

Edger Optimizer Technology

OptiDrive Line



High Performance Edger Optimizer System
For Boards

EWD
The SawLine Company™

High Performance Edger Optimizer System

Maximum recovery from more than 20.000 boards per shift



The whole OptiDrive^{Line} is monitored from the operator control cabine protected from dust and noise

The OptiDrive^{Line} masterfully controls the top league of the edger optimizing systems.

The state of the art edger optimizer system achieves an average performance of 50 boards per minute in almost no time after start-up.

Even with peak speed of 70 boards per minute and more, the complete board manipulation and edging process is always controlled and smooth.

...Maximum recovery and highest reliability...

The edger optimizer OptiDrive^{Line} is the first choice for the demanding side board processing in an industrial sawmill. Depending on the space available, the board scanning is done with a transverse or linear scanning system.



Sensor-controlled board singulator



Board turner with the flow



Board assessment area with stop hooks

A Revolution to the edger technology

Functions and technical components

Functions

Boards from the transfer conveyor are separated by an S-shaped unscrambler. Revolving pusher cams lift automatically the leading board on double occupations so that it can slide back down.

Sensors to monitor and for automatical control of the unscrambler system guarantee optimum uptime and efficiency.

Following the unscrambler a system of stop hooks with sharp chains and patented EWD stoppers use the board's centre of gravity for the optimum stop function.

Transverse scanning systems can be fitted in this section with different type of board scanners. Their data can then be loaded into optimization systems with customer-specific parameters.

The OptiDrive^{Line} infeed systems use driven positioning heads, which provide so far not achievable acceleration values with high uptime.



S-shaped board unscrambler



Revolving pusher cams



Stop hook system with sharp chain



Patented EWD stopper



OptiDrive infeed table



Driven positioning head

Technical components

Unscrambler:

Adjustable revolving pusher cams, sensors and automatic control of the unscrambler conveyor for high efficiency.

Viewing deck:

Sharp chains, center point sensing stoppers, Board turner with the flow, O-Saw and driven feed rollers for trimming of fish-tail slabs;

Scanning conveyor:

Sharp chains, center point sensing stoppers, scanner system;

Edger infeed:

Sharp chains in the cross transfer for loading, 4 - 5 pairs of driven positioning heads, 4 - 5 press rollers, 4 hold-down flaps, sharp chain as infeed chain to the edger;

Scanner systems

Board measurement in linear or transverse mode

Board measurement in linear mode

The board profile is continuously scanned in the linear transport by an optical measuring system with 2 CMOS cameras and 4 lasers.

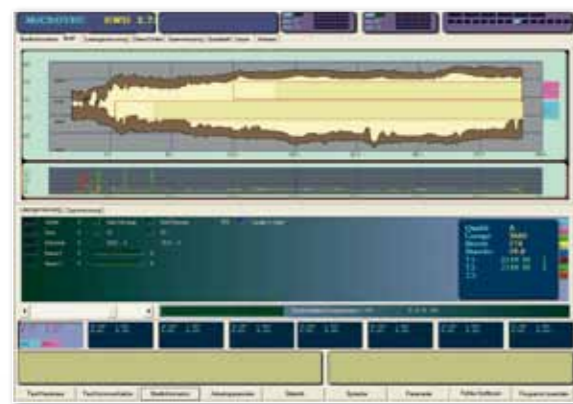
Thereby both sides of a board are automatically read and the length and position of wane is analysed. To further improve recovery, the boards can be edged if necessary by the CNC controlled saws of the edger at a diagonal path, differing from the machine center line. The allowable amount of wane can be programmed either in [%] or [mm]. For each board thickness, up to 8 different qualities can be defined.

The scanning system in linear mode is ideally suited for the installation of additional grade scanning systems. Multi-Sensor systems are applied to read automatically knots, pitch pockets, splits and cracks etc.

Board measurement in transverse mode

For board measurement in the transverse mode a number of scanning systems can be applied:

- SPS:** Single point laser sensors from top and bottom
- MPS:** Multi-point laser sensors from top and bottom, resolution min. 10 mm
- QS:** Top mounted quality scanner



Control and Operation

Components and functions

Electronic control system

An industrial standard high performance PC with Dual-Pentium processor is used for processing of the scan data and the optimization of the edging solution. The PC with MS-Windows operating system offers a comfortable system as operator interface and does the complete data processing.

The PLC control of all machinery functions is done by a Siemens S7 CPU, which exchanges data with the PC.

Main functions of the edging optimization:

- Selection of lumber species and grade
- 3 main grades
- 6 board thicknesses with 8 qualities per thickness

Input of individual wane parameters per quality possible.

The optimization software computes the best possible edging solution, either volume or value driven, using the stored product dimensions, qualities and prices and optional even product priorities.

All changeable parameters can be altered while the machine is operating.

The feed speed of the edger optimizer is either automatically set, depending on the load or can be limited if desired.

An integrated diagnosis software and modem as well as VPN access allow quick help for service calls or for trouble shooting.

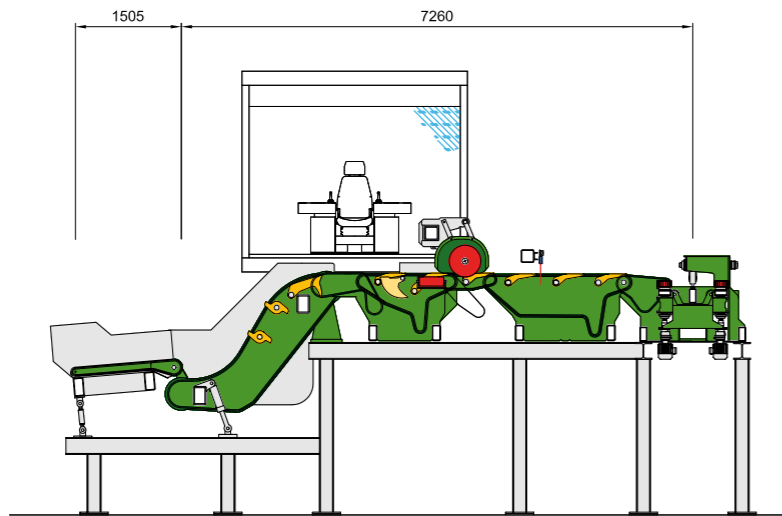
Operation

The OptiDriveLine systems are controlled from an operator cabin, protecting the operator from noise and dust. The ergonomic, comfortable operator cockpit is an integral part of the system.



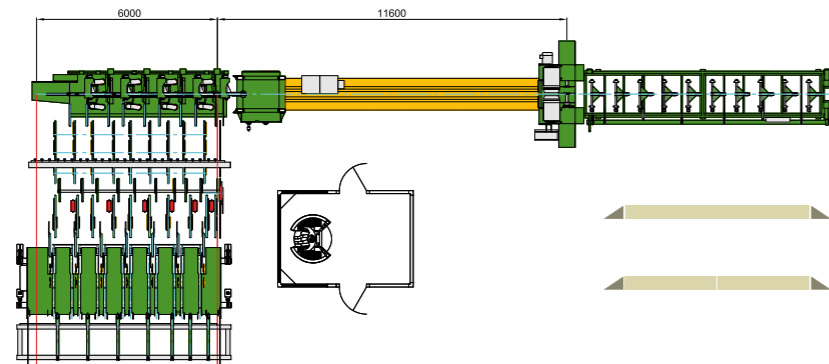
Layout concepts

Linear and transverse scanning layout concepts



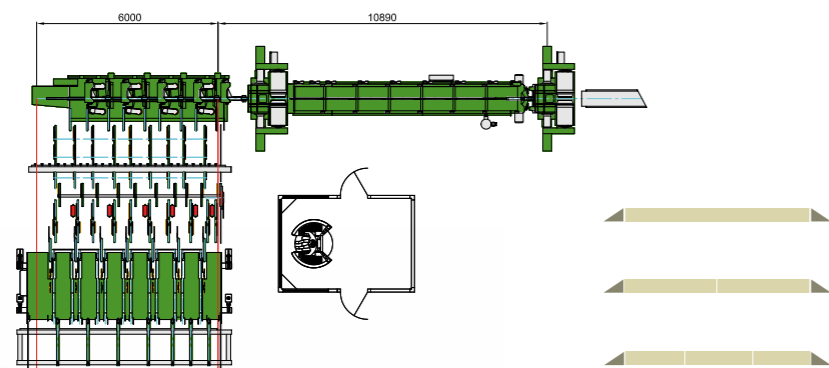
OptiDrive Line – Opti 550

with linear scanning system and top arbor edger BKO-T3 with 3 moveable saws



OptiDrive Line – Opti 550

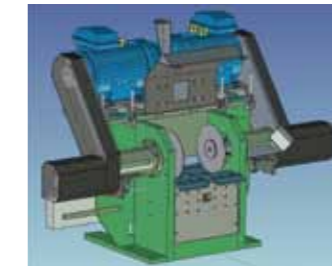
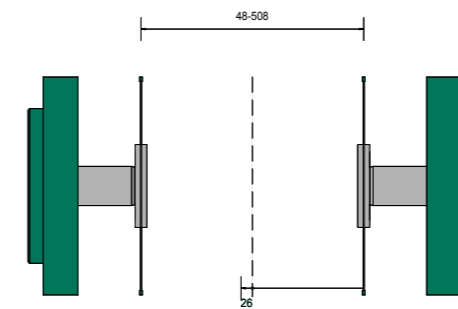
with transverse scanning system and TAE-1 edger and TAE-2 split saw



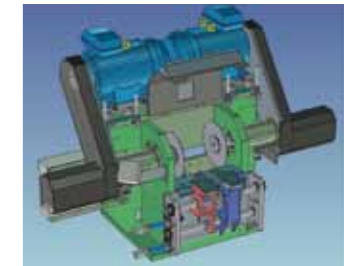
Technical Data & Details

Edgers TAE, BKO 3 and OptiDrive Line - Opti 550

Saw positioning distances of the TAE edger and split saw model

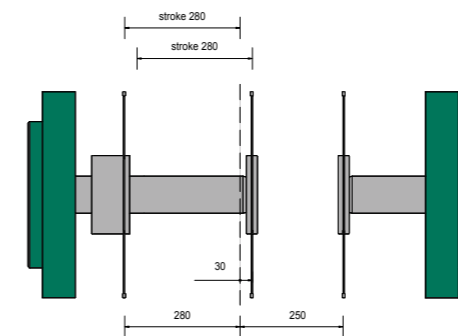


TAE-Edger



TAE-Split saw

Saw positioning distances of the BKO 3 edger model



Type

Opti 550

Board length	mm	2400 - 6100
Board width unedged	mm	90 - 550
Board thickness	mm	16 - 55
Feed speed	m/min	up to 420
Peak piece count		
Boards per minute		70
Board length	mm	4000
Board width unedged	mm	200 - 300
Board thickness	mm	20 - 30
Feed speed	m/min	420
Average piece count		
Boards per minute		50
Board length	mm	4000
Board width unedged	mm	200 - 300
Board thickness	mm	20 - 30
Feed speed	m/min	420

Custom-made solutions
Custom-made solutions
Custom-made solutions

Bandsaw Technology

Edger Optimizer Technology

CircularSaw & Profiling Technology

EWD

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