Warranty and Liability

All BIONEER products are tested under extensive Quality Control procedures. BIONEER guarantees the quality under the warranty period. Any problems should be reported immediately. Liability is conditional upon the customer providing full details of the problem to BIONEER. Once the problem occurred, customer must report to BIONEER within 30 days.

QC Testing

Each lot of BIONEER's product is carefully tested in the quality control team.

Trademarks

MyGenie^{TM} 96 Gradient Thermal Block is trademark of Bioneer Corporation.

MyGenie^{TM} 96 Gradient Thermal Block can be used the polymerase chain reaction (PCR). PCR is covered by patents owned by Hoffmann-La Roche, Inc., and F.Hoffmann-La Roche, Ltd. Roche and its licensees provide end-user licenses within their respective fields. Anyone who intends to use MyGenie^{TM} 96 Gradient Thermal Block to do PCR is encouraged to contact Hoffmann-La Roche for more information, at one of the addresses below.

In the United States :

Kathe Kiehn
Licensing Manager
Roche Molecular Systems, Inc
1145 Atlantic Avenue
Alameda, CA 94501 USA
(510) 814-2970
Fax : (510) 814-2997

In other nation:

Dr. Agnieszka Junosza-Jankowski
PCR Licensing Manager
F. Hoffmann-La Roche Ltd.
Building 222/350
CH-4002 Basel, Switzerland
41-61-687-3031
Fax : 41-61-687-21

Content

MyGenie^{TM} 96 Gradient Thermal Block

< User's Guide >

CHAPTER 1. Introduction

1. Introduction

MyGenie^{TM} 96 Gradient Thermal Block is a cost-effective, peltier-based thermal block for life science research, equipped with a temperature control system.

MyGenie^{TM} 96 Gradient Thermal Block is different from the existing thermal cycler. It has various function (Gradient, temperature increment, time increment, ramp rate control). Especially, gradient function can optimize the experiment in short time.

This system is light and compact size that it doesn't take too much space and easily movable. It has friendly user's interface that it is convenient for users to program for their own usage.

CHAPTER 2. System components & specification

2. System components and specifications

This product has one (1) year warranty. Any damaged made by the user's mistake or mishandled, there will be no warranty. After one (1) year, repair will be charged.

2.1. System components

Cat. No. A – 2040-1	
Main body	1 unit
User's manual	1 copy
Guarantee card	1 copy
A/S request	1 copy

2.2. Specifications

Physical specifications	
Dimension (mm)	238 (w) X 235 (h) X 297 (d)
Weight (Kg)	8.0 kg
Sample capacity/Size	96 well / 0.2 ml micro tubes
Display	20 × 4 Character LCD
Keypad	20 Key
Power input	110/220 ± 10 Volt, 50/60Hz, 800 Watt
Operating specifications	
Method of heating	Peltier
Method of cooling	Peltier
Temperature range	4.0℃ ~ 99.9℃
Temperature accuracy	± 0.3℃
Temperature uniformity	± 0.5℃
Ramping speed	Max 2.5℃
Lid temperature	90℃~120℃
Gradient range	1℃~20℃
Temperature increment range	0.1℃~9.9℃
Time increment range	1s~60s
Ramp rate control	0.1℃/s Set up per unit
Operating temperature	20 ~ 30℃
Operating humidity	20 ~ 80% (Condensate will happen in the bath)
Software specification	
Number of program	150
Number of repeated cycles	99
Number of steps/program	40
Temperature input range	4.0℃ ~ 99.9℃

2.3. System views

(1) Front view

Lid   Knob

Display window

Soft Key

(2) Side views

Air outlet vents

Knob

Air outlet vents

(3) Rear view

Power on/off switch
& Plug connector

(4) Top view

Hot top

Heating block

(5) Soft keys

Numeric key

Function key

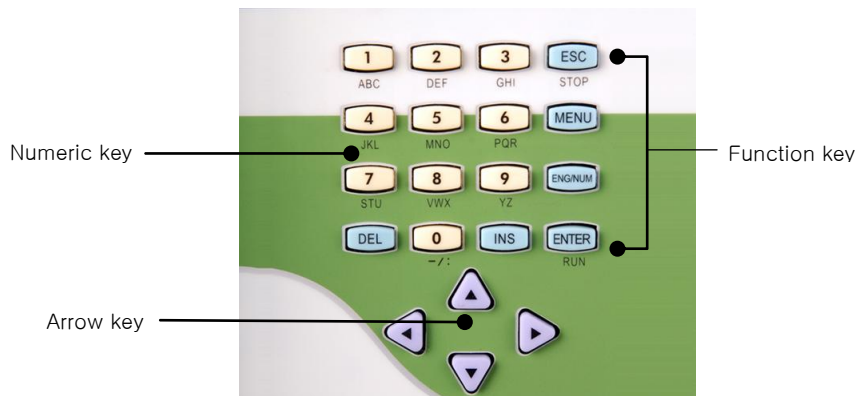Arrow key

CHAPTER 3. Safety warnings

3. Safety warnings

Before operating the instrument, read the information in this section concerning hazards and potential hazards.

⚠ Warnings : If not followed the serious damage and harm will occur even death.

⚠ Cautions : If not followed, there will be danger to face serious damages and harms.

3.1. Set up

⚠ Warning

1) Before connecting the main power, check the voltage against the rating plate. This instrument is configured for use either at 220 voltage or at 110 voltage; the unit is set at 220 volt at the time of shipment.

2) Use ground connected Power. If it is not grounded, the system may break down or there may have electric leakage to cause electric shock.

3) If the power plug is loose, DO NOT use it since there may be damage in plug. Damage in plug may cause electric shock and fire.

4) DO NOT use many instruments sharing the Power plug at the same time. It may heat up to cause fire.

5) While you plug in and plug out the power plug, MAKE SURE hands are dry.

6) DO NOT put hot objects on or near flammable objects. This may cause fire.

7) DO NOT place any liquid directly in your unit.

8) DO NOT install My Genie 96 in the place where inflammable, acid gas could be leaked nor close to such environment. If any gas is leaked, DO NOT turn on the power, but open the window immediately to ventilate, any case of fire sparkle, this may cause the explosion and fire.

9) DO NOT disassemble nor modify the product.

⚠ Caution

1)   MAKE SURE there is no dust on the plug before plug the power in. Plug the power tightly that it is not loose.

2)   Use the product in the room temperature between 20℃～30℃. If the temperature is too high, the product may not operate properly.

3)   DO NOT PLACE any items on the sides of the product. It may disturb the ventilation, and so it may damage during operation.

4)   DO NOT Drop the product. Any percussion may damage the product.

5)   If the product is not used for long time, unplug the power to prevent possible heat up.

3.2. Operating and Managing

⚠ **Warning**

1) DO NOT use this product other than Thermal Block. Damage and accident may occur.

2) DO NOT place any paper, cardboard, cloth, etc under the product. This is to prevent any cause of fire.

3) DO NOT cover with any paper, cloth, or plastic on the product.

4) DO NOT open or touch right after the operation. This is to prevent burning.

5) In case of any modification is done or assemble during block change, this may not operate normally and if any damage occurs, BIONEER will charge for the repair.

CHAPTER 4. Operation

4. Operation

4.1. Using the keys

The keys on the control panel have the following functions:

1) ENTER/RUN : Enters information typed into a field and advances the cursor to the next field on a screen ; Start a Program you select.

2) MENU : Returns you to the Main menu at any time.

3) ENG/NUM : Switch between English letter and number while entering a Program name.

4) ESC/STOP : Moves to the one step upper level of menu ; Clears an entry; Stops a Program while it is running.

5) INS. : Insert a letter or a number into a word or number ; Insert a step into a Program.

6) DEL. : Removes information from a field.

7) Numeric key : Enters numbers from left to right into a field you highlight.

8) Arrow key : Moves the cursor to different fields on the display screen in the direction of the arrow.

4.2. Main Menu

1) RUN : Displays a Program last used, which can be run directly by pressing the ENTER/RUN key.

2) CREATE : From the CREATE menu, you can create, store, and run a Program of your choice.

3) PROGRAM : A Program can be modified, copied, deleted, viewed or folder renamed.

4) OPTION : Shows gradient calculator, temperature control mode.

4.3. Instrument Self-Test

After turning on the instrument, MyGenie^{TM} 96 Gradient Thermal Block will perform a self-test routine. Make sure that the Main menu appears after the self-test. If any error occurs, call a BIONEER service representative for service.

1)   Turn on the instrument.

2)   The Display Widow will be like either (a) or (b)

(a) <u>If everything is OK</u>

: After 3~10 seconds of self-test, the Main menu appears.

```
MYGENIE 96

  SYSTEM CHECKING

BATH PART   > >
```

```
MYGENIE 96

  SYSTEM CHECKING

  LID PART   > >
```

```
MYGENIE 96

  SYSTEM CHECKING

  MEM. PART   > >
```

↓

```
1 . RUN : TEST

2 . CREATE

3 . PROGRAM        B-96

4 . OPTION        T-MODE
```

(b) **If there is a problem with the instrument**

: The system will show an error message on which part has a problem.

```
MYGENIE 96

  SYSTEM CHECKING

BATH PART  > >
```

```
MYGENIE 96

SYSTEM CHECKING

BATH PART  > > > > > >

RESET STM . REQ . A / S
```

```
MYGENIE 96

SYSTEM CHECKING

LID PART  > > > > >

RESET STM . REQ . A / S
```

```
MYGENIE 96

SYSTEM CHECKING

MEM . PART  > > > > >

RESET STM . REQ . A / S
```

If you have an error message, turn off the instrument and call a BIONEER service representative.

4.4. Using the Main Menu

4.4.1. Using the RUN

From the RUN menu, you can start a Program by selecting the ENTER/RUN key. The Program last used appears on the Main menu, and you can start the Program by selecting the ENTER/RUN key after pressing the soft key '1' or moving the cursor to '1'.

```
The Program last used appears on the
Main menu
```

```
1 . RUN : TEST
2 . CREATE
3 . PROGRAM     B-96
4 . OPTION      T-MODE
```

Select "1" / Press the ENTER/RUN

```
RUNNING      TEST
PRECOOLING
BLOCK : 24.9 °
ESTI. TIME : 0 1 : 2 5 : 0 9
```

Use ESC/STOP key to stop the system.   If ESC/STOP Key is pressed, the dialog will confirm to stop again.   Select ESC key to continue or Select Enter key to stop.

```
RUNNING      TEST

01 : 94.0 °    05:00→04:53

BLOCK : 24.9 °

ESTI. TIME : 0 1 : 2 3 : 2 9
```

Press the ESC/STOP

```
MyGenie 96   STOP ?


    YES − −> ENTER

    NO   − −> ESC
```

① Press the ENTER/RUN   ② Press the ESC/STOP key

```
1 . RUN : TEST

2 . CREATE

3 . PROGRAM      B−96

4 . OPTION       T−MODE
```

```
RUNNING      TEST

01 : 94.0 °    05:00→04:43

BLOCK : 24.9 °

ESTI. TIME : 0 1 : 2 3 : 1 9
```

If the system is shot down abnormally, such as sudden blackout or by user's mistake, it will go through self-testing so that it could execute again from the time where the system has shot down or it could stop operating. The diagram below shows as you press ENTER key, the system can execute again or press ESC key to stop to go to main menu.

```
┌─────────────────────────────┐
│  PROGRAM   TEST             │
│                             │
│  STOPPED AT 01 CYCLES       │
│                             │
│  ENTER TO CONTINUE          │
│                             │
│  ESC FOR STOP        299    │
└─────────────────────────────┘
```

Press the ENTER/RUN   Press the ESC/STOP

```
┌──────────────────────────────┐      ┌──────────────────────────────┐
│  RUNNING       TEST          │      │  1 . RUN : TEST              │
│                              │      │                              │
│  02 : 54.0 ˚   00:30→00:23   │      │  2 . CREATE                 │
│                              │      │                              │
│  BLOCK : 24.9 ˚     01/30    │      │  3 . PROGRAM     B-96       │
│                              │      │                              │
│  ESTI. TIME : 0 1 : 1 5 : 1 9│      │  4 . OPTION      T-MODE     │
└──────────────────────────────┘      └──────────────────────────────┘
```

4.4.2. Using the CREATE

In CREATE function, you can give various command such as Gradient, temperature increment, time increment, ramp rate control. It is possible to input up to 40 steps and even any complicated and long programs can be created conveniently. You can save up to 150 programs that many users can use the same machine.

4.4.2.1. Command usage

You can choose up to 8 commands to use the machine. Make sure to understand each command and usage before creating the program.

1)   TEMP : Temperature and time setting.

Temp. range: 4.0℃~99.9℃

Time range : 00:01 ~99:59

```
0 1   TEMP   94.0 °   05:00

0 2   TEMP   94.0 °   00:30

0 3   TEMP   54.0 °   00:30

0 4   TEMP   72.0 °   00:30
```

2)   GOTO : Repeat from step previous step and input step and repeating times you had programmed. The following is the example. It will repeat step 2 and step 4 for 30 times.

```
0 1   TEMP   94.0 °   05:00

0 2   TEMP   94.0 °   00:30

0 3   TEMP   54.0 °   00:30        Repeating range (02 step ~ 04 step)

0 4   TEMP   72.0 °   00:30

0 5   GOTO   02   30 times
```

3) STORE : The temperature will remain at what you had stored. It is possible to set the temperature from 4.0℃~99.9℃.

4) GRAD (Gradient) : Set the first column and last column of 12 columns. It will automatically set the temperature linearly. The temperature ranges from 40℃~75℃ can used and from one side to other sides, the temperature may differ from 1℃~20℃.

```
0 1   TEMP   94.0 °   05:00

0 2   TEMP   94.0 °   00:30

0 3   GRAD  40→60°   00:30

0 4   TEMP   72.0 °   00:30
```

5) TEMP± (Temperature increment) : Insert the temperature increment. The temperature could be programmed up to ±9.9℃. The temperature will be changed per cycle as you programmed.

```
0 1   TEMP    94.0 °    05:00

0 2   TEMP    94.0 °    00:30

0 3   TEMP    54.0 °    00:30

0 4   TEMP±   – 0.1 °/ cyc

0 5   GOTO   02   12 times
```

In each cycle, the step 3, the temp., 54° will change.

6) TIME± (Time increment) : Insert the time increment. The time could be programmed up to ±60 sec. The time will be changed per cycle as you programmed.

```
0 1   TEMP    94.0 °    05:00

0 2   TEMP    94.0 °    00:30

0 3   TEMP    54.0 °    00:30

0 4   TIME±   + 01 sec/cyc.

0 5   GOTO   02   30 times
```

In each cycle, the step 3, the time. 30s will change. 1s will increase to run it.

7)   RAMP (Ramp rate control): It is to control Ramp rate. The step before and right after the changes of the temperature and the time will be set in the Ramp rate control. In case of the following as an example, the temperature from 01 step, (94°) to 03 step(54°) will change at the speed of 0.5°/sec.

```
0 1   TEMP   94.0 °   00:30

0 2   RAMP       0.5 ° / sec

0 3   TEMP   54.0 °   00:30

0 4   TEMP   72.0 °   00:30

0 5   GOTO   01   30 times
```

8)   END : It is command to finish the Program. END command must be inserted to finish the program. Otherwise, the program will be inserted automatically saved.

```
3 6   TEMP   94.0 °   00:30

3 7   TEMP   68.0 °   00:30

3 8   GOTO   35   10 times

3 9   TEMP   72.0 °   10:00

4 0   END =============
```

4.4.2.2. Program usage

From the CREATE menu, you can create, store, and run a Program of your choice.

1) From the Main menu, select Program by pressing the numeric key '2', or moving the cursor to '2' (CREATE) and then pressing the ENTER/RUN key.

```
1 . RUN : TEST

2 . CREATE

3 . PROGRAM        B-96

4 . OPTION         T-MODE
```

2) In the folder panel, you can select the folder by numbers or direction keys. Choose the folder and press ENTER/RUN key.

NOTE : There are 6 folders. It is convenient to share the folders with other users. The direction of naming the folder will be described in 4.4.3.5.

```
CREATE TO          000/150

1 : FOLD01    2 : FOLD02

3 : FOLD03    4 : FOLD04

5 : FOLD05    6 : FOLD06
```

3) From the below screen, enter what you want. In the PROGRAM NO field, a number will be automatically given. In the NAME field, enter a alphanumeric name up to ten characters in length. Press ENTER/RUN key.

```
< FOLD01 >        ENG

PROGRAM NO : 001

NAME : TES
```
Use the ENG/NUM key

4) In the LID HEATING field, use the direction keys (↑↓) to select ON or OFF. If you select LID ON mode, the default lid temperature is 105℃. But, you can set lid temperature ranges from 90~120℃.

NOTE : If you select LID OFF mode, lid is not heated.

Hot lid is turned off in case bath temperature is 20℃ or below even if LID ON mode

```
< FOLD01 >           ENG

PROGRAM NO : 001

NAME : TEST

LID ON : 105℃
```

5) Next, from the below screen, move the cursor to ① by pressing the direction keys.

```
TEST              LID : 105˚

0 1   ①

0 2

0 3
```

6) TEMP is the only command for 01 step. The other commands are begun at 02 step, however, you can use the direction keys (↑↓) to select one of the eight commands.

※ The direction of command usage will be described in 4.4.2.1.

```
TEST              LID:105˚

0 1  TEMP  94.0˚   05:00

0 2  TEMP

0 3
```

```
TEMP
GOTO
STORE
GRAD
TEMP±
TIME±
RAMP
END
```

7) On the below screen, you can enter temperature and time control parameters. Storing a method completes the creation of it. Pressing the ENTER/RUN key displays the SAVE PROGRAM screen. Press ENTER/RUN or ESC/STOP as you wish.

```
 TEST                LID:105°

 0 1   TEMP   94.0°    05:00

 0 2   TEMP   94.0°    00:30

 0 3   TEMP   54.0°    00:30
```

```
 0 4   TEMP   72.0°    00:30

 0 5   GOTO   02   30 times

 0 6   STORE AT 08.0°

 07    END =============
```

Press the ENTER/RUN   Press the ESC/STOP (NO)

```
 NEW

 <FOLD01>   TEST

 SAVE PROGRAM?    YES
```

Press the ENTER/RUN (YES)

```
 PROGRAM SAVED

 RUN PROGRAM ?    YES
```

4.4.3. Using the PROGRAM

4.4.3.1. EDIT

After you create a Program, you can edit the parameters in it and store it by the same name.   Name of a Program cannot be modified.

1)   From the Main menu, select Program by pressing the numeric key '3', or moving the cursor to '3' (PROGRAM) and then pressing the ENTER/RUN key.

```
1 . RUN : TEST

2 . CREATE

3 . PROGRAM      B-96

4 . OPTION       T-MODE
```

2)   On the below screen, you can select EDIT by pressing the numeric key '1', or moving the cursor to '1' (EDIT) and then pressing the ENTER/RUN key.

```
PROGRAM

1 . EDIT      2. COPY

3 . DELETE    4. VIEW

5. FOLDER RENAME
```

3)   In the folder panel, you can select the folder by numbers or direction keys.   Choose the folder and press ENTER/RUN key.

```
EDIT             010/150

1 : FOLD01    2 : FOLD02

3 : FOLD03    4 : FOLD04

5 : FOLD05    6 : FOLD06
```

4) The program list will appear in the selected folder. Select the program for edit as indicated below.

① Select the program using direction key (↑↓) and press ENTER/RUN.

```
EDIT <FOLD01>        005

004   TEST

001   TEST0305

010   GRADIENT
```

② If you remember the number of the program, press the number. The number will appear in the right side.

```
EDIT <FOLD01>        005

007   NORMAL

001   TEST0305

010   GRADIENT      007
```

Press soft key 0→0→7 in order. The program number will appear in the first line.

5) View the parameters of a Program before editing. Edit control parameters as necessary.
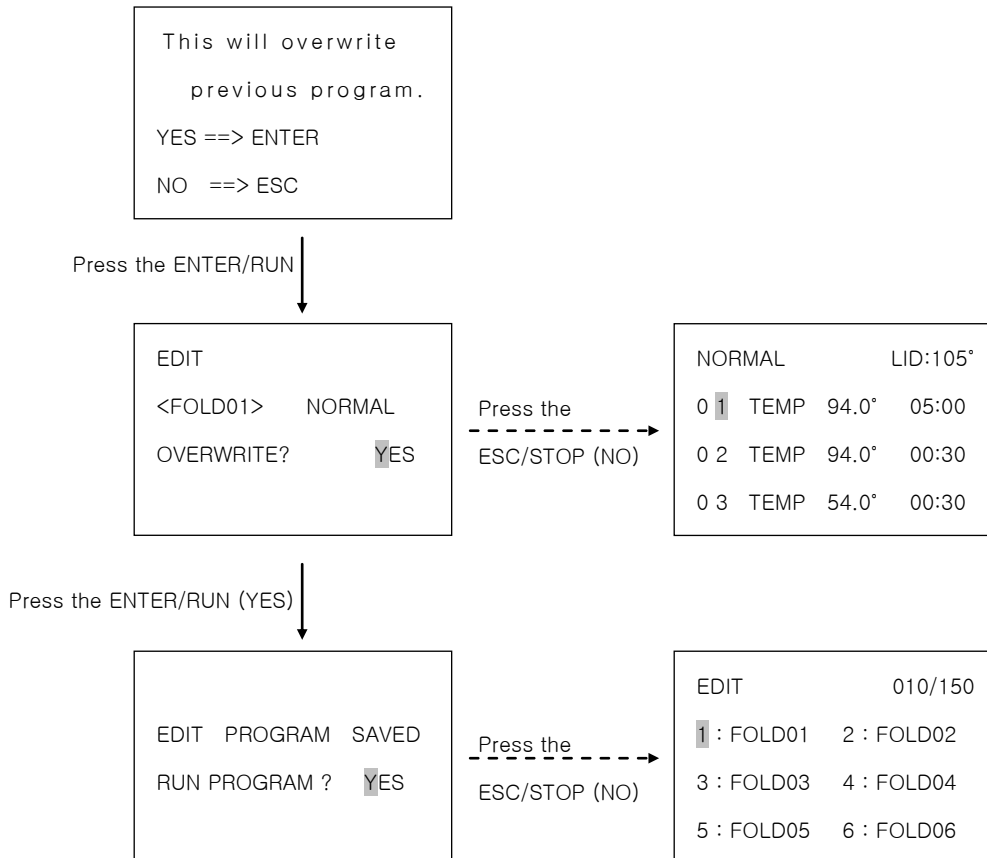
```
EDIT                 ENG

<FOLD01>

NAME : NORMAL

LID ON : 105°
```

```
NORMAL          LID:105°

0 1   TEMP   94.0°   05:00

0 2   TEMP   94.0°   00:30

0 3   TEMP   54.0°   00:30
```

6) Press the ENTER/RUN key and store the Program. Pressing the ENTER/RUN key or ESC/STOP key.

```
┌─────────────────────────┐
│  This will overwrite    │
│    previous program.    │
│ YES ==> ENTER           │
│ NO  ==> ESC             │
└─────────────────────────┘
```

Press the ENTER/RUN ↓

```
┌─────────────────────────┐            ┌─────────────────────────────┐
│ EDIT                    │            │ NORMAL          LID:105°    │
│ <FOLD01>    NORMAL      │ Press the  │ 0 1  TEMP  94.0°    05:00   │
│                         │ - - - - -▶ │                             │
│ OVERWRITE?        YES   │ ESC/STOP   │ 0 2  TEMP  94.0°    00:30   │
│                         │ (NO)       │ 0 3  TEMP  54.0°    00:30   │
└─────────────────────────┘            └─────────────────────────────┘
```

Press the ENTER/RUN (YES) ↓

```
┌─────────────────────────┐            ┌─────────────────────────────┐
│                         │            │ EDIT            010/150     │
│ EDIT  PROGRAM  SAVED    │ Press the  │ 1 : FOLD01   2 : FOLD02     │
│                         │ - - - - -▶ │                             │
│ RUN PROGRAM ?    YES    │ ESC/STOP   │ 3 : FOLD03   4 : FOLD04     │
│                         │ (NO)       │ 5 : FOLD05   6 : FOLD06     │
└─────────────────────────┘            └─────────────────────────────┘
```

4.4.3.2. COPY

In the COPY menu, you can copy and save a Program by a different name. You may want to edit the copied Program and save the Program with a different Program name.

1) From the Main menu, select Program by pressing the numeric key '3', or moving the cursor to '3' (PROGRAM) and then pressing the ENTER/RUN key.

```
1 . RUN : TEST
2 . CREATE
3 . PROGRAM      B-96
4 . OPTION       T-MODE
```

2) On the below screen, you can select COPY by pressing the numeric key '2', or moving the cursor to '2' (COPY) and then pressing the ENTER/RUN key.

```
PROGRAM
1 . EDIT     2. COPY
3 . DELETE   4. VIEW
5. FOLDER RENAME
```

3) In the folder panel, you can select the folder by numbers or direction keys. Choose the folder and press ENTER/RUN key.

```
COPY             010/150
1 : FOLD01    2 : FOLD02
3 : FOLD03    4 : FOLD04
5 : FOLD05    6 : FOLD06
```

4) The program list will appear in the selected folder. Select the program for copy as indicated below.

① Select the program using direction key (↑↓) and press ENTER/RUN.

```
COPY <FOLD01>       005

004   TEST

001   TEST0305

010   GRADIENT
```

② If you remember the number of the program, press the number. The number will appear in the right side.

```
COPY <FOLD01>       005

007   NORMAL

001   TEST0305

010   GRADIENT      007
```

Press soft key 0→0→7 in order. The program number will appear in the first line.

5) Select the folder using direction key (↑↓) and press ENTER/RUN.

```
COPY FROM :          ENG

   <FOLD01>      NORMAL

TO :

   <FOLD02>
```

6) Enter the name of the program from the copy file. You cannot make the same name within one folder, however if the folder is different, you can use the same program name.

```
COPY FROM :        ENG

  <FOLD01>   NORMAL

TO :

  <FOLD02>   NORMAL1
```

Press the ENTER/RUN ↓

```
COPY              011/150

1 : FOLD01    2 : FOLD02

3 : FOLD03    4 : FOLD04

5 : FOLD05    6 : FOLD06
```

The number of program is increased from 10 to11.

4.4.3.4. DELETE

You can delete Programs from the DELETE screen.

1) From the Main menu, select Program by pressing the numeric key '3', or moving the cursor to '3' (PROGRAM) and then pressing the ENTER/RUN key.

```
1 . RUN : TEST

2 . CREATE

3 . PROGRAM      B-96

4 . OPTION       T-MODE
```

2) On the below screen, you can select DELETE by pressing the numeric key '3', or moving the cursor to '3' (DELETE) and then pressing the ENTER/RUN key.

```
PROGRAM

1 . EDIT       2. COPY

3 . DELETE     4. VIEW

5. FOLDER RENAME
```

3) In the folder panel, you can select the folder by numbers or direction key. Choose the folder and press ENTER/RUN key.

```
DELETE             022/150

1 : FOLD01    2 : FOLD02

3 : FOLD03    4 : FOLD04

5 : FOLD05    6 : FOLD06
```

4) The program list will appear in the selected folder. Select the program for delete as indicated below.

① Select the program using direction key (↑↓) and press ENTER/RUN.

```
DELETE <FOLD01>      008

004   TEST

001   TEST0305

010   GRADIENT
```

② If you remember the number of the program, press the number. The number will appear in the right side.

```
DELETE <FOLD01>      008

010   GRADIENT

001   TEST0305

007   NORMAL          010
```

5) This displays the Delete Confirmation screen. Use the up and down arrow key to select YES confirm the deletion, then press the ENTER/RUN key. This deletes the Program and returns you to the select folder menu.

```
DELETE

<FOLD01>   GRADIENT

ARE YOU SURE?   YES
```

```
DELETE           021/150

1 : FOLD01    2 : FOLD02

3 : FOLD03    4 : FOLD04

5 : FOLD05    6 : FOLD06
```

The number of program is decreased from 22 to 21

4.4.3.4. VIEW

From the VIEW menu, you can select and run a stored Program. After reviewing a Program parameters by selecting a stored Program, you can run the Program by pressing the ENTER/RUN key.

1) From the Main menu, select Program by pressing the numeric key '3', or moving the cursor to '3' (PROGRAM) and then pressing the ENTER/RUN key.

```
1 . RUN : TEST

2 . CREATE

3 . PROGRAM        B-96

4 . OPTION         T-MODE
```

2) On the below screen, you can select VIEW by pressing the numeric key '4', or moving the cursor to '4' (VIEW) and then pressing the ENTER/RUN key.

```
PROGRAM

1 . EDIT       2. COPY

3 . DELETE     4. VIEW

5. FOLDER RENAME
```

3) In the folder panel, you can select the folder by numbers or direction keys. Choose the folder and press ENTER/RUN key.

```
VIEW              022/150

1 : FOLD01    2 : FOLD02

3 : FOLD03    4 : FOLD04

5 : FOLD05    6 : FOLD06
```

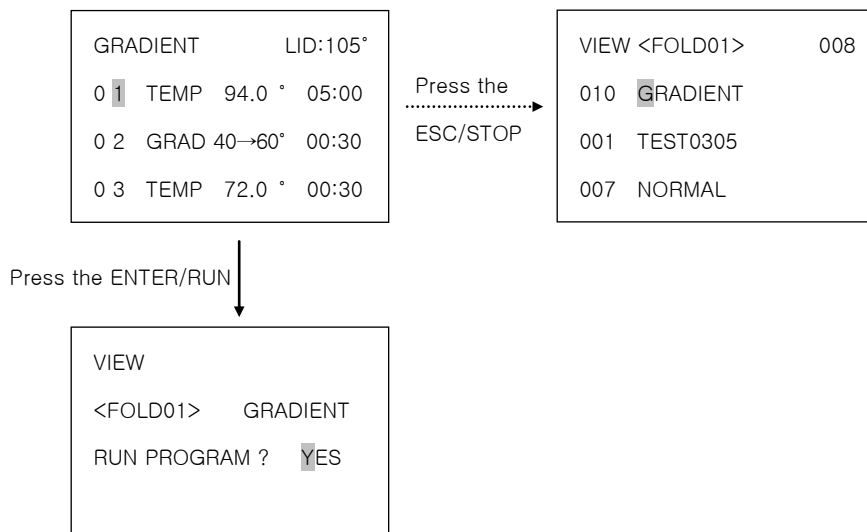4) The program list will appear in the selected folder. Select the program for view as indicated below.

① Select the program using direction key (↑↓) and press ENTER/RUN.

```
VIEW <FOLD01>        008

004   TEST

001   TEST0305

010   GRADIENT
```

② If you remember the number of the program, press the number. The number will appear in the right side.

```
VIEW <FOLD01>        008

010   GRADIENT

001   TEST0305

007   NORMAL          010
```

5) After review the Program parameters, press the ENTER/RUN. Use the up and down arrow keys to select YES or NO.

```
GRADIENT        LID:105˚

0 1   TEMP   94.0 ˚   05:00

0 2   GRAD 40→60˚   00:30

0 3   TEMP   72.0 ˚   00:30
```

Press the
ESC/STOP

```
VIEW <FOLD01>        008

010   GRADIENT

001   TEST0305

007   NORMAL
```

Press the ENTER/RUN

```
VIEW

<FOLD01>      GRADIENT

RUN PROGRAM ?    YES
```

4.4.3.5. FOLDER RENAME

From the FOLDER RENAME menu, you can rename the folder.

1) From the Main menu, select Program by pressing the numeric key '3', or moving the cursor to '3' (PROGRAM) and then pressing the ENTER/RUN key.

```
1 . RUN : TEST
2 . CREATE
3 . PROGRAM      B-96
4 . OPTION       T-MODE
```

2) On the below screen, you can select FOLDER RENAME by pressing the numeric key '5', or moving the cursor to '5' (FOLDER RENAME) and then pressing the ENTER/RUN key.

```
PROGRAM
1 . EDIT       2. COPY
3 . DELETE     4. VIEW
5. FOLDER RENAME
```

3) In the folder panel, you can select the folder by numbers or direction keys. Choose the folder and press ENTER/RUN key.

```
FOLDER RENAME
1 : FOLD01     2 : FOLD02
3 : FOLD03     4 : FOLD04
5 : FOLD05     6 : FOLD06
```

4) Enter the folder name for the selected folder. You can use letters or numbers total of 6 characters are possible to insert.

```
┌─────────────────────────────────────┐
│  FOLDER RENAME        ENG            │
│                                      │
│  OLD NAME : FOLD01                   │
│                                      │
│  NEW NAME : NSM                      │
│                                      │
│                                      │
└─────────────────────────────────────┘
                    │
                    │
                    ▼
┌─────────────────────────────────────┐
│  FOLDER RENAME                       │
│                                      │
│  1 : NSM        2 : FOLD02           │
│                                      │
│  3 : FOLD03     4 : FOLD04           │
│                                      │
│  5 : FOLD05     6 : FOLD06           │
└─────────────────────────────────────┘
```

4.4.4. Using the OPTION

In the option, you can use Gradient calculator and Temperature control mode.

4.4.4.1. GRADIENT CALCULATOR

You can confirm well-to-well temperature by Gradient calculator. Use this option before and after the experiment.

1) From the Main menu, select Program by pressing the numeric key '4', or moving the cursor to '4' (OPTION) and then pressing the ENTER/RUN key.

```
1 . RUN : TEST

2 . CREATE

3 . PROGRAM        B-96

4 . OPTION         T-MODE
```

2) On the below screen, you can select GRAD. CALC. by pressing the numeric key '1', or moving the cursor to '1' (GRAD. CALC.) and then pressing the ENTER/RUN key.
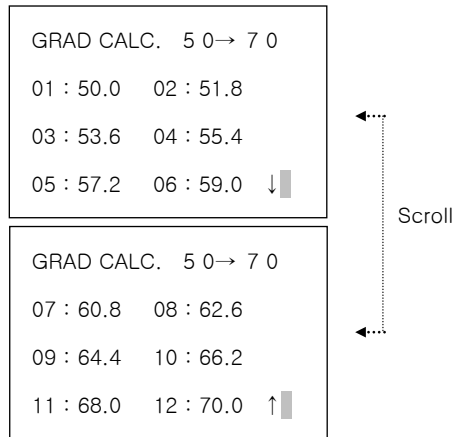
```
OPTION

1 . GRAD. CALC.

2 . TEMP.CONTROL MODE

3 . FACTORY SETTING
```

3) Set the temperature of the first column and the last column of 12 columns.

```
GRAD CALC.   5 0→ 7
```

4) You can confirm the temperature between the inserted temperature ranges. You can use up or down key (↑↓) to see the next or previous screen for temperatures.

GRAD CALC. 5 0→ 7 0

01 : 50.0   02 : 51.8

03 : 53.6   04 : 55.4

05 : 57.2   06 : 59.0   ↓

GRAD CALC. 5 0→ 7 0

07 : 60.8   08 : 62.6

09 : 64.4   10 : 66.2

11 : 68.0   12 : 70.0   ↑

Scroll

4.4.4.2. TEMP. CONTROL MODE

You can select temperature control mode.

(The direction of TEMP. CONTROL MODE will be described on page 38~39.)

1) From the Main menu, select Program by pressing the numeric key '4', or moving the cursor to '4' (OPTION) and then pressing the ENTER/RUN key.

```
1 . RUN : TEST
2 . CREATE
3 . PROGRAM      B-96
4 . OPTION       T-MODE
```

2) On the below screen, you can select TEMP. CONTROL MODE by numeric key '2', or moving the cursor to '2' and then pressing the ENTER/RUN key.

```
OPTION
1 . GRAD. CALC.
2 . TEMP.CONTROL MODE
3 . FACTORY SETTING
```

3) You can select mode by pressing the numeric key, or moving the cursor to mode and then pressing the ENTER/RUN key.

```
TEMP. CONT. MODE
MODE> 1:BLOCK   2:TUBE
WELL>   3: 96      4:384
```

```
1 . RUN : TEST
2 . CREATE
3 . PROGRAM      B-96
4 . OPTION       T-MODE
```

B-96 : 96 well
B-384 : 384 well
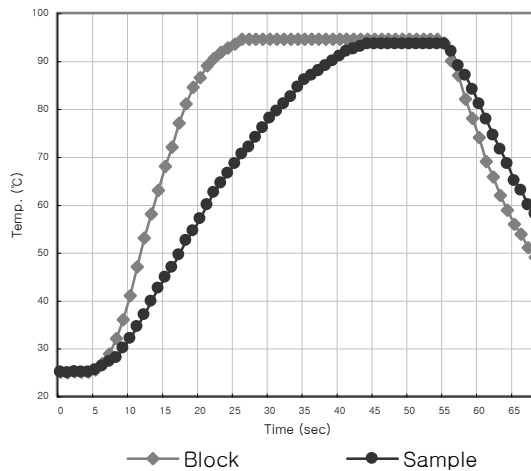
B-MODE : Block mode
T-MODE : Tube mode

Temperature control mode

There are two temperature control mode, block mode and tube mode. Depending on the experiment, you can select either mode. Each mode has different method that result of the experiment can be different. The default mode is tube mode. If you select Block mode, this will only be applied once. If you wish to use block mode, you need to choose each time.
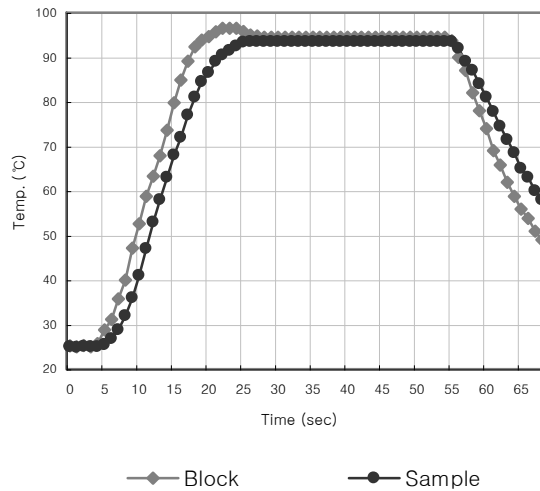
1. Block mode

: In Block mode, the temperature shows only for a block. Under Block mode, the temperature of samples always lags behind the temperature of the block. Please refer to <Figure 1> for the differences of the temperatures between Block and Sample.

< Figure 1. Block mode (94℃, 30sec) >

2. Tube mode

: This graph shows the estimate temperature of the sample since this mode is designed to control the temperature of the sample. This mode is more accurate to control the temperature for the samples than Block mode that it could give better test result for complicated experiments. The display temperature shown is estimate temperature.

< Figure 2. Tube mode (94℃, 30sec) >

CHAPTER 5. TROUBLESHOOTING

5. Troubleshooting

Problem	Solution
Power is not on	Check if it is plugged and turn on the switch.
Delay in operating or temperature control is not accurate.	Check the temperature of the outside of the system and the humidity

Error message	Solution
RESET STM. REQ . A / S	Please contact sales@bioneer.com for the support.
No Program Press any key!!	Program that executed right before had been deleted. Please select other program to execute
Memory full Press any key	There are 150 programs stored in the system. If you need to create or copy, please delete some of the programs.
Save Error No Steps Press any key!	While program is being created, there is no information of operating condition. Input operating conditions
Save Error Step overflow Press any key!	Use all 40 steps to program but did not input END command. Input END command.
Same name was used! Enter other name.	While inserting the Program name or folder name, you have used the same name with existing program or folder. Insert the new name.
Operating Temp. Overflow at ▇cycle	In case of executing inserted Temp. Increment, operating temperature range will exceed in designated cycle. Check the program and reduce the temperature or adjust the number of the cycle.

Operating Temp. Underflow at ▢ cycle	In case of executing inserted Temp. Increment, designated cycle will be 0℃. Check the program and reduce the temperature or adjust the number of the cycle. Temp.
Operating Time Overflow at ▢ cycle	In case of executing inserted Time Increment, operating time range will exceed in designated cycle. Check the program and reduce the temperature or adjust the number of the cycle.
Operating Time Underflow at ▢ cycle	In case of executing inserted Time. Increment, designated cycle will be 0 sec. Check the program and reduce the temperature or adjust the number of the cycle.
No Program To Edit Press any key	There is no program in the selected folder. Select the program in the different program to edit.
No Program To Copy Press any key	There is no program in the selected folder. Select the program in the different program to copy.
No Program To Delete Press any key	There is no program in the selected folder. Select the program in the different program to delete.
No Program To View Press any key	There is no program in the selected folder. Select the program in the different program to view.

CHAPTER 6. ORDERING INFORMATION

& LIMITED WARRANTY

& AFTER SERVICE APPLICATION

6. Ordering information

Product	Cat. No.
MyGenie^{TM} 96 Gradient Thermal Block	A-2040-1
384 Gradient Thermal Block only	A-040-2
MyGenie**TM** 96 Gradient Thermal Block with TCP/IP	A-2040-3
MyGenie**TM** 384 Gradient Thermal block	A-2040-4

LIMITED WARRANTY

Bioneer Corporation tests quality for each product from the Quality Control.　During the limited warranty period, Bioneer will repair any products at free of charge that are caused by mishandled components or any errors by manufacturer.

Product	*MyGenie*™ 96 Gradient Thermal Block
Catalog No.	A-2040-1
Serial No.	
Date of purchase	Year　　　Month　　　Day
Warranty period	From the date of the purchase

1. Guide for Service Application

Once you find that there is a problem in the product, fill out the after service application attached to this manual and summit it by fax or by mail.　If it is not that complicated case, or the repair maybe fixed by simple direction, then you can call directly to the office to request direct line service.　All the reply of the service application will be replied within 7 days and with the solution Bioneer will reply within 14 days.

2. Guide for Free Service

The Warranty period is one (1) year from the date you have purchased the goods.　If the product error occurred by Bioneer, the repair cost is at free of charge.

3. Guide for Paid Service

The following conditions are charged service.

　1) In the case the system is broken by mishandled by the users.

　　　- When the system is broken by careless handled or purposely mishandled.

　　　- Any modification made by the users or the 3rd companies without Bioneer's approvals.

　　　- Dropped after the installation.

　2) Miscellaneous

　　　- Any damage caused by natural disaster

AFTER SERVICE APPLICATION

Product	*MyGenie*™ 96 Gradient Thermal Block		
Catalog No.	A-2040-1	Serial No.	
Application Date			
Purchase Date			
Problem Description	Date problem occur		
	Problems location		
	Symptom of the system		
	Miscellaneous Remark		
Customer Information	Address		
	Job Title		
	Name		
	Contact	Tel:	Fax:
	E-mail		

Headquarters	Bioneer, Inc.	Bioneer Co., Ltd. China	Order

8-11, Munpyeongseo-ro, Daedeok-gu, Daejeon 306-220, South of Korea
 	
Phone:+82-42-930-8777, Fax:+82-42-930-8688
Email: sales@bioneer.com
Web Site: www.bioneer.com
	1000 Atlantic Avenue, Alameda, CA 94501 USA
	
	Toll free : 1-877-264-4300
	Fax : 1-510-865-0350
	E-mail: order.usa@bioneer.us.com
	Web Site: us.bioneer.com
		403 Room, Building 88, number 887, Zuchongzhi Road, Zhangjiang High Technology Park, PuDong new District, Shanghai 201203, China
		Tel: +86-21-5080-0969/1191/1651
		Fax: +86-21-5080-1620
		E-mail: salescn@bioneer.com
		Web Site: www.bioneercn.com
			Korea:
			  order@bioneer.co.kr
			  1588-9788
			
			International:
			  sales@bioneer.com
			  +82-42-930-8777