

Xerox® Versant® 3100 Production Press



WHITE PAPER

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The Xerox® Versant® 3100 Production Press

The Versant 3100 is the latest model in the Xerox® Versant Family of 4-colour, cut-sheet production presses. This state-of-the-art digital printing system provides an excellent option for meeting your company's production requirements. Is this press best suited to your business? We know that a digital press is a large investment and you want to make the right decision – a decision that delivers the best results to your business and your bottom line.

As you know, deciding on the right press is not easy. There are many products available and they all claim to meet your needs. In addition, the industry has many options, each with an overabundance of product information, cryptic technical descriptions and confusing terms. It's a lot to wade through.

To help you appreciate the Versant 3100 and understand its key features, this paper summarises the essential technical facts that can make a difference to your operation. Armed with these facts, you'll be better able to choose the system that works best for you.

The Versant 3100 is in a class by itself with very advanced levels of automation and productivity. This press is a production workhorse, built with robust, heavy-duty components for dependable high-speed printing. At an average of up to 250,000 prints per month and a maximum monthly duty cycle of 1,200,000, the Versant 3100 far outpaces other competitive options. Moreover, the Versant 3100 delivers a unique suite of automated workflow, run-time features and production support tools to make it an ideal choice for busy print facilities that need to deliver more high-quality jobs and deliver them in less time.

ADVANCE, AUTOMATE, DO MORE.

If you are a print provider struggling to grow your business in the rapidly changing digital print marketplace, you know that success requires more than perseverance. It requires a good strategy – a way to drive results and make growth happen. The Xerox® Versant 3100 offers an expedient solution for strategic growth. Whether you're new to this challenging marketplace or ready to take your successful printing operation to the next level, the Versant 3100 can work for you.

With the Versant 3100, you can Advance, Automate and Do More. With an Average Monthly Printing Volume (AMPV) of up to 250,000 and a maximum monthly duty cycle of 1,200,000, the key is Automation. In the printing industry, the term "automation" is frequently used, and we often take it for granted. But what does it really mean? Put another way, how do you value your time? Like most business owners or managers, you know that time management for a company makes the important difference

between mediocre performance and excellence in execution. For a business, time really is money. It's a resource to be mindfully managed.

Time management is a predominant theme in all Xerox® print production technology, and thoughtfully built into our presses. We take it seriously, and make it work to help businesses like yours grow, even in challenging times. The Versant® presses are designed and built with some of the best of this technology – features that put time to work for you, instead of against you. The Versant presses will actually help you manage time in your print facility without you having to be present and monitor the work!

What are these important automated tools that can help you reach high levels of productivity and deliver reliable results? Some are fully automated and working under the covers of the press, while others require an operator click to initiate a function; but they all span the production workflow from job submission to finishing, and they all save operator time and preserve up-time for the press.

Without these tools, procedures take much longer, the press is down too long and too often, and there is more waste and re-printing because of operational errors. In addition, very often operators simply do not calibrate the press or create profiles for stock because the steps are too complex or they don't want to take the time needed for long procedures. The result is unreliable and inconsistent output that may not satisfy your customers.

The automated tools on the Versant presses can help transform a careless print facility culture into an efficient one that delivers quick job turns with faster setup and the ability to achieve stable, consistent and accurate print quality. For example, when operators learn that they can perform calibration with two clicks, one to start the process and one to accept the results – and it takes only two minutes and not twenty minutes – they will do it daily and take pride in the IQ results. They will gladly profile a new stock because this process also takes only two or three minutes, and requires just initiation and acceptance at the end of the process. Other built-in tools let the software do the work, and require no operator intervention, no complex steps and no difficult decisions.

A summary of key automation on the Versant 3100 includes the following tools that accomplish rapid **workflow setup**, efficient **job processing**, precise **paper transport**, accurate and painless **colour management** and consistent **IQ support and management**:

- **Automated Sheet Clearing** – Once the press has stopped and reported a jam, the operator only has to remove any sheets blocking the paper path. All the other sheets, before and after the jam, are automatically ejected to top trays. Paper path sensors and motors work with software controls to locate and move the paper to an output tray. This tool relieves your operators from having to open all the doors and levers along the paper path to pick out individual sheets to clear the entire path. This is a great production time-saver.
- **Stock Library Manager** – This powerful and versatile tool provides for fast media management in a busy production environment by enabling operators to store a large listing of stock settings and retrieve them with a single click to assign to a press tray. Also, the operator can create and name special Alignment and Fold Profiles that are quickly selected for challenging media, such as lightweight or heavyweight stocks. The Advanced Stock Setup Tool in the Stock Library Manager adjusts print engine parameters for specific stocks, so that when the stock is selected for a tray, the parameters are automatically applied for the job to achieve the best image quality. Adjustments include Fuser Temperature, Fuser Speed, Paper Speed at Transfer, Roll Nip Pressure, Primary and Secondary Voltage Transfer, Alignment Roll Pressure and many other important settings that let you optimise image quality.
- **Production Accurate Registration (PAR)** – This subsystem is a combination of optical and mechanical technologies that ensures a precise +/- 0.5 mm front-to-back registration from the Advanced High Capacity Feeder for stocks up to 300 gsm. PAR then achieves +/- 0.8 mm along the rest of the paper path. PAR uses a registration gate in the paper path to de-skew the lead edge of the paper and then a Contact Image Sensor to read the inboard lead edge sheet and adjust the sheet position, as needed.
- **Full Width Array (FWA)** – The FWA provides automatic target reads for print server calibration and destination profiling and hands that data over to colour management software. This ensures stable, accurate and repeatable colour and eliminates the need for operators to use a time-consuming hand-held spectrophotometer. This device also baselines the press by maintaining uniformity in toner density across the page from the inboard side to the outboard side of the paper (perpendicular to the direction the paper moves through the press). The press prints test patterns that the FWA measures, and then the print engine automatically adjusts the print density settings. In addition, this tool automatically adjusts the image alignment on the paper (X/Y position, perpendicularity, skew, magnification), as well as performing an image transfer adjustment that corrects for uneven toner coverage and colour shift – issues that can occur on heavyweight stocks or textured or specialist stocks.
- **Automated Colour Quality Suite (ACQS)** – ACQS is advanced colour management software that transfers the complex decisions about colour maintenance from operators to an automated system, and eliminates the time and error associated with colour management. Once initiated by an operator, ACQS automates the printing and measuring of calibration charts and then calculates and makes precise adjustments to colour tables based on the results.
- **Automated Image Caching and Parallel RIPing** – These job processing functions occur automatically during the RIPing process on the print server, and they improve the overall print time. Images that appear many times in a file are stored for re-use instead of being rasterised at every occurrence. In addition, the file is broken down into the most efficient parts and each part is assigned to a different processor so that processing can occur concurrently.
- **Automated Run-Time Colour Controls** – A subsystem of closed-loop process controls works continuously during printing to automatically maintain colour consistency and colour-to-colour registration throughout a print run. Colour patches and registration marks are placed on the image carrier between every impression. These patches are then continuously measured during a job and adjustments are made automatically by the press, as required. The result is higher colour quality and consistency with no operator involvement.
- **Automated Sheet Decurling** – A single-pass Decurler automatically removes any up or down curl as paper exits the print engine. This delivers flat sheets for consistent and error-free finishing. The decurling process is automatically computer controlled using data such as the paper weight being used and the temperature and humidity of the press environment.
- **Easy Job Submission** – Job submission is flexible and fast with a variety of tools from standard PC and Mac® print drivers to faster and more automated methods such as Web submission, custom Hot Folders.
- **Job Management with Pre-Set Queues and Virtual Printers** – All Versant® 3100 print servers support automatic job processing through pre-set queues or virtual printers that assign print parameters to files automatically after simple job submission. Once the queue or virtual printer is set up, all processing is automatic. Combining this feature with Hot Folders means that users can drag a print file to a folder on their desktop and the workflow is automatic all the way to finishing and stacking.
- **Full Width Array – Automated Density Uniformity Adjustment** – This tool adjusts print engine tables to ensure that toner is deposited uniformly and consistently across the surface of each page – from the inboard side to the outboard side. In a few minutes, you print and scan CMYK and RGB targets and the software automatically adjusts Raster Output Scanner (ROS) settings.
- **Full Width Array – Automated Image-to-Media Alignment** – This tool generates an individual alignment profile for each stock/tray combination selected to ensure that images are placed correctly on the media. You can create up to 50 profiles and each created profile is automatically used each time the associated stock is used, ensuring optimal print quality.

- **Advanced Stock Setup Tool – Automated Image Transfer**

Adjustment – This tool corrects for mottle (uneven toner coverage) and colour shift, which can occur on heavyweight stocks. Once initiated, the tool automatically creates and saves an adjustment to the Bias Transfer Roll, which is the xerographic component that transfers the image from the belt to the paper. The tool eliminates the need for operators to interpret printed targets and manually enter adjustment values. Once created for a stock, the adjustment is saved and can be either assigned to the stock for automatic use or manually selected for the stock for a print run. This gives the operator precise quality control for all jobs and all supported media. You'll get the same high quality regardless of stock type – even on linens, polyesters and other unique substrates.

MORE RESULTS WITH VERSANT® AUTOMATION

The Versant 3100 is designed with robust and field-proven components that deliver more results from job to job, day to day and month after month. By automating key production processes with more performance, more image quality and more versatility, the Versant 3100 will deliver more results for your business. With an Average Monthly Printing Volume (AMPV) of up to 250,000 and a maximum monthly duty cycle of 1,200,000, you can keep up with demand as your business grows, month after month. The following descriptions provide a summary of the features and key technologies in the Versant 3100 that deliver more results.

MORE PERFORMANCE

Print Speed of 100 pages per minute (ppm)

With a print speed up to 100 ppm, the Versant® 3100 delivers a consistent Average Monthly Print Volume (AMPV) between 75,000 to 250,000 prints. If your primary objective is higher production – up to 250,000 – then the Versant 3100 is your best choice. The duty cycle of the Versant 3100 is 1.2 million pages per month.

Auto-Duplex up to 350 gsm

The Versant 3100 can auto-duplex both coated and uncoated stocks with sheet weights up to 350 gsm. With this feature, applications such as business cards, greeting cards, ID cards, signs, posters and menus can secure extra revenue. Also, the Versant 3100 supports a wide array of substrates including linen, poly, vinyl and magnet stock.

Latitude in Stock Sizes, Weights and Types

The Versant 3100 supports coated and uncoated paper with these specifications:

Size Range

- Minimum: 98 x 146 mm
- Maximum Standard Press Sheet: 330.2 x 488 mm
- Maximum Size: 330 x 660 mm

Tray 5 Bypass/MSI (Multi-Sheet Inserter)

- Maximum using Extra-Long Sheet (XLS) feature: 330.2 x 660.4 mm
- Minimum: 98 x 146 mm

Recommended Weight Range: 52-350 gsm

- 52-256 gsm from Trays 1-3
- 52-350 gsm from Tray 5 Bypass Tray
- 52-350 gsm from Trays 6 and 7 (Advanced High Capacity Feeder)

Type of Media

- Coated and uncoated paper
- Tabs
- Labels
- Envelopes
- Transparencies
- Special substrates such as linen, poly, vinyl and magnet stock
- Special media such as business cards, greeting cards, ID cards, signs, posters and menus



Advanced Fusing Technology

The Versant® 3100 uses a Compact Belt Fuser. This important component supports a diverse range of paper types and can print at high speeds while maintaining high image quality.

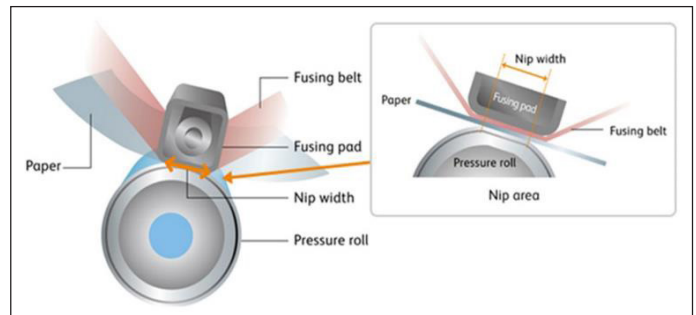
The fuser uses two heat rolls located inside the fusing belt. By using a fusing belt with a low heat capacity, the belt can be heated using the minimum amount necessary for toner fusing. Also, because of the large area of contact between the heat rolls and the fusing belt, the belt can be efficiently and uniformly heated to the required temperature. Once toner fusing is complete, the two heat rolls replenish the heat that was lost through fusing to maintain a constant fusing belt temperature, and this achieves consistent image quality. This process makes it possible to print continuously, even on heavyweight paper, without the fusing belt temperature falling. The result is consistent image quality at very high speeds.

Toner is fused onto the paper by applying both heat and pressure. The paper passes between the fusing belt and a pressure roll, where it undergoes rapid heating under pressure as the toner is fused to the paper. The heat needed is generated through a series of lamps in the pressure pad and in rolls within the fuser belt assembly. Pressure is applied by the fusing roll, which deforms slightly beneath the paper. The area of surface contact is called the “nip.”

The Versant Family features a newly designed fusing pad that is flat. The flat surface of the fusing pad results in a larger nip area for contact with the paper during the fusing process. This has a number of important benefits.

- First, pressure is applied more evenly over a larger surface area as the toner is fused. As a result, stress on the paper is reduced, and so is the likelihood of deformation in the paper. This is particularly important for coated paper, which can sometimes blister in the fusing process.
- Second, special stocks such as envelopes are less likely to wrinkle in the fusing process. This means that a wider range of stock types can be handled by the press with excellent results.

This compact belt fuser is designed for long life. The assembly is a customer replaceable unit for Key Technical Operators who have been trained by Xerox. By training a local operator, you can avoid a service call and keep the press productive when fuser replacement is required.



Fuser Belt Pressure and Heat Control

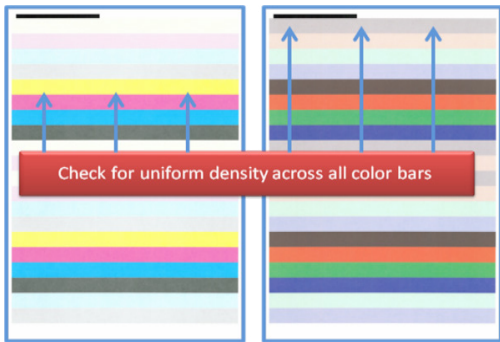
Full Width Array for IQ Adjustments, Calibration and Profiling

The Full Width Array (FWA) is an inline scanning assembly located in the paper path right after the print engine Decurler. This device provides two print engine IQ adjustments and also provides semi-automatic print server calibration and destination profiling.

The FWA consists of a series of automated RGB sensors that spans the entire width of the paper path. As xenon lamps illuminate test patterns or calibration prints moving along the paper path, a Charge Coupled Device (CCD) scanner assembly, similar to what is in a digital camera with hundreds of tiny LED lights, reads the reflected light from the lamps and measures the red, green and blue light separately. The CCD converts the light into analogue voltage signals and sends this data to the unit's processor for analysis.

Using the FWA, an operator with a few simple menu selections accomplishes highly technical tasks that on competitive presses might require a service engineer to complete.

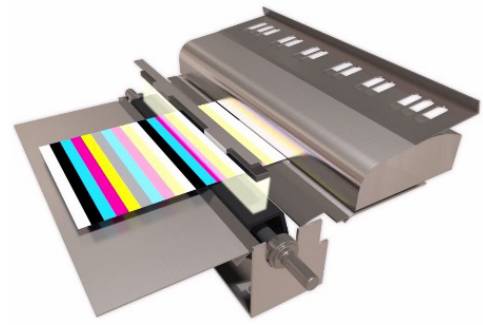
Colour calibration is no longer a time-consuming, labour-intensive chore with the Versant® 3100's FWA and Automated Colour Quality Suite (ACQS) software that work together to ensure every page of output achieves the desired target.



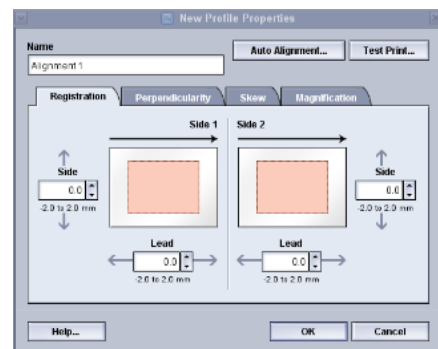
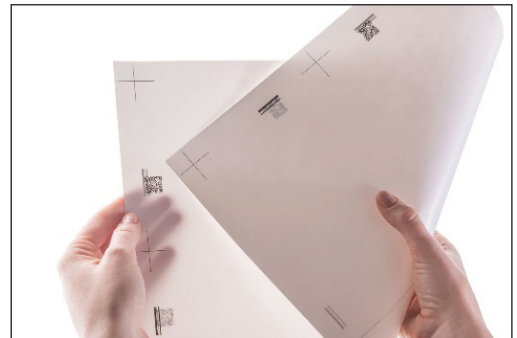
The Full Width Array also adjusts Density Uniformity, safeguarding image integrity across the page, delivering consistent and uniform toner coverage and preventing washed-out areas before they occur, as well as Image-to-Media Alignment, saving time and eliminating costly waste caused by registration errors or image skew – for perfect front-to-back registration regardless of media type or sheet size.

An automated Image Transfer Adjustment prevents uneven toner coverage and colour shift that can occur on textured and heavier-weight stocks – ensuring the same high quality regardless of stock type – even on linens, polyesters and other unique substrates.

Full Width Array automates time-consuming and error-prone setup tasks. Everything – from setting up a new stock with perfect front-to-back registration, to calibrating the press and creating a custom stock profile – is easy, integrated and fast. Your press is ready for optimal performance before the job starts running, minimising costly interruptions and maximising performance.



Full Width Array (FWA)



Automatic Image-to-Media Alignment

Automatic Sheet Clearing

The Automatic Sheet Clearing feature on the Versant® 3100 helps to quickly ready the press for printing after a paper jam occurs. With Automatic Jam Clearance, once the press has stopped and reported a jam, the operator only has to remove any sheets blocking the paper path. All the other sheets, before and after the jam, are automatically ejected to top trays. To accomplish this clearing, paper path sensors and motors work with software controls to locate and move the paper to an output tray. This tool relieves your operators from having to open all the doors and levers along the paper path to pick out individual sheets to clear the entire path.

Print Engine Productivity Settings

Auto-Duplex Up to 350 gsm

If you print on media above 300 gsm, the auto-duplexing capability of the Versant 3100 will be important to you. The Versant 3100 can print duplex jobs on media up to 350 gsm without operators having to manually handle the stacks and flip them over for Side-2 printing. This 350 gsm auto-duplex capability can save a lot of time for heavyweight production jobs.

Productivity on Mixed Media

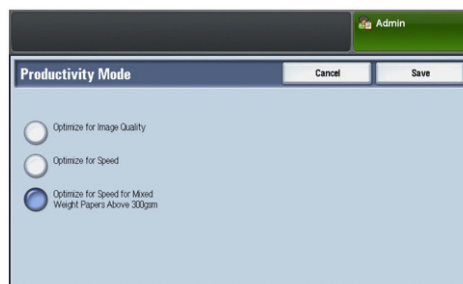
Productivity Mode is a setting that lets you optimise the speed of the press when printing with mixed media. The default is Optimise for Speed. If you are not satisfied with the image quality on a mixed media job, you can change this setting to Optimise for Image Quality. The press will then print slower, because the fuser makes more automatic temperature adjustments to the different paper weights to improve the IQ.

This setting dramatically improves productivity whenever you have heavyweight paper above 300 gsm in a mixed media job. This setting prints faster than the Optimise for Speed setting with mixed stock over 300 gsm, and will help your productivity. The three options for the Versant 3100 are:

- **Optimise for Speed** – Prints mixed media at a fast rate with fewer fuser temperature adjustments. This is the default setting.
- **Optimise for Image Quality** – Instructs the fuser to adjust its temperature to maintain the best image quality when printing with mixed media.
- **Optimise for Speed for Mixed Weight Papers Above 300 gsm** – Use this setting when at least some of the mixed stock in a job is above 300 gsm. This provides the fastest speed when using mixed stock with some paper over 300 gsm.



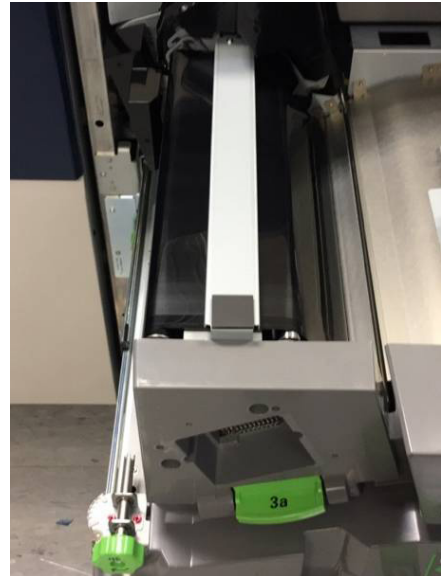
Automatic Jam Clearance/Automatic Sheet Clearing



The Versant® 3100 has a third setting: Optimise for Speed for Mixed Weight Papers Above 300 gsm.

Print Engine Cooling Module

The print engine on the Versant® 3100 is equipped with a special Cooling Module that lowers the temperature of sheets after they exit the fuser and pass beneath it. This unit is shaped like a rectangular block and has a lightweight but strong and flexible material that rotates around it. The material is the same material that is used in the image transfer belt in the xerographic subsystem. For the cooling unit, the belt material simply rotates around the block and transports the printed sheets underneath the unit. As the sheets pass beneath, the heat from each sheet is transferred through the belt to the core of the module. Fans then draw air through a channel in the center of the block to discharge the absorbed heat. This cooling technology is important for a high-speed press like the Versant 3100, because it ensures that pages do not adhere to each other in the output stacks – an event known as “bricking.”



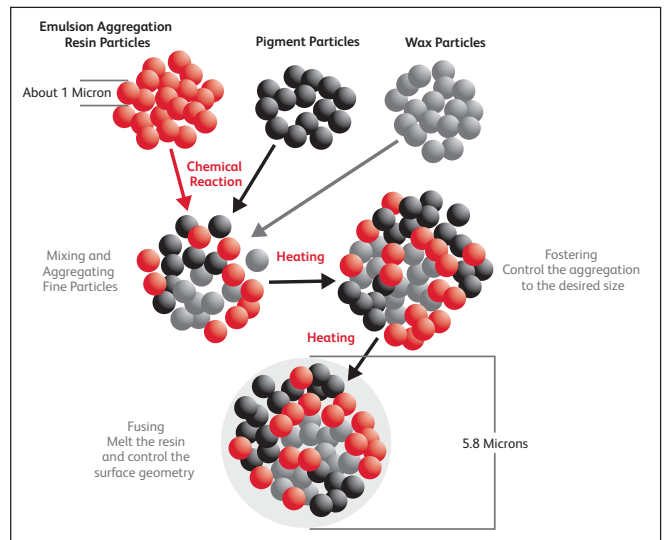
MORE IMAGE QUALITY

Use of Emulsion Aggregation (EA) Toner

The conventional toner manufacturing process consists of starting with plastic and melt-mixing in pigment and special ingredients, followed by pulverising the resulting block of composite plastic to a fine powder. After this, the powder still has to be processed to remove oversized chunks and ultra-fine particles. This multistep process results in non-uniform angular particles with a somewhat wide size and shape distribution.

By contrast, the Versant® 3100 features low-melt Emulsion Aggregation (EA) Toner, or Dry Ink, which is a chemical toner prepared by an entirely different process called “emulsion aggregation.” This is a chemical process that “grows” very small, uniform particle sizes from even smaller sub-micron particles. The EA process delivers optimal particle size and distribution for outstanding colour image quality. The small size, and the relative uniformity of all the particles in a particular batch of toner, is more predictable than the conventional mechanical process of pulverising extruded plastic for toner. The process is also less energy intensive.

EA toner produces outstanding quality with less dry ink and no fuser oil. The press uses these Dry Ink Cartridges: K or Black Dry Ink; C or Cyan Dry Ink; M or Magenta Dry Ink; and Y or Yellow Dry Ink. These cartridges are keyed so that an operator cannot mistakenly install a cartridge in the wrong housing.



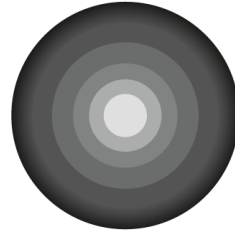
EA Toner Manufacturing Process

Ultra HD Resolution Technology with Advanced Digital Processing

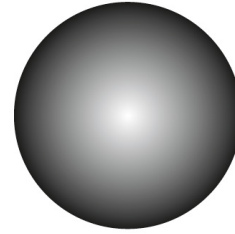
The Versant® 3100 delivers a print resolution of 2400 x 2400 dpi using a proprietary image processing and image transfer technology called Ultra High Definition or, simply, Ultra HD. Ultra HD is a precise combination of increased RIP resolution, a proprietary imaging path through the system and VCSEL ROS technology (the laser used in the xerographic printing process). Together, these technologies produce high levels of image quality for vector images, fine lines and text. Ultra HD delivers ultra-smooth gradients on the output, without visible stepping.

Ultra HD at the Print Server

The print server renders images at 1200 x 1200 x 10 dpi. The EFI™ print servers available for the Versant 3100 feature the ability to resolve colour to a depth of 10 bits per colour. The 10-bit colour depth is a unique Xerox feature that means that files are rendered at 10 bits per pixel versus the industry standard of only 8 bits per pixel. The extra two bits of data means that the print server can resolve up to 1,024 levels of colour for each CMYK separation, and this is actually four times the pixel data of other presses. EFI has branded this technology “Fiery Ultra Smooth Gradients” because of its ability to reduce stepping or banding in a gradient blend and deliver superb image smoothing.



$2^8 =$
250 shades



$2^{10} =$
1024 shades

This illustrates how the extra colour depth delivers thousands of addressable shades in a vector gradient to smooth out transitions.

In a special white paper on Versant’s advances in imaging, InfoTrends, the leading market research and consulting firm for document solutions, writes: “In the class of cut-sheet colour electro-photographic products with Fiery front ends, no other system provider has a print engine capable of receiving 10-bit data. This sets the bar for all other systems whose print engines currently can only accept 8-bit data. This is a significant technological advance, and is an important differentiator for the Versant product family.”



Ultra HD at Imaging Transfer

Between the print server and the print engine, a Common Device Interface (CDI) cable with wide bandwidth completes the data transfer. This is a dual-cable, high-speed serial transmission connection to the print engine that supports the 10-bit colour depth. The transfer process involves complicated computations and large amounts of bandwidth for the transfer. Large bandwidth is required because the size of the data stream is much larger due to the increased resolution and colour depth. The Versant Family video pathway transfers the bit stream in its entirety, without the need for “down-sampling” or reducing the data. Since down-sampling the image is not necessary, the full resolution that the print server is capable of producing is now presented to the print engine.

Ultra HD at the Print Engine

Halftoning is the process of laying down physical toner dots on the printed page. This is a sophisticated process that transforms the four toner inks (Cyan, Magenta, Yellow and Black) into the optical appearance of the full colour gamut of which the press is capable. The press does not do this by physically mixing colours, as a painter might; it achieves a similar result by printing very small physical dots of the four primary colours in extremely close proximity to one another in varying combinations, sizes and geometries. These collections of tiny physical ink dots produce a logical “dot” that appears as a specific colour and tonal density from a distance. These geometric dots are themselves so small that they cannot normally be detected by the naked eye without magnification.

The Versant photoreceptor plays a crucial role in the imaging process. Photoreceptors are multi-layer thin film devices that convert light into electrostatic images. The Versant photoreceptor receives light from an imaging device called the VCSEL ROS (Vertical-Cavity Surface-Emitting Laser Raster Output Scanner). The ROS uses thin beams of light that scan from one side of the photoreceptor to the other to lay down a series of dots. Eight sets of four beams (32 beams in total) are used in parallel for simultaneous scanning. One series of dots is called a line, and the ROS lays down line after line of dots on the photoreceptor to create an image. The resolution of the image is a function of the number of dots on a line, and the number of lines on a page. Using this technology, the Versant® 3100 delivers a print resolution of 2400 x 2400 dpi.

During this xerographic process, anywhere light touches the drum, a small spot of ink will result on the printed page. Anywhere light is prevented from touching the surface, no ink will be deposited. Halftone screening is the process of deciding where light should and should not be permitted through to the drum. Screening is needed for each toner colour in the press.

The Versant 3100 offers an expanded array of halftone screens or “dots” that differ in geometry, resolution and ink consumption. These halftone dots or “frequencies” are designed to yield either smoother, crisper resolution of objects or improved uniform tinted areas (smooth, less mottle or grain).

See chart at right for halftone screens that can be selected by the operator according to the needs of the print job.

You can select a higher halftone dot frequency to bring out the details and definition in the print images or use a lower halftone dot frequency to maximise the uniformity of tints across large colour areas. A higher frequency might be used to bring out the detail in text and photos, whereas a lower frequency would be helpful to maintain a uniform appearance for an image with large sweeps of sky, ocean or just straight tint. In addition, the Versant print servers enable operators to select halftones for different object types within the printed page.

HALFTONE SCREEN	DOT
Clustered Dot Screens	150
	175
	200
	300
	600
Rotated Line Screens	150
	200
FM Screen	Stochastic

Closed-Loop Process Controls Ensure Colour Consistency Within Print Runs

In any high-end press, colour consistency must be maintained from page to page to ensure that the pages printed at the beginning of a job will look identical to those printed at the end.

To accomplish this, the Versant 3100 features an internal, automated process that images density patches on the Intermediate Belt Transport (IBT), as well as internal sensors that constantly monitor the system and make quality adjustments in real time. This continuous or “closed-loop” process maintains colour consistency and colour-to-colour registration throughout each print run. Colour patches and registration marks are placed on the image carrier between every impression. These patches are then continuously measured during a job and adjustments are made automatically by the press, as required. The result is higher colour quality and consistency with no operator involvement.

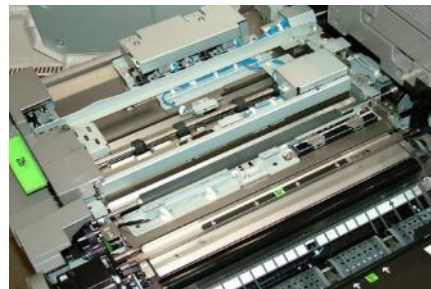
Production Accurate Registration (PAR)

The Versant® 3100 employs a special Production Accurate Registration (PAR) subsystem to maintain precise front-to-back registration during printing. The PAR system on the Versant 3100 delivers a precise +/- 0.5 mm accuracy for stocks up to 300 gsm from the Advanced High Capacity Feeder. For heavier stock, PAR maintains a registration of +/- 0.8 mm.

This is accomplished with sheet-handling mechanisms in both the High Capacity Feeders and the Aligner Transport. First, the Nip Release Rollers in the High Capacity Feeders help sheets remain flat and positioned by preventing them from being pushed and pulled at the same time. The stock then moves from the feeder to the Aligner Transport Registration Gate. The paper stops at the gate, forming a buckle that helps to de-skew it. Then the gate drops and the sheet moves under a Contact Image Sensor (CIS) that detects the inboard lead edge corner and provides adjustments to center the media. The paper is then transported to the Intermediate Transfer Belt (IBT) in the correct position to meet the image being transferred from the belt.

Bias Charge Rolls and Auto Cleaning Technology

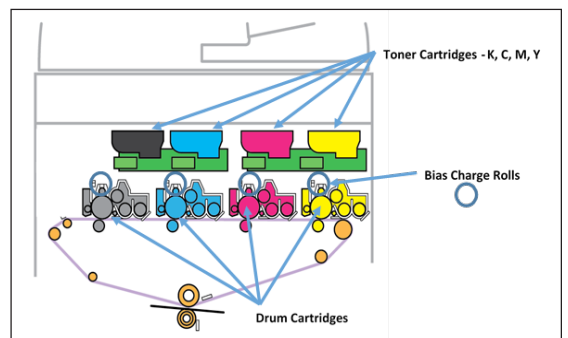
The Versant 3100 is designed with Bias Charge Rolls as key xerographic components. The Bias Charge Rolls are an essential element to Drum Cartridges in the press. The Drum Cartridge, another key xerographic component, consists of a Drum, a Bias Charge Roll and a Cleaning Assembly. The Bias Charge Rolls apply a uniform negative charge to the Drum, which is used to attract the toner to the surface of the drum. Because the charge is uniformly applied, the result is smoother halftones on the printed output. Another advantage to this xerographic assembly includes automatic cleaning built into the process and requiring no press down-time or operator intervention. The Drum Cartridges are designed as a single Customer Replaceable Unit (CRU) for both the Drum Cartridge and the Bias Charge Roll, and this makes maintenance easier and faster for these components.



The Aligner Transport helps register the paper to +/- 0.5 mm.



A Registration Gate de-skews the paper and then drops as the sheet advances to the Contact Image Sensor for additional adjustment.



Bias Charge Rolls generate a uniform electrical charge across the Drum Cartridges, which produces smoother halftones than other technology.

Decurling Technology to Ensure Flat Output for Finishing

A Decurler is standard equipment on the Versant® 3100 and it is built right into the print engine. This is important because the fusing process induces curl in the prints. The amount and direction of the curl, upward or downward, depends on many factors such as media type, ambient humidity and run mode. The Versant press uses a Decurler that removes or reduces the curl to prevent curl-induced jams and ensure flat sheets for finishing.

The decurling process is computer-controlled using data such as the paper weight being used, as well as the temperature and humidity of the press environment.

The Decurler is located in the Transfer Drawer, immediately after the Fuser. You can easily create Custom Paper Setting profiles that automatically change Decurler settings for specific stocks. There are additional Decurling Units in the Interface Decurling Module and the Production Ready Finisher that also ensure perfectly flat finished output.



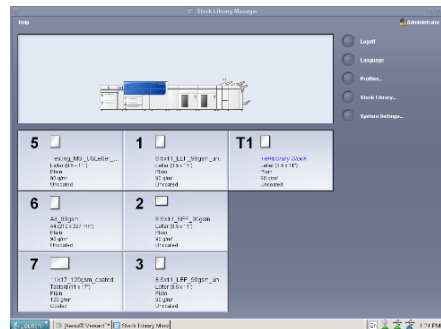
Print Engine Decurler

MORE VERSATILITY

Media Library for Stock Management

The Stock Library Manager is an application that runs on the print server, so operators can access it quickly for setting up jobs. This useful tool provides a number of key setup and run-time tasks associated with media and media handling. Operators or administrators can:

- Create and manage a library of frequently used stocks for easy selection when loading media.
- Quickly assign a library stock to a specific tray.
- Program a new stock for a tray by entering its properties, if this stock is not in the library.
- From the Versant 3100 Recommended Media List (RML), add stocks to the library or assign them to a tray. The RML is a Xerox-supplied list of recommended stocks for the press.
- Create and name profiles for challenging media, such as lightweight or heavyweight stocks. The profiles can be set to 1) adjust image alignment (Lead and Side Registration, Perpendicularity, Skew and Magnification); 2) adjust document folds (Bi-Folds, C-Folds, Z-Folds and Half Sheet Z-Folds); and/or 3) adjust sheet trimming (Bi-Fold sheets). Once created, profiles are saved and easily selected by operators from a Tray Properties window.
- Use the Advanced Stock Setup Tool to adjust print engine parameters for specific stocks, so that when the stock is selected the parameters are automatically applied for a job to achieve the best image quality. Parameters include Paper Curl Correction, Fuser Temperature Adjustment, Fuser Speed Adjustment, Paper Speed at Transfer, Transfer Output Adjustment for Trail Edge, Secondary Voltage Transfer Adjustment and Primary Transfer Current Adjustment.



Extra Long Sheet (XLS) Printing

On the Versant® 3100, you can print on long sheets up to 660 mm using the standard XLS feature. This lets you create banners, advertisements, A4 landscape book covers, calendars and long sheet prints.

XLS specifications include:

- Print Speed: Up to 9 ppm, Simplex Mode only
- Paper Weights: Uncoated 52-220 gsm; Coated 72-220 gsm
- Maximum Paper Size: 330.2 x 660.4 mm
- Maximum Printable Area: 323 x 654 mm

To use this feature, sheets must be fed from the Multi-Sheet Inserter (MSI) Tray 5 and sent to an output destination of the Offset Catch Tray or Top Tray of the HCF or Finisher.



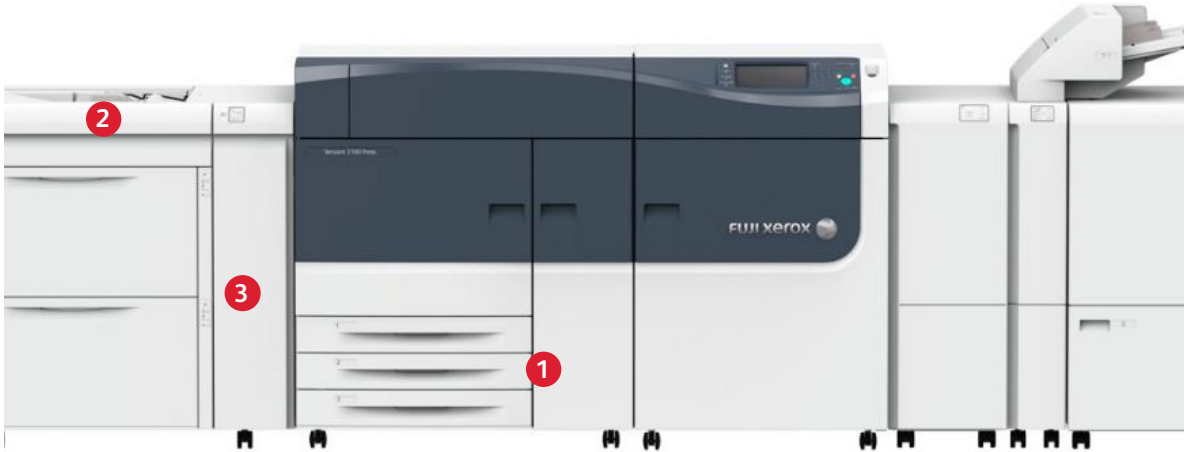
Extra long sheet printing – maximum paper size 330 x 660 mm

FEEDING AND FINISHING MODULES

The versatile finishing options for the Versant® 3100 make all the difference in your ability to deliver a wide range of applications to meet customer needs and expand your services.

FEEDING MODULES

The Versant 3100 comes with three internal paper trays, a bypass (MSI) feeder and the Advanced Oversized High Capacity Feeders as standard.



- 1 Three Internal Trays** hold 550 sheets each and feed coated and uncoated sizes 140 x 182 mm up to 330.2 x 488 mm.
- 2 Bypass Tray** holds 250 sheets of standard sized media, 98 x 146 mm up to 330.2 x 488 mm, designed for convenience by adding an accessible media pick point for feeding standard and specialist media; auto-duplexing up to 350 gsm. Feeding of extra-long sheet (XLS) for banner printing of 330.2 x 660 mm sheets printed simplex, uncoated and coated up to 220 gsm.
- 3 Advanced Oversized High Capacity Feeder (Adv OHCF)** features a total paper capacity of 4,000 sheets (330 x 488 mm) in two trays (2,000 sheets each tray), with a minimum paper size of 98 x 148 mm and a maximum paper size of 330.2 x 488 mm. The recommended weight range is 52-350 gsm.
 - Paper stabiliser minimises skew
 - Four blowers help feeding and improve reliability
 - Nip/Release Roller System improves paper handling and prevents misfeeds
 - Recommended for running large quantities of paper
 - Minimum size extended to 98 x 148 mm with Tray Inserter for postcards and envelopes

Optional Dual Advanced High Capacity Feeders: A second Advanced High Capacity Feeder (AHCF) can optionally be added to the system to extend the feeding capacities by providing two additional trays. This second, chained feeder is referred to as Trays 8 and 9, and it feeds a variety of stock sizes, including standard sizes and oversized stock up to 330.2 x 488 mm. Each tray holds 2,000 sheets (at 90 gsm) paper. The weight range supported is 52-350 gsm.

FINISHING MODULES

Production Ready Finishing Options

Versatile finishing options allow you to create exactly the press you need to build your business. There's no need to choose between capacity and capability. With Versant®, you can have it all – inline and hands-free.

Robust finishing options include our versatile new Production Ready Finisher, handling more pages, larger sizes and heavier weights. Mix and match options include the Xerox® Inserter, Xerox® Basic Punch and our Xerox® Crease and Two-Sided Trimmer with a buffering component to keep your Versant press printing fast. Add the Xerox® SquareFold® Trimmer to automatically create full bleed, perfect-bound-like booklets inline.

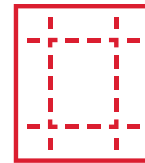
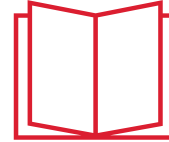
Maximum and Minimum Full Bleed Booklet Sizes are possible with the new Xerox® Production Ready Finisher Booklet Maker, Xerox® Crease and Two-Sided Trimmer, and Xerox® SquareFold® Trimmer options.

Largest Full Bleed Booklet Size

- Biggest paper size for PR Finisher is the same as the press: 330 x 488 mm
- Two-Sided Trimmer smallest cut is 6 mm from both head and foot
- SquareFold Trimmer smallest face cut is 2 mm
- Largest finished or maximum size full bleed booklet is 242 x 318 mm

Smallest Full Bleed Booklet Size

- Smallest paper size for PR Finisher to trim: 194 x 257 mm
- Two-Sided Trimmer smallest cut is 6 mm from both head and foot
- SquareFold® Trimmer largest face cut is 20 mm
- Smallest finished or minimum size full bleed booklet is 108.5 x 182 mm



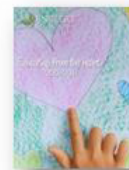
←9.5" / 318mm→

↑
12.5"
or
242mm



←4.27" / 108.5mm→

↑
7.17"
or
182mm



This shows the Production Ready finishing chain of options for the Versant® 3100. Additional options include Xerox Partner DFA finishing options, the Plockmatic Pro50/35 Booklet Maker and the GBC® eWire™.



1 – XEROX® INTERFACE DECURLER MODULE (IDM)

Function	<ul style="list-style-type: none"> • Connects the print engine with inline finishers • Enables communication between the print engine and finishers • Adjusts the exit height of the paper and cools the paper • Decurls paper to ensure flat sheets for finishing
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2 – XEROX® INSERTER

Function	<ul style="list-style-type: none"> • Inserts preprinted/blank media into printed documents • Innovative design places it up front to enable other finishing on inserted sheets such as trimming, stacking, punching, folding and stapling
Paper Stock	250 Sheets
Paper Size	<ul style="list-style-type: none"> • Smallest: 182 x 148 mm • Largest: 330.2 x 488 mm
Paper Weight	<ul style="list-style-type: none"> • Uncoated: 75-300 gsm • Coated: 120-300 gsm

3 – GBC® ADVANCEDPUNCH™ PRO

Function	<ul style="list-style-type: none"> • Provides inline punching for all main binding styles with exchangeable modular dies • 12 die set types accommodate commonly used binding styles such as Comb, Coil, Wire, Ring, ProClick® and VeloBind®
Paper Size	Handles 10 fixed sheet sizes (A5-A3)
Paper Weight	<ul style="list-style-type: none"> • Uncoated: 75-300 gsm • Coated: 120-300 gsm
Additional Details	Convenient control panel shows die type and cycle count, Power On/Off, Chip Tray Full, Chip Tray Position, Punch Die Position, Front Door Alert, Paper Jam and access to adjustments.

4 – XEROX® HIGH CAPACITY STACKER (HCS)

Function	<ul style="list-style-type: none">• Offsets output to large capacity stacking tray with a movable cart, or sends proof print or sheets in the top tray• Ideal for long production runs
Paper Stock	<ul style="list-style-type: none">• Up to 5,000 sheets in main tray of 80 gsm, A4 paper• Up to 500 sheets in top tray
Paper Size	<ul style="list-style-type: none">• Smallest 203 x 182 mm• Largest 330 x 488 mm
Paper Weight	64-350 gsm
Paper Weight	Two units can be chained for double stacking volume to 10,000 sheets

5 – XEROX® CREASE AND TWO-SIDED TRIMMER

Function	<ul style="list-style-type: none">• Trims 6-25 mm off head (top) and foot (bottom) of sheets• Provides full bleed for booklets when face-trimmed with the Xerox® SquareFold® Trimmer
Paper Size for Two-Sided Sheet Trim	<ul style="list-style-type: none">• Minimum: 194 x 210 mm• Maximum: 330 x 488 mm
Paper Size for Two-Sided Booklet Trim	<ul style="list-style-type: none">• Minimum: 194 x 257 mm• Maximum: 330 x 488 mm
Paper Weight	<ul style="list-style-type: none">• Uncoated: 52-350 gsm• Coated: 106-350 gsm
Additional Details	<ul style="list-style-type: none">• Used in creating booklets up to 30 sheets/120 pages• Configured with the Xerox® SquareFold Trimmer for full bleed trimming• Contains a buffer module that maximises print engine productivity• Add up to five customisable mountain or valley creases on a sheet

6 – XEROX® C/Z FOLDER MODULE (OPTION FOR PRODUCTION READY FINISHERS)

Function	<ul style="list-style-type: none">• Produces sheets with a C-Fold or Z-Fold on letter stock (A4)• Creates an Engineering Z-Fold on A3/B4 paper
Paper Size	<ul style="list-style-type: none">• C and Z-Folds: A4• Engineering Z-Fold: A3/B4
Paper Weight	Uncoated: 64-90 gsm
Additional Details	An Engineering Z-Fold, also called a “Half Z-Fold”, places a fold on A3/B4 paper and reduces the sheet to A4 size.

NOT SHOWN – XEROX® PRODUCTION READY FINISHER

Function	<ul style="list-style-type: none"> • Produces stapled sets with a variable-length stapler • Provides single or dual stapling options • 100-sheet staple capacity
Stapling Paper Size	<ul style="list-style-type: none"> • Minimum: 182 x 146 mm • Maximum: 297 x 432 mm
Stacking Paper Size	<ul style="list-style-type: none"> • Minimum: 148 x 146 mm • Maximum: 330 x 488 mm
Paper Weight	<ul style="list-style-type: none"> • Uncoated: 52-350 gsm • Coated: 72-350 gsm
Additional Details	<ul style="list-style-type: none"> • Contains a built-in bi-directional decurler to ensure flat output • Stacks 3,000 sheets plus 500-sheet top catch tray

7 – XEROX® PRODUCTION READY FINISHER BOOKLET MAKER

Function	Delivers the same feature set as the Production Ready Finisher and also creates stapled booklets up to 30 sheets (120 imposed pages at 90 gsm)
Paper Size	<ul style="list-style-type: none"> • Minimum: 194 x 257 mm • Maximum: 330 x 488 mm
Finished Booklet Sizes	<ul style="list-style-type: none"> • Minimum/Smallest full bleed: 108.5 x 182 mm • Maximum/Largest full bleed: 242 x 318 mm
Paper Weight	<ul style="list-style-type: none"> • Uncoated: 60-350 gsm • Coated: 106-350 gsm
Additional Details	Stacks 2,000 sheets to the stack tray plus 500-sheet top catch tray

NOT SHOWN – XEROX® PRODUCTION READY FINISHER PLUS

Function	<ul style="list-style-type: none"> • Provides the same functions as the Xerox® Production Ready Finisher • Adds Transport Module that enables connection to third-party finishing • Available finishing options include Plockmatic Pro50/35 Booklet Maker and GBC® eWire™
Stapling Paper Size	<ul style="list-style-type: none"> • Minimum: 182 x 146 mm • Maximum: 297 x 432 mm
Stacking Paper Size	<ul style="list-style-type: none"> • Minimum: 148 x 146 mm • Maximum: 330 x 488 mm
Paper Weight	<ul style="list-style-type: none"> • Uncoated: 52-350 gsm • Coated: 72-350 gsm
Additional Details	Stacks 2,000 sheets to the stack tray plus 500-sheet top catch tray

NOT VISIBLE – XEROX® BASIC PUNCH (OPTION FOR PRODUCTION READY FINISHERS)

Function	Provides hole punching for 2/3 hole, 2/4 hole and Swedish style 4-hole punch
Paper Size	<ul style="list-style-type: none"> • 2 hole: 297 x 431.8 mm • 3 hole: 254 x 182 mm • 4 hole: 267 x 182 mm • Minimum sheet size: 203 x 182 mm
Paper Weight	Coated and Uncoated stocks up to 220 gsm

8 – XEROX® SQUAREFOLD® TRIMMER (OPTION FOR PRODUCTION READY BOOKLET MAKER FINISHER)

Function	<ul style="list-style-type: none"> • Receives booklets from the booklet maker, flattens the booklet spine making a flat finished booklet with the appearance of bound book-like edge; eliminates shingle effect with a professional face trim, up to 120 pages (30 sheets) • Trims 2-20 mm from face edge of the booklet • Used with the Xerox® Crease and Two-Sided Trimmer for finished full bleed booklets with the Production Ready Booklet Maker Finisher
Paper Types	Coated and Uncoated stocks up to 350 gsm

NOT SHOWN – PLOCKMATIC PRO50/35 BOOKLET MAKER

Function	Produces booklets up to 35 or 50 sheets (depending on model)
Additional Details	<ul style="list-style-type: none"> • Options include Rotate Crease and Bleed Trimmer (RCT), Cover Feeder (CF50/35), Face Trimmer (TR50/35) and Square Folder (SQF50/35) • Requires Xerox® Production Ready Finisher Plus interface to third-party finishers
Paper Size	<ul style="list-style-type: none"> • With RCT: 206 x 275 mm up to 330 x 457.2 mm • Without RCT: 206 x 275 mm up to 320 x 457.2 mm
Paper Weight	<ul style="list-style-type: none"> • Uncoated: 64-300 gsm • Coated: 105-300 gsm
Booklet Size	206 x 137.5 mm up to 320 x 228.6 mm

NOT SHOWN – GBC® EWIRE™

Function	Automated inline binding system using traditional twin-loop wire binding, eliminating the need for manual binding of books and calendars in letter and A4
Paper Size	A4, 297 x 210 mm
Paper Weight	75-300 gsm
Additional Details	Requires GBC AdvancedPunch™ Pro and the Xerox® Production Ready Finisher Plus

The Versant® Family's unique combination of competition-busting image quality, media latitude and workflow automation is brought to its highest, most powerful potential in the Versant 3100 Press.



THE VERSANT® AUTOMATION ADVANTAGE

The Versant 3100 Press takes the Versant Family's automation advantage to extremes. Groundbreaking technologies based on Xerox innovation and ingenuity combine with a single focus – ultimate productivity without sacrificing quality, control or capabilities.



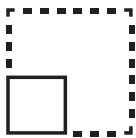
MORE PERFORMANCE

From its enhanced monthly duty cycle of 1.2 million prints to its advanced fusing technology, engine cooling module and wide media latitude with auto-duplexing on even the heaviest stocks and substrates, the Versant 3100 is a powerful – and sophisticated – press.



MORE IMAGE QUALITY

Head-turning Ultra HD Resolution Technology is just the start. Our incredibly competent Full Width Array enables near-total automation of virtually every quality parameter, from colour calibration to registration, image transfer, density uniformity, image-to-media alignment and more. Closed-loop, operator-free processes ensure colour consistency and overall image quality within each run.



MORE VERSATILITY

Versatile feeding and finishing options allow you to create exactly the Versant press you need to build your business. There's no need to choose between capacity and capability. With Versant, you can have it all – inline and hands-free.



MORE RESULTS

Time-saving, profit-building productivity, driven by astounding levels of automation and image quality. That's the Versant Automation Advantage.

ATTRACT NEW BUSINESS

You'll gain an instant quality advantage and the ability to create high-value applications. Attract new business, increase margins and build a reputation for excellence with stunning, accurate output.

IMPROVE UP-TIME AND INLINE CAPABILITIES

Reduce waste and maximise up-time with fully automated colour calibration and image-to-media alignment, as well as a wide range of inline finishing options.

PRINT AT TOP SPEEDS ON A WIDE RANGE OF MEDIA

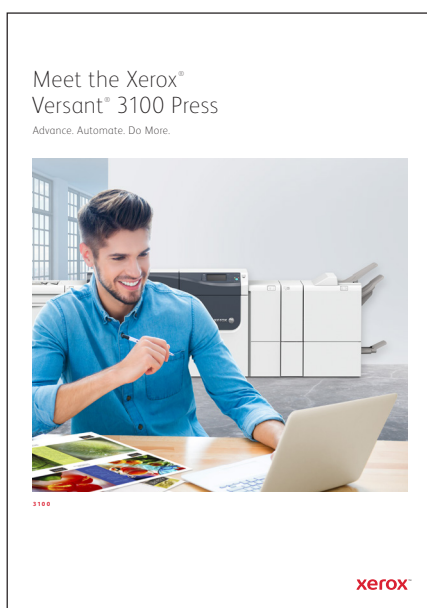
Print at a top speed of 100 ppm on stock weights from 52-350 gsm, and maximise your job types with the ability to run envelopes, 660 mm banners, polyester/synthetic, textured, coloured, custom media and mixed-stock printing.

EASY, AUTOMATED AND PRECISE

You'll also get our automated Production Accurate Registration (PAR) for precise registration from first print to the end of the run, with automatic sheet clearing and three automated production modes to balance production needs without complicated set-up.

IMPROVE MARGINS. GROW PROFITS

Step up to the most advanced press in the Versant® Family. The Xerox® Versant 3100 Press delivers more of what you need in a high-volume print solution. Speed, optimised alignment, colour calibration technologies and robust finishing options allow you to respond with confidence to the ever-changing print market.



Find out more and explore options at www.xerox.com/versant3100.