Mars 2025

Comparatif de deux imprimantes grand format : Canon imagePROGRAF TX-4200 vs HP DesignJet T1700dr

Objectif du test

Canon Europe a mandaté Keypoint Intelligence pour effectuer des tests confidentiels relatifs aux performances des systèmes d'impression Canon imagePROGRAF TX-4200 (dans sa configuration à double rouleau) et HP DesignJet T1700dr de 44 pouces. Keypoint a produit un rapport comparant les forces et faiblesses des deux produits en ce qui concerne la qualité d'image, la productivité, l'impression de bannières et de posters, la fonction d'impression directe, l'ensemble des fonctions de l'imprimante, les fonctionnalités du pilote ainsi que la consommation d'encre. Tous les tests ont été réalisés dans le centre d'essai européen de Keypoint à Wokingham, au Royaume-Uni.

Résumé

Catégorie	Canon imagePROGRAF TX-4200	HP DesignJet T1700dr
Qualité d'image	✓	
Productivité	✓	
Impression de bannières	✓	
Impression de posters	✓	
Envoi d'impression directe	=	=
Consommation d'encre	✓	
Ensemble des fonctions de l'imprimante	✓	
Ensemble des fonctions du pilote d'impression	✓	

✓ indique un avantage ; = indique un niveau de performance équivalent.

L'imprimante Canon imagePROGRAF TX-4200 surpasse l'imprimante HP DesignJet T1700dr dans quasiment tous les domaines : elle présente une qualité d'image supérieure, une productivité plus élevée, une moindre consommation d'encre et une plus grande richesse fonctionnelle au niveau de l'imprimante et du pilote. L'imprimante Canon TX-4200 est rapide, que ce soit pour imprimer à partir de l'état Prêt, imprimer des posters au format A1 ou traiter notre séquence de travaux (reproduisant le flux de production mixte classique d'une imprimante grand format). Le système de remplacement à chaud des cartouches d'encre, fonctionnalité non présente sur l'imprimante HP, accroît le temps de disponibilité de l'imprimante TX-4200. Le bac de réception haute capacité et l'enrouleur automatique en option, destinés au traitement sans surveillance de longs flux de production, sont gages d'une plus grande simplicité d'utilisation. L'imprimante Canon possède d'autres points forts, comme le mode d'impression unidirectionnelle (qui élimine l'effet de bande même en mode Rapide), l'impression sans marge et l'imbrication de la mise en page qui contribue à économiser le papier (également disponible sur l'imprimante HP, mais sans le même niveau de souplesse et de contrôle pour positionner les images).

Outre son excellente qualité d'image, l'imprimante se démarque par les couleurs éclatantes de ses reproductions photographiques, ses densités optiques supérieures et sa gamme de couleurs plus étendue quel que soit le type de support utilisé. Le rendu du texte et des dessins au trait était particulièrement net et homogène. Comme on peut s'y attendre de la part d'imprimantes visant les marchés de l'architecture, l'ingénierie et la construction (CAD), de la conception assistée par ordinateur (CAO) et des systèmes d'information géographique (SIG), la qualité d'image obtenue avec les deux imprimantes comblera sans peine les attentes des clients. L'imprimante Canon s'est toutefois distinguée par ses étiquettes de texte rouge vif dans les graphiques SIG (résultant de l'intégration d'une nouvelle encre magenta) et ses couleurs plus riches et plus contrastées. Les deux modèles garantissent une grande productivité des employés en déplacement grâce aux puissants logiciels proposés, aux outils d'impression directe et à la prise en charge de l'impression mobile. L'imprimante Canon TX-4200 permet, toutefois, de limiter les déchets et de mieux répondre aux enjeux environnementaux grâce à son emballage sans polystyrène. Elle a, en outre, consommé moins d'encre dans tous les scénarios de test.

Le modèle Canon TX-4200 a été jugé le plus performant lors de cette évaluation en raison notamment de sa qualité d'image supérieure et de son excellente productivité.

Image Quality

Category	Canon imagePROGRAF TX-4200	HP DesignJet T1700dr
Text	✓	
Fine Lines	✓	
Halftone Range	=	=
Halftone Fill	=	=
Solid Density	✓	
AEC Graphics	✓	
GIS Graphics	✓	
Colour Photographic Images	✓	
Monochrome Photographic Images		✓
Colour Gamut (Fast)	✓	
Colour Gamut (Standard/Normal)	✓	
Colour Gamut (High/Best)	✓	
Colour Gamut (Matte Coated Paper, High/Best)	✓	

✓ denotes a model advantage; = denotes parity in performance. Image quality testing was conducted using Canon Standard Plain Paper 2 and HP Universal Bond.

- The Canon TX-4200 outperformed in black and colour optical density on plain paper across all modes compared to the HP T1700dr.
- On plain paper, the Canon TX-4200 consistently delivered a larger colour gamut compared to the HP T1700dr. In Fast mode, the Canon achieved a 32.0% larger gamut with a volume of 188,218 vs. 142,620); in Standard/Normal mode, it produced an 94.2% larger gamut (306,909 vs. 158,048). In High/Best Quality settings, the Canon delivered an 97.9% larger gamut (326,245 vs. 164,887).
- On matte coated paper in highest quality settings, the Canon model delivered a fractionally larger (1.3%) colour gamut than that of the HP T1700dr (401,614 vs. 396,404 for the HP unit).
- The Canon TX-4200 consistently excelled in print quality tests across text, fine lines, circles, and grids. It produced clean, crisp text legible down to 3-pt. in all modes, with no bleed. The HP T1700dr delivered legible 3-pt. serif text with minor ink bleed in Fast and Normal modes; sans serif text showed no visible

bleed. Canon's 0.1pt. fine lines and circles were slender and clean in all modes, while the HP's fine lines exhibited slight bleed and both HP fine lines and circles exhibited no distinction between 0.1-pt. and 0.25-pt. thickness. Canon delivered consistent, well-formed 1x1 pixel grids in CMYK across all modes; HP's grids showed inconsistent dot formation in Fast and Normal modes but improved in Best quality mode.

- Both devices performed well in producing smooth colour and greyscale halftones across the full range—from the 10% to 100% dot-fill levels—in all modes with distinct transitions between all levels.
- AEC graphics output from both devices showed excellent detail in all modes. Under magnification, Canon's output was dark and clean in Standard and High, while there was slight ink bleed visible in Fast mode. The HP's output was bold and exhibited slight ink bleed when viewed under magnification.
- GIS graphics in Standard/Normal and High/Best modes on plain paper were of a very high standard on both devices, offering excellent depth of field for realistic 3D topographical rendering. However, the Canon produced slightly sharper contour detailing and better standout text in red.
- The Canon TX-4200's photographic images exhibited bright, punchy colours, very good detailing and contrast, and smooth tonal transitions. Metallics in Fast mode lacked depth and jewellery appeared less 'premium', but both improved in Standard and High modes. Skin tones were warm and natural looking, overall, with a slight magenta bias in High. By contrast, the HP T1700dr produced less vibrant and somewhat flat images, even in Best quality mode, and skin tones were pale and lacked contrast.
- Both models produced greyscale photographic images that were smooth and exhibited neutral grey tones in Standard/Normal and High/Best modes. Canon had the edge in Fast with very good contrast and detailing in light and dark areas, while HP's output was overly dark and poor. However, at the higher quality levels, Canon's output was overly dark and as a consequence exhibited some loss of detail in dark contrast areas, while the HP's images had better contrast and detailing.
- The Canon TX-4200's image quality was judged stronger overall, with crisper text, cleaner fine lines, richer colours, natural-looking skin tones, higher densities, and larger colour gamuts. While the HP T1700dr delivered consistently good greyscale images at Normal and Best quality settings, its output showed slight ink bleed under magnification, and its colour photographic reproduction lacked vibrancy.

Keypoint Intelligence's Colour and Greyscale Halftone Test Targets

Print Productivity

Category	Canon imagePROGRAF TX-4200	HP DesignJet T1700dr
First Page Out from Weekend Non-Use	✓	
First Page Out from Ready State	✓	
Throughput Speed (Fast)	✓	
Throughput Speed (Standard/Normal)	✓	
Throughput Speed (High/Best)	✓	
Job Stream	✓	
Dual-Roll Job Stream	✓	
A0 Throughput Speed (Standard/Normal)	✓	

✓ denotes a model advantage; = denotes parity in performance.

- After a weekend of non-use, the Canon TX-4200's first page out result was 75.2% faster than that of the HP model (53.29 seconds versus 215.28 seconds). Start-up time before printing began was also faster at 30.99 seconds, compared with 149.06 seconds for the HP unit.
- The Canon device delivered a 70.7% faster first-page-out time of 30.03 seconds from its ready state, compared with 102.44 seconds for the HP T1700dr. Its start-up time before printing commenced was faster, too—9.38 seconds compared with 33.91 seconds for the HP model.
- In the job stream test, designed to simulate a typical mixed workflow for a large-format unit, the Canon TX-4200 was faster than the HP T1700dr in all modes; it was 44.6% faster in Fast mode, 56.6% faster in Standard/Normal mode, and 70.6% faster in High/Best mode.
- As both models offer a dual-roll design, a further job stream test was conducted. This involved sending the same files as alternate jobs to different rolls so to test both models' efficiency when switching between rolls. The Canon TX-4200 was 22.8% faster than the HP unit in Fast mode.
- In the 12-page colour DWF test, the Canon model was faster than the HP unit in all modes tested; it was 49.7% faster in Fast mode, 53.4% faster in Standard/Normal mode, and 72.5% faster in High/Best mode.
- Similarly, when printing the 12-page DWF test file in monochrome, the Canon TX-4200 was 49.8% faster in Fast mode; 54.4% faster in Standard/Normal mode and 72.7% faster in High/Best mode than the HP device.
- In the single-page A0-size test, the Canon delivered a first-page-out time of 87.12 seconds in Standard/Normal, 35.8% faster than that of the HP (135.69 seconds). It was also nearly twice as fast at printing five A0-size pages (390.46 seconds versus 772.63 seconds for the HP).

Banner Printing

Category	Canon imagePROGRAF TX-4200	HP DesignJet T1700dr
Image Quality	✓	
Productivity (Fast)	✓	

✓ denotes a model advantage; = denotes parity in performance.

- The Canon TX-4200 took 32.05 seconds to generate a preview at the desktop, with an additional print time of 3:38.95 from preview to final paper cut. In contrast, the HP T1700dr took 7.92 seconds to create a preview, however, it was unable to process the file or print any portion of the banner.

Keypoint Intelligence's 106" x 36" Banner Test Target (4,955-KB PDF)

Poster Printing

Category	Canon imagePROGRAF TX-4200	HP DesignJet T1700dr
Image Quality	✓	
Productivity (Fast)	✓	
Productivity (Standard/Normal)	✓	
Productivity (High/Best)	✓	

✓ denotes a model advantage; = denotes parity in performance.

- When printing the A1-sized Poster test target in Fast mode at 300 dpi, the Canon TX-4200 took 32.98 seconds to complete the job, while the HP T1700dr took 37.14 seconds.
- Banding was evident on output printed in Fast mode by both models. When unidirectional printing was selected in the Canon print driver (not available on the HP unit), banding was largely eliminated with a print time of 42.56 seconds.
- The Canon model took 45.04 seconds to print the poster in Standard mode at 600 dpi, besting the HP unit's time of 1:08.69 in Normal mode.
- In Standard/Normal mode, the Canon poster showed no banding, while HP's poster exhibited minimal banding in dark areas.
- In High/Best mode, the Canon model was faster than the HP unit, taking 1:35.76 versus the HP's 3:33.28 result.
- At the higher quality modes, there was no observable banding on output from both models.

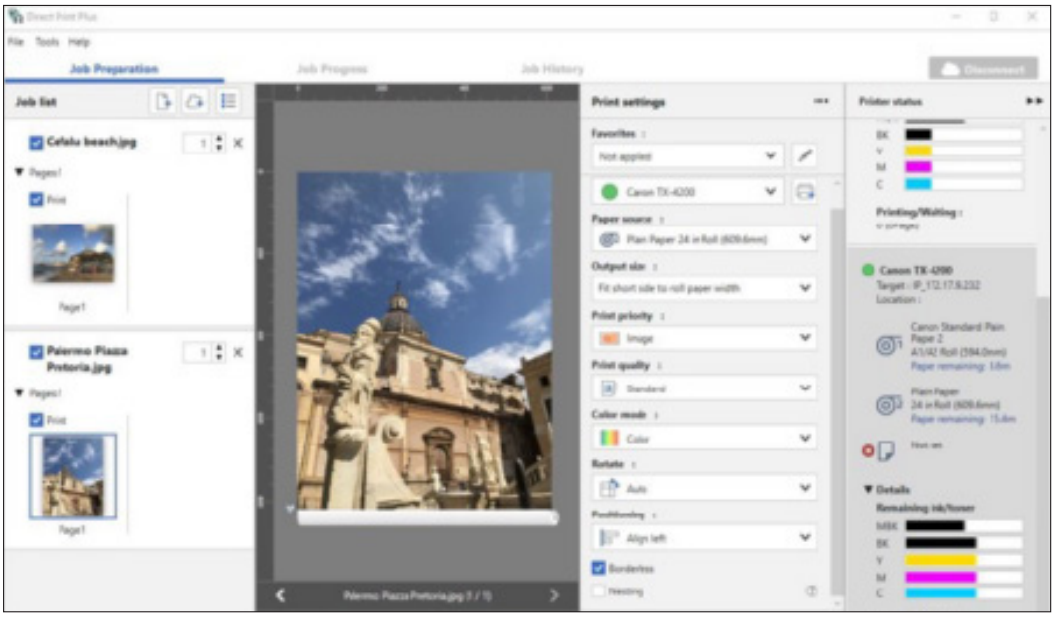
Keypoint Intelligence's A1 Poster Test Target

Direct Print Submission

Category	Canon imagePROGRAF TX-4200	HP DesignJet T1700dr
Direct Print Submission	=	=
Mobile App Integration	=	=

✓ denotes a model advantage; = denotes parity in performance.

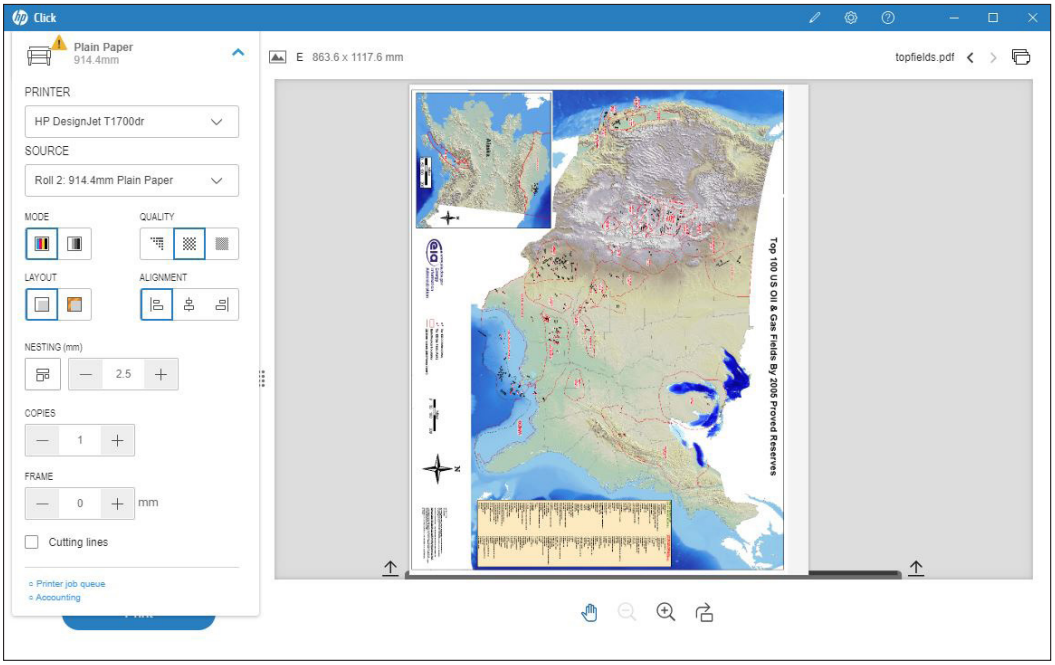
- Canon's Direct Print Plus, powered by a proprietary PDF engine, simplifies PDF file processing and printing with its intuitive interface. The Job Preparation tab, which serves as the home screen, provides quick access to job settings, previews, and printer status information, removing the need to rely on the Status Monitor. Bidirectional communication with the printer minimizes the risk of media mismatches, while built-in cloud integration lets users access files directly from services like Dropbox, OneDrive, Google Drive, and Box for added convenience.
- Direct Print Plus supports direct printing of PDF, JPEG, TIFF, and HPGL/2 files without requiring native applications or print drivers. Users can reprint jobs with the same settings as the original print, and the Job Progress tab provides real-time visibility into the number of pages printed, improving operator oversight. Additionally, the utility links with Canon Accounting Manager to help users track project costs efficiently.
- Shortcut Print functionality allows users to create customizable desktop shortcuts. These shortcuts enable drag-and-drop file printing with predefined settings, mimicking a hot folder workflow. Multiple shortcuts can be created, each tailored to specific workflows, making repetitive tasks faster and more consistent.



Direct Print Plus

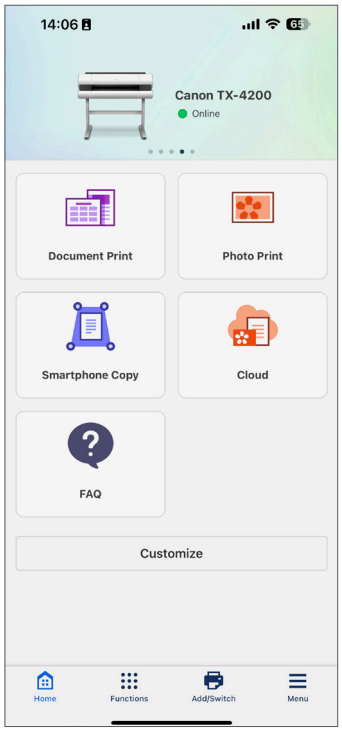
- HP Click printing software, available as a free download, offers direct printing of PDF, JPEG, TIFF, and HPGL/2 files from the desktop without requiring native applications or print drivers. It provides basic print settings, along with options to preview, resize, and align images, as well as automatic nesting to minimize waste (although it lacks the precise job positioning controls found in Canon's tool). For printer and consumable

status, users can click the 'Accounting' link, which opens the device's embedded web utility for detailed information.

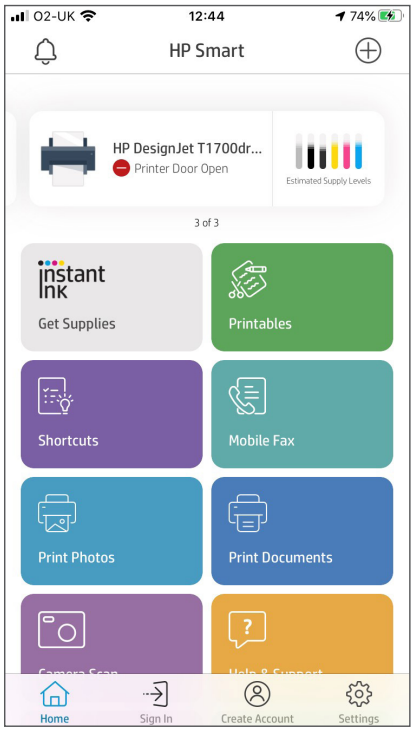


HP Click

- Both Canon PRINT and HP Smart mobile print apps enable wireless printing to compatible large-format printers on the same WiFi network. With clean interfaces, extensive print settings, and integration with cloud storage services like Dropbox, Box, and Google Drive, both apps streamline mobile printing. Canon Android users need the Canon Print Service app for device compatibility, while HP Smart supports both iOS and Android.
- Both models support mobile printing via AirPrint for added convenience.
- The HP T1700dr's ePrint functionality enables users to send print jobs remotely by email from a workstation or mobile device, supporting PDF, TIFF, and JPEG files up to 10 MB in size.



Canon PRINT Mobile Print App



HP Smart Mobile Print App

Ink Consumption

Keypoint Intelligence technicians noted that the inherent variability of inkjet technology—such as unpredictable head flushing and calibration routines—can lead to differing test results at different times. While every effort is made to ensure fair and consistent testing, the results should be seen as indicative of likely performance rather than a precise prediction of actual ink consumption in real-world conditions.

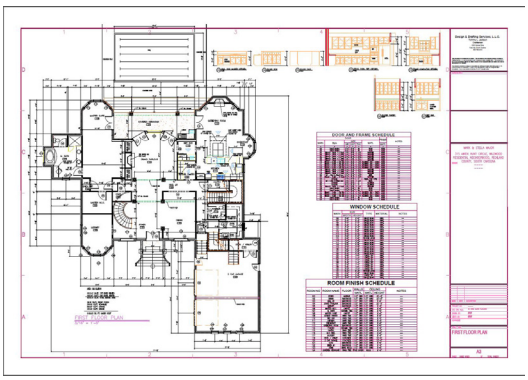
Overall Weight of Ink Used (in Grams)

Document Type	Canon imagePROGRAF TX-4200	HP DesignJet T1700dr
Cottage Architectural Plan	42.1	53.3
ISO Office Poster	85.2	107.5
GIS Map	81.4	122.5

✓ denotes a model advantage; = denotes parity in performance.

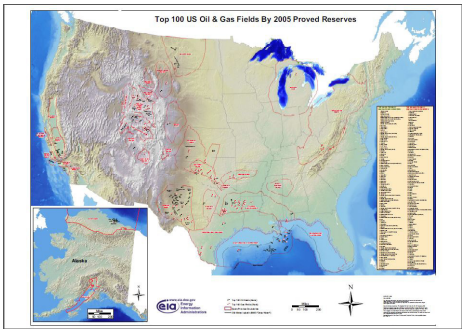
Results are averaged across three sets of 50-page A0 prints in Standard/Normal mode.

- The Canon TX-4200 device used 21.0% less ink than the HP T1700dr when printing a Cottage Architectural Plan test target on plain media. This translates to the Canon device using 1.1% of its total available ink, while the HP model used 3.8%.
- In the ISO Poster test conducted on matte coated media, the Canon unit used 20.7% less ink compared with the HP device. In this print scenario, the Canon TX-4200 used 2.3% of its total available ink, while the HP model used 7.6%.
- In the GIS Map ink consumption test conducted on matte coated media, the Canon TX-4200 used 33.6.0% less ink compared with the HP device; it used 2.2% of its total available ink, while the HP model used 8.7%.



Cottage Architectural Plan

ISO Office Poster



GIS Map

Device Feature Set

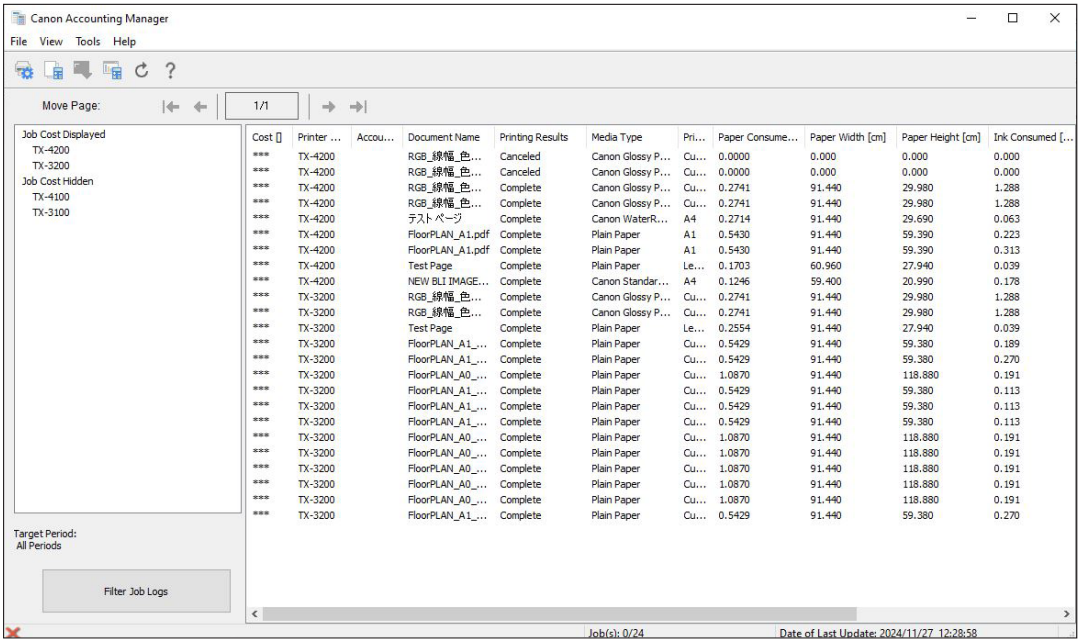
- The Canon TX-4200 offers a higher starter cartridge capacity (1,650 ml) compared to the HP T1700dr (240 ml) and supports larger ink cartridge options—160 ml, 330 ml, and 700 ml versus HP's 130 ml and 300 ml—reducing replacement frequency. Additionally, Canon's cartridges can be replaced during operation, minimizing downtime, a feature not available with the HP device.
- The Canon TX-4200 features a fast, user-friendly media loading process with a smart roll paper set function that automates feeding after securing the roll. A proximity sensor detects the paper edge and enables the printer to complete the loading process, with minimal user input. Built-in sensors identify paper characteristics like type and thickness, saving settings for future use, though first-time media use may require the operator to select the type on the control panel. Similarly, the HP device automates alignment and width adjustments once paper is loaded, eliminating further user intervention.
- Both models offer an optional dual-roll design for added convenience, allowing users to switch between media types or sizes without reloading. The Canon TX-4200's system doubles as an auto Take-up Roll unit with bi-directional rewind, a useful feature for high-volume production, enabling multiple prints to be stored on a single roll—an option not available on the HP device.
- The Canon TX-4200 supports front media loading, though the stacker (if attached) must be removed for roll access. In contrast, the HP device requires top-rear or back loading, necessitating sufficient space behind the unit to prevent paper advance issues. Some HP models include wall spacers to ensure proper clearance.
- The Canon printer features dual sensors that measure, estimate, and display the remaining roll length on its touchscreen. This feature eliminates barcode printing and reading for partially used rolls, and alerts operators if there's insufficient media to complete a job, reducing the risk of unexpected runouts. The HP model supports paper tracking capabilities with the remaining roll length, media type, and barcode printed on the partially used roll's edge before its removal from the device.
- The Canon TX-4200 supports borderless printing on all roll media types, a feature not available on the HP model. It handles roll diameters of 170 mm, while the HP T1700dr handles 135 mm in diameter.
- The HP unit supports a higher maximum printable paper roll length of 91 m compared with 18 m (depending on OS and application) for the Canon unit.
- Both models come with a catch bin/basket to collect output from media rolls. Canon's catch basket can be arranged in different positions to suit the paper size and quantity being produced, and whether the roll unit is employed.
- The Canon TX-4200 supports a high-capacity stacker capable of collating up to 100 A0- or A1-sized CAD prints. Mixed size prints cannot be accommodated. It easy to attach by wheeling it into place but operators must remove the stacker assembly to access the front-loading roll mechanism. A stacker option is not available with the HP model.
- The Canon TX-4200 pauses and alerts the operator when it runs out of paper, resuming printing from the start of the interrupted page after a new roll is installed. This approach minimizes ink and paper waste. In contrast, the HP T1700dr resumes printing from where it left off, requiring the page to be reprinted in full.
- The Canon TX-4200 automatically places jobs requiring unavailable media on hold while continuing to print other compatible jobs. Once the correct media is loaded, the held jobs are printed. For media mismatch scenarios, HP users can choose to hold the job and proceed with others, print the job on the current media, or enable warnings in the print driver and control panel to address mismatches before or after job submission.
- Both the Canon and HP models feature a standard 128 GB (virtual) RAM capacity, with the Canon utilizing 2 GB of physical RAM and the HP employing 4 GB of DDR3 RAM. Both devices also include a built-in 500 GB encrypted hard drive for secure document storage and improved spooling workflow.

- The HP model is lighter, with a net weight of 89.4 kg compared to the Canon TX-4200's 112 kg. While the Canon unit has slightly lower active power consumption at 87 watts versus the HP's 100 watts, it generates higher noise emissions during printing, rated at 51 dB compared to the HP model's 45 dB.
- The Canon TX-4200 does not feature any polystyrene foam in its packaging, minimizing waste.

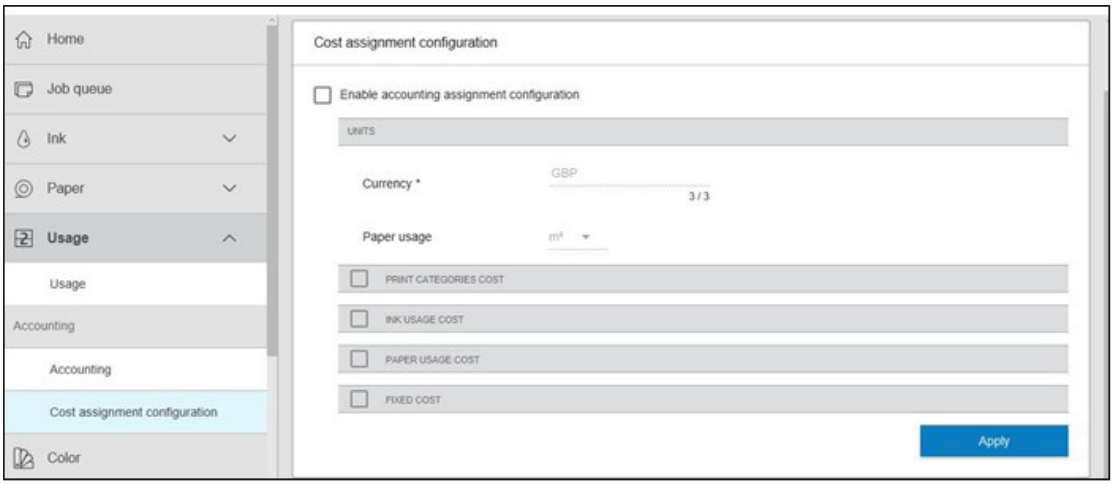
The Canon TX-4200's packaging contains no polystyrene.

Driver Feature Set

- The Canon TX-4200 and the HP device offer comparable speed settings, though availability depends on the media type. Both device drivers' offer an intuitive overview of selected job settings, with the Canon driver featuring six predefined profiles and the HP driver offering five.
- Canon also provide an additional driver (Driver Select) for Canon Production Printing product users, who can program print settings in a single window following the output workflow from paper selection through layout to finishing.
- The Canon driver offers several features not available in the HP driver, such as maximum 16-up printing, poster printing (2x2), page stamping, and a unidirectional printing option, which reduces banding by ensuring the printhead moves in only one direction, even in Fast mode.
- The HP driver offers a helpful thumbnail preview for real-time colour adjustments (a feature absent in the Canon driver).
- Canon offers a broad range colour adjustments for CMY balance, brightness, and contrast, along with advanced colour-matching options like ICC profile matching and customizable rendering intents based on document elements, while the HP T1700dr's HPGL/2 driver also offers CMY balance and brightness adjustments.
- The Canon driver, available in both 64-bit and 32-bit versions, includes the Color imageRUNNER Enlargement Copy Mode utility. This feature integrates a Canon small-format MFP with the TX-4200, allowing scanned documents to be automatically routed to a monitored hot folder, resized, and printed. This streamlined tool simplifies poster creation for office users, a functionality not offered by the HP driver.
- The Canon model includes a Microsoft Office plug-in (not available with the HP device) that provides features such as automatic media resizing, nesting, and borderless printing.
- Canon's Accounting Manager, accessible through the Status Monitor, provides detailed accounting for all print jobs. Users can input ink and media costs to automatically calculate and display job costs, along with media type, print area, ink usage, and total print time. Detailed reports can be generated by selecting individual or multiple jobs, with data exportable in .CSV format for use in Excel. HP offers accounting management through the Accounting tab on the device's embedded web server.

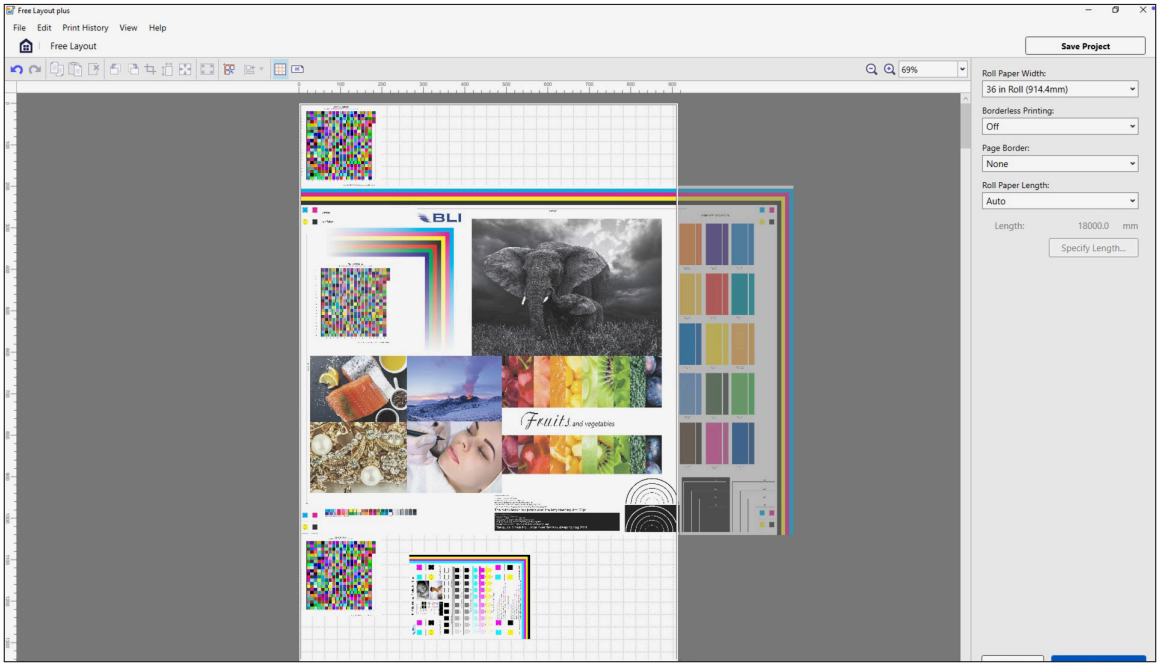


Canon Accounting Manager



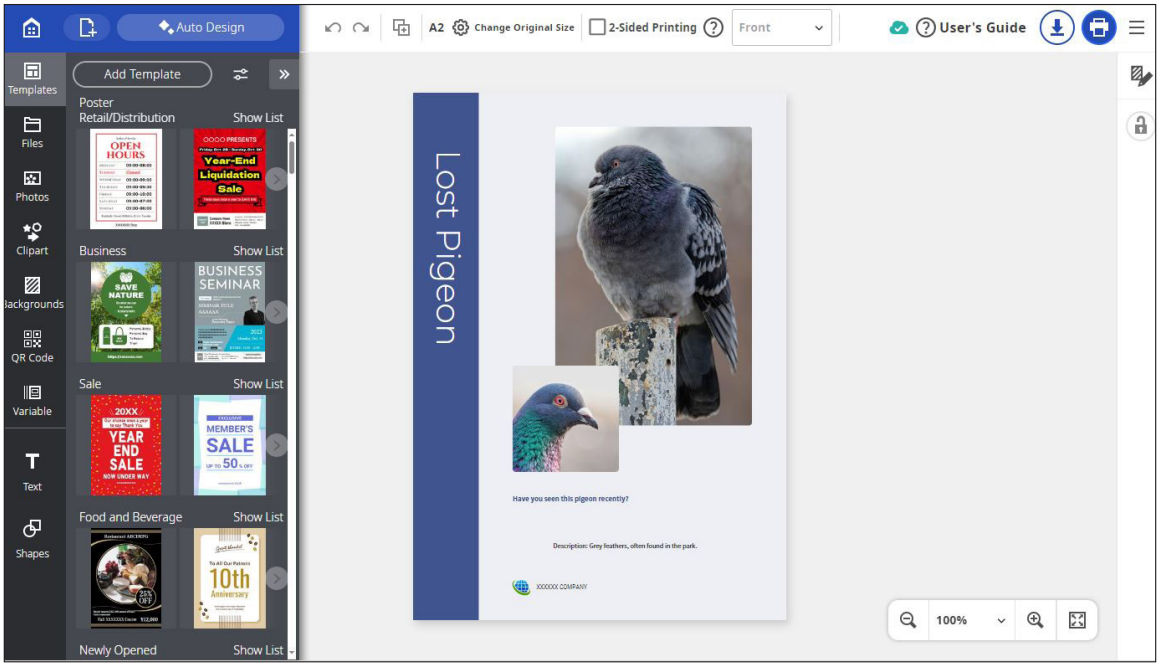
HP embedded web server accounting features

- Canon's Free Layout plus software allows users to scale, resize, and group files from different applications into a single job directly from the printer driver. With drag-and-drop functionality, images can be precisely positioned on a single page, reducing paper waste. While the HP unit offers a similar nesting feature via the control panel, print driver, or HP Click, it lacks the Canon tool's precise placement control. Instead, jobs are automatically arranged across the page width based on submission order or an 'optimized' layout.



Canon's Free Layout plus

- Canon's web-based PosterArtist is a user-friendly tool for creating posters and signage. It provides access to stock photo services like Pixabay, Pexels, and Unsplash, and a wide selection of royalty-free images. The software also offers a variety of pictographic icons and templates sorted by type and event, and supports multi-language poster creation with 900 common expressions across 10 languages. Within PosterArtist, users can use Free Layout plus tool enables efficient media use by allowing custom arrangement of files and correct double-sided printing orientation for when folding is required.



Canon PosterArtist Web

SUPPORTING TEST DATA

Print Productivity

Job Stream (in Seconds)

Canon imagePROGRAF TX-4200		HP DesignJet T1700dr	
Fast	478.82	**Fast**	864.53
Standard	797.81	**Normal**	1,837.69
High	1,552.18	**Best**	5,280.40

Keypoint Intelligence's job stream consists of nine files, including PDF, TIFF, and DWF files, for a total of 19 pages, all at Arch D-size, ensuring that the files are set to fit to page. This test replicates the type of traffic a typical wide-format device might experience in a real-world, multi-user environment. All files are submitted to the controller in a specific order and sent to the printer as a group, at which time the stopwatch begins; timing ends when the last page of the last file exits the device. Both devices were loaded with 914-mm rolls, with each file set to auto-rotate to save media.

Job Stream, Dual Roll (in Seconds)

Canon imagePROGRAF TX-4200		HP DesignJet T1700dr	
Fast	775.00	**Fast**	1,003.72

Keypoint Intelligence's dual-roll job stream consists of nine files, including PDF, TIFF and DWF files, for a total of 19 pages, all at Arch D-size, ensuring that the files are set to fit to page. This test replicates the type of traffic a typical wide-format device might experience in a real-world, multi-user environment. All files are submitted to the controller in a specific order and sent to the printer as a group, sending alternate jobs to different rolls, at which time the stopwatch begins; timing ends when the last page of the last file exits the device. Both devices were loaded with 914-mm rolls.

Colour Output (in Seconds)

Canon imagePROGRAF TX-4200		HP DesignJet T1700dr	
Fast	284.87	**Fast**	566.12
Standard	529.82	**Normal**	1,137.81
High	946.13	**Best**	3,445.08

The 12-page DWF test file was printed using the device driver set to the plain paper/colour setting. Both devices were loaded with 914-mm rolls. The actual time indicated is the time it took to RIP, image, and deliver all pages of the test document to the collection bin.

Monochrome Output (in Seconds)

Canon imagePROGRAF TX-4200		HP DesignJet T1700dr	
Fast	284.49	**Fast**	566.84
Standard	517.63	**Normal**	1,136.27
High	938.40	**Best**	3,431.69

The 12-page DWF test file was printed with the Canon driver set to the plain paper/monochrome setting and the HP driver set to plain paper, black mode. Both devices were loaded with 914-mm rolls. The actual time indicated is the time it took to RIP, image, and deliver all pages of the test document to the collection bin.

First-Page-Out Time After Weekend Non-Use (in Seconds)

	Canon imagePROGRAF TX-4200	HP DesignJet T1700dr
Time Before Printing Commences	30.99	149.06
First Page Out	53.29	215.28

First-page-out time was measured by printing an Arch D-size PDF in Fast mode, timed from job release to page out. The Canon driver was set to plain paper/monochrome, the HP driver to plain paper/black mode, with both devices loaded with 914-mm rolls.

First-Page-Out Time from Ready State (in Seconds)

	Canon imagePROGRAF TX-4200	HP DesignJet T1700dr
Time Before Printing Commences	9.38	33.91
First Page Out	30.03	102.44

First-page-out time was measured by printing an Arch D-size PDF in Fast mode, timed from job release to page out. The Canon driver was set to plain paper/monochrome, the HP driver to plain paper/black mode, with both devices loaded with 914-mm rolls.

A0 First-Page-Out and Throughput Times (in Seconds)

	Canon imagePROGRAF TX-4200	HP DesignJet T1700dr
First Page Out	87.12	135.69
Five Pages Out	390.46	772.63

A single-page A0-size Cottage Architectural Plan DWG TrueView Drawing test file was printed with the device driver set to the plain paper/colour setting in Standard/Normal mode. The actual time indicated is the time it took to RIP, image, and deliver five pages of the test document to the collection bin.

Colour Print Quality

Colour Optical Density Evaluation

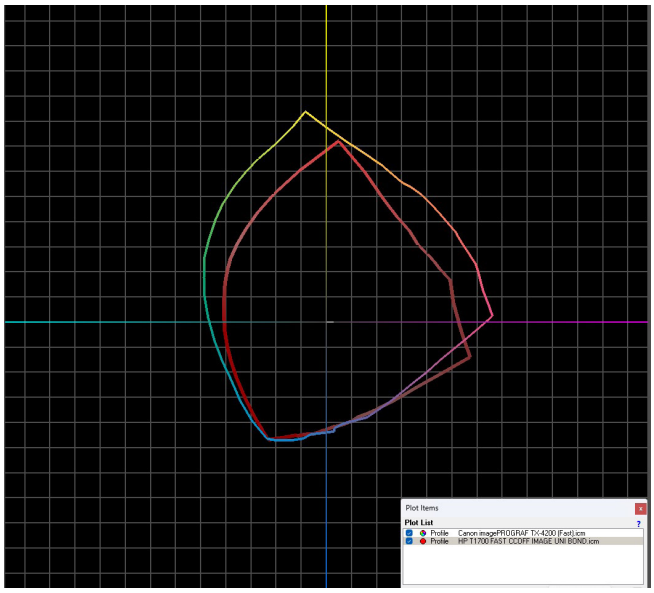
Canon imagePROGRAF TX-4200						
	Fast		Standard		High	
	50%	100%	50%	100%	50%	100%
Cyan	0.50	1.05	0.57	1.30	0.58	1.33
Magenta	0.49	1.04	0.58	1.35	0.59	1.37
Yellow	0.34	0.90	0.53	1.04	0.53	1.07
Black	0.47	1.54	0.65	1.52	0.67	1.52

HP DesignJet T1700dr						
	Fast		Normal		Best	
	50%	100%	50%	100%	50%	100%
Cyan	0.62	1.01	0.58	1.02	0.58	1.03
Magenta	0.49	0.93	0.45	0.93	0.45	0.96
Yellow	0.34	0.79	0.36	0.81	0.35	0.84
Black	0.61	1.40	0.52	1.49	0.51	1.50

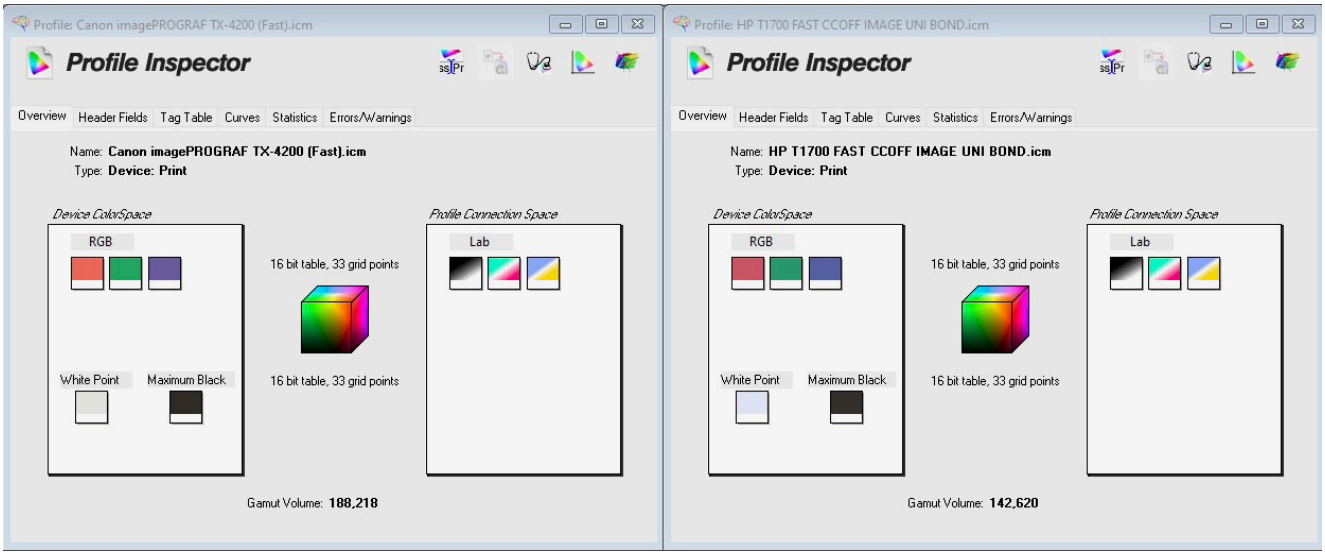
Colour density was measured by printing a Keypoint Intelligence proprietary PDF test target on plain paper using default colour settings across all quality modes. Density readings for 100% and 50% dot fills were taken with an XRite 508 and XRite exact^{Xp} densitometer.

Colour Gamut Cubic L*a*b* Unit Volume Comparisons

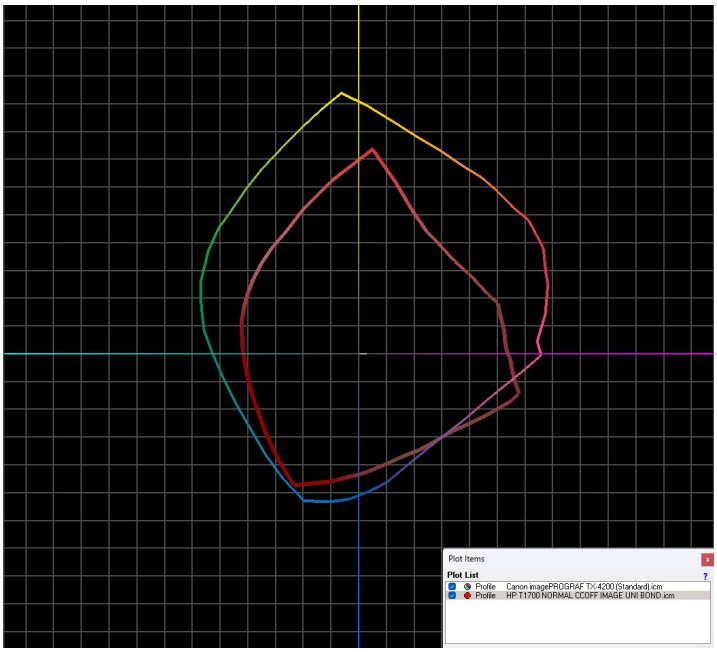
Media Type/Settings	Canon imagePROGRAF TX-4200	HP DesignJet T1700dr
Plain Paper Fast	188,218	142,620
Plain Paper Standard/Normal	306,909	158,048
Plain Paper High/Best	326,245	164,887
Matte Coated High/Best	401,614	396,404



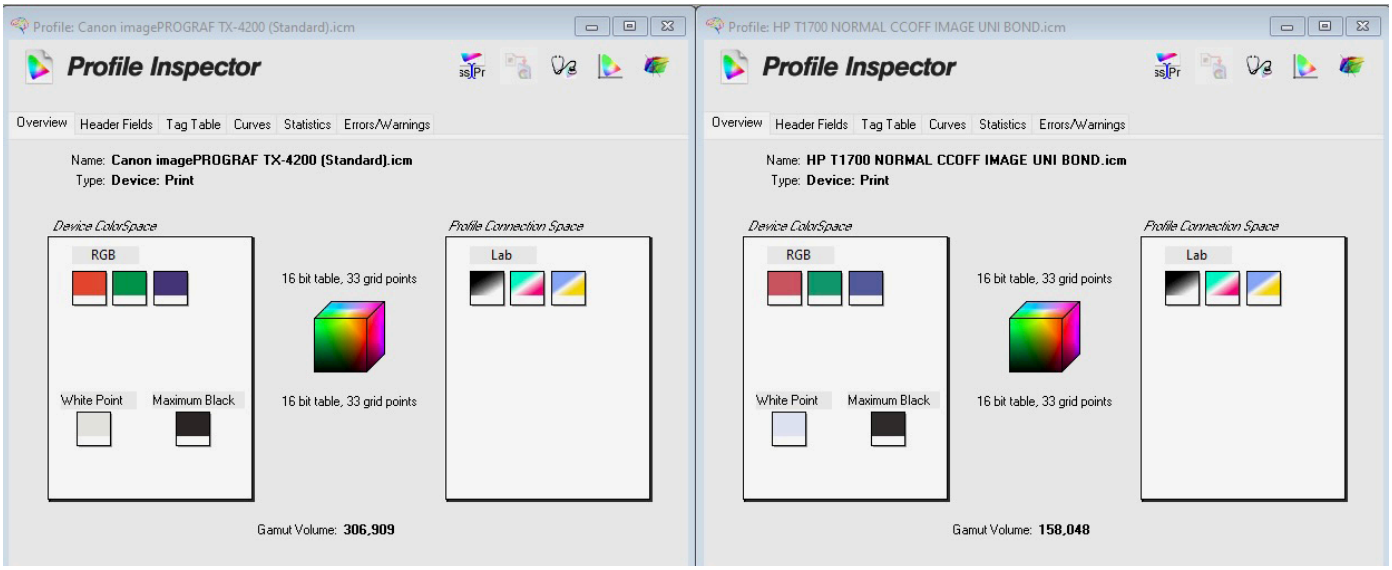
Canon imagePROGRAF TX-4200 colour gamut on plain paper in Fast settings (shown chromatically) vs. HP DesignJet T1700dr colour gamut (shown in red) on plain paper in Fast settings.



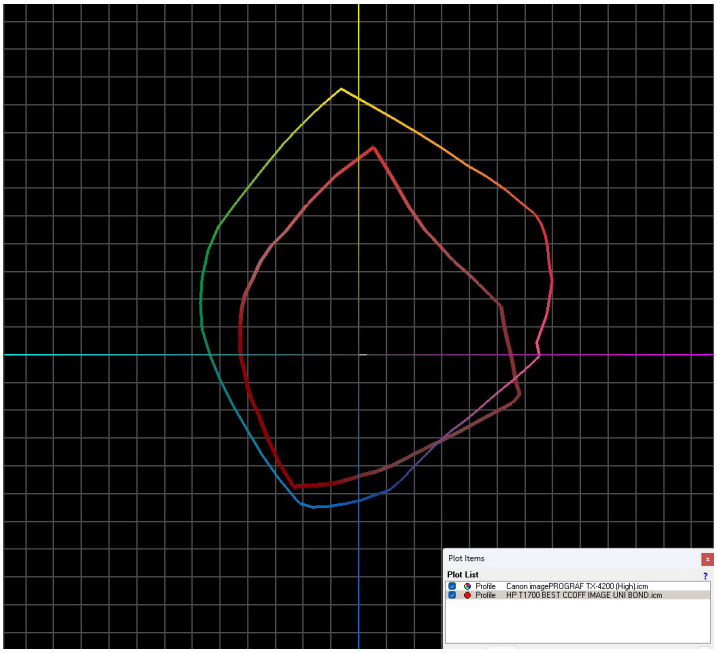
Colour gamut profile for Canon imagePROGRAF TX-4200 (left) and HP DesignJet T1700dr (right) on plain paper in Fast mode.



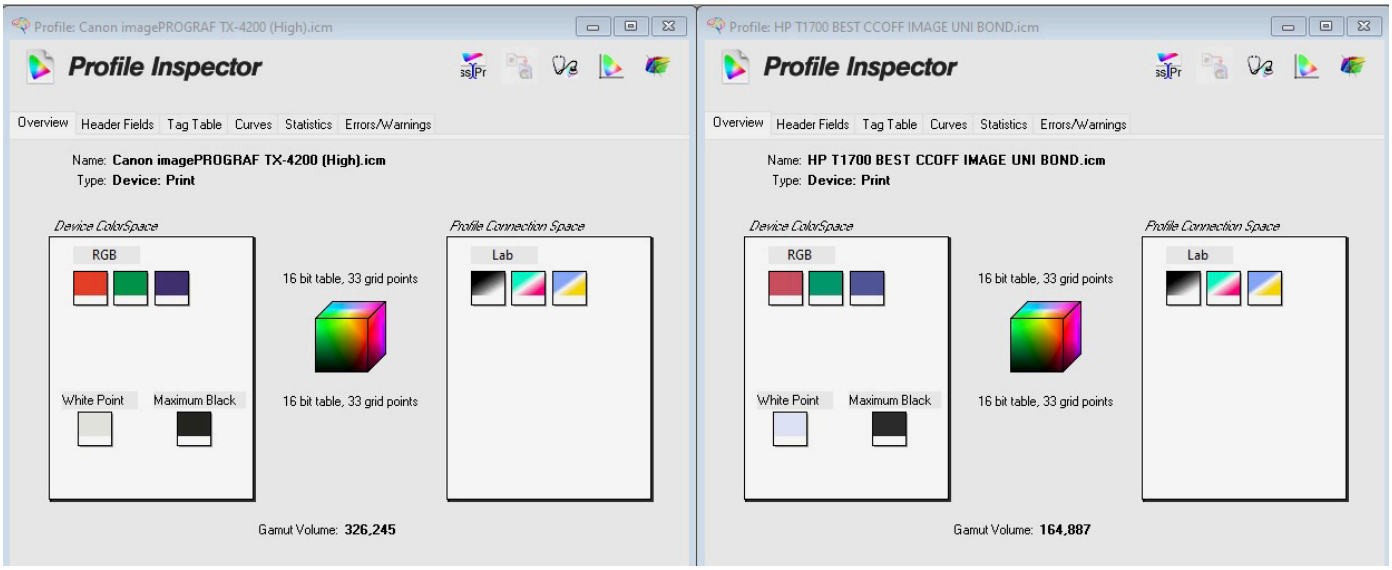
Canon imagePROGRAF TX-4200 colour gamut on plain paper in Standard settings (shown chromatically) vs. HP DesignJet T1700dr colour gamut (shown in red) on plain paper in Normal settings.



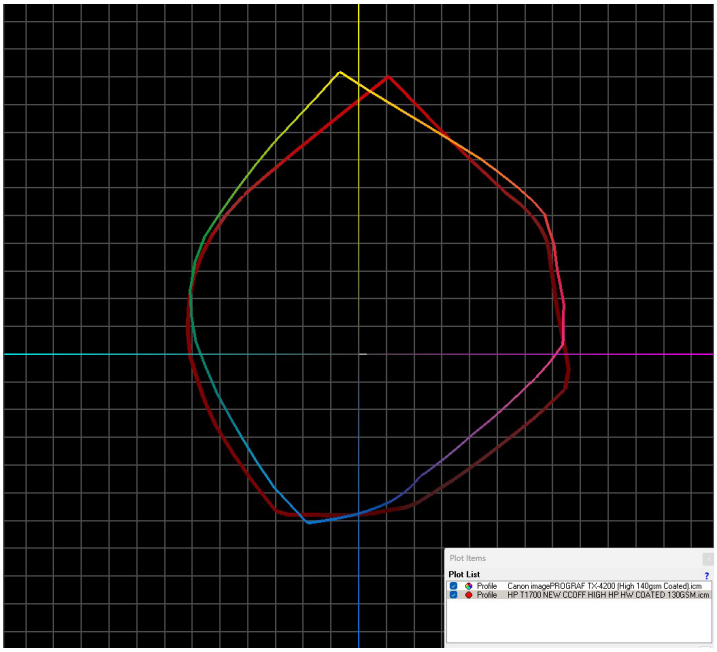
Colour gamut profile for Canon imagePROGRAF TX-4200 (left) and HP DesignJet T1700dr (right) on plain paper in Standard/Normal modes.



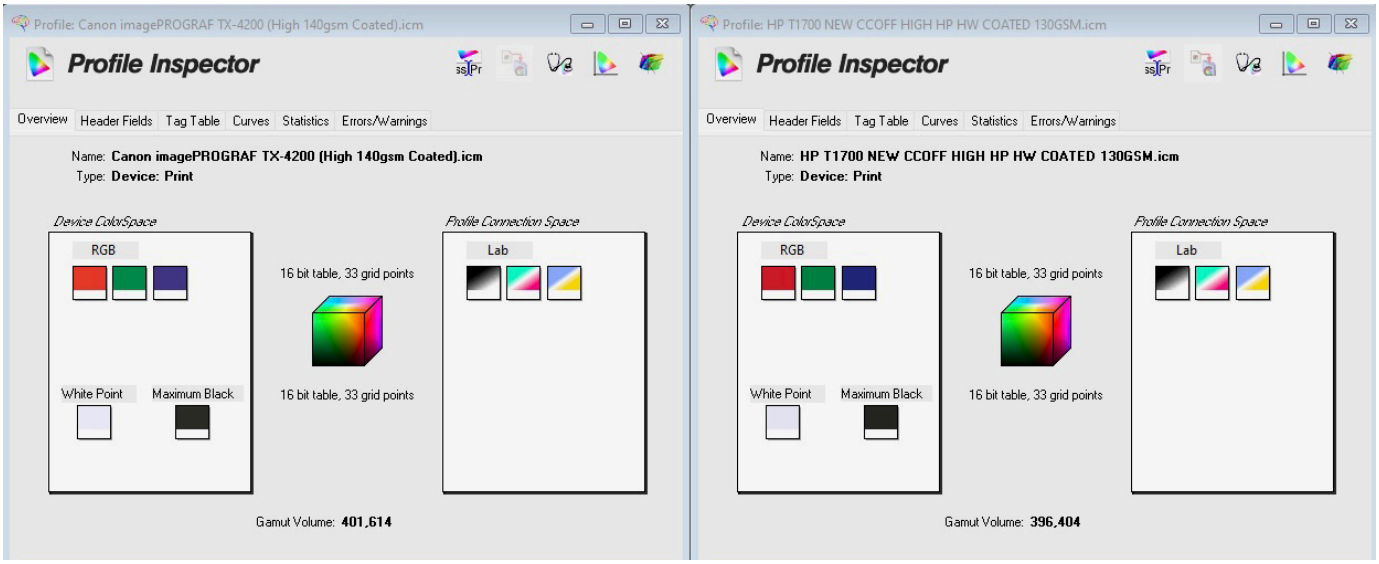
Canon imagePROGRAF TX-4200 colour gamut on plain paper in High settings (shown chromatically) vs. HP DesignJet T1700dr colour gamut (shown in red) on plain paper in Best settings.



Colour gamut profile for Canon imagePROGRAF TX-4200 (left) and HP DesignJet T1700dr (right) on plain paper in High/Best Quality modes.



Canon imagePROGRAF TX-4200 colour gamut on matte coated paper in High quality settings (shown chromatically) vs. HP DesignJet T1700dr colour gamut (shown in red) on matte coated paper in Best settings.



Colour gamut profile for Canon imagePROGRAF TX-4200 (left) and HP DesignJet T1700dr (right) on matte coated paper in High/Best Quality modes.

Black Print Quality

Solid Density

	Canon imagePROGRAF TX-4200			HP DesignJet T1700dr		
Density Block						
	Fast	**Standard**	**High**	**Fast**	**Normal**	**Best**
1	1.51	1.54	1.54	1.40	1.47	1.48
2	1.51	1.54	1.57	1.42	1.45	1.49
3	1.46	1.54	1.52	1.41	1.46	1.48
4	1.50	1.51	1.54	1.41	1.48	1.47

Solid black density measurements are based on four readings taken from a Keypoint Intelligence proprietary PDF test target file corresponding to four different 100% solid black locations on the output. The output was assessed at all quality settings available, with the Canon driver set to plain paper/monochrome setting and the HP driver set to plain paper, black mode. Density was measured using an XRite 508 densitometer and XRite exact^{Xp} densitometer.

Device Feature Set

Category	Canon imagePROGRAF TX-4200	Advantage ✓		HP DesignJet T1700dr
Ink Tanks Replaceable During Operation	Yes	✓		No
Ink Drop Size	5 picoliter	✓		6 picoliter
Starter Ink Capacity	1,650 ml (330 ml x 5)	✓		240 ml (40 ml x 6)
Ink Cartridge Capacity	160/330/700 ml (all colours)	✓		130/300 ml (all colours)
Number of Nozzles	MBK: 5,120 nozzles; CMYK: 2,560 nozzles each; 15,360 in total	✓		2,112 nozzles per colour; 12,672 in total
Borderless (0 mm) Printing	Yes (Roll only)	✓		No
Maximum Outside Diameter of Roll Paper	170 mm	✓		135 mm
Maximum Printable Paper Roll Length	18 m (depending on OS and application)		✓	91 m
Roll Paper	Optional Multifunction Roll System (with auto media take up)	✓		Optional Dual Roll
High-Capacity Stacker Assembly	Optional stacker offering three stacking configurations. Flatbed/folding position supports up to 100 A0 or A1 uncoated	✓		Not supported
Net Weight (Unpacked)	112 kg (including Roll Holder Set, excluding ink and printhead)		✓	89.4 kg
Power Consumption (Active)	87 W	✓		100 W

Acoustic Pressure	Operation: 51 dB (A); Standby: 35 dB (A)		✓	Operation: 45 dB (A); Standby: 32 dB (A)
Acoustic Power	Operation: 6.9 Bels		✓	Operation: 6.1 Bels; Ready: 5.0 B(A)

Driver Feature Set

Category	Canon imagePROGRAF TX-4200	Advantage ✓		HP DesignJet T1700dr
Media Profiles	50 + 10 user customizable special options	✓		36
Watermark	Yes	✓		No
Multi-Up Printing	Yes (2 to 16)	✓		No
Poster Print Mode	Yes (2 by 2)	✓		No
Page Stamping	Yes	✓		Not supported
Enlargement Copy Mode	Yes	✓		No
Free Layout Capability	Yes (flexible placement)	✓		Yes (automatic placement)
MS Office Plug-In	Yes	✓		No
Unidirectional Printing Option	Yes	✓		No
Integration with MFP	Yes	✓		No

Ink Consumption

Canon imagePROGRAF TX-4200: Amount of Ink Used in Each Cartridge (in Grams)

	Matte Black	Black	Yellow	Magenta	Cyan
Weight of Cartridge Prior to Installation	957.5	942.5	937.0	958.0	941.0
Weight of Cartridge at End of Life	205.5	205.5	205.5	205.5	205.5
Net Weight of Ink	752.0	737.0	731.5	752.5	735.5
Total Ink Weight Across Five Cartridges					**3,708.5**

HP DesignJet T1700dr: Amount of Ink Used in Each Cartridge (in Grams)

	Grey	Photo Black	Matte Black	Yellow	Magenta	Cyan
Weight of Cartridge Prior to Installation	343.2	340.4	317.6	352.8	355.4	358.1
Weight of Cartridge at End of Life	109.2	109.2	109.2	109.2	109.2	109.2
Net Weight of Ink	234.0	231.2	208.4	243.6	246.2	248.9
Total Ink Weight Across Six Cartridges						**1,412.3**

Canon imagePROGRAF TX-4200: Ink Used in Three 50-Page Runs of Cottage Architectural Plan Test Document in Standard Mode (in Grams)

	Matte Black	Black	Yellow	Magenta	Cyan
Test Run 1: Net Weight of Ink Used	23.5	3.5	3.0	5.5	6.5
Test Run 2: Net Weight of Ink Used	25.0	3.0	3.0	5.5	6.0
Test Run 3: Net Weight of Ink Used	23.5	3.5	3.5	6.0	6.0
Average Amount of Ink Used Across Three Runs	24.0	3.3	3.1	5.6	6.1
Total Ink Weight Across Five Cartridges for 50-Page Run (based on average)					**42.1**

HP DesignJet T1700dr: Ink Used in Three 50-Page Runs of Cottage Architectural Plan Test Document in Normal Mode (in Grams)

	Grey	Photo Black	Matte Black	Yellow	Magenta	Cyan
Test Run 1: Net Weight of Ink Used	0.7	14.0	21.8	1.8	6.8	7.0
Test Run 2: Net Weight of Ink Used	0.8	15.4	22.4	1.7	6.5	8.1
Test Run 3: Net Weight of Ink Used	0.7	14.5	22.6	1.6	6.4	7.2
Average Amount of Ink Used Across Three Runs	0.7	14.6	22.3	1.7	6.6	7.4
Total Ink Weight Across Six Cartridges for 50-Page Run (based on average)						53.3

Canon imagePROGRAF TX-4200: Ink Used in Three 50-Page Runs of ISO Poster Test Document in Standard Mode (in Grams)

	Matte Black	Black	Yellow	Magenta	Cyan
Test Run 1: Net Weight of Ink Used	24.5	3.5	3.5	21.5	32.0
Test Run 2: Net Weight of Ink Used	25.0	3.5	4.0	21.0	31.3
Test Run 3: Net Weight of Ink Used	25.0	4.0	4.5	21.0	32.0
Average Amount of Ink Used Across Three Runs	24.8	3.6	4.0	21.1	31.7
Total Ink Weight Across Five Cartridges for 50-Page Run (based on average)					85.2

HP DesignJet T1700dr: Ink Used in Three 50-Page Runs of ISO Poster Test Document in Normal Mode (in Grams)

	Grey	Photo Black	Matte Black	Yellow	Magenta	Cyan
Test Run 1: Net Weight of Ink Used	3.7	10.2	11.4	6.4	20.5	54.0
Test Run 2: Net Weight of Ink Used	4.7	10.1	11.5	7.2	20.6	54.8
Test Run 3: Net Weight of Ink Used	4.1	10.4	11.3	6.8	20.5	54.5
Average Amount of Ink Used Across Three Runs	4.2	10.2	11.4	6.8	20.5	54.4
Total Ink Weight Across Six Cartridges for 50-Page Run (based on average)						107.5

Canon imagePROGRAF TX-4200: Ink Used in Three 50-Page Runs of GIS Map Test Document in Standard Mode (in Grams)

	Matte Black	Black	Yellow	Magenta	Cyan
Test Run 1: Net Weight of Ink Used	30.0	3.5	12.0	12.0	22.0
Test Run 2: Net Weight of Ink Used	29.0	3.5	13.0	12.5	23.0
Test Run 3: Net Weight of Ink Used	29.5	4.0	13.7	13.5	23.0
Average Amount of Ink Used Across Three Runs	29.5	3.6	12.9	12.8	22.6
Total Ink Weight Across Five Cartridges for 50-Page Run (based on average)					81.4

HP DesignJet T1700dr: Ink Used in Three 50-Page Runs of GIS Map Test Document in Normal Mode (in Grams)

	Grey	Photo Black	Matte Black	Yellow	Magenta	Cyan
Test Run 1: Net Weight of Ink Used	42.2	7.8	8.4	13.4	15.0	36.9
Test Run 2: Net Weight of Ink Used	41.7	6.5	7.6	13.9	14.3	37.6
Test Run 3: Net Weight of Ink Used	41.9	7.1	8.1	13.6	14.8	37.1
Average Amount of Ink Used Across Three Runs	41.9	7.1	8.0	13.6	14.7	37.2
Total Ink Weight Across Six Cartridges for 50-Page Run (based on average)						122.5

Test Methodology

Ink Consumption: Keypoint Intelligence analyzed ink consumption using three different document types: a Cottage Architectural Plan, an ISO Office Poster, and a GIS map. Each document was formatted as a PDF file except for the Cottage Architectural Plan which was formatted as a DWG TrueView Drawing, and all were sized at ISO A0.

In Keypoint Intelligence's lab, the Canon imagePROGRAF TX-4200, with the latest "1.04" firmware (as of November 2024) was connected to a Windows 10 workstation via a 1000BaseT TCP/IP connection and maintained in default configuration for testing. Using the Canon imagePROGRAF Printer Driver, the documents were set to print at actual size in Standard (600dpi) mode. The Cottage Architectural Plan was printed on plain paper with print priority settings set to Line Drawing/Text. The ISO Poster and the GIS map were both printed on 140gsm matte coated media with print priority settings set to Image.

The HP DesignJet T1700dr was installed in Keypoint Intelligence's lab with the latest "JGRw_07_20_34.1" level of firmware (as of March 2021) and connected to a Windows 10 workstation via a 1000BaseT TCP/IP connection and maintained in default configuration for testing. Using the HP GL/2 driver in default colour setting, the documents were set to print at actual size in Normal mode. The Cottage Architectural Plan was printed on plain paper; the ISO Poster and the GIS map were both printed on HP Heavy Weighted coated media.

Lab technicians weighed each ink cartridge before installation (with the weight of each ink with all packaging removed recorded) and after every 50-print test run, calculated the weight of ink used for each colour. To account for the Canon model's sub-tank, a procedure was followed to ensure that the sub-tank level was at its maximum before the print run commenced and again after the print run was completed, thereby ensuring that ink replenishment of the sub-tanks was considered for each print run. For both models, one cartridge was then run to exhaustion and the weight of the empty cartridge was recorded.

Test Environment: Products were tested in Keypoint Intelligence's environmentally controlled UK test lab, which replicates typical office conditions.

Test Equipment: Keypoint Intelligence's dedicated test network in Europe, consisting of Windows 10 Professional workstations, 10/100/1000BaseTX network switches and CAT5e/6 cabling.

Test Procedures: Keypoint Intelligence employs proprietary procedures and industry-standard test procedures in its lab test methods. In addition to a number of proprietary test documents, Keypoint Intelligence uses industry-standard files including an ASTM monochrome test document for evaluating black image quality. Alongside a visual observation, colour print quality and gamut size are evaluated using XRite i1 profile software and an i1 Pro colour spectrophotometer and analysed using i1i0 Advanced Scanning Table. Density of black and colour output was measured using XRite 508 and XRite exact^{Xp} densitometers.

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About Keypoint Intelligence

For over 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.

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