Laboratory Equipment Pty Ltd

INSTRUCTION MANUAL FOR WATER BATH

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"Proudly Australian Owned and Operated."
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Introduction

Congratulations on the choice of a Labec made quality product. Labec products are manufactured, tested and calibrated to meet published standard specifications under our strict quality assurance guidelines.

This Instruction Manual is for the guidance of operators of Labec Water Baths and should be read before the water bath is connected to the electricity supply.

It is hoped that this manual will supply all the information that the customer should require for satisfactory operation of the water bath. If, however, there are any questions that remain unanswered then the customer should contact our service department.

Structural Features

1. The enclosure of the product is formed and machined by using high-quality steel plate. Static electric spraying process is adopted on the surface, which is sturdy and durable. The inner container is finished by the stainless steel stretching.
2. The liner and upper cover are made of high-quality stainless steel plate, featuring strong corrosion resistance.
3. U-shaped heating pipe is adopted for direct heating in water. The temperature rises quickly and the thermal loss is small.
4. Single-row digital display or intelligent temperature controller boasts simple operation and favourable application effect.

Main Technical Parameters

Model	**F-WB1D**	**F-WB3D**	**F-WB7D**	**F-WB9D**
Supply Voltage	240V/50~60Hz			
Power (W)	400	500	1000	1500
Temp-motion (ºC)	±0.5			
Temp-range (ºC)	RT+5~100			
Senility of Temp Control (ºC)	≤±1			
Display Error (ºC)	≤±2.5			
Chamber Size (mm)	150x135x150	300x150x150	325x300x150	500x300x150
Product Size (mm)	170x154x210	318x168x210	350x318x210	524x322x210
Packed Size (mm)	240x230x280	390x240x280	420x390x280	600x390x280
NW (kg)	3.3	4.5	6	7.5
GW (kg)	4	5	7	9

Working Conditions

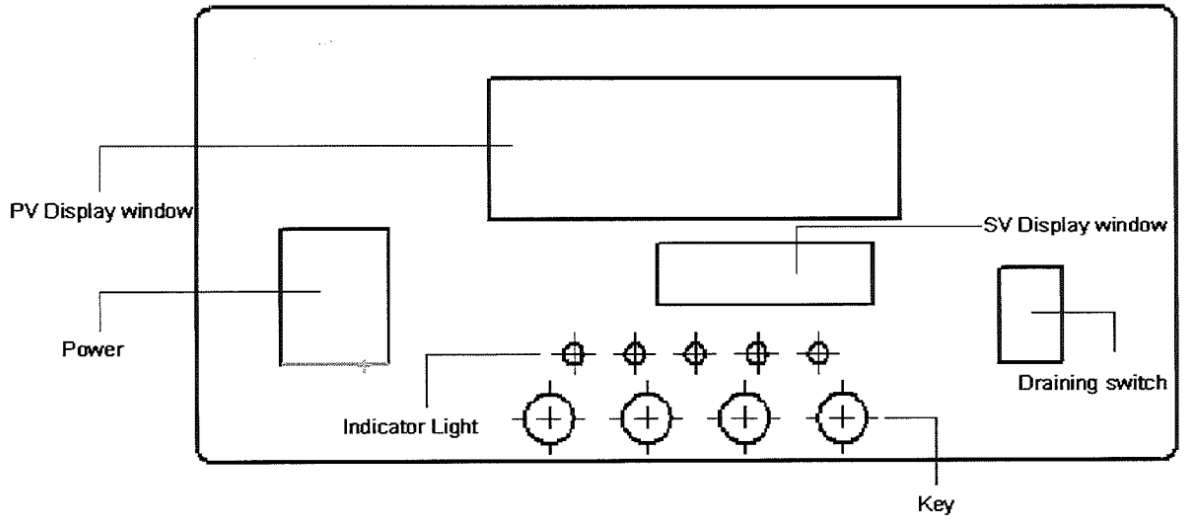
1. Temperature ranges between 5~40ºC;
2. Relative humidity less than 85% RH;
3. Power: voltage 240v, frequency 50~60Hz;
4. No violent vibration and corrosive gas surround the equipment.

Attention

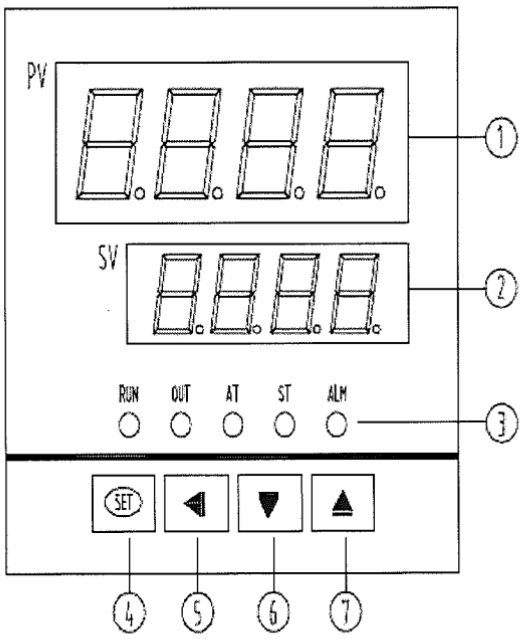
1. Before use, add 50mm water until the water reaches above the clapboard, then connect to power supply and heat. It is not allowed to heat with sufficient water.
2. During use, do not touch the heating pipe by your hands to avoid being scalded.
3. After use, timely discharge the water, dry it and keep it clean in order to extend the service life.

Temperature Controller Operation

1. Meter panel instructions



Display and Key:



①PV: Measure value

②SV: SET VALUE

③LED:

RUN: WORK LIGHT

OUT: HEAT LIGHT

ST:SET TIME LIGHT

ALM: ALARM LIGHT

④SET KEY: SET VALUE

⑤MOV KEY: SET VALUE CHANGE BIT

⑥DOWN KEY: SUB 1

⑦ ADD KEY: ADD_1

1. Parameter

TABLE 1 COMMON PARA

PARA	NAME	DEF	RANGE	NOTES
SV	SETVAL	X	SV_L~SV_H	
ST	SETTIME	0	0~9999	0:NO ST,UNIT :MIN
AT	AUTO	0	ON/OFF	
MAN	MAN_V	0	0~100	NO_USE

USE_PARA

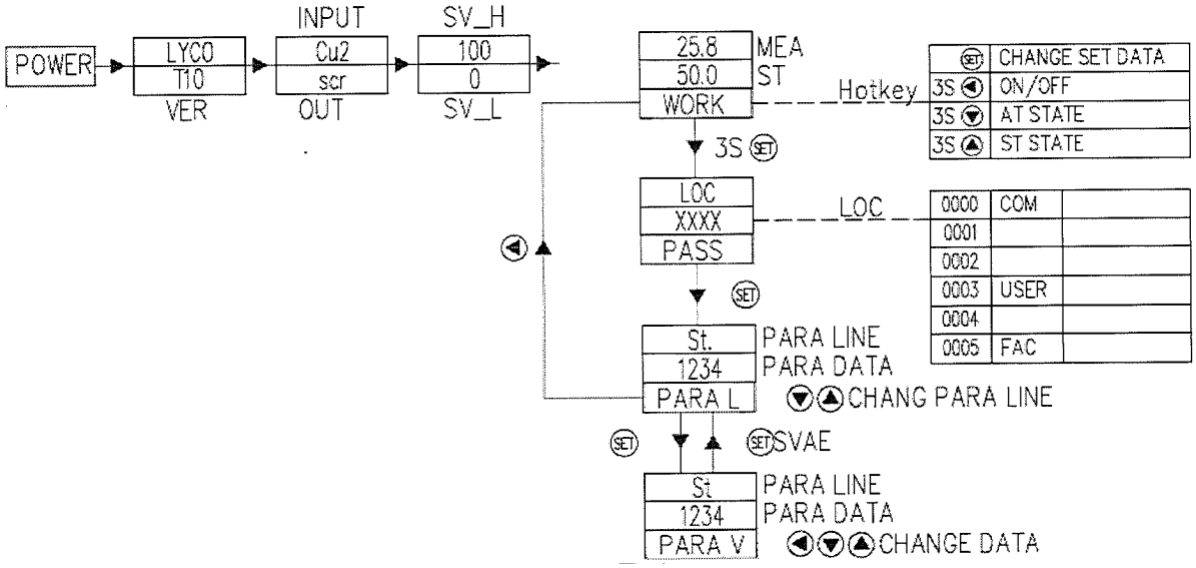
PARA	NAME	DEF	RANGE	NOTES
ET	ST_MOD	0	0~1	0:ST WHEN TEMP NO CHANGE 1:ST AT ONCE
DF	DF	2.0	0~9999	
DP	POINT	1	0~2	
PK	OFF_K	1.0	0~2	
PB	OFF_B	0	-199.9~999.9	
DHAL	ALM_OFF	9999	0~9999	
ADDR	NUM	1	1~32	
BAUD	BAD	0	0~3	NO USE

FAC_PARA

PARA	NAME	DEF	RANGE	NOTES
SYS	SYS_NUM	0	0~7	
CTRL	CON_MODE	2	0~4	2:PID
SN	SEN	4	0~6	
P	PID_P	4	0~1200	
I	PID_I	280	1~2000	
D	PID_D	70	0~1000	
MR	HAND_O	0.3	0~1	
CP	CON_K	0.25	0~100	
OUT	O_TYPE	0	0~4	
SV_L	SET_LOW	0.0	0~9999	
SV_H	SET_HIGH	100.0	0~9999	
P_H	MEA_HIGH	0.0	0~9999	
P_L	MEA_LOW	100.0	0~9999	
PV_F	FILTER	5	1~99	
OC	OUT_T	2	1~60	
OH	PID_HIGH	100	0.1~100	
OL	PID_LOW	0	0.0~99.9	
SF	SF	40	0~100	
HIAL	ALM_HIGH	9999	0~9999	
HT1	ALL_OUT	9999	0~9999	OVER THIS ALL OUT
ACT	ACT	0	0~1	0: HEAT 1: COOL

2. Operation
    a. Put the instrument horizontally.
    b. Open the cover and add the pure water or distilled water to the water tank, the water level ust be higher than the heating pipe and temperature sensor.
    c. Connect the suitable power, open the switch and the electrical supply.
    d. The upper row of the instrument shows test temperature and setting temperature is shown in the lower row.
    e. Short pressing the setting key can enter the setting state. Shift, plus and minus keys can adjust the temperature.
    f. Press the upper key to set time, when the upper row shows ST and the lower row shows OFF, to press the upper key again then the lower row shows the time. The shift key is used to change the numerical which unit is minute. There are two kinds of timing modes which are timing after temperature constant and timing after setting finished. When the time arrived, heating output stopped. If need to start the operation again, the power switch must be shut and open again.
        i. Automatic tuning function. If the test temperature fluctuates, the self-tuning function can adjust. Press the plus and minus key till the indicator light comes on.

Wiring



Fault Analysis

Failure	Cause	Handling Method
No power supply	1. Bad contact between plug and socket 2. The fuse is burnt.	1. Replace the plug or socket tube. 2. Replace the fuse with the same specification.
No temp. rise	1. The temp. controller is broken 2. The sensor is broken 3. The set temp. is lower than the water temp. 4. The heating pipe is burnt	1. Replace the instrument 2. Replace the sensor 3. Reset the temp. 4. Replace the heating pipe
The big difference between display temp and actual temp.	1. The temp controller 2. The temp sensor is broken	1. Replace the temp controller 2. Replace the temp sensor