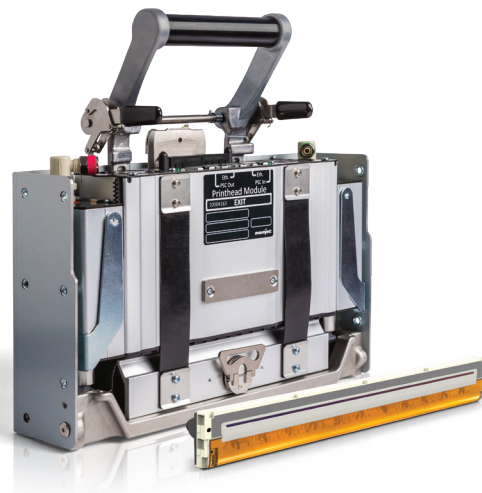


## The DuraLink® Platform

DuraLink is a pigment-based, flexible, durable, and scalable modular print system with single-pass 5x redundant MEMS array printheads that allows OEMs to build digital printing systems for a wide range of commercial, packaging, and industrial printing applications to enable fast printing with market leading durability and image quality.



### DuraLink Printhead

- 5x nozzle redundancy
- Up to 203.6 m/min (668 ft/min)

### DuraLink Module Set

- Printhead module
- OEM component controller interface

### DuraLink Inks

- CMYK + OGV
- Aqueous pigment inks

## Speed.

With print speeds capable of 203.6 m/min (668.1 ft/min), DuraLink was designed to meet the demands of high-volume commercial, packaging, and industrial print applications while delivering stunning image quality. DuraLink's high speed is achieved with industry-leading 1600 dpi resolution and 5x nozzle redundancy to ensure quality.

## Simplicity.

DuraLink technology is not only a printhead, but a flexible set of modules designed for fast integration and ease of use. The modular technology provides OEMs the fastest time to market, lowest development costs and the ultimate flexibility for different media handling configurations including both roll-fed and cut-sheet applications.

## Profitability.

DuraLink is a robust printing technology providing OEMs with a solid solution for a wide range of applications. DuraLink powered solutions provide a strong ROI thanks to long-life MEMS thermal printheads that are easily replaced by end-users in minutes, aqueous pigment inks, and a complete set of ready-to-integrate modules that help OEMs get their solutions to market fast.

## DuraLink Applications



Commercial Print



Packaging



Labels

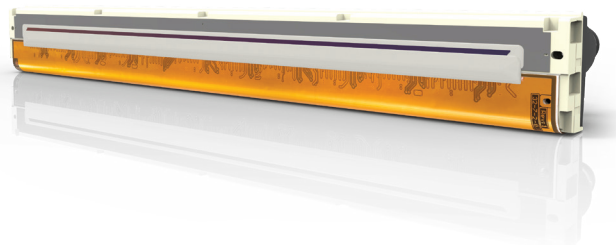


Mailing &amp; Addressing

## DuraLink Printheads

### *Designed for Quality & Modularity*

The DuraLink printhead is based on Memjet's printhead technology, leveraging decades of research and innovation. The printhead has been engineered to deliver increased speed, outstanding image quality and longer life in a 222.8 mm (8.77 in) width, which can be stitched together for wide format applications. Single-color print bars can be integrated in monochrome, CMYK, and CMYKOGV in both simplex and duplex configurations.



### *Printhead Main Features*

1600 dpi and a 2.1 pL drop size enables market-leading image quality.

A single-color long-life printhead with built-in 5x nozzle redundancy assures a compact print system with low intervention rates.

222.8 mm (8.77 in) printheads can be stitched together for a maximum width of 2.5 m (100 in).

## DuraLink Inks

### *Long Life & Reliability*

Custom polymers (dispersants), designed for long printhead life and broad media compatibility, are combined with base colors to produce the pigment dispersion. The particle size is controlled during dispersion to optimize color properties, fade resistance and good jet-ability from the printhead.



### *Print Quality*

The standard DuraLink CMYK ink set provides competitive gamut and image quality with best-in-class text quality for multiple markets/applications. Additional OVG (orange, green, violet) colors are available to expand color gamut further to handle more applications including packaging and photo.

### *Media Compatibility*

The standard DuraLink ink set provides excellent durability performance including resistance to water, light, ozone and abrasion across a wide range of media from plain papers to high-quality inkjet glossy substrates.

### *Reliability*

DuraLink inks are designed for superb reliability in DuraLink systems enabling long ejection and installed life of the DuraLink printhead.

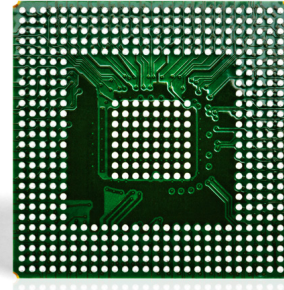
### *Environment*

DuraLink Inks are water based making them safer to use and more environmentally friendly than UV, solvent, or liquid toner inks. The formulations do not contain any SVHCs (Substances of Very High Concern per REACH) or toxic metals as regulated for RoHS.

## DuraLink Data Path

### Memjet High-Speed Data Pipeline

The DuraLink print data pipeline provides high-speed, uncompressed, dot-level control of print data streams, from the RIP to the printheads for each color. The custom FPGA is designed for high-performance, single-color printheads. This chip supports dot-level control of the print data for extraordinary printing speeds (up to 203.6 m/min / 668.1 ft/min), from raster image processor (RIP) to the printhead.



## DuraLink Modules

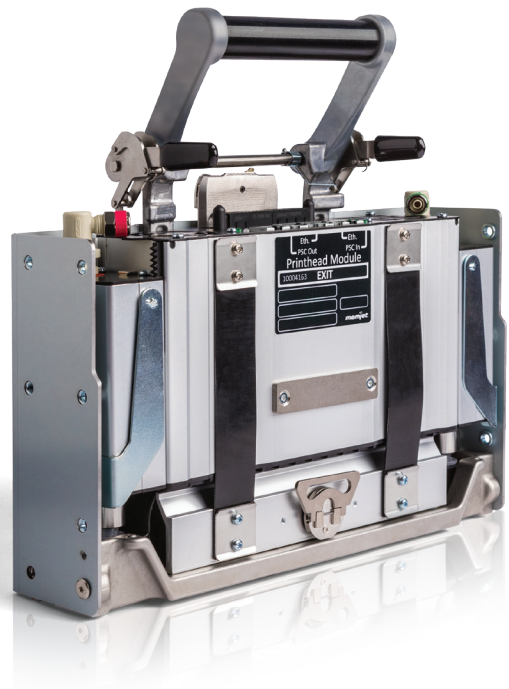
Memjet's modular technology simplifies the OEM development process. The modular architecture significantly reduces the OEMs' development timeline and costs, while providing the ultimate flexibility for different media handling configurations such as cut sheet, roll to roll, or belt driven applications.

### Print Module

The Printhead Module (PHM) provides the fluidic (ink), mechanical, and electrical connections to the printhead. It contains the electronics necessary to distribute the print data, fire the print nozzles, and control the Maintenance Module associated with it.

The Printhead Module mounts a single DuraLink Printhead inside a Printhead Module Nest to provide a repeatable and stable position for printing. When mounted in a suitable chassis, an array of Printhead Modules can be accurately positioned at the correct spacing from the media to ensure the best print quality for any configuration. The Printhead Module also contains the control systems that communicate with the Print Engine Supervisor Module, allowing the operator control over print and maintenance functions, including the DuraLink Maintenance Module.

The Printhead Modules, in conjunction with the Printhead Module Nests, are mounted to a Print Zone chassis, which moves vertically from print standby to print ready. The Print Zone Chassis is an OEM-supplied component that allows each OEM to quickly develop a printer to the width needed for their custom use.



## Maintenance Module

DuraLink Maintenance Module is a multi-function component that prepares the printhead for printing and protects the printhead when it is not in use. Wiper and Cap Assembly are user-replaceable components.



## Printhead Module Nest

The Printhead Module Nest assures proper printhead module positioning. The Printhead Module Nest, in conjunction with the Print Zone Chassis, secures the printheads in the printing position reliably and within known tolerances.



## Ink Supply Module

The Ink Supply Module pulls ink from a bulk ink supply and distributes it to the Printhead Modules (up to 12) at controlled pressures. It filters and degasses the ink. It contains an intermediate reservoir to allow printing to continue uninterrupted while the replaceable ink tank is replaced.



## **Print Engine Supervisor Module**

The Print Engine Supervisor Module runs the Print Engine Supervisor software, which is provided by Memjet to coordinate all activities of the various modules that comprise a DuraLink print system. It also maintains the Quality Assurance Infrastructure (QAI), which ensures that only the correct DuraLink and OEM-branded equipment and supplies can be used in a DuraLink print system.

---



## **Aerosol Management Module**

The Aerosol Management Module applies vacuum to the aerosol manifold on each Print Bar to provide the required negative pressure to each aerosol nozzle. The Aerosol Management Module separates the waste ink aerosol from the airflow and exhausts the extracted air.

---



## **Waste Ink Maintenance Module**

The Waste Ink Maintenance Module receives waste ink from the print module's printhead wiper and printhead cap for disposal to the system waste tank.



## Available Modules/Components

- |                                  |  |
|----------------------------------|--|
| • Printhead module               | • OEM component controller interface                         |
| • Maintenance module             | • Print bar interface module                                 |
| • Ink delivery system module     | • Ink quality assurance (dongle dock module)                 |
| • Waste ink maintenance module   | • Print engine supervisor software interface for OEM control |
| • Aerosol management module      | • Reference design Printer Control System                    |
| • Print engine supervisor module | • Job submission library for use with OEM-supplied RIP       |

## DuraLink Printheads

- |                               |  |
|-------------------------------|--|
| • Printhead type:             | Single-color, user-replaceable                                     |
| • Print width:                | 222.8 mm (8.77 in)   |
| • Number of nozzles:          | 70,400   |
| • Nozzle redundancy:          | 5-times  |
| • Drop size:                  | 2.1 pL   |
| • Resolution:                 | 1600 dpi (width) x 1585, 1260, 790, 560 (user selectable by speed) |
| • Print speed:                | Up to 202.8 m/min (668 ft/min)                                     |
| • Printhead to paper spacing: | 0.7 mm   |

## DuraLink Inks

- |               |  |
|---------------|--|
| • Ink type:   | Aqueous pigment inks   |
| • Colors:     | CMYK + OGV   |
| • Media:      | Compatible with a wide range of uncoated, inkjet treated and inkjet coated matte and glossy substrates   |
| • Regulatory: | DuraLink inks are free of reactive chemistries, hazardous UV ink components such as 4-methylbenzophenone or benzophenone, phthalate esters, bisphenol-A (BPA), mineral oil aromatic hydrocarbons (MOAH), and contain no Prop 65 substances above Safe Harbor limits. |

## DuraLink Datapath

- |                      |  |
|----------------------|--|
| • Pipeline:          | Custom FPGA and embedded software/firmware to RIP PDF files for printing                   |
| • Optional Pipeline: | Optional pipeline for OEM-supplied RIP and dot-to-dot control of print stream to printhead |

## Operating Environment

- |   |   |
|---|---|
| • Operating temperature range: 15 - 30 °C | • Storage temperature range: -5 - 45 °C     |
| • Operating humidity range: 35% - 80% RH  | • Non-operating humidity range: 5% - 95% RH |

To learn more about Memjet's DuraLink Technology, contact your Memjet representative or visit [www.memjet.com](http://www.memjet.com)

 **Learn More At**  
[memjet.com/technology/duralink](http://memjet.com/technology/duralink)

 **For Inquiries Contact**  
[info@memjet.com](mailto:info@memjet.com)

 **Memjet**  
10918 Technology Place  
San Diego, Ca 92127