The Galaxy PH 256/80 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 450 dpi.

The Galaxy Printhead 256/80 AAA is an ink jet printhead 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.

Features:
- 80 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
## Product Data

### Parameter Galaxy PH 256/80 AAA

**Number of addressable jets**

256

**Nozzle spacing**

254 microns [0.010 in.]

**Nozzle diameter**

52 microns

**Calibrated drop size**

80 picoliters

**Adjustment range for drop size**

75 - 85 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]

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### Physical Characteristics

- **Head Interface Board**
- **On-Head Reservoir**
- **Jetting Assembly**

**Print head 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**

64.5 mm [2.55 in]

**Height**

111.40 mm [4.38 in]

**Approx. weight**

640 g [22.57 oz]

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### Jetting Characteristics

#### Galaxy 80 AAA Velocity Frequency Response

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<thead>
<tr>
<th>Frequency (kHz)</th>
<th>Normalized Velocity</th>
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<tr>
<td>20</td>
<td>0.0</td>
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</table>

#### Galaxy 80 AAA Drop Mass Frequency Response

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<tr>
<th>Frequency (kHz)</th>
<th>Normalized Drop Mass</th>
</tr>
</thead>
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<tr>
<td>20</td>
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</tr>
</tbody>
</table>

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*At constant frequency*