YD300 Portable Water Hardness Meter
Quick Start Manual

1. Electrode Activation

a) **First-time use** -- shake electrode with force for a few times to make the inner solution flow into the compartment of the measuring head. Pour a little water hardness soaking solution into the "soaking solution" transparent bottle (about half); place the bottle to the black metal base; take off the yellow electrode cap and let the sensor tip soak in the solution for 1 hour.

b) **Routine use** -- The activation time in the soaking solution is 20 to 30 minutes for routine use. As long as the reading is stable (when ☺ icon appears and stays on the screen), users can start the calibration (always perform calibration before tests).

c) **Frequent use** (>3 times of use every week) – find the smaller white bottle inside the transparent soaking solution bottle; loosen the cap on the bottle, then pour some soaking solution to about half of the bottle; then take off the yellow electrode cap and insert the electrode into this white bottle, then screw tight the cap. Store the probe in the white bottle when not in use; when using, just pull out the electrode and rinse it with distilled/deionized water before test. No activation needed anymore because it is always soaked (activated) when not in use.

2. Calibration (take B2, B3 calibration and mmol/L as an example)

a) Connect the electrode to the meter: loosen the plastic cap on the meter's connector; rotate the black cable head to the right direction so it can be inserted to the connector of the meter (don't force it in case of damage); screw tight the stainless-steel cap.

b) Press CAL button, B2 and **CAL 1** will be flashing simultaneously, indicating meter enters the 1st point calibration, and the calibration solution is B2.

c) Dap electrode with clean tissue after rinsing it in distilled water and put it into B2 solution;

d) Gently stir the probe and let it stand still; after ☺ stays on the screen, press CAL button

again; icon **2.00 x 10^{-1} mmol/L** will be flashing for about 15 seconds on the screen. Leave the electrode in the calibration solution while it's flashing and **Do NOT pull it out until the flashing stops**;

e) then icon B3 and **CAL 2** start flashing on the screen, indicating meter enters the 2nd point calibration, the calibration solution is B3.

f) Place electrode into B3 solution (no need to rinse), stir gently and let it stand still; after ☺ stays on the screen, press CAL button again; icon **2.00 mmol/L** will be flashing on the LCD for about 15 seconds; then the meter will go back to measuring mode.

g) Rinse the electrode with distilled or deionized water and dap off excess water with clean tissue; then place it into B2 solution, take the reading after ☺ stays on screen; normal value should be 2.00 ±0.25 x 10^{-1} mmol/L; If it's out of this range, calibrate the meter again according to steps a) to e).

3. Sample Test

Rinse the electrode with distilled or purified water and dap off excess water with clean tissue. Place the electrode into sample solution, stir gently and hold it still. Take the reading when ☺ stays on screen.

4.Notes

a) Selection of calibration method: for general water solutions, adopt B2 and B3 calibration method; for boiler water adopt B1 and B2 calibration method.

b) Selection of measuring units: press UNIT READ button, the measuring units will be changed in turn as the

c) Following sequence: mmol/L→mg/L (CaCO3) → mg/L (CaO) →mmol/L (Boiler) →mg/L (Ca)

d) Electrode needs to be washed clean when measuring, otherwise it will affect measuring accuracy;

e) The container for dilute and concentrated solutions should be separated and cannot be

mixed together. Test dilute solution first and concentrated solution next.

f) When testing boiler water, add the TISAB. (Details see item 4.6.3. in operation manual)

5. Parameters Setting Table

Prompt	Parameter setting items	Parameter
P1	Calibration Method Setting	B1 B2 ------- B2 B3
P2	Resolution Setting	0.01-0.1
P3	Temperature Unit Setting	℃-℉
P4	Activity Compensation Setting	OFF-On
P5	Backlight Automatically Off Setting	OFF-On
P6	Automatic Power Off	OFF-On
P7	Default Setting	OFF-On

6. Error Message and Troubleshooting

Error	Possible Reasons	Troubleshooting	Operation
Measured value unstable,  Flashing all the time	Electrode is not activated	Activate the electrode in soaking solution for 1 hour	See 4.1.1.
	Bubble in the measuring head	Shake the electrode with force to the remove the bubble	See 4.1.1.
	Very few reference solution or metamorphism	Replace the electrode	
	Membrane sensitive failure	Replace the electrode	
1.Display incorrect values in calibration solution after several times calibration. 2.The sample measurement error value is big. 3.Abnormal display.	Calibration solution failure	Replace the calibration solution	See 4.4.6.
	Correction step Error	Return to factory default setting and calibrate again	See 5.8.
	Membrane sensitive failure	Replace the electrode	
Display Er icon	Solution concentration≥10mmoL/L	Dilute the solution 10-fold before measuring	See 4.6.7.
	Electrode is not fully submerged in the solution	Fully submerge the electrode in the solution	
Display $1.00\times10^{3}$and freezes	Electrode not connected with meter	Connect the electrode to the meter correctly	
Membrane becomes turbid and white	Long time usage	Normal	See 4.6.5.
Membrane becomes concave	Negative pressure within the electrode	Loosen the measuring head and tighten it again.	See 4.6.6.