

A DIGITAL FLATBED CUTTER CAN BRING YOU NEW CLIENTS

BY DR NICHOLAS HELLMUTH, FLAAR REPORTS

You can handle new wide-format inkjet applications if you have a flatbed cutter and thus win new clients. But it helps to understand the nuances of the different kinds of cutters, cutting tools, etc. before you decide which cutter technology to purchase. This article will be on flatbed cutters, not old-fashioned vinyl-cutters.

WHAT MATERIAL DO YOU WISH TO CUT?

This will determine whether you need a CNC router or a digital flatbed cutter. If you print on Di-bond you may not want an older cutter that is previous generation. A giclee and décor printshop in Monaco, who bought a Zünd cutter six or so years ago, told me that older cutters, even this really good Swiss brand such as Zünd, may not be strong or fast enough to cut metal signage materials. If a cutter is made for textiles or cardboard, you need to check with several end-users (other printshops that already have it), whether it can handle anodised aluminium or other metallic signage or home décor materials. Most

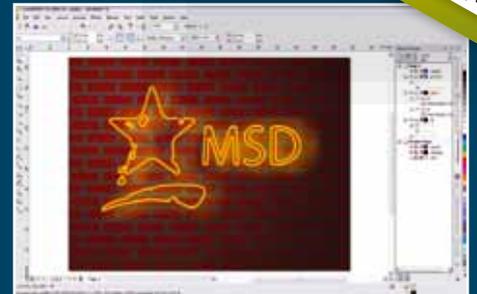
newer brands, including the Kongsberg cutters, and the newest Zünd, can handle metal signage if you select the appropriate cutting tools.

THE MATERIAL YOU CUT, IS IT RIGID, OR MIGHT IT STRETCH?

If you are cutting a printed image, how much did the substrate flex due to heaters in the printer? Or how much did the roll-to-roll feeding system stretch and pull the image? There are not many spec sheets that really reveal the reality of this, since some substrates stretch much more than others.

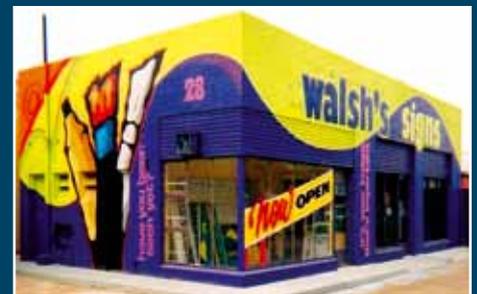
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The Kongsberg XP tooling system consists of a variety of separate tool units that can be quickly mounted and prepared to cut and finish a specific job. Available XP-series tools include a heavy-duty crease tool unit; a reciprocating knife tool unit; a milling tool unit for materials up to 50-mm in thickness; and V-notch knife tool-heads capable of processing different folded angles.



Pablo Martínez, FLAAR Technical Writer, taking notes about the performance of the EskoArtwork Kongsberg i-XE 10 Auto at Digital Media Partners site visit 2010.

The range of tools offers speed, power and flexibility to automatically handle a variety of materials, such as papers, labels, folding carton, thin styrene or polypropylene, and a long list of popular stocks for digital presses.



The system for memorizing job setups saves extensive time between jobs, the tooling requires no tuning and optimal run parameters are linked to different material grades.



Dr. Nicholas Hellmuth taking notes from key EskoArtwork Kongsberg people about the performance of the EskoArtwork Kongsberg XP in his visit to their demo room.



The Zünd G3 is equipped with different modules that turn the cutter in a multifunctional production system. Tools and modules can be added any time, upgrades are easy and cost-effective.



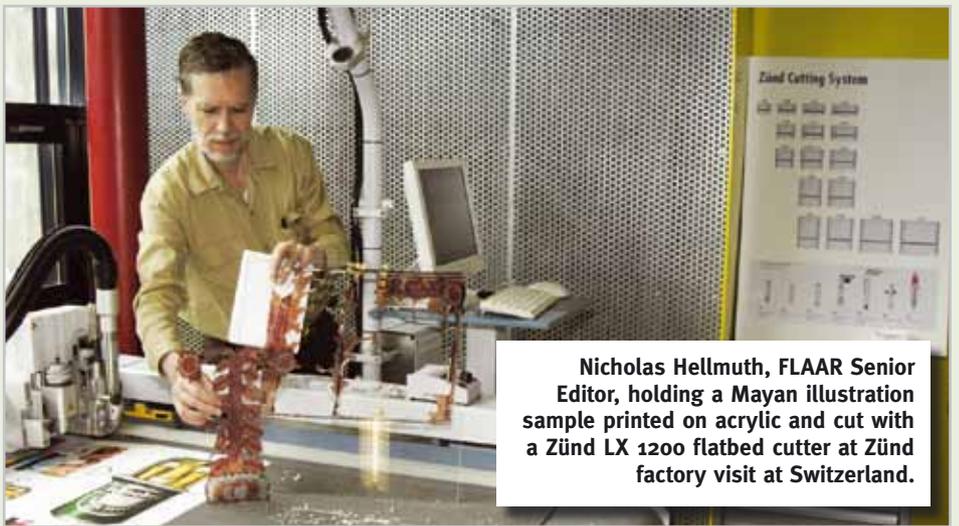
The Aristomat TL48 has combinable single and multi-functional tool heads with tangentially controlled tool holders and a large number of tools that offer the possibility to process a variety of materials.



The Kongsberg i-XL comes with i-cut Vision Pro that helps register the actual dimensions and positions on the printed result. The wide range of tools offers speed, power and flexibility to handle a variety of materials, such as paper, foam board, corrugated stocks, PVC, acrylic, Plexiglas, styrene, aluminium composite, vinyl, wood, polypropylene, and others.



MultiCam Digital Express at Viscom Italy 2010. This XY cutter combines digital registration with routing and knife cutting capabilities.



Nicholas Hellmuth, FLAAR Senior Editor, holding a Mayan illustration sample printed on acrylic and cut with a Zünd LX 1200 flatbed cutter at Zünd factory visit at Switzerland.

CONTINUED FROM COVER

If printed on a dedicated flatbed, how much did the image angle off to one side during printing of a full 2x3 metre area? Yes, even on a dedicated flatbed UV-cured printer, if the motor on one side of the gantry is not in absolute Swiss precision relative to the motor putting the other side of your gantry, then the image will skew, as much as a centimetre or even two centimetres. Then you need a vision system, such as i-Cut from Kongsberg (EskoArtwork) or other vision systems from other brands.

Yes, on a flatbed printer it is obviously not the media that skews, it is the entire gantry (if on a low-price brand and model). I would not expect a Jetrix UV printer to skew; FLAAR will be testing the Jetrix in Korea by late March. With no vision system, or with a vision system but only rudimentary software, your cutter can't know the image is skewed. If you have a good vision system you can cut no matter how skewed the image is.

HERE ARE OTHER SUGGESTIONS OF WHAT QUESTIONS TO ASK YOURSELF: BEFORE YOU BUY.

- When and where was this model first

introduced?

- What is the warranty period?
- Tech support, who provides it - the dealer or manufacturer?
- Size of the table?
- What sizes of material can be cut?
- What thickness can this cutter handle?
- What materials do these cutters handle?
- Can you measure the height of the material with a sensor, or is it manual?
- Do you have to hand measure the media to enter it manually into the software?
- What space is needed to accommodate the cutter and everything else to make it fit into your workflow?
- Does a complete set of tools come with the new cutter, or merely a "starter set" that is not as full as a regular set?
- Do you need to provide air pressure for the vacuum table? Do you need to provide compressed air for any other purpose?
- Is there a vacuum function? In how

many sections or zones? Can you turn one or the other section(s) off and on?

- What kind of protective mats can be obtained as options?
- How is rigid media fed? Is a feeder-stacker option available?
- Is there a registration gate for media alignment?
- What is true life expectancy of this tool head?
- What does each tool cost to replace?

And most important of all, never buy an expensive piece of equipment without inspecting how they really work out in the real world in another printshop. This is why the FLAAR team is flying around the world inspecting printshops (and factories). I flew over 414,000 km last year and my staff flew lots of kilometres also. Most recently they inspected Kongsberg cutters in Europe.

WHAT TECHNOLOGIES TO CONSIDER?

I know the Zünd and Kongsberg cutters the best because I have spent two days in the factory and demo room of Zünd (but about four years ago, before their new models). And I have been trained in

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Frikkie says -
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FLAAR Mayan vase samples printed on Dibond and cut with EskoArtwork Kongsberg XP series. This is a very strong media that needs a strong tool to cut it.

Kongsberg demo centre in USA, as well as have inspected printshops in America with Kongsberg cutters. Pablo Martinez, specialist for cutters, RIP software, inks, media, and laminator/coaters, has inspected that same printshop in America as well as printshops in Europe with Kongsberg cutters. He has also timed the cutting speed of both Zünd and Kongsberg for Re-board material (Kongsberg was faster).

Aristo is another brand I see occasionally at a few sign expos. But have never been to factory which is the first step before we do site-visit case study in a printshop. For MultiCam, the factory visit in Dallas was three years ago, before their digital model was finished. And they did not want me to photograph, so there is no report. And the printshop I visited near their factory had an older MultiCam CNC router with the digital cutter jerry-rigged on top. The manager was not content. But I would



Tina Kosir, FLAAR Slovenian volunteer, at EskoArtwork booth in SGIA 2009, holding a Mayan vase printed onto Dibond and cut using EskoArtwork XP cutter.



Dr. Nicholas Hellmuth, FLAAR Senior Editor (right) and Pablo Martínez, FLAAR Technical Writer (left) evaluating and taking notes about the quality achieved with this Kongsberg XP series flatbed cutter.

imagine the new digital cutter is better.

XYZ is, like MultiCam, more a traditional CNC router. I am interested in all these technologies, but Kongsberg is far ahead in large part because the parent company, EskoArtwork, owns 100% of the technology: even all the software. Their i-Suite software is an excellent example of allowing a printshop to acquire the entire workflow from one source. But your needs may be for other solutions, so each brand and each model will offer a different solution: A through Z, Aristo through Zünd and everything else as well. One way to see a cutter in action is to go to most of the large international HP demo centres, or the VUTEk demo centres. They tend to have cutters in-situ next to their printers. So you can test both together.

ONCE YOU HAVE YOUR CUTTER, YOU CAN PRODUCE NEW APPLICATIONS AND WIN NEW CLIENTS

I will be writing a separate article about making furniture and displays out of honeycomb sandwich board (X-board, Hexacomb and H-Board is the best known in South Africa but there are many other brands such as Falconboard, Re-board, BioBoard and others). But all of these items of furniture and display need to be cut with a flatbed cutter. We found that, so far, the Kongsberg cuts faster than other brands (test was on Re-board).

CONCLUSIONS

Be wary of an older model of some brands. They were not made to handle Di-bond or other anodised aluminium of some other sturdy signage material. Also be aware that some brands of UV-cured ink chip off the edge when Sintra and some other materials are cut. This is NOT the fault of the cutter brand or model or technology: this is inadequate ink. It is not Chinese ink that does this,

but Fortune 500 big-name brands.

Test your materials, printed with your printer. Don't simply ask for samples. And be present during the test so you can see how many times the cutter has to go back and forth to do the cutting.

Then, absolutely essential, visit printshops, and at the Sign Africa expo, chat with other printshop owners to learn how their hardware and software can handle additional materials.

There are capable distributors in South Africa for Kongsberg, Zünd, Aristo, and other leading brands.

Antalis South Africa (Hexacomb) www.antalis.co.za
Colorscreen (H-Board) www.colorscren.co.za
GSW (Aristo) www.gsw.co.za
Kemtek Imaging Systems (Kongsberg) www.kemtek.co.za
Midcomp (Zünd) www.midcomp.co.za
MultiCam RSA www.multicam.co.za
Xanita (X-board) www.xanita.com

CREDITS

Pablo Martinez, Technical Writer at FLAAR Reports, undertook much of the testing. We appreciated the visit to the Zünd factory and to Kongsberg demo facilities. We look forward to additional tests and evaluations of these and other models. 

info@flaar.org, www.wide-format-printers.org,
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