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**LARGE FORMAT SCREEN PRINTING**

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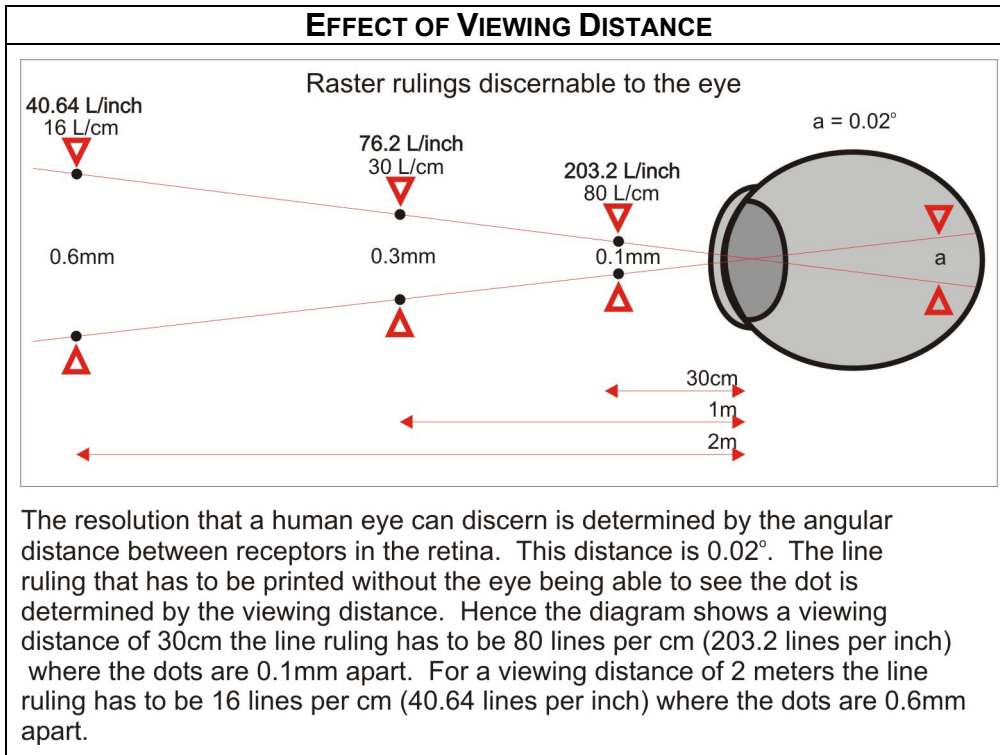
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With digital printing eroding the small run work and large format litho attacking longer runs the impression could be given that screen printing is being squeezed out. Or is it?

A large format screen printer who was already heavily involved in digital printing purchased a large format litho press. To demonstrate the capabilities of the litho press the printer printed the same design on screen, digital and litho. He put them up on the wall intending to display them to his clients and he had to take the screen print down because it put the other two in the shade. The digital and litho were comparable but the visual impact of screen printing because of the vibrancy of the colours could not be matched by the other two processes. Yes things are changing in ink jet printing but still screen printing holds sway with its capacity to print up to 100 microns ink film.

Another rumour spread about by digital printing equipment salesmen is that the large format multi-colour line is a thing of the past. Far from it. In the UK we have the greatest concentration of 2, 4, 5 colour lines in the world, with some 70 plus machines. Orders for new machines are still being taken at a reduced rate and if you had a second hand unit for sale at a reasonable price people would beat a path to your door cheque book in hand. However the reality is that large format litho is becoming increasingly popular with new and second hand machines being installed in companies who are traditional screen printers. For many years litho has been bought in and sold onto clients within a product offering of screen, digital, finishing, warehousing, logistics and distribution.

One of the reasons for the drive towards litho is the line rulings that are normal with this process. Print buyers are used to seeing digital and litho printed work at very short viewing distances, typically 300 mm. 150 lines per inch and upwards are very effective at this distance. They don't like to see the dot. However, print at 50 lines per inch, view it from three metres and the screen printed image looks much better as was discovered by the recent convert to litho discussed above. The diagram below explains why we don't see the dots from a distance.



By printing at a lower line ruling with screen printing the ink film thickness is greater and the image is crisper as well as more vibrant.

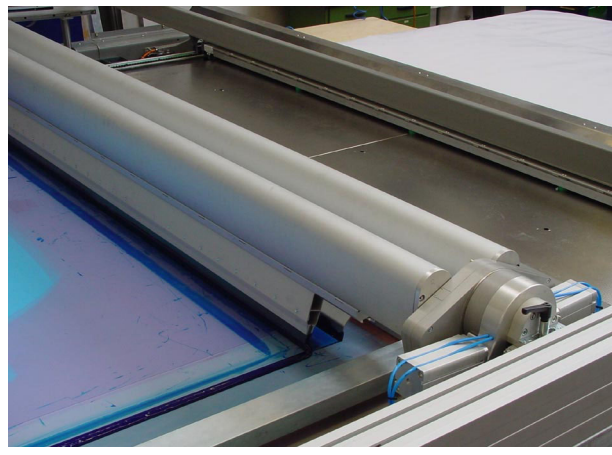
In the USA there is not the same obsession for fine line rulings as Point of Sale work and this is demonstrated by the large numbers of multi-colour lines being purchased. It could be argued that the market is not as sophisticated as the UK and Western Europe but the Dollar is King. If they can't make it pay then it's dead in the water.



The Thieme 5090 XL is a machine penetrating the US market as well as Europe. 3000 square metres per hour of four-colour process work is a huge capacity. This is achieved by having a print area up to 3 metres by 2 metres. Bachmann GmbH Druck, Design, Display of Bielefeld in Germany accepted the first delivery of this mammoth four colour screen printing line. The ability of the system to handle substrate a thick as 10 mm increases the opportunities for the printer, previously the maximum thickness was 5 mm.

The world is changing and truly skilled screen printers are harder to find so settings and adjustments are all automated.

**ENCLOSED SQUEEGEE ASSEMBLY ON THIEME**



The squeegee mechanism, so often a headache on large format machines is built like a brick outhouse. Hefty but not crude the mechanism has very fine adjustment and balanced pressure along its length. It is easy for one person to unload and load the squeegee carrier.

Servo motors are used wherever possible particularly on the gripper chain mechanism. Positioning of bulky substrate is critical if register is to be maintained and the whole system through every print station and dryer is co-ordinated by servo drives. Servos give very precise controllable movements both angular and linear.

The question is, is this the pinnacle of multi-colour screen print design? Will the Agfa Thieme M Press or similar swallow all the large format screen printing market. David Hamilton of Thieme Kippax has the inside track but he certainly keeping quite at the moment. It will be long time before a digital press will print at 3000 square metres per hour.

Svecia previously the market leader are in the market again for multi-colour lines with the new MX which has replaced the very popular Sam X range and is aimed at the market that Thieme have so successfully filled and now lead. How it will succeed in this now very challenging market place has to be judged. The first unit has been sold to a Dutch printer.

**SVECIA MX**



Steve Summers at Trumax, the Svecia agent in the UK will be delighted to frankly explain its many virtues in his inimitable style.

**SIAS MULTIFORMULA**



The Sias Multiformula is a big beast with an image size up to 3250x 1650 mm but such a large machine can still be operated by one printer with an assistant to move substrate and frames to and from the machine. The aim with all these machines is to take the manual adjustments away from the printer who works through a touch screen. As with Thieme, the Sias Multiformula uses UV scanning technology, where a conventional tube traverses across the print area during drying. This means that standard UV inks can be used, having said that the flash cured systems have become almost standard in the market. Registerprint support the SIAS equipment in the UK and, like the other suppliers are expecting to see developments coming through.



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If you were to take a peek into the Research and Development departments of screen press manufacturers how many digital/screen combinations may you see? It would seem likely that the substrate handling, control systems and drying techniques could usefully be applied to combining the technologies. Thieme have led the way and the M Press is producing work in production.

It is easy to forget what is available from US manufacturers if you popped into Multigraphics in Bradford or Dominion Print in Bradford you would see screen printing lines capable of printing up to 6000 x 1830 mm. Up in the North they both claim "Size Matters." And they have invested vast amounts to prove it.

Digital printing has lost its gold plated profits and has become hugely competitive. Those who maintain screen printing as a production process can find that the profits are made in screen as digital printing profits are razor thin.

One thing is certain that there are no certainties. Our industry has changed hugely in the last ten years. I was asked by an organisation to state where the technology would be in 10 years time and put figures on market size, equipment usage and consumable needs. After a great deal of work it was clear that it was impossible to give reliable predictions' particularly as the foundation statistics on which it was to be based were unreliable.

We have learnt is that to continue to be successful printers have to be innovative in their response to market demands. In the large format market with the need to make significant investments there is no room for the faint hearted. The leaders of the industry deserve tremendous respect and to continue to print big the major players will get bigger. In this highly competitive market maybe they should be looking to the US to acquire printing companies so taking their finely honed skills to a huge but less crowded market.

We now have the additional challenge of printing companies from Eastern Europe eyeing our market. Several have sales teams in the UK. Don't be fooled these companies are very competent printers. They speak good English, they use modern equipment, some companies even have English names and they are hungry for work. Their overheads are low along with wages and they not yet been enmeshed in the choking legislation that we have to suffer. All the more reason for the UK industry to drive for continuous improvement. Those who sit on their laurels get left behind.