

HUNDEGGER K2-450 fully automated **joinery machine**

The K2 was developed by incorporating the wishes and experiences of more than 4800 users worldwide.

This machine can work on timber dimensions ranging from 20 mm x 50 mm to 300 mm x 450 mm (turned logs can also be processed) up to a length of 10 m (optional longer), with an accuracy of +/- 5/10 mm.

Any type of cuts, joinery and profiles used in carpentry, wood construction, housing, solariums, log homes, fencing and gazebos can be effectively and efficiently carried out on the K2. The fully automated K2 control system allows the operator time to load the machine and stack the finished product without assistance.

Data can be transferred to the machine from a variety of CAD-based construction programs. Through the user-friendly Hundegger software parts are easily programmed using ready-to-use macros and common carpentry terms.

The machine can be configured to meet the specifications and particular needs of your company. If your needs change, any of the units, working stations or tools can be retrofitted.

Technical Description

Basic machine K2:

ABM-B1 Loading Conveyor System

This cross conveyor, designed for timber lengths of max. 10 m, has five flat linked chains to minimize marking as the timbers are moved towards the machine table. The timbers (also turned logs) can be randomly loaded without sorting for size or length.

The loading clamps cross the machine table and clamp on the piece from the edge of the loading conveyor. The piece is then pulled onto the machine table where it is picked up by one of two positioning wagons to begin processing.

This design allows for longer off-cuts to be pushed back onto the loading conveyor for later processing.

The system can also be completed with a de—stacking unit that allows for the automatic loading of full units of timber.

Technical Data: Width (y-axis): 4.2 m

Max. Timber Length: 10 m

ABM-B2 Universal Hydraulic Saw 11 kW

The saw is equipped with an 11 kW motor and comes with an 760 mm carbide-tipped blade. It can rotate 360° and tilt 65° in either direction. The saw can move 570 mm horizontally in the Y—axis. The unit is controlled digitally and positioned hydraulically. The cutting depth varies automatically according to the size of the piece being cut and the bevel of the blade. Positioned at 90° the maximum cutting depth is 300 mm.

This saw can rip ridge, hip and valley beams and make all compound cuts quickly and accurately.

The saw can also make groove and dado cuts.

After a cut is completed, an automatic discharger cleans off- cuts from the table.

ABM-B3

Universal Milling Unit 4-axis (UM4)

The universal mill head is 350 mm \times 80 mm. At the opposite end of the shaft supporting the mill head is a 40 mm (z), 160 mm long end mill cutter (HSS). The unit is powered by a 11 KW motor.

The mill has a three-axis servo positioning. It can rotate 360°, move 550 mm vertically in the Z-axis and 1400 mm horizontally in the Y-axis. With the horizontal movement of the positioning wagon in the X-axis, a four-axis mill is created.

The mill can precisely cut scarf joints, mortises, tenons, lap joints, bird's mouths, all kinds of notches and grooves along with an unlimited number of ornaments and patterns. The dovetail cutter is also attached to this shaft allowing the milling of all types of dovetail joints. Milling operations can be performed on all four sides and at both ends.

ABM-B4

Multi-Purpose Tool Carrier for Vertical Tools

This unit moves horizontally on bearings and a linear guide. Up to four optional units can be attached to this tool carrier. Drills and vertical end mills are available for this unit.

ABM-BG

Multi-Purpose Tool Carrier for Horizontal Tools

This unit moves vertically on bearings and a linear guide. Up to three optional units plus a marking or Inkjet unit can be attached to this tool carrier. Different drilling and slot cutting units are available for this unit.

ABM-B9
Automated Beam Rotating Station
Hydraulic version

This computer controlled, hydraulically operated station rotates timbers 90°, 180° or 270°, making it possible to work on all sides of the timber. You can turn timber sizes from 50 x 50 mm up to 300 x 450 mm.

ABM-B10
Transport and Positioning System "two hand system"

The system consists of a machine frame of 12.20 m length with two heavy duty clamping and positioning wagons, each with a 4 kW servo motor, that work simultaneously to position and guide timbers.

This unique "two hand system" makes it possible to work accurately on very short parts. It is also very efficient when several parts are to be produced from one timber. One hand can transport the finished part while the other is transporting the next part to be milled. One hand works as a transport unit and clamp while the other works as a precise guide for the timber that is being processed. Both hands work together and both have clamp and guide capabilities. The system is very accurate because the clamping and guide are positioned very close to where the milling operation is performed, often on either side of a cutting head. This system allows for accurate and precise milling of cambered and twisted timber.

The "two hand system" can work with cross sections from 20 mm x 50 mm to 300 mm x 450 mm. Beams can be processed lying down or standing vertically. Turned logs can also be processed. The positioning system can be equipped with plastic clamping surfaces to prevent markings on the timber

ABM-B11 Electronic Control System

The electronic control system for the K2 machine consists of a dust proof color monitor, a computer in a dust proof case, an industrial keyboard, connectivity for data transfer and the Hundegger SPC software.

The operator constructs a building component on the computer using normal carpentry layout measurements and terms. The computer controls the work sequence and processing of all milling operations with an unusually high degree of accuracy. Most common joints are programmed in the computer as macros. Data from other cutting and CAD-based programs can be transferred to the machine. The program keeps track of completed parts and parts yet to be processed. The program can also keep track of machine and operator efficiency. Included are software copies for the office computers.

Software updates are supplied at no charge.

ABM-B1 3 G-armed Storage Table

The arms of the storage table are manufactured from sectional steel and have a non-marring, replaceable plastic surface. The arms are easily swung out of the way or can be stored in a small space.

ABM-B14 Safety Fence and Devices

Safety fence and devices for the Basic K2 machine with a timber length of up to 10 m.

Additional equipment and extensions

ABM-3050

Upgrade of the UM4: 5-Axis Universal Mill (UM5)

The addition of another servomotor that can rotate 360° on a horizontal axis creates a 5-axis universal milling unit. (NB: existing 4-axis mills can not be adapted!). With this addition, the flexibility of the machine is further enhanced. 5-axis milling operations can be performed on all sides of the timber. This reduces (or in many cases eliminates) the need to rotate the part, can help in process optimization and decreases processing time on many components.

The 5-axis mill can also create compound and complex joinery that is not possible with the 4-axis milling unit. Compound conical dovetail joinery on hips and valley beams, compound drilling and compound bird's mouths are all possible with the 5—axis milling unit. Another big advantage of the 5-axis mill is the capability of cutting hip, roof valley and ridge beams without using the saw. The ripping operations are performed with the 5-axis mill head eliminating an off- cut that must be removed later. (Note: This unit is possible only in combination with unit ABM-B3!)

ABM-3200

Log Home Mill 4 x 5,5kW

Unit consisting of two horizontal and two vertical arms each with a 5.5 kW milling unit. The four milling units can be independently and separately adjusted using a digital display crank to the required milling depth. Each milling head can, thanks to the numerical control, work separately, so that it's also possible to machine automatically on only 1, 2 or 3 sides of the pieces of wood. The maximum diameter of the cutters is 280mm, the maximum width is 160mm

Units for tool carrier vertical

ABM-5000

Drill Unit 2,2 kW - drilling direction vertical

The drill unit is powered with a 2.2 kW motor and features a quick— change WTE chuck and a hardened drill guide. Positioning and hole depth are computer controlled.

Drill length: 460 mm, max. drilling depth 310 mm or

Drill length: 650 mm, max. drilling depth 405 mm,
max. drill a) 24

ABM-5400

Vertical Finger Mill 5.5 kW

Finger milling unit powered by a 5.5 kW drilling motor, for attachment to a Multi- Purpose-Support.

All finger- milling operations such as tenon openings, Teco plates, profiles and many more can be performed from below

Units for tool carrier horizontal

ABM-5030

Drill Unit 2.2 kW - drilling direction horizontal

The drill unit is powered with a 2.2 kW motor and features a quick- change WTE chuck and a hardened drill guide. Positioning and hole depth are computer controlled.

Drill length: 460 mm, max. drilling depth 310 mm or

Drill length: 650 mm, max. drilling depth 405 mm,
max. drill (2) 24

ABM-5200

Drill Unit 2.2 kW tilting from 0 to 45°

The drill unit is powered with a 2.2 kW motor and features a quick-change WTE chuck and a hardened drill guide. Positioning and hole depth are computer controlled.

ABM-5730

Slot-cutting Unit 3,0 kW (8x630 mm)

The slot-cutting unit is powered by a 3.0 kW motor and is attached to the Horizontal tool support. Various chain kerfs are available (sword: 8 x 630 mm). Positioning and depth are computer controlled.
Max. slotting depth: 460 mm

Marking / Writin

ABM-6100

Marking/writing unit - bottom side mounted

The pneumatically operated marking pen draws layout and reference lines using a water— proof ink. The marking unit is mounted on the bottom side for linear and angled lines.

HH-8635

Control unit for waste disposal

Allows the operator to start and stop the transfer of waste components from the console.

ABM-8100

Outfeed table 5.30 m

For feeding out the finished parts.