

ARCTIC PAPER PRODUCTS AND DIGITAL PRINTING



ARCTIC PAPER

DIGITAL PRINTING

Digital printing is the collective name for a range of printing methods which have in common that text and graphics are transferred directly from computer to paper without any interim media such as printing plates.

The digital printing methods can be divided into two main types – laser (xerography) which uses dry toner distributed by electrical charges to generate and transfer the print, and inkjet where drops of a very liquid ink are sprayed onto the paper surface.

There are also special techniques which in one way or another differ from these two main types of digital printing methods. HP Indigo is one such example.

PAPER DEMANDS

Even though the digital printing methods have distinct differences, which put unique demands on the paper compared to the traditional printing methods like offset and flexo, the technical development of both the digital printing machines and paper grades have gone in the direction of multifunctionality.

Most new digital printing presses can handle a wide range of papers and many standard papers are, in addition to the traditional printing methods, also compatible with one or several digital printing methods.

OVERVIEW OF THE ARCTIC PAPER PRODUCT RANGE AND DIGITAL PRINTING COMPATIBILITY

AMBER RANGE

(UNCOATED WOOD FREE)

Product	Offset	Dry Toner	HSIJ b&w / spot colour	HSIJ full colour	Reels	Sheets
Amber Graphic	✓	✓			✓	✓
Amber Graphic multifunctional	✓	✓	✓	✓	✓	✓
Amber Preprint	✓	✓			✓	✓
Amber Highway Regular			✓		✓	✓
Amber Highway Super			✓	✓	✓	✓

MUNKEN RANGE

Product	Offset	Dry Toner	HSIJ b&w / spot colour	HSIJ full colour	HP Indigo	Reels	Sheets
Munken Book Range Munken Print, Munken Premium	✓	✓				✓	✓
Munken Design Range Munken Kristall, Munken Polar, Munken Lynx, Munken Pure	✓	✓				✓	✓
Munken Book multifunctional Munken Print, Munken Premium	✓		✓	✓		✓	✓
Munken Design multifunctional Munken Kristall, Munken Polar, Munken Lynx, Munken Pure	✓		✓	✓		✓	✓
Munken ID Range Munken Kristall ID, Munken Polar ID, Munken Lynx ID, Munken Pure ID					✓		✓

G RANGE

(COATED WOOD FREE)

Product	Offset	Dry Toner	HSIJ b&w / spot colour*	HSIJ full colour*	HP Indigo	Reels	Sheets
G-Print	✓	✓	✓	✓	✓	✓	✓
G-Silk	✓	✓	✓	✓	✓	✓	✓
G-Snow	✓	✓	✓	✓	✓	✓	✓

(*) to be tested by customer, very positive feedback on HP PageWide Web presses, Ricoh VC 70000, ...

ARCTIC DESIGN RANGE

(COATED WOOD FREE)

Product	Offset	Dry Toner	HSIJ b&w / spot colour	HSIJ full colour	HP Indigo	Reels	Sheets
Arctic Volume White	✓	✓			✓	✓	✓
Arctic Volume Ice	✓	✓			✓	✓	✓

EXAMPLES OF MACHINES WITHIN EACH CATEGORY

HSIJ b/w

- HSIJ (High-Speed Inkjet) refers to a category of inkjet presses with fixed printheads that print on both sides of the web. These presses operate at high speeds, typically from around 80 up to 300 m/min. They are often used with narrow webs (320–550 mm), although wider presses exceeding 1000 mm are also available.
- The inks used are mainly water-based, consisting of up to 95% water or liquid components. The actual colorants (around 5%) can be either pigments (solid color particles) or dyes (color molecules), with pigment inks becoming increasingly common. However, different ink types exist and may have varying requirements for paper.
- HSIJ presses need a treated inkjet paper or can have inline pre-treatment of paper in the press and then don't need inkjet paper.

Examples: HP, Canon, Screen, Fuji, Kodak etc.

HSIJ full colour

- See above on the main parts, but then what differ is mainly the number of colour units in the press., but also the type of inks can vary first generation was very low print quality at 300X300dpi, updated/ today's presses can run at 1200x1200dpi and at offset quality or even higher. Then speed is also lower at high quality mode
- As the colour reproduction is crucial, different print setting and ICC profiles are very important to be set for each paper

Examples: HP, Canon, Screen, Fuji, Kodak etc.

HSIJ sheet full colour

HSIJ in sheets are relatively new and that also have fixed inkjet print heads and from sheets in B3 /small sizes, but B2 presses are developed and will probably be realised soon. Speed is from about 5000 – 9000 sheets per hour but differ depending on print quality settings, at high quality output the speed will be lower.

Examples: Fuji Jet press, Canon VarioPrint IX, Xerox

EXAMPLES OF MACHINES WITHIN EACH CATEGORY

Dry toner

- Dry toner printers are a group of and small sized printers as, laser printers, copiers and xerographic printers and most often sheet feed presses in Cut sizes A4/A3 or B3, but a few web high presses also exist.
- Comes in both Colour and B/W and the colour pigment is a dry toner powder that this melted by heat into the paper.

Examples: HP, Canon (Canon VarioPrint etc), Xerox, Xeikon , Richo, Kodak plus a number of desk top laser printer

HP Indigo

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- This is a unique print technique that use a “liquid toner” that has toner pigment in an oil base liquid ink, then in the press the oil more or less tolelay removed/dried on the way to the paper and the pigment is finally fixated with heat on the paper surface.
- Due to the ink tack, absorption and fixating of the liquid toner, uncoated paper need a certain pre treatment to work well, otherwise the colour will not attach. Coate paper works without pre treatment.
- Comes in B3 and B2 size

Only HP Indio pressed use this technique

G-SILK 90 G/M² ON HP INDIGO 120K DIGITAL PRESS

HP Industrial Print France has tested and recommends G-Silk 90 g/m² for use with the HP Indigo 120K digital press.

The paper stands out for its:

- Smooth, reliable runnability at high production volumes
- Consistent print quality comparable to offset
- High productivity and predictable performance
- Optimized cost efficiency per sheet