

Galaxy PH 256/50 AAA

## Features:

- 50 picoliter calibrated drop size
- 256 individually addressable, inline nozzles
- Excellent jet straightness
- Excellent channel to channel uniformity
- High frequency continuous operation
- Head Interface Board for serial data transmission
- Ink reservoir, deaeration system, and fluid filter
- Ink level sensor
- Permits high viscosity jetting fluids
- Orientation independent
- Designed for long service life
- Temperature control
- Compatible with aqueous fluids

*The Spectra® Galaxy PH 256/50 AAA is a high performance, robust and reliable printhead designed for a broad range of industrial and commercial printing applications such as wide format graphics, addressing, and packaging at resolutions up to 600 dpi.*

The Galaxy Printhead 256/50 AAA is an ink jet print-head offering complete fluid support and signal processing capabilities for a wide range of jetting fluids.

Within the printhead's jetting assembly, four electrically independent piezoelectric slices, each with 64 addressable channels, are combined to provide a total of 256 jets. The nozzles are arranged in a single line at a 0.010 inch distance between nozzles.

The jetting assembly contains serial-to-parallel converters for selecting which jets to fire. The channels are daisy-chained into two serial data streams using the Head Interface Board. A high-voltage fire pulse with controlled slew rates is used to actuate the pumping chambers within each channel.

The fluid interface is through the on-head reservoir, which has an integrated filter and fluid level sensor. This permits tight control over the fluid supply and also helps maintain a meniscus vacuum, used to prevent fluid weeping and air ingestion at the nozzles. An additional pneumatic interface allows for an external deaeration vacuum (incorporating Dimatix's patented lung technology).

For thermal control, a heater cartridge and thermistor temperature sensor are built into the printhead's jetting assembly.

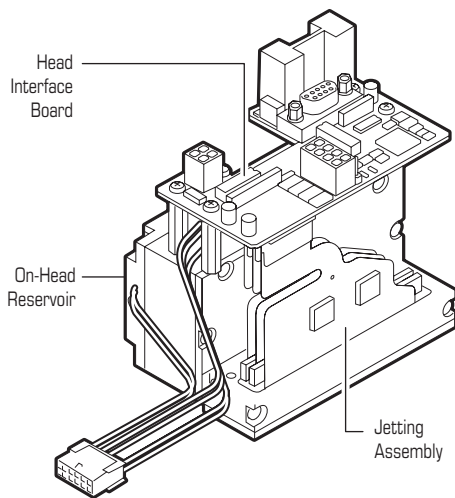


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Parameter	Galaxy PH 256/50 AAA
Number of addressable jets	256
Nozzle spacing	254 microns [0.010 in.]
Nozzle diameter	42 microns
Calibrated drop size	50 picoliters
Adjustment range for drop size	45 - 55 picoliters
Drop size variation, 1 sigma*	5%
Jet straightness, 1 sigma	5 mrad [0.29°]
Nominal drop velocity	8 m/sec
Drop velocity variation, 1 sigma*	5%
Crosstalk, maximum	5%
Operating temperature range	up to 90°C [194°F]
Fluid viscosity range (at jetting temperature)	8 - 20 cP
Compatible jetting fluids	Organic solvents; UV curables, Aqueous
Maximum operating frequency	20 kHz
Electrical interface	RS-422
Ink filter	8 microns absolute
Meniscus vacuum	6.3 - 8.7 mBar [ 2.5 - 3.3 in. wg]
Lung Vacuum	750 mBar [22 in. Hg gage]

\*at constant frequency

### Physical Characteristics



Printhead footprint  
65 mm x 102 mm  
[ 2.57 in. x 4.0 in.]

Nozzle plate footprint  
25 mm x 102 mm  
[ 1.0 in. x 4.0 in.]

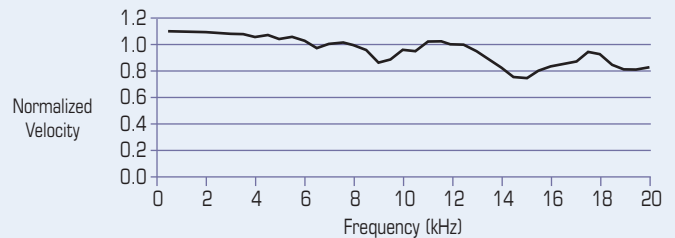
Nozzle line length  
64.8 mm  
[2.55 in.]

Height  
111.40 mm  
[4.38 in.]

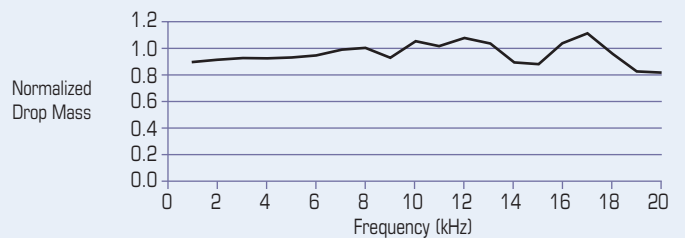
Approx. weight  
640 g  
[22.57 oz]

### Jetting Characteristics

Galaxy 50 AAA Velocity Frequency Response



Galaxy 50 AAA Drop Mass Frequency Response



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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