The power of dieless digital production

Kongsberg XP Auto

ESKO

Fully automated and unsupervised production of POP displays and packaging

The Kongsberg XP Auto is a fully automated dieless finishing machine for packaging and point-of-purchase displays. Based on the successful Kongsberg XP series, the most productive digital finishing devices in the world, Esko has expanded its range of automated finishing units with the XP Auto. The XP Auto comes loaded with functionality that boosts productivity and ensures reliable operation.

The XP Auto can automatically load, cut, unload and neatly stack up to 2.3 x 3.3 m large printed sheets of paperboards, foam board and many other materials.

Benefits

- Eliminates cost and turnaround time for dies
- Permits jobs to be run overnight, unsupervised
- Enables fully digital workflow for POP displays and packaging
- Turns short-runs into a profitable business
- Offers on-demand production with just-in-time-delivery
- Enables increased design complexity compared to conventional die cutting

No need for a die

The XP Auto cuts packaging and POP displays directly from the CAD designs. This way you can start production right away and you can eliminate the expense of manufacturing a cutting die. The Kongsberg XP Auto turns short-run and special request converting into a profitable undertaking.

Fully automatic

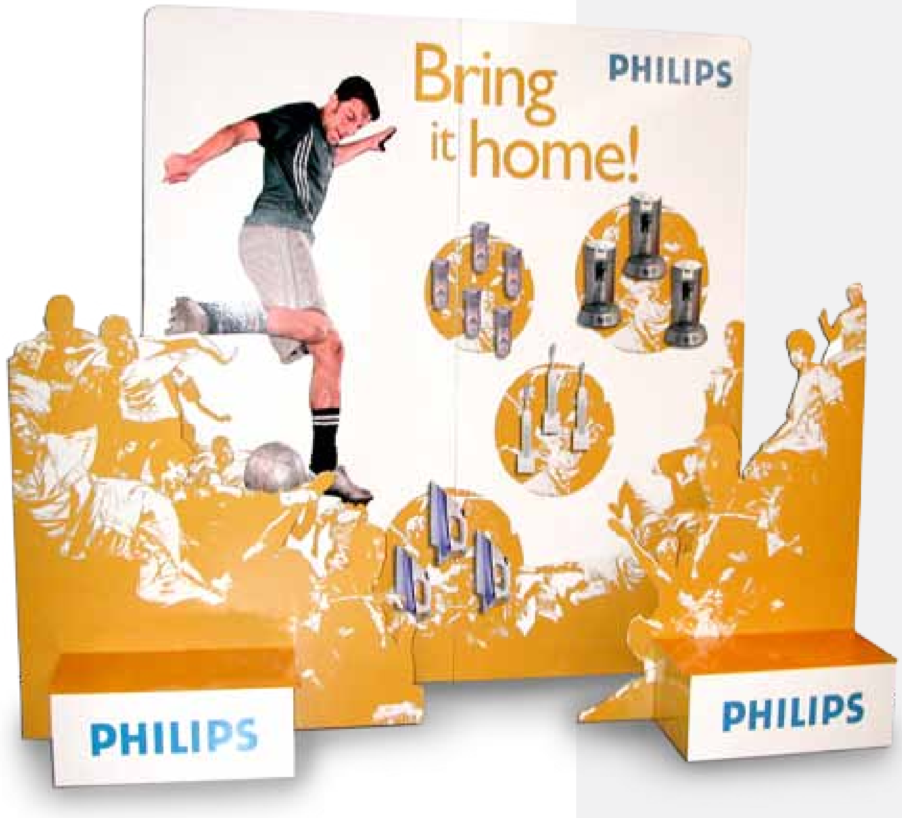
Thanks to automatic loading and unloading, the XP Auto can run completely automatic. Unattended operations are aided by the XP Auto's automatic tool calibration and a camera system for accurate print-to-cut registration.

This saves time and brings down production costs. Let it run through lunch brakes and through the night without the extra cost of an operator.

Wide range of materials and applications

The XP Auto can handle a wide range of materials. It has been optimized for run sizes of several hundreds of sheets of corrugated or other heavy-duty paper sandwich materials and will also be efficient with foam, foam board and plastic corrugated. When equipped with a milling tool it can also handle rigid material such as MDF, Dibond, acrylic panels and foamed PVC.

It is the perfect complement to a wide format digital printer, enabling a fully digital production workflow for POP displays and short-run packaging work.



Short run POS displays can be produced in a turnaround time of hours instead of days thanks to the dieless production.

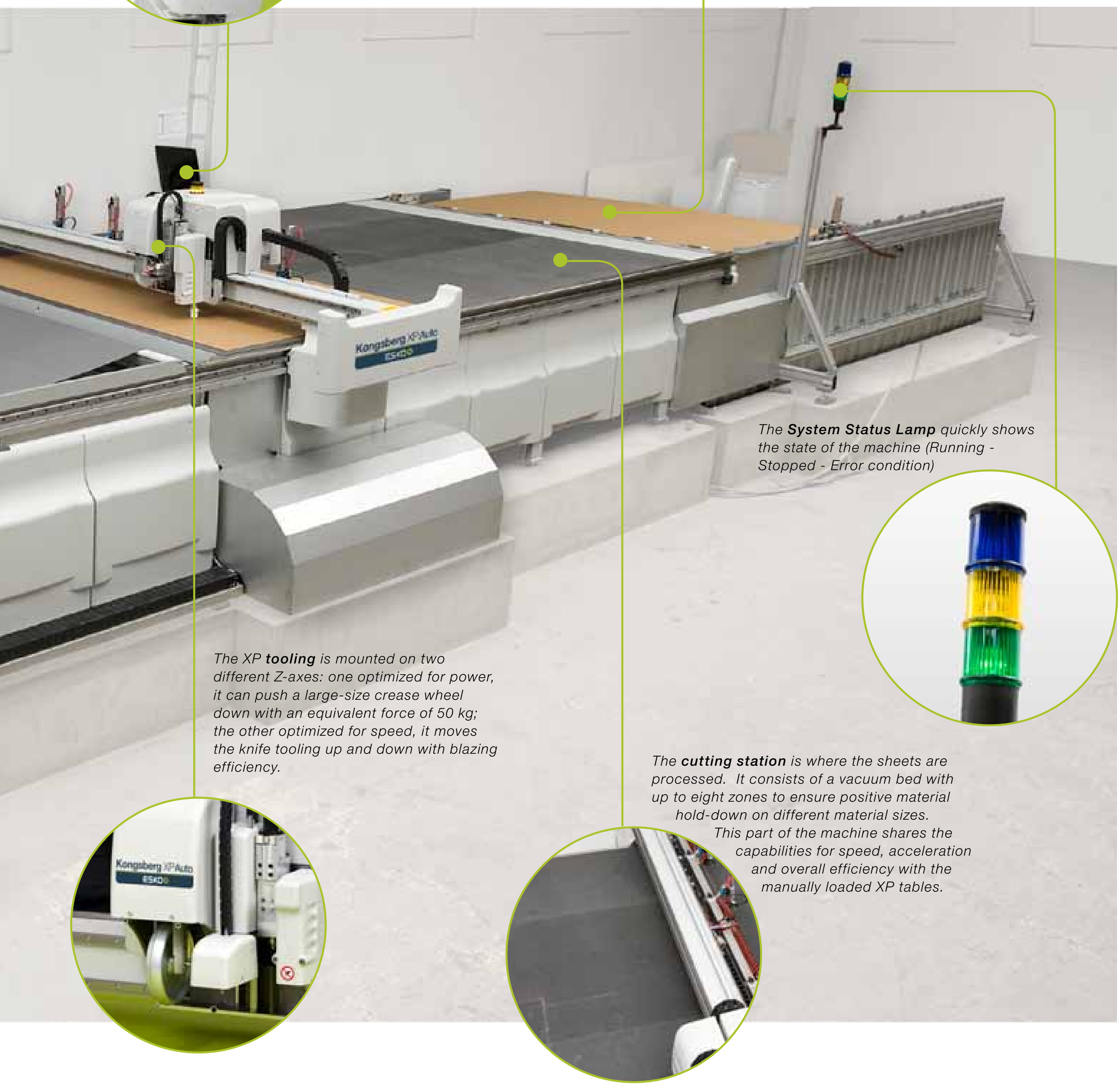
Ready for 24/7 automated production

*The **unload traverse** transports the cut sheet from the cutting station to the out-stack. It features suction grippers with adjustable position.*

*The **out-stack** adjusts automatically so its top is at a constant level. It can be emptied while the machine continues working on the next sheet.*

The ergonomic **workstation** contains the main operator panel and the PC.

The **in-stack** is based on an automatic lift table that keeps the top of the stack at a constant level. It ensures dependable sheet separation and repeatability in the sheet loading. Stacking capacity can be increased to one meter as an option.



*The **System Status Lamp** quickly shows the state of the machine (Running - Stopped - Error condition)*

*The XP **tooling** is mounted on two different Z-axes: one optimized for power, it can push a large-size crease wheel down with an equivalent force of 50 kg; the other optimized for speed, it moves the knife tooling up and down with blazing efficiency.*

*The **cutting station** is where the sheets are processed. It consists of a vacuum bed with up to eight zones to ensure positive material hold-down on different material sizes. This part of the machine shares the capabilities for speed, acceleration and overall efficiency with the manually loaded XP tables.*

Growth opportunities

Large format digital printers get faster. They demand a higher capacity automatic finishing solution for printed packaging and display materials. The Kongsberg XP Auto is the perfect finishing answer.

The Kongsberg XP Auto also gives the possibility to accept small-run orders which may secure high volume business from companies that prefer one-stop shopping.

The simple workflow makes the Kongsberg XP Auto an affordable investment for operations without prior manufacturing infrastructure.

Cost reduction

The Kongsberg XP Auto does not need a cutting die. This means that die cost savings alone guarantee a fast return on investment.

What’s more: you don’t need to wait for the dies, you can start production right away. Another upside is that you can reduce your die storage space.

Using the Kongsberg XP Auto for small-lot production leaves high-cost and high capacity equipment undisturbed. And, less operator intervention means reduced labor cost.

Start production right away: no need to wait for a cutting die.

Short delivery time

With the Kongsberg XP Auto you are able to meet tighter deadlines for stress jobs like product launches, test marketing and promotional events.

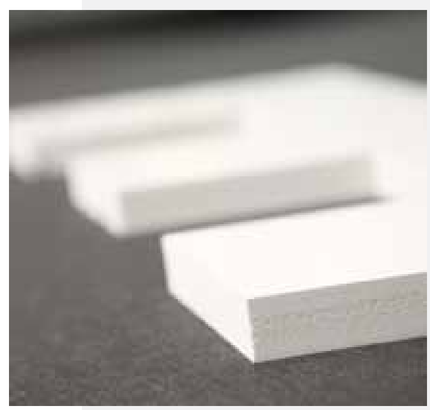
- Start production right away by eliminating the waiting time for a die.
- Safe and automatic production enables unsupervised night jobs.
- Changeover time between jobs is a matter of seconds.
- Last minute adjustments are easy to make during the process.

Versatility

To address the ever expanding spectrum of packaging materials and designs, the Kongsberg XP Auto can fully duplicate any CAD generated design with more detail and complexity than a normal die cutter.

The Kongsberg XP Auto accommodates an entire family of quick change creasing, cutting, v-notching and other special purpose knife tool inserts. A milling capability is optional for materials such as MDF, Forex, Dibond and acrylic panels.

Milling on Dibond.



Cutting Forex.

V-notch in sandwich board.

Efficient production

To help maximize output and minimize waste from each sheet, the Kongsberg XP Auto packs powerful and highly flexible features:

- **Automatic tool identification** by special circuitry integrated in each tool.

- **Automatic knife tip sensor.** With a programmable interval the knife tool drops down on a measuring pad to check that the knife blade is intact. The check only takes a couple of seconds. The sensor saves time and prevents mistakes whenever a knife blade or milling bit is changed.

- **Sheet separation.** To ensure dependable operation the Kongsberg XP Auto's suction grippers can be programmed to shake and bend the sheet that is picked up from the stack to make sure the material is appropriately separated.

- **Job queue function** that makes it possible to work continuously on consecutive jobs in a queue.

- **Remote Alert System (optional)**
  The Kongsberg XP Auto can send text messages with status information to the operator's mobile phone during unsupervised operation. "Job is completed" or "Stack is empty", the machine will tell you when it's finished, or why it has stopped.

The automatic knife tip sensor regularly checks knife blades and milling bits.

The suction grippers shake and bend the sheet to separate the material.

Remote alerts on your phone.

- **Print registration (optional)**

  Optical print-to-cut registration ensures perfect alignment and saves setup time. It also reduces the amount of extra printed sheets required for perfect print-to-cut registration.

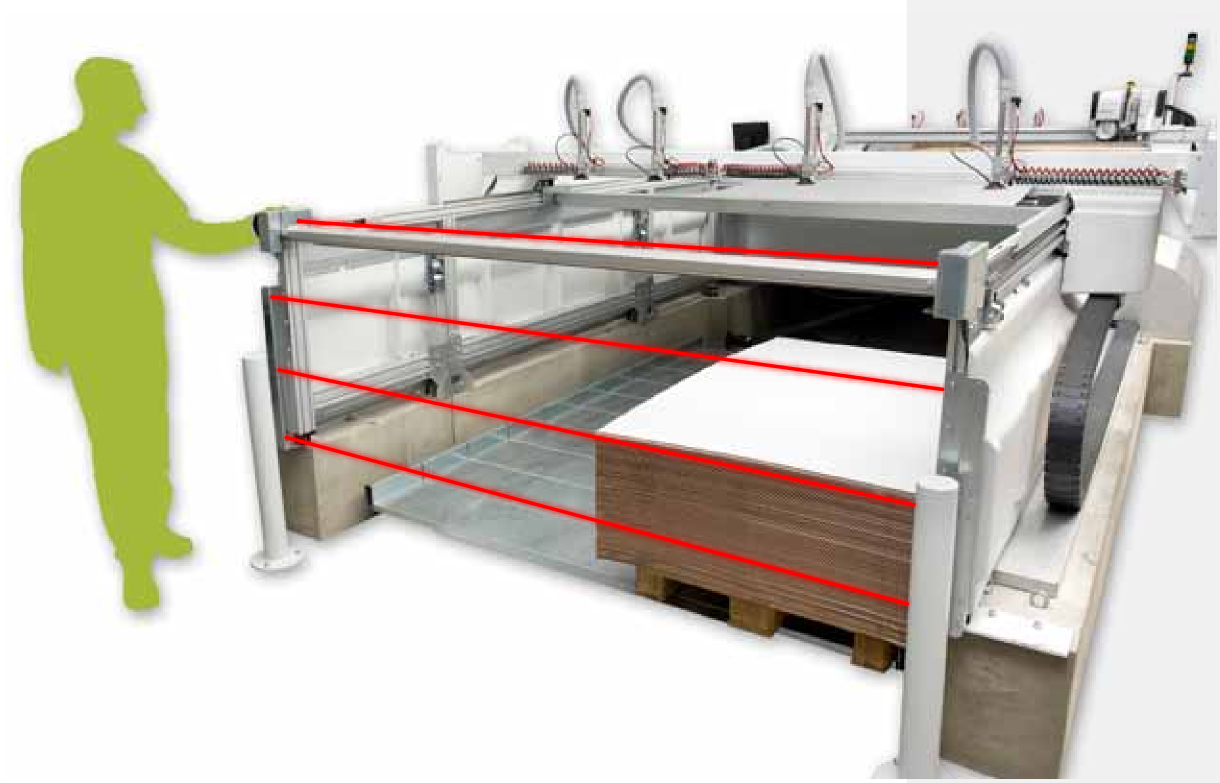
  Register marks on either side of the material can be read by combining two different cameras. A camera in the tool head registers marks when the printed side is up. Another camera system below the table top registers the marks when the printed side is facing down.

  Benefits with optical registration:
  - Time saving in job setup.
  - Cost/time saving by not having to print the extra sheets to ensure registration.
  - More accurate print-to-cut registration than what is possible with conventional die cutting.
  - Better flexibility for post-laminated sheets.

Perfect print-to-cut registration with two cameras to register marks.

- **Safety first**

  Naturally, the Kongsberg XP Auto comes with state of the art safety mechanisms. First of all, the operator and bystanders need to be safe at all times. All movable parts of the machine that can present a safety hazard are safeguarded by light beams or other sensors that will, if triggered, stop motion and leave the machine inert.



Light beams and sensors safeguard all movable parts of the machine. When triggered they immediately stop the machine.

The software for smooth operation

The Kongsberg XP Auto comes with software that makes your workflow straightforward.

Queuing jobs

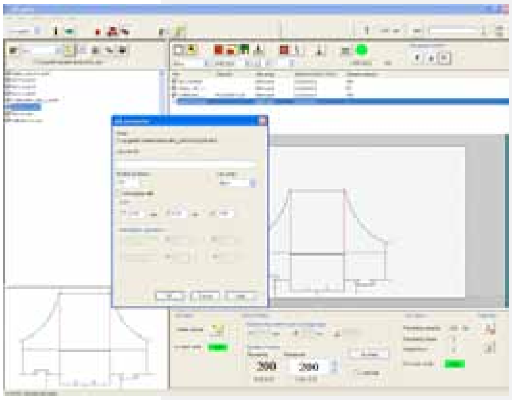
The operator can load several jobs and the table will automatically switch between jobs.

Test your knife blades

The software can check the knives you are using when running unsupervised.

Getting the stats right

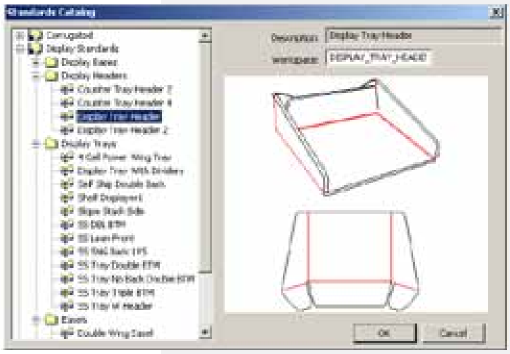
The table collects productivity data: what jobs were run when, how many sheets have been used per job, total number of run-time hours, etc., and leaves the data in a format which can easily be used to produce a report or be integrated with a management information system.

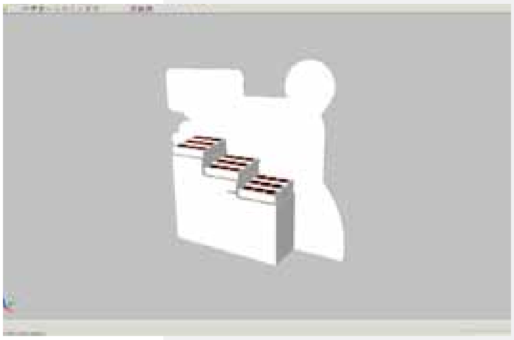


ArtiosCAD

ArtiosCAD is the world's most popular structural design software for packaging design. With dedicated tools specifically designed for packaging professionals for structural design, product development, virtual prototyping and manufacturing, ArtiosCAD increases productivity throughout your company.

ArtiosCAD comes with libraries packed with designs for POP displays, folding carton and corrugated boxes. It is the ideal product for all corrugated, folding carton and POP display designers.





Technical specifications

	XP24 Auto	XP44 Auto
Work area	1680 x 3200 mm 66” x 126”	2210 x 3200 mm 87” x 126”
Maximum sheet size	1700 x 3300 mm 67” x 130”	2230 x 3300 mm 88” x 130”
Overall dimensions including revolving workstation	3600 x 11000 mm 141” x 433”	4200 x 11000 mm 165” x 433”
Weight	2600 kg 5730 lbs	2800 kg 6170 lbs
Maximum speed	100 m/min. - 65 IPS	
Maximum acceleration	15 m/s² - 1.5 G	14 m/s² - 1.4 G
Vacuum pump (included)	7.5 kW	7.5 kW
No. of vacuum sections	8	8
Maximum material thickness	50 mm - 2”	
Standard stack capacity	0.6 m - 23½”	
Optional stack capacity	1 m - 40”	
Operator workstation	Revolving workstation attached to the XP frame with operator panel and space for tooling, controller PC, screen and keyboard.	
Print registration system (optional)	The Automatic Registration System (ARS) can read printed register marks. It is split into two different items: For print marks facing up; camera integrated with the tooling. For print marks facing down; camera sits on a separate servo axis below tabletop level and can read marks as the material passes from the in-stack to the cutting station.	
Operational safety	Included is the DynaGuard Safety System, which protects the operator and bystanders from potential machine hazards. The movable parts of the machine (traverse, carriage) are surrounded by a set of photocell sensors that, if activated, will immediately stop the machine and wait for the operator to resume operation. If one of the traverse ends hits a bystander the photocell beams go out of position and operation is similarly stopped. In addition the machine is equipped with an emergency stop button and a warning light, which is lit as long as the servos are powered.	

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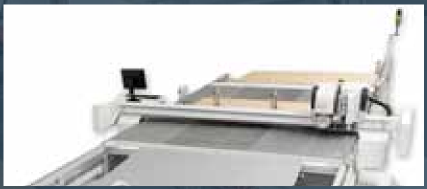
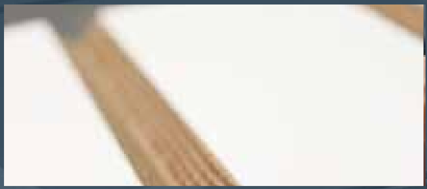



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