AFFYMETRIX®

Data Sheet

Affymetrix® GeneChip® Fluidics Station 450

From the company that invented the GeneChip® brand DNA microarray and the high-density microarray scanner, Affymetrix introduces the GeneChip® Fluidics Station 450. The Fluidics Station 450 is the new generation of fluidics stations for processing GeneChip® arrays. The Fluidics Station 450 incorporates advanced design improvements that provide improved ease-of-use and true walk away freedom to dramatically improve efficiency in your genetic analysis.

Extensive testing and comparison to the GeneChip Fluidics Station 400 have shown complete concordance with experimental data, allowing a seamless transition for GeneChip array users to compare data generated on either instrument.

Improved Ease-of-Use

The Fluidics Station 450 retains many important operational aspects with which current GeneChip array users are familiar and comfortable. These include the use of fluidic scripts, handling of buffer solutions, and interfacing and operation under the Affymetrix® Microarray Suite software. New features simplify the handling of staining and antibody reagents to reduce direct hands-on activities and interruptions to the user.

Walk Away Freedom

The Fluidics Station 450's new sampling approach eliminates the need for the operator to wait nearby or periodically return to the system to provide the next vial required by the fluidic script. Once a fluidic script is initiated, users simply load the GeneChip cartridge and vials and move on to other activities. The system runs unattended until completion, freeing the operator to attend to other responsibilities, thereby helping to improve the workflow and operation of the laboratory. Scripts often run to completion faster than on the previous-generation systems, since script completion is no longer dependent upon operator input or attentiveness during the run.

Improved GeneChip® Cartridge Loading

Keyed features on the Fluidics Station 450 door and GeneChip cartridge ensure proper orientation and provide smooth, trouble-free cartridge loading. Alignment features and predefined closing forces create reliable fluidic and thermal connections, which are confirmed by non-contact sensors. Precise control over the location and insertion depth of fluid probes ensures leak-free interfaces. Use of high-performance components ensures years of smooth operation.

Three Vial Loading with Individual Detection

The Fluidics Station 450 prompts the user to load from one to three vials, depending upon the selected fluidic script. Simply by engaging the vial lever, the presence of each expected vial is verified and the script automatically runs to completion with no additional requirements on the user.

Enhanced Fluid Detection

Real-time detection ensures that fluidic operations on GeneChip arrays are completed according to the selected fluidic script. Additionally, it can help identify problems caused by missing or improperly loaded vials or buffer solutions. Conductivity is measured across the fluid probes that contact the GeneChip cartridge, verifying the presence of the appropriate buffer or stain in the cartridge. With each new GeneChip cartridge, the conductivity path is renewed. Fluid probes are wiped clean by the cartridge septa upon removal from the Fluidics Station 450.

Modular Design Protects User Investment

The rugged fluidic module is the heart of the Fluidics Station 450. Modular design enables field upgrade of Fluidics Station 400 to provide the new generation's capabilities. Modules are fastened to the base

with a single screw, allowing users to quickly and easily replace modules in the field, should the need arise.

PERFORMANCE

- Extensive internal and external testing of the GeneChip Fluidics Station 450 has demonstrated concordance with Fluidics Station 400, enabling seamless integration into laboratory work flow and comparison with existing data.

INTEGRATION INTO EXISTING WORKFLOW

- Fluidics Station 450 can be daisy-chained to existing Fluidics Station 400 to increase GeneChip array throughput capacity.
- Compatible with Microarray Suite Version 4.0 and higher.

ELECTRICAL

- No dedicated or special power requirements.
- Tested to IEC 61326-1 EMC/ESD standard for industrial environments.

RELIABILITY

- The GeneChip Fluidics Station 450 has been designed and tested to operate in environments running up to four daily fluidics runs per system.
- Robust, proven mechanisms and non-contact sensing for GeneChip cartridge door and vials.

Specifications

Fluidic Scripts:	Fluidics Station 450 scripts designated in Microarray Suite by suffix _450
Dimensions:	(height, depth, width) 40.2 x 41.0 x 71.1 cm or 15 13/16 x 16 1/8 x 28 inches
Weight:	Approximately 80 pounds
Power Voltage:	100 to 240 VAC, 3 A; 300 watts
Warranty:	One year limited coverage

Ordering Information

GeneChip® Fluidics Station 450

00-0079	*Fluidics Station 450*
00-0081	*Fluidics Station 450 Upgrade – North America (for FS 400 customers only)*
00-0117	*Fluidics Station 450 Upgrade – Europe (for FS 400 customers only)*
90-0330	*Replacement module*

Upgrade kits may contain refurbished parts.

To Order

North America
888-DNA-CHIP 888-362-2447

Europe
+44 (0) 1628 552550

Japan
+81-(0)3-5730-8200

AFFYMETRIX, INC.

3380 Central Expressway
Santa Clara, CA 95051 USA
Tel: 1-888-DNA-CHIP (1-888-362-2447)
Fax: 1-408-731-5441
sales@affymetrix.com
support@affymetrix.com

AFFYMETRIX UK Ltd

Voyager, Mercury Park,
Wycombe Lane, Wooburn Green,
High Wycombe HP10 0HH
United Kingdom
Tel: +44 (0) 1628 552550
Fax: +44 (0) 1628 552585
saleseurope@affymetrix.com
supporteurope@affymetrix.com

AFFYMETRIX JAPAN K.K.

Mita NN Bldg., 16 F
4-1-23 Shiba, Minato-ku,
Tokyo 108-0014 Japan
Tel: +81-(0)3-5730-8200
Fax: +81-(0)3-5730-8201
salesjapan@affymetrix.com
supportjapan@affymetrix.com

www.affymetrix.com

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Compliant with directive 2002/96/EC (WEEE)

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