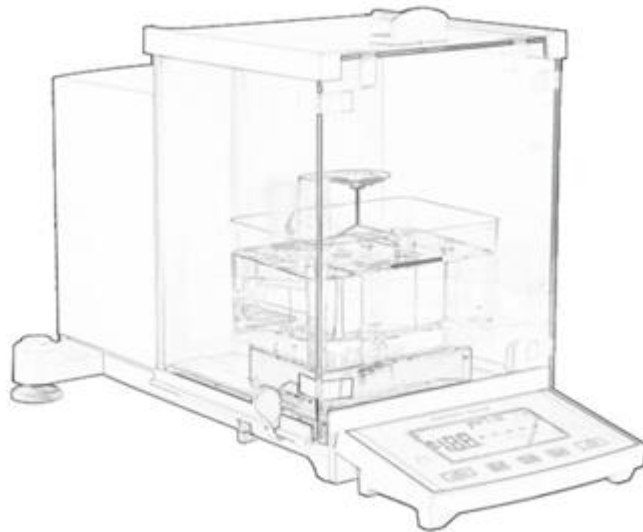


Density Balance Manual



Before using the instrument, please read the instructions carefully.
Please keep the manual properly for reference at any time.

CONTENT

I、Introduction.....	1
II、Instrument description.....	1
III、Installation Instructions.....	2
IV、Calibration Instructions.....	3
V、Function Settings.....	4
VI、Measurement Steps.....	4
VII、Precautions.....	5
VIII、Troubleshooting.....	5

I、 Introduction

Principle:

Density balance uses Archimedes' water displacement method to measure the density of products. The instrument is based on the density of water at 4 °C, 1.000 g/cm³.

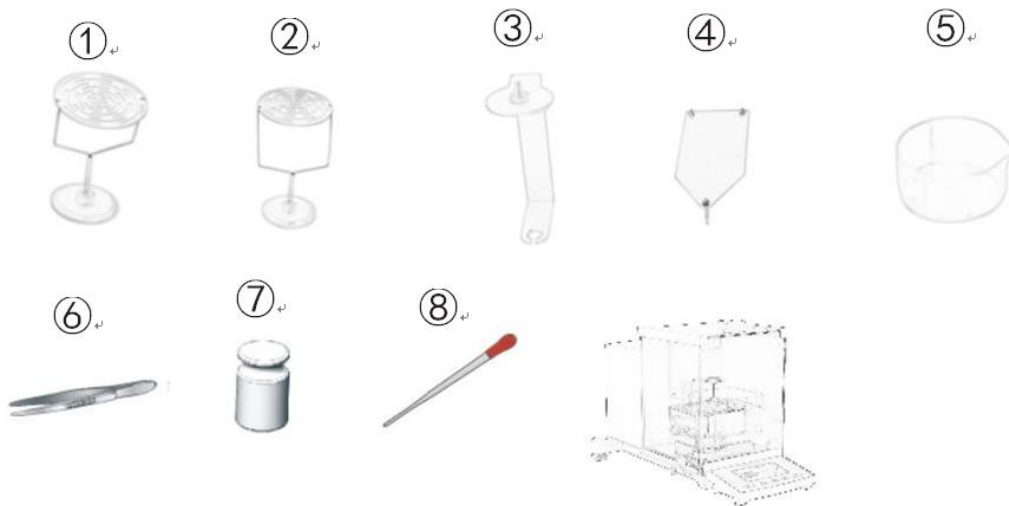
Application:

Density balance is mainly used in rubber, plastic, wire and cable, food, composite materials, cosmetics, shoe materials, glass, precious metal hardware recycling and other industries. The instrument can directly read the weight of the sample in air, the weight in water and the density value.

II、 Instrument description

Model	DX-100E
Measure Range	0.0001~120g
Density Analysis	0.0001g/cm ³

1、 Components



- ① hanging basket, ② hanging basket (measuring float),
- ③ density bracket, ④ sink support plate, ⑤ sink, ⑥ tweezers, ⑦ weight,
- ⑧ plastic dropper, ⑨ host

2. Description of the role of accessories



Hanging basket ① : the measured density is greater than the sinking product

Hanging basket ② : measuring the density of the floating body is less than the product

Plastic dropper: remove air bubbles attached to the product

3. Control Panel



1.  : Switch button;
2. →T← : Product peeling function;
Set parameter function;
3. Set : Menu;
4. Mdel : Density measurement key;
Setting confirmation key;
5.  ; Print key;
6. Cal : Calibration key;

III、 Installation Instructions

1. During installation, the density tester must avoid vibration, direct sunlight, electromagnetic waves from electric machinery, Humid and overheated locations.
2. Adjust the 4 feet to make sure that the host has reached a horizontal position, and make sure that the sensor platform and the water container support seat are not in contact.
3. Add distilled water to the water container and ensure that the water can cover the product, and then put it on the support plate of the sink.

Installation diagram of density accessories:



A、 Put on the bracket



B、 Put on the support plate of the sink



C. Put on the sink



D. Put on the hanging basket

Voltage: AC 220V, 50Hz or 110V, 60Hz

When it is plugged in and turned on, it takes about 10 minutes to warm up the machine in order to reach a stable condition.

IV、 Calibration Instructions

Density measurement is based on weight calculation. The accuracy of density measurement depends on the accurate measurement of weight. To ensure the measurement results, the density balance needs to be calibrated regularly using calibration weights.

Situations where the density balance needs to be calibrated:

- When used for the first time
- When moved to another location
- Regular calibration

Calibration method:

Use 100g weight to calibrate.

- 1、Plug in the power supply, and the instrument displays "0" status. (Note: Please install the weighing pan for calibration, the instrument can be used as a balance)
- 2、 In the power-on state, press the "→T←" key, the balance displays 0.0000. Close the cabin door, press the "CAL" key, the screen displays Cal 100;
- 3、 Press the "CAL" key, the screen displays CAL--IN, wait for about two seconds, the screen displays CAL--DN;
- 4、 Put 100g weight, then the screen displays CAL--UP, remove the weight. The balance displays CAL-END, wait for two seconds, the balance automatically returns to zero and displays 0.0000. The calibration is over.

※illustrate:

If density balance is moved to other places, it needs to be re-calibrated.

V、 Function Settings

Boot to the normal display of zero point, press the SET button to display ----. Press the print button again to enter the setting menu, Display "c ____x"; where:

C9 is selected as the density function,

C9-1 : Solid density measurement,

C9-3 : Closes density measurement;

Press the "T" key and the print key to switch, press the shutdown key to save the display ---- then press the "T" key to confirm.

Solution Compensation Setting

According to the density function selected in C9, press Set key, and the display will show -----; then press →T← key to enter the parameter setting, and the screen will show 10000. Press Set key to move the decimal point. Press Print key to reduce the value; press →T← key to increase the value. After setting, press Mode key to confirm and save.

Note: 10000 represents a density of 1.0000g/cm³

VI、 Measurement Steps

According to Archimedes' principle, in order to avoid large test errors, the higher the density of the product, the heavier the weight required. Please refer to the following table:

Density(g/cm ³)	0.200	0.400	0.600	0.800	1.000	1.200	1.400	1.600	1.800	2.000	2.200	2.400
Weight(g)	0.16	0.62	1.41	2.56	3.93	5.65	7.7	10.1	12.7	15.7	19.0	22.7
Density(g/cm ³)	2.600	2.800	3.000	3.500	4.000	4.500	5.000	5.500	6.000	6.500	7.000	/
Weight(g)	26.6	30.9	35.4	48.2	62.9	79.6	98.3	118	141.6	169.9	200	/

A、 Solid measurement method

1. Press the power button to turn on the instrument, and the screen will display 0.0000g. If the value displayed on the screen is not 0.0000g, press the →0← key to return it to zero. At this time, "wt-Air" will be displayed in the middle of the screen.
2. Place the sample on the tray table, and press the Mode key after the value stabilizes. The "wt-Air" on the screen will change to "wt-liquid", indicating that the instrument has recorded the weight of the sample in the air.
3. Place the sample in the hanging basket in the water, and press the Mode key after the value stabilizes. The instrument will directly display the density value of the sample.
4. Press the Mode key to exit and continue to measure other products.

B. Measuring float products (select the float density bracket)

1. Press the power button to turn on the instrument, and the screen will display 0.0000g. If the value displayed on the screen is not 0.0000g, press the →0← key to return it to zero. At this time, "wt-Air" will be displayed in the middle of the screen.
2. Place the sample on the tray, press the Mode key after the value stabilizes, and the "wt-Air" on the screen will change to "wt-liquid", indicating that the instrument has recorded the weight of the sample in the air;
3. Place the sample under the hanging basket in the water, press the Mode key after the value stabilizes, and the instrument will directly display the density value of the sample;

4. Press the Mode key to exit and continue to measure other products.

VII、 Precautions

1. This instrument is a precision instrument. Please designate a dedicated person to manage and operate it;
2. If water or other liquids are accidentally spilled on the instrument, please wipe it clean in time.
3. Check the instrument regularly. After turning on the power, the screen displays 0.0000g, which means the instrument is normal. If it displays, it means the instrument is faulty.
4. Please do not place the hanging basket during calibration. The instrument uses an electromagnetic force sensor for weighing, which has high requirements for the calibration environment. Please use it in a windless and vibration-free environment.
5. Do not measure objects weighing more than 120g.
6. If the instrument is not used for a long time, please pour out the water in the sink.

VIII、 Troubleshooting

1、 Unstable weight

Check whether the sink is touching the density measurement bracket.

Remove the sink and support plate to see if there are water drops on the density measurement bracket. If there are water drops, wipe them off.

2、 If the screen displays ----- or -E

Press the →0← key to see if it can display 0.0000. If it cannot be reset to zero, contact the manufacturer for repair.

3、 The following display information indicates some common failures:

----- : Indicates that the electronic balance cannot get a stable reading.

HHHHHH : The weight exceeds the rated weight by 5% or more.

LLLLLL : a. The weighing pan is not installed. After installation, press →0← to reset

b. There may be sundries under the weighing pan, please check to make sure that the weighing pan is not in contact with the shell.

NOCAL : The calibration procedure cannot be performed. Refer to the calibration function to check whether the calibration weight is correct and intact, and check whether there are sundries under the weighing pan.

UNABLE : Due to lack of data or incorrect data, the electronic balance cannot perform the desired function.