

Delvotest[®] Incubator

Operation Manual

Version 2.0 (13-10-14)

Introduction

Thank you for purchasing our product: Delvotest[®] Incubator. This manual for users contains information and instructions for operation of the incubator. The Delvotest[®] Incubator is designed to be used with the Delvotest[®] series of antibiotic test kits.

Opening Check

Please check the instrument and adaptor when you first open the packing case. If you find there is something wrong with the instrument and/or the adaptor, contact your local DSM representative for assistance.

Package Contents

No.	Item	Type	QTY
1	Delvotest [®] Incubator	MiniS	1
2	Adaptor (multi plug)	DC12V 18W	1
3	Manual		1



Safety precautions

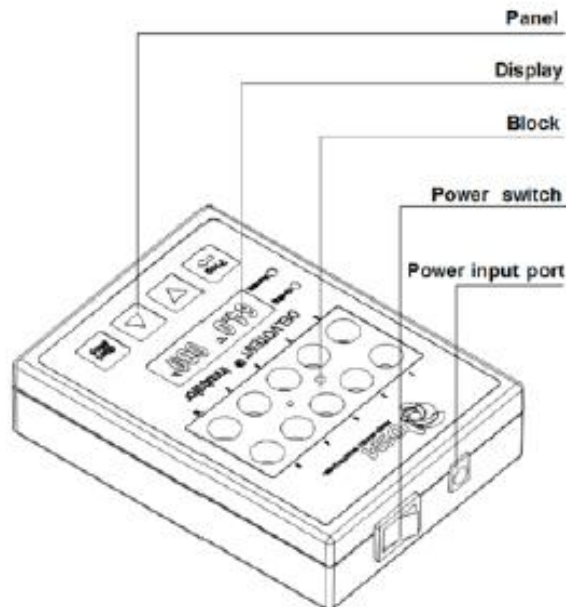
- Read the manual carefully before operation.
- This product should be used indoors, on a level surface.
- The metal block heats up during use, do not touch to avoid injuries. Also keep in mind it needs time to cool down after use.
- The operator should not open or repair the instrument by himself. Contact your local DSM representative for assistance.
- The instrument should be used in a location where the temperature is between 5 °C (40 °F) and 35 °C (100 °F). It should not be placed near an open window, or in direct sunlight. The place should not contain corrosive gas or be near a strong disturbing magnetic field. Do not put the instrument in a wet and/or dusty place. The incubator should not be used in a room where antibiotic drugs are stored.
- Power off when you finish your work. Pull out the connector plug when the instrument will not be used for a long time and prevent dust by storing it accordingly.

Cleaning instructions

Power off when cleaning the instrument. If the instrument gets dirty, clean it with a dry cloth. The wells in the block should be cleaned with a dry cloth or tissue. Do not use water or any other liquids.

Pre-programmed settings

Delvotest[®] BLF 1-step (fast test)		
Program: Pr A	Temperature: 64 °C	Time: 7 minutes
Delvotest[®] T (broad spectrum test)		
Program: Pr b	Temperature: 64 °C	Time: 3 hours 15 minutes
Delvotest[®] BLF 2-step (fast test)		
Program: Pr d	Temperature 1: 64 °C	Time 1: 2 minutes
	Temperature 2: 64 °C	Time 2: 3 minutes



Operation guide

Installing the device

- 1 Place the incubator on a level and horizontal surface.
- 2 Insert the power connector of the adaptor to the power input port of the device and insert the adaptor itself to the main power supply 100~240V.
- 3 The main switch is on the rear of the device, push "I" to power on the device, and push "O" to power off the device. Turn on the device.
- 4 The incubator will heat up to the last used temperature, at first use this is pre-set to 64°C. The green light next to "Heating" will flash when heating up, this usually takes 10-15 minutes. When the set temperature is reached, the light will stop flashing and turn green. Please ignore the displayed time.

How to choose a program

This device has five programs: Pr A, Pr b, Pr C, Pr d, and Pr E.

- Pr A has one mode that will sound a beep once the set time is reached. The operator sets the temperature and time. After running Pr A, the temperature will stay at the set temperature.
- Pr b has one mode that will sound a beep once the set time is reached. The operator sets the temperature and time. After running Pr b, the heating will stop and the temperature will cool down to Room Temperature.
- Pr C has two modes. For each mode the operator sets the temperature and time. When starting Pr C, the first timer will start. At the end of this time, the device will automatically start the second timer. After finishing the second time, the device will keep the temperature set for the second mode.
- Pr d has two modes. For each mode the operator sets the temperature and time. When starting Pr d, the first timer will start. At the end of this time, the device will beep. The operator has to manually start the second timer. After finishing the second time, the device will keep the temperature set for the second mode.
- Pr E has five modes (P1, P2, P3, P4 and P5). For all of these, the operator sets temperature and time. The temperature for all modes will be the same. The time is measured in hours and can be different. P1, P2, P3, P4 and P5 can run independently.

How to select a program

- 1 Press and hold "Prog. →" and "▼" for 10 seconds to be able to choose a program.
- 2 Press "▲" or "▼" to choose the desired program.
- 3 Press "Start/Stop" to confirm and exit this mode.

Setting program Pr A and Pr b

Once you have selected Pr A/Pr B, follow these steps.

After 5 seconds without input, the device will exit the setting mode. If step 2, 3 and/or 4 have not been fully finished yet, start at step 1 again. Each program can be cancelled during running, by pressing "Start/Stop" for 3 seconds.

- 1 Press and hold "Prog. →" for 3 seconds to set the parameters.
- 2 The temperature option will flicker. Set the temperature, by pressing "▲" or "▼". Confirm the temperature by pressing "Prog. →".
- 3 The time option will flicker. Set the time, by pressing "▲" or "▼". Confirm the time by pressing "Prog. →".
- 4 The time unit option will flicker. Set the time unit, by pressing "▲" or "▼".
- 5 Wait 5 seconds and the device will automatically confirm your settings. The display will stop flickering.
- 6 Wait for the device to reach the temperature set in step 2.
- 7 Press "Start/Stop" to run the program. The green light next to 'Running' will light up. The device will beep when the program ends and the green light next to 'Running' will go out.

40.0 °C	024 h
60.0 °C	024 h
60.0 °C	048 h

Setting program Pr C and Pr d

Once you have selected Pr C/Pr d, follow these steps.

After 5 seconds without input, the device will exit the setting mode. If step 2, 3, 4, 5, 6 and/or 7 have not been fully finished yet, start at step 1 again. Mode 1 is identified with a black square displayed in the right top corner. Mode 2 is identified with 2 black squares displayed in the right top corner. Each program can be cancelled during running, by pressing the "Start/Stop" for 3 seconds.

- 1 Press and hold "Prog. →" for 3 seconds to set the parameters.
- 2 The mode 1 temperature option will flicker. Set the mode 1 temperature, by pressing "▲" or "▼". Confirm the mode 1 temperature by pressing "Prog. →".
- 3 The mode 1 time option will flicker. Set the mode 1 time, by pressing "▲" or "▼". Confirm the mode 1 time by pressing "Prog. →".
- 4 The mode 1 time unit option will flicker. Set the mode 1 time unit, by pressing "▲" or "▼". Confirm the mode 1 time unit by pressing "Prog. →".
- 5 The mode 2 temperature option will flicker. Set the mode 2 temperature, by pressing "▲" or "▼". Confirm the mode 2 temperature by pressing "Prog. →".
- 6 The mode 2 time option will flicker. Set the mode 2 time, by pressing "▲" or "▼". Confirm the mode 2 time by pressing "Prog. →".
- 7 The mode 2 time unit option will flicker. Set the mode 2 time unit, by pressing "▲" or "▼".
- 8 Wait 5 seconds and the device will automatically confirm your settings. The display will stop flickering and show the mode 1 settings.
- 9 Wait for the device to reach the temperature set in step 2.
- 10 Press "Start/Stop" to run the program. The green light next to 'Running' will light up. For Pr C the device will beep when the program ends and the green light next to 'Running' will go out. For Pr d, the device will beep when mode 1 is finished, displaying "go on". Press "Start/Stop" to cancel the beep. Press "Start/Stop" again to start mode 2. The device will beep again when mode 2 ends. The program has finished and the green light next to 'Running' will go out.

40.0 °C	024 h	■
37.0 °C	024 h	■
37.0 °C	012 h	■
Mode 1		
40.0 °C	024 h	■ ■
64.0 °C	048 h	■ ■
64.0 °C	048 h	■ ■
Mode 2		

Setting Program Pr E

Once you have selected Pr E, follow these steps.

After 5 seconds without input, the device will exit the setting mode. If step 2, 3 and/or 4 have not been fully finished yet, start at step 1 again. The modes are identified by P₁/P₂/P₃/P₄/P₅ displayed in the left top corner. Each program can be cancelled during running, by pressing the "Start/Stop" for 3 seconds.

- 1 Press and hold "Prog. →" for 3 seconds to set the parameters.
- 2 The temperature option will flicker. Set the temperature, by pressing "▲" or "▼". After 5 seconds the device will automatically confirm your temperature. The display will stop flickering.
- 3 Now you can set the time for each mode. The time option will not flicker to indicate this. Choose the mode by pressing "Prog. →".
- 4 Set the time, by pressing "▲" or "▼", the time option will now start to flicker. After 5 seconds the device will automatically confirm your time and the display will stop flickering.
- 5 Step 3 and 4 have to be repeated to set all five modes.
- 6 Select which mode to run by pressing "Prog. →" until the desired mode is shown in the left top corner.
- 7 Wait for the device to reach the temperature set in step 2.
- 8 Press "Start/Stop" to run the chosen mode, the device will beep and the green light next to 'Running' will light up. The device will beep when the selected mode ends. The green light next to 'Running' will go out.




Trouble shooting

Error	Cause	Solution
No display	No power connection	Plug in the adaptor.
	Controller failure	Contact your local DSM representative for assistance.
Display "Er1" with alarm	Sensor broken circuit	Contact your local DSM representative for assistance.
Display "Er2" with alarm	Sensor short circuit	
Display "Er4" with alarm	Over-heating temperature alarm	
No heating of the block	Heater failure	
Press invalid	Keyboard failure	

Technical data

Model	MiniS
Dimensions (W×D×H)	99×135×34 mm
Weight	0.5 kg
Power supply	DC12V
Power	15 W
Average power consumption	5 W
Adaptor (multi plug)	DC12V 18 W
Cigarette lighter plug available on request (12/24V)	

Temperature range	RT +5 °C – 80 °C
Accuracy of the temperature	≤ 0.5 °C
Display accuracy	0.1 °C
Heating time (from 20 °C to 80 °C)	≤ 20 min
Ambient temperature	5 °C – 35 °C
Timing range	1 h – 999 h 1 min – 999 min 1 sec – 999 sec (optional)
When program is finished, incubator sounds a beep	