

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: 300 x 300 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: 1.2 x 1.4 x 1.6 m
- Weight approximately 1100 kg
- Power 100-120/200-240 VAC 50/60 Hz, 1.5 kW maximum
- Operating range 15-30°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

- Type: Piezo-driven jetting device with integrated reservoir and heater
- Usable Ink Capacity: 1.5 ml fluid capacity
- Materials Compatibility: Broad materials compatibility
- Number of Nozzles: 16 nozzles, 254 μm spacing, single row
- Drop Volume: 1 (DMC-11601) and 10 (DMC-11610) picoliter nominal

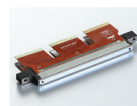


Printheads

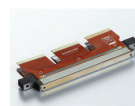
- SX3, SE3 and SE-DPN
- D-128/1 DPN and D-128/10 DPN



SX3



SE3



SE-DPN



D-128/1 DPN
D-128/10 DPN

Control PC and Application Software

- Pre-loaded patterned templates
- Pattern preview
- Editors: Waveform and cleaning cycle
- Bitmap (1 bit) files accepted
- DXF, Gerber, GDSII and OASIS file conversion to Bitmap

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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TM



DMP-3000 Cartridges & Printheads

Printheads/Operating Parameters	Individual tunable nozzles	Nozzle plate	Nozzle diameter (microns)	Calibrated drop size (picoliters)	Adjustment drop size range (picoliters)	Maximum operating frequency [kHz]
		Silicon with non-wetting coating	9	1	± 20%	15
		Silicon with non-wetting coating	21	10	± 20%	60
		Silicon with non-wetting coating	9	1	± 20%	15
		Silicon with non-wetting coating	21	10	± 20%	20
		Silicon with non-wetting coating	19	8	8 - 10	10
		Silicon with non-wetting coating	42	35	30 - 40	15
		Electroformed nickel-gold	35	30	25 - 30	40



Corporate Office:
FUJIFILM Dimatix, Inc.
2250 Martin Avenue
Santa Clara, CA 95050
USA

Tel: (408) 565-9150
Fax: (408) 565-9151
Email: info@dimatix.com

New Hampshire Facility:
FUJIFILM Dimatix, Inc.
109 Etna Road
Lebanon, NH 03766
USA

Tel: (603) 443-5300
Fax: (603) 448-9870
Email: info@dimatix.com

Japan Office:
FUJIFILM Global Graphic Systems Co., Ltd.
2-26-30 Nishiazabu
Minato-ku, Tokyo 106-0031
Japan
Advanced Marking Strategy Division
Phone: +81 3 6419 0530
Fax: +81 3 6419 9840
E-mail: dmp_ffgs@ffgs.fujifilm.co.jp

Europe Office:
Tel: +44 7739 863 505
Fax: +44 870 167 4328
Email: euro@dimatix.com

Korea Office:
Email: mdkorea@dimatix.com

Taiwan Office:
Email: mdtaiwan@dimatix.com

China Office:
FUJIFILM Dimatix China Service Center
Building 30, 1000 Jinhai Road
Pudong New Area, Shanghai
China 201206
Email: china@dimatix.com

Singapore Office:
Email: mdsingapore@dimatix.com