

Polaris PQ-512/15 AAA

**512-Channel
Ink Jet Printhead**



Polaris PQ-512/15 AAA

Features:

- 15 picoliter nominal drop size
- 512 individual addressable nozzles
- Incorporates VersaDrop™ binary jetting capability
- Excellent channel-to-channel uniformity
- High frequency continuous operation
- Designed for long service life
- Supports UV-curable, solvent, and aqueous-based inks
- Configurable for single- and two-color operation
- Integral mounting bezel with precision features
- Optimized for high viscosity jetting fluids
- Built-in heaters and temperature sensors
- Operation up to 60°C (140°F)
- Simplified field repair with no special tools required

The Spectra® Polaris PQ-512/15 AAA is a high performance inkjet printhead designed for a broad range of industrial and commercial printing applications at resolutions up to 1000 dpi. Robust construction and repairable design make it ideal for solvent, UV and aqueous based wide format printers built for demanding production environments.

Building upon the legendary reliability and performance of the Spectra Nova and Galaxy printheads, the Polaris PQ-512 AAA family of printheads uses field proven materials and a repairable design to deliver a long service life and consistent output. And by leveraging the inherent flexibility of the Q-Class platform, the Polaris PQ-512 AAA offers even greater jetting performance, nozzle packing density, and configuration flexibility.

The Polaris PQ-512/15 AAA Printhead has 512 independent channels arranged in multiple rows at 200 dots-per-inch spacing for single color operation, or 100 dots-per-inch spacing for two color operation. The printhead is designed for binary jetting using a 15-picoliter native drop size 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 binary operation at drop sizes up to 30 picoliters.

The PQ-512/15 AAA Printhead is compatible with a broad range of inks, including UV-curable, aggressive organic solvent and aqueous inks and associated maintenance fluids.

The unique design of Polaris PQ-512/15 AAA 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.

Two electrical connectors contain eight serial data lines that supports fire frequencies in excess of 50 kHz.

The flexible fluid interface allows single and two-color operation. Each 256-channel module is dual ported to facilitate easy priming, flushing and ink recirculation. Heaters and temperature sensors allow precise control of ink viscosity at jetting temperatures up to 60°C.



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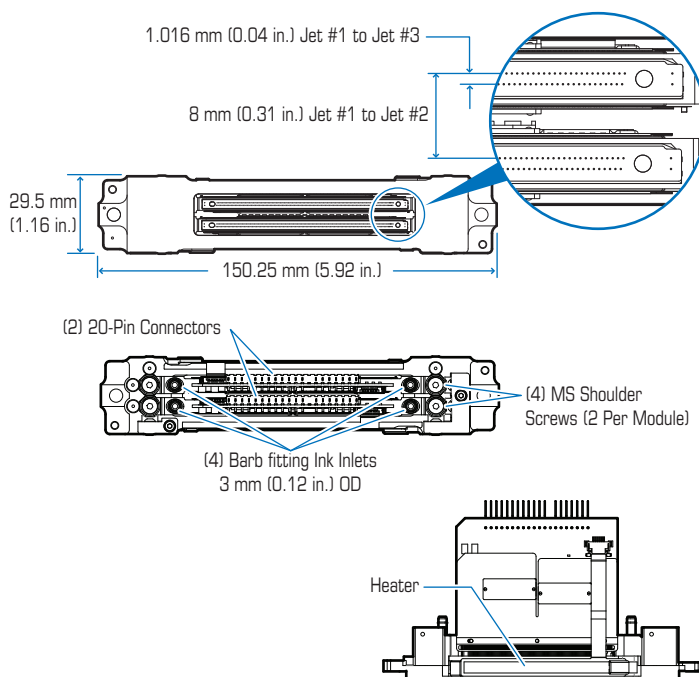
Parameter

Polaris PQ-512/15 AAA

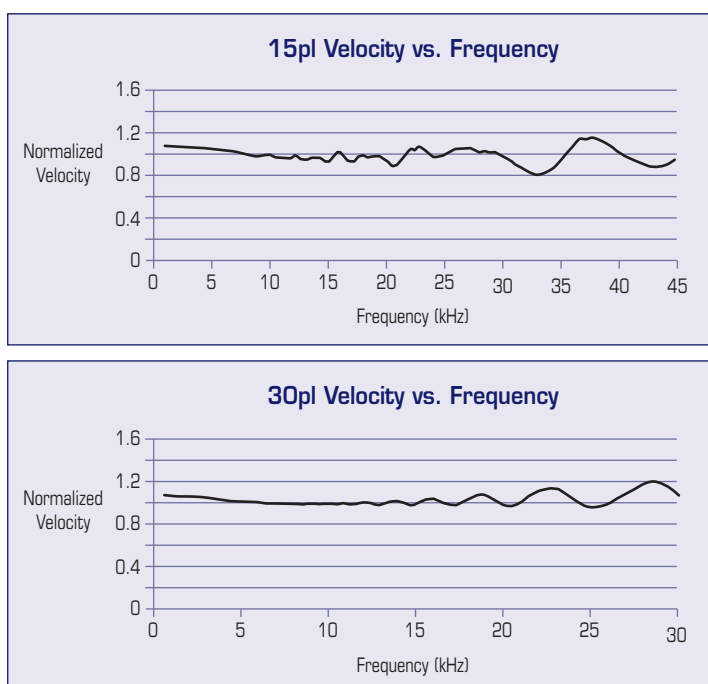
| Number of addressable jets | 512 | | | | | | |
|--------------------------------------|--|-----------|-------------------|-------|--------|-------|--------|
| Print width | 64.897 mm (2.555 inches) | | | | | | |
| NOZZLE SPACING: | | | | | | | |
| Single color (4 rows of jets) | 127 microns [0.005 in.] (200 dpi) | | | | | | |
| Two color (2 rows of jets/per color) | 254 microns [0.010 in.] (100 dpi) | | | | | | |
| Jet straightness, 1 sigma* | 2.0 mrad [0.11°] | | | | | | |
| Nominal drop velocity | 8 m/s | | | | | | |
| Calibrated drop mass | 15ng | | | | | | |
| Compatible jetting fluids | UV-curable, organic solvents, aqueous | | | | | | |
| BINARY OPERATION: | | | | | | | |
| Adjustment for drop size | 15 - 30 picoliters | | | | | | |
| Productivity | <table border="1"> <thead> <tr> <th>Drop Size</th><th>Maximum Frequency</th></tr> </thead> <tbody> <tr> <td>15 pl</td><td>40 kHz</td></tr> <tr> <td>30 pl</td><td>25 kHz</td></tr> </tbody> </table> | Drop Size | Maximum Frequency | 15 pl | 40 kHz | 30 pl | 25 kHz |
| Drop Size | Maximum Frequency | | | | | | |
| 15 pl | 40 kHz | | | | | | |
| 30 pl | 25 kHz | | | | | | |
| Operating temperature range | up to 60° C | | | | | | |
| Fluid viscosity at jetting | 8 to 20 centipoise | | | | | | |
| Dry weight | 160 grams | | | | | | |

*typical

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.



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