Hermann

Electrodes Catalogue

- pH/ORP/ION METERS
- CONDUCTIVITY/TDS/SALINITY METERS
- DISSOLVED OXYGEN METERS
- TURBIDIMETER
- MULTIPARAMETER WATER QUALITY METERS
- LABORATORY ELECTRODES

Water Quality Meter and
Laboratory Instruments

P series Laboratory pH Electrode

P11
General purpose pH electrode,suitable for measuring the liquids.

Measuring Range	0～14pH
Temperature Range	0～80°C, 32～176°F
Reference Type	AgCl, Single Junction
Junction Type	Annular Ceramic
Body Type	Glass
Connector	BNC, 1 meter cable
Dimensions	120 (L) × 12 (Dia.)mm

P11-LiCl
Professional pH electrode, suitable for measuring the non-aqueous samples.

Measuring Range	0～14pH
Temperature Range	0～80°C, 32～176°F
Reference Type	AgCl, Double Junction
Junction Type	Ceramic
Body Type	Glass
Connector	BNC, 1 meter cable
Dimensions	120 (L) × 12 (Dia.)mm

P11-HA
Professional pH electrode, suitable for measuring the high alkalines samples.

Measuring Range	0～14pH
Temperature Range	0～100°C, 32～212°F
Reference Type	Ag/AgCl
Junction Type	Ceramic
Body Type	Glass
Connector	BNC, 1 meter cable
Dimensions	120 (L) × 12 (Dia.)mm

P11-NA
Professional pH electrode, suitable for measuring the biofuels.

Measuring Range	0～14pH
Temperature Range	0～60°C, 32～140°F
Reference Type	Ag/AgCl, Double Junction
Junction Type	Ceramic
Body Type	Glass
Connector	BNC, 1 meter cable
Dimensions	120 (L) × 12 (Dia.)mm

P12
General purpose pH electrode, suitable for measuring the sample in the test tube.

Measuring Range	0～14pH
Temperature Range	0～80°C, 32～176°F
Reference Type	AgCl, Single Junction
Junction Type	Frit Ceramic
Body Type	Glass
Connector	BNC, 1 meter cable
Dimensions	150 (L) × 6 (Dia.)mm

P13
General purpose pH electrode, suitable for measuring the micro-volume samples.

Measuring Range	0～14pH
Temperature Range	0～80°C, 32～176°F
Reference Type	AgCl, Single Junction
Junction Type	Frit Ceramic
Body Type	Glass
Connector	BNC, 1 meter cable
Dimensions	90 (L) × 4.3 (Dia.)mm

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Electrodes Catalogue

P15

Professional pH electrode, suitable for measuring the low conductivity liquids.

Measuring Range	0～11pH
Temperature Range	0～50°C, 32～122°F
Reference Type	HgCl, Single Junction
Junction Type	Annular Ceramic
Body Type	Glass
Connector	BNC, 1 meter cable
Dimensions	120 (L) × 12 (Dia.)mm

P16

Professional pH electrode, suitable for measuring the Tris buffers.

Measuring Range	0～14pH
Temperature Range	0～50°C, 32～122°F
Reference Type	HgCl, Single Junction
Junction Type	Frit Ceramic
Body Type	Glass
Connector	BNC, 1 meter cable
Dimensions	90 (L) × 6 (Dia.) mm

P18

Professional pH electrode, suitable for measuring the slurries and soils.

Measuring Range	0～14pH
Temperature Range	0～80°C, 32～176°F
Reference Type	AgCl, Single Junction
Junction Type	Annular Ceramic
Body Type	Glass
Connector	BNC, 1 meter cable
Dimensions	120 (L) × 12 (Dia.)mm

P19

Professional pH electrode, suitable for measuring the semisolid. E.g., fruit, cheese.

Measuring Range	0～14pH
Temperature Range	0～80°C, 32～176°F
Reference Type	AgCl, Single Junction
Junction Type	Frit Ceramic
Body Type	Glass
Connector	BNC, 1 meter cable
Dimensions	40 (L) × 6 (Dia.) mm

P21

Professional pH electrode, suitable for measuring the colloids.

Measuring Range	0～14pH
Temperature Range	0～80°C, 32～176°F
Reference Type	AgCl, Double Junction
Junction Type	Sleeve
Body Type	Glass
Connector	BNC, 1 meter cable
Dimensions	120 (L) × 12 (Dia.)mm

P22

General purpose pH electrode, suitable for measuring the high temperature samples.

Measuring Range	0～14pH
Temperature Range	0～130°C, 32～266°F
Reference Type	AgCl, Double Junction
Junction Type	Porous Teflon
Body Type	Glass
Connector	BNC, 1 meter cable
Dimensions	120 (L) × 12 (Dia.)mm

E series Laboratory pH Electrode

E201-BNC

Economical pH electrode, suitable for measuring the liquids.

Measuring Range	0～14pH
Temperature Range	0～60°C, 32～140°F
Reference Type	AgCl, Single Junction
Junction Type	Fiber
Body Type	Epoxy
Connector	BNC, 1 meter cable
Dimensions	120 (L) × 12 (Dia.)mm

E202-BNC

Economical pH electrode, suitable for measuring the semisolids.

Measuring Range	0～14pH
Temperature Range	0～60°C, 32～140°F
Reference Type	AgCl, Single Junction
Junction Type	Teflon
Body Type	Epoxy
Connector	BNC, 1 meter cable
Dimensions	120 (L) × 12 (Dia.)mm

E203-BNC

Economical pH electrode with a built-in temperature sensor

Measuring Range	0～14pH
Temperature Sensor	10KΩ
Reference Type	AgCl, Single Junction
Junction Type	Fiber
Body Type	Epoxy
Connector	BNC and phone plug, 1 meter cable
Dimensions	120 (L) × 12 (Dia.)mm

E65-1

Economical pH electrode, suitable for measuring the weak corrosive liquids.

Measuring Range	0～14pH
Temperature Range	0～100°C, 32～212°F
Reference Type	Ag/AgCl, Single Junction
Junction Type	Annular Ceramic
Body Type	Glass
Connector	BNC, 1 meter cable
Dimensions	120 (L) × 12 (Dia.)mm

IE-20T Industrial pH Electrode

General purpose industrial pH electrode with a temperature sensor, 3/4" male NPT
Cable length: 5 meters.

Measuring Range	0～14pH
Temperature Range	0～80°C, 32～176°F
Reference Type	Ag/AgCl
Junction Type	Teflon
Temperature Sensor	10KΩ
Body Type	PPS/PC
Dimensions	150 (L) × 29.5 (Dia.)mm

pH ELECTRODE SELECTION CHART

The accurate pH measurement depends on selecting the suitable pH electrode. The following chart describes the application range of each sensor For reference only

Sample Type	P11	P12	P13	P14	P15	P16	P18	P19	P20	P21	E201	E202	E65-1
Agar												•	
Alkalines (high)	P11-HA												
Beer	•	•	•	•					•	•	•	•	•
Blood Products	•	•	•							•		•	•
Bread, Dough							•	•					
Cement	•												•
Cosmetics	•	•	•	•						•		•	•
Dairy Products	•	•	•					•				•	•
Education	•			•							•	•	•
Fats/Cream								•					
Field Use				•			•		•		•	•	
Fish Products								•				•	
Lab Flasks		•											
Low Ionic	•												•
Meat								•				•	
Cheese								•				•	
Micro Samples			•										
Paint		•	•									•	
Photographic	P11-HA												
Soil							•	•					
Surface												•	
Test Tubes		•				•							
Tris Buffer						•							
Viscose Samples												•	

5 series Laboratory ORP Electrode

- 501 ORP electrode: suitable for general applications.
- 502ORP electrode: suitable for measuring the sample with a weak redox potential.
- 504 ORP electrode: suitable for measuring the high temperature samples (<100°C).

SPECIFICATIONS

Model	501	502	504
Sensor Type	Platinum pin	Platinum band	Platinum band
Temperature Range	0~80°C, 32~176°F	0~80°C, 32~176°F	0~100°C, 32~212°F
Reference Type	Ag/AgCl	Ag/AgCl	Ag/AgCl
Body Type	Epoxy	Epoxy	Glass
Connector	BNC, 1 meter cable	BNC, 1 meter cable	BNC, 1 meter cable
Dimensions	120(L)×12(Dia.)mm	120(L)×12(Dia.)mm	120(L)×12(Dia.)mm

US series Ion Selective Electrode

FEATURES

- Combination ion selective electrode
- No reference electrode needed
- Solid state sensors Ideal for unskilled operatives
- No filling solution required
- Can be left dry for long periods
- Long lifetime

SPECIFICATIONS

Model	Ion	Concentration (mol/L)	Limits (ppm)	pH Range	Temperature Range
NH4-US	Ammonium	5×10^{6}~1	0.1~18000	4~10	0~50℃
Br-US	Bromide	5×10^{6}~1	0.4~79900	1~12	0~80℃
Cd-US	Cadmium	1×10^{6}~0.1	0.01~11200	2~12	0~80℃
Ca-US	Calcium	5×10^{7}~1	0.02~4000	2.5~11	0~40℃
CL-US	Chloride	5×10^{6}~1	1.8~35500	2~12	0~80℃
Cu-US	Cupric	1×10^{6}~0.1	0.006~6400	2~12	0~80℃
Cn-US	Cyanide	5×10^{6}~0.01	0.2~260	10~14	0~80℃
F-US	Fluoride	1×10^{6}~Saturation	0.02~Saturation	5~7	0~80℃
I-US	Iodide	5×10^{8}~1	0.06~127000	0~14	0~50℃
Pb-US	Lead	1×10^{8}~0.1	0.2~20700	4~7	0~80℃
NO3-US	Nitrate	7×10^{6}~1	0.4~62000	2.5~11	0~50℃
K-US	Potassium	1×10^{6}~1	0.04~39000	2~12	0~40℃
Ag-US	Silver	1×10^{7}~1	0.01~107900	2~12	0~80℃
Na-US	Sodium	1×10^{5}~1	0.1~23000	>9	0~80℃
S-US	Sulphide	1×10^{7}~1	0.003~32100	2~12	0~80℃
NH3-US	Ammonia	1×10^{6}~1	0.02~17000	11	0~50℃

Water Hardness Electrode

SPECIFICATIONS

Model	WH-UK
Measuring Range	0.05～200mmol/L
pH Range	2～11pH
Temperature Range	0～50°C
Body Type	Epoxy
Connector	BNC, 1 meter cable
Dimensions	120 (L) × 12 (Dia.) mm

K series Laboratory Conductivity Electrode

K10

Platinum conductivity electrode, suitable for the general applications.

Measuring Range	0～35mS/cm
Temperature Range	0～50°C, 32～122°F
Material	Platinum
Cell Constant	K=1
Body Type	Glass
Connector	6-pin mini plug, 1 meter cable
Dimensions	120 (L) × 12 (Dia.)mm

K20

Graphite conductivity electrode, suitable for measuring the paint, dyes, etc.

Measuring Range	0～10mS/cm
Temperature Range	0～50°C, 32～122°F
Material	Graphite
Cell Constant	K=1
Body Type	Epoxy
Connector	6-pin mini plug, 1 meter cable
Dimensions	120 (L) × 12 (Dia.)mm

K30

Platinum conductivity electrode with the flow cell design.

Measuring Range	0～35mS/cm
Temperature Range	0～50°C, 32～122°F
Material	Platinum
Cell Constant	K=1
Body Type	Glass
Connector	6-pin mini plug, 1 meter cable
Dimensions	120 (L) × 12 (Dia.)mm

P21

Graphite conductivity electrode, suitable for measuring the pure water

Measuring Range	0～500μS/cm
Temperature Range	0～50°C, 32～122°F
Material	Graphite
Cell Constant	K=0.1
Body Type	Epoxy
Connector	6-pin mini plug, 1 meter cable
Dimensions	120 (L) × 12 (Dia.)mm

K40

Platinum conductivity electrode, suitable for measuring the low conductivity liquids.

Measuring Range	0～500μS/cm
Temperature Range	0～50°C, 32～122°F
Material	Platinum
Cell Constant	K=0.1
Body Type	Glass
Connector	BNC, 1 meter cable
Dimensions	120 (L) × 12 (Dia.)mm

K22

Graphite conductivity electrode, suitable for measuring the high conductivity liquids.

Measuring Range	0～500mS/cm
Temperature Range	0～50°C, 32～122°F
Material	Graphite
Cell Constant	K=10
Body Type	Epoxy
Connector	BNC, 1 meter cable
Dimensions	120 (L) × 12 (Dia.)mm

CON series

Laboratory Conductivity Electrode

CON-1

Laboratory conductivity electrode, suitable for the general applications.

Measuring Range	10μS/cm ~ 20mS/cm
Temperature Range	0 ~ 80°C, 32 ~ 176°F
Material	Platinum
Cell Constant	K=1
Body Type	Glass
Connector	6-pin mini plug, 1 meter cable
Dimensions	120 (L) × 12 (Dia.) mm

CON-0.1

Laboratory conductivity electrode, suitable for measuring the pure water

Measuring Range	0 ~ 100μS/cm
Temperature Range	0 ~ 80°C, 32 ~ 176°F
Material	Platinum
Cell Constant	K=0.1
Body Type	Glass
Connector	6-pin mini plug, 1 meter cable
Dimensions	120 (L) × 12 (Dia.) mm

CON-10

Laboratory conductivity electrode, suitable for measuring the high conductivity liquids.

Measuring Range	100μS/cm ~ 200mS/cm
Temperature Range	0 ~ 80°C, 32 ~ 176°F
Material	Platinum
Cell Constant	K=10
Body Type	Glass
Connector	6-pin mini plug, 1 meter cable
Dimensions	120 (L) × 12 (Dia.) mm

IE-50 series

Industrial Conductivity Electrode

FEATURES

- IE-50LT: suitable for measuring the low conductivity liquids.
- IE-50MT: suitable for the general applications.
- IE-50HT: suitable for measuring the high conductivity liquids.

Model	IE-50LT	IE-50MT	IE-50HT
Measuring Range	0 ~ 100μS/cm	0 ~ 20mS/cm	0 ~ 200mS/cm
Cell Constant	K=0.1	K=1	K=10
Material	Platinum		
Temperature Sensor	10KΩ		
Connector	3/4" male NPT, 5 meters cable		
Dimensions	150 (L) × 29.5 (Dia.) mm		

DO100 Laboratory Dissolved Oxygen Electrode

FEATURES
- Polarographic dissolved oxygen electrode
- Built-in temperature sensor
- Disposable caps with pre-fit membranes allow user to quickly and conveniently change membranes

SENSOR INCLUDES
- Electrolyte solution (30mL)
- Membrane cap

SPECIFICATIONS

Model	DO100
Sensor Type	Polarographic
Output at Saturation	400nA (±25%)
Output at Zero Oxygen	<1%
Temperature Range	0~80°C, 32~176°F
Connector	6-pin mini plug, 2 meters cable
Dimensions	120(L)×12(Dia.) mm

IT-80T Industrial Dissolved Oxygen Electrode

FEATURES
- Polarographic dissolved oxygen electrode
- Built-in temperature sensor
- 3/4" male NPT,6 meters cable

SENSOR INCLUDES
- Electrolyte solution
- Membrane cap

SPECIFICATIONS

Model	IE-80T
Sensor Type	Polarographic
Output at Saturation	400nA (±25%)
Output at Zero Oxygen	<1%
Temperature Range	0~80°C, 32~176°F
Body Type	PPS/PC
Dimensions	150(L)×29.5(Dia.)mm