

## Low Cost Print Stations

### Product Description

For applications that need a larger printable area, better positional accuracy, and/or specialty printhead assemblies, the jetlab<sup>®</sup> 4 Low Cost Print Station is now available in the 4xl version. In addition to a printable area of 210 x 260 mm, the increased size of the enclosure and the mounting of the horizontal drop observation camera on the X-Y stage allows the 4xl version to accommodate the PH-04a Polymer Jet High Temperature Printhead and the PH-06 Four Fluid Printhead. Improved positional accuracy and repeatability (25 $\mu$ m / 5 $\mu$ m) is also available, in the 4xl-A version.

### Available Options

CCD camera for substrate observation; heated workpiece holder and printheads; motorized vertical stage; drop and fiducial image analysis routines; electronic pressure control; HEPA filter & blower; improved positional accuracy (jetlab<sup>®</sup> 4xl-A); computer controlled pressure/vacuum regulator.



### Standard Features

Software controlled X-Y positioning; 160x120 mm<sup>2</sup> 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; manual pneumatics controls; JetDrive drive electronics unit with bipolar and arbitrary waveform modes, and single and burst modes.

### Applications

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	210 X 260 mm printable area	
Velocity / Acceleration	50 mm/s / 1500 mm/s <sup>2</sup>	
X-Y Accuracy / Repeatability	±30µm unidirectional / ±20µm	±20µm / ±5µm (xl-A)
Computer	Panel PC; monitor, keyboard and mouse; Windows 7; USB 2.0 & Ethernet ports; DVD RW	
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 jet setup mounted on stage for multichannel printheads	Vertical camera for alignment, inspection; drop and fiducial image analysis routines
Printheads & Jetting Devices	Select one or more (not included in base price)	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	