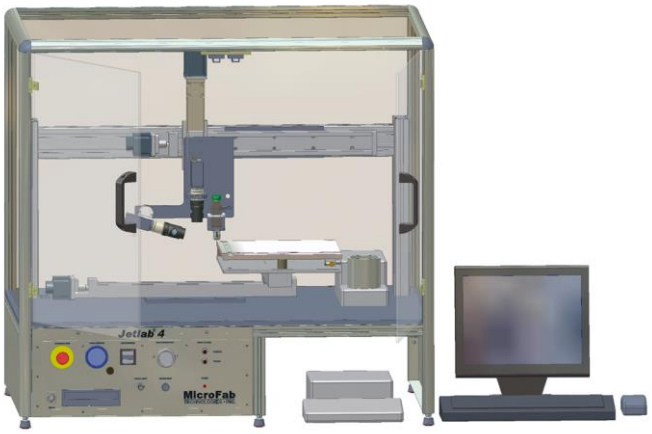
jetlab® 4xl-B

Print Station with Ultra Micro-Balance



Product Description

For applications that require verifiable precision, such as the creation of printed standards for explosives detectors, the jetlab® 4xl-B integrates an ultra micro-balance with a jetlab® 4xl Printing Platform. The printhead may be positioned either over the X-Y stages for printing or over the balance for weight measurements. All balance measurement and reporting functions are under the control of the system software. Weight measurement results can be used in the program to control printing of arrays/filled rectangles, including fully automated printing using the standard scripting technology of jetlab® print stations. Target substrates or objects of up to 50 mm height are supported.

Available Options

CCD camera for substrate observation; heated substrate and / or printhead; Polymer Jet™ and custom printheads; image analysis routines for substrate alignment and drop analysis; computer controlled pressure/vacuum regulator.

Standard Features

All of the standard features of the jetlab® 4 are included, plus an increased 250x275 mm² substrate size.

The ultra micro-balance provides a readout resolution of 0.1 µg, repeatability of 0.25 µg, and total load capacity of 2.1 g (gross weight including boat). A special enclosure limits the evaporation rate. Together with evaporation compensation algorithms allows mass measurements to better than 1% accuracy.

Within scripts, printing of arrays can be defined with a specified total mass and conditioned on stability criteria for the measurements of droplet mass and evaporation.

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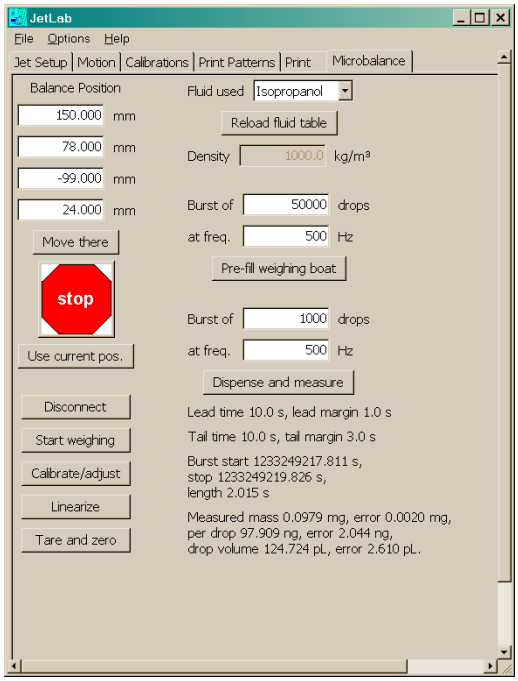

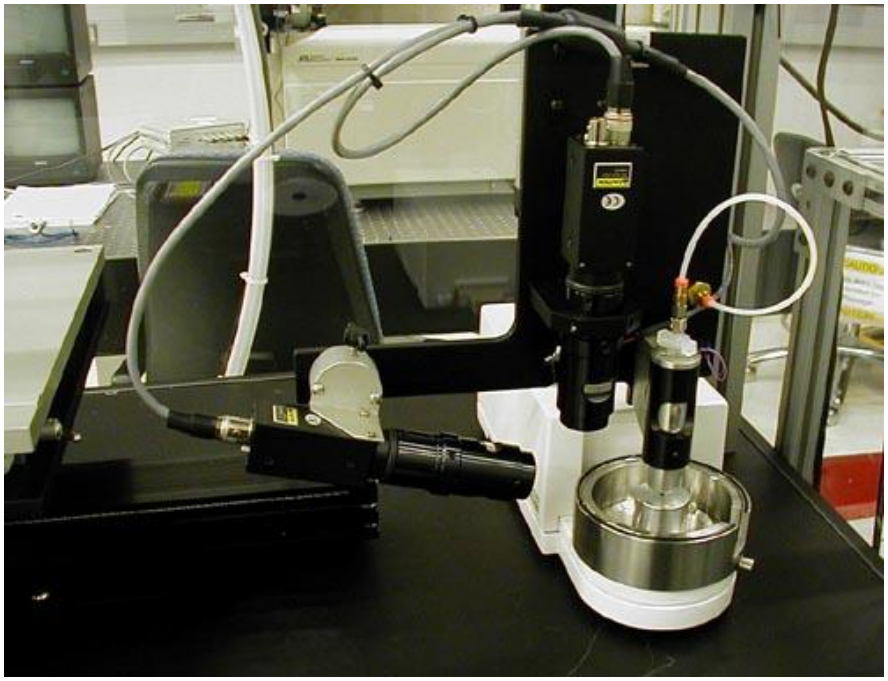

Specifications

Subsystem	Standard	Optional
X-Y travel	250 X 275 mm² printable area	
Velocity / Acceleration	50 mm/s / 1500 mm/s²	
X-Y Accuracy / Repeatability	±25µm / ±5µm	
Computer	Panel PC; monitor, keyboard and mouse; Windows 7; USB 2.0 & Ethernet ports; DVDRW	
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
Complex Print Jobs	Script file: nesting, repetition with offsets, wait states, maintenance, & TTL controls; arbitrary printing resolution and direction; mass driven rectangular area printing	
Print Modes	Print-on-the-Fly and Point-to-Point	
Jet Drive Electronics	JetDrive™ III: bipolar and arb mode	
Ultra Micro-Balance	Resolution 0.1 µg, repeatability 0.25 µg, maximum gross weight 2.1 g, evaporation control, <1% dispensed mass resolution	

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