

instantprint.

# instantprint Factory Tour

We're opening up the doors to our sunny South Yorkshire printing facilities so you can get a glimpse into the world of commercial printing and take a closer look at some of the cutting edge machinery we use to produce your print.



# Contents

The Printing Process	3
Digital vs Lithographic Printing	4
Our Digital Printers	6
Meet Vinny	20
Our Lithographic Printers	22
Meet Paul	26
The Finishing Touch	28
Meet Chris	32



## The Printing Process: What Happens After You Order?

When you place your order online with instantprint, this triggers our printing process. Many different teams are involved to make sure your print looks amazing every time. Here’s a quick summary of exactly what happens after you order.



### Artwork Check

Once we’ve received your artwork, a real person will then assess it using our 10 point check – checking for things like resolution, file type, text legibility and bleed – to make sure the file is set up perfectly for print. Kind of like a final safety net for your artwork!



### Pre-press

At this stage, your artwork is ready and waiting in the printing queue, but hasn’t been sent to the printer just yet. It has, however, been ganged together on sheets with other pieces of artwork to reduce paper wastage and improve efficiency.



### Printing

Your artwork is printing using one of the state-of-the-art machines! But, more on this later...



### Additional finishes

After printing, your designs will be cut and sent off to be finished on a different machine depending on the product or special finishes you might have chosen. Some products will need something else added to them after they’ve been printed, like lamination or Spot UV. Some products need to be folded, some stapled or glued and even bound with wire. This all happens at this stage.



### Dispatch

Your print is then collated and sent to our Dispatch team who make sure it’s delivered to the right place at the right time.

# What's the Difference Between Digital and Lithographic Printing?

The two main processes for commercial printing are **digital** and **lithographic** printing. Each technique works in a very different way and they are suited to different kinds of print jobs.

## Digital

- 1 Digital printers work in a similar way to your office printer – just on a huge scale!
- 2 A built-in laser draws the image onto a belt, creating a reflection of the image out of static charge on the drum cylinder inside the printer.
- 3 A fine, coloured powder – known as toner – sticks to the static image.
- 4 This process is repeated for all four toner colours – cyan, magenta, yellow and key (black)
- 5 The image is then rolled out onto paper at high speed and heated up so that the toner melts and is set in place on top of the paper.

## Lithographic

- 1 This technique combines wet ink and fast moving rollers to produce print. It's essentially based on the idea that oil and water don't mix.
- 2 To begin with, aluminium printing plates are created using the images we want to print – basically acting like a series of stencils!
- 3 During the process, the plates are kept wet with certain areas absorbing water.
- 4 The wet ink (which is greasy) won't stick to the areas of the plate that are wet.
- 5 The plates then transfer the ink to a rubber roller, which acts as a 'middle man' to distribute the ink evenly onto the paper.
- 6 This process happens for each of the four printing colours, cyan, magenta, yellow and black.

## Digital



Uses toner and static charge – like a giant office printer



Quick and easy to set up = cost-effective



Used for quantities of 500 or less



Best for short print runs (low quantities)



Ink sits on top of paper



Ink dries quicker



Modern digital printers like ours can rival the quality of lithographic printers



Best for flat items

## Lithographic



Uses aluminium plates and wet ink



More cost and time consuming to set up



Used for quantities of more than 500



Best for long print runs (high quantities)



Ink soaks deeper into paper fibres



Ink must be dried



Known for its high quality finish



Makes it easier to print on heavily textured stocks



# Our Digital Printers







## Xerox iGen 5

We have four of this type of digital printer in our factory, two of which are the Xerox iGen 5 model. Purchased as part of a £5 million investment into reducing our lead times (the time that elapses between your order going to production to the final print rolling off the press) in 2017.

At full speed, the iGen 5 can print 150 pages per minute, has a maximum resolution of 2,400dpi and can handle any kind of stock – including our silk, uncoated, recycled and speciality stocks.





## HP Indigo 10000

Our digital HP Indigo is a 29-inch commercial printer that's used for our most popular products, including flyers, folded leaflets and posters. It can print up to 3450 sheets per hour, no matter their size or stock. Uncoated, silk, recycled and ice gold – the Indigo can handle any paper type that's thrown its way!

The 10000 is also designed for environmental sustainability; it's built with energy efficiency in mind and uses less oil per page than other Indigo presses.





## Inkjet Printers

Inkjet is a special kind of digital printer, but instead of using toner, they propel droplets of ink directly onto the paper for a high precision finish. This wet ink is water-based, meaning it produces vivid colours.

## Truepress Jet 520HD

Following a £3.25 million investment into our facility in 2018, we purchased and installed two Truepress Jet 520HDs from Screen – high-definition, high-speed inkjet presses with precise droplet size control that produce unrivalled print quality.

This precision, combined with Jetinspection cameras allowing the press to compare the quality of the print with the artwork file, means that inkjet technology gives the best quality print. And as a continuous-feed speed printer, our Truepress jets are pretty quick too at 1680 pages per minute.





## Fujifilm Jet Press 720S

Our Jet Press is only the fourth of its kind installed in the UK and is a key part of our business card production stream. Housed in our dedicated business card cell, this printer is capable of printing 1200 x 1200 dpi quality with eight variable ink dot sizes allowing for ultra-precision printing.

The Jet Press can print up to 2700 B2 size sheets per hour. Once these sheets are printed, they'll make their way over to our Rollem JetSlit for cutting and trimming.





## HP Scitex 11000

Large format printing includes things like banners, posters, exhibition stands and roller banners – all of which are printed on our HP Scitex 11000.

For larger prints like these, finding a printer that produces high definition and precision is essential, and with its HDR printing technology, the Scitex is the perfect press for the job.

This is a printer made with POS and large format printing in mind. It simultaneously jets out variable size ink drops, ranging from 15pl to 45pl in size, so it can capture even the finest of details. Another speed machine, productivity is excelled through the Multi-Sheet Loading Table, allowing four sheets to be printed at once.





## NEW: Landa S10P

The latest addition to our digital printers is the Landa S10P. The Landa is a nanographic printer (the first of its kind in the UK, and one of two in the world – the other being across the pond in New York!).

At 4.33x faster than our current digital printers, the Landa uses 5 billion drops of ink per second and can print up to 6,500 B1 size sheets per hour – that's equivalent to 117,000 A5 single-sided leaflets. It can also maintain high quality over longer runs, helping us bridge the gap between digital and lithographic printing, meaning we can pass savings in time and costs onto our customers and deliver high quality results.

It's styled on an American aircraft (f-117a) that's been in service since the 1970s and has a literal cockpit area boasting 4 huge screens. These screens allow the operators to see exactly what's happening inside the printer including temperature levels. At 36 metric ton, the Landa weighs the same as six adult elephants, or approximately three London buses and produces zero waste.





**Meet Vinny,**  
Inkjet and  
Dispatch Manager

## What does your role involve?

I monitor both our large format workflow and our dedicated business card cell. This involves ensuring that all print jobs from these areas are dispatched on time and that they meet our incredibly high quality standards.

As the manager of the business card cell and large format stream, I have to communicate with my supervisor and team leaders to make sure they're provided with the right information to fulfil this requirement. In turn, this helps the team leaders to keep the entire team on track to hit their deadlines.

## What's the best bit about your job?

I have over 32 years' worth of experience in the print industry, and I still love coming into work every day – no matter the challenges. I love knowing that I'm using my experience to make instantprint a world class organisation.

## Why do you enjoy working for instantprint?

We're a really customer-focused business. It's this high level of customer service that's helped us grow so much and makes us different. No matter how technical a job may be, we always keep the customer at the forefront of our decisions.



# Our Lithographic Printers







## Heidelberg Presses

We currently house four of these huge Lithographic presses in our factory; a **Heidelberg XL 75 10C** ten colour which can be fed B2 sheets, a **Heidelberg SX 102** 8 colour press which is the oldest of this group, and **two Heidelberg XL 106** 8 colours.

All of these presses are ‘perfectors’ which means they can print both sides of a sheet of paper in one pass, making for a quicker way to work. Here’s a little bit more about the XL 106...

Renowned as one of the most efficient lithographic presses manufactured in the world, the XL 106 is fully automated to change print jobs and is the first of its kind to do so. This means more print in even less time! As with all of our lithographic presses, the XL 106 uses LE-UV (low energy ultraviolet) inks which are touch-dry after they’ve been cured, which also dramatically improves production time as we’re not having to wait for the wet ink to dry. This is why we choose to print long runs of popular print items like flyers, folded leaflets and booklets on this press.

The big stat you’ve been waiting for – the XL 106 can produce up to a whopping 18,000 sheets per hour! Thanks to these hugely efficient presses, we’re able to offer same day dispatch with next day delivery on an ever-growing number of products like flyers.





## Meet Paul, Litho Team Leader

### What does your role involve?

In a nutshell: I make sure our Lithographic presses run smoothly. This involves everything from maintenance planning, training operators in line with our company values, selecting materials to use, a lot of problem solving and colour management.

I also work closely with our suppliers, Heidelberg and Kodak. We have four Heidelbergs here; two XL 106, a 102 and XL 75 – they're basically very big printing presses that take up the same floor space as an average UK house! Kodak supplies all the plates for each Heidelberg press.

### What's the best bit about your job?

There's never a boring day! On the Lithographic stream you have to be two steps ahead. Each press holds 8 plates which need swapping per job, paper also needs to be changed to reflect customer orders and the quality needs to be checked.

### Why do you enjoy working for instantprint?

We have a real focus on kit, people and wellbeing which makes it an exciting place to be – a place where the company is just as excited as you are for the future of print. I've been in the print industry for the past 30 years, and have never seen the kind of growth we have here at instantprint.

We've recently introduced Low Energy Ultra Violet (LE-UV) on all presses. When the ink comes in contact with UV rays it cures, which is a chemical reaction, and turns the ink into a polymer instantly. Using this kind of ink ensures that our finishing and dispatch teams can take on jobs immediately without any drying time, which in turn means our customers get their print even quicker!

It's an incredibly forward-thinking place to work and I'm proud to be part of it. And what's a bonus, I'm Yorkshire born and bred, so being able to be part of such an innovative company on my doorstep is amazing.



# The Finishing Touch

We put a lot of effort into making sure your print is the highest quality, from start to finish. So, as well as choosing the best printers, we also make sure our finishing equipment is top of the range, for a smooth and professional look every time.

We also streamline our processes to get your print from the presses to our finishing machines as efficiently as possible. Finishing refers to the processes that happen after your artwork has been printed, like folding, binding and laminating. Here are the highlights of our finishing kit.

## Cutting

### Tecnau Cutstack C23

To bolster our Truepress Jets, we complete the booklet production stream with two Cutstacks. Our Truepresses work by printing on a continuous stream of paper, so the Cutstack works as a guillotine to cut the paper into individual pages. And as a huge bonus, it automatically collates the pages as it cuts, meaning all that's left to do is bind them together to create booklets!



### Polar High-Speed Cutters

We currently house three different sized High-Speed Polar guillotines in our factory; the N 137, N 92 and N 78. One of the biggest benefits of these cutters is that they're high automated. Compucut® technology allows us to set up programs, then the guillotines scan the barcodes to know which program to use.



### Kongsberg i-XP24c High Speed CAD Cutter

The Kongsberg can handle a range of different stocks, which makes it perfect for cutting our large format products, like our aluminium signs, down to size. It can also cut custom shapes (rather than just standard straight edges), making it perfect for exhibition stands and our vinyl floor and window stickers.



### Duplo DC-746

So, we put the Duplo in this section, but it's more than just a cutter! This machine can also crease our folded products, like folded business cards, ready for customers to fold when they receive their order. It also creases thick card items that we then fold later on in the finishing process, like greetings cards.



### Heidelberg Rotary Platen

We love to shout about our cutting edge technology, but sometimes you can't beat the classics – and that's certainly true of our Heidelberg Rotary Platen. Produced back in 1967, this piece of machinery is incredibly reliable and has only cost us £1,600 in maintenance work in the whole time we've owned it. It was once used to press inked letter pieces into a stock, but we've converted it using a die-cut template so we can use it for cutting.



## Folding

### Morgana Folding Equipment

We use three folding machines from Morgana; the Digifold 6000 for short runs of lightweight items, the Docufold for 150gsm to 250gsm stocks and the Pro33 Auto-creaser which creases heavier stocks on products like table talkers, getting them ready to be folded.





## Stahlfolder T52

For long runs of lightweight products, we have the Stahlfolder. One of the most notable features of this machine is that it can fold in two directions, making it the perfect match for our cross-fold leaflets.

## Encore MB Rail Folder

When it comes to large quantities of heavy stocks (350gsm and above), we put our trust in our rail folders. Highly reliable, these beasts of a folding machine pre-crease the print before folding to ensure a neat, accurate fold.

## Laminating

### Autobond Laminators

Our thermal laminators use a heated chrome roller to create a strong seal on top of your print. A rubber counter-pressure roller then smooths out this layer. The heat binds the film to your print, and then it's set. We have one in each area – digital, litho and the business card cell!



### Seal 62 Pro S Laminator

For large format products like posters, we add laminations such as gloss and matt using this machine. It can also apply a protective, scratch-resistant layer to exhibition stands to make them more durable.



### Harris & Bruno Excel Coat ZR30

Although not technically a laminator, this machine is used to coat our business cards that aren't laminated. Business cards are a very hands-on product because they're passed on from person to person. To keep them looking impressively fresh, we add a light protective coating using the Excel Coat ZR30 when you choose an uncoated card.

## Binding

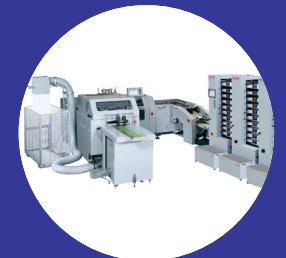
### Horizon Perfect Binders

To bind a perfect bound booklet, we glue folded pages onto a spine, like how many novels are bound with a cover. We use BQ 480 and BQ 470 Horizon Perfect Binders to do this. Highly automated, these binders will adjust their features to suit the book's thickness to ensure a strong bind. This takes into consideration everything from the depth of the glue penetration to the amount of glue applied. As the majority of our booklets are printed on the Truepresses, we keep these binders close by for an ultra-streamlined printing process.



### Horizon StitchLiners

Stapled (or saddle-stitched as they're known in the print world) booklet pages are collated, folded and then bound together in the crease with sturdy wire stitching. We have 6 Horizon StitchLiners in our factory. Once stitched, they're passed into a three-knife trimmer which cuts off the excess on all three exposed sides of the booklet at once.



### Renz Wiro Binders

With our ever-expanding range of wire bound products now including wire bound booklets, notebooks, calendars and diaries, our collection of wire binding tools is pretty impressive. In the early days of our existence, we invested in the **Renz Desk Punch Wiro** – a very manual binding machine that requires the operators to hold stacks of paper under the cutter and press down a foot pedal to punch holes. For a more automated approach, we then purchased the **Renz AP360 Punch Wiro**, where multiple jobs can be lined up and fed through to be hole-punched.

To thread the wire coils through these booklets we use a **Renz MOBI 500 Wiro Binder**, which, like the Desk Punch, is very manual and involves hooking pre-punched pages onto the wire pressing down on a foot pedal to pinch the wire closed. As demand for our wire bound booklets increased, we needed a way to increase our capacity. The **Renz ABL 500 Wire Binder** was the perfect fit! This machine automatically threads wire through the punched holes and can add a calendar hanger if necessary.





## Meet Chris, Production Manager



### What does your role involve?

My main everyday focus is managing the production flow. That means I have to hold regular daily meetings with team leaders across the different print streams so I know exactly what's going on at all times in production.

We produce a huge number of jobs every day, meaning it's essential that the production workflow is maintained at all times, so I spend a lot of time making sure errors are detected and then resolved in as little time as possible.

### What's the best bit about your job?

Over my career, I've seen a lot of printing companies that continue to do things in the same old way they've always done things.

instantprint is completely different – we're innovative in both the new product ideas we have and in coming up with new and better ways of working across all departments. I'm proud to be part of such a vibrant, growing business and excited to see what comes next!

### Why do you enjoy working for instantprint?

Before I started working for instantprint, I had convinced myself that print was a dying trade and that I'd just have to get myself through to retirement. However, as soon as I got here I saw that instantprint has a completely different energy to any place I'd worked before, and don't feel the need to fit in with what everyone else is doing.

This dynamic, growing company is proof that if you do print right (like we do) you can build a thriving business! It's a truly exciting place to work, and is definitely my favourite job I've had.



# Thanks for visiting!

We hope this tour has given you plenty of insight into what happens in our printing factory! Our customer advisors are print experts, so if you have any questions about the different processes involved in creating your print favourites, they'll be happy to help – [here's how to get in touch.](#)

Or, if you want a closer look at some of our state-of-the-art machinery in action, [check out this video tour!](#)

[www.instantprint.co.uk](http://www.instantprint.co.uk)

