memjet®

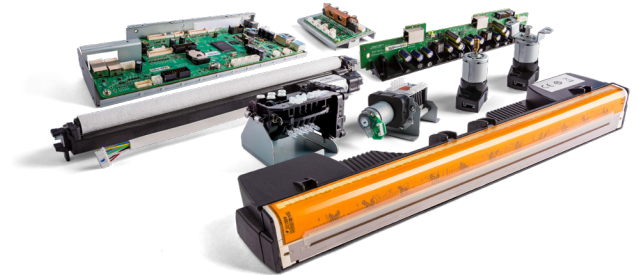*Beautiful Precision, Simplicity, and Affordability.*

The VersaPass® Platform

VersaPass is an aqueous dye-based, single-pass digital print system that delivers an unmatched combination of quality, speed and affordability. The platform's wide range of varying engine and component configurations enables OEMs to build printers and presses that address a variety of markets, from benchtop to wide format and commercial printing.

VersaPass Printhead

- 1 – 4 color printhead
- 1600 x 1600 dpi

Engines & Components

- Desktop, wide format & press engines
- Components set

VersaPass Inks

- Aqueous dye inks
- CMYK

Speed.

Memjet® VersaPass Technology printing systems bring blazing fast speed and simple integration, providing a fast time to market. The single-pass print technology enables fast print speeds even for entry level print solutions.

Simplicity.

VersaPass technology is a selection of print engines for a variety of print applications, and for faster OEM printer system design & development. A components set provides full flexibility for OEMs to create custom designs of benchtop and free-standing minipresses.

Profitability.

The variety of VersaPass engines allows for the design of entry level benchtop print solutions up to economical commercial printing presses as well as wide format printers for a variety of applications.

OEMs can design print solutions that fit the budget of their customers and which provide a highly competitive total cost of ownership.

VersaPass Applications

Office & Document

Labels

Mailing & Addressing

Wide Format

Packaging

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VersaPass Printheads

Memjet VersaPass printheads pack 70,400 nozzles into a 222.8 mm (8.77 in) wide 1,600 dpi printhead that can easily be configured to print one or four colors and can be used in 1-wide to 5-wide configurations. Memjet's efficient silicon structure enables the printheads to remain cost-effective and the single-pass print technology delivers an impressive combination of speed and image quality.

Printhead Main Features

1600 x 1600 dpi and a 1.2 pL drop size for excellent image quality.

Five independent ink channels allow for one or 4-color configurations.

222.8 mm (8.77 in) wide for fast single-pass printing.

VersaPass Inks

Excellent Printhead Reliability

VersaPass inks are aqueous dye inks customized to work with Memjet printheads. Advanced dyes have been chosen to achieve market-leading image quality and reliability at the high speeds of VersaPass engines and print components. The VersaPass printhead's microscopic 1.2 pL ink droplets typically absorb into substrates in milliseconds.

Print Quality

Scientifically formulated for excellent drop formation, controlled drop spread, & fast dry-time on media.

Environment

Comprised of more than 70% water, VersaPass Inks are safe to use and are environmentally friendlier than UV, solvent, or liquid toner inks.

Reliability

Designed to support Memjet VersaPass printhead reliability with first-rate print quality in four colors.

VersaPass Data Path

Memjet High-Speed Data Pipeline

Memjet's VersaPass printhead controller electronics work with the print engine components to ensure optimal interactions between printhead and ink. Running 70,400 nozzles between 9.6 kHz and 14.25 kHz operating frequency requires calculations of up to one billion pixels per second per printhead, calling for printhead electronics performance well above industry standards.

Memjet developed two VersaPass approaches for high-speed electronic control to match the range of OEM requirements, balancing affordability with performance:
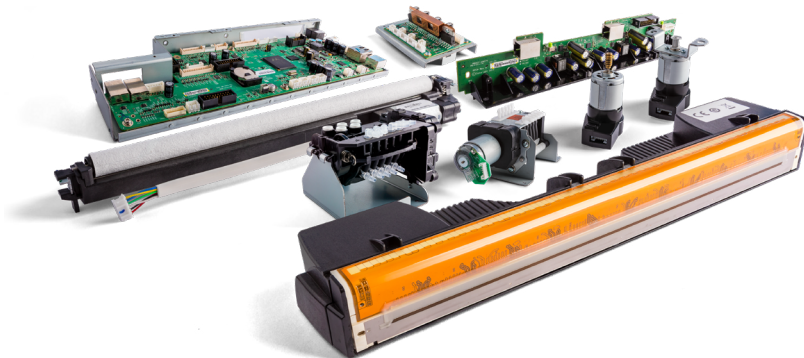
• ASIC, for multi-color printheads and a lower cost
• FPGA, for higher-performance, single-color printheads, as used in the VersaPass Press Engine

VersaPass Engines and Components Set

VersaPass print engines combine ink delivery, maintenance, component electronics, and under-printhead paper path in pre-configured engine designs that accelerate an OEM's whole product development. Three Memjet print engines provide the core for the range of printer systems.

The VersaPass Single Printhead Components Set enables single-printhead engine designs to be configured with above the web maintenance, flexible ink delivery options, and a partner-designed paper path.
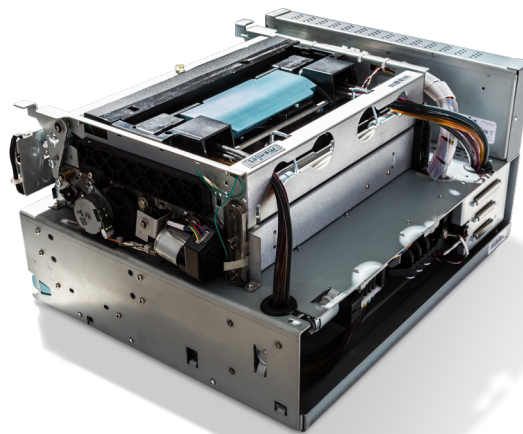
VersaPass Desktop Engine

Fast, high-resolution, on-demand color printing in a desktop footprint

The VersaPass Desktop Engine offers a compact solution and fast product development for a range of applications that deliver high print quality with low total cost of ownership. It enables affordable printing of envelopes, labels, sheets and forms, and is supported by an OEM's media handling system, which is custom-designed for specific applications.
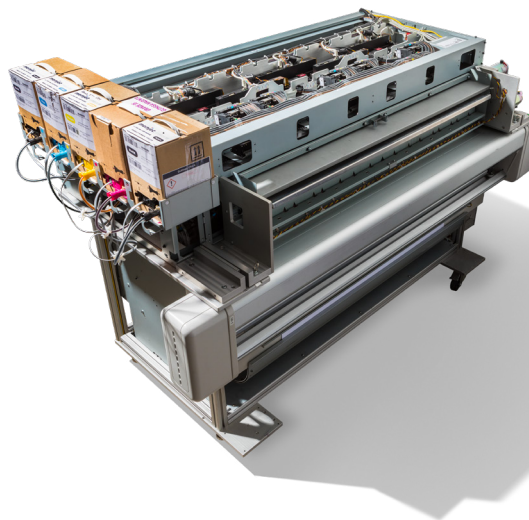
The VersaPass Desktop Engine includes a chassis/paper path, ink cartridges interface, ink delivery system, printhead interface with maintenance system, and electronics.

VersaPass Wide Format Engine

Fast and affordable printing up to 1067 mm (42 in) wide. The VersaPass Wide Format Engine brings composite color (CMYK) to full-sized architectural, engineering, and geographical information systems (GIS) documents. Wide format printer systems powered by VersaPass can also print indoor signage, packaging, like corrugated boxes and flexible packaging, and other large-scale documents, in seconds.
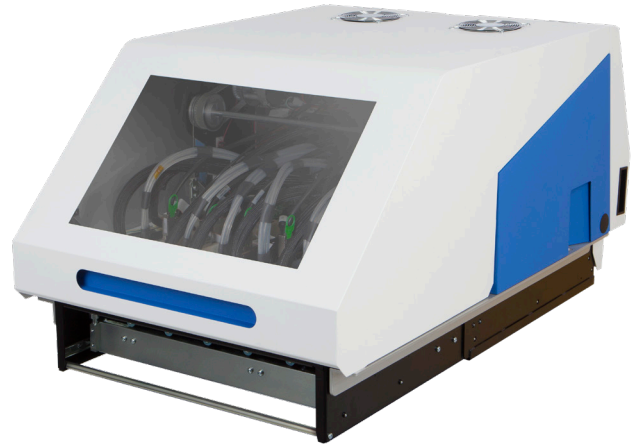
The Wide Format Engine supports five printheads and includes the ink delivery system, printhead maintenance components, and electronics with firmware.

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VersaPass Press Engine

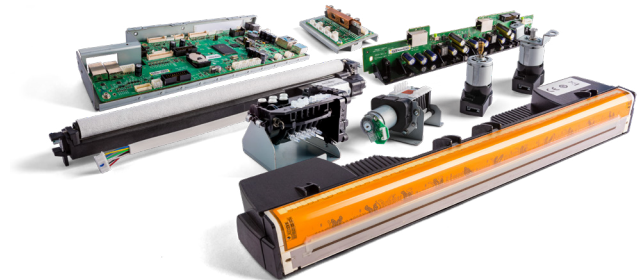*Affordable, high-speed commercial printing*

The VersaPass Press Engine has up to 5 one-color printheads and nozzle redundancy enabling high-speed printing for production applications. The print engines can be configured in single-engine, 2-engine, and 4-engine systems for simplex, stitched images and duplex printing. The VersaPass print engine provides capping, cleaning, vertical motion control, ink management, and datapath.

VersaPass Components Set

Flexibility to design custom benchtop printers and freestanding minipresses

The design flexibility of the VersaPass Components Set makes it an ideal starting point for developing products that support affordable printing of small format unfolded boxes and cartons, labels, envelopes, thick objects like padded envelopes and even ready-for-shipment folded boxes.With two options for the ink delivery system (IDS) - either active or passive – the VersaPass Components Set consists of a single printhead for full-color printing plus components for printhead maintenance and electronics.

VersaPass Printheads

	Desktop	Wide Format	Components Set	Press Engine
• Printhead type:	4-color, user replaceable	4-color, user replaceable	4-color, user replaceable	1-color, user replaceable
• Print width:	222.8 mm (8.77 in)	1067 mm (42 in)	222.8 mm (8.77 in)	Single 222.8 mm (8.77 in) Stitched 432 mm (17 in)
• Printheads per engine:	1	5	1	5
• Number of nozzles:	70,400	70,400	70,400	70,400
• Nozzle redundancy:	1	1	1	5
• Drop size:	1.2 pL	1.2 pL	1.2 pL	1.2 pL
• Resolution:	1600 x 1600 dpi and 1600 x 800 dpi	1600 x 1600 dpi and 1600 x 800 dpi	1600 x 1600 dpi and 1600 x 800 dpi	1600 x 1375 dpi, 1600 x 1135 dpi, 1600 x 725 dpi, 1600 x 555 dpi
• Print speed:	Up to 304 mm/sec (12 in/sec)	Up to 304 mm/sec (12 in/sec)	Up to 304 mm/sec (12 in/sec)	Up to 207.6 m/min (681 ft/min)

VersaPass Inks

	Desktop	Wide Format	Components Set	Press Engine
• Ink type:	Aqueous dye inks	Aqueous dye inks	Aqueous dye inks	Aqueous dye inks
• Colors:	CMYK or CMYKK	CMYK or CMYKK	CMYK or CMYKK	YSCMK
• Media:	Compatible with a wide range of uncoated paper, inkjet treated and inkjet coated matte and glossy substrates	Compatible with a wide range of uncoated paper, inkjet treated and inkjet coated matte and glossy substrates	Compatible with a wide range of uncoated paper, inkjet treated and inkjet coated matte and glossy substrates	Compatible with a wide range of uncoated paper, inkjet treated and inkjet coated matte and glossy substrates
• Available ink tanks:	250 mL (0.26 qt)	2 L (2.1 qt) or 10 L (2.7 gal)	250 mL (0.26 qt) for passive IDS or 2 L (2.1 qt) for active IDS	10 L (2.7 gal) or 55 L (14.5 gal)
• Regulatory:	With a formulation comprised of ~70% water, Memjet VersaPass Inks are safe to use and are friendlier to the environment than UV, solvent, or liquid toner inks. The formulations do not contain any HAPs (hazardous air pollutants), SVHCs (Substances of Very High Concern per REACH), or toxic metals as regulated by RoHS.			

VersaPass Datapath

• ASIC based for ease of use and optimized cost

• FPGA for high-performance dot-to-dot control of print data from raster image processors

Operating Environment

• Operating temperature range: 15 - 35 °C

• Storage temperature range: 5 - 45 °C

• Operating humidity range: 20% - 80% RH

• Non-operating humidity range: 5% - 95% RH

To learn more about Memjet's VersaPass Technology, contact your Memjet representative or visit www.memjet.com

Learn More At
memjet.com/technology/versapass

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