



Agfa :Dotrix UV-Curable Inkjet

Printer for Labels, Packaging & Posters
The First Page-Array Inkjet Technology



Introduction

Two printers stood out at Print '05 trade show as exceptional in every respect:

- the Noritsu Mytis
- and the Agfa :Dotrix



Agfa :Dotrix



Noritsu Mytis

We single each of these printers out for a brief FLAAR Report in Fast Facts format. The present report is on the Agfa :Dotrix. A separate report is on the Noritsu Mytis.

The Agfa :Dotrix is a page-array technology: the printheads cover the entire width of a complete “page.” So the printheads don’t have to move: the paper moves, continuously, as the thousands of jets squirt their ink.

Page-array technology has always been the dream: the Sun/Inca FastJet is the first page-array machine at large format size. It has taken two years to develop past its prototype stage (shown as a prototype at DRUPA 2004). Both the FastJet and the :Dotrix utilize UV-cured inks. The advantage is that these inks are dried (solidified) instantly. If you try to print with water-based inks, and a full width of heads, the water in the ink can’t dry fast enough for the paper to be wound up on a roll after printing.

In a page array, the printheads are not themselves larger than normal: that would be technologically impractical today. Instead the engineers group staggered sets of printheads so that the overall effect is a line of jets across the entire path of the page of paper.

A further advantage of UV-cured ink is that the paper does not need an expensive inkjet receptor layer. So you can print on plain ordinary paper with the Agfa :Dotrix. The idea is actually to print on cardboard-like material for packaging, except that most cardboard comes in sheets, not rolls. As you can see in the accompanying snapshots, at Print '05 they were not printing on any type of cardboard while I was in the booth.

Brief History of the Agfa :Dotrix

This “history” is from my brain cells, not from an Agfa PR release, so the details may not be the same as the official history.

The printer started out as the.factory, pronounced “the dot factory.” Cute names do not sell printers. Yes, people do remember cute names, but not in the manner that printer manufacturers would prefer.

The original manufacturer was Barco. Barco was going through a transition from selling \$5,000 color management monitors to merging with other pre-press companies. None of that survived, but at least this one Barco printer offspring is alive still today, albeit with foster parents.

A company named Dotrix acquired the.factory technology in 2001. So far, the printer had swallowed millions of dollars in development funding, but few companies were buying this machine.

I spent several days at DRUPA 2000, but did not exactly get excited over unfinished technology such as the.factory. Besides, the Durst Rho 160 attracted me more. So the first time I really noticed the.factory was at DRUPA 2004. By this time it was part of Agfa. I spent at least 10 days at DRUPA (though definitely not all 10 days in the Agfa booth), so saw and photographed most of the printers. If I remember correctly, Agfa had at least two of their label printers at DRUPA 2004.



Agfa :Dotrix printouts at the Agfa booth during Print '05

The factory was at IPEX 2002, but somehow this trade show did not excite me as much as did FESPA or other shows during 2005. Even VisCom Milan had more to see in inkjet printers than IPEX 2002. Since IPEX 2006 is the same days as ISA 2006, I will skip IPEX all together. But back to 2002; a news release by www.dotprint.com indicated that one of the earlier purchasers of this printer was a Belgian company that would use it to proof samples of floor coverings and kitchen surfaces. Interior decoration is of considerable interest to FLAAR, since a part of our background is in architecture and architectural history.

About January 2004 Agfa bought Dotrix in order to acquire this technology.

Four years, from DRUPA 2000 to DRUPA 2004, is a long time from prototype stage to finished product. It is impressive that Agfa has kept this technology alive in its portfolio all this time.



Agfa :Dotrix booth at Drupa 2004



Agfa :Dotrix at Print '05

But noticing the printer, and paying attention to it, are two different things. With several hundred printers out there, including almost 50 UV-curable inkjet printers from over 30 manufacturers, it takes an



Agfa display at Drupa 2004



Agfa display at SGIA 2004

impressive printer to have me stop and take a second look. The first time I really paid attention to this printer was at Print '05. FLAAR had its own booth, so I was there all five or six days. By now the printer had a more sensible name, :Dotrix. The :Dotrix had a nice brochure. At Print '05 Agfa itself had a well-designed booth (no more semi-naked bikini poster 3-stories high). Being male I don't mind an attractive poster to lure me into a booth. But the model should at least be attractive, and once the lure has lots its allure, there needs to be substantive inkjet printing technology in the booth to keep me there. Using a bikini poster to draw people to your booth (at DRUPA 2004 and the identical poster again for either ISA or SGIA 2004) suggests you need this or otherwise no one would look at your booth. What I liked about the Agfa booth at Print '05 was that they did not stoop to using bikini posters. Instead they showed an exciting technology and had knowledgeable people to answer questions. It helps to have a capable person in the booth who knows the printer inside out. Frank Gery, General Manager – Dotrix, was a good spokesperson for this project line. All of these factors were present at Print '05.



A much better Agfa display at Print '05



Today the Agfa printer uses Toshiba Tec printheads. These were probably not available in 2000. So today the :Dotrix has impressive image quality.

The speed is high because the printheads are in a page-wide array. So the printheads are stationary: the paper flies under them. The paper is web-fed (meaning the paper is on a roll; this is the easiest way to get the paper moving fast enough). One version is for printing labels. We are more interested in other potential of this technology, namely variable data short run digital printing in general.

What also impresses me about the :Dotrix is that the image quality is so good on cheap paper. This quality is important in packaging, since by their very nature, disposable packaging is on low-priced materials.

However I would want to be able to inspect this printer on a long-range basis, to check on the image quality, since cereal boxes are viewed close-up: at the breakfast table they stare you in the face.

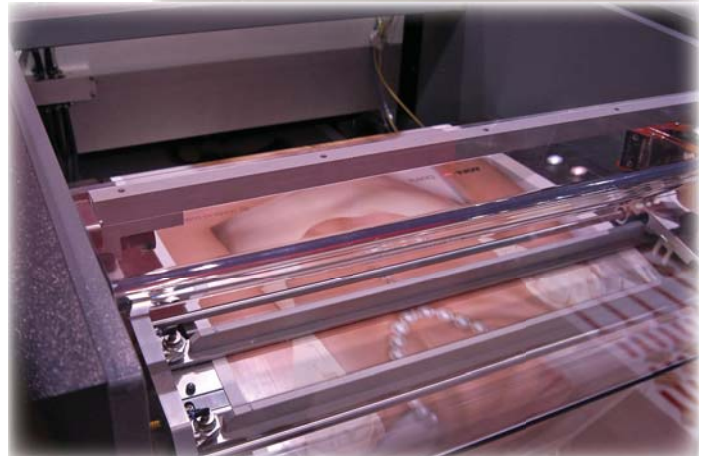
An early Agfa press release (2004) talks about

- label printing
- decoration
- object printing
- security printing

in addition to printing packaging.

The entire printer is targeted at packaging digital printing. The Agfa brochure shows cereal boxes. Frankly it would seem that this printer is capable of many additional kinds of variable data short run digital printing; lots more than packaging.

Although we do not have any Agfa printers in our university testing facility, we definitely look forward to learning more about Agfa technology during 2006.



FLAAR Reports on UV-Cured Inkjet Printers

UV Series #1 : Introduction to UV-Cured Inkjet Flatbed Printers



UV Series #2: 2005 Updates on UV-Flatbed Printers



UV Series #3: Applications and Tips

