

High-speed precision digital cutting tables for labels, signs and displays

The Kongsberg *i*-XE Series



Kongsberg *i*-XE Series

unmatched performance and versatility

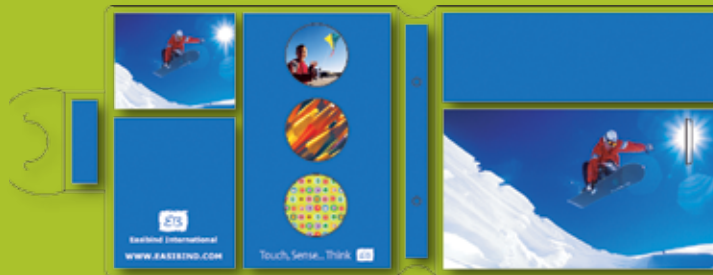
The Kongsberg *i*-XE Series is EskoArtwork's completely new platform, designed to provide an efficient and versatile finishing solution for short-run production of articles for visual communication, labels, signs and displays.

Building upon its experience and expertise with the Kongsberg *i*-XL large format digital finishing systems for rigid materials, Esko has incorporated a number of features from the architecture of its widely popular digital cutting and creasing tables. With the Kongsberg *i*-XE Series, users can expect a digital finishing solution for small format, lightweight and flexible materials that outperforms other solutions in both productivity and precision.

Assisted by a rack-and-pinion X/Y drive with precise motion control, an innovative, fast servo system and completely new tool set, the *i*-XE Series combines high production speed and accurate precision with easy operation.



The Kongsberg i-XE10, featuring the successful integration of proven MGE i-cut® technology, complements digital and other printed sign and display materials with a unique finishing solution - providing automation, high productivity and outstanding precision.



There is a need for a speedy and versatile solution for short-run finishing of smaller sized decals and labels, signs and displays, boxes, cards, overlays, and more.



No manual cutting or expensive dies are needed: production runs from one to several thousand can be quickly generated with professional precision.



In their quest to create displays that stand out in a crowd, designers build special graphics and shapes that are manufactured on a wide range of materials.

Tooling system

The Kongsberg *i*-XE Series features an entirely new tooling system with a variety of tool stations, designed for lightning-fast motion combined with superb accuracy to increase finishing productivity and quality for a wide range of materials.

The tooling system offers two configurable tool positions with quick connectors prepared for a range of advanced tool stations and a fixed tool position for a multifunction unit.



With the i-XE10, lightweight and flexible materials such as vinyl, polyester, polypropylene, polycarbonates, and cartons up to single flute corrugated board can be cut and creased with exceptional cost savings.

Tooling stations

PressCut tool

A pressure-controlled cutting tool with an internal motor for fast response and accurate tool pressure. Tool pressure can vary between paths in the finishing of the job allowing kiss- and through-cutting within the same job. Software provides speed-dependent pressure control, important to ensure reliable cutting when velocity ramps up and down. The maximum downward knife pressure is 10N and maximum tool lift is 4mm.

VariCut tool

With the help of servo-controlled cutting depths, the VariCut tool can conduct partial micro-cutting with fine depth tolerances as well as through-cutting – different depths can be defined for different lines within the same job. The tool is equipped with a base that hovers above the material, providing a reference check for cutting depth. The maximum cutting depth is 3mm and maximum downward knife pressure is 10N.

Static knife tool

The static knife tool can cut through thin, rigid material such as carton board and polypropylene. Different knife blade adapters are available.

HiForce Knife tool

The Hi-Force knife tool is a general purpose knife tool suitable for cutting a wide range of materials. As the name indicates; this tool can apply a higher tool pressure than the Static Knife Tool.

The tool is prepared for a wide range of knife blades. A pressure foot is included to reduce material tear and also to keep the material down as the knife is extracted.

Crease tool

Along with the 15 and 26mm wheels, with this tool it is easy to crease folding carton and corrugated board. The Kongsberg *i*-XE Series offers a maximum vertical tool force of 12 kg, which means that most rigid boxboard materials can be sufficiently creased.

VibraCut tool

Suitable for single-flute corrugated board up to and including C-flute and other lightweight fibrous materials of similar thickness. An internal motor drives knife oscillation. Different knife adapters accommodate different knife types. The tool features a removable weighted foot that provides additional pressure on the material, assuring a clean cut on boards with high recycle content.

Hi-Frequency VibraCut tool

The Hi-Frequency VibraCut Knife Tool is a special variant of the VibraCut knife tool for cutting a lot of different materials, such as foam board and corrugated with high recycled content.

It runs at twice the frequency and four times the amplitude of the standard VibraCut knife tool. These properties, along with a more powerful motor, enable cutting of heavily recycled board at efficient speed.

To reduce material tear and also to keep the material down as the knife is pulled out, a detachable pressure foot is included.

Multifunction Unit

The Multifunction Unit holds a Measuring Probe to calculate material thickness and table-top contour mapping, a Ballpoint Pen and a Laser Pointer for fast indexing of the start position. Optionally, the Ballpoint Pen can be replaced by a Liquid Ink Tool or a Fibertip Tool. The Multifunction Unit is required with all tools other than the PressCut tool.

i-cut® vision: perfect registration

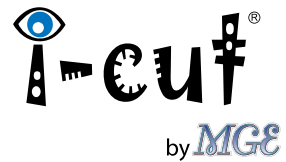
With the Kongsberg *i*-XE Series you can cut custom shapes right on the finishing table with exact registration between graphics and finishing.

The *i*-cut® vision system works with strategically placed registration marks – alignment dots – that are printed along with the graphics and are used to align the cutting path. The *i*-cut® camera optically locates and analyzes the registration marks, and automatically and dynamically compensates for any dimensional changes, distortions or material variations – like shrinking or stretching. Along with the *i*-cut® software, the *i*-cut® vision system is a fail-safe, patented and proven registration method that guarantees perfect cut-to-print.

i-script™: finishing workflow

The *i*-script protocol allows interfacing between printing and cutting components to share critical data. Job data such as cutting design, scale, rotation and layout of different designs and registration marks can be passed directly from the printing control RIP workstation to the Kongsberg *i*-XE table.

The *i*-script™ workflow dramatically improves productivity, finishing a complete sheet or roll of material with virtually no set-up time.



A Kongsberg *i*-XE table is a complete digital solution, taking finishing instructions from computer-based CAD files. The finishing file not only contains the structure and shape, but also specific tool parameters such as pressure and depth controls for partial or through-cutting, creasing and oscillated cutting.

Automated material handling

Conveyer system

The Kongsberg *i*-XE tables can be equipped with a conveyer system for automated material processing.

Very simply, a continuous conveyer belt surrounds the table and moves over the table surface. Material follows the belt along the table, held down by pneumatic supports. Production applications requiring uninterrupted loading of material are made possible with *i*-cut's continuous workflow operation.

Material can be constantly retrieved from a roll, or sheets can be automatically fed through a sheet feeding system.



Sheet feeding system

The MGE sheet feeding system features a 'Pick & Place' unit along with a loading table, on which sheets are stacked for finishing. Sheets are picked up one-by-one with suction cups and placed on the Kongsberg *i*-XE conveyor belt for transfer onto the finishing table. The finished material is then collected from the belt and placed on an off-load table, or moved to a conveyer extension table for manual unloading.



Technical specifications

	<i>i</i>-XE10	<i>i</i>-XE32	<i>i</i>-XE54
Work area	31" x 43" 800 mm x 1100 mm	51" x 63¾" 1300 x 1620 mm	63" x 120" 1600 x 3050 mm
Maximum sheet size	35" x 47" 900 mm x 1200 mm	52 3/8" x 68" 1330 x 1720 mm	66" x 124" 1680 x 3150 mm
Maximum speed (1)	52.5 IPS - 80 m/min	52.5 IPS - 80 m/min	52.5 IPS - 80 m/min
Maximum acceleration (1)	12 m/sec ² - 1.2G	11 m/sec ² - 1.1G	11 m/sec ² - 1.1G
Overall dimensions (LxW) table only	64" x 62.5" 1630 mm x 1580 mm	84.5" x 82" 2150 x 2080 mm	141" x 94" 3580 x 2380 mm
Overall dimensions (LxW) table and operator console	64" x 90.5" 1630 mm x 2295 mm	84.5" x 110" 2150 x 2795 mm	141" x 122" 3580 x 3095 mm
Weight	385 lbs - 175 kg	1830 lbs - 830 kg	2300 lbs - 1047 kg
Servo resolution	< .00024" - < 0.006 mm		
Repeatability	± .00078" - ± 0.002 mm		
Addressable increment size	.00004" - 0.001 mm		
Maximum horizontal cutting power, any direction	18.4 kg force – 180N 40.5 lbs force		
Maximum vertical tool power	12 kg force - 120N - 26.5 lbs force		
Traverse clearance (2)	.787" - 20 mm		
Operator console	Mounted on the side of the table, includes a table operator panel, main switch, emergency power switch and storage space for tooling. Can hold a controller PC with a flat-screen monitor, keyboard and mouse (3)		
Control software	<i>i</i> -cut® vision PRO including <i>i</i> -script™ XE-Guide		
Operator safety	Included is the DynaGuard Safety System protecting operator and bystanders from potential machine hazards.		
Automation features options (4)	Conveyer system with a conveyer belt around the cutting table		
	Conveyer extension with a conveyer belt around the cutting and extension table, adding passive area to provide safe space for handling finished items Extension lengths:		
	<i>i</i> -XE10: 43" – 1100 mm	<i>i</i> -XE32: 60" – 1525 mm	<i>i</i> -XE54: 60" – 1525 mm
	Roll material holder		
	Sheet material loading and unloading equipment		

(1) Measured along the resultant of the X and Y-axis velocity vectors.

(2) Measured without hard-pressed felt cutting underlay.

(3) Controller PC is optional.

(4) All are field upgradeable.

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