KEYPOINT INTELLIGENCE

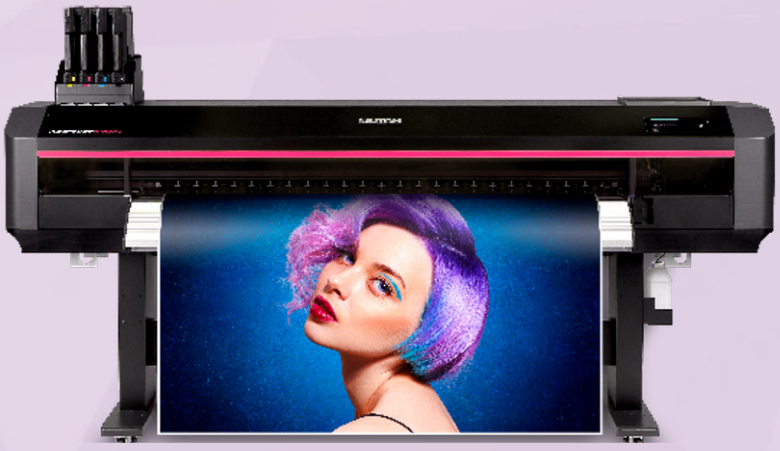
EUROPEAN EDITION

Field Test Report

A Comprehensive Keypoint Intelligence Field Evaluation

Mutoh XpertJet 1641SR Pro

64-Inch Wide Format Printer
CMYK Eco-Solvent Ink (MS41 Ink)



★★★★½
Image Quality

- Halftone Images ★★★★½
- Colour Accuracy ★★★★½
- Colour Gamut ★★★★★
- Multi-Panel Wallpaper Consistency ★★★★★

★★★★½
Usability

- Media Handling ★★★★☆
- Device Management and Monitoring ★★★★½
- Maintenance and Ink ★★★★½

★★★★☆
Speed

OUR TAKE

The Mutoh XpertJet 1641SR Pro 64" CMYK printer performed strongly across our range of rigorous tests and will be a popular fit with busy printshops looking to deliver on a wide range of work efficiently while maintaining lower running costs. Key technology upgrades over the previous generation include: 'AccuFine', a new wider printhead with high drop density and faster firing; 'i-screen', new weaving algorithms; and, a proprietary RIP VerteLith, built on a Harlequin RIP core. Mutoh has also added in an extra head height and more usability enhancing functionality including Dropmaster2 which provides automated bi-directional alignment; Feedmaster for automated paper feed adjustment; an optional automated nozzle checking unit coupled to Mutoh's "nozzle area select" technology which facilitates 'risk free' long unattended print runs; and improved printhead and pressure control to accommodate challenging media. This plethora of new technology certainly seems to deliver high productivity at low pass rates, excellent colour gamut size and colour matching that we are more accustomed to seeing on gamut expansion devices, impressive halftone quality, and some notable scores in our usability analysis, making this device tough to beat. The intuitive VerteLith RIP is pleasing to work with; while it may not offer some of the bells and whistles provided on some of the heavyweight chargeable premium RIPs, there's sufficient functionality for most printshop operations and we are confident the software will go from strength to strength as Mutoh continues developing this innovative new RIP offering. User maintenance has been improved to allow for easy printhead cleaning, and access to the capping station and cleaning blade, but many tasks are still manual led with limited user instruction on the printer (albeit there are Mutoh guidance videos available on YouTube). There's certainly a lot to like about this device and we were impressed by its notable strengths in the areas of productivity and image quality which definitely outweighed some of the minor weaknesses.

MAY
2022

BENEFITS

- Multiple head height options and adjustable feed roller pressure levels aid with handling difficult media
- Mutoh Status Monitor provides a high level of remote control and device management
- Easy media loading with spindle free design, short paper path to printhead and quick media registration process
- Ink usage estimator allows for quick costing up of single or multiple batch print jobs in RIP queue
- Very good colour matching with a 4.5 star rating and mean Delta E00 variance of only 3.9
- Inks available in two capacity options (300 ml and 1 litre) allowing for high and lower usage customers
- Mess free waste ink process with no removal of the full tank
- GREENGUARD Gold certified ink (wallpaper category) expands the use in more sensitive environments like schools and hospitals

ADVANTAGES

- Largest colour gamut on four colour CMYK devices tested to date
- Fastest print speeds of all current entry level CMYK devices tested in most productive mode allows work to get completed efficiently
- Automatic nozzle checking unit (optional) coupled with “nozzle area select” technology aids ‘risk free’ uninterrupted printing
- Excellent skin tone reproduction and smooth non grainy gradations even at the 6 pass most productive setting reduces the need to sacrifice speed when handling quality sensitive work
- Short paper path from roll to printhead and no requirement to have the media connected to the take up roller before printing commences means less media waste
- Media profiles and remaining roll length (Media Tracker) can be automatically detected upon media loading saving the operator valuable time when switching jobs
- VerteLith RIP is very intuitive making it easy for a novice user to use
- High user assistance thanks to automated bi-directional alignment, paper feed adjustment, and media length tracking through the sensor next to the head on the print carriage

LIMITATIONS

- Device user interface could be more intuitive
- No media lifting aid
- Maintenance tasks lacks guidance on the printer
- VerteLith RIP spot colour management was cumbersome and did not permit cloning of existing spot colour library entries into custom libraries
- VerteLith is limited to managing only four devices which is less than many competing RIPs
- Media profiles cannot be copied from one device to another via the RIP GUI

IMAGE QUALITY

★★★★½

Halftone Image Reproduction	★★★★½
Colour Accuracy	★★★★½
Colour Gamut	★★★★★
Multi-Panel Wallpaper Hanging	★★★★★

KEY FINDINGS

- Skin tones were reproduced to an excellent standard. Light and dark contrasts retained a high degree of integrity and were produced with no visible graininess.
- The greyscale image was produced with very good retention of detail, albeit with a very slight magenta hue on the cast vinyl at the highest quality mode.
- The highest pass mode raised up the light and dark contrasts on cast vinyl to another level earning our highest Excellent rating.
- Very impressive colour accuracy delivering low average Delta E00 measurements for the 15 PANTONE colours of only 3.9 at both the 6 Pass production mode and 12 pass high quality mode, with the max colour Delta E00 of only 6.9 in highest quality mode, with ten colours registering Delta E00 measurements below 4.0.
- Purple, dark blues,and orange prove to be the hardest colours to match.
- On both the monomeric vinyl and cast vinyl media the device delivered a very large colour gamut, exceeding that of most devices tested to date resulting in the 1641SR Pro being the first four colour device to earn our highest five-star rating.
- Colour gamut CIE volume averaged across the monomeric and cast vinyl media was 604,044 which has only been surpassed by one gamut expansion printer since signage device testing began seven years ago.
- Impressive results in our wallpaper test with rotated 180-degree panel printing delivering dimensional accuracy of 99.52% and a Delta E drift max of only 1.78.

HALFTONE IMAGES

★★★★½

Criteria	MPI 3000: Most Productive (6 Pass)	MPI 1105: Most Productive (6 Pass)	MPI 1105: Highest Quality (12 Pass)
Greyscales	Very Good	Very Good	Very Good
Skin Tones	Excellent	Excellent	Excellent
Memory Colours	Very Good	Very Good	Very Good
Metallics / Pearlescent	Very Good	Very Good	Very Good
Light Contrasts	Excellent	Very Good	Excellent
Dark Contrasts	Excellent	Very Good	Excellent
Fine Detail	Very Good	Very Good	Very Good

To compare rival devices' halftone image reproduction results visit bliQ WF

Memory colours, fine detail

Fine detail, dark contrasts

Metallics, fine detail, pearlescent

Greyscales, dark contrasts

Skin tones, light contrasts

Memory colours, fine detail

Keypoint Intelligence's proprietary A0-size wide format test target that comprises six high quality colour/black and white halftone images was printed at the most productive speed/quality setting that produced acceptable image quality without visible banding on both Avery Dennison MPI 3000 and MPI 1105 media. Each of the six images was cut from the larger target and visually appraised under standard lab lighting conditions for colour accuracy, brightness, sharpness and contrast by two KPI technicians independently. Print samples on the MPI 3000 (monomeric vinyl) were evaluated at a distance of 10 feet (reflecting a walk-/drive-by viewing experience) and those printed on the MPI 1105 (Cast vinyl) were evaluated at a closer distance of two feet (reflecting a close-up viewing experience). Once completed, the individual appraisals were combined and a final image quality score was assigned. In the event of differing scores, the sample's quality was debated and a final consensus attained.

PANTONE CORPORATE COLOUR ACCURACY

★★★★½

Avery Dennison MPI 1105: Most Productive (6 Pass)

PANTONE Colour	165 C Home Depot	2685 C Cadbury	285 C Walmart	123 C McDonalds	485 C Coca Cola	321 C Siemens	293 C IKEA	109 C IKEA
ΔE00	7.0	8.3	2.3	3.7	1.8	4.4	4.0	2.5
PANTONE Colour	137 C Veuve Cliquot	279 C Microsoft	574 C Harrods	361 C FedEx	476 C UPS	RHOD RED C T-Mobile	294 C Ford	Average ΔE00
ΔE00	4.4	2.3	4.4	3.0	2.3	2.8	5.1	3.9

Avery Dennison MPI 1105: Highest Quality (12 Pass)

PANTONE Colour	165 C Home Depot	2685 C Cadbury	285 C Walmart	123 C McDonalds	485 C Coca Cola	321 C Siemens	293 C IKEA	109 C IKEA
ΔE00	6.9	5.5	3.0	4.2	1.8	5.0	6.2	2.4
PANTONE Colour	137 C Veuve Cliquot	279 C Microsoft	574 C Harrods	361 C FedEx	476 C UPS	RHOD RED C T-Mobile	294 C Ford	Average ΔE00
ΔE00	4.8	2.6	3.1	1.5	2.3	2.9	6.6	3.9

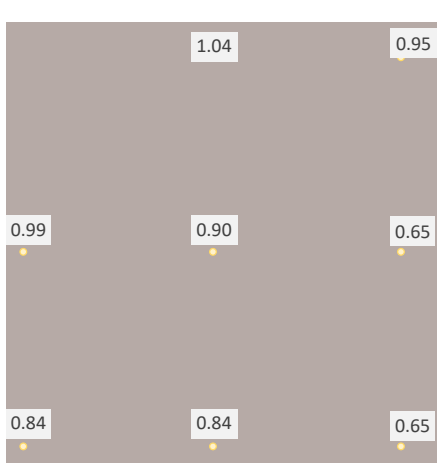
The KPI target is printed on the Avery Dennison Cast Vinyl MPI 1105 media using the vendor supplied media profiles at the most productive speed setting (no banding visible at two feet viewing distance) and the highest quality mode. Spot colour management is enabled in the DFE but no colour replacements/spot colour editing is permitted. Note: All DFEs will have additional spot colour adjustment capabilities allowing the printer to get closer to the PANTONE targets with extra operator time and effort.

COLOUR CONSISTENCY

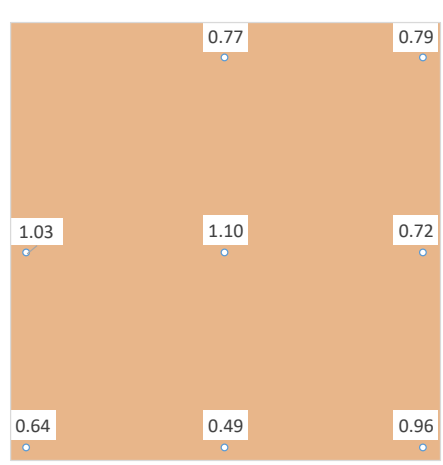
	Top Left	Top Right	Bottom Left	Bottom Right	Max Density Difference
MPI 3000: 6 Pass Production					
CYAN	1.54	1.45	1.54	1.50	0.09
MAGENTA	1.22	1.24	1.26	1.26	0.04
YELLOW	1.00	0.99	0.99	0.99	0.01
BLACK	1.78	1.75	1.79	1.76	0.04
MPI 1105: 6 Pass Production					
CYAN	1.61	1.61	1.55	1.62	0.07
MAGENTA	1.35	1.35	1.33	1.32	0.03
YELLOW	1.04	1.03	1.03	1.03	0.01
BLACK	1.66	1.70	1.65	1.66	0.05
MPI 1105: 12 Pass High Quality					
CYAN	1.51	1.51	1.52	1.51	0.01
MAGENTA	1.60	1.61	1.63	1.62	0.03
YELLOW	1.09	1.10	1.10	1.09	0.01
BLACK	1.60	1.61	1.62	1.60	0.02

CMYK solid density measurements are recorded from the four corners of KPI's A0 target chart using a calibrated XRite eXact spectrophotometer. Results are obtained on the Avery Dennison MPI 1105 Cast Vinyl media at the most productive and highest quality mode, and on the Avery Dennison MPI 3000 Monomeric Vinyl at the most productive mode.

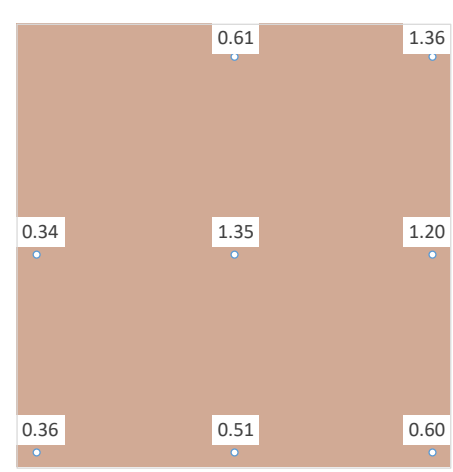
Colour Consistency – Delta E00 Across Page



Neutral Grey
Average 1.04
Maximum 0.86



Skin Tone 1
Average 0.81
Maximum 1.10



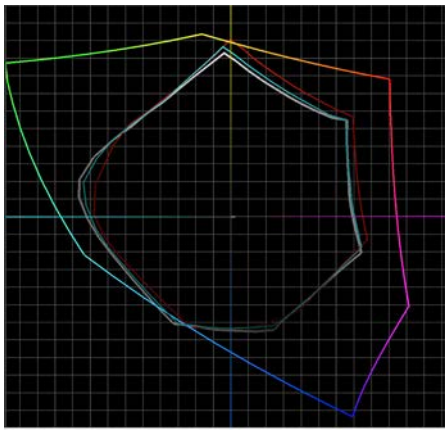
Skin Tone 2
Average 0.79
Maximum 1.36

Colour Accuracy Analysis

Three KPI A0 targets with 100% coverage of two skin tone shades and a neutral grey were printed on the Avery Dennison Cast Vinyl MPI 1105 media at the most productive speed setting. Colour consistency across the sheets were assessed by comparing the top left corner against eight other locations using an Xrite eXact spectrophotometer.

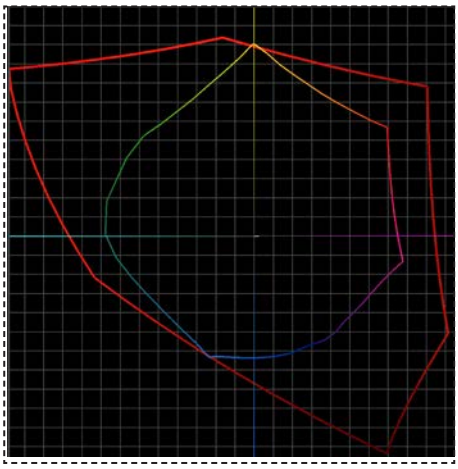
COLOUR GAMUT

★★★★★

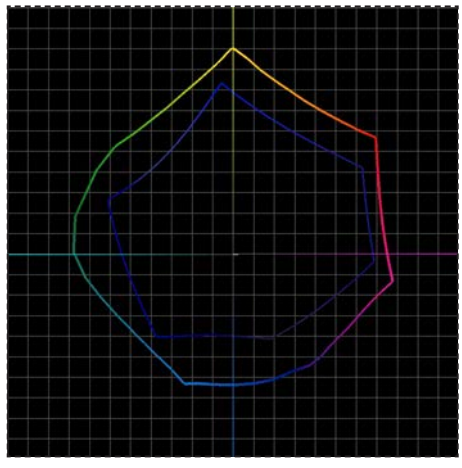


Compared against Adobe RGB(1998) colour space (multi-colour graph)

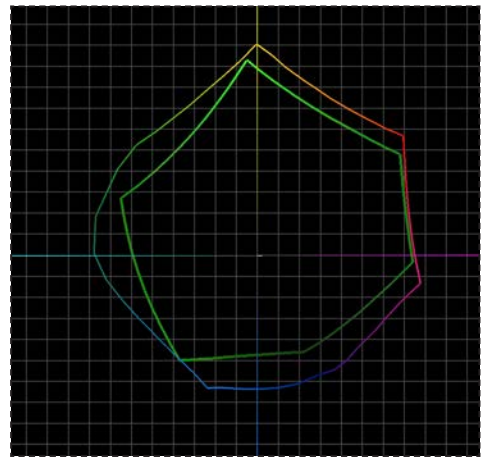
Media: Setting	Graphic Colour Representation	Colour Gamut (CIE) Volume
Avery Dennison MPI 3000: Most Productive	White	590,261
Avery Dennison MPI 1105: Most Productive	Cyan	592,888
Avery Dennison MPI 1105: Highest Quality	Red	628,983



Chromic – Coated;
Red – sRGB



Chromic – Coated;
Blue – US SWOP Coated v2



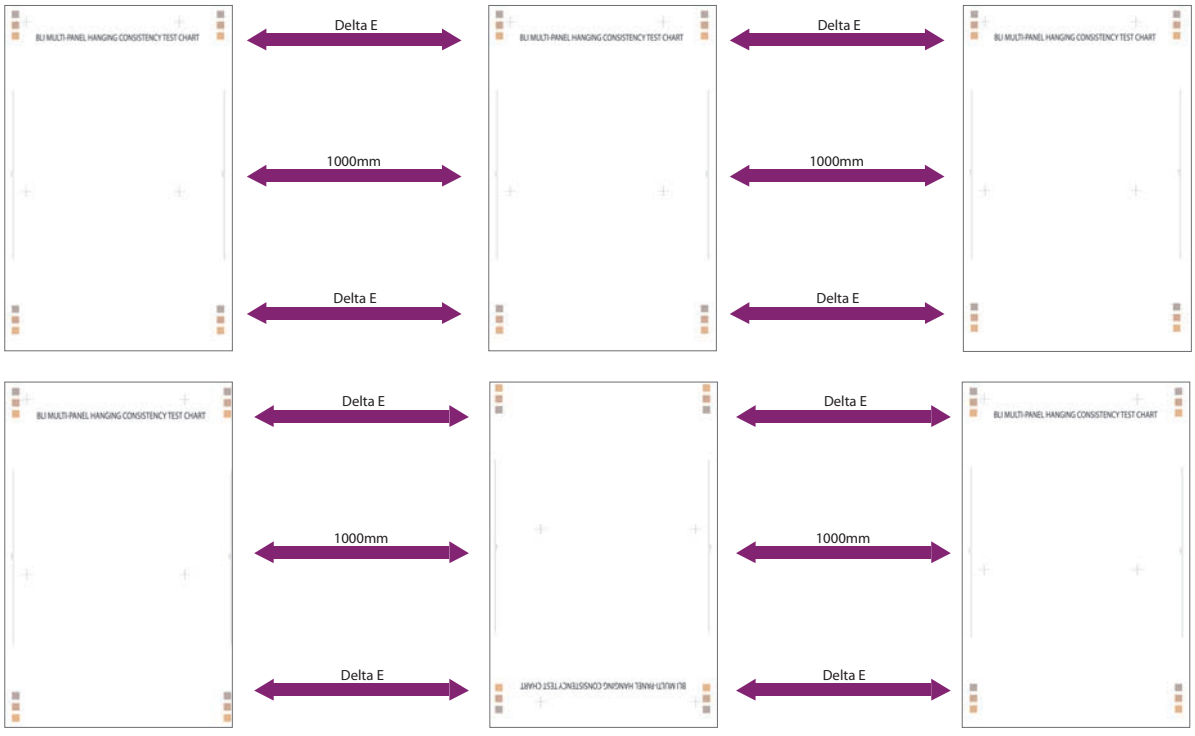
Chromic – Coated;
Green – FOGRA39 Coated

To compare rival devices' colour gamut sizes visit bliQ WF

Colour Gamut Analysis

The media profiles provided by the vendor were assessed using Chromix ColorThink software to determine the cubic L*a*b* units colour gamut volume measurements.

MULTI-PANEL WALLPAPER CHART: COLOUR AND LINE CONSISTENCY ★★★★★



Colour	Location on Page	Maximum Delta E00 On Panels in Portrait Orientation	Maximum Delta E00 On Panels Rotated 180°
Neutral Gray	Top	1.60	1.78
	Bottom	2.94	1.67
Skin Tone 1	Top	0.64	1.57
	Bottom	1.06	1.18
Skin Tone 2	Top	1.15	0.75
	Bottom	1.21	1.06
Line Measurement Accuracy – Maximum Difference Between Panels (in mm)		0.28	0.48

To compare rival device performance visit bliQ WF

Wallpaper Test Analysis

To assess the consistency of output when producing wall-hanging or other multi-panel artwork, Keypoint Intelligence printed a series of six targets each 6.5 feet in length on Avery Dennison MPI 2105 media. Delta E00 color differences were measured on the panels' adjoining edges, and the corresponding one meter length lines were measured for accuracy with a micrometer. The panels were assessed with and without rotation.

USABILITY

★★★★½

Media Handling	★★★★☆
Device Management and Monitoring	★★★★½
Maintenance and Ink	★★★★½

KEY FINDINGS

- Media loading, which is spindleless, is straight forward, with a very short media path from load area to printhead (minimizing media waste) and simple take up procedure.
- Media management is good, with up to 15 media profiles being stored, containing all the key media settings. The operator can navigate through the list of media profiles and manually select the loaded type. Alternatively, the device can be set up to print a bar code using Mutoh's Media Tracker feature. The device scans this bar code upon reloading, after which the media type and remaining length are automatically detected and displayed.
- The control panel on the device is not very intuitive compared to some rivals and relies upon the user having knowledge of the system which requires navigating the menu system displayed on the two line LED display using the cursor buttons.
- The Mutoh VerteLith RIP, which can drive up to four active devices at a time, was very intuitive and offered a high level of functionality.
- Jobs can be easily managed within the RIP, with 15 tabs providing simple navigation through the job set up process. Tabs include printer profile, layout, colour management, colour balance, ink control, spot colour replacement, crop marks, grommets, tiling, clipping and trimming, step and repeat, print notes and summary.
- Spot colour management is managed by the RIP's spot colour library. Spot colour replacements can only be programmed after creating a custom library in which the operator is able to change L*a*b* values, create alias associations and print patch targets for CMYK setting changes. There is no way to import spot colours from the included PANTONE libraries into the custom user library requiring manual entry of each spot colour.
- Mutoh's Status Monitor (MSM) provides a wide range of device oversight, control and tracking information that can be accessed across any web enabled device. Operators can conduct live maintenance processes, view job status, and even see job history and costings.
- The disposable ink packs are available in 300 ml or 1 litre capacity and install inside a hard casing cartridge. A separate chip card is associated with each ink pack rather than being built into the disposable ink pack as found on some rival units.
- Routine maintenance is recommended weekly involving a wipe down of the printhead, capping station and wiper blade, with unobstructed access to all areas. There is no guidance provided on the device or control panel itself which would be helpful for a novice user. Instructional Mutoh maintenance videos are available on YouTube.

MEDIA HANDLING

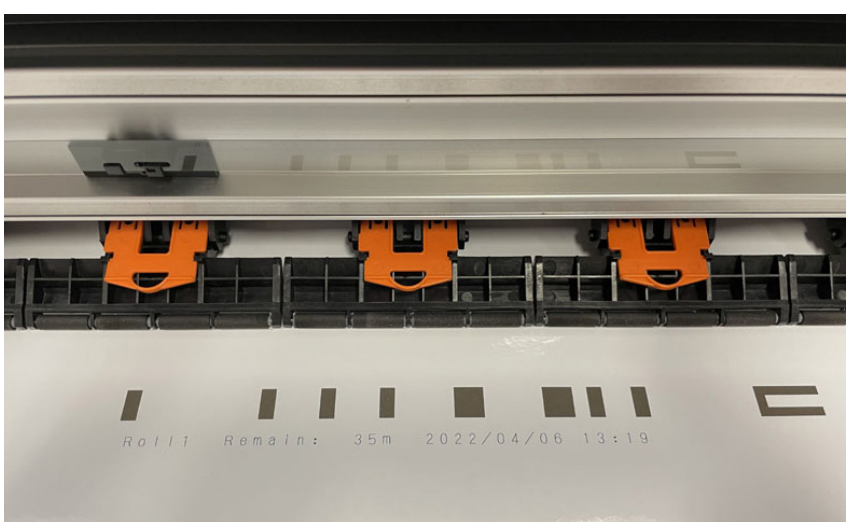
★★★★☆

- Media is loaded using flanges with the user simply twisting the flange handle to tighten them to the media core. The roll is then loaded at the rear of the device; the user simply slides out the pressure release lever (which can be accessed from the front or back of the device), feeding the media through and aligning to the guide plates. The pressure lever is then depressed to engage the feed rollers. The device then feeds media back to detect if a bar code is present. If present, the device automatically updates the system with the correct media, roll width, and remaining roll length. Best practice is to then run the paper feed adjustment which prints a series of patches that are automatically scanned by the device, thereby optimising alignment and bi-directional drop placement.
- The feed rollers can easily be adjusted to two positions when engaged, one with a light pressure and one with more pressure. The light pressure is used for more challenging media that may experience some cockling.
- The printhead height can also be adjusted with four different heights to accommodate different media characteristics. There is a new 2 mm height to improve the balance between keeping low graininess and accommodating heat sensitive substrates.

Adaptable pressure modes aid media feeding

- The media holder is high up on the device, virtually parallel to the printhead. This means that a very small amount of media is wasted at the end of a roll versus many devices which have the media rolls low to the ground resulting in a longer distance from roll to printhead that will be wasted.
- There is no media lifting aid which would have been a valuable addition, especially for heavier long media rolls.
- Up to 15 media can be classified for the device. New media presets can be set up on directly at the control panel or via the Mutoh Status Monitor (MSM).
- Via the user interface, there is no way to clone stored media profiles and share them among multiple devices which would be a time saving benefit. Currently this needs to be done via a copy-paste action in File Explorer.
- The device can be equipped with one of three motorized take-up units (30 kg, 40 kg, 100 kg) allowing long print jobs or multiple jobs to be easily and neatly wound onto a core, helping to facilitate unattended print runs and for easier media transportation. Affixing media to the take-up reel is a straightforward process. The take up reel unit can wind output either printed side in or printed side out.

- A three heater system with pre-, platen, and post-heating, promotes even and quick drying of output, ready for lamination. Heater settings can be finetuned/customized for each stored media profile.
- With the media roll length management system (Media Tracker) engaged, the operator can set the device to alert when there is not sufficient media to complete a print, thereby removing the risk of partial print wastage.
- There is an automatic cutter which is easy to engage. In the absence of a dedicated cut button, the operator simply selects the pause button and then the enter button to cut. This is not explained on the control panel and relies upon the user being shown to use this process.



Media Tracker function

DEVICE MANAGEMENT AND MONITORING

★★★★½

- The display is a two-line LED with cursors, a home key, a pause button and an enter button. The operator must navigate the menu options using the cursors and enter button. The process is not intuitive to new users but will get easier with practice aided by the large cursor and enter buttons.
- A signal LED bar is located at the top of the control panel directly on top of the control panel that goes red when an issue arises. There is also an audible alert beep that could be heard close by.
- There are two lights inside the device to aid viewing of the print job while it is still inside the lidded area.
- Mutoh's in-house developed VerteLith RIP comes free with the device and can be installed on Windows platforms. No support for Apple or Linux is available at present.
- The device also comes with Mutoh's Status Monitor software (MSM) which provides web-based viewing of device status and integration with VerteLith RIP.
- The VerteLith RIP was intuitive to use, well laid out and offered a good level of functionality.
- A dashboard view enables the operator to view up to four devices connected to the RIP. Here the operator can see the device status, ink levels, jobs in different stages of progress and the loaded media type.

- By selecting a device from the dashboard the user can see the jobs loaded in the queue.
- In the device job queue window the operator can choose from 19 control icons which include adding new jobs, move back to cutter device, copy, edit, repeat, nest, delete, RIP and preview, import/export and job movement in the queue.
- By selecting one job or multiple jobs simultaneously, a summary window opens to the right side providing key job criteria. There is also an estimate ink consumption feature that provides the breakdown of ink usage in ml across a single or multiple jobs.
- By choosing edit on a specific job or multiple jobs a 15 edit tab interface is displayed. The screen provides a large preview of the job to the right and the tab control items to the left. There is no way to change the viewing window size to make more real estate available for the tab control item viewing on smaller screens.
- The job edit tabs include printer profile, layout, colour management, colour balance, ink control, spot colour replacement, crop marks, grommets, tiling, clipping and trimming, step and repeat, print notes and summary.
- Profile creation is not embedded in the main RIP but is a separate application.
- The tabs were all very intuitive to navigate and would in our opinion be easy for a novice user to get up to speed quickly.
- Spot colour management is not as easy to set up. The RIP comes with preprogramed PANTONE spot libraries which cannot be adjusted. To create spot colour replacements the user must first create his own custom spot colour library. Unfortunately, the operator is not able to copy PANTONE colours from the default libraries into their custom library and instead must build each colour manually. The operator can then enter L*a*b* values, associate the spot with an alias (white, clear, cut contour, cut through) or CMY value. Patch sheets can be printed when programming the CMYK values with the user able to choose the variation steps for each of the four colours in steps from 1 to 9. The patch printout is logically laid out making navigation to the closest spot colour a simple process.
- The Mutoh Status Monitor was also highly intuitive and provided a wide range of functions to the remote user.
- In the printer status tab the operator can see all the key device information including current status, heater settings and actual temperatures, and ink levels. Here too, jobs can be cancelled, paused, or cut, and a nozzle check can be initiated.
- The printer control tab allows the operator to run cleaning routines, print test pages, initiate a maintenance task or put the device into Longstore mode.
- Media settings and advanced settings tabs allow the operator to set up the advanced settings of the device and create and edit the 15 media profiles.
- The Print history function offers extensive cost accounting functionality with the ability to program ink, media and other costs, track them to individual jobs and see the legacy costs for the device over set periods of time. The feature was very easy to use and offers a quick way to get a good understanding of the device's business profitability.

MAINTENANCE AND INK

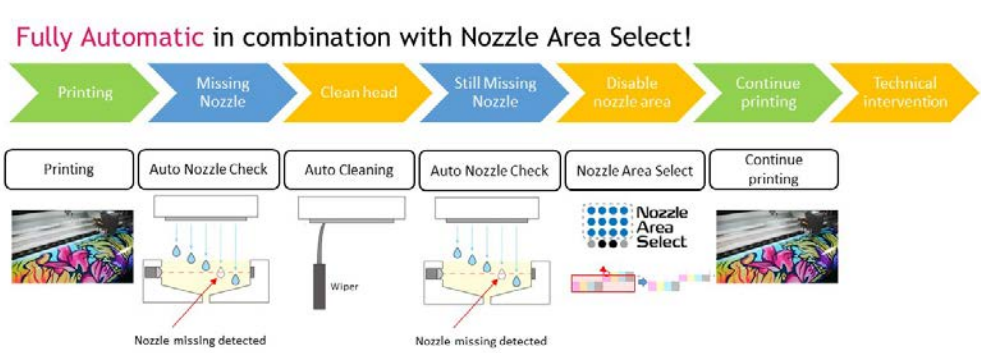
★★★★½

The Mutoh XpertJet 1641SR Pro MS41 inks come in 300 ml and 1 litre disposable ink packs. The ink packs are installed inside a removable hard plastic casing which mounts on top of the device. There are separate chip cards that are installed under the ink cartridges when a new supply is installed. The casings and chip cards cannot be mistakenly installed in the incorrect slots. Mutoh advises that the rationale behind the separate chip cards is due to the fact that if the chips are built into the ink packs, the entire pack has to be classified as WEEE waste which is an added cost burden to customers in relation to disposal.

- The ink pouches are easy to replace; the hard casings have handles for easy lifting, with four clips around the sides that are unlatched to open for simple replacement. The device includes a sub tank system so inks can be changed during printing.
- Partially used ink pouches that are purposely removed, for instance when a long print run is anticipated, can be reinstalled later and still register an accurate amount of remaining ink as long as the chip card is removed at the same time as the partially used ink bag and replaced when the partially used bag is reinstalled.

The device has a waste ink counter that alerts users as to when the waste ink bottle needs to be emptied. Unlike some devices, the user does not remove the ink bottle but instead there is a drainage tap and the user simply puts another container under the tap, opens and drain the ink bottle, thereby avoiding the need to handle the waste ink tube at all.

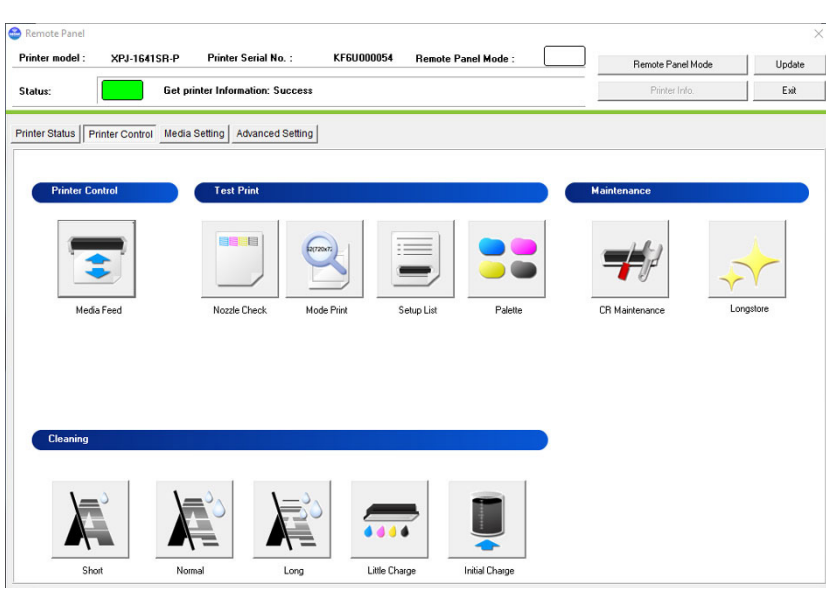
- Mutoh recommends conducting weekly maintenance on the printhead, capping stations and wiper blade to remove residual ink.
- The device comes with Mutoh's Nozzle Area Select technology which allows the operator to continue using the device even when an area of the printhead has blocked nozzles that cannot be recovered. Instead of having to wait for service, the nozzle area select function switches off the area of the printhead that is not operating correctly, allowing the device to continue operating, albeit with a performance reduction determined by the printhead area lost.
- This nozzle area select feature can be further utilized via the optional automatic nozzle check unit. This conducts automated nozzle checks during printing, running cleaning routines when issues are detected and engaging Nozzle Area Select mode for any nozzles that cannot be fixed. This allows for long uninterrupted print jobs to be set up with the operator safe in the knowledge that issues will be detected and acted upon by the device.



Nozzle Area Select technology

- Access is made easy with an area to the left of the unit. When the maintenance menu item is selected the printhead moves to the left side, where the operator can easily access the printheads, wiping them down using an alcohol-soaked bud.
- The operator can then access the capping station (which is positioned to the right of the unit) while the printhead is still stationed on the left, and use a cleaning bud to remove residual ink from around the stations.
- The last thing that needs to be done is to squirt some of the alcohol cleaning fluid onto the capping stations.
- Navigation to the maintenance section of the device is not intuitive and there are no instructions on the device or control panel guiding the user on the steps that need to be taken. For maintenance, Mutoh has instructional videos available on YouTube.

Easy access to cleaning areas



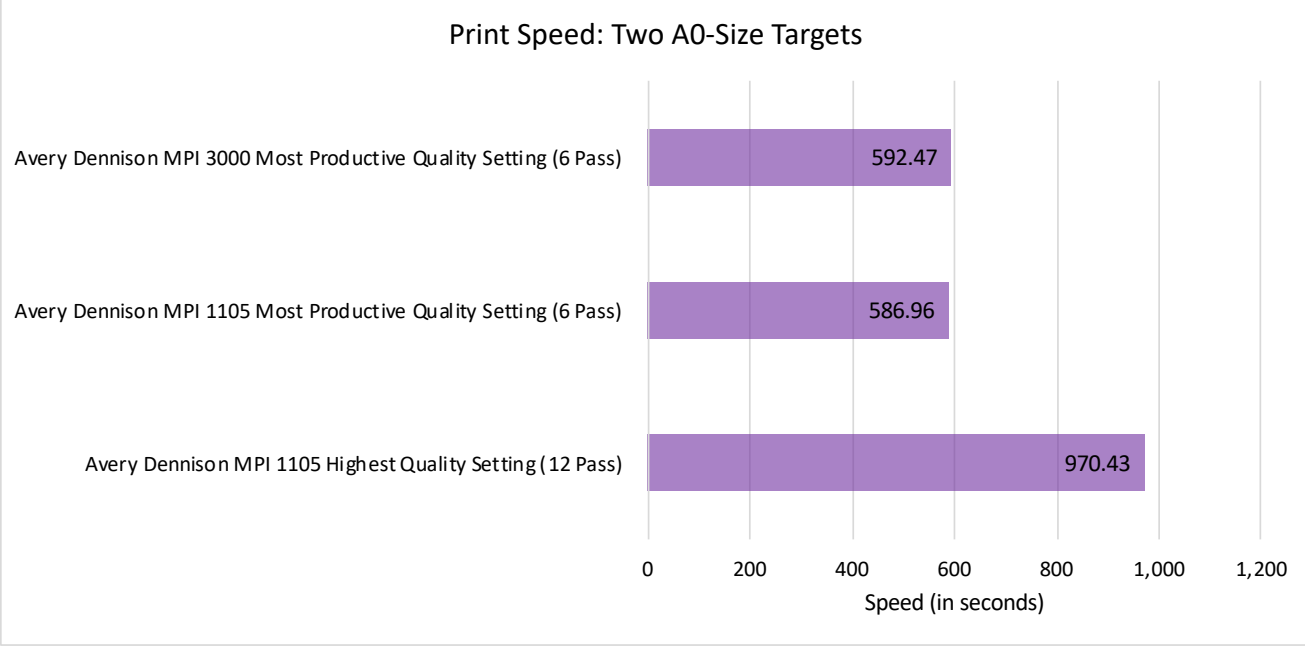
Remote access to cleaning procedures

SPEED

★★★★☆

KEY FINDINGS

- The Mutoh XpertJet 1641SR Pro produced two A0 size targets in nine minutes, 52.47 seconds on Avery Dennison MPI 3000 monomeric media, using the most productive 6 Pass Production setting. Its performance was 14% faster than the competitor average for similar entry level CMYK eco solvent devices tested by Keypoint Intelligence.
- At the same 6 Pass Production setting on MPI 1105 cast vinyl media, the unit took a very similar nine minutes, 46.96 seconds result, another above average performance, 18% faster than the competitive average for entry level CYMK devices tested to date.
- On MPI 1105 cast vinyl, the device printed two targets in sixteen minutes and 10.43 seconds at the highest quality (12 Pass) setting. This was 48% faster than the competitive average for entry level CMYK devices.
- The quality of the output at the fastest 4 pass mode was to a high standard, however it did not pass out criteria for most productive setting on cast vinyl and monomeric vinyl due to slight banding being visible at our 2ft and 10ft viewing distances respectively. However many users may be happy with the quality on the monomeric vinyl at the 4 pass rate which delivered an upgrade of nearly 40% again over our most productive rating at 6 pass.



To compare rival device performance visit bliQ WF

Speed Tests Analysis

Devices were timed for two of Keypoint Intelligence's A0-size image quality targets printed in succession with data width turned on so that printing began at the far left of the page. The stopwatch began when the printhead started the print process and ended when the second print completed printing and was ready to cut. The speeds listed below were measured at the most productive setting that produced image quality that Keypoint Intelligence determined as acceptable (no visible banding) on Avery Dennison MPI 3000 media when viewed at 10 feet and on Avery Dennison MPI 1105 media when viewed at two feet. The third speed measured was for the highest quality setting available to print two targets on Avery Dennison MPI 1105.

All Speed/Quality Settings Tested

	Avery Dennison MPI 3000	Avery Dennison MPI 1105
4 Pass – High Speed	353.36	354.91
6 Pass - Production	592.47	586.96
8 Pass - Quality	681.83	676.67
12 Pass High Quality	973.35	970.43

Time measured (in seconds) for two A0-size targets to be printed

Supporting Test Data

The unit was evaluated equipped with the MS41 ink set and VerteLith RIP at the manufacturer's Belgium facility during an intensive three-day test period. 54-inch rolls of Avery Dennison MPI 1105 – polymeric cast vinyl, MPI 2105 – calendared vinyl film and MPI 3000 – monomeric calendared vinyl media were tested in each device. All test files were submitted using the RIP provided by the manufacturer. KPI utilized media profiles that were already part of Mutoh's library for Avery Dennison MPI 1105, 2105 and 3000 media during the evaluation. No additional profiling or profile modifications were made during testing. Ratings are based on a five-star system where five is the best.

About Keypoint Intelligence

For 60 years, clients in the digital imaging industry have relied on Keypoint Intelligence for independent hands-on testing, lab data, and extensive market research to drive their product and sales success. Keypoint Intelligence has been recognized as the industry's most trusted resource for unbiased information, analysis, and awards due to decades of analyst experience. Customers have harnessed this mission-critical knowledge for strategic decision-making, daily sales enablement, and operational excellence to improve business goals and increase bottom lines. With a central focus on clients, Keypoint Intelligence continues to evolve as the industry changes by expanding offerings and updating methods, while intimately understanding and serving manufacturers', channels', and their customers' transformation in the digital printing and imaging sector.