Automated digital finishing systems for signs and displays

The Kongsberg *i*-XL-Series

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artwork

Kongsberg *i*-XL Series:
unmatched performance, versatility and durability

Based on the Kongsberg XL-Series of short-run production tables, the *i*-XL series utilizes the industry standard for vision control, the *i*-cut® system. The Kongsberg *i*-XL complements digital printing of sign and displays with a unique finishing solution for the widest range of materials, providing automation, high productivity and outstanding precision.

The industry's most cost-effective finishing machine, loaded with unique features that save time and boost productivity.

Thanks to its rock-solid construction with virtually unlimited vacuum grip, the Kongsberg i-XL table is the ideal platform for handling the most demanding materials, delivering record-breaking productivity and versatility.

Since they were introduced in 1984, well over 2,000 Kongsberg cutting tables have been installed in more than 70 countries worldwide, and the number is increasing rapidly. Almost all of those are still in daily production. This remarkable track record is your guarantee that the Kongsberg *i*-XL will be a valuable asset for many years to come.

Widest range of materials

Kongsberg tables are successful because of the wide variety of materials they can process. With the *i*-XL series of tables, you can choose between the FlexiHead and MultiCUT toolheads for high performance finishing.

From an extensive selection, different tools can be inserted simultaneously into the configurable tool stations of the **FlexiHead** and **MultiCUT**:
• Tangential knife tools
• Micro- and Kisscut tools
• Oscillating knife tools
• Creasing tools
• Pen plotting tools

FlexiHead

The FlexiHead, with its collection of tool inserts, provides excellent functionality for finishing a wide variety of materials ranging from paper, pressure sensitive film or vinyl, to cartons, textiles, plastics, corrugated, foam board and more.

MultiCUT

All the FlexiHead tools can be combined with a high-power router in the MultiCUT toolhead in two customer configurable stations. Operators who need an extra tool to process rigid materials such as Dibond, Forex, Sintra, PVC, wood and acrylics up to 25mm (1") thick, now have the most productive and versatile solution.

The MultiCUT router spindle features a true 1kW of milling power, and adjustable spindle speeds up to 60,000 RPM. It allows for milling, contour cutting, routing, drilling and engraving directly from CAD/graphics designs. Matched with heavy-duty construction and the sophisticated Z-axis control of the *i*-XL tables, the router delivers high quality output at an impressive throughput rate – making the MultiCUT a great tool for real production work.

Streamline your large format printing workflow!

Eliminate errors, save time and reduce waste with *i*-cut Suite. *i*-cut Suite is a collection of pre-production software targeted specifically at users of large format digital printers and/or digital finishing systems.

Eliminate bottlenecks

i-cut Suite tackles all bottlenecks in your workflow. From preflighting PDF files, preparing graphics, creating layouts, to printing, and finishing in perfect registration. *i*-cut Suite streamlines every step of the way.

i-cut Preflight

i-cut Preflight brings a simple PDF preflighting solution for large format digital printing.

i-cut Preflight is the starting point for a true workflow. Problems are reported automatically, before going to print. There's no need to go into Adobe® Illustrator® and lose time trying to figure out why the file will not print properly. *i*-cut Preflight will tell automatically.
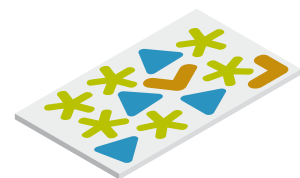
PDF preflighting saves time and solves problems before it's too late. Don't waste time figuring out why certain PDF won't print, just preflight them and fix it.

i-cut Layout

i-cut Layout optimizes sheet layout. Rectangular shapes, irregular shapes, double sided jobs, oversized jobs, *i*-cut Layout will always come up with the most cost efficient layout.
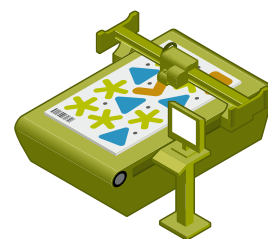
i-cut Layout creates cutting paths, generates bleeds automatically, makes sure that your jobs are nested in the most cost effective way and tiles oversized jobs quickly and accurately.

i-cut Vision Pro

i-cut Vision Pro makes sure that die-less cutting contours match the printed images perfectly.

Often with other methods, slight distortions between printed graphics and con- tour cut may cause unacceptable results. *i*-cut Vision Pro registers the actual dimensions and positions on the printed result. Then, finishing is adapted to the shape of the graphics.
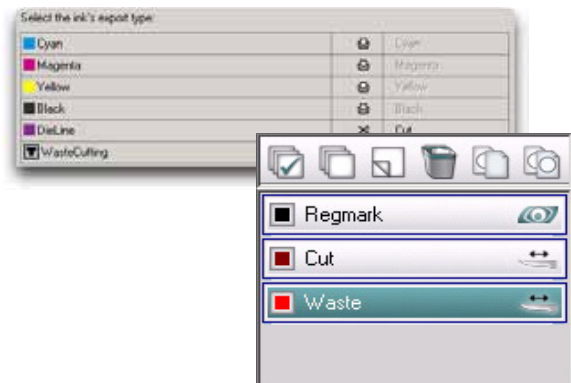
Connection with *i*-cut Vision Pro

When everything is ready for production, *i*-cut Layout will create 2 files, one for printing – a PDF - and one for cutting, containing all relevant cutting information. *i*-cut Layout even sends along relevant tooling information. This prevents errors later on in the digital finishing process.
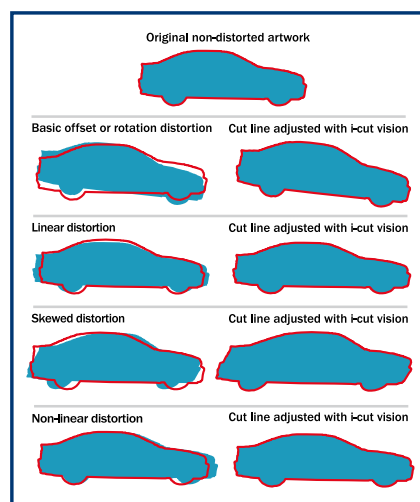
Perfect registration with *i*-cut Vision Pro

i-cut Vision Pro makes sure that die-less cutting contours match the printed images perfectly.

Often with other methods, slight distortions between printed graphics and contour cut may cause unacceptable results. *i*-cut Vision Pro registers the actual dimensions and positions, with a camera, on the printed result. Then, finishing is adapted to the shape of the graphics.

i-cut Vision Pro optimizes each cut contour for each graphic on each sheet.

i-cut Vision Pro is capable of automatic and dynamic compensation of any dimensional changes, distortions or material variations, like shrinkage or stretching.

Original non-distorted artwork

Basic offset or rotation distortion   Cut line adjusted with i-cut vision

Linear distortion   Cut line adjusted with i-cut vision

Skewed distortion   Cut line adjusted with i-cut vision

Non-linear distortion   Cut line adjusted with i-cut vision

Automated material handling with the conveyer system

The Kongsberg *i*-XL can be equipped with the conveyer system for automated material processing. Production applications, requiring continuous loading of material by pushing material on the conveyer belt and moving the belt, are made easy.

Material can be continuously retrieved from a roll of material, or sheets can be automatically fed through the Autofeeder sheet feeding system.

The Autofeeder system features a 'Pick & Place' unit along with a loading table, on which sheets are stacked for finishing. The sheets are picked up with suction cups and placed on the *i*-XL conveyer belt for transport onto the finishing table. Finished material is then collected from the belt on an off-load table. The sheet feeding system handles thick or rigid materials as well as thin, flexible materials. Sheet sizes can range from 200 mm x 250 mm (8" x 10") up to 2130 mm x 3000 mm (84" x 118").
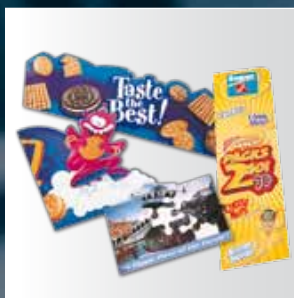
The conveyer system is designed for seamless integration with *i*-cut's continuous workflow operation. Non-stop production can be accomplished, virtually unattended.

Technical specifications

Model		i-XL20	i-XL24	i-XL42	i-XL44
Working area* with FlexiHead (W x L)	mm inch	1610 x 1270 63³⁄₈ x 50	1610 x 3050 63³⁄₈ x 120	2140 x 1270 84¼ x 50	2140 x 3050 84¼ x 120
Working area* with MultiCUT – tool stations	mm inch	1618 x 1270 63.7 x 50	1618 x 3050 63.7 x 120	2148 x 1270 84.6 x 50	2148 x 3050 84.6 x 120
Working area* with MultiCUT - router	mm inch	1680 x 1270 66 x 50	1680 x 3050 66 x 120	2210 x 1270 87 x 50	2210 x 3050 87 x 120
Overall dimensions	mm inch	2250 x 1980 89 x 78	2250 x 3720 89 x 146	2780 x 1990 109 x 78	2780 x 3730 109 x 147
Max. material size	mm inch	1750 x 1620 69 x 64	1750 x 3420 69 x 135	2280 x 1620 90 x 64	2280 x 3420 90 x 135
Weight	kg lbs	405 890	580 1276	440 970	765 1683
Position accuracy		± 200µm ±.0078"	± 200µm ±.0078"	± 300µm ±.0118"	± 300µm ±.0118"
Repeatability		± 50µm ±.0019"	± 50µm ±.0019"	± 60µm ±.0023"	± 60µm ±.0023"
Max. speed		50m/min - 33lps			
Max. acceleration		5.6m/s² - 0.56G		5.4m/s² - 0.54G	5.4m/s² - 0.54G
FlexiHead		Three configurable tool stations + i-cut camera			
MultiCUT head		Two configurable tool stations + i-cut camera + router			
Material clearance		50 mm - 2" (without cutting underlay)			
Max. tool force		22 kg - 48lbs			
Registration and compensation		i-cut® vision PRO			
Workflow		i-script™			
Workstation		Custom operator console attached to i-XL frame with integrated PC workstation, screen, keyboard and operator panel			
Automation features		Conveyor system with roll and sheet/board material loading & unloading equipment			

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