

PH ELECTRODE / DATA SHEET

SS307-101

Industrial pH Electrode

Industrial pH electrode for rapid, stable and long-term measurement in water and process liquids.

Overview

- SS307-101 covers a family of industrial pH electrodes for wastewater, agriculture, aquaculture and process-water monitoring.
- The Ag/AgCl reference system, gel electrolyte and PTFE liquid junction provide stable potential and resistance to fouling.
- Choose the electrode material and temperature-compensation option that matches the liquid chemistry and installation.



pH Range 0–14.00 pH	Pressure 0.6 MPa	Protection IP68	Cable 5 m default
Key Advantages • Rapid response and good repeatability. • Gel electrolyte and large PTFE junction resist clogging. • Acid- and alkali-resistant options for demanding liquids. • Temperature compensation can be selected for the electrode type.		Application Scenarios • Industrial and domestic wastewater. • Agriculture and aquaculture water. • Desulfurization and denitrification processes. • Plating wastewater and chemical process liquids. • Strong acid or alkali solutions where the selected electrode is suitable.	

MEASUREMENT PRINCIPLE

Measurement Principle

ELECTROCHEMICAL MEASUREMENT

The pH-sensitive element and Ag/AgCl reference system form a stable half-cell potential. A gel electrolyte and large-area PTFE liquid junction help resist contamination and clogging. The electrode is connected to a compatible pH meter or transmitter for measurement and display.

SYSTEM DATA

Technical Specifications

Item	Specification
pH Measurement Range	0–14.00 pH
Applicable Temperature	0–80 °C; flat desulfurization variant: 0–60 °C
Pressure Resistance	0.6 MPa
Internal Resistance	≤250 MΩ at 25 °C; antimony variant excluded
Zero Potential	7 ±0.2; antimony variant excluded
Theoretical Slope	≥95%
Temperature Compensation	NTC10k; PT1000 for PTFE and glass variants
Cable Length	5 m by default
Protection	IP68 when installed as specified

Item	Specification
Electrolyte / Junction	Ag/AgCl reference, gel electrolyte, PTFE liquid junction
Housing / Electrode Options	Composite, PTFE, plating, glass, antimony and flat desulfurization variants
Recommended Service Life	About 1 year; replace when response or slope declines

SELECTION INFORMATION

Product Selection

Option	Recommended use
SS307-101	Industrial pH electrode family
Regular composite	Weakly acidic or weakly alkaline, non-corrosive liquids; temperature compensation optional
Flat desulfurization	Liquids with suspended matter or viscosity; easy-to-clean flat measuring surface
PTFE	Most chemically corrosive liquids except hydrofluoric acid
Plating / double salt bridge	Plating wastewater and liquids needing stronger anti-contamination performance
Glass	Strong acid or alkali liquids without hydrofluoric acid
Antimony	Robust electrode applications and hydrofluoric-acid-containing liquids; chemical compatibility must be checked

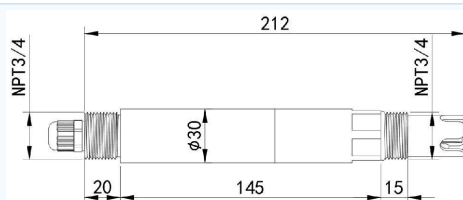
SELECTION NOTE

Select the electrode material, temperature-compensation option and mechanical connection that match the liquid chemistry. Any solution that reacts with glass is unsuitable for glass, composite, PTFE or plating electrodes; any solution that substitutes or complexes with antimony is unsuitable for the antimony variant.

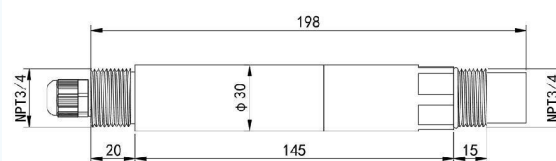
MECHANICAL DATA

Dimensions and Electrode Variants

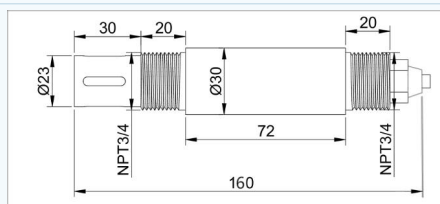
The industrial pH electrode family uses four mechanical forms. Dimensions below follow the supplied drawings in millimetres; select the connection style required by the installation.



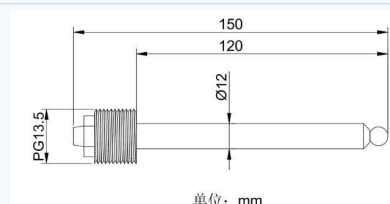
Composite, plating or antimony variants: 212 mm; Ø30; NPT3/4



Flat desulfurization variant: 198 mm; Ø30; NPT3/4



PTFE variant: 160 mm; Ø30; NPT3/4



Glass variant: 150 mm; Ø12; PG13.5

INSTALLATION NOTE

The source family uses NPT3/4 threads for most industrial variants and PG13.5 for the glass variant. Keep the cable and threaded connection above the liquid line unless the selected configuration explicitly permits immersion.

INSTALLATION & OPERATION

Installation and Maintenance Notes

- Before use, loosen the protective bottle, remove the electrode and rinse the measuring end with pure or deionized water.
- When not in use, keep the electrode immersed in electrode soaking solution. Reactivate a dry electrode before measurement.
- Do not let the glass bulb touch hard objects; scratches or breakage can make the electrode unusable.
- Clean the electrode before and after measurement. Remove bubbles from the glass bulb and allow the reading to stabilize in the liquid.
- Calibrate before each use; for long-term operation, calibrate about every 3 months and adjust the interval to the application.
- For a sluggish or inaccurate electrode, follow the specified cleaning and reactivation procedure; replace the electrode after normal service life.

SERVICE & WARRANTY

The pH electrode is a consumable component and is not covered by a product warranty. Follow the selected electrode's chemical-compatibility limits and replace it when sensitivity, response or repeatability no longer meets the application requirement.

CONTACT / SUPPORT

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