EdvoCycler™

Catalog #541

EXCITE | EXPLORE | ENGAGE

Features:

- 25 x 0.2 ml Tube Block
- Heated Oil-Free Lid with Magnetic Latch
- Vivid 7 Line LCD Display
- Pre-Programmed PCR Protocols
- Temperature Range: 4 – 99°C
- Maximum Ramp Rate: 3°C/sec
- Weight & Dimensions: 11 lbs; 16 x 8.5 x 7"
- 2 Year Warranty
- Made in USA

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EDVOTEK®

Introduction

Please read all the information in this booklet before using the unit.

Warnings

HIGH TEMPERATURES ARE DANGEROUS: they can cause serious burns to operators and ignite combustible material. EDVOTEK® has taken great care in the design of these units to protect operators from hazards, but users should pay attention to the following points:

- USE CARE AND WEAR PROTECTIVE GLOVES TO PROTECT HANDS.
- DO NOT put hot objects on or near combustible objects.
- DO NOT operate the unit close to flammable liquids or gases.
- DO NOT place any liquid directly in your unit.
- At all times, USE COMMON SENSE.

Operator Safety

It is important that only suitably trained personnel operate this equipment, in accordance with the instructions contained in this manual and with general safety standards and procedures. If the equipment is used in a manner not specified by EDVOTEK® the protection provided by the equipment to the user may be impaired. All EDVOTEK® units have been designed to conform to international safety requirements and are fitted with an over temperature cutout. The cutout is preset to protect the unit. If a safety problem should be encountered, switch off at the mains socket and remove the plug from the supply.

Installation

1. All EDVOTEK® units are supplied with a power cable.

2. Plug the main cable into the socket on the rear of the unit.

3. Place the unit on a dry suitable bench or flat work space, ensuring that all air inlet vents are free from obstruction and liquid.

4. Symbols on or near the power switch of the unit have the following meanings:
   I : main switch On
   O: main switch Off

After Use

When you have finished processing samples, remember that parts of the unit – the tubes, blocks and associated accessories – may be very hot. Take precaution to avoid potential burns.

Warning !

The heated lid will get very hot – use extreme caution to avoid getting burned

User Maintenance

NOTE - THIS EQUIPMENT SHOULD ONLY BE DISMANTLED BY PROPERLY TRAINED PERSONNEL. REMOVING THE <u>SIDE, FRONT OR REAR PANELS</u> EXPOSES POTENTIALLY LETHAL MAINS VOLTAGES. THERE ARE NO USER MAINTAINABLE PARTS WITHIN THE EQUIPMENT.

In the unlikely event that you experience any problems with your unit that cannot easily be remedied, you should contact EDVOTEK® to explain the problem and obtain a Return Goods Authorization #. After obtaining the RGA #, return the unit if necessary and include any details of the fault observed. Remember to return the unit in its original packing. EDVOTEK® accepts no responsibility for damage to units that are not properly packed for shipping.   See the Decontamination Certificate supplied with your unit.

1. **Cleaning**

    Before cleaning your unit ALWAYS disconnect from the power supply and allow to cool below 50° C. The unit can be cleaned by wiping with a lightly damp, soapy cloth. Care should be exercised to prevent water from running inside the unit. Do not use abrasive cleaners.

2. **Fuses**

    The unit is protected by one fuse. This fuse should only be changed by suitably qualified personnel. If the fuse blows persistently, a serious fault is indicated and you may need to return the unit for repair. The fuse is located in the back of the unit in the AC adapter.

Guarantee

The unit is guaranteed against any defect in material or workmanship for two years. Please fill out the warranty card as soon as possible to ensure proper warranty coverage. The warranty period is from the date of purchase, and within this period all defective parts will be replaced free of charge provided that the defect is not the result of misuse, accident or negligence. Servicing under this guarantee should be obtained from EDVOTEK. Notwithstanding the description and specification(s) of the units contained in the User's Manual, EDVOTEK hereby reserves the right to make such changes as it sees fit to the units or to any component of the units. This Manual has been prepared solely for the convenience of EDVOTEK customers and nothing in this Instruction Book shall be taken as a warranty, condition or representation concerning the description, merchantability, fitness for purpose or otherwise of the units or components.

Warning! Please note that the keypad on the EdvoCycler™ is easily damaged by sharp objects such as pens, pencils and fingernails. Damage of this sort will be considered as misuse and will invalidate the guarantee on this unit.

Contact Information

For technical, sales or servicing information, contact:
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EdvoCycler™ Quick Guide

MAIN MENU (Screen A)
Move cursor UP and DOWN; select by pressing ENTER; escape by pressing ESCAPE.

LOAD PROGRAM (Screen B)
Select one of 20 saved programs by using UP or DOWN and pressing ENTER.

PROGRAM SCREEN (Screen C)
Shows temperatures, times, and number of cycles; Press RUN to start.
Once running, press PAUSE to pause. "P" will flash by the time.
Press RUN again to continue.
To abort the program while running, press ESCAPE. Then choose YES or NO.
Scroll UP or DOWN to choose. NO will return to experiment. YES will return to MAIN MENU.

IMPORTANT - Always check the PCR cycling parameter in the EDVOTEK manual that accompanies your experiment. Compare the program to ensure that it matches the pre-programmed cycles. If there has been a change, it will be necessary to modify the existing program to match the new parameters.

Modify Saved Program
Select one of 20 saved programs by using UP or DOWN and pressing ENTER.

To modify the temperature, time, and number of cycles, scroll to value to be changed; press ENTER. Using keys 0-9, punch in desired value. NOTE: You will need to keep same number of digits; so if 45 sec., you will need to enter 0045.
Can enter 001 - 999 for program numbers; 1 - 60 for # of cycles, 15 - 99 for temperature, and 0 - 1800 seconds for time. (Screen D)
Once finished, ESCAPE back to MAIN MENU.

Create NEW Program

Change values by pressing ENTER and keying in numerical values.To modify the temperature, time and number of cycles, scroll to value to be changed; press ENTER. Using keys 0-9, punch in desired value. NOTE: need to keep same number of digits; so if 45 sec., enter 0045. Once finished, ESCAPE back to MAIN MENU.

NOTE: There are only 20 program slots; if you create a program in addition to 20, the last one will be deleted.

Delete Saved Program

Use DELETE SAVED PROGRAM to create a space for a new program when all program space is full. Press ENTER to select one of 20 saved programs. Press ENTER to choose and select YES or NO.
Once complete, you will automatically be placed back into the MAIN MENU.

TEMP HOLD PARAMS (Screen E)
Use to select whether or not you want the unit to keep the block at a constant temperature after an experiment is complete. Press ENTER for YES or NO.

Select the hold temperature by pressing ENTER, then use the UP or DOWN keys to choose between 10 - 94, Press ESCAPE when the desired temperature is selected.
Scroll to RETURN and press ENTER to go back to MAIN MENU.

NOTE: The heated lid shuts off when the unit finishes a program and goes to hold.
WARNING: Running the unit for long periods of time at high or low temperatures will shorten the lifespan of the unit.

EdvoCycler™

Quick Guide Screens

A

```
         MAIN MENU
> LOAD SAVED PROGRAM
  MODIFY SAVED PROGRAM
  CREATE NEW PROGRAM
  DELETE SAVED PROGRAM
  TEMP HOLD PARAMS
```

B

```
       LOAD PROGRAM
> 330    336    341    669
  331    337    701    000
  332    952    004    000
  333    961    371    111
  334    962    764    000
```

C

PROGRAM 330	TEMP	TIME
Init Denat		
Denaturation	94	0040
Annealing	45	0045
Extension	72	0045
Final Ext	72	0300
Cycles	01	30

D

PROGRAM >000	TEMP	TIME
Init Denat	00	0000
Denaturation	00	0000
Annealing	00	0000
Extension	00	0000
Final Ext	00	0000
Cycles	00	00

E

```
   TEMPERATURE HOLD MENU

  TEMP HOLD ON
> SET HOLD TEMP         010
  RETURN
```

GETTING STARTED

Turn on the power switch ("|" mark is on, "O" mark is off).
Use the up or down button on the front panel to select the desired function (the arrow to the left of the menu will allow you to choose that selection).

The five options are as follows:

> LOAD SAVED PROGRAM
> MODIFY SAVED PROGRAM
> CREATE NEW PROGRAM
> DELETE SAVED PROGRAM
> RUN PROGRAM

LOAD SAVED PROGRAM

Use this function if you are running an EDVOTEK® kit. The programs for most EDVOTEK® PCR kits are pre-loaded on the EdvoCycler™ and ready-to-run. Simply follow EDVOTEK instructions for preparing DNA samples for PCR and place tubes in the EdvoCycler™. The block holds only 0.2 ml PCR tubes - if PCR sample is prepared in a different tube, you must transfer sample to a 0.2 ml thin-wall PCR tube (supplied in all EDVOTEK® PCR kits).

IMPORTANT

Always check the PCR cycling parameters in the EDVOTEK® manual that accompanies your experiment. Compare the program to ensure that it matches the pre-programmed cycles. If there has been a change, it will be necessary to modify the existing program to match the new parameters.

1. Scroll to **LOAD SAVED PROGRAM** and press enter.

2. Scroll up or down to the desired program and press enter. Check with the kit instructions to make sure parameters match with screen display. If they do not, reference **MODIFY SAVED PROGRAM** section and make the necessary changes to the existing program.

LOAD SAVED PROGRAM, continued

3. Load tubes in block. If all spaces will be used, it may be necessary to "nest" tubes (place tubes aligned with one another and facing the same direction). See Figure 1.   Close lid.

4. Press the RUN button. The lid starts to preheat or the cycling will begin immediately.

5. When the cycling steps begin, you can monitor the progress on the screen display. The flashing arrow indicates the current status. The bottom row (Cycles) shows current cycle to the left and the total # of cycles to the right.

6. To end the cycling at any time: Press the escape button and scroll with the up or down button, enter **YES** to stop the experiment.
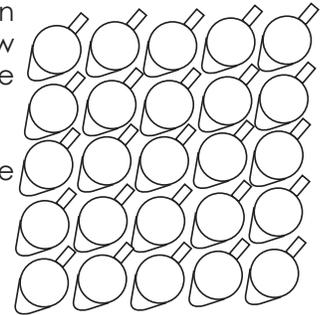
MODIFY SAVED PROGRAM

Use this function to modify or to make an adjustment to an existing program.

1. Scroll to **MODIFY SAVED PROGRAM** and press enter.

2. Scroll up or down to the desired program and press enter.

3. Scroll to the setting you wish to change and press enter. When the item disappears, enter the new parameter.

4. Scroll to another setting you wish to modify. After you are satisfied with the changes to the program, press the escape button and the changes will be saved. Time is entered as seconds (i.e. 30 seconds is displayed as 0030, 2 minutes is displayed as 0120).

5. To run the modified program, scroll to **LOAD SAVED PROGRAM** and follow the directions running a saved program.

CREATE NEW PROGRAM

*Note - if an incorrect entry is made at any time during **CREATE NEW PROGRAM**, simply scroll up or down to the wrong entry and press enter. When the item disappears, enter the correct parameter.*

1. Scroll to **CREATE NEW PROGRAM** and press enter.

2. Press the enter button and then enter the new program number.

3. If an initial denaturation is not desired, scroll down to **Denaturation** (see below for entering PCR cycles).

4. If an initial denaturation is desired, press the enter button and enter the **Initial Denaturation** temperature. Next, press the enter button again and enter the **Initial Denaturation** time (i.e. for 3 min., enter the time as 0180).

continued

Warning !

The heated lid will get very hot – use extreme caution to avoid getting burned

Figure 1

CREATE NEW PROGRAM, continued

5. Enter the three PCR cycling steps.

6. Press enter at the **Denaturation TEMP** and enter the desired temperature. Press enter at the **Denaturation TIME** and enter the desired time (i.e. for 30 seconds, enter the time as 0030).

7. Press enter at the **Annealing TEMP** and enter the desired temperature. Press enter at the **Annealing TIME** and enter the desired time.

8. Press enter at the **Extension TEMP** and enter the desired temperature. Press enter at the **Extension TIME** and enter the desired time.

9. If a final extension is not desired, scroll down to the **Cycles** default (see below for entering the number of cycles).

10. If a final extension is desired, press the enter button and enter the final extension temperature. Next, press the enter button again and enter the final extension time.

Finally, press the enter button at the **Cycles** default.
Enter the number of cycles for the PCR cycling steps.
The number to the right is the total number of cycles and the number to the left will display as the current cycle in progress.

> **NOTE:**
>
> Time is entered as seconds. (For example: 30 sec. = 0030, 2 min. = 0120.)

DELETE SAVED PROGRAM

The EdvoCycler™ can hold 20 saved programs. From time to time it may be necessary to delete old programs to make room for new programs. Remember, once a program is deleted, it cannot be retrieved. You will need to re-enter the program (you may want to record the PCR cycling steps for programs that are deleted).

1. Scroll to **DELETE SAVED PROGRAM** and press enter.

2. Scroll to the program you wish to delete and press enter. When prompted **"ARE YOU SURE?"** press enter **YES** to delete the program or scroll up or down to enter **NO** to keep the program.

TEMP HOLD PARAMS

From the Main Menu: TEMP HOLD PARAMS
Enter into that menu:
- Temp Hold (scroll for on/off)
- Set Hold Temp: 4°C - 10°C
- Return (enter here to go back to main menu)

NOTE: Running the thermal cycler on hold for long periods of time will shorten the life of the unit.

RUN SAVED PROGRAM

This option will run the last program entered.

1. Scroll to **RUN SAVED PROGRAM** and press the enter button. The last program entered will begin cycling.

PAUSE or ESCAPE

Use this option to pause or end a program.

1. While a program is running, push PAUSE to temporarily hold a cycle at a certain point. USE EXTREME CAUTION WHEN OPENING THE LID AND REMOVING SAMPLES FROM THE BLOCK – THE HEATED LID AND BLOCK WILL BE VERY HOT.

2. When ready to return to the program, replace samples to the block, close the lid and push the RUN button.

3. To stop the program while it is running, press the escape button. Press the up or down button to YES and press enter to abort the program.

If at any point the unit freezes-up, turn power off at the switch located at the back, wait a few minutes to allow the unit to cool, and turn it back on.