

# H-Series Benchtop Meters

The H-Series benchtop meters are dual-technology pH (non-glass "ISFET" and traditional glass). These professional meter systems showcase a large LCD display with LED backlight, and have the ability to accurately measure pH (ISFET or glass), mV, Temperature, ORP, and ISE. These benchtop meters are engineered to give years of reliable service in the most difficult of applications.

## H260G Benchtop pH, mV, ORP, and ISE Meter

Bluetooth Optional

### All benchtop meters include:

- Dual Technology pH with either stainless steel, non-glass ISFET probes or traditional glass electrodes with BNC connector
- -2 to +19 pH range
- 0.1 or 0.01 pH resolution
- Up to five point pH calibration
- Automatic or manual temperature compensation
- Stores 999 data points
- ISE capability

**NEW!**



| Prod. No.          | Description                                                                                                                                    |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>H260G-BNDL</b>  | H260G meter with PH77-SS ISFET pH Probe, USB Cord, AC Adapter, and SmartLogger II Software, PLUS consumables                                   |
| <b>H260GB-BNDL</b> | H260G Bluetooth meter with PH77-SS ISFET pH Probe, Calibrating Buffer Kit, USB Cord, AC Adapter, and SmartLogger II Software, PLUS consumables |

| Prod. No.       | Description                                                                        |
|-----------------|------------------------------------------------------------------------------------|
| <b>H260GNP</b>  | H260G meter only, USB Cord, AC Adapter, and SmartLogger II Software                |
| <b>H260GBNP</b> | H260G meter only with Bluetooth, USB Cord, AC Adapter, and SmartLogger II Software |

## H270G Benchtop pH, mV, ORP, Conductivity, TDS, Salinity, and ISE Meter

### H270G meter has all the features of the H260G plus:

- Automatic conductivity cell constant recognition
- Five point conductivity calibration

**NEW!**



| Prod. No.          | Description                                                                                                                                                                  |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>H270G-BNDL</b>  | H270G meter with PH77-SS ISFET pH Probe, CDW97-KP5 Conductivity Probe, USB Cord, AC Adapter, and SmartLogger II Software, PLUS consumables                                   |
| <b>H270GB-BNDL</b> | H270G Bluetooth meter with PH77-SS ISFET pH Probe, CDW97-KP5 Conductivity Probe, Calibrating Buffer Kit, USB Cord, AC Adapter, and SmartLogger II Software, PLUS consumables |

| Prod. No.       | Description                                                                        |
|-----------------|------------------------------------------------------------------------------------|
| <b>H270GNP</b>  | H270G meter only, USB Cord, AC Adapter, and SmartLogger II Software                |
| <b>H270GBNP</b> | H270G meter only with Bluetooth, USB Cord, AC Adapter, and SmartLogger II Software |

## H280G Benchtop pH, mV, Temp, ORP, Conductivity, TDS, Salinity, DO, and ISE Meter

### H280G has all the features of the H270G plus:

- Dissolved Oxygen measurement with automatic barometric pressure compensation
- Two point user selectable DO Calibration
- Ability to use Winkler Calibration Values

**NEW!**



| Prod. No.          | Description                                                                                                                                                                |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>H280G-BNDL</b>  | H280G meter with PH77-SS ISFET pH Probe, CDW97-KP5 Conductivity Probe, DO50-GS Dissolved Oxygen Probe, USB Cord, AC Adapter, and SmartLogger II Software, PLUS consumables |
| <b>H280GB-BNDL</b> | H280G Bluetooth meter with PH77-SS ISFET pH Probe, CDW97-KP5 Conductivity Probe, DO50-GS Dissolved Oxygen, USB Cord, AC Adapter, SmartLogger II Software, PLUS consumables |

| Prod. No.       | Description                                                                   |
|-----------------|-------------------------------------------------------------------------------|
| <b>H280GNP</b>  | H280G meter only, USB Cord, AC Adapter, and SmartLogger II Software           |
| <b>H280GBNP</b> | H280G Bluetooth meter only, USB Cord, AC Adapter, and SmartLogger II Software |

# H-Series Waterproof Handheld Meters

The H-Series handheld meters are dual-technology pH (non-glass "ISFET" and traditional glass). These rugged meter systems showcase a large LCD display with LED backlight, and have the ability to accurately measure pH (ISFET or glass), mV, Temperature, ORP, and ISE.\* These ultra-modern waterproof handheld meters are engineered to give years of reliable service in the most difficult of applications.

They also offer a waterproof enclosure with an IP67 rating. G-version models include the added features of Bluetooth wireless remote control and data transfer, GLP-related features such as date and time stamping, calibration recall, password-protected set up, ISE capability, data point storage and more.

## H160G Waterproof Portable pH, mV, Temp, ORP, and ISE Meter

### All handheld meters include:

- Dual Technology pH with either stainless steel, non-glass ISFET probes or traditional glass electrodes with BNC connector
- IP67 Waterproof, Chemical Resistant, Dust Resistant, Floating enclosure
- -2 to +19 pH range (Non "G-Series" meter has a range of 0-14 pH)
- 0.1 or 0.01 pH resolution
- Up to five point pH calibration
- Automatic or manual temperature compensation
- Stores 999 data points (Non "G-Series" meters have no installed memory)
- ISE capability (Non "G-Series" meters do not offer ISE capability)

### Prod. No. Description

**H160-BNDL** H160 Meter & PHW77-SS pH Probe; Field Case & Calibration Kit; Rubber Holster, PLUS consumables

**H160G-BNDL** H160G Bluetooth Meter, PHW77-SS ISFET Probe, Field Carrying Case & Calibration Kit, Rubber Holster, and Smartlogger II Software, PLUS consumables

**NEW!**



### Prod. No. Description

**H160NP** H160 Meter only

**H160GNP** H160G Meter only with Bluetooth, data logging/transfer and ISE capabilities. Also includes Smartlogger II Software

## H170G Waterproof Portable pH, mV, Temp, ORP Conductivity, TDS, Salinity and ISE Meter

### H170G meter has all these additional features:

- Automatic conductivity cell constant recognition
- Five point conductivity calibration

### Prod. No. Description

**H170-BNDL** H170 Meter, PHW77-SS pH Probe & CDW97-KP5 Conductivity Probe; Field Case & Calibration/Standards Kit, and Rubber Holster, PLUS consumables

**H170G-BNDL** H170G Bluetooth Meter, PHW77-SS pH Probe, CDW97-KP5 Conductivity, Field Case & Calibration/Standards Kit, Rubber Holster, and Smartlogger II Software, PLUS consumables

**NEW!**



### Prod. No. Description

**H170NP** H170 Meter only

**H170GNP** H170G Meter only with Bluetooth, data logging/transfer and ISE capabilities. Also includes Smartlogger II Software

\*ISE, data logging/transfer available with G models

## H-Series Probes

**NEW!**

| Sensor type                                    | Range   | Slope                  | Temp. Range                            | Dimensions                            | Interferences | Prod. No.                    |
|------------------------------------------------|---------|------------------------|----------------------------------------|---------------------------------------|---------------|------------------------------|
| <b>General Purpose pH Probe with Round Tip</b> |         |                        |                                        |                                       |               |                              |
| pH                                             | 0-14 pH | +59 mV/pH unit at 25°C | -5 to 105°C Recommended use below 60°C | 8.3 mm x 140 mm                       |               | <b>PH77-SS<br/>PHW77-SS*</b> |
| <b>pH Micro Probe</b>                          |         |                        |                                        |                                       |               |                              |
| pH                                             | 0-14 pH | +59 mV/pH unit at 25°C | -5 to 105°C Recommended use below 60°C | 4.8 mm x 130 mm<br>and 8.3 mm x 80 mm |               | <b>PH17-SS<br/>PHW17-SS*</b> |
| <b>pH Piercing Tip Micro Probe</b>             |         |                        |                                        |                                       |               |                              |
| pH                                             | 0-14 pH | +59 mV/pH unit at 25°C | -5 to 105°C Recommended use below 60°C | 4.8 mm x 90 mm<br>and 8.3 mm x 80 mm  |               | <b>PH37-SS<br/>PHW37-SS*</b> |

\*Waterproof Version. Waterproof probes are for use with the H160, H160G, H170 and H170G handheld meters.



800-227-4224

Outside the United States, call 970-669-3050

**NEW!**

# H-Series Probes

Meters &amp; Probes

| Sensor type                                                         | Range                                                           | Slope                  | Temp. Range                            | Dimensions                            | Interferences              | Prod. No.            |
|---------------------------------------------------------------------|-----------------------------------------------------------------|------------------------|----------------------------------------|---------------------------------------|----------------------------|----------------------|
| <b>pH NMR Tube Micro Probe</b>                                      |                                                                 |                        |                                        |                                       |                            |                      |
| pH                                                                  | 0-14 pH                                                         | +59 mV/pH unit at 25°C | -5 to 105°C Recommended use below 60°C | 3.8 mm x 220 mm<br>and 8.3 mm x 80 mm |                            | PH47-SS<br>PHW47-SS* |
| <b>pH Piercing Tip Micro Probe with Heavy Duty Handle</b>           |                                                                 |                        |                                        |                                       |                            |                      |
| pH                                                                  | 0-14 pH                                                         | +59 mV/pH unit at 25°C | -5 to 105°C Recommended use below 60°C | 4.8mm x 90 cm<br>+ heavy duty handle  |                            | PH57-SS<br>PHW57-SS* |
| <b>51935 pH Combination (with temperature)</b>                      |                                                                 |                        |                                        |                                       |                            |                      |
| pH                                                                  | 0-14 pH                                                         | -59 mV/pH unit at 25°C | 0 to 100°C Recommended use below 45°C  | 12.1 mm x 152.5 mm                    | Na <sup>+</sup> above pH12 | 5193511              |
| <b>51910 Platinum Series pH Combination (with temperature)</b>      |                                                                 |                        |                                        |                                       |                            |                      |
| pH                                                                  | 0-14 pH                                                         | -59 mV/pH unit at 25°C | 0 to 100°C Recommended use below 45°C  | 12.7 mm x 241 mm                      | Na <sup>+</sup> above pH12 | 5191011              |
| <b>51940 Refillable pH Combination Electrode (with temperature)</b> |                                                                 |                        |                                        |                                       |                            |                      |
| pH                                                                  | 0-14 pH                                                         | -59 mV/pH unit at 25°C | 0 to 100°C Recommended use below 45°C  | 12.1 mm x 152.5 mm                    | Na <sup>+</sup> above pH12 | 5194011              |
| <b>Standard ORP probe</b>                                           |                                                                 |                        |                                        |                                       |                            |                      |
| ORP                                                                 | ±1999mV                                                         |                        | -5 to 105°C                            | 12 mm x 110 mm                        |                            | ORP110-GS            |
| <b>"Bull's-Eye" General Purpose Conductivity Probe</b>              |                                                                 |                        |                                        |                                       |                            |                      |
| Conductivity<br>(Graphite)                                          | 0-100,000 µS<br>Optimum range:<br>5 µS-1000 µS                  |                        | -5 to 105°C                            | 16mm x 110 mm                         |                            | CDW97-KP5            |
| <b>Drinking Water Conductivity Probe</b>                            |                                                                 |                        |                                        |                                       |                            |                      |
| Conductivity<br>(Platinum)                                          | 0-120,000 µS<br>Optimum range:<br>100 µS-2000 µS                |                        | -5 to 105°C                            | 12mm x 110 mm                         |                            | CDW97-K10            |
| <b>Salinity/Brackish Water Conductivity Probe</b>                   |                                                                 |                        |                                        |                                       |                            |                      |
| Conductivity<br>(Platinum)                                          | 0-200,000 µS<br>Optimum range:<br>1 mS-200 mS                   |                        | -5 to 105°C                            | 12mm x 110 mm                         |                            | CDW97-K1             |
| <b>Standard Galvanic Dissolved Oxygen Electrode</b>                 |                                                                 |                        |                                        |                                       |                            |                      |
| Dissolved<br>Oxygen                                                 | Dissolved Oxygen<br>0-19.99 mg/L<br>% Saturation:<br>0- 199.9 % |                        | 0 to 50°C                              | 12mm x 110 mm                         |                            | DO50-GS              |

\*Waterproof Version. Waterproof probes are for use with the H160, H160G, H170 and H170G handheld meters.

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**Hach's MP Meters offer single-handed operation for clean water applications, thanks to their probeless design.**

**NEW!**



### Go Probeless!

Hach's MP Meters work without probes, allowing rapid testing of pH, ORP (Oxidation Reduction Potential)/Redox, conductivity, resistivity, Total Dissolved Solids (TDS) and temperature. The instruments use integrated sample cups for efficient high throughput testing vs. external probes.



### Simple, One-Handed Operation

MP Meters operate easily with just one hand. Whether in the lab, plant, or in a remote field location, measurement takes only two steps: 1. Fill the cell cup and 2. Push a parameter key to take the reading.

### Infrequent Calibration

Achieve reliable readings without repetitious calibration. Typical calibration frequency ranges from every two weeks to monthly, depending on individual testing needs. To calibrate, simply press one button and adjust the instrument to the standard's value. With the exception of factory-set temperature, all parameters feature an internal electronic setting that can be used for field calibration and as a quick check on pH/ORP sensor life.



### MP Meters Model Selection Guide

| Parameters                          | MP-4         | MP-6p        | MP-6         |
|-------------------------------------|--------------|--------------|--------------|
| pH                                  |              | ■            | ■            |
| ORP                                 |              | ■            | ■            |
| Conductivity                        | ■            | ■            | ■            |
| Resistivity                         | ■            |              | ■            |
| TDS                                 | ■            | ■            | ■            |
| Mineral/Salt                        |              | ■            |              |
| Temperature                         | ■            | ■            | ■            |
| <b>Features</b>                     |              |              |              |
| Autoranging                         | ■            | ■            | ■            |
| Adjustable Temperature Compensation | ■            | ■            | ■            |
| Memory                              | 100 readings | 100 readings | 100 readings |
| Date & Time Stamp                   | ■            | ■            | ■            |
| pH Calibration Prompts              |              | ■            | ■            |
| Low battery indicator               | ■            | ■            | ■            |
| Auto-off                            | ■            | ■            | ■            |



## Specifications\*

### Power

9V alkaline battery

### Battery Life

>100 hours (5000 readings)

### Display

4-digit Liquid Crystal Display (LCD)

### Ratings

IP67/NEMA 6; Waterproof to 1 meter/3 feet

### Operating/Storage Temperature

0 to 55°C (32 to 132°F)

### Cell Capacity

pH/ORP: 1.2 mL (0.04 oz.)

Conductivity/TDS/Resistivity: 5 mL (0.2 oz)

### Case/Conductivity Cell Material

VALOX®†

### Dimensions

196 x 68 x 64 mm (7.7 x 2.7 x 2.5 in)

### Weight

352 g (12.4 oz)

### Conductivity

Range: 0–9999 µS/cm, 10–200 mS/cm in 5 autoranges

Resolution: 0.01(<100 µS), 0.1(<1000 µS), 1.0(<10 mS), 0.01(<100 mS), 0.1(<200 mS)

Accuracy: ±1% of reading

Auto Temperature Compensation: 0 to 71°C (32 to 160°F)

Adjustable Temperature Compensation to 25°C: 0–9.99%/°C

Conductivity/TDS Ratios Preprogrammed: KCl, 442‡, NaCl

Adjustable Conductivity/TDS Ratio Factor: 0.20–7.99

### TDS

Range: 0–9999 ppm, 10–200 ppt in 5 autoranges

Resolution: 0.01(<100 ppm), 0.1(<1000 ppm), 1.0(<10 ppt), 0.01(<100 ppt), 0.1(<200 ppt)

Accuracy: ±1% of reading

Auto Temperature Compensation: 0 to 71°C (32 to 160°F)

Adjustable Temperature Compensation to 25°C: 0–9.99%/°C

Conductivity/TDS Ratios Preprogrammed: KCl, 442‡, NaCl

Adjustable Conductivity/TDS Ratio Factor: 0.20–7.99

### Mineral/Salt

Range: 0–9999 ppm, 10–200 ppt in 5 autoranges

Resolution: 0.01 (<100 ppm), 0.1 (<1000 ppm), 1.0 (<10 ppt), 0.01 (<100 ppt), 0.1 (<200 ppt)

Accuracy: ±1% of reading

Auto Temperature Compensation: 0 to 71°C (32 to 160°F)

Adjustable Temperature Compensation to 25°C: 0–9.99%/°C

Conductivity/TDS Ratios Preprogrammed: KCl, 442‡, NaCl

Adjustable Conductivity/TDS Ratio Factor: 0.20–7.99

### Resistivity

Range: 10 KΩ–30 MΩ

Resolution: 0.01(<100 KΩ), 0.1(<1000 KΩ), 0.1(>1 MΩ)

Accuracy: ±1% of reading

Auto Temperature Compensation: 0 to 71°C (32 to 160°F)

Adjustable Temperature Compensation to 25°C: 0–9.99%/°C

### pH

Range: 0–14 pH

Resolution: 0.01 pH

Accuracy: ±0.01 pH

Auto Temperature Compensation: 0 to 71°C (32 to 160°F)

### ORP

Range: ±999 mV

Resolution: 1 mV

Accuracy: ±1 mV

### Temperature

Range: 0 to 71°C (32 to 160°F)

Resolution: 0.1°C/F

Accuracy: ±0.1°C

\*Subject to change without notice.

† VALOX is a trademark of SABIC Innovative Plastics IP BV

‡ 442 Natural Water Standard is a trademark of Myron L Company

## Prod. No. Description

### ESSENTIALS PACKAGES

|                 |                                                                                                                                                                |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>HMP4EP</b>   | MP-4 Portable Meter, hard-sided case, and 50 mL NaCl, KCl, and 442 standard solutions for calibration                                                          |
| <b>HMP4EPD</b>  | MP-4 Portable Meter, MP-Dock, hard-sided case, and 50 mL NaCl, KCl, and 442 standard solutions for calibration                                                 |
| <b>HMP6PEP</b>  | MP-6p Portable Meter with pH storage solution, hard-sided case, 50 mL NaCl, KCl, and 442 standard solutions, and 50 mL pH buffer set for calibration.          |
| <b>HMP6PEPD</b> | MP-6p Portable Meter with pH storage solution, MP-Dock, hard-sided case, 50 mL NaCl, KCl, and 442 standard solutions, and 50 mL pH buffer set for calibration. |
| <b>HMP6EP</b>   | MP-6 Portable Meter with pH storage solution, hard-sided case, 50 mL NaCl, KCl, and 442 standard solutions, and 50 mL pH buffer set for calibration.           |
| <b>HMP6EPD</b>  | MP-6 Portable Meter with pH storage solution, MP-Dock, hard-sided case, 50 mL NaCl, KCl, and 442 standard solutions, and 50 mL pH buffer set for calibration.  |

## Prod. No. Description

### METERS ONLY

|              |                                               |
|--------------|-----------------------------------------------|
| <b>HMP4</b>  | MP-4 Portable Meter                           |
| <b>HMP6P</b> | MP-6p Portable Meter with pH storage solution |
| <b>HMP6</b>  | MP-6 Portable Meter with pH storage solution  |

### ACCESSORIES

|                |                                                                                        |
|----------------|----------------------------------------------------------------------------------------|
| <b>HMPDOCK</b> | MP-Dock Accessory Package (includes MP DataLink software)                              |
| <b>HMPCASE</b> | Hard-sided case for MP Portable Meter, MP-Dock, and up to six 50 mL standard solutions |
| <b>2975126</b> | Acid electrode cleaning solution, 50 mL pour-top                                       |



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## pH sensION Meters

### Basic Portable and Benchtop pH Meters

- 1, 2, or 3 point calibration
- Resolution to 0.1, 0.01, and 0.001, for the right accuracy when you need it
- Fast response to changes in pH; true pH averaging
- sensION3 features RS232 communication to PC or printer
- sensION1 is waterproof (IP67) and floats

| Range                                                                            | Resolution                                                              | Accuracy                                                                                                                                  |
|----------------------------------------------------------------------------------|-------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| (pH): -2.00 to 19.99<br>mV: ±2000<br>Temperature: -10 to 110°C<br>(-50 to 230°F) | (pH): 0.1; 0.01; 0.001<br>(selectable) mV: 0.1 mV<br>Temperature: 0.1°C | (pH): ±0.002 mV: ±0.2 mV or<br>±0.1% of reading<br>(whichever is greater)<br>Temperature: ±0.3°C at -10 to<br>70°C; ±1.0°C at 70 to 110°C |

| Prod. No. | Description                                                                    |
|-----------|--------------------------------------------------------------------------------|
| 5170010   | sensION1 Portable pH Meter with Platinum pH electrode (replaceable cartridges) |
| 5170011   | sensION1 Portable pH Meter with gel-filled electrode (disposable electrode)    |
| 5175010   | sensION3 Benchtop pH Meter with Platinum pH electrode, 115V                    |
| 5175011   | sensION3 Benchtop pH Meter with Platinum pH electrode, 230V                    |
| 5175012   | sensION3 Benchtop pH Meter with gel-filled electrode, 115V                     |
| 5175013   | sensION3 Benchtop pH Meter with gel-filled electrode, 230V                     |

See pages 44-47 for replacement probes.

See page 48 for sensION meter and probe accessories.



## pH / ISE sensION Meters

### Advanced Portable and Benchtop pH / ISE Meters

- Automatic buffer recognition
- Resolution to 0.1, 0.01 and 0.001, for the right accuracy when you need it
- Measures/compensates temperature in °C or °F
- sensION2 is waterproof (IP67) and floats
- Recall/download/print data via built-in RS232 serial ports (sensION4) or via optional docking station (sensION2)
- sensION4 features selectable two-channel operation

| Range                                                                                                               | Resolution                                                                                                                    | Accuracy                                                                                                                                                                      |
|---------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (pH): -2.000 to 19.999<br>Concentration: 0.000 to 19900<br>mV: ±2000<br>Temperature: -10 to 110°C<br>(-50 to 230°F) | (pH): 0.1; 0.01; 0.001<br>(selectable)<br>Concentration: 0.1; 0.01;<br>0.001 (selectable)<br>mV: 0.1 mV<br>Temperature: 0.1°C | (pH): ±0.002<br>Concentration: ±0.5% of reading<br>mV: ±0.2 mV or ±0.05% of<br>reading (whichever is greater)<br>Temperature: ±0.3°C at -10 to<br>70°C; ±1.0°C at 70 to 110°C |

| Prod. No. | Description                                                    |
|-----------|----------------------------------------------------------------|
| 5172510   | sensION2 Portable pH/ISE Meter with Platinum pH electrode      |
| 5177510   | sensION4 Benchtop pH/ISE Meter with Platinum pH electrode 115V |
| 5177511   | sensION4 Benchtop pH/ISE Meter with Platinum pH electrode 230V |

See pages 44-47 for replacement probes.

See page 48 for sensION meter and probe accessories.

To view the complete portfolio of sensION meters, including **multi-parameter meters**, visit [www.hach.com](http://www.hach.com).

## Dissolved Oxygen sensION Meters

### Portable and Benchtop Dissolved Oxygen Meters

- Quick calibration
- All-in-one 5-pin connector
- Stable resolution to 0.1, 0.01 mg/L; 0.1% saturation
- Recall/download/print data via built-in RS232 serial ports (sensION8) or via optional docking station (sensION6)
- Dissolved Oxygen measurement using polarographic technology (Clark cell)

| Range                                                      | Resolution                                                      | Accuracy                                                        |
|------------------------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------------------------|
| Dissolved Oxygen:<br>0-20 mg/L (ppm);<br>0-200% saturation | Dissolved Oxygen:<br>0.01 or 0.1 ppm (mg/L);<br>0.1% saturation | Dissolved Oxygen:<br>±1% full scale                             |
| Temperature:<br>0-50°C                                     | Temperature:<br>0.1°C                                           | Temperature:<br>±0.3°C at -10 to 70°C;<br>±1.0°C at 70 to 110°C |

#### Prod. No. Description

|                |                                                                                     |
|----------------|-------------------------------------------------------------------------------------|
| <b>5185010</b> | sensION6 Dissolved Oxygen Meter with 3 m probe                                      |
| <b>5455010</b> | sensION8 Benchtop Dissolved Oxygen Meter with electrode, 1-meter (40") cable, 115 V |
| <b>5455011</b> | sensION8 Benchtop Dissolved Oxygen Meter with electrode, 1-meter (40") cable, 230 V |

See page 45 for replacement probes.

See page 48 for sensION meter and probe accessories.



## Conductivity sensION Meters

### Portable and Benchtop Conductivity Meters

- Fast response
- Quick single-point calibration
- All-in-one 5-pin connector
- Recall/download/print data via built-in RS232 serial ports (sensION5) or via optional docking station (sensION7)
- Also measures Salinity and TDS
- Measures/compensates temperature in °C or °F

| Range                                                                                           | Resolution                                                                                                                    | Accuracy                                                                                                                                                 |
|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Conductivity: 0 to 199.9 µS/cm;<br>200 to 1999 µS/cm;<br>2 to 19.99 mS/cm;<br>20 to 199.9 mS/cm | Conductivity: 0.1 µS; 1 µS;<br>0.01 mS; 0.1 mS<br>TDS: 3 significant digits<br>Salinity: 0.1 g/L (ppt)<br>Temperature: ±0.1°C | Conductivity: ±0.5% of range<br>TDS: ±0.5% of full scale<br>Salinity: ±0.1 ppt (-2 to 35°C)<br>Temperature: ±0.3°C at -10 to 70°C; ±1.0°C at 70 to 110°C |
| TDS: 0 to 50,000 mg/L as NaCl<br>Salinity: 0 to 42 g/L (ppt)<br>Temperature: -10.0 to 110.0°C   |                                                                                                                               |                                                                                                                                                          |

#### Prod. No. Description

|                |                                                                                 |
|----------------|---------------------------------------------------------------------------------|
| <b>5180010</b> | sensION5 Conductivity Meter with electrode 1-meter (40") cable                  |
| <b>5450010</b> | sensION7 Benchtop Conductivity Meter with electrode, 1-meter (40") cable, 115 V |
| <b>5450011</b> | sensION7 Benchtop Conductivity Meter with electrode, 1-meter (40") cable, 230 V |

See page 45 for replacement probes.

See page 48 for sensION meter and probe accessories.



To view the complete portfolio of sensION meters, including **multi-parameter meters**, visit [www.hach.com](http://www.hach.com).

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# sensION™ Probes and Electrodes

| Sensor type                                                    | Range       | Slope                           | Temp. Range                                                                                     | Dimensions                                                      | Interferences                  | Prod. No. Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------------------------------------------------|-------------|---------------------------------|-------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>51910 Platinum Series pH Combination (with temperature)</b> |             |                                 |                                                                                                 |                                                                 |                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Glass Membrane                                                 | pH: 0 to 14 | 58 (±3)<br>mV/decade            | Continuous Use:<br>0 to 45°C<br>(32 to 113°F)<br>Occasional Use:<br>0 to 100°C<br>(32 to 212°F) | Diameter:<br>12.7 mm (0.50")<br>Total Length:<br>241 mm (9.5")  | Na <sup>+</sup><br>above pH 12 | <p><b>ELECTRODE ONLY</b></p> <p><b>5191000</b> pH Platinum Series Combination Electrode (use with sensION Meters) Features 5-pin connector. Includes two electrolyte cartridges and a manual.</p> <p><b>5191022</b> With BNC and DIN connectors.</p> <p><b>5191011</b> With BNC and 3.5 mm phone connectors</p> <p><b>ELECTRODE ACCESSORIES</b></p> <p><b>2546902</b> Potassium Chloride Electrolyte Cartridge, pk/2</p> <p><b>2657364</b> pH Storage Solution Powder Pillows, pk/20</p> <p><b>2756549</b> pH Electrode Storage Solution, 500 mL</p> <p><b>2299264</b> Buffer Powder Pillows, pH 4.0 and 7.0, pk/20</p> <p><b>5189900</b> Low Ionic Strength Chamber</p> <p><b>5192900</b> Soaker Bottle</p> |
| <b>51915 Platinum Series pH Combination Flat-End</b>           |             |                                 |                                                                                                 |                                                                 |                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Glass Membrane                                                 | pH: 0 to 13 | 58 (±3)<br>mV/decade            | Continuous Use:<br>0 to 45°C<br>(32 to 113°F)<br>Occasional Use:<br>0 to 80°C<br>(32 to 176°F)  | Diameter:<br>12.7 mm (0.50")<br>Total Length:<br>229 mm (9.0")  | Na <sup>+</sup><br>above pH 12 | <p><b>ELECTRODE ONLY</b></p> <p><b>5191500</b> pH Platinum Series Combination Flat End Electrode (use with ALL Hach meters) Features BNC connector. Includes two electrolyte cartridges and a manual</p> <p><b>ELECTRODE ACCESSORIES</b></p> <p><b>2546902</b> Potassium Chloride Electrolyte Cartridge, pk/2</p> <p><b>2657364</b> pH Storage Solution Powder Pillows, pk/20</p> <p><b>2756549</b> pH Electrode Storage Solution, 500 mL</p> <p><b>5189900</b> Low Ionic Strength Chamber</p> <p><b>5192900</b> Soaker Bottle</p>                                                                                                                                                                           |
| <b>51935 pH Combination (with temperature)</b>                 |             |                                 |                                                                                                 |                                                                 |                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Glass Membrane                                                 | pH: 0 to 14 | 58 (±3)<br>mV/decade<br>at 25°C | Continuous Use:<br>0 to 45°C<br>(32 to 113°F)<br>Occasional Use:<br>0 to 100°C<br>(32 to 212°F) | Diameter:<br>12.1 mm (0.475")<br>Total Length:<br>152.5 mm (6") | Na <sup>+</sup><br>above pH 12 | <p><b>ELECTRODE ONLY</b></p> <p><b>5193500</b> pH Gel-Filled Combination Electrode (use with sensION Meters) Features 5-pin connector. Includes a manual.</p> <p><b>5193522</b> With BNC and DIN connectors.</p> <p><b>5193511</b> With BNC and 3.5 mm phone connectors.</p> <p><b>ELECTRODE ACCESSORIES</b></p> <p><b>2657364</b> pH Storage Solution Powder Pillows, pk/20</p> <p><b>2756549</b> pH Electrode Storage Solution, 500 mL</p> <p><b>5192900</b> Soaker Bottle</p>                                                                                                                                                                                                                             |



| Sensor type                                                                        | Range                                         | Slope                           | Temp. Range                                                                                     | Dimensions                                                      | Interferences      | Prod. No. Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------------------------------------------------------------------|-----------------------------------------------|---------------------------------|-------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>51940 Refillable pH Combination Electrode (with temperature)</b>                |                                               |                                 |                                                                                                 |                                                                 |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Glass Membrane                                                                     | pH: 0 to 14                                   | 58 (±3)<br>mV/decade<br>at 25°C | Continuous Use:<br>0 to 45°C<br>(32 to 113°F)<br>Occasional Use:<br>0 to 100°C<br>(32 to 212°F) | Diameter:<br>12.1 mm (0.475")<br>Total Length:<br>152.5 mm (6") | Na+<br>above pH 12 | <p><b>ELECTRODE ONLY</b></p> <p><b>5194000</b> Refillable Combination Electrode (use with sensION Meters) Features 5-pin connector. Includes a manual.</p> <p><b>5194022</b> With BNC and DIN connectors.</p> <p><b>5194011</b> With BNC and 3.5 mm phone connectors.</p> <p><b>ELECTRODE ACCESSORIES</b></p> <p><b>5194100</b> Filling Solution, 65 mL</p> <p><b>2657364</b> pH Storage Solution Powder Pillows, pk/20</p> <p><b>2756549</b> pH Electrode Storage Solution, 500 mL</p> <p><b>5192900</b> Soaker Bottle</p>                                                                                                                                   |
|    |                                               |                                 |                                                                                                 |                                                                 |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>51975 Conductivity Probe</b>                                                    |                                               |                                 |                                                                                                 |                                                                 |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Graphite 4-Pole                                                                    | 0.1 µS-200 mS<br>0.45 (cm-1)<br>cell constant | N/A                             | -10 to 110°C                                                                                    | 120 x 15 mm<br>(4.8 x 0.6")                                     | N/A                | <p><b>PROBE ONLY</b></p> <p><b>5197500</b> Conductivity Probe with 5-Pin circular connector. (1 m Cable)</p> <p><b>5197503</b> Conductivity Probe with 5-Pin circular connector. (3 m Cable)</p> <p><b>ELECTRODE ACCESSORIES</b></p> <p><b>2307542</b> 180 µS/cm, 85.47 mg/L TDS, 100 mL</p> <p><b>1440042</b> 1,000 µS/cm, 491 mg/L TDS, 100 mL</p> <p><b>210542</b> 1,990 µS/cm, 1,000 mg/L TDS, 100 mL</p> <p><b>2307442</b> 18,000 µS/cm, 10,246 mg/L TDS, 100 mL</p> <p><b>2714349</b> 53,000 µS/cm, 35.0 ppt salinity, 500 mL</p>                                                                                                                       |
|    |                                               |                                 |                                                                                                 |                                                                 |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>51970 Dissolved Oxygen Probe</b>                                                |                                               |                                 |                                                                                                 |                                                                 |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Clark-Type<br>Polarographic                                                        | 0 to 20 mg/L<br>or 0 to 200%<br>saturation    | N/A                             | 0 to 50°C                                                                                       | 149 x 12.1 mm<br>(6 x 0.475")                                   | N/A                | <p><b>PROBE ONLY</b></p> <p><b>5197000</b> Dissolved Oxygen Probe with 5-Pin circular connector. (1 m Cable)</p> <p><b>5197003</b> Dissolved Oxygen Probe with 5-Pin circular connector. (3 m Cable)</p> <p><b>5197015</b> Dissolved Oxygen Probe with 5-Pin circular connector. (15 m Cable)</p> <p><b>ELECTRODE ACCESSORIES</b></p> <p><b>5197100</b> BOD Accessories Kit, with funnel and spacer for D.O. Probe Model 51970-00</p> <p><b>5196800</b> D.O. Probe Service Kit, with two membranes, electrolyte filling solution and cloth</p> <p><b>5197300</b> Membranes for D.O. Probe, pk/2</p> <p><b>2759126</b> Electrolyte Filling Solution, 50 mL</p> |
|  |                                               |                                 |                                                                                                 |                                                                 |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>51980 Temperature Probe</b>                                                     |                                               |                                 |                                                                                                 |                                                                 |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Thermistor                                                                         | N/A                                           | N/A                             | 0 to 80°C                                                                                       | 120 x 6 mm<br>(4.8 x 0.25")                                     | N/A                | <p><b>PROBE ONLY</b></p> <p><b>5198000</b> Temperature Probe (sensION Meter) with 5-pin connector.</p> <p><b>5198022</b> Temperature Probe (EC Meter) with DIN Connector</p> <p><b>5198011</b> Temperature Probe (Hach One Meter) with 3.5 mm phone connector</p>                                                                                                                                                                                                                                                                                                                                                                                             |
|  |                                               |                                 |                                                                                                 |                                                                 |                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

# sensION™ Probes and Electrodes

| Sensor type                                                                         | Range                                                                                                                  | Slope                                                                            | Temp. Range                                                                         | Dimensions                                               | Interferences                                                                                                                                                                     | Prod. No. Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>51928 Fluoride Combination</b>                                                   |                                                                                                                        |                                                                                  |                                                                                     |                                                          |                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Crystal Membrane                                                                    | 0.02 mg/L to saturated (1 x 10 <sup>-6</sup> M to saturated) range: 5 to 9                                             | -58 (±3) mV/decade                                                               | 0 to 80°C                                                                           | 110 x 12 mm (4.4 x 0.5")                                 | OH <sup>-</sup>                                                                                                                                                                   | <p><b>ELECTRODE ONLY</b></p> <p><b>5192800</b> Fluoride Combination Electrode with electrolyte gel cartridges and manual. With BNC connector.</p> <p><b>ANALYSIS PACKAGE</b></p> <p><b>5192810</b> Fluoride Analysis Package –Combination (Includes electrode and following items, also available separately)</p> <p><b>2546902</b> Potassium Chloride Reference Cartridge, pk/2</p> <p><b>29149</b> Fluoride Standard Solution, 1.0 mg/L, 500 mL</p> <p><b>35949</b> Fluoride Standard Solution, 10 mg/L 500 mL</p> <p><b>258999</b> Fluoride ISA Powder Pillows, pk/100</p> <p><b>108041</b> Beaker, 50 mL</p>                                                                                                                                                                                                                 |
|    |                                                                                                                        |                                                                                  |                                                                                     |                                                          |                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>51920 Nitrate Combination</b>                                                    |                                                                                                                        |                                                                                  |                                                                                     |                                                          |                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| PVC Membrane                                                                        | 0.5 mg/L (3.5 x 10 <sup>-6</sup> N) to 14,000 mg/L (1 N) NO <sub>3</sub> <sup>-</sup> -N as N Sample pH range: 3 to 11 | -58 (±3) mV/decade in the linear range (>4 mg/L NO <sub>3</sub> <sup>-</sup> -N) | 10 to 30°C                                                                          | 244 x 12.7 mm (9.6 x 0.5")                               | ClO <sub>4</sub> <sup>-</sup> , I <sup>-</sup> , Br <sup>-</sup> , NO <sub>2</sub> <sup>-</sup> , Cl <sup>-</sup> , HCO <sub>3</sub> <sup>-</sup> , CO <sub>3</sub> <sup>2-</sup> | <p><b>ELECTRODE ONLY</b></p> <p><b>5192000</b> Nitrate Platinum Series Combination Electrode with two electrolyte cartridges, six nitrate membrane modules, fill solution and a manual. With BNC connector.</p> <p><b>ANALYSIS PACKAGE</b></p> <p><b>2348800</b> Nitrate Analysis Package –Combination (Includes electrode and following items, also available separately)</p> <p><b>2597102</b> Ammonium Sulfate Reference Cartridges, pk/2</p> <p><b>4456926</b> Nitrate Internal Filling Solution, 50 mL</p> <p><b>4613300</b> Replacement Membrane Module, pk/6</p> <p><b>30749</b> Nitrate Nitrogen Standard, 10 mg/L, 500 mL</p> <p><b>194749</b> Nitrate Nitrogen Standard, 100 mg/L, 500 mL</p> <p><b>4456369</b> Nitrate ISA Powder Pillows, pk/100</p> <p><b>108041</b> Beaker, 50 mL</p> <p><b>5192088</b> Manual</p> |
|  |                                                                                                                        |                                                                                  |                                                                                     |                                                          |                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>51937 ORP</b>                                                                    |                                                                                                                        |                                                                                  |                                                                                     |                                                          |                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Platinum Wire                                                                       | mV range of meter used                                                                                                 | N/A                                                                              | Continuous Use: 0 to 45°C (32 to 113°F)<br>Occasional Use: 0 to 100°C (32 to 212°F) | Diameter: 12.7 mm (0.50")<br>Total Length: 241 mm (9.5") | N/A                                                                                                                                                                               | <p><b>ELECTRODE ONLY</b></p> <p><b>5193700</b> ORP Combination Electrode with electrolyte gel cartridges and a manual. With 5-pin connector.</p> <p><b>ANALYSIS PACKAGE NOT AVAILABLE</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|  |                                                                                                                        |                                                                                  |                                                                                     |                                                          |                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

| Sensor type                                                                        | Range                                                                                                 | Slope                                               | Temp. Range                                                                                     | Dimensions                                                     | Interferences                                                                    | Prod. No. Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-----------------------------------------------------|-------------------------------------------------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>51939 ORP</b>                                                                   |                                                                                                       |                                                     |                                                                                                 |                                                                |                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Platinum Wire                                                                      | mV range of meter used                                                                                | N/A                                                 | Continuous Use:<br>0 to 45°C<br>(32 to 113°F)<br>Occasional Use:<br>0 to 100°C<br>(32 to 212°F) | Diameter:<br>12.7 mm (0.50")<br>Total Length:<br>241 mm (9.5") | N/A                                                                              | ELECTRODE ONLY<br><b>5193900</b> ORP Gel-filled Combination Electrode with ready-to-use filling solution and a manual. With 5-pin connector.<br>ANALYSIS PACKAGE NOT AVAILABLE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|    |                                                                                                       |                                                     |                                                                                                 |                                                                |                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>51925 Sodium Combination</b>                                                    |                                                                                                       |                                                     |                                                                                                 |                                                                |                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Glass Membrane                                                                     | 0.010 mg/L Na <sup>+</sup> to saturated solution                                                      | +58 (±3) mV/decade in the linear range (>2 mg/L Na) | Continuous use:<br>0 to 50°C;<br>Intermittent use:<br>0 to 80°C                                 | 240 mm x 12 mm (9.4 x 0.5")                                    | Ag <sup>+</sup> , H <sup>+</sup> , K <sup>+</sup> , NH <sub>4</sub> <sup>+</sup> | ELECTRODE ONLY<br><b>5192500</b> Sodium Platinum Series Combination Electrode with two electrolyte cartridges and a manual. With BNC connector.<br>ANALYSIS PACKAGE<br><b>2348100</b> Sodium Analysis Package -Combination (Includes electrode and following items, also available separately)<br><b>2595802</b> Ammonium Chloride Reference Cartridge (pk/2)<br><b>2318153</b> Sodium Standard, 100 mg/L, 1000 mL<br><b>1474949</b> Sodium Standard, 1000 mg/L, 500 mL<br><b>4451569</b> Sodium ISA Powder Pillows, pk/100<br><b>18201H</b> Sodium Chloride, ACS, 454 g<br><b>108041</b> Beaker, 50 mL<br><b>5192588</b> Manual                                                                                                                      |
|   |                                                                                                       |                                                     |                                                                                                 |                                                                |                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>51927 Ammonia Combination</b>                                                   |                                                                                                       |                                                     |                                                                                                 |                                                                |                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Gas sensing                                                                        | 0.06 to 17,000 mg/L as NH <sub>3</sub><br>0.05 to 14,000 mg/L as NH <sub>3</sub> -N<br>pH range: > 11 | -58 (±3) mV/decade                                  | 0 to 50°C                                                                                       | 149 x 12 mm (6 0.5")                                           | Volatile Amines                                                                  | ELECTRODE ONLY<br><b>5192700</b> Ammonia Combination Electrode with three ammonia membrane modules, electrode filling solution, and a manual. With BNC connector.<br><b>5025300</b> Air Gap Assembly recommended. Sold separately.<br>ANALYSIS PACKAGE<br><b>2348700</b> Ammonia Analysis Package -Combination (Includes electrode and following items, also available separately)<br><b>4447226</b> Electrode Filling Solution, 50 mL<br><b>5192711</b> Replacement Membranes, pk/5<br><b>15349</b> Ammonia Nitrogen Standard, 10 mg/L, 500 mL<br><b>2406549</b> Ammonia Nitrogen Standard, 100 mg/L, 500 mL<br><b>4447169</b> Ammonia ISA Powder Pillows, pk/100<br><b>2541259</b> Electrode Storage Solution, 50 mL<br><b>108041</b> Beaker, 50 mL |
|  |                                                                                                       |                                                     |                                                                                                 |                                                                |                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |



*Low-Ionic-Strength (LIS)  
Sample Chamber  
Product No. 5189900*



*Electrode Washer  
Product No. 2704700*



*Electrode stands come with  
and without stirrers  
Product No. 45300XX*



*Docking Station  
Product No. 51875XX*



*Probe Holder  
Product No. 5467100*



*Kyoline Brand Thermal Printer  
Product No. A70P021  
(Pen shown for scale.)*

| Prod. No. | Description                                                       |
|-----------|-------------------------------------------------------------------|
| 5197100   | BOD Accessory Kit for 5197000 Dissolved Oxygen Probe (Clark cell) |
| 5189900   | LIS Sample Chamber                                                |
| 2089400   | Electrode Rack                                                    |
| 2615700   | Electrode Holder, Flexible Arm                                    |
| 4531500   | Extra Stir Bar, Polygon, Teflon-coated, 2.22 x 0.48 cm            |
| 2704700   | Electrode Washer                                                  |
| 5187501   | Docking Stations 115V                                             |
| 5187502   | Docking Stations 230V                                             |
| 4812900   | Computer Serial Cable, for SensION meters                         |

| Prod. No. | Description                                     |
|-----------|-------------------------------------------------|
| 5467100   | Probe Holder                                    |
| 4530000   | Electrode Stand                                 |
| 4530001   | Electrode Stand with Stirrer 115V               |
| 5192900   | Soaker Bottle for pH Electrode                  |
| 1938004   | Replacement batteries, AA, pk/4                 |
| 5190400   | Soft-Sided Carrying Case                        |
| 5190300   | Hard-Sided Carrying Case                        |
| 5191700   | sensION156 Hard-Sided Carrying Case             |
| 4966500   | HachLink™ Software                              |
| A70P021   | Kyoline Brand Thermal Printer with cable, 115 V |
| A70P025   | Thermal Paper for Kyoline Printer, pk/10 rolls  |



## Pocket-sized pH testers for quick, easy, accurate measurements.

### Applications

- Plating
- Water conditioning
- Boiler/cooling water
- Lakes and rivers
- Food processing
- Swimming pools and spas
- Anywhere humidity levels are high



Now IP67 rated\* (dustproof and waterproof), Pocket Pal Testers are immune to harsh environments and accidental spills that could harm electronics. If accidentally immersed in water, the circuitry will remain unharmed. Pocket Pal Testers clip onto your shirt pocket, produce immediate results, and feature an easy-to-read liquid crystal display (LCD). While not recommended as a replacement for a pH or ORP instrument/electrode system, or a Hach Conductivity or TDS meter, Pocket Pal Testers offer a cost-effective alternative for routine, on-the-spot measurements.

### Temperature Pocket Pal Tester

Range: -15 to 170°C

The Temperature Pocket Pal Tester is an accurate, economical tester offering a wide range of measurement otherwise requiring two glass thermometers.

### pH Pocket Pal Tester

Range: 0.0-14.0 pH Resolution: 0.1 pH Accuracy:  $\pm 0.2$  pH

The pH Pocket Pal Tester is ideal for quick, on-site pH testing. Applications include water quality testing at cooling towers, swimming pools and spas\*\*. Hach color-coded, unit-dose pH buffer powder pillows, which ensure freshness and eliminate the possibility of contamination, and prepared pH buffer solutions are available in three pH values, 4.01, 7.00, or 10.00 (see pages 52-53). They are recommended for calibration adjustments.

### TDS Pocket Pal Tester

Range: 10-1990 TDS

IP67 rated (waterproof and dustproof). Ideal for quick TDS spot checks, this tester is not a replacement for a conductivity or TDS meter. Tester accuracy is  $\pm 2\%$  at 25°C and accuracy can be  $\pm 10\%$  of reading over the temperature measurement range. (For more accurate measurement, use the HQ14d, HQ30d, or HQ40d Meters, see pages 24-26.) Results are displayed digitally. Prepared sodium chloride solution is available and is required for calibration.

### Conductivity Pocket Pal Tester

Range: 10-1990  $\mu\text{S}/\text{cm}$

The Conductivity Pocket Pal Tester is ideal for swimming pools and drinking water control. Now IP67 rated. Rugged, dustproof and waterproof plastic body, and easy-to-read digital display make it perfect for on-site measurement. Other applications include water treatment (softener, demineralization, reverse osmosis, and drinking water), fish farming and aquariums, and pollution control. Prepared sodium chloride solution is available and is required for calibration.

### ORP Pocket Pal Tester

Range:  $\pm 999$  mV

The ORP Pocket Pal Tester offers an accurate and affordable way of testing for redox potential. Because there are no chemical test kits or litmus paper for measuring this parameter, the ORP Pocket Pal Tester is a valuable tool, assuring accuracy, fast response, and excellent repeatability. The ORP Pocket Pal Tester is not IP67 rated. Lights solution is available to check electrode potential.

\*Only the Temperature, pH, TDS, and Conductivity Pocket Pal Testers are IP67 rated.

\*\*Testing in the presence of heavy metals or in liquids warmer than 50°C is not advised.

| Prod. No. | Description                    |
|-----------|--------------------------------|
| 4435001   | pH Pocket Pal Tester           |
| 4440001   | TDS Pocket Pal Tester          |
| 2686601   | Conductivity Pocket Pal Tester |
| 2727300   | ORP Pocket Pal Tester          |
| 4445001   | Temperature Pocket Pal Tester  |
| 4445010   | Replacement Temperature Probe  |
| 2367800   | Replacement batteries, 4/pk    |

NOTE: Calibration solutions are not included with Pocket Pal testers.

For additional pocket testers and parameters, see pages 343-344 of the Laboratory Supplies Section.

## H-Series miniLab H120, H125, and H128 Pocket pH Meters



The model H128 miniLab allows for up to a 3-point calibration, with simultaneous display of temperature.

### Waterproof, pocket-sized pH meters with non-glass sensors.

- Silicon chip non-glass pH sensor
- Stores dry with minimal maintenance
- 1-Point calibration on Model H120 (Suggested range: 5.0 to 9.0 pH)
- 1, 2, or 3-point cal on Models H125 and H128
- Automatic temperature compensation (ATC)
- Fast response time
- Over 200-hour life
- Replaceable reference electrode

### Choose the best pocket pH meter for your application

| Model | 1 point calibration | 1, 2 or 3 point calibration | Temperature display | 0.01 pH Resolution |
|-------|---------------------|-----------------------------|---------------------|--------------------|
| H120  | ■                   |                             | ■                   |                    |
| H125  |                     | ■                           | ■                   |                    |
| H128  |                     | ■                           | ■                   | ■                  |

### Prod. No. Description

|         |                                         |
|---------|-----------------------------------------|
| H120    | H120 miniLab pH Meter                   |
| H125    | H125 miniLab pH Meter                   |
| H128    | H128 miniLab pH Meter                   |
| 2889800 | H125 and H128 Calibration Buffer Set    |
| 2889900 | H120 Calibration Buffer Set             |
| RF01-01 | H120-125-128 Reference Electrode Module |

## IQ150 Portable pH Meter



The rugged pH system for use in the lab, field, or right on the production line. The stainless steel probe stores dry and requires no maintenance. Non-glass probe is excellent for applications where glass electrode breakage is a problem. Slanted tip is suitable for liquids, semi-solids, and even piercing applications. Silicon chip sensor cleans easily with a toothbrush and detergent.

### Portable pH meter with non-glass electrode.

- Meter accepts both stainless steel probes with silicon chip sensors as well as any traditional glass sensor pH electrode with BNC connector
- Probe stores dry and needs no maintenance.
- Non-glass probe can be used in liquids, viscous samples, and semi-solids
- Automatic or manual temperature compensation
- One or two point calibration

### Prod. No. Description

|         |                                                                                              |
|---------|----------------------------------------------------------------------------------------------|
| 2814700 | pH meter with stainless steel probe, silicon chip pH electrode, buffers, and a carrying case |
|---------|----------------------------------------------------------------------------------------------|

### OPTIONAL PROBES

|         |                                                                                                                                                  |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| 2814800 | Replacement stainless steel pH probe with silicon chip sensor                                                                                    |
| 8506700 | Micro pH Probe w/Piercing Tip: Great for measuring pH in light piercing applications—in cheese, dough, or fish                                   |
| 8506800 | Heavy-duty Piercing Tip pH Probe: Used in meat industries. Heavy Duty handle simplifies tough piercing applications.                             |
| 8506900 | Standard Micro pH Probe: Small diameter probe body enables pH measurement in test tubes, flasks, or anywhere small sample sizes must be measured |



# SA1100 Lead & Copper Analyzer

## NEW!

Ensure the dissolved lead and copper concentration levels in your drinking water distribution system meet EPA standards with the SA1100 Scanning Analyzer.



Meters & Probes

The portable SA1100 is an easy-to-use, accurate, cost-effective instrument for monitoring lead and copper concentrations. Using differential pulse anodic stripping voltammetry, a USEPA-approved methodology for determining total lead in drinking water that can also determine total copper\*, the SA1100 makes monitoring easy.

*\*Differential pulse anodic stripping voltammetry is approved by the USEPA only for determining lead concentrations, and acid digestion is required for reporting purposes. Hach Method 1001, Determination of Lead, for use in Lead and Copper Rule compliance monitoring.*

### SA1100

| Parameter             | Lead                               | Copper                             |
|-----------------------|------------------------------------|------------------------------------|
| Calibration           | Pre-calibrated electrodes (HSE-Pb) | Pre-calibrated electrodes (HSE-Cu) |
| Analysis Time         | 3 minutes                          | 3 minutes                          |
| Range                 | 2-100 µg/L                         | 50-2000 µg/L                       |
| Detection Limit       | 2 µg/L                             | 50 µg/L                            |
| Resolution            | 1 µg/L                             | 1 µg/L                             |
| Operating Temperature | 15-30°C                            | 15-30°C                            |

### Prod. No. Description

|         |                                                                                                                                                                  |
|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5050000 | SA1100 Analyzer for Lead<br>Includes instrument, carrying case, instructions, sensor pack electrodes (Prod. No. 5050100), calibration chip and check standard.   |
| 5060000 | SA1100 Analyzer for Copper<br>Includes instrument, carrying case, instructions, sensor pack electrodes (Prod. No. 5050200), calibration chip and check standard. |

### REPLACEMENT CONSUMABLES

|         |                                                                                                                                                                      |
|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5050100 | Sensor Pack Electrodes for Lead (10 Tests)<br>Includes electrodes (10), sample preparation tablets (10), graduated tubes (10), crushing rods and calibration chip.   |
| 5050200 | Sensor Pack Electrodes for Copper (10 Tests)<br>Includes electrodes (10), sample preparation tablets (10), graduated tubes (10), crushing rods and calibration chip. |

## EPA COMPLIANT

### Specifications\*

#### Internal Memory

Stores up to 500 readings

#### Display

Backlit, graphical LCD, with six language options

#### Output Interface

Waterproof USB connection to PC

#### Power

Uses four AA 1.5v batteries, auto switch-off

#### Size

Instrument only, 170 x 126 x 116 mm

*\*Subject to change without notice.*

Find it here... Buy it today on [www.hach.com](http://www.hach.com)  
U.S. customers only.



# pH Buffers and Standard Solutions

## pH Calibration Buffers

Hach standard calibration buffers are available in convenient, unit-dose powder pillows or color-coded liquids. Powder pillows assure freshness and eliminate the possibility of contamination. Recommended for automatic calibration. Simply open the pillow and add the contents to 50 mL of deionized or demineralized water. Both liquid and powder buffers assure accuracy ( $\pm 0.02$  pH units) and are NIST traceable.

### pH Buffer Pillows

Buffers with pH values of 4.01, 7.00, and 10.01 are color-coded for added convenience. All carry the DOT code  $\Delta NR$  and are for 50-mL solution volumes. pH is  $\pm 0.02$  at 25°C.

| pH                          | Quantity   | Prod. No. |
|-----------------------------|------------|-----------|
| <b>Color-Coded</b>          |            |           |
| 4.01 (Red)                  | 15         | 2226995   |
|                             | 50         | 2226966   |
|                             | 250        | 2226964   |
| 7.00 (Yellow)               | 15         | 2227095   |
|                             | 50         | 2227066   |
|                             | 250        | 2227064   |
| 10.01 (Blue)                | 15         | 2227195   |
|                             | 50         | 2227166   |
|                             | 250        | 2227164   |
| 4.01 (Red) 7.00 (Yellow)    | 10 of each | 2299264   |
| <b>Colorless</b>            |            |           |
| 6.00                        | 50         | 1405566   |
| 6.86                        | 15         | 1409895   |
| 8.00                        | 15         | 1407995   |
| 9.00                        | 50         | 1410766   |
| pH Storage Solution Pillows | 20         | 2657364   |

### pH Buffer Solutions

pH is  $\pm 0.02$  at 25°C.

| Item                                     | Unit   | Prod. No.          |
|------------------------------------------|--------|--------------------|
| <b>pH 4.01 Color-Coded Red (NIST)</b>    |        |                    |
|                                          | 15 mL  | 2283436 <b>NEW</b> |
|                                          | 50 mL  | 2283426 <b>NEW</b> |
|                                          | 500 mL | 2283449            |
|                                          | 4 L    | 2283456            |
|                                          | 20 L   | 2283461            |
| <b>pH 7.00 Color-Coded Yellow (NIST)</b> |        |                    |
|                                          | 15 mL  | 2283536 <b>NEW</b> |
|                                          | 50 mL  | 2283526 <b>NEW</b> |
|                                          | 500 mL | 2283549            |
|                                          | 4 L    | 2283556            |
|                                          | 20 L   | 2283561            |
| <b>pH 10.01 Color-Coded Blue (NIST)</b>  |        |                    |
|                                          | 15 mL  | 2283636 <b>NEW</b> |
|                                          | 50 mL  | 2283626 <b>NEW</b> |
|                                          | 500 mL | 2283649            |
|                                          | 4 L    | 2283656            |
|                                          | 20 L   | 2283661            |
| <b>pH 4.01 Colorless (NIST)</b>          |        |                    |
|                                          | 15 mL  | 1222336            |
|                                          | 500 mL | 1222349            |
|                                          | 4 L    | 1222356            |
| <b>pH 7.00 Colorless (NIST)</b>          |        |                    |
|                                          | 500 mL | 1222249            |
|                                          | 4 L    | 1222256            |
| <b>pH 10.01 Colorless (NIST)</b>         |        |                    |
|                                          | 500 mL | 1222149            |
|                                          | 4 L    | 1222156            |

## Save when you purchase pH buffer 3-packs!

### Prod. No.

### Description

20 L SIZE 3-PACK  
2507300

Includes:  
2283661 10.01 (blue) NIST  
2283561 7.00 (yellow) NIST  
2283461 4.01 (red) NIST

*No headspace = longer shelf life.*

500 mL SIZE 3-PACK  
2947600

Includes:  
2283649 10.01 (blue) NIST  
2283549 7.00 (yellow) NIST  
2283449 4.01 (red) NIST

4 L SIZE 3-PACK  
2507200

Includes:  
2283656 10.01 (blue) NIST  
2283556 7.00 (yellow) NIST  
2283456 4.01 (red) NIST

## Singlet™ Solution Packs

Singlet single-use standard solutions are ideal for on-site analysis, eliminating the need to prepare standardized buffer solutions for pH meter calibration. You can have fresh pH buffer solutions without having to purchase and carry deionized or demineralized water. The convenient foil-pouch packaging maintains freshness, and keeps the solutions contaminant-free and ready to travel with you anywhere.

| Item                                 | Quantity     | Prod. No. |
|--------------------------------------|--------------|-----------|
| pH 7.00 and pH 10.01 Buffer Solution | pk/10 of ea. | 2769820   |
| pH 4.01 and pH 7.00 Buffer Solution  | pk/10 of ea. | 2769920   |
| pH 4.01 Buffer Solution              | pk/20        | 2770020   |
| pH 7.00 Buffer Solution              | pk/20        | 2770120   |
| pH 10.01 Buffer Solution             | pk/20        | 2770220   |





# Standard Solutions and Reagents

| Prod. No.                                   | Description                                                                                    |
|---------------------------------------------|------------------------------------------------------------------------------------------------|
| <b>pH STORAGE AND CLEANING SOLUTIONS</b>    |                                                                                                |
| <b>2756559</b>                              | pH Storage Solution (3M Potassium Chloride), 50 mL                                             |
| <b>2756549</b>                              | pH Storage Solution (3M Potassium Chloride), 500 mL                                            |
| <b>2965249</b>                              | <b>NEW</b> Electrode Cleaning Solution                                                         |
| <b>2964349</b>                              | <b>NEW</b> ISFET Probe Cleaning Solution for proteins                                          |
| <b>2756526</b>                              | <b>NEW</b> pH electrode storage solution, 50 mL pour-top                                       |
| <b>2964449</b>                              | <b>NEW</b> pH electrode rinse solution, non-ionic surfactant, 500 mL                           |
| <b>2975126</b>                              | <b>NEW</b> Acid Electrode Cleaning Solution, 50 mL                                             |
| <b>2975149</b>                              | <b>NEW</b> Acid Electrode Cleaning Solution, 500 mL                                            |
| <b>BOD NUTRIENTS AND SEED INOCULUM</b>      |                                                                                                |
| <b>1416066</b>                              | BOD Nutrient Buffer Pillows, prepares 300 mL, 50/pk                                            |
| <b>1486166</b>                              | BOD Nutrient Buffer Pillows, prepares 3 L, 50/pk                                               |
| <b>1486266</b>                              | BOD Nutrient Buffer Pillows, prepares 6 L, 50/pk                                               |
| <b>1486398</b>                              | BOD Nutrient Buffer Pillows, prepares 19 L, 25/pk                                              |
| <b>253335</b>                               | Formula 2533™ Nitrification Inhibitor, 35 g                                                    |
| <b>253334</b>                               | Formula 2533™ Nitrification Inhibitor, 500 g                                                   |
| <b>2918700</b>                              | BOD Seed Inoculum, 50 capsules, Polyseed 50 mL                                                 |
| <b>KCL CONDUCTIVITY STANDARDS</b>           |                                                                                                |
| <b>50 mL</b>                                |                                                                                                |
| <b>2974226</b>                              | <b>NEW</b> 74.55 mg/L (0.001M) KCl (146.9 µS/cm), 50 mL pour-top                               |
| <b>2974326</b>                              | <b>NEW</b> 745.5 mg/L (0.01M) KCl (1412 µS/cm), 50 mL pour-top                                 |
| <b>2974426</b>                              | <b>NEW</b> 7455 mg/L (0.1M) KCl (12,890 µS/cm), 50 mL pour-top                                 |
| <b>500 mL</b>                               |                                                                                                |
| <b>2974249</b>                              | <b>NEW</b> 74.55 mg/L (0.001M) KCl (146.9 µS/cm), 500 mL                                       |
| <b>2974349</b>                              | <b>NEW</b> 745.5 mg/L (0.01M) KCl (1412 µS/cm), 500 mL                                         |
| <b>2974449</b>                              | <b>NEW</b> 7455 mg/L (0.1M) KCl (12,890 µS/cm), 500 mL                                         |
| <b>NACL CONDUCTIVITY STANDARDS</b>          |                                                                                                |
| <b>50 mL</b>                                |                                                                                                |
| <b>2971826</b>                              | <b>NEW</b> 49 mg/L NaCl (100 µS/cm), 50 mL pour-top                                            |
| <b>1440026</b>                              | <b>NEW</b> 491 mg/L NaCl (1000 µS/cm), 50 mL pour-top                                          |
| <b>2972226</b>                              | <b>NEW</b> 5370 mg/L NaCl (10,000 µS/cm), 50 mL pour-top                                       |
| <b>2307426</b>                              | <b>NEW</b> 10,246 mg/L NaCl (18,000 µS/cm), 50 mL pour-top                                     |
| <b>100 mL</b>                               |                                                                                                |
| <b>2971842</b>                              | 49 mg/L NaCl, (100 µS/cm), 100 mL                                                              |
| <b>2307542</b>                              | 85.47 mg/L NaCl, (180 µS/cm), 100 mL                                                           |
| <b>1440042</b>                              | 491 mg/L NaCl, (1000 µS/cm), 100 mL                                                            |
| <b>2972242</b>                              | 5366 mg/L NaCl, (10,000 µS/cm), 100 mL                                                         |
| <b>2307442</b>                              | 10,246 mg/L NaCl, (18,000 µS/cm), 100 mL                                                       |
| <b>2714342</b>                              | 35 g/L KCl, (53 mS/cm), 100 mL                                                                 |
| <b>500 mL</b>                               |                                                                                                |
| <b>2971849</b>                              | 49 mg/L NaCl, (100 µS/cm), 500 mL                                                              |
| <b>1440049</b>                              | 491 mg/L NaCl, (1000 µS/cm), 500 mL                                                            |
| <b>2972249</b>                              | 5366 mg/L NaCl, (10,000 µS/cm), 500 mL                                                         |
| <b>2714349</b>                              | 35 g/L KCl, (53 mS/cm), 500 mL                                                                 |
| <b>NATURAL WATER CONDUCTIVITY SOLUTIONS</b> |                                                                                                |
| <b>50 mL</b>                                |                                                                                                |
| <b>2974526</b>                              | <b>NEW</b> 442-30 Natural Water Standard Solution, 30 ppm TDS (46.7 µS/cm), 50 mL pour-top     |
| <b>2974626</b>                              | <b>NEW</b> 442-300 Natural Water Standard Solution, 300 ppm TDS (445 µS/cm), 50 mL pour-top    |
| <b>2974726</b>                              | <b>NEW</b> 442-1000 Natural Water Standard Solution, 1000 ppm TDS (1417 µS/cm), 50 mL pour-top |
| <b>2974826</b>                              | <b>NEW</b> 442-3000 Natural Water Standard Solution, 3000 ppm TDS (3960 µS/cm), 50 mL pour-top |
| <b>500 mL</b>                               |                                                                                                |
| <b>2974549</b>                              | <b>NEW</b> 442-30 Natural Water Standard Solution, 30 ppm TDS (46.7 µS/cm), 500 mL             |
| <b>2974649</b>                              | <b>NEW</b> 442-300 Natural Water Standard Solution, 300 ppm TDS (445 µS/cm), 500 mL            |
| <b>2974749</b>                              | <b>NEW</b> 442-1000 Natural Water Standard Solution, 1000 ppm TDS (1417 µS/cm), 500 mL         |
| <b>2974849</b>                              | <b>NEW</b> 442-3000 Natural Water Standard Solution, 3000 ppm TDS (3960 µS/cm), 500 mL         |

| Prod. No.                                                                         | Description                                                                                            |
|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| <b>ORP STANDARDS AND SOLUTIONS</b>                                                |                                                                                                        |
| <b>2316949</b>                                                                    | <b>NEW</b> ZoBell's Standard Solution, 500 mL                                                          |
| <b>2612520</b>                                                                    | Light's Standard Solution in sealed ampules, 20/pk                                                     |
| <b>2965349</b>                                                                    | <b>NEW</b> Reducing Solution for ORP Electrodes<br>For use with reducing (negative mV) sample matrices |
| <b>IONIC STRENGTH ADJUSTORS</b>                                                   |                                                                                                        |
| <b>258901</b>                                                                     | Fluoride Powder, 454 g                                                                                 |
| <b>258999</b>                                                                     | Fluoride Powder Pillows, 100                                                                           |
| <b>2829017</b>                                                                    | Fluoride Solution, 3.78 L                                                                              |
| <b>4447169</b>                                                                    | Ammonia ISA Powder Pillows                                                                             |
| <b>4456369</b>                                                                    | Nitrate ISA Powder Pillows                                                                             |
| <b>4451569</b>                                                                    | Sodium ISA Powder Pillows                                                                              |
| <b>ELECTRODE FILLING SOLUTIONS AND CARTRIDGES</b>                                 |                                                                                                        |
| <b>2546902</b>                                                                    | KCl Reference Electrolyte Gel, cartridges, 2/pk                                                        |
| <b>2965026</b>                                                                    | <b>NEW</b> PHC281 filling solution, 2.44 M viscous KCl                                                 |
| <b>2965126</b>                                                                    | <b>NEW</b> ISENA381 filling solution, 0.02 M NH <sub>4</sub> Cl                                        |
| <b>2841700</b>                                                                    | MTC301 and PHC301 filling solution, 3.0 M KCl w/sat Ag/Cl                                              |
| <b>2597102</b>                                                                    | Ammonium Sulfate Reference Cartridges, 2/pk                                                            |
| <b>4456926</b>                                                                    | Nitrate internal filling solution, 50 mL                                                               |
| <b>CALCIUM STANDARD SOLUTIONS</b>                                                 |                                                                                                        |
| <b>4457649</b>                                                                    | 100 mg/L, 500 mL                                                                                       |
| <b>2240349</b>                                                                    | 1000 mg/L, 500 mL                                                                                      |
| <b>CHLORIDE STANDARD SOLUTIONS</b>                                                |                                                                                                        |
| <b>2370853</b>                                                                    | 100 mg/L, 1 L                                                                                          |
| <b>18349</b>                                                                      | 1000 mg/L, 500 mL                                                                                      |
| <b>FLUORIDE STANDARD SOLUTIONS AS F (NIST)</b>                                    |                                                                                                        |
| <b>40505</b>                                                                      | 0.5 mg/L, 500 mL                                                                                       |
| <b>29149</b>                                                                      | 1.0 mg/L, 500 mL                                                                                       |
| <b>29153</b>                                                                      | 1.0 mg/L, 1 L                                                                                          |
| <b>40520</b>                                                                      | 2.0 mg/L, 500 mL                                                                                       |
| <b>2797149</b>                                                                    | 5.0 mg/L 500 mL                                                                                        |
| <b>35949</b>                                                                      | 10 mg/L, 500 mL                                                                                        |
| <b>23249</b>                                                                      | 100 mg/L, 500 mL                                                                                       |
| <b>NITROGEN-AMMONIA STANDARD SOLUTIONS AS NH<sub>3</sub>-N</b>                    |                                                                                                        |
| <b>189149</b>                                                                     | 1 mg/L, 500 mL                                                                                         |
| <b>15349</b>                                                                      | 10 mg/L, 500 mL                                                                                        |
| <b>1479120</b>                                                                    | 50 mg/L, 2-mL PourRite Ampule, 20                                                                      |
| <b>1479110</b>                                                                    | 50 mg/L, 10-mL Voluette Ampule, 16                                                                     |
| <b>2406549</b>                                                                    | 100 mg/L, 500 mL                                                                                       |
| <b>2109110</b>                                                                    | 160 mg/L, 10-mL Voluette Ampule, 16                                                                    |
| <b>NITROGEN-NITRATE STANDARD SOLUTIONS AS NO<sub>3</sub><sup>-</sup>-N (NIST)</b> |                                                                                                        |
| <b>204649</b>                                                                     | 1 mg/L as NO <sub>3</sub> <sup>-</sup> -N, 4.43 mg/L as NO <sub>3</sub> <sup>-</sup> , 500 mL          |
| <b>2557810</b>                                                                    | 5 mg/L, 10-mL Voluette Ampule, 16                                                                      |
| <b>30749</b>                                                                      | 10 mg/L, 44.3 mg/L as NO <sub>3</sub> <sup>-</sup> , 500 mL                                            |
| <b>2415132</b>                                                                    | 15 mg/L, 100 tests MDB                                                                                 |
| <b>194749</b>                                                                     | 100 mg/L as NO <sub>3</sub> <sup>-</sup> -N, 443 mg/L as NO <sub>3</sub> <sup>-</sup> , 500 mL         |
| <b>1426010</b>                                                                    | 500 mg/L, 10-mL Voluette Ampule, 16                                                                    |
| <b>1279249</b>                                                                    | 1000 mg/L as NO <sub>3</sub> <sup>-</sup> -N; 4430 mg/L as NO <sub>3</sub> <sup>-</sup> , 500 mL       |
| <b>POTASSIUM STANDARD SOLUTIONS</b>                                               |                                                                                                        |
| <b>2351749</b>                                                                    | 100 mg/L, 500 mL                                                                                       |
| <b>SODIUM ELECTRODE STORAGE SOLUTION</b>                                          |                                                                                                        |
| <b>4451659</b>                                                                    | 50 mL                                                                                                  |
| <b>SODIUM STANDARD SOLUTION AS Na</b>                                             |                                                                                                        |
| <b>2835153</b>                                                                    | 10 mg/L, 1 L (NIST)                                                                                    |
| <b>2318153</b>                                                                    | 100 mg/L, 1 L (NIST)                                                                                   |
| <b>1474949</b>                                                                    | 1000 mg/L, 500 mL (NIST)                                                                               |



# Radiometer Analytical Standards



## Radiometer Analytical certified pH and conductivity standards give you:

- Total control of the traceability chain and calculated uncertainties
- Direct traceability to primary standards and the reference method
- The competence and integrity of a laboratory internationally recognized to be accredited for the measurement of pH and conductivity reference materials

## Accredited calibration laboratory

The use of standards manufactured by an accredited laboratory gives you complete confidence in the traceability chain and calculated uncertainties. Radiometer Analytical is part of the Hach Lange group and their Calibration Laboratory, located in Berlin, is accredited for the calibration of certified pH and conductivity standards by DKD, the German national accreditation authority. This accreditation (No. DKD-K-47901) is recognized in more than 35 countries. All standards are formulated in compliance with NIST, IUPAC and DIN19266 specifications<sup>1</sup>.

### IUPAC Series Certified pH Standards

IUPAC Series certified pH standards are fully traceable to the Standard Hydrogen Electrode through Certified Reference Material produced by the Primary Laboratory of either NIST or DFM<sup>2</sup>.

### Radiometer Analytical Certified Conductivity Standards

Radiometer Analytical certified conductivity standards are fully traceable to SI units via Certified Reference Materials manufactured by NIST. They are prepared and calibrated according to the internationally recognized demal scale laid down by the International Organisation of Legal Metrology (OIML – Recommendation No. 56).

<sup>1</sup> Except pH7.000 formulated by us according to NIST, IUPAC and DIN19266 specifications of pH6.865 and pH7.413.

<sup>2</sup> Dansk Fundamental Metrologi A/S is accredited for pH measurements by the Danish Accreditation and Metrology Fund (DANAK)(no. 255).



| Type                                       | Value*                     | Qty    | Product No.    |
|--------------------------------------------|----------------------------|--------|----------------|
| <b>IUPAC Series Certified pH Standards</b> |                            |        |                |
| pH1.679                                    | pH 1.679 ±0.010 at 25°C    | 500 mL | <b>S11M001</b> |
| pH4.005                                    | pH 4.005 ±0.010 at 25°C    | 500 mL | <b>S11M002</b> |
| pH6.865                                    | pH 6.865 ±0.010 at 25°C    | 500 mL | <b>S11M003</b> |
| pH7.000                                    | pH 7.000 ±0.010 at 25°C    | 500 mL | <b>S11M004</b> |
| pH7.413                                    | pH 7.413 ±0.010 at 25°C    | 500 mL | <b>S11M005</b> |
| pH9.180                                    | pH 9.180 ±0.010 at 25°C    | 500 mL | <b>S11M006</b> |
| pH10.012                                   | pH 10.012 ±0.010 at 25°C   | 500 mL | <b>S11M007</b> |
| pH12.45                                    | pH 12.45 ±0.05 at 25°C     | 500 mL | <b>S11M008</b> |
| <b>Certified Conductivity Standards</b>    |                            |        |                |
| KCl 1 D                                    | 111.3 mS/cm ±0.5% at 25°C  | 500 mL | <b>S51M001</b> |
| KCl 0.1D                                   | 12.85 mS/cm ±0.35% at 25°C | 500 mL | <b>S51M002</b> |
| KCl 0.01D                                  | 1408 µS/cm ±0.5% at 25°C   | 500 mL | <b>S51M003</b> |
| NaCl 0.05%                                 | 1015 µS/cm ±0.5% at 25°C   | 500 mL | <b>S51M004</b> |
| NaCl 25**                                  | 25.0 µS/cm ±5% at 25°C     | 250 mL | <b>S51M013</b> |

\* Tolerance.

Each standard is delivered in an airtight can and is supplied with a film-wrapped Certificate of Conformity and Traceability as well as a DKD Calibration Certificate specifying the exact measured value and calculated expanded uncertainty (k=2) for each batch of pH and conductivity solution.