

Homag Panel Cutter Type HPP 300 powerEdition CADmatic 4

Homag's HPP 300 powerEdition is a flexible saw center. The CNC controlled machine features fast, simple programming, Homag's Power Concept device for cross cutting multiple unique strips at the same time. This device, along with high operating speeds, meet today's short run, custom cutting needs. Designed for clean and accurate cutting of finished and unfinished panels. Equipped with main saw and scoring saw, run by a single operator.

- Unique Homag ecoPlus System offers energy savings up to 20% and includes:
 - Standby button
 - Motors are IE3 energy efficiency rating
- The heavily built machine body provides a stable base for vibration free cutting.
- Homag's patented frame leg for perfect alignment of the saw tables in reference to the material being cut.
- The control technology together with the servo motors, solid state drives and robust mechanical system are optimized together for industry leading cycle times.
- The machine cuts left to right to the right angle fence.
- Homag's Power Concept basic system.
- The machine cuts left to right to the right angle fence.
- Saw dust collection for pressure beam and saw carriage on the right side of the machine.

main saw motor		13.5 kw	18 hp
scoring saw motor		1.5 kw	2 hp
opening of clamps	max.	80 mm	3.15"
projection of main saw blade	max.	80 mm	3.15"
saw carriage speed forward		0-150 m/min.	0-492 fpm
saw carriage speed reverse	constant	150 m/min.	492 fpm
program fence speed	forward	25 m/min	82 fpm
program fence speed	reverse	90 m/min.	295 fpm

CADmatic 4 Operator Interface with swiveling movement. This flexibility of swiveling allows the greatest range of positioning for the operator.

Hardware of the CADmatic 4

- Computer: Industrial PC, in accordance with IEC61131
 - Intel i5 dual-core processor
 - 4 GB RAM or higher (working memory)
 - SATA 2 -250 GB hard drive or higher
 - Intel HD graphics card
 - 2 Ethernet interface 10/100
 - Multi-touch widescreen 21.5 Display
 - 6 USB ports
 - 1 serial port
 - ATI\DVI video port
 - Keyboard connection
 - Operating systems Windows 7 Pro Imbedded
 - Homag powerTouch Control System
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- The CADmatic 4 is based on an industrial PC and is equipped with a Multi-touch widescreen 21” Display.
 - The PC provides real time machine control eliminating the need for a separate PLC. This allows the saw to operate quicker and optimize and control all machine functions.
 - Homag CADmatic 4 interface provides the most intelligent interface between the operator and the saw. The 3D graphics and intuitive menus make it easy for inexperienced people to learn how to be productive. Key board skills are at a minimum with the touch screen.
 - The control settings are personalized for each operator at log in. Each user’s profile customizes such settings as language, measurement mode (decimal inch, fractional inch and millimeter) screen layouts and colors.
 - The easy to understand menu gives the saw operator the tools necessary to perform the various jobs the panel saw can handle throughout the day.
 - Single Part: Utilize this feature for quick and easy programming of a single part in a pattern
 - Fixed Position: The panel saw becomes an electronically controlled cut off saw. This can be used with fixtures for specialty cutting needs.
 - Cut-to-Length: This handy capability will measure the panel as it is pulled back and tell the operator how much is left after making each cut. Especially useful when processing strips.
 - Edit pattern: A powerful graphic interface for manually entering complicated patterns. The graphic interface gives the operator a visual reference to his input, and eliminates the need for function codes.
 - Select patterns: Allows the operator to view and select patterns for cutting. The operator can select a complete job of a series of patterns or random patterns from different jobs, to tailor the sequence to specific production needs.

Characteristics of the Cadmatic

- New cutting patterns can be entered or down loaded while the machine is in the process of cutting a previously entered pattern.
- A large memory capacity hard drive for cutting patterns is virtually unlimited. It includes simple utilities to maintain files.
- 3-D Moving Graphics-the multi-touch widescreen 21” monitor displays the cutting sequence in real time. As the cutting of each part is finished, the monitor displays the actual part information as a graphic, as well as such textual information as part description, size, and edgebanding information. This clearly displayed information allows a truly paperless operation.
- Parametrically controlled saw carriage speed for narrow front or rear trim cuts. This feature keeps the saw cutting at optimal speeds regardless of operator experience.
- Integrated tool tracking software – prompts operator when to change blades, and improving blade life
- The Cadmatic speaks your language: multiple languages available: The control can be configured to have your language displayed when you log in.

Machine Reporting

Homag’s Cadmatic Control has extensive standard reporting features.

- The MMR records important production figures; such as, output of parts, time use per day, number of sheet cut, and travel length of rip saw.
- Maintenance display and tracking are standard. The machine prompts the Operator when the saw needs maintenance. The operator logs in that it has been performed; so, there is accountability.
- Errors are first displayed in plain text.
- The CADmatic 4 maintains a file of the last 15 errors to occur on the machine. This feature helps to track and fix small problems before they become serious.
- The ability to review in real time the actual status of inputs or outputs along with the status of the switches is available on the screen of the Cadmatic.
- Additional screens show the status of the counters. Counters show the programmed position of such moving components of the saw as the saw carriage or the program fence, which can be compared to the actual position.
- The onboard software allows for remote diagnostics from the technical support team to speed the troubleshooting process.

Homag powerTouch Control System

Equal

- Consistent control and design elements are used across all Homag Group machines.
- The basic structure of the screen is the same for all machines
- The fact that users can transfer their knowledge about the operation of one machine onto other machines reduces training cost

Easy

- Important machine status and messages can be seen at a glance
- Color coded assistant shows whether the machine is production ready
- Intelligently designed icons and touch design makes it easier for less experience operators

Ergonomic

- Operating panel with Multi-touch widescreen 21.5 Display
- Ergonomic touch operating with gestures such as zoom in, scrolling and swiping
- Simple navigation for standardized and intuitive operation of the machine

Evolutionary

- The blending of state of the art technologies and modern design provides premium operability of the machine control.
- Machine data capturing for operating analysis (e.g. number of pieces, production time, and basic maintenance)

Saw Carriage

- Solid steel construction for long working life.
- Main saw motor is fixed reducing the weight of raising the main saw blade, resulting in faster up/down time while reducing vibration at the blade, improving cutting speed and blade life.
- Saw carriage guided by chromed, hardened steel guide rods and hardened steel, precision V-groove rollers; Homag's unique "monorail" locked-in guidance system. Over the last 40 years, Homag's "monorail" saw carriage guide system has been proven world-wide to provide clean, accurate cuts in even the most difficult to cut, prefinished materials.
- Excellent saw blade life and cut quality due to the monorail guide system.
- Precision machining guarantees absolute parallel positioning of the guide ways in relationship to the surface of the machine bed, hence to the panels being cut, which prevents the scoring saw from running untrue.
- Saw carriage guides are positioned closer to the cutline than on any other saw, eliminating any effect that the drive system vibrations could have on the cut quality.
- Automatic cutting height adjustment provides optimal blade exposure.

- Automatic continuous cutting length control by sensor provides optimal saw carriage travel distance, regardless of strip width.

Saw Carriage (continued)

- Cutting speed infinitely variable; adjustable from control panel.
- Rack and pinion driven via AC servo motor.
- Scoring saw adjustment from control panel during operation. Safe and fast for the operator.
- Extraction via sawdust channel.
- Tool tracking software sets the scoring blade to its last position minimizing adjustment.

Pressure Beam

- Minimum opening for blade passage to exert pressure right at the cutting line, where it is needed.
- Guided equally on both sides by racks and pinions, which guarantee that the pressure beam remains parallel, even when cross cutting a single stack of narrow strips.
- Pressure applied equally on both sides of cutline resulting in superior cut quality.
- Optimum extraction of sawdust by means of an extraction outlet and a separate extraction channel.
- Pressure beam opening defined by book height, saving distance traveled and reducing time lost.

Automatic Side Pressure Device

- Integrated into saw carriage.
- Precisely positioned by the saw carriage to reduce cycle times.
- Pressure infinitely variable.
- Automatic positioning via sensor, no pre-adjustment required.
- Quick alignment for single strips.
- Double alignment for multiple strips
- Alignment width: Min. 0 mm -Max: complete cutting length of machine.
- Heavy steel right angle fence is part of the machine frame leg for consistent, square cuts.

Clamp-Equipped Program Fence

- AC servo drive electronically controls the program fence for quick, accurate positioning, with minimal wear and tear.

- The saw control constantly drives the program fence at the optimal speed of travel, regardless of distance traveled for short cycle time.
- Strongest clamping pressure, regardless of book height; clamp jaws feature parallel motion which keeps material in clamp for better position accuracy.
- Homag's unique clamp design keeps single panels or complete books of panels clamped and under control of the program fence until the rip or crosscut operation is completed.

Clamp-Equipped Program Fence

- Upper clamp jaw is covered with a special, non-marring pad, preventing any possible damage to the surface of the panel material.
- Easy access to all pneumatic and electrical switches for easy maintenance.
- Magnetically based measuring system, completely independent from the drive system of the program fence with no wear, or even touching parts for long working life.
- +/- 0.1 mm/m positioning accuracy of the program fence (measurement does not apply to the cut parts)
- Tighter tolerance resolution, longer working life, less adjustment than with optical encoders

Machine Tables

- Rear support table consists of rails with narrow pitch rollers for friction-free panel movement and protection from scratches.
- Machine table is equipped with large wear resistant phenolic plates with precision machined slots for the clamps. Part of this machining is a T-cut profile that improves dust collection without additional CFM requirements
- Because of these plates; machine bed remains at full thickness and strength, providing maximum stability.
- Air tables at the front of the machine for easy material handling.
- dustEX System with air floatation valves produce air flow parallel to cut line in direction of right angle fence. Assists in control and extraction of dust.
- Air floatation in machine bed to reduce drag on sensitive materials at the cut line.

Power Concept Basic

- Allows several strips with different cross cutting lengths to be cut together.
- Performance increase up to 40%
- Considerably reduced cycle times
- Reduction of the per piece cost
- With separate drive, guidance, and measurement system.
 - One clamp (3 fingers), Power Concept can be positioned independently of the program fence.
 - Three clamps (2 fingers) with lifting element, positions 225/325/475 mm (8.85",12.79",18.7)

- One clamp (2 fingers) without lifting element, position at 775 mm (30.51")
- Synchronous locking (Power Concept and Program Fence)
- Strip width for power concept: max. 650 mm
min. 175 mm
- Book height: max 65 mm

cutting length	travel of saw carriage	3800 mm	149.6"
cutting width	Travel of program fence	3700 mm	145.7"
1 power clamp	not raisable	100 mm	3.93"
3 clamps with lifting element		225 mm	8.85"
		325 mm	12.79"
		475 mm	18.70"
power clamp	strip width max	650 mm	25.59"
	strip width min	175 mm	6.88"
	book height max	65 mm	2.55"
standard 2 finger clamps		775 mm	30.51"
		1075 mm	42.32"
		2325 mm	91.54"
		3125 mm	123.02"
optional 2- finger clamps available for		675 mm	26.57"
		1525 mm	60.03"
		2725 mm	107.28"
		3625 mm	142.72"
3 air tables		2160 x 800 mm	85" x 31.5"
total connected load	20.9 kw		
air pressure required		6 bar	86 lbs.
total air volume	based on 6 bar	140 l/min.	4.94 cfm
extraction	minimum (velocity)	3350 m3/h (26 m/sec.)	1971 cfm 85 f/s
diameter of dust connectors	pressure beam	140 mm	5.51"
diameter of dust connectors	saw carriage	160 mm	6.30"
diameter of dust connectors	right angle fence	80 mm	3.15"
main saw blade	350 mm x 4.4 mm x 60 mm		
scoring saw blade	180 mm x 4.4-5.4 mm x 45 mm		

General Information

Control circuit for a recommended Pneumatic Shut Off Gate for the Pressure Beam dust pipe is included. Customer to provide the blast gate.

- Minimum operating temperature +41f
- Maximum operating temperature +95f
- If the maximum operating temperature is exceeded, a cooling unit should be used

Shop floor requirements:

- Concrete grade C25/30
- Concrete thickness min 200 mm (7.87")
- Without covering layers e.g. parquet, bitumen etc.
- Customer is responsible for grouting all the machine legs with non-shrink machine grout after the assembly has been completed
- Maximum bundle height with machine on floor is 560 mm (22.4") or 29 sheets of ¾" material. For taller bundles, customer is responsible for either pit or concrete risers.

Additional Features Included in this Machine Proposal

Additional Two Finger Clamp

Upgrade Air Table to 2810 instead of 2160

CombiTec Version R HPP/HPL 300/400

The CombiTec-version is a special recut option for batch size 1 production. Your benefit:

- You reduce material use and your effort in handling, which saves time and money
- You carry out almost all recuts during the current cutting process, by doing this you reduce manual work steps
- You reduce your material costs due to less waste

IntelliGuide Basic

The Intelliguide system is an optical LED operator guidance system. It effectively guides the operator through the processing steps, making saw operation faster, easier and more intuitive than ever.

- Completely intuitive machine operation
- Errors are systematically eliminated
- Speeds up work: the operator no longer slows the saw down, for example by having to search for parts or look at the monitor to find out the next work step.
- Instead, the operator can work through the cutting pattern without once looking at the monitor.

Pneumatic Closing Device for Saw Line

(Machine must come from factory with this feature)

- Prevents edge trims from dropping into the cutline.
- Separately controlled.
- Approx. every 400 mm (15.75")

Automatic Grooving (Depth set through Cadmatic)

- Grooving position (length/crosswise), grooving width, distance to panel edge and grooving depth are freely programmable through the Cadmatic control
- Grooving rabbeting or dadoing occurs during the cutting cycle.
- Symmetrical grooving or rabbeting and intermittent grooving and cutting are freely programmable.
- Grooving depth +/- .2mm.
- Grooving width +/- .2mm.

Turbo Grooving

- Capability to groove in both directions
- Reduces time for kerfing
- Requires Automatic Grooving (Depth set through Cadmatic)

Laminate Cutting Software

- Operator can intervene manually at anytime, if materials are snagging on the cutting line, avoiding material damage
- After trim cut is taken, the program fence advances 12 mm over the cutting line, allowing the operator to observe if the material is curling into the cutting line or clear of it.
- After this movement, the program fence stays stationary until the operator instructs it to proceed to the preset dimension cut.
- After the part cut is taken, the fence indexes forward again 12 mm and remains stationary, allowing the operator to either pull any curled material out of the cutting line, or if the material is already clear of the cutting line, he instructs the saw to proceed to the next preprogrammed dimension. The procedure proceeds throughout the rips and crosscuts of the cutting pattern

Laser Light at the Pressure Beam

- Laser Light for visual angle cutting or cutting along marks or grain direction

Air Conditioning in the Switch Cabinet

Information Handling Package

- Includes Data Transfer via Network and USB Port
- Cadmatic Label Printing Software
- Zebra Label Printer and Stand