PROCESS ELECTRODES

pH Electrodes / Conductivity probes

swiss hand made

Technical informations

Polymer:

We have developed a new polymer that covers the entire pH scale, with a working range up to 130 °C of temperature and pressures of 6 bar, free from Acrylamide.

Encapsulated reference system:

Many XS electrodes have an encapsulated reference system that guarantees a long life to the electrode and a constant reference potential. The reference system is separate from the electrolyte, this allows the use of an AgCl-free filling and ensures high stability even if the electrode is subjected to sudden changes in temperature.

Internal label:

All XS electrodes are designed to be inserted in a GLP quality system as the indelible internal label shows the individual serial number, the production lot and the main technical characteristics.

Special membrane for low conductivity:

A special membrane has been developed for the XS Pure Pro electrode, suitable for pH measurements on low conductivity samples (up to 0.2 µS) such as, for example, ultra-pure water or spring water or rain.

VP head:

This special VP head allows you to install the temperature sensor inside the electrode. With this combination in the same body and with the same footprint, it is possible to make measurements of pH and temperature at the same time.

Applications

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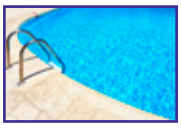

Water analysis

Drinking water, well water and swimming pools

Basic Pro pH
Basic ORP Platino

- pH 0...14
- Redox ± 2000 mV
- Temperature 0...60 °C
- Pressure max 2 bar
- S7 head PG 13,5
- Glass body
- Ag/AgCl reference system
- Gel filling maintenance free
- Porous ceramic diaphragm

Basic Pro pH
Combined electrode
p/n 32201021

Basic ORP Platino
Combined electrode
p/n 32201031

Plastic Pro pH
Plastic Pro ORP

- pH 0...14
- Redox ± 2000 mV
- Temperature -10...40 °C, briefly 60 °C
- Pressure max 6 bar
- S7 head PG 13,5
- Unbreakable epoxy body
- Encapsulated Ag/AgCl reference system
- Polymer filled maintenance free
- Open pore

Plastic Pro pH
Combined electrode
p/n 32201101

Plastic Pro ORP
Combined electrode
p/n 32201141

Ultrapure water

Pure Pro
Pure Pro Gel

- pH 0...14
- Temperature -10...40 °C (Pure Pro)
- Temperature -10...60 °C (Pure Pro Gel)
- S7 head PG 13,5
- Glass body
- Encapsulated reference system
- Refillable 3M KCl (Pure Pro)
- 3M KCl Gel electrolyte (Pure Pro Gel)
- For low conductivity samples < 0,2µS
- Collar sleeve diaphragm (Pure Pro)
- Ceramic diaphragm (Pure Pro Gel)

Pure Pro
Combined electrode
p/n 32201081

Pure Pro Gel
Combined electrode
p/n 32201171

Water treatment

Polymer Pro pH
Polymer ORP

- pH 0...14
- Redox ± 2000 mV
- Temperature -10...60 °C
- Pressure max 6 bar
- S7 head PG 13,5
- Glass body
- Protected reference system
- Polymer filled with barrier, maintenance free
- Open pore

Polymer Pro pH
Combined electrode
p/n 32201111

Polymer ORP
Combined electrode
p/n 32201131

Polymer HF Pro

- pH 0...14
- Temperature -5 ... 100 °C
- Pressure max 6 bar
- S7 head PG 13,5
- Glass body
- Reference system covered and protected
- Polymer filled maintenance free
- **Resistant to HF hydrofluoric acid**
  0,01 M / 200 mg/l at 20 °C
  0,05 M / 1000 mg/l at 50 °C
- Open pore

Polymer HF Pro
Combined electrode
p/n 32201071

Polymer PLUS Pro

- pH 0...14
- Temperature 0...130 °C
- Pressure max 6 bar
- S7 head PG 13,5
- Glass body
- Special polymer filling, maintenance free
- Encapsulated reference system
- Open pore

Polymer PLUS Pro
Combined electrode
p/n 32201121

Food and Drinks

Polymer Pro pH

- pH 0...14
- Temperature -10...60 °C
- Pressure max 6 bar
- S7 head PG 13,5
- Glass body
- Protected reference system
- Polymer filled with barrier, maintenance free
- Open pore

Polymer Pro pH
Combined electrode
p/n 32201111

Polymer HT Pro
Polymer HT Pro 225
Polymer HT VP 120
Polymer HT VP 225

S7 Head VP head

- pH 0...14
- Temperature 0...130 °C
- Pressure max 6 bar
- S7 head PG 13,5
- VP Multipin head PG 13,5 (VP)
- Glass body
- Reference system covered and protected
- Polymer filling, maintenance free
- Open pore
- **With PT 100 sensor (VP)**
- **Use VP connection cable for models with VP head**

Polymer HT Pro
Combined electrode
p/n 32201011

Polymer HT Pro 225
Combined electrode - lenght 225 mm
p/n 32201051

Polymer HT VP 120
Combined electrode - lenght 120 mm
p/n 32201301

Polymer HT VP 225
Combined electrode - lenght 225 mm
p/n 32201311

Polymer PLUS Pro
Polymer PLUS Pro 225
Polymer PLUS VP 120
Polymer PLUS VP 225

S7 head VP head

- pH 0...14
- Temperature 0...130 °C
- Pressure max 6 bar
- S7 head PG 13,5
- VP Multipin head PG 13,5 (VP)
- Glass body
- Special polymer filling, maintenance free
- Encapsulated reference system
- Open pore
- **With PT 1000 sensor (VP)**
- **Use VP connection cable for models with VP head**

Polymer PLUS Pro
Combined electrode
p/n 32201121

Polymer PLUS Pro 225
Combined electrode - lenght 225 mm
p/n 32201211

Polymer PLUS VP 120
Combined electrode - lenght 120 mms
p/n 32201351

Polymer PLUS VP 225
Combined electrode - lenght 225 mm
p/n 32201361

Chemical processes

Low temperature processes

Polymer Pro pH

- pH 0...14
- Temperature -10...60 °C
- Pressure max 6 bar
- S7 head PG 13,5
- Glass body
- Protected reference system
- Polymer filled with barrier, maintenance free
- Open pore

Polymer Pro pH
Combined electrode
p/n 32201111

Polymer ORP

- Redox ± 2000 mV
- Temperature -10...60 °C
- Pressure max 6 bar
- S7 head PG 13,5
- Glass body
- Protected reference system
- Polymer filled with barrier, maintenance free
- Open pore

Polymer ORP
Combined electrode
p/n 32201131

Polymer HF Pro

- pH 0...14
- Temperature -5...100 °C
- Pressure max 6 bar
- S7 head PG 13,5
- Glass body
- Reference system covered and protected
- Polymer filled, maintenance free
- **Resistant to HF hydrofluoric acid**
  0,01 M / 200 mg/l at 20 °C
  0,05 M / 1000 mg/l at 50 °C
- Open pore

Polymer HF Pro
Combined electrode
p/n 32201071

Chemical processes

High temperature processes

Polymer HT Pro
Polymer HT Pro 225

- pH 0...14
- Temperature 0...130 °C
- Pressure max 6 bar
- S7 head PG 13,5
- Glass body
- Reference system covered and protected
- Polymer filled, maintenance free
- Open pore

Polymer HT Pro
Combined electrode
p/n 32201011

Polymer HT Pro 225
Combined electrode - lenght 225 mm
p/n 32201051

Polymer HA Pro

- pH 0...14
- Temperature 0...130 °C
- Pressure max 6 bar
- S7 head PG 13,5
- Glass body
- Reference system covered and protected
- Polymer filled, maintenance free
- **Low alkaline error membrane**
- **Resistant to metals present in the sample**
- Open pore

Polymer HA Pro
Combined electrode
p/n 32201061

Gel HT Pro
Gel HT Pro 225
Gel HT ORP

- pH 0...14
- Redox ± 2000 mV
- Temperature 0...130 °C
- Pressure max: 16 bar at 25 °C, 6 bar at 130 °C
- S7 head PG 13,5
- Glass body
- Reference system covered and protected
- Gel filling maintenance free
- 3 ceramic porous diaphragms

Gel HT Pro
Combined electrode
p/n 32201001

Gel HT Pro 225
Combined electrode
p/n 32201041

Gel HT ORP
Combined electrode
p/n 32201091

Chemical processes

High temperature process with critical samples

Polymer PLUS Pro
Polymer PLUS Pro 225
Polymer PLUS VP 120
Polymer PLUS VP 225

S7 head VP head

- pH 0...14
- Temperature 0...130 °C
- Pressure max 6 bar
- S7 head PG 13,5
- Glass body
- Special polymer filling, maintenance free
- Encapsulated reference system
- Open pore
- VP Multipin head PG 13,5
- **With PT 1000 sensor (VP)**
- **Use VP connection cable for models with VP head**

Polymer PLUS Pro
Combined electrode
p/n 32201121

Polymer PLUS Pro 225
Combined electrode - lenght 225 mm
p/n 32201211

Polymer PLUS VP 120
Combined electrode - lenght 120 mms
p/n 32201351

Polymer PLUS VP 225
Combined electrode - lenght 225 mm
p/n 32201361

Polymer HT VP 120
Polymer HT VP 225

- pH 0...14
- Temperature 0...130 °C
- Pressure max 6 bar
- VP Multipin head PG 13,5
- Glass body
- Reference system covered and protected
- Polymer filling, maintenance free
- Open pore
- **With PT 100 sensor**
- **Use VP connection cable**

Polymer HT VP 120
Combined electrode - lenght 120 mm
p/n 32201301

Polymer HT VP 225
Combined electrode - lenght 225 mm
p/n 32201311

For SIP and CIV cycles

Gel Biotech
Gel Biotech 225

- pH 0...14
- Temperature 0...130 °C
- Pressure max 6 bar
- S7 head PG 13,5
- Glass body
- Maintenance-free, gel filling, pressurized for biotechnology and fermenters
- Ceramic diaphragm

Gel Biotech
Combined electrode - lenght 120 mm
p/n 32201241

Gel Biotech 225
Combined electrode - lenght 225 mm
p/n 32201251

Conductivity cell and accessories

Conductivity cell SPT 1

Conductivity cell with two graphite electrodes with constant C = 1, built-in PT 100 temperature sensor. PVC body with 13.5 PG connection head for installation directly in pipes or on probe holder. Fixed cable length 8 m without connector.

SPT 1
p/n 32390001

- *Conductivity 20 µS...20 mS*
- *Temperature 0...60 °C*
- *Fixed cable 8 m without connector*
- *Graphite C=1*
- *With PT 100 temperature sensor*

Electrode holder

Electrode holder in PVC of 80 and 40 cm for poolside installation with fixing disc. The two lengths depend on the difference in level of the liquid inside the tank.
Electrode holder PPE (Polypropylene: max 80 ° C) for mounting directly on plastic pipes by installing a T fitting or for measurements below the water level inside wells or basins.

p/n	Description
33412353	**PPE** Industrial electrode holder in Polypropylene (max 80 ° C) 20 cm with 13.5 PG and adapter for smooth head electrodes
33550913	**PVC 80** Industrial electrode holder in PVC (max 60 ° C) 80 cm with 13.5 PG and adapter for smooth head electrodes
33550943	**PVC 40** Industrial electrode holder in PVC (max 60 ° C) 40 cm with 13.5 PG and adapter for smooth head electrodes

Connecting cables

S7 - BNC cable

VP cable

p/n	Description
33550733	Cable diam. 5 mm with S7 head but without plug. Length 3 m
33550743	Cable diam. 5 mm with S7 head, BNC plug. Length 3 m
33550663	Cable diam. 5 mm with S7 head but without plug. Length 5 m
33550563	Cable diam. 5 mm with S7 head, BNC plug. Length 5 m
33550803	Cable diam. 5 mm with S7 head but without plug. Length 10 m
33550753	Cable diam. 5 mm with S7 head, BNC plug. Length 10 m
33550763	Cable diam. 5 mm with S7 head but without plug. Length 20 m
33550773	Cable diam. 5 mm with S7 head, BNC plug. Length 20 m
33412913	S7 connector for 5 mm cable
33550533	5 mm cable with antistatic sheath for electrodes. By the meter
33551091	3 meter VP6 cable for electrodes with PT100 / PT 1000
33551101	5 meter VP6 cable for electrodes with PT100 / PT 1000
33412923	BNC connector for 5mm cable
33550903	DIN connector for 5mm cable

Quality Test Report

All the models of industrial electrodes of the XS Sensor range are supplied with the individual quality certificate, with reference to the serial number of the electrode shown on the internal label for proper traceability, according to GLP standards, of your calibrations and pH measurements.

QUALITY TEST REPORT

Electrode model

Electrode Type: *Elektrodentyp / Elettrodo*	**POLYMER HT PRO**
Product number: *Produktnummer / Codice prodotto*	**32201011**

Serial number

Serial number: *Seriennummer / Numero seriale*	0030

Batch

Batch number: *Chargennummer / Numero di lotto*	511

Test results

Reading in pH 7 buffer (0 ± 20mV)*: *Lesen im pH 7 / Lettura in pH 7**	4 mV
Reading in pH 4 buffer (174 ± 20mV)*: *Lesen im pH 4* / Lettura in pH 4**	177 mV

Technical specifications

Measuring range: *Messbereich / Range di misura*	0...14 pH
Temperature range: *Temperaturbereich / Range di temperatura*	0...+130°C
Temperature sensor: *Temperatursensor / Sensore di temperatura*	-
Reference electrolyte: *Bezugselektrolyt / Elettrolita di riferimento*	Polymer

*** Measurements are performed in Certified Reference Materials.**

** Die Messungen werden in zertifizierten Referenzmaterialien durchgeführt. * Le misurazioni sono eseguite in materiali di riferimento certificati*

A change of the measurement values above during storage and use is a normal behavior of the electrochemical sensors.
Eine Änderung der Meßwerte oberhalb während der Lagerung und der Verwendung ist ein normales Verhalten der elektrochemischen Sensoren.
Una variazione dei valori di misura di cui sopra, durante la conservazione e l'uso, è un comportamento normale dei sensori elettrochimici.

Date

Passed Quality Control *Bestanden Qualitätskontrolle / Controllo Qualità Effettuato*	**23/03/2015**

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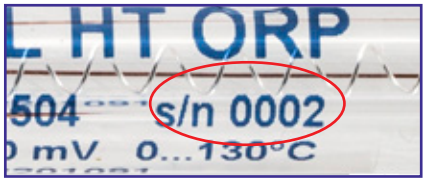
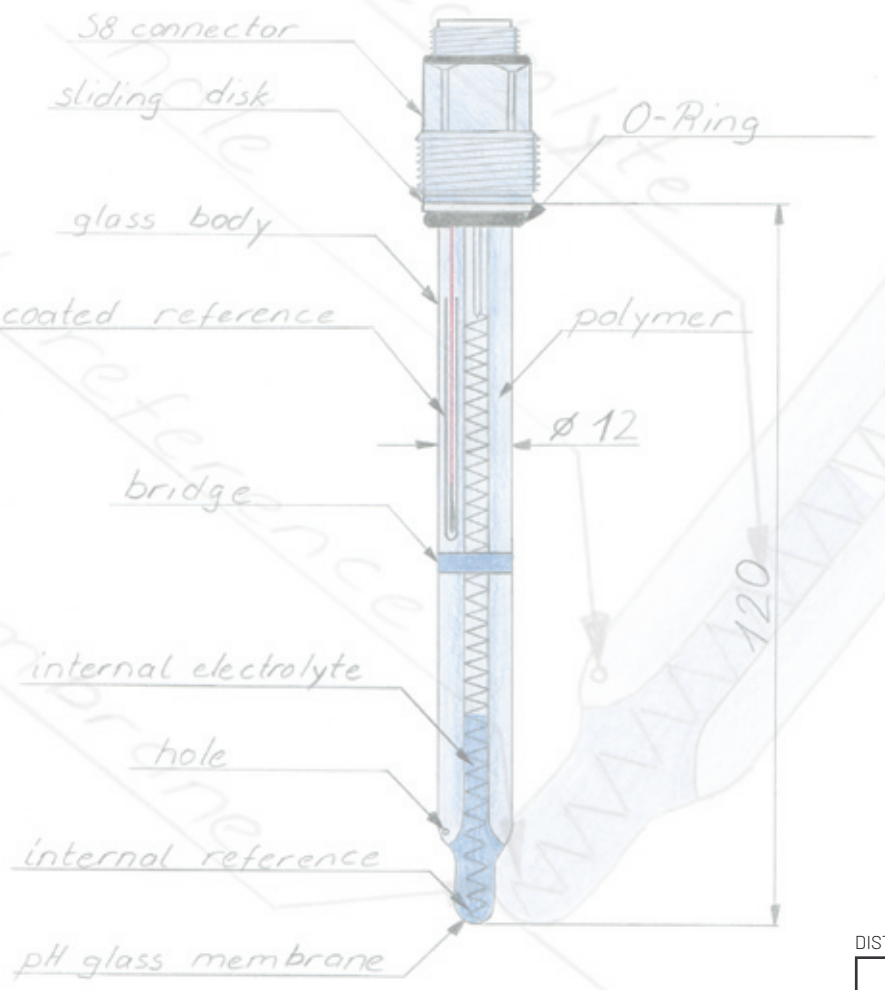
Packaging of the electrodes with instructions for use and practical advice printed on the box



Indelible serial number printed inside the electrode

Cleaning, maintenance and electrolyte solutions

	Volume	p/n
KCL 3M + AgCl Solution	55 ml	32208113
1M LiCl IN ALCOOL ETILICO Solution	100 ml	12005033
3M KCL Solution	55 ml	32208003
3M KCL Solution	500 ml	32208013
GLYCERIN-KCl Solution	55 ml	32208023
KNO3 1M FOR ELECTRODE XS STANDARD Ag Solution	55 ml	32208033
ELECTRODES STORAGE Solution	55 ml	32208043
ELECTRODES STORAGE Solution	500 ml	32208053
PROTEIN CLEANING SOLUTION (PEPSINA) FOR FOOD INDUSTRY ELECTRODES	55 ml	32208063
PROTEIN CLEANING SOLUTION (PEPSINA) FOR FOOD INDUSTRY ELECTRODES	250 ml	32208093
DIAPHRAGM CLEANING (THIOUREA) Solution	55 ml	32208073
DIAPHRAGM CLEANING (THIOUREA) Solution	250 ml	32208103
REGENERATION SOLUTION (WITH HF) FOR pH ELECTRODES	55 ml	32208083



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