



**WHEN QUALITY
& ACCURACY ARE
UNCOMPROMISABLE**

Help your AEC customers attain their professional aspirations with the HP DesignJet T-series



For circulation within HP and HP Channel Partners only.

The number 1 choice for AEC users — HP DesignJet Printers

Why do partners all over the world choose to work with HP to fulfill the large printing needs of their AEC customers?



For 10 years straight from 2008 to 2019, HP has remained **number 1** in terms of units shipped for 24-inch to 44-inch aqueous-based large format printers in Australia, India, Indonesia, Korea, Malaysia, China, Thailand and the rest of the Asia-Pacific.¹



HP DesignJet Large Format printers have an impressive track record marked by awards for innovative design and impressive performance.



HP DesignJet T1600 Printer

HP DesignJet T2600 MFP





Unmatched print quality for technical drawings & renders

Your AEC customers will value your recommendations because you know what they really need.



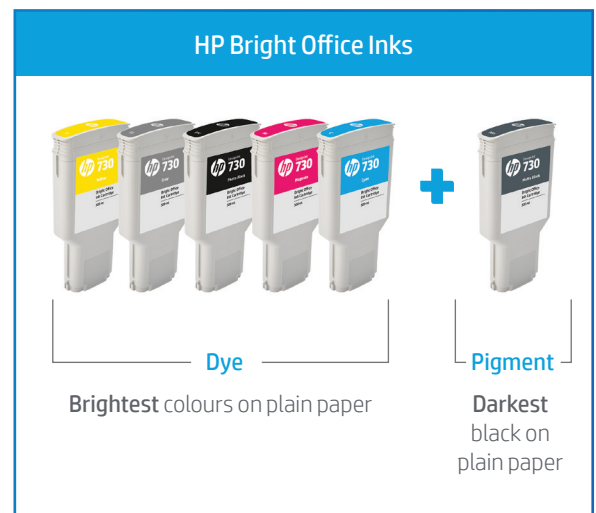
“Our designs and drawings are increasingly complex, and every minute detail and line is important. They have to be presented clearly and accurately. We can’t afford errors as they would lead to severe consequences, including possible financial losses.”²

- Mr Peter Chang, Architect

HP DesignJet printing systems are holistic solutions designed and tested to deliver optimal performance and durability. Industry leading HP innovations in HP DesignJet hardware, the writing systems (drivers), inks and media work together seamlessly to deliver accurate and error-free printing that is fast and impactful.

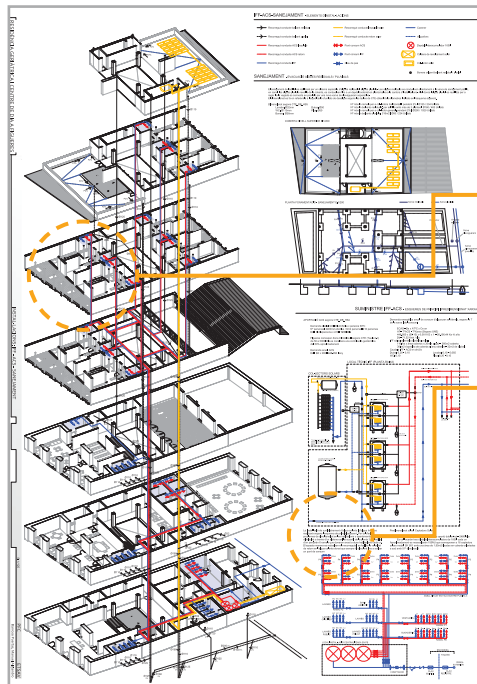
HP DesignJet printers and HP Bright Office Inks reproduce all drawing details accurately and reliably

- HP Bright Office Inks with dual technology ensure outstanding print quality even on plain paper. This is very important to professionals in AEC as they print mostly on plain paper. According to an HP Internal study, 90.1% of prints across 82,350 HP DesignJet T-series Printers are on plain paper.³
- HP Bright Office inks comprise of dye inks in various colours that produce bright colours and high precision printing at a minimum line width of 0.02mm on plain paper, while the HP Bright Office Matte black is a pigment ink that produces black and white prints that are durable and smudge-resistant.



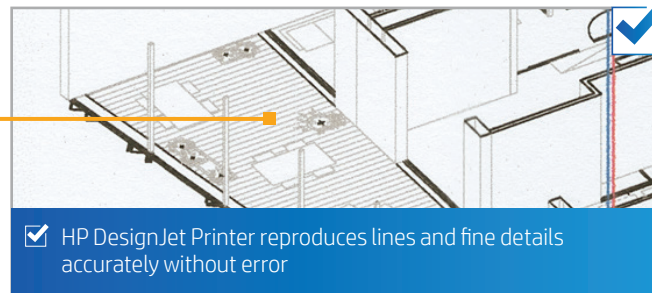
Comparing HP DesignJet's superior and reliable print quality against competing brands

Look out for: • Patterns • Text



Media: Océ Draft paper 75g
 HP DesignJet T1700: Fast mode
 Canon iPF TX-4000: Fast mode Line drawing (300dpi)

hp DesignJet T1700



✓ HP DesignJet Printer reproduces lines and fine details accurately without error



✓ Clearer and sharper text

Canon TX-4000

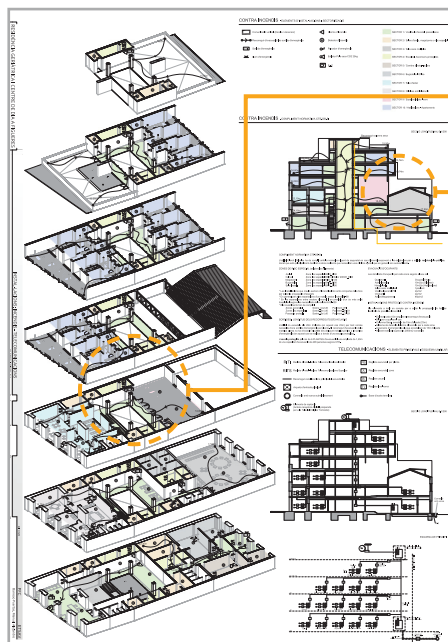


✗ Canon Printer presents poorer line quality and definition, resulting in loss of information through inaccurate or missing fine details



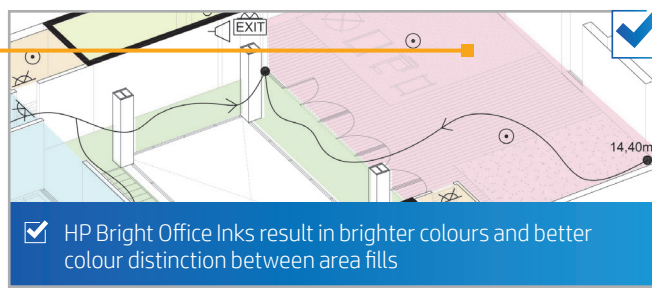
✗ Poor line and text quality

Look out for: • Coloured area fills • Colour distinction

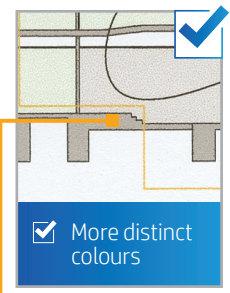


Media: Océ Draft paper 75g
 HP DesignJet T1700: Fast mode
 Canon iPF TX-4000: Fast mode Line drawing (300dpi)

hp DesignJet T1700

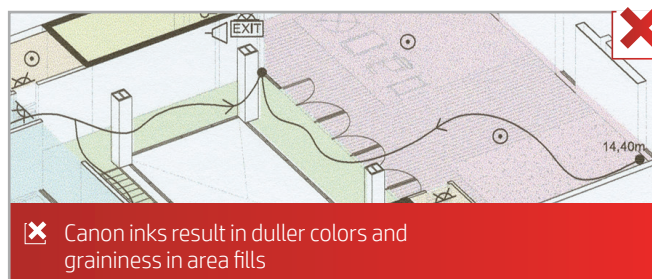


✓ HP Bright Office Inks result in brighter colours and better colour distinction between area fills



✓ More distinct colours

Canon TX-4000



✗ Canon inks result in duller colors and graininess in area fills

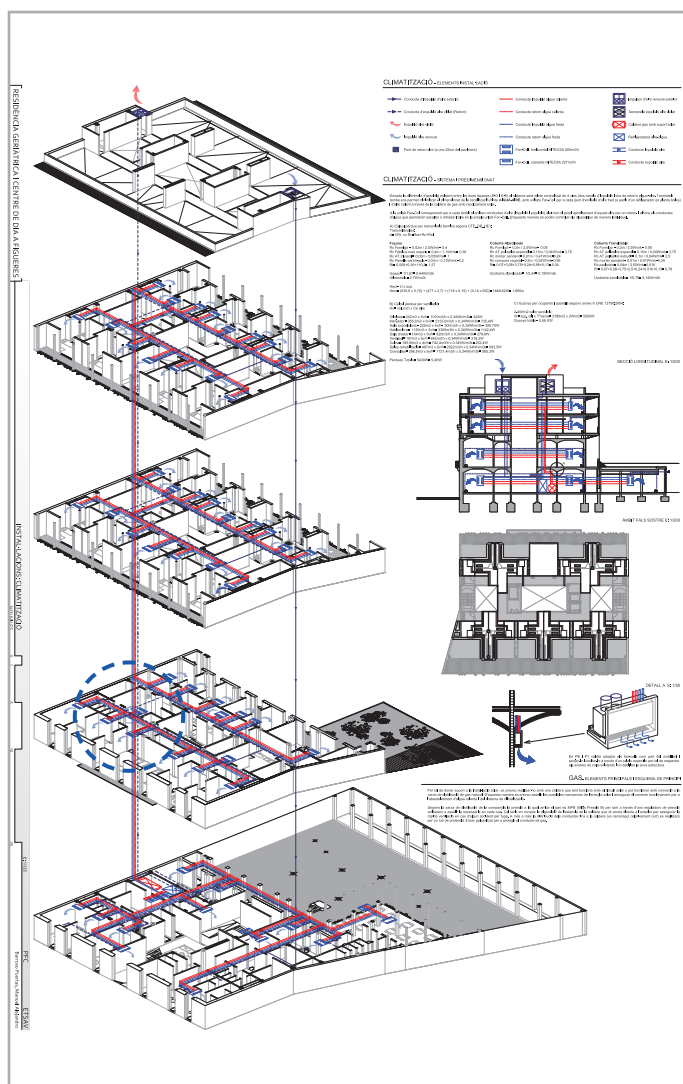


✗ Poor colour distinction

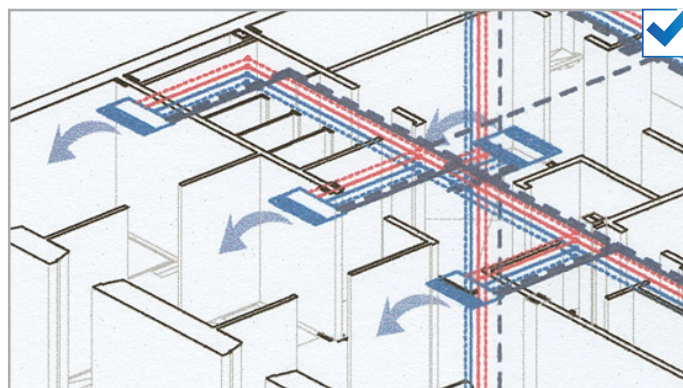


Comparing HP DesignJet's superior and reliable print quality against competing brands

Look out for: • Coloured lines • Black optical density • Line quality

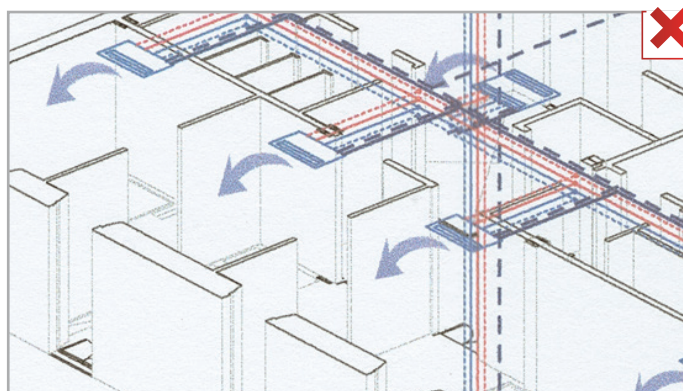


hp DesignJet T1700



- ✓ Better differentiation between bold and fine lines
- ✓ Better line quality with true gray ink
- ✓ Better black optical density with intense black lines
- ✓ More vibrant colour lines

Canon TX-4000

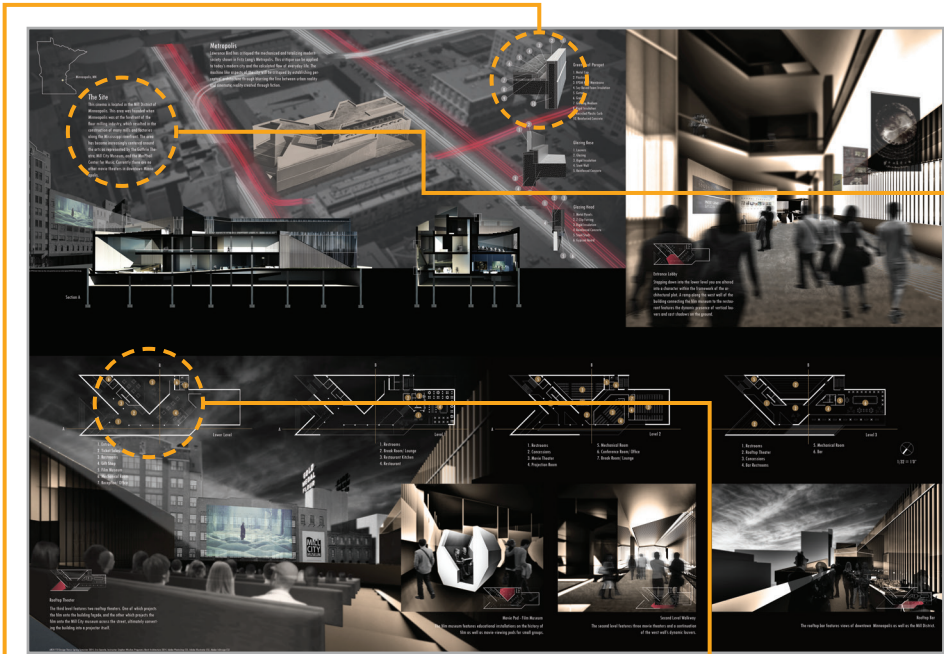


- ✗ Canon prints poorer line quality with duller colours and lower optical density

Media: Océ Draft paper 75g
 HP DesignJet T1700: Fast mode
 Canon iPF TX-4000: Fast mode Line drawing (300dpi)



Look out for: • Text • Data loss (objects and lines)



hp DesignJet T1700

The Site ✓

This cinema is located in the Mill District of Minneapolis. This area was founded when Minneapolis was at the forefront of the flour milling industry, which resulted in the

✓ Clearer and sharper text

Canon TX-4000

The Site ✗

This cinema is located in the Mill District of Minneapolis. This area was founded when Minneapolis was at the forefront of the flour milling industry, which resulted in the

✗ Blurred text

Media used on HP DesignJet T1700: HP Universal Gloss Photo paper
 Print mode: Best
 Media used on Canon iPF TX-4000: Canon Glossy photo paper 240g
 Print mode: High (Image 600dpi)

hp DesignJet T1700

Canon TX-4000

✓ CAD objects do not lose details such as lines or patterns

✗ Missing texture

hp DesignJet T1700

Canon TX-4000

✓ CAD objects do not lose details such as lines or patterns

✗ Missing patterns and lines
 ✗ Duller colours and flat blacks
 ✗ Gloss is not uniform
 ✗ Poor contrast between white lines on dark background



Error-free and efficient printing with embedded Adobe PDF Engine

The strong partnership between HP and Adobe is the reason behind an HP DesignJet print workflow that delivers error-free, reliable and efficient printing. Unlike competing printer brands that use a PDF interpreter which often results in missing details and loss of information, HP DesignJet Printers have embedded Adobe PDF Print Engine which enable complex PDF files containing transparencies, layers and gradients to be accurately printed.



The current situation

- It is common practice for AEC professionals to use PDF files with multiple layers when sharing design information.
- The ability to print these PDF files accurately without errors or loss of details is of critical importance.
- Missing details or incorrect render could result in costly financial or productivity loss.

The key benefits

- Embedded Adobe PDF Print Engine on HP DesignJet printer interprets and renders PDF files natively without any conversion, providing the highest level of reliability.
- It renders transparent images and graphics without losing details, providing the highest level of accuracy.

To learn more about Adobe PDF Print Engine, scan here.



<https://adobe.ly/3eglp0u>

Scan here to watch video that shows loss of information when a user prints with Epson T3130.



<https://bit.ly/2zFaDUX>



Look out for: • Lost of information

hp DesignJet T2600

Adobe PDF Engine

Canon TX-3000 T36

PDF interpreter

Iglesia		
a.1 nave central	252.8 m ²	
a.2 presbiterio	82.8 m ²	
a.3 capilla del santísimo	139.2 m ²	
a.4 sacristía	31.2 m ²	
a.5 confesionario	10.2 m ²	
a.6 baptisterio	19.2 m ²	
a.7 capilla parroquial	11.8 m ²	
a.8 capilla	34.4 m ²	
salones parroquiales		
b.1 vestíbulo acceso	32.0 m ²	
b.2 claustro	82.8 m ²	
b.3 despacho parroquial	16.8 m ²	
b.4 dependencias católicas	48.0 m ²	
b.5 sala catequesis	80.0 m ²	
b.6 servicios	16.4 m ²	
circulaciones		60.0 m ²
total superficie útil		853.4 m ²

✓ HP DesignJet Printers print complex files with better reliability

✗ Canon Printers cannot handle complex files competently.

Printed accurately

✓ HP DesignJet Printers print complex files with better reliability

Printed with errors

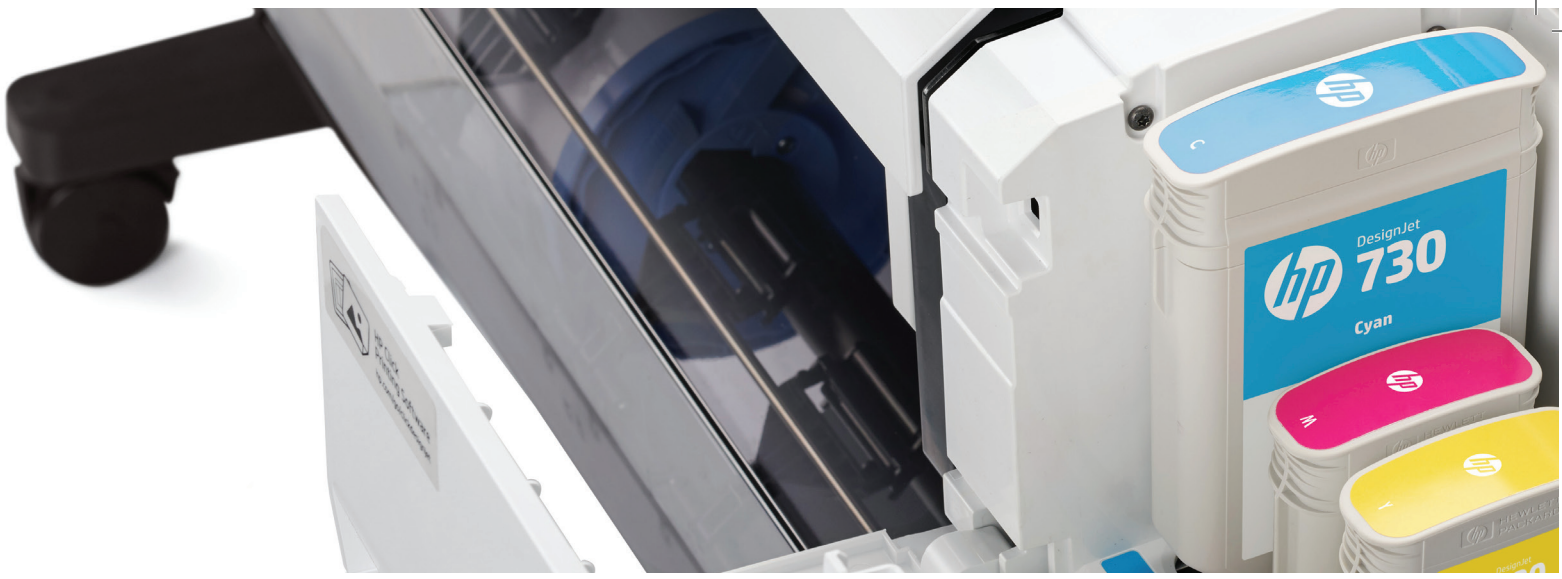
✗ Prints show loss of information such as missing texture, patterns and lines

Media used on HP DesignJet T1700: HP Universal Gloss Photopaper
 Print mode: Best
 Media used on Canon iPF TX-4000: Canon Glossy photo paper 240g
 Print mode: High (Image 600dpi)

To download PDF versions of the print samples referenced from page 3 to 7 in this brochure, scan here.
 (Note: These PDF files are best viewed in Adobe Acrobat/Reader)



<https://bit.ly/3fvYxfX>



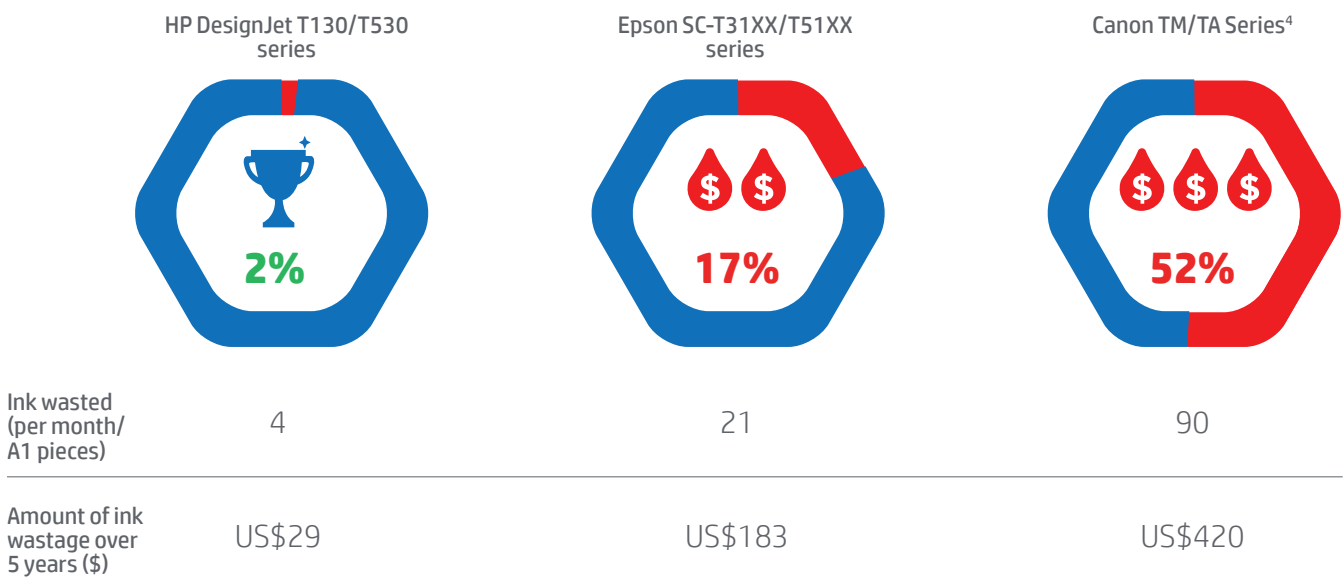
Comparing HP DesignJet's superior ink efficiency against competing brands.

One of the key advantages HP DesignJet T-series has over competitors pertains to ink efficiency. Canon and Epson large format printers waste a lot more inks during servicing compared to HP DesignJet T-series.

HP DesignJet T-series

- HP DesignJet T-series does not have mandatory scheduled routine for ink purging.
- The use of the **Optical Drop Detector** to identify faulty nozzles and their replacement through nozzle substitution are part of a simple printhead methodology that only requires **ink spraying instead of purging**. As such, a lower amount of ink is used.
- HP does not require a maintenance tank to contain the ink wasted during maintenance.

Comparing 5 years of ink wastage due to maintenance⁴





USD\$420

Amount of ink wastage for competing printers

Canon & Epson large format printers

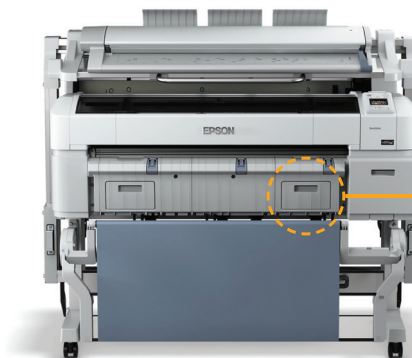
- Both Epson and Canon's printhead design require frequent maintenance routines to prevent clogging.
- Both brands use ink purging routines which consume **4 to 5 times more ink** when compared to HP DesignJet T-series. In fact, they waste so much ink that they require a maintenance ink tank to contain the purged inks.

Sample image showing the location of the maintenance tanks

The HP DesignJet T1600 printer has no maintenance tank, whereas the Epson SC-T52XX MFP has two.



HP DesignJet T1600 Printer



Epson SC-T52XX MFP

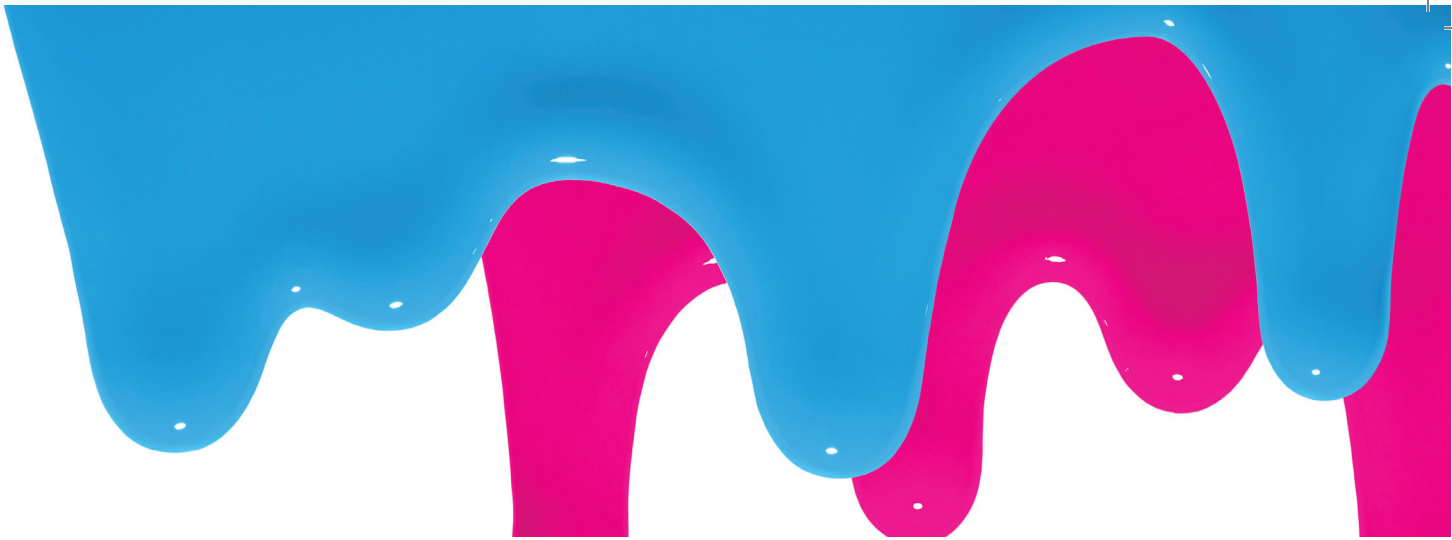


Maintenance tanks

Scan here to watch video that shows HP DesignJet printers' superior ink efficiency



<https://bit.ly/2Ca2fNT>



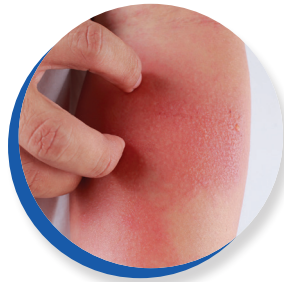
Beware of hazardous Epson CISS inks

There are considerable health risks associated with Epson inks. According to Epson T3100X's safety data sheet, **Epson's CISS inks contain 1,2 benzisothiazolin-3-one and 2,4,7,9-tetramethydec-5-yne-4,7-diol⁵** and other components that may **cause allergic reactions when users are exposed to them during ink refill or spills.**

According to European Union's hazard classification, 1,2 benzisothiazolin-3-one is considerably harmful to human and animals.



Cause serious eye damage



May cause an allergic skin reaction



Very toxic to aquatic life



H317 skin sensitizer
H302 oral acute tox
H315 skin irritant



H318 eye damage



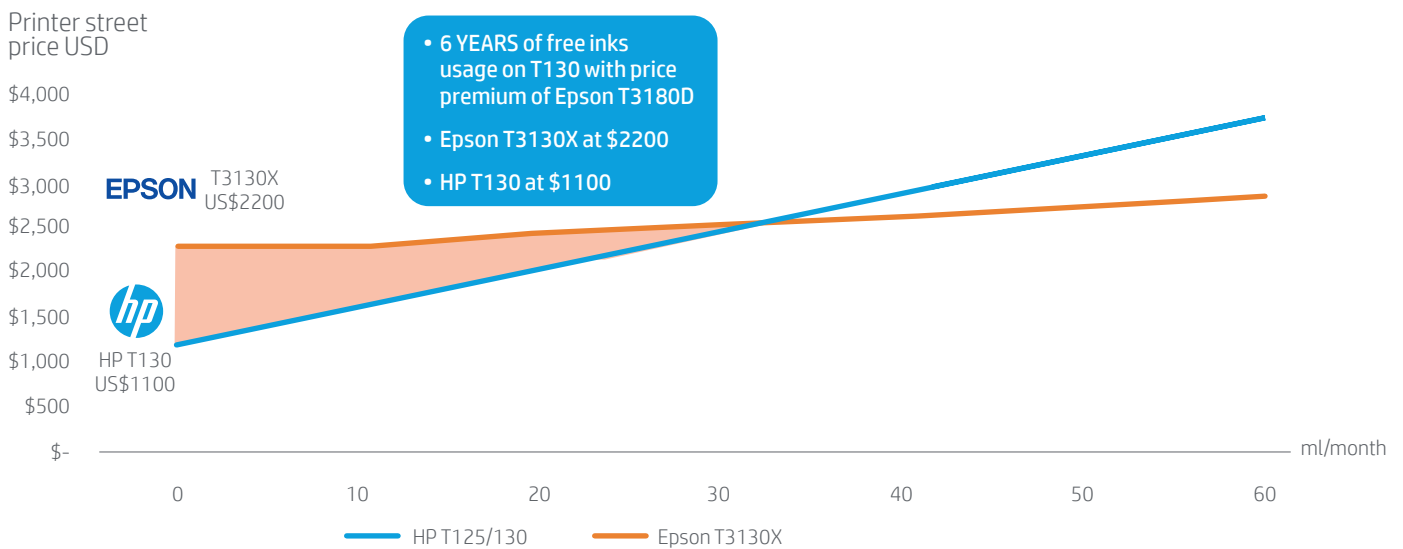
H400 aquatic acute
H412 aquatic chronic



Comparing HP DesignJet’s Total Cost of Ownership (TCO) against Epson’s Continuous Ink Supply System (CISS)

Printers with refillable inks via Continuous Ink Supply System project the impression that they deliver lower cost of ownership. But is it true? Comparison between an Epson T3100X and HP DesignJet T125/130 over a 5 year period shows otherwise.

Ownership comparison over 5 years (30ml, 100sqm per month)

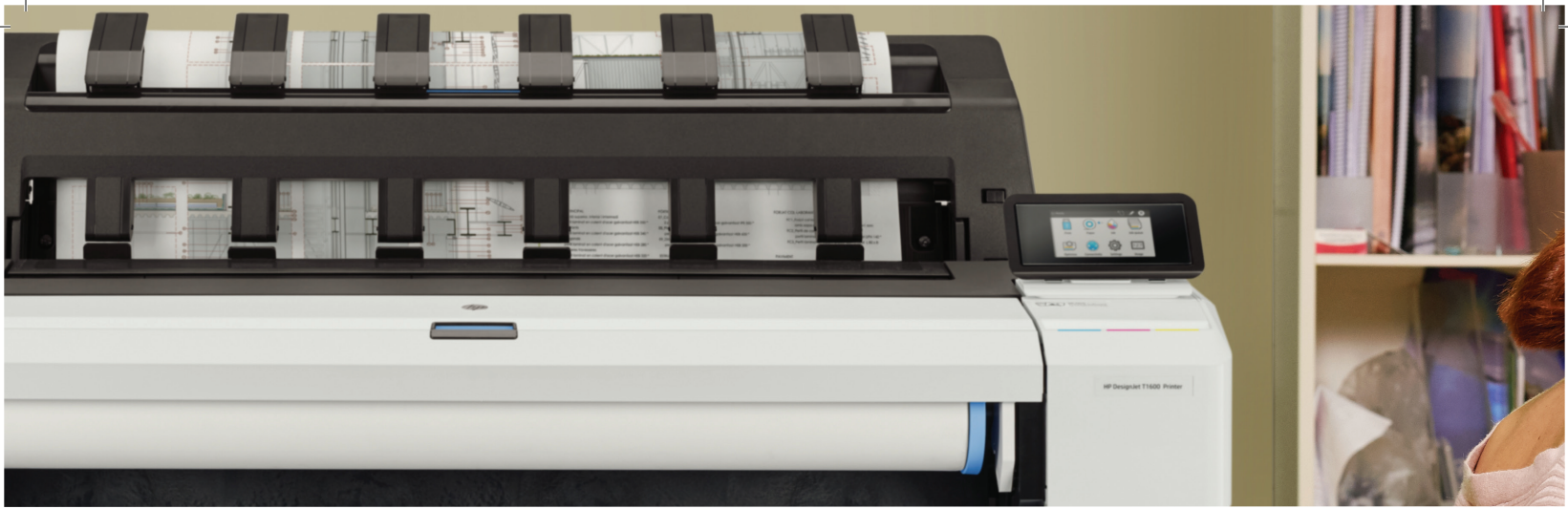


Findings:

- Epson T3130X is priced 2X higher than HP DesignJet T130. The price difference is equivalent to 50 HP ink cartridges.
- If your print volume is less than 200 A1 CAD pages per month (30ml or 100 sqm per month), you are actually better off financially with HP DesignJet T130.
- At usage of 30ml ink per month, it will take almost 4 years for Epson to reach the same cost of ownership as HP DesignJet T130.

Conclusion:

HP DesignJet T130 is the smarter choice for light and medium users. The actual savings from ink costs for Epson T3100X does not make up for the exorbitant upfront price premium unless you use more than 30 ml of ink per month.

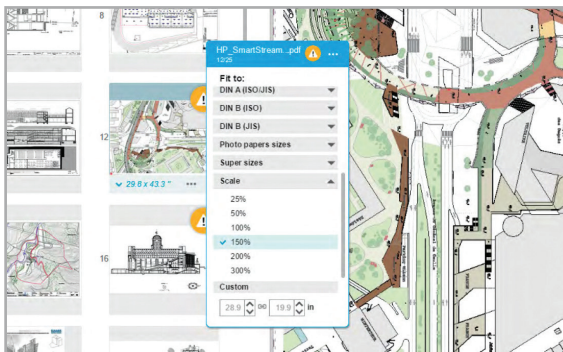


A radically simpler and more efficient way to print with HP Click Software.

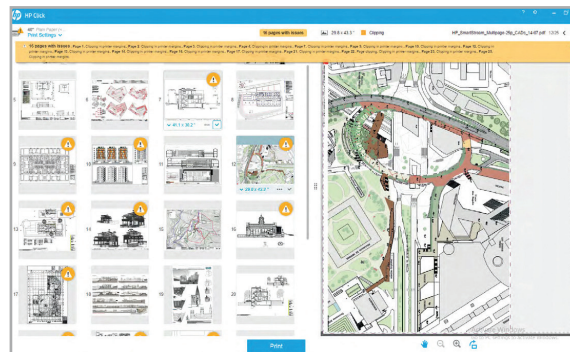
HP Click software allows you to print common formats like PDF, JPEG, TIFF, DWF, HP-GL/2 files from a PC or Mac with one click.⁶ Besides automatic features that allow you to optimise media usage and costs, HP Click Software is a lot more efficient with far fewer clicks for print job submission when compared to Canon and Epson large format printers.

Save more by optimising media and cost

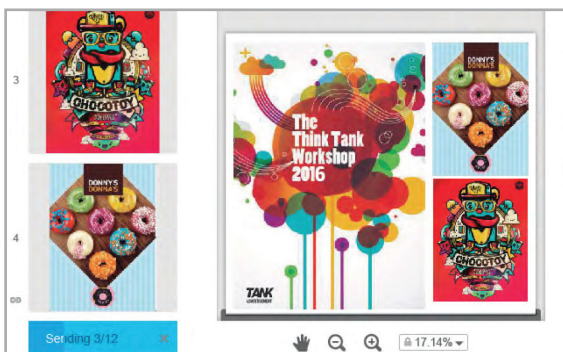
Automatic nesting



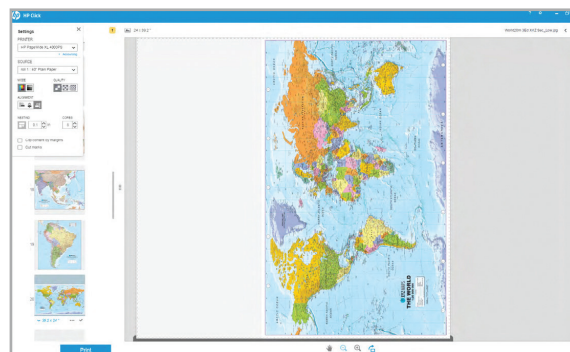
Resizing and alignment



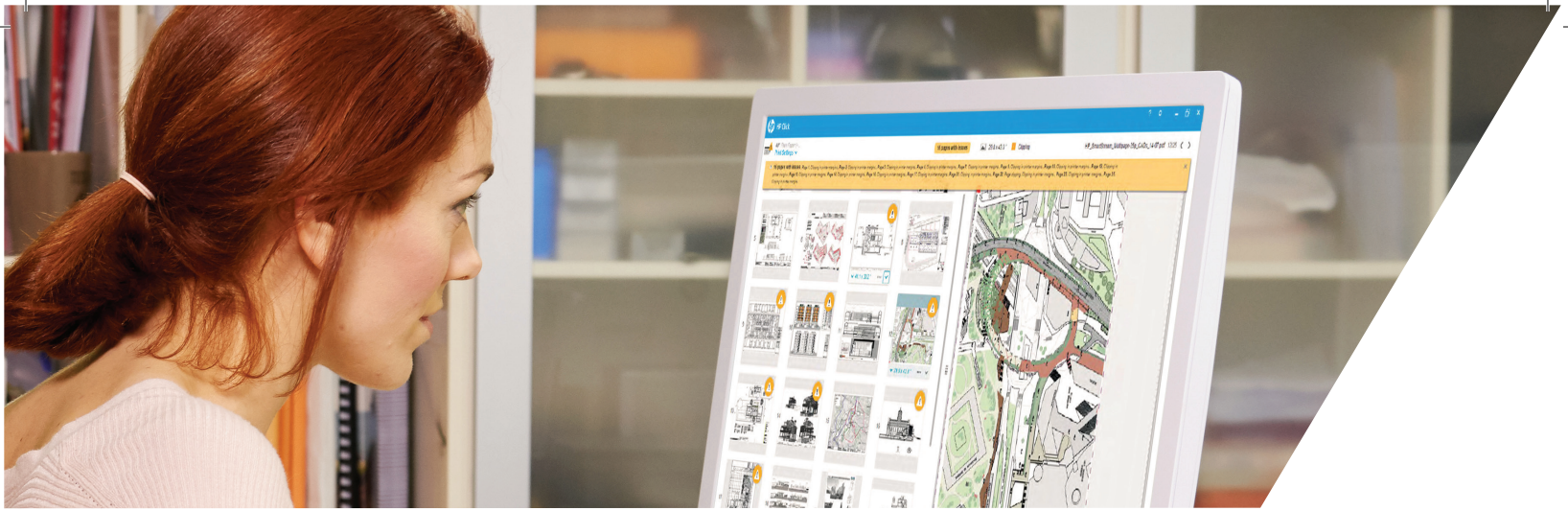
Auto-orientation



PDF error check









Click to download HP Click Software for free.
<https://bit.ly/2N6kbe0>



“I received last minute changes to some drawings on a Friday and had to get them printed before Monday morning. With HP Click’s optimisation software, I could simply drag-and-drop my modified drawings and even print out multiple collated sets. Thanks to this, I saved a great deal of hassle and met my deadline on time.”²

- Mr Mark Kwok, Project Engineer

Comparing the process for submitting 6 print jobs per day with each job comprising 1 set of 5 originals.

	 HP DesignJet T130	 TM-200 series	 SC-T3130N
	 Superior efficiency with lesser clicks and time used	 14% less efficient Slow preview creation	 50% less efficient Slow preview creation + processing
Software	HP Click Software	Canon Print and Share	Epson Print Driver
Number of clicks	2 clicks end-to-end	7 clicks end-to-end	45 clicks end-to-end
Job preparation	20 sec	1 min 45 sec	8 min 10 sec
Total time for each print job (1 set of 5 originals)	4 min 30 sec	5 min 13 sec	9 min 10 sec
Total time per month (6 print jobs)	9 hours	10.4 hours	18 hours
Mac OS compatible	✓	✗	✗
Nesting	✓	✗	✗
PDF Error detection	✓	✗	✗



Safeguard your customers' work with integrated security features

Target Supermarket security breach at a glance



Target Corporation is one of the largest retailers in the United States offering high-quality, on-trend merchandise at discounted prices through its physical stores and digital channels.

Security breach likely caused by **MALWARE** uploaded onto Target's **Point of Sale (POS)** systems.

70 million
customers' information
had been exposed

40 million
customers' credit and debit card
information stolen

18.8%
earnings per share decrease

NOT ONE
HDD was stolen

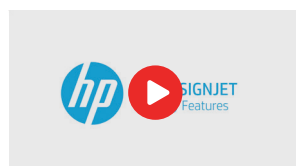
Gross expenses totalled to
\$162 million⁷
due to the security breach



"A lot of the technical design information we deal with are highly confidential. Loss or corruption of these critical data would jeopardise business relations, public confidence and even result in substantial financial losses if projects are delayed or called off."²

- Mr James Patterson, IT Manager

Scan here to watch
HP DesignJet security video.



<https://bit.ly/2Cqwmuz>

The world's most secured Large Format Printer⁸

The current situation

- Firewalls alone cannot protect companies from attacks by sophisticated hackers
- An unsecured endpoint device could result in a major disruption to work productivity
- A data breach could lead to huge financial cost and loss of customers' trust

The key benefits

- HP DesignJet T-series printers come with embedded security features and are compatible with add-on security solutions to protect your device, data and documents
- Fleet security management capabilities enable your customers to defend their fleet of printers and network effectively.



Comparing HP DesignJet T-series to competitor



		HP DesignJet T-series	Canon TX Series	Epson SC-T Series	
Device	Secure Boot The BIOS is a set of instructions used to load critical hardware components and initiate firmware during startup. With HP Secure Boot, the integrity of the code is validated at every boot cycle—helping to safeguard your device from attack.	YES	NO	NO	Protect against attacks from malware or modified firmware
	Whitelisting Whitelisting automatically checks the firmware during startup to determine if it is authentic and digitally signed by HP. If an anomaly is detected, the device shuts down and notifies IT.	YES	NO	NO	
	LDAP / Kerberos Device Authentication	YES	NO	NO	
	Access Control HP Access Control Printing Solutions makes it easy to monitor and control imaging and printing costs—and to collect and track data by device and user—to help establish more responsible behaviors, lower expenses, and eliminate unclaimed documents.	YES	YES	NO	
	Role Based Access Control Setting different and dynamic roles to users makes sure that only authorised personnel can set up and configure device settings, restrict printer access and assign dynamic user roles. Assigning different levels of permissions to individual employees or entire departments ensures access control security.	YES	YES*	NO	
Document	Self Encrypted HD Reduce the risk of stolen data with AES encryption of your print job.	YES	YES	YES	Protects the confidentiality of data held in the printer and transiting to and from the printer
	Secure Disk Erase Prevent unauthorised document access with printer drive wiping capabilities.	YES	YES	YES	
	IPsec Guard against network-based security threats with Internet Protocol Security.	YES	YES	YES	
Fleet Security Management	PIN Printing Print jobs are released only when users enter a Personal Identification Number (PIN).	YES	NO	NO	Protects the confidentiality of print-outs
	Célivéo Pull Printing Protects document in server until released by user.	YES	NO	NO	

* Function limited to 2 roles: admin & user



Compact design that saves you space



“A more compact, space-saving printer can really help us save on rental. You won’t understand the savings until you consider the fact that we operate numerous printers in our office. It is a big deal!”²

– Mr Raj Kumar, CAD Manager

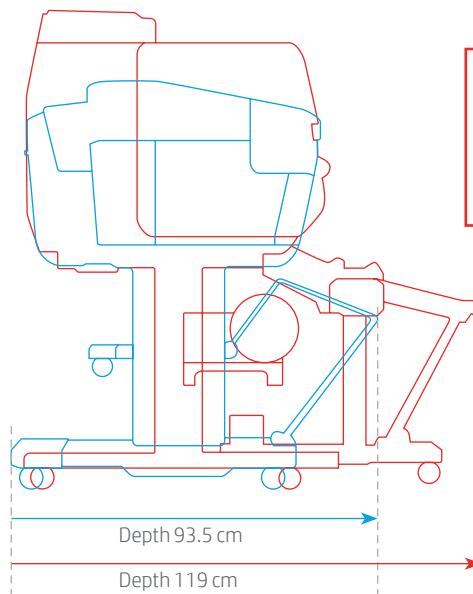
Compact printer design that uses lesser space

Office space is a premium today and every inch counts. HP DesignJet T-series printers are thoughtfully designed to take up less space while delivering superior performance.



Comparing HP DesignJet T-series against competitors


HP DesignJet T1700


Canon TX 4000



**Canon
27% deeper**

Basket Open:  1.6083 sqm  1.904 sqm

HP DesignJet T1700 footprint is **18.4%** smaller than the Canon TX 4000.

Ergonomically designed for better productivity & lesser health risk



“Prolonged hours in bad postures can lead to fatigue and, very often, injuries. Ergonomically designed MFPs that take into consideration our postures when operating the machine can go a long way in improving our productivity as well as our health.”²

- Mr Heinrich Andreas, CAD Manager

Designed for better comfort and health

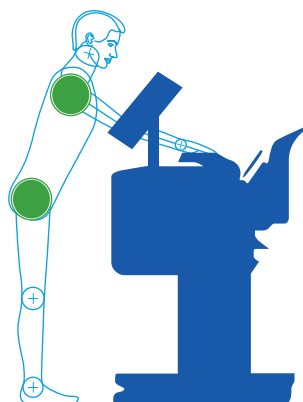
HP DesignJet Printers are designed to allow users to maintain healthy postures and avoid straining their bodies when accessing various printer components, such as the front control panel, scanner and media output.

Ergonomics analysis : HP DesignJet T2600 vs. competitors

Media Output: **Percentile 95**

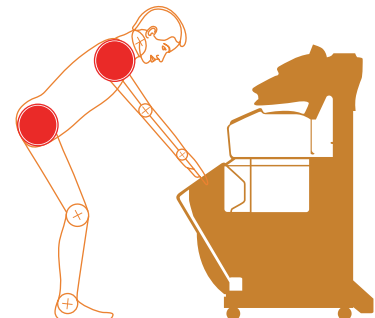
hp HP DesignJet T2600

Shoulder Flexion	
Comfort Zone	55°
Trunk Flexion	
Comfort Zone	15°



EPSON Epson SC-T5200D MFP

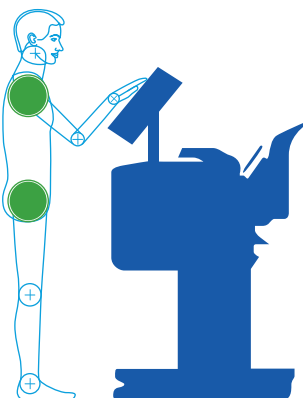
Shoulder Flexion	
Dangerous Zone	95°
Trunk Flexion	
Dangerous Zone	86°



Front Panel Interaction: **Percentile 5**

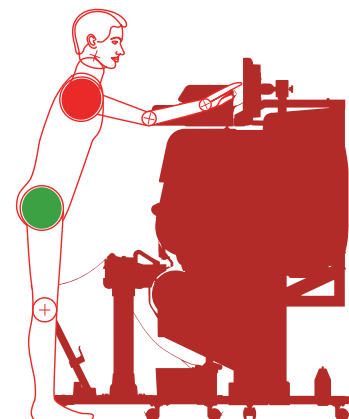
hp HP DesignJet T2600

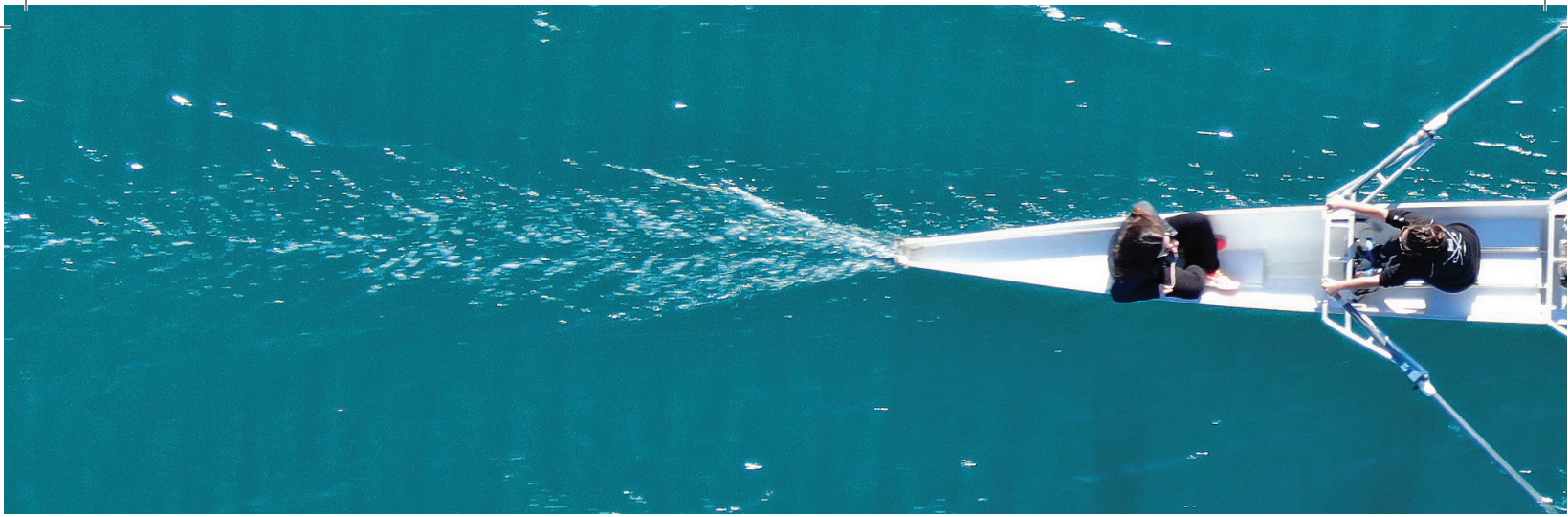
Shoulder Flexion	
Comfort Zone	34°
Trunk Flexion	
Comfort Zone	0°



Canon Canon TX-5300

Shoulder Flexion	
Dangerous Zone	95°
Trunk Flexion	
Comfort Zone	15°





Partnership that is good for business and the planet

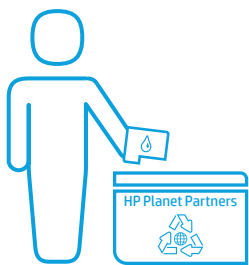


HP's Sustainable Impact Strategy is to create lasting, positive change for the planet, our people, and communities. HP is driving progress towards a more sustainable future. We set bold, long-term goals and focus our strategy where we can have the greatest impact.

Our sustainability achievements



33% of the plastic used in HP DesignJet T1700, Z6, and Z9 Printer series are recycled. This is significantly more than competing printers. As a result, we save 7.3 tonnes of carbon emissions, which is equivalent to emissions resulting from charging 918,232 mobile phones.⁹



25 million ocean-bound plastic bottles were diverted to make Original HP ink cartridges. HP's groundbreaking closed-loop recycling program uses plastic from recycled Original HP cartridges (plus recycled bottles and hangers) to create new Original HP cartridges.



HP DesignJet T1700 Printer

To learn more, please scan

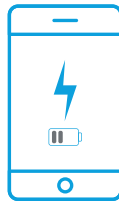


<https://bit.ly/2AM6Nd9>



Original HP Ink Cartridges

25 million plastic bottles were diverted to make Original HP cartridges.



7.3 tons of CO2 reduced

Equivalent to carbon emissions from charging 918,232 smartphones as a result of the 33% of recycled plastic used in HP DesignJet printers⁹.



Our environmental performance certifications



HP believes in partnerships that are good for business and the planet



Largest portfolio of large format printers for technical markets

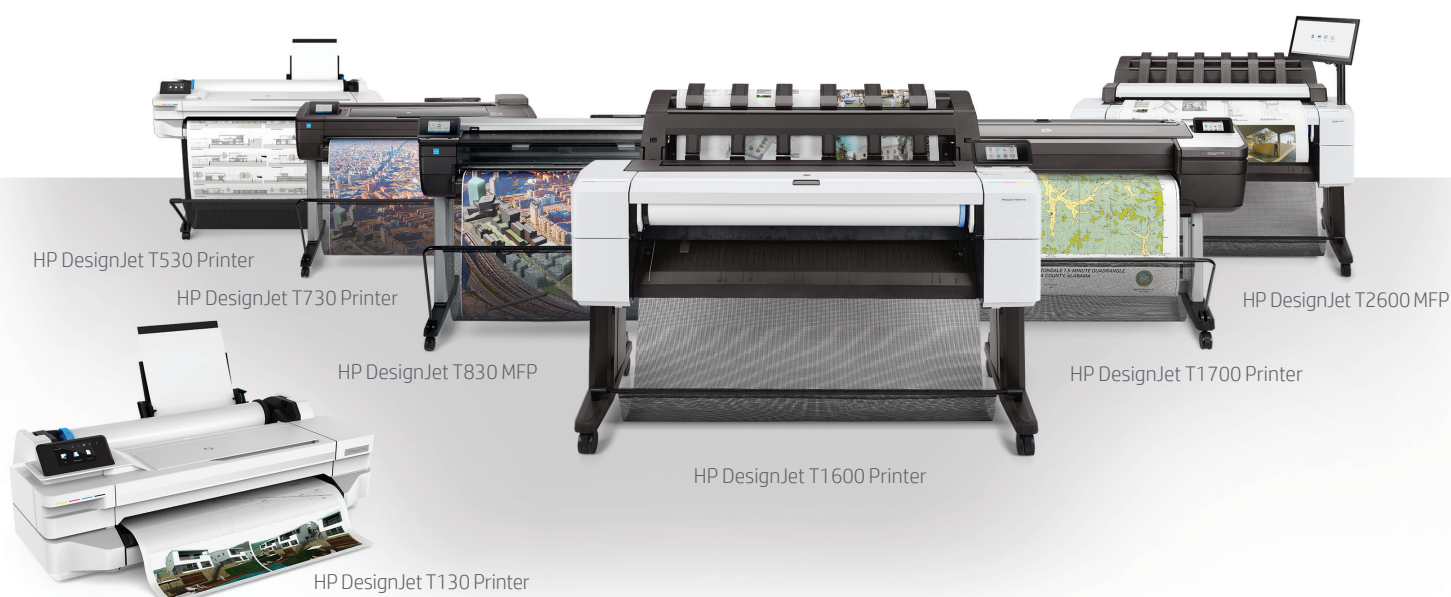


“We have many offices and worksites all over country, and we need to deploy different printers in different sites.”²

- Ms Charlotte, IT Manager

HP offers the widest range of large format printers

- HP boasts the widest range of large format printers designed to AEC user requirements.
- Whatever your customer budget or work demands are, you will be able to find a suitable HP DesignJet printer.



Handling objections

Objection: Canon has better quality prints than HP

Answer: For printing of technical drawings and graphics, HP DesignJet Printers deliver sharper lines, better black optical density and a higher colour gamut when compared to Canon. Furthermore, we can maintain this high quality of printing even as the printer ages due to the in-built colorimeter. The printer is recalibrated every time there's an ink change, or when it's activated manually by the user.

Objection: HP printers do not have effective maintenance cycle since there are no waste ink tanks

Answer: HP DesignJet printers are built with robustness, ease of use and with an intelligent maintenance system in mind. With 28 years of proven product innovations, HP DesignJet printers continue to develop useful functions such as minimal ink usage for maintenance. This translates to benefits such as using minimal waste inks for maintenance, and no requirements for waste ink tanks. HP DesignJet on average uses 90% less ink for maintenance versus Canon and Epson technical printers.

Objection: HP ink cartridges need to be replaced frequently

Answer: This is not true as HP DesignJet inks only need to be replaced once every six months. Unlike other brands that use a significant amount of inks during the printer cleaning routines, HP DesignJet Printers utilise only a small amount of ink with most of the ink being used for printing.

Objection: Canon and Epson technical printers use pigment inks that deliver water resistant prints that last

Answer: 90% of technical prints are on plain paper and even though the inks are pigment-based, the plain paper is not water-resistant. When the paper gets wet, these prints can still be torn easily. HP Bright Office inks utilise dual ink technology that combines the brightest dye-based colour inks¹⁰ with permanent and water-resistant pigment-based black ink¹¹ to achieve outstanding line quality and bright colour distinction even on plain paper with 100-year archivability.¹²

1. Source: IDC WW Quarterly large format printer tacker Q1 2019 2. All names, characters and incidents portrayed herein are fictitious. No identification with actual person is intended or should be inferred. 3. Source: Fibonacci (Internal HP data), based on the monthly usage across 82,350 HP DesignJet T-series printers, Sep 2018 4. Based on 2 printhead cleanings per month over a 3 years printing period on 30ml ink usage or 77 sqm of CAD prints per month based on 0.39ml per sqm 5. Source: Epson safety data sheet - <https://www.epson.eu/safety-data-sheets> 6. Once image is selected, one-click printing when printing the entire file without any modifications to the print settings. Applicable to PDF, JPEG, TIFF, DWF, HP-GL/2 files 7. Source: <https://www.bankinfosecurity.com/target-breach-what-happened-a-6312> <https://www.bankinfosecurity.com/target-breach-costs-162-million-a-7951> 8. Applicable to the HP DesignJet T1700 Printer series, HP DesignJet Z9+ PostScript® Printer series, and HP DesignJet Z6 PostScript® Printer series. Based on comparable large-format inkjet printers under \$15,000 (USD) as of August, 2018. IDC figures show that Canon, Epson, HP, and Ricoh combine for 98% 2017 share of this printing category worldwide. 9. Calculations based on <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator> 10. Based on HP internal testing, December 2018, of HP DesignJet T730 prints of multiple images visually compared to competitors printed on Océ Draft Paper 75gsm in Fast and Normal print modes. Colour measured through gamut volume (CIE lab unit): HP 180376, Canon 132400 using GamutViewer internal tool. For more information, see hp.com/us/en/large-format-printers/designjet-printers/compare-canon-TM-vs-hp-designjet-plotter.html. 11. For prints produced with HP Permanent and Water-resistant Black Ink. HP Bright Office Inks are certified per the ISO 11798 Permanence and Durability standard, proving that prints made with compatible HP DesignJet T-series printers using Original HP Bright Office Inks withstand harsh exposure to light, water, abrasion, and handling, and long-term storage and heat, and remain legible in the future. For more information, see hp.com/go/printpermanence. 12. For prints produced with pigment-based black and dye-based colour HP Bright Office Inks. WIR Statement Concerning the Dark Storage Permanence of Documents Printed with HP Pigment Inks and Dye Inks on HP Bright White Inkjet Paper, October 2017. Tests conducted by Wilhelm Imaging Research, Inc. indicate that documents printed with HP pigment-based black and dye-based colour inks printed on HP Bright White Inkjet Paper stored in the dark (assuming that the document is stored in a file folder, in a box, and is otherwise protected from possible ozone exposure and contact with water) will achieve WIR Dark Storage Permanence Ratings of "Greater Than 100 Years." For more information, see hp.com/go/printpermanence.

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