



KONICA MINOLTA

MONOCHROME TECHNOLOGIES



**MONOCHROME
TECHNOLOGIES**

Giving Shape to Ideas

SUCCESSFUL IMAGING & MEDIA TECHNOLOGIES

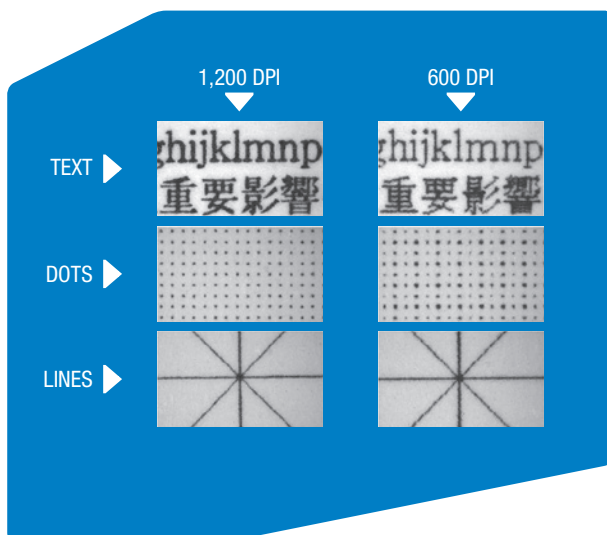
The bizhub PRO and PRESS monochrome printers help you achieve success in printing thanks to a wide choice of unique proprietary technologies which together ensure high-definition images as the basis for top-quality printouts. Their image quality is truly consistent from the first to the very last page, and from one print job to another. Konica Minolta therefore provides the ultimate guarantee of professional results with which you can impress even your most demanding customers.

Depending on their predominant areas of application, the different digital production systems feature these innovative imaging and media technologies in varying combinations - not all technologies introduced in this leaflet are therefore available on all printing presses.

Imaging technologies

Konica Minolta's own advanced colour processing technology of the second generation is called S.E.A.D., which stands for "Screen-Enhancing Active Digital Process", and combines an array of technical innovations to guarantee truly exceptional colour reproduction at top speed. S.E.A.D. II includes these important capabilities:

- **1,200 x 1,200 dpi print resolution** – The outstanding print resolution of two-way 1,200 dpi is achieved with a state-of-the-art LED print head (LPH). This technology improves the reproduction of even the smallest fonts, while the high number of screen raster lines effectively smoothens the reproduction of halftones.



- **Screen setting technologies** – Predefined setting masks (two types with three patterns each) plus a choice of dot screen settings are available on the monitor during printing. They achieve a smoother image quality by revising each dot shape and provide high-quality print images by using the optimal screen to match the output.

- **Tone Curve Utility** – Featured as standard, the tone curve utility quickly adjusts brightness, contrast, etc. of print jobs without the need for a dedicated application. Even in the case of white blowouts and black collapses, for example, the utility corrects the image brightness and contrast over a wide area of the photo with 100% density, without affecting the text.

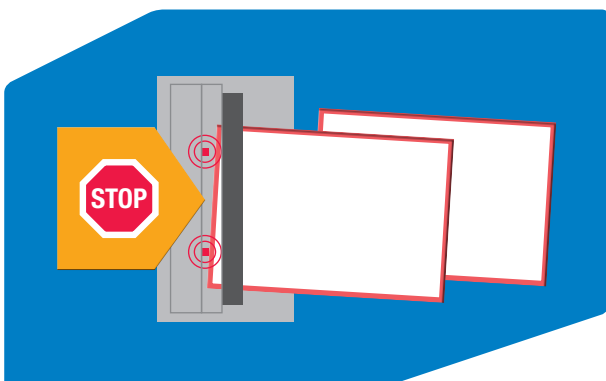
The image shows the Tone Curve Utility software interface. It features a 'Select Tone Curve' dropdown menu, a 'Print Settings' button, and a graph showing a curve that increases from 0% to 100% density. Below the interface, two printed images are shown side-by-side. The left image is labeled 'Printed using default tone curve' and shows a photo of a couple with some white blowouts. The right image is labeled 'Printed using new tone curve' and shows the same photo with improved contrast and no white blowouts. A callout box points to the right image, stating: 'This is 100% black text' and 'This is 75% black text'. Below the callout, it says: 'Reducing the maximum density does not affect the text, which remains at 100% density.'

- **CIE colour space** – Colour document output is appropriately processed by converting the input image first in the CIE (Commission Internationale de l'Éclairage) space and later converting it in the main unit's colour space. This technology controls the collapsing of colours to provide richer gradation expressions over the conventional simple conversion formula.
- **Belt transfer system** – The digital presses feature a belt transfer system which improves the paper feeding and the quality of the transferred images. The paper adheres to the transfer belt to eliminate any gaps, ensuring that the toner is consistently fixed on the belt without unevenness. Incidences of image cuts at the edge of the paper and nip resistance causing an inaccurate transfer are also reduced.
- **TCR and IDC sensor** – A Toner Carrier Ratio (TCR) sensor controlling the toner density is combined with the Image Density Control (IDC) sensor, which controls the revolution speed of the developing sleeve. Compared to only using the IDC sensor, this combination better controls problems such as uneven densities caused by developing conditions and toner spillage.
- **Dmax adjustment** – The adjustment function for maximum densities to correct differences between devices (Dmax) offers adjustments in more increments in comparison to previous systems (0.02 steps). This makes it easier to correct density differences between machines.

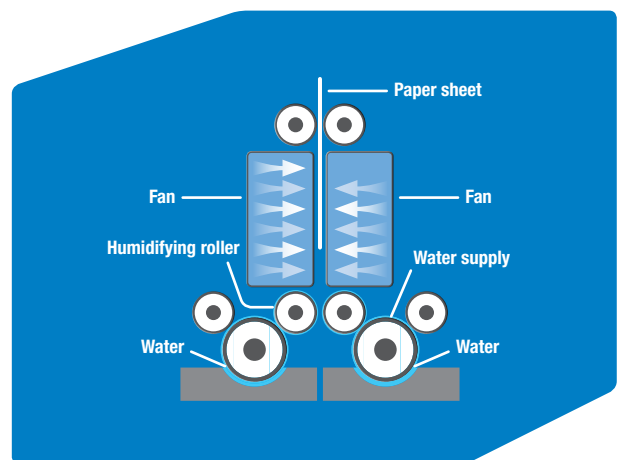
Media handling technologies

Konica Minolta's digital imaging technologies are further enhanced by pioneering media handling technologies that again optimise the superior print quality and professional look and feel of the finished print product:

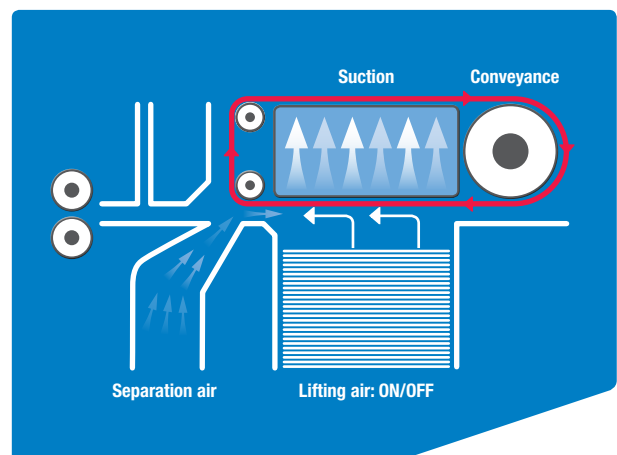
- **Skew Detection System** – To prevent paper skew, the skew angle is measured based on the time gap and linear velocity of the paper being transferred and automatically stops printing when the paper skew exceeds a preset level. This prevents printing errors and problems that may occur following previous steps in the process.



- **Decurling and ICE** – As part of this technology, a mechanical paper decurling unit is provided as standard on all bizhub colour presses. For critical applications, an (optional) additional unit is also available that not only adds a second mechanical decurling process but also a very clever humidifier unit to help remove unwanted static and heat from the paper. The optional ICE (Inter-cooler Curl Eliminator) humidifies the paper passage to remove unwanted static electricity and heat from the paper. At the same time, it helps reduce paper curls and paper clinging, which in combination with the mechanical decurler achieves highly accurate paper delivery.



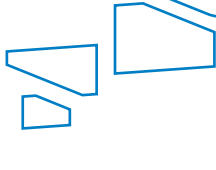
- **Vacuum paper feeding** – It is essential for high-volume printers to feed each and every sheet smoothly and precisely through the digital press. To ensure this, Konica Minolta offers professional and intelligent paper feeding that builds upon proven concepts, including a combination of air separation of sheets and suction/vacuum feeding. This ensures smooth paper processing throughout the printing system. For efficient printing on offset preprinted and coated stock as well as under high humidity conditions, an optional heating unit can be added to enhance this precise technology further.





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