Presstek DI®

Environmentally-Friendly Digital Offset Printing

- Chemistry-free Imaging
- VOC-less Printing
- Conserves Natural Resources
- Waterless Offset

PRESSTEK
A SMARTER WAY TO PRINT

Presstek DI

Protect the Environment, Grow Your Business

Going Green is Good Business

Are you seeking an environmentally-sustainable printing solution that will make your business more capable, profitable and competitive?

A Presstek DI digital offset press is the answer. DI presses are environmentally friendly and deliver cost-effective, quick turnaround, high quality color printing. This smarter way to print offers a strong competitive differentiation that appeals to a wide customer base. DI printing offers capabilities that reach beyond those of conventional offset and toner-based digital devices.

Good for the Environment

Presstek DI presses offer waterless printing, chemistry-free platemaking and substantially less waste than conventional printing processes. In addition, their compact footprint means less floor space is required.

Chemistry-free Imaging

DI presses eliminate the need for:

- chemical processing
- production steps associated with film-based platemaking
- separate imaging of plates using an offline CTP system

Presstek DI presses achieve this efficiency by automatically imaging the printing plates and printing the job directly on press. The digital file is sent to the DI press where all four plates are simultaneously imaged in precise register. Plates are imaged via a thermal process; the heat from the lasers removes the top layers of the plate material, exposing the ink receptive layer. The laser and digital plate comprise an optimized system that eliminates the use of chemistry in the platemaking process.

Direct imaging also significantly reduces the need to store and dispose of chemistry. Worldwide, it is estimated that more than 31 million gallons of chemistry are used in imaging printing plates every year.*

VOC-less Printing

Volatile organic compound (VOC) emissions have been linked to the breakdown of the earth's ozone layer, contributing to global warming. The DI's waterless press design eliminates what is typically the largest portion of a printer's VOC output—solvent-based press and blanket wash solutions. These benefits—combined with the DI's on-press chemistry-free thermal imaging and the automated ink cleaning functions—reduce VOC output by up to 90 percent.

Water Conservation

Conventional offset printing requires water for plate processing and for the press dampening system. DI printing does not use water. The chemically tainted wastewater from traditional offset printing is eliminated. The August 2006 United Nations–Water Thematic Issues report, *Coping with the Scarcity of Water*, speaks to the importance of maintaining and preserving our water supply and projects that 1.8 billion people will be living in countries or regions with absolute water scarcity by 2025 if water use continues at its current rate.

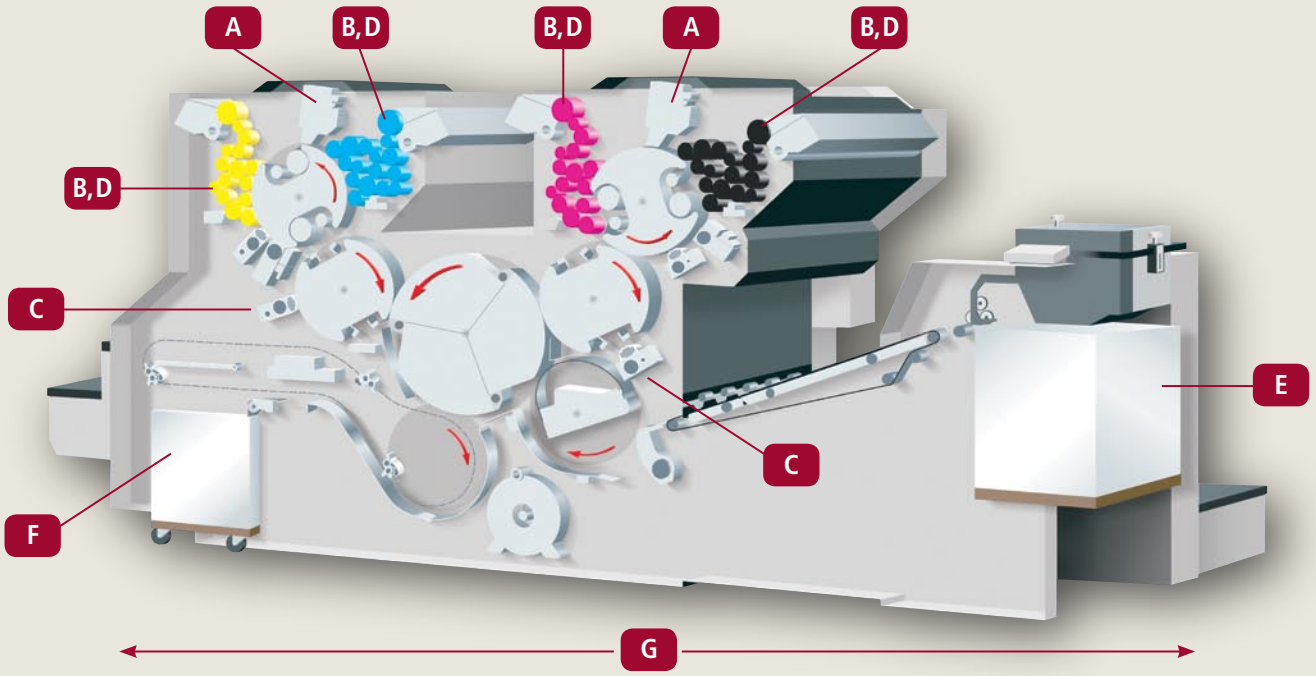
Significantly Reduce Paper Waste

According to PIA/GATF *Navigating Print Markets in 2007–2008*, the cost of paper can account for 22 percent of a printer's sales revenue. Therefore, reducing paper waste has an immediate positive effect on the profitability of a printing company. DI press owners report significant paper savings. For example, one owner reports that he reduced his makeready waste by a factor of 10 (i.e.; reduced from 250 sheets to 25 sheets) after the DI was installed.

From an ecological perspective, this waste saving gains importance when you consider that one tree is equivalent to only two hundred thirty-six 11" x 17" brochures printed on 100 lb. cover stock.

Paper waste reduction is achieved through the DI presses' control over major variables in the printing process, such as ink/water

"We believe companies that take advantage of environmental opportunities can gain a competitive advantage over their peers through cost reductions, quality improvements, increased profitability, and access to new and growing markets." — Jackson W. Robinson
President of the Winslow Management Company
(*Winslow Environmental News*, Volume 14, Number 2)



Presstek DI Environmental Benefits

A. Chemistry-free imaging. Thermal laser digital imaging eliminates the need for plate chemistry.

B. Eliminate fountain solutions and the accompanying waste that can result from the need to constantly monitor and adjust the ink/water balance in conventional offset printing.

C. Eliminate need to use solvents for washing blankets; 90% reduction of solvent used for roller wash and other press maintenance.

D. Ink capabilities: waterless offset ink and soy-based waterless offset ink.

E. Print on recycled paper. A wide range of substrate choices are available from recycled paper to heavy card stock to onion skin; 0.0024" to 0.02" (0.06mm to 0.5mm).

F. Reduce paper waste by eliminating ink/water balance and sheet transfer. File to sellable color within 20 sheets.

G. More efficient use of space due to:

- **DI's all-in-one compact footprint (a Presstek 52DI is 50 percent smaller than a 52cm conventional four-color press);**
- **Reduced storage of printed materials with on demand printing capabilities.**

balance and sheet transfer. The waterless process eliminates the need to constantly manage ink/water balance—resulting in the press coming up to color more quickly, producing sellable color within 20 sheets, and maintaining consistency throughout the run. The other major variable, sheet transfer, is eliminated by Presstek DI's Zero Transfer Printing (ZTP) process. With ZTP, all four colors are laid down onto the sheet without sheet transfer between towers. ZTP significantly reduces operator intervention, provides first sheet register and enables sheet-to-sheet, day-to-day, and job-to-job consistency. DI's ZTP process, combined with the efficiencies of waterless printing, not only saves trees and solid waste to landfill, it also lowers the cost of each job by reducing paper consumption.

Compact Size, Economic Use of Floor Space

Presstek DI presses integrate chemistry-free platemaking and waterless printing within an all-in-one compact footprint. The size economies of DI presses offer a more productive and efficient use of floor space. The Presstek 52DI utilizes 50 percent less floor space compared to a 52cm conventional four-color press with its associated plate-maker and processor.

On Demand Printing, Just in Time

DI presses are designed to effectively print high quality offset color printing—the sweet spot is run lengths from 250 to 10,000. As a result print buyers can order the exact quantity they require for the project or for the moment. This dramatically reduces the floor space required for inventories of printed material and saves on the waste associated with the future disposal of unused pieces.

Less cost, more efficiency and environmentally conscious printing—Presstek DI presses are the optimum printing solution for today and tomorrow.

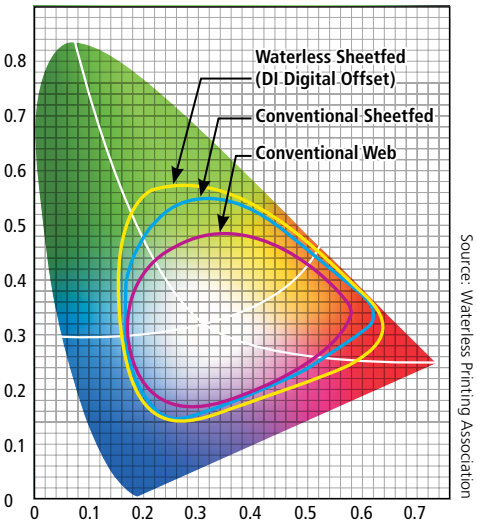
*According to information compiled by John Zarwan, J Zarwan Partners, 2007

Be More Capable, Profitable and Competitive

Presstek DI makes it possible for you to have it all: environmentally friendly, high quality, accurate color reproduction—quickly, cost-effectively and on a wide range of substrates.

Better Color, Reduced Waste

DI waterless printing conserves water and reduces waste while providing higher quality color with higher ink densities that expand the color gamut and produce more saturated color. The chart at right shows the CIE hue measurements taken from three different press sheets. DI waterless printing offers a 20 percent larger color space than conventional offset.



DI waterless printing provides a 20% larger color gamut.

Increase Business Opportunities with Presstek DI Digital Offset Presses

Expand Capabilities

Superior Quality	Up to 300 lpi and FM screening.
Greater Detail	Lower dot gain resulting from direct thermal imaging on waterless DI ProFire Digital Media.
Better Color Saturation	Ink densities average 20 percent higher than conventional printing, while maintaining sharpness and detail. Much richer appearance than conventional printing even at the same screen rulings.
More Colors, Accurately	20 percent larger color space than conventional offset.
Consistent Color	Achieved by elimination of dampening solution and sheet transfer.
Wide Range of Substrate Options	From onion skin to heavy card stock, 0.0024" to 0.02" (0.06 mm to 0.5 mm). Highly compatible with standard recycled paper stocks.
Faster Makeready	Automated makeready in 10 minutes, including imaging; producing sellable color within 20 sheets. Automatic ink key setting speeds makeready, while reducing paper waste.
Quick Turnaround	Automated changeover, including automatic press and blanket wash. Fast operating speeds of up to 10,000 sheets per hour. Infrared dryer combined with the naturally fast drying waterless inks allow for quickly printing on sheets' second side.

Increase Profitability

Higher Profit Margins*	*Compared to conventional offset:* Job profitability is 13 percent higher on a DI press. *Compared to toner-based digital devices:* Save 50 percent on average per letter-sized page with a DI press.
Reduce Labor, Time and Cost	Highly automated, easy-to-use DI presses require less operator time to run and maintain. Enables less-skilled operators to produce superior quality printing.
Small Footprint	Save floor space with the system's all-in-one compact footprint.
Clean Operation	Compatible with commercial real estate environments.

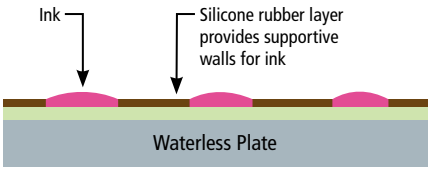
Strengthen Competitive Advantage

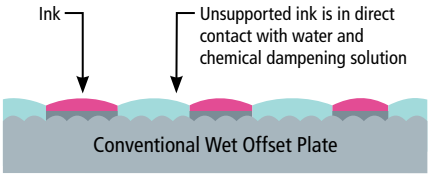
Differentiate Your Business	Show print buyers Presstek DI's high quality color, wide range of substrate options, fast turnaround and cost effectiveness. Address your customers' environmental concerns and requirements.
Better Leveraging of Growth Market	Lowest cost per page in 250 to 10,000 run lengths, one of the fastest growing segments of the industry and the DI "sweet spot."

*Source: InfoTrends, Inc., *The Next Generation Digital Color Printing Opportunity* and *U.S. Print On Demand Market Forecast: 2005–2010*

Higher Quality, More Accurate Color Reproduction

When printing with a Presstek DI press, dot gain is reduced because the press eliminates the need for dampening solution. The dots are sharper and photographic shadow detail is rendered more clearly. Screen rulings of 300 lpi and FM screening are easily produced and the color is consistent.





For more information about Presstek Products:

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Printed with a Presstek DI press on Chorus Art 100 lb. Silk Cover. Chorus Art stock contains 50 percent recycled fiber, including 25 percent post-consumer waste, and is Forest Stewardship Council certified.

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