

# XL and DCM Tooling Guide

## [Toolheads for the XL and the DCM Series](#)

[FlexiHead](#)  
[PowerHead](#)  
[FlexiHead – M](#)  
[MultiCUT](#)  
[FoamHead](#)

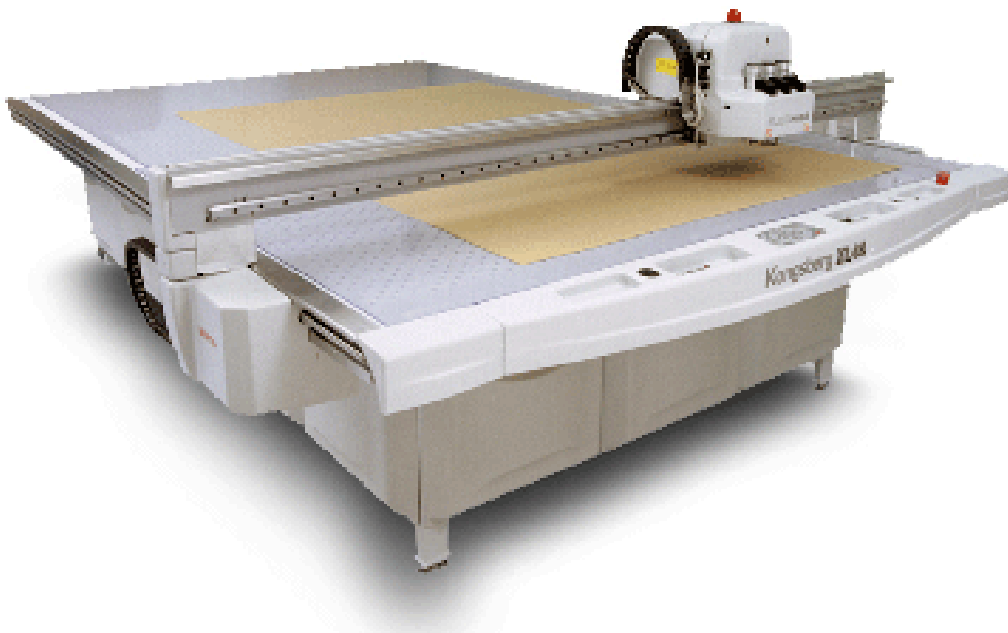
## [Knife Tools for the XL and the DCM Series](#)

## [Knife Blades for the XL and the DCM Series](#)

[Standard Blades](#)  
[Specially Designed Blades](#)  
[Blades for Gasket Cutting](#)  
[Specially Designed Blades for Sign/SRG application](#)  
[Blades for Foam and Honeycomb PaperBoard](#)  
[Steel Quality Used in Knifeblades](#)

## [Crease Profiles for XL and DCM Tools](#)

## [XL Plotting Tools](#)



# Toolheads for the XL Series

## Description

### Flexihead

E-G: 97AR851

Kbg.: 34029850

The FlexiHead is the most basic toolhead in the XL family, widely used for folding carton and corrugated board. The FlexiHead combines highly accurate cutting with power and robustness even for the most complex and compact materials such as solid board and the full range of synthetic materials used for packaging and displays. Like all other XL toolheads 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 FlexiHead features three configurable tool stations that will accommodate the full range of standard XL tool inserts. Each tool station is equipped with an air cylinder that, when activated, brings that tool station down to its operation level. Up/down control of the tool during the execution of a job is done by the Z-axis.

The center toolstation has a material foot that serves two purposes:

- § Its spring pressure provides hold-down of the material, reducing the risk of the knife blade pulling up pieces of material when extracted
- § The foot has an integral mechanism that allows exact measurement of the material thickness. The measurement process is a combination of Z-axis readings and the pre-recorded table-mapping process that builds a "terrain model" of the table's working area. The table mapping provides exact information about the relative position of the cutting surface at any given point and permits accurate calculation of the material thickness.

Normally, the center tool station is carrying a knife tool. If the toolhead should be configured with an additional knife tool both side stations can be equipped with a detachable material foot for hold-down force.



### The PowerHead (Standard for the DCM)

E-G: 97AR855

Stock# 34029900

This toolhead comes with two regular tool positions, which means that all standard XL tool inserts can be used. In addition the PowerHead features a large-size crease wheel, with diameter 150mm [6"]. This crease wheel has the equivalent of 50kg [110lb.] of down-pressure, which is 2½ times more than the down-pressure of the conventional tool stations. The additional pressure, combined with the large frontal area of the big wheel enables excellent crease quality in heavy-duty corrugated board and even permits creasing board with high recycle content without breaking the liner.

Adapters for using 26 and 15mm diameter crease wheels in the heavy-duty crease position are available as an option. The benefit of the adapter is that it frees up one tool station in situations where customers would like to use a smaller sized crease wheel for E- and Micro flute work. It will also allow creasing of plastic corrugated with smaller wheels using the extra crease power, which normally has a good effect on defeating the 'memory' of the plastic material.

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.

XL tables equipped with the PowerHead will lose some of the work area in the Y-axis. The reason is the extended width of the tool caused by the tool station for the big crease wheel, or V-notch knife.



## The Flexihead-M

Stock# 34040105  
E-G: 97AR853

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 for folding carton samplmaking when the customer wants to make the crease matrix out of wooden fiberboard. The main advantages with milled matrices are:

- The crease quality is generally better than when cutting the matrices out of carton board.
- Time savings; no manual finishing is required. With knife cut matrices the matrice tracks must be manually peeled before the sample can be made
- Matrix lifetime is much better. 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 less than ten repetitions before crease quality starts to suffer.

In addition to matrix milling the FlexiHead-M can be used for other, light-duty routing and engraving.

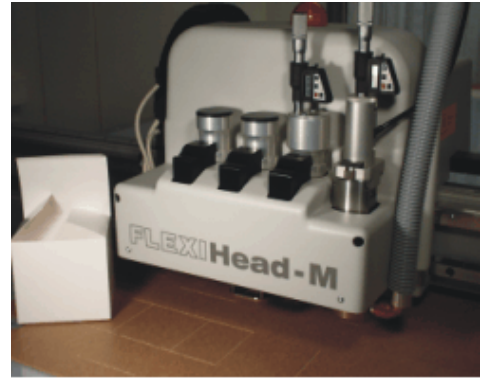
The milling tool comes with its own control box, providing adjustment for spindle speed. Maximum speed is 40,000 RPM.

The milling tool has a digital micrometer for fine-tuning of routing depth. It controls depth by means of a collar floating the top of the material and the micrometer adjusts how deep the bit extends down from the rim of the collar.

The FlexiHead-M comes with automatic chip suction system, including a vacuum cleaner.

In addition, the entire range of tool inserts suitable for FlexiHead will fit the FlexiHead-M. For instance, if the customer also needs to cut corrugated, the reciprocating knife tool(s) can be added on as an option.

The most appropriate tooling kit for the FlexiHead-M is the Extended Folding Carton Kit, which has the MicroCut Tool included.



## The MultiCUT

Stock# 34048850  
E-G: 97AR857

The MultiCUT comes with two conventional tool stations configurable with all the standard XL tool inserts and in addition a high-power milling spindle capable of handling a wide range of rigid materials.

The MultiCUT comes with an air-cooling feature 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 with the MultiCUT. It comes with a switch that opens / closes the collet holding the bit, eliminating all needs for hand tools. After mounting a new bit the operator needs to reset the position of the bit tip, supported by a simple adjustment procedure in XL-Guide.

MultiCUT is unique because with one single toolhead the customer can process materials all the way from corrugated and folding carton to glass-hard sheets of thick Plexi-glass.

### Maximum material thickness for milling jobs:

With standard traverse clearance, and with the standard, 3mm thick felt milling underlay placed on top of the PVC cutting mat, the maximum milling thickness will be limited to 20mm – .800”.

A thicker milling underlay on top of the PVC mat will further limit maximal material thickness.

With extended traverse clearance the maximal material thickness is 25mm – 1” (bit dependant).

The MultiCUT can be retrofitted to all existing XL-tables.



## The FoamHead

Stock# 34029959  
E-G: 97AR265

The FoamHead is a separate toolhead that exchanges with the FlexiHead or the PowerHead when the customer needs to switch between foam and paperboard materials.. The toolheads are all attached with two hex-screws and the changeover takes about one minute. The FoamHead will handle foam materials with a maximum thickness of 86mm [ $3\frac{3}{8}$ "].

A striking detail of the FoamHead is the set of wheels that encloses the knife blade when in the up-position. The twin-wheels serve a dual purpose:

1. They provide safety against accidental cuts from the sharp blade.
2. The wheels apply a certain downward pressure on the top of the foam, thus improving cutting performance in some of the softer materials, those that tend to stick to the blade and follow the oscillations of the blade rather than shear. This is an effect that can be reduced by applying the weight of the wheel structure (about 0.7kg [1.5 lb.]).

Like all other toolheads in the XL-series the FoamHead uses a servo-controlled motor (Z-axis) to control the vertical position of the knife blade. The Z-axis is a great advantage when cutting foam because it enables partial throughcut, which is very important with many foam designs.

The FoamHead has its own measuring device to determine the thickness of the material. The benefit of knowing the thickness is time saving, because the machine can determine the amount of lift required to clear the material before repositioning for the next cut. Alternatively, the blade always needs to be lifted over the level of the traverse beam, which, accumulated over a large job can add a significant amount of time. The thickness sensor also enables simplified programming of partial cuts.

The laser pointer is also integrated in the FoamHead, to ensure accurate start positioning.



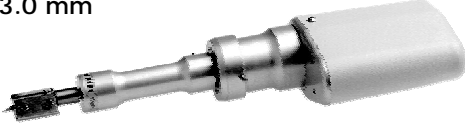

Typical cutting speed in various foam materials ranges from 3 to 10 meters per minute.

Using blades with serrated (wavy) edge the FoamHead is also utilized for honeycomb paperboard.









[Top of the Document](#)





# Knife Tool Inserts for the XL- and DCM Series

Knife Tool	Description
<p><b>Reciprocating Knife Tool</b></p> <p>Stock # 34029975, E-G: 97AR625 Knife lag: 3.0 mm</p> 	<p>This is the standard cutting tool for corrugated board. It oscillates with the use of an electric motor. This tool permits cutting of normal corrugated qualities at full machine speed. The amplitude of the reciprocation is 0.3mm [.012"]</p> <hr/> <p>Appropriate blades: 1*, 3*, 8, 9, 11*, 12*, 20**, 22, 23</p>
<p><b>MP HF Knife Tool</b></p> <p>(Multi purpose high frequency knife tool) Stock no.: 02728046 E-G: 97AR441 Knife lag: 3.0 mm</p> 	<p>Special variant of the reciprocating knife tool for cutting a lot of different materials. Such as 20mm kappa, ReBoard and corrugated with high recycled content.</p> <p>It runs at twice the frequency and four times the amplitude of the standard reciprocating knife. These properties, along with a more powerful motor, enable cutting of heavily recycled board at efficient speed. This tool comes with a blade adapter for cylindrical blades (VHM series). Maximum cutting thickness is about 20mm. (about 10mm with the foot mounted)</p> <hr/> <p>Appropriate blades: 14, 15, 16, 17, 18</p>
<p><b>Recycled Board Knife</b></p> <p>Stock # 34029967, E-G: 97AR270 Knife lag: 3.0 mm</p> 	<p>For board with high recycle content, that will tear when cut with standard tooling. Can also be used for thin foam materials. The amplitude of the reciprocation is 2mm [.080"], which requires a reduced cutting speed compared with the standard Reciprocating Knife Tool. This tool needs to run quite slowly due to the long amplitude</p> <hr/> <p>Appropriate blades: 9</p>
<p><b>The FoamKnife (applies to XL only)</b></p> <p>Stock #34029991</p> 	<p>Can cut up to about 30mm [1 1/4"] thick foam materials. Requires ext. traverse clearance. The amplitude of the reciprocation is 4mm [.157"], which requires a reduced cutting speed compared with the standard Reciprocating Knife Tool.</p>


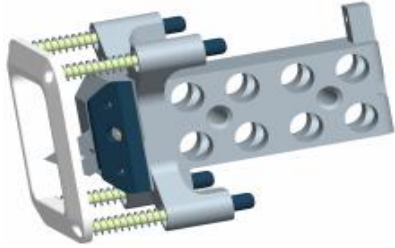
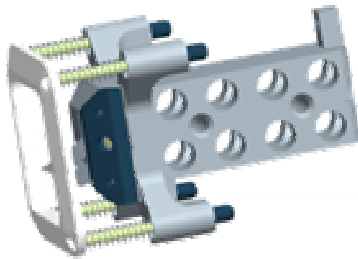
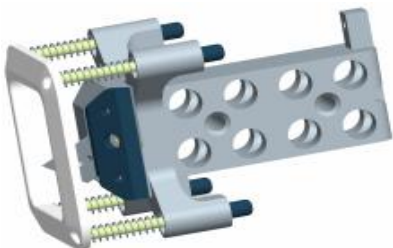
#34029991  
E-G: 97AR271

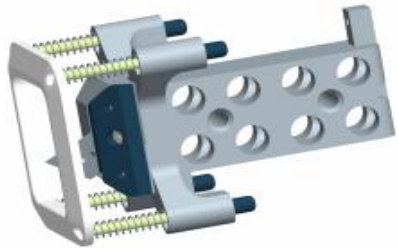
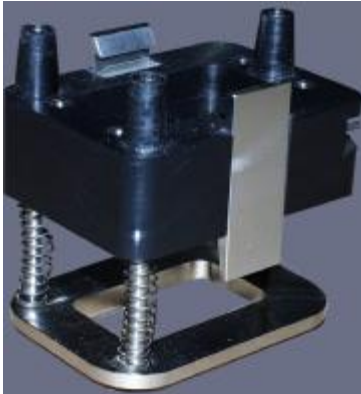
Appropriate blades:  
50, 51, 52, 53

Knife Tool	Description
<p><b>General Purpose Knife Tool</b></p> <p>Stock # 34006759, E-G: 97AR623 Knife lag: 3.0mm</p> 	<p>Used for solid carton materials, plastic materials, etc., with thickness larger than 1mm [.040"]</p> <p>Appropriate blades: 1*, 3*, 4**, 8, 10*, 11*, 12*, 22, 23</p>
<p><b>Gasket Knife Tool (applies to XL only)</b></p> <p>Stock # 34031005, E-G: 97AR697 Knife lag: 3.0 mm</p> 	<p>Used for gasket materials, especially designed for the SB family of knife blades. The SB blades extend 4mm from the adapter, which means the knife tool is suitable for material thickness up to 3mm.</p> <p>Appropriate blades: 22, 23</p>
<p><b>Folding Carton Knife Tool</b></p> <p>Stock # 34012526, E-G: 97AR621 Knife lag: 0.5 mm</p> 	<p>For folding carton and similar materials with thickness up to about 1mm [0.40"].</p> <p>Appropriate blades: 1, 10, 3**, 4**, 11, 12</p>
<p><b>Triple Wall Knife Tool</b></p> <p>Stock# 4012609, E-G: 97AR622 Knife lag: 7.0 mm</p> 	<p>For triple wall materials with thickness up to 17mm [.670"].</p> <p>Appropriate blades: 6, 8 + Martor #28</p>
<p><b>Tang. Controlled Knife Tool #12-13 (applies to XL only)</b></p> <p>Stock # 34044180, E-G: 97AR832 Knife lag: 0.0 mm</p> 	<p>Center-aligned knife tool for the POP, Screen and Digital Printing industries. Supports double-edged blades.</p> <p>Appropriate blades: 26, 27</p>
<p><b>Tang. Controlled Knife Tool #16-17 (applies to XL only)</b></p> <p>Stock # 34044156, E-G: 97AR833 Knife lag: 0.0 mm</p> 	<p>Center-aligned knife tool for the POP, Screen and Digital Printing industries. Supports single-edged blades.</p> <p>Appropriate blades: 30, 31</p>

Knife Tool	Description
<p><b>The MicroCut Tool</b></p> <p>Stock #34010454, E-G: 97AR626 Knife lag: 0.5 mm</p> 	<p>For applications where very fine depth tolerances are needed, such as varnish blankets, adhesive vinyl foil and half-cuts in the thinnest folding cartons.</p> <p>Appropriate blades: 1, 10, 3**, 4**, 11, 12</p>
<p><b>Material Foot for MicroCut</b></p> <p>Esko product code: 97AR948 Kbg. no: 34043445</p> 	<p>When using the MicroCut Tool for varnish blankets with high-friction surface customers have some times experienced problems because the depth control foot pivots, which causes inconsistency in the cutting depth.</p> <p>As a fix to this problem R&amp;D has designed an alternative depth control foot that firmly clamps to the tool body, eliminating the tendency to pivot.</p> <p>The new foot fits all existing MicroCut tools but due to its larger diameter it cannot go through the tool station opening and must be attached to the tool after it has been inserted into the toolhead. The MicroCut Tool will ship with the original depth control foot (right) as the standard</p>
<p><b>The KissCut Tool</b></p> <p>Stock #02720639 E-G: 97AR789 Knife lag: 0 mm</p> 	<p>Pressure controlled knife tool for adhesive vinyl. Cutting pressure is adjustable at the tool top. Comes with two different pressure springs and removable, adjustable depth control collet for thicker foils. Includes 3x blades for sign foil cutting.</p> <p>Appropriate blades: 32, 33</p>
<p><b>HD Knife Tool – 17</b></p> <p>Stock # 02718237, E-G: 97AR379 Knife lag: 10.0mm Knife tool only: 34032516 sw version requirements: XL: 5073, DCM: 2025</p> 	<p>Heavy-duty knife tool that exchanges with the HD crease wheel in the PowerHead. Used for rigid board such as ReBoard and triple wall material. Limited to straight lines longer than 50mm (2"). Max. cutting thickness is 17mm. Sold as a kit including five appropriate blades (#41)</p> <p>Appropriate blades: 41, 42</p>

Knife Tool	Description
<p><b>HD Knife Tool – 22</b></p> <p>Stock # 02718245, E-G: 97AR380 Knife lag: 10.0mm Knife tool only: 34036210</p>	<p>Similar to the above knife but permits cutting of max. 22mm – 7/8" material thickness. Will give less accurate cuts in materials 17mm or less, though. Sold as a kit including five appropriate blades (#41)</p>

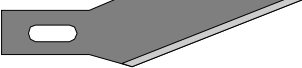

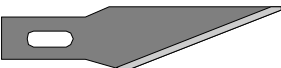




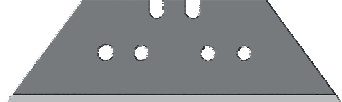
<p>sw version requirements: XL: 5073, DCM: 2025</p> 	<p>Appropriate blades: 41, 42</p>
<p><b>V-notch knife tool – 15mm</b></p> <p>Stock # 02707651 E-G: 97AR620 Knife tool only: 34010140 sw version requirements: DCM: 2025</p> 	<p>For V-notch cutting in TW corrugated, corrugated plastic and ReBoard. Fits the “heavy-duty” tool position of the PowerHead. Max. cutting depth is 15mm - .590”. Limited to straight lines only. Sold as a kit including five appropriate blades (#41).</p>
<p><b>V-notch knife tool – 10mm</b></p> <p>Stock # 02707909 E-G: 97AR274 Knife tool only: 34014290 sw version requirements: DCM: 2025</p> 	<p>Similar to the above knife but limited to 10mm – 7/8” cutting depth. Will provide a more accurate cut in thinner material due to the shorter (=more rigid) exposed blade. Sold as a kit including five appropriate blades (#41).</p>
<p><b>V-notch knife tool – 15 degrees</b></p> <p>Stock # 02725026 E-G 97AR982</p> 	<p>The 15° V-notch tool is available for all machines equipped with the PowerHead. It is using a trapzoid knife blade to provide a slanted cut in thick materials, such as triple wall corrugated and Reboard. Its application is to make a 30° partially cut V-notch for folding functionality, such as 12-edge polygonal pillars (15° blade angle=150° fold angle), or a throughcut leaving a slanted cutting edge. The tool comes equipped with automatic identification, permitting different V-notch tools to be interchanged without manual adjustment procedures.</p> <p>Included with the tool is a package of five appropriate knife blades.</p>


<p><b>V-notch knife tool – 30 degrees</b></p> <p>Stock # 02725018 E-G 97AR983</p> 	<p>The 30° V-notch tool is available for all machines equipped with the PowerHead. It is using a trapzoid knife blade to provide a slanted cut in thick materials, such as triple wall corrugated and Reboard. Its application is to make a 30° partially cut V-notch for folding functionality, such as 12-edge polygonal pillars (15° blade angle=150° fold angle), or a throughcut leaving a slanted cutting edge. The tool comes equipped with automatic identification, permitting different V-notch tools to be interchanged without manual adjustment procedures.</p> <p>Included with the tool is a package of five appropriate knife blades.</p>
<p><b>The Detachable Material Foot</b></p> <p>Esko part code: 97AR630 Kongsberg part no.: 34006494</p> 	<p>The detachable material foot is an optional item that can be a great help when setting up a toolhead with two different knife tools. It duplicates the hold-down effect of the material foot found in the center position of the FlexiHead, PowerHead and MultiCUT toolheads.</p> <p>The detachable material foot clips on to the bottom of the tool fixture and is a great help to keep the material down while cutting, also when extracting the knife from the material at the end of a cut without lifting the material.</p> <p>The detachable foot fits tool station 1 and 3 in the FlexiHead and tool station 1 in the PowerHead and MultiCUT.</p>

[Top of the Document](#)










# Knife blades for the XL- and DCM Series

## Standard blades


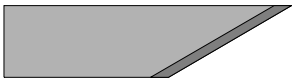

#	Product name Stock #	Length / edge angle	Application
1	Am. Safety Razor #880186 42417444, E-G: 97AR126 	40.0mm 1.587" 21°	Widely used for corrugated samplemaking. Can be used for qualities up to and including DW when the guide pin is installed. Also used for FC but tip is quite brittle and the blade is subject to flexing.
10	Swann-Morton #10A 42436063, E-G: 97AR375 	39.5mm 1.555" 23°	Good choice for folding carton. More durable than the ASR and cuts with less plough effect in the cut edges. Also suitable for varnish blankets in the MicroCut Tool.
3	Havel's #172 42420083, E-G: 97AR122 	36.5mm 1.425" 21°	Equivalent to ARS #880186, but slightly shorter. Has the last part of the tip ground off, to avoid snapping. Preferred by some customers for FC.
4	Martor Solingen #677 42429795, E-G: 97AR300 	36.8mm 1.450" 39.5°	Used by many customers for FC samplemaking. Produces a very nice cut in thin carton. Tip will last long, due to edge angle. Can also be used for chipboard. Good choice for cutting varnish blankets. It can be seated to the bottom of the knife adapter (in most cases).
5	Martor Solingen # 684 42441840, E-G: 97AR925 	24,5mm .965" 32,5°	Good standard blade for folding carton, and other thin, compact materials such as polycarbonate and other synthetics. The 684 is very rigid and will bend less than most other standard carbon steel blades. At the same time the grind angle gives nice cut line quality in folding carton. Max. cutting thickness: 6mm - ¼"
6	X-Acto #2 42411041, E-G: 97AR119 	47.5mm 1.870" 23°	Triple wall samplemaking. An equivalent to this blade is the Martor Solingen #28 blade.
7	Martor #97 42436048, E-G: 97AR373 	60mm 2.362" 20°	Carbon steel blade, used for ReBoard cutting in a reciprocating knife tool. Blade thickness: 1.00 mm. Max. cutting thickness: 17mm. Requires special variant of the reciprocating knife because of blade length.
41	Martor #61329 42435636, E-G: 97AR374 	53°	Super-trapezoid, deep-edged blade, used with the V-notch knife and the HD-knife tool. This blade is thicker and stiffer than standard trapezoid blades and will give a more accurate cut. Thickness 0.9mm - .035"

42	Stanley 1992N 42424374, E-G: 97AR984 	53°	Super-trapezoid, deep-edged blade, used with the V-notch knife and the HD-knife too. This blade is thinner than the Martor blade and will give very good result used in ReBoard. Thickness 0.6mm - .024"
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### Specially designed blades

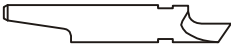
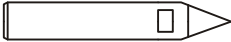


#	Product name Stock #	Length / edge angle	Application
8	HSS25 42416644, E-G: 97AR121 	45.5mm 1.800" 25°	For corrugated board up to and including TW. Precision ground edge. Made of High Speed Steel, which will last longer than conventional steel. Used by customers who need to cut corrugated with high recycle content, or those wanting longer blade lifetime.
9	HSS15 42416651, E-G: 97AR120 	46mm 1.810" 15°	Special blade for the Recycled Board Knife. Precision ground edge. Made of High Speed Steel. Edge length allows cutting of up to 13mm thickness.
11	TC38 42423012, E-G: 97AR129 	39.5mm 1.555" 38°	For folding carton and other, high-precision applications with demand for long lifetime. Tungsten carbide steel with precision ground and polished edge, which handles softer, abrasive materials very well.
12	TC24 42423020, E-G: 97AR130 	39.5mm 1.555" 24°	For folding carton and other, high-precision applications with demand for long lifetime. Tungsten carbide steel with precision ground and polished edge. The last part of the tip is ground off, to prevent snapping.
<b>Note:</b> the following blades have a cylindrical shaft and need a special blade adapter (standard on the HiFrequency Knife Tool) Blade adapter part no.: 97AR378; Kbg: 34032490			
14	VHM 24-023 42437293, E-G: 97AR376 	39mm 1.535" 24°	Long-life knife blade, works well with most grades of corrugated board. Used in reciprocating knife tools. Tungsten carbide steel.
15	VHM 24-024 42438135, E-G: 97AR780 	39mm 1.535" 24°	Similar to VHM 24-023 but has better properties for recycled board. Tungsten carbide steel.
16	VHM 11 42441626, E-G: 97AR894 	39mm 1.535" 11°	Gives nice results in thick and rigid paper-based materials, such as triple wall corrugated and Reboard, when used with the HiFrequency Knife Tool. Max cutting thickness is about 20mm – ¾"
17	VHM 7 42441634, E-G: 97AR895 	39mm 1.535" 7°	Gives less over-cut than the VHM11 but is more slender and may give a less accurate cut in curves when cutting heavy board grades.
18	VHM 3 42441642, E-G: 97AR896 	39mm 1.535" 3.5°	Good blade for 15 and 20mm foamboard in combination with the HiFrequency Knife Tool

## Blades for gasket cutting


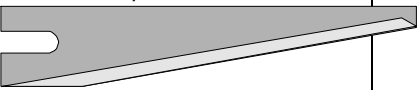
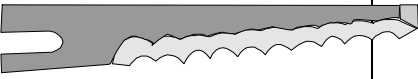
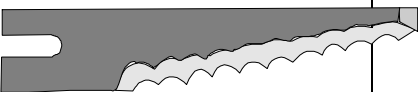

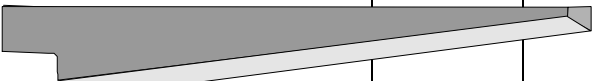
#	Product name Stock #	Length / edge angle	Application
20	#C20 42421974, E-G: 97AR137 	24.0mm .945" 3° / 27°	Specialty blade for cutting rubber gaskets. Tungsten carbide steel, precision ground edge. For high performance and long lifetime in rubber materials.
22	SB-CPM30      SB-TC30 42423855      42423871 E-G:              E-G: 97AR132      97AR133 	38.2mm 1.500" 30°	These blades come in two qualities: Tungsten Carbide (TC) and CPM10V Extreme Wear Tool Steel (EWTS). They are specially designed blades for gasket cutting but may be useful for other applications, like corrugated samplemaking. The TC blade is well suited for cutting highly abrasive materials that are not really hard. It is 50 times tougher than an X-Acto blade. The EWTS blade is 25 tougher than an X-Acto blade and is more flexible than the TC blade. It is a good, versatile, high quality blade. Note: These blades are thicker than normal, which must be compensated for.
23	SB-CPM45      SB-TC45 42423863      42423889 E-G:              E-G: 97AR134      97AR135 	38.2mm 1.500" 45°	


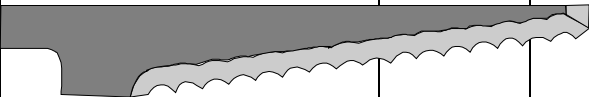

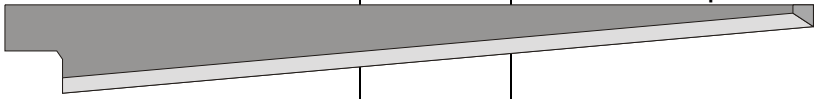
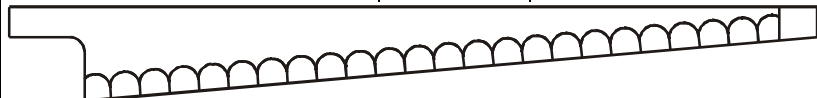
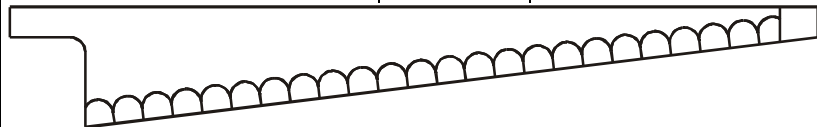
## Specially designed blades for the sign/ SRG application

#	Product name Stock #	Length / edge angle	Application
26	T12 42441196 E-G: 97AR834 	50mm 2" 2x 40°	General-purpose, double-sided, 80° sword knife blade for flexible materials. Used for through-cutting of paper, cardboard, vinyl, thin plastics, styrene, etc.
27	T13 42441204 E-G: 97AR835 	50mm 2" 2x 30°	General-purpose, double-sided, 60° sword knife blade for flexible materials. Used for through-cutting of paper, cardboard, vinyl, thin plastics, styrene, etc.
30	T16 42441212, E-G: 97AR836 	25.0mm 1" 35°	Single-edge blade for soft flexible materials. Used for through-cutting paper, vinyl, etc.
31	T17 42441220, E-G: 97AR837 	25.0mm 1" 25°	Single-edge blade for soft flexible materials. Used for through-cutting paper, vinyl, etc. The more pointed edge reduces overcuts.

32	KC10 42438499 E-G: 97AR810  		General-purpose kiss-cutting blade for standard thickness adhesive foils. Its properties allow secure separation of foil and adhesive, to facilitate weeding.
33	KC12 42438507 E-G: 97AR811  		Sharper-edged blade for ticker, tougher adhesive foils, such as reflex foil.

### Blades for foam and honeycomb paperboard

#	Product name Stock #	Length / edge angle	Application
50	PK1 42423251, E-G: 97AR138 	54mm 2.125"	For foam cutting. Excellent general purpose foam knife - very sharp and durable.
51	PK2 42423269, E-G: 97AR139 	54mm 2.125"	For foam cutting. This blade has the same advantages as PK1. The more sloping edge allows for a little higher feed rate and improves cutting abilities in softer materials but will have a negative influence on quality in narrow curves.
52	PK3 42423277, E-G: 97AR140 	54mm 2.125"	Designed for cutting paper honeycomb material. Suitable also for some dense foam materials, which are vulnerable to melting. The serrated edge gives less friction between blade and material than a smooth edge and the blade gets less hot.
53	PK4 42423285, E-G: 97AR141 	54mm 2.125"	This blade has the same advantages as PK3. The more sloping edge allows for a little higher feed rate and improves cutting abilities in softer materials but will have a negative influence on quality in narrow curves.
60	PK5 42423293, E-G: 97AR142 	78mm 3.070"	Excellent general-purpose knife - very sharp and durable.
61	PK6 42423301, E-G: 97AR143 	78mm 3.070"	This blade has the same advantages as PK5. The more sloping edge allows for a little higher feed rate but will have a negative influence on cut quality in narrow curves.

#	Product name Stock #	Length / edge angle	Application
62	PK7 42423319, E-G: 97AR144	78mm 3.070"	Designed for cutting paper honeycomb material. Suitable also for some dense foam materials that are vulnerable to melting. The serrated edge gives less friction between blade and material than a smooth edge and the blade gets less hot.
			
63	PK8 42423327, E-G: 97AR145	78mm 3.070"	This blade has the same advantages as PK3. The more sloping edge allows for a little higher feed rate and improves cutting abilities in softer materials but will have a negative influence on quality in narrow curves.
			
70	FH86-2 34012716, E-G: 97AR263	107 mm 4.210" 2°	Specialty blade for the FoamHead. Excellent general-purpose foam knife - very sharp and durable. Cuts up to 86mm [3 3/8"] thick material
			
71	FH86-5 34012708, E-G: 97AR264	107 mm 4.210" 5°	Specialty blade for the FoamHead. Excellent general-purpose foam knife - very sharp and durable. The more sloping edge allows for a little higher feed rate and may improve cutting abilities in some softer materials but its edge angle will have negative influence on quality in narrow curves. Cuts up to 86mm [3 3/8"] material
			
73	FH86S-5 34019489, E-G: 97AR091	107mm 4.210" 5°	Honeycomb and foam knife w. serrated edge - very sharp and durable. Cuts up to 86mm [3 3/8"] thick material
			
74	FH86S-7 34019471, E-G: 97AR092	107mm 4.210" 7°	Honeycomb and foam knife w. serrated edge - very sharp and durable. Cuts up to 86mm [3 3/8"] thick material
			

\*

The blades marked with this symbol may benefit from a guide pin that can be installed in the blade adapter. The guide pin ensures constant seating depth when changing blades. Spare guide pins are included in the tool kit. The pin should be fixed using appropriate glue, like Lock-Tite #603. For removing the pin use a heat source (like a hot-air blower) to release the glue.

\*\*

The blades marked with this symbol will enter the blade adapter but the seating depth must be adjusted 'manually', as there is no hole for a guide pin that will match the length of this blade.  
**Tip:** To maintain a constant blade seating depth for a specific blade when no guide pin hole fits, take a piece of flat material of equal or less thickness than the blade and glue it in place in the knife adapter. A piece of shimming steel is fine for this purpose. Take care to use glue that can be removed to enable another blade type or seating depth later.

### Steel qualities used in knife blades:

Blades with no material specification in the above list are made of conventional (razor blade quality) carbon steel.























**High Speed Steel (HSS)** - is a quality widely used for tooling purposes, a good example of usage would be drill bits. The benefit of HSS is very good shock resistance and much better wear resistance than conventional razor blade steel, although not as wear resistant as harder steel qualities.

**Tungsten Carbide** - With optimum grade selection, sub micron grain size carbide can be sharpened to a razor edge without the inherent brittleness frequently associated with conventional carbide. Although not as shock-resistant as steel, carbide is extremely wear-resistant, with hardness equivalent to Rc 75-80. Blade life of at least 50X conventional blade steels can be expected if chipping and breakage is avoided.

**Extreme Wear Tool Steels** - represent the epitome of wear-resistance available from steel. Notable steels in this family include A-7, CPM10V and PGK/Vasco-Wear. Although very expensive on a per pound basis and difficult to shape, these steels will often yield blade life as much as 25X that of conventional razor blade steels. Unfortunately, none of these steels has particularly good shock resistance compared to conventional tool steels, but they are superior to carbide or ceramic in this regard.

[Top of the Document](#)

## Crease profiles for XL and DCM tools

	
Corrugated crease tool, for Ø26mm wheels Stock # 34006452, E-G:97AR624	Folding carton crease tool, for Ø15mm wheels Stock # 34012500, E-G:97AR638
 1 point (32532129, E-G:97AR640)	 1,5 point (34057588, E-G:97AR430)
 2 point (32524837, E-G:97AR641)	 2 point (32533291, E-G:97AR112)
 3 point (32529075, E-G:97AR104)	 3 point (34030858, E-G:97AR113)
 4 point (32536542, E-G:97AR105)	 4 point (34030908, E-G:97AR114)
 6 point (32522880, E-G:97AR106)	 Double edge, 1 mm spacing (32535999, E-G:97AR115)
 8 point (32529240, E-G:97AR107)	 Double edge, 1.4 mm spacing (32551301, E-G:97AR665)
 10 point (32529091, E-G:97AR108)	 Double edge, 1.8 mm spacing (32551327, E-G:97AR666)
 12 point (32529117, E-G:97AR109)	 Double edge $\mu$ -flute, 1.25 mm spacing (32555021, E-G:97AR667)
 14 point (32547051, E-G:97AR110)	 Double edge E-flute, 2.2 mm spacing (32555005, E-G:97AR668)
 Triple wall (32537706, E-G:97AR642)	
 Crush, R=15 (32524811, E-G:97AR111)	
 Double edge, 1 point (0.6 mm spacing) (32546640, E-G:97AR643)	

### The "Crusher" tool

A comment often made about corrugated prototypes produced on sample tables is that they are too perfect, which can set false expectations with customers. The customer of the packaging company is dissatisfied with the supplied product and proving this dissatisfaction by making a direct comparison between the approved (signed-off) prototype and the production die cut.



The "Crusher tool" is a solution to this dilemma by enabling production of cut edges that look like actual die strikes. This tool makes it possible to add crush areas to the design to duplicate the normal crush inherent in the die cutting process. The 'crusher' tool can also be used to flatten parts of a sample in order for slots and inserts to work well.

The "Crusher tool" is really just another creasing tool with a specially designed crease wheel profile. The 'Job Setup' functionality of XL-Guide lets the application of the 'Crush' happen automatically, and also limited to certain board types, if desired.

### Double-edge crease wheels

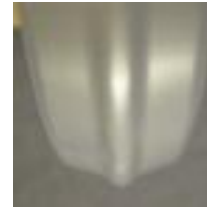
These are also called 'test-wheels'. Their purpose is to create a 'false' folding bulge so the design can be folded up with a certain precision, without the use of a crease matrix.

When the test-wheel is used the carton board is cut and creased from the reverse side.

The spacing between the rims is what determines the 'pointage', i.e. a spacing of about 1.4mm will act as a two point rule when the carton has a thickness of around 0.4mm [.016"].

### PowerHead crease profiles

PowerHead crease wheel - U-shape, 150mm [6"] diameter.  
For double- and triple wall of good quality. Part no.: 34007096,  
E-G: 97AR152



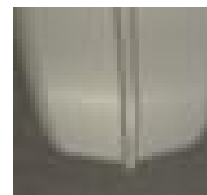
PowerHead crease wheel - V-shape, 150mm [6"] diameter.  
For recycled board with brittle liners. Part no.: 34007906,  
E-G: 97AR153



PowerHead crease wheel - 4-point, 150mm [6"] diameter.  
For solid board (carton), chipboard, etc. Part no.: 34010306,  
E-G: 97AR619



PowerHead crease wheel - 6-point, 150mm [6"] diameter.  
For single wall corrugated Part no.: 34023234, E-G: 97AR087



## Crease wheel adapters

Adapters for using 'normal' sized crease wheels in the PowerHead heavy-duty crease position are available as an option. The benefit of this adapter is that it frees up one tool station in situations where customers who own a PowerHead would like to use a smaller sized crease wheel for work involving E- and Micro flutes.

It will also allow creasing of plastic corrugated with smaller wheels and the heavy crease power, which normally has a good effect on defeating the 'memory' of the plastic material.

The standard Ø26mm crease wheels will fit the adapter, with no need for resetting the height reference when the adapter replaces the Ø150mm crease wheel.


A different version of the adapter is available for the Ø15mm crease wheels.



## FC tool kit and PowerHead

Please note that the configuration of the Folding Carton Tool Kit for XL tables does not include a crease tool insert. In the instances where a customer would like to order a FC Tool Kit for a PowerHead, a crease tool insert, or a crease wheel adapter for the 'big wheel' position, must be added to the order to provide folding carton crease functionality.




## Crease Blades

For creasing thin, synthetic materials such as polypropylene and polyethylene (PET) These crease tips scribe into the material and provide a more distinct fold line than a wheel, due to the smaller impact area. The blades fit the Tang. controlled knife tool #12-13 (97AR832)	
Crease Blade 0,5 mm for Tang. controlled knife tool #12-13	
Part no: 42442764    E-G: 97AR972	
Crease Blade 1,0 mm for Tang. controlled knife tool #12-13	
Part no: 42442772    E-G: 97AR973	



[Top of the Document](#)

# XL Plotting Tools

<p><b>Ballpoint Pen Tool</b></p> 	<p>Stock # 34006940, E-G: 97AR628</p> <p>The Ballpoint Pen Tool is prepared for Fisher Space Pen refills. Multi-colored Ballpoint cartridges are available in line weights, fine, medium and bold; for high-speed plots on paper, Mylar foil or directly onto dieboard.</p>										
<p><b>Liquid Ink Tool</b></p>  <p>The disposable cartridges are available in the following line weights:</p> <table border="0"> <tr> <td>0.18mm</td> <td>0.25mm</td> <td>0.35mm</td> <td>0.50mm</td> <td>0.70mm</td> </tr> <tr> <td>.007"</td> <td>.010"</td> <td>.014"</td> <td>.020"</td> <td>.028"</td> </tr> </table> <p>Please observe that, in order to achieve the best possible line quality and maximum pen tip lifetime, it is very important to ensure that the table top surface is free from all particles that will create 'humps' in the Mylar drawing area. We recommend that the tabletop surface is either vacuum cleaned or wiped off with a moist cloth prior to Mylar plots.</p> <p>To prevent the pen tip insert from drying out it has to be capped when not in continuous use. It is a good idea to 'start' the pen tip insert by touching it with a little piece of Mylar just before plotting starts.</p> <p>The Liquid Ink Tool comes with one disposable 0.35mm ink cartridge.</p>	0.18mm	0.25mm	0.35mm	0.50mm	0.70mm	.007"	.010"	.014"	.020"	.028"	<p>Stock # 02712347, E-G: 97AR067 Tool only: 34022251</p> <p>The Liquid Ink Tool has been designed to meet high demands in line quality on Mylar foils, producing lines with uniform width, optimal resolution and superior contrast. It uses the KOH-I-NOOR Rapidograph / Rapidoplot cartridges. These cartridges come in two interchangeable versions, disposable or refillable.</p>
0.18mm	0.25mm	0.35mm	0.50mm	0.70mm							
.007"	.010"	.014"	.020"	.028"							
<p><b>Fibertip Tool</b></p> 	<p>Stock # 02707438, E-G: 97AR639 Tool only: 34012625</p> <p>The Fiber Tip Tool option provides drawing capabilities on materials such as clear vinyl, which normally cannot be marked with ballpoint or liquid ink pens. It uses a standard Staedtler Lumocolor fiber tip drawing pens, which comes in different line weights. Line thickness will be less consistent than with the liquid ink cartridges due to the properties of the relatively soft fiber tip.</p> <p>The Fiber Tip Tool comes with 5 multi-colored pens included.</p>										

[Top of the Document](#)