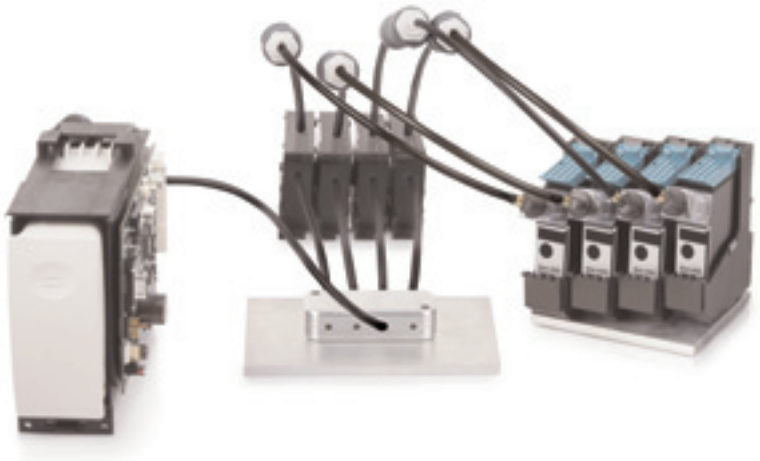
HP Bulk Ink Delivery System



The HP Bulk Ink Delivery System provides the flexibility to design products that require minimal operator intervention and deliver superior print quality on a wide variety of both coated and uncoated media.

Features

HP engineered this robust, flexible bulk ink delivery system with advanced features to meet the needs of high-volume print applications where superior print quality, low cost per copy, and minimal user intervention are required.

This system offers designers the opportunity to configure almost any combination of HP printheads and HP bulk ink cartridges to achieve the desired print capability. System components allow for:

- Easy mounting of ink cartridges
- Reliable ink delivery
- Electronic interfacing to the bulk ink cartridge
- Manifold design
- Ink level sensing

Using this system's advanced ink consumption signals, OEMs can, for example, design products that detect low ink levels or allow hot swapping of ink cartridges.

In addition, pressurizing the system (if needed) increases placement options for the ink cartridges when designing a product.

HP's proven ink portfolio delivers superior output on a wide range of both coated and uncoated media. Unlike solvent-based inks, HP's water-based inks do not require special venting hoods, chemical cleaners, or specially trained operators certified to handle and dispose of solvents. These inks also produce sharp, crisp output at high speeds without transfer or smearing.

Benefits

The HP Bulk Ink Delivery System combines all the great features of HP's proven inks with a robust and flexible bulk ink delivery system designed to meet the needs of high-volume printing applications.

- Large ink cartridges minimize operator interventions.
- Advanced electronic functions enable designers to build in ink level monitors and signals to ensure virtually uninterrupted printing during longer print runs.
- Printheads and ink cartridges can be changed independently, minimizing running costs.
- Ink cartridges that can be hot swapped, easy-to-replace printheads, and highly reliable connectors make for a robust system with maximum uptime.
- Modular design enables multiple configurations of printheads and ink cartridges to achieve a variety of print swaths.

Why choose HP?

HP is the worldwide leader in imaging and printing technologies. We bring our innovative, reliable, environmentally-responsible, and easy-to-use solutions to a variety of industrial markets. As pioneers of thermal inkjet printing, HP knows the technology inside and out.

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The HP Bulk Ink Delivery System combines design flexibility with proven inks and components to help OEMs develop products with a competitive advantage.

1:1 configuration

2:4 configuration

4:4 configuration

Modular design offers greater flexibility

The HP Bulk Ink Delivery System gives OEMs the flexibility to design the best solution for their customers—from systems with one ink cartridge feeding a single printhead to an entire bank of ink cartridges feeding an array of printheads. With each part available independently, this system enables OEMs to easily tailor their products to fit a wider set of printing applications, and benefit from quicker time-to-market and a higher return on investment. Modular design reduces development costs since large systems can be built up from multiples of a smaller product.

Bulk ink supplies and independent printheads reduce operating costs

Large volume ink cartridges (up to 350 ml) enable OEMs to design economical systems with longer print runs. Large ink cartridges not only reduce the cost of ink per cubic centimeter, but also require fewer operator interventions to keep a job running. In addition, printheads are separate from ink cartridges, so part changes have less impact on a running system.

A full suite of HP components shortens OEM development time

HP has taken much of the work out of designing a bulk inkjet printing system. This full suite of components—from specialized pressure regulators and electronic interface boards to penholders and connectors—enables OEMs to get a print engine up and running quickly. By offering proven HP reliability, they reduce product development time, as well as investment and tooling costs.

A portfolio of available inks works on a variety of media

HP's innovative water-based inks have a proven track record of compatibility with a wide variety of both coated and uncoated media. These water-based inks produce sharp, crisp output without the need for specialized solvents or chemical handling equipment. Fast drying time ensures high-quality output without transfer or smearing, and without sacrificing print speed.

HP provides engineering support and expertise

HP works with you to quickly create a configuration and design that is customized to meet your particular market needs for specialized application printing systems. To increase your success using our products, our application engineers are ready to answer your questions, help with integration issues, and provide general consulting during the design phase.

Printhead

Bulk ink cartridge

Technical specifications

	Printheads	Bulk ink cartridges
Resolution	600 dpi	Not applicable
Nozzle count	300	Not applicable
Maximum firing frequency	12 kHz	Not applicable
Approx. drop volume	29 pl	Not applicable
Avg. delivered ink	Up to 800 ml	175/350 ml
Operating conditions	10 to 40° C, 10 to 80% RH	10 to 40° C, 10 to 80% RH
Shipping/storage conditions	10 to 30° C, 5 to 80% RH Altitude: 0–5000 meters Orientation: nozzles down or horizontal. Up orientation requires pressurized system.	10 to 30° C, 5 to 80% RH Altitude: 0–5000 meters

HP Bulk Ink Delivery System

Separate components

Printhead Stall

This printhead stall is specially designed to hold and orient the printhead in high-performance printing systems. Its flexible design is suitable for a variety of printhead array configurations, and is appropriate for both stationary and moving printhead applications.

The stall's datum and alignment structure ensure accurate positioning of the printhead. This modular component supports a 0.5-inch swath width and 600 dpi thermal inkjet printing. Printheads can be snapped in and out of the stall for easy replacement.

Pen Driver Board

This printed circuit assembly (PCA) provides both the electrical and logical interface between the host printing system and the printhead. This component is designed to ensure proper operation, proper firing, and protection of the printhead. An application-specific integrated circuit (ASIC) on the PCA communicates with the host via a serial data interface and converts configuration and print data into printhead-specific firing signals. Onboard firing voltage regulation provides consistent firing energy, independent of print density. Firing energy is programmable to ensure optimal printhead performance and life.

Enclosed Regulator Assembly

This regulator assembly maintains the pressure and ink flow to the printhead. Because of its small size and enclosed design, it can be mounted and incorporated easily into any design. With this regulator in place, the bulk ink cartridge can be mounted some distance from the printhead, and management of backpressure and ink flow is handled automatically.

Ink Connectors

These ink connectors are specially designed to quickly disconnect for easy system operation. Their no-drip design maintains a clean operating environment, and air tight seals prevent air from entering the system when they are connected or disconnected.

IDS Interface Board

This electronic board mounts on the Modular Ink Supply Stall Assembly and enables access to ink level sensing and other advanced ink cartridge features. Each board controls up to four Modular Ink Supply Stall Assemblies. Incorporating this board into the design increases printing system functionality and reliability. For example, it can ensure ink cartridge compatibility, deliver "low ink" warnings, or enable hot swapping of ink cartridges.

Modular Ink Supply Stall Assembly

This component ensures easy mounting of the bulk ink cartridge, as well as proper electrical and mechanical connection every time the cartridge is changed. When multiple ink cartridges are required, simply snap together as many Modular Ink Supply Stall Assemblies as needed.

This convenient module includes everything you need to make all electrical and mechanical connections to the cartridge.

The Modular Ink Supply Stall Assembly includes these parts:

- ISS Connector Assembly, which enables electrical connection with the smart chip on the cartridge
- Ink Seal Assembly
- Ink Stall

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Frequently asked questions

Who are the ideal users of the HP Bulk Ink Delivery System?

Companies that design and/or produce printing devices for larger print runs and have a need for a robust, high-volume ink delivery system.

What are the key advantages of this system?

- Produces high-quality, light-fast and water-fast, sharp, crisp output on both coated and uncoated media. Print quality depends on the match between ink and media. HP suggests testing inks with the desired media set.
- Maximizes production uptime. Bulk ink cartridges not only last longer, but can be hot swapped so part changes have less impact on a running system.
- Enables designers to develop products with multiple printheads and ink cartridges. Because of the system's modular design, almost any desired print swath can be achieved.
- Eliminates the need for special solvent handlers, chemical cleaners, and expensive disposal systems.

Ordering information

Components	
Q2264A	OEM Printhead Stall
C8855B	OEM Pen Driver Board
Q2308-60001	OEM Enclosed Regulator Assembly
Q2309-60001	OEM IDS Interface Board
Q2308-60007	Modular Ink Supply Stall Assembly
5042-7013	Male Fluid Connector
5042-7014	Female Fluid Connector
5042-7015	Male Panel Mounted Fluid Connector
Replacement Parts	
Q2308-40001	Ink Stall
Q2308-60008	ISS Connector Assembly
C8861A	Ink Seal Assembly
Consumables	
Printheads	
Q2320A	Versatile Black Bulk Printhead and Connector Assembly
Q2324A	Red UV Fluorescent Bulk Printhead and Connector Assembly
Q2345A	Black 1918 Dye Bulk Printhead and Connector Assembly
Q2357A	Red Bulk Printhead and Connector Assembly
Q2382A	Blue 2242 Pigment Bulk Printhead and Connector Assembly
Q7456A	Black 4500 Pigment Printhead
Bulk ink cartridges	
Q2321A	Versatile Black 350ml Bulk Ink Cartridge
Q2325A	Red UV Fluorescent 175ml Bulk Ink Cartridge
Q2355A	Red UV Fluorescent 350ml Bulk Ink Cartridge
Q2346A	Black 1918 Dye 350ml Bulk Ink Cartridge
Q2358A	Red 350ml Bulk Ink Cartridge
Q2381A	Blue 2242 Pigment 175ml Bulk Ink Cartridge
Q2356A	Blue 2242 Pigment 350ml Bulk Ink Cartridge
Q7457A	Black 4500 Pigment Bulk Ink Cartridge

Contact information

To discuss inkjet technology OEM opportunities with HP:

- Go to **www.hp.com/oeminkjet** and send us an email message.
- Call 858-655-3524 and leave a voicemail message.
- Mail your inquiry to: Hewlett-Packard Company, Specialty Printing Systems, Mailstop 66-654,16399 West Bernardo Drive, San Diego, CA 92127, USA.

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