Kongsberg Tables

Technical data

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Kongsberg XE10

Dieless digital cutting and creasing tables for folding carton packaging.

The Kongsberg XE is a small format system with robust construction and performance. It is the ideal solution for high quality sample making and short run production of folding cartons and for the preparation of varnish blankets.

Specifications

- **Operator safety**: the DynaGuard Safety System protects the operator and bystanders from potential machine hazards. 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.

- **Control software**: XE Guide

Notes

		XE Series
		XE10
Work area	mm in.	800 x 1100 31.5 x 43.3
Maximum sheet size	mm in.	900 x 1200 35.4 x 47.2
Overall dimensions	mm in.	1580 x 1630 62.3 x 64.2
Weight	kg lbs	175 385
Maximum speed [1]		64 m/min - 42 IPS
Maximum acceleration [1]		12 m/s² - 1.2 G
Servo resolution		< 0.005 mm - < .0002”
Repeatability		± 20 µm - ± .00078”
Addressable increment size		0.001 mm - .00004”
Maximum horizontal cutting force		200 N – 45 lbs force
Maximum vertical tool force		100 N – 25 lbs force
Traverse clearance [2]		20 mm - .787”

1 Maximum speed and acceleration measured along the resultant of the X and Y-axis velocity vectors.
2 Measured without cutting underlay.

Notes

Kongsberg XL Series

Samplemaking and short-run production tables

These die-less cutting and creasing tables simplify the production of low volumes and samples. They deliver record-breaking produtivity and versatility.

Specifications for all XL tables

Optional print registration system

The Automatic Registration System (ARS) can read up to 4 printed register marks.

Material registration brackets

Included. Enables cut, crease and plot operations on both sides of the material. The brackets are positioned at the front and rear right corner of the machine.

Operator safety

The DynaGuard Safety System protects the operator and bystanders from potential machine hazards. 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.

		XL20 Series		
		XL20	**XL22**	**XL24 (M)**
Work area	mm in.	1680 x 1270 66 x 50	1680 x 2190 66 x 86	1680 x 3050 66 x 120
PowerHead (all 3 tools)	mm in.	1618 x 1270 64 x 50	1618 x 2190 64 x 86	1618 x 3050 64 x 120
Max. sheet size	mm in.	1750 x 1620 69 x 64	1750 x 2580 69 x 102	1750 x 3420 69 x 135
Overall dimensions	mm in.	2400 x 1980 94 x 78	2400 x 2860 94 x 113	2400 x 3720 94 x 146
Weight	kg lbs	405 890	475 1045	580 1276
Maximum speed		50 m/min - 33 IPS		
Maximum acceleration [1]		5.6 m/s² - 0.56 G		
Position accuracy [2]		± 200 µm ± .0078”		
Repeatability		± 50 µm - ± .0019”		
Field upgradeable to		XL24 (M)	-	-
Standard material clearance [3]		30 mm - 1 3/16”		
Optional material clearance [3]		50 mm - 2” or 95 mm - 3 ¾”		

1 May be less with certain tool- and configuration combinations.
2 Applies across total work area, with standard material clearance.
3 Measured without cutting underlay

XL40 Series			
XL42	**XL44**	**XL46**	**XL48**
2210 x 1270 87 x 50	2210 x 3050 87 x 120	2210 x 4800 87 x 189	2210 x 6550 87 x 258
2148 x 1270 85 x 50	2148 x 3050 85 x 120	2148 x 4800 85 x 189	2148 x 6550 85 x 258
2280 x 1680 90 x 66	2280 x 3420 90 x 135	2280 x 5190 90 x 205	2280 x 6960` 90 x 275
2930 x 1956 115 x 77	2930 x 3730 115 x 147	2930 x 5500 115 x 217	2930 x 7270 115 x 263
440 968	765 1683	1100 2420	1435 3157
50 m/min - 33 IPS			
5.4 m/s^2 - 0.54 G			
± 250 µm ± .0098”	± 300 µm ± .178”	± 350 µm ± .014”	± 400 µm ± .014”
± 60 µm - ± .0023”			
XL44, XL46	XL46	XL48	-
50 mm - 2”			
95 mm - 3 ¾”			

Kongsberg XP Series

High Performance digital cutting tables for short-run productivity

The Kongsberg XP series of digital cutting tables handle the combination of corrugated board and other rigid materials used for packaging, POP and product displays. They are specifically designed to operate continuously at high speed in a 24/7 production environment.

Specifications for all XP tables

- Automatic tool level measurement.
- Revolving workstation mounted on the side of the table. Includes table operator panel, main switch, emergency power switch and storage space for tooling. Space for controller PC (optional) with a flat-screen monitor, keyboard and mouse.
- All features including automatic material handling options for *i*-XP or XP Auto can be retrofitted.
- Optional print registration system: The Automatic Registration System (ARS) can read up to 4 printed register marks.
- Operator safety: the DynaGuard Safety System protects the operator and bystanders from potential machine hazards. 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.

		XP Series		
		XP20	**XP24**	**XP44**
Work area	mm in.	1680 x 1430 66 x 56	1680 x 3200 66 x 126	2210 x 3200 87 x 126
Max. material size	mm in.	1780 x 1800 70 x 71	1780 x 3600 70 x 141	2310 x 3600 91 x 135
Overall dimensions[1]	mm in.	3600 x 2100 142 x 83	3600 x 3900 142 x 154	4100 x 3900 161 x 154
Weight	kg lbs	450 990	600 1325	800 1760
Maximum speed		100 m/min - 66 IPS		
Maximum acceleration		15 m/s^2 1.5 G		14 m/s^2 1.4 G
Position accuracy (total work area)		±200 µm ±.0078”		±300 µm ±.0118”
Repeatability		±50 µm ±.0019”		±60 µm ±.0023”
Vertical tool force		Standard tool modules: 220 N HeavyDuty tool module: 500 N		
Standard vacuum sectioning		1 zone	2 zones	2 zones
Optional vacuum sectioning		4 zones	8 zones	8 zones

1 Including workstation

Kongsberg XP Auto

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. It 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.

Specifications for all XP Auto tables

- Revolving workstation mounted on the side of the table. Includes table operator panel, main switch, emergency power switch and storage space for tooling. Space for controller PC (optional) with a flat-screen monitor, keyboard and mouse.
- Optional print registration system: The Automatic Registration System (ARS) can read up to 4 printed register marks from above as well as from underneath the sheet (during loading).
- Operator safety: the DynaGuard Safety System 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.

		XP Auto Series		
		XP20A	**XP24A**	**XP44A**
Work area	mm in.	1680 x 1430 66 x 56	1680 x 3200 66 x 126	2210 x 3200 87 x 126
Max. sheet size	mm in.	1700 x 1530 67 x 60	1700 x 3300 67 x 130	2230 x 3300 88 x 130
Overall dimensions[1]	mm in.	5600 x 3600 220 x 141	11000 x 3600 433 x 141	11000 x 4200 433 x 165
Weight	kg lbs	2400 5300	2600 5730	2800 6170
Maximum speed		100 m/min - 66 IPS		
Maximum acceleration		15 m/s^2 1.5 G		14 m/s^2 1.4 G
Vacuum pump (included)		7.5 kW		
No. of vacuum sections		4	4	8
Standard traverse clearance (excl. cutting mat)		70 mm - 2.75”		
Standard stack capacity		0.6 m - 23½”		
Optional stack capacity		1 m - 40”		

1 Including workstation.

Kongsberg *i*-XE10

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

The Kongsberg *i*-XE table processes rigid and flexible display materials. It is an efficient and versatile finishing solution for short-run production of labels, signs and displays, visual communication items or various digital print items.

Specifications

Revolving workstation mounted on the side of the table. Includes table operator panel, main switch, emergency power switch and storage space for tooling. Space for controller PC (optional) with a flat-screen monitor, keyboard and mouse.

Print registration and compensation: *i*-cut Vision Pro registers the actual dimensions and positions on the printed result. Then, finishing is adapted to the shape of the graphics.

Operator safety: the DynaGuard Safety System protects the operator and bystanders from potential machine hazards. 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.

Optional automation features (field upgradeble)

- 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*-XE10: 1100 mm - 43”
- Roll material holder
- Sheet material loading and unloading equipment

		i-XE10
Work area	mm in.	800 x 1100 31 x 43
Maximum sheet size	mm in.	900 x 1200 35 x 47
Maximum roll width	mm in.	915 36
Overall dimensions table only	mm in.	1580 x 1630 62.5 x 64
Overall dimensions incl. workstation	mm in.	2295 x 1630 90.5 x 64
Weight	kg lbs	175 385
Maximum speed [1]		52.5 IPS - 80 m/min
Maximum acceleration [1]		12 m/sec^2 1.2 G
Servo resolution		< 0.006 mm - < .00024”
Repeatability		± 0.002 mm - ± .00078”
Addressable increment size		0.001 mm - .00004”
Max. horizontal cutting force, any direction		18.4 kg force – 180 N 40.5 lbs force
Max. vertical tool force		12 kg force - 120 N - 26.5 lbs force
Traverse clearance [2]		20 mm - .787”

1 Measured along the resultant of the X and Y-axis -velocity vectors.
2 Measured without hard-pressed felt cutting underlay.

Kongsberg *i*-XE10 Auto

Automated short-run production on a big range of materials.

It handles materials from thin coated and uncoated papers, folding carton, over pressure sensitive vinyl to thin polycarbonate and much more.

Specifications

Revolving workstation mounted on the side of the table. Includes table operator panel, main switch, emergency power switch and storage space for tooling. Space for controller PC (optional) with a flat-screen monitor, keyboard and mouse.

Print registration and compensation: *i*-cut Vision Pro registers the actual dimensions and positions on the printed result. Then, finishing is adapted to the shape of the graphics.

Operator safety: the DynaGuard Safety System protects the operator and bystanders from potential machine hazards. 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.

Software: Included components from EskoArtwork software for signage and display to ensure perfect SW integration with the finishing device.

Optional automation features: Roll material holder.

	i-XE10 Auto
Work area	800 x 1100 mm - 31 x 43”
Maximum sheet size	900 x 1200 mm - 35 x 47” Feeder limit: 740 x 610 mm - 29 x 24”
Overall dimensions incl. workstation	2295 x 4420 mm - 7.5 x 14.5 ft Cutting bed: 900 x 1200 mm - 35 x 47” *i*-HS Feeder: 720 x 660 mm - 28.5 x 26” *i*-HS Stacker: 900 x 1200 mm - 35 x 47”
Maximum speed [1]	80 m/min - 52.5 IPS
Maximum acceleration [1]	12 m/sec^2 - 1.2 G
No. of parallel in stacks	1 or 2
Maximum stack capacity	180 mm - 7”
i-HS Stacker control points	24 control points as standard, individually configurable as suction or hold down points. Additional control points optional.
Minimum cycle time	15 sec/1 stack, 20 sec/2 stack. Design dependant
Servo resolution	< 0.006 mm - < .00024”
Repeatability	± 0.02 mm - ± .00078”
Addressable increment size	0.01 mm - .00004”

Max. horizontal cutting force, any direction	18.4 kg force - 180 N - 40.5 lbs force
Max. vertical tool force	10 kg force - 100 N - 22.2 lbs force
Traverse clearance with conveyor	20 mm (.787”)

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

Notes

Kongsberg *i*-XL Series

Automated digital finishing systems for signs and displays.

The Kongsberg *i*-XL complements digital printing of sign and displays with a unique finishing solution for the widest range of materials and applications, providing automation, high productivity and outstanding precision.

Specifications for all *i*-XL tables

Material clearance: 50 mm - 2” (without cutting underlay)

Print registration and compensation: *i*-cut Vision Pro registers the actual dimensions and positions on the printed result. Then, finishing is adapted to the shape of the graphics.

Revolving workstation mounted on the side of the table. Includes table operator panel, main switch, emergency power switch and storage space for tooling. Space for controller PC (optional) with a flat-screen monitor, keyboard and mouse.

Automation features: Conveyor system with roll and sheet/board material loading & unloading equipment

Operator safety: the DynaGuard Safety System protects the operator and bystanders from potential machine hazards. 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.

		i-XL Series	
		***i*-XL20**	***i*-XL24**
Working area with FlexiHead (W x L)	mm in.	1610 x 1270 63 3/8 x 50	1610 x 3050 63 3/8 x 120
Working area with MultiCUT – tool stations	mm in.	1618 x 1270 64 x 50	1618 x 3050 64 x 120
Working area with MultiCUT - router table only	mm in.	1680 x 1270 66 x 50	1680 x 3050 66 x 120
Overall dimensions incl. workstation	mm in.	3210 x 2010 126 x 79	3210 x 3720 89 x 146
Max. material size	mm in.	1750 x 1620 69 x 64	1750 x 3420 69 x 135
Max. material size when conveyor	mm in.	1680 x unlimited 66 x unlimited	1680 x unlimited 66 x unlimited
Weight	kg lbs	405 890	580 1276
Position accuracy		± 200 µm ±.0078”	± 200 µm ±.0078”
Repeatability		± 50 µm - ±.0019”	
Maximum speed		50 m/min - 33 IPS	
Maximum acceleration		5.6 m/s² - 0.56 G	

i-XL42	*i*-XL44
2140 x 1270 84 1/4 x 50	2140 x 3050 84 1/4 x 120
2148 x 1270 85 x 50	2148 x 3050 85 x 120
2210 x 1270 87 x 50	2210 x 3050 87 x 120
3740 x 2040 147 x 80	3740 x 3810 147 x 150
2280 x 1620 90 x 64	2280 x 3420 90 x 135
2210 x unlimited 87 x unlimited	2210 x unlimited 87 x unlimited
440 970	765 1683
± 300 µm ±.0118”	± 300 µm ±.0118”
± 60 µm - ±.0023”	
50 m/min - 33 IPS	
5.4 m/s² - 0.54 G	

Kongsberg *i*-XP Series

High Performance digital cutting tables for short-run productivity

The Kongsberg *i*-XP series of digital cutting tables handle the combination of corrugated board and other rigid materials used for packaging, POP and product displays. They are specifically designed to operate continuously at high speed in a 24/7 production environment.

Specifications for all *i*-XP tables

- Automatic tool level measurement.
- Revolving workstation mounted on the side of the table. Includes table operator panel, main switch, emergency power switch and storage space for tooling. Space for controller PC (optional) with a flat-screen monitor, keyboard and mouse.
- All features including automatic material handling options for *i*-XP or XP Auto can be retrofitted.
- Print registration and compensation: *i*-cut Vision Pro registers the actual dimensions and positions on the printed result. Then, finishing is adapted to the shape of the graphics.
- Registration and compensation: Automatic tool level measurement.
- Automation features: Conveyor system with roll and sheet/board material loading & unloading equipment
- Operator safety: the DynaGuard Safety System protects the operator and bystanders from potential machine hazards. 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.

		i-XP Series		
		***i*-XP20**	***i*-XP24**	***i*-XP44**
Work area	mm In.	1680 x 1430 66 x 56	1680 x 3200 66 x 126	2210 x 3200 87 x 126
Maximum material size	mm in.	1780 x 1800 70 x 71	1780 x 3600 70 x 141	2310 x 3600 91 x 135
Maximum material size when conveyor	mm in.	1680 x unlimited 66 x unlimited	1680 x unlimited 66 x unlimited	2210 x unlimited 87 x unlimited
Overall dimensions[1]	mm in.	3600 x 2100 142 x 82.7	3600 x 3900 142 x 154	4100 x 3900 161 x 154
Weight	kg lbs	450 990	600 1325	800 1760
Maximum speed		100 m/min - 66 IPS		
Maximum acceleration		15 m/s^2 1.5 G		14 m/s^2 1.4 G
Position accuracy (total work area)		±200 µm ±.0078”		±300 µm ±.0118”
Repeatability		±50 µm ±.0019”		±60 µm ±.0023”
Vertical tool force		Standard tool modules: 220 N HeavyDuty tool module: 500 N		

Standard vacuum sectioning	1 zone	2 zones	2 zones
Optional vacuum sectioning	4 zones	8 zones	8 zones

1 Incl. workstation

Notes

XL tool heads

FlexiHead

The FlexiHead is widely **used for folding carton and corrugated board.** It combines highly accurate cutting with power and robustness even for the most complex and compact materials.

Like all other XL tool heads the FlexiHead is mounted on a servo controlled Z-axis plane that moves the entire head up and down to precisely control cutting and creasing depth.

The three configurable tool stations accommodate the full range of standard XL tool inserts. The center toolstation has a spring loaded material foot that serves two purposes:

- It provides hold-down of the material and prevents the knife blade from pulling up pieces of material when extracted
- The foot has an integral sensor that allows exact measurement of the material thickness.

PowerHead

This tool head comes with two regular tool positions, which means that all standard XL tool inserts can be used.

In addition the PowerHead features a heavy-duty position that can take a large-size crease wheel (diameter 150mm [6”]). This crease wheel has the equivalent of 50kg [110lb.] of down-pressure, or 2½ times more force than the conventional tool stations. The combination of additional down-force and the large fronal area of the big wheel offers

excellent crease quality in **heavy-duty corrugated board** and enables creasing **boards with high recycle content** without breaking the liner.

The PowerHead can be expanded to V-notch cutting by exchanging the crease wheel with a knife adapter. V-notch cutting offers mitred corners and highly exact folds for specialty products, such as loading pallets and cushioning elements for shipping containers, as well as special-purpose displays.

FlexiHead-M

The FlexiHead-M is a variant of the standard FlexiHead, offering a **milling tool** in addition to the three standard tool positions.

The primary application for the FlexiHead-M is **folding carton sample-making** for customers wanting to make the crease matrix out of wooden fiberboard. The main advantages with milled matrices are:

- Generally better crease quality than when cutting the matrices out of carton board.
- Time savings; no manual finishing of the matrices is required. With knife cut matrices the matrice tracks must be manually peeled before the sample can be made
- Longer matrix lifetime: a milled matrix will always last for the duration of the sample run, even for very large runs, a paper-based matrix will typically last for 5-8 repetitions before crease quality starts to suffer.

The milling tool has a digital micrometer for fine-tuning of routing depth. FlexiHead-M has an automatic chip suction system, including a vacuum cleaner.
The entire range of standard XL tool inserts fits the FlexiHead-M.

MultiCUT

The MultiCUT comes with two conventional tool stations configurable with all the standard XL tool inserts, in addition to a high-power milling spindle capable of handling a wide range of rigid materials. The MultiCUT is unique because with one single tool head the customer can process materials **from corrugated and folding carton to glass-hard sheets of thick Plexi-glass**.

- features air-cooling for the milling bit. A thin jet of air is continuously blowing at the bit and this cooling is important for the edge quality when milling acrylic and other synthetic materials at high speed.
- milling bit exchange is very fast and elegant thanks to a switch that opens / closes the collet holding the bit, eliminating all needs for hand tools.
- the MultiCUT can be fitted or retrofitted to all existing XL-tables.

FoamHead

The FoamHead is a separate tool head that exchanges with the Flexi-Head or the PowerHead for switching between foam and paperboard materials. The FoamHead will handle **foam materials** with a maximum thickness of 86 mm [3 3/8"]. Using blades with serrated (wavy) edge the FoamHead is also utilized for **honeycomb paperboard**.
FoamHead is not available on i-XL.

- partial throughcut thanks to the Z-axis control of the XL tables which is very important with many foam designs.
- typical cutting speed in various foam materials from 3 to 10 m/ min.

More information on the tools and materials they can cut can be found on the Kongsberg XL tooling guide.

XE tool head

The Kongsberg i-XE features an 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 XE 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.

- PressCut tool
- VariCut tool
- Static knife tool
- HiForce knife tool
- Crease tool
- VibraCut tool
- HiFrequency VibraCut tool
- RotaCut tool
- Multifunction unit

More information on the tools and materials they can cut can be found on the Kongsberg XE tooling guide.

XP tool head

The XP tooling system consists of a wide variety of optional tool units. These can be quickly mounted in the tool position accommodated for the tool and prepared to cut and finish a specific job, assuring exceptional quality and prompt delivery. Three tool positions are available, enabling usage of three tools within the same job.

Tool position 1 is for heavy tools optimised for power, like Heavy-Duty Tool Unit for V-notching and creasing with a power of 50kg – 110lbs, High-Speed Milling Unit for milling in a wide range of rigid materials and the Foam Cutting Unit for cutting foam in thickness up to 50mm - 2".

Position 2 is for a set of static and reciprocating knife tools optimized for fast movements.

There is also an optional **third tool position** that accommodates inserts for either pen plotting or drilling of holes. In addition, the tooling system includes a material thickness probe and an optional camera for registering to printed images.

More information on the tools and materials they can cut can be found on the Kongsberg XP tooling guide.

Notes

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