

Low Cost Print Station

Product Description

In response to our customers' requests for a low-cost tool to allow exploratory microdispensing investigations, MicroFab is pleased to offer the jetlab[®] 4. The newest member of our highly successful jetlab[®] family, currently in use in 23 countries worldwide, leans heavily on the successes of prior generations. By carefully considering the performance and budget requirements of laboratories exploring ink jet as a solution to their deposition challenges, jetlab[®] 4 provides a cost effective work station for research purposes.

Available Options

CCD camera for substrate observation; heated workpiece holder and printheads; motorized Z-stage; drop and fiducial image analysis routines; electronic pressure control; HEPA filter & blower; 21x26 cm substrate size (4x1); improved positioning accuracy (4x1-A); integrated ultra-balance for calibration (4x1-B); computer controlled pressure/vacuum regulator.



Standard Features

Software controlled X-Y positioning; 160x120 mm² substrate size & print area; manual Z axis control of printhead height; Print-on-the-Fly (straight and/or curved in any direction) or Point-to-Point printing; raster & vector printing modes; arbitrary printing resolution; synchronized vertical head motion on the fly; complex print job definition through scripting; software based rotation correction; CCD camera for drop observation mounted at 15°, allowing drop impact visualization and coarse substrate alignment; manual pneumatics controls; JetDrive drive electronics unit with bipolar and arbitrary waveform modes, and single and burst modes.

Applications

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| Organic Electronics | Biomedical Research |
| Displays | Sensors |
| Security Printing | Solar Cells |
| Nano-metal Conductors | Fuel Cells |
| Embedded Passives | Tissue Engineering |
| Micro-Optical Elements | Medical Devices |
| Medical Diagnostics | Microassembly |
| Drug Delivery | Microchemistry |



Specifications

Subsystem	Standard	Optional
X-Y travel	160 X 120 mm printable area	210 X 260 mm printable area (4xl)
Velocity / Acceleration	50 mm/s / 1500 mm/s ²	
X-Y Accuracy / Repeatability	±30 µm unidirectional / ±20 µm	±20 µm / ±5 µm (4xl-A)
Computer	Panel PC; monitor, keyboard and mouse; Windows 10; USB 2.0 & Ethernet ports	
Pneumatics	Precision pressure/vacuum regulator with digital readout for jet operation; three state pneumatic control	Electronic control: pressure/vacuum regulator and three state pneumatics
Vision	Horizontal camera at 15° for jet setup, print observation, alignment to features	Vertical camera for alignment, inspection Drop and fiducial image analysis software
Printheads & Jetting Devices	Select one or more (not included in base price)	Choose from PH-41, PH-41H & PH-47 xl versions: Mounts all MicroFab standard printheads; Interchangeable
Complex Print Jobs	Script file: nesting, repetition with offsets, wait states, maintenance, & TTL controls; arbitrary printing resolution and direction	
Print Modes	Print-on-the-Fly and Point-to-Point	
Jet Drive Electronics	JetDrive™ V: bipolar and arb mode	