Versatile, powerful finishing tables for packages, displays and signs
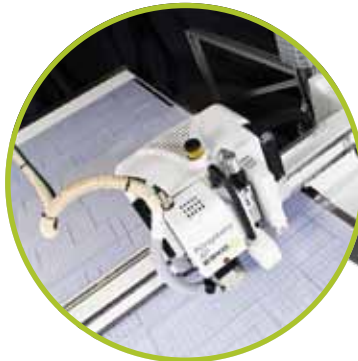
The Kongsberg XN Series

ESKO✷

Innovative features running on the industry's most solid platform

A choice of five tool heads and a full assortment of insert tools guarantee unmatched versatility.

Table Mapping: Dynamic table mapping procedure provides real-time update to the exact field conditions. Precise automatic z-control during finishing means less damage to the underlay

***i*-cut Vision Pro:** The Kongsberg XN can be controlled by *i*-cut Vision Pro, the industry standard for vision-based cutting. It ensures highly efficient production along with simple and extremely accurate print-to-cut registration, even with print-distorted materials.

Tool exchange: Exchanging different tools is quick, tool-free and error-free, because every insert is identified by a unique bar code. Specific tuning parameters are stored in memory to avoid expensive operator errors.

Toolheads: A set of advanced, quick-change toolheads provides unsurpassed versatility, making it easy to set up the machine to process any material for just about any application.

Sandwich steel construction: The XN series features the famous, rock-solid Kongsberg tabletop construction that will never warp or go out of level, even after decades of heavy use. Most Kongsberg cutting tables — thousands of them — are still in operation today.

Tool inserts: Insert knife tools are available for cutting all relevant materials ranging from thin paper to synthetic sheets through heavy-duty packaging and display material. The tooling selection also includes crease tools, plotting and drilling tools.

Rack-and-pinion drive system: Provides speed, durability and strength. Easily able to drive through dense/thick materials. Greater dynamic repeatability

POWER**Head**

MultiCUT

Milling: Kongsberg XN tables can be configured for milling applications ranging from sporadic, light-duty routing to lengthy jobs working with heavy-duty materials — all with record-breaking productivity.

Power: The XN Series offers the raw strength required to process even the most rugged materials at high-production speeds. Kongsberg XN tables will keep on going when others might quit.

Kongsberg XN ESKO

Kongsberg XN Series

The perfect digital finishing device is expandable for the future.

In a world with rapid technology and business change, it is important to invest in equipment that offers all of the capabilities you need for the present, but with flexibility for the future. The Kongsberg XN is easily the most versatile digital finishing device ever introduced. Whether your focus is 2D or 3D; packaging, signs or displays; or with just about any material from vinyls to boards to wood; the Kongsberg XN is perfect for any job or application. It can even be used to cut flexographic plates as part of the Esko Digital Flexo Suite. The Kongsberg XN is available in seven different sizes from 1680 x 1270 mm (66" x 50") to 2210 x 6550 mm (87" x 258").

Start with only the tooling options you need, with the knowledge that you can invest in more capabilities later, when your business grows.
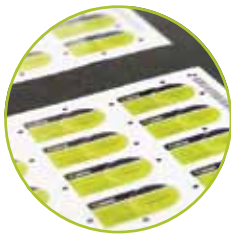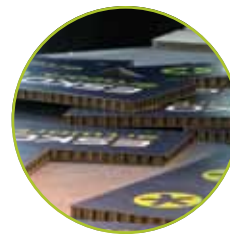
Folding carton
Samples from all grades of folding carton.

Powerful function to generate sample counters based on integration with ArtiosCAD

Acrylic
Engraving

Additional furniture

Trophy

Signmaking

Front panels

Honeycomb
Pallets

Displays

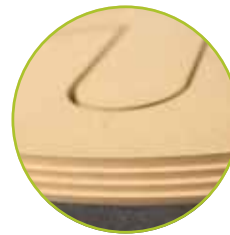Protective packaging

Corrugated board
Shot run of boxes on demand

Sample boxes

POP displays

Wooden box replacements

Foam
Protective packaging

Sign

MDF*
Displays

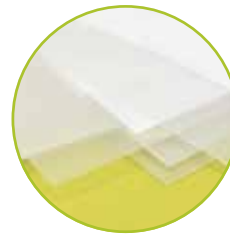Furniture

Sign & Display

Solid board
Specialty packaging

gift packaging

Rigid paper board Fluted core board
Furniture
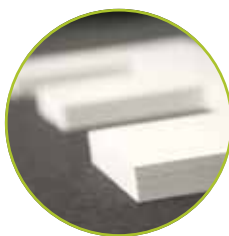
POP displays

Semi-permanent displays

Plastics
Boxes for presents and cosmetics

Document folders

Rain covers and sun shading

Credit cards

Lights boxes/Pop up

ACM**
Displays

Advertising items

Signs

Boxes

Foam board
Signs and posters

Display

Models of buildings, etc.

### Corrugated plastic
Boxes

Displays

**ACM aluminum composite material
*MDF medium-density fiberboard

- Tooling and functional add-ons can simply be retrofitted in the field to meet future needs.
- An innovative extended beam clearance capability can be field retrofitted to handle materials up to 86 mm thick.
- Several models permit extending the table's length by installing an additional table section.
- The advanced *i*-cut Vision Pro system can be installed to contour cut graphic elements extremely accurately.
- Productivity options such as conveyor feed, sheet feeder and roll feeder unit can be retrofitted.

Carpet
Carpets with different forms or logos

combining colors

Personalized shapes
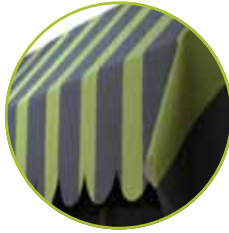
Textile
Banners

Flags

Advertising items

Roll-up

Thin aluminium
Displays

Signmaking

Drawing
Pre-mounting for flexo plates

Plots on paper, Mylar foil or directly onto dieboard

Gaskets
Gaskets for cars, pumps, liquids…

Rubber
Die rubber (no drying time required)

Mouse mats

Complements for shoes

Magnetic foil

Paper
Envelopes

Exhibitors lining

Box lining

Adhesives/Vinyls
Labels (Short runs)

Vinyls for banners, cars, shops

Sign making
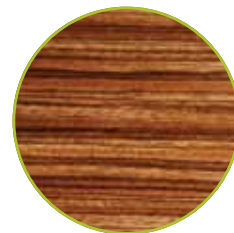
Veneer
Furniture

Signmaking

Box lining

Varnish blankets
Varnish blankets for offset print can be cut in perfect register with the printing press.

Wood
Displays

Furniture

Sign&Display

Other Materials
Please contact us for performance test

Flexo plates
Cut the flexo plates with or without bevel

Integration with Esko's Digital Flexo Suite is available

Fiberglass
Sign

Special constructions

Modelling

XN Toolheads: A variety of systems compatible with a broad range of tool inserts.

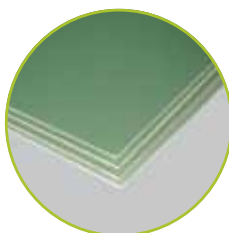The **MultiCUT** combines all the tool insert options with a milling spindle up to 60.000 RPM. This makes it the most versatile solution for POP display makers and sign producers who can process flexible substrates to folding carton to hard PVC and acrylic panels. The air-cooled milling bit assures edge quality during high-speed milling of acrylics and other synthetics. The switch-operated bit exchange eliminates the need for hand tools.

The **MultiCUT-HP** (High Power) offers the same operating functions as the standard MultiCUT but is equipped with a super-strong, water-cooled milling spindle delivering up to three times faster milling speeds. The 3kW high power spindle is a great choice for shops that need extended milling duty-cycles and/or who work extensively with heavy-duty materials such as thick sheets of acrylic, wood/MDF and aluminum composite material.

The **PowerHead,** ensures superior performance with heavy duty material such as double wall, triple wall and recycled corrugated board, plus the newest environmental boards. It features 150 mm (6") diameter crease wheels and additional scoring pressure with 2 1/2 times more down force The large frontal area of the wheel helps creasing high recycle content boards without breaking the liner. The PowerHead accept knife adapters for v-notch cutting, enabling mitered corners and extremely precise folds for paper core board displays, loading pallets and container cushioning pieces.

The **FlexiHead** offers highly accurate, powerful cutting — on all flexible and thin materials such as paper, folding carton, vinyl, textile and more. The FlexiHead, like all the other toolheads, is attached to a very precise servo axis controlling the tool depth when cutting, creasing and routing. Three configurable tool stations accommodate a full range of standard tool inserts. Specially designed knife and crease tool inserts are available to produce folding cartons with the same high throughput as corrugated jobs.

The **FoamHead** uses a reciprocating knife to handle foam materials with a maximum thickness of 86 mm [3 3/8"]. With serrated-edge blades, it can also manage thick honeycomb paperboard. Three blade adapters of different lengths control the blade length so it can be matched to material thickness. And, it is easy to program accurate partial through-cuts thanks to the advanced Z-axis control.

Choose your own special Kongsberg XN system

To simplify configuration of the XN table for different application needs we have prepared some pre-packaged Style Kits:

Designer

The "Designer" Style Kit is a great fundament for sample-making and other packaging-related tasks where frequent job changeovers are common. It consists of:

- XN-Guide front-end software
- A standard PC table.
- A convenient cover in front of the machine that holds small baskets for tools and blades, offering a smaller footprint,
- Material positioning brackets, positioned at the front and rear right corners of the machine, that enable cut, crease and plot operations on both sides of the material.
- A durable PVC cutting underlay, great for corrugated and many other materials, with special requirements for creasing and high-friction hold down. It also optimizes the power of the vacuum when large sheets are used.

Packaging Production

Those who produce packaging and flexo plates normally choose the Packaging Production model.

- XN-Guide front-end software
- A production-friendly rotating workstation including space
- for a PC and providing easy access to the table front for material loading.
- Material positioning brackets, positioned at the front and rear right corners of the machine, enabling cut, crease and plot operations on both sides of the material.
- Q-Vac; functionality to speed up manual material load and unload
- PVC cutting underlay

Sign Production

The "Sign Production" Style Kit is great for sign making and finishing of printed graphic elements. It includes:

- *i*-cut Vision Pro camera system and front-end software
- A production-friendly rotating workstation including space for a PC and providing easy access to the table front for material loading.
- A soft, compact felt cutting underlay, optimized for a combination of milling and knife cutting
- Optional conveyor feed system, sheet feeder and roll feeder unit for automated material load.

Supported by the world's leading production software.

Whether you create packages, display or signs, Kongsberg finishing tables are supported by the most efficient and productive graphics and finishing workflow software available.

Esko offers all the tools for both packaging and sign and display workflows:

ArtiosCAD
Structural
software

Adobe® or other
graphical software

i-cut Suite

Your RIP partner with
i-script technology

Digital finishing by Kongsberg XN customized to your workflow
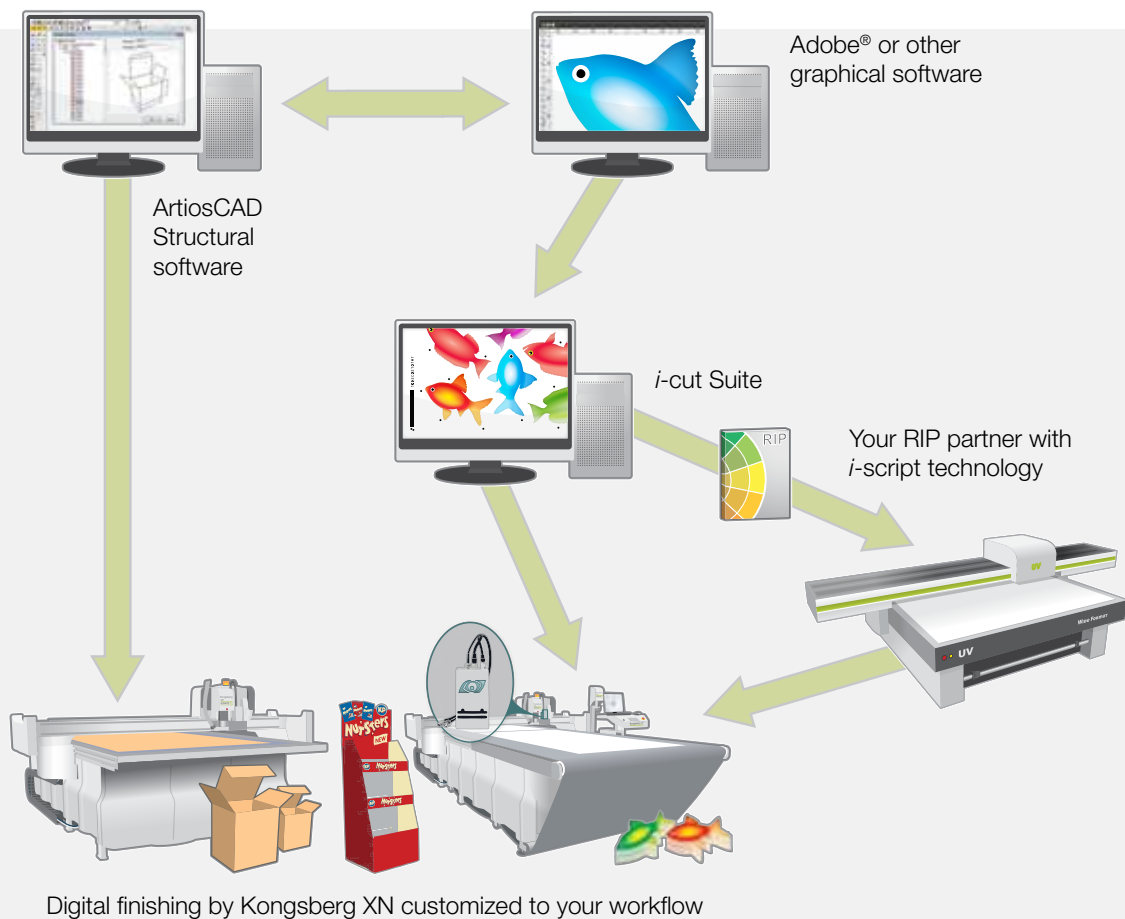
3D Packages

Chose from more than 15,000 standard packaging designs or design from scratch in 3D. Send the packaging design directly to finishing.
If you wish graphics on your package you will benefit from a great interface between ArtiosCAD and any graphical software using PDF formats to apply graphics.

3D Displays

With ArtiosCAD you can build any 3D display/POP or structure and send directly to finishing.
If you wish graphics on your display you will benefit from great interface between ArtiosCAD and any graphical software using PDF formats to apply graphics. The graphical file is then sent through file error correction, optimizing and nesting before perfect print and finishing.

2D Signs

Start with any graphical file and efficiently prepare it for printing and cutting. Automatically correct file errors, create die lines and bleeds, reduce waste with layout and nesting with *i*-cut Suite pre-production software targeted specifically at users of large format digital printers and digital finishing systems.

ArtiosCAD: the power to build structural designs

For 3D projects, not only do you need graphic design software, but structural design software as well. ArtiosCAD, the world's most popular and advanced structural design software for packages, displays and signs, is the ideal product for all corrugated, folding carton and POP designers. ArtiosCAD increases productivity throughout the company and supply chain.

Users browsing from ArtiosCAD's extensive design library can find parametric design templates from which to either design projects in minutes — with the freedom to resize or redesign components — or stimulate the creative design process. ArtiosCAD can significantly help sign and display shops do an exceptional job creating structures for 3D displays.
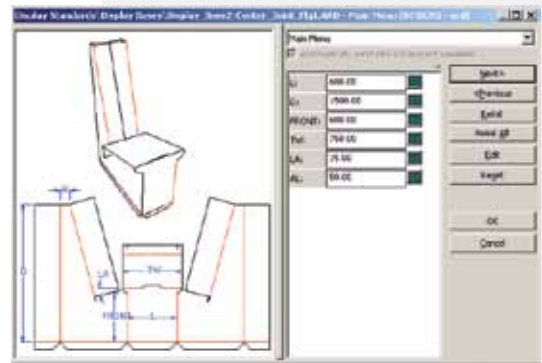
i-cut Suite: the power to optimize large-format production

Eliminate errors, save time and reduce waste with *i*-cut Suite, the industry standard design-to-print-to-cut workflow.

i-cut Suite standardizes the way graphical files are sent to the printer and digital finisher. You save time and labor, reduce material waste, better utilize your printer, create the most accurate and efficient cutting paths for your Kongsberg table, and create great quality output — every time.
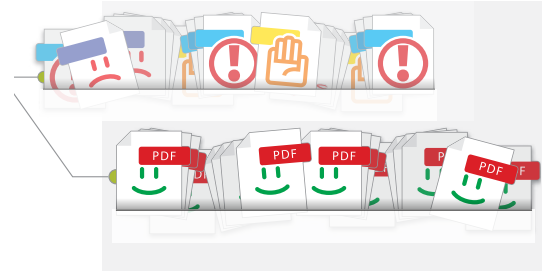
• **i-cut Preflight** handles efficient preflighting and editing of incoming files, ensuring that jobs will RIP and print correctly. If problems are found in the file, *i*-cut Preflight can make corrections working directly within the PDF file.

• **i-cut Layout** interactively builds and edits sheet layouts, ensuring that jobs make the optimum use of the substrate through intelligent true shape nesting and tiling. Customers will enjoy the benefits of the optimized print sheet layout for odd shaped designs with material savings often running in excess of 20%.

• **i-cut Automate 12** ties the pieces of the *i*-cut Suite together, and automates the entire prepress production process. Users can build dynamic workflows that automate repetitive prepress tasks, thereby enhancing productivity, reducing operator intervention and errors, and saving valuable time, money and materials in the production process.

• **i-cut Vision Pro** assures the die-less cutting contours match the printed images. With graphic printing distortion can occur where the printed graphics and the die line may not match, causing unacceptable results. *i*-cut Vision Pro perfectly registers the actual printed result to the digital die line every time.

Tool Inserts

Oscillating knife tools:		
	Multi-purpose High Frequency Knife	Reciprocating knife for materials such as corrugated with high recycle content, fluted core boards and foamboard.
	Standard Reciprocating Knife	Reciprocating knife for corrugated with low recycle content

Static knife tools		
	Static Knife, Triple Wall	Knife tool that can cut up to 17mm thick material
	Static Knife, Folding Carton	Knife tool with short free end, optimized for folding carton. Max cutting thickness 1.5mm
	Static Knife, General Purpose	Knife tool that can cut up to about 10mm thickness (blade dependant)
	Static Knife, Single Edge	Knife tool for thin, compact material, such as synthetic sheets
	Rigid Material Knife	Knife tool for compact and tough material, such as solid board and thick synthetic sheets. Max thickness 8-9 mm (blade dependant).

Knife tools for partial cutting		
	MicroCut Tool	Knife tool using micrometer control for extremely precise cutting depth, used for varnish blanket cutting and partial cuts in thin cartons
	KissCut Knife	Knife tool with spring loaded down-pressure, for adhesive vinyl

Side-beveled Cutting Tools		
	V-notch adapter knife	Insert knife with 45° blade angle; for 90° folds in fluted core board and triple wall corrugated. Versions with 15° and 30° blade angle are also available.
	BevelKnife	Knife tool with 45° angle; for flexo plates and solid board

Crease Tools		
	Crease Tool 15mm	Crease tool accepting a wide range of 15mm crease wheels for folding carton
	Crease Tool 26mm	Crease tool accepting a wide range of 26mm crease wheels for corrugated and folding carton

Plotting tools		
	Liquid Ink Pen	Drawing tool using liquid ink refills with different line weights
	Ball Point Pen Tool	Plotting tool using Fisher Space Pen refills that are available in different colors and line weights
	Fiber Tip Tool	Plotting tool using fiber tip pen refills with permanent ink.

Specialty tooling		
	RotaCut Tool	Cutting tool for textile material with rotary driven blade
	Drill Tool	Drill tool for soft material such as paper core boards

Options

- **Conveyor feed option:** Conveyor belt providing automated material feed, also serving as cutting underlay. The conveyor feed is driven by the machine traverse and controlled from *i*-cut Vision.
- Sheet Feeder: Automates sheet feeding by bringing the sheet from a stack onto the conveyor belt of the table, which brings the sheet into working position.
- **Roll Feeder:** Feeds roll based material onto the conveyor system of the table. Has a tension brake for controlled feed of heavy rolls
- **X-Pad:** Device for automatic and accurate measurement of tool level for knife blades and milling bits.

Kongsberg XN Technical Specifications

		XN20	XN22	XN24	XN40	XN44	XN46	XN48
Work area, all tools	mm In.	1680 x 1270 66 x 50	1680 x 2190 66 x 86	1680 x 3200 66 x 126	2210 x 1270 87 x 50	2210 x 3200 87 x 126	2210 x 4800 87 x 189	2210 x 6550 87 x 258
Max. material size	mm In.	1740x1750 68 x 69	1740 x 2570 68 x 101	1740 x 3575 68 x 140	2270 x 1750 89 x 69	2270 x 3575 89 x 140	2270 x 5250 89 x 206	2270 x 6930 90 x 273
Max. material width w/ conveyor system	mm In.	1680 66	1680 66	1680 66	2210 87	2210 87	2210 87	N/A
Overall dimensions w/ front panel	mm In.	2780 x 2450 109½ x 96½	2780 x 3040 109½ x 119½	2780 x 4050 109½ x 159½	3300 x 2250 130 x 88½	3300 x 4050 130 x 159½	3300 x 5730 130 x 225½	3300 x 7410 130 x 291½
Overall dimensions w/ RWS[1][2]	mm In.	3600 x 2160 141¾ x 85	3600 x 2950 141¾ x 116	3600 x 3960 141¾ x 156	4070 x 2160 160¼ x 85	4070 x 3960 160¼ x 156	4070 x 5640 160¼ x 222	4070 x 7320 160¼ x 288¼
Weight	Kg lbs	455 1000	525 1150	630 1390	490 1080	815 1800	1150 2540	1485 3270
Position accuracy [3]		±200 µm ±.0078"	±200 µm ±.0078"	±200 µm ±.0078"	±250 µm ±.0098"	±300 µm ±.012"	±350 µm ±.014"	±400 µm ±.016"
Repeatability		±50 µm ±.0019"			±60 µm ±.0023"			
Maximum speed		50 m/min - 33 IPS						
Maximum acceleration[4]		5.6 m/s² - 0.56 G			5.4m/s² - 0.54 G			
Vertical tool force		Standard tool stations: 220 N. PowerHead crease station: 500 N						
No. of vacuum sections		1 (2 optional)	1 (2 optional)	2 (selectable) (4 optional)	1 (2 optional)	2 (selectable) (4 optional)	3 (selectable) (4 optional)	4 (selectable)
Field upgradeable to:		XN24	-	-	XN44, XN46, XN48	XN46, XN48	XN48	-
Standard traverse clearance[5]		Standard clearance 50 mm – 2"						
Optional traverse clearance[5]		High clearance 95 mm – 3¾"						
Operator 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 the end of the traverse hits a bystander the photocell beam goes out of position and operation is 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.						

(1): Measured with RWS in its standard position

(2): Conveyor feed option will add marginally to the length dimension

(3): Applies across total work area, with standard traverse clearance

(4): May be reduced with certain tool- and configuration combinations

(5): Measured without cutting underlay. Max. cutting thickness is tool dependant.

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