Xerox® CiPress™ 500
Production Inkjet System
Brochure

Xerox® CiPress™ 500 Production Inkjet System

Innovative waterless inkjet technology delivers predictable high-quality color on low-cost papers

xerox®

Delight your customers with unsurpassed color output on low-cost, untreated plain paper

This waterless system enables you to produce more jobs with consistency, predictability and reliability, grow your business with high-quality color applications with dependable productivity and reduce your costs using inexpensive plain papers. The Xerox® CiPress™ 500 Production Inkjet System offers you a distinctive combination of flexible low-cost plain paper options, unique patented waterless inks, rugged piezo print head technology and an innovative print process.

Raise your performance level. Reduce your costs.

With CiPress™, you can achieve outstanding color results on plain paper that is uncoated and untreated, including economical offset papers.

Our advanced waterless inks and simple yet robust print process deliver exceptional output on stocks ranging from 50 gsm to 160 gsm. It is ideal for your Transactional, TransPromo and Direct Mail, Books and Manuals applications that use uncoated paper stocks.

The benefits of plain paper are many:

- **No changes or distributions to your current paper supply chain.** To achieve premium print quality with traditional water-based inkjet solutions, you need specially treated hydrophobic papers.

With CiPress™, you can continue to use your existing uncoated paper stocks—even your offset litho stocks—to optimize productivity, improve lead time and obtain greater cost benefits.

- **Cut application and paper costs.** You can take advantage of lower-cost, lightweight paper alternatives, such as offset, for many of your applications and still see great results with optimum productivity. Our inks sit on top of the paper much like toner and litho inks rather than soaking into the paper's fibers like current water-based inkjet technologies. With our patented waterless inks, we enable high saturation and area coverage on stocks as light as 50 gsm, with no show-through or strike-through. As a result, you can manage your postal rates more effectively or include more sheets per envelope for enhanced, more personalized marketing messaging.
- **Eliminate preprinted shells.** Lower your cost of manufacturing by eliminating the associated supply chain costs of preprinted shells, such as storage, transportation, labor, obsolescence and materials handling. You can print both static and full color variable data on plain uncoated paper like bills, statements, invoices and customized direct mail.
- **Produce more jobs with greater reliability.** Designed for the print and mail industry as well as publishing markets, this system delivers more reliable flat sheet output for your post-processing equipment, enabling more efficiency, productivity and uptime with your finishing, inserting and mailing equipment. Even with high area coverage, cockle and curl are significantly reduced or eliminated because we use no water in our printing process or inks.

Because we do not soak the paper with water, this eliminates the need for high intensity, costly dryer systems that, in addition to increasing your energy costs, can cause severe cockle and curl in output.

The Xerox® CiPress™ 500 Production Inkjet System builds on our history of innovation as well as our commitment to the continuous feed market. As a multi-technology company, we have over 5,000 world-class scientists and engineers working constantly to expand the technologies and solutions we offer to our customers. Over the past decade, we have developed a portfolio of continuous feed solutions that range from 350 to 2,180 images per minute and high speed variable data Production Print Controllers since 1977.

Expect vibrant color images with the Xerox® CiPress™ 500 Production Inkjet System

Our patented waterless inks deliver bright, vivid color and outstanding image quality—all on low-cost uncoated plain papers. You won't need extra print heads, or extra consumables like bonding agents or expensive hydrophobic specially treated papers.

Our production inkjet technology offers you significant advantages, especially in contrast to current aqueous inks and their printing processes that require high-energy drying systems.

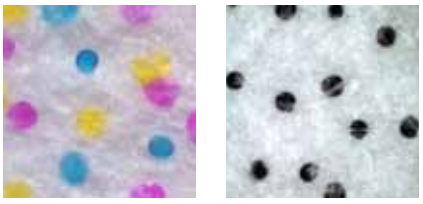
The benefits of waterless ink include:

- **High image quality is assured.** The Xerox® CiPress™ 500 Production Inkjet System delivers resolutions up to 600 x 400 dpi with a color gamut comparable to offset on uncoated papers. Precise, well-controlled, predictable dots hold their shape to produce sharp edges and excellent bar code readability with crisp fonts, images and graphics. Our patented closed-loop image processing ensures you get consistent, predictable results for every job, roll to roll and month to month, enhancing your efficiency and ability to meet your Service Level Agreements (SLAs).
- **Ongoing system reliability.** Our unique waterless inks are part of the key to CiPress'™ high reliability and uptime. Our print heads and inks are not affected by evaporation, the highest cause for print head clogging and failure. With our innovative technology, our ink can remain unused in our print heads for weeks and the print heads will still fire on demand. This means quick startup, more uptime and reliability, fewer stoppages and cleaning cycles and, ultimately, greater production and output per shift.
- **Easy to handle, manage and store.** Our waterless inks are dry granules that feed easily, melt quickly and are easy to store and refill. You don't have to move or recycle our ink dispensing drums because they are permanent fixtures—you can refill them on the fly, while the system is running, from smaller, lighter, easy-to-handle containers. This saves your operators from handling large, heavy drums with awkward hoses and messy liquids, increasing your productivity and uptime. Storage is worry-free because these waterless inks are much less sensitive to environmental conditions than traditional aqueous inks and have no shelf-life restrictions.
- **Use less ink.** Setup, registration, alignment patches and cleaning procedures are efficient, saving you time and money and minimizing waste for both ink and paper. Unlike current systems, no clean and purge procedures are required during standby modes to keep the ink from evaporating and clogging the heads that, in turn, may require additional cleaning or head replacement.

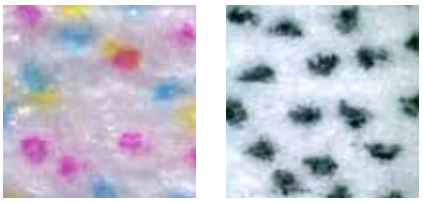
Consistently excellent inks

We've been developing inkjet technology for two decades and have manufactured thousands of tons of waterless, resin-type inks. Leveraging that experience, we understand the economies of scale and precise quality controls needed to ensure that our product delivers excellent performance the first time and every time you use it. Our stringent ink manufacturing guarantees you will find our ink colors to be consistent and uniform from one batch to the next, month after month.

The images below are 10X enlargements of 75 gsm offset paper.



Xerox® Production Waterless Ink



Aqueous Ink

Innovative new print process

The Xerox® CiPress™ 500 Production Inkjet System's print process is robust yet simple. It offers the best of both worlds using a tension web inside the system for accurate registration and control and a slack web input and output for a wide choice of pre/post devices.

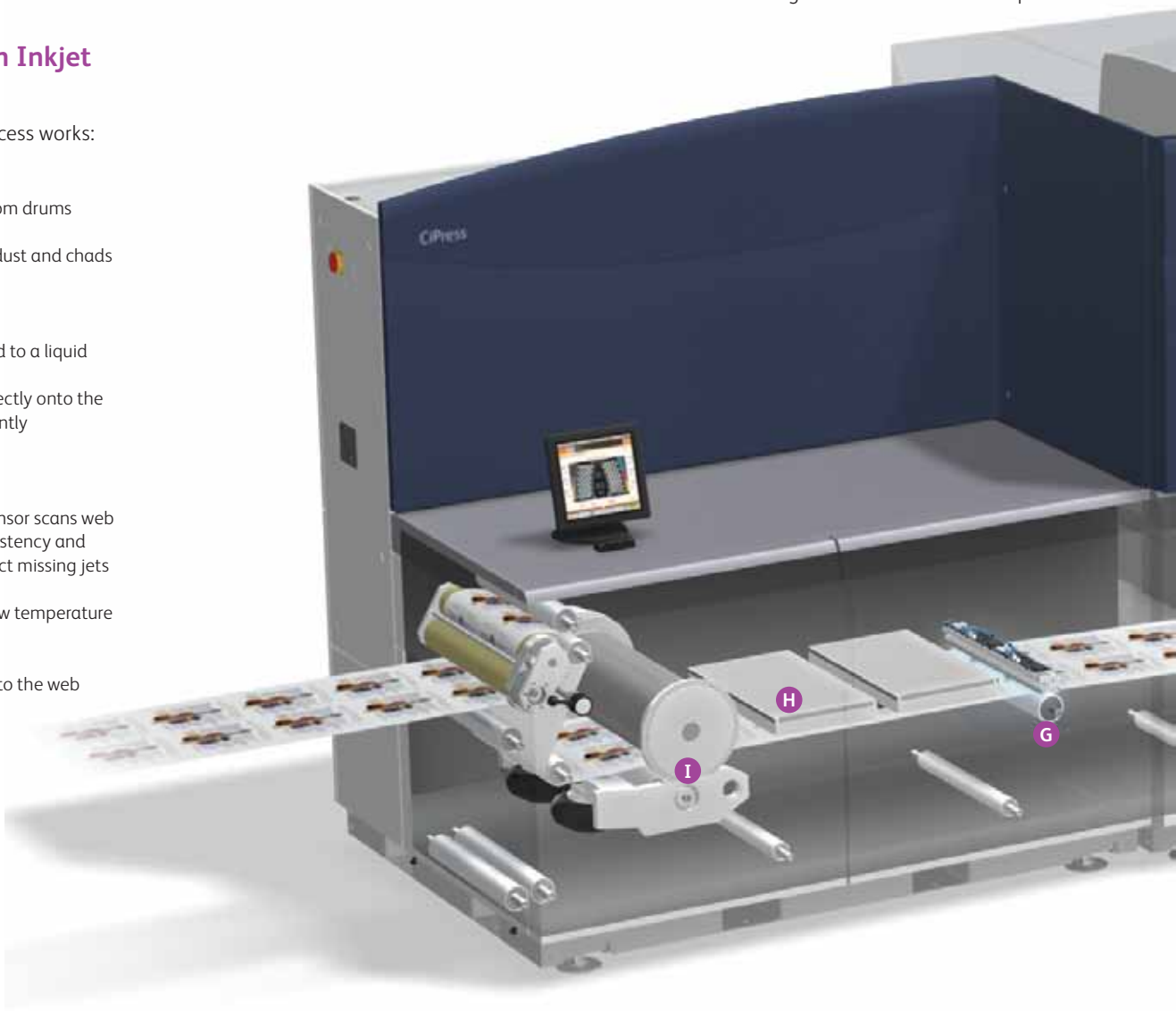
The print process uses precise thermal controls and a patented "double reflex" process for web management, monitoring and correction of paper stretch and movement. This ensures very accurate pixel-to-pixel, color-to-color registration and drop placement, job to job, roll to roll over longer periods of time.

This system is characterized by operational simplicity—it's a stable, predictable technology that has been made even easier by requiring few consumables and offering valuable automation capabilities.

Xerox® Production Inkjet Print Process

Here's how the print process works:

- **A** Ink granules are fed from drums
- **B** Web cleaner removes dust and chads
- **C** Web is warmed
- **D** Ink granules are melted to a liquid
- **E** Molten ink is jetted directly onto the web and hardens instantly
- **F** Web is cooled
- **G** Intelligent Scan Bar sensor scans web for image quality consistency and uniformity and to detect missing jets
- **H** Web is warmed with low temperature ceramic heater
- **I** Ink is pressure fixed onto the web

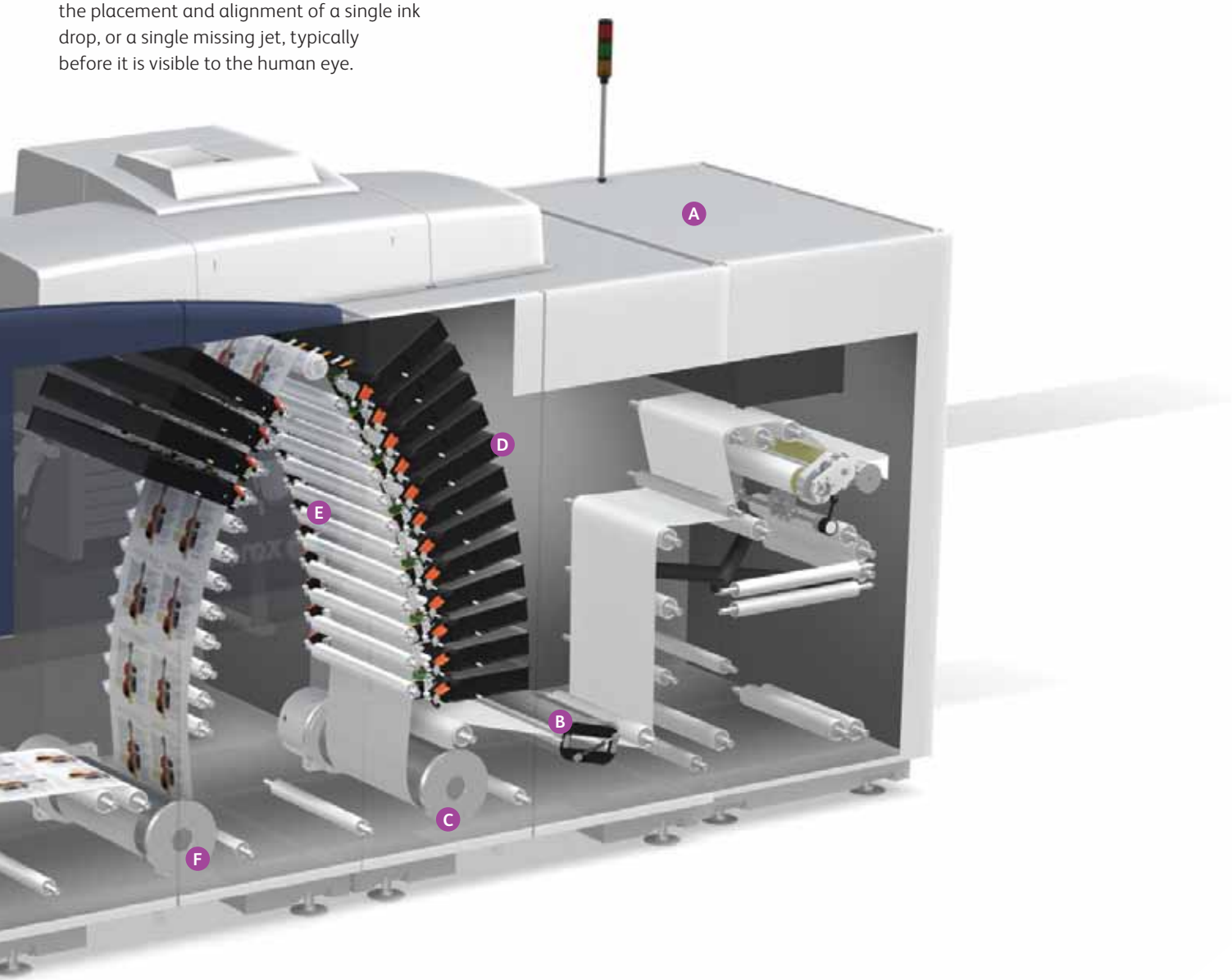


Intelligent Scan Bar detects and corrects problems automatically

The patented Intelligent Scan Bar of the Xerox® CiPress™ 500 Production Inkjet System sees every pixel printed. It can pick up individual anomalies at the pixel level, such as the placement and alignment of a single ink drop, or a single missing jet, typically before it is visible to the human eye.

The Intelligent Scan Bar detects these problems and automatically corrects the errors by:

- Adjusting for precise color-to-color and front-to-back registration, ink density and uniformity.
- Compensating for missing jets by actuating adjacent jets to fill in and maintain the integrity of the output being printed, all at maximum speed with no stopping for print head realignment, cleaning or maintenance.



Intelligent print heads deliver on productivity promise

Piezo mechanical drop-on-demand technology gives you reliability, durability, consistent density and uniformity of color output for every roll, every week.
With over 1 million made and installed to date, these modular print heads are long lasting with less maintenance, delivering more real print time every shift.

At 39,000 drops per second, ink is dispensed at very high speeds with web throughput at 500 feet per minute (152.4 meters). The four color CMYK system has 56 print heads, and all 50,000 jets are managed individually and controlled for accurate pixel placement on the page. Our jets are tunable, which means software and process controls can manage the waveform, behavior and performance of each piezo crystal that drives each jet. Every jet is tuned and calibrated to be uniform and consistent for accurate drop size and placement. This unique tuning also extends print head life by adjusting weak or excessive jetting to the right normalized level. Taken together, these factors deliver highly predictable quality and very consistent output roll to roll, month to month.

More uptime = more productivity

You'll find productivity is engineered into every area of the Xerox® CiPress™ 500 Production Inkjet System. We have automated many processes to minimize operator intervention, saving time and money. The result is a system that offers you more uptime and more opportunity to generate more output each shift.

Productivity features include:

- Speeds at 500 feet per minute (152.4 meters per minute)
- Wide web width, 9" (23 cm) to 20.5" (52 cm)
- Closed loop imaging
- Intelligent Scan Bar
- Automated print head maintenance, including robotically controlled print head cleaning
- Quick setup
- Automatic registration and alignment
- Missing jet detection and auto correction on the fly
- Modular manufacturing for installation and servicing

Increase your uptime and reduce your costs with automated print head maintenance

Print head maintenance is automated to save your operators time and labor. It also extends print head life and increases your productivity and uptime.

- **Automated print head cleaning**. The cleaning process is robotically controlled. The system monitors and automatically detects which print heads require cleaning and determines when cleaning is needed. Because it is automated, this determination is not subject to the judgment or skill of your operator. Your operator can also manually initiate the automated cleaning process at a convenient time if desired, such as during roll changes.
- **Automated missing jet detection and correction.** The system's Intelligent Scan Bar detects missing jets and automatically compensates with adjacent jets—on the fly, in real time and at full machine speed—to ensure that your print quality remains consistent. The scan bar (which is also used in our iGen4® technology) is so sensitive it can detect and correct a single malfunctioning jet in many cases before the human eye can see it. This means that your operator does not have to worry about intervening with a manual quality assurance process, stopping the printer and inspecting the output. With the Xerox® CiPress™ 500 Production Inkjet System, you can rely on our automated closed loop detection and correction system for print head performance and reliability. Your operator can monitor all of this activity on the Graphical User Interface.
- **Cleaning takes just minutes**. Up to 28 heads can be cleaned simultaneously in one cycle, and this can be accomplished in the time it takes your operator to change a paper roll. Only those heads requiring cleaning are cleaned. The amount of waterless ink purged in cleaning is less than in aqueous systems, reducing the amount of wasted ink and paper you discard. And because the ink is safe and non-toxic, it does not require licensed waste removal like aqueous inks.*
- **Easy print head replacement.** While our intelligent piezo print heads are a durable long-life component of the system, when they eventually do require replacement, an operator can pause the production run and replace the print head in less than five minutes with two screws and three snap-on cables. Print heads are a supply item so you always have spares on hand.

Key attributes of our patented print heads

- Modular 3" patented design
- Onboard intelligence with values stored in non-volatile memory (NVM)
- Multiple overlapping arrays up to 20.5" in web width
- Seamless electronic stitching with no lines or other artifacts
- Fourteen print heads per color
- Precise temperature control
- Individual management of all jets
- Acoustic and fluidic process controls
- Heads float dynamically, adjusting automatically on the fly in real-time, color-to-color and front-to-back registration

*Please consult your state and local requirements for proper disposal.

The Xerox® Open Solutions Platform for ADF Environments

The power behind the Xerox® CiPress™ 500 Production Inkjet System is the Xerox® FreeFlow® Print Server. FreeFlow Print Server offers scalable RIPs and servers with the power to handle even your most complex jobs and confidence to meet your most challenging SLAs. With over 40,000 installations, FreeFlow Print Server has the heritage and experience you expect.

- **Scalable RIP to match the complexity of your jobs and maximum speed of the printer.** Architected for scalable, parallel RIPing across multiple computers, the FreeFlow Print Server also uses integrated caching technologies. You take full advantage of these technologies by choosing the number of RIP servers. This enables you to scale RIPs to match the complexity of your applications so you can maximize the print engine's speed without clutching.
- **Native data stream support gives you flexibility.** The FreeFlow Print Server supports native data streams, including IPDS, PDF, PostScript and Xerox® VIPP®, without transforms or interim data formats. It offers both native data stream support and parallel RIP to give you more control, enabling you to streamline your workflow and leverage maximum performance with no impact to rated speed.
- **A reliable predictable environment.** The FreeFlow Print Server has a 15-year heritage of proven performance processing variable data and static application content. Native support for industry standards, like JDF and JMF, ensure our solution will integrate seamlessly with your current workflow.
- **Consistent color means confident color.** FreeFlow Print Server has advanced color management features built-in to ensure reliable, predictable color output across all data streams. ConfidentColor is delivered via source and destination profiles, object-based color management, rendering intents with intelligent closed loop color control. All of this automation delivers consistent worry free color out of the box, roll to roll, engine to engine, anywhere around the world.
- **Achieve your business goals faster.** Choose the workflows you want. Choose the power you want. The FreeFlow Print Server will deliver the productivity you need to meet demanding customer requirements.

You need a partner who can provide an Automated Document Factory (ADF) solution with:

- Job Integrity – To meet SLA and compliance requirements
- Color Consistency – Out of the box and across an array of PDLs
- Predictable Productivity – To monitor, plan and adjust your production schedules live

With the constant pressure to lower costs, an ADF solution offers you the flexibility to fit inside your business environment. A solution that offers a simple and productive way to migrate quickly from offset shells to complete digital continuous feed production. Xerox is a partner that understands your business as a whole. One that can provide an automated means of tracking production at the job and piece level. Whether it is a solution that fits inside your home-grown environment or replaces a legacy system, Xerox offers scalable production workflow solutions that can help you to improve efficiency and lower your costs.

Green is this printer's favorite color

Environmentally responsible features and components focus on environmental sustainability and are apparent in the Xerox® CiPress™ 500 Production Inkjet System.

- **Safe, non-toxic ink.** CiPress™ uses waterless inks that are safe, non-toxic and not federally regulated when disposed. We recommend that you consult with your state and local waste disposal authorities for additional information.
- **NAPIM certified ink**. Xerox® solid ink has been certified to have 30% bio-derived renewable material content by the National Association of Printing Ink Manufacturers (NAPIM).
- **INGEDE Certified output.** Our output is INGEDE (International Association of the Deinking Industry) Certified "Good De-inkable." This is the highest possible rating based on ERPC (European Recovered Paper Council) Deinkability Scores. The new Xerox® CiPress™ 500 Production Inkjet System is the only high speed inkjet device in the market that has received this certification. This means that output from CiPress™ can be recycled from white paper back into white office paper. As a result, fewer trees are harvested to meet this market's demands. None of the aqueous inkjet printers on the market today have earned this certification. Their output needs to be segregated for recycling into a separate supply chain for brown board, newsprint or other similar materials.
- **Dryer-free design.**
  - Because no water is used in our ink and printing process, this system does not need costly, energy-consuming dryers.
  - This system's power consumption does not increase with higher area coverage.
- **Reduced sensitivity to shop floor environmental control.** Our print process is less sensitive to fluctuations in temperature and humidity. Little or no paper acclimatization is required, which means you'll enjoy easier paper handling and more flexible use of "on hand" stocks.
- **Print-head recyclability.** Manufactured to our highest standards using patented techniques and durable stainless steel components, our print heads are tough and durable and then returned to Xerox for recycling.
- **Efficient paper and ink use.** Paper and ink waste is minimized due to efficient setup, registration, alignment patches and cleaning and maintenance procedures.

Specifications for the Xerox® CiPress™ 500 Production Inkjet System

Printer

- **Print Engine**: Continuous Feed, Digital Web
- **Imaging Technology**: Inkjet Drop On Demand (DOD)
- **Inks**: Dye, waterless
- **Resolution Input**: 240 dpi, 300 dpi, 600 dpi
  Output: 600 x 400 dpi
- **Print Speed**: 500 fpm (152 m)
- **Speed in Images per Minute**:
  - U.S. Letter (8.5" x 11")

    Simplex:
    Portrait one-up – 545
    Portrait two-up – 1090

    Duplex:
    Portrait one-up – 1090
    Portrait two-up – 2180
  - A4 (210 mm x 297 mm)

    Simplex:
    Portrait one-up – 513
    Portrait two-up – 1025

    Duplex:
    Portrait one-up – 1025
    Portrait two-up – 2050

Paper Handling

Web Width:

- **Pinless**: 9" (229 mm) to 20.5" (520 mm)
- **Pinfed**: 9" (229 mm) to 20.5" (520 mm)

Image Area:

- **Pinless/Pinfed**: single page image
  - Width: 1 pixel to 19.5"
  - Length: 3" to 22"
- **Paper Types**: Pinfed, pinless, uncoated, offset, recycled, bond, newsprint
- **Paper Weight**: 50 – 160 gsm
  (34 lb – 110 lb offset)
- **Pre- and Post-Processing**: The printing system does not include web input or output finishing modules. These must be purchased separately from authorized Xerox Partners. Pre- and post-processing devices connect via the Xerox® patented Print Line Bus (PLB) intelligent interface. See your Xerox representative for a list of recommended validated pre/post devices available.
- **Pre/Post device configurations supported**: Roll to roll, roll to fold, roll to cut sheet. Consult your Xerox Representative for other available finishing configurations.

Print Engine Controller

FreeFlow® Print Server

- **Physical Rack System Measurements**:
  - Height: 78.7" (199.8 cm)
  - Width: 23.6" (60 cm)
  - Depth: 47.2" (120 cm)
  - Weight: 332 lb (150.6 kg)

CPU

- **Oracle X4170M2**
- **Sun Solaris 10 Update 9**

Memory Capacity

Front-End:

- DVD+/-RW SATA based drive
- 2 x 300 GB 10K RPM 2.5" SAS Hard Drive
- 12 GB RAM

RIP Servers:

- 6 x 300 GB 10K RPM 2.5" SAS Hard Drive
- 24 GB RAM

Video Servers:

- 1 x 500 GB 7200 RPM 2.5" SATA Hard Drive
- 36 GB RAM

GUI

19" monitor, keyboard and mouse, stand (optional)

Interface

- 10/100/1000 Ethernet
- One host connection per print engine

Configuration

Single rack mount cabinet for single or twin engine configurations contains:

- Application Server: 1
- RIP Servers: 3, 5, or 7 (18 to 84 RIPs)
- Video Servers: 2

Connectivity and Client Support

Adobe PostScript Printer Descriptions (PPD)

- **Native JDF/JMF**
- **HTTP and HTTPS browser submission**
- **IPP job submission and system status**
- **TCP/IP: Support for IPv4 and IPv6 (dual mode)**
- **LP/LPR and socket submission**
- **DHCP**

Data Streams

- **Adobe PostScript (must be DSC-compliant)**
- **Adobe Acrobat® 9.0, PDF 1.8, PDF/X 1a, 3, 4**
- **Native IPDS rendering**
- **Xerox® VIPP®**
  - Line Mode, Database Mode and Native

Installation Environment

- **Dimensions per Engine:**
  - (W) 19.9' (6069 mm) x (D) 7.66' (2334 mm) x (H) 8.75' (2667 mm)
- **Weight:**
  - Print engine – 12,031 lb (5457 kg)
  - Integrated Thermal Control – 1250 lb (567 kg)
  - Air Compressor (optional) – 756 lb (343 kg)
- **Room Temperature:**
  - 60°F to 80°F (15.6°C to 26.7°C)
- **Relative Humidity:**
  - 20% to 80%
- **Heat Output BTU/Hr**: 133k BTU/hr printing
- **Noise Level:**
  - Printing: 68 db
  - Standby: 63 db
- **Electrical Requirements:**
  - North America
    (1) 480V 75A 3 phase
    (1) 208 – 220V 100A 3 phase
  - Europe
    (1) 380 – 415V 75A 3 phase
    (1) 220 – 240V 100A 3 phase
  - Electrical Consumption:
    Standby: 15 kWh
    Printing: 39 kWh

To learn more about the Xerox® CiPress™ 500 Production Inkjet System, contact your Xerox representative or visit www.xerox.com

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