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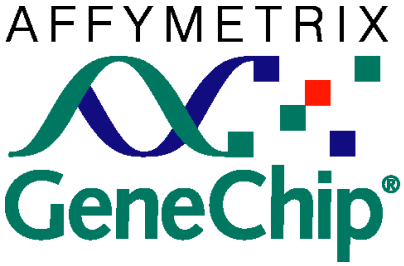
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GENECHIP® HYBRIDIZATION OVEN 640

(110V & 220V MODELS)

For research use only
Not for diagnostic procedures

Affymetrix Confidential

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GeneChip® Hybridization Oven 640 Owner's Manual

SAFETY

This manual contains information which must be read and understood before using the equipment. When you come to an area which has one of the following symbols, pay particular attention and make certain to heed the safeguard.



This symbol indicates a potential hazard which may cause serious injury or loss of life. Important safety information will follow.



This symbol indicates a potential hazard to you or to the equipment. Important information that tells how to prevent damage to the equipment or how to avoid causes of minor injuries will follow.

General Safety Summary

Review the following safety precautions to avoid injury and to prevent damage to this product or any products connected to it. To avoid potential hazards, use this product only as specified.

Only qualified personnel should perform service procedures.

To Avoid Fire or Personal Injury

- **Use Proper Power Cord**.
  Use only the power cord and plug specified for this product and certified for the country of use.
- **Ground the Product**.
  This product is grounded through the grounding conductor of the power cord. To avoid electrical shock, the grounding conductor must be connected to earth ground.
- **Observe All Electrical Ratings**.
  To avoid fire or shock hazard observe all further ratings information before making connections to the product.
- **Do Not Operate Without Covers**.
  DO NOT operate this product with covers or panels removed.
- **Use Proper Fuse**.
  Use only the fuse type and rating specified for this product.
- **Avoid Exposed Circuitry**.
  DO NOT touch exposed connections and components when power is present.
- **Do Not Operate With Suspected Failures**.
  If you suspect there is damage to this product, have it inspected by

qualified service personnel.

- **Do Not Send Your Instrument Elsewhere For Service Or Attempt To Service It Yourself**.
  To protect your warranty and ensure safe operation, the instrument should be serviced only by Affymetrix or its representatives. If the instrument is not working correctly, please contact your Affymetrix Technical Support Representative.
- **Do Not Operate in Wet or Damp Conditions.**
- **Do Not Operate in an Explosive Atmosphere.**
- **Keep Product Surfaces Clean and Dry.**
- **Provide Proper Ventilation**.
  Refer to the manual's installation instructions for details on installing the product so it has proper ventilation.

Terms on the Product

The following terms may appear on the product:

DANGER - indicates an injury hazard immediately accessible as you read the marking

WARNING - indicates an injury hazard not immediately accessible as you read the marking

CAUTION - indicates a hazard to property including the product

Symbols on the Product

The following symbols may appear on the product:



CAUTION - Refer to manual



CAUTION - Hot surface

CUSTOMER SUPPORT INFORMATION

United States:
Affymetrix, Inc.
3380 Central Expressway
Santa Clara, CA 95051

Telephone Toll free: 888-DNA-CHIP; or 888-362-2447; or 408-731-5503
Fax: 408-481-0435

Europe:
Affymetrix UK Limited
7200 The Quorum
Oxford Business Park North
Oxford
OX4 2JZ
United Kingdom

Tel: +44 (0)7000 785 803
Fax:+44 (0)7000 785 804

E-Mail: Support@Affymetrix.com

INTENDED USE

The GeneChip Hybridization Oven 640 is for research use only. It is not intended for diagnostic procedures.

UNPACKING THE GENECHIP HYBRIDIZATION OVEN 640

Carefully remove the oven and accessories from the shipping container. Use proper lifting techniques or a lifting aid to prevent injury (see NIOSH *Guide for Manual Lifting*). If there are any signs of damage during shipping, immediately notify Affymetrix Technical Support. If possible, save the shipping container for future transit requirements.

SETTING UP THE GENECHIP HYBRIDIZATION OVEN 640

Locate the oven on a stable, level surface capable of holding a minimum of 100 lbs. (45.5 Kg). Once the oven is in place, it should be levelled using the adjustable feet. The oven should be located with a minimum clearance of 2 inches (5.1 cm) on each side, 2 inches (5.1 cm) on the back, and 3 inches (7.6 cm) on the top.

The 110 V unit is supplied with a three-prong electrical plug, and should be plugged into a properly grounded electrical outlet. The 220V unit is supplied with a three conductor power cord without plug. The appropriate plug (not supplied) certified for the country of use should be attached to the power cord in accordance with local regulations.

⚠ CAUTION

CAUTION

The power supply cord is used as the main disconnect device. Ensure that the socket outlet is located and installed near the equipment and is easily accessible.

ATTENTION

Le cordon d'alimentation est utilise' comme interrupteur general. La prise de courant doit etre situe'e ou installe'e a proximite' du materiel et etre facile d'acce's.

ACHTUNG

Zur sicheren Trennung des Gerätes vom Netz ist der Netzstecker zu ziehen. Vergewissern Sie sich, daß die Steckdose leicht zugänglich ist.

CONTROL PANEL OF THE GENECHIP HYBRIDIZATION OVEN

The control panel instrument contains 6 items:

- **SPEED CONTROL** knob (controls speed of rotation of carousel between 0 and 80 RPM).
- **SPEED CONTROL DISPLAY** (displays the speed of rotation of the carousel)

- **JOG** button (moves carousel from one bottle position to the next to facilitate adding and removing GeneChip Cartridge Carriers).

Note: JOG button will not operate if SPEED CONTROL is set at "0".

- **POWER** switch (turns on main power; must be in ON [I] position for HEAT switch to be activated. The JOG button can only be activated with POWER switch in the ON [I] position).
- **HEAT** switch turns on heat as controlled by TEMP CONTROL.
- **TEMP CONTROL** controls temperature when HEAT switch is in ON position.

The TEMP CONTROL is extremely easy to operate. There are 2 displays and 6 buttons. The bottom red display is the "set" temperature and the top green display is the actual temperature. The 6 buttons control the "set" temperature, one button to increase and one button to decrease each of the three digits. The temperature can be set anywhere between 00.0° and 95.0° C.

CAUTION

It is recommended that the maximum temperature setting not exceed 70° C. Also for good performance, the temperature setting should be at least 5° C above room temperature.

For example, to set the temperature at 45.2° C, set the first digit (on the left side) to "4" using the + (increase) and - (decrease) left hand pair of buttons;

then set the second digit to "5" using the middle set of buttons; and finally set the third decimal digit to "2" using the right hand set of buttons. If the set temperature is higher than the actual temperature, the heater will immediately come on and the temperature will rapidly rise to the set temperature with virtually no over shoot. The practical temperature range is ambient to 70° C. Since there is no refrigerator mechanism in this instrument, the chamber cannot be cooled below ambient temperature. While the chamber temperature can be heated to 95.0° C, prolonged temperatures above 60° C have been shown to have deleterious effects on GeneChip Cartridges.

OPERATING THE GENECHIP HYBRIDIZATION OVEN 640

1 Loading GeneChip cartridges into the GeneChip Cartridge Carrier:

Eight (8) GeneChip cartridges can be loaded into each GeneChip Cartridge Carrier. GeneChip Cartridge Carriers are included as accessories with each oven. The GeneChip Cartridge Carrier is "keyed" such that the GeneChip cartridges can be loaded only one way. Additional Cartridge Carriers can be purchased from Affymetrix.

2 Loading the GeneChip Cartridge Carrier into the oven:

Up to eight (8) Carriers can be loaded into the oven. The Carrier is pushed into the slots facing outwards, away from the shaft. The Carrier is pushed into the slots until a "click" is heard and the Carrier is captured.

⚠ CAUTION

It is recommended that the user confirm the capture of the carrier by gently attempting to withdraw the Carrier. If the Carrier can be withdrawn, it was not properly captured and the Carrier loading process must be repeated.

⚠ CAUTION

It is recommended that Carriers should be loaded in even numbers with each pair of carriers placed 180° apart across the shaft to maintain balance. If loading an odd number of Carriers (1,3,5,7) an empty Carrier should be loaded to balance the carousel.

⚠ WARNING

When the **POWER** is ON (I) the **JOG** button is operable at all times if the **SPEED CONTROL** knob is set above "0" *EVEN WHEN THE DOOR IS OPEN*. The user must keep all hands and fingers away from the carousel when operating the **JOG** button during loading and unloading of Carriers.

3 Turn the **POWER** switch to the ON (I) position.

The power switch must be ON before the **HEAT** switch can be activated

4 The oven door must be closed and locked before carousel will rotate!

5 Use the **SPEED CONTROL** knob to set the rotation speed of the carousel as recommended in the GeneChip assays. The range is 0-80 RPM.

For hybridization, a rotation speed of 60 RPM is commonly used.

6 Turn the **HEAT** switch to the ON (I) position.

You can now set the temperature as required using the **TEMP CONTROL** as described in the **CONTROL PANEL** section above. If the "set" temperature is higher than the chamber temperature, the oven will heat rapidly to the "set" temperature. The controller has been programmed to slow down the rate of heating as the chamber temperature approaches the "set" temperature, so there is very little overshoot.

7 To unload the Carriers from the oven, the rotation of the carousel can be stopped by setting the **SPEED CONTROL** to "0" or by simply opening the oven door.

The carousel can then be rotated manually or by using the **JOG** button to move the position of the Carrier to be unloaded. The Carrier is removed from the carousel by grasping the large flange and giving a sharp pull on the Carrier unlocking it from the capture mechanism. The Carrier can then be completely removed by sliding it from the carousel.

GENECHIP HYBRIDIZATION OVEN 640 SPECIFICATIONS

Physical Dimensions:

Height	19 inches
Width	18 inches
Depth	15 inches
Weight	50 pounds (22.68 Kg)

Power Requirements:

Input Voltage	90V - 132V @ 47 hz - 65 hz (110V Model)
	190V - 264V @ 47 hz - 65 hz (220 Model)
Input Power	less than 1000 VA (110 V, 220 V Models)

Environmental Requirements:

Operating Temperature Range	15° C to 30°
Operating Humidity range	15% to 85% Relative Humidity

Performance Requirements:

Carousel Rotation Speed	0 - 80 RPM
Oven Setpoint Range	Ambient + 5° C to 70° C
Oven Temperature Precision	±0.4° C at Calibration Setpoint
Oven Temperature Accuracy	±2.0° from display temp over range of 30° C to 60° C

Regulatory Requirements:

The Oven meets applicable CSA standards for North America (C22.2 No. 1010).

The oven meets applicable IEC standards for safety (IEC 1010-1).

The oven meets applicable directives (LVD and EMC) for the European Union CE Mark (EN 55011:Emissions, EN 61000-4-2:ESD, EN 61000-4-3:Radiated Immunity, EN 61000-4-4:EFT/B, EN 61010-1:Low Voltage).

The oven is Year 2000 Compliant.

ORDERING AND TECHNICAL SUPPORT INFORMATION

For technical inquiries, contact your technical support team:

North America	**Europe**	
Affymetrix Inc. 3380 Central Expressway Santa Clara CA 95051 USA Tel: 888-DNA-CHIP (888-362-2447) Fax: 408-481-0435 E-mail: support@affymetrix.com www.affymetrix.com	Affymetrix UK Limited 7200 The Quorum Oxford Business Park North Oxford OX4 2JZ United Kingdom Tel: +44 (0)7000 785 803 Fax:+44 (0)7000 785 804	Amersham Pharmacia Biotech Ltd. Amersham Place Little Chalfont Buckinghamshire, HP7 9NA England Tel: +44-(0) 1494-543755 Fax: +44-(0) 1494-543278 Email: chipsupport@eu.apbiotech. www.apbiotech.com

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