HC | SYSTEM TM

Opti-Kap
3100 / 5100

Optimizing cross-cut systems

Optimizing cross-cut saw series

Opti-Kap 3100 and 5100

The fastest cut for improved yield and efficiency

An optimizing cross-cut system ensures optimal utilization of staff and wood resources with minimum waste. This provides a high yield and excellent production efficiency.

Characterized by its user-friendly design, the Opti-Kap 3100 and 5100 series offers simple, fast and reliable operation. This highly flexible saw automatically measures, optimizes and cuts incoming timber into components.

Read more on our website
systemtm.com
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The smart choice

Increase wood utilization and capacity with the Opti-Kap cross-cut series!

Content

Opti-Kap 3100 series

Through-feed cross-cut saw for large workpiece dimensions

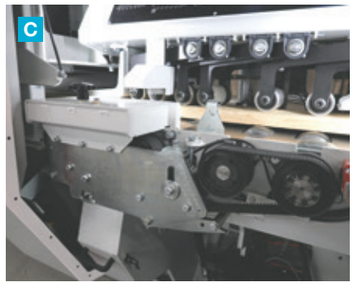
The Opti-Kap 3100 series features a heavy-duty through-feed optimizing cross-cut saw, characterized by high production capacity regardless of workpiece dimension.

This high-performance optimizing cross-cut saw includes high quality mechanical components. In order to achieve the accuracy and capacity required for large workpiece dimensions, the saw is equipped with 6 servodriven bottom rollers and 6 pneumatically operated top pressure rollers. Both the driven and the top pressure rollers are double supported to ensure maximum contact with the processed workpieces.

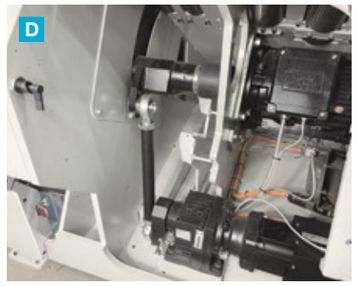
The Opti-Kap 3100 series automatically detects lengths, marked or scanned defects, and cuts them into components with an accuracy of ± 1 mm (0.039”) in cross-cut lengths up to 1,000 mm (39”).

Heavy-duty design with strong, double side-supported top pressure rollers. This ensures maximum contact between workpieces and feed roller, as well as reliable cutting accuracy and high acceleration and deceleration.

The bottom feed rollers are mounted high above the bed plate of the machine, which allows feeding of bent or twisted timber, ensuring maximum productivity and accuracy.



The high-quality, servo-driven timing belt of the bottom rollers ensures accurate cutting. The proven, durable design requires only minimal maintenance.



A saw blade stroke is performed by a crank mechanism and servo motor, providing high-performance and cutting accuracy.

A maintenance-free, mechanical waste gate ensures optimal and easy removal of small waste and defect pieces inside the saw unit, resulting in precise sorting of workpieces.

The 30° angle design of the saw allows correct workpiece positioning during cross-cutting. Due to gravity along the 30° incline, waste and defect material can easily be removed.

Opti-Kap 3100 series

Why choose System TM's Opti-Kap 3100 cross-cut saw?

- Vertical saw blade movement controlled by a servo-driven crank mechanism for a fast and smooth cut
- Adjustable cutting speed to minimize tear-outs
- 6 heavy-duty, double side-supported bottom and top rollers, to achieve high capacity with exact cut accuracy
- Fixed mechanical waste gate for optimal and fast removal of waste and defect workpieces
- Automatic adjustment for different wood thickness
- Designed to meet your specific production requirements to provide quick return of investment
- High focus on operator safety and machine reliability
- Can be upgraded to work with automatic infeed (Opti-Feed), stacking (Opti-Stack) and scanning technology

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Opti-Kap 5100 series

Through-feed cross-cut saw with high intelligence and unbeatable performance

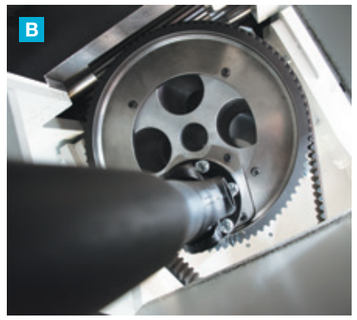
The Opti-Kap 5100 series, with it's impressive power, intelligent performance and high level of safety, has raised the bar for the future of optimizing cross-cutting.

The Opti-Kap 5100 is designed for maximum performance and built as a powerful, robust cross-cut saw with high quality mechanical components.

The forward motion of the workpieces in the saw is achieved by 9 servo driven bottom rollers and 9 double pneumatically-activated top pressure rollers. Both the driven and top pressure rollers are double supported to ensure maximum contact with the workpieces and to guarantee excellent accuracy and capacity.

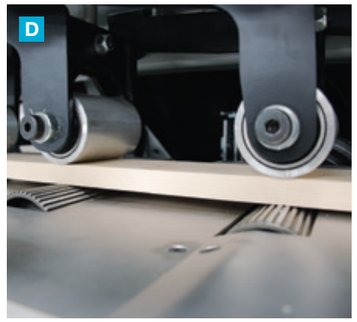
The saw blade has a circular motion driven by a servo motor, which ensures a smooth saw blade stroke for optimum kerfs and minimal tear-outs during cross-cutting. The Opti-Kap 5100 series automatically detects lengths and defects. It cuts workpieces into components with an accuracy of ± 0.75 mm (0.03") in cross-cut lengths up to 1,000 mm (39").

Integrated acceleration belt with driven fence for quick and exact positioning of workpieces that exit the saw.

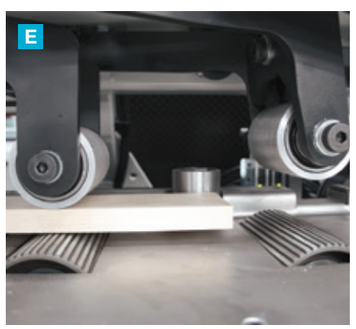


The blade stroke moves in circular motion. This ensures a smooth cut with minimum tear-outs at high speed.

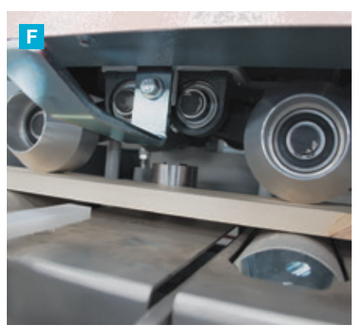
Heavy-duty infeed design with 9 driven bottom rollers and 9 top rollers. The rollers are supported on both sides to maximize and surface contact with each workpiece and provide excellent cutting accuracy.



The bottom feed rollers are mounted high above the bed plate of the machine. This allowes for the processing of bent and twisted timber, resulting in maximum productivity and cuttting accuracy.



Intelligent positioning of top rollers for fast reaction time and optimal work-piece contact. This results in high cutting accuracy.



Integrated, double top and bottom rollers ensure accurate feeding of workpieces.

Opti-Kap 5100 series

Why choose System TM's Opti-Kap 5100 cross-cut saw?

- Integrated infeed rollers and outfeed belt for optimal handling of workpieces
- Smooth, circular saw blade stroke for optimal kerfs to ensure minimal tear-outs during cross-cutting
- System TM's software control for high uptime and exceptional capacity
- Intelligent, double top pressure rollers for precise and fast positioning of workpieces
- 9 heavy-duty, double side-supported bottom and top rollers to achieve high capacity with precise cutting accuracy
- Fixed mechanical waste gateway for quick removal of waste and defect workpieces
- Integrated waste conveyor belt for efficient sawdust collection and removal
- Centralized lubrication of all major ball bearings
- High attention to operator safety and machine reliability
- Motorized adjustment of various wood dimensions (optional)
- Can be upgraded to operate with automatic infeed (Opti-Feed), stacking (Opti-Stack), finger-jointing (Opti-Joint) and scanning technology

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Cutting methods

Sawn timber before cutting

Cutting to length optimization

Saw model:
Opti-Kap 3101 & Opti-Kap 5101

Crayon marking of defects & quality optimization

Saw model:
Opti-Kap 3102 & Opti-Kap 5102

Automatic scanning of defects & quality optimization

Saw model:
Opti-Kap 3103 & Opti-Kap 5103

Identification description

A	=	A quality	**F**	=	Finger-joint
B	=	B quality	**R**	=	Re-rip
C	=	C quality	**T**	=	Trimming
D	=	Defect	**W**	=	Waste

Control & optimization

All System TM's Opti-Kap cross-cut series are controlled by industrial PC's with System TM own developed control and optimizing software.

The development of our control hardware and software is an ongoing process. Our optimizing control hardware and software is designed by highly skilled programmers, and based on reliable, industrial computer technologies. System TM's programmers have extensive experience in programming high-speed mechanical movements and optimization for best wood utilization.

The Opti-Kap series features the fastest and most reliable optimization cross-cut saws in the world today due to our in-house expertise in developing all hardware and software.

Optimizing methods

- Minimum waste
- Value optimization
- Parallel ending of cutting lists
- Width optimization
- Length x number

Opti-Kap computers include:

- Industrial multi-touch screen with simple user interface and software
- Optimization of wood resources and overall line utilization
- Complete hardware and software integration between all functions of the line
- Automatic line control from one computer
- Web-based PC with external log-on option
- Wide range of available production statistics
- Access from local network
- Simulation production software including the transfer of pre-prepared setup and production data

Technical data

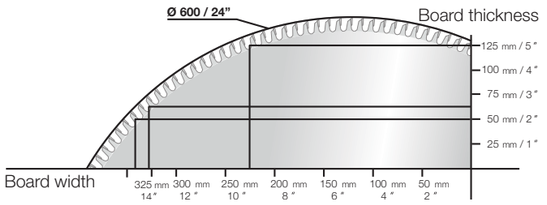
Technical data

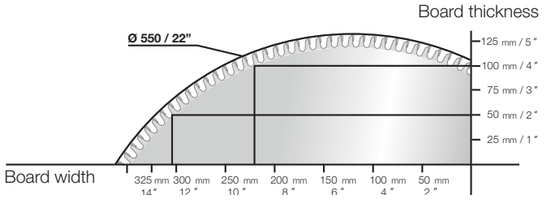
Opti-Kap cross-cut saws data overview

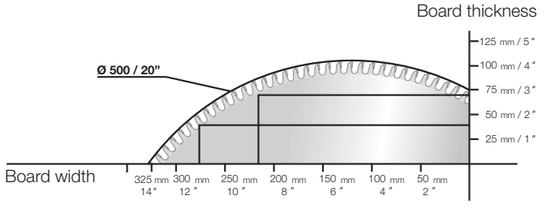
	Opti-Kap 3100	Opti-Kap 5100
Board length	500 - 6,300 mm (20˝ - 20´ - 8˝)	500 - 6,300 mm (20˝ - 20´ - 8˝)
Board width	30 - 323 mm (1.2˝ - 13˝)	30 - 200 mm (1.2˝ - 8˝)
Board thickness	16 - 125 mm (5/8˝ - 5˝)	12 - 75 mm (1/2˝ - 3˝)
Cross-cut length	115 - 6,300 mm (4.5˝ - 20´ - 8˝)	100 - 6,300 mm (4˝ - 20´ - 8˝)
Min. cross-cut length at board end	150 mm (6˝)	115 mm (4.5˝)
Cross-cut tolerance up to 1,000 mm / 39.37˝	+/- 1 mm (+/- 0.039˝)	+/- 0.75 mm (+/- 0.03˝)
Cross-cut tolerance longer than 1,000 mm / 39.37˝	(1‰ of cutting length)	(0,75‰ of cutting length)
Saw blade stroke	Servo driven crank mechanism	Servo driven exentric system
Feed motion	Servo	Servo
Air consumption	500 L/min. 8 Bar (132 gal/min. 116 psi.)	500 L/min. 8 Bar (132 gal/min. 116 psi.)
Waste extraction	3,100 m^3/hour (110,000 ft^3/hour)	3,300 m^3/hour (116,000 ft^3/hour)

All of the above data can be customized upon request.
All equipment is built to metric standards. Dimensions shown in imperial units are approximate and for comparison purposes only.

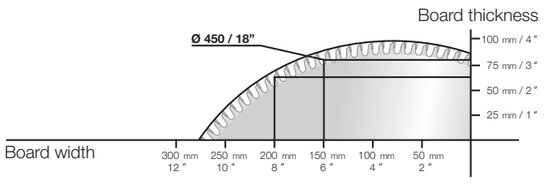
Opti-Kap 3100

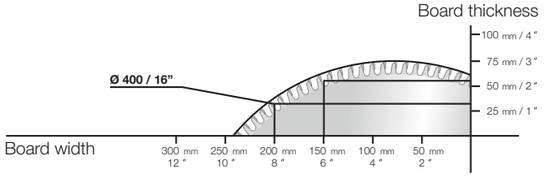






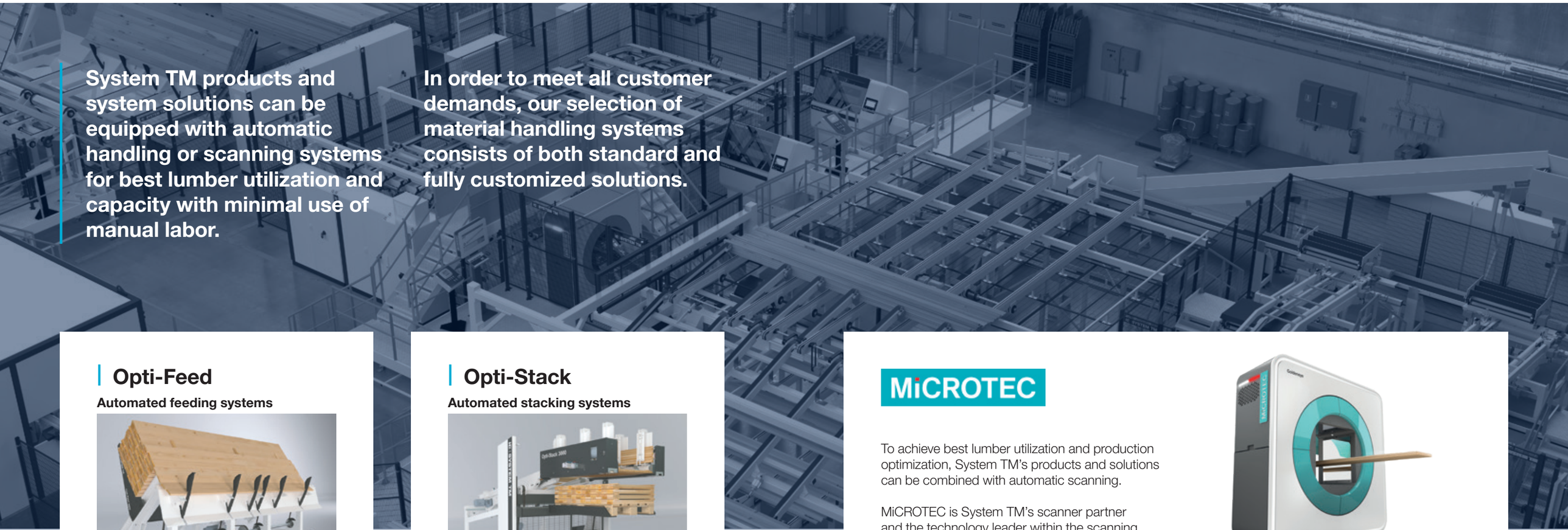
Opti-Kap 5100





System TM products

Additional products



System TM products and system solutions can be equipped with automatic handling or scanning systems for best lumber utilization and capacity with minimal use of manual labor.

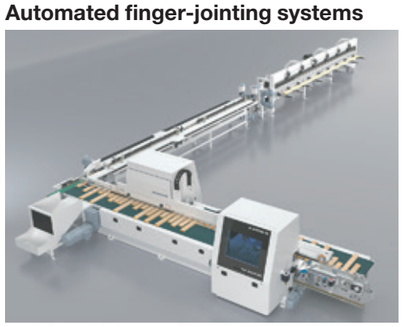
In order to meet all customer demands, our selection of material handling systems consists of both standard and fully customized solutions.

Opti-Feed

Automated feeding systems

Opti-Joint

Automated finger-jointing systems

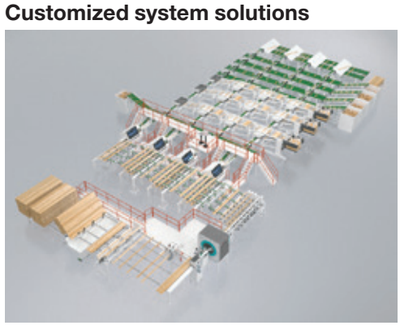


Opti-Stack

Automated stacking systems

Opti-Solution

Customized system solutions



MiCROTEC

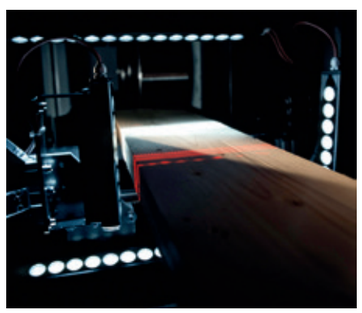
To achieve best lumber utilization and production optimization, System TM's products and solutions can be combined with automatic scanning.

MiCROTEC is System TM's scanner partner and the technology leader within the scanning industry. MiCROTEC scanners are highly reliable and accurate in wood defect detection, and ensure automated, streamlined and optimized production.

To identify the characteristics of lumber, Multi-Sensor scanning technology powered by MiCROTEC Ai recognizes knots, cracks, pitch pockets, holes, stains, wanes and other board defects, as well as their location. With exceptional precision and high speed, the sensors scan the boards for best lumber utilization.

Combined with today's scanning technology and optimizing software, a System TM product or system solution ensures best production optimization at high capacity.

The Microtec Multi-Sensor Scanner Goldeneye.



The Multi-Sensor scanning technology scans workpieces for best wood utilization.

System TM service

Optimal performance through strong service and support

System TM's service is a key strategic business area. Our service department is constantly evolving to meet customer needs and provide exceptional service and support.

System TM's service and support team ensures high uptime, productivity, and utilization. Systematic maintenance minimizes production downtime, and ensures smooth operation with minimal risk of unexpected machine failure.

System TM's service and support team consists of highly educated, trained, and experienced service engineers and technicians. With over 45 years of experience in designing, building, integrating and maintaining automated timber processing systems, System TM is a highly qualified provider of service and support.

This includes:

- Service and maintenance contracts
- A customized spare part kit for each customer to ensure a successful start
- Modification, upgrading and extension of existing machines, controls and software
- Relocation, renovation, installation and start-up of machine installations
- Production and system analysis and optimization
- Staff/operator education on how to handle and maintain machines
- Advisory and consultancy services
- Spare parts and enhancements
- Warranty
- Helpdesk and online telephone support - 24 hours worldwide

Our service technicians remain at your disposal even outside working hours

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*System TM cannot be held responsible for any misprints or omissions

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optimization of staff and wood resources