

# HP Versatile Black Bulk Ink System



The HP Versatile Black Bulk Ink System provides the flexibility to design products with minimal operator intervention and superior print quality on 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 Q2320A printheads and HP Q2321A bulk ink supplies to achieve the desired print capability. System components allow for:

- Easy mounting of ink supplies
- Reliable ink delivery
- Electronic interfacing to the bulk ink supply

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 supplies.

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

## Benefits

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

- The large ink supply minimizes 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 supplies can be changed independently, minimizing replacement costs.
- The modular design enables multiple configurations of printheads and ink supplies to achieve better print speeds and wider swaths for more efficient printing.

## Why choose HP?

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

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

## Modular design offers greater flexibility

The HP Versatile Black Bulk Ink System gives OEMs the flexibility to design the best solution for their customers — from systems with one ink supply feeding a single printhead to an entire bank of ink supplies 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 supplies (350 cc) enable OEMs to design economical systems with longer print runs. Large ink supplies 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 supplies, 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.

## Versatile Black ink works on a variety of media

HP's innovative Versatile Black ink has a proven track record of compatibility with a wide variety of both coated and uncoated media. This water-based pigmented ink produces 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.

## Technical specifications

	HP Versatile Black Bulk Printhead	HP Versatile Black Bulk Ink Supply
P/N	Q2320A	Q2321A
Description	OEM Printhead Blk	OEM Ink Supply Blk 350cc
Ink Type	Black pigmented aqueous ink	Black pigmented aqueous ink
Resolution	600 dpi	Not applicable
Nozzles	300	Not applicable
Maximum firing frequency	12 khz	Not applicable
Avg. drop volume	29 pl	Not applicable
Avg. delivered ink (ccs)	Not applicable	350
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: nozzle up or side	10 to 30° C, 5 to 80% RH Altitude: 0–5000 meters



Q2320A



Q2321A

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## 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 ensures 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. On-board 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 supply can be mounted some distance from the printhead, and management of backpressure and ink flow is handled automatically.

### IDS Interface Board



This electronic board mounts on the Modular Ink Supply station and enables access to ink level sensing and other advanced ink supply features. Incorporating this board into the design increases printing system functionality. For example, it can ensure ink supply compatibility, deliver "low ink" warnings, or enable hot swapping of ink supplies.

### Modular Ink Supply Station



This component ensures easy mounting of the bulk ink supply, as well as proper electrical and mechanical connection every time the supply is changed.

The Modular Ink Supply Station includes:

- The ISS Connector, which enables electrical connection to both the supply and the smart chip on the supply
- The Ink Seal Assembly

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

# HP Versatile Black Bulk Ink System

## Frequently asked questions

### Who are the ideal users of the Versatile Black Bulk Ink System?

Companies that produce 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.
- Reduces downtime so print volume is increased. Each bulk supply delivers almost 350 ccs versus the usual 40 ccs per print cartridge.
- Enables designers to develop products with multiple printheads and ink supplies. Because of the system's modular design almost any desired print swath or speed can be achieved.
- Eliminates the need for special solvent handlers, chemical cleaners, and expensive disposal systems.

### What are the advantages of HP Thermal Inkjet (TIJ) Technology?

- Cost-effective. Requires no warm-up cycle and no downtime. When it's time to replace a print cartridge, replace only the one that's needed.
- Easy to use. No special training is required to operate and maintain thermal inkjet printers. The print cartridge design allows it to be snapped in and out for easy replacement.
- Fast. Hundreds of tiny nozzles firing at a high frequency allow high-quality printing at high speeds.
- Reliable. TIJ is less sensitive to air bubbles in the firing chamber than other printing technologies, avoiding print quality problems and delays caused by trapped air.
- Flexible. Supports a wide variety of media.
- High quality. TIJ places smaller drops more accurately, producing consistently superb image and text quality.
- Environmentally safe. With thermal inkjet, there is no need for service technicians qualified to handle volatile solvents, and no noxious fumes.
- Lower cost of ownership. A thermal inkjet printer can cost tens to hundreds of thousands of dollars less than other printing equipment, reducing the market entry cost.

## Ordering Information

Components	
Q2264A	OEM Printhead Stall
C8855B	OEM Pen Driver Board
Q2308-60001	OEM Enclosed Regulator Assembly
Q2309-60001	OEM IDS Interface Board
Q2308-40001	Modular Ink Supply Station
Q2308-60007	Modular Ink Supply Stall Assembly
Replacement Parts	
Q2308-60008	ISS Connector Assembly
C8861A	Ink Seal Assembly
Consumables	
Q2320A	OEM Printhead Blk
Q2321A	OEM Ink Supply Blk 350cc

## Contact information

To discuss inkjet technology OEM opportunities with HP:

- Go to [www.hp.com/oeminkjet](http://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.