



HP 920 Officejet Supplies Technology

In Spring 2009, HP is introducing a mid-range series of HP Officejet All-in-Ones, utilizing HP's Scalable Printing Technology into a 4 individual ink cartridge printing system utilizing pigment black ink, and dye-based color inks. This new HP printing system, debuting in new HP Officejet 6500/6000 All-in-One series printers deliver reliable, low cost, high speed, high-quality printing for micro-business, home and small business office professionals.

Key Features	Benefits
Individual Ink cartridges and High capacity cartridges	<ul style="list-style-type: none"> Print professional color documents for up to 40% less than lasers¹ Fewer replacements Replace each ink cartridge separately as needed
Dual Drop weight color print head	<ul style="list-style-type: none"> Reducing image grain and increasing the available color gamut for photos and graphics
Specially formulated HP Officejet inks	<ul style="list-style-type: none"> Deliver professional quality color and crisp laser-like black text HP quality and reliability customers can trust



HP Officejet 6500 Series All-in-One



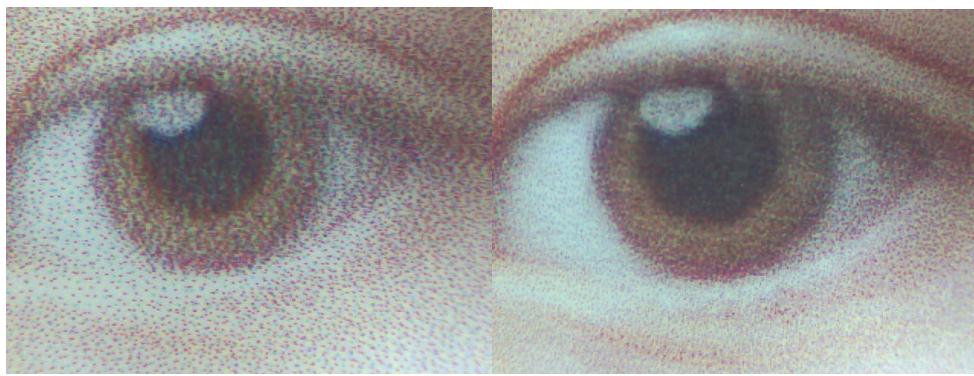
HP 920 Officejet Ink Cartridges:
(Shown L to R) HP 920XL Cyan, Magenta, Yellow,
HP 920 Black, HP 920XL Black

Q: what are the key features of this print system?

A: Innovative HP technologies including a single integrated printhead enables dual-drop weight color printing, individual ink cartridges and high capacity cartridge options work together to deliver finely-detailed graphics, and durable, professional-quality text at a low cost per page. This is ideal for home and small-business office professionals who require low print cost, with high quality, fast printing and excellent reliability. For more detail on these features:



- **Individual Ink Cartridges:** Customers will enjoy affordable printing with low-cost, individual ink cartridges, letting them replace each ink cartridge separately when it's needed. Original HP high capacity ink cartridges ensure fewer cartridge changes and a better value for frequent printing. Based on HP testing, HP 920XL Black Ink cartridge yields approximately 1200 pages; HP 920 Black Ink Cartridge yields approximately 420 pages and HP 920XL Cyan, Magenta and Yellow cartridges yield approximately 700 pages based on HP testing. Select regions will offer both standard and high-capacity color cartridges. For more information about HP ink cartridges and page yields, please visit: www.hp.com/go/learnaboutsupplies
- **Dual-drop volume printhead:** This technology allows customers to print high quality photos and graphics focused marketing materials comparable to systems requiring more ink colors, eliminates the need for lighter, photo dye-load inks, reducing image grain and increasing the available color gamut for photos and graphics on specialty coated papers. In dual-drop-volume modes, the printer can eject color droplets as small as 1.3 pl and as large as 5.5 pl. About 3.8 billion of these 1.3 picoliter droplets would fit in a teaspoon. The printer can fire any combination of these small or large ink droplets on a given print position—small and large droplets together, just small drops or just large. The size and combinations of ink droplets are determined by the printer in order to provide the optimum print quality and speed. Dual-drop-volume printing is used when printing photos and color graphics in Normal, Best and Maximum-dpi print modes on select HP photo and brochure papers².

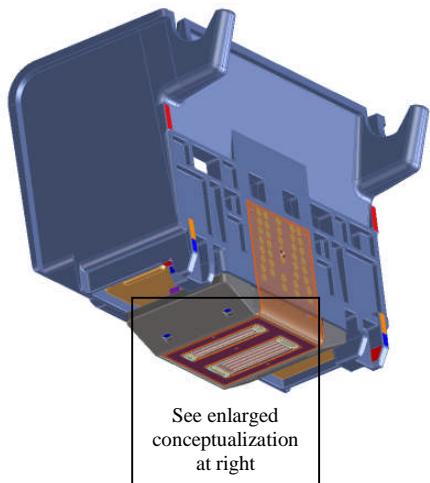


Micrograph of single-drop-volume image

Micrograph of dual-drop-volume image

- **Half-toning:** The HP Officejet 6500/6000 All-in-One uses high-quality, high-resolution half-toning to deliver enhanced gradient tones for smooth, uniform color output. Half-toning is the process used by inkjet printing systems to lay down different combinations of ink droplets, distributing small ink drops evenly, with minimal overlap between dots to create the range of colors seen on the printed page. Optimal dot-placement patterns are achieved using improved half-toning algorithms, updated for optimal performance with HP dual-drop-volume technology. HP advanced half-toning is utilized in all print modes.

- **Designed for quick print speeds:** The new printing system includes a resistor innovation that enables the 36kHz high-frequency firing speed. This resistor innovation also enables a high nozzle count—720 for black and 672 for each color—for a total of 2,736 nozzles. These tightly compacted nozzles (1,200 per inch) are capable of firing at 98 million drops per second, and delivering efficient speeds for plain papers such as those with the ColorLok® logo and coated paper such as HP Brochure Paper.



Printhead Configuration
Conceptualization only - Not to scale

Colors (Dye)	Black (pigment)																		
<table border="1"> <tr> <td>(A)</td><td>(B)</td><td>(A)</td><td>(B)</td><td>(A)</td><td>(B)</td> <td></td> <td>(C)</td><td>(C)</td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td> <td>Unused nozzles</td><td></td><td></td> </tr> </table>	(A)	(B)	(A)	(B)	(A)	(B)		(C)	(C)							Unused nozzles			
(A)	(B)	(A)	(B)	(A)	(B)		(C)	(C)											
						Unused nozzles													
<p>(A) Large nozzles - 5.5 picoliter (B) Small nozzles - 1.3 picoliter (C) 14.4 picoliter</p>																			

- **Long-life integrated print head:** The HP Officejet 6500/6000 printer uses a long-lasting, dual-drop-volume print head in a new, integrated design. The print head is built on silicon wafers using photolithography to maintain accuracy and alignment throughout the entire system. Closely integrated components enable precise, accurate drop placement for fast, high-quality printing and consistent, reliable results over the life of the product. Using Original HP ink cartridges and other system innovations help ensure reliable operation by preventing particles and air bubbles from entering the print head.
- **Smart Printing Technology:** Allows Original HP ink supplies to communicate directly with the printer, and ensures the cartridges receive the exact amount of energy required to fire the resistors. These precise adjustments in energy levels help prolong printhead life and maintain great print quality.

HP Smart Printing technology makes it easy for customers to monitor ink supplies with estimated ink-level status information and low-ink alerts. Using their printer software, customers can view graphical representations of estimated ink levels in installed cartridges, displayed in 10-percent increments. Low-ink alerts enable customers to plan



ahead and have replacement cartridges on hand.

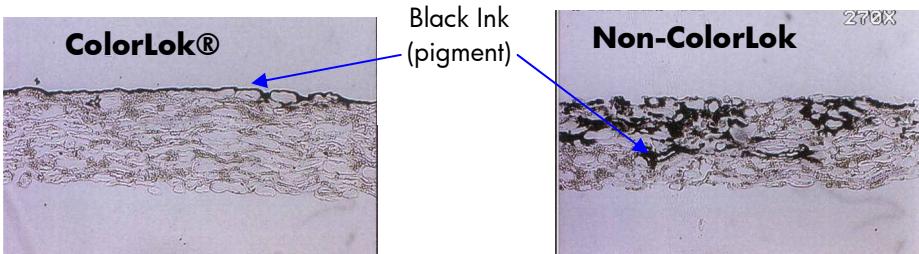
Q: What are the advantages of pigment black ink and color dye inks?

A: Versatile HP 920 Officejet inks are optimized for printing on plain papers, including ColorLok® papers, and coated papers such as HP Brochure Paper. HP 920 Officejet black ink is pigment-based and provides crisp, bold business-quality black text that resists water and smudging on plain paper, and will maintain black text quality for decades without fading in archived documents³. HP 920 Officejet color dye inks provide rich color for vivid color photos, charts and text. The neutral, non-acidic nature of the HP 920 Officejet inks helps prevent corrosion of the print heads, which enhances reliability and significantly extends the life of the print head.

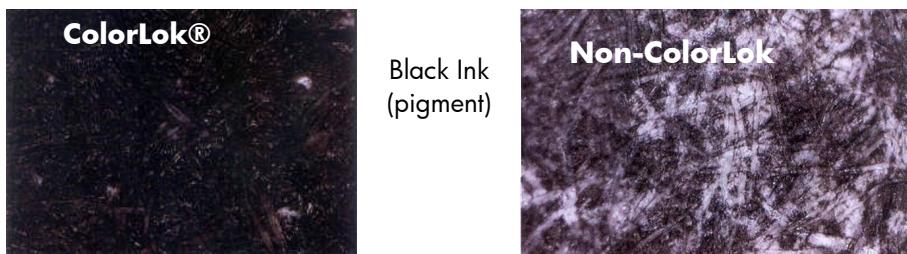
Q: Why are papers with the ColorLok® logo recommended for use with HP Officejet inks?

A: HP 920 Officejet black ink is pigment-based and is compatible with virtually all plain and specialty papers designed for inkjet printing. ColorLok® papers must pass a series of performance standards and include enhancement technologies that react with HP 920 Officejet black pigment ink to keep the ink colorants on the surface of the paper reducing the chance of black-to-color bleed and strike through resulting in crisp, bold black text.

As seen in the images below, the pigment black colorants remain on the surface of ColorLok® papers ensuring uniform coverage and bold blacks.



Non-Colorlok papers allow pigment inks to penetrate deep into the paper diffusing color and causing bleeding resulting in duller texts and graphics



Q4: Where are papers with the ColorLok® logo available?

A4: Papers with the Colorlok® logo are available worldwide through a variety major paper brands, including HP branded papers.

Recommended HP branded papers with ColorLok® include*:

- HP Bright White – 90 g/m²
- HP Premium Choice - 90 g/m²
- HP Color Inkjet Paper – 90 g/m²
- HP Office Paper – 80 g/m²
- HP Office Recycled Paper – 80 g/m²



*May not be available in all countries or regions

For more information visit www.colorlok.com; Look for papers with the ColorLok® logo shown above.

Q5: What papers are recommended for HP Officejet Pro 6500/6000 series?

A5: HP Officejet Pro 6500/6000 series AiO are broadly compatible with virtually all plain and coated papers designed for inkjet printing. HP recommends the full line of specialty HP inkjet business communication matte and glossy papers. With HP business communication papers HP Officejet printer users can create professional-quality documents and marketing materials.

At HP, our paper engineers work closely with the hardware design teams, so you can rest assured that when you use HP papers in your HP printer, you will always get the best results.

HP Business Communication Papers (coated papers)

HP Brochure Paper

(US, Canada, Latin America)

- 180 g/m²

HP Superior Paper 180

(EMEA, APJ)

- available in glossy or matte, and pre-scored Tri-fold version
- Sizes: 8.5x11, A4, 11x17, A3

HP Presentation Paper, matte

- 120 g/m²

HP Professional Paper 120

- A, A4

Q6: Are HP 920 Officejet Ink Cartridges recyclable?

A6: HP offers free and easy cartridge recycling through the HP Planet Partners program, available in 42 countries and territories around the world⁴. HP ensures that all collected HP print cartridges are recycled responsibly. HP never refills them, resells them or sends them to a landfill.

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¹ Majority of color laser AiOs < \$600 and printers < \$300, June 2008, OJ with highest-capacity cartridges. For details hp.com/go.officejet.

² Including HP Brochure and Flyer Paper, HP Premium Paper, HP Everyday Photo Paper and HP Advanced Photo Paper. Dual-drop volume is not used when printing in plain paper modes.

³ Based on paper-industry predictions for acid-free papers and Original HP inks; colorant stability data at room temperature based on similar systems tested per ISO 11798 and ISO 18909.

⁴ HP ink cartridge return and recycling is available in 42 countries and territories around the world, covering 88% of the addressable market; see www.hp.com/recycle for details

