Data Sheet

Affymetrix®
Revolutionize life

Affymetrix® NIMBUS® Target Preparation Instrument

CytoScan® Automated Target Preparation Solution on Affymetrix NIMBUS Target Preparation Instrument

Affymetrix has automated the post-PCR target preparation steps for the CytoScan® cytogenetic microarray assay protocol on the NIMBUS® Target Preparation Instrument. Affymetrix NIMBUS Target Preparation Instrument is industry-recognized for ease of use and superior pipetting performance at an affordable price.

The new automated liquid handling workstation helps reduce intra-operator variability and the labor burden associated with complex manual pipetting, helping to improve test reproducibility and laboratory efficiency. By automating much of the liquid handling associated with the CytoScan® assay, your laboratory can increase sample processing throughput over two-fold.

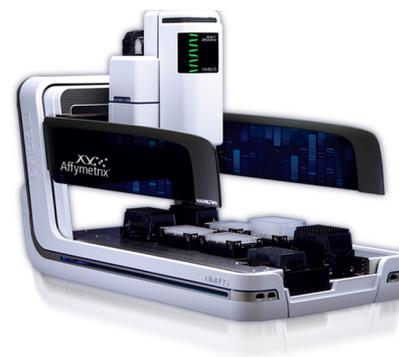### CytoScan Automated Target Preparation Solution

- Small footprint with customized deck layout designed for CytoScan assay requirements such as a thermoshaker and cooling block for on-deck handling and processing of key steps

- Accommodates 24 or 48 samples, plus a negative control

- Advanced pipetting technology for precise yet flexible liquid handling

- Labware gripper arm for easy handling of microplates and pipette tips

- Laptop with intuitive software interface with visual cues for each post-PCR test 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.
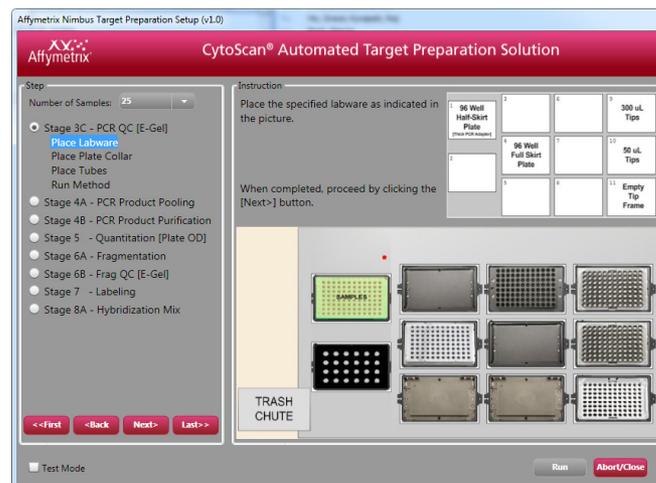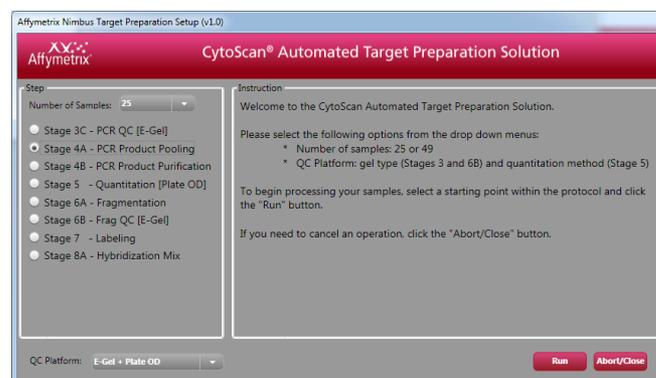
Custom-designed robotics

Affymetrix co-developed Affymetrix NIMBUS Target Preparation Instrument with Hamilton Robotics with an automation deck optimized for use with the CytoScan assay protocol. The automated workflow is compatible with CytoScan® Reagent and Array Kits. The on-deck thermoshaker, cooling block, and customized trash chute provide convenience and support assay robustness. The compact size supports placement on virtually any benchtop as well as in most commercial hoods and biosafety cabinets.

Software

Affymetrix NIMBUS Target Preparation Instrument is provided with a laptop Dell computer that is powered by an easy-to-use CytoScan® Post-PCR Methods Software interface designed for either a 24- or 48-sample workflow, plus a negative control. 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

Parameter	Specification
Input power (primary)	
Universal supply	100–240 VAC, 50–60 Hz, 5A
Output power (secondary)	
Power	+42 VDC +5%
Wattage	600 watts maximum
Power supply	UL/CSA/CE-approved universal power supply with IEC connection
Physical dimensions (1000 µL)	
Length	37.4 in. (94.9 cm)
Width	20.0 in. (50.8 cm)
Height	30.0 in. maximum (76.2 cm)
Operating dimensions	
Width (front to rear)	20.0 in. (50.8 cm)
Length (left to right)	52.5 in. (133.4 cm)
Height	30.0 in. maximum (76.2 cm)
Weight	130 lbs (58.9 kg)

Pipetting specifications for disposable tips – 96-channel CO-RE head

Disposable tip size	Volume	Trueness $|R|$ (%)	Precision CV (%)
10 µL:	1 µL	5.0%	5.0%
10 µL:	5 µL	2.5%	2.0%
10 µL:	10 µL	1.5%	2.0%
50 µL:	1 µL	5.0%	5.0%
50 µL:	5 µL	2.5%	2.0%
50 µL:	50 µL	1.5%	0.75%
300 µL:	10 µL	3.0%	2.0%
300 µL:	100 µL	1.5%	2.0%
300 µL:	300 µL	1.0%	2.0%
1000 µL:	1000 µL	1.0%	0.75%

Parameter	Specification
Liquid level detection	Capacitive liquid level detection (cLLD)
96-channel CO-RE head	(Channels A1 and A12)
Deck capacity	11 positions
Communication type	Ethernet
Operating	
Temperature	15°–35°C (59°–95°F)
Relative humidity	30–85% RH non-condensing
Altitude	2000m (1.2 miles) above sea level
Storage	
Temperature	-20°C (-4.0°F) @ 10% humidity to
	70°C (158°F) @ 90% humidity non-condensing
CSA Certification	
Installation category	II
Pollution degree	2

NIMBUS® Labware Gripper specifications

Parameter	Specification	
Plate format	microtiter footprint plate height <43 mm	
Absolute positioning	accuracy X, Y, Z = 0.5 mm reproducibility X, Y, Z = 0.25	
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% (not 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	Product	Description
00-0401	Affymetrix® NIMBUS® Target Preparation Instrument	Robotics workstation and laptop
902167	CytoScan® Automation Starter Kit for NIMBUS®	Non-disposable robotics deck hardware required for the CytoScan® assay
902168	CytoScan® Automation Consumables Kit for NIMBUS®	Microplates and consumables sufficient for 50 reactions
CytoScan® training products		
000871	CytoScan® FAS On-site Automation Training	FAS performs both on-site preparation and first week of training
902169	CytoScan® Automation Training Kit for NIMBUS®	Arrays and reagents sufficient for 12 reactions plus training materials
CytoScan® Automation Starter Kit components		
900929	96S Super Magnet Plate	
100987	Micro Plate 96 PCR Adapter	
100988	PCR Tube Racks	
100981	CytoScan® Reagent Template	
111705	Plate Retainer	
CytoScan® Automation Consumables Kit components		
203009	Plates, 96-well, semi-skirted	
202006	Tube, screw cap, no ribs	
2021541	1.2 mL Square Well Storage Plate	
203010	Reservoir 4 ROW PYR PP 73 mL	
202919	96-well Clear Flat Bottom UV-Transparent Plate	
202233	96-well Full Skirt PCR, clear	
202920	2.2 mL Storage Plate	
Additional components		
235948	Hamilton Conductive 50 mL Filter Tips in Frames	Order directly from Hamilton
235903	Hamilton Conductive 300 mL Filter Tips in Frames	Order directly from Hamilton
235905	Hamilton Conductive 1000 mL Filter Tips in Frames	Order directly from Hamilton

Supporting products

Part number	Product	Description
901859	CytoScan® 750K Array Kit and Reagent Kit Bundle Available Outside US/Canada Only	Arrays and reagents sufficient for 24 reactions
901835	CytoScan HD Array Kit and Reagent Kit Bundle	Arrays and reagents sufficient for 24 reactions
00-0218	GeneChip® 3000 7G with Workstation and AutoLoader	Includes: • GeneChip® Scanner 3000 7G with AutoLoader • 2D Handheld Barcode Reader • GeneChip® Fluidics Station 450 • GeneChip®Hybridization Oven 645 • Computer Workstation with instrument control software
00-0334	GeneChip® System 3000Dx v.2	Includes: • GeneChip® Scanner 3000Dx v.2 with AutoLoaderDx • Fluidics Station 450Dx v.2 • Workstation with Affymetrix Molecular Diagnostics Software (AMDS)
00-0331	GeneChip® Hybridization Oven 645	

For additional instrument system configurations or individual system components to meet your needs, please contact your local Affymetrix account manager for assistance.

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