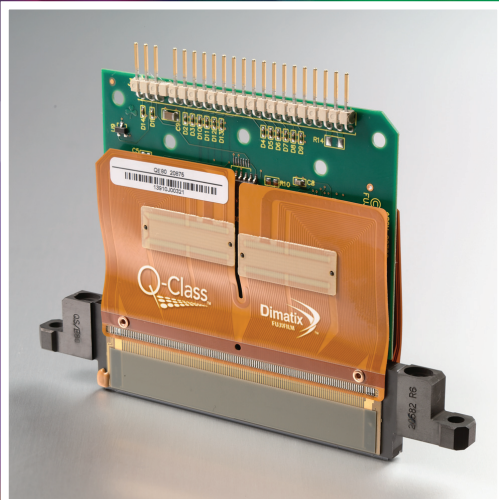


# Emerald QE-256/80 AAA

256-Channel  
Inkjet Printhead



Emerald QE-256/80 AAA

## Features:

- 80 picoliter nominal drop size
- 256 individually addressable, inline nozzles
- Incorporates VersaDrop™ binary and grayscale jetting modes
- Excellent channel-to-channel uniformity
- High frequency continuous operation
- Precise alignment features facilitate drop-in replacement
- Lightweight with thin profile
- Supports UV-curable, solvents and aqueous-based inks
- Integral temperature sensor
- Dual-ported with minimal wetted surface area
- OEM accessible non-volatile memory area for tracking purposes
- Easy to integrate

*The Performa™ Emerald QE-256/80 AAA printhead combines precise jetting with versatile grayscale operation. Using a durable field proven nozzle plate, its lightweight, thin-profile and configurable design supports a wide range of ink types with broad operational latitude to accommodate variations in jetting properties making this printhead ideal for scanning printer architectures.*

Dimatix continues building upon its long history of excellent dot placement accuracy, channel-to-channel uniformity, low cross talk, and high-frequency/high-productivity with the Q-Class Sapphire printhead family.

The Emerald QE-256/80 AAA printhead features 256 independent channels, arranged in a single row of nozzles at 100 dots-per-inch spacing. It is designed to eject adjustable 80 to 200 picoliter drops in binary jetting mode or a 80-picoliter fundamental drop in grayscale mode. This is done at a nominal 8-meter per second drop velocity when jetting fluids in the 10 to 14 centipoise range.

Dimatix' breakthrough VersaDrop™ jetting technology is featured within the Emerald QE-256/80 AAA printhead. It allows unparalleled flexible modes of operation including adjustable binary drop size and grayscale capability at unprecedented throughput rates.

The rugged, field proven material set selected for the Emerald QE-256/80 AAA printhead deliver long service life and consistent output.

Robust field proven metal nozzle plate technology provides precise drop placement accuracy of a wide variety of ink types, including UV-curable, solvent and aqueous, plus the broadest operational latitude to accommodate variations in ink jetting properties.

Precision registration points have been added to the printhead to provide absolute reference to the nozzles to within a few microns. This makes it possible to nest printheads together for high packing densities.

Shared physical features and identical interfaces as other Q-Class products allow the Emerald QE-256/80 AAA to be intermingled with the same or complementary printhead models to create a multitude of single and multiple-color configurations.

Each 256-channel Emerald printhead is offered with an integral temperature sensor and a configurable, dual-ported fluid interface comprised of O-ring face mounts or barbed fittings to facilitate fast flushing or recirculation of inks.

Printhead operational temperature can be up to 90° C. The driver chip is double buffered to support the Emerald QE-256/80 AAA high-speed jetting capability.



[www.dimatix.com](http://www.dimatix.com)

Parameter	Emerald QE-256/80 AAA
Number of addressable jets	256
Print width	64.77 mm [2.550 in.]
Nozzle spacing	254 microns [0.010 in.] (100 dpi)
Typical jet straightness, 1 sigma*	1.5 mrad [0.085°]
Typical drop velocity variability, 1 sigma*	5%
Ink operating temperature range	up to 90° C [194° F]
Fluid viscosity range (at jetting temperature)	8 - 20 cP (10 - 14 cP recommended)
Compatible jetting fluids	UV curable, organic solvents, aqueous inks

**BINARY OPERATION:**

Adjustment for drop size	80 - 200 picoliters						
Productivity	<table border="1"> <thead> <tr> <th>Drop Size</th> <th>Maximum Frequency</th> </tr> </thead> <tbody> <tr> <td>80 pl</td> <td>20 kHz</td> </tr> <tr> <td>200 pl</td> <td>8 kHz</td> </tr> </tbody> </table>	Drop Size	Maximum Frequency	80 pl	20 kHz	200 pl	8 kHz
Drop Size	Maximum Frequency						
80 pl	20 kHz						
200 pl	8 kHz						

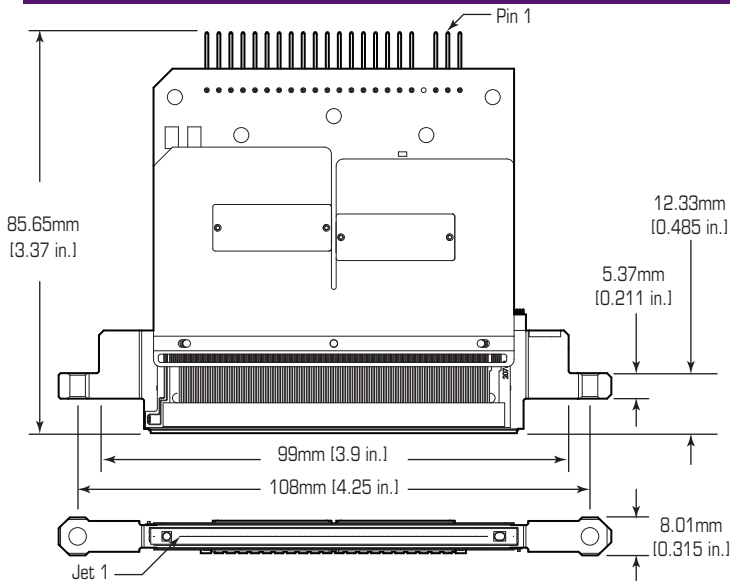
**GRAYSCALE OPERATION:**

Number of levels	up to 4				
Fundamental drop size	80 picoliters				
Productivity	<table border="1"> <thead> <tr> <th>Largest Drop Size</th> <th>Maximum Frequency</th> </tr> </thead> <tbody> <tr> <td>200 pl</td> <td>8 kHz</td> </tr> </tbody> </table>	Largest Drop Size	Maximum Frequency	200 pl	8 kHz
Largest Drop Size	Maximum Frequency				
200 pl	8 kHz				

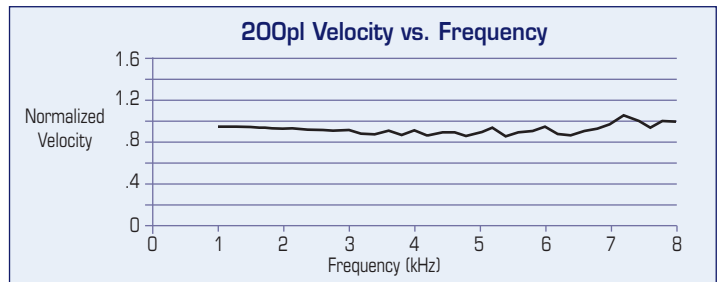
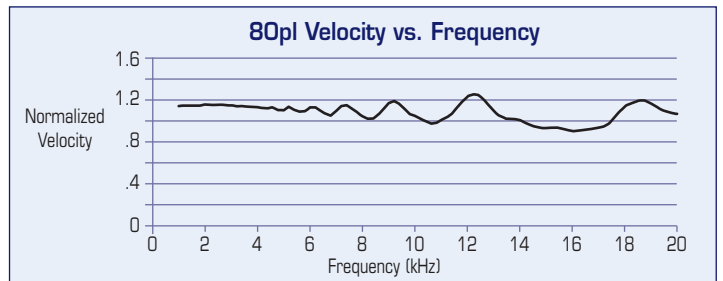
OEM accessible non-volatile memory	Two 256-bit pages, write once
------------------------------------	-------------------------------

\*at constant frequency

**Physical Characteristics**



**Jetting Characteristics**



Product data presented above are for guideline purposes only. For design and engineering work using this product, please contact Dimatix Technical Support for the appropriate Product Manual containing full Product Specifications.



**Corporate Office:**  
FUJIFILM Dimatix, Inc.  
2230 Martin Avenue  
Santa Clara, CA 95050  
USA

Tel: (408) 565-9150  
Fax: (408) 565-9151  
Email: info@dimatix.com

**New Hampshire Facility:**  
FUJIFILM Dimatix, Inc.  
109 Etna Road  
Lebanon, NH 03766  
USA

Tel: (603) 443-5300  
Fax: (603) 448-9870  
Email: info@dimatix.com

**Japan Office:**  
Advanced Marking Business Division  
FUJIFILM Corporation  
Midtown West, 7-3, Akasaka 9-Chome  
Minato-ku, Tokyo 107-0002  
Japan

Tel: +81 3 6271 1091  
Fax: +81 3 6271 1165  
E-mail: front.ambd@fujifilm.co.jp

**European Office:**  
Tel: +44 7739 863 505  
Fax: +44 870 167 4328  
Email: euro@dimatix.com

**Korean Office:**  
Tel: +82 2 6242 6012  
Fax: +82 2 6247 6012  
Email: korea@dimatix.com

**China Office:**  
Email: china@dimatix.com