

Since the introduction of the HP Latex 300 Printer series, there are now more than 29,000 HP Latex printers installed at professional print service providers (PSPs) worldwide. As HP Latex Technology has become number one in the sign and display market, the competition is making statements that are proven to be false.



Let's understand the truth:

The HP Latex 360 Printer and the Roland VersaEXPRESS RF-640 printer are NOT in the same class:

Comparing the Roland VersaEXPRESS RF-640 printer with the HP Latex 360 Printer is not the correct comparison.¹ The maximum speed of the Roland VersaEXPRESS RF-640 printer is lower than the regular speed of the HP Latex 360 Printer as detailed in the following table:



	HP Latex 360 Printer	Roland VersaEXPRESS RF-640	HP Latex 360 Printer advantage
Indoor quality	Needs 8 pass @ 183 ft ² /hr	Needs 6 pass @ 117 ft ² /hr	56% faster indoor speed
Outdoor plus	Needs 6 pass @ 248 ft ² /hr	Needs 5 pass @ 141 ft ² /hr	92% faster outdoor speed

Let's compare apples-to-apples...

An accurate comparison must include printers in the same category.¹ The accurate comparison for the Roland VersaEXPRESS RF-640 printer is the HP Latex 330 Printer, the right equivalent with similar throughput at comparable quality.



	HP Latex 330 Printer	Roland VersaEXPRESS RF-640	HP Latex 330 Printer advantage
Indoor quality	Needs 8 pass @ 140 ft ² /hr	Needs 6 pass @ 117 ft ² /hr	20% faster indoor speed
Outdoor plus	Needs 6 pass @ 182 ft ² /hr	Needs 5 pass @ 141 ft ² /hr	29% faster outdoor speed

And the accurate comparison for the HP Latex 360 Printer is the Roland SOLJET Pro 4 XF-640 printer.



	HP Latex 360 Printer	Roland SOLJET Pro 4 XF-640	HP Latex 360 Printer advantage
Indoor quality	Needs 8 pass @ 183 ft ² /hr	Needs 12 pass @ 108 ft ² /hr	69% faster indoor speed
Outdoor plus	Needs 6 pass @ 248 ft ² /hr	Needs 6 pass @ 215 ft ² /hr	15% faster outdoor speed

COST OF INITIAL INVESTMENT

Comparing printers with more equivalent performance, the HP Latex 360 Printer provides a significantly lower cost of initial investment than the Roland SOLJET Pro 4 XF-640 printer.



HP Latex 360 Printer



Roland SolJET Pro 4 XF-640

Printer (US MRP)	\$18,995	\$29,995
RIP software	From \$900	Included ²
Others	\$800 (Electrical installation)	Included
2nd year warranty	\$1,899	Included ³
i1 spectrophotometer	Included	\$2,298 (X-Rit i1Publish Pro 2)
Ink set	Included	\$1,032
TOTAL	\$22,594	\$33,325

If you are looking for a print and cut, the accurate comparison is the Roland SOLJET Pro 4 XR-640 printer.

At a comparable Initial Investment: Roland costs \$28,254 while the HP Latex 360 with an extended warranty and a RIP will cost \$22,594 plus the extra \$6,000 of an off line cutter will have a total cost of \$28,594. Practically same investment but in this case 67% faster than the Roland SOLJET Pro 4 XR-640 printer at a comparable quality.

COST OF OPERATION

The cost of operation for the HP Latex 360 Printer, including printheads and maintenance kit, is equivalent to the Roland SOLJET Pro 4 XF-640 printer.

	HP Latex 360 Printer	Roland SolJET Pro 4 XF-640
Inks⁴	\$0.17/ft ²	\$0.16/ft ²
Printheads⁴	\$0.03/ft ²	\$0.02/ft ²
Maintenance kit⁴	\$0.01/ft ²	\$0.01/ft ²
TOTAL	\$0.21/ft²	\$0.19/ft²

Let's bring to the light the truth about the HP Latex 360 Printer compared to the Roland SOLJET Pro 4 XF-640 printer and the Roland SOLJET Pro 4 XR-640 printer.

BUILD QUALITY



HP Latex 360 Printer



**Roland SolJET Pro 4 XF-640 and
Roland SolJET Pro 4 XR-640 printers**

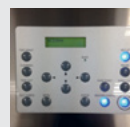
Ease of use

The HP Latex 360 Printer has been designed for an easy user experience—an automatic, reliable, and low-maintenance printer that helps increase production time and reduce time monitoring the printer.

- The HP Latex 360 Printer provides automatic maintenance, no time-consuming daily manual printhead maintenance or special cleaning are needed.
- The printheads are user replaceable.
- The HP Latex 360 Printer offers a user-friendly, 8-inch touchscreen with an intuitive user interface.



- Semi-automatic routines, constant monitoring, and manual time-consuming cleaning interventions are needed.
- To replace the printhead, a Roland professional service is needed, generating extra cost.
- The small display is not user friendly or intuitive.



PRINT QUALITY



HP Latex 360 Printer



**Roland SOLJET Pro 4 XF-640 and
Roland SOLJET Pro 4 XR-640 printers**

Printheads **The HP Latex 300 Printer series uses 1,200 nozzles per inch native high-resolution printheads providing robust image quality.**

- The HP printhead provides 1,200 nozzles per inch native resolution, enabling RIP and writing system flexibility to place drops precisely in order to achieve edge sharpness and uniform area fills, hide nozzle errors, and control ink coverage.
The HP Thermal Inkjet printheads used in HP Latex printers have intrinsically higher resolution, enabling fewer passes for complete area coverage, providing faster print speeds with good quality.
Unlike piezo grayscale printheads, HP Latex printheads enable lower printhead replacement cost, as well as scalability at lower cost.
- HP Latex printheads are user replaceable—no expertise is needed so, unlike eco-solvent printing, the operator can change the printhead when needed. Timely printhead replacement provides, high-quality output.

- Roland SOLJET Pro 4 XF-640 and SOLJET Pro 4 XR-640 printers use low-resolution piezo printhead with 180 nozzles per inch, so as missing nozzles occur, image-quality defects are more likely to be visible.
- Even with daily maintenance, piezo printhead usage results in print-quality degradation. In addition, the professional service is required to replace the printhead and this needs to be paid.

Profiles **The HP Latex 360 Printer offers more than 570 ICC profiles for free, plus simplified and automated color management.**

HP offers more than 570 ICC universal profiles for 350 certified substrates available for free download, validated and certified by HP to provide the best performance and RIP compatibility. The HP Latex 360 Printer provides an additional professional HP Custom Substrate Profiling tool to easily edit, clone, remove, and create custom ICC profiles from the front panel that can save up to 4 hours to create a custom ICC profile and media preset.
For those customers that still prefer to profile with an external spectrophotometer, HP recommended RIP software solutions are compatible with professional standalone profiling tools that can be used on multiple devices to achieve color matching across platforms.

Roland offers only 70 free ICC profiles—far less than HP—for common materials.

Color consistency **High-efficiency curing with the HP Latex 300 Printer series enables consistent colors to $\leq 2 \text{ dE}2000$.⁵**



Consistent curing temperature provides greater color consistency, even for the most demanding applications, delivering consistent colors to $\leq 2 \text{ dE}2000$ for 95% of the colors.⁵ Additionally, the i1 embedded spectrophotometer enables automatic color calibration.⁵

See the video:

[HP Latex 300 Printer series: Tour of new HP Latex Inks and printheads](#)

Durability **The scratch resistance of eco-solvent ink prints is inferior to HP Latex Ink prints that provide scratch resistance comparable to hard-solvent inks on SAV and PVC banner.⁷**

Third-generation HP Latex Inks for the HP Latex 300 Printer series feature the addition of an anti-scratch agent that provides a high level of scratch resistance⁷ to help significantly reduce the risk of accidental damage during the finishing, installation, and display of unlaminated applications compared to eco-solvent inks.

Recognized as the industry's most comprehensive finished-graphic warranty, the 3M™ MCS™ Warranty applies to HP 831 Latex Inks for the HP Latex 360 Printer, offering a six-year warranty for film lamination.

The lower scratch resistance of eco-solvent prints can increase production and delivery times due to extra finishing, and can create the risk of damage with handling, requiring reprints.

PRODUCTIVITY



HP Latex 360 Printer



Roland SolJET Pro 4 XF-640 and Roland SOLJET Pro 4 XR-640 printers

Ripping time

HP Latex certified RIPs enable the highest performance standards without compromising productivity. The Roland VersaWorks RIP is easy to use but has only basic functionalities.

The HP Latex RIP certification program defines a comprehensive set of compatibility criteria according to the highest performance standards and the unique capabilities of HP Latex Printing Technologies. Only third-party companies that have demonstrated conformance with these criteria are awarded HP Latex certified status.

The free VersaWorks RIP offered by Roland is a basic tool with basic functionalities, delivering "up to" 16 times less speed than a standard RIP like ONYX for the same functionality.

Dry time

HP Latex prints come out completely dry and ready to finish and deliver.

HP Latex prints are cured during printing—prints come out completely dry ready to laminate, use, finish, and prepare for shipping or display.

Vendors like 3M recommend a minimum drying time of at least 24 hours before further processing. Inadequate drying can result in graphic failure including curling, increased shrinkage, and adhesion failure.

See sample 3M bulletin:

<http://multimedia.3m.com/mws/media/6470620/product-bulletin-ij25.pdf>
Page 3 "Converting information: Inkjet Printing."

Contour cutting



HP recommends a standalone cutter in order to boost customer productivity and avoid underutilization of the printing device.

See the video:

[Print and cut duo speed test](#)

HP recommends a standalone cutter in order to boost customer productivity.

The SOLJET Pro 4 XR-640 printer provides integrated printing and contour cutting in one machine, however the two tasks must be performed separately, which limits printing productivity since you can only print or cut—both tasks cannot be performed at the same time.

VERSATILITY

HP Latex printers offer wider versatility across all common media types used in traditional signage applications and beyond, like vinyls, banners and backlits, including substrates that are not compatible with eco-solvent technology.

HP Latex Inks conform to the media surface, preserving gloss and surface characteristics. HP Latex Inks are compatible with inkjet coated materials and uncoated materials such as uncoated polyester textiles,⁸ maintaining high quality across this versatile range of media.

Additionally, HP offers the optional ink collector for printing on porous media like textiles and mesh. The ink that passes through the material is collected. Unlike the Roland printers described in this document, HP Latex 360 Printers can print on both coated and uncoated textiles.

The quality performance of Roland printing on uncoated media is much lower compared to HP Latex printing.

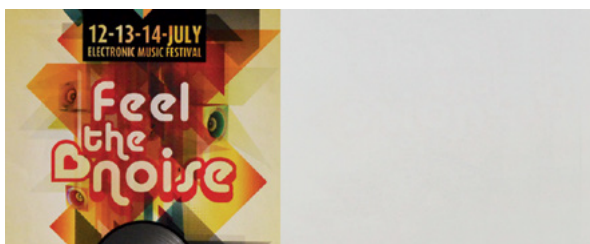
Eco-Sol MAX inks may retain the appearance of the media, but not the colors since eco-solvent inks do not stay on the surface of uncoated materials but instead pass through the material, resulting in a dull color appearance on the media surface.

Roland does not offer an ink collector solution, and therefore, its printers do not allow printing on textiles that have high porosity unless they come with a back liner or are non-porous coated materials.

HP Latex performance on plain paper

Front side

Back side



Eco-solvent performance on plain paper

Front side

Back side



ENVIRONMENTAL

HP Latex Inks environmental standards—eco-solvent inks can't catch up Environmental certifications and eco-labels overview.⁹

	Printer	Inks, ink cartridges	HP printing materials	Prints	Print service providers (PSPs)
HP Latex Technology					
Eco-solvent					



HP Latex 360 Printer



Roland SolJET Pro 4 XF-640 and Roland SOLJET Pro 4 XR-640 printers

HP Latex Printing Technology and HP Latex Inks have environmental and energy efficiency certifications and characteristics that Roland Eco-Sol MAX 2 inks cannot match.

HP Latex Inks are based on a technology with no HAPs¹⁰ and no hazard warning labels, so they are not only UL GREENGUARD GOLD Certified¹¹ but much more.

As the summary chart above reflects, HP Latex Inks continue to lead with advantages across a wide spectrum of attributes throughout the entire life cycle from production to disposal.

Considering power consumption as part of the environmental aspect of the printers, it is true that the HP Latex 360 Printer consumes a little more energy while printing and drying, but eco-solvent technology must still be connected to keep its maintenance routine—even when not printing—and this consumes power. In addition, HP Latex printers can be unplugged without risk of damage when not printing.

To put things into perspective, when evaluating the cost by the end of the month, under equal circumstances, the energy consumption with the HP Latex printer would cost only \$7.62 more than the Roland SOLJET Pro XF-640 printer.¹²

The best proof of the energy efficiency of the HP Latex 360 Printer are the following strict certifications that the Roland printers described in this document do not have:

- The HP Latex 360 Printer is ENERGY STAR® certified as it meets strict energy efficiency guidelines.
- The high energy efficiency of the HP Latex 300 Printer series made it the only EPEAT Bronze registered¹³ product series certified in its category¹⁴ providing, beyond the energy consumption, a comprehensive environmental rating that helps identify “greener” electronic components.

Environmental credentials for the HP Latex 360 Printer can be found at: <http://h20195.www2.hp.com/V2/GetPDF.aspx/4AA5-5331EEW.pdf>

Roland only publishes UL GREENGUARD GOLD Certification.



- ¹ Comparing similar throughput at comparable quality.
- ² RIP software is included, however the combined VersaWorks and Roland printing system performance is inferior to the combined performance of the key low-volume RIPs offered by HP (ONYX, Caldera, SAI, and ColorGATE) together with the HP Latex 360 Printer. Based on internal HP testing as of July, 2015.
- ³ Warranty only covers manufacturing defects: "Not covered: A printhead damaged by misuse, neglect, accident or modification. Example: Head crash/strike caused by misuse of media or media clamps." Reference: Roland FAQ Warranty policies.
- ⁴ Cost based on Indoor Quality print mode.
- ⁵ The color variation inside a printed job has been measured to be within this limit: maximum color difference (95% of colors) < = 2 dE2000. Reflective measurements on a 943 color target under CIE standard illuminant D50, and according to the standard CIEDE2000 as per CIE Draft Standard DS 014-6/E: 2012. 5% of colors may experience variations above 2 dE2000. Backlit substrates measured in transmission mode may yield different results.
- ⁶ ICC profiling with the spectrophotometer does not support textiles and banners.
- ⁷ Scratch-resistance comparison based on testing third-generation HP Latex Inks and representative hard-solvent inks. Estimates by HP Image Permanence Lab on a range of media. Scratch resistance is measured according to test method ISO 1518-2:2011. Abrasion resistance is tested according to ASTM F1571-95 (2008).
- ⁸ Performance may vary depending on media—for more information, see hp.com/go/mediasolutionslocator or consult your media supplier for compatibility details. For best results, use textiles that do not stretch. Performance varies by printer. The HP Latex 360 Printer includes an ink collector for printing on porous textiles. For all other HP Latex printers, print on media that does not let the ink trespass onto the printer.
- ⁹ Certification and eco-label chart is for comparison only. Actual certifications and criteria are subject to change without notice. All trademarks are property of the owner and cannot be repurposed without the expressed approval of the owner. BMG trademark license code FSC®-C115319, see fsc.org. HP trademark license code FSC®-C017543, see fsc.org. BMG trademark license code PEFC™/29-31-261, see pefc.org. HP trademark license code PEFC™/29-31-198, see pefc.org. Not all FSC®- or PEFC™-certified products are available in all regions. For information about HP large format printing materials, please visit HPLFMedia.com. HP Light Fabric printed with HP Latex Inks is REACH compliant—this product does not contain substances listed as SVHC (155) per Annex XIV of the EU REACH directive published as of June 16, 2014 in concentrations exceeding 0.1%. To determine the status of SVHC in HP products, see the HP REACH Declaration published at HP Printing Products and Consumable Supplies. Logo source: Copyright European Chemicals Agency.
- ¹⁰ HP Latex Inks were tested for Hazardous Air Pollutants, as defined in the Clean Air Act. Per U.S. Environmental Protection Agency Method 311 (testing conducted in 2013) and none were detected.
- ¹¹ UL GREENGUARD GOLD Certification to UL 2818 demonstrates that products are certified to UL's GREENGUARD standards for low chemical emissions into indoor air during product usage. For more information, visit ul.com/gg or greenguard.org.
- ¹² Calculation based on printing 5,382 ft²/month.
- ¹³ EPEAT registered where applicable/supported. See epeat.net for registration status by country.
- ¹⁴ The HP Latex 300 Printer series are the only products among large format printers listed with EPEAT as of November 2014 that fit the IDC category for the "low volume sign market." The HP Latex 300 Printer series is EPEAT registered where applicable/supported. See epeat.net for registration status by country.

Note: All claims and calculations in this document are based on internal HP testing and analysis of published specifications as of July, 2015.

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