Kongsberg

Technical specifications

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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

	XE10
Work area	800 x 1100 mm 31.5” x 43.3”
Max. sheet size	1000 x 1500 mm 39.4” x 59.1”
Overall dimensions	1580 x 1630 mm 62.3” x 64.2”
Weight	175 kg - 385 lbs
Max. speed[1]	64 m/min - 42 IPS
Max. accelearation[1]	12 m/s² - 1.2 G
Servo resolution	< 0.005 mm - < .0002”
Repeatability	± 20 µm - ± .00078”
Max. horizontal cutting force	200 N - 45 lbs force
Max. 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

Kongsberg VL Series

Tables for one ups and short-run production.

The Kongsberg VL entry level cutting tables offer durability, precision, and versatility.

Specifications for all VL tables

- **Operator safety**: the DynaGuard Safety System protects the operator and bystanders from potential machine hazards.
- **Tooling range**: The VL table is offered with the FlexiHead. All XN tool inserts that fit the FlexiHead are available, except the FoamKnife.
- **Material registration brackets (optional)**: The brackets enable cut, crease and plot operations on both sides of the material. They are positioned at the front and rear right corner of the machine.

Notes

		VL20	VL24	
Work area		1680 x 1270 66 x 50	1680 x 3050 66 x 120	mm in.
Max. sheet size		1750 x 1620 69 x 64	1750 x 3420 69 x 135	mm in.
Overall dimensions		2400 x 1980 94 x 78	2400 x 3720 94 x 146	mm in.
Weight		405 890	580 1276	kg lbs
Max. speed		30 m/min - 20 IPS		
Max. acceleration		3.0 m/s² - 0.30 G		
Available toolhead		FlexiHead		
Available tool inserts		All standard “FlexiHead” insert tools, except the FoamKnife		
Control software		X-Guide		
Recommended vacuum pump (optional)	50 HZ	Rietschle SAP 380 3,0 kW		
	60 Hz	Rietschle SAP 300 3,0 kW		
Vacuum sections		1	1	
Cutting underlay		Felt mat (PVC mat is optional)		
Standard traverse clearance (excl. cutting mat)		50 mm - 1 3/16”		

Kongsberg XN Series

Highly versatile cutting tables for digital finishing

The Kongsberg XN series of digital cutting tables comes in seven different model sizes and can be configured to solve virtually any finishing task related to the packaging, display and sign segments.

Specifications for all XN tables

- Three Styling Kits available to fit needs for
  - Samplemaking
  - Pack Production
  - Sign Production

A styling kit is a pre-packaged set of user interface, cutting underlay, different cover variants and PC-table or workstation

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

Available options

- **X-Pad** for semi-automatic tool leveling
- **Solutions for registration and compensation**: *i*-cut Vision Pro registers the actual dimensions and positions on the printed result by reading any number of registration marks with a camera. Then, finishing is adapted to the shape of the graphics. For 3D applications the Automatic Registration System (ARS) is available as an alternative, reading up to four printed register marks
- **Optional automation features**: Conveyor system with roll and sheet material loading & unloading equipment. Requires the optional *i*-cut Vision Pro system
- All optional features can be retrofitted.

Notes

	XN20	XN22	XN24	XN40	XN44	XN46	XN48	
Work area, all tools	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	mm in.
Max. material size	1740 x 1750 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 89 x 273	mm in.
Max. material width w. conveyor system	1680 66			2210 87			N/A	mm in.
Overall dimensions w. front panel	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	mm in.
Overal dimensions w. RWS [1/2]	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	mm in.
Weight	455 1000	525 1150	630 1390	490 1080	815 1800	1150 2540	1485 3270	kg lbs
Position accuracy [3]	± 200 µm ± .0078”			± 250 µm ± .0098”	± 300 µm ± .012”	± 350 µm ± .014”	± 400 µm ± .016”	
Repeatability	± 50 µm - ± .0019”			± 60 µm - ± .0023”				
Max. speed	50 m/min - 33 IPS							
Max. acceleration [4]	5.6 m/s² - 0.56 G			5.4 m/s² - 0.54 G				
Vertical tool force	Standard tool stations: 220N. PowerHead crease station: 500N							
Vacuum sections	1 (2 optional)	1 (2 optional)		1 (2 optional)	2 (selectable) (4 optional)	3 (selectabel) (4 optional)	4 (selectabel)	
Traverse clearance [5]	Standard clearance 50 mm – 2”			Optional high clearance 95 mm – 3 ¾”				

[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. Maximum cutting thickness is tool dependant.

Kongsberg XP Series

High Performance cutting tables for digital finishing

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

Specifications for all XP 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.
- **Automatic tool level measurement.**
- **Operator safety**: the DynaGuard Safety System protects the operator and bystanders from potential machine hazards.
- **Optional print registration and compensation**: *i*-cut Vision Pro registers the actual dimensions and positions on the printed result by reading any number of registration marks with a camera. Then, finishing is adapted to the shape of the graphics. For 3D applications the Automatic Registration System (ARS) is available as an alternative, reading up to four printed register marks
- **Optional automation features**: Conveyor system with roll and sheet material loading & unloading equipment. Requires the optional *i*-cut Vision Pro system
- All optional features can be retrofitted.

	XP20	XP24	XP44	
Work area	1680 x 1430 66 x 56	1680 x 3200 66 x 126	2210 x 3200 87 x 126	mm in.
Max. material size	1740 x 1900 68 x 75	1740 x 3700 68 x 145	2270 x 3700 89 x 145	mm in.
Max. material width w. conveyor system	1680 66		2210 87	mm in.
Overall dimensions [1]	3600 x 2100 142 x 83	3600 x 3900 142 x 154	4100 x 3900 161 x 154	mm in.
Weight	450 990	600 1325	800 1760	kg lbs
Max. speed	100 m/min - 66 IPS			
Max. acceleration	15 m/s2 1.5 G		14 m/s2 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: 220N. HeavyDuty tool module: 500N			
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.
- **Automatic tool level measurement**
- **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.

Notes

	XP24A	XP44A	
Work area	1680 x 3200 66 x 126	2210 x 3200 87 x 126	mm in.
Max. sheet size	1700 x 3300 67 x 130	2230 x 3300 88 x 130	mm in.
Overall dimensions [1]	3600 x 11000 141 x 433	4200 x 11000 165 x 433	mm in.
Weight	2600 5730	2800 6170	kg lbs
Max. speed	100 m/min - 66 IPS		
Max. acceleration	15 m/s² 1.5 G	14 m/s² 1.4 G	
Vacuum pump (included)	7.5 kW		
Vacuum sections	8		
Standard traverse clearance (excl. cutting mat)	70 mm - 2.75”		
Standard stack capacity	0.6 m - 23½”		
Optional stack capacity	1 m - 40”		

Kongsberg C Series

Multifunction super-wide digital finisher for signage, display and packaging applications

The Kongsberg C stands for:

- **Capability**: the widest variety of materials with an extensive range of applications.
- **Capacity**: highest throughput of any super-wide digital finisher
- **Consistency**: same performance every time, for every material, for every job

Specifications for all C tables

- **Table control workstation** that can be mounted on either side in several different positions to adapt to customer requirements. monitor, keyboard, mouse and table operation panel including joystick for jog operations.
- **Material registration system**: Removable material positioning brackets included. They also work when the machine is equipped with conveyor feed. The machine is delivered with *i*-cut Vision Pro, including camera vision control for printed material.
- **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.

	C60	C64	
Work area	3210 x 1600 126.37 x 63	3210 x 3200 126.37 x 126	mm in.
Max. material size, w/o conveyor feed	3330 x 2125 131 x 83½	3330 x 3730 131 x 147	mm in.
Max. material size, w/ conveyor feed	3210 x 2125 126½ x 83½	3210 x 3730 126½ x 147	mm in.
Overall dimensions incl. workstation	5100 x 2320 201 x 91½	5100 x 3920 201 x 154½	mm in.
Overall dimensions excl. workstation	4260 x 2320 168 x 91½	4260 x 3920 168 x 154½	mm in.
Weight	800 1760	1300 2870	kg lbs
Conveyor extension table, length Front or rear extensions are available	1750 69	1750 69	mm in.
Max. speed	100 m/min - 66 IPS		
Max. acceleration	14 m/s² 1.4 G		
Control software	*i*-cut Vision Pro (until mid 2014)		
Vacuum sections	4	8	
Standard traverse clearance (excl. cutting underlay)	70 mm - 2.75”		

Kongsberg *i*-XE10

High-speed precision digital cutting for signs, displays & 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.
- Optional automation features (field upgradeble)
  - **Conveyer system** with a conveyer belt around the 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: 1100 mm - 43”
  - Roll feeder or material holder
  - Sheet material loading and unloading equipment

	***i*-XE10**
Work area	800 x 1100 mm 31.5” x 43.3”
Max. sheet size without conveyor	1000 x 1500 mm 39” x 59”
Max. sheet size when conveyor	900 x 1700 mm 35” x 67”
Max. roll width when conveyor	915 mm 36”
Overall dimensions table only	1580 x 1630 mm 62.3” x 64.2”
Overall dimensions incl. workstation	2295 x 1630 mm 90.5” x 64”
Weight incl. workstation	280 kg - 617 lbs
Max. speed[1]	52.5 IPS - 80 m/min
Max. accelearation[1]	12 m/s² - 1.2 G
Servo resolution	< 0.0065 mm - < .00024”
Repeatability	± 20 µm - ± .00078”
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.
- **Automated material handling:** High-speed feeder for automatic loading of printed materials onto the cutting bed. Conveyor system for material transportation from feeding to cutting to stacking. High-speed stacker for automatic unloading after cutting.
- **Optional automation features**: Roll feeder

	***i*-XE10 Auto**
Work area cutting table	800 x 1100 mm - 31.5” x 43.3”
Max. sheet size	Limited by feeder to 800 x 660 mm 31” x 26” Cutting table: 900 x 2460 mm 35.4” x 97”
Overall dimensions incl. workstation	2295 x 4420 mm - 7.5 x 14.5 ft
No. of parallel in stacks	1 or 2
Max. 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
Max. speed[1]	80 m/min - 52.5 IPS
Max. accelearation[1]	12 m/s² - 1.2 G
Servo resolution	< 0.0065 mm - < .00024”
Repeatability	± 20 µm - ± .00078”
Max. horizontal cutting force any direction	18.4 kg - 180 N - 40.5 lbs
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.

XE tool units

The Kongsberg XE features an tooling system with a variety of tool units, 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 units and a fixed tool position for a standard multifunction unit.

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

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

XN 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 XN 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 XN 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 XN tool inserts can be used.

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

large frontal 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.

MultiCUT

The MultiCUT comes with two conventional tool stations configurable with all the standard XN tool inserts, in addition to a high speed 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 glasshard 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 XN-tables.

MultiCUT-HP (High Power)

The MultiCUT-HP offers the same functionality as the standard MultiCUT but comes with a water-cooled 3 kW milling spindle enabling up to three times higher milling speeds. In addition the spindle is significantly more robust and is a great choice for customers who work extensively with heavy duty materials such as thick sheets of acrylic, wood/MDF and aluminum composite material.

FoamHead

The FoamHead utilizes a reciprocating knife for handling **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**. To produce output with maximum cutting accuracy three different blade lengths may be used. Each blade length needs a specific adapter, which is included with the FoamHead.

FoamHead is capable of:

- 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 in the Kongsberg XN /XL material and tooling guide.

XP / C Series tooling system

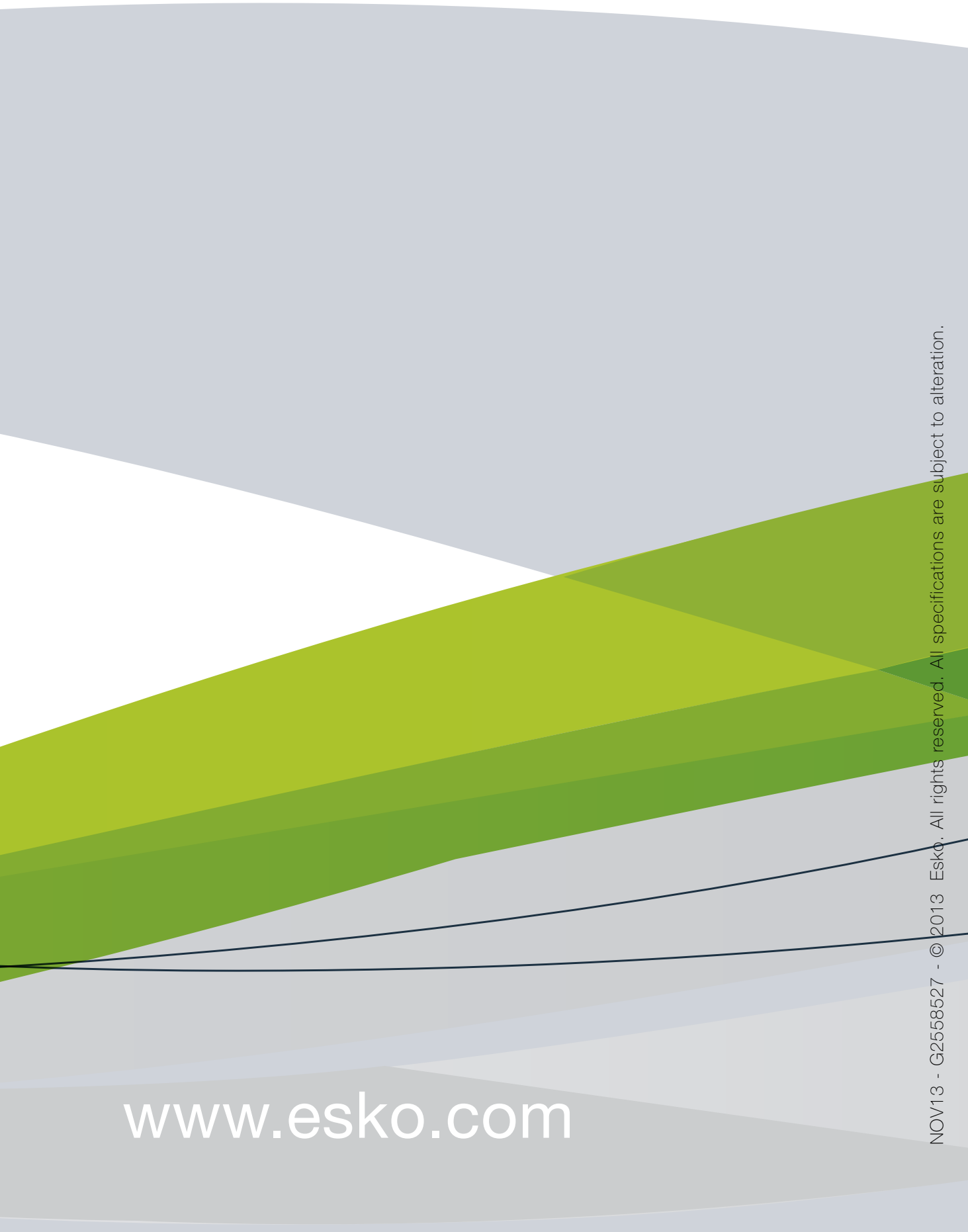
The XP / C Series tooling system consists of a wide variety of optional tool units. These can be quickly mounted in the tool position accommodated for the tool and prepared to cut and finish a specific job, assuring exceptional quality and prompt delivery. Three tool positions are available, enabling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

Tool position 1 is for heavy tools optimised for power, like the Heavy-Duty Tool Unit for V-notching and creasing with a power of 50 kg – 110 lbs, 1 kW or 3 kW Milling Units for a wide range of rigid materials and the Foam Cutting Unit for thickness up to 50 mm - 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 laser pointer for indexing, 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 in the Kongsberg XP material and tooling guide.



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