

Integrity

Industrial Inkjet Integration

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Dimatix® Materials Cartridge - Samba® Cartridge Specifications

Highlights

- Compatible with all DMP-2800 model printers
- Same internal jet design as the industrial-scale Samba G3L printhead
- Easier fluid and waveform transition to Samba G3L printhead

Cartridge Specifications

- Inkjet Technology – Piezoelectric Drop-On-Demand
- PZT Technology – Sputtered
- Nozzle Plate Technology – Si-MEMS with non-wetting coating
- Jet Design – Samba G3L
- Fluid compatibility – Aqueous, Most Organic Solvents, Acrylates^a
- Native Drop Volume – 2.4 pL
- Dot Size – 30 μm^b
- Addressable Nozzles – 12 jets
- Native Resolution – 75 DPI^c
- Jetting Frequency – Up to 80 kHz^d
- Printhead Heating – Built-in heater
- Temperature Sensor – Built-in thermistor
- Operating Temperature – Up to 60° C (140° F)
- Shelf Life – 2 years^e
- Other – Non-recirculating; disposable, one-time use
- Fluid Module Capacity – 1.5 mL



Ideal Fluid Requirements

- Viscosity – 4-8 cps^f
- Surface Tension – 28-32 dynes/cm^g
- Type – Water-based, Solvent-based, UV Curable, Hybrids^a
- Mixture – Homogeneous, sub-micron particle size^h
- pH – neutralⁱ
- Stability – Thermally stable for 2 weeks at 60° C (140° F)^j

Drop Manager Printer Software

- DMP-2850 Printer – Version 3.2 or later
- DMP-2831 Printer – Version 2.1 or later

^aA chemical compatibility test is recommended

^bA 30 μm diameter of an individual printed dot is achievable on a fluid-compatible substrate

^cNozzles are linearly spaced 338.67 μm apart

^dDue to printer motor limitations, the maximum jetting frequency for printing is 15 kHz

^eThe cartridge shelf life changes when fluid is added and takes on the fluid shelf life

^fAt jetting temperature; Newtonian fluid behavior is ideal (shear rates can reach above 300,000 s⁻¹ in the industrial-scale Samba G3L printhead)

^gSurface tension outside this range can result in undesired drop satellites and poor drop formation

^hA 0.2 μm or 0.45 μm filter should be used prior to ink/fluid loading

ⁱFluids slightly below pH 7 is tolerable however alkaline fluids will accelerate degradation of the silicon nozzle plate

^jNo change in viscosity and no agglomeration or particle aggregation that would increase particle size for 2 weeks at 60° C (140° F)