

Understanding Ink and Laser Technology



Your ultimate choice of HP printers starts with understanding your business needs and priorities. To match these needs with solutions, it's also important to understand the range of HP printing technology. To begin, it helps to know the basics of ink and laser technology to compare the benefits each provides.

Inkjet basics

Several types of inkjet technology exist. The type HP pioneered and continues to advance is thermal inkjet technology (TIJ). TIJ-based printers use an array of tiny nozzles to create millions of ink droplets, placing them in precise combinations onto the paper or other print media.

HP has continuously perfected this technology to achieve superior print technology using up to 31 exceptionally small ink droplets to print a single dot. This enables an incredible range, or gamut, of colors to be created for very realistic results.

Traditionally, black ink (K) is provided via a single cartridge and cyan, magenta, and yellow (CMY) are combined to form a tri-color cartridge. While a non-business user generally uses this mix of colors at the same average rate, a business user may print certain colors more frequently, so single-color cartridges have become more common for economical business use.

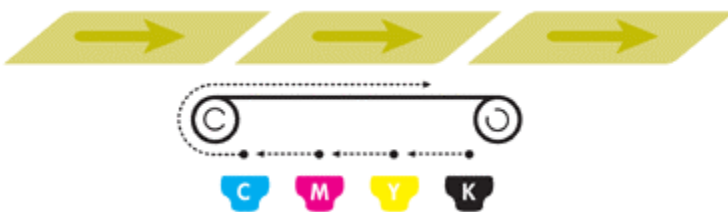


To further enhance speed, reliability and cost savings, today's business inkjet technology uses a modular ink delivery system. This system separates printheads from ink cartridges, allowing printheads to move more rapidly and ink cartridges to hold more ink. Smart chips in the printhead monitor ink use and printhead condition for consistently efficient, quality operation.

Paper type, also known as media, can have a dramatic effect on TIJ image quality. Based on needs, a variety of media may be chosen — from general office paper for economical high-volume printing to specially coated HP papers engineered for glossy, long-lasting, photo-quality results.

Laser basics

Laser printers apply lasers to a photoconductive drum at specific printer dot locations. Through this process, the drum is "imaged" with an electrical charge that attracts exacting combinations of toner particles to the drum for transfer to the printed page.



Multi-pass color laser printers use one imaging drum repeatedly for each CMYK color. A faster solution, single-pass, or in-

line, printers have four imaging drums allowing the page to be printed in one pass.

The final step of the laser process is fusing. A high temperature roller and a pressure roller melt then fuse the plastic toner particles to the paper. Due to the heat involved in this process, there is a more limited range of media supported for LaserJet printing than inkjet printing.

Comparing the technologies

Inkjet and laser technologies in HP printers are both designed for outstanding, efficient, reliable results for a variety of needs. The technology differences of each lend themselves to certain printing uses and needs. The table below outlines some of these. It's important to keep in mind that the latest products for either technology offer excellent business solutions across the board.

HP Inkjet technology	HP LaserJet technology
Excellent print quality, reliability, ease of use, and value	Excellent print quality, reliability, ease of use, and value
Great for specialty papers, wide format, and unique media types	Great for high-volumes and fast output of lengthy documents
Photorealistic image capabilities	High-yield consumables
No fuser or drum replacement costs	Multiple high-volume paper trays and finishing options
Generally smaller in size	