



# Materials Printer, Cartridges & Printheads

## DMP-5000, DMC-11601/11610, SX3, SE3, SE-DPN, D-128/1 DPN and D-128/10 DPN

### Datasheet

#### System Description

- XYZ stage, inkjet deposition system
- User-fillable piezoelectric inkjet print cartridges and printheads
- Built-in drop watcher camera system for jetting analysis
- Fiducial camera for substrate alignment and measurement
- Variable printing resolution
- PC-controlled with graphical user interface (GUI) application software
- Wide range of fluid compatibilities
- Heated vacuum platen
- Printhead maintenance and cleaning station
- Includes PC, monitor and software

#### Mechanical System

- Printable parameters
  - Printable area: 500 x 500 mm
  - Substrate up to 30 mm thickness
  - System positional accuracy:  $\pm 5 \mu\text{m}$
  - Repeatability:  $\pm 1 \mu\text{m}$
- Substrate holder
  - Vacuum platen
  - Temperature adjustable; ambient to 60°C
- System footprint: 1.9 x 1.8 x 2.0 m
- Weight approximately 2100 kg
- Power 200-240 VAC 50/60 Hz, 1.5 kW maximum
- Operating range 15-40°C at 5-80% RH non-condensing
- Operates at altitudes up to 2000 m
- Safety and EMC compliant: CE/FCC/UL/RoHS/WEEE



#### Fiducial Camera

- Allows substrate alignment using reference marks
- Allows print origin or reference point positioning to match substrate placement
- Provides feature location and measurement
- Provides post-print pattern inspection and image capture

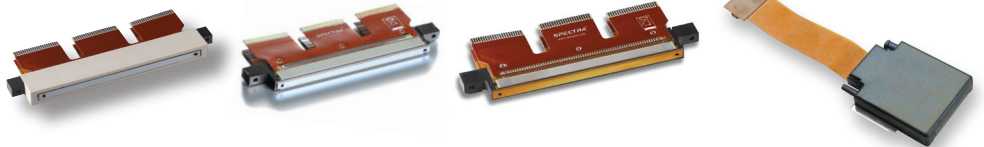
#### Cartridges

- Piezoelectric jetting device with integrated reservoir and heater
- 1.5 ml fluid capacity
- Broad materials compatibility
- Number of Nozzles: 16 nozzles, 254  $\mu\text{m}$  spacing, single row
- Drop Volume: 1 (DMC-11601) and 10 (DMC-11610) picoliter nominal



#### Printheads

- SX3, SE3 and SE-DPN
- D-128/1 DPN and D-128/10 DPN



#### Control PC and Application Software

- Pre-loaded patterned templates
- Pattern preview
- Editors: Waveform and cleaning cycle
- Bitmap files accepted
- DXF, Gerber, GDSII and OASIS file conversion to Bitmap software

#### Replaceable Items

- Print cartridge with one-time user-fillable reservoir
- SX3, SE3 and SE-DPN
- D-128/1 DPN and D-128/10 DPN
- Nozzle blotting material for cleaning station



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## DMP-5000 Cartridges & Printheads

							
OPERATING PARAMETERS	DMC-11601	DMC-11610	D-128/1 DPN	D-128/10 DPN	SX3	SE-DPN	SE3
Individual tunable nozzles	✓	✓	✓	✓	✓	✓	✓
Nozzle plate	Silicon with non-wetting coating	Silicon with non-wetting coating	Silicon with non-wetting coating	Silicon with non-wetting coating	Silicon with non-wetting coating	Electroformed nickel-gold plated	Silicon with non-wetting coating
Nozzle spacing (microns)	254	254	254	254	508	508	508
Nozzle diameter (microns)	9	21	9	21	19	35	42
Calibrated drop size (picoliters)	1	10	1	10	8	30	35
Adjustment drop size range (picoliters)	Fixed	Fixed	Fixed	Fixed	8 - 10	25 - 30	30 - 40
Maximum operating frequency (kHz)	15	20	15	20	10	40	15



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