Automatic cut-off saw for defecting and optimized cutting

MODEL OPTIMA 60

Automatic programmable cut-off saw for Optimized cutting and defect removal. This system is particularly suitable for cutting to length with tight tolerances. The board is read through a laser guided system, which allows to select up to two separate grades and an absolute accuracy, even on finished parts, without leaving any trace.

The **OPTIMA 60** has a pusher system with linear encoder which may be fitted with a pneumatic tail clamp (Optional), which ensure very accurate positioning of the work piece (+/- 0.15 mm). The length of the board is measured automatically by the laser guided system, guaranteeing full optimization of random length boards.

The cutting area is fitted with a system of vertical and available horizontal (Optional) clamps, thus ensuring the squareness of the cut pieces.

The vertical tail clamp (Optional) on the pusher carriage, is designed to hold the work piece while traversing as well as allowing the feeding of multiple pieces (packs) when cutting to length, without defecting.
The loading table, allows the operator to grade and to prepare the following board while the machine is working, eliminating waste of time.

Ref 1: System Features:

- Up stroking cut off saw with full board optimization.
- Feed system with tail clamp (Optional).
- Laser system for marking of defects and up to 2 grades.
- 450 mm saw blade.

TECHNICAL SPECIFICATIONS OF THE MACHINE

	Standard	Optional
Max width of cut	300 mm	
Max thickness	110 mm	140 mm
Max feed speed	58 m/Min.	
Saw motor power	4.6 Kw	
Saw blade diam.	450 mm	500 mm
Cutting capacity (WxT)	300x14mm	300x50mm
	275x50mm	280x80mm
	200x110 mm	200x140mm
Max infeed length	4200 mm	6200 mm
Dust chute diam.	1 x Ø 160 mm	
Cutting length tolerance	+/- 0.15 mm	

Ref 2: Last Generation NC System

The last generation NC, integrated to an adjustable 10.4" Touch Screen display, offers an ease of data entry combined with an intuitive user interface to navigate through the different optimization programs available. The adjustable Touch-Screen display allows the easy and comfortable use on the part of any operator, reducing vision fatigue and providing a natural touch on the screen:

TECHNICAL SPECIFICATIONS OF NC

- 10.4" Touch Screen Display
- 2 x USB Ports
- LAN 1 x RJ45 Ethernet
- MicroSD card 4 Gbyte
- 2 COM ports (RS 232)
- Multi language support
- CSV file format compatibility
- Metric, Inches and Fractions support
- Adjustable angle for ease of operation

Ref 3: Optimization and Defecting Features

The machine can do defecting, by marking the board virtually, with a laser guided system, as well as length optimized cutting. It also has the capability of handling up to 2 different grades of wood at the same time to maximize the yield in every board.

The two functions (defecting and optimizing) can be used individually or at the same time.

The machine can perform 2 different cutting cycles:

STANDARD: storing a cutting list with quantity of pieces for each length. The machine will measure each board and the software will try to cut the longest length in the list first; In the tail end of each board the logic will step down into the list to cut the next available length, while obtaining the best lineal use of the available board.

SEQUENCE: storing a specific sequence of lengths to be cut out of a board of a given length. The board will be laid on the table, clamped with the gripper and the pusher will position the board for the trim cut first and proceed to cut each length according in the exact programmed sequence. At the end of each board the pusher will automatically reposition at the loading position.

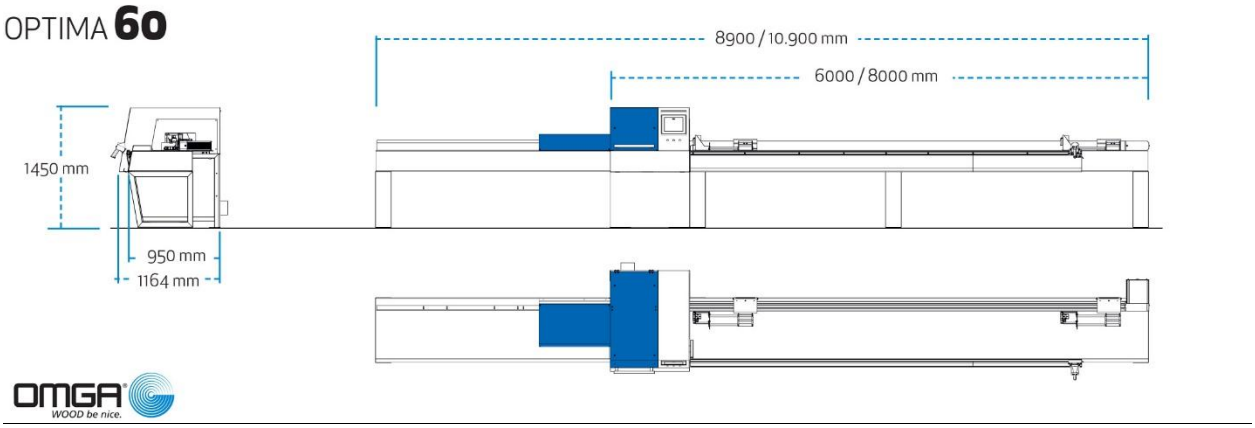
A simple and intuitive graphic interface added to a very complete diagnostic system allows a constant monitoring of the machine process.

Ref 4:	PRODUCTION CAPACITY

The throughput capability of an optimizing defecting system is affected by several variables, such as cutting length, the timber cross-section, the in-feed timber parameters, in each board and the capacity of the operator to follow the speed of the machine. The table below, shows realistic examples:

Throughput OPTIMA 60 (in linear Meters/shift)					
Efficiency	**100%**				
In-feed length (Meters)	**2**	**3**	**4**	**5**	**6**
With 2 pieces average length= 3 cuts	1620	2300	2910	3470	3970
With 3 pieces average length= 4 cuts	1290	1860	2380	2850	3290
With 4 pieces average length= 5 cuts	1080	1560	2010	2420	2820
With 5 pieces average length= 6 cuts	920	1340	1740	2110	2460
With 6 pieces average length= 7 cuts	810	1180	1530	1860	2180
With 7 pieces average length= 8 cuts	720	1050	1370	1670	1960
With 8 pieces average length=9 cuts	650	950	1240	1510	1780

Sample Lay-Out: (Includes optional Outfeed table)

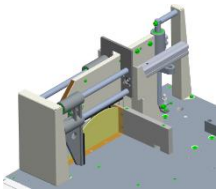


Ref 5:	**Optional Clamping**

Vertical pneumatic tail clamp

Ref 6:	**Front Clamps**

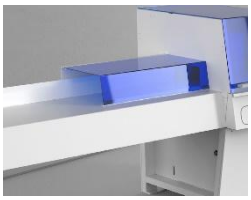
Set of 2 horizontal clamps in automatic cycle



This is a system of **"intelligent" vertical and horizontal clamps**, which automatically adapt to the dimension of the stock being processed, making the cutting cycle faster and ensuring the squareness of the cut pieces. It also allows the **"zero waste"** bringing the very end of the board up to the cutting line.

This equipment ensures that the board or the pack of boards will always be in the correct position during feeding and in perfect squareness during the cutting cycle.

Ref 7:	**Outfeed Table with fence**



The line may also be completed by simple steel outfeed tables complete with back fence and see-through polycarbonate tunnel.

Outfeed steel table	2700 mm
	3700 mm
Bakelite plate for	2700 mm outfeed steel table
	3700 mm. outfeed steel table