

Innovation in timber engineering



Joinery Machine ROBOT-Drive

Multifaceted
flexibility for all timber construction
companies

www.hundegger.de

 **Hundegger**

ROBOT-Drive

Compact, flexible, cost-effective

The universal machine for joinery

The ROBOT-Drive is the most recent addition to the range of Hundegger joinery machines. The completely new concept is based on experience gathered from more than 4700 Hundegger machines supplied worldwide and is a particularly interesting entry-level model for timber construction companies.

Compact dimensions and modular

design – the ROBOT-Drive offers maximum flexibility and almost unlimited processing possibilities for bars and panels. Even the ROBOT-Drive Solo – the basic model without additional saw unit – stands out as a low-cost all-rounder. If other tasks are required or the job profile changes, the machine can simply be retrofitted with the appropriate units.





All processing steps in a single run

With the ROBOT-Drive, a 6-axis unit performs all the necessary work steps on the part – and in a single run.

The ROBOT-Drive is available in three basic variants which each differ with regard to their processing width:

ROBOT-Drive 450

from 20 x 60 mm to 300 x 450 mm

The basis machine for every carpentry company.

ROBOT-Drive 650

from 20 x 60 mm to 300 x 650 mm

For the trend towards larger timber cross-sections.

ROBOT-Drive 1250

from 20 x 60 mm to 300 x 1250 mm

For every requirement right up to glulam construction.

Parts up to 300 x 1250 mm
Complete, precise, in a single run

And there are even more benefits for you: More capacity, more quality, more productivity



Automatic joinery increases capacity considerably. Larger quantities of building products can be produced with fewer employees which, in turn, results in shorter delivery times.

The ROBOT-Drive combines many advantages which soon pay off for timber construction companies in day-to-day operation.

**Cost-effectiveness –
even for small companies**

Even the basic version ROBOT-Drive Solo is equipped with a 6-axis ROBOT unit: with speeds up to 12000 rpm and an automatic tool changer for 16 different tools. This makes the ROBOT-Drive the inexpensive all-rounder. It performs all processing operations common in carpentry joinery in a single run, even in the case of parts with large cross-sections – precisely and without having to turn or rotate.



Measurably better quality

The innovative concept of the ROBOT-Drive is based on the Hundegger Motion Control system (HMC). The measuring and feeding system (patent pending) ensures absolute processing precision. With this system, it is for the first time possible to measure the actual movement of the timber and to transport the timber using space-saving feed rollers. This results in an extremely high level of precision without damaging the parts.

Compact – minimal space requirement

With its slimline design, the ROBOT-Drive also fits in small buildings. An installation space measuring approx.

23 metres in length is enough for the processing centre including infeed and outfeed for timber lengths of 10 m. The compact design also provides optimum protection against dust and noise emission. The machine can be installed on a level concrete floor without the need for additional building measures.

Modularity opens up a huge range of possibilities

ROBOT-Drive Solo or maybe the machine with additional saw unit? If you are still undecided, it doesn't matter – the basic version can be retrofitted at any time with the desired units.



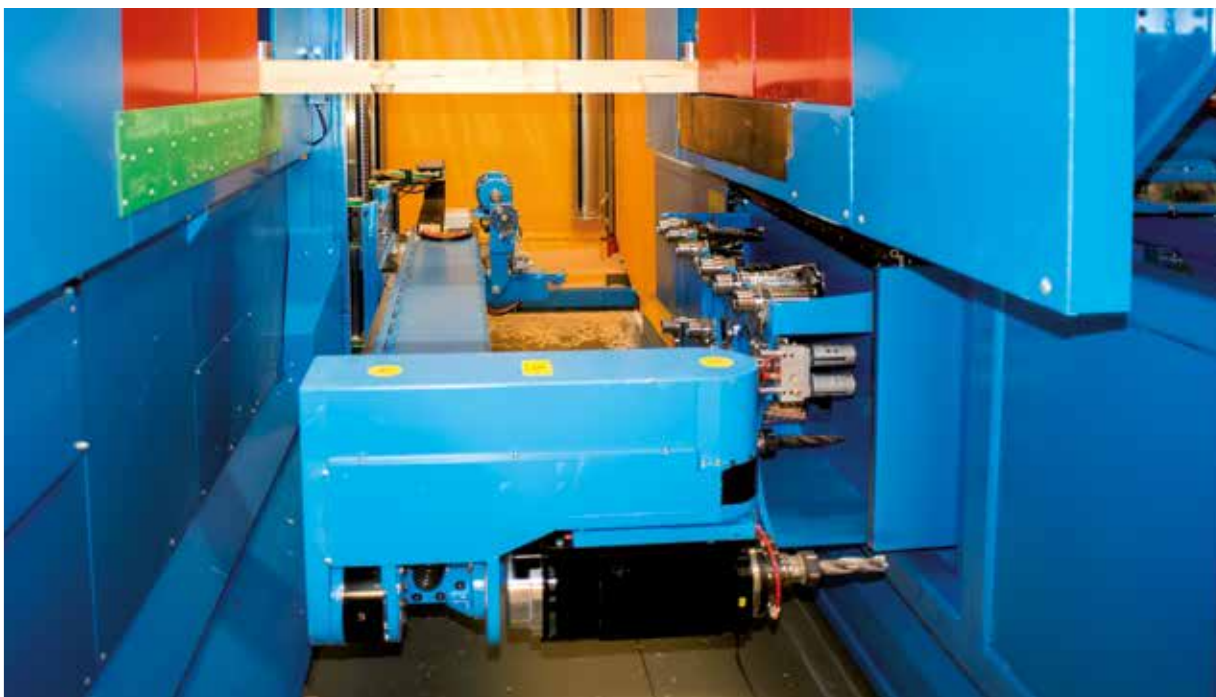
ROBOT unit – the all-round talent

One unit for all work steps – that is the principle of the ROBOT-Drive. To this end, the ROBOT arm is equipped with a tool changer and moves around the part to allow it to be processed on all sides.

6-axis ROBOT unit

The ROBOT unit with a power output of 12 kW and infinitely variable speed from 0 to 12000 rpm caters for every need. The magazine of the tool changer can hold 16 different tools with a length of up to 295 mm. In combination with HSK-63-F tool holders, the tool changer can change over saw blades, drill bits, end mills, plate cutters, dovetail mills, cylindrical mills and markers for labelling parts in seconds.

The tools are selected and managed in the Hundegger production program CAMBIUM. Depending on the type of processing to be performed, the machine automatically selects the appropriate tool from the magazine. Apart from 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.





Efficient, flexible and precise

The machine is designed in such a way that the extremely stable ROBOT unit can approach the parts without restriction from all six sides and process the part at all possible angles and inclinations. Turning the parts or a second run are unnecessary even with extremely large timber cross-sections. The result is absolute accuracy and precision.



A table which is located at the outfeed end and travels in longitudinal direction ensures that the part is always clamped in as tightly as possible. This prevents unnecessary vibrations during processing. Owing to the high speed range of the ROBOT unit, it is possible to produce surfaces in visual quality.





Today and also in future

Whether carpentry joinery, timber frame construction, log house construction, half-timber house construction or glulam construction – the 6-axis robot unit with its flexible tool changer is perfectly equipped for every challenge.

Trimming, grooving, drilling, milling, slotting and marking or labelling – with the right tool in the magazine, the processing possibilities are almost unlimited.

The infinitely variable speed range of the robot spindle in combination with different tool approach strategies and processing cycles selected according to the specific requirement ensure surfaces up to visual quality.

Options for flexible use

Additional equipment and packages make the ROBOT-Drive a versatile all-rounder. You choose what fits your needs.

Drill units

Optionally, up to two horizontal drill units can be installed on the ROBOT unit. This allows holes for rafter nails, purlin doubling and so on up to a depth of max. 525 mm to be made without having to change tools.

Additional tool storage

Everything ready to hand: Additional tool storage is provided for a tool with a diameter of up to 500 mm as well as a slot cutter.

Exchangeable slot cutter

Precise slot cutting: To make slots, the ROBOT unit can be automatically equipped with a slot cutter. It approaches the parts from all six sides and processes them at all angles and inclinations up to a depth of 300 mm.



Convenient accessories

Other optional features – they make work with the ROBOT-Drive even easier.

Performance boost package RD

You'd like more performance? The ROBOT-Drive performance boost package increases the speed of cutting in particular. This is achieved by means of optimised software and a modified outfeed system. The items supplied include an outfeed chain with servo motor as well as an ejector with frequency converter and encoder.



Labelling system

A high-performance inkjet system labels the parts with text, graphics or barcode. Various ink colours are available.

Short part flap with conveyor belt

This is a very convenient feature: Short parts are collected in a “drawer” integrated in the machine. A small conveyor belt then transports the parts out of the machine.



Even more added value

A high-performance saw/slot unit with integrated marking device makes the ROBOT-Drive even more efficient and faster.

5-axis saw/slot/marketing device

The overhead 5-axis saw/slot/marketing unit additionally increases the throughput of the ROBOT-Drive. While the highly flexible saw is performing the processing operations, the next processing tool required is usually being inserted simultaneously at the ROBOT unit. The flangeless saw blade has a diameter of 800 mm.

The 5-axis unit can be pivoted through 360° and at the same time tilted by 180°. In addition to all conceivable chop, mitre and compound cuts, this also enables birdsmouths, roof ridge joints, eaves formwork notches, scarf joints and so on to be made – quickly, precisely and in high quality.





Unlike a solution with an undertable pivoting saw, the saw blade can cut below the zero position and make slots at any angle and in all required sizes.



Marking function

The marking device integrated in the saw/slot unit is able to mark rafter divisions on purlins or post divisions on ground plates and top plates: in seconds and on three sides of the part without a pen having to be inserted into the ROBOT unit.

Easy material handling

Automatic infeed

The operator can place several pieces of timber at the same time on the loading cross conveyor with stainless-steel slatband chains. The system automatically feeds these pieces of timber separately and without injury to the processing zone. This allows the operator to perform other tasks.

Hydraulic lift table

The hydraulically controlled lift table is installed upstream of the loading cross conveyor. Stacks of timber can be placed on the lift table and raised to the desired height. This enables timber to be fed in continuously level with the loading cross conveyor (large photo at top of page 15).

Timber outfeed

The finished parts are pushed onto a plastic-coated timber discharge point with an ejection guide plate both on the operator side and at the rear of the machine. Additional chain elements provide additional assistance in the case of heavy parts. Alternatively, the timber discharge points can also be replaced by a cross conveyor.





Disposal of chips and rest wood

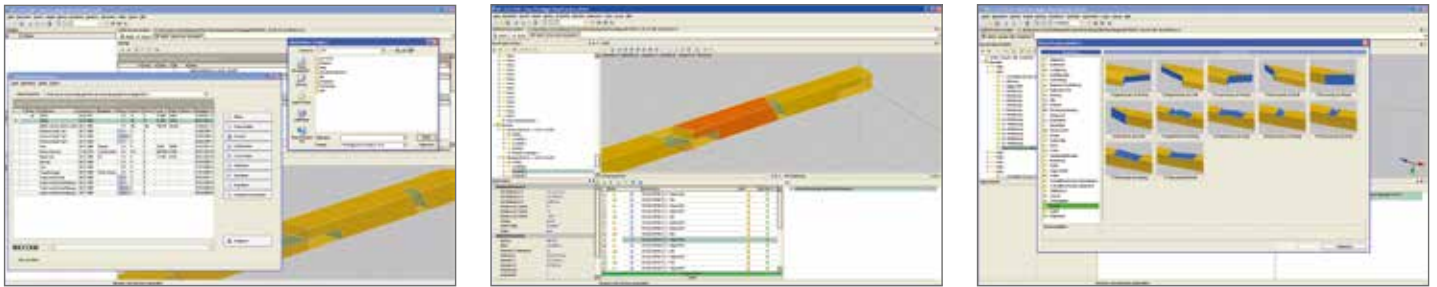
Chips and rest wood fall down into the disposal channel. From there, they are transported safely and effectively out of the processing zone by means of a cross-pusher integrated in the machine outfeed, and are then fed to subsequent disposal solutions. This can be a chipper or an inclined belt conveyor leading to a chip container.

Alternatively, there is also a controlled belt-based solution for reliable separation of short OK parts and offcuts.

The ROBOT-Drive can be mounted with a base directly on a concrete floor. In order to reduce the loading and removal height, the disposal system is installed in a pit underneath the processing zone.



The software that grows with the tasks you perform



One software package for all machines and for all tasks

The element that connects all Hundegger machines is CAMBIUM, the completely new software developed by Hundegger. With CAMBIUM, the entire production process from design, through job preparation, right up to the finished part is mapped using a single software package.

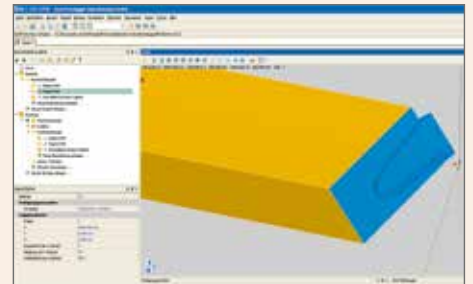
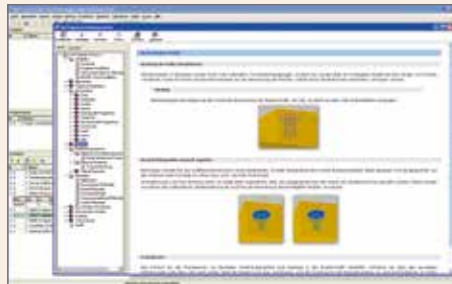
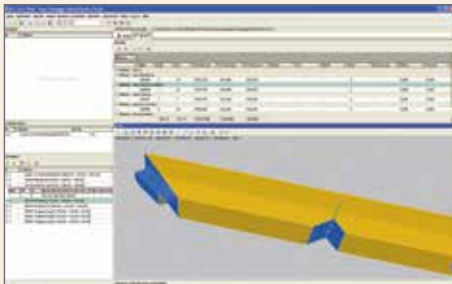
This makes interface problems a thing of the past and also completely eliminates the need for additional training as well as the high costs associated with the acquisition and maintenance of multiple systems. CAMBIUM has been developed specially for the demands of modern timber construction – this ensures 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.

Free software updates ensure that you benefit from continuous dynamic further development of the software throughout the service life of the machine.

CAMBIUM

made by Hundegger



Language

- Configured and supplied in the required language

Uniform for all Hundegger machines

Job preparation

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

Uniform for all Hundegger machines

Production

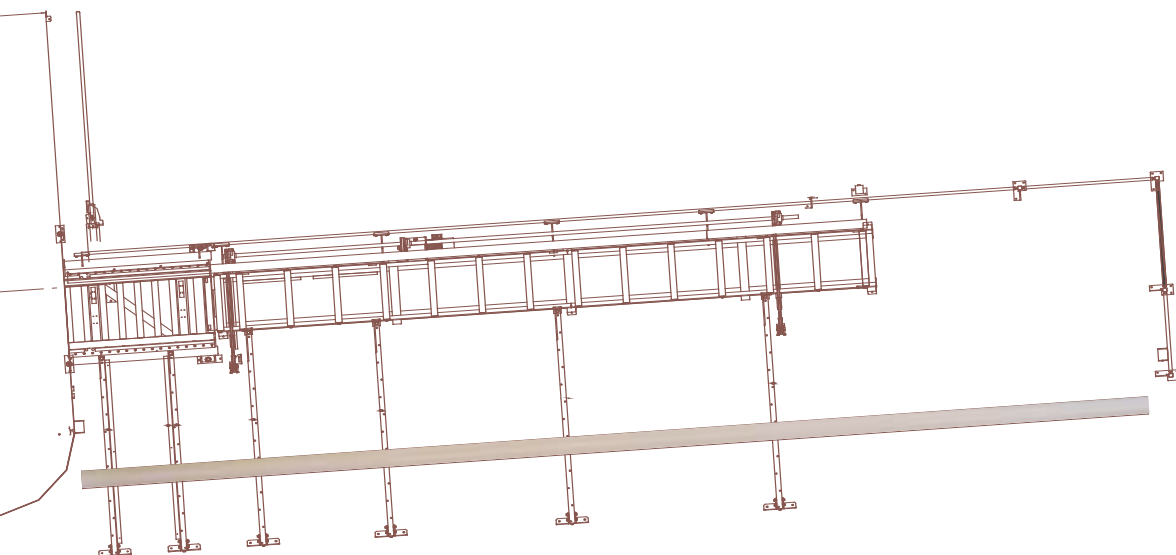
- Same user interface for job preparation and production
- Automatic generation and optimisation of the machine program (CAM)
- Integrated control system (CNC)
- Production data acquisition

Uniform for all Hundegger machines

Other highlights

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

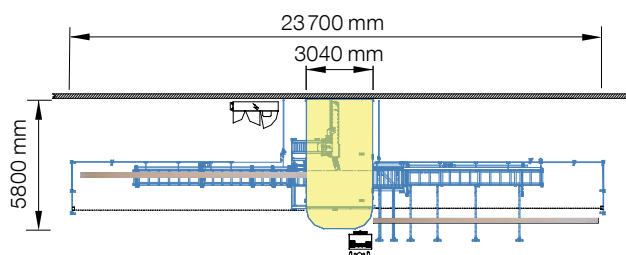
Uniform for all Hundegger machines



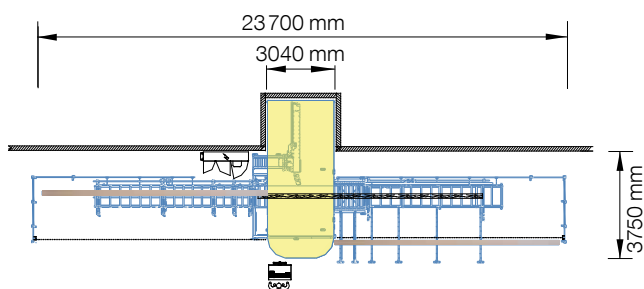
Installation variants

From CAD to the finished part
Unlimited variety – precise, fast, flexible

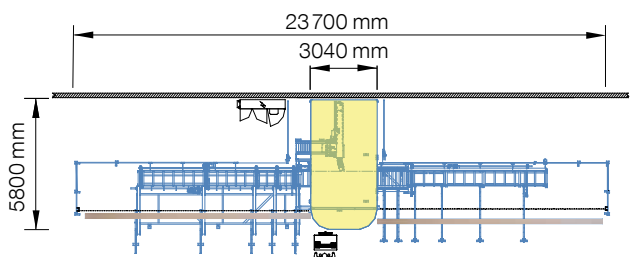
Installation examples and dimensions



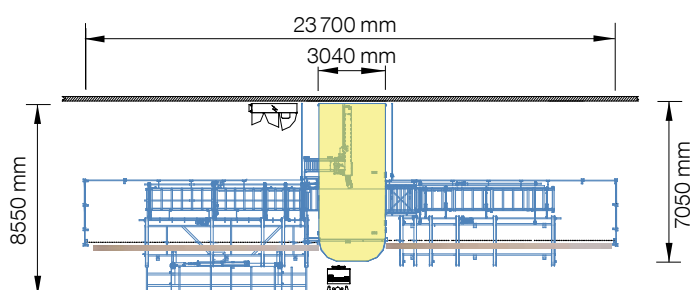
ROBOT-Drive 450/650
with max. timber length of 10.00 m (at infeed and outfeed end)*



ROBOT-Drive 1250
with max. timber length of 10.00 m (at infeed and outfeed end)*



ROBOT-Drive 450/650 with automatic infeed
with max. timber length of 10.00 m (at infeed and outfeed end)*



ROBOT-Drive 1250 with infeed unit and lift table
with max. timber length of 10.00 m (at infeed and outfeed end)*

* can be extended to any length



Hundegger – Advantages

- Timber cross-sections from 20 x 60 mm to 300 x 1250 mm
- 6-axis technology = processing on 6 sides in one single run
- 6-axis technology = use of 18 different tools
- 6-axis technology = previously unknown processing possibilities
- Free hotline
- Free software updates
- Free retraining of machine operators and planning engineers at the Hundegger training centre
- Customer service available around the clock
- Automatic data transfer from all commonly used CAD systems without postprocessing and additional programming
- High value stability and machine resale value
- Experience from more than 4700 machines installed worldwide

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