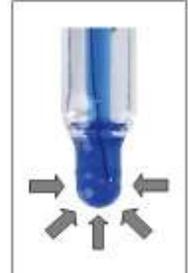


## LabSen 831 HF pH Electrode User Manual

LabSen electrochemical sensors are premium pH electrode with manufacturing technology and key components imported from Switzerland. LabSen831 pH electrode adopts special HF glass membrane, suitable for strong acid solution, or solution containing HF ( $\geq 3\text{pH}$ )

This probe has following features:

- Impact-resist membrane (see the right picture), there is no danger of electrode breakage during normal use.
- Extremely long service life, able to measure solution containing HF for about 1000 times. ( test condition: 25° C, 1% HF concentration, test period 1 minute )
- Blue gel inner solution, does not flow and will not cause bubble.
- Silver ion trap reference prevents the contamination of the junction when testing sample contains sulfides and proteins.

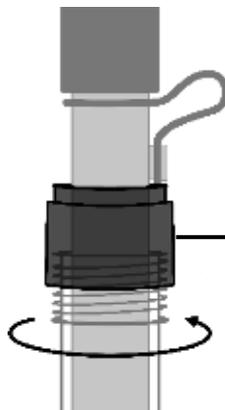


### 1 Technical Data

Measuring Range	(0 ~ 11) pH	Electrolyte	3M KCl
Temperature Range	(0 ~ 100) °C	Soaking Solution	3M KCl
Shaft Material	Lead-free Glass	Electrode Dimension	(Ø12×120) mm
Membrane Shape	Half Ball	Connector	BNC
Reference	Silver Ion Trap	Cable	Ø3×1m
Junction	Ceramic		

### 2 Usage and Maintenance

2.1 When measuring, please unscrew the bottle cap, pull out the electrode and rinse it with deionized water. After using, please put the electrode back into the bottle and screw tight the cap.



Before pulling out or putting back the electrode, make sure to fully loosen the blue cap on the storage sleeve so that the electrode can move in and out smoothly.

2.2 Prior to measurement, remove the rubber plug to maintain pressure of the reference solution, keep consistent flow rate of reference solution and stable potentials of junction.

### 2.3 Measurement suggestions:

- (a) The electrode can measure HF solution lighter than 0.1mol/L (pH≈2.1), within 3 minutes for each time. After long time test, the electrode appearance is not obviously dissolved or damaged, with good repeatability and stability.
- (b) Measure HF solution lighter than 0.5mol/L (pH≈1.8), after long time test, if the membrane is obviously dissolved, it will shorten the service life. Our recommend is avoid such test or test faster, less than 2 minutes for each time.
- (c) The electrode is not suitable to measure HF solution heavier than 0.5ml/L (pH<1.8), it will cause the electrode obviously underperform or damage.

2.4 After a period of usage, the reference solution will running low. Whenever the level falls to 1/2 height of the electrode, add 3M KCL solution to the refilling hole by using syringe or pipette.

2.5 The connector of the electrode should keep clean and dry. If being contaminated, please clean it with medical cotton and absolute alcohol and blow dry to prevent the short circuit of the electrode and slow reaction of electrode.

2.6 The electrode's measuring tip should be soaked in the soaking bottle containing certain amount of storage solution to keep the membrane hydrated and junction unblocked. Clean the bottle and replace the storage solution if the storage solution gets turbid and mildewed. The electrode should never be sinked in pure water or buffer solution for long.

2.7 After 1-year of use, we recommend replacing the electrode to ensure the best accuracy.

### 3 Warranty

We warrant this electrode free from defects in material and workmanship and agrees to repair or replace free of charge, at option of APERA INSTRUMENTS any malfunctioned or damaged product attributable to responsibility of APERA INSTRUMENTS for a period of **six months**. Warranty period is the time limit to provide free service for the products purchased by customers, not the service life of the tester or electrodes.

This limited warranty does not cover any damages due to:

transportation; storage; improper use; failure to follow the product instructions or to perform any preventive maintenance; modifications; combination or use with any products, materials, processes, systems or other matter not provided or authorized in writing by us; unauthorized repair; normal wear and tear; or external causes such as accidents, abuse, or other actions or events beyond our reasonable control.

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