

Sapphire QS Printheads

**256-Channel
Inkjet Printhead**



Sapphire QS Printhead

Features:

- Advanced Micro-Electro-Mechanical Systems (MEMS)
- Up to 80 picoliter nominal drop size
- 256 individual addressable nozzles
- Incorporates VersaDrop™ grayscale jetting capability
- Excellent channel-to-channel uniformity
- High frequency continuous operation
- Precise alignment features facilitate drop-in replacement
- Lightweight thin profile
- Supports UV-curable, solvent, and aqueous-based inks
- Integral temperature sensor
- Operation up to 90°C (194°F)
- OEM accessible non-volatile memory area for tracking purposes
- Easy to integrate

The Q-Class Sapphire QS high performance inkjet printheads are designed for a broad range of industrial and commercial printing applications at resolutions of 100 dpi. This printhead combines the reliability and robustness of the Galaxy and Nova with the latest in MEM's technology for precision drop formation, speed, and placement. The QS is ideal for UV and aqueous based wide format printers built for demanding production environments.

Fujifilm Dimatix continues to build upon its long history of printhead reliability and performance. The Sapphire QS family of printheads use field proven materials and a robust design to deliver a long service life and consistent output.

The Sapphire QS Printheads have 256 independent channels arranged in a single row at 100 dpi spacing for single color operation. The printheads are designed for grayscale jetting using a 10, 14, 30, or 80 picoliter native drop size depending on the printhead, with 8-meters per second nominal drop velocity for jetting fluids in the 8 to 20 centipoise range. Using VersaDrop jetting technology, the printhead is capable of adjustable grayscale operation at drop sizes up to 200 picoliters.

Dimatix' breakthrough VersaDrop jetting technology is featured within the Sapphire QS printhead. It allows unparalleled flexible modes of operation including adjustable binary drop size and grayscale capability at unprecedented throughput rates.

The Sapphire QS Printhead is compatible with a broad range of inks, including UV-curable and aqueous inks and associated maintenance fluids.

The unique design of Sapphire QS Printhead allows each 256-channel module to be replaced and accurately registered in the field with no special tools or recalibration. An integral mounting bezel with precision registration points enables drop-in alignment with other carriage features.

The electrical connector contains eight serial data lines that support fire frequencies up to 50 kHz.

Each 256-channel QS module is dual ported to facilitate easy priming, flushing and ink recirculation. The printhead features single color operation and is available with barbed ink ports or O-rings depending on user preference. Printhead operational temperature can be up to 90° C. The driver chip is double buffered to support the Sapphire QS high-speed jetting capability.

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FUJIFILM Dimatix is the world leader in the manufacture of drop-on-demand inkjet products and technologies with over 1,000 patents since its inception as Spectra Corporation in 1985. We provide exceptional products and customer support.

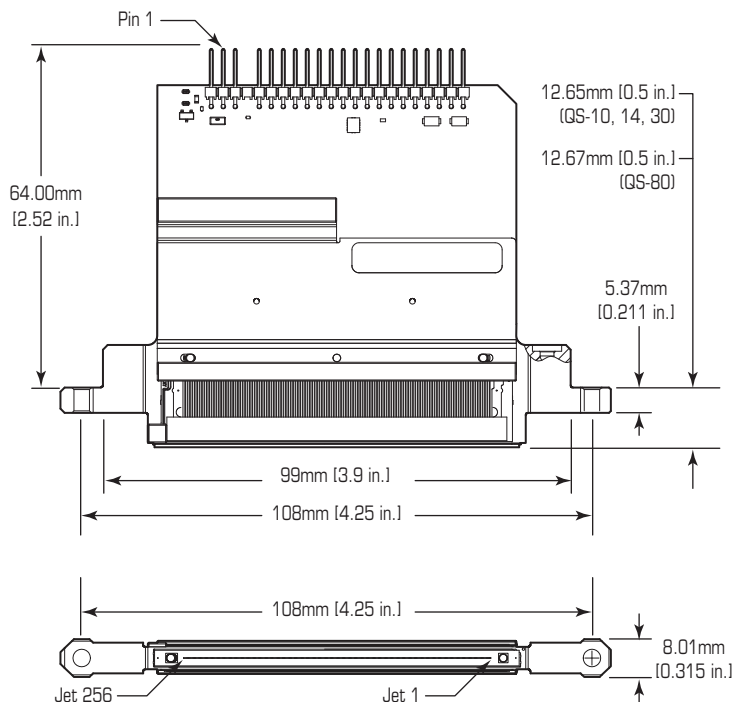
Parameter

Number of addressable Jets per module
Print width
Native resolution
Native drop size
Largest drop size
VersaDrop Max Productivity
Firing frequency
Inkjet operating temperature range
Nominal fluid viscosity
Compatible jetting fluids
Nozzle Plate technology
OEM accessible non-volatile memory
Integral temperature sensor

Sapphire QS Printhead

256
64.77 mm (2.55 inches)
100 dpi
See chart below
See chart below
See chart below
See chart below
Up to 90° C [194° F]
8-20 cp (10-14 recommended)
UV-curable, organic solvents, aqueous
Silicon
Two 256-bit pages, write once
Included

Physical Characteristics



Sapphire QS Printhead Models

Sapphire QS Printhead Model	QS-10	QS-14	QS-30	QS-80
Native Drop Size	10 pl	14 pl	30 pl	80 pl
Largest Drop Size	30 pl	42 pl	80 pl	200 pl
VersaDrop Max Productivity	500 ng-kHz with drop sizes between 10 and 30 ng	700 ng-kHz with drop sizes between 14 and 42 ng	1000 ng-kHz with drop sizes between 30 and 80 ng	1600 ng-kHz with drop sizes between 80 and 200 ng
Firing Frequency	50 kHz	50 kHz	33 kHz	20 kHz

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.

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Corporate Office:
FUJIFILM Dimatix, Inc.
2250 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:
FUJIFILM Corporation
7-3, Akasaka 9-chome
Minato-ku, Tokyo 107-0052
Japan
Inkjet Business Division
Tel: +81 3 6271 3971
Email: dgi-fj-head@fujifilm.com

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

Korea Office:
Email: mdkorea@dimatix.com

Taiwan Office:
Email: mdtaiwan@dimatix.com

China Office:
FUJIFILM Dimatix China Service Center
Building 30, 1000 Jinhai Road
Pudong New Area, Shanghai
China 201206
Email: china@dimatix.com

Singapore Office:
Email: mdsingapore@dimatix.com

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