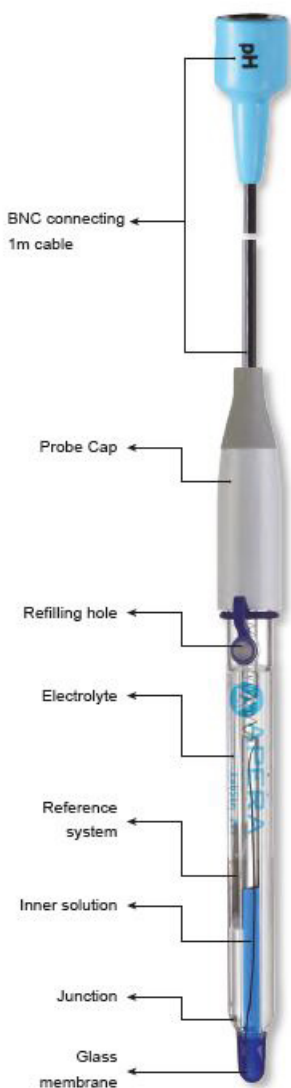




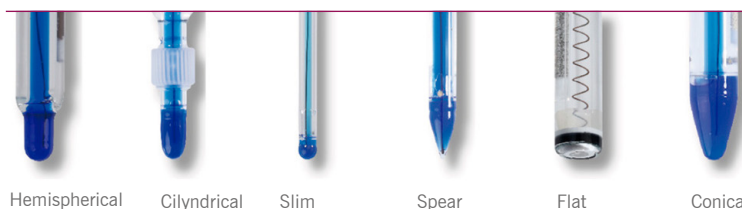
LabSen ELECTRODES FOR pH

LabSens professional electrodes meet together patented sensor technology with the best components for fast and reliable results for a wide variety of applications



Glass membrane

Glass membrane is the most important part of pH electrode. LabSen pH electrodes are equipped with 4 types of glass membrane to meet various applications: S membrane, H membrane, HF membrane and PHY membrane. For example HF membrane is used for HF resistance electrode. LabSen glass membrane has good impact resistance. It will not be damaged by general intensity impact, completely differentiating from conventional glass membranes. LabSen glass membrane with different shapes are shown as below:



Junction

Junction is the electrolyte interface between reference system and the solution to be measured, LabSen electrode adopts the following types of junctions: Ceramic - the most frequently used junction, easy to be blocked by protein-containing or suspension solution.

Pore without diaphragm - it is used with solid electrolyte, no clogging, maintenance-free.

Movable sleeve - easy to clean, suitable for suspension, emulsion, low ion concentration solution and nonaqueous solution. The infiltration rate of electrolyte is determined by the tightness of the sleeve during installation.

PTFE - a kind of Teflon material with multi pores, hard to be contaminated.

Inner solution

The inner solution of LabSen electrode is in a unique dark blue. With a special gel treatment, the inner solution does not flow and will not cause air bubbles. The electrode can work well even when being upside down.

Reference system

Besides routine Ag/AgCl reference electrode, LabSen pH electrodes are more likely to adopt Long-life reference electrode and Yesilver-ion-trap reference electrode.

Long-life reference system is composed of a glass tube, AgCl and reference silver wire. The top end of the slim glass tube is stuffed with cotton, which will prevent reaction between AgCl and electrolyte when temperature changes, improving the stability of reference electrode and service life.



Code	KDG020	KDG021	KDG022	KDG023
Model	201-C	201T-F	211	221
Range	0 – 14 pH	0 – 14 pH	0 – 14 pH	0 – 14 pH
Body	PC	PC	Glass	Glass
Temp probe	No	NTC 30K Ω	No	No
Junction	Ceramic	Ceramic	Ceramic	Ceramic, movable sleeve
Electrolyte	Gel KCl	Gel KCl	3M KCl	3M KCl
Membrane	Glass, spherical with cap	Glass, spherical with cap	Glass, hemispherical	Glass, hemispherical
Reference system	Ag/AgCl	Ag/AgCl	Long-life	Long-life
Connector	BNC	BNC	BNC	BNC
Range Temp use	0-80°C	0-80°C	-5 – 100°C	-5 – 100°C
Dimensions (mm)	Ø 12x 160	Ø 12x 160	Ø 12x 120	Ø 12x 130
Application	General or research laboratories and in-field applications		General use, water, buffer solutions	Viscous solutions and low ion concentration samples



KDG024

Plastic precision electrode p/pH, LabSen 331



KDG025

Semi-micro electrode f/pH, LabSen 241-6



KDG026

Micro electrode p/pH, LabSen 241-3

Code	KDG024	KDG025	KDG026
Model	231	241-6	241-3
Range	0 – 14 pH	0 – 14 pH	0 – 14 pH
Body	POM	Glass	Glass
Temp probe	No	Probe	Probe
Junction	Ceramic	Ceramic	Ceramic
Electrolyte	Polymer	3M KCl	3M KCl
Membrane	Glass, cylindrical	Glass, slim (6 mm)	Glass, slim (3 mm)
Reference system	Long-life	Long-life	Long-life
Connector	BNC	BNC	BNC
Range Temp use	-5 – 80°C	0 – 100°C	0 – 100°C
Dimensions (mm)	Ø 12x 120	Ø 12-6 x 150 (100)	Ø 12-3 x 150 (70)
Application	Testing emulsion, suspension, wastewater and samples containing protein and sulfide.	Small volume (≥ 0.2 mL)	Micro volume (≥ 30 μ L)

**KDG027**

Electrode on lance p/pH,
LabSen 251

**KDG028**

Routine p/pH electrode with
temperature probe ,
LabSen 213

**KDG029**

Precision p/pH electrode with
temperature probe
LabSen 223

Code	KDG027	KDG028	KDG029
Model	251	213	223
Range	0 – 14 pH	0 – 14 pH	0 – 14 pH
Body	Glass	Glass	Glass
Temp probe	No	NTC 30kΩ	NTC 30kΩ
Junction	Ceramic + 1 pore	Ceramic	Ceramic, movable sleeve
Electrolyte	Polymer	3M KCl	3M KCl
Membrane	Glass, spear	Glass, cylindrical	Glass, cylindrical
Reference system	Long-life	Long-life	Long-life
Connector	BNC	BNC/RCA	BNC/RCA
Range Temp use	0 – 80°C	-5 – 100°C	-5 – 80°C
Dimensions (mm)	Ø 12-6 x 100	Ø 12x 120	Ø 12x 130
Application	Soft solid medium (gels, agar medium) or food (cheese, fruit, rice)	General use, water, buffer solutions	Viscous solutions and low ion concentration samples, titration

**KDG030**

Precision plastic p/pH electrode
with temperature probe
LabSen 333

**KDG031**

pH electrode f/purified water,
with T^a probe
LabSen 803

**KDG032**

Electrode for acid pH,
LabSen 831

Code	KDG030	KDG031	KDG032
Model	333	803	831
Range	0 – 14 pH	1 – 11 pH	0 – 11 pH
Body	POM	Glass	Glass
Temp probe	NTC 30kΩ	NTC 30kΩ	No
Junction	1 pore	Ceramic, movable sleeve	Ceramic
Electrolyte	Polymer	3M KCl	3M KCl
Membrane	Glass, spheric	Glass, cylindrical	Glass, hemispherical
Reference system	Long-life	Yesilver ion trap	Yesilver ion trap
Connector	BNC	BNC/RCA	BNC
Range Temp use	0 -80°C	0-80°C	0 – 100°C
Dimensions (mm)	Ø 12x 120	Ø 12x 130	Ø 12x 120
Application	Testing wastewater, emulsion suspension	Purified water measurement, RO water distilled.	Solution containing HF (>3 pH) or strong acid solutions



KDG033

Electrode for basic pH,
LabSen 841



KDG034

pH electrode for viscous solu-
tions, LabSen 851-1



KDG035

pH electrode for liquid
foods
LabSen 823



KDG036

Stainless steel pH electrode
in lance, with T^a probe
LabSen 753

Code	KDG033	KDG034	KDG035	KDG036
Model	841	851-1	823	753
Range	2 -14 pH	0 – 14 pH	0 – 14 pH	0 – 14 pH
Body	Glass	Glass	Glass	Acero inoxidable
Temp probe	No	No	NTC 30kΩ	NTC 30kΩ
Junction	Ceramic	Ceramic *3	Ceramic *3	Ceramic + 1 pore
Electrolyte	3M KCl	Polymer	Polymer	Polymer
Membrane	Glass, hemispherical	Glass, hemispherical	Glass, hemispherical	Glass, pointed
Reference system	Yeslver ion trap	Yeslver ion trap	Yeslver ion trap	Long-life
Connector	BNC	BNC	BNC/RCA	BNC/RCA
Range Temp use	0 – 100°C	0- 100°C	0-80°C	0-80°C
Dimensions (mm)	Ø 12x 120	Ø 12x 120	Ø 12x 120	
Application	High temperature and strong base solutions	Viscous solutions	Protein containt dairy or other liquid food	Soft solid foods, cheese, bread, fruit, vegetables, rice.

ORP ELECTRODES



KDG037

Electrode for ORP, 301PT-C

Code	KDG037	KDG038
Model	301Pt-C	3501Pt-Glass
Range	± 2000 mV	± 2000 mV
Body	PC	Glass
Sensor	Platinum ring	Platinum ring
Sensor size(mm)	Ø6 x 2.5	Ø 6 x 5
Junction	Ceramic	Ceramic
Reference system	Ag/AgCl	Ag/AgCl
Electrolyte	Gel KCl	Gel KCl
Connector	BNC	BNC
Application	General water solutions, wastewater, electroplating solutions	General water solutions, wastewater, electroplating solutions, organic sample solutions, high temperature and continuos measuring.



▶ CONDUCTIVITY ELECTRODES

**KZD016**

Conductivity electrode (k=1),
2301-C

**KZD017**

Glass conductivity electrode
(k=1), 2401-C

**KZD019**

Glass conductivity electrode
with probe T^a (k=1), 2401T-F

Code	KZD016	KZD017	KZD018	KZD019
Model	2301-C	2401-C	2301T-F	2401T-F
Range	0.5 $\mu\text{S}/\text{cm}$ - 200 mS/cm			
Temp probe	No	No	Yes	Yes
Body	PC	Glass	PC	Glass
Sensor size(mm)	Platinum rod; \varnothing 1.6 x 5.5	Platinum plate; \varnothing 5 x 7	Platinum rod; \varnothing 1.6 x 5.5	Platinum plate; \varnothing 5 x 7
Constante	$K=1 \pm 0.2 \text{ cm}^{-1}$			
Dimensions (mm)	\varnothing 12x155	\varnothing 12x145	\varnothing 12x155	\varnothing 12x145
Connector	BNC	BNC	BNC/RCA	BNC/RCA
Application	General use on laboratory or in-field	High accuracy laboratory measurements	General use on laboratory or in-field	High accuracy laboratory measurements

**KZD021**

Electrodo de conductividad
(k=10), 2310-C

**KZD022**

Electrodo de conductividad con
sonda T^a (k=10), 2310T-F

Code	KZD020	KZD021	KZD022
Model	DSJ-0.1-F	2310-C	2310T-F
Range	0 $\mu\text{S}/\text{cm}$ - 200 $\mu\text{S}/\text{cm}$	20 - 2000 mS/cm	
Temp probe	No	No	Yes
Body	Glass	PC	PC
Sensor size (mm)	Platinum plate; 7 x 18	Platinum ring; \varnothing 5 x 5	Platinum ring; \varnothing 5 x 5
Constante	$K=1 \pm 0.2 \text{ cm}^{-1}$	$K=0.1 \pm 0.02 \text{ cm}^{-1}$	$K=10 \pm 1 \text{ cm}^{-1}$
Dimensions (mm)	\varnothing 12x155	\varnothing 12x150	\varnothing 12x150
Connector	BNC/RCA	BNC	BNC/RCA
Application	Purified water or ultra pure water analysis. Removable glass flow cell	Concentrate electrolyte, seawater, high concentrated saltwater	