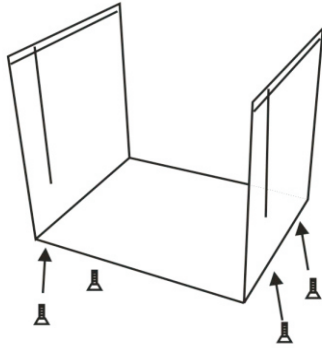
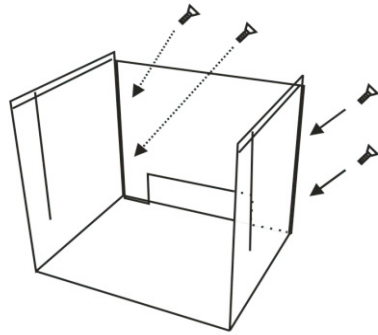


## Windshield assembly drawing

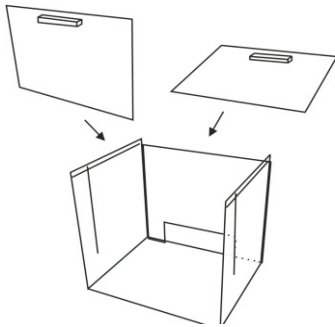
1、 Fix the lower screw



2、 Fix the rear screws

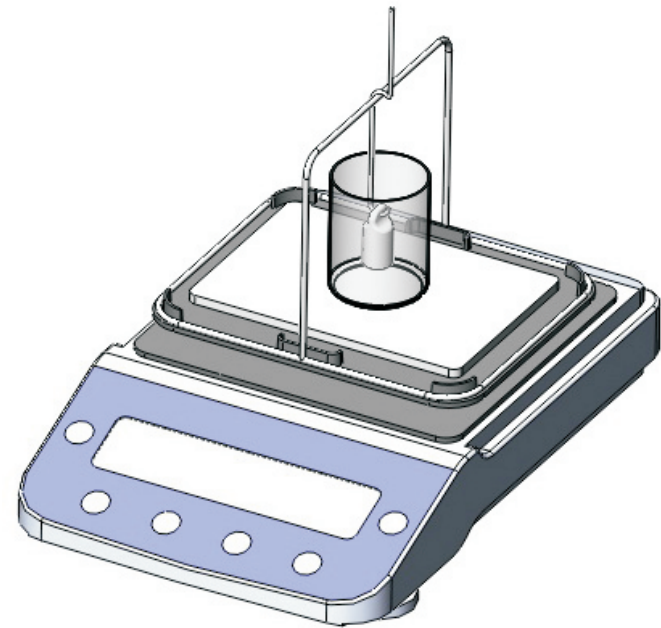


3、 Assembled



## ELECTRONIC LIQUID DENSITY METER

### Instruction Manual

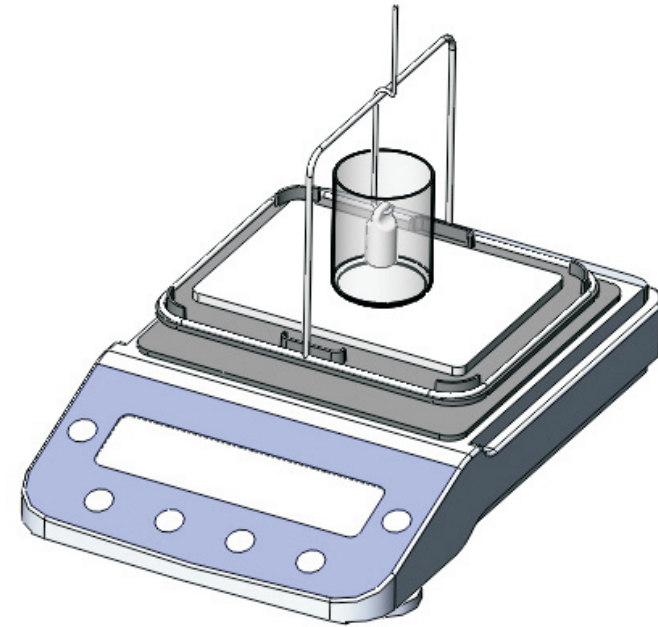


**Please read carefully before use, safekeeping**

Thank you for purchasing“ Liquid density meter”  
In order to you can correct selection, installation and use of  
our products, we suggest that you read this manual carefully,  
and keep it for future reference.。

## Catalog

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**Excursus:**

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## VIII. Troubleshooting

(1) Unstable weight:

Remedy: Remove the measuring table and the water tank to see if there are foreign objects or water droplets under the support table. If there are foreign objects or water droplets, please remove the foreign objects or wipe the water droplets clean.

(2), if the screen displays "-----" or "-E"

Remedy: Press the →← key first, and try to see if it can return to zero stably. If it does not return to zero, please remove the object on the measuring table and contact the supplier for repair.

(3) If there is a fault that cannot be eliminated by yourself, do not open the machine without authorization, please contact the supplier in time for maintenance.

(4) If it always displays a value or "0.000" when measuring the density value, please restore the factory settings (refer to the ninth article on this page on how to restore the factory settings).

(5) The following display information indicates some common faults:

"-----": Indicates that the electronic balance cannot obtain 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 the TARE key to clear it.

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

"NOCAL": The calibration procedure cannot be performed. Please refer to the calibration function to check if the calibration weight is correct or if there is any debris under the weighing pan.

"UNABLE": The electronic balance cannot perform the desired function due to missing or incorrect data.

## I 、 Introduction and instrument description

principle:

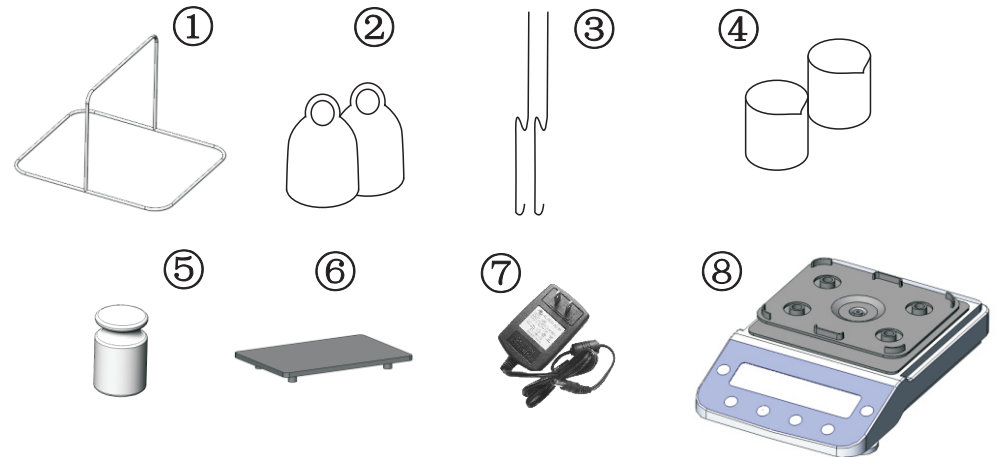
Liquid specific gravity balance is based on GB/T21862, GB/T15223, GB/T6750, ASTM D1475, ISO2811-2, ISO1675, DIN53217-3 and other regulations, using Archimedes' immersion Gamma ball volume replacement method, with special hydrometer, accurate The measured liquid density value.

Purpose:

This machine is mainly used for chemical solutions, food and beverages, aquaculture, mouthwash, pharmaceuticals ,Additives and other industries. The density value of samples such as viscous liquids and volatile liquids can be directly read out.

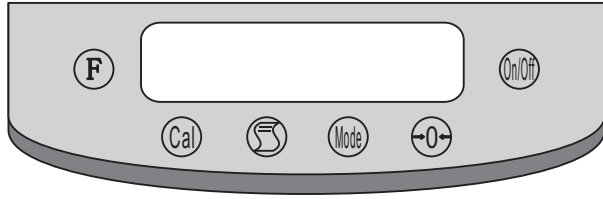
Model	DX-300NG
Weighing Range	0.005 ~ 120g
Density Analysis	0.001g/cm <sup>3</sup>

## Instrument Description:




### 1. Components part

①Liquid special frame glass, ②Glass weight, ③Hook, ④50CC beaker, ⑤100g weight, ⑥Support plate, ⑦Power adapter, ⑧Host,



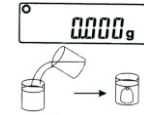
## 11、 Control Panel

1. “→0←” : A. Weight zero function  
B. Parameter setting number reduction function  
C, set the switching function
2. “On/Off”: display on/off;
3. “Cal”: A calibration key;  
B. Exit button after density measurement;  
C. Function confirmation key;
4. "Mode": A. Density measurement key  
B. Parameter setting number increase key
5. "F": Enter the function menu setting;
6.  :Transfer display information to printer or other device

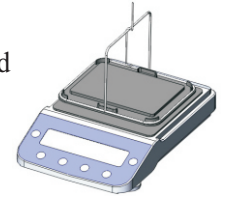
## Liquid Test Procedure

Check if there is an "X" icon at the bottom right of the instrument, "X" stands for liquid mode.

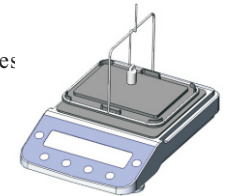
- ① Take a certain amount of liquid sample into the beaker, so that the liquid can completely submerge the glass weight;



- ② The hook is hung in the center of the special rack for liquid
- ③ Press the →0← key to deduct the weight of the hook;

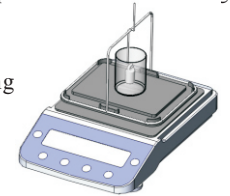


- ④ Use the hook to hook the standard glass weight, and the weight of the glass weight in the air will be displayed. After the instrument is stable, press the Mode key, the upper left of the balance will display "HIGH", which means that the weight of the glass weight in the air has been recorded



- ⑤ Use the hook to hook up the standard glass weight and hang it in the beaker filled with the liquid to be measured. The glass weight should be completely submerged in the liquid, and the glass weight should not touch the beaker.

- ⑥ After the stable signal appears, press the MODE key to start calculating the specific gravity of the liquid.



- ⑦ The display will show:

- SHA-Sg--specific gravity value of liquid,
- SHA-Sb--Baumé degree of liquid;
- SHA-SC--Concentration of liquid.

- ⑧ Press CAL to exit and return to the weight unit “0.000 g”.

Note: When you want to measure the density of the liquid for a second time, if the instrument screen shows HIGH, it is not necessary to measure the weight of the glass weight in the air, directly from the ⑤, hang the glass weight into the liquid to be measured, and press the MODE key instrument displays the density directly

### 8. Concentration parameter setting: (COEFF3, COEFF4 setting)

Use density and concentration conversion formulas (straight line representation:  $y = a + bx$ ). Taking  $y$  as the concentration and  $x$  as the density, can be obtained linearly by inverse inference.

For example:

Concentration.(%)	Density.(g/cm <sup>3</sup> )	Concentration.(%)	Density.(g/cm <sup>3</sup> )
10	0.982	10.4	0.9835
10.1	0.9824	10.5	0.9838
10.2	0.9827	10.6	0.9842
10.3	0.9831	10.7	0.9845

Use a clear concentration conversion formula (represented by a straight line:  $y=a+bx$ ).

The above data, the conversion formula can be obtained as follows. Using  $y$  as the concentration and  $x$  as the density, obtain  $y = 283.21x - 268.12$ . The formula for linearity is obtained by inverting the linearity with available commercial software.

As a straight line:  $y = 283.21x - 268.12$ . Please enter the parameter of concentration COEFF4: -268.12; the parameter of COEFF3: 283.21.

Concentration parameter COEFF3 4 value setting: COEFF3 4

Proceed as follows:

Enter the setting program mode, press the F key once, press the ? 0? key twice, the screen displays "COEFF", press the MODE key to enter the option; press the ? 0? key to switch to set "COEFF1, 2, 3, 4". After selecting, press the MODE key to display "SET dp", press the ? 0? key to adjust the decimal point to the front of d, that is, "SET.dp". Press the Mode key to display the current value of COEFF3 or COEFF4. Press MODE key to increase; press ? 0? key to decrease .

After setting, press CAL key, the value will flash, then press MODE key to confirm.

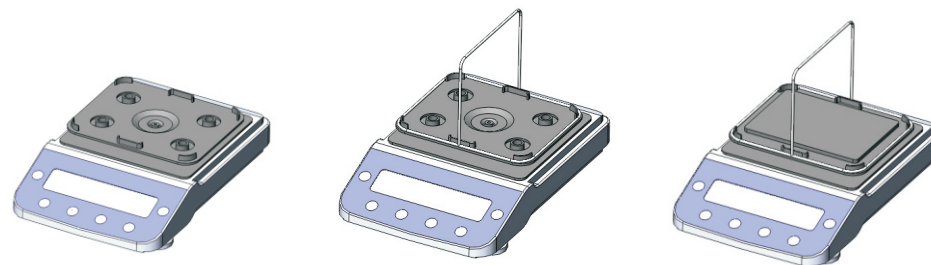
#### Notice

The machine should be kept clean. If liquid is spilled after use, it should be cleaned immediately. Be careful when measuring explosive or highly volatile liquids, as such liquids can cause injury to people or machines.

### III. Installation Instructions

Installation conditions must be avoided:

1. Vibrating places;
2. Static electricity;
3. Direct sunlight;
4. Electromagnetic waves;
5. Places that are too humid or high temperature;



- ① After placing the main unit in the laboratory, adjust the horizontal bubble behind the main unit to the center point.
- ② Put the special rack for liquid on the weighing pan, and use the tray on the weighing pan to clamp the special rack.
- ③ Put the support plate horizontally on the instrument and keep it out of contact with the sensor part.

Power Condition: AC 220V, 50Hz or 110V, 60Hz

1. This instrument is an apparent density device. When plugged in and turned on, the device needs to warm up for 10 minutes in order for the device to reach a stable condition. After the warm machine is completed, turn off the power in real time, and the circuit of the device will remain stable.
2. If "8.8.8.8.8.8." cannot be changed to "0.000g", it means the zero point has drifted. Press the reset key to make the display "0.000g", if not, please re-calibrate.

(Please refer to the calibration chapter) 4

## V. Correction Instructions

The high-precision electronic specific gravity balance is installed in the electronic hydrometer. The density of the sample is based on the calculation of the weight, and the accuracy of the measurement result comes from the accurate measurement of the weight. The characteristics of the product and the different placement positions will also affect the measurement results. So it needs to be calibrated using calibration weights.

The situations that need to be corrected are:

- When the apparent density tester is used for the first time
- When the apparent density tester is moved elsewhere
- When the surrounding environment position changes
- Regular adjustment

**Calibration method: Use a 100g weight to calibrate.**

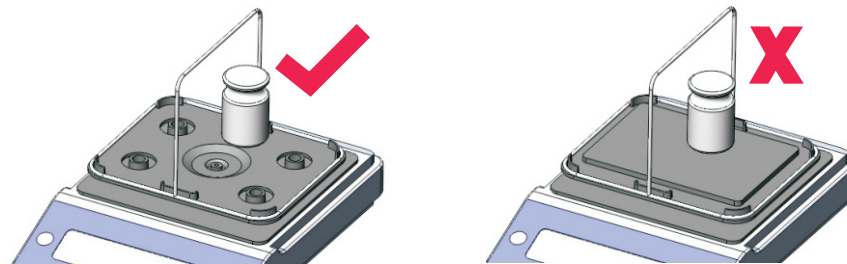
**Step 1. First plug in the power supply and warm up for 30 minutes (for colder areas);**

**Step 2. When the tester is in weighing mode, press the CAL key. The screen will display "120"**

**Step 3. Press →0← to change "120" to "100". Then put the 100-gram weight on the instrument, press the MODE button, the screen will display "ACAL" (meaning that it is calibrating). When the screen displays "100.000", the calibration is complete. Pick up the weight and return to the test mode.**

※instruction:

**After the electronic specific gravity balance is calibrated, if it is moved to other places, it needs to be calibrated again.**



## VI. Function Settings

### (1) Glass weight setting

When there is an error in the liquid measurement, please adjust the density value of the glass weight. Measured Liquid Density If it is too large, we will adjust the density of the weight to a smaller value; if the specific gravity of the measured liquid is too small, we will increase the glass weight until the measured liquid density is correct. It is generally calibrated with distilled water, and the specific gravity of distilled water is 0.998-1.000.

In the weighing state of the balance, press the F menu key to display "CEn719", press the →0← key twice to display "COEFF". Press the Mode key, and "C0EFF1" (representing liquid glass weight setting) will appear. After confirming the compensation to be set, press the MODE key, it is the value to be set at this time, (if there is no problem with the confirmed value, you can press →0← to exit, if you need to set, please continue the following operations). Press Mode key, "SE7 dp" appears. Press →0← key, adjust the decimal point to the back of 7, and display "SE7. dp". Then press the Mode key to display the value to be set, and press Mode and →0← to adjust. (Mode: increase the value; →0←: decrease the value) After setting, press the F key, the screen value will flash, and then press the Mode key to confirm. After confirmation, the instrument will automatically return to the weighing state.

### (2) Restore factory settings

Press the F key to display "CEn719". Press →0← key six times until "1n171A" is displayed, press Mode to confirm.

### (3) Baud rate setting

Press the F key to display "CEn719", press the "→0←" key for several times to display "bAUd" and then press Mode to display "300", press the →0← key to select the baud rate to be adjusted, and then press Mode three times key to confirm.