Digital Dry Bath Series

User's Guide

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Introduction

Gilson's Digital Dry Bath Series consists of highly accurate, microprocessor-controlled, dry block heating units. Three models are available to accept one, two, or four aluminum blocks. The Dry Bath Series provides unsurpassed temperature uniformity and accuracy for heating microtubes, test tubes, and other small vessels such as microplates and slides. Each dry bath has a bright green LED display, easy-to-set temperature and time controls, and comes complete with a block lifter. (Blocks must be purchased separately.)

Specifications

DIGITAL DRY BATH SERIES	ONE-BLOCK DIGITAL DRY BATH PN 36110300	TWO-BLOCK DIGITAL DRY BATH PN 36110400	FOUR-BLOCK DIGITAL DRY BATH PN 36110500
Block Capacity	1 block	2 blocks	4 blocks
Temperature Range	Ambient 5°C to 150°C		Ambient 5°C to 130°C
Temperature Increments	0.1°C		
Temperature Uniformity	±0.2°C		
Temperature Accuracy	±0.2°C		
Timer	Off or 1–999 minutes in one minute increments		
Dimensions (WxDxH)	20 x 23 x 8 cm 7.8 x 9 x 3 in.	22 x 26 x 8 cm 8.7 x 10.3 x 3.2 in.	22 x 35.5 x 8 cm 8.7 x 14 x 3.2 in.
Wattage	200W	400W	600W
Weight	2.2 kg / 4.8 lb.	2.5 kg / 5.5 lb.	3.5 kg / 7.7 lb.
Electrical	115V or 230V / 50–60Hz		
Warranty	2 years		

General Safety Precautions

For efficient setup and proper operation, it is necessary to read this manual carefully and follow its instructions.

⚠WARNING	**Ensure that the local voltage matches the voltage of the instrument.**
	Hot surfaces, especially on the block, can cause serious injury or burns.
	Do not put water or liquids into the dry bath well as shock, or serious injury may occur.
	Do not heat flammable or explosive substances as serious injury may occur.

Installation

1. Remove the dry bath and any accessories from the box.
   - Keep all packing materials until the unit is shown to be in good working order.
   - Check the label on the back of dry baths to ensure a unit of the proper voltage has been received.
2. Place the dry bath on a clean, stable surface near a properly grounded electrical outlet and away from air vents, and equipment exhaust vents.
3. Locate the power switch on the back of the bath and turn it to the off position.
4. Plug the dry bath into the electrical outlet.

NOTE	**If the voltage is not appropriate, do not use the dry bath and contact your local Gilson Service Center.**

Operation

1. Insert the block(s) into the heating well using the block lifter.
2. Use the switch on the back of the unit and turn the power on.
3. The dry bath will make a “beep” sound.

Each digit on the display will light briefly, from left to right and the LED lamps will light while the unit performs a self test. After the self test, the display will show the actual temperature of the block, and begin heating to the set temperature. While the unit is heating the Heating lamp will flash.

⚠CAUTION **Blocks may be hot.**

Setting the Temperature

Block temperature is set by using the ▲ and ▼ arrow buttons. Temperature can be set in tenths of a degree. Once the temperature is set, the display will revert to showing actual temperature and the Heating lamp will flash until the set temperature has been reached.

NOTE **The temperature setting is automatically remembered if power is turned off or interrupted.**

Setting the Timer

The dry bath has a built-in, independent, digital timer function that alerts the user with a “beep” alarm when the set time has elapsed.

⚠CAUTION **The timer is completely independent of the heating function and does NOT turn off the heater when set time is reached.**

1. Press the Mode button to illuminate the Timer lamp.
2. Use the ▲ and ▼ arrow buttons to set the desired time in one minute increments.

After time has been set, there will be a short delay of three seconds. The bath will then beep and the timer will start to count down. The display will revert to showing the block temperature and the red Timer lamp will be extinguished. When the display shows the block temperature, pressing the **Mode** button will cause the display to show the remaining time in minutes. When time has expired, the dry bath will “beep”, the red Heating lamp will flash, and the display will show “oVEr”. Sample heating will be unaffected.

Press the **Mode** button to start the timed cycle over again or press the ▼ arrow to return the display to the current block temperature without restarting the timer.

It is recommended to allow the dry bath to reach the desired temperature before setting and using the timer function. Because the timer does not affect sample heating, it can only be used as a general purpose timer. It can also be used for timing other lab activities.

NOTE **The time setting is saved if power is turned off or interrupted.**

Calibration

The Gilson Digital Dry Bath Series is highly accurate and calibrated at the factory to certified standards. Should calibration be required to laboratory standards, it should only be attempted by using certified temperature-sensing equipment.

To calibrate the dry bath:

1. Turn the dry bath off using the power switch on the back of the unit.
    a. Press and hold the **Mode** button.
    b. Turn the power on, continuing to hold the **Mode** button.
    c. The digits on the display will light in succession. The current temperature will then be shown with the right most digit flashing. Release the **Mode** button when the digit begins to flash.
2. Set the temperature at which you wish to calibrate the unit using the ▲ and ▼ arrow buttons.
3. Press and release the **Mode** button. The unit will start heating to the set calibration temperature.
4. Allow 45 minutes for the dry bath to equilibrate at the set temperature. The digit on the right will begin flashing again when the dry bath has equilibrated at the calibration temperature.
5. After the display begins flashing, use a certified reference thermometer or temperature sensor to check the block or sample temperature. If the reference thermometer shows a different temperature than the display, use the ▲ and ▼ arrow buttons to change the display to match the reference thermometer.
6. After making any necessary adjustments, press the **Mode** button to exit the calibration mode. The dry bath is now calibrated to the reference thermometer at the selected temperature point and ready for operation.

Maintenance

The dry baths are electrical instruments and care must be taken in their handling. Clean any spills immediately. Keep the unit clean by wiping with a soft, damp cloth.

NOTICE	**Do not immerse the unit in water. Avoid the use of organic solvents.**

NOTE	**No routine maintenance is required.**

Blocks can be cleaned by wiping with a soft cloth. Wells in the block may be cleaned with a cotton swab dipped in alcohol.

Error (Err) Code on the display

The dry baths are not designed to operate in temperatures below 4°C. Should the dry bath sense an ambient temperature below 0°C, ERR will appear in the display. If the display shows ERR and the ambient temperature is above 0°C, the unit requires service.

Ordering Information

PART NUMBER	DESCRIPTION
36110300	One-Block Digital Dry Bath 115V
36110310	One-Block Digital Dry Bath, 230V, EU cord (3-pin cord)
36110320	One-Block Digital Dry Bath, 230V, UK cord
36110330	One-Block Digital Dry Bath, 230V, AU cord
36110400	Two-Block Digital Dry Bath 115V
36110410	Two-Block Digital Dry Bath, 230V, EU cord* (3-pin cord)
36110420	Two-Block Digital Dry Bath, 230V, UK cord
36110430	Two-Block Digital Dry Bath, 230V, AU cord
36110500	Four-Block Digital Dry Bath 115V
36110510	Four-Block Digital Dry Bath, 230V, EU cord* (3-pin cord)
36110520	Four-Block Digital Dry Bath, 230V, UK cord
36110530	Four-Block Digital Dry Bath, 230V, AU cord

Accessories

Use of the dry bath requires a block to hold samples. Gilson offers a variety of blocks to accommodate many sample containers. Custom blocks are also available.

⚠CAUTION **Liquids should never be placed into the dry bath chamber.**

PART NUMBER	DESCRIPTION
36117100	Solid Block (for slides / machining)
36117110	Custom drilling for Solid Block for slides / machining (sold separately), up to 36 holes

PART NUMBER	DESCRIPTION
36117120	Block, 48 x 0.2 ml tubes or 6 PCR strips of 8 tubes each
36117130	Block, 24 x 1.5 ml centrifuge tubes (conical)
36117140	Block, 24 x 1.5 ml (or 2.0 ml centrifuge tubes)
36117150	Block, 24 x 0.5 ml centrifuge tubes
36117160	Block, 12 x 5.0 ml centrifuge tubes (17 mm diameter)
36117170	Block, 12 x 15 ml centrifuge tubes
36117180	Block, 20 x 10 mm test tubes (or 20 x 2.0 ml centrifuge tubes)
36117190	Block, 2 x 12 mm (or 13 mm test tubes)
36117200	Block, 5 x 50 ml centrifuge tubes
36117210	Block, 12 x 15-16 mm test tubes (or 12 x 10 mL)
36117220	Quick-Flip™ Block, 24 x 1.5 ml tubes, or 32 x 0.2 ml and 14 x 0.5 ml tubes
36117230	Block, PCR plate 96 x 0.2 ml, skirted or non-skirted For one block dry bath only
36117240	Block, PCR plate 96 x 0.2 ml, skirted or non-skirted For two or four-blocks dry bath only
36117250	Block, Microplates, skirted or non-skirted For two or four-blocks dry bath only
36117260	Block, x48 hematocrit tubes, 1.9 mm (not compatible with cover)
36117270	Block, x30 NMR tubes

Warranty

Gilson warrants this instrument against defects in material under normal use and service for two years from the date of purchase. This warranty is valid only if the instrument is used in the manner described in this guide and for the purpose for which it is designed. Gilson is not responsible for consequential damages resulting from the misuse or bad cleaning or decontamination of this instrument. Enclose with the returned instrument a description of the problem that has occurred.

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