The StarFire SG-1024/M-C printhead is our latest inkjet innovation for high performance printing and decorative applications. It is purpose-built for today’s demanding high-speed scanning and single-pass industrial systems designs. It is an easy to integrate, high performance, drop-on-demand printhead for single-color operation at resolutions up to 400 dpi. A robust and repairable construction makes it ideal for Ceramics printing and decorating.

Combining superior jetting performance with a high nozzle packing density in a compact, self-contained unit, the StarFire SG-1024/M-C uses field proven materials to deliver a long service life with consistent and reliable output.

Each SG-1024/M-C printhead has 1024 independent channels arranged in 8 rows in a single nozzle plate for resolutions up to 400 dpi. All 1024 nozzles can be fired simultaneously or individually.

Equipped with a singular, durable, coated metal nozzle plate to withstand abrasion and resist damage, it is removable for cleaning or replacement. The printhead has a nominal 20-30 picoliter drop size (fluid-dependent) with jetting fluids in the 10 to 14 centipoise range. When combined with VersaDrop™ jetting technology, the SG-1024/M-C can produce drop sizes up to 80 picoliters and full grayscale without penalty to productivity.

The StarFire SG-1024/M-C is compatible with Oil-based ceramic inks and maintenance fluids. Using RediJet™ technology, the SG-1024/M-C continuously recirculates inks through the printhead at the nozzle and refill chamber to increase open time, reduce downtime and improve startup, especially for highly pigmented and fast drying inks. RediJet allows StarFire printheads to be quickly and easily primed with minimal ink waste thereby increasing the inherent productive capacity of the printing system by reducing maintenance times and associated costs.

The StarFire SG-1024/M-C printhead has simplified interfaces. The electrical interface consists of one 60-pin connector located topside for power, ground, data, control signals and fire pulse. Two fluid connections facilitate easy priming, flushing and continuous ink recirculation and connect to an ink supply via Luer fittings.

Optional heating configurations include either an external heater/thermistor or an internal heater/thermistor for precise control of ink viscosity at temperatures up to 60°C. Precise registration points enable drop-in alignment with customer provided mounting features, reducing set-up and alignment costs during printhead replacement and also allow multiple printheads to be accurately arrayed into print bars for wide width, higher resolution and multi-color printing devices.
**Parameter**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>StarFire SG-1024/M-C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of addressable jets</td>
<td>1024</td>
</tr>
<tr>
<td>Print width</td>
<td>64.96 mm [2.55 in.]</td>
</tr>
<tr>
<td>Nozzle spacing</td>
<td>0.0635 mm [0.0025 in.] (400 dpi)</td>
</tr>
<tr>
<td>Typical jet straightness, 1 sigma*</td>
<td>1.5 mrad [0.085°]</td>
</tr>
<tr>
<td>Typical drop velocity variability, 1 sigma*</td>
<td>5%</td>
</tr>
<tr>
<td>Ink operating temperature range</td>
<td>up to 60° C [140° F]</td>
</tr>
<tr>
<td>Fluid viscosity range (at jetting temperature)</td>
<td>8 - 20 cP (10 - 14 cP recommended)</td>
</tr>
<tr>
<td>Compatible jetting fluids</td>
<td>Oil based ceramic inks</td>
</tr>
<tr>
<td>Weight</td>
<td>320 grams [0.75 lbs.]</td>
</tr>
</tbody>
</table>

**BINARY OPERATION:**

- Adjustment for drop size
- Productivity

**GRAYSCALE OPERATION:**

- Number of levels
- Fundamental drop size
- OEM accessible non-volatile memory

* at constant frequency

**Physical Characteristics**

![Physical Characteristics Diagram]

**Jetting Characteristics**

**26pl Velocity vs. Frequency**

- Normalized Velocity vs. Frequency (kHz)

**65pl Velocity vs. Frequency**

- Normalized Velocity vs. Frequency (kHz)

**Product Data**

StarFire™ SG-1024/M-C

---

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.

---

www.dimatix.com