

CNC Cross-Cut Systems
Push_Cut_CX



UNIVERSAL USE

▶ Application

Our CNC controlled cross-cut systems of the 11, 14 and 18 series are known for their high output and extraordinarily robust construction.

The Push_Cut_CX model is an optimizing cross-cut system with automatic push feed for universal use:

Joiners, packaging manufacturers, window producers and other users work considerably more efficiently, safely and comfortably with a Push_Cut_CX than with a simple undercut or pendulum saw.



Fig. 1 Push_Cut_CX with push-feed system in a practical application

▶ Construction features

Like our other cross-cut systems, the Push_Cut_CX model is inclined. We have been using this design feature with excellent results for over 20 years. By using it, pressure units can be dispensed with in most cases. When placing the timber on the

inclined infeed table, it just slides automatically against the fence. Its heavy weight and robust construction make the Push_Cut_CX eminently suitable for industrial use. Operator effort is minimized since ease of use and zero maintenance were overriding design principles. The saw blade is very convenient to change from the front. This patented principle is unprecedented on a cross-cut station.

Despite the highly advanced data processing technologies adopted, the actual operation directly on the machine remains extremely simple and practicaly-oriented using an up-to-date touch screen.

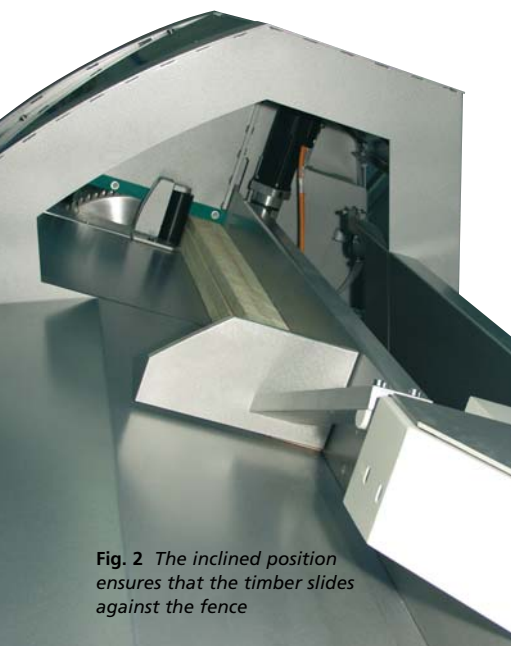


Fig. 2 The inclined position ensures that the timber slides against the fence

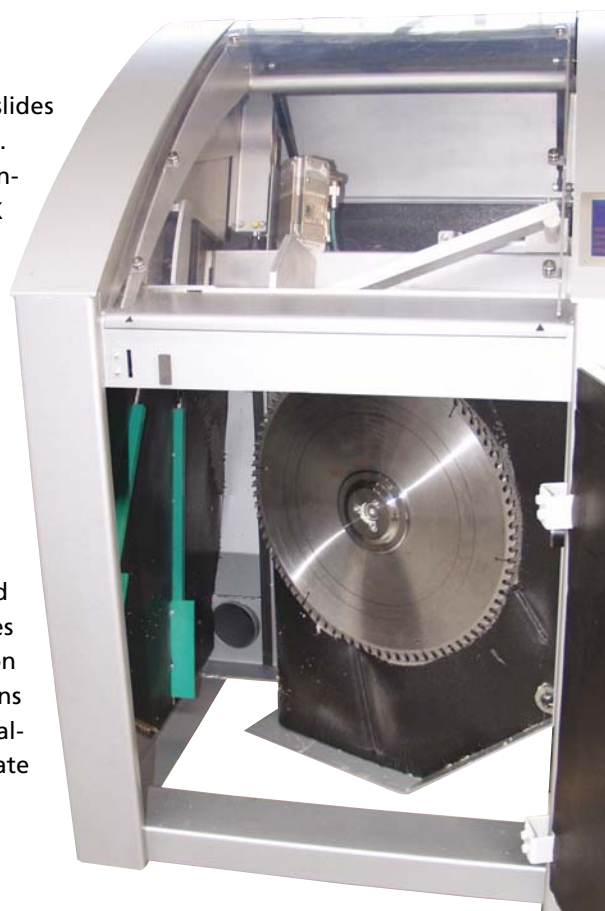


Fig. 3 Convenient saw blade replacement from the front

WORKING WITH THE PUSH_CUT_CX



The Push Feed



Fig. 4 + 5 Upward tilting standard pusher enables length measurement & crayon mark recognition – also ideal for cutting timber packs

The upward tilting pusher, driven via a heavy-duty toothed belt from a servomotor, has several functions. During the return stroke, the pusher – starting from its parking position in the cross-cut station – travels over the workpiece placed on the infeed table to measure its length and detect any crayon marks.

The pusher plate is swung up during the return stroke. This enables the next workpiece or pack to be positioned even while the feed is taking place.

Coming to the board end, the pusher folds down and the actual feed starts. It makes no difference whether a single workpiece or a whole pack is to be fed. Even for varying incoming board dimensions no changeover of the equipment is necessary.

The positioning of the timber to be cut is done very accurately.



Fig. 6 The tilting pusher on model Push_Cut_CX with height-adjustable sensors



The Sequence of Operations

The timber to be cut is loaded singly or in packs by the operator. The output is increased significantly when cutting several pieces packed together. The feed is started via a switch rod. The pusher takes over

the automatic feed and positions the piece or pack of timber. The good pieces move to the outfeed table, or

are transferred to a sorting belt and are ejected on the required sorting station.



Fig. 7

All Push_Cut_CX versions are suitable for cutting out crayon-marked defects (optional).

AN OVERVIEW OF THE PUSH_CUT_CX MODEL



Fig. 8 All functions are programmed and controlled via the convenient touch screen



Fig. 11 Marked defects are cut out (option)

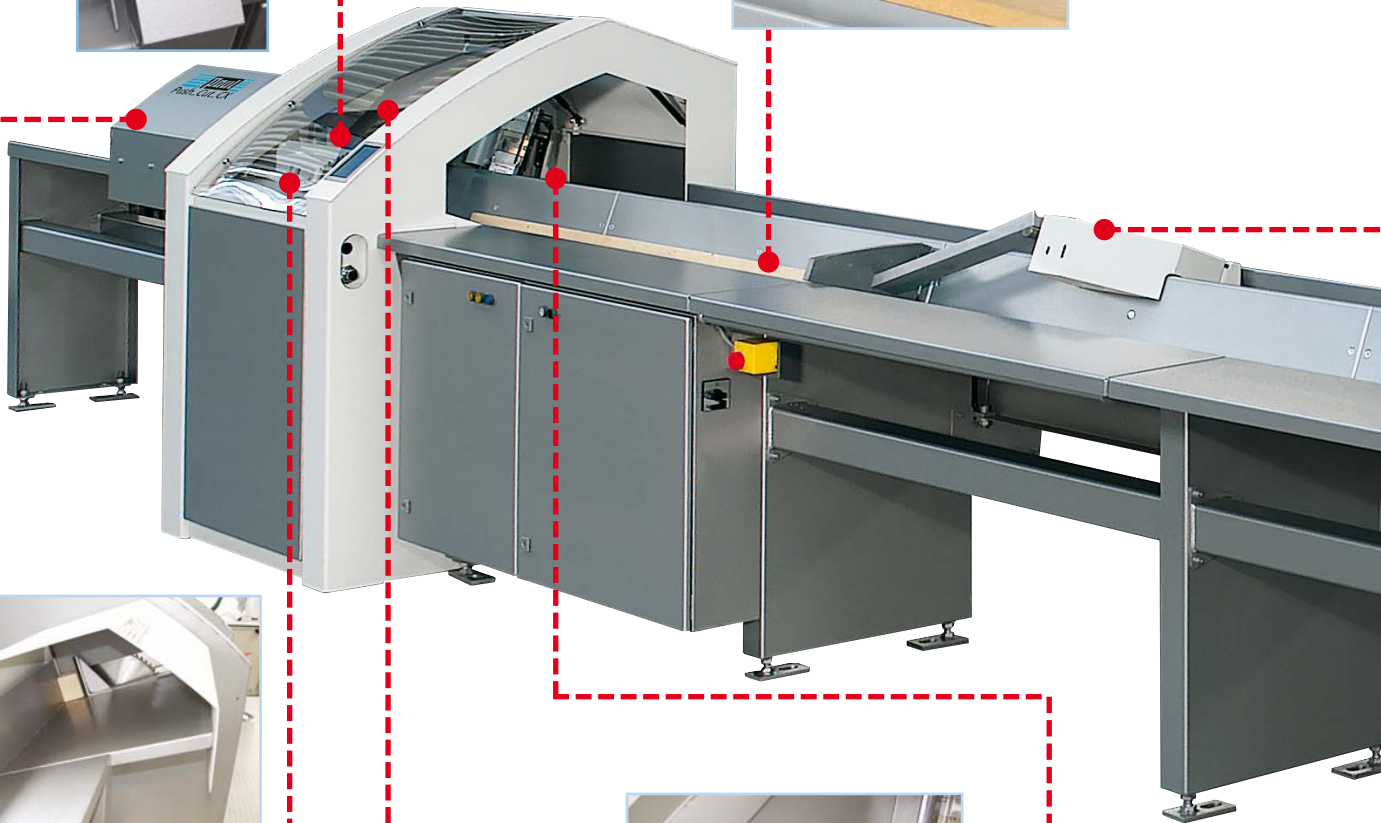


Fig. 9 Cutting operation with subsequent ...

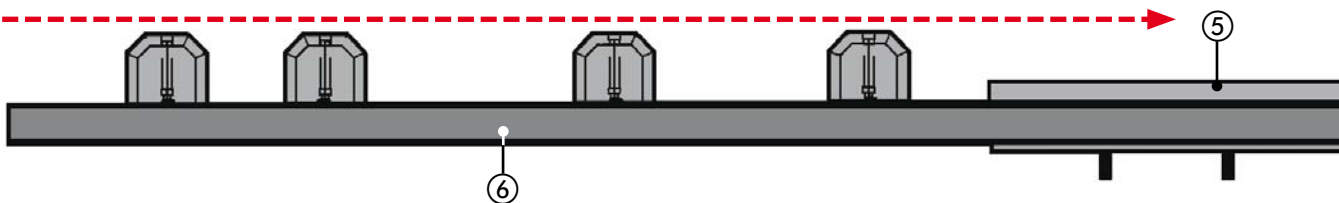
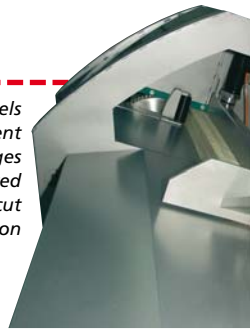


Fig. 10 ... automatic disposal of waste offcuts up to 250 mm long



Fig. 13

Fig. 14 2 models with different cutting ranges can be selected for the cross-cut station



- ① Push-feed system with infeed table for a max. timber length of 9000 mm, pusher for single or pack processing
- ② MAXI 5 Basic control operating under LINUX
- ③ Cross-cut station inclined by 20°
- ④ Waste flap for automatic disposal of offcuts up to 250 mm long (optional)
- ⑤ Outfeed table with lateral ejector (optional)
- ⑥ Sorting conveyor belt with ejection cylinders (optional)
- ⑦ Stop for forming packs (optional)
- ⑧ Controlled side-pressure units for increased cut-to-length accuracy and squareness of the cut (optional)



Fig. 15 The upward tilting pusher is fitted with various sensors. It enables length measurement and crayon mark recognition

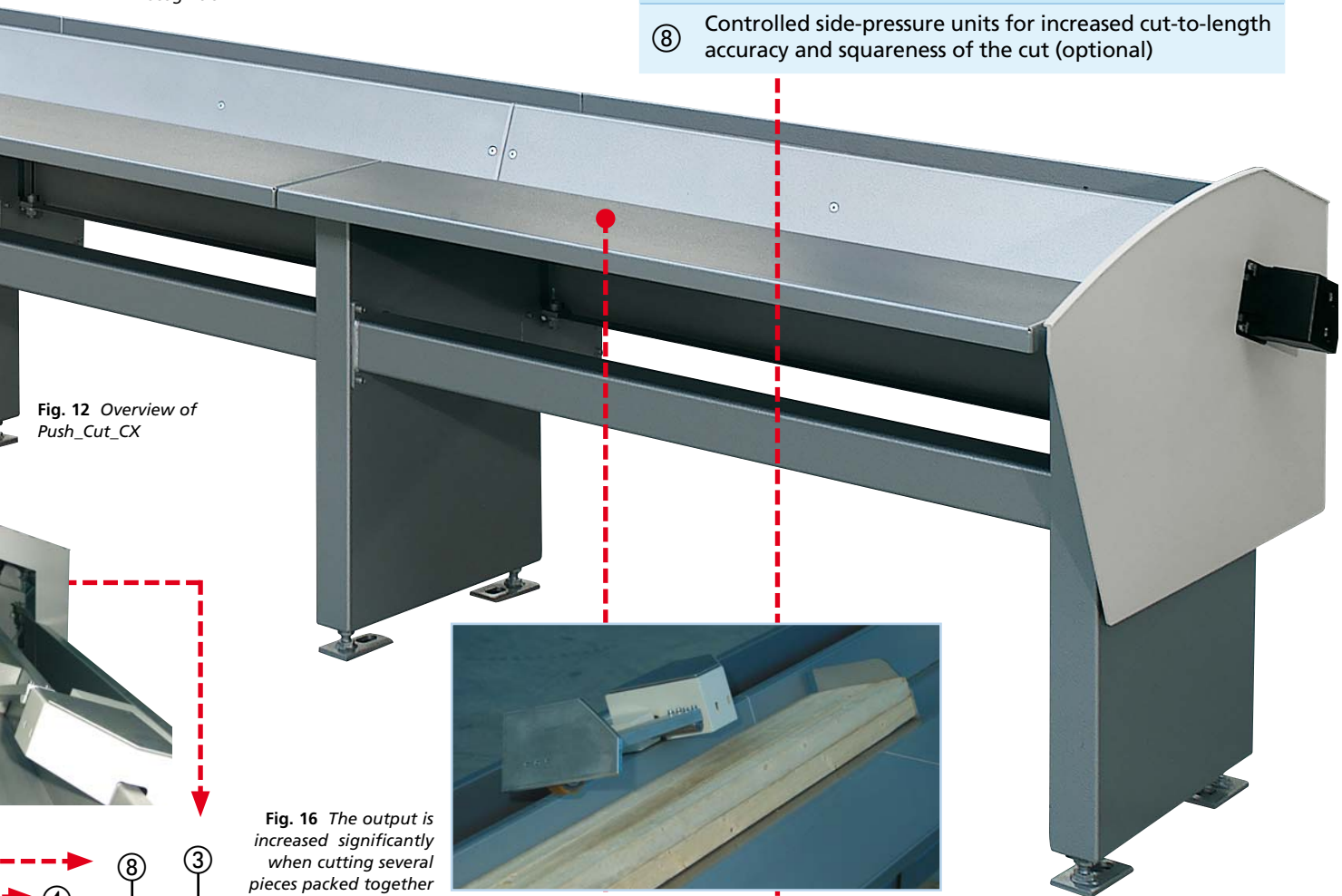


Fig. 12 Overview of Push_Cut_CX



Fig. 16 The output is increased significantly when cutting several pieces packed together

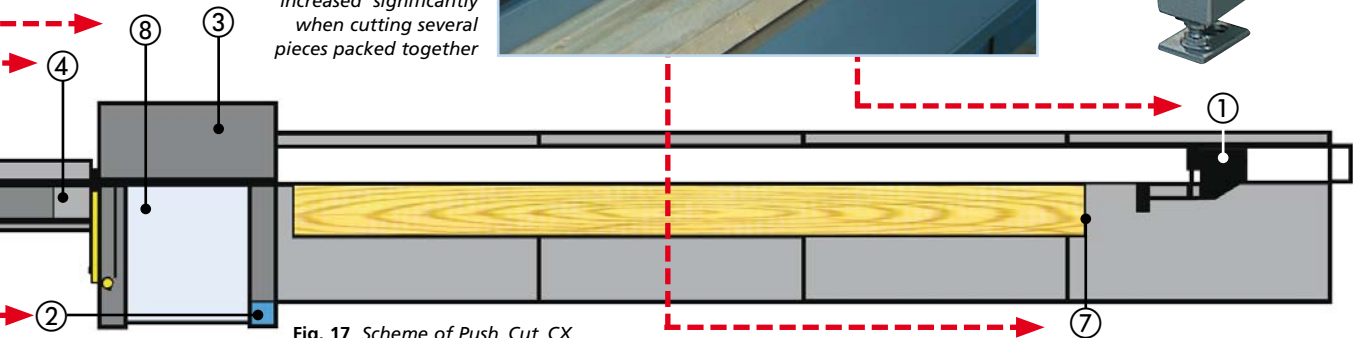


Fig. 17 Scheme of Push_Cut_CX

CONTROL SYSTEM OF PUSH_CUT_CX

The CNC Control

We develop, build and program all our CNC controls in-house. In this way we prevent interface problems and achieve optimum functionality. Our controls can rapidly be adapted to unusual requirements.

Programming several different lengths or creating cutting lists will not present any problem to the Push_Cut_CX.

Our MAXI 5 generation of controls meet the highest user demands.

They operate under the LINUX operating system, display a high level of performance even under real time conditions and are more independent, more open and more transparent than other controls.

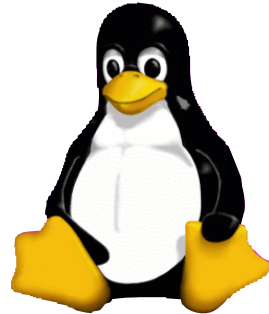
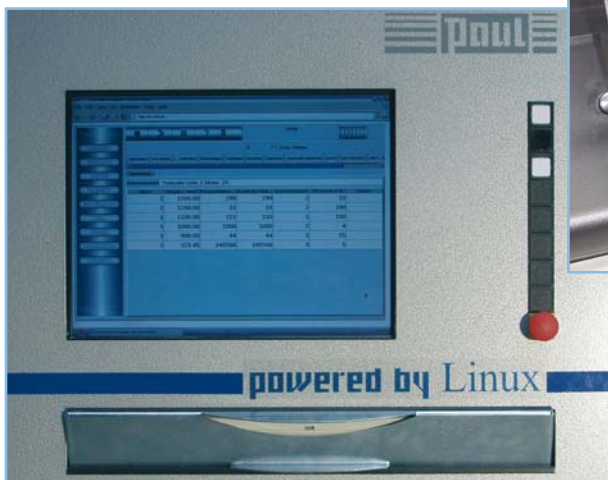


Fig. 18 The penguin is the symbol of the LINUX community

MAXI 5 – Basic or Premium?

Fig. 19 The MAXI 5 Premium flagship is used where yield optimisation as well as comprehensive production statistics are required or sophisticated systems including automated handling equipment are to be controlled



MAXI 5 Basic

The *Basic* version already features a touch panel for entering the required lengths and numbers of pieces.

Limited network capability is offered by data exchange (e.g. generation of cutting lists, data input) with customer's network system or PC. Control of sorting stations (option) or crayon marks (option) is also possible in the *Basic* version.

MAXI 5 Premium

The *Premium* version features full network capability. In this case the control acts as a web server, i.e. it offers convenient masks for the user at any company network PC to access and configure the essential data of the machine.

Together with an up-to-date browser (e.g. Internet Explorer, Netscape Navigator etc.) communication with the control is possible. Via the inter-



Fig. 20 The clearly arranged touch screen is already included in the MAXI 5 Basic version

net it would even be possible to communicate in this way with the MAXI 5 *Premium* from any place around the globe.

The range of features of the *Premium* version also includes full optimization (incl. quality optimization), width measurement, control of an inkjet printer, comprehensive production statistics and program changeover.

A large touch screen offers maximum operating convenience.

The MAXI 5 *Premium* can be customized to individual requirements with almost unlimited possibilities.

ACCESSORIES



For subsequent upgrading of the Push_Cut_CX

For more operating convenience and efficiency, we recommend various accessories depending on the application concerned.

Crayon marks



Fig. 21

In addition to the sensor for length measuring (standard), a luminescent scanner for crayon mark detection can be installed. Likewise mounted on the pusher, it detects crayon marks during the return stroke and reports these to the control computer.

Automatic length sorting unit

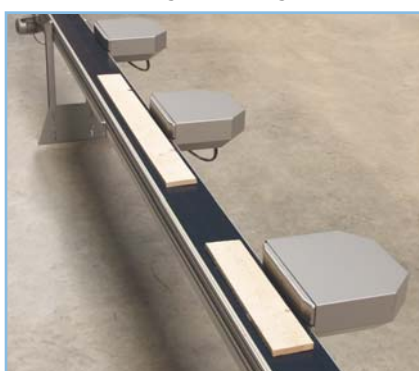


Fig. 22

An automatic length sorting unit with any desired number of ejection stations facilitates the further processing of the cut pieces. Stacking machines are available for further automation.

Automatic waste flap and lateral outfeed table



Fig. 23

In combination with a sorting unit we recommend the installation of an automatic waste flap. Trim cuts, sawn-out defects and other waste pieces are disposed of directly after the saw blade by means of an automatically opening and closing flap, and fall into a collecting box or onto a waste belt conveyor provided for the purpose. The cut fixed lengths are ejected onto the lateral outfeed table.

Stop for forming packs



Fig. 24

With the help of a special stop, board packs can be rapidly loaded with flush trailing ends. When the pusher advances, the stop automatically disappears under the table to release the pack.

Side-pressure units

To increase the cut-to-length accuracy and squareness of the cut, controlled side-pressure units can be



Fig. 25

installed inside the cross-cut station. These press the timber to be cut tightly against the fence.

Ink-jet printer



Fig. 26

An ink-jet printer will print the cut pieces with any letter or numeric code (e.g. ID number, quality mark, project name, etc.) to facilitate the later identification or allocation of the cut pieces.

Width changeover

The C6 and C7 cross-cut stations can be equipped with a width measuring unit. The width is identified via a magnetic measuring system incorporated in the side-pressure unit. The measured values are transmitted to the CNC control and used according to the user's requirements (automatic program changeover, width addition up to a preset overall width, statistical recording, etc.).

TECHNICAL DATA

Push-feed system		Model 203	Model 205	Model 206
Infeed length, standard	max. mm*	3300	4800	6300
Workpiece/pack thickness, standard	max. mm	200	200	200
	min. mm	10	10	10
Pusher plate area, standard	W x H mm	330 x 180	330 x 180	330 x 180
Positioning accuracy, standard	+/- mm	0.2	0.2	0.2

Cross-cut station		Model C6	Model C7
Timber cross section	W x H max. mm	320 x 150	330 x 200
	W x H max. mm	420 x 50	440 x 100
Saw motor output (option)	kW	5.5 (7.5) (11)	7.5 (11)
Saw blade diameter	max. mm	600	700
Weight (without infeed/outfeed side)	approx. kg	600	600
2 dust outlets	Ø mm	1 x 65; 1 x 125	1 x 65; 1 x 125
Dust extraction requirement**	m ³ /h	1680	1680

* The nominal lengths include a reserve of 100 mm each, i.e. the distance between machine wall and outermost pusher position being 100 mm larger than the nominal length.

** at air speed 30 m/s

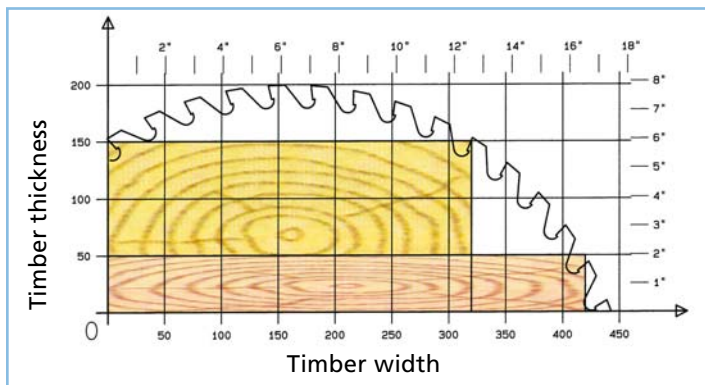


Fig. 27 Cutting diagram of model C6 with 600 mm saw blade

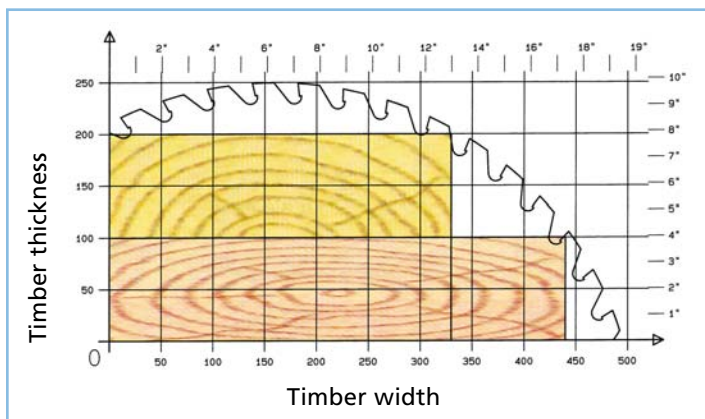


Fig. 28 Cutting diagram of model C7 with 700 mm saw blade