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Data Sheet



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 capacitancebased liquid level detection and pressure-based liquid level detection for unparalleled performance.

Custom-designed robotics

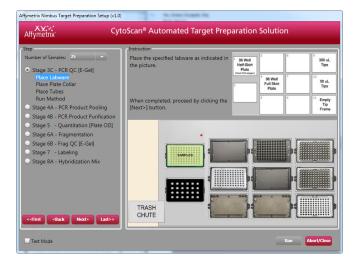
Affymetrix co-developed Affymetrix NIMBUS Target Preparation Instrument with Hamilton Robotics with an automation deck optimized for use with the CytoScan assay protocol. The automated workflow is compatible with CytoScan® Reagent and Array Kits. The on-deck thermoshaker, cooling block, and customized 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: CytoScan® Automated Target Preparation Solution		
Step Number of Samlets: Stage 3C - PCR QC [E-Ge] Stage 4A - PCR Product Profiles Stage 4B - PCR Product Purification Stage 5 - Quantitation [Plate OD] Stage 6A - Frag QC [E-Ge] Stage 6B - Frag QC [E-Ge] Stage 6A - Hybridization Mix	Instruction Welcome solution. Please select the following options from the drop down menus: • Number of samples: 25 or 49 • QC Platform: gel type (Stages 3 and 68) and quantitation method (Stage 5) To begin processing your samples, select a starting point within the protocol and click the "Run" button. If you need to cancel an operation, click the "Abort/Close" button.	
QC Platform: E-Gel + Plate OD 🗢	Run Abort/Close	



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 u	iniversal power supply wit	h 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 CC	D-RE head			
Disposabl	e tip size	Volume	Trueness	Precision
			R (%)	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%
Liquid level detection		Capacitive liquid level		
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-cond	lensing	
Altitude		2000m (1.2 miles) abo	ve sea level	
Storage				
Temperature		-20°C (-4.0°F) @ 10%	humidity to	
			numidity non-condensing	
CSA Certification				
Installation category		Ш		
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	accuracy X, Y, Z = 0.5 mm	
Gripping force	5–16N (default 9N): Labware G	5–16N (default 9N): Labware Gripper Landscape 190220	
Transport mass	300g filled deep-well plate	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 workstoin 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 OW0871 CytoScan® FAS On-site Automation Training 902169 CytoScan® Automation Training Kit for NIMBUS® Arrays and reagents sufficient for 12 reactions plus training materials CytoScan® Automation Training Kit for NIMBUS® 900829 965 Super Magnet Plate 100987 Micro Plate 96 PCR Adapter 100988 PCR Tube Racks 100981 CytoScan® Reagent Template 111705 Plate Retainer 202006 Tube, screw cap, no ribs 202110 1.2 mL Square Well Storage Plate 2021541 1.2 mL Square Well Storage Plate 202104 Reservoir 4 ROW PYR P7 3 mL 2022233 96-well Clear Flat Bottom UV-Tr			
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	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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P/N CL01959 Rev. 3

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