

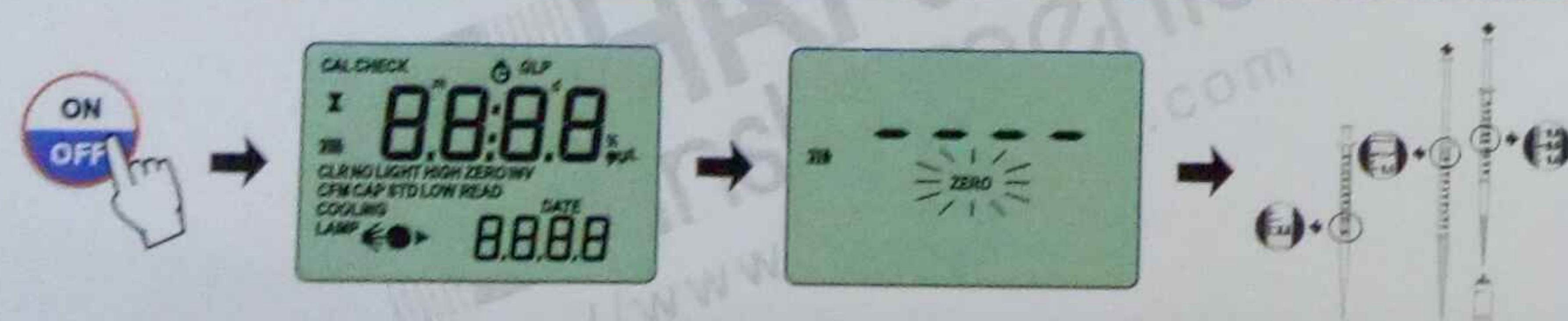
ORDERING INFORMATION 标准配置

- HI96733 Meter 主机
- HI93733 Reagent 试剂
- HI731333 Customized special glass cell Cuvette cleaning solution 定制专用玻璃比色皿清洗液
- HI731318 Cloth for wiping cuvettes 玻璃比色皿清洁布
- 9V Battery 电池
- Manual 说明书
- HI721006 Carrying case 携带箱

SPECIFICATIONS 技术参数

Range 测定范围	0.0 to 50.0 mg/L (as NH_4^+)
Resolution 解析度	0.1 mg/L
Accuracy 精度	$\pm 0.5 \text{ mg/L} \pm 5\%$ of reading @ 25°C
Light Source 光源	Special lamp with narrow band interference filter @ 420nm 窄波段干涉滤光片, 专用光源 @ 420nm
Light Detector 光检测器	Silicon Photocell 硅光电池
Method 方法	Adaptation of the ASTM Manual of Water and Environmental Technology, D1426-92, Nessler Method. The reaction between ammonia and the reagents causes a yellow tint in the sample. 参考 ASTM 水与环境科技手册 D1426-92 纳氏比色法。氨氮与试剂反应呈现淡黄色。
Environment 使用环境	0 to 50°C (32 to 122°F) non-condensing, 无冷凝
Battery Type 电池	1x9V
Auto-Shut off 自动关机	After 10' of non-use in measurement mode; After 1 hour of non-use in calibration mode 停止使用 10 分钟后; 处于标定模式 1 小时后自动关机
Dimensions/Weight 尺寸/重量	192x104x69mm/360g

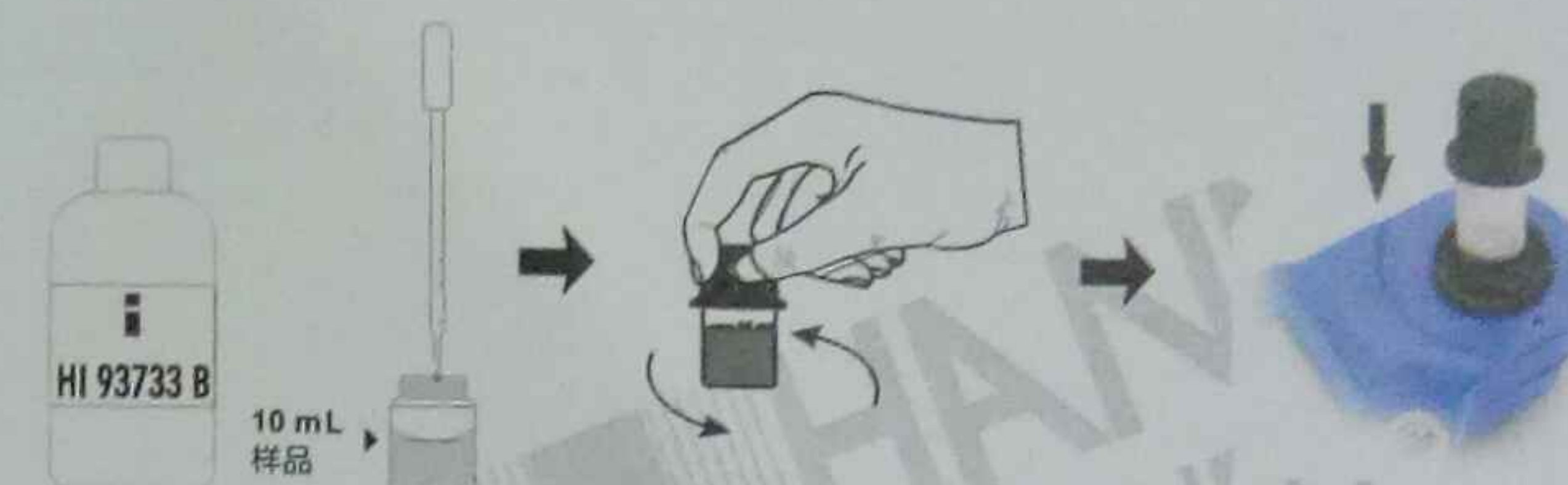
Measurement Procedure 测量步骤



ON 开机

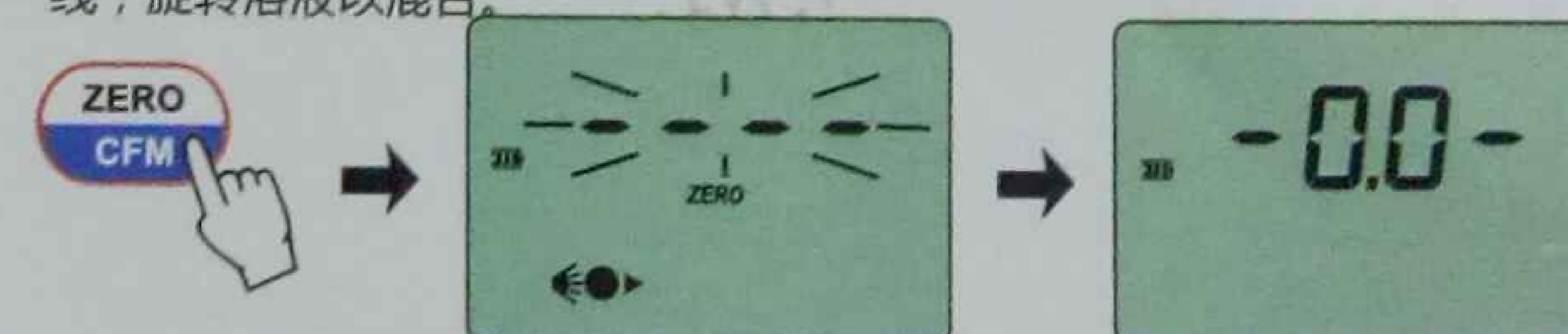
The meter is ready to be zeroed with blinking "ZERO" on the display after self-checking.
仪器自检后, LCD 屏幕 "ZERO" 闪烁, 进入零确认状态。

Fill cuvette with 1 mL of unreacted sample by syringe. 利用注射器往比色皿中加入 1mL 待测水样。



Using the plastik pipette, add 9 mL of HI93733B-0 Ammonia Reagent B and swirl. 利用塑料吸管往比色皿中加入 9mL HI93733B-0 B 氨氮试剂至 10mL 刻度线, 旋转溶液以混合。

Place cuvette into the holder and align the groove. 将比色皿放入比色皿槽, 确保与定位标识对齐。



press ZERO/CFM to start, "Zero" measuring. 按 [ZERO/CFM] 键, LCD 屏幕显示检测进展闪烁。

Meter is zeroed with "-0.0-" a few seconds later. 数秒后, LCD 显示 "-0.0-", 零确认完成。



Remove the cuvette and add 4 drops of HI93733A-0 Nessler Reagent and swirl gently. 取出比色皿, 加入 4 滴 HI93733A-0 试剂, 盖上盖, 轻轻旋转以混合。

Place cuvette into the holder and align the groove. 将比色皿放入比色皿槽, 确保与定位标识对齐。



Hold READ/▶/TIMER till display show 3min30s countdown. 持续按 READ/▶/TIMER 键直至显示倒计时 3 分 30 秒。

Ammonia nitrogen concentration is displayed (mg/L). 屏幕显示氨氮测量结果 (mg/L)。

在测量结束时, 仪器直接显示 LCD 上的铵离子 (NH_4^+) 浓度 (mg/L)。要将读数转换为 mg/L 氨 (NH_3), 乘以因子 0.944。将读数转换为 mg/L 氨氮 ($\text{NH}_3\text{-N}$), 乘以因子 0.776。

Positive error 干扰因素:

- Organic compounds like: chloramines, various aliphatic and aromatic amines, glycine, (positive error). Distillation is required.
- Organic compounds like: aldehydes, alcohols (e.g. ethanol) or acetone (negative error). Distillation is required.
- Sulfide (S^{2-}): may cause turbidity.
- Hardness above 1 g/L as Calcium Carbonate (CaCO_3).
- 有机化合物如: 氯胺, 各种脂肪族和芳香族胺, 甘氨酸, (引起正误差)。蒸馏是必需的。
- 有机化合物如: 醛类, 醇类 (如乙醇) 或丙酮 (引起负误差)。蒸馏是必需的。
- 硫化物 (S^{2-}): 可能导致浊度。
- 硬度高于 1 g/L 的碳酸钙 (碳酸盐)。

Kindly reminder:

The function can effectively check instrument whether the built-in standard curve is in accordance with the requirements or not, and can calibrate the standard curve with the standard solution A and B. Due to light attenuation, the actual built-in curve will deviate, the instrument can automatically corrected the curve through CAL CHECK™ verification system. Be sure to use Hanna brand special CAL CHECK™ standard solution to adjust at 18 °C to 25 °C (64.5 °F to 77 °F). Not Hanna's standard solution will cause calibration errors, even damage the instrument.

Note: The instruments have been calibrated before delivery. We recommend to using the CAL CHECK™ verification system for calibrating the built-in line each year (if using more frequently, User can calibrate it every six months). Users can return the instruments to HANNA China to calibrate the standard line.

温馨提示:

此功能可有效检查仪器内置标准曲线是否符合要求, 并可通过相应型号的标线标定液进行标线标定。对于因光源衰减, 使得实际内置标线偏离, 通过 CAL CHECK™ 性能核查系统可以自动进行修正。务必使用 Hanna 品牌专用 CAL CHECK™ 标线标定液在 18 °C to 25 °C (64.5 °F to 77 °F) 温度条件下进行标线调整。非 Hanna 品牌专用标线标定液将会造成仪器内部标准曲线程序出现错误, 严重者将损害整个仪器。

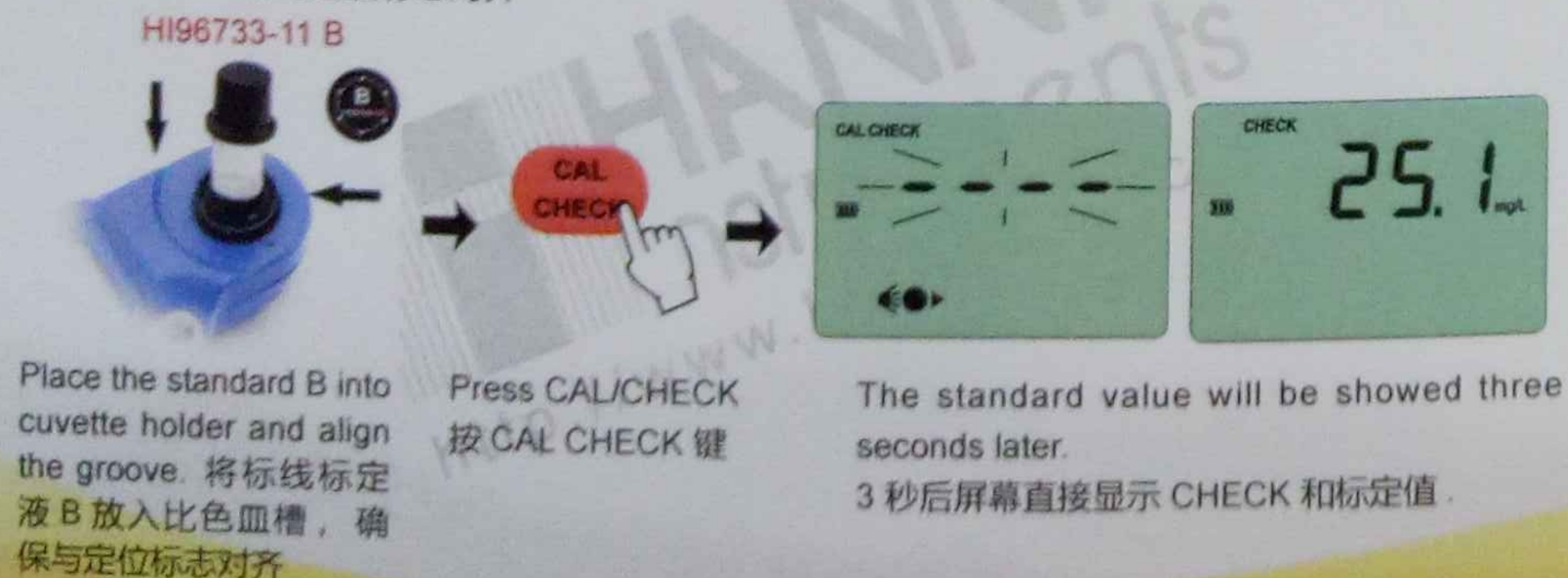
注: 仪器出厂前均已进行标线标定。通常建议每年使用 CAL CHECK™ 性能核查系统对仪器内置标线进行标定及修正【如使用较为频繁, 可每半年进行一次标定】。也可将仪器返回到哈纳·中国技术服务中心进行标线标定。

1. Standard line Validation 标线检验



ON 开机 Place the standard A into cuvette holder and align the groove. 将标线标定液 A 放入比色皿槽, 确保与定位标志对齐

Press ZERO/CFM 按 ZERO/CFM 键 LCD will show the process. Meter is zeroed when showing "-0.0-". LCD 屏幕显示检测进展闪烁; 数秒后 LCD 显示 "-0.0-", 零确认完成。



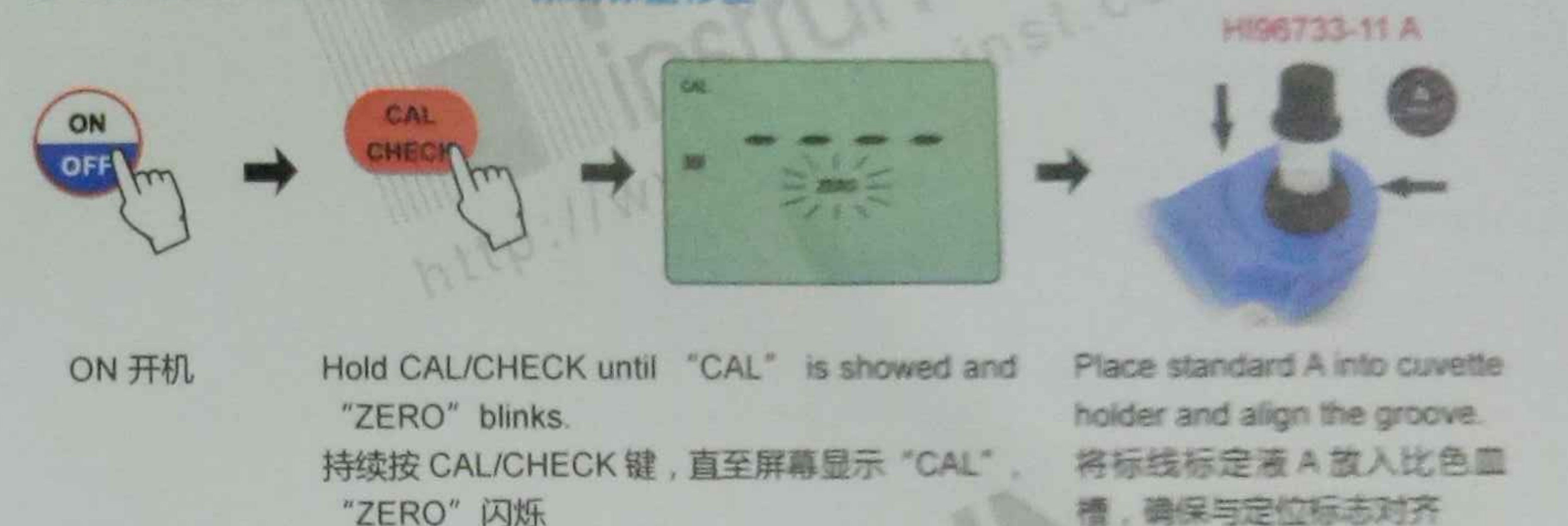
Place the standard B into cuvette holder and align the groove. 将标线标定液 B 放入比色皿槽, 确保与定位标志对齐

Press CAL/CHECK 按 CAL CHECK 键 The standard value will be showed three seconds later. 3 秒后屏幕直接显示 CHECK 和标定值。

If the value is found out of specifications, please check that the cuvettes are free of finger-prints, dirt and repeat validation. If results are still found out of specifications then recalibrate the instrument.

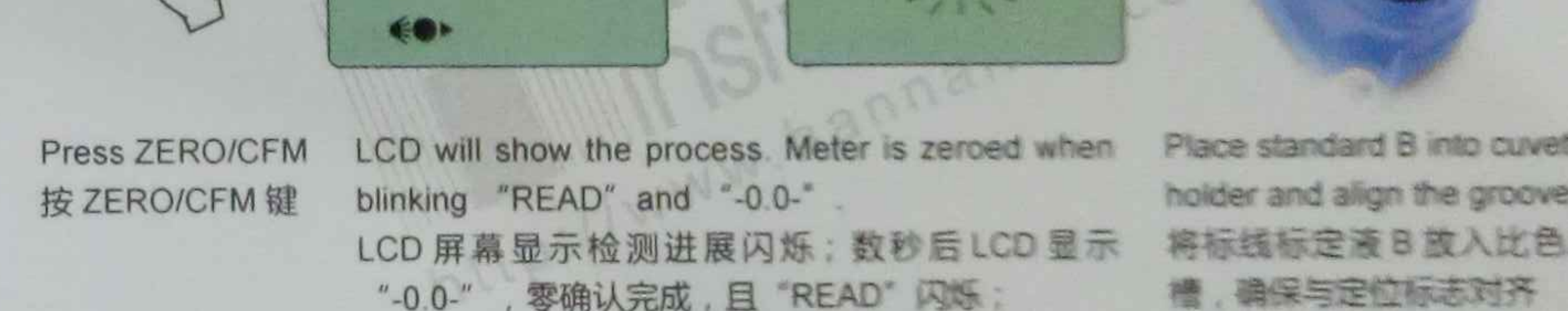
如发现与标定值不符, 请检查比色皿是否有指纹、灰尘污染或过期。擦干后重新检验。若结果仍偏离标定值, 请进行标线标定修正。

2. Standard line Calibration 标线标定修正

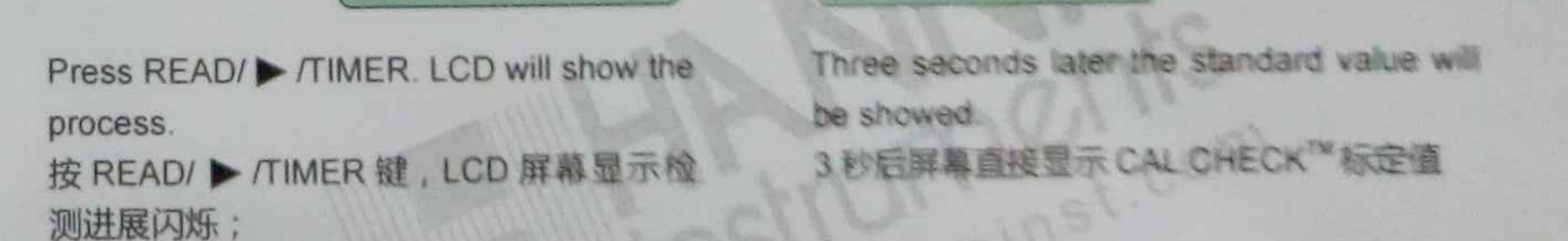


ON 开机 Hold CAL/CHECK until "CAL" is showed and "ZERO" blinks. 持续按 CAL/CHECK 键, 直至屏幕显示 "CAL", "ZERO" 闪烁

Place standard A into cuvette holder and align the groove. 将标线标定液 A 放入比色皿槽, 确保与定位标志对齐



Press ZERO/CFM 按 ZERO/CFM 键 LCD will show the process. Meter is zeroed when blinking "READ" and "-0.0-". LCD 屏幕显示检测进展闪烁; 数秒后 LCD 显示 "-0.0-", 零确认完成, 且 "READ" 闪烁;



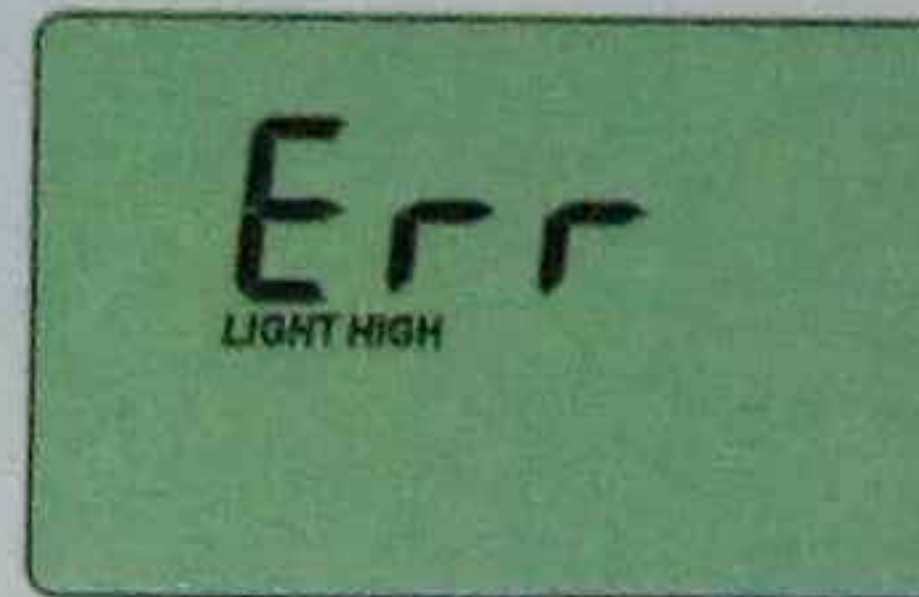
Press READ/▶/TIMER. LCD will show the process. 按 READ/▶/TIMER 键, LCD 屏幕显示检测进展闪烁;

Three seconds later the standard value will be showed. 3 秒后屏幕直接显示 CAL CHECK™ 标定值

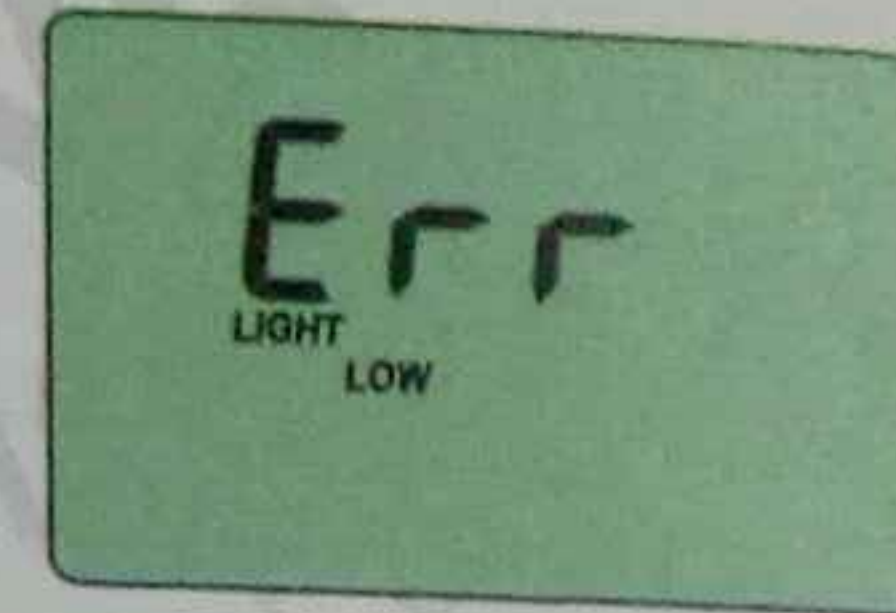
Note: If the display shows "STD HIGH", the standard value was too high. If the display shows "STD LOW", the standard value was too low. Verify that both CAL CHECK™ Standard Cuvettes A and B are free from fingerprints or dirt and that they are inserted correctly.

提示: 若 LCD 屏幕显示 "STD HIGH", 表示测量标定值偏高; 若 LCD 屏幕显示 "STD LOW", 表示测量标定值偏低; 请检查比色皿 A 和 B 是否有指纹、灰尘污染或过期。擦干后重新标定。

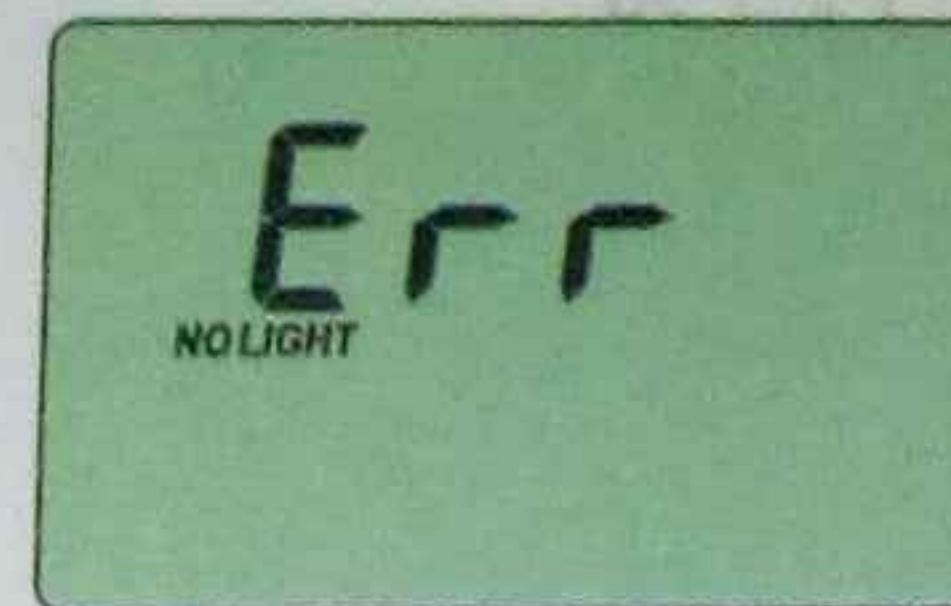
Errors and warnings 错误代码说明



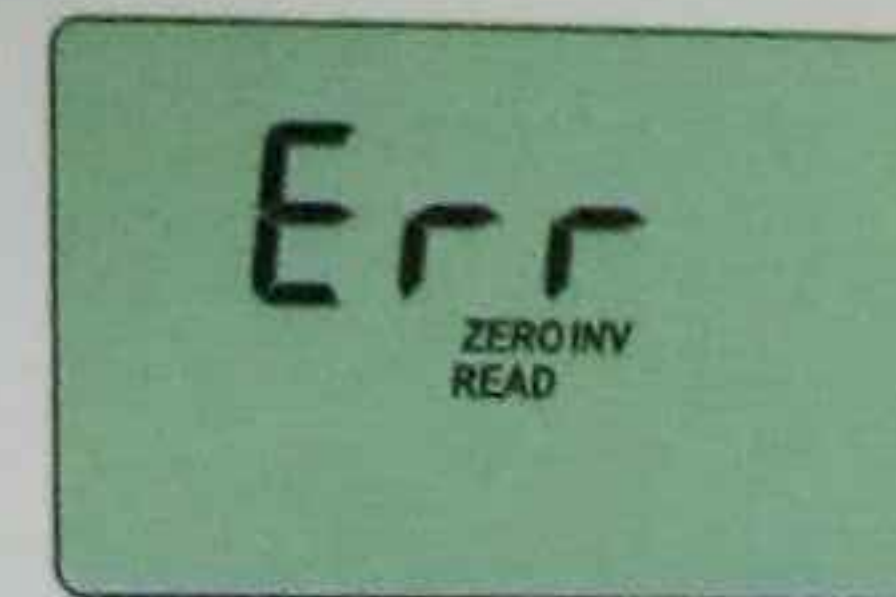
"LIGHT HIGH" : Too much light to perform, the zero cuvette is not prepared.
光太强, 而无法进行测量, 请检查零校正比色皿是否准备好。



"LIGHT LOW" : Not enough light to perform, the zero cuvette is not prepared.
没有足够的光进行测量, 请检查零校正比色皿是否准备好。



"NO LIGHT" : Cannot adjust the light level, the sample may contain some debris.
仪器不能调整光的水平, 请检查样品中不能含有任何碎屑。



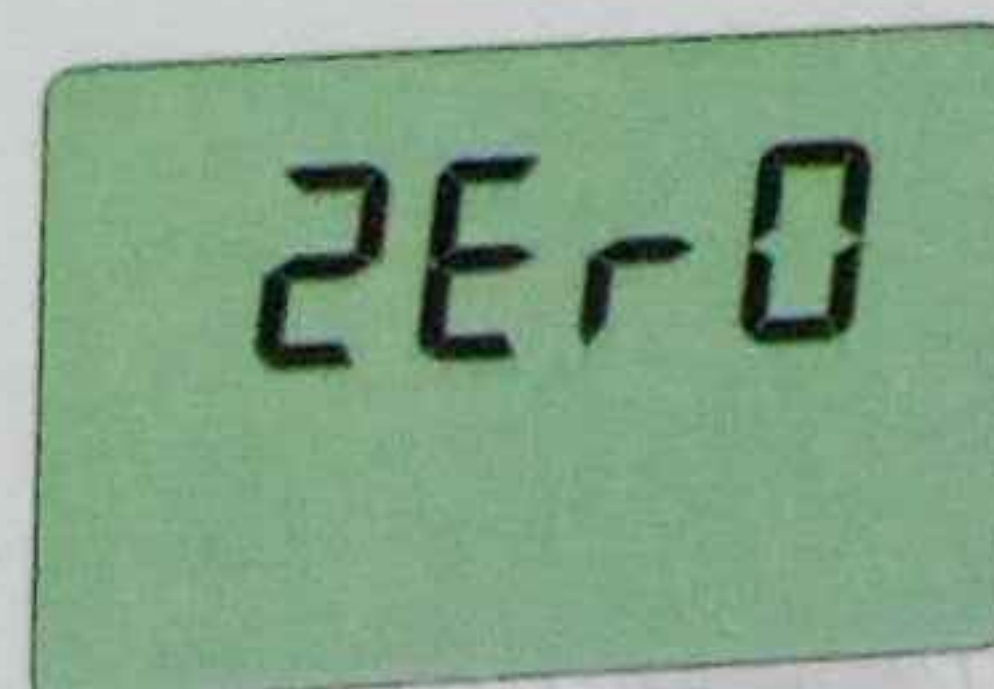
"ZERO INV READ" : The sample and the zero cuvette are inverted.
样品和零校正比色皿颠倒了。



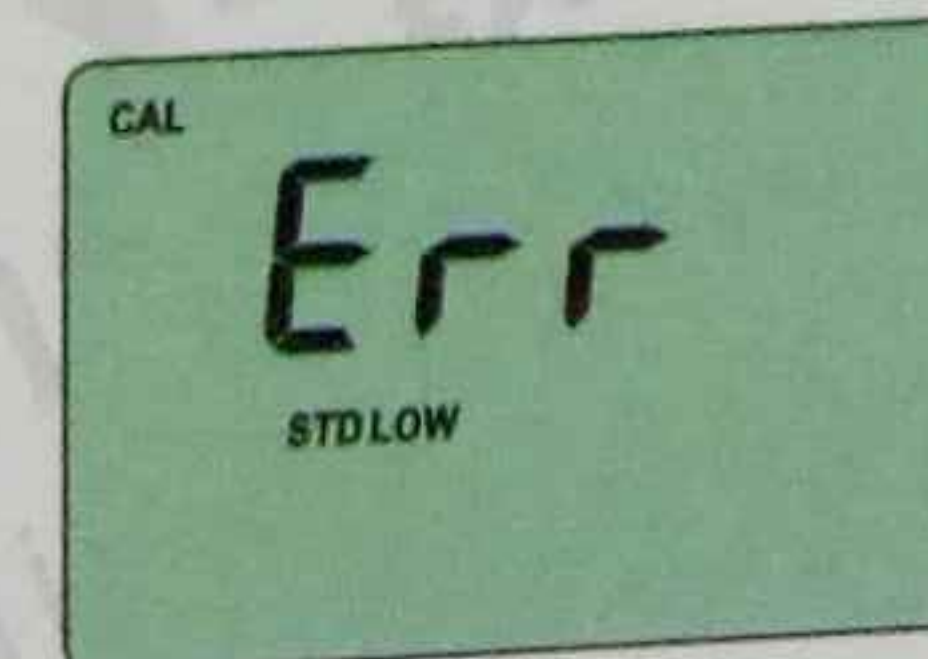
The sample absorbs less light than the zero reference, please use the same cuvette for reference (zero) and measurement.
表示样品浓度低于测量范围, "0.0" 闪烁表示样品吸收了比零参照值还要少的光。检查操作过程, 确保在零样与采样中使用同一比色皿。



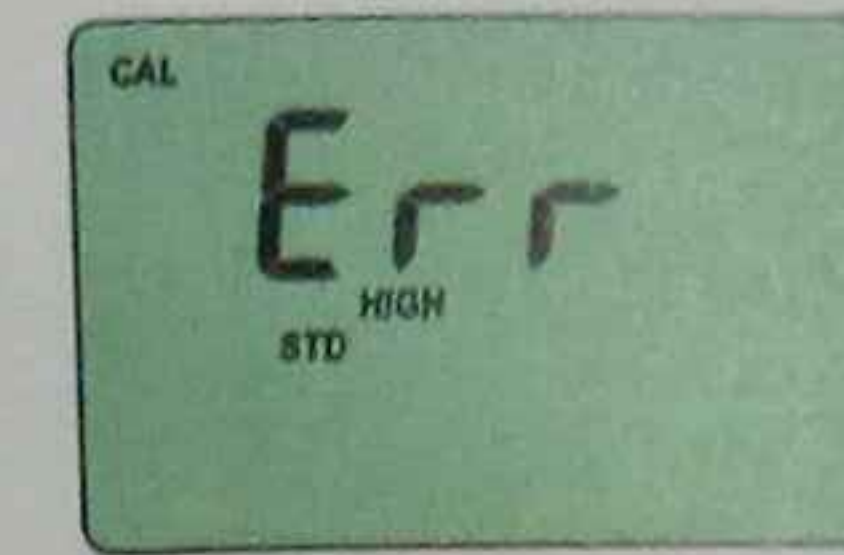
The concentration of the sample is over the programmed range, dilute the sample and re-run the test.
表示样品浓度超出测量范围, "50.0" 闪烁表示样品吸收了太多的光, 意味样品浓度过高, 需要稀释样品, 重新检测。



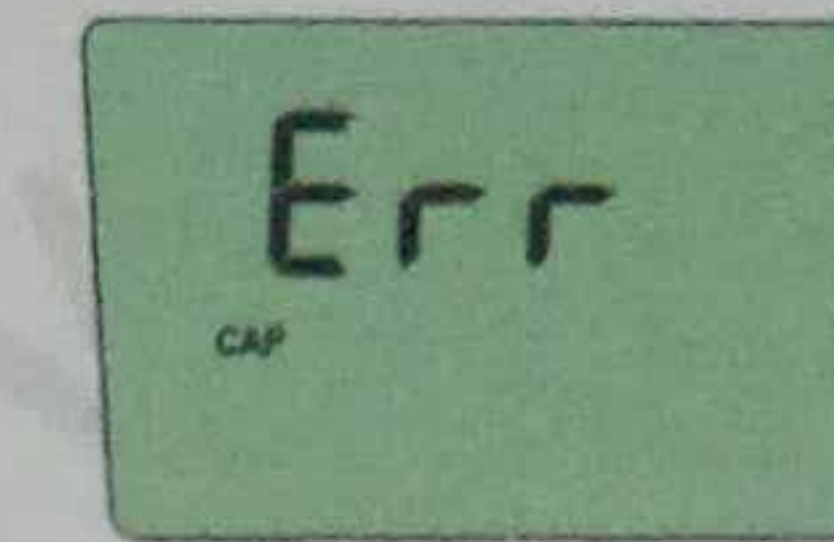
"ZERO" means the meter is not zeroed.
表示仪器尚未进行校零。



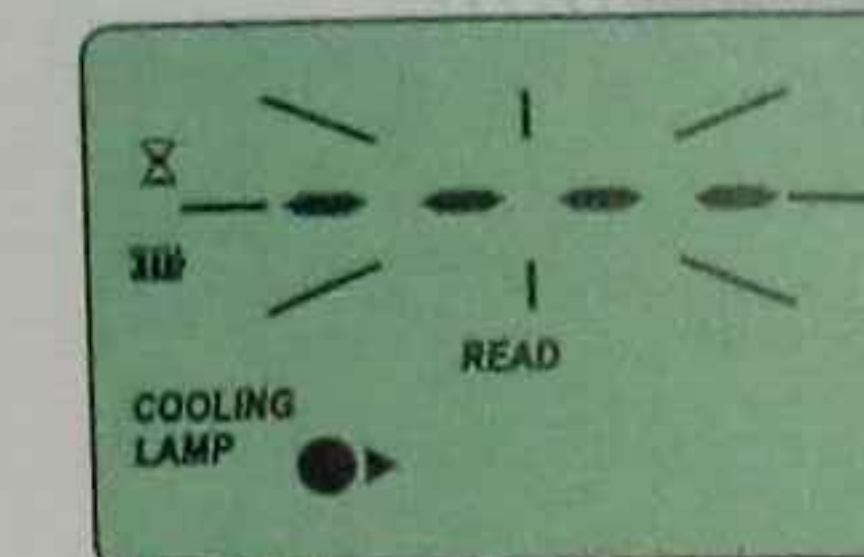
"STDLOW" : The standard reading is less than expected.
表示标线标定液读值过低。



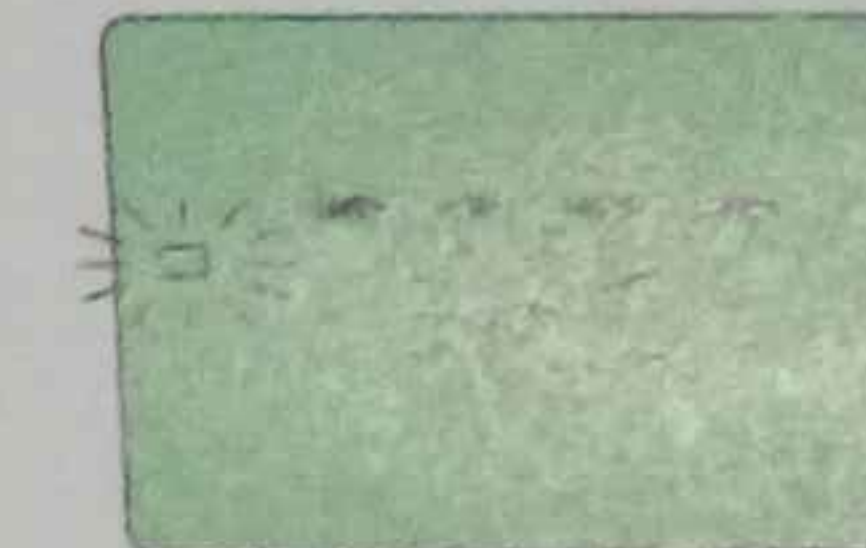
"STDHIGH" : The standard reading is higher than expected.
表示标线标定液读值过高。



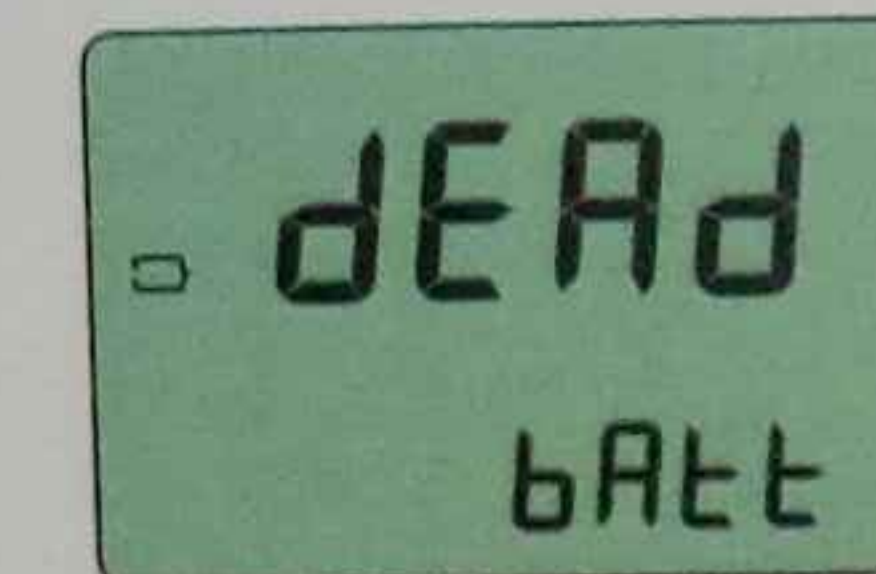
"CAP" : External light enters in the analysis cell. The cuvette cap is not present.
表示比色槽中有外部光进入, 请确保盖紧比色皿盖。



"COOLING LAMP" : Please wait for the lamp to cool down.
表示光源过热, 请等候。



Battery low, please replace the battery.
电池电量低, 请更换电池。



The battery is dead and must be replaced immediately.
电池电量耗尽, 请立即更换电池。

Battery replacement 更换电池步骤

- Turn the instrument off
- Remove the battery cover at the bottom by turning it counterclockwise
- Replace battery with new one.
- Insert back and turn battery cover clockwise.
- 关闭仪器
- 将仪器底部的电池盖逆时针拧下
- 更换新的电池
- 将电池盖顺时针拧上

