

# Instruction Manual

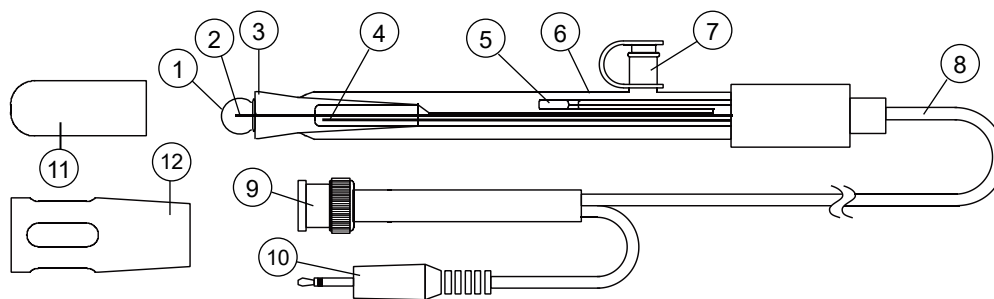
## Standard Probe Model 640S-1

### Introduction

Thank you for purchasing the standard probe Model 640S-1.

- This probe is designed to measure hydrogen ion concentration (pH) and temperature (liquid temperature) connecting with the pH meter Model SK-640PH or SK-650PH. Do not use this product for any other purposes.
- Read this instruction manual thoroughly before using and keep it in a safe place for your future references.

### Names of Section



- |                            |                                      |                               |
|----------------------------|--------------------------------------|-------------------------------|
| ① Electrode membrane       | ⑤ Internal reference electrode       | ⑨ pH sensor connection plug   |
| ② Glass internal electrode | ⑥ Electrode holding tube             | ⑩ Tem. sensor connection plug |
| ③ Liquid junction          | ⑦ Refill port for the inner solution | ⑪ Electrode cap               |
| ④ Temperature sensor       | ⑧ Sensor cord                        | ⑫ Electrode protection cap    |

### Precautions before use

When the unit is first used or after it has been stored for several days, the pH measurement response may be slower. Allow the unit to adjust to the ambient environment before use as follows.

- (1) Remove the electrode cap from the unit.  
 Note: The electrode cap is filled with pure water to prevent the glass electrode membrane from drying. The pure water may spill when removing the cap.
- (2) Immerse the glass electrode in the pH standard solution (pH7) or water for two hours or more before use.

### Using the 640S-1

- (1) Remove the electrode cap from the unit.
  - Hold the unit upright to avoid spilling the inner solution.
  - To protect the electrode, it is recommended to attach the protective cover to the tip of the unit.
- (2) Flip open the cap for the refill port.
- (3) Connect the unit to the indicator, and then turn on the indicator.
- (4) Immerse the glass electrode in the measurement sample to a depth of about 8 cm.
  - Calibrate the unit before measurement as necessary.

- (5) Upon completion of measurement, turn off the indicator.
- (6) Close the cap for the refill port.
- (7) Before storing, thoroughly wash the glass electrode with distilled, pure or tap water and cover the electrode with the cap filled with water.

\* For details on handling the indicator, refer to the instruction manual provided with the indicator.

## **Maintenance**

1. Glass electrode: When the glass electrode becomes dirty, clean it as follows.

- For organic stains  
Lightly wipe the electrode with gauze or cotton wool dampened with a diluted neutral detergent, and then rinse the electrode well with pure water.
- For inorganic stains  
Immerse the glass electrode in an approximately 0.1N hydrochloric acid solution or a neutral detergent, and then rinse the electrode well with pure water. Do not leave the electrode in the solution for a long time.

Note: Make sure that the neutral detergent does not come in contact with the junction. Otherwise, the performance of the inner solution could be adversely affected if the neutral detergent penetrates inside the sensor.

2. Reference electrode

- (1) When the inner solution level falls below the position of the internal reference electrode, refill the electrode with the inner solution. When refilling, pour an appropriate amount of the provided inner solution through the refill port on the unit.
- (2) When the inner solution becomes dirty, first remove the dirty inner solution from the holding tube, thoroughly clean the inside of the tube with new inner solution, and then fill the electrode with new inner solution. The inner solution should be replaced at regular intervals.

Important: The unit cannot be repaired due to its characteristics and structure. If the glass electrode is damaged or its performance is deteriorated, replace with a new sensor probe.

## **Caution**

For proper use of the unit, be sure to observe the following:

- The sensor is made of glass and is a precision instrument; be careful not to drop or knock it.
- If the unit is used in an environment where electrical noise is generated, the display may become unstable or the measurement error may increase.
- Do not alter, pull forcibly, bend or bind the cord, as doing so may cause a break or malfunction in the probe.
- Never use the unit outside the measurement range, otherwise it may malfunction.
- When measuring, do not let the sensor probe come in contact with the human body.
- The glass electrode could be damaged or its service life could be shortened if it is used for measurement samples such as organic solvents, oils, adhesives and surface-active agents.
- The pH reading may become unstable when pure water is measured.
- If the pH standard solution contacts the skin (hand), immediately wash the contaminated skin with running water. If the solution gets into the eyes, immediately rinse with water and consult a doctor.
- Keep the pH standard solution out of reach of children. If accidentally ingested, consult a doctor immediately.
- If the unit is left in a car in the hot summer sun, it will become extremely hot and may malfunction. Do not leave the unit in such a place.

## Specifications

Product	Standard probe	
Cat. No.	6424-00	
Model	640S-1	
	pH	Temperature
Measuring Range	2.00 to 13.00pH	0.0 to 50.0°C
Accuracy	±0.03pH	±0.5°C
Sensing Element	Glass electrode	Thermistor
Liquid junction	Sleeve type	
Inner solution	3.3mol/L (KCL) (refillable)	
Operation ambient	Temperature: 0.0 to 50.0°C	
Materials	Electrode holding tube: glass (lead-free), Cord: PVC	
Dimensions	approx. 12mm dia. x 152mm (cord length: 1m)	
Weight	About 78g	
Accessories	Cap for electrode	1 pc.
	Electrode protection cap	1 pc.
	Refill of internal solution (3.3mol/L KCL 35mL)	1 ea.