

MASSLAM MACHINING CAPABILITIES

K2-Industry

THE NEW K2-INDUSTRY

SETTING NEW STANDARDS FOR PROCESSING STRUCTURAL TIMBER

K2-Industry sets completely new standards in performance, flexibility and capability for processing structural timber components.

Hundegger's engineer's ingenuity and years of experience has enabled Hundegger to launch a completely new machine generation.

Every detail and manufacture of each component is uncompromisingly designed for high-performance and demands a 24 hour, 3-shift operation.

The new K2-Industry brings a significant leap forward in performance for ASH.

The advantages of the new K2-Industry:

- Excellent performance and impressive capabilities
- Each machine is made to ASH's requirements
- Huge variety of difference processing units to meet demands of all applications
- Processing of massive timber sections up to 1,300mm x 450mm - to any length
- Maximum precision machining of Glulam, CLT, LVL, KVH





MODULAR BUILD - TO CUSTOMER-SPECIFIC REQUIRMENTS

For an optimum leap in performance, With Hundegger's modular machine building the K2 Industry offers a wide range of options to meet customer requirments and applications.

SERIES AND ONE-OFF PRODUCTION

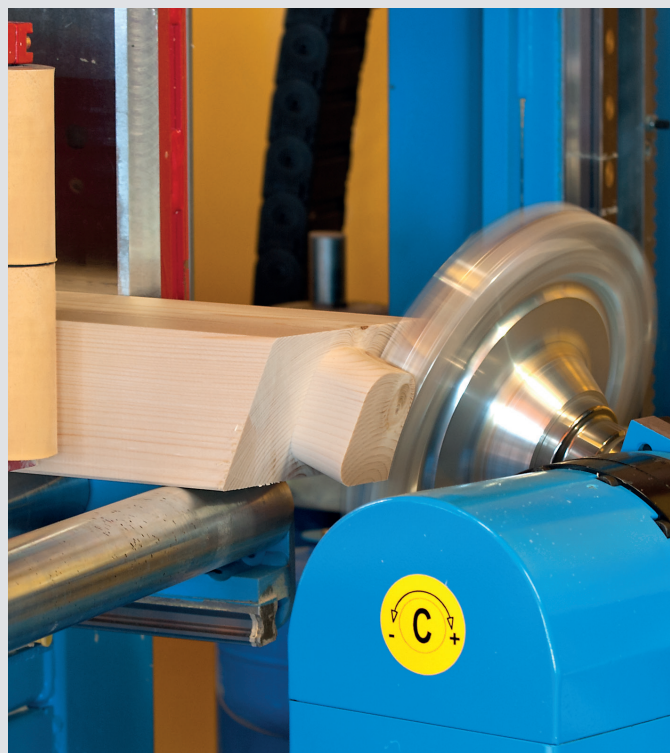
The new K2-Industry always offers maximum flexibility at speed. Tool changeover times become a thing of the past. The machine is ready for operations of all types: from conservatories with small cross-sections to massive laminated beams, CLT timber elements, LVL - measuring up to 1,300mm x 450mm.

REVOLUTIONARY GUIDE SYSTEM

The revolutionary handling system of the K2-Industry with two gripper and guide carriages fixes the timer directly to the machine and therefore ensures maximum precision even for the processing of bent or twisted beams, This leads to a new standard of accuracy. Machining up to 450mm prevents the need for block laminating - avoiding critical misalignment that occurs from gluing separately machined members.

FLEXIBILITY ON TOP FORM

Machining timber flexibly and efficiently without measuring or marking and without changeover times - the new K2-Industry makes this possible.



TECHNOLOGY THAT IMPRESSES

HIGHLIGHTS OF THE NEW K2-INDUSTRY

In contrast to joinery machines with just one spindle and with tool change systems, the K2-Industry performs particularly well in industrial joinery thanks to its multi-unit concept.

For each operation, a specially developed unit is provided with tools tailored to that unit. The result: maximum performance without tool changeover times.

Benefit from impressive performance, speed and accuracy.

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Sawing unit with block disposal

Maximum performance even with large cross-sections with a 13 kW sawing unit and open sawing table.



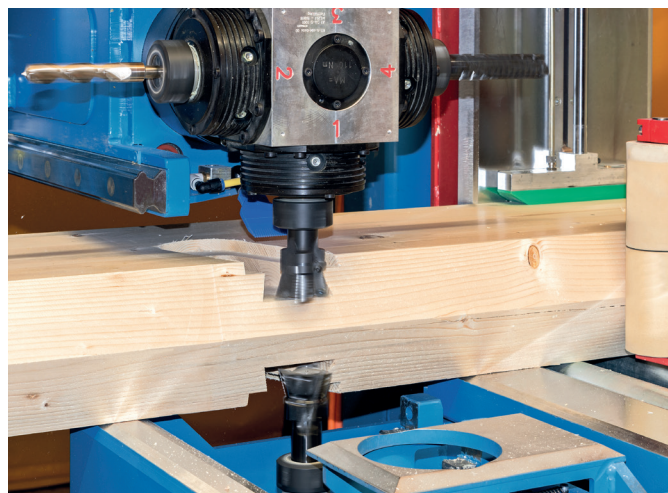
5-axis universal mill

Power and precision with up to 35 kW.



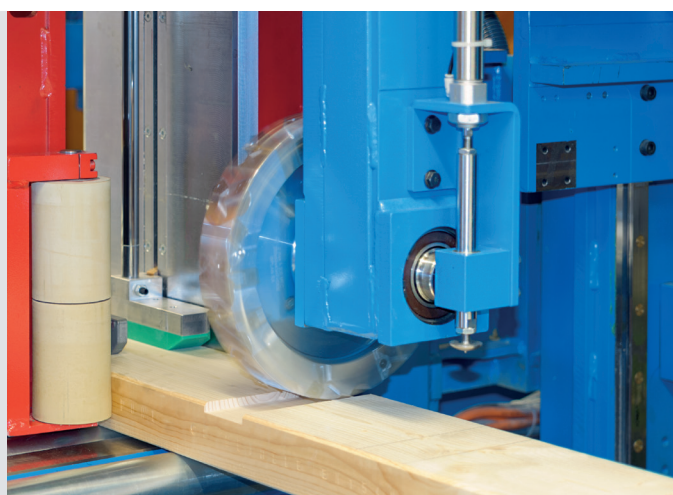
Horizontal saw

Slotting at highest quality and maximum depth.



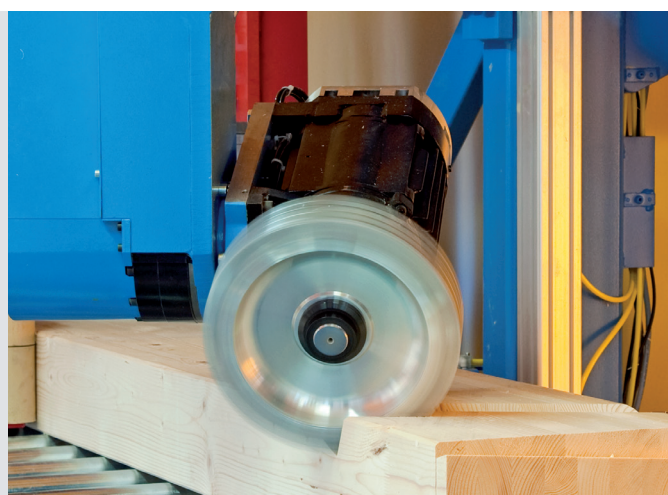
Synchronous unit

Simultaneous processing from both sides for maximum productivity.



Universal lap milling unit

Perfectly coordinated high-performance unit for operations in timber framed construction.



6-axis robot unit

Full power with 12 kW and infinitely variable speed range for all tools and applications.

THE SAWING UNIT

WITH OPTIMIZED WASTE DISPOSAL AND FAST SAWING PROCESSES



6 | The sawing unit offers 13 kW capacity at 1,500 rpm and boasts optimized block disposal. In conjunction with the perfect table overlay, open sawing table and intelligent CAMBIUM software, there are practically no limits when it comes to the efficient production of your product ideas.

- High-precision, fully automatic jack rafter cuts, hex cuts, regenerative cuts or diagonal cuts
- At every angle, every inclination and every length
- Grooving and hip ridge cuts, of any length
- Blocking grooves in any width and at any angle

The table plate is made of robust plastic and offers first-class sliding properties. This avoids all abrasion on the timber and ensures precision during processing thanks to minimized sliding friction.

The saw table, open on one side, reveals its strengths from the very first saw cut. Depending on the dimensions, a block ejector not often required, which leads to considerable time savings in production.

The ingenious thing here is that CAMBIUM automatically determines whether a block fits through the opening. If it doesn't, a support surface is generated by rotating the saw, and the block can be ejected.

The advantages:

- Drive rating 13 kW
- The table plate is made of robust plastic for minimized sliding friction
- Open sawing table for higher efficiency in a run



UNIVERSAL MILL WITH 5 AXES

THREE TIMES THE POWER WITH 35 KW 5-AXIS MILLING UNIT

The new 5-axis universal mill is fitted with the new 35 kW high-performance unit.

All axis are equipped with servo drives, which enables not only maximum speed and precision, but also simultaneous repositioning. Both the timber overlay surface and the use of space are optimized thanks to the adapted geometry. For the mill, too, the table surface is made of robust plastic and therefore offers best sliding properties.

Abrasion on the timber is therefore a thing of the past, and the precision during processing is increased thanks to the minimized sliding friction.

The advantages:

- Direct drive without intermediate gearing
- Infinitely variable speed from 0 to 5,200 rotations per minute
- 3 tools can be installed simultaneously
- Highly efficient milling of tenons, mortises, grooves, profiles, bird's mouths, dovetail joints, etc.
- Cylindrical mills, end mills and dovetail mills or special tools are available
- Excellent performance and impressive availability





THE 6-AXIS ROBOT UNIT

THE 6-AXIS ALL-ROUNDER FOR FASTEST PROCESSING

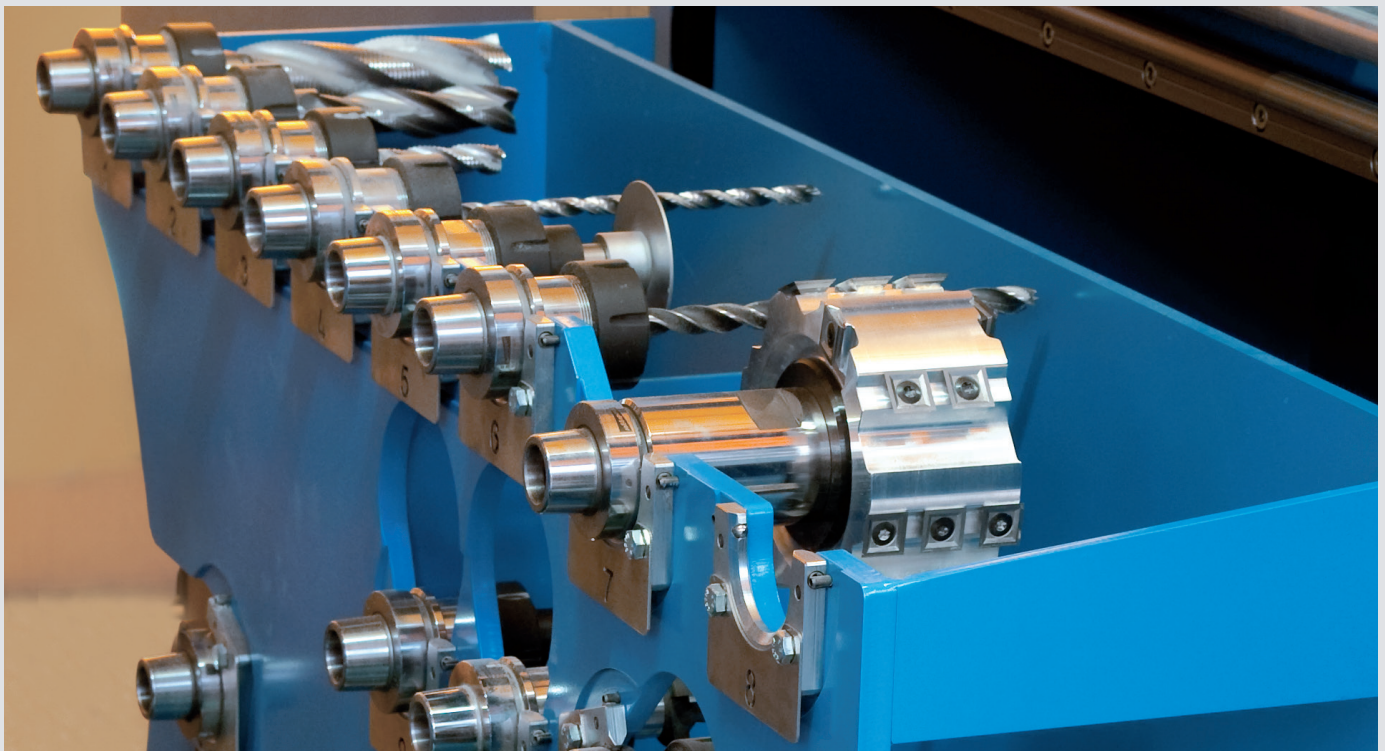
The 6-axis ROBOT unit with a power output of 12 kW or 29 kW and infinitely variable speed from 0 to 15,000 rpm

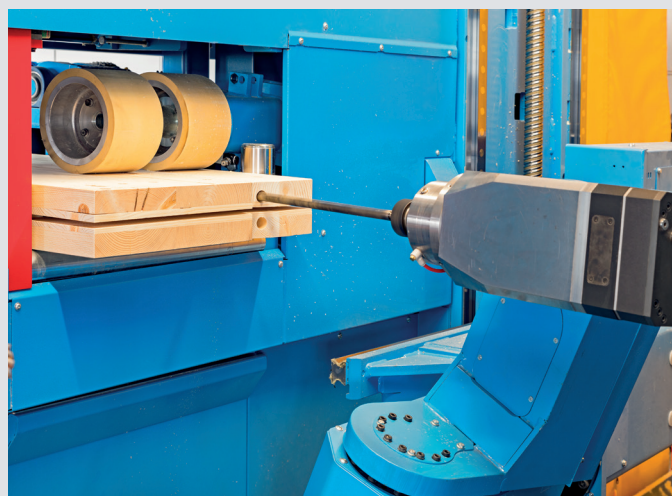
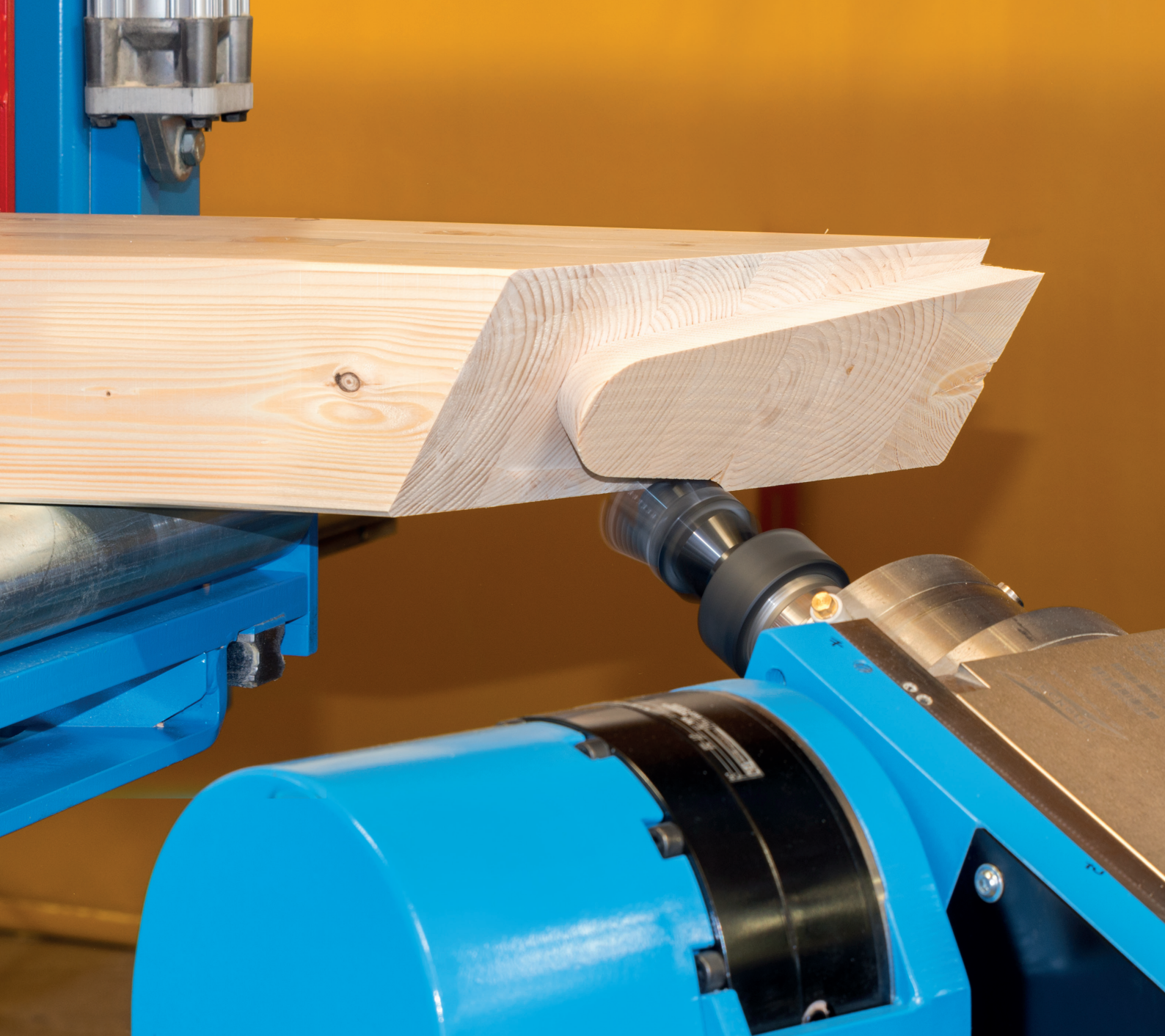
The 17 station tool changer In combination with HSK-63-E-tool holders, the tool can change over saw blades, drill bits, end mills, side milling cutters, dovetail mills, cylindrical mills and markers for labelling parts in seconds.

The tools are managed in the Hundegger production program CAMBIUM. Depending on the type of processing to be performed, the machine automatically selects the tool from the magazine. The type, diameter, length and tool position in the magazine, the characteristic data of the milling and drilling tools also includes the optimal speed. The speed is called up automatically when the respective tool is used.

The advantages:

- Greater flexibility thanks to the 6-axis ROBOT technology
- Machining at all angles and inclinations
- Machining on all part sides without turning





For special applications, drills of up to $d=50$ mm and an effective length of 420 mm can be used

DRILLING, MILLING AND SLOTTING AT THE HIGHEST LEVEL

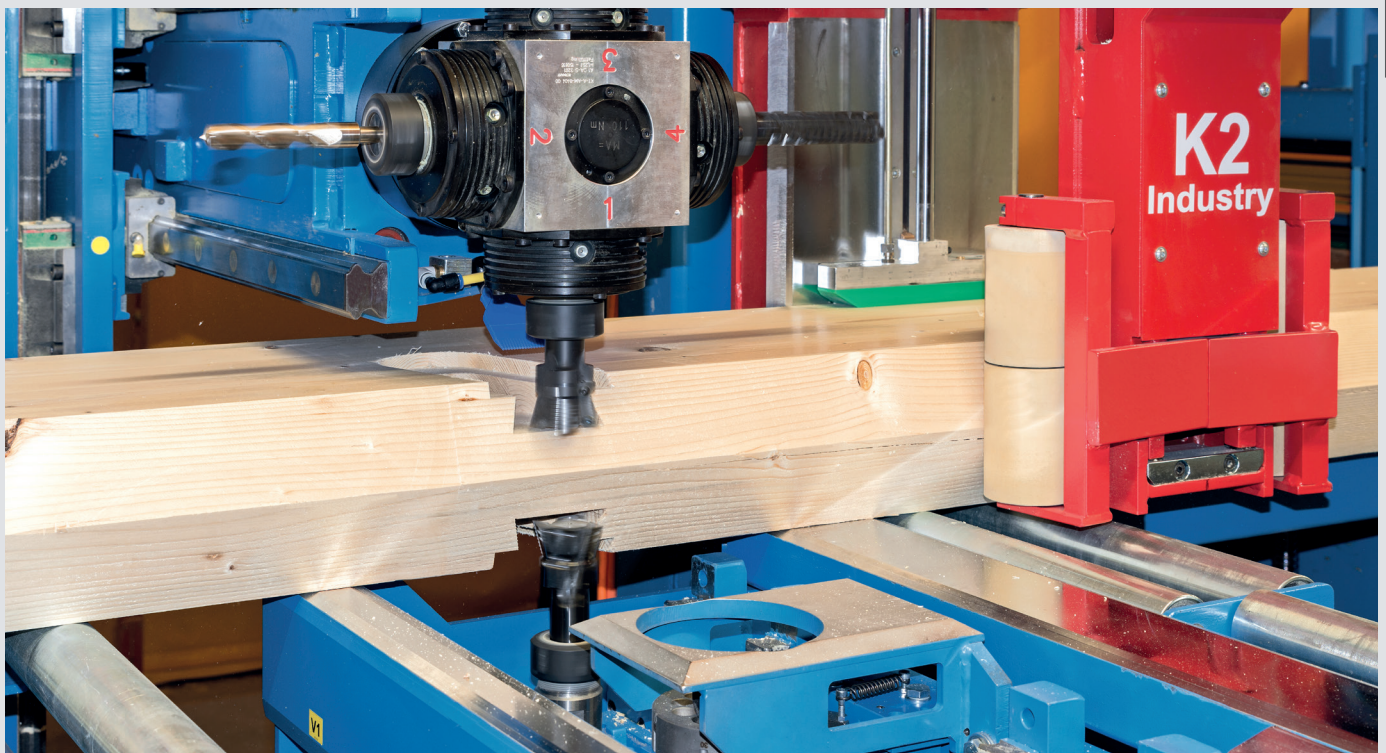
SIMULTANEOUS WORKING FOR MAXIMUM ECONOMIC EFFICIENCY

Simultaneous processing is a prerequisite for maximum economic efficiency and higher productivity. The Hundegger synchronous unit on the K2-Industry meets these requirements with a unique concept.

In many cases, performance can be increased further through the simultaneous execution of operations lying opposite each other. Through the arrangement of two units on exactly one axis, the K2-Industry can be used to execute both horizontal and vertical operations simultaneously to ensure maximum economic efficiency.

The advantages:

- Simultaneous operations on two opposite sides of the part
- Fast, accurate and splinter-free machining
- Maximum efficiency during milling, drilling and slotting



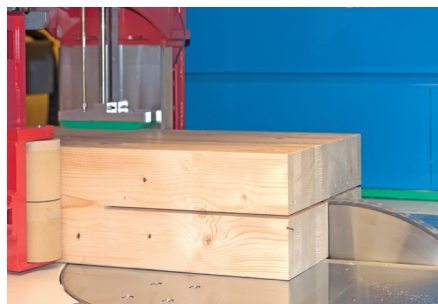
THE HORIZONTAL SAW

THE ALL-ROUNDER PROVIDING THREE PROCESSES IN ONE

In addition to the production of high-precision slots, the horizontal saw can also be used to produce large recesses.

Thanks to the clever interplay between the horizontal saw and the sawing unit, large recesses can now be completely sawn rather than milled in an even shorter space of time.

The size of the resulting waste pieces can be sent to the downstream waste disposal system.



COMBI-SUPPORT FOR HORIZONTAL TOOLS



Slot cutters

With slot chains of different widths, machining on four sides of the part is possible. Hidden slots can also be produced. The slot cutters are available in different designs for slots of up to 1,300 mm deep. The corresponding slot cutters can be mounted on the stop side, operator side or even on both sides.



Swiveling drilling unit

The swiveling drilling unit enables precise side drilling up to an angle of 45°.



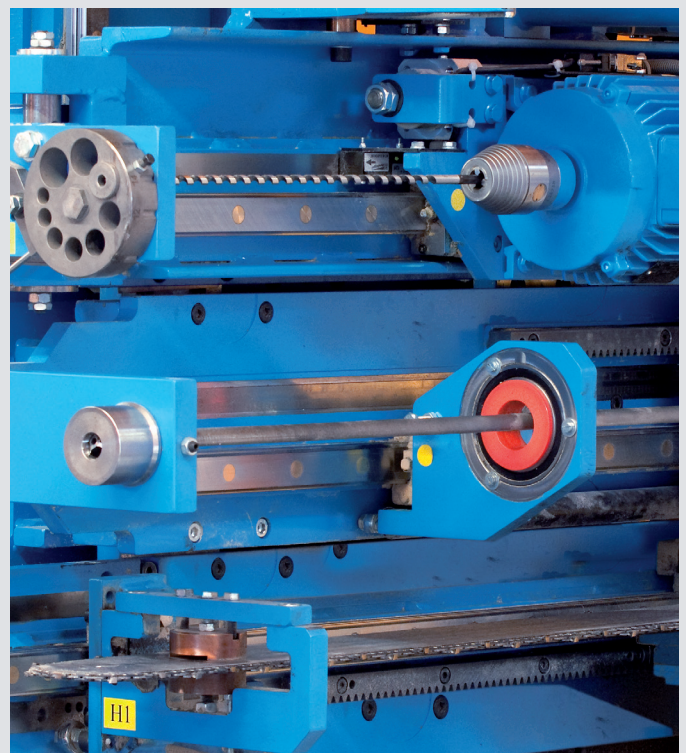
Marking system

The marker is used to make diagonal marks and labels on the part, on the stop side or from underneath.

Drilling units

The support can be equipped with two different drill units. Here the drills are always guided in a turret drill bushing directly on the part. A special deep-hole drill unit is available for drill holes of up to 1,300 mm.

You can further increase the efficiency by using the horizontal combi-support serves to hold two different drilling units and a swiveling drilling unit, slot cutter, marker and inkjet marking system.

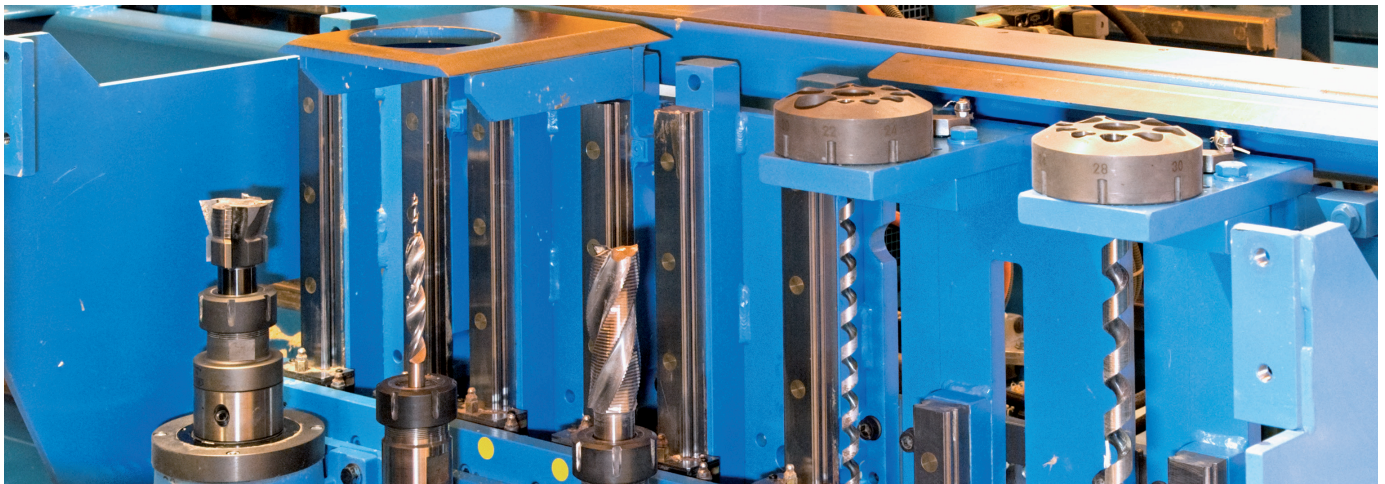


TECHNOLOGICAL OPTIONS

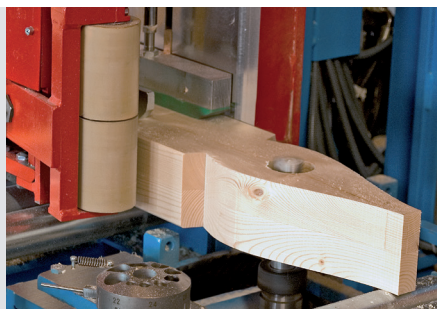
COMBI-SUPPORT FOR VERTICAL TOOLS

The vertical combi-support enables the installation of up to five milling or drilling units. Blind holes, countersinks or ring dowel milling are possible in addition to all kinds through holes.

With the end mill it is possible to process any kind of profile, even freely definable variants.



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End mill

Equipped with an end mill and a slot mill, the tool, that operates from below, can perform all milling tasks: mortises, drill holes, countersinks, ring dowels, profiles, etc.



Drilling units

The drills are guided in a turret drill bushing directly under the part.

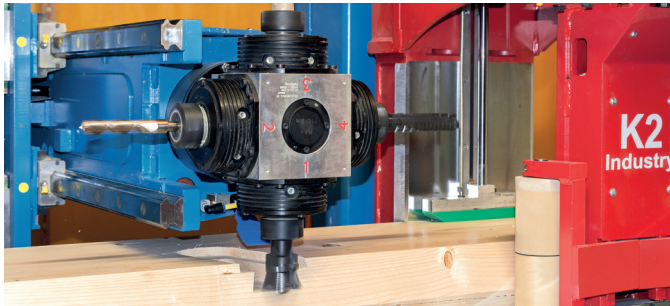
A higher capacity drive unit with hydraulic feed is available for larger drill diameters.



Side milling cutter

A side milling cutter can be used to cleanly and quickly produce perfect longitudinal grooves. Special mills allow other geometries to be produced without problem.

UNITS FOR SPECIAL APPLICATIONS



Vertical turret mill

The unit with four tool holders enables processing on the end faces as well as from above or below. Together with the combi-support for vertical tools, the workpiece can be simultaneously processed from two sides. The tool holder for collets is equipped with up to 4 tools.



Universal drill unit

The 4-axis, 360° pivoting unit allows through holes and blind holes to be made at any angle on both longitudinal sides and end faces up to a maximum depth of 1,300 mm.

UNITS FOR SPECIAL APPLICATIONS



Vertical slot cutter

The vertically mounted slot cutter is mainly used in log house construction and in panel processing for cut-outs. For maximum flexibility, the unit can be pivoted automatically up to 180°.



Universal slot cutter

The slot cutter can be used to make side and end-face slots, boasts automatic chain lubrication and can be pivoted about 360°.

ONE SOFTWARE PACKAGE FOR ALL MACHINES AND TASKS

CAMBIUM MADE BY HUNDEGGER

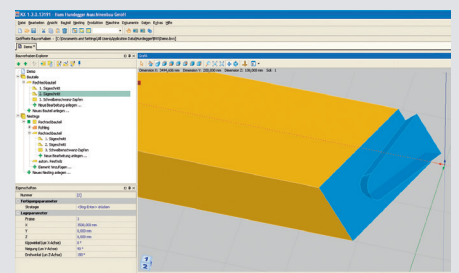
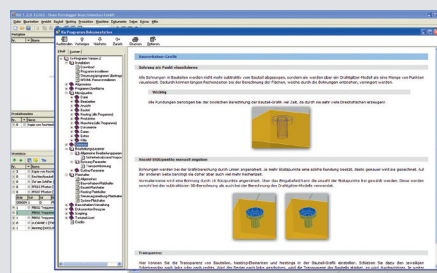
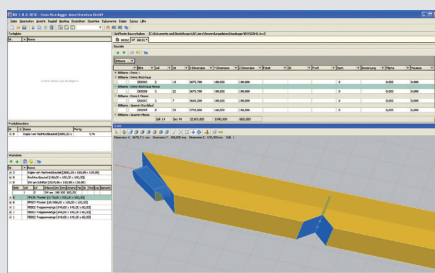
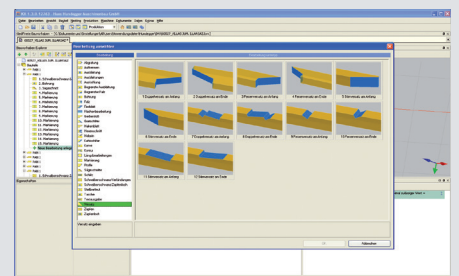
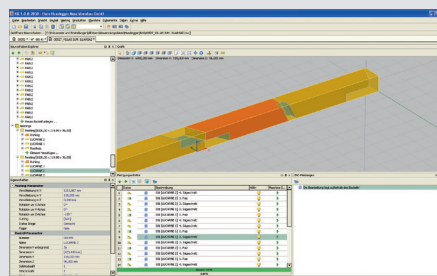
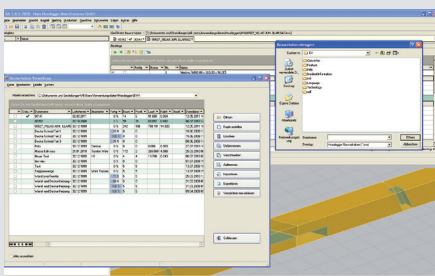
The element that connects all Hundegger machines is the CAMBIUM software, which is continuously enhanced by Hundegger.

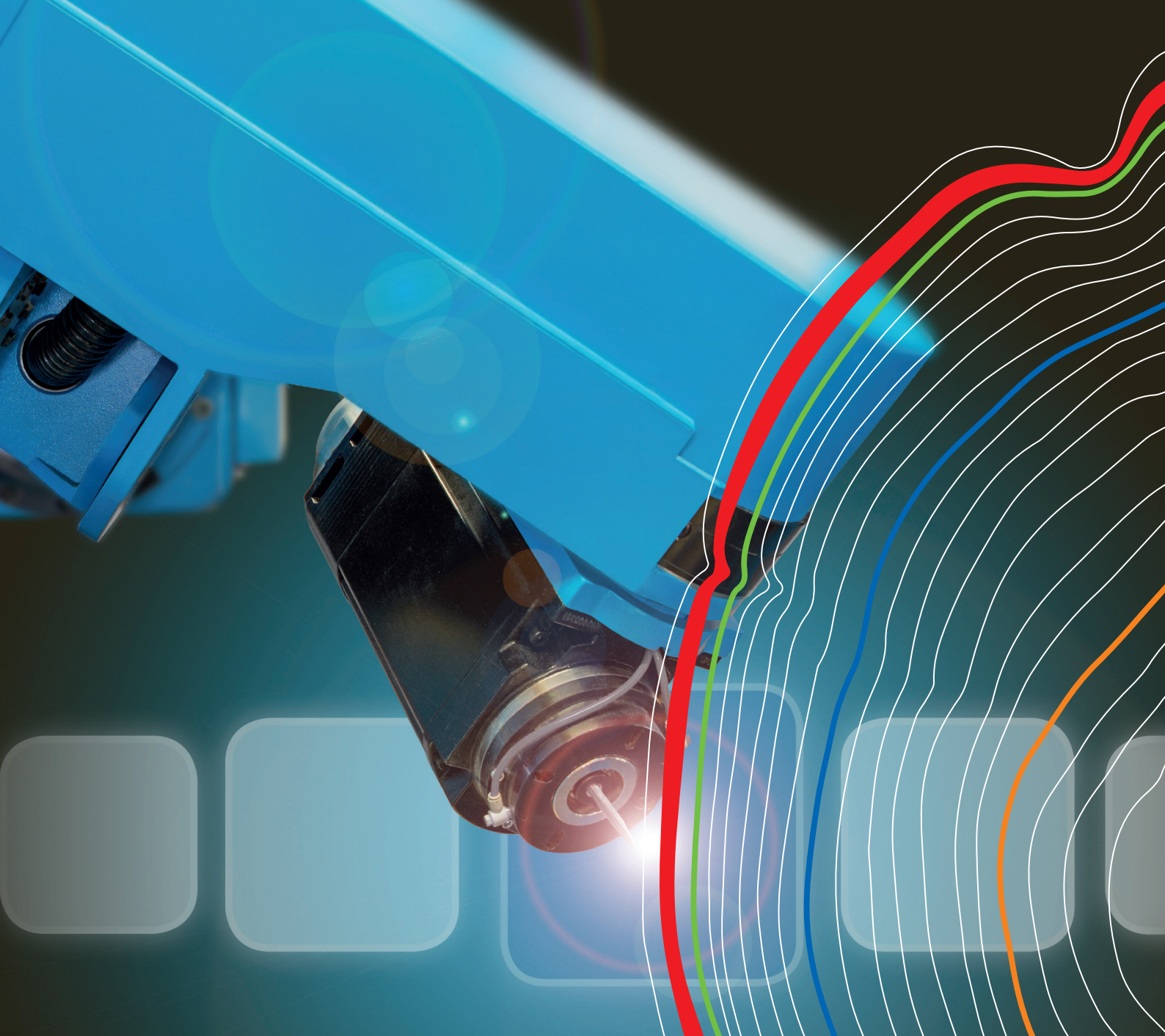
With CAMBIUM, the entire production process from design and job preparation right through to the finished part is mapped using a single software package. This makes interface problems a thing of the past and also completely eliminates the need for additional training as well as the high costs associated with the acquisition and maintenance of multiple systems.

CAMBIUM has been developed specially for the demands of modern timber construction – this ensures maximum investment security along with extremely simple operation.

CAMBIUM is truly flexible and fully automatic. No matter what your processing variant may be, CAMBIUM provides an effective and reliable solution for any task without the need for additional programming.

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Job preparation

- Automatic data transfer from all commonly used CAD systems
- Offcut optimisation
- Material ordering
- Calculation
- Real-time simulation

The same for all Hundegger machines

Production

- Same user interface for job preparation and production
- Automatic generation and optimisation of the machine program (CAM)
- Integrated control system (CNC)
- Production data acquisition

The same for all Hundegger machines

Other highlights

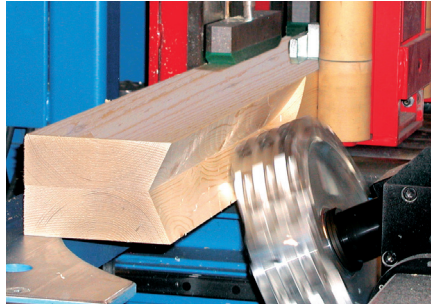
- Comprehensive reporting
- Standard interface for integration in in-house IT
- Integration of warehouse and automation systems

The same for all Hundegger machines

VIABLE SOLUTIONS FOR ALL



Dovetail connections on the jack rafter



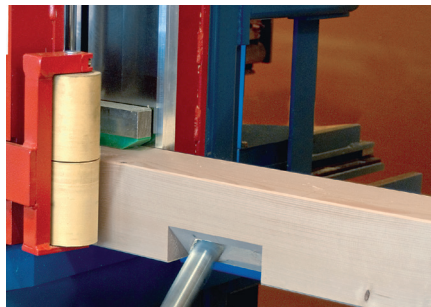
Channeling or hip ridge cuts without rest wood



Concealed slots



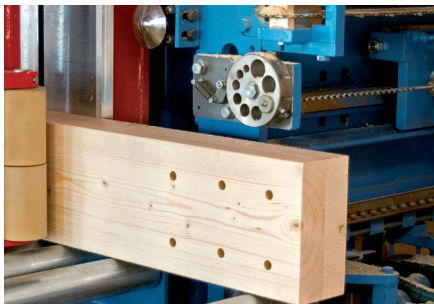
Heart and hip rafter birdsmouths



Mortises of all kinds



Rafter heads



Any drilling patterns, horizontal and vertical



End-face drilling



Round timber machining

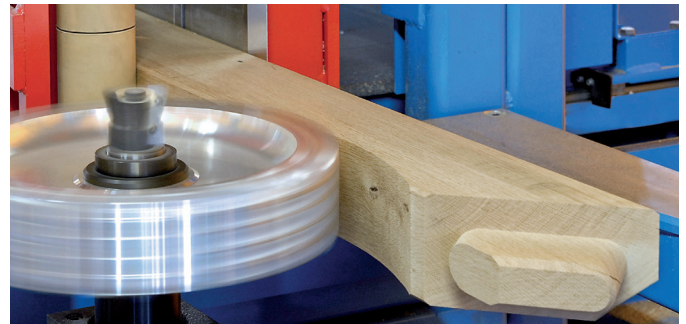
The high flexibility is one of the K2-Industry's strengths. Whatever is needed in carpentry joinery can be produced quickly and cost-effectively.

IMPRESSIVE EFFICIENCY IN HYBRID CONSTRUCTION

The particular challenge in hybrid construction is the visible timber framework and the use of special materials such as hardwood.

The use of historical connection elements, often with regional characteristics, requires the use of high performance technology, particularly in the case of restorations, because in addition to first-class results, the focus is also always on economic viability.

For these application scenarios, the K2-Industry has a comprehensive range of standard units and special solutions.



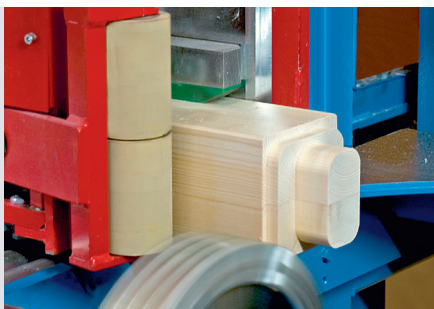
All tenon types



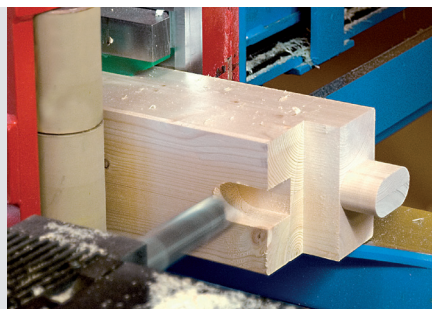
Tenon with chamfer



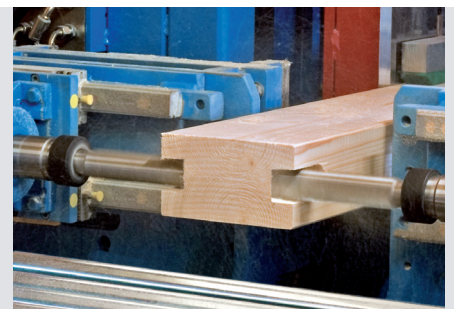
With the extremely high speeds of the ROBOT unit, the K2-Industry ensures non-splintering and visibly high quality even on tough and hard wood. As a result, all operations in hybrid construction can be carried out reliably and extremely efficiently.



Stepped tenon



Tenon



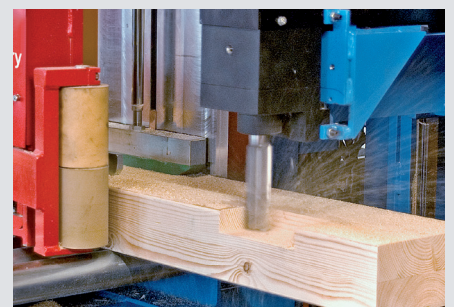
Double milling



Length cuts



Compound cuts



Milling from above

PERFECT FOR PROCESSING CROSS-LAMINATED TIMBER

With a processing width of 1,300 mm, the K2-Industry provides a highly productive solution for joining laminated timber panels. Machining of the increasingly popular cross-laminated timber requires units that are perfectly tailored to these needs.

With the new K2-Industry, special units have also been developed for these applications. For example, a vertical and horizontal turret mill, a horizontal saw, a pivoting deep-hole drill unit or special slot cutters which enable the requirements in cross-laminated timber joinery to be perfectly met.

The K2-Industry concept enables 6-sided processing in a run, and maximum economic efficiency is therefore guaranteed.



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Automatic infeed system also for panels



Cut slots up to 1,300 mm wide



Saw cut with splitting



Rebate



Window cut-out

FLEXIBLE FOR PROCESSING LAMINATED ROOF COMPONENTS

The production of laminated roof components requires a joinery machine with very special qualities. Here, too, the K2-Industry impresses with the following advantages:

- Robustness even for heaviest parts
- Absolute precision, even for excess lengths
- Comprehensive range of standard and special units

As a result, the K2-Industry is the absolute benchmark for this area of use.



Synchronous operations



Longitudinal operations



Horizontal slots



Machining from above

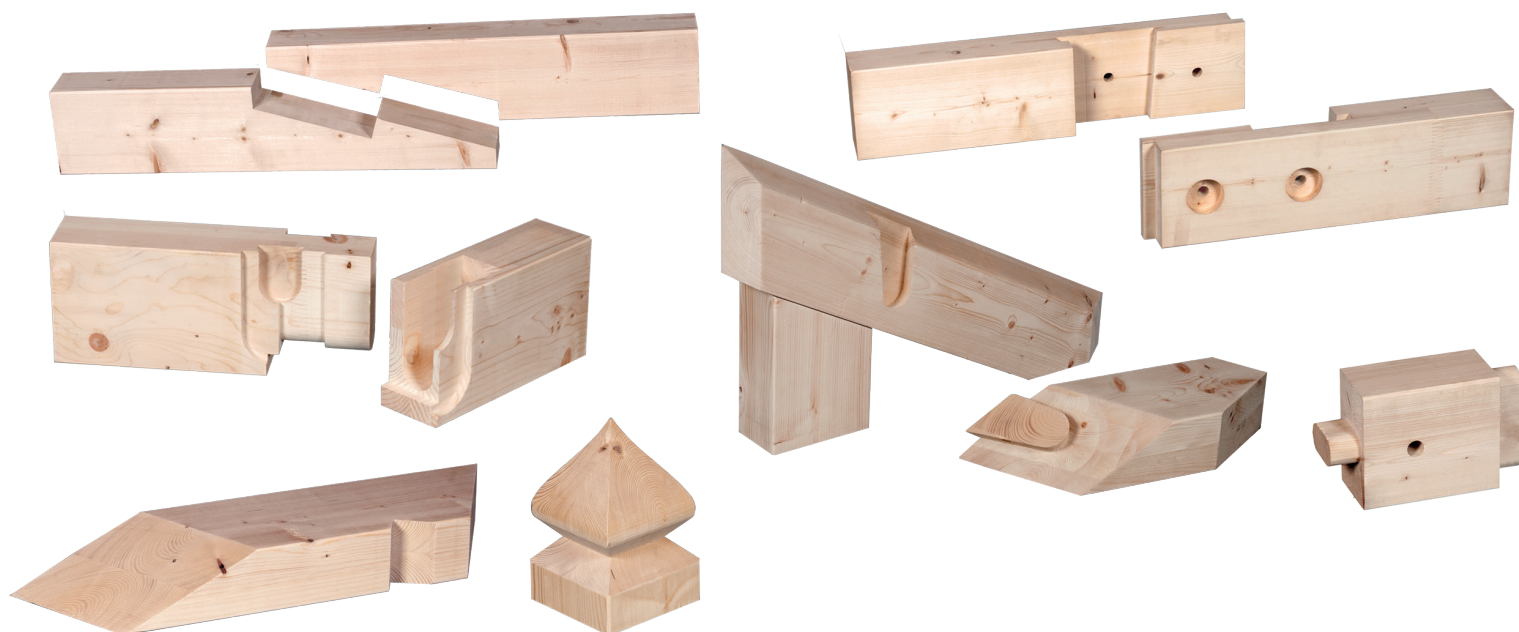


Conical parts

FROM CAD TO THE FINISHED PART

DIVERSITY WITH MAXIMUM PRECISION AND EFFICIENCY







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