

# The Best Fit

Managing B2 (and Larger) Production Digital Printers

ANALYSIS

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## INTRODUCTION

In a production digital print market that is dominated by A3+ format sheet-fed devices, there are a handful of products that offer a larger format for sheet-fed commercial printing applications, with more on the way based on news coming from drupa 2024. For print service providers (PSPs) that are considering an investment in commercial printing equipment, there is one key question:

*“Is there a good fit in my shop for this class of devices?”*

This document will review the factors involved in the use of B2-format (and larger) production color digital printing systems for sheet-fed applications. We will also make recommendations for assessing their value.

## THE FOCUS: SHEET-FED COMMERCIAL PRINT

This document focuses on the use of B2-format (and larger) digital printing systems in commercial printing environments. Three other classes of devices can make a claim to handling larger sheet sizes. These are:

- ◆ **20-inch or wider roll-fed devices:** While it is true that some roll-fed devices can handle duplex printing on a B2-sized sheet (or larger), they require roll-handling equipment that may not be familiar or typically used in a print shop focused on sheet-fed offset.
- ◆ **Long-sheet A3+ format devices:** Some A3+ format digital print products support the printing of long sheets. This capability opens up opportunities for applications like wrap-around book covers, narrow posters or graphics, and multi-panel brochures. This is an important feature, but it does not allow for the printing of full B2-format (or larger) sheets.
- ◆ **Large-format flat-bed or roll-fed devices:** Large-format printers can be used for outdoor graphics, advertising, or packaging applications, but they are unlikely to be used for higher volume commercial print applications.

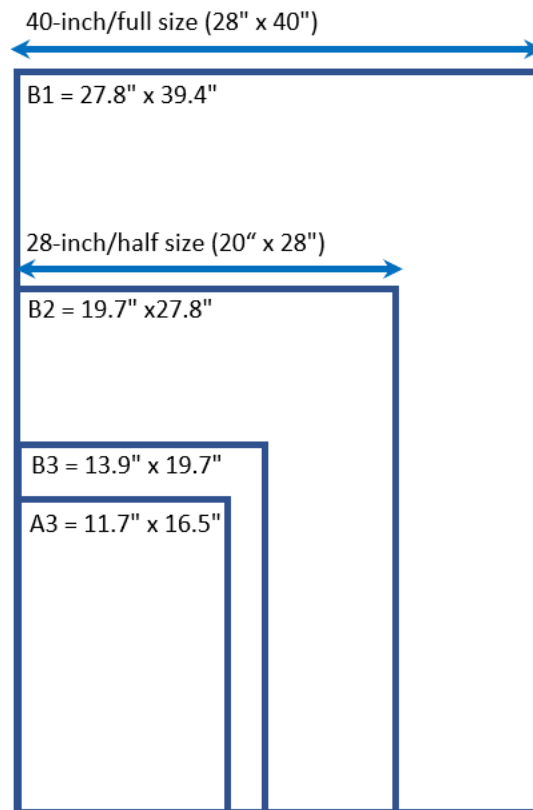
Though these are important classes of products, this document will focus on sheet-fed products for commercial printing with a maximum paper size in the range of a B2 sheet (19.7" by 27.8") or larger (up to B1 format, 27.8" by 39.4").

At this point, there are only a handful of currently available B2-format, sheet-fed, production color digital print systems, and even fewer B1 format, sheet-fed production color digital print systems.

## COMPARING VARIOUS PAPER FORMATS

Three standard paper format sizes are important for any discussion around production color digital printing systems: A3, B2, and B1. Digital printing systems have historically supported paper formats in sizes somewhat larger than 11" by 17" tabloid paper. This format is often referred to as "A3+" because it is larger than the actual A3 standard (11.7" by 16.5"). The production color printing systems that are the topic of this white paper support formats that are much larger than A3+. These are the B2 (19.7" by 27.8") and B1 (27.8" by 39.4") formats. Commercial printers will be more familiar with the terms 40-inch (for B1) and half size (for B2) to describe their sheet-fed presses. The B3 standard (13.9" by 19.7") is the next B size and is within the range of what is considered the A3+ category.

Figure 1: Paper Size Comparison



Source: Keypoint Intelligence

It is interesting to note that each of the B sizes is exactly half the size of the next largest one. In other words, the B2 format (19.7" by 27.8") is half the size of B1 (27.8" by 39.4") and double the size of B3 (13.9" by 19.7").

It is also important to keep in mind that many U.S. classes of paper come in standard sizes. For example:

- ◆ Book papers (coated, text, offset, opaque) are 25 by 38 inches.

- ◆ Writing papers (bond, ledger) are 17 by 22 inches.
- ◆ Cover papers (coated and uncoated) are 20 by 26 inches.
- ◆ Index Bristol papers are 25.5 by 30.5 inches.
- ◆ Mill Bristol and postcard are 22.5 by 35 inches.
- ◆ Tag and newsprint are 24 by 36 inches.

These sizes do not relate directly back to production digital printing systems supporting the A3+ format for the simple fact that all of these sizes are significantly larger than A3. For many years, production digital printing systems only supported the smaller paper sizes typically used for office products like photocopiers.

## THE PRODUCT LANDSCAPE

As we do this quick review of the product landscape, keep in mind that the products covered in this document are those intended for use in sheet-fed commercial print environments rather than those systems designed for packaging, large-format graphics, or roll-fed (continuous-feed) digital printing.

Regarding B2-format, the sheet-fed digital printing systems that are currently available include:

- ◆ **The Fujifilm J Press 750HS:** Offers four-color speeds up to 3,600 sheets per hour with a maximum sheet size of 23 by 29.5 inches (585 by 750 millimeters).
- ◆ **The HP Indigo 15K, 18K, 100K, and 120K:** Offer a maximum sheet size of 20.8 by 29.5 inches (530 by 750 millimeters) and four-color speeds ranging from 3,450 to 4,500 sheets per hour depending on the model.
- ◆ **The Komori Impremia IS29:** Offers four-color speeds up to 3,000 sheets per hour with a maximum sheet size of 23 by 29.5 inches (585 by 750 millimeters).
- ◆ **The Konica Minolta AccurioJet KM-1e:** Offers four-color speeds up to 3,000 sheets per hour with a maximum sheet size of 23 by 29.5 inches (585 by 750 millimeters).
- ◆ **The Ricoh Pro Z75:** Offers four-color speeds up to 4,500 sheets per hour and a maximum sheet size of 23 by 29 inches.

The only currently available offerings targeted at commercial printers in the B1-format, cut-sheet production color digital printing system category are:

- ◆ **The Landa S10P and S11P:** Offer speeds up to 6,500 sheets per hour (up to 11,200 with the 11K module on the S11P) and a maximum sheet size of 29.5 by 41.3 in. (750 x 1,050 mm). You will also see Landa B1-format systems sold by Komori as the Impremia NS40.

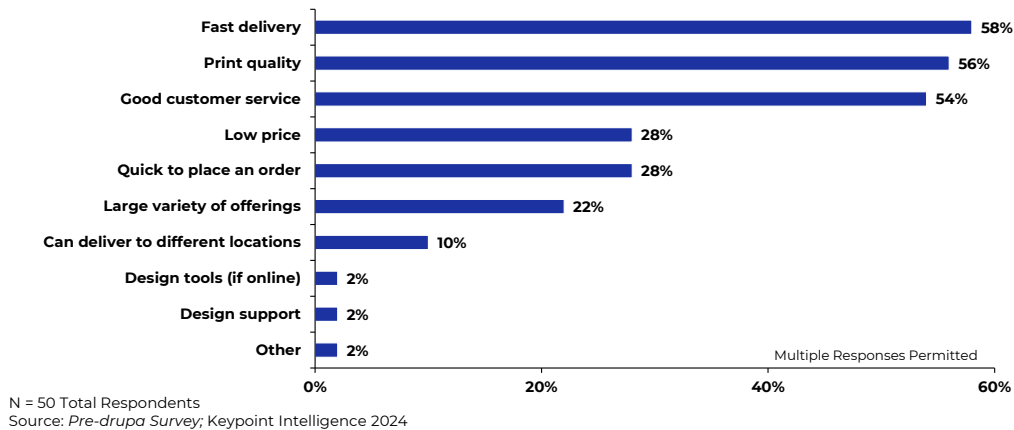
*Note: The speeds described for the above products are for one-sided printing.*

There will certainly be more news coming in the B1- and B2-format production color digital printing category. In advance of drupa 2024, Fujifilm announced an upcoming B2-format production color digital printing system called Revoria GC12500. Komori also noted that it was developing a new B2-format production color digital printing system called the J-throne 29. And right as drupa 2024 kicked off, Canon and Heidelberg announced a collaboration on a B2-format digital printing device that they say will reach the market in 2026. This builds on Canon's announcement of its own B2-format production color digital printing system to be known as the varioPRESS iV7.

## FAST DELIVERY, QUALITY, AND SERVICE

In the months leading up to drupa 2024, Keypoint Intelligence conducted a survey of 50 printers. One question asked about their customers' most important print buying criteria. According to the results, the areas that stood out included fast delivery, high print quality, and good customer service.

**Figure 2: Most Important Customer Print-Buying Criteria**



The fact that these three items all exceed 50% is not particularly surprising. It is also true that they relate equally well to a PSP's purchase of any type of printing system (digital or offset). The one factor to dive into for the discussion of B2 (and larger) production color printing systems is print quality.

Compared on a print sample to print sample basis, today's four-color production digital print systems hold up very well versus offset. Yet quality also comes into play more subtly with samples printed on premium paper substrates or when colors beyond cyan, magenta, yellow, and black (CMYK) are used.

## KEY FACTORS TO CONSIDER

Any PSP who is in the market for a B1- or B2-format production color digital printing system should be asking the following questions:

- ◆ *What is the maximum sheet size of the system?*
- ◆ *What is the maximum print area?* This will always be somewhat smaller than the maximum sheet size.
- ◆ *What paper types are supported?* Pay special attention to support for lighter and heavier weights as well as coatings such as matte and gloss.
- ◆ *What factors impact production speed?* Most system vendors will quote a 4/0 sheet per hour speed. To run 4/4, the speed is generally cut in half because the sheet has to be turned (almost always automatically) and sent through the device again.
- ◆ *Is this a four-color device or are additional print stations available?* The ability to print an extra color or special effect can be a key differentiator.
- ◆ *How accurately can this system match brand and spot colors using four-color output?* Using an extra print station to match spot colors like those from the Pantone Matching Systems (PMS) is a staple of many offset press configurations. Only a few digital printing systems offer that capability. Most will attempt to match special colors using CMYK.
- ◆ *Can the system print duplex automatically?* Not all offset presses are capable of duplexing (i.e., printing on both sheets of the paper with no manual intervention), but most B1- and B2-format production color digital printing systems can.
- ◆ *What are the associated consumable costs?* This includes ink and toner as well as parts, such as inkjet heads, which may need to be replaced on a regular basis.
- ◆ *What are the costs for service?*
- ◆ *How frequently is service needed and what impact does that have on uptime?*
- ◆ *Can my employees be trained to perform basic and more sophisticated maintenance and parts replacement?*

These questions are equally valid for smaller format digital print purchases, but they are of particular importance with larger format devices, which carry a higher system acquisition price.

## REASONS TO INVEST (OR NOT)

Here are some excellent reasons to invest in cut-sheet B1- or B2-format production digital printing systems:

- ◆ **Application fit:** Some print applications will not fit within the more limited A3+ format size. In addition, a larger sheet presents additional layout and imposition opportunities that can be important when ganging multiple jobs together or creating variable data print jobs (particularly when it is important to have all of the components of a personalized job printed on a single sheet for security reasons).
- ◆ **Run length:** Customer requirements for longer runs have declined over the years as changing market dynamics have driven them to take advantage of the value of print-on-demand and personalization that have been made possible by production digital printing systems. Declining run lengths and customer desire for quick turnaround will drive the move to digital print, but many of those needs can be met with existing A3+-format systems. Your application needs will drive whether you require B1- or B2-format systems.
- ◆ **Simplicity of operation:** Compared to offset presses, production digital printing systems tend to be easier to operate due to a simplified makeready.
- ◆ **Turnaround time:** Customers want their jobs as soon as possible. Production digital printing systems provide that, particularly for shorter run jobs, because of their quick “click and print” makeready.
- ◆ **Finding and training operators:** It is becoming more difficult to find experienced offset press operators, or to find employees who are willing to train on a technology that they view as old-fashioned.

These are some factors to consider before investing:

- ◆ **Raw speed:** Production digital print devices are excellent for a variety of reasons, but raw speed is not one of them. Offset presses, once makeready is complete, are typically much faster from a sheet per hour perspective.
- ◆ **Consumable and service costs:** The tradeoff to the relative operational simplicity of production digital print devices is that consumable and service costs tend to be higher than offset. In addition, they are typically available from only one source: the vendor you bought the system from. Commercial printers are used to having multiple sources for buying plates and ink.



- ◆ **Technology cycle:** Offset presses last for a long time and though there will be continued incremental product improvements over time, the technology is less likely to be surpassed by next-generation products within the next five or ten years. This factor plays into your decision to buy or lease as well as the timeframe for equipment depreciation.
- ◆ **Area coverage:** Do you tend to print a lot of pages with large amounts of ink coverage? A fair amount of the cost of printing on digital print devices is concentrated in their ink or toner use, more so than offset.
- ◆ **Paper use:** Can you easily swap papers between your offset presses and your digital print systems? If bringing in a new digital printing system requires stocking separate papers for offset and digital, you need to consider the logistical implications of this.
- ◆ **Finishing:** Will your existing finishing systems be capable of handling larger sheet sizes? A digital print shop bringing in a larger format digital printing system will likely need to make investments to be able to finish larger sheets. Even an offset printer with experience handling larger sheets may need to make adjustments for shorter run, personalized, and other application requirements that impact finishing. It is worth noting here that B2-format digital systems for adding embellishments and handling dye cutting and scoring are also experiencing an upswing in technology development.

## OPINION

The decision to invest in a B2 (or larger) format production color digital printing system is a big one. The price tags are large and the implications for your business are equally important. This also an extremely active area of new product development, with a tremendous amount of product announcements and industry partnerships. The best single piece of advice we can offer is to consider your application needs. Can they be satisfied with A3+-format devices (perhaps those with long-sheet capability)? If not, you have a choice among a handful of vendors with an established installed base of customers who can offer you what you need now. Or you can wait and see what happens as this market continues to mature.

Outside of printing hardware, you should also take time to consider what else can you do to improve your shop's ability to provide your customers with the speedy delivery, excellent print quality, and top-notch customer service that we know that they desire.



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### Comments or Questions?

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