush Motor* : 2000 RPM, 4,6 Nm step motor

**Rear Feeding Stroke**: 1250 mm (Multiple Index)

Front Feeding Stroke : 20 mm (Multiple Index) (OPTIONAL)

*Rear Servomotor* : 750 Watt, 3000 rpm

Front Servomotor : 750 Watt, 3000 rpm (OPTIONAL)

**Bow Servomotor**: 2000 Watt, 2000 rpm, with brake

*Blade Speed* : 20 − 180 RPM

**Blade Dimensions** : Ø360 x 2,6 mm

Ø285 x 2 mm

Ø360 x 2/4 mm (HSS Blade)

*Weight* : 3.600 (4.500\*) kg (\*with loading magazine)

*Machine Dimensions* : 1.900 (7.500\*) x 2.700 x 1.900 mm (\*with loading magazine)



#### STANDARD FEATURES

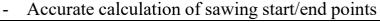
#### 15" Industrial PC

- 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.



#### 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, 1250 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

# 11 kW High Torque Main Motor

- 700 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 20-180 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 hydralically 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 Seperator

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



#### Ø360 and Ø285 Blades

- Both Ø360 and Ø285 blades can be installed on the machine.



#### **OPTIONAL FEATURES**

#### A. Mist Collector



### B. 3<sup>rd</sup> Vise

- When installed on the front of the machine, reduces remnant to 20 mm.

# C. Bundle Loading Magazine

- A special magazine which can be loaded more material with respect to standard magazine

## D. Material Loading Tower

- 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.

# E. Unloading table for Cut Material

- Instead of free fall of the cut material, moving the material far from the machine and unloads
- Usually used for long material

# F. Unloading Robot for Cut Material

- Instead of free fall of the cut material, grabs the cut piece and aligns on the pallet or box in front of the machine



# **TERMS**

Delivery (After Receipt of Written PO) :

Type of Delivery :Ex-Works





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