

Presstek 34DI

Transform your print shop into
a digital offset powerhouse

PRESSTEK
DI



 **PRESSTEK**
A SMARTER WAY TO PRINT

Get the Highest Quality, Short Run Color Printing With a Presstek 34DI

PRESSTEK 34DI

The demand for high quality fast turnaround color printing is growing

As a result of the transition to desktop publishing systems and digital imaging, as well as the constantly changing business market, the demand for high-quality color printing is growing. At the same time, run lengths and production cycle times are shrinking.

- We live in an on-demand world of overnight deliveries, digital transmission, and instant global communication. Printers must keep pace with customers—the advertisers, print buyers and graphic designers—who work in this fast-paced digital world.
- Advertising budgets are focused on target markets and measurable results—increasing the demand for versioned, relevant communications to those target markets, further reducing run lengths for individual jobs.
- It no longer makes sense to print marketing materials in large volumes for economy of scale. Shorter, more targeted runs are printed, and they are revised and reprinted as market conditions change and evolve without the need to incur huge costs of obsolescence.
- Products and services are rapidly changing, and businesses are demanding cost-effective, fast, quality color printing to keep their messaging up to date.

The ideal press for high quality, on-demand four color printing.

The Presstek 34DI is ideally suited for the vast majority of projects printed in commercial print shops, including data sheets, newsletters, brochures, direct mail pieces, posters, point-of-purchase displays, menus, manuals, real estate promotions, stationery, business cards, greeting cards, and more. The Presstek 34DI streamlines the four-color offset printing of digital files—it is the right press for today's demanding market and the fastest path to profitability for your business.



The Presstek 34DI produces high quality printing—fast, efficiently and profitably.

The Presstek 34DI is a highly automated sheetfed four-color digital offset printing press that combines the efficiency of an all-digital workflow with the versatility and quality of conventional four-color offset. The Presstek 34DI is engineered to deliver the lowest cost per page for print runs of 250 to 10,000 while maintaining its cost advantage in much longer run lengths. The Presstek 34DI is a breakthrough product for commercial printers who must constantly work to reduce makeready times, increase job throughput and improve productivity to remain successful in an increasingly competitive and demanding marketplace.

The innovative 34DI eliminates the expense of a separate plate production process and all of the extra steps associated with off-press imaging. Instead, prepared digital files are sent via a high-speed network directly to the press where plates are automatically advanced and mounted on the press cylinders and imaged simultaneously—in precise register.

The Presstek 34DI delivers true four-color process printing—with the quality, features and choices of stock you and your customers require. With the 34DI, you can economically produce full color printing with a maximum sheet size of 13.39" x 18.11" (340 mm x 460 mm). And best of all, with no film, off-press imaging equipment or intermediate processing steps, you save time, labor, shop space, and money with absolutely no compromise in quality.

The Presstek 34DI is the right choice for:

- Commercial printers that want to gain operational efficiencies by further automating their offset printing applications
- Print shops that are finding it increasingly difficult to compete for four-color printing work with their two-color presses
- Digital printers that need to add capacity, require the ability to print on a range of substrates, and cannot effectively compete on runs that are longer than 250
- Commercial shops that cannot compete on fast turnaround color jobs with their larger four-color presses
- In-plant operations that want to expand the services they offer to their internal customer base

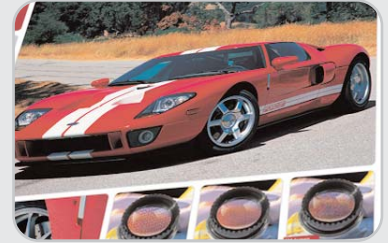
"The DI is highly automated and easy to operate. We're able to turn jobs around in less time and set-up faster, so much so that we're able to pass along those savings to our customers."

**Mitchell Freundlich, CEO
Accela Graphics
of New England
Westborough, MA**

Presstek 34DI: A Smarter Way to Print

Quality

The Presstek 34DI provides high definition output that exceeds that of conventional offset presses and toner-based printers. The automation and inherent quality of DI printing makes high quality offset printing easier than ever before, with less dependence on operator training and experience. With a 34DI, print up to 300 lpi and FM screening without incurring additional expense or time.



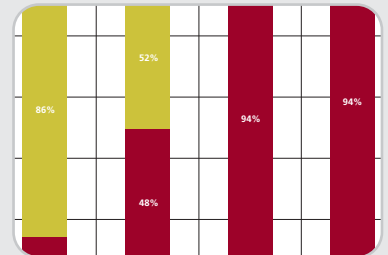
Productivity

The Presstek 34DI is the fastest path from digital file to sellable press sheet. The high level of automation, ease of use, and operating speed of up to 7,000 sheets an hour results in a job changeover time of 10 minutes. The auto print feature allows the operator to be productive at all times—load paper, transfer jobs to the bindery, or update job tickets while the DI is automatically mounting plates, imaging plates, setting ink keys and coming to color.



Profitability

Independent studies by InfoTrends show that DI printers experience profit margins of over 40%. The most recent InfoTrends study concludes that DI printing not only meets profit expectations but also is a growth opportunity for existing owners. Print volumes and revenues continue to increase on these devices, suggesting that these owners are building their businesses around their DI presses.



Technology

The extreme efficiency and exceptional quality of the Presstek 34DI is the result of the blending of three unique Presstek technologies—press design, laser imaging and thermal plate media—working together as an integrated system.



The Presstek 34DI:
Designed to meet
market requirements
for high quality, short
run color printing





Vibrant color

Amazing reflective reproduction

Saturated hues



Rich darks

Crisp detail

Striking shadow detail

Presstek 34DI: High Productivity Short Run Color Printing

A smarter way to print

Fast, effective response to customers' needs is critical to success in today's printing market. The Presstek 34DI is designed to open doors to new business in the short-run and on-demand color printing markets by dramatically increasing the speed, productivity, profitability and quality of digital offset printing. The Presstek 34DI combines the high quality and versatility of offset printing with the ease of use, automation and efficiency of digital printing. Whether you aim to expand your business or produce existing color jobs more profitably, the 34DI is a smarter way to print.

Outperform the competition

The Presstek 34DI provides the most streamlined workflow from digital file to printed sheet. There are no special skills, intermediate steps, or operator intervention required. The entire printing operation is automated—from plate advancing and imaging to printing and cleaning. Because off-line plate production and the associated materials and handling are eliminated, the entire printing operation is consolidated in one, compact system.

The 34DI delivers the features required to be profitable in today's competitive print market. The low cost per page expands your margins and enables profitable runs from 250 to over 10,000. The ability to produce more color jobs, faster, while improving quality, positions you to capitalize on the changing needs of today's print buyer.

Boost productivity in your print shop

Fast changeover

With the 34DI, a complete job changeover takes ten minutes, including the imaging of printing plates and coming to color.

Print speed

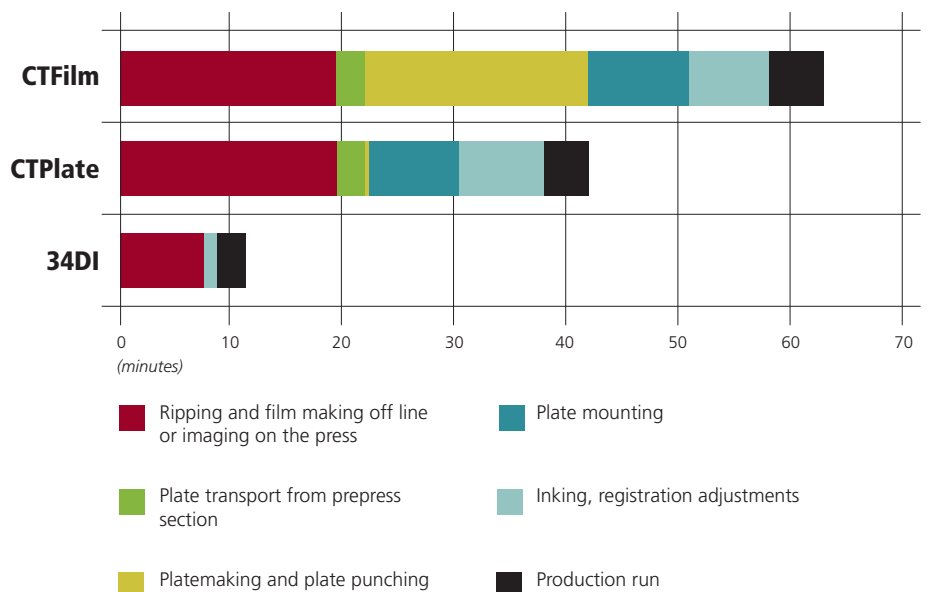
The fast changeover time combined with the fast operating speed, up to 7,000 sheets an hour, will provide more high quality color print jobs than ever before.

The infrared dryer combined with the naturally fast drying characteristics of the waterless inks will allow quick printing of the sheet's second side, further expediting fast turnaround times.

Comparison between the Presstek 34DI and a conventional press for the time it takes to get to your first printed sheet

	Presstek 34DI	Conventional
Plate preparation (imaging 4 plates, processing/cleaning, mounting on press)	9 minutes	25 minutes
Register on press	Automatic	4 minutes
Roll-up with ink and achieve ink/water balance	Not applicable	6 minutes
Adjust ink keys	30 seconds (automatic)	5 minutes (manual)
Run to density/sellable color	30 seconds	3 minutes
Total time to printed sheet	10 minutes	43 minutes

Productivity comparison between the 34DI, CTPlate and CTFilm (A3 sheet, 4-color, 500 sheet job)



"There is no question that short-run color is a growth market for us. In the first six weeks, we put over a million impressions on our first Presstek DI. We have been able to cut our makeready time in half and produce a significantly higher number of jobs each day, increasing our overall plant volume."

Mark Eil
Chief Financial Officer and Owner
BCT Arizona, Colorado and New Mexico

Precision

Presstek's DI printing process is inherently accurate: All plates are imaged on press in precise register, ZTP ensures that the sheet moves through the press without any movement, and the entire process is automated eliminating the steps and liabilities associated with off-press platemaking. The result is first pull registration.

Unmatched Versatility

Easily print on a wide range of substrates with the 34DI. Materials ranging from 0.0024"–0.02" (0.06–0.5 mm) are accommodated. Effortlessly print on synthetic substrates like styrene, acetate, and other plastics including lenticular lenses. The 34DI is also capable of printing on label stock and converted envelopes.

The precise registration, fast ink drying times and quick job changeovers enables you to print Pantone colors, spot varnishes, and metallics without difficulty, allowing you to meet more of your customers' printing requirements.

Flexibility

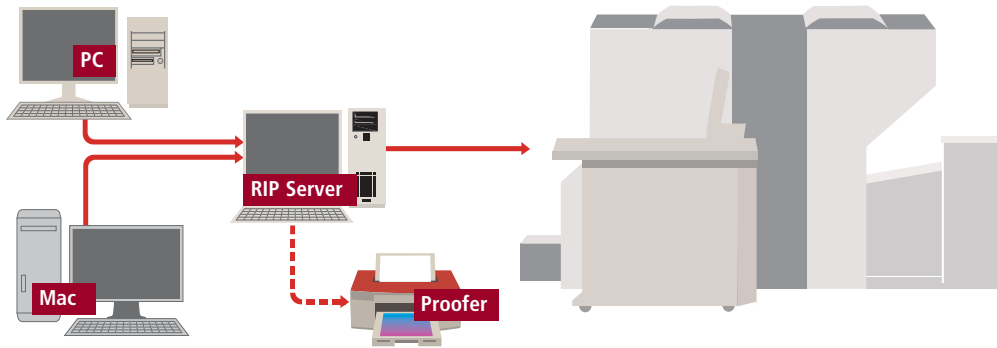
The 34DI can help you economically produce any type of commercial print application, including brochures, postcards, business stationery, real estate flyers, point of purchase displays, catalogs, direct mail, gift certificates, menus, posters, and more.

Ease-of-use

The Presstek 34DI is loaded with automated processes from plate management to making color adjustments, eliminating the need for operator intervention. During the 34DI's automated changeover process, the press operator can be performing other tasks, improving overall shop productivity.

Uptime

For maximum profitability, your press needs to be printing sellable sheets as much of the time as



possible. The Presstek 34DI is built to print. At the start of the shift there is no need for any special maintenance or calibration processes—simply access the job queue and print. Color consistency during print runs and from job to job is ensured by the precise color measurements and the predictable color of the 34DI. At the end of the shift, a quick automated wash up is all that is required.

Job Management

Up to fifty print-ready jobs can be stored on the 34DI. Print them in the order they arrive from prepress or select any job in the queue allowing the easy accommodation of rush jobs.

Smart inking

The 34DI automatically runs up ink at the start of a job and balances the rollers upon completion, ensuring precise ink metering. Smart inking contributes to faster makeready times and reduces paper waste.

Cleaner environment

The 34DI removes the expense and labor associated with a chemistry-based workflow. There is no more processor maintenance, no storage of toxic chemicals or costs for chemical disposal. And without fountain solutions, printing is cleaner both operationally and on the printed sheet.

Digital workflow

Not only is it easy to use, the 34DI integrates easily into your existing workflow. The Presstek 34DI supports PostScript and PDF files in a Macintosh or PC environment. The 34DI can simply be positioned as a high-performance output device on your network.

DI-Tools

Further increase the productivity of the 34DI press and operator by enhancing the digital workflow. DI-tools include:

- **DI-write** automates the conversion of TIFF files to DI file format, adjusting header file information while maintaining bitmap integrity
- **DI-thumbprint** generates files for previewing jobs at the console before imaging
- **DI-view** allows on-screen proofing of ripped files for trapping, fonts, screening and dot percentage
- **DI-merge** combines ripped files for work-and-turn and sheetwise printing. Combine files with different calibration curves and screen rulings

"With the DI, I no longer have to make film, strip plates, mount plates, register plates, or set ink keys. All of these steps take a lot of time. I am able to produce sellable sheets very quickly with the DI's extremely short makeready time."

**Tony Ngo, Owner
Kwik 2DirectPress
Sunnyvale, CA**



Presstek 34DI: The Ultimate in Profitability

DI Press Owners Benefit from Increased Profits and Faster Job Changeovers

Independent Survey Demonstrates Advantages of DI Printing

In September 2005, InfoTrends, an independent consulting firm, published a study that examined the overall impact a DI press has on the business operation of a print shop. Since acquiring a Presstek DI press, the companies surveyed have seen higher profit margins, reduced makeready times, and increased productivity and revenue growth. These results are mainly attributed to the acquisition of new customers and being able to print more jobs. The study clearly indicated that print providers are increasingly turning to their DI presses to meet the growing customer demand for high-quality, short-run color printing at a lower cost compared to other production methods for run lengths between 250 and 10,000.

Methodology

This independent study focused on key decision makers within companies that use DI presses employing Presstek ProFire and ProFire Excel imaging technology. Among these companies, 86% reported revenue of less than \$3 million and 72% employed fewer than 20 employees.

DI: Providing the Perfect Solution

The move toward shorter run lengths has been a consistent trend over the past several years. Survey respondents confirmed this trend by reporting an overall increase in jobs with run lengths of less than 5,000, with the highest increase in jobs with run lengths between 500–999 sheets. At the same

time, respondents said jobs with run lengths above 10,000 sheets have declined.

As print buyers move toward smaller print runs, print providers are increasingly finding DI printing to be the most suitable technology to meet their needs. In fact, survey respondents reported that their DI press was most suitable for jobs with run lengths between 500 and 10,000 sheets but still profitable for jobs with as few as 250 sheets.

Based on the trend of shorter run lengths and the respondents' opinion of the most suitable technologies, the sweet spot for DI printing is jobs with run lengths between 250 and 10,000 printed sheets.

DI: Meeting Customer Demands

When asked to predict the impact of DI printing on their future print volumes, respondents overwhelmingly indicated the DI will represent a growing part of their business. In fact, 94% predict DI print volumes will increase in the future. Their responses offer a clear contrast to the future of conventional offset printing volumes, where 59% of respondents estimate volumes will stay the same or decline.

DI: Improving the Bottom Line

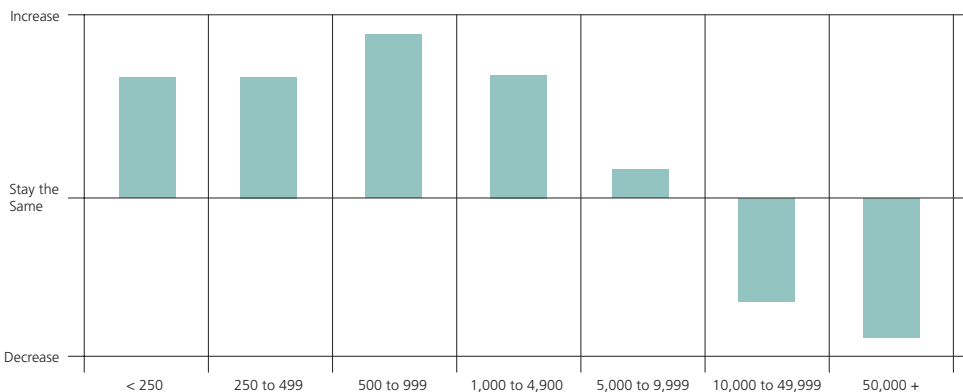
Perhaps most importantly, survey respondents offered a range of motivations for acquiring a DI press, all of which indicate a desire to improve their capabilities and grow their bottom line. Of the respondents, 90% agreed that they needed to reduce production costs and improve job



Key Findings

- Makeready on a DI press takes half the time of a conventional offset press
- 90% of respondents said DI printing allowed them to increase their business through new customer acquisition
- 96% of respondents increased business by growing the share of customers' total print business
- Job profitability is more than 13% higher on a DI press compared to conventional offset
- Users expect DI printing revenue to grow 27.5% to reach 41.7% of their total printing revenue over the next two years
- 76% of respondents indicated that DI has enabled them to produce applications that they could not previously produce
- 72% of respondents indicated that DI has helped them grow other printing services

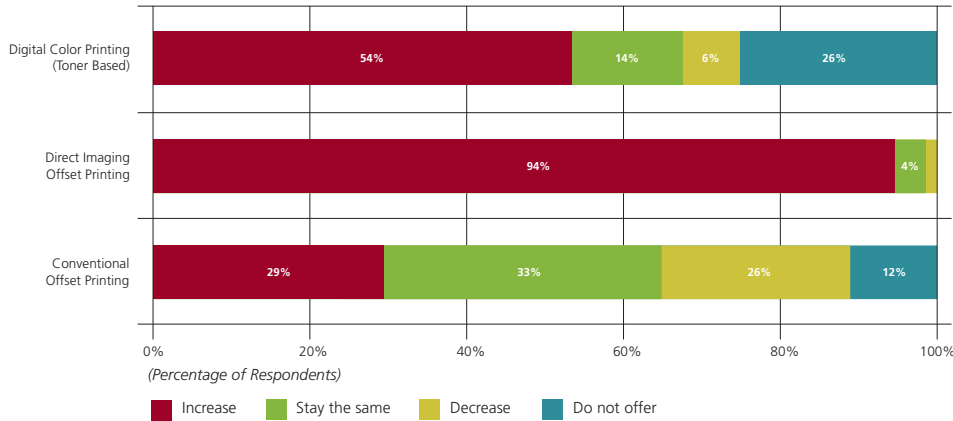
Change in Frequency of Run Lengths



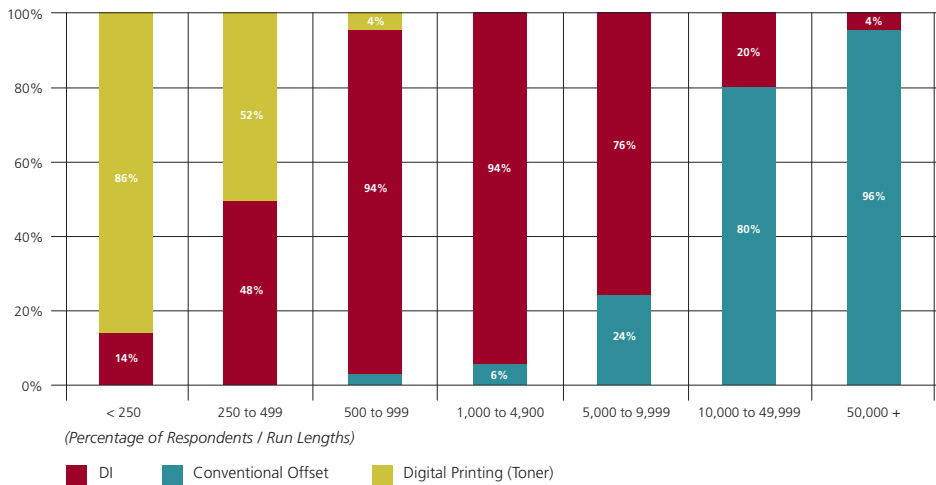
"Our DI press has increased our sales. Before we had the DI press, we were losing market share. We couldn't compete with conventional printing in runs of 1,000 or more. So we looked at the DI and were impressed by the high level of automation and the benefits of waterless printing, which include a cleaner and safer printing environment and faster drying times. We put the press in and it has been magic ever since. It's done exactly what we wanted it to."

John Yerger
North Little Rock, AR

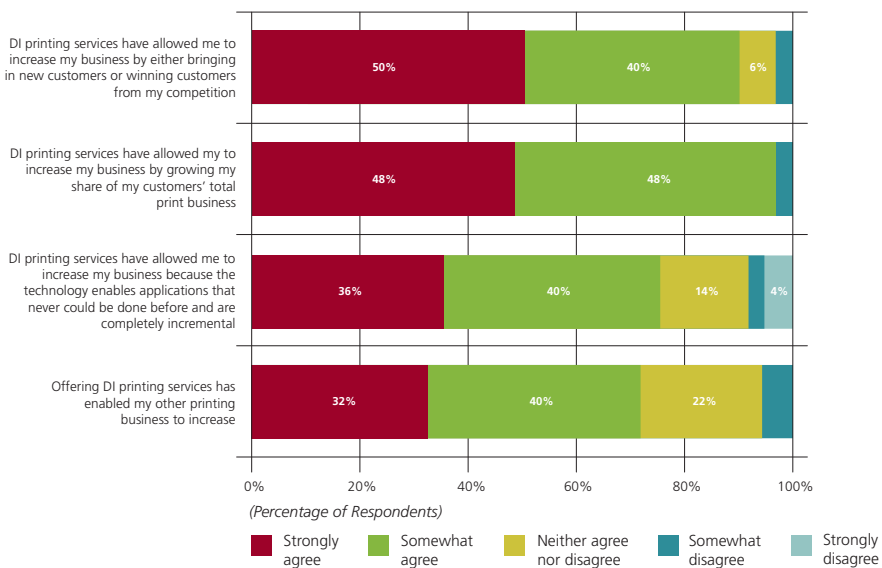
Print Volume Growth Trends by Technology



Technology Choice Based on Run Length



Impact of DI Press on Business



efficiency. 75% of respondents specified that they wanted a device that would complement their offset printing equipment and 58% wanted a device to complement their toner-based systems.

Further probing illustrates that certain business drivers were key in respondents' decisions to acquire a DI press. New customers, markets and industries were all motivating factors in expanding their services with DI equipment. In addition, more competitive prices, shorter turnaround times, shorter run lengths, and higher print quality were all key drivers.

Respondents also expected DI revenue to continue to grow to represent a still greater portion of their overall revenue. In fact, these companies estimate DI revenues will increase by 27.5% over the next two years, to reach 41.7% of total revenues. Today, survey respondents said profit margins on their DI printing are exceeding that of conventional or other offset jobs by more than 13%.

DI: Growing Your Business

The addition of DI capabilities has allowed the majority of the companies surveyed to grow their businesses through several opportunities made possible by their DI presses—from customized pieces to short runs.

A full 90% of those surveyed agreed that DI printing has enabled them to increase their business by bringing in new customers or winning customers from the competition. Further, 96% agreed that their DI press has enabled them to increase their business by growing their share of customers' total business.

By expanding the scope of printing services available to customers, respondents were also able to produce applications that they were not able to produce without a DI. These companies also report that, with the addition of a DI press and the means to offer a more robust set of printing capabilities, they have seen increases in other printing services.

Conclusion

DI users have grown their businesses at a much faster rate than the industry at large, while better meeting the changing requirements of today's market. The survey clearly shows that DI printing is a growth opportunity and owners' profitability expectations are being met. The growing print volumes and revenues DI printers are experiencing indicates that they are building their businesses around DI. ■

The Technology Inside The Presstek 34DI

Optimum performance

The incomparable efficiency and exceptional quality of the Presstek 34DI is the result of the blending of three unique Presstek technologies—press design, laser imaging and thermal plate media—to work together as an integrated system.

Press Design

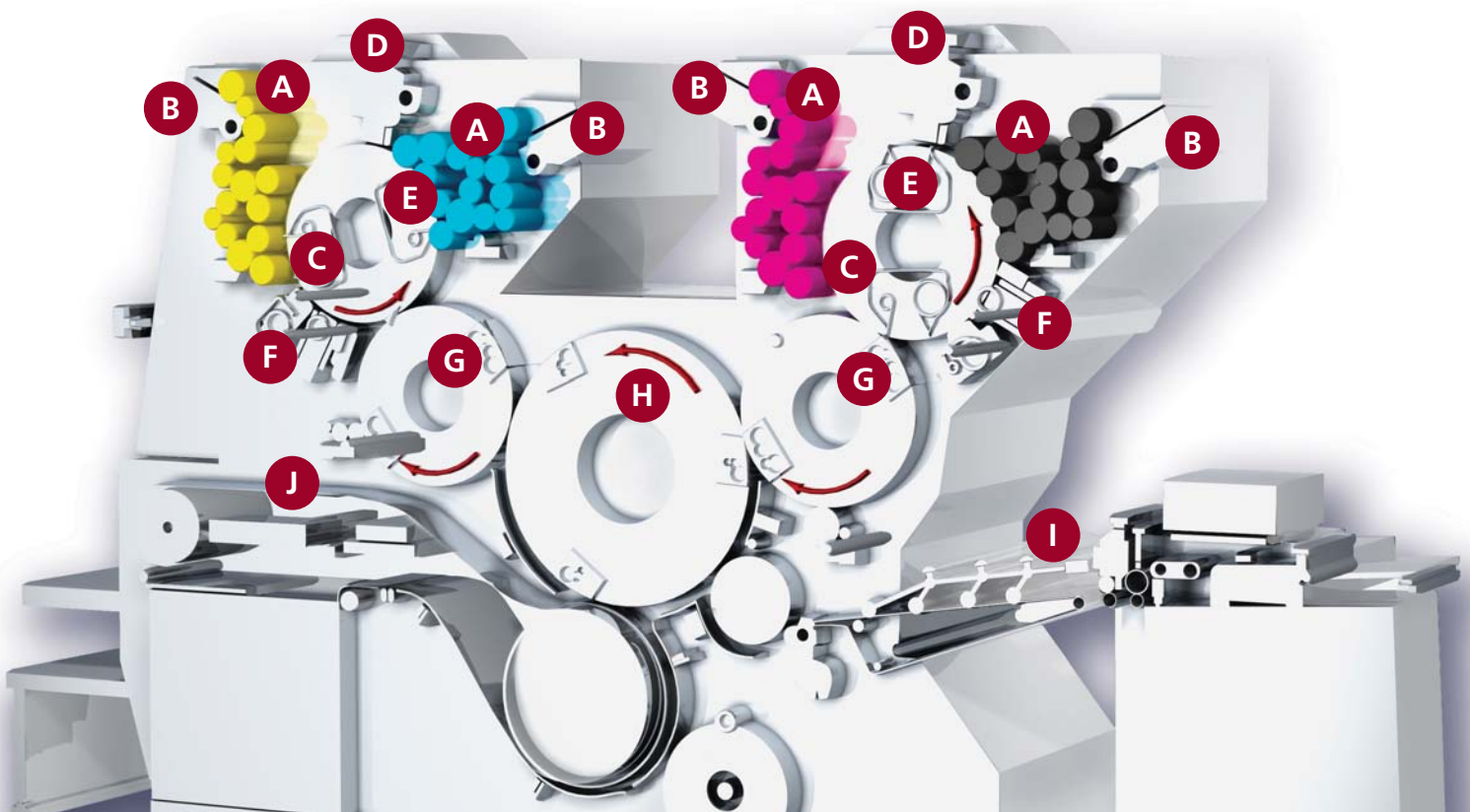
The 34DI uses Presstek's Zero Transfer Printing (ZTP) process. With ZTP all four colors are laid down onto the sheet without any sheet transfer between colors. ZTP provides:

- First sheet register
- Precise registration, sheet to sheet, job to job
- Sellable color within 20 sheets
- Excellent ink coverage and reduced waste

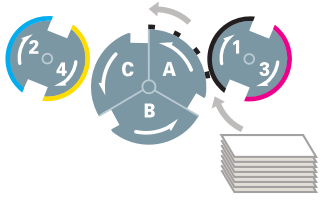
A satellite V-shaped 5-cylinder system consists of two sets of double-diameter blanket cylinders and plate cylinders which rotate around a triple-diameter impression cylinder. Each sheet is tightly held by the impression cylinder grippers and rotated twice without being transferred for precise four-color printing. The large diameter of the impression cylinder reduces paper curling as well as damage to the substrate.

Press Design Features

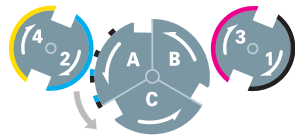
- The Presstek 34DI uses waterless offset inks. The ink train has four form rollers. Three chilled rollers cool ink, eliminating toning.
- Eleven ink keys per unit are preset during ripping, based on color profiles and exposure area for each color in a specific job. Auto start-up pre-inks plates before sheets move through the press.
- ProFire Digital Media inside each double-plate cylinder is automatically dispensed; plates are then tensioned. The press declutches, freeing plate cylinders to spin at 300 rpm during imaging.
- Presstek's ProFire Excel imaging unit simultaneously images all four cylinders at 2540 dpi in 4.5 minutes.
- ProFire Digital Media spools contain enough material for 28 full size printing jobs; used plates are automatically transferred to a take-up area.
- Once imaging has been completed, a two-step automatic plate cleaning is initiated. A vacuum then removes any remaining debris from the plate.
- Portrait-style press format features double-plate cylinders, with matching double blanket cylinders beneath. The bearer design assures consistent impression pressure. A V-shaped configuration radiates from a common impression cylinder.
- The triple-sized common impression cylinder holds two sheets tightly, eliminating potential for misregistration because there is no gripper change. A sheet picks up four colors in two revolutions
- Register board/push guide precisely shuttles stock to ensure accurate infeed. Proven feed systems accommodate a wide range of standard stocks, or even plastics, envelopes, Tyvec and other specialty stocks, in calipers from .0024"–0.02" (0.06–0.5 mm) in sizes up to 13.39" x 18.11" (340 x 460 mm).
- An infrared dryer expedites curing of waterless inks. An autoclean cycle prepares ink rollers, blanket, and plate cylinders for the next image. Total changeover time is 10 minutes.



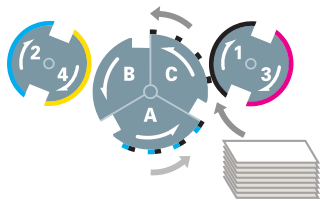
Zero Transfer Printing (ZTP) Process



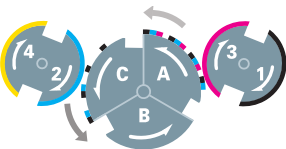
Sheets are fed one per revolution of the plate and blanket cylinders. Blanket 1 prints the first color.



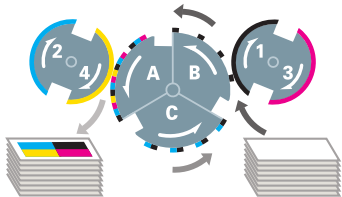
Blanket 2 prints the second color.



The next sheet enters the rotation, while the first sheet begins its second rotation.



Blanket 3 prints the third color on the first sheet during the second revolution of the impression cylinder, while blanket 2 prints the second color on the following sheet.



Blanket 4 prints the final color on the first sheet, which is sent to the dryer and pile. Following sheet begins its second rotation, while another sheet enters.

ProFire Excel Laser Imaging

ProFire Excel is Presstek's latest generation laser imaging technology. ProFire Excel delivers exceptional image quality while dramatically reducing the possibility of moiré patterns in standard screen rulings. Fine details, color fidelity, minimum screen values, and large solids are produced with results that meet the most demanding offset printing needs.

ProFire Excel easily supports screen rulings up to 300 lpi and FM (stochastic) screening.

ProFire Excel combines all of the imaging components—infrared laser diodes, laser drivers, data electronics, and motion control—into one compact system. The foundation of ProFire Excel is a single image data board that controls the laser diodes. Each diode contains four uniquely addressable, 16-micron beams for high reliability, unmatched accuracy, and high-resolution imaging.



The Presstek 34DI incorporates 6 multi-beam laser diodes on each of its imaging modules.

ProFire Digital Media

Presstek's ProFire Digital Media is a waterless plate that provides the key benefits of waterless printing—more consistent color, larger color gamut, better color saturation, lower dot gain and more detail.

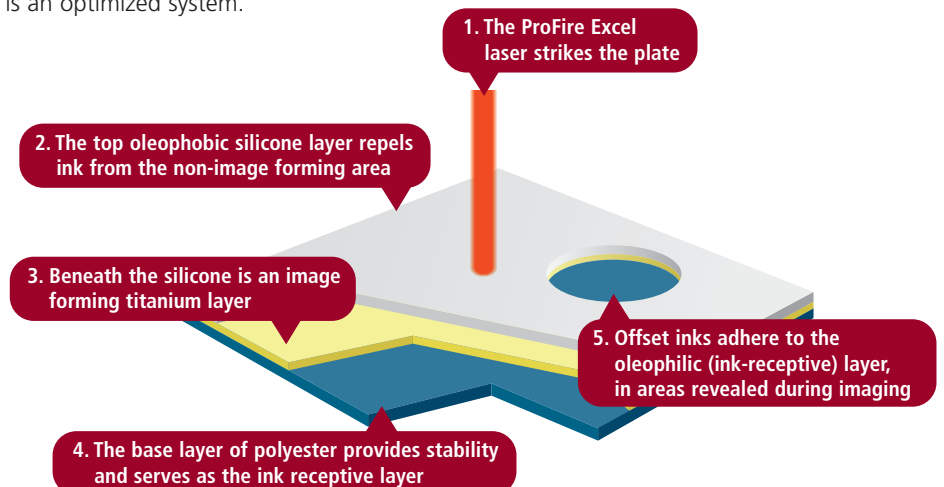
Without fountain solutions, printing is cleaner—both operationally and on the printed sheet—with fewer variables and there is no ink/water balance to manage.

The interaction of laser and plate technologies is key to the effectiveness of digital systems for offset printing. Because Presstek manufactures both the imaging components and digital plate media for the 34DI, the result is an optimized system.

ProFire Digital Media for the Presstek 34DI is rated for 20,000 impressions. ProFire Digital Media is manufactured with an ink-accepting polyester base layer, a middle layer of titanium, and a top layer of silicone.

During imaging, the heat from lasers removes the top two layers of the plate, exposing the ink receptive polyester layer. Areas that remain covered with the top layer of silicone will repel the ink.

The imaging process is a highly consistent, heat sensitive, physical reaction without the variables of exposure and chemistry. The result is sharper and better-defined details and halftone dots.



Presstek 34DI Technical Specifications



Printing Speed

Maximum Printing Speed (S.P.H.) Maximum 7,000; Minimum 1,500

Printing Stock

Thickness 0.0024"–0.02" (0.06–0.5 mm)
 Sheet Size Max. 13.39" x 18.11" (340 x 460 mm); Min. 3.54" x 3.94" (90 x 100 mm)
 Max. Print Format 12.99" x 17.72" (330 x 450 mm) with 0.354" (9 mm) gripper margin

Imaging System

ProFire Excel 2 modules
 Maximum Image Width 17.72" (450 mm)
 Image Resolution 2540 dots/in (100 dots/mm)
 Spot Size 16 microns

Print Technical

Automated Job Changeover 10 minutes (includes plate change, imaging, cleaning, blanket wash, inker presetting, and press makeready)
 Register Unit to Unit Immediate, precise via Zero Transfer Printing (ZTP) process
 Density Achievement Within 20 Sheets
 Color Gamut Expanded vs. conventional offset via higher density and reduced dot gain

Inking Unit

Inking Process Waterless
 Zones/Rollers 11 zones per unit; 15 rollers per unit
 Form Rollers 4 per unit
 Standard Features Automatic pre-setting, automatic washup device, temperature control

Blanket Cylinder

Blanket Size Width 13.75" (350 mm); Thickness 0.077" (1.95 mm)
 Automatic Washup Device Standard

Feeder

Universal Feeder Standard
 Double Sheet Detector Mechanical and electrical
 Register Push side guide, front lay
 Infeed Underswing gripper & feed drum
 Pile Capacity 15.75" (400 mm)

Delivery

Pile Height Adjustment Motorized
 Pile Capacity 15.75" (400 mm)
 Features Sheet decurler, IR dryer (optional on 34DI-E)

Plate Media

Plate Material ProFire Digital Media
 Plate Advance Automatic
 Plates Per Roll 28 full format
 Screen Ruling Up to 300 LPI and FM (stochastic)
 Run Length 20,000 Impressions

Electro-Mechanical

Input Power 3-Phase 200V 50/60 Hz 43A or other voltages (60A when equipped with infrared dryer)
 Lubrication Automatic centralized oiling system
 Recommended Operating Environment Temp. 68–77° F (20–25° C), Relative Humidity 50–60%
 Physical Dimensions (LxWxH) 10' 7" x 8' 8" x 5' 6" (3230 x 2635 x 1665 mm) including footstep & operation stand
 Weight 9,950 lbs (4513 kg) Including catwalk and console

Choose from Two Configurations:

	Presstek 34DI-X	Presstek 34DI-E
Imaging Time (4 Plates simultaneously)	4 minutes 30 seconds at 2540 dpi	9 minutes at 2540 dpi
Automated Job Changeover (Includes plate change, imaging, cleaning, blanket wash, inker presetting, and press makeready)	10 minutes	14 minutes 30 seconds

Standard / Optional Features

	Standard	Optional
Plate Saver Version 2	Standard	Optional
High Grade Powder Device	Standard	Optional
Feeder Pre-Pile Device	Standard	Optional
Density Control PDS-E	Optional	Optional
Colorimetric Control PDS-Pro-E	Optional	Optional
GTI Viewing Station	Optional	Optional



Service and Support

Presstek is committed to providing you with the highest levels of service and support for your Presstek products. Presstek's unparalleled expertise in laser imaging technology combined with our extensive service experience brings you the leading support in the industry. Expert installation, training and maintenance will support your investment so it will pay dividends quickly and reliably for years to come.

For more information about Presstek DI solutions:

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