



CNC Cross-Cut Systems Series C11



CNC CROSS-CUT SYSTEM FOR UNIVERSAL APPLICATION



DESIGN FEATURES

Designed for cutting small to medium-sized timber sections, the C11 series achieves an accurate and clean cut at very high throughput rates. The extremely compact machines are ideally suited for use in both sawmills and the secondary timber processing industries, such as the parquetry, flooring, packaging and furniture industries and many more.

The continued success of the model series C11 is characterized by the following features:

- Thoroughly engineered machine frame ensuring stability and durability

- Clear construction and modern diagnostic software for maximum ease of maintenance
- Highly efficient, maintenance-free servo systems for fast acceleration and continuous heavy duty operation
- Over-dimensioned components for long service life
- Sound enclosed design for noise reduction and improved working conditions

- Yield optimization using tailor-made optimization algorithms for maximum increase in value up to 8 qualities
- High reliability and uptime thanks to our many years of worldwide experience
- Custom-tailored cross-cut systems in modular construction
- Modular expandability to fully automatic high-efficiency systems with automatic defect identification



Fig. 1 Model C11_KE with MAXI 6 CNC control and length sorting system



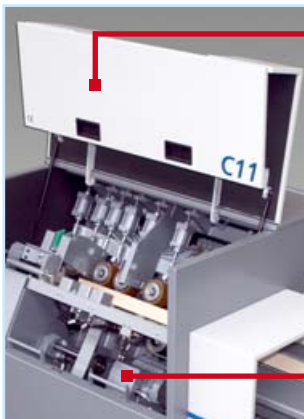
MODEL OVERVIEW

The C11 series is available in many variants, with optional length sorting and width measuring unit:

	C11_E	C11_KE	C11_MKL
Partial optimization	•	•	•
Defect cutting with luminescent scanner		•	•
Full optimization	•1)		•
Separate measuring station for quality and value optimization			•

1) with auto infeed length identification (option)

DETAILS



Tilting hood for ease of maintenance, increased safety, sound and dust enclosure

Minimum maintenance thanks to the use of commercially available components

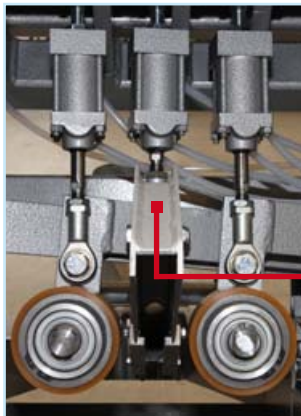
Fig. 2



Independently pressure-loaded, auto controlled, top feed rollers to handle thickness variations in the timber

Hard-chrome plated and powered bottom feed rollers for a reliable transport of even difficult timber

Fig. 3



Controlled clamping device with integrated dust extraction above the saw blade

Fig. 4

Inclined feeding system by a robust, self-centering toothed belt

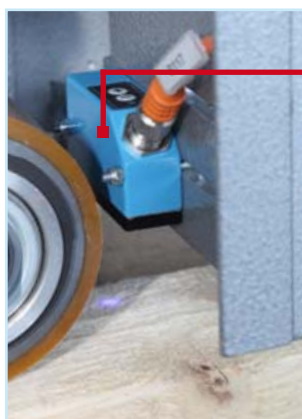


Fig. 5



Air-jet blower in the cutting area for the fast and reliable ejection of waste pieces

Fig. 6



Luminescent scanner for crayon mark recognition. Different timber grades can be allocated to different cutting lists via line codes

Fig. 7



MAXI 6 CNC control powered by LINUX (for detailed information, see "CNC Control MAXI 6" brochure - B120.16/11)

Fig. 8

MODEL C11_MKL

Maximum added value is achieved by the top model C11_MKL. A separate measuring station recognizes the crayon mark positions (optionally also the width and thickness) and transmits this data to the MAXI 6 CNC control.

The CNC control calculates the best possible optimizing result within fractions of a second, incorporating PAUL's many years of experience and sophisticated optimizing algorithms.

The value optimization includes the optimum combination of preset lengths and finger jointing lengths with up to eight different timber grades.

With the aid of automatic infeed systems, the model C11_MKL reaches its maximum capacity and maximum flexibility with low human-resource allocation. The use of non-contact marking systems as well as automatic scanners ensures an almost fully automatic operation of this cross-cut line.



Fig. 9 Separate measuring station for recognition of the crayon mark positions

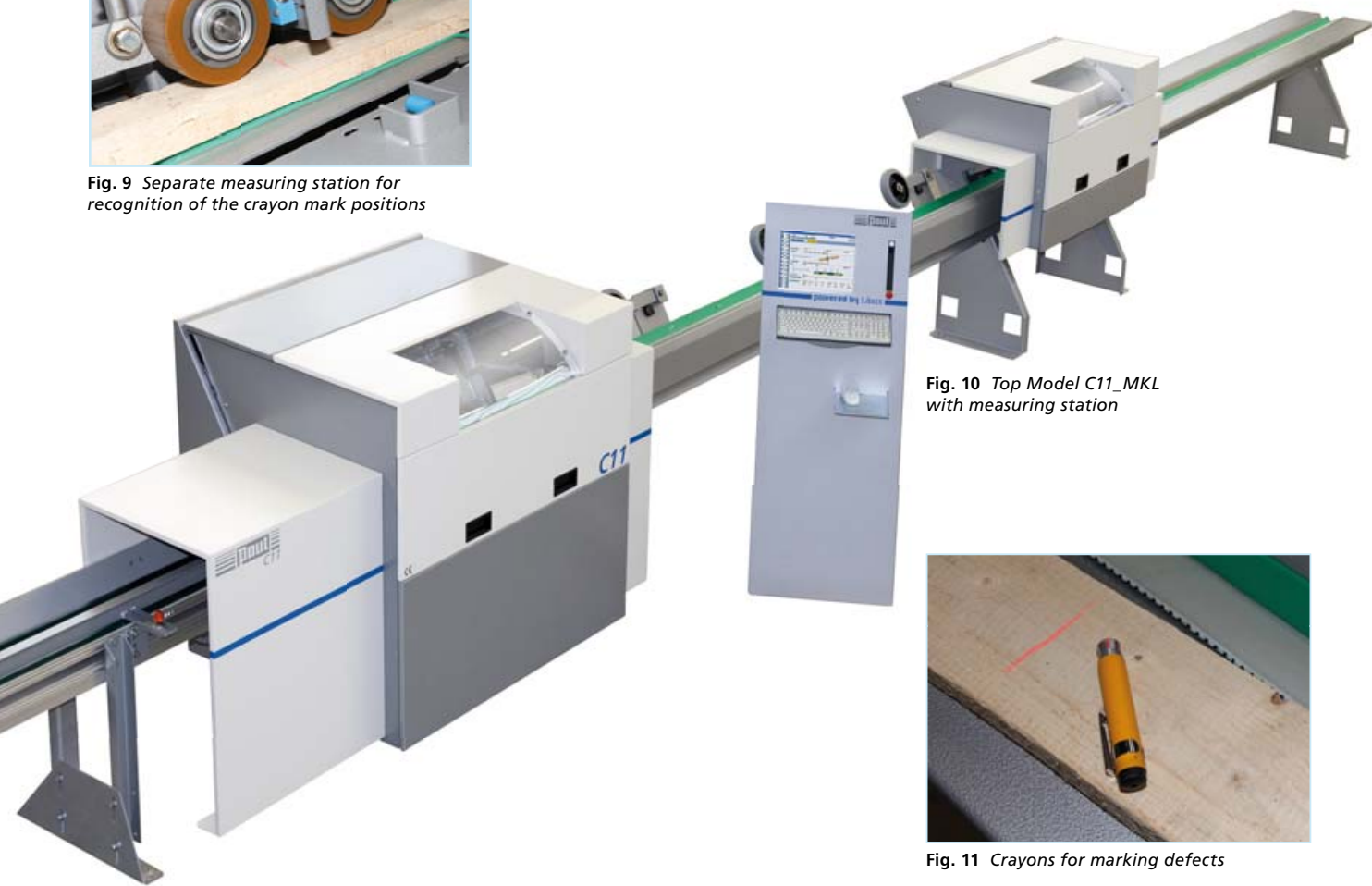
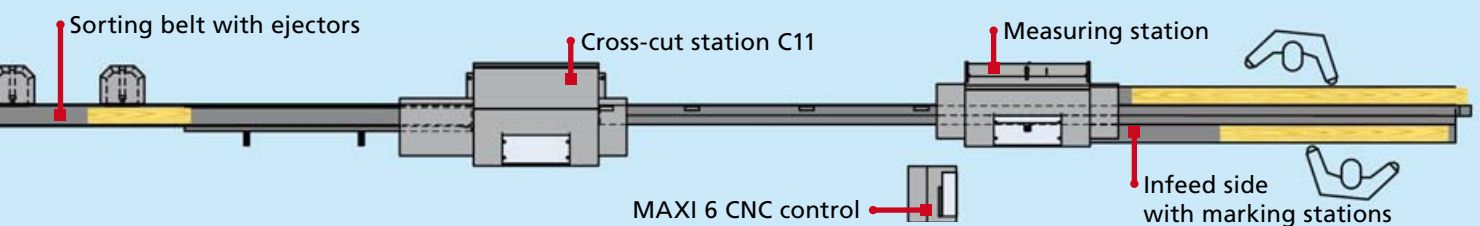


Fig. 10 Top Model C11_MKL with measuring station



Fig. 11 Crayons for marking defects



MODELS C11_E AND C11_KE

The model C11_E is ideally suited for use e.g. in the production of boxes or pallets, where freedom from defects is not important. The easily programmable cutting lists are processed using partial optimization according to the requested production data. Defects are not taken into consideration. As an option, the C11_E can be extended by an infeed length identification feature, thus making full optimization possible for the smallest model of the series as well. The incorporated online connection ensures a perfect overview

of the production status and maximum flexibility. The sequence of the pieces to be cut can be predefined by means of the incorporated sequence cutting function.

The model C11_KE is additionally fitted with a luminescent scanner to recognize crayon marks on the boards and reliably cut out defects.

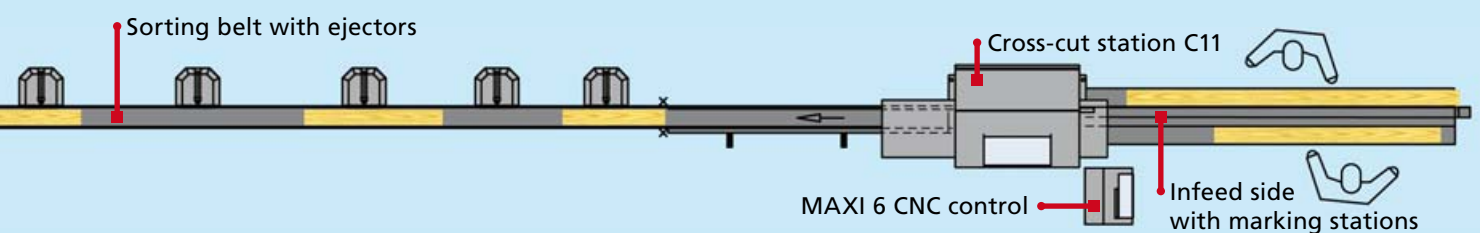
Defects are marked by means of crayons. Bar codes make it possible to cut different timber grades.



Fig. 12 Fully enclosed ejection stations for high safety



Fig. 13 Models C11_E and C11_KE with open tilting hood

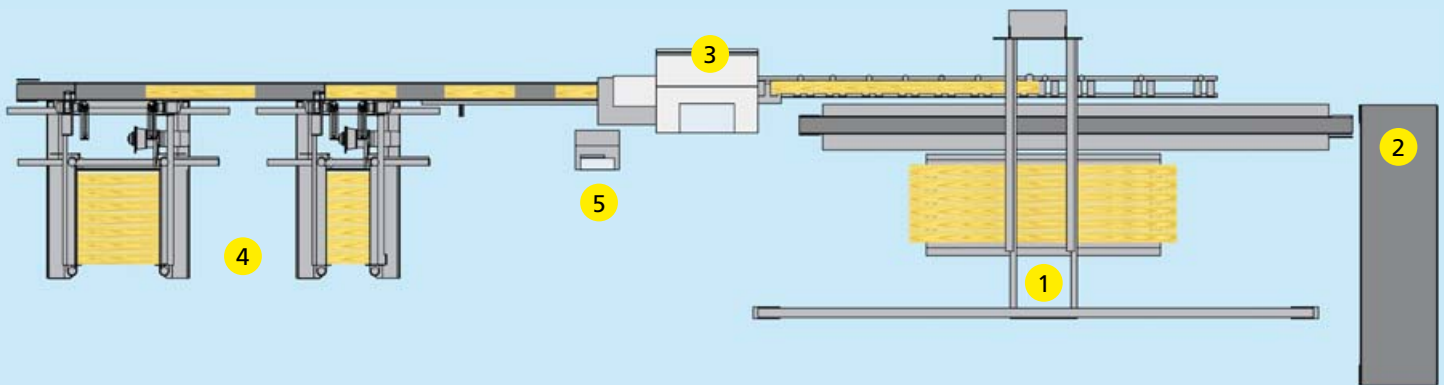


COMPLETE CUSTOMIZED CROSS-CUT SYSTEMS

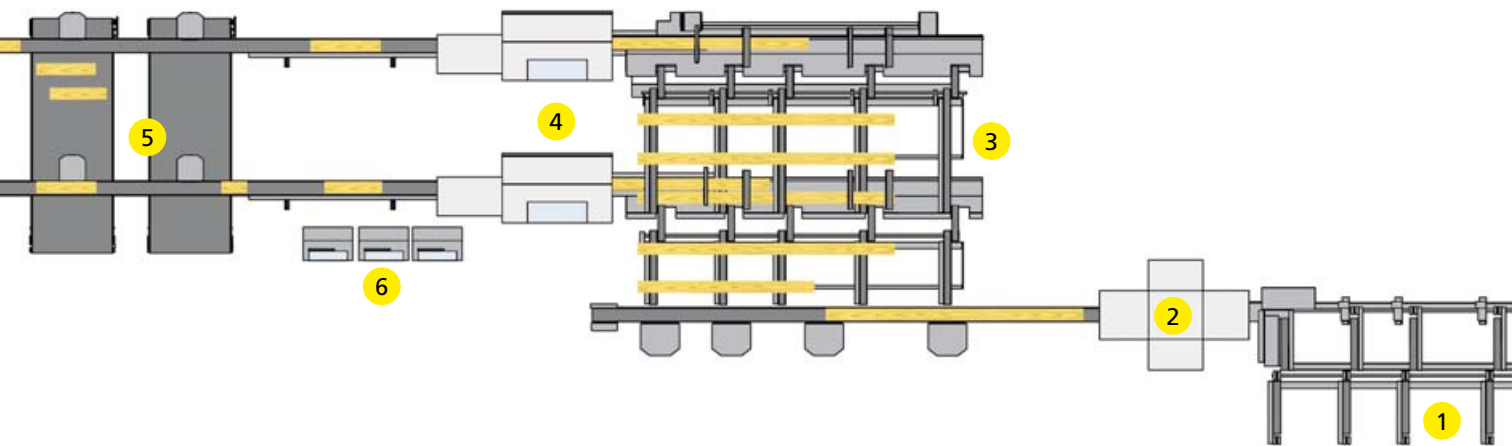
Complete automatically linked timber processing lines are made up of a multitude of handling components, cross-cut systems and rip saws. Higher feed speeds, interlinking of

several individual processing steps, safe transport guidance and automatic operating sequences lead to a considerable improvement in productivity. The operating personnel

is relieved and the safety standard is considerably improved.



- 1 Automatic Vacuum Destacker
- 2 Automatic stick removal
- 3 Cross-cut station C11
- 4 Stacking with two auto stackers
- 5 Operating terminal for cross-cut station



- 1 Multi-strand cross conveyor for buffering
- 2 Scanner (e.g. PAUL Wood Vision Scanner)
- 3 Distribution system to two cross-cut stations
- 4 Two cross-cut stations C11
- 5 Sorting system with ejectors and belt conveyors
- 6 Operating terminals for cross-cut stations and automated handling

OPTIONAL ACCESSORIES

- Automatic destacking „VacuSpeed“
- Automated handling and buffer feeding systems
- Distribution systems to several cross-cut stations
- Auto stackers
- Width and thickness measurement with triangulation measuring system
- Inkjet printer for letter or color code printing on top or bottom face and/or end face of the cut pieces
- Optical length correction for accurate cutting of long workpieces



Fig. 14 Auto stacker



Fig. 15 Automatic destacker

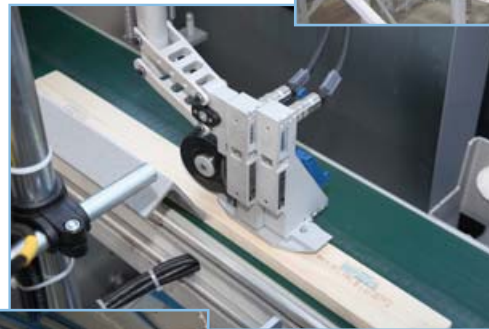


Fig. 16 Inkjet printer

Sorting units

- Ejecting to one side only using pneumatic ejectors
- Right/left sorting: allows more sorting stations versus one-side sorting with the same conveyor length
- Compact cross-belt sorting for limited floor space



Fig. 17 Distribution to two cross-cut stations



Fig. 18 PAUL Wood Vision Scanner

Defect identification

The series C11 cross-cut stations can be equipped with marking systems or full-automatic scanners. The MAXI 6 control provides an interface for the data exchange with the scanner.

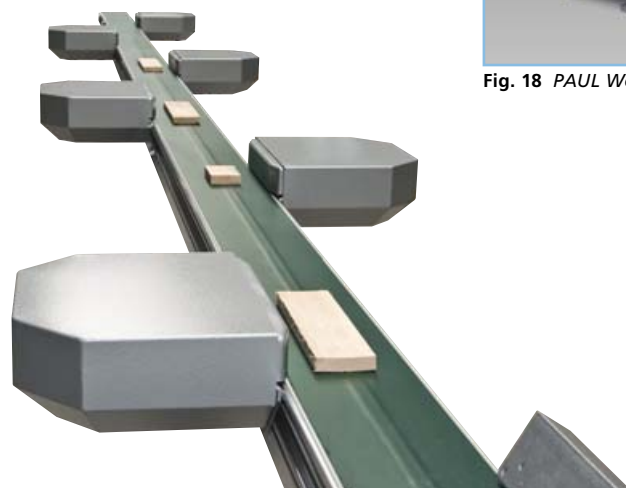


Fig. 19 Sorting belt

TECHNICAL OVERVIEW

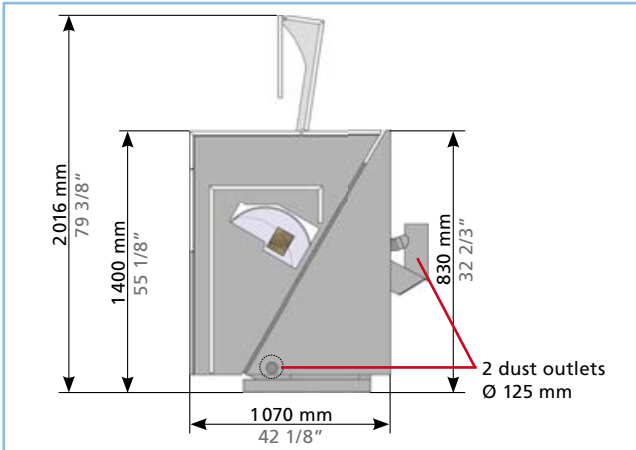


Fig. 20 Side view of C11 cross-cut station

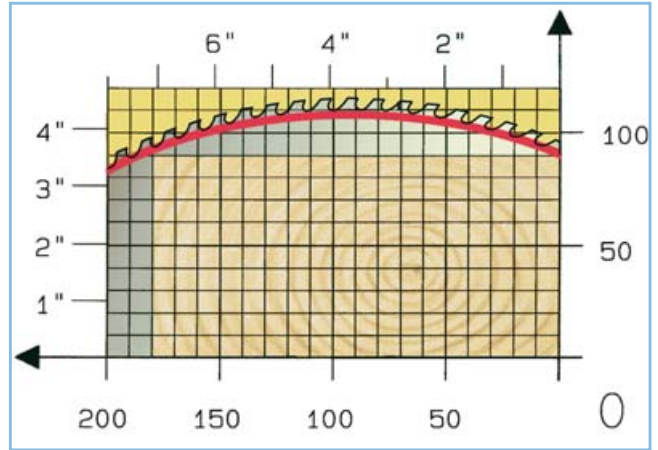


Fig. 21 Cutting diagram with 500 mm Ø saw blade

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TECHNICAL DATA / SPEED

Saw motor	kW	5.5
Powered bottom rollers		5
Rubber-coated top rollers		5
Max. feed speed	m/min.	200 / 300 ¹⁾
Saw blade Ø	mm	500
Speed of saw blade	rpm	4350
Dust outlet Ø	mm	2 x 125
Dust extraction requirement	m ³ /h	2600 ²⁾

WORKPIECE DATA

Min. infeed timber length C11_E, C11_KE (C11_MKL)	mm	300 (1300, optional 500 / 350)
Max. infeed timber length	mm	6500 / 9500 ³⁾
Timber thickness	mm	12–90
Min. timber thickness (with special sensors)	mm	3
Timber width	mm	30–180 / 200 ⁴⁾
Min. timber cross section	mm	12x30
Max. timber cross section	mm	180x45 / 130x75 / 90x90
Min. cut length	mm	230 / 130 ⁵⁾
Min. cut length at board end	mm	180

1) with turbo feed drive 2) at air speed 30 m/sec.
 3) with partial optimization 4) with straight timber
 5) with clamping device

Error and modification reserved.

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