

 swiss hand made

LABORATORY ELECTRODES

- ▶ *pH Electrodes*
- ▶ *Conductivity Cells*
- ▶ *Calibration Buffers*

▶ *Electrode selection table*

| | GEL | POLYMER | POLYMER TIP | STANDARD | 20IT / POLYMER PLAST | STANDARD HA | FLAT | STANDARD HF | FOOD | 2 PORE SLIM | 2 PORE | 2 PORE F | FOOD SLIM | SEMIMICRO | MICRO | MICRO P | MICRO SPECIAL | FLOW |
|---------------------------------|-----|---------|-------------|----------|----------------------|-------------|------|-------------|------|-------------|--------|----------|-----------|-----------|-------|---------|---------------|------|
| Waste water | | ● | ● | | ● | ● | | | | | | | | | | | | ● |
| Deionized water | | | | | | | | | ● | | | | | | | | | ● |
| Tap water | ● | ● | ● | ● | ● | | | | ● | | | | | | | | | ● |
| Food | | | | | | | | | ● | ● | ● | ● | ● | | | | | |
| Butter | | | | | | | | | ● | ● | ● | ● | ● | | | | | |
| Samples with protein | | ● | ● | | | | | | ● | | ● | | ● | | | ● | | |
| Alkali samples | | | | | | ● | | | | | | | | | | | | |
| High temperature samples | | | | ● | | ● | | | ● | | | | | | | | | |
| Samples in tube for NMR | | | | | | | | | | | | | | | | | ● | |
| small volume samples | | | | | | | ● | | | | | | | | ● | ● | ● | |
| Samples with Hydrofluoric acid | | | | | | | | ● | | | | | | | | | | |
| Viscous samples | | ● | ● | | | | | | ● | | | | | | | | | ● |
| Cosmetics | | ● | ● | ● | | ● | | | ● | | | | | | | | | ● |
| Cream | | ● | ● | | | | | | ● | | | | | | | | | ● |
| Detergents | ● | ● | ● | ● | ● | ● | | | ● | | | | | | | | | ● |
| Aqueous emulsions | | ● | ● | ● | | | | | ● | | | | | | | | | ● |
| Cheese | | | | | | | | | | ● | ● | ● | ● | | | | | |
| Fruit and vegetables | | | | | | | | | | ● | ● | ● | ● | | | | | |
| Milk | | ● | ● | | | | | | ● | ● | ● | ● | ● | | | | | |
| Mayonnaise | | | | | | | | | ● | | ● | | | | | | | ● |
| Marmalade | | ● | ● | | | | | | ● | | ● | | | | | | | ● |
| Bread and pasta | | | ● | | | | | | ● | ● | ● | ● | ● | | | | | |
| Leather | | | | | | | ● | | | | | | | | | | | |
| Brine | ● | ● | ● | ● | ● | | | | ● | | | | | | | | | ● |
| Soap | | ● | ● | ● | | | | | ● | | | | | | | | | ● |
| Samples with low ionic strenght | | | | | | | | | | | | | | | | | | ● |
| Aqueous suspensions | | ● | ● | ● | | | | | ● | | | | | | | | | ● |
| Semi Aqueous suspensions | | | | | | | | | ● | | | | | | | | | ● |
| Fruit juice | | ● | ● | ● | | | | | ● | | | | | | | | | ● |
| Surfaces | | | | | | | ● | | | | | | | | | | | |
| TRIS swab | | | | ● | | | | | | | | | | | | | | ● |
| Tip | | | ● | | | | | | | ● | ● | ● | ● | | | | | ● |
| Titolation | | | | ● | | | | | ● | | | | | | | | | ● |
| Non Aqueous titolation | | | | | | | | | | | | | | | | | | ● |
| Galvanic treatment | | ● | ● | | | ● | | | | | | | | | | | | ● |
| Water-based paints | | ● | ● | ● | | | | | ● | | | | | | | | | ● |
| Paints | | | | ● | | | | | ● | | | | | | | | | ● |
| Wine | | ● | ● | ● | | | | | ● | | | | | | | | | ● |
| Yogurt | | ● | ● | | | | | | ● | ● | ● | ● | ● | | | | | ● |

► Quality test certificate

XS electrodes Standard and Flow are provided with a quality certificate attesting and documents the final inspection, carried out on each single electrode. On the certificate and on the label is stated the serial number of the electrode for a correct traceability (GLP) of the calibrations and of the measurement chain.


Electrode model

Production batch

Tests results

Technical specifications

Test date

|  QUALITY TEST REPORT | |
|---|-------------|
| Electrode Type: <i>Elektrodentyp / Elettrodo</i> | STANDARD |
| Product number: <i>Produktnummer / Codice prodotto</i> | 32200373 |
| Serial number: <i>Seriennummer / Numero seriale</i> | 0009 |
| Batch number: <i>Chargennummer / Numero di lotto</i> | 444 |
| Reading in pH 7 buffer ($0 \pm 20\text{mV}$): <i>Lesen im pH 7 / Lettura in pH 7*</i> | -5 mV |
| Reading in pH 4 buffer ($174 \pm 20\text{mV}$): <i>Lesen im pH 4* / Lettura in pH 4*</i> | 169 mV |
| Measuring range: <i>Messbereich / Range di misura</i> | 0...14 pH |
| Temperature range: <i>Temperaturbereich / Range di temperatura</i> | -10...80 °C |
| Temperature sensor: <i>Temperatursensor / Sensore di temperatura</i> | |
| Reference electrolyte: <i>Bezugselektrolyt / Elettrolita di riferimento</i> | KCl 3M |
| <small>* Measurements are performed in Certified Reference Materials. * Die Messungen werden in zertifizierten Referenzmaterialien durchgeführt. * Le misurazioni sono eseguite in materiali di riferimento certificati</small> | |
| <small>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.</small> | |
| Passed Quality Control <i>Bestanden Qualitätskontrolle / Controllo Qualità Effettuato</i> | 16/02/2018 |
| <small>This document is generated electronically and doesn't require any signature. Dieses Dokument ist elektronisch erzeugt und erfordert keine Unterschrift erforderlich. Questo documento è generato elettronicamente e non richiede alcuna firma.</small> | |



Electrode box with instruction printed on box



Indelible internal serial number

▶ XS Sensor electrodes

Very famous Swiss producer has developed a complete line of laboratory pH, Redox and conductivity electrodes, with glass and plastic body. The new XS sensor are available with S7 head or fix cable with BNC or DIN connector plug. For food application many models are equipped with temperature sensor inside, for fast temperature compensation. Some models are designed to help in daily work in GLP condition with indelible internal serial number and quality certificate.



Serial number



Violet inner buffer

Special polymer electrolyte, combined with high performance reference system, generate a complete range of electrodes for food application, in special part of this catalogue.

Blue inner buffer provides clear visual of contact with internal pH glass membrane.

All XS sensors are connectable to all common pHmeters in the market. Our customer support is available for every special application request, or support for the selection of the right electrode.

XS sensor are the perfect solutions for pH measurements, if combined with XS pH meters and XS buffer solutions.

DHS Digital High Sensor Intelligent sensors management

Digital High Sensors are the new pH sensors with internal chip, that store parameters, date of last calibration, model and production batch of the electrode. In the instruments with DHS function is inserted a special chip with the same technology. After connecting the pH DHS sensor to the instrument, all the data stored in the sensor chip are automatically transferred to the instrument. The display will show in a screen: DHS, sensor model, production batch, date and hour of the last calibration.



| MEAS pH | | 25/10/2018 15:57:01 |
|--------------------------------|------------|------------------------|
| Connected DHS pH Sensor | | |
| DHS Sensor | Std | |
| Batch | 738 | |
| Calibration date | 19/10/2017 | |
| Calibration Hour | 09:02 | |

After a new calibration of the DHS electrode, the data is automatically stored in the electrode chip. If we move this electrode to another DHS-enabled instrument, we can start working immediately and with extreme security as the data from the last calibration will automatically be transferred and used for pH measurements.

New DHS pH sensors do not have an internal battery so they can be stored as a normal pH electrode and do not use special connectors but a normal BNC.

Many manufacturers using digital sensors have developed dedicated meters for these sensors. This imposes a full range of digital sensors for a variety of applications or lab requirements. Our research and development team has designed this new line of instruments to work with the new DHS digital sensors and the normal analog pH sensors both, all brands, which can be connected to the same pH meter.

From now on, the pH measurement will be simpler.

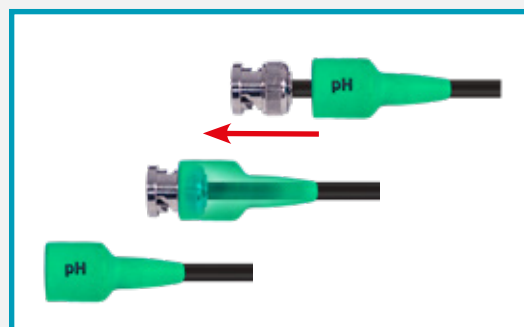
Cables



1 m cable S7 / BNC - Code **33551733**



1 m cable S7 / DIN - Code **33551743**



BNC plug with plastic protection

► DHS DIGITAL ELECTRODES



| Model | 201 T DHS | Standard T-BNC DHS | Flow Temp DHS | 2 Pore T DHS | 2 Pore F Temp DHS |
|---------------------------|---|---|--|---|---|
| | For portable meter | For bench meter | | Food measurement application | |
| Code | 32200103 | 32200123 | 32200133 | 32200113 | 32200143 |
| Head | Cable fix / BNC | Cable fix / BNC | Cable fix / BNC | Cable fix / BNC | Cable fix / BNC |
| pH range | 0...14 | 0...14 | 0...14 | 0...14 | 0...14 |
| Temperature range | 0...60 °C | -10...100 °C | -10...80 °C | 0...60 °C | 0...60 °C |
| Temperature sensor | Yes/plug RCA Cinch | Yes/plug RCA Cinch | Yes/plug RCA Cinch | Yes/plug RCA Cinch | Yes/plug RCA Cinch |
| Shaft material | Epoxy | Glass | Glass | Glass | POM/Glass |
| Diaphragm | Ceramic | Ceramic | Teflon sleeve | 2 open pore | 2 open pore |
| Reference system | Ag/AgCl | Ag/AgCl Cartridge | Ag/AgCl Cartridge | Ag coated | Ag coated |
| Electrolyte | Gel | KCl 3M | KCl 3M | Polymer | Polymer |
| Shaft length | 120 mm | 120 mm | 120 mm | 95 mm / 35 mm | 90 mm / 50 mm |
| Shaft diameter | 12 mm | 12 mm | 12 mm | 12 mm / 6 mm | 12 mm / 6 mm |
| Note / Application | Temperature sensor NTC 30 K Ω . Maintenance free | Temperature sensor NTC 30 K Ω . With serial number and certificate. General application | Temperature sensor NTC 30 K Ω . With serial number and certificate. Viscous sample and low ion media | Temperature sensor NTC 30 K Ω . For food application, meat and cheese | Temperature sensor NTC 30 K Ω . For food application, meat and cheese with epoxy body |

▶ GENERAL LABORATORY APPLICATION







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| Model | Polymer | Polymer TIP | Gel | Standard BNC | Standard DIN |
|---------------------------|-------------------|-------------------------|------------------|---|---|
| Code | 32200223 | 32200443 | 32200203 | 32200263 | 32200273 |
| Head | S7 connector | S7 connector | S7 connector | Cable fix / BNC | Cable fix / DIN |
| pH range | 0...14 | 0...14 | 0...14 | 0...14 | 0...14 |
| Temperature range | -10...80 °C | -10...80 °C | -10...60 °C | -10...100 °C | -10...100 °C |
| Temperature sensor | No | No | No | No | No |
| Shaft material | Glass | Glass | Glass | Glass | Glass |
| Diaphragm | Open pore | 2 open pore | Ceramic | Ceramic | Ceramic |
| Reference system | Ag/AgCl Cartridge | Ag/AgCl Cartridge | Ag/AgCl | Ag/AgCl Cartridge | Ag/AgCl Cartridge |
| Electrolyte | Polymer | Polymer | Gel | KCl 3M | KCl 3M |
| Shaft length | 120 mm | 120 mm | 120 mm | 120 mm | 120 mm |
| Shaft diameter | 12 mm | 12 mm | 12 mm | 12 mm | 12 mm |
| Note / Application | Maintenance free | For pH soil measurement | Maintenance free | With serial number and certificate. General application | With serial number and certificate. General application |

▶ GENERAL LABORATORY APPLICATION



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| |  |  |  |  | |
|--------------------|---|---|---|---|---|
| Model | Standard T-BNC | Standard T-DIN | Standard | Standard HA | Standard HF |
| Code | 32200473 | 32200463 | 32200363 | 32200423 | 32200433 |
| Head | Cable fix / BNC | Cable fix / DIN | S7 connector | S7 connector | S7 connector |
| pH range | 0...14 | 0...14 | 0...14 | 0...14 | 0...14 |
| Temperature range | -10...100 °C | -10...100 °C | -10...100 °C | -10...100 °C | -10...100 °C |
| Temperature sensor | Yes/plug RCA Cinch | Yes/spina Banana 4 mm | No | No | No |
| Shaft material | Glass | Glass | Glass | Glass | Glass |
| Diaphragm | Ceramic | Ceramic | Ceramic | Ceramic | Ceramic |
| Reference system | Ag/AgCl Cartridge | Ag/AgCl Cartridge | Ag/AgCl Cartridge | Ag/AgCl Cartridge | Ag/AgCl Cartridge |
| Electrolyte | KCl 3M | KCl 3M | KCl 3M | KCl 3M | KCl 3M |
| Shaft length | 120 mm | 120 mm | 120 mm | 120 mm | 120 mm |
| Shaft diameter | 12 mm | 12 mm | 12 mm | 12 mm | 12 mm |
| Note / Application | Temperature sensor NTC 30 KΩ | Temperature sensor NTC 30 KΩ | With serial number and certificate. General application | With serial number and certificate. Minimal alkali error | For sample with HF (0,01 M / 200 mg/l) |

▶ GENERAL LABORATORY APPLICATION

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| | |  |  |  |
|--------------------|--|---|---|---|
| Model | Flat | Flow | Flow Temp BNC | Flow Temp DIN |
| Code | 32200413 | 32200373 | 32200723 | 32200733 |
| Head | S7 connector | S7 connector | Cable fix / BNC | Cable fix / DIN |
| pH range | 0...14 | 0...14 | 0...14 | 0...14 |
| Temperature range | 0...60 °C | -10...80 °C | -10...80 °C | -10...80 °C |
| Temperature sensor | No | No | Yes/plug RCA Cinch | Yes/Banana 4 mm plug |
| Shaft material | Glass | Glass | Glass | Glass |
| Diaphragm | Teflon with 3 open pore | Teflon sleeve | Teflon sleeve | Teflon sleeve |
| Reference system | Ag coated | Ag/AgCl Cartridge | Ag/AgCl Cartridge | Ag/AgCl Cartridge |
| Electrolyte | Polymer | KCl 3M | KCl 3M | KCl 3M |
| Shaft length | 120 mm | 120 mm | 120 mm | 120 mm |
| Shaft diameter | 12 mm | 12 mm | 12 mm | 12 mm |
| Note / Application | For surface measurement e. g. paper and skin | With serial number and certificate. Viscous sample and low ion media | Temperature sensor NTC 30 KΩ. With serial number and certificate. Viscous sample and low ion media | Temperature sensor PT 1000. With serial number and certificate. Viscous sample and low ion media |

► GENERAL LABORATORY APPLICATION



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| Model | Semi Micro | Micro | Micro P | Micro Special |
|------------------------|-----------------------|----------------------------|---|---------------------|
| Code | 32200383 | 32200213 | 32200253 | 32200453 |
| Head | S7 connector | S7 connector | S7 connector | S7 connector |
| pH range | 0...14 | 0...14 | 0...14 | 0...14 |
| Temperature range | 0...100 °C | 0...100 °C | 0...100 °C | 0...100 °C |
| Temperature sensor | No | No | No | No |
| Shaft material | Glass | Glass | Glass | Glass |
| Diaphragm | Ceramic | Ceramic | Ceramic | Ceramic |
| Reference system | Ag/AgCl Cartridge | Ag/AgCl Cartridge | Ag/AgCl Cartridge | Ag/AgCl Cartridge |
| Electrolyte | KCl 3M | KCl 3M | Glicerina KCl | KCl 3M |
| Shaft length | 150 mm / 100 mm | 120 mm / 60 mm | 120 mm / 60 mm | 220 mm / 180 mm |
| Shaft diameter | 12 mm / 6 mm | 12 mm / 3 mm | 12 mm / 3 mm | 12 mm / 3 mm |
| tubeNote / Application | Test tube measurement | Small volume sample < 2 ml | Small volume sample < 2 ml with protein | Measure in NMR tube |

FOOD MEASUREMENT APPLICATION





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| Model | Zavatrode | Food | Food Slim | 2 Pore Steel | 2 Pore Steel T | 2 Pore Steel T DIN | 2 Pore K complete | 2 Pore K without knife |
|---------------------------|---------------------------|--|---------------------------|---|--------------------|----------------------|---------------------|--|
| Code | 32200403 | 32200393 | 32200243 | 32200653 | 32200313 | 32200643 | 32200303 | 32200343 |
| Head | S7 connector | S7 connector | S7 connector | S7 | Cable fix / BNC | Cable fix / DIN | S7 connector | S7 connector |
| pH range | 0...14 | 0...14 | 0...14 | 0...14 | | | 0...14 | 0...14 |
| Temperature range | 0...60 °C | -10...100 °C | 0...100 °C | 0...80 °C | | | 0...60 °C | 0...60 °C |
| Temperature sensor | No | No | No | | Yes/plug RCA Cinch | Yes/Banana 4 mm plug | No | No |
| Shaft material | Glass | Glass | Glass | Glass/ Polish steel | | | Glass/ Polish steel | Glass/ Polish steel |
| Diaphragm | Ceramic | 3 ceramici | 2 ceramici | 2 open pore | | | 2 open pore | 2 open pore |
| Reference system | Ag/AgCl | Ag/AgCl Cartridge | Ag/AgCl Cartridge | Ag coated | | | Ag coated | Ag coated |
| Electrolyte | Glicerina KCl | Glicerina KCl | Glicerina KCl | Polymer | | | Polymer | Polymer |
| Shaft length | 190 mm / 120 mm | 120 mm | 95 mm / 25 mm | 105 mm / 50 mm | | | 110 mm / 35 mm | 110 mm / 35 mm |
| Shaft diameter | 12 mm / 4 mm | 12 mm | 12 mm / 6 mm | 12 mm / 6 mm | | | 12 mm / 4,5 mm | 12 mm / 4,5 mm |
| Note / Application | For cheese measure | For food and cheese application | Fore spear measure | Penetration tip for hard samples | | | With knife | without knife. Replaceable knife Code: 32200353 |

▶ FOOD MEASUREMENT APPLICATION



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| | | | |  |  |  |
|--------------------|---------------------------------------|---------------------------------------|---------------------------------------|--|---|---|
| Model | 2 Pore | 2 Pore Slim | 2 Pore F | 2 Pore F Temp BNC | 2 Pore F Temp DIN | 2 Pore T |
| Code | 32200333 | 32200283 | 32200293 | 32200703 | 32200713 | 32200323 |
| Head | S7 connector | S7 connector | S7 connector | Cable fix/BNC | Cable fix/DIN | Cable fix/BNC |
| pH range | 0...14 | 0...14 | 0...14 | 0...14 | 0...14 | 0...14 |
| Temperature range | 0...60 °C | 0...60 °C | 0...60 °C | 0...60 °C | 0...60 °C | 0...60 °C |
| Temperature sensor | No | No | No | Yes/plug RCA Cinch | Yes/Banana 4 mm plug | Yes/plug RCA Cinch |
| Shaft material | Glass | Glass | POM/Glass | POM/Glass | POM/Glass | Glass |
| Diaphragm | 2 open pore | 2 open pore | 2 open pore | 2 open pore | 2 open pore | 2 open pore |
| Reference system | Ag coated | Ag coated | Ag coated | Ag coated | Ag coated | Ag coated |
| Electrolyte | Polymer | Polymer | Polymer | Polymer | Polymer | Polymer |
| Shaft length | 100 mm / 35 mm | 100 mm / 35 mm | 90 mm / 50 mm | 90 mm / 50 mm | 90 mm / 50 mm | 95 mm / 35 mm |
| Shaft diameter | 12 mm / 6 mm | 12 mm / 4,5 mm | 12 mm / 6 mm | 12 mm / 6 mm | 12 mm / 6 mm | 12 mm / 6 mm |
| Note / Application | For meat and cheese spear application | For meat and cheese spear application | For meat and cheese spear application | Temperature sensor NTC 30 KΩ | Temperature sensor PT 1000 | Temperature sensor NTC 30 KΩ |

▶ pH PLASTIC SHAFT ELECTRODES

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| Model | Polymer Plast | Polymer Plast BNC | Polymer Plast DIN | 201 T | 201 T DIN |
|--------------------|-------------------------|-------------------------|-------------------------|------------------------------|-------------------------------|
| Code | 32200493 | 32200503 | 32200513 | 50002002 | 50002052 50002042 |
| Head | S7 connector | Cable fix / BNC | Cable fix / DIN | Cable fix / BNC | Cable fix / DIN |
| pH range | 0...14 | 0...14 | 0...14 | 0...14 | 0...14 |
| Temperature range | 0...60 °C | 0...60 °C | 0...60 °C | 0...60 °C | 0...60 °C |
| Temperature sensor | No | No | No | Yes/plug RCA Cinch | 1 banana 4 mm 2 banana 4 mm |
| Shaft material | Epoxy | Epoxy | Epoxy | Epoxy | Epoxy |
| Diaphragm | 1 Ceramic + 1 open pore | 1 Ceramic + 1 open pore | 1 Ceramic + 1 open pore | Ceramic | Ceramic |
| Reference system | Ag/AgCl Cartridge | Ag/AgCl Cartridge | Ag/AgCl Cartridge | Ag/AgCl | Ag/AgCl |
| Electrolyte | Polymer | Polymer | Polymer | Gel | Gel |
| Shaft length | 120 mm | 120 mm | 120 mm | 120 mm | 120 mm |
| Shaft diameter | 12 mm | 12 mm | 12 mm | 12 mm | 12 mm |
| Note / Application | Maintenance free | Maintenance free | Maintenance free | Temperature sensor NTC 30 KΩ | Temperature sensor NTC 30 KΩ |

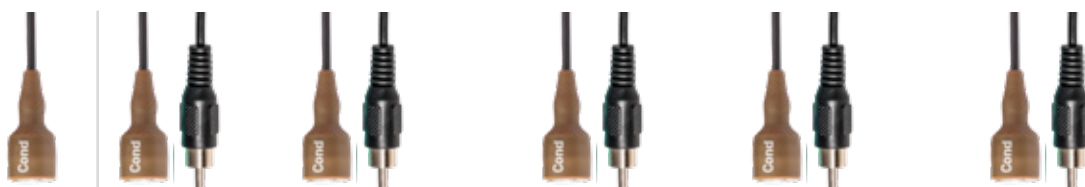
▶ ORP ELECTRODES








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| Model | Plast ORP | Plast ORP BNC | Standard Ag | Standard ORP | Standard KF |
|--------------------|------------------------------------|------------------------------------|--|-------------------------------------|--|
| Code | 32200663 | 32200673 | 32200483 | 32200233 | 32200523 |
| Head | S7 connector | Cable fix/BNC | S7 connector | S7 connector | S7 connector |
| mV range | ±1000 | ±1000 | ±2000 | ±2000 | - |
| Temperature range | 0...60 °C | 0...60 °C | -10...80 °C | -10...100 °C | 0...80 °C |
| Temperature sensor | No | No | No | No | No |
| Shaft material | Epoxy | Epoxy | Glass | Glass | Glass |
| Diaphragm | Ceramic | Ceramic | Ceramic | 3 ceramics | - |
| Reference system | Ag/AgCl double junction | Ag/AgCl double junction | Ag/AgCl Cartridge | Ag/AgCl Cartridge | - |
| Electrolyte | Gel | Gel | KNO ₃ 1M | KCl 3M | - |
| Shaft length | 120 mm | 120 mm | 120 mm | 120 mm | 120 mm |
| Shaft diameter | 12 mm | 12 mm | 12 mm | 12 mm | 12 mm |
| Note / Application | Platinum pin for REDOX measurement | Platinum pin for REDOX measurement | Silver pin for argentometric titration | Platinum ring for REDOX measurement | Double platinum pin for KF e SO ₂ titration |

▶ CONDUCTIVITY CELLS



| |  | |  | |  | |  | |  | |
|--------------------|---|-----------------------|---|--------------------|---|--------------------|--|--------------------|---|--------------------|
| Model | VP 1 | VPT 1 | VPT 01 | VPT 10 | VPT 10 H | VPT 10 H | VPT 10 H | 2301 T | 2301 T | 2301 T |
| Code | 50004062 | 50003352 | 50004012 | 50004072 | 50003372 | 50003372 | 50003372 | 50004002 | 50004002 | 50004002 |
| Head | Cable fix/BNC | | Cable fix/BNC | | Cable fix/BNC | | Cable fix/BNC | | Cable fix/BNC | |
| COND range | 10 µS...10 mS | | 0,1 µS...1 mS | | 100 µS...200 mS | | 100 µS...500 mS | | 10 µS...100 mS | |
| Temperature range | 0...80 °C | | 0...60 °C | | 0...80 °C | | 0...80 °C | | 0...60 °C | |
| Temperature sensor | No | Yes/plug RCA Cinch | Yes/plug RCA Cinch | Yes/plug RCA Cinch | Yes/plug RCA Cinch | Yes/plug RCA Cinch | Yes/plug RCA Cinch | Yes/plug RCA Cinch | Yes/plug RCA Cinch | Yes/plug RCA Cinch |
| Shaft material | Glass | | PVC/Polish steel | | Glass | | Glass | | Epoxy | |
| Plate | Platinum | | Steel | | Platinum | | Platinum | | 2 Platinum ring | |
| Shaft length | 120 mm | | 120 mm | | 120 mm | | 120 mm | | 120 mm | |
| Shaft diameter | 12 mm | | 12 mm | | 12 mm | | 12 mm | | 12 mm | |
| Note / Application | Cell constant C=1 Temperature sensor NTC 30 KΩ (VPT 1) | | Cell constant C=0,1 Temperature sensor NTC 30 KΩ. For ultrapure water | | Cell constant C=10 Temperature sensor NTC 30 KΩ. For sea water | | Cell constant C=10 Temperature sensor NTC 30 KΩ. For high conductivity | | Cell constant C=1 Temperature sensor NTC 30 KΩ. | |

ELECTROLYTE AND MAINTENANCE SOLUTIONS

| Code | Package | Description |
|----------|---------|---|
| 32208113 | 75 ml | Solution KCl 3M + AgCl |
| 12005033 | 100 ml | Solution 1M LiCl in Etilic alcool |
| 32208003 | 75 ml | Solution 3M KCl |
| 32208013 | 500 ml | Solution 3M KCl |
| 32208023 | 75 ml | Solution GLYCERIN-KCl |
| 32208033 | 75 ml | Solution KNO ₃ 1M for electrode STANDARD Ag |
| 32208043 | 75 ml | Solution STORAGE for electrodes |
| 32208053 | 500 ml | Solution STORAGE for electrodes |
| 32208063 | 75 ml | Cleaning solution PROTEIN (pepsina) for electrodes Food application |
| 32208093 | 250 ml | Cleaning solution PROTEIN (pepsina) for electrodes Food application |
| 32208073 | 75 ml | Cleaning solution DIAPHRAGM (thiourea) |
| 32208103 | 250 ml | Cleaning solution DIAPHRAGM (thiourea) |
| 32208083 | 75 ml | RIGENERATION solution (with HF) for pH electrodes |

► CALIBRATION BUFFERS pH - Conductivity - Redox



Buffer solutions

- 250 ml and 500 ml ergonomic bottle with built-in dosing compartment and value table depending on temperature for an accurate calibration
- Economical, using just the proper amount per calibration
- Coloured for an easier identification
- Immune to micro-organisms
- Life time 36 months
- Actual value and expiration date printed on the bottle
- Actual value and expiration date reported on the certificate
- Certificates available at our website

XS Professional with DAKKS/DKD certificate

| pH BUFFERS | | | | |
|------------|---------|-----------------|----------|--------|
| Code | Package | pH value (25°C) | Accuracy | Color |
| 51300003 | 250 ml | 4,01 | ± 0,01 | Red |
| 51300013 | 250 ml | 7,00 | ± 0,01 | Green |
| 51300023 | 250 ml | 9,21 | ± 0,02 | Blue |
| 51300033 | 250 ml | 10,01 | ± 0,02 | Yellow |
| 51300103 | 500 ml | 4,01 | ± 0,01 | Red |
| 51300113 | 500 ml | 7,00 | ± 0,01 | Green |
| 51300123 | 500 ml | 9,21 | ± 0,02 | Blue |
| 51300133 | 500 ml | 10,01 | ± 0,02 | Yellow |

XS Basic with NIST certificate referred

| pH BUFFERS | | | | |
|------------|---------|-----------------|----------|------------|
| Code | Package | pH value (25°C) | Accuracy | Color |
| 51100033 | 250 ml | 4,01 | ± 0,01 | Red |
| 51100043 | 250 ml | 7,00 | ± 0,01 | Green |
| 51100053 | 250 ml | 9,00 | ± 0,02 | Blue |
| 51100073 | 250 ml | 9,21 | ± 0,02 | Blue |
| 51100063 | 250 ml | 10,01 | ± 0,02 | colourless |
| 51100133 | 500 ml | 4,01 | ± 0,01 | Red |
| 51100143 | 500 ml | 7,00 | ± 0,01 | Green |
| 51100153 | 500 ml | 9,00 | ± 0,02 | Blue |
| 51100173 | 500 ml | 9,21 | ± 0,02 | Blue |
| 51100163 | 500 ml | 10,01 | ± 0,02 | colourless |
| 51100233 | 5 l | 4,01 | ± 0,01 | Red |
| 51100243 | 5 l | 7,00 | ± 0,01 | Green |
| 51100253 | 5 l | 9,00 | ± 0,02 | Blue |
| 51100273 | 5 l | 9,21 | ± 0,02 | Blue |
| 51100263 | 5 l | 10,01 | ± 0,02 | colourless |

pH and conductivity sachet buffer solutions 25 ml with NIST certificate



Conductivity Standards

- 500 ml ergonomic bottle with built-in dosing compartment and value table depending on temperature for an accurate calibration
- 1,3 and 5,0 µS/cm in 300 ml glass bottle
- Economical, using just the proper amount per calibration
- Life time 24 months
- 1,3 and 5,0 µS/cm life time minimum 12 months
- Actual value and expiration date printed on the bottle
- Actual Value and expiration date reported on the certificate
- Certificates available at our website

XS Professional with DANAK/DFM certificate

| CONDUCTIVITY STANDARD | | | |
|-----------------------|---------|---------------------------|-------------|
| Code | Package | value µS/cm (20°C / 25°C) | Accuracy |
| 51300303 | 300 ml | 1,3 | ± 0.1 µS/cm |
| 51300313 | 300 ml | 5,0 | ± 0.1 µS/cm |
| 51300323 | 500 ml | 76 / 84 | ± 1% |
| 51300333 | 500 ml | 133 / 147 | ± 1% |
| 51300343 | 500 ml | 1278 / 1413 | ± 1% |
| 51300353 | 500 ml | 11670 / 12880 | ± 1% |

XS Basic with NIST certificate referred

| CONDUCTIVITY STANDARD | | | |
|-----------------------|---------|---------------------------|-------------|
| Code | Package | value µS/cm (20°C / 25°C) | Accuracy |
| 51100503 | 300 ml | 1,3 | ± 0.1 µS/cm |
| 51100513 | 300 ml | 5,0 | ± 0.1 µS/cm |
| 51100613 | 500 ml | 76 / 84 | ± 1% |
| 51100623 | 500 ml | 133 / 147 | ± 1% |
| 51100633 | 500 ml | 1278 / 1413 | ± 1% |
| 51100643 | 500 ml | 11670 / 12880 | ± 1% |



Fill calibration compartment with simple press



Calibrate electrode



Empty calibration compartment

REDOX STANDARD For check ORP electrode

| Code | Package | mV Value | Accuracy |
|----------|---------|----------------------|----------|
| 51100303 | 250 ml | Redox/ORP 200mV/25°C | ± 5mV |
| 51100313 | 250 ml | Redox/ORP 475mV/25°C | ± 5mV |
| 51100323 | 500 ml | Redox/ORP 475mV/25°C | ± 5mV |
| 51100333 | 5 l | Redox/ORP 650mV/25°C | ± 5mV |

► Start with right solution

XS
INSTRUMENTS



Giorgio Bormac Company specialist in electrochemistry has developed this new line of instruments, finding the right balance between the design, innovative ideas in pH and conductivity measurement and easy use.

This is the First Perfect Combination.

XS
INSTRUMENTS



If you have a beautiful bench meter, but you don't combine it with a perfect pH electrode, this will be always and only a simple instrument that shows only numbers on the display and not pH measurement. Also in this case we have worked for a perfect combination. A very famous Swiss producer has developed, only for XS instruments,

a complete laboratory line of pH electrodes for every type of application.

This is the Second Perfect Combination.

XS
INSTRUMENTS



"The calibration of the measuring system is one of the most important factors. To ensure a high measuring accuracy one has to follow the correct calibration procedure, use new and accurate buffer solutions and wait long enough for stable indication values of the electrode assembly to be calibrated.

No measurement can be more accurate than its calibration accuracy" (International of basic and General Terms in Metrology)

If you have a good electrode, but you don't calibrate it with buffer solutions with good metrological traceability, You can't obtain reliable results.

The XS buffer solutions come to celebrate the third Perfect Combination.

A Perfect Combination for new emotions.

pH, Conductivity, Oxy and ORP instruments

XS
INSTRUMENTS



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COMPANY WITH SYSTEM
OF QUALITY MANAGEMENT
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