

# Common Factors That Influence Ink Yields

Whether printing on a RISO production inkjet printer, offset press, or toner-based printing device, document design and printer driver settings determine the amount of ink (or toner) consumed for each printed page. The average ink used per page correlates directly to the number of printed pages, or ink yield, that can be produced with a set of inks.

Like all digital printing devices, RISO default printer driver settings are designed to produce good print quality while achieving high ink yields for most document and paper types. The table below and descriptions on page two provide an overview of key factors that affect RISO inkjet printer ink yields. Combinations of these factors will have a cumulative effect and actual results will vary from user to user.

Factor		Higher Ink Yields (Use Less Ink)			Lower Ink Yields (Use More Ink)		
Doc Design	Content Type	Text	Shaded	Graphics	Solid	Photo	Influence: 75%
	Background Printing	White				Colored	
	Process Black	Black Only				CMYK Black	
	Font Type and Style	Light	Book	Medium	Bold	Black	
Printer Driver Settings	Paper Type Selection	Plain	IJ Paper	Matte/Any*	High-Quality	Card IJ	Influence: 25%
	Color Output Mode	Auto Color				Full Color*	
	Color Profiles	Standard*				Custom	
	Max Drops	Auto				7	
	Print Density	-2	-1	0*	1	2	
	Line Smoothing	Off*		Medium		High	
	Screening	43 LPI	Error Diffusion*		71 LPI	100 LPI	
	Resolution (dpi)	300 x 300*				300 x 600	
	Gamma (CMYK or RGB)	0.01	1.00*		2.00	3.00	
	Brightness/Lightness	Light		Standard*		Dark	
	Contrast	Lowest		Standard*		Highest	
Cleaning Cycle	1,000 pages*				500 pages		

\* Denotes default driver settings

Notes: Combinations of these factors will have a cumulative effect. Actual results may vary from user to user.



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## Document Design: 75% Influence

- **Content:** Documents with graphic and photographic elements use higher amounts of ink when compared to documents with text only (i.e. letters/memos) or limited graphics (i.e. bank statements) and photographic elements (i.e. presentations/brochures).
- **Background Printing:** Documents designed for electronic viewing, such as presentations, often include colored backgrounds which consume higher amounts of ink than white backgrounds.
- **Process Black:** Elements created with process black (CMYK) will consume multiple inks, while elements designed in pure black will use black ink only. Note: select “Auto Color” output mode to enable printing of pure black elements.
- **Font Type and Style:** Large, bold, underlined, and thick lined fonts consume more inks than thin or medium styles.

## Printer Driver Settings: 25% Influence

- **Paper Type Selection:** Six paper settings are available with the ComColor printer driver. Each paper type is associated with a designated color profile and a pre-defined number of ink drops. The paper type “Any” will result in the Matte paper settings being used.
- **Color Output Mode:** When Auto Color mode is selected, RISO inkjet printers will automatically detect whether to print using monochrome (black-only) or full color (CMYK) inks. Full Color mode will cause CMYK printing regardless of document design, resulting in lower ink yields.
- **Custom Color Profiles:** Custom color profiles are typically used to achieve a desired color scheme or improved print quality. On average, the use of custom color profiles results in lower ink yields. Note: Available with Advanced and Professional function dongles on the IS900c.
- **Adjusting the Default Color Profile:** The default color profile (Japan Color 2001 Coated) is designed to produce good print quality while achieving high ink yields for most document types. Thirteen additional color profiles are also available, including turning off the color profile.
- **Adjusting Max Drops:** The Auto setting will result in the optimal use of ink to balance print quality and ink usage. Increasing the number of drops will result in increased print saturation and ink usage and decreased ink yields.
- **Print Density:** The default print density setting is zero (0). Lower settings will result in higher ink yields while higher settings typically result in higher print quality.
- **Line Smoothing:** This feature increases the number of ink drops used when printing serif fonts and graphics. Levels include Off, Medium, or High. Each increase in level results in additional ink usage and lower ink yields.
- **Screening:** The default setting of Error Diffusion is designed to minimize ink usage. When selecting dot screen mode, additional black ink is added to the document. Higher LPI settings increase ink usage.
- **Resolution:** The default resolution setting for RISO inkjet printers is 300 x 300 dpi with the option of selecting 300 x 600 dpi. Increasing the resolution to 300 x 600 may produce higher print quality while consuming additional amounts of ink.
- **Gamma:** Adjustments to the CMYK gamma settings affects the coloring of the entire document including the background. The default setting of 1.0 will result in the optimal use of ink to balance print quality and ink usage.
- **Brightness and Contrast:** Adjusting brightness or contrast adds or subtracts black from the document increasing or decreasing the amount of ink consumed.

Authorized resellers can use the RISO on-line [Cost Per Page Calculator](#) to analyze and compare the impact of different printer driver settings on ink coverage and cost estimates for any document.

