DataSheet

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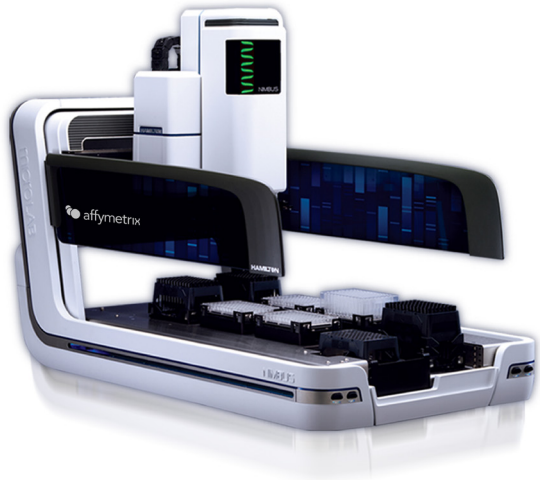
Biology for a better world

Affymetrix® NIMBUS® Target Preparation Instrument

Automated target preparation for Axiom® Genotyping Solution

Affymetrix has automated the target preparation steps for the Axiom® 2.0 assay, including DNA amplification, fragmentation, purification, resuspension, hybridization preparation, and stain preparation for GeneTitan® MC Instrument. Affymetrix® NIMBUS® Target Preparation Instrument is industry-recognized for ease of use and superior pipetting performance at an affordable price.

The Axiom target preparation on the new automated liquid-handling workstation helps minimize run-to-run variability and the labor burden associated with complex manual pipetting, helping to improve test reproducibility and laboratory efficiency.



Features

- Small footprint with customized deck layout designed for Axiom 2.0 assay requirements such as thermoshake and cooling block for on-deck handling in processing of complex temperature-sensitive steps
- Accommodates 96 samples on the 96-array plate format
- Advanced pipetting technology for precise and flexible liquid handling
- Labware gripper arm for easy handling of microplates
- Laptop with intuitive software interface with visual cues for each assay step

Pipetting technology

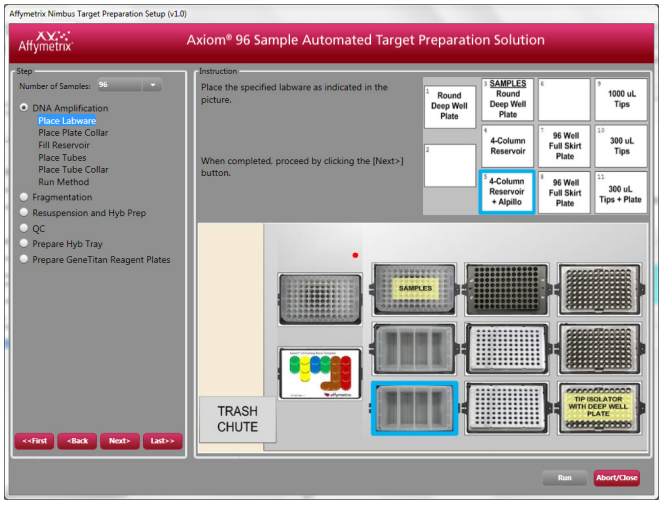
Affymetrix NIMBUS Target Preparation Instrument represents the latest in compact, high-speed automated multi-channel pipetting. It features a 1 mL 96-channel multi-pipetting head for plate-based pipetting using a combination of capacitance-based liquid level detection and pressure-based liquid level detection for unparalleled performance.

Custom-designed robotics

Affymetrix co-developed the Affymetrix NIMBUS Target Preparation Instrument's deck configuration with Hamilton Robotics and optimized it for use with the Axiom 2.0 assay. The automated workflow is compatible with Axiom® 2.0 Reagent Kit (96-reaction, P/N 901758). The on-deck thermoshake, cooling block, and customized trash chute provide convenience designed to support assay robustness. The compact size supports placement on virtually any benchtop.

Software

Affymetrix NIMBUS Target Preparation Instrument includes a Dell® laptop computer that is powered by an easy-to-use Axiom® Assay Methods Software interface designed for a 96-sample workflow. The high-resolution visual display and simple on-screen instructions provide simple visual cues throughout assay progression.



Affymetrix® NIMBUS® Target Preparation Instrument functional and performance specifications for the Axiom® 2.0 assay

	Axiom assay (96-format) specifications	Array plate 1	Array plate 2
Number of samples attempted		95	95
Sample type		Cell line	Cell line
Overall sample pass rate*	≥97%	100%	100%
Average sample SNP call rate**	≥99.0%	99.79%	99.74%
Average HapMap concordance***	≥99.5%	99.85%	99.81%
Average intraplate reproducibility	≥99.8%	99.95% (5 pairs)	99.94% (5 pairs)

*Percentage of samples that passed internal analysis QC metrics of DQC >0.82 and QC call rate >97%
**Percentage of SNPs that are called for each sample, averaged
***Percentage of SNPs that are concordant to HapMap reference genotypes for each sample, averaged

NIMBUS® Instrument, Labware, and Gripper specifications

Parameter	Specification	
Input power (primary) Universal supply:	 100–240 VAC, 50–60 Hz, 5A	
Output power (secondary) Power: Wattage:	 +42 VDC +5% 600 watts maximum	
Power supply	UL/CSA/CE-approved universal power supply with IEC connection	
Physical dimensions (1000 uL) Length: Width: Height: Operating dimensions Width: (front to rear) Length: (left to right) Height:	 37.4 in. (94.9 cm) 20.0 in. (50.8 cm) 30.0 in. maximum (76.2 cm) 20.0 in. (50.8 cm) 52.5 in. (133.4 cm) 30.0 in. maximum (76.2 cm)	
Weight:	145 lbs (65.8 kg), 1,000 uL	
Plate format	Microtiter footprint Plate height <43 mm	
Absolute positioning	Accuracy X, Y, Z = 0.5 mm Reproducibility X, Y, Z = 0.25 mm	
Gripping force	5–16N (default 9N): Labware gripper landscape 190220	
Transport mass	300g filled deep-well plate	
Operating data	Temperature range Relative humidity Altitude	15°–35°C 30%–85% (no condensation, indoors) 2000m above sea level

Computer specifications

Base unit		Operating system
Dell® laptop Wide-screen WXGA LCD Intel® Core™ 2 Duo Processor, 2.00 GHz (or greater) 80 MHz (or greater) FSB CD-RW/DVD 2.0 GB RAM	80 GB (or greater) hard drive 4 USB ports (or more) 2 10/100 Ethernet port, external USB adapter acceptable for second port (or more) USB to serial adapter	Microsoft Windows® 7 Ultimate 64-bit NTFS format

Ordering information

Part number	Description	Details
00-0401	Affymetrix® NIMBUS® Target Preparation Instrument	Robotics workstation and laptop
902365	Axiom® Starter Kit for NIMBUS®	Includes additional equipment and parts necessary to set up Affymetrix® NIMBUS® Target Preparation Instrument for Axiom® Genotyping Solution
902366	Axiom® Consumables Kit for Affymetrix® NIMBUS®	Includes consumables required for target prep on the Affymetrix® NIMBUS® Target Preparation Instrument for four Axiom® 96-Array Plates

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