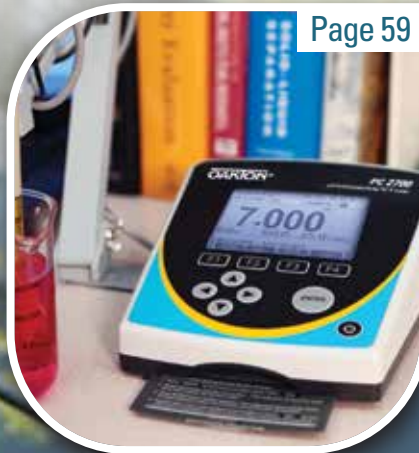


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pH/Ion  
Conductivity/TDS  
Dissolved O  
Multiparameter  
Turbidity  
Colorimetry



**MESLO**

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www.meslo.com  
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Fax: +357 226 60 355

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- **MSDS sheets** for Oakton solutions



# OAKTON® INSTRUMENTS

pH | Ion | Conductivity | Dissolved Oxygen

## Value.

Features you want at  
an affordable price

## Quality.

Accurate, reliable  
results in a durable,  
easy-to-use design

## Selection.

Choose from meters that  
take you from the lab to the  
field, including handheld  
and benchtop models.

We've got the **right meter**  
for your **application!**

[www.meslo.com](http://www.meslo.com)



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## pH/Ion — Introduction / Testers

# pH Measurement

### What is pH Measurement?

The most commonly measured chemical parameter in aqueous solutions, pH is a measure of a liquid's acidity and alkalinity. It is a critical parameter in water and wastewater treatment in municipal and industrial applications, chemical production, agriculture research, and production. It is also critical in environmental monitoring, chemical and life sciences research, biochemical and pharmaceutical research, electronics production, and many more applications.

### Meter Selection

Oakton offers a large selection of pH measurement instruments and kits. From pocket-sized pHTesters®, to rugged handheld portable meters, to laboratory benchtop meters, Oakton has an instrument for practically any pH application.

### Electrodes

Proper pH electrode selection is important to maximize electrode life and ensure the best possible accuracy for your application. Oakton offers a complete selection guide with applications and specifications for pH range, temperature, and diameter for each electrode (see pages 23–29).

### Calibration Buffers

All pH measurement requires calibration solutions to ensure that the readings are traceable to a standard. Oakton calibration buffers do this—and more—since they are standardized against NIST-traceable references. Always choose a pH 7 buffer plus at least one other pH value close to your expected measurement range. Storage and cleaning solutions should also be used to ensure fast, reliable results from your electrodes.







### Expert Advice to Ensure the Best Results

Feel free to contact your Oakton distributor to help you choose your Oakton pH measurement products. Oakton distributors are dedicated to helping you purchase the Oakton instrument that will give you the best results.



## Waterproof Testrs™ Selection Guide

Use this chart to find the best Testr for your application

| Meter       | EcoTestr™ pH 2  | pHTestrs® 10, 20, 30  | pHTestr® 10 BNC   | pH Spear   | ORPTestr® 10 and 10 BNC   | Multiparameter 35-Series Testrs™  |
|-------------|---|---|---|--|---|---|
|             |  |  |  |  |  |  |
| See page    | 3   | 5   | 7   | 6  | 8   | 9   |
| Parameters  | pH  | pH and temperature  | pH  | pH   | ORP   | pH, conductivity, TDS, salt   |
| Electrode   | Permanently fixed, single junction  | Replaceable double-junction module  | Not included—use any electrode with BNC connector                                   | Replaceable double-junction spear tip probe  | Choose from replaceable module or BNC model   | Combined replaceable pH and conductivity module                                       |
| Resolution  | 0.1   | Up to 0.01  | Up to 0.01  | Up to 0.01   | 1 mV  | Up to 0.01 pH   |
| Accuracy    | ±0.1  | Up to ±0.01   | Up to ±0.01   | Up to ±0.01  | ±2 mV   | Up to ±0.01 pH  |
| Display     | One-line LCD  | Two-line LCD  | Two-line LCD  | Two-line LCD   | Two-line LCD  | Two-line LCD  |
| Calibration | 3 points; US buffers  | 3 points; US or NIST buffers  | 3 points; US or NIST buffers  | 3 points; US or NIST buffers   | ±150 mV offset  | Up to 5 points pH; up to 3 points EC/TDS  |

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again and again®

## Testers — pH/Ion

pH/Ion

# EcoTestr™ pH 2

## Just dip and read

**Simple single-line display** – Large upright display is easy to read

**±0.1% pH full-scale accuracy** – Suitable for many applications

**Transparent protective cap** – Doubles up as a container for sensor conditioning or on-site calibration

**Waterproof, dustproof housing** – Meets IP67 rating, plus it floats!

**Long-lasting sensor with PVDF reference junction** – Large volume of polymer gel reference gives long, clog-free, sensor lifespan

**Click-lock battery compartment** – Simply lift and remove cover to replace batteries; no additional tools required

**Push-button calibration** – Calibrate more precisely than trimpot adjustment; no screwdrivers necessary

**Automatic temperature compensation (ATC)** – Gives you accurate readings even with fluctuating temperatures

**Hold function** – Freezes reading until you can record it

**Auto shutoff** – Extends the life of the batteries



35423-10  
EcoTestr pH 2



Transparent protective cap keeps sensor moist when stored upright.



Convenient pocket/belt clip

## Specifications

ISO9001:2008  
CERTIFIED SUPPLIER

1 year  
warranty  
meter only

| Model       | EcoTestr pH 2                              |
|-------------|--|
| Range       | 0.0 to 14.0 pH                             |
| Resolution  | 0.1 pH                                     |
| Accuracy    | ±0.1 pH                                    |
| Calibration | Three-point, automatic (4.0, 7.0, or 10.0) |

**Temperature compensation:** automatic (ATC), from 0 to 50°C (32 to 122°F)  
**Operating temperature:** 0 to 50°C (32 to 122°F)  
**Power:** four 1.5 V alkaline batteries (included), 250 hrs continuous use: Eveready® A76 or LR44 equivalent replacement

**Dimensions**  
**Unit only:** 1¼" x 1½" x 6½" (3.2 x 3.8 x 16.8 cm)  
**Boxed:** 1½" x 5¼" x 9¾" (3.8 x 13.6 x 24.8 cm)  
**Weight**  
**Unit only:** 3.25 oz (90 g); **Boxed:** 6 oz (170 g)

## Ordering Information

| Catalog number | Description   | Included                               |
|----------------|---------------|--|
| WD-35423-10    | EcoTestr pH 2 | Tester, integral sensor, and batteries |

## Accessories

**WD-35624-70 Calibration kit** includes calibration buffer pouches (two each of pH 4.01, 7.00, 10.00, and rinse water), sample jar, and hard carrying case. (Tester not included)

**WD-09377-16 Replacement batteries**, 1.5 V. Pack of 6



## pH/Ion — Testers

# This is what makes our pocket meters better

### Main Features

- User-replaceable sensor
- Valox® durable plastic casing
- IP67 waterproof
- Easy to use
- Quick, stable, and accurate results
- 1-year meter warranty;  
6-month electrode warranty



#### Battery Compartment

- Waterproof by silicone O-ring
- Uses common button cells
- Encloses calibration buttons (for EC/TDS models)



#### Customized LCD

- Large and easy to read
- Clear display with unit of measurement
- Self-diagnostic messages
- Temperature readout (select models)



#### Waterproof to IP67 Rating

- Rugged, waterproof, and so light, it floats!
- Unique antiroll ribbed design ensures firm grip



#### User-Replaceable Sensor Module

- Use tester body over and over again
- Easy plug-in/plug-out connection
- Electrode modules for pH, EC/TDS, ORP, and pH/EC/TDS



#### pH/ORP Sensor Module

- Glass bulb of special material; tough with fast response
- PVDF reference junction minimizes contamination
- Double-junction design prolongs sensor life
- Valox® plastic for improved chemical and physical durability



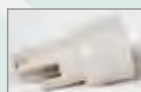
#### EC/TDS Sensor Module

- Two-pin stainless steel
- Minimal bubble entrapment
- Easy to clean



#### EC/TDS+ Series Sensor Module

- Cup-type design for scooping samples
- Requires minimal sample volume



#### pH/EC/TDS Sensor Module

- Combines pH and conductivity
- For Multiparameter 35-Series Testers™



#### Top Battery Cover

- Easy to remove (no wires attached)
- Eyelet for lanyard attachment

#### Strong Plastic Housing

- Chemical resistant
- Physical durability

#### ASIC Microprocessor

- Precise and accurate calibrations
- Fast and reliable readings
- Sophisticated features

#### Push-Button Operation

- Simple, quick, and accurate
- Hassle-free calibration procedures

#### Double Silicone O-Ring

- Waterproof by silicone O-ring
- Allows easy replacement of electrode module

#### Protective Cap

- Reduces contamination
- Protects sensor

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again and again®

## Testers — pH/Ion

# pHTestrs® 10, 20, and 30

Easier measurements with more information from a larger display

### Unique double-junction electrode design

— Longer electrode life, especially in harsh applications like wastewater, plating baths, life science, and food

**Waterproof, dustproof housing** — IP67 rated, maintains the integrity of your tester even in dirty or damp field conditions. Plus, it floats!

**Replaceable electrode module** — Reuse the same meter body for cost savings

**Push-button calibration with auto-buffer recognition**

### Automatic temperature compensation (ATC)

— Accurate readings even with fluctuating temperatures

**Hold function** — Freezes reading so that you can record it

**Self-diagnostic error messages** — Make troubleshooting easier

**Auto shutoff** — Extends the life of the batteries

**pHTestr 10 features** — Three-point calibration, ±0.1 pH accuracy

**pHTestr 20 features** — Three-point calibration, ±0.01 pH accuracy

**pHTestr 30 features** — Three-point calibration, ±0.01 pH accuracy, and simultaneous temperature display



35634-30  
Waterproof  
double-junction  
pHTestr 30



All Oakton® waterproof pHTestrs float!



Large LCD

## Specifications

| Model               | pHTestr 10   | pHTestr 20        | pHTestr 30              |
|---------------------|--|-------------------|-------------------------|
| Range               | −1.0 to 15.0 pH                                      | −1.00 to 15.00 pH | −1.00 to 15.00 pH       |
| Resolution          | 0.1 pH   | 0.01 pH           | 0.01 pH                 |
| Accuracy            | ±0.1 pH  | ±0.01 pH          | ±0.01 pH                |
| Temperature display | —  | —                 | 0 to 50°C (32 to 122°F) |
| Calibration         | Three point at either pH 4.0, 6.86/7.0, or 9.18/10.0 |                   |                         |

**Temperature compensation:** automatic (ATC), from 0 to 50°C (32 to 122°F)

**Operating temperature:** 0 to 50°C (32 to 122°F)

**Special functions:** On/Off or Auto-Off after 8.5 minutes; Hold; Calibrate and Confirm

**Power:** four 1.5 V alkaline batteries (included), >500 hours continuous use; Eveready® A76 or LR44 equivalent replacement

### Dimensions

**Unit only:** 6½" x 1½" dia (16.5 x 3.8 cm)

**Boxed:** 7¼" x 2½" x 2" (18.4 x 6.4 x 5.0 cm)

### Weight

**Unit only:** 3.25 oz (90 g); **Boxed:** 4.5 oz (125 g)

ISO 9001:2008  
CERTIFIED SUPPLIER



1 year  
warranty  
meter only

## Ordering Information

| Catalog number | Description | Included  |
|----------------|-------------|---|
| WD-35634-10    | pHTestr 10  | Tester, detachable electrode sensor, and batteries  |
| WD-35634-20    | pHTestr 20  | Tester, detachable electrode sensor, and batteries  |
| WD-35634-30    | pHTestr 30  | Tester, electrode, detachable electrode sensor, calibration buffer pouches, and batteries |

## Accessories

**WD-35624-38 Replacement electrode sensor** for pHTestr 10, 20, and 30

**WD-35634-70 pHTestr 10 calibration kit** includes Testr, calibration buffer pouches (two each of pH 4.01, 7.00, 10.00 and rinse water), sample jar, and sturdy carrying case

**WD-35634-80 pHTestr 20 calibration kit** includes Testr, calibration buffer pouches (two each of pH 4.01, 7.00, 10.00 and rinse water), sample jar, and sturdy carrying case

**WD-35634-90 pHTestr 30 calibration kit** includes Testr, calibration buffer pouches (two each of pH 4.01, 7.00, 10.00 and rinse water), sample jar, and sturdy carrying case

## pH/Ion — Testers

# pH Spear

### Narrow spear tip for versatile applications

**Rugged spear tip electrode** – Easily penetrates soft solids and semisolids

**Slender housing and electrode fit into test tubes and microtubes** – Less expensive than a micro pH electrode

**Unique open-pore double junction electrode design** – Resists clogging and contamination

**±0.01 pH accuracy with push-button three-point calibration** – Calibrate at 4.01, 7.00, and 10.00. Tester automatically provides offset and two slope adjustments

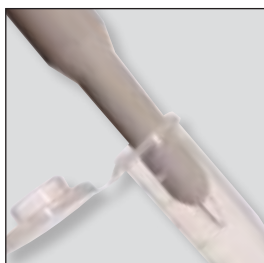
**Waterproof, dustproof housing** – IP67 rated, so there's no need to worry if you drop your tester into water—it even floats!

**Replaceable electrode module** – Reuse the same meter body

**Error messages, Hold function, Auto-off**



35634-40  
Waterproof  
pH Spear



Fits into microtubes and test tubes.



Spear tip for easy penetration

### Specifications

ISO9001:2008  
CERTIFIED SUPPLIER

CE 1 year  
warranty  
meter only

| Model       | pH Spear  |
|-------------|---|
| Range       | –1.00 to 15.00 pH   |
| Resolution  | 0.01 pH   |
| Accuracy    | ±0.01 pH at normal room temperature;<br>±0.05 pH at extremes in temperature range |
| Calibration | Select up to three points (USA: 4.01; 7.00; 10.00 or NIST: 4.01; 6.86; 9.18)      |

**Temperature compensation:** fixed at 25°C or manual

**Operating temperature:** 0 to 50°C (32 to 122°F)

**Special functions:** On/Off or Auto-Off after 8.5 minutes; Hold; Calibrate and Confirm

**Power:** four 1.5 V alkaline batteries (included), approximately 500 hours use; Eveready® A76 or LR44 equivalent replacement

#### Dimensions

**Unit only:** 6½" x 1½" dia (16.5 x 3.8 cm)

**Boxed:** 7¼" x 2¾" x 1⅞" (18.4 x 7 x 4.8 cm)

#### Weight

**Unit only:** 3.25 oz (90 g); **Boxed:** 6 oz (170 g)

### Ordering Information

| Catalog number | Description | Included                                   |
|----------------|-------------|--|
| WD-35634-40    | pH Spear    | Tester, spear tip electrode, and batteries |

### Accessories

**WD-35634-50 Replacement electrode** for pH Spear

**WD-35624-70 Calibration kit** includes calibration buffer pouches (two each of pH 4.01, 7.00, 10.00, and rinse water), sample jar, and hard carrying case. (Tester not included)

**WD-09377-16 Replacement batteries**, 1.5 V. Pack of 6



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again and again®

## Testers — pH/Ion

# pHTestr® 10 BNC

**Waterproof, dustproof tester connects to any pH electrode with BNC connector**

### Connects to any electrode with BNC connector

– Use tester in virtually any application, even highly specialized ones

**±0.01 pH accuracy** – Performs like an advanced handheld meter with pocket-sized convenience

**Microprocessor-based functions** – Provides fast, stable readings

**Push-button calibration with auto-buffer recognition; three-point calibration** – pH 4.01, 7.00, and 10.00

**Waterproof, dustproof housing** – IP67-rated housing, maintains the integrity of your tester even in harsh field conditions. Plus, It floats, so you won't lose your tester by dropping it into a tank or pond.

**Hold function** – Freezes reading so that you can record it

**Self-diagnostic error messages** – Make troubleshooting easier

**Auto shutoff** – Extends the life of the batteries



Use with direct connect or cabled electrodes.



35634-14  
pHTestr 10 BNC

BNC connection lets you connect a wide variety of electrodes.

ISO9001:2008  
CERTIFIED SUPPLIER



1 year  
warranty  
meter only

### Specifications

| Model       | pHTestr 10 BNC  |
|-------------|---|
| Range       | –1.00 to 15.00 pH   |
| Resolution  | 0.01 pH   |
| Accuracy    | ±0.01 pH (meter only, or when calibration and tests are at room temperature [16 to 27°C]) |
| Calibration | Select up to three points (USA: 4.01; 7.00; 10.00 or NIST: 4.01; 6.86; 9.18)              |

**Temperature compensation:** fixed at 25°C or manual

**Operating temperature:** 0 to 50°C (32 to 122°F)

**Special functions:** On/Off or Auto-Off after 8.5 minutes; Hold; Calibrate and Confirm

**Power:** four 1.5 V alkaline batteries (included), approximately 250 hours continuous use; Eveready® A76 or LR44 equivalent replacement

### Dimensions

**Unit:** 5 7/8" L x 1 1/2" W x 3/4" H (15 x 4 x 2.5 cm)

**Boxed:** 7 3/4" L x 2 3/4" W x 1 1/8" H (18.4 x 7 x 4.8 cm)

### Weight

**Unit:** 3.25 oz (90 g); **Boxed:** 6 oz (170 g)

### Ordering Information

| Catalog number | Description    | Included  |
|----------------|----------------|---|
| WD-35634-14    | pHTestr 10 BNC | Tester and batteries (Order BNC electrode separately below) |

**WD-35624-70 Calibration kit** includes calibration buffer pouches (two each of pH 4.01, 7.00, 10.00, and rinse water), sample jar, and hard carrying case. (Tester not included)

**WD-09377-16 Replacement batteries**, 1.5 V. Pack of 6

### pH Electrodes

These cable-free electrodes plug directly into tester for easy one-handed operation. Use single-junction electrodes for clean water applications. Use double-junction electrodes for solutions with organics, sulfides, heavy metals, Tris buffers, or high pH. All electrodes feature sealed, epoxy-body construction and BNC connector.

| Catalog number | Description             | pH range | Junction | Applications  |
|----------------|-------------------------|----------|----------|---|
| WD-35804-00    | 12 mm dia               | 0 to 12  | Single   | Clean water, low ionic strength solutions.  |
| WD-35804-10    | Flat surface; 12 mm dia | 0 to 12  | Single   | For surface testing such as gels, food, skin, floors, concrete. For small-liquid volumes. |
| WD-35804-08    | 12 mm dia               | 0 to 14  | Double   | Dirty water, high-strength solutions, has low-sodium error above pH 12.                   |
| WD-35804-02    | 12 mm dia               | 0 to 12  | Double   | Dirty water, high-strength solutions, life sciences, Tris buffers.                        |
| WD-35804-03    | 9 mm dia                | 0 to 12  | Double   | Small diameter fits test tubes. Dirty water, high-strength solutions.                     |



IP67-rated waterproof, dustproof housing floats. Shown with electrode.

## pH/Ion — Testers

# ORPTestr® 10 and ORPTestr 10 BNC

**Waterproof, dustproof tester for convenient testing of oxidation-reduction (REDOX) potential**

### Double-junction electrode design –

Significantly longer electrode life, especially in applications with harsh chemicals (ORPTestr 10 only)

**Wide mV range** – Measures from –999 to +1000 mV for an array of common applications

**Offset of ±150 mV** – Keypad adjustment to calibration solution or to an established work standard

**Microprocessor-based functions** – Provides fast, stable readings

**Replaceable electrode module** – Reuse the same tester body over and over

**Waterproof, dustproof housing** – IP67-rated housing protects your tester even in harsh field or plant conditions. And it floats, so you won't lose your tester by dropping it into a tank or pond!

**Hold function** – Freezes reading so that you can record it

**Self-diagnostic error messages** – Make troubleshooting easier

**Auto shutoff** – Extends the life of the batteries



IP67-rated waterproof, dustproof housing floats!



35650-14



35650-10

Double-junction electrode allows for long electrode life, even in harsh applications.

BNC connection lets you connect a wide variety of electrodes.



Electrode sensors are easily replaceable without affecting waterproof rating.

## Specifications

ISO9001:2008  
CERTIFIED SUPPLIER

CE

1 year  
warranty  
meter only

| Model       | ORPTestr 10   |
|-------------|---|
| Range       | –999 to +1000 mV  |
| Resolution  | 1 mV  |
| Accuracy    | ±2 mV   |
| Calibration | Offset adjustment ±150 mV; brings ORPTestr into agreement with your work standard |

**Operating temperature:** 0 to 50°C (32 to 122°F)

**Special functions:** On/Off or Auto-Off after 8.5 minutes; Hold; Calibrate and Confirm

**Power:** four 1.5 V alkaline batteries (included). Eveready® A76 or LR44 equivalent replacement

### Dimensions

**Meter:** 6½"L x 1½" dia (16.5 x 3.8 cm)

**Boxed:** 7¼"L x 2¼"W x 1⅞"H (18.4 x 7 x 4.8 cm)

### Weight

**Meter:** 3.25 oz (90 g); **Boxed:** 6 oz (170 g)

## Ordering Information

| Catalog number | Description     | Included  |
|----------------|-----------------|---|
| WD-35650-10    | ORPTestr 10     | Tester, replaceable double-junction electrode sensor, and batteries |
| WD-35650-14    | ORPTestr 10 BNC | Tester with BNC connection and batteries (electrode not included)   |

## Accessories

**WD-35650-09 Replacement electrode sensor** for ORPTestr 10

**WD-35805-13 ORP electrode;** single junction, epoxy-body, gel-filled electrode with 3-ft (1-m) cable. For use with ORPTestr 10 BNC

**WD-09377-16 Replacement batteries,** 1.5 V. Pack of 6

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again and again®

Testers — pH/Ion

# Multiparameter 35-Series Testrs™

Our most versatile testers combine up to five measurements in one pocket-sized meter

**Determine pH, conductivity, TDS, salinity, and temperature** – Great for water, wastewater, laboratory, or plant use

**Accuracy up to ±0.01 for pH; ±1% full-scale for EC/TDS/salt** – Ideal for a wide variety of applications

**Long-lasting pH sensor with PVDF reference junction** – Large volume of polymer gel reference gives long, clog-free sensor lifespan

**Stainless steel pin-style conductivity sensors** – Durable and compatible with a wide range of samples

**Adjustable TDS factor, temperature coefficient, and salinity factor** – Provide accurate readings under changing conditions

**Push-button calibration** – Calibrate more precisely than trimpot adjustment; no screwdrivers necessary

**Automatic temperature compensation (ATC)** – Gives you accurate readings even with fluctuating temperatures

**Waterproof, dustproof housing** – Meets IP67 rating, plus it floats!

**Hold function** – Freezes reading until you can record it

**Auto shutoff** – Extends the life of batteries



35425-00

35425-05

35425-10



Sensor includes both pH and conductivity/TDS/salt probes.

## Ordering Information

| Catalog number | Description                            |
|----------------|--|
| WD-35425-00    | PCTestr 35 (pH/conductivity)           |
| WD-35425-05    | PTTestr 35 (pH/TDS)                    |
| WD-35425-10    | PCSTestr 35 (pH/conductivity/TDS/salt) |

## Accessories

**WD-35425-50 Replacement pH/conductivity/TDS/salinity sensor module** for all 35-series Testrs

**WD-09377-16 Replacement batteries, 1.5 V.**  
Pack of 6

## Specifications

ISO9001:2008  
CERTIFIED SUPPLIER



1 year  
warranty  
meter only

|             | Model        | PCTestr 35                        | PTTestr 35                          | PCSTestr 35  |
|-------------|--------------|-----------------------------------|-------------------------------------|--|
| Range       | pH           | 0.0 to 14.0 pH                    | 0.0 to 14.0 pH                      | 0.00 to 14.00 pH                                     |
|             | Conductivity | 0 to 2000 µS;<br>2.00 to 20.00 mS | —                                   | 0 to 200 µS, 201 to 2000 µS;<br>2.01 to 20.00 mS     |
|             | TDS          | —                                 | 0 to 1000 ppm;<br>1.00 to 10.00 ppt | 0.0 to 99.9 ppm, 100 to 999 ppm;<br>1.00 to 10.0 ppt |
|             | Salinity     | —                                 | —                                   | 0 to 10.0 ppt  |
|             | Temperature  | 0 to 50°C (32 to 122°F)           | 0 to 50°C (32 to 122°F)             | 0 to 50°C (32 to 122°F)                              |
| Resolution  | pH           | 0.1 pH                            | 0.1 pH                              | 0.01 pH  |
|             | Conductivity | 10 µS; 0.1 mS                     | —                                   | 0.1 µS, 1 µS; 0.1 mS                                 |
|             | TDS          | —                                 | 1 ppm; 0.01 ppt                     | 0.1 ppm, 1 ppm; 0.1 ppt                              |
|             | Salinity     | —                                 | —                                   | 0.1 ppm, 1 ppm; 0.1 ppt; 0.10 to 1.00%               |
|             | Temperature  | 0.1°                              | 0.1°                                | 0.1°   |
| Accuracy    | pH           | ±0.1 pH                           | ±0.1 pH                             | ±0.01 pH   |
|             | Conductivity | ±1% full-scale                    | —                                   | ±1% full-scale                                       |
|             | TDS          | —                                 | ±1% full-scale                      | ±1% full-scale                                       |
|             | Salinity     | —                                 | —                                   | ±1% full-scale                                       |
|             | Temperature  | ±0.5°C (±0.9°F)                   | ±0.5°C (±0.9°F)                     | ±0.5°C (±0.9°F)                                      |
| Calibration | pH           | 3 points                          | 3 points                            | 5 points   |
|             | Conductivity | 2 points                          | —                                   | 3 points   |
|             | TDS          | —                                 | 2 points                            | 3 points   |
|             | Salinity     | —                                 | —                                   | 1 point  |
|             | Temperature  | 1 point                           | 1 point                             | 1 point  |

**Temperature compensation:** automatic (ATC), from 0 to 50°C (32 to 122°F) or manual

**Operating temperature:** 0 to 50°C (32 to 122°F)

**Power:** four 1.5 V alkaline batteries (included), approximately 250 hours continuous use; Eveready® A76 or LR44 equivalent replacement

## Dimensions

**Unit only:** 6½" x 1½" dia (16.5 x 3.8 cm)

**Boxed:** 7¼" x 2½" x 2" (18.4 x 6.4 x 5.0 cm)

## Weight

**Unit only:** 3.25 oz (90 g); **Boxed:** 6 oz (170 g)



## pH/Ion — Handheld Meters

# Handheld pH/Ion Meter Selection Guide

### Get Better Accuracy!

Oakton pH meters offer up to 6-point calibrations with auto-buffer recognition function and a wide selection of buffer sets— quick, easy calibrations with flexibility to meet your applications.

Kits include quality “All-in-One” pH and temperature probes, or separate pH electrode with ATC temperature probe to ensure temperature compensation. For special application requirements, Oakton meters are compatible with most electrodes with a BNC connector (see pages 23 to 29 for selection). Don’t forget the Oakton NIST-traceable calibration buffers (see page 22)— fresh buffer is a great way to ensure accuracy.

### Get Dependability!

Oakton handheld meters are built for field duty with rugged case designs and protective rubber boots. Our meters are built to last and include a three-year warranty. ISO 9001:2008 certified company with CE mark product to ensure product excellence.



5+/6+ series

Waterproof 150 series

Waterproof 450 series

Waterproof 600 series

### Use this chart to find the best handheld pH or ion meter for your application

| Meter                            | 5+/6+ series              | Waterproof 150 series    | Waterproof 450 series         | Waterproof 600 series               |
|----------------------------------|---------------------------|--------------------------|-------------------------------|-------------------------------------|
| <b>See pages</b>                 | 11–12                     | 13                       | 14                            | 15–16                               |
| <b>Description</b>               | Low cost, rugged, compact | Economical, dual display | Best value, advanced features | Rugged field/environmental meter    |
| <b>Display</b>                   | Single-line LCD           | Three-line LCD           | Three-line LCD with backlight | Multiline dot matrix with backlight |
| <b>IP67-rated housing</b>        | —                         | Yes                      | Yes                           | Yes                                 |
| <b>Memory</b>                    | —                         | Up to 200 data sets      | Up to 500 data sets           | Up to 500 data sets                 |
| <b>Communication</b>             | —                         | —                        | USB or RS-232                 | IrDA                                |
| <b>Password protection</b>       | —                         | —                        | Yes                           | Yes                                 |
| <b>Real-time clock</b>           | —                         | Yes                      | Yes                           | Yes                                 |
| <b>pH calibration points</b>     | Up to 5                   | Up to 6                  | Up to 6                       | Up to 6                             |
| <b>Auto buffer recognition</b>   | Yes                       | Yes                      | Yes                           | Yes                                 |
| <b>Buffer sets</b>               | US, NIST                  | US, NIST, DIN            | US, NIST, DIN, PWB, custom    | US, NIST, DIN                       |
| <b>Automatic end-point</b>       | —                         | —                        | Yes                           | Yes                                 |
| <b>Automatic shut-off</b>        | After 17 minutes          | After 20 minutes         | Yes, adjustable               | Yes, adjustable                     |
| <b>Hold function</b>             | Yes                       | Yes                      | Yes                           | Yes                                 |
| <b>Ready/stability indicator</b> | —                         | Yes                      | Yes                           | Yes                                 |
| <b>Error messages</b>            | Yes                       | Yes                      | Yes                           | Yes                                 |
| <b>Built-in stand</b>            | Yes (in boot)             | Yes                      | Yes                           | Yes                                 |
| <b>Protective rubber boot</b>    | Included                  | —                        | —                             | Optional                            |
| <b>Optional AC power adapter</b> | —                         | Yes                      | Yes                           | Yes                                 |

**Guarantee measurement accuracy—look for the precalibrated items throughout this section and save!**

...setting the standard  
again and again®

## Handheld Meters — pH/Ion

pH/Ion

# pH 5+ and 6+ Meters

**Rugged, compact meters offer high accuracy at an extremely affordable price!**

**Simple push-button operation** – So fast and easy, anyone can use it

**Toggle between pH and temperature in °C with a press of a button**

**Five-point pH calibration** – Choose from standard US, NIST, and pure water; gives you high  $\pm 0.01$  pH accuracy

**Auto buffer recognition** – Automatically identifies the correct pH buffer for rapid calibration

**Calibration instructions are printed on back of meter** – For quick reference and added convenience

**Automatic temperature compensation (ATC)** – For the highest accuracy in changing temperature conditions

**Hold and Auto-off functions**

**Built-in stand for benchtop or long-term use**

**Protective boot** – Helps shield your meter from drops and dings

**Meter kits available** – Contain everything you need for calibration and measurement packaged in a hard carrying case – the best option.

### pH 6+ also features

**Measurements in pH, mV, and °C** – Use for ORP (Redox) measurements



35613-52

ISO 9001:2008  
CERTIFIED SUPPLIER

3 year  
warranty  
meter only

### Specifications

| Model              | pH 5+ and pH 6+ meters   |                         | pH 6+ meter only |
|--------------------|--|-------------------------|------------------|
| <b>Mode</b>        | pH   | Temperature             | mV               |
| <b>Range</b>       | 0.00 to 14.00 pH   | 0.0 to 100.0°C          | $\pm 1000$ mV    |
| <b>Resolution</b>  | 0.01 pH  | 0.1°C                   | 1 mV             |
| <b>Accuracy</b>    | $\pm 0.01$ pH  | $\pm 0.5^\circ\text{C}$ | $\pm 2$ mV       |
| <b>Calibration</b> | Up to 5 buffer values: choose from standard US, NIST, and pure water buffer values | Offset 0.1°C increments | $\pm 20$ mV      |

**Temperature compensation:**  
automatic from 0.0 to 100.0°C  
**Operating temperature:** 0 to 50°C (32 to 122°F)  
**Power:** four 1.5 V AAA batteries (included),  
>200 hours continuous use

**Dimensions**  
**Meter:** 5½"L x 2¾"W x 1¾"H (14 x 7 x 3.5 cm)  
**Boxed:** 9¼"L x 6½"W x 3"H (23.5 x 16.5 x 7.5 cm)  
**Weight**  
**Meter:** 0.9 lb (0.4 kg); **Boxed:** 1 lb (0.5 kg)

### Ordering Information

| Catalog number | Precalibrated catalog number | Description             | Included  |
|----------------|------------------------------|-------------------------|---|
| WD-35613-50    | WD-35613-51                  | pH 5+ meter only        | Meter, ATC probe, protective rubber boot, and batteries   |
| WD-35613-20    | WD-35613-41                  | pH 6+ meter only        | Meter; single-portion, epoxy-body pH electrode; ATC probe; protective rubber boot; and batteries  |
| WD-35613-52    | WD-35613-53                  | pH 5+ meter with probes | Meter; "All-in-One" single-portion, epoxy-sealed pH electrode; pH buffer pouches (pH 4.01, 7.00, 10.00, and rinse water); sample bottles; protective rubber boot; batteries; and hard carrying case |
| WD-35613-22    | WD-35613-42                  | pH 6+ meter with probes |   |
| WD-35613-54    | WD-35613-55                  | pH 5+ meter kit         |   |
| WD-35613-24    | WD-35613-44                  | pH 6+ meter kit         |   |

### Accessories

WD-35804-00 Replacement pH electrode  
WD-35811-71 Replacement "All-in-One" single-portion, epoxy-sealed pH electrode  
WD-35613-05 Replacement ATC probe



Meters include protective rubber boot and a built-in stand.

## pH/Ion — Handheld Meters

# Ion 6+ Meter

**Direct readout of ion concentration at an affordable price!**

**Use with pH or most ISE electrodes with BNC connectors** – The  $\pm 500$  mV range covers the vast majority of ISEs

**mV measurement mode** – Allows you to check performance and calibration of your ion-selective electrode

**Simple to use** – Preprogrammed calibration points allow even beginners to take readings in minutes!

**pH and temperature ( $^{\circ}\text{C}$ ) readout** – With high  $\pm 0.01$  pH/ $\pm 0.5^{\circ}\text{C}$  accuracy

**Automatic temperature compensation (ATC) for pH** – For the highest accuracy in changing temperature conditions

**Compact size** – Take your Ion 6+ meter anywhere!

**All push-button operation** – For fast, easy use

**Hold and Auto-off functions**

**Built-in stand for benchtop or long-term use**

**Protective boot** – Helps shield your meter from drops and dings



35613-82



**Meter includes protective rubber boot and a built-in stand.**

See pages 28–29 for ion-selective electrodes

### Specifications

**ISO9001:2008**  
CERTIFIED SUPPLIER

**CE** **3 year warranty**  
meter only

| Mode               | Ion   | mV  | pH  | Temperature                                 |
|--------------------|---|---|---|---|
| <b>Range</b>       | 0.01 to 1999 units  | -500 to +500 mV   | 0.00 to 14.00 pH  | 0.0 to 100.0 $^{\circ}\text{C}$             |
| <b>Resolution</b>  | 0.01 unit (0.01 to 0.99 units),<br>0.1 unit (0.1 to 199.9 units),<br>1 unit (200 to 1999 units) | 0.1 mV within $\pm 199.9$ mV,<br>1 mV beyond $\pm 200$ mV             | 0.01 pH   | 0.1 $^{\circ}\text{C}$                      |
| <b>Accuracy</b>    | $\pm 1\%$ full-scale  | $\pm 0.2$ mV within $\pm 199.9$ mV,<br>$\pm 2$ mV beyond $\pm 200$ mV | $\pm 0.01$ pH   | $\pm 0.5^{\circ}\text{C}$                   |
| <b>Calibration</b> | 2 or 3 points;<br>0.1, 1, 10, 100 ppm<br>(minimum 2 points)                                     | Not available   | Up to 5 buffer values<br>From standard USA or<br>NIST buffer sets,<br>auto-buffer recognition | Offset 0.1 $^{\circ}\text{C}$<br>increments |

**Minimum slope during ion calibration:** 40 mV/decade for monovalent ions; 20 mV/decade for divalent ions

**pH slope range:** 80 to 120%

**Temperature compensation:** manual or automatic from 0.0 to 100.0 $^{\circ}\text{C}$

**Operating temperature:** 0 to 50 $^{\circ}\text{C}$  (32 to 122 $^{\circ}\text{F}$ )

**Power:** four 1.5 V AAA batteries (included), >200 hours continuous use

#### Dimensions

**Meter:** 5½" x 2¼" x 1⅝" (14 x 7 x 3.5 cm)

**Boxed:** 9¼" x 6½" x 3" (23.5 x 16.5 x 7.5 cm)

#### Weight

**Meter only:** 0.9 lb (0.4 kg); **Boxed:** 1 lb (0.5 kg)

### Ordering Information

| Catalog number     | Precalibrated catalog number | Description       | Included   |
|--------------------|------------------------------|-------------------|--|
| <b>WD-35613-80</b> | <b>WD-35613-81</b>           | Ion 6+ meter only | Meter, protective rubber boot, and batteries   |
| <b>WD-35613-82</b> | <b>WD-35613-83</b>           | Ion 6+ meter kit  | Meter; single-junction, epoxy-body pH electrode; ATC probe; sample bottles; calibration buffer pouches; carrying case; protective rubber boot; and batteries |

### Accessories

**WD-35811-71** "All-in-One" single-junction, epoxy-sealed pH electrode

**WD-35613-05** Replacement ATC probe



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again and again®

## Handheld Meters — pH/Ion

# pH 150 Meter

**Best value for an IP67-rated waterproof meter!**

**Large, three-line LCD** – Lets you view pH or mV measurement with temperature and calibration data with % slope

**Built-in memory function** – Stores up to 150 measurements along with temperature

**Six-point pH calibration** – Choose from USA, NIST, or DIN buffer sets

**Auto buffer recognition** – Automatically identifies the correct pH buffer for rapid calibration

**Calibration alarm** – A visible reminder when it is time to recalibrate the meter

**Selectable manual or automatic temperature compensation (ATC)** – For the highest accuracy in any situation

**Selectable °C/°F** – Choose units to best fit your application

**Features mV offset** – For calibration to ORP standards, zeroing mV value, and pH diagnostics

**Hold function, ready indicator, automatic shut-off, and battery life indicator**

**Intuitive, user-friendly icons** – Electrode status displays pH slope, not a confusing icon

**Built-in stand** – Ideal for easy benchtop or long-term use

**Wall-mount option** – Ideal to save on bench space

**Grip-Clip™ holder** – Quickly and easily secures the electrode to your beaker or container

**Compatible with pH electrodes having a BNC connector**

**Power with batteries for 700 hours continuous in the field** – Optional AC adapter for benchtop measurements



Wall-mount option to save space.



Meter includes built-in stand.



35614-30

## Specifications

| Mode        | pH                             | mV   | Temperature                         |
|-------------|--------------------------------|--|-------------------------------------|
| Range       | –2.00 to 16.00                 | ±2000 mV   | –10.0 to 110.0°C (–17.0 to 230.0°F) |
| Resolution  | 0.01                           | 0.1 mV ±999.9 mV; 1 mV beyond                            | 0.1°C/°F                            |
| Accuracy    | ±0.01                          | ±0.2 mV ±2 LSD or ±0.5% of reading; whichever is greater | ±0.5°C; ±0.9°F                      |
| Calibration | Up to 6 points; USA, NIST, DIN | ± 200 mV   | Offset 0.1 increments               |

**Display:** 3-line custom LCD

**Temperature compensation:** automatic or manual from –10 to 110°C

**Memory:** stores up to 150 data sets

**Power:** two AA batteries (included), >700 hours continuous use; AC adapter (optional)

**Dimensions (L x W x H)**

**Meter:** 7 7/8" x 3 1/8" x 2 1/4" (20 x 8.3 x 5.7 cm)

**Boxed:** 9 1/8" x 9 1/8" x 2 3/4" (23 x 23 x 7 cm)

**Weight:**

**Meter only:** 1 lb (0.5 kg)

**Boxed:** 1.4 lb (0.7 kg)

ISO9001:2008  
CERTIFIED SUPPLIER

TUV  
Rheinland  
SEITE 1

CE 3 year  
warranty

## Ordering Information

| Catalog number | Precalibrated catalog number | Description             | Included  |
|----------------|------------------------------|-------------------------|---|
| WD-35614-32    | WD-35614-34                  | pH 150 meter only       | Meter, Grip-Clip electrode holder, and two AA batteries   |
| WD-35614-30    | WD-35614-33                  | pH 150 meter with probe | Meter, "All-in-One" pH electrode 35808-71, Grip-Clip electrode holder, and two AA batteries   |
| WD-35614-90    | WD-35614-91                  | pH 150 meter kit        | Meter, "All-in-One" pH electrode 35808-71, pH buffers, storage solution, rinse solution, Grip-Clip electrode holder, two AA batteries, and hard carrying case |

**WD-35808-71 Replacement "All-in-One" pH electrode** with built-in ATC. Single-junction, epoxy body, BNC connector

**WD-35808-72 "All-in-One" pH electrode** with built-in ATC. Double-junction, epoxy body, BNC connector

**WD-35618-05 ATC probe.** Use with any standard pH electrode for temperature compensation

**WD-35614-50 Replacement Grip-Clip holder** attaches probe to side of container for measurement

**WD-35614-51 Hard carrying case,** fits all 150/450 meter configurations

**WD-35420-72 Optional adapter,** 110/220 VAC

**WD-09376-01 Replacement batteries,** AA. Pack of 4

## pH/Ion — Handheld Meters

# pH 450 Meter

**Backlit, rugged waterproof meter is ideal for any environment!**

**Durable waterproof and dustproof design with IP67 rating**

**Large, backlit custom display** – Lets you view measurement with temperature and calibration data with % slope

**Measurements in pH, ISE, and mV** – With automatic or manual temperature compensation

**Six-point calibration** – Choose USA, NIST, DIN, PWB, or custom buffers

**Auto buffer recognition** – Automatically identifies the correct pH buffer for rapid calibration

**Calibration alarm** – A visible reminder that it is time to recalibrate the meter

**Hold, Ready, and automatic shutoff functions**

**Selectable °C/°F** – Choose units to best fit your application

**Intuitive, user-friendly icons** – Electrode status displays pH slope

**Store up to 500 data sets** – Easy USB or RS-232 output with optional data cables

**Built-in real-time clock stamps stored data and calibration data with time and date** – Meets standards for GLP (Good Laboratory Practices)

**Grip-Clip™ holder** – Quickly and easily secures the pH electrode to your beaker or container

**Built-in stand with wall mount option** – Allows for easy benchtop measurement or storage

**Extended battery life from two AA batteries or use optional universal power adapter**

**Compatible with pH/ISE electrodes having a BNC connector**



35618-30

**ISO9001:2008**  
CERTIFIED SUPPLIER

**TUV**  
ROHS  
SERVICE

**CE** **3 year warranty**

| Mode               | pH   | mV  | Ion   | Temperature                            |
|--------------------|--|---|---|--|
| <b>Range</b>       | –2.00 to 16.00 pH                                | ±2000 mV  | 0.0 to 19999  | –10.0 to 110.0°C<br>(–17.0 to 230.0°F) |
| <b>Resolution</b>  | 0.01 pH  | 0.1 mV ±999.9 mV; 1 mV beyond                             | 0.01  | 0.1°C                                  |
| <b>Accuracy</b>    | ±0.01 pH   | ±0.2 mV +2 LSD or ±5% of reading;<br>whichever is greater | ±0.5% full-scale (monovalent);<br>±1% full-scale (divalent) | ±0.1°C/°F                              |
| <b>Calibration</b> | Up to six points; USA, NIST,<br>DIN, PWB, custom | ± 200 mV  | Up to six points  | ±5.0° offset                           |

**Display:** custom LCD with backlight

**Memory:** stores up to 500 data sets

**Output:** USB or RS-232

**Real-time clock:** time-and-date stamp on calibration and stored data

**Temperature compensation:** automatic or manual from –10 to 110°C

**Power:** two AA batteries (included), 500 hours (without backlight);  
AC adapter (optional)

**Dimensions (L x W x H)**

**Meter:** 7 7/8" x 3 1/8" x 2 1/4" (20 x 8.3 x 5.7 cm)

**Boxed:** 9 1/8" x 9 1/8" x 2 3/4" (23 x 23 x 7 cm)

**Weight:**

**Meter only:** 1 lb (0.5 kg)

**Boxed:** 1.4 lb (0.7 kg)

## Ordering Information

| Catalog number     | Precalibrated catalog number | Description             | Included  |
|--------------------|------------------------------|-------------------------|---|
| <b>WD-35618-32</b> | <b>WD-35618-34</b>           | pH 450 meter only       | Meter, Grip-Clip holder, and two AA batteries   |
| <b>WD-35618-30</b> | <b>WD-35618-33</b>           | pH 450 meter with probe | Meter, "All-in-One" pH electrode (35808-71), Grip-Clip holder, and two AA batteries   |
| <b>WD-35618-90</b> | <b>WD-35618-91</b>           | pH 450 meter kit        | Meter, "All-in-One" pH electrode (35808-71), Grip-Clip holder, pH buffers, storage solution, rinse solution, two AA batteries, and hard carrying case |

**WD-35808-71 Replacement "All-in-One" pH electrode** with built-in ATC. Single-junction; epoxy body; BNC connector

**WD-35808-72 "All-in-One" pH electrode** with built-in ATC. Double-junction; epoxy body; BNC connector

**WD-35618-05 ATC probe.** Use with any standard pH electrode with BNC for temperature compensation

**WD-35802-00 Ammonia electrode,** gas sensing; epoxy body, single junction

**WD-35802-18 Fluoride electrode,** solid state; epoxy body, single junction

**WD-35802-12 Chloride electrode,** solid state; epoxy body, single junction

**WD-35614-50 Replacement Grip-Clip electrode holder**

**WD-35614-51 Hard carrying case,** fits all 150/450 meter configurations

**WD-35630-53 Data cable** for USB connectivity

**WD-35420-01 Data cable** for RS-232 connectivity

**WD-35420-72 Optional adapter,** 110/220 VAC

**WD-09376-01 Replacement batteries,** AA. Pack of 4

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again and again®

## Handheld Meters — pH/Ion

# pH 600 and pH 610 Meters

Expanded range, resolution, and accuracy—plus increased memory and advanced communications!

**Durable waterproof and dustproof design with IP67 rating** – Even with no probes attached

**Push-button pH calibration at up to six points** – Up to 15 buffer options with auto-buffer recognition of USA, NIST, DIN, and PWB standards

**Large backlit graphic display** – Multi-line display with electrode status indicator, calibration data, and more

**User-settable “calibration due” alarm** – Out-of-date or unperformed calibrations are now things of the past!

**Built-in real-time clock** – Time-and-date stamping meets Good Laboratory Practice (GLP) standards

**Store up to 500 data sets** – Infrared IrDA wireless technology makes PC downloading convenient and easy

**Set point alarms** – Audible warning when readings are outside set points limit

**Research-grade accuracy** – Resolution to 0.001 pH and accuracy to  $\pm 0.002$  pH on pH 610 model

**Electrode status indicator** – Calibration data provides electrode diagnostic tool

**Password protection** – Security for calibration and setup menus

**Complete kits are available** – Include meter, probe, solutions, and carrying case



35418-12

ISO9001:2008  
CERTIFIED SUPPLIER

**3 year**  
warranty  
meter only

### Specifications

|             | Model       | pH 600 meter   | pH 610 meter  |
|-------------|-------------|--|---|
| Range       | pH          | –2.00 to 19.99   | –2.000 to 19.999                                    |
|             | mV          | $\pm 2000$ mV  | $\pm 2000$ mV                                       |
|             | Temperature | –10.0 to 110.0°C (14.0 to 230.0°F), selectable   | –10.0 to 110.0°C (14.0 to 230.0°F), selectable      |
| Resolution  | pH          | 0.1/0.01 pH  | 0.1/0.01/0.001 pH                                   |
|             | mV          | 0.1 mV   | 0.1 mV  |
|             | Temperature | 0.1°C (0.1°F)  | 0.1°C (0.1°F)                                       |
| Accuracy    | pH          | $\pm 0.01$ pH  | $\pm 0.002$ pH                                      |
|             | mV          | $\pm 0.2$ mV   | $\pm 0.2$ mV  |
|             | Temperature | $\pm 0.5^\circ\text{C}$ ( $\pm 0.9^\circ\text{F}$ )  | $\pm 0.5^\circ\text{C}$ ( $\pm 0.9^\circ\text{F}$ ) |
| Calibration | pH          | Up to 6 buffer values (select from 4 sets): USA 1.68, 4.01, 7.01, 10.01, 12.45; NIST: 1.68, 4.01, 6.86, 9.18, 12.45; DIN: 1.09, 2.06, 4.65, 6.79, 9.23, 12.75, or custom buffers |   |
|             | mV          | Offset up to $\pm 150$ mV  |   |
|             | Temperature | Offset 0.1°C (0.1°F) increments  |   |

**Memory:** up to 500 sets with GLP date and time

**Output:** infrared, IrDA

**Real-time clock:** time-and-date stamp on calibration and stored data

**Temperature compensation:** automatic or manual (selectable) from 0 to 100°C

**Ambient operating temperature:** 0 to 50°C (32 to 122°F)

**Power:** four 1.5 V AA batteries (included) or optional universal AC adapter, up to 500 hours continuous use

#### Dimensions

**Meter:** 7¼" L x 3¼" W x 2¼" H (18.4 x 8.3 x 5.7 cm)

**Boxed:** 9½" L x 9½" W x 2¾" H (23 x 23 x 7 cm)

#### Weight

**Meter:** 1 lb (0.5 kg); **Boxed:** 2 lb (0.9 kg)

### Ordering Information

| Catalog number | Precalibrated catalog number | Description             | Included  |
|----------------|------------------------------|-------------------------|---|
| WD-35418-02    | WD-35418-03                  | pH 600 meter only       | Meter and batteries   |
| WD-35418-12    | WD-35418-13                  | pH 610 meter only       | Meter and batteries   |
| WD-35418-00    | WD-35418-01                  | pH 600 meter with probe | Meter, "All-in-One" probe 35816-71, and batteries   |
| WD-35418-10    | WD-35418-11                  | pH 610 meter with probe | Meter, "All-in-One" probe 35816-71, and batteries   |
| WD-35418-70    | WD-35418-71                  | pH 600 meter kit        | Meter, "All-in-One" probe 35816-71, pH buffers (60 mL each of 4.01, 7.00, electrode storage solution, and rinse water), two electrode holders, rubber boot, batteries, and hard carrying case |
| WD-35418-80    | WD-35418-81                  | pH 610 meter kit        | Meter, "All-in-One" probe 35816-71, pH buffers (60 mL each of 4.01, 7.00, electrode storage solution, and rinse water), two electrode holders, rubber boot, batteries, and hard carrying case |

**WD-35816-71 Replacement "All-in-One" pH/temperature probe**, single-junction, epoxy body

**WD-35816-72 "All-in-One" pH/temperature probe**, double-junction, epoxy body

**WD-35418-05 ATC probe**. Use for temperature compensation with any pH electrode without built-in ATC

**WD-35418-83 Optional adapter**, 110/220 VAC

**WD-35418-86 Rubber boot** for all 600-series meters



Ideal for laboratory testing.

Multiparameter  
models available.  
See pages 51–57.



## pH/Ion — Handheld Meters

# pH 620 Meter

**Research-grade ion-selective performance in a waterproof portable unit**

**Durable waterproof and dustproof design with IP67 rating** – Even with no probes attached

**Push-button pH calibration at up to six points** – Up to 15 buffer options with auto-buffer recognition of USA, NIST, DIN, and PWB standards

**Large backlit graphic display** – Multi-line display with electrode status indicator, calibration data, and more

**User-settable “calibration due” alarm** – Out-of-date or unperformed calibrations are now things of the past!

**Built-in real-time clock** – Time-and-date stamping meets Good Laboratory Practice (GLP) standards

**Store up to 500 data sets** – Infrared IrDA wireless technology makes PC downloading convenient and easy

**Set point alarms** – Audible warning when readings are outside set points limit

**Research-grade accuracy** – Resolution to 0.001 pH and accuracy to  $\pm 0.002$  pH

**Electrode status indicator** – Calibration data provides electrode diagnostic tool

**Password protection** – Security for calibration and setup menus



pH 620 meter shown with rubber boot from 35418-90 kit.

ISO 9001:2008  
CERTIFIED SUPPLIER

CE 3 year warranty  
meter only

### Specifications

| Model              | pH 620 meter  |
|--------------------|---|
| <b>Range</b>       | pH: -2.000 to 19.999 pH<br>Ion: 0.001 to 19,900 ppm, molar, or mg/L<br>mV: $\pm 2000$ mV<br>Temperature: -10.0 to 110.0°C (14.0 to 230.0°F), selectable   |
| <b>Resolution</b>  | pH: 0.1/0.01/0.001 pH<br>Ion: 2 or 3 digits<br>mV: 0.1 mV<br>Temperature: 0.1°C (0.1°F)   |
| <b>Accuracy</b>    | pH: $\pm 0.002$ pH<br>Ion: $\pm 0.5\%$ full-scale (monovalent); $\pm 1\%$ full-scale (divalent)<br>mV: $\pm 0.2$ mV<br>Temperature: $\pm 0.5^\circ\text{C}$ ( $\pm 0.9^\circ\text{F}$ )   |
| <b>Calibration</b> | pH: Up to 6 buffer values (select from 4 sets): USA 1.68, 4.01, 7.01, 10.01, 12.45<br>NIST: 1.68, 4.01, 6.86, 9.18, 12.45<br>DIN: 1.09, 2.06, 4.65, 6.79, 9.23, 12.75, or custom buffers<br>Ion: Up to 6 points<br>mV: Offset up to $\pm 150$ mV<br>Temperature: Offset 0.1°C or 0.1°F increments |

**Memory:** up to 500 sets with GLP date and time

**Output:** infrared, IrDA

**Real-time clock:** time-and-date stamp on calibration and stored data

**Temperature compensation:** automatic or manual (selectable) from 0 to 100°C

**Ambient operating temperature:** 0 to 50°C (32 to 122°F)

**Power:** four 1.5 V AA batteries (included) or optional universal AC adapter, up to 500 hours continuous use

#### Dimensions

**Meter:** 7¼" L x 3¼" W x 2¼" H (18.4 x 8.3 x 5.7 cm)

**Boxed:** 9½" L x 9½" W x 2¼" H (23 x 23 x 7 cm)

#### Weight

**Meter:** 1 lb (0.5 kg); **Boxed:** 2 lb (0.9 kg)

### Ordering Information

| Catalog number | Precalibrated catalog number | Description             | Included  |
|----------------|------------------------------|-------------------------|---|
| WD-35418-22    | WD-35418-23                  | pH 620 meter only       | Meter and batteries   |
| WD-35418-20    | WD-35418-21                  | pH 620 meter with probe | Meter, "All-in-One" probe 35816-71, and batteries   |
| WD-35418-90    | WD-35418-91                  | pH 620 meter kit        | Meter, "All-in-One" probe 35816-71, pH buffers (60 mL each of 4.01, 7.00, electrode storage solution, and rinse water), two electrode holders, rubber boot, batteries, and hard carrying case |

**WD-35816-71 Replacement "All-in-One" pH/temperature probe**, single-junction, epoxy body

**WD-35816-72 "All-in-One" pH/temperature probe**, double-junction, epoxy body

**WD-35418-05 ATC probe**. Use for temperature compensation with any pH electrode without built-in ATC

**WD-35418-83 Optional adapter**, 110/220 VAC



IrDA data connectivity



Large, detailed display

...setting the standard  
again and again®

## Benchtop Meters — pH/Ion

pH/Ion

# Benchtop pH/Ion Selection Guide

Benchtop meters are designed for today's crowded and very demanding laboratories



Electrode holder can be mounted to either side



Nonskid footpads

### 700-series meters offer...

- Space-saving footprint
- Oversized liquid crystal display
- Electrode holder can be mounted to either side
- Splashproof, easy-to-operate keypad
- Nonskid footpads
- Automatic temperature compensation
- Auto buffer recognition
- Electrode diagnostics
- Convenient pull-out quick-reference card



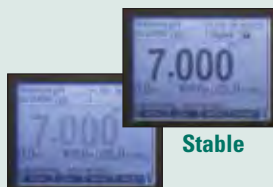
Splashproof keypad



Quick-reference card

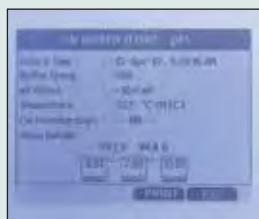
### 2700-series meters also feature...

- Oversized graphic display with bright backlight
- Dynamic stability indication tells you when your reading is stable
- 500 data set memory with time/date stamping, RS-232 output, and software
- Up to 6-point calibrations with USA, NIST, DIN, and custom buffer sets
- Calibration reporting and calibration due alarm
- Out-of-range alarms
- Password protection



Unstable

Stable



Calibration reporting



Software

Both series are available in models to measure pH, mV, ion, conductivity, TDS, dissolved oxygen, and multi-parameters.

## pH/Ion — Benchtop Meters

# pH 700 Meter

**Our most economical benchtop meter—with a space-saving footprint and easy-to-read display!**

**Low cost plus high performance** – This meter offers laboratory-quality readings for a very economical cost

**Compact design uses less benchspace** – Meter is 40% smaller to fit into today's crowded laboratories

**Oversized display** – Dual display shows both pH (or mV) and temperature

**Up to five-point pH calibration with auto buffer recognition** – Calibrate at 1.68, 4.01, 7.00, 10.01, and 12.45 for high accuracy across the entire measuring range

**Selectable buffer sets** – Choose from USA or NIST buffer sets

**Switch from pH to mV readings with a button press**

**Features 0.1 mV resolution for ORP measurements**

**Available with removable electrode holder** – Holds electrode firmly in place

**Selectable manual or automatic temperature compensation** – For high accuracy with or without a temperature sensor

**Built-in memory function** – Stores up to 100 pH, mV, or relative mV readings with corresponding temperature

**Hold function, "Ready" indicator, diagnostic error messages**

**Slide-out instruction card for quick reference**



Shown with electrode holder.

35419-12

ISO9001:2008  
CERTIFIED SUPPLIER



3 year  
warranty  
meter only

### Specifications

| Mode        | pH   | mV  | Temperature                           |
|-------------|--|---|---------------------------------------|
| Range       | –2.00 to 16.00 pH  | ±2000 mV  | 0 to 100.0°C (32 to 212°F)            |
| Resolution  | 0.01 pH  | 0.1 mV from ±199.9 mV,<br>1 mV beyond ±199.9 mV   | 0.1°C or 0.1°F                        |
| Accuracy    | ±0.01 pH   | ±0.2 mV from ±199.9 mV,<br>±2 mV beyond ±199.9 mV | ±0.3°C (±0.5°F)                       |
| Calibration | Up to 5 points (USA: 4.01; 7.00; 10.01,<br>12.45 or NIST: 1.68, 4.01, 6.86;<br>9.18, 12.45); auto-buffer recognition | Offset up to ±150 mV                              | Offset 0.1°C increments<br>up to ±5°C |

**Temperature compensation:** selectable manual or automatic from 0 to 100°C (32 to 212°F)

**Memory:** up to 100 sets, pH and temperature

**Output:** none

**Display:** 3¼" x 2⅝" (8.3 x 6.2 cm) dual LCD with temperature and mode annunciators

**Error messages:** diagnose operator error, electrode error, and meter error. Pull-out instruction card decodes message

**Operating temperature:** 5 to 45°C (41 to 113°F), noncondensing humidity

**Power:** 100/240 VAC, 50/60 Hz using AC adapters (included). AC adapters are UL and CSA listed.

#### Dimensions

**Meter:** 6⅞" x 6⅞" x 2¾" (15.5 x 17.5 x 6.9 cm)

**Boxed:** 9" x 12¾" x 5" (23 x 35 x 12.5 cm)

#### Weight

Meter only: 1.4 lb (0.6 kg); Boxed: 4 lb (1.8 kg)



### Ordering Information

| Catalog number | Precalibrated catalog number | Description                        | Included   |
|----------------|------------------------------|------------------------------------|--|
| WD-35419-00    | WD-35419-01                  | pH 700 meter                       | Meter and AC adapter   |
| WD-35419-03    | WD-35419-05                  | pH 700 meter with electrode        | Meter, single-junction "All-in-One" temperature pH electrode 35811-71, and AC adapter                      |
| WD-35419-12    | WD-35419-15                  | pH 700 meter with electrode holder | Meter, electrode holder, and AC adapter  |
| WD-35419-10    | WD-35419-11                  | pH 700 meter kit                   | Meter, double-junction pH electrode 35805-04, temperature probe 35613-13, electrode holder, and AC adapter |

WD-35420-54 Replacement electrode holder

WD-35420-72 Replacement power adapter, 110/220 VAC



...setting the standard  
again and again®

## Benchtop Meters — pH/Ion

pH/Ion

# Ion 700 Meter

Measure pH, mV, and direct ion concentration  
without sacrificing your budget, quality or performance!

**Small footprint saves bench space** – Gives you more working room in the lab

**Direct readout of ion concentration in ppm** – Resolution to 0.01 ppm

**Oversized dual display for easier viewing** – LCD shows measured parameter and temperature in pH/mV modes; ion concentration and mV (electrode output) in ion mode

**Features 0.1 mV resolution for ORP measurements**

**Simultaneous display of ppm and mV electrode output in the ion mode** – Verify electrode operation while taking measurements

**Selectable buffer sets and five-point pH calibration with auto buffer recognition** – Choose from USA or NIST buffer sets

**Works with many ion-selective electrodes** – The  $\pm 1999$  mV range covers most ISEs

**Built-in electrode stand** – Holds electrode firmly in place

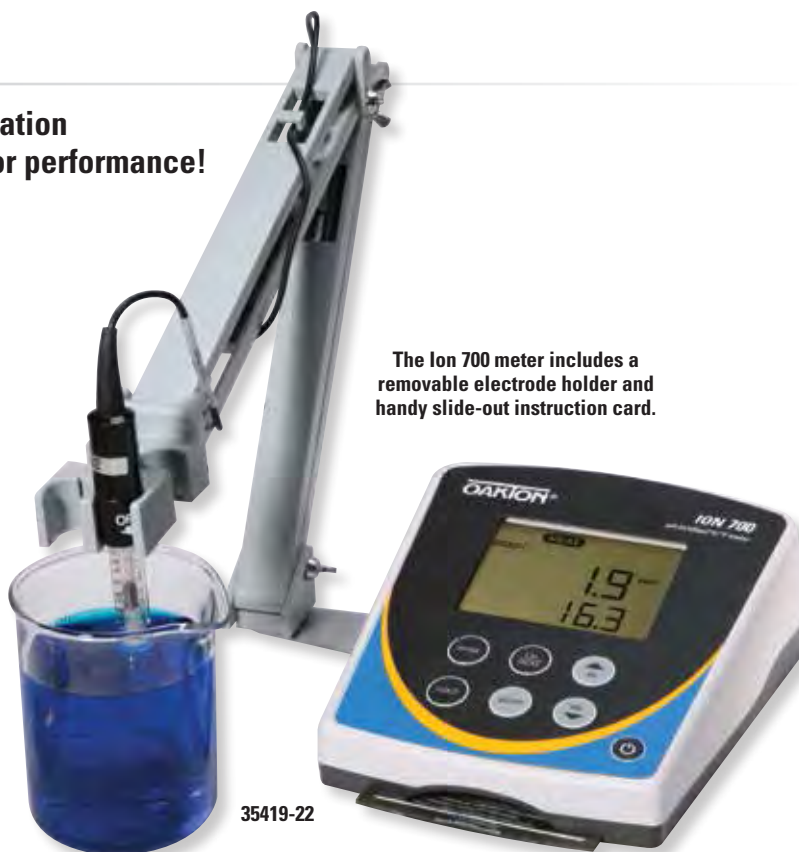
**Selectable manual or automatic temperature compensation** – For highest accuracy in any situation

**Built-in memory function** – Stores up to 100 ion, mV, or pH readings

**Hold function, "Ready" indicator, diagnostic messages**

**Slide-out instruction card for quick reference**

The Ion 700 meter includes a removable electrode holder and handy slide-out instruction card.



35419-22

ISO 9001:2008  
CERTIFIED SUPPLIER

CE 3 year  
warranty  
meter only

### Specifications

| Mode        | pH   | mV   | Ion   | Temperature   |
|-------------|--|--|---|---|
| Range       | -2.00 to 16.00 pH  | $\pm 2000$ mV  | 0.01 to 2000 ppm  | 0.0 to 100.0°C (32 to 212°F)                        |
| Resolution  | 0.01 pH  | 0.1 mV from $\pm 199.9$ mV, 1 mV beyond $\pm 199.9$ mV             | 0.01 ppm from 0.01 to 0.99 ppm, 0.1 ppm from 1.0 to 199.9 ppm, 1 ppm from 200 to 1999 ppm | 0.1°C or 0.1°F                                      |
| Accuracy    | $\pm 0.01$ pH  | $\pm 0.2$ mV from $\pm 199.9$ mV, $\pm 2$ mV beyond $\pm 199.9$ mV | $\pm 0.5\%$ of reading (monovalent) $\pm 1.0\%$ of reading (divalent)                     | $\pm 0.3^\circ\text{C}$ ( $\pm 0.5^\circ\text{F}$ ) |
| Calibration | Up to 5 points (USA: 1.68, 4.01; 7.00; 10.01; 12.45 or NIST: 1.68, 4.01, 6.86; 9.18, 12.45); auto-buffer recognition | Offset up to $\pm 150$ mV  | From 2 to 5 points, 0.1; 1; 10; 100 ppm, 1 or 1000  | Offset 0.1°C increments                             |

**Temperature compensation:** selectable manual or automatic from 32 to 212°F (0 to 100°C)

**Memory:** up to 100 sets

**Output:** None

**Display:** 3¼" x 2⅝" (7.3 x 6.2 cm) dual LCD with temperature and mode annunciators

**Error messages:** diagnose operator error, electrode error, and meter error. Pull-out instruction card decodes message

**Operating temperature:** 5 to 45°C (41 to 113°F), noncondensing humidity

**Power:** 100/240 VAC, 50/60 Hz using AC adapters (included). AC adapters are UL and CSA listed.

#### Dimensions

**Meter:** 6⅞" x 6⅞" x 2⅜" (15.5 x 17.5 x 6.9 cm)

**Boxed:** 9" x 12¼" x 5" (23 x 35 x 12.5 cm)

#### Weight

**Meter only:** 1.4 lb (0.6 kg); **Boxed:** 4 lb (1.8 kg)

### Ordering Information

| Catalog number | Precalibrated catalog number | Description                         | Included   |
|----------------|------------------------------|-------------------------------------|--|
| WD-35419-22    | WD-35419-26                  | Ion 700 meter with electrode holder | Meter, removable electrode holder, and AC adapter  |
| WD-35419-20    | WD-35419-24                  | Ion 700 meter with probes           | Meter, double-junction pH electrode 35805-04, temperature probe 35613-13, electrode holder, and AC adapter |
| WD-35419-23    | WD-35419-27                  | Ion 700 meter with pH/ATC probe     | Meter, "All-in-One" single-junction pH electrode 35811-71, electrode holder, and AC adapter                |

WD-35420-54 Replacement electrode holder

WD-35420-72 Replacement power adapter, 110/220 VAC



Ion-selective and pH electrodes are available on pages 23–29.

## pH/Ion — Benchtop Meters

# pH 2700 Meter

### Advanced meters that meet GLP requirements

**Takes up less bench space** – Overall footprint is nearly 40% smaller than other benchtop meters

**Oversized liquid crystal display with bright backlighting** – Easier viewing under all lighting conditions

**Dynamic reading stability indication shows when you when your measurement is stable** – Eliminates guesswork from unstable readings

**Auto pH buffer recognition for up to 6-point calibrations** – Choose USA, NIST, DIN or custom buffer sets

**Up to 500 point nonvolatile memory with time-and-date stamp** – Meets Good Laboratory Practice (GLP) requirements

**Bidirectional RS-232** – For easy data transfer to your computer

**Calibration documentation** – Allows you to display, download, or print out calibration details like date and time, buffer values, offset, and slope

**Cal-due alarms** – Visual and audible reminders when recalibration is needed

**Audible out-of-range alarms** – Indicate when a reading is above or below a user-settable range

**Electrode status** – Provides the diagnostics needed to determine when electrode service or replacement is needed

**Password protection** – Prevents unauthorized setup and calibration



Software included



35420-20

ISO9001:2008  
CERTIFIED SUPPLIERCE 3 year  
warranty  
meter only

### Specifications

| Mode        | pH  | mV                   | Temperature                    |
|-------------|---|----------------------|--------------------------------|
| Range       | -2.000 to 20.000 pH                             | ±2000.0 mV           | 0.0 to 100.0°C (32.0 to 212°F) |
| Resolution  | 0.001, 0.01, 0.1 pH                             | 0.1 mV               | 0.1°C or °F                    |
| Accuracy    | ±0.002 + 1 LSD                                  | ±0.2 mV              | ±0.3°C (±0.5°F)                |
| Calibration | Up to 6 (USA, NIST, DIN, or custom buffer sets) | Offset up to +150 mV | —                              |
| Connectors  | BNC   | BNC                  | 2.5 mm phono                   |

**Temperature compensation:** manual or automatic from 0 to 100°C (32 to 212°F)

**Memory:** up to 500 data sets with time/date stamp

**Output:** RS-232, 9-pin female

**Display:** 3¼" x 2⅞" (8.3 x 6.2 cm) graphic LCD with backlight

**Operating temperature:** 0 to 50°C (32 to 122°F), noncondensing humidity

**Power:** universal 110/240 VAC, 50/60 Hz with adapter; UL/CSA listed

**Dimensions**

**Meter:** 6⅞" x 6⅞" x 2⅞" (15.5 x 17.5 x 6.9 cm)

**Boxed:** 12" x 9" x 5" (30.8 x 15.5 x 12.4 cm)

**Weight**

**Meter only:** 1.4 lb (0.6 kg); **Boxed:** 4 lb (1.8 kg)

### Ordering Information

| Catalog number | Precalibrated catalog number | Description       | Included   |
|----------------|------------------------------|-------------------|--|
| WD-35420-22    | WD-35420-23                  | pH 2700 meter     | Meter, electrode holder, and AC adapter  |
| WD-35420-20    | WD-35420-21                  | pH 2700 meter kit | Meter, pH electrode 35805-04, ATC temperature probe 35613-13, 60-mL of electrode fill solution, electrode holder, and AC adapter |

### Accessories

WD-35805-04 Replacement combination pH electrode, double-junction, glass body, refillable

WD-35420-01 RS-232 data cable

WD-35630-53 USB data cable

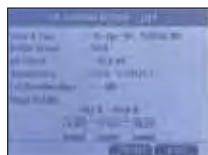
WD-35420-50 Portable printer



Unstable reading is faded.



Reading turns solid when stable.



Calibration documentation can be printed as needed.

...setting the standard  
again and again®

## Benchtop Meters — pH/Ion

# Ion 2700 Meter

Measures pH, mV, and ion concentration—well-suited for environmental, water, and food analysis

**Takes up less bench space** – Overall footprint is nearly 40% smaller than other benchtop meters

**Oversized liquid crystal display with bright backlighting** – Easier viewing under all lighting conditions

**Dynamic reading stability indication shows when you when your measurement is stable** – Eliminates guesswork from unstable readings

**Up to 500 point nonvolatile memory with time-and-date stamp** – Meets GLP requirements

**Bidirectional RS-232** – For easy data transfer to your computer

**Calibration documentation** – Allows you to display, download, or print out calibration details like date and time, buffer values, offset, and slope

**Cal-due alarms** – Visual and audible reminders when recalibration is needed

**Audible out-of-range alarms** – Indicate when a reading is above or below a user-settable range

**Electrode status** – Provides the diagnostics needed to determine when electrode service or replacement is needed

**Password protection** – Prevents unauthorized setup and calibration



Software included



ISO9001:2008  
CERTIFIED SUPPLIER

CE 3 year warranty  
meter only

### Specifications

| Mode               | pH   | mV                   | ISE   | Temperature                       |
|--------------------|--|----------------------|---|-----------------------------------|
| <b>Range</b>       | –2.000 to 20.000 pH                                | ±2000.0 mV           | 0.001 to 19,999 ppm   | 0.0 to 100.0°C<br>(32.0 to 212°F) |
| <b>Resolution</b>  | 0.001, 0.01, 0.1 pH                                | 0.1 mV               | 2 or 3 digits   | 0.1°C or °F                       |
| <b>Accuracy</b>    | ±0.002 pH  | ±0.2 mV              | ±0.5% full scale (monovalent),<br>±1% full scale (divalent) | ±0.3°C (±0.5°F)                   |
| <b>Calibration</b> | Up to 6 (USA, NIST, DIN,<br>or custom buffer sets) | Offset up to +150 mV | Up to 8 points  | —                                 |
| <b>Connectors</b>  | BNC  | BNC                  | BNC   | 2.5 mm phono                      |

**Temperature compensation:** manual or automatic from 0 to 100°C (32 to 212°F)

**Memory:** up to 500 data sets

**Output:** RS-232, 9-pin female

**Display:** 3¼" x 2⅞" (8.3 x 6.2 cm) graphic LCD with backlight

**Operating temperature:** 0 to 50°C (32 to 122°F), noncondensing probe

**Power:** universal 110/240 VAC, 50/60 Hz with adapter; UL/CSA listed

#### Dimensions

**Meter:** 6⅞" x 6⅞" x 2¼" (15.5 x 17.5 x 6.9 cm)

**Boxed:** 12" x 9" x 5" (30.8 x 15.5 x 12.4 cm)

#### Weight

**Meter only:** 1.4 lb (0.6 kg); **Boxed:** 4 lb (1.8 kg)

### Ordering Information

| Catalog number | Precalibrated catalog number | Description        | Included   |
|----------------|------------------------------|--------------------|--|
| WD-35421-02    | WD-35421-03                  | Ion 2700 meter     | Meter, electrode holder, and AC adapter  |
| WD-35421-00    | WD-35421-01                  | Ion 2700 meter kit | Meter, pH electrode 35805-04, ATC temperature probe 35613-13, 60-mL of electrode fill solution, electrode holder, and AC adapter |

### Accessories

WD-35805-04 Replacement combination pH electrode, double-junction, glass body, refillable

WD-35420-01 RS-232 data cable

WD-35630-53 USB data cable

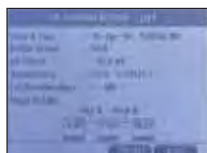
WD-35420-50 Portable printer



Unstable reading is faded.



Reading turns solid when stable.



Calibration documentation can be printed as needed.



## pH/Ion — Accessories

### pH Buffer Solutions

Labeled with pH vs temperature tables for accurate calibration reference

Economical one-pint buffer solution bottles are freshness dated, and standardized against NIST-traceable references to ensure quality. The high-accuracy solutions are ideal for pH meters with 0.001 resolution. Sold in 500-mL bottles.



00654-00

00654-04

00654-08

#### Ordering Information

| Catalog number | Description                                       | Accuracy at 25°C |
|----------------|---|------------------|
| WD-00654-01    | Buffer solution, pH 1.68                          | ±0.01 pH         |
| WD-00654-00    | Buffer solution, pH 4.01                          | ±0.01 pH         |
| WD-00654-04    | Buffer solution, pH 7.00                          | ±0.01 pH         |
| WD-00654-08    | Buffer solution, pH 10.01                         | ±0.01 pH         |
| WD-00654-12    | Buffer solution, pH 12.45                         | ±0.01 pH         |
| WD-05942-29    | High-accuracy solution, pH 4.000                  | ±0.002 pH        |
| WD-05942-49    | High-accuracy solution, pH 7.000                  | ±0.002 pH        |
| WD-05942-69    | High-accuracy solution, pH 10.000                 | ±0.005 pH        |
| WD-05942-10    | Buffer pack, one each of pH 4.01, 7.00, and 10.01 | ±0.01 pH         |

### pH Buffer Pouches

Convenient and accurate

Single-use, air-tight pouches with high-precision calibration standards. All are freshness dated, and standardized against NIST-traceable references to ensure quality. Each box contains twenty 20-mL pouches.



#### Ordering Information

| Catalog number | Description  |
|----------------|--|
| WD-35653-01    | pH 4.01  |
| WD-35653-02    | pH 7.00  |
| WD-35653-03    | pH 10.00   |
| WD-35653-00    | Deionized rinse water pouches                                  |
| WD-35653-04    | Assortment; five each of pH 4.01, 7.00, 10.00, and rinse water |

### Grip-Clip™ Holder

Simply clip holder to side of beaker or container for easy measurement

Convenient for portable meter measurements with pH and conductivity probes. Clip holder on side of beaker or container to support an ATC probe and a 11-/12-mm or 16-mm probe. Allows for easy, hand-free measurement.



#### Ordering Information

| Catalog number | Description      |
|----------------|------------------|
| WD-35614-50    | Grip-clip holder |

### pH Electrode Care Solutions

Extend the life of your electrode!

Use these solutions to extend the life of your electrode, increase speed of response, and get accurate readings. Always keep your electrode moist by storing it in a solution when not in use. When adding fill solution, fill up to, but not past, the refill hole.



00653-04

00653-06

#### Ordering Information

| Catalog number | Description   |
|----------------|---|
| WD-00653-06    | pH/ORP electrode cleaning solution, one pint. Removes buildup from electrodes to maintain bulb sensitivity.   |
| WD-00653-04    | pH electrode storage solution, one pint. Use with storage bottle (sold separately below table); keep bulb moist for quicker, more accurate pH readings. |
| WD-35803-73    | Reference fill solution for single-junction pH electrodes. 4M KCl saturated with AgCl, 125 mL   |
| WD-35803-74    | Reference fill solution for double-junction or calomel reference refillable pH electrodes. 4M KCl, 125 mL   |
| WD-35803-83    | Reference fill solution, Lithium chloride (LiCl)/methanol, for double-junction refillable pH electrodes. Use where organics are present. 125 mL         |
| WD-35803-84    | Reference fill solution, KCl with glycerol, for double-junction refillable pH electrodes. Use for low-temperature samples. 125 mL                       |

WD-35805-50 Electrode storage bottle accepts one electrode up to 12-mm dia

### Portable Printer

Use with meters with RS-232 output

Create permanent records of your data from Oakton® meters with RS-232 output! Printer accepts standard-sized adding machine rolls and printer ribbons; order separately below table.



35420-50

#### Ordering Information

| Catalog number | Description      | Power       |
|----------------|------------------|-------------|
| WD-35420-50    | Portable printer | 110/220 VAC |

WD-35622-59 Printer cable, connects printer to meters with RS-232 output  
 WD-35420-51 Replacement paper roll

...setting the standard  
again and again®

## Electrodes — pH/Ion

pH/Ion

# Electrode Selection Guide

### The right electrode

While the basic principles of pH measurement are simple, getting an accurate measurement can often be challenging. There are hundreds of applications for pH measurement and each presents different problems. Selecting the right electrode can make the most difficult samples easy to accurately measure.

### Gel-filled vs refillable electrodes

Gel-filled electrodes are convenient and easier to maintain than refillable liquid-filled electrodes. However the liquid-filled electrode will provide a faster response. In addition the user can adjust the fill solution to optimize performance, for example adding glycol for better performance at low temperatures.

### Glass vs epoxy body electrodes

Glass body electrodes will typically be able to withstand higher temperatures (100°C as opposed to 80°C for epoxy). In addition, the glass design offers better sealing, fusing glass to glass instead of relying on adhesives. The epoxy body however is less susceptible to breakage.

**Note:** Even though the body of an epoxy electrode is plastic, the measuring bulb will still be glass.

### Body design

Oakton offers electrodes in a variety of lengths and diameters. Small diameter probes are ideal for measuring samples in test tubes. Electrodes with wider barrels, greater weight, and longer cable lengths are available for measurements in streams, lakes, or ponds.

### Bulb design

Oakton pH electrodes are handblown by experienced craftsmen. The bulb shape can be modified to provide a semi-dome for increased ruggedness, a spear tip for soft penetration applications, or even a flat surface. In addition, the glass formulation can provide increased range.

### Reference design

To achieve accurate results, the reference electrode must allow electrolyte solution (or ions, in the case of a gel-filled electrode) to flow into the sample. Depending on the size and material of the junction, this flow rate can be increased or kept to a minimum. Faster flow produces stable readings faster but results in greater service requirements or premature electrode failure.

### Reference chemistry

The leading cause of electrode failure is reference contamination. The most popular electrodes use a silver chloride (AgCl) reference solution that can react with heavy metals, sulfides, and organics. If your application has any of these contaminants present, be sure to select a double-junction electrode. The double-junction electrode uses a second internal reference junction, restricting the AgCl solution to the upper chamber where it is isolated from the sample.



Double-junction, glass-body, refillable pH electrode 35805-04

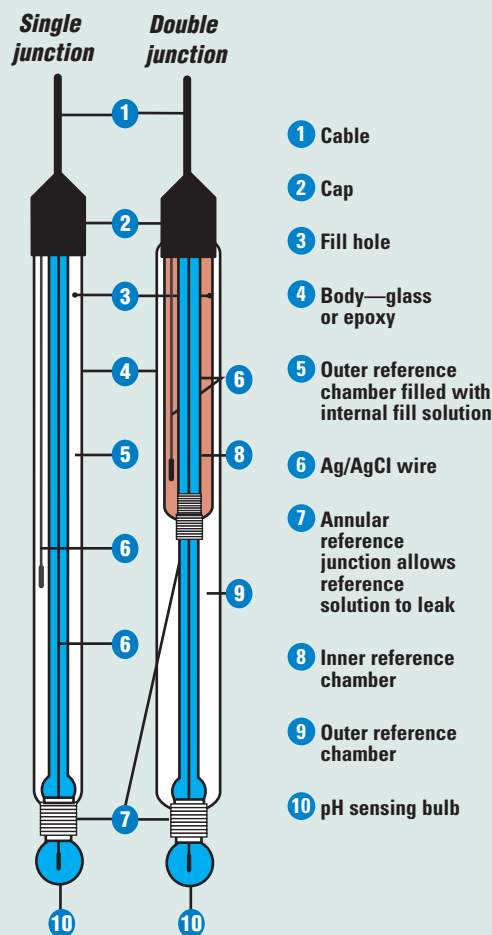


Single-junction, epoxy-body, gel-filled pH electrode 35808-71



Submersible pH electrode 35805-24

### pH Electrode Anatomy



## pH/Ion — Electrodes

# Electrodes for Laboratory and Field Applications

The Application Guide only offers suggestions—contact your Oakton Technical Product Specialist for more specific recommendations or clarification. Shipping dimensions for all electrodes are 10½" x 2½" x 4" (26.7 x 5.3 x 10.2 cm). Shipping weight 0.5 lb (0.2 kg) each.



### Application Guide

| Application  | Suggested electrode  |
|--|--|
| Drinking water   | Standard Ag/AgCl with single junction  |
| Wastewater, solutions with heavy metals  | Double junction solutions  |
| Biological samples, proteins, and Tris buffers   | Double junction  |
| Pharmaceuticals  |  |
| Low ionic strength samples   | Flushable or sleeve-type refillable electrode  |
| Boiler feed water and distilled water  | Soil electrode, double junction  |
| Soil samples   |  |
| Moist flat surfaces, concrete, cheese, agar, paper, and skin   | Flat-surface   |
| Semisolid samples, food, fruits, cheese, and meat  | Spear tip  |
| Nonaqueous samples, solvents, alcohols, viscous samples, slurries, suspended solids, sludges, emulsions and oils, paints, and inks | Sleeve-type, flushable, or double junction electrode and fill with electrolyte containing methanol |
| Environmental, surface water, neutralization tanks   | Double junction submersible  |

### Use and Care of Electrodes

**Handling** – Electrodes should be rinsed between samples with distilled or deionized water. Never wipe an electrode—wiping can cause erroneous readings due to static charges. Gently blot the end of the electrode with lint-free paper to remove excess water.

**Refillable Electrodes** – See page 22 for reference solutions.

The filling solution in refillable electrodes should be filled up to, but not past, the refill hole. Make sure the refill hole is left open when measuring to ensure that the fill solution flows properly through the reference junction.

**Storage** – See page 22 for storage products.

Always keep your pH electrode moist. We recommend that you store your electrode in an electrode storage solution of 4 M KCl (see page 22). If 4 M KCl is not available, use a pH 4 or 7 buffer solution. **DO NOT** store electrode in distilled or deionized water—this will cause ions to leach out of the glass bulb and reference electrolyte, rendering your electrode useless.

Oakton electrodes are shipped with a protective electrode storage bottle to help prevent cracking or scratching, and to keep the bulb moist. Remove the electrode storage bottle before using your electrode. Keep your electrode in the bottle for long-term storage—just fill the bottle with enough 4 M KCl solution to cover the glass bulb and replenish as needed.

### Electrode Types

| Built-in temp sensor  | Use electrode with the following meters  |
|---|--|
| <b>Standard:</b> Most economical electrode; includes BNC connector and cable.   |  |
| No  | pHTestr BNC, pH 5/6, Ion 6, pH 5+/6+, Ion 6+, pH 10/11/100/110, pH 300/310, pH 500/510, Ion 510, pH 1000/1100/2100/2500, pH 700/2700, Ion 700/2700, PC 700/2700, pH/DO 300, pH/CON 300, pH/CON 510, pH 600/610/620, PC600, PD600, PDC650, and non-Oakton meters with BNC pH electrodes |
| <b>All-in-One:</b> Combination pH electrode/temperature sensor; includes BNC connector, meter-specific temperature connector, and cable. (See key images below to match your Oakton meter with the correct All-in-One electrode.) |  |
| Yes   | <b>A</b> Original: pH 10/100, pH 500, pH 1000/2500   |
|   | <b>B</b> Phono: pH 5/6, pH 5+/6+, Ion 6, Ion 6+, pH 11/110, pH 510, Ion 510, pH 1100/2100, pH 700/2700, Ion 700/2700, PC 700/2700  |
|   | <b>C</b> Waterproof: pH 300/310, pH/CON 300, pH/CON 510  |
|   | <b>D</b> WP600: pH 600/610/620, PC600, PD600, PDC650   |
| <b>Direct connect:</b> Electrode connects directly to meter; BNC connector and no cable.  |  |
| No  | pHTestr BNC  |
| <b>ORP:</b> Takes mV readings; includes BNC connector and cable.  |  |
| No  | pH 5+/6+, pH 6, Ion 5/6, Ion 6+, pH 10/100, pH 300/310, pH 500, pH 510, Ion 510, pH 1000/2100/2500, pH/CON 510, pH 700/2700, Ion 700/2700, PC 700/2700   |
| <b>ISE:</b> Takes ion-selective readings; includes BNC connector and cable. See pages 28-29 for ISEs  |  |
| No  | Ion 5/6, pH 10/100, pH 300/310, pH 500, pH/CON 510, pH 510, Ion 510, pH 1000/1100/2100/2500, Ion 700/2700, PC 2700   |

### Connector Types





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## Electrodes — pH/Ion

pH/Ion



### Temperature probes

Order a temperature probe if you have an electrode without a built-in temperature sensor and you want to take readings with Automatic Temperature Compensation (ATC). Separate temperature probes offer faster temperature response and lower pH electrode replacement cost. See Connector Types key at right.

| Catalog number | Key      | Connector type | Use with the following meters   |
|----------------|----------|----------------|---|
| WD-35613-05    | <b>B</b> | Phono          | pH 5, pH 6, pH 5+, pH 6+, Ion 6, pH 11, pH 110, pH 510, Ion 510, pH 1100, pH 2100 |
| WD-35613-13    | <b>B</b> | Phono          | pH 700/2700, Ion 700/2700, PC 2700  |
| WD-35618-05    | <b>C</b> | Waterproof     | pH 150, pH 300, pH 310, pH 450, pH/CON 300, pH/CON 510,                           |
| WD-35418-05    | <b>D</b> | WP600          | pH 600/610/620, PC600, PC700, PD600, PCD650                                       |

### Connector Types



### Single-junction, epoxy-body, gel-filled pH electrodes

- Our most economical electrodes!
- 0 to 14 pH models available—use for high sodium/high pH solutions

These economical electrodes are ideal for field, clean water, and general-purpose applications. They feature a rugged epoxy housing. Pin-type junction provides low electrolyte flow for long life.

### Specifications & Ordering Information

Max temperature: 80°C (except 35801-00: 70°C)

Diameter: 12 mm (except 35804-50: 12.5 mm)

| Catalog number                      | Type*                          | Cable length  |
|-------------------------------------|--------------------------------|---------------|
| <b>Standard range of 0 to 12 pH</b> |                                |               |
| WD-35801-00                         | Standard                       | 3 ft (1 m)    |
| WD-35801-71                         | All-in-One Original <b>A</b>   | 30" (76.2 cm) |
| WD-35811-71                         | All-in-One Phono <b>B</b>      | 30" (76.2 cm) |
| WD-35808-71                         | All-in-One Waterproof <b>C</b> | 30" (76.2 cm) |
| WD-35816-71                         | All-in-One WP600 <b>D</b>      | 30" (76.2 cm) |
| WD-35804-00                         | Direct connect                 | No cable      |
| <b>High range of 0 to 14 pH</b>     |                                |               |
| WD-35805-05                         | Standard                       | 3 ft (1 m)    |
| WD-35801-76                         | All in One                     | 30" (76.2 cm) |



### Double-junction, epoxy-body, gel-filled pH electrodes

- Features flushable PTFE junction—use with substances that ordinarily clog standard electrodes

Ideal for testing dirty water, slurries, oils, paints, pastes, low ionic strength solutions, and solutions with heavy metals or organics. Flushable annular junction lets you refresh junction by pressing electrode cap—cleans clogs instantly.

### Specifications & Ordering Information

Range: 0 to 12 pH Max temperature: 80°C Diameter: 12 mm

| Catalog number | Type*    | Cable length |
|----------------|----------|--------------|
| WD-35805-09    | Standard | 3 ft (1 m)   |



### Double-junction, epoxy-body, gel-filled pH electrodes

- Use to test dirty water and for other rugged field applications
  - 0 to 14 pH models available—use for high sodium/high pH solutions
- Ideal for most applications, including dirty field water and solutions with heavy metals or organics. Pin-type junction provides low electrolyte flow for long life.

### Specifications & Ordering Information

Max temperature: 80°C Diameter: 12 mm

| Catalog number                      | Type*                          | Cable length  |
|-------------------------------------|--------------------------------|---------------|
| <b>Standard range of 0 to 12 pH</b> |                                |               |
| WD-35805-01                         | Standard                       | 3 ft (1 m)    |
| WD-35641-51                         | Standard, poly-gel             | 3 ft (1 m)    |
| WD-35801-72                         | All-in-One Original <b>A</b>   | 30" (76.2 cm) |
| WD-35811-72                         | All-in-One Phono <b>B</b>      | 30" (76.2 cm) |
| WD-35808-72                         | All-in-One Waterproof <b>C</b> | 30" (76.2 cm) |
| WD-35816-72                         | All-in-One WP600 <b>D</b>      | 30" (76.2 cm) |
| WD-35804-02                         | Direct connect                 | No cable      |
| <b>High range of 0 to 14 pH</b>     |                                |               |
| WD-35805-06                         | Standard                       | 3 ft (1 m)    |



### Double-junction, glass-body, refillable pH electrodes

- Use for high-grade laboratory applications

These laboratory-grade electrodes are ideal for testing dirty water and solutions with heavy metals or organics. Annular-type junction provides faster electrode response. Order replacement electrode fill solution on page 27.

### Specifications & Ordering Information

Max temperature: 100°C Diameter: 12 mm


| Catalog number                      | Type*                         | Cable length |
|-------------------------------------|-------------------------------|--------------|
| <b>Standard range of 0 to 12 pH</b> |                               |              |
| WD-35805-04                         | Standard                      | 3 ft (1 m)   |
| <b>High range of 0 to 14 pH</b>     |                               |              |
| WD-35805-08                         | Standard                      | 3 ft (1 m)   |
| WD-35801-79                         | All-in-One, high Na+ <b>A</b> | 3 ft (1 m)   |
| WD-35811-74                         | All-in-One Phono <b>B</b>     | 3 ft (1 m)   |

\*See "Electrode Types" on page 24.

## pH/Ion — Electrodes

# Electrodes for Laboratory and Field Applications

### Electrode Types

| Built-in temp sensor  | Use electrode with the following meters  |
|---|--|
| <b>Standard:</b> Most economical electrode; includes BNC connector and cable.   |  |
| No  | pH 5+/6+, pHTestr BNC, pH 5/6, Ion 6, Ion 6+, pH 10/11/100/110, pH 300/310, pH 500/510, Ion 510, pH 1000/1100/2100/2500, pH 700/2700, Ion 700/2700, PC 700/2700, pH/DO 300, pH/CON 300, pH/CON 510, pH 600/610/620, PC600, PD600, PDC650, and non-Oakton meters with BNC pH electrodes |
| <b>All-in-One:</b> Combination pH electrode/temperature sensor; includes BNC connector meter specific temperature connector, and cable. (See key image at right.) |  |
| Yes   |  Waterproof: pH 300/310, pH/CON 300, pH/CON 510   |
| <b>Direct connect:</b> Electrode connects directly to meter; BNC connector and no cable.  |  |
| No  | pHTestr BNC  |
| <b>ORP:</b> Takes mV readings; includes BNC connector and cable.  |  |
| No  | pH 5+/6+, pH 6, Ion 5/6, Ion 6+, pH 10/100, pH 300/310, pH 500, pH 510, Ion 510, pH 1000/2100/2500, pH/CON 510, pH 700/2700, Ion 700/2700, PC 700/2700   |



### Glass-body, spear-tip pH electrodes

– Test gels, semisolids, and plant or animal materials

Spear tip feature is ideal for testing semisolids. Choose single or double junction electrodes; both have an annular-type junction for faster electrode response.

### Specifications & Ordering Information

Range: 0 to 12 pH

Max temperature: 100°C

Diameter: 12 mm OD, 8 mm tip

| Catalog number | Type*    | Junction | Cable length |
|----------------|----------|----------|--------------|
| WD-35805-18    | Standard | Double   | 3 ft (1 m)   |
| WD-35804-06    | Standard | Single   | 3 ft (1 m)   |



### Submersible pH electrodes

– Completely submersible up to 9 feet


These ABS plastic electrodes are ideal for field applications. Use double junction for testing dirty water and solutions with heavy metals or organics. Completely submersible—including the extra-long 10-ft cable. Annular junction provides fast response and resists pressure effects of submersion.

### Specifications & Ordering Information

Range: 0 to 12 pH

Max temperature: 80°C

Diameter: 25 mm

| Catalog number | Type*   | Junction | Cable length |
|----------------|---|----------|--------------|
| WD-35805-24    | Standard  | Double   | 10 ft (3 m)  |
| WD-35801-85    | All-in-One Waterproof  | Double   | 10 ft (3 m)  |
| WD-35805-23    | Standard  | Single   | 10 ft (3 m)  |
| WD-35805-25    | ORP   | Single   | 10 ft (3 m)  |

### Connector Type



### Epoxy-body ORP electrodes

– Use to take mV readings

Choose a single-junction electrode for field, clean water, and general-purpose applications; choose a double junction electrode for most applications including field, dirty water, heavy metals, and organics. Both models have a pin-type junction that provides low electrolyte leakage. Use the gold disk sensor for ozone applications.

### Specifications & Ordering Information

Range: ±2000 mV

Max temperature: 80°C (except 35805-13: 70°C)

Diameter: 12 mm

| Catalog number              | Type*    | Junction | Cable length |
|-----------------------------|----------|----------|--------------|
| <b>Platinum band sensor</b> |          |          |              |
| WD-35805-13                 | Standard | Single   | 3 ft (1 m)   |
| WD-35805-15                 | Standard | Double   | 3 ft (1 m)   |
| <b>Platinum pin</b>         |          |          |              |
| WD-35420-71                 | Standard | Double   | 3 ft (1 m)   |
| <b>Gold disk sensor</b>     |          |          |              |
| WD-35805-27                 | Standard | Double   | 3 ft (1 m)   |



### Small-diameter pH electrodes

– Ideal for measurements in test tubes, NMR tubes, and other applications where space is limited

These electrodes feature a diameter from 6 to 9 mm—ideal for test tube applications. Replacement electrode fill solution for refillable electrodes is available on page 27.

### Specifications & Ordering Information

Range: 0 to 12 pH

Max temperature: 80°C epoxy body or 100°C glass body

| Catalog number                          | Type*          | Junction | Dia x L    | Cable length |
|---|----------------|----------|------------|--------------|
| <b>Epoxy-body electrodes, sealed</b>    |                |          |            |              |
| WD-35805-22                             | Standard       | Single   | 6 x 220 mm | 3 ft (1 m)   |
| WD-35804-01                             | Direct connect | Single   | 9 x 100 mm | No cable     |
| WD-35804-03                             | Direct connect | Double   | 9 x 100 mm | No cable     |
| <b>Epoxy-body electrode, refillable</b> |                |          |            |              |
| WD-35804-05                             | Direct connect | Double   | 9 x 100 mm | No cable     |
| <b>Glass-body electrode, refillable</b> |                |          |            |              |
| WD-35805-21                             | Standard       | Double   | 8 x 325 mm | 3 ft (1 m)   |

\*See "Electrode Types" above.

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## Electrodes — pH/Ion

pH/Ion



### Flat surface pH electrodes

— Ideal for flat surface measurements such as paper or skin

These electrodes are available with sealed epoxy body or refillable glass body. Replacement electrode fill solution for refillable electrode is available below.

#### Specifications & Ordering Information

Range: 0 to 12 pH

Max temperature: 80°C epoxy body or 100°C glass body

Diameter: 12 mm

| Catalog number                          | Type*          | Junction | Cable length |
|---|----------------|----------|--------------|
| <b>Epoxy-body electrodes, sealed</b>    |                |          |              |
| WD-35805-19                             | Standard       | Single   | 3 ft (1 m)   |
| WD-35804-10                             | Direct connect | Single   | No cable     |
| WD-35805-72                             | All-in-One     | Double   | 3 ft (1 m)   |
| <b>Glass-body electrode, refillable</b> |                |          |              |
| WD-35805-70                             | All-in-One     | Double   | 3 ft (1 m)   |
| WD-35805-20                             | Standard       | Single   | 3 ft (1 m)   |



### Semi-dome, epoxy-body, gel-filled pH electrode

— Rugged semi-dome bulb design

Special close-knit ceramic junction prevents back diffusion problems and resists clogging. Vortexing junction design enhances electrolyte flow and self-cleans in flowing applications. Epoxy body; polymer gel reference fill won't break down over time, enhancing electrode performance and longevity.

#### Specifications & Ordering Information

Range: 0 to 13 pH

Max temperature: 100°C

Diameter: 12 mm

| Catalog number | Type*   | Junction | Cable length |
|----------------|---|----------|--------------|
| WD-35808-89    | All-in-One Waterproof  | Single   | 3 ft (1 m)   |



### Polymer gel, single-junction pH electrode


— Polymer gel reference fill won't break down over time, enhancing electrode performance and longevity

#### Specifications & Ordering Information

Range: 0 to 13 pH

Max temperature: 100°C

Diameter: 12 mm

| Catalog number | Type*   | Cable length |
|----------------|---|--------------|
| WD-35808-90    | All-in-One Waterproof  | 3 ft (1 m)   |



### Sleeve-type, single-junction, refillable pH electrode

— Ideal for viscous liquids and low ionic strength samples

Sleeve design gives high electrolyte flow. Unique reference design and fill solution minimize drift and give excellent performance at high temperatures.

#### Specifications & Ordering Information

Range: 0 to 12 pH

Max temperature: 100°C

Diameter: 12 mm

| Catalog number | Type*    | Cable length |
|----------------|----------|--------------|
| WD-35805-26    | Standard | 3 ft (1 m)   |

\*See "Electrode Types" on page 26.



00653-04



00653-06



35805-50

### Oakton® Electrode Care

- Extend the life of your electrode, increase speed of response, and get accurate readings
- Solutions to clean, store, and fill electrodes

**WD-00653-04 pH electrode storage solution**, one pint. Use with saver bottles; keep bulb moist for quicker, more accurate pH readings

**WD-00653-06 pH/ORP electrode cleaning solution**, one pint. Removes build-up from electrodes to maintain bulb sensitivity

**WD-35805-50 Replacement pH electrode saver bottle**. For pH electrodes up to 12 mm dia. 44.5 mm H x 25.4 mm dia

**WD-35803-73 Reference fill solution** for single junction pH electrodes. 4 M KCl saturated with AgCl, 125 mL

**WD-35803-74 Reference fill solution** for double junction or calomel reference refillable pH electrodes. 4 M KCl, 125 mL

**WD-35803-83 Reference fill solution**, lithium chloride (LiCl)/methanol, for double junction refillable pH electrodes. Use where organics are present. 125 mL

**WD-35803-84 Reference fill solution**, KCl with glycerol, for double junction refillable pH electrodes. Use for low-temperature samples. 125 mL

### Accessories

**WD-35820-64 In-line threaded housing**. Use to install any 12-mm diameter electrode into pipe for in-line use or submersible monitoring; 3/4" NPT(M), nylon

**WD-35420-54 Replacement electrode holder arm**



## pH/Ion — Electrodes

# Ion-Selective Electrodes and Solution Kits

### Ion-Selective Electrodes

Oakton has a large selection of ion-selective electrodes (ISEs) to suit a wide variety of applications. Each electrode has a typical response time of 20 to 30 seconds but will vary with solution concentration. Oakton offers four electrode types: membrane, solid-state, gas sensing, and glass bulb. Gas sensing electrodes also include replacement membranes.

Electrodes are double junction except for ammonia, carbon dioxide, and nitrogen oxide which are single junction. All electrodes are refillable and include 15 mL of electrolyte and a filling pipette. Solid-state electrodes also include polishing strips.

Epoxy-body,  
double-junction  
fluoride electrode  
35812-18

Use these  
ion-selective  
electrodes (ISEs)  
with:

Ion 700 benchtop meter  
(see page 19)

Ion 2700 benchtop  
meter (see page 21)

PC 2700 benchtop  
meter (see page 59)

pH 450 handheld  
meter (see page 14)

Ion 6+ handheld  
meter (see page 12)

Or use with any other ion  
meter, or with any meter  
with 0.1 mV resolution.

### Specifications & Ordering Information

| Ion  | Electrodes               |             | Solution Kits <sup>†</sup> |                                  |                 |
|--|--------------------------|-------------|----------------------------|----------------------------------|-----------------|
|  | Epoxy body               | Glass body  | Solution kit               | Replacement calibration standard | Replacement ISA |
| <b>Ammonia NH<sub>3</sub></b><br>High-purity power station water, fish tanks, sea water, wastewater, plating baths, air/stack gases, and biological samples.<br><b>Range:</b> 17,000 to 0.01 ppm <b>Type:</b> gas sensing  | WD-35802-00 <sup>‡</sup> | —           | WD-35802-50*               | WD-35803-01                      | —               |
| <b>Ammonium NH<sub>4</sub><sup>+</sup></b><br>Boiler feed water, natural water and fertilizers. User must supply calibration standard.<br><b>Range:</b> 18,000 to 0.1 ppm <b>Type:</b> polymer membrane  | WD-35812-02              | WD-35802-03 | WD-35802-53                | —                                | WD-35803-53     |
| <b>Bromide Br<sup>-</sup></b><br>Water, wine, soil, plant tissue, blood electrolytes, and clinical analysis.<br><b>Range:</b> 79,000 to 0.4 ppm <b>Type:</b> solid-state   | WD-35812-04              | WD-35802-05 | WD-35802-55                | WD-35803-03                      | WD-35803-51     |
| <b>Cadmium Cd<sup>+2</sup></b><br>Plating baths. User must supply calibration standard.<br><b>Range:</b> 11,200 to 0.01 ppm <b>Type:</b> solid-state   | WD-35812-06              | WD-35802-07 | WD-35802-57                | —                                | WD-35803-51     |
| <b>Calcium Ca<sup>+2</sup></b><br>Water softening systems, boiler feed water, drinking/mineral water, blood electrolytes, clinical analysis, and food applications.<br><b>Range:</b> 40,000 to 0.2 ppm <b>Type:</b> polymer membrane   | WD-35812-08              | WD-35802-09 | WD-35802-59                | WD-35803-05                      | WD-35803-52     |
| <b>Carbon Dioxide CO<sub>2</sub> and Carbonate CO<sub>3</sub><sup>-2</sup></b><br>Soft drinks/carbonated beverages, wine, beer, fermentation processes, bacterial cultures.<br><b>Range:</b> 440 to 4.4 ppm <b>Type:</b> gas sensing   | WD-35802-10 <sup>‡</sup> | —           | WD-35802-60                | WD-35803-07                      | WD-35803-55     |
| <b>Chloride Cl<sup>-</sup></b><br>River/tap water, plant tissue, soils, boiler feed water, blood electrolytes, clinical analysis, sweat, urine, cement, plating baths, and food samples.<br><b>Range:</b> 35,500 to 1.8 ppm <b>Type:</b> solid-state                         | WD-35812-12              | —           | WD-35802-63                | WD-35803-09                      | WD-35803-51     |
| <b>Copper Cu<sup>+2</sup></b><br>Plating baths and water<br><b>Range:</b> 6350 to 6.4 x 10 <sup>-4</sup> ppm <b>Type:</b> solid-state  | WD-35812-14              | —           | WD-35802-65                | WD-35803-11                      | WD-35803-51     |
| <b>Cyanide CN<sup>-</sup></b><br>Plating baths, wastewater and plant tissue. User must supply calibration standard.<br><b>Range:</b> 260 to 0.13 ppm <b>Type:</b> solid-state  | WD-35812-16              | WD-35802-17 | —                          | —                                | WD-35803-50     |
| <b>Fluoride F<sup>-</sup></b><br>Drinking/natural water, wastewater, air/stack gases, acids, sea water minerals, soils, food, biological fluids, toothpaste/mouthwash, coal, carbonated beverages, and bone.<br><b>Range:</b> saturated to 0.02 ppm <b>Type:</b> solid-state | WD-35812-18              | WD-35802-19 | WD-35802-69                | WD-35803-13                      | WD-35803-58     |

\*Ammonia solution kit does not include ISA. <sup>†</sup>Contact your authorized Oakton Distributor for replacement electrolyte solutions.

<sup>‡</sup>These electrodes are single junction.

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## Electrodes — pH/Ion

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### Solution Kits

Be sure to select both the electrode and solution kit to complete your measurement system. Solution kits contain the solutions and accessories needed for calibration, sample preparation, and measurement of ion concentration and activity. All solutions are supplied with MSDS (Material Safety Data Sheet) and have a value of 1000 ppm. Solution kits include replacement reference electrolyte, ISA (ionic strength adjustor)\*, calibration standard, and filling pipette. Kits for solid-state electrodes also include polishing strips. Kits for gas sensing electrodes also include replacement membranes.



### Specifications & Ordering Information

| Ion  | Electrodes               |             | Solution Kits <sup>†</sup> |                                  |                 |
|--|--------------------------|-------------|----------------------------|----------------------------------|-----------------|
|  | Epoxy body               | Glass body  | Solution kit               | Replacement calibration standard | Replacement ISA |
| <b>Fluoroborate BF<sub>4</sub><sup>-</sup></b><br>Plating baths (boron analysis)<br><b>Range:</b> 10,800 to 0.1 ppm <b>Type:</b> polymer membrane  | —                        | —           | WD-35802-71                | WD-35803-15                      | WD-35803-60     |
| <b>Iodide I<sup>-</sup></b><br>Milk, feeds, plants and pharmaceuticals.<br><b>Range:</b> 127,000 to 6 x 10 <sup>-3</sup> ppm <b>Type:</b> solid-state  | WD-35812-22              | WD-35802-23 | WD-35802-73                | WD-35803-17                      | WD-35803-51     |
| <b>Lead Pb<sup>+2</sup></b><br>Plating baths and organic compounds.<br><b>Range:</b> 20,700 to 0.2 ppm <b>Type:</b> solid-state  | WD-35812-24              | WD-35802-25 | WD-35802-75                | WD-35803-20                      | WD-35803-56     |
| <b>Nitrate NO<sub>3</sub><sup>-</sup></b><br>Surface/drinking water, sewage effluent, soil extracts, fertilizers, plant tissue, meat, potatoes, spinach, beets, baby food.<br><b>Range:</b> 62,000 to 0.5 ppm <b>Type:</b> polymer membrane                  | WD-35812-30              | WD-35802-31 | WD-35802-79                | WD-35803-24                      | WD-35803-60     |
| <b>Nitrogen Oxide NO<sub>x</sub></b><br>Air and stack gases.<br><b>Range:</b> 220 to 0.2 ppm <b>Type:</b> gas sensing  | WD-35802-32 <sup>‡</sup> | —           | WD-35802-82                | WD-35803-26                      | WD-35803-57     |
| <b>Perchlorate ClO<sub>4</sub><sup>-</sup></b><br>Explosives and solid propellants.<br><b>Range:</b> 98,000 to 0.7 ppm <b>Type:</b> polymer membrane   | WD-35812-34              | WD-35802-35 | WD-35802-85                | WD-35803-28                      | WD-35803-60     |
| <b>Potassium K<sup>+</sup></b><br>Wastewater, river/tap water, blood electrolytes, clinical analysis, saliva, serum, fertilizers, soils, and wines.<br><b>Range:</b> 39,000 to 0.04 ppm <b>Type:</b> polymer membrane  | WD-35812-38              | WD-35802-39 | WD-35802-89                | WD-35803-30                      | WD-35803-53     |
| <b>Silver/Sulfide Ag<sup>+</sup>/S<sup>-2</sup></b><br>Sewage effluent, soils, sediments, plating baths and photographic fixing solution.<br>User must supply solutions for sulfide.<br><b>Range:</b> 107,900 to 0.01 ppm <b>Type:</b> solid-state           | WD-35812-40              | WD-35802-41 | WD-35802-91                | WD-35803-32                      | WD-35803-51     |
| <b>Sodium Na<sup>+</sup></b><br>Steam condensates in power plants, blood electrolytes, clinical analysis, serum, foods, wine, glass, sea water, swimming pools, fish farms and aquariums.<br><b>Range:</b> 23,000 to 0.2 ppm <b>Type:</b> glass bulb         | WD-35812-42              | WD-35802-43 | WD-35802-93                | WD-35803-34                      | WD-35803-54     |
| <b>Surfactant X<sup>+</sup>, X<sup>-</sup></b><br>Detergents, dishwashing liquids, cleaning supplies, and food products. For titration only.<br><b>Range:</b> 12,000 to 1.0 ppm <b>Type:</b> polymer membrane  | WD-35812-44              | WD-35802-45 | WD-35802-95                | WD-35803-35                      | WD-35803-59     |
| <b>Water hardness Ca<sup>+2</sup>, Mg<sup>+2</sup></b><br>Water softening systems, boiler feed water, drinking/mineral water, blood electrolytes, clinical analysis, and food applications.<br><b>Range:</b> 40,000 to 0.4 ppm <b>Type:</b> polymer membrane | WD-35812-48              | WD-35802-49 | WD-35802-99                | WD-35803-05                      | WD-35803-52     |

\*Ammonia solution kit does not include ISA. <sup>†</sup>Contact your authorized Oakton Distributor for replacement electrolyte solutions.

<sup>‡</sup>These electrodes are single junction.

# TDSTestr®, ECTestr®, and SaltTestr® Selection Guide

## Better Accuracy

Oakton Instruments offers the only TDS and conductivity Testrs with  $\pm 1\%$  full-scale accuracy. This is the best accuracy available on any pocket-sized total dissolved solids or conductivity meter. This can make a tangible difference for your application.

## Great Value

You also want a good value when it comes to pocket-sized instruments. Our drive for quality and durability for our TDSTestrs and ECTestrs is what inspires us to do the extra things that may not even be readily apparent. From our use of custom thermoplastic housing materials that offer superior chemical and temperature durability, to our self-diagnostic error messages to help you immediately troubleshoot calibrations, batteries and sensors. Our application-specific microprocessors deliver superior instrument reliability. All of these attributes combine to give you a superior product that delivers long-term value.

## More Options

Oakton Instruments also gives you options offered by no one else. We offer pocket-sized TDS and EC Testrs that measure across many ranges from the economical EcoTestrs to the versatile multiparameter 35-Series. We also offer a series of testers that include built-in sample cup sensors, and selectable °C/°F temperature readout, a specially designed tester for sodium chloride solutions, and a series of traditional “dip and read” meters.





## Get More

Better accuracy and a higher-quality product featuring more options. You get it all with the Oakton TDSTestrs, ECTestrs, and SaltTestr.



Conductivity/TDS calibration pouches and solutions are available. See page 43 to order.

## Find the right Testr for your application

| Meter                 | EcoTestrs™  | 11 Series   | 11+ Series   | Multiparameter 35-Series Testrs™  |
|-----------------------|---|---|--|---|
|                       |  |  |  |  |
| See pages             | 31  | 32–34   | 32–33  | 9   |
| Parameters/<br>models | Conductivity, TDS, salt   | Conductivity, TDS, salt   | Conductivity, TDS  | pH, conductivity, TDS, salt   |
| Electrode             | Permanently fixed, stainless steel  | Replaceable, stainless steel  | Replaceable, stainless steel   | Replaceable, combined pH and conductivity module                                      |
| Accuracy              | Up to $\pm 1\%$ full scale  | Up to $\pm 1\%$ full scale  | Up to $\pm 1\%$ full scale   | Up to $\pm 1\%$ full scale  |
| Display               | One-line LCD  | Two-line LCD  | Two-line LCD   | Two-line LCD  |
| Calibration           | 1-point, manual   | Up to 3-point manual or 2-point automatic   | Up to 2-point manual or 3-point manual/automatic                                     | Up to 5-point pH; 3-point EC/TDS  |



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## Testers — Conductivity

## EcoTestr™ TDS, EC, and Salt

## Simplicity with Oakton reliability

**Simple single-line display** – Large upright display is easy to read

**1% full-scale accuracy** – Suitable for many applications

**Transparent protective cap** – Doubles as a container for on-site calibration

**Waterproof, dustproof housing** – Meets IP67 rating, plus it floats!

**Durable sensor** – Two pin stainless steel with probe guard

**Click-lock battery compartment** – Simply lift and remove cover to replace batteries; no additional tools required

**Push-button calibration** – Calibrate more precisely than trimpot adjustment; no screwdrivers necessary

**Hold function** – Freezes reading until you can record it

**Auto shut-off** – Extends the life of batteries

**Automatic temperature compensation (ATC)** – Gives you accurate readings even with fluctuating temperatures



35462-10

35462-30

35462-50



**Stainless steel sensor tip is both durable and chemical resistant.**

## Specifications

ISO9001:2008  
CERTIFIED SUPPLIER

CE 1 year warranty

| Model      | EcoTestr TDS Low           | EcoTestr TDS High                   | EcoTestr EC Low | EcoTestr EC High                       | EcoTestr Salt                       |
|------------|----------------------------|-------------------------------------|-----------------|--|-------------------------------------|
| Range      | 0 to 1990 ppm              | 0 to 10.1 ppt                       | 0 to 1990 µS/cm | 0 to 19.90 mS/cm                       | 0 to 10.0 ppt                       |
| Resolution | 10 ppm                     | 0.1 ppt                             | 10 µS           | 0.1 mS                                 | 0.1 ppt                             |
| Accuracy   | ±1% full scale             | ±1% full scale<br>(±2% above 5 ppt) | ±1% full scale  | ±1% full scale<br>(±2% above 10 mS/cm) | ±1% full scale<br>(±2% above 5 ppt) |
| TDS factor | 0.4 to 1.0<br>(adjustable) | 0.4 to 1.0<br>(adjustable)          | N/A             | N/A                                    | Fixed curve                         |

**Calibration:** manual single-point

**Operating temperature:** 0 to 50°C (32 to 122°F)

**Temperature compensation:** automatic (ATC), from 0 to 50°C (32 to 122°F)

**Power:** four 1.5 V alkaline batteries (included), >500 hours continuous use; Eveready® A76 or LR44 equivalent replacement

## Dimensions

**Unit only:** 1¼" x 1½" x 6½" (3.2 x 3.8 x 16.8 cm)

**Boxed:** 1½" x 5¼" x 9¾" (3.8 x 13.6 x 24.8 cm)

## Weight

**Unit only:** 3.25 oz (90 g); **Boxed:** 6.0 oz (170 g)

## Ordering Information

| Catalog number | Description       |
|----------------|-------------------|
| WD-35462-10    | EcoTestr TDS Low  |
| WD-35462-15    | EcoTestr TDS High |
| WD-35462-30    | EcoTestr EC Low   |
| WD-35462-35    | EcoTestr EC High  |
| WD-35462-50    | EcoTestr Salt     |

## Accessories

**WD-09377-16 Replacement batteries,** 1.5 V. Pack of 6

**WD-35661-70 Deluxe calibration kit** includes two each calibration pouches (447 µS, 1413 µS, 2764 µS, 15,000 µS, and rinse water), sample jar, and foam-lined hard plastic carrying case. (Tester not included)



## Conductivity — Testers

# TDSTestr® 11 Series

One meter can measure total dissolved solids from pure water to concentrated solutions

**Large, easy-to-read display** – Two-line display—units, measurement status, and battery life indicators

**Replaceable electrodes** – Reuse the meter body to save money

**Temperature readout** – Simultaneous display in °C or °F

**Full reading displayed** – No need to multiply the readout to obtain actual test values

**Adjustable TDS factor** – 0.4 to 1.0 gives better accuracy

**Push-button calibration** – Calibrate your tester more precisely than trimpot adjustment; no screwdrivers necessary

**Hold function; Auto shutoff**

**Waterproof, dustproof housing** – Meets IP67 ratings—plus, it floats!

**Automatic temperature compensation (ATC)** – Gives you accurate measurements even with fluctuating temperatures

**TDSTestr 11+ features** – Operate as either cup-style or dip-style tester for greater flexibility



Choose dip-style or cup-style electrodes

35662-10

35662-15



Calibration buttons tucked away in battery compartment to avoid accidental recalibration.



Plastic case protects Testr when not in use

### Specifications

| Model                      | TDSTestr 11 dual-range          | TDSTestr 11+ multirange                              |
|----------------------------|---------------------------------|--|
| Range                      | 0 to 2000 ppm; 0 to 10.00 ppt   | 0 to 200 ppm, 0 to 2000 ppm; 0 to 10.00 ppt          |
| Resolution                 | 1 ppm; 0.01 ppt                 | 0.1 ppm, 1 ppm; 0.01 ppt                             |
| Accuracy                   | ±1% full-scale                  | ±1% full-scale                                       |
| Calibration standard range | 300 to 1990 ppm; 3 to 10.00 ppt | 20.0 to 199.9 ppm, 200 to 1999 ppm; 2.0 to 10.00 ppt |
| Calibration                | 2-point, manual                 | 2-point, manual                                      |

**Temperature display:** 0 to 50°C (32 to 122°F), 0.1°C resolution, ±0.5°C accuracy  
**Operating temperature:** 0 to 50°C (32 to 122°F)  
**Temperature compensation:** automatic (ATC) from 0 to 50°C (32 to 122°F)  
**ATC coefficient:** 2% per °C, 1.11% per °F, 25°C reference temperature  
**Wetted materials:** 316 stainless steel (electrodes) and HDPE/Valox® housing

**Power and battery life:** four 1.5 V alkaline batteries Eveready A76BP (included), 100 hrs continuous use (approx 600 tests per battery pack). Alternate replacement model Eveready 357BP silver oxide, 140 hrs continuous use.

**Dimensions**  
**Unit only:** 6½" L x 1½" dia (165 x 38 mm)  
**Boxed:** 7¼" x 2¾" x 1¼" (184 x 70 x 48 mm)  
**Weight**  
**Unit only:** 3.25 oz (90 g); **Boxed:** 6.0 oz (170 g)

### Ordering Information

| Catalog number | Description             | Included  |
|----------------|-------------------------|---|
| WD-35662-10    | TDSTestr 11 dual-range  | Tester, protective plastic storage case, lanyard, and batteries |
| WD-35662-15    | TDSTestr 11+ multirange |   |

### Accessories

**WD-35661-17 Replacement electrode** for TDSTestr 11

**WD-35661-08 Replacement electrode** for TDSTestr 11+

**WD-35624-45 Vinyl carrying case** with belt loop; holds one tester and solution pouches

**WD-09377-16 Replacement batteries, 1.5 V.** Pack of 6

**WD-35661-70 Deluxe calibration kit** includes two each calibration pouches (447 µS, 1413 µS, 2764 µS, 15,000 µS, and rinse water), sample jar, and foam-lined hard plastic carrying case. (Tester not included)

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## Testers — Conductivity

## ECTestr® 11 Series

## Auto-ranging for maximum resolution

**Large, easy-to-read display** – Two-line display—units, measurement status, and battery life indicators

**±1% full-scale accuracy** – The best in its class!

**Waterproof, dustproof housing** – Meets IP67 ratings, plus—it floats!

**Replaceable electrode** – Reuse same meter body over and over

**Push-button calibration** – Calibrate more precisely than trimpot adjustment—no screwdrivers needed

**Hold function** – Freezes reading until you can record it

**Auto shutoff** – Saves your batteries

**Full reading displayed** – No need to multiply the readout to obtain actual test values

**Temperature readout** – Dual display for readings at a glance; °C or °F selectable

**Automatic temperature compensation (ATC)** – Gives you accurate readings even with fluctuating temperatures

**ECTestr 11+ features** – Operate as either cup-style or dip-style tester for greater flexibility



35662-30

**Dip-style sensor**—just immerse and read



35662-35

**Cup-style sensor**—draw or grab samples

Conductivity



Plastic case protects Testr when not in use.

## Specifications

ISO9001:2008  
CERTIFIED SUPPLIER

CE 1 year warranty

| Model                      | ECTestr 11 dual-range                       | ECTestr 11+ multirange                             |
|----------------------------|---|--|
| Range                      | 0 to 2000 µS; 0 to 20.00 mS                 | 0 to 200.0 µS; 0 to 2000 µS; 0 to 20.00 mS         |
| Resolution                 | 10 µS; 0.10 mS                              | 0.1 µS; 1 µS; 0.01 mS                              |
| Accuracy                   | ±1% full-scale                              | ±1% full-scale                                     |
| Calibration standard range | 300 to 1990 µS; 3 to 19.90 mS               | 20.0 to 199.9 µS; 200 to 199.9 µS; 2.0 to 19.99 mS |
| Calibration                | 2-point, manual or auto (1413 µS; 12.88 mS) | 3-point, manual or auto (84 µS; 1413 µS; 12.88 mS) |

**Temperature display:** 0 to 50°C (32 to 122°F), 0.1°C resolution, ±0.5°C accuracy

**Operating temperature:** 0 to 50°C (32 to 122°F)

**Temperature compensation:** automatic (ATC) from 0 to 50°C (32 to 122°F)

**ATC coefficient temperature:** 2% per °C, 25°C reference

**Wetted materials:** 316 stainless steel (electrodes) and Valox® housing

**Power and battery life:** four 1.5 V alkaline batteries Eveready A76 (included), 100 hrs continuous use (approx 600 tests per battery pack). Alternate replacement model LR44.

**Dimensions**

**Unit only:** 6½" L x 1½" dia (165 x 38 mm)

**Boxed:** 7¼" x 2¾" x 1⅞" (184 x 70 x 48 mm)

**Weight**

**Unit only:** 3.25 oz (90 g); **Boxed:** 6.0 oz (170 g)

## Ordering Information

| Catalog number | Description            | Included  |
|----------------|------------------------|---|
| WD-35662-30    | ECTestr 11 dual-range  | Tester, protective plastic storage case, lanyard, and batteries |
| WD-35662-35    | ECTestr 11+ multirange |   |

## Accessories

**WD-35661-17 Replacement electrode** for ECTestr 11

**WD-35661-08 Replacement electrode** for ECTestr 11+

**WD-35624-45 Vinyl carrying case** with belt loop; holds one tester and solution pouches

**WD-09377-16 Replacement batteries**, 1.5 V. Pack of 6

**WD-35661-70 Deluxe calibration kit** includes two each calibration pouches (447 µS, 1413 µS, 2764 µS, 15,000 µS, and rinse water), sample jar, and foam-lined hard plastic carrying case. (Tester not included)



## Conductivity — Testers

# SaltTestr® 11

**Non-linear curve programmed for best results in testing NaCl in water applications**

### Factory calibrated against NaCl standards

— Ideal for testing salinity levels in pools

**±1% full-scale accuracy** — The best in its class!

**Full reading displayed** — No need to multiply the readout to obtain actual test values

### Automatic temperature compensation (ATC)

— Gives you accurate measurements even in fluctuating temperatures

**Waterproof, dustproof housing** — Meets IP67 ratings, plus—it floats!

**Replaceable electrode** — Reuse same meter body over and over again

**Push-button calibration** — Calibrate more precisely than trimpot adjustment—no screwdrivers necessary

**Hold function** — Freezes reading until you can log it

**Auto shutoff** — Saves your batteries

**Temperature display** — Selectable for °C or °F



35662-52

**ISO9001:2008**  
CERTIFIED SUPPLIER

**CE** 1 year warranty

### Specifications

| Model                             | SaltTestr 11  |
|-----------------------------------|---|
| <b>Range</b>                      | 0 to 10.00 ppt  |
| <b>Resolution</b>                 | 0.10 ppt  |
| <b>Accuracy</b>                   | 0.00 to 7.00 ppt: ±1% full-scale; above 7.00 ppt: ±3% full-scale          |
| <b>Calibration standard range</b> | 3 to 10.00 ppt*   |
| <b>Calibration</b>                | One point push-button calibration (using keys inside battery compartment) |

\*For best accuracy, calibrate to 4.4 ppt NaCl with standard 00653-89 (order on page 43).

**Temperature display:** 0 to 50°C (32 to 122°F), 0.1°C resolution, ±0.5°C accuracy

**Operating temperature:** 0 to 50°C; 32 to 122°F

**Temperature compensation:** automatic (ATC) from 0 to 50°C (32 to 122°F)

**ATC coefficient:** 2% per °C, 1.11% per °F, 25°C reference temperature

**Wetted materials:** 316 stainless steel (electrodes) and Valox® housing

**Power and battery life:** four 1.5 V alkaline batteries Eveready A76 (included), 150 hrs continuous use (approx 600 tests per battery pack). Alternate replacement model model LR44

### Dimensions

**Unit only:** 6½" L x 1½" dia (165 x 38 mm)

**Boxed:** 7¼" x 2¾" x 1⅞" (184 x 70 x 48 mm)

### Weight

**Unit only:** 3.25 oz (90 g); **Boxed:** 6.0 oz (170 g)



**Calibration buttons tucked away in battery compartment to avoid accidental recalibration.**



**Plastic case protects Testr when not in use.**

### Ordering Information

| Catalog number     | Description  | Included  |
|--------------------|--------------|---|
| <b>WD-35662-52</b> | SaltTestr 11 | Tester, protective plastic storage case, lanyard, and batteries |

### Accessories

**WD-35661-17 Replacement electrode** for SaltTestr 11

**WD-35624-45 Vinyl carrying case** with belt loop; holds one tester and solution pouches

**WD-35653-15 Salt standard pouches**, 3000 ppm NaCl. Box of 20 pouches

**WD-09377-16 Replacement batteries**, 1.5 V. Pack of 6

**WD-35661-70 Deluxe calibration kit** includes two each calibration pouches (447 µS, 1413 µS, 2764 µS, 15,000 µS, and rinse water), sample jar, and foam-lined hard plastic carrying case. (Tester not included)

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## Handheld Meters — Conductivity

# Conductivity/TDS Meter Selection Guide

### Get Better Accuracy

Oakton conductivity/TDS meters offer accuracy up to  $\pm 1\%$  full-scale. Autoranging function with one calibration point per range. Most meters feature adjustable temperature coefficients and TDS conversion factors to maximize measurement accuracy.

Offering selectable cell constant probes with temperature compensation (0.1 for pure water, 1.0 for general applications, and 10.0 for concentrated solutions) to meet application requirements (see page 43 for additional probe selection). Don't forget the Oakton NIST-traceable calibration solutions on page 43—calibration is a great way to ensure accuracy!

### Get Dependability

Oakton conductivity/TDS meters are built to last and include a three-year warranty. The ASIC microprocessor technology offers trouble-free performance for years. ISO 9001:2008 certified company with CE mark products to ensure product excellence.

See page 43 to order conductivity/TDS cells and accessories.



Use this chart to find the best conductivity or TDS meter for your application

| Meter                          | 6+ series                 | Waterproof 150 series        | Waterproof 450 series         | Waterproof 600 series               | Benchtop 700             | Benchtop 2700                  |
|--------------------------------|---------------------------|------------------------------|-------------------------------|-------------------------------------|--------------------------|--------------------------------|
| See pages                      | 36 to 37                  | 38                           | 39                            | 40                                  | 41                       | 42                             |
| Description                    | Low cost, rugged, compact | Simple, rugged, and reliable | Best value, advanced features | Rugged field/ environmental meter   | Basic features, benchtop | Advanced features, benchtop    |
| Display                        | Single-line LCD           | Three-line LCD               | Three-line LCD with backlight | Multiline dot matrix with backlight | Large three-line LCD     | Graphic display with backlight |
| IP67-rated housing             | —                         | Yes                          | Yes                           | Yes                                 | —                        | —                              |
| Memory                         | —                         | Up to 200 data sets          | Up to 500 data sets           | Up to 500 data sets                 | Up to 100 data sets      | Up to 500 data sets            |
| Communication                  | —                         | —                            | USB or RS-232                 | IrDA                                | —                        | RS-232                         |
| Real-time clock                | —                         | Yes                          | Yes                           | Yes                                 | Yes                      | Yes                            |
| Password protection            | —                         | —                            | Yes                           | Yes                                 | —                        | Yes                            |
| Calibration points             | Up to 5; one per range    | Up to 6; one per range       | Up to 6; one per range        | Up to 5; one per range              | Up to 5; one per range   | Up to 5; one per range         |
| AutoCal with selectable points | Yes                       | Yes                          | Yes                           | Yes                                 | Yes                      | Yes                            |
| Autorange                      | Yes                       | Yes                          | Yes                           | Yes                                 | Yes                      | Yes                            |
| Automatic endpoint             | —                         | —                            | Yes                           | Yes                                 | Yes                      | Yes                            |
| Automatic shutoff              | After 17 minutes          | After 20 minutes             | Yes, adjustable               | Yes, adjustable                     | —                        | —                              |
| Hold function                  | Yes                       | Yes                          | Yes                           | Yes                                 | Yes                      | Yes                            |
| Ready/stability indicator      | —                         | Yes                          | Yes                           | Yes                                 | Yes                      | Yes                            |
| Error messages                 | Yes                       | Yes                          | Yes                           | Yes                                 | Yes                      | Yes                            |
| Built-in stand                 | Yes (in boot)             | Yes                          | Yes                           | Yes                                 | —                        | —                              |
| Protective rubber boot         | Yes                       | —                            | —                             | Optional                            | —                        | —                              |
| AC power adapter               | —                         | Optional                     | Optional                      | Optional                            | Yes                      | Yes                            |

## Conductivity — Handheld Meters

# CON 6+ Meter

Variety of features at an economical price!

**Wider measuring ranges** – CON 6+ features five measuring ranges up to 200.0 mS

**Automatic or manual ranging across five ranges** – For a wide variety of applications from pure water to boiler blow-down water

**Easy, push-button operation**

**Temperature readout and automatic temperature compensation (ATC)** – For high accuracy in changing temperature conditions

**Hold function; Auto-off function** – Meters shut off after 20 minutes of nonuse

**Automatic or manual calibration** – For quick and easy calibrations, use automatic mode with preset calibration points at the most popular values. For more flexibility, calibrate in the manual mode and set your calibration point at any value. Five-point calibration.

**Setup functions** – Customize automatic temperature compensation and cell constant for better accuracy and precision

**Includes fast-response probe** – Easy to clean; 1.0 cell constant

**Built-in stand for benchtop or long-term use**

**Protective rubber boot** – Helps shield your meter from drops and dings



CON 6+

ISO 9001:2008  
REGISTERED QUALITY SYSTEM

CE 3 year warranty  
meter only

### Specifications

| Model              | CON 6+  |
|--------------------|---|
| Range (Resolution) | 0 to 20.00 $\mu$ S (0.01 $\mu$ S),<br>0 to 200.0 $\mu$ S (0.1 $\mu$ S),<br>0 to 2000 $\mu$ S (1 $\mu$ S),<br>0 to 20.00 mS (0.01 mS),<br>0 to 200.0 mS (0.1 mS) |
| Accuracy           | $\pm 1\%$ full scale  |
| Cell constant      | 0.1, 1, and 10 (selectable)   |
| Calibration        | Up to 5 points, one per band on conductivity range  |
| Ranging            | Automatic or manual (selectable)  |

**Temperature range:**  $-10.0$  to  $110.0^{\circ}\text{C}$

**Temperature resolution/accuracy:**  $0.1^{\circ}\text{C}/\pm 0.5^{\circ}\text{C}$

**Temperature compensation:** automatic or manual from  $0.0$  to  $50.0^{\circ}\text{C}$

**Temperature coefficient:** adjustable from  $0$  to  $3\%$  per  $^{\circ}\text{C}$

**Normalization temperature:**  $20$  or  $25^{\circ}\text{C}$ , selectable

**Probe connection**

For conductivity: BNC

For temperature: subminiature audio

**Operating temperature:**  $0$  to  $50^{\circ}\text{C}$  ( $32$  to  $122^{\circ}\text{F}$ )

**Power:** four 1.5 V AAA batteries (included); approx 100 hours continuous use

**Dimensions**

**Meter:**  $5\frac{1}{2}'' \times 2\frac{3}{4}'' \times 1\frac{1}{4}''$  ( $14 \times 7 \times 3.5$  cm)

**Probe:**  $5\frac{1}{8}'' \text{L} \times \frac{3}{8}''$  dia with 36" L cable ( $13$  cm L  $\times$   $1.6$  cm dia with 91 cm L cable)

**Boxed:**  $8\frac{1}{4}'' \times 5\frac{5}{8}'' \times 3''$  ( $21 \times 15 \times 7.5$  cm)

**Weight**

**Meter:** 0.9 lb (0.4 kg); **Boxed:** 1 lb (0.5 kg)



Meter includes built-in stand and protective rubber boot.

See page 43 to order conductivity solutions and accessories.

### Ordering Information

| Catalog number | Precalibrated catalog number | Description      | Included   |
|----------------|------------------------------|------------------|--|
| WD-35604-00    | WD-35604-01                  | CON 6+ meter     | Meter, conductivity probe (K = 1.0), protective rubber boot, and four AAA batteries  |
| WD-35604-04    | WD-35604-05                  | CON 6+ meter kit | Meter, conductivity probe (K = 1.0), calibration pouches, sample bottles, hard plastic carrying case, protective rubber boot, and four AAA batteries |

WD-35606-53 Conductivity probe, K = 0.1

WD-35606-55 Replacement conductivity probe, K = 1.0

WD-35606-57 Conductivity probe, K = 10

WD-35632-97 Carrying case for 6+ meters. Includes rinse bottle and sample bottles



again and again®

## Handheld Meters — Conductivity

# TDS 6+ and SALT 6+ Meters

### Autoranging with temperature at economical price

**Wider measuring ranges** – TDS 6+ features five measuring ranges up to 200.0 ppt

**Easy, push-button operation**

**Temperature readout and automatic temperature compensation (ATC)** – For high accuracy in changing temperature conditions

**Hold function; Auto-off function** – Meters shut off after 20 minutes of nonuse

**Automatic or manual calibration** – For quick and easy calibrations, use automatic mode with preset calibration points at the most popular values. For more flexibility, calibrate in the manual mode and set your calibration point at any value.

**Setup functions** – Customize automatic temperature compensation, cell constant, and TDS conversion factor for better accuracy and faster use

**Includes fast-response probe** – Easy to clean; 1.0 cell constant

**Built-in stand for benchtop or long-term use**

**Protective rubber boot** – Helps shield your meter from drops and dings

#### TDS 6+ features

**Automatic or manual ranging across five ranges** – For a wide variety of applications from pure water to boiler blow down water

#### SALT 6+ features

**Custom conductivity-to-TDS conversion curve** – For the highest accuracy



Meters include built-in stand and protective rubber boot.

See page 43 to order conductivity solutions and accessories.



Conductivity

### Specifications

| Model  | TDS 6+   | SALT 6+                                      |
|--|--|--|
| Range/Resolution                                 | 0.00 to 10.00 ppm/0.01 ppm,<br>10.0 to 100.0 ppm/0.1 ppm,<br>100 to 1000 ppm/1 ppm,<br>1.00 to 10.00 ppt/0.01 ppt,<br>10.0 to 100.0 ppt/0.1 ppt,<br>up to 200.0 ppt* | 1 to 50.0 ppt/0.1 ppt,<br>0.1 to 5.00%/0.01% |
| Accuracy   | ±1% full-scale   | ±1% full-scale                               |
| Cell constant                                    | 0.1, 1, and 10 (selectable)  | 1.0  |
| Conductivity-to-TDS/<br>Saline conversion factor | 0.4 to 1.00 adjustable   | Nonlinear compensation                       |
| Calibration                                      | Up to 5 points, one per band on conductivity range   | One point in 1 to 50 ppt range               |
| Ranging  | Automatic or manual (selectable)   | —  |

\*Depending on TDS factor setting.

**Temperature range:** -10.0 to 110.0°C

**Temperature resolution/accuracy:** 0.1°C/±0.5°C

**Temperature compensation:** automatic or manual from 0.0 to 50.0°C

**Temperature coefficient:** adjustable: 0 to 3% per °C

**Normalization temperature:** 20 or 25°C, selectable

#### Probe connection

For conductivity, TDS, and SALT: BNC  
For temperature: subminiature audio

**Operating temperature:** 0 to 50°C (32 to 122°F)

**Power:** four 1.5 V AAA batteries (included), approx 100 hours continuous use

#### Dimensions

**Meter:** 5½" x 2¾" x 1¼" (14 x 7 x 3.5 cm)

**Probe:** 5½"L x ¾" dia with 36"L cable  
(13 cm L x 1.6 cm dia with 91 cm L cable)

**Boxed:** 8¼" x 5½" x 3" (21 x 15 x 7.5 cm)

#### Weight

**Meter:** 0.9 lb (0.4 kg); **Boxed:** 1 lb (0.5 kg)

### Ordering Information

| Catalog number | Precalibrated catalog number | Description       | Included  |
|----------------|------------------------------|-------------------|---|
| WD-35604-20    | WD-35604-21                  | TDS 6+ meter      | Meter, conductivity probe (cell constant K = 1.0), protective rubber boot, and batteries  |
| WD-35604-24    | WD-35604-25                  | TDS 6+ meter kit  | Meter, conductivity probe (cell constant K = 1.0) calibration pouches, sample bottles, hard plastic carrying case, protective rubber boot, and four AAA batteries |
| WD-35604-40    | WD-35604-41                  | SALT 6+ meter     | Meter, conductivity probe (cell constant K = 1.0), protective rubber boot, and batteries  |
| WD-35604-44    | WD-35604-45                  | SALT 6+ meter kit | Meter, conductivity probe (cell constant K = 1.0) calibration pouches, sample bottles, hard plastic carrying case, protective rubber boot, and four AAA batteries |

WD-35606-53 Conductivity probe, K = 0.1

WD-35606-55 Replacement conductivity probe, K = 1.0

WD-35606-57 Conductivity probe, K = 10

WD-35632-97 Carrying case for 6+ meters. Includes rinse bottle and sample bottles.

## Conductivity — Handheld Meters

# CON 150 Meter

**Best value for an IP67-rated waterproof meter!**

**Large, three-line LCD** — Lets you view conductivity or TDS measurement with temperature

**Built-in memory function** — Stores up to 150 measurements along with temperature

**Autoranging across five ranges** — For fast response and best resolution over a wide range

**Auto-cal features one calibration point per each conductivity range** — Provides  $\pm 1\%$  full-scale accuracy

**Calibration alarm** — A visible reminder when it is time to recalibrate the meter

**Select a probe with a 0.1, 1.0, or 10 cell constant**

**Adjustable conductivity-to-TDS conversion factor** — Adjust from 0.4 to 1.0

**Selectable manual or automatic temperature compensation (ATC)** — For the highest accuracy in any situation

**Selectable °C/°F** — Choose units to best fit your application

**Hold function, Ready indicator, automatic shut-off, and battery life indicator**

**Intuitive user-friendly icons** — Probe status displays cell constant

**Built-in stand** — Ideal for easy benchtop or long-term use

**Wall mount option** — Ideal to save bench space

**Grip-Clip™ holder quickly and easily secures the probe to your beaker or container**

**Power with batteries continuously for 700 hours in the field** — Optional AC adapter for benchtop measurements

**New**



35607-32

ISO9001:2008  
CERTIFIED SUPPLIER

TUV  
PRODUCT  
SERVICE

CE 3 year  
warranty  
meter only

### Specifications

| Mode        | Conductivity               | TDS                        | Temperature                                       |
|-------------|----------------------------|----------------------------|---|
| Range       | 0 to 200 mS                | 0 to 200 ppt               | -10.0 to 110.0°C (-17.0 to 230.0°F)               |
| Resolution  | 0.01 uS to 0.1 mS          | 0.01 ppm to 0.1 ppt        | 0.1°C/°F  |
| Accuracy    | $\pm 1\%$ full-scale       | $\pm 1\%$ full-scale       | $\pm 0.5^\circ\text{C}$ ; $\pm 0.9^\circ\text{F}$ |
| Calibration | Auto/manual; 1 point/range | Auto/manual; 1 point/range | Offset 0.1 increments                             |

**Display:** 3-line custom LCD

**Memory:** stores up to 150 data sets

**Temperature compensation:** automatic or manual from -10 to 110°C

**Temperature coefficient:** 0.0 to 10.0%/°C

**Power:** two AA batteries (included), >700 hours continuous use; AC adapter (optional)

**Dimensions (L x W x H)**

**Boxed:** 9 1/8" x 9 1/8" x 2 3/4" (23 x 23 x 7 cm)

**Meter:** 7 1/8" x 3 1/8" x 2 1/4" (20 x 8.3 x 5.7 cm)

**Weight:**

**Meter:** 1 lb (0.5 kg)

**Boxed:** 1.4 lb (0.7 kg)



Built-in meter stand

### Ordering Information

| Catalog number | Precalibrated catalog number | Description              | Included  |
|----------------|------------------------------|--------------------------|---|
| WD-35607-32    | WD-35607-34                  | CON 150 meter with probe | Meter, conductivity cell 35608-50, Grip-Clip holder, and two AA batteries   |
| WD-35607-90    | WD-35607-91                  | CON 150 meter kit        | Meter, conductivity cell 35608-50, Grip-Clip holder, calibration solution, two AA batteries, and hard carrying case |

### Accessories

WD-35608-55 Conductivity cell, K = 0.1

WD-35608-50 Replacement conductivity cell, K = 1.0

WD-35608-51 Conductivity cell, K = 10

WD-35614-50 Replacement Grip-Clip holder  
attaches probe to side of container for measurement

WD-35614-51 Hard carrying case, fits all 150/450 meter configurations

WD-35420-72 Optional adapter, 110/220 VAC

WD-09376-01 Replacement batteries, AA. Pack of 4

...setting the standard  
again and again®

## Handheld Meters — Conductivity

# CON 450 Meter

**Backlit, rugged waterproof meter is ideal for any environment!**

**Durable waterproof and dustproof design with IP67 rating**

**Large, backlit custom display**—Lets you view measurement with temperature and calibration data with cell constant

**Measurement in conductivity, TDS, and salinity**—With automatic and manual temperature compensation

**Autorange conductivity from 0 to 199.9 mS in five ranges**—Automatic calibration up to five calibration points

**Selectable cell constant**—0.10, 1.00, or 10.0 from a two-cell probe

**Selectable temperature coefficient**—Adjustable from 0 to 10% per °C for accurate compensation of almost any solution

**Adjustable conductivity-to-TDS factor**— Adjust from 0.4 to 1.0

**Selectable °C/°F**—Choose units to best fit your application

**Intuitive user-friendly icons**—Probe status displays cell constant

**Hold, Ready, and automatic shutoff functions**

**Store up to 500 data sets**—Easy USB or RS-232 output with optional data cable

**Built-in real-time clock stamps stored data and calibration data with time and date**—Meets standards for GLP (Good Laboratory Practices)

**Built-in stand with wall mount**—Allows for easy benchtop measurement or storage

**Grip-Clip™ holder**—Quickly and easily secures the probe to your beaker or container

**500 hours battery life or use optional universal power adapter**

**New**



CON 450



Built-in meter stand for hands-free operation

### Specifications

| Mode        | Conductivity                     | TDS                              | Salinity                         | Temperature                         |
|-------------|----------------------------------|----------------------------------|----------------------------------|-------------------------------------|
| Range       | 0 to 200 mS                      | 0 to 200 ppt                     | 0 to 50 ppt                      | -10.0 to 110.0°C (-17.0 to 230.0°F) |
| Resolution  | 0.01 µS to 0.1 mS                | 0.01 ppm to 0.1 ppt              | 0.01                             | 0.1°C/°F                            |
| Accuracy    | ±1% full-scale                   | ±1% full-scale                   | ±1% full-scale                   | ±0.5°C; ±0.9°F                      |
| Calibration | Auto/manual; one point per range | Auto/manual; one point per range | Auto/manual; one point per range | ±5.0° offset                        |

**Display:** graphic LCD with backlight

**Memory:** stores up to 500 data sets

**Output:** USB or RS-232

**Real-time clock:** time-and-date stamp on calibration and stored data

**Temperature compensation:** automatic or manual from -10 to 110°C

**Power:** two AA batteries (included), 500 hours (without backlight); AC adapter (optional)

**Dimensions (L x W x H)**

**Meter:** 7 7/8" x 3 1/8" x 2 1/4" (20 x 8.3 x 5.7 cm)

**Boxed:** 9 1/8" x 9 1/8" x 2 3/4" (23 x 23 x 7 cm)

**Weight**

**Meter:** 1 lb (0.5 kg);

**Boxed:** 1.4 lb (0.7 kg)

ISO9001:2008  
CERTIFIED SUPPLIER

TUV  
PRODUCT  
SERVICES

CE

3 year  
warranty  
meter only

### Ordering Information

| Catalog number | Precalibrated catalog number | Description              | Included   |
|----------------|------------------------------|--------------------------|--|
| WD-35608-32    | WD-35608-34                  | CON 450 meter with probe | Meter, conductivity cell (K = 1.0) 35608-50, Grip-Clip holder, and two AA batteries  |
| WD-35608-80    | WD-35608-81                  | CON 450 meter kit        | Meter, conductivity cell (K = 1.0) 35608-50, calibration solutions, Grip-Clip holder, two AA batteries, and hard carrying case |

### Accessories

WD-35608-55 Conductivity cell, K = 0.1

WD-35608-50 Replacement conductivity cell, K = 1.0

WD-35608-51 Conductivity cell, K = 10

WD-35614-50 Replacement Grip-Clip electrode holder

WD-35630-53 Data cable for USB connectivity

WD-35420-01 Data cable for RS-232 connectivity

WD-35614-51 Hard carrying case, fits all 150/450 meter configurations

WD-35420-72 Optional adapter, 110/220 VAC

WD-09376-01 Replacement batteries, AA. Pack of 4

Get more information at [www.meslo.com](http://www.meslo.com)



## Conductivity — Handheld Meters

# CON 600 and CON 610 Meters

**Conductivity, TDS, resistivity, salinity—  
measure from pure water to seawater!**

Conductivity

**Durable waterproof and dustproof design with IP67 rating** – Even with no probes attached

**Single or multipoint calibration; auto or manual** – Fast, trouble-free calibration for more accurate measurements

**Large backlit graphic display** – Multi-line display with electrode status indicator, calibration data, and more

**User-settable “calibration due” alarm** – Out-of-date or unperformed calibrations are now things of the past!

**Built-in real-time clock** – Time-and-date stamping meets Good Laboratory Practice (GLP) standards

**Advanced data management** – Store up to 500 data sets and download via Infrared IrDA wireless interface

**Set point alarms** – Audible warning when readings are outside set points limit

**Accept 2-cell and 4-cell conductivity probes** – Measure over a broad conductivity range up to 500 mS/cm

**Password protection** – Security for calibration and setup menus

**Rugged rubber boot** – Protects meter from bumps and dings (optional; included with kits)



**Rubber boot protects meter in rugged environments**



35408-12

ISO9001:2008  
CERTIFIED QUALITY



**3 year  
warranty**  
meter only

### Specifications

| Model        | CON 600 meter   | CON 610 meter                      |
|--------------|---|------------------------------------|
| Conductivity | 0 to 200.0 mS   | 0 to 500.0 mS                      |
| TDS          | 0 to 200 ppt  | 0 to 500 ppt                       |
| Salinity     | —   | 0 to 80 ppt                        |
| Resistivity  | —   | 0 to 20.00 MΩ                      |
| Temperature  | –10.0 to 110.0°C (14.0 to 230.0°F)  | –10.0 to 110.0°C (14.0 to 230.0°F) |
| Resolution   | 0.05% full-scale; 0.1°C (0.1°F)   |                                    |
| Accuracy     | ±1% full-scale; ±0.5°C (±0.9°F)   |                                    |
| Calibration  | Manual cal, up to 5 points (1 per range); automatic up to 4 points (84.0 μS/cm, 1413 μS/cm, 12.88 mS/cm, 111.8 mS/cm). Temperature offset 0.1°C (0.1°F) increments. |                                    |

**TDS factor:** 0.40 to 1.00

**Cell constant:** 0.010 to 10.000

**Memory:** up to 500 sets with GLP date and time

**Output:** infrared, IrDA

**Real-time clock:** time-and-date stamp on calibration and stored data

**Temperature normalization:** 15 or 30°C

**Temperature coefficient:** linear or pure (610 only)

**Temperature compensation:** automatic or manual (selectable) from 0 to 100°C

**Ambient operating temperature:** 0 to 50°C (32 to 122°F)

**Power:** four 1.5 V AA batteries (included) or optional universal AC adapter, up to 200 hours continuous use

#### Dimensions

**Meter:** 7¼" L x 3¼" W x 2¼" H (18.4 x 8.3 x 5.7 cm)

**Boxed:** 9½" L x 9½" W x 2¾" H (23 x 23 x 7 cm)

#### Weight

**Meter:** 1 lb (0.5 kg);

**Boxed:** 2 lb (0.9 kg)



**Meter kit saves you money!**

Multiparameter 650-Series meters are available. See pages 54–57.

### Ordering Information

| Catalog number | Precalibrated catalog number | Description        | Included   |
|----------------|------------------------------|--------------------|--|
| WD-35408-02    | WD-35408-03                  | CON 600 meter only | Meter and batteries  |
| WD-35408-12    | WD-35408-13                  | CON 610 meter only | Meter and batteries  |
| WD-35408-00    | WD-35408-01                  | CON 600 meter      | Meter, conductivity cell 35408-52, and batteries   |
| WD-35408-10    | WD-35408-11                  | CON 610 meter      | Meter, conductivity cell 35408-52, and batteries   |
| WD-35408-70    | WD-35408-71                  | CON 600 meter kit  | Meter, conductivity cell 35408-52, conductivity standards (60 mL each of four solutions; 1413 μS, 12.88 mS, 3000 ppm, and rinse water), rubber boot, electrode holder, batteries, and hard carrying case |
| WD-35408-80    | WD-35408-81                  | CON 610 meter kit  | Meter, conductivity cell 35408-52, conductivity standards (60 mL each of four solutions; 1413 μS, 12.88 mS, 3000 ppm, and rinse water), rubber boot, electrode holder, batteries, and hard carrying case |

WD-35408-50 Conductivity cell, 2-electrode, K = 0.1

WD-35408-52 Conductivity cell, 2-electrode, K = 1

WD-35408-54 Conductivity cell, 2-electrode, K = 10

WD-35408-56 Conductivity cell, 4-electrode, K = 0.3

WD-35418-83 Optional adapter, 110/220 VAC

WD-35418-86 Protective rubber boot for all 600- and 610- series meters

again and again®

## Benchtop Meters — Conductivity

# CON 700 Meter

**An affordable way to take consistent, accurate conductivity measurements in your laboratory!**

**Extra-large dual display shows both conductivity or TDS, and temperature in °C or °F** – Plus mode indicators and annunciators to indicate meter status

**Compact size saves bench space**

**Single- and multi-point automatic or manual calibration** – Customize meter calibration for quick checks or for best meter accuracy

**Auto ranging across five ranges** – Offers the best resolution for your measurements

**Advanced setup mode** – Recalls previous calibration data, conductivity/TDS effective cell constants per range, and more

**Built-in nonvolatile memory** – Stores up to 100 conductivity or TDS readings with corresponding temperature

**Automatic or manual temperature compensation**

**Selectable cell constant** –

K = 0.1 for pure water;

K = 1.0 for most applications;

K = 10 for concentrated solutions

**Adjustable conductivity-to-TDS conversion factor and temperature coefficient** – Gives highest accuracy in any solution

**Selectable normalization temperature** – Choose between 15 to 30°C

**Removable electrode holder arm; selectable "Ready" indicator; Hold function; diagnostic error messages**

**Includes conductivity cell** – With cell constant of 1.0—ideal for most applications



CON 700 meter includes electrode holder and handy slide-out instruction card.

ISO9001:2008  
CERTIFIED SUPPLIER

CE

3 year  
warranty  
meter only

### Specifications

| Mode                       | Conductivity   | TDS   | Temperature  |
|----------------------------|--|---|--|
| <b>Ranges (Resolution)</b> | 0.00 to 20.00 $\mu$ S (0.01 $\mu$ S),<br>0.0 to 200.0 $\mu$ S (0.1 $\mu$ S),<br>0 to 2000 $\mu$ S (1 $\mu$ S),<br>0.00 to 20.00 mS (0.01 mS),<br>0.0 to 200.0 mS (0.1 mS)                  | 0.00 to 10.00 ppm (0.01 ppm),<br>10.0 to 100.0 ppm (0.1 ppm),<br>100 to 1000 ppm (1 ppm),<br>1.00 to 10.00 ppt (0.01 ppt),<br>10.0 to 100.0 ppt (0.1 ppt),<br>100 to 200 ppt (1 ppt)* | 0.0 to 100.0°C (0.1°C),<br>32.0 to 212.0°F (0.1°F) |
| <b>Accuracy</b>            | $\pm 1\%$ full-scale or $\pm 1$ digit  |   | $\pm 0.5^\circ\text{C}$ , $\pm 0.9^\circ\text{F}$  |
| <b>Calibration</b>         | Automatic: single or multi-point up to 4 points<br>(84 $\mu$ S, 1413 $\mu$ S, 12.88 mS, 111.8 mS); Manual: single or multi-point<br>(up to 5 points per range for multi-point calibration) |   | Offset 0.1°<br>increments<br>up to $\pm 5^\circ$   |

\*200 ppt @ 1.0 factor

**Cell constant (K):** 0.1, 1.0, or 10 (selectable)

**Temperature compensation:** automatic or manual (selectable) from 32 to 212°F (0 to 100°C)

**Temperature coefficient:** adjustable from 0 to 10% per °C or °F

**Conductivity-to-TDS factor:** adjustable from 0.40 to 1.00

**Normalization temperature:** 15 to 30°C (adjustable)

**Memory:** 100 sets

**Display:** dual display of conductivity or TDS, with temperature (°C or °F)

**Operating temperature:** 0 to 50°C (32 to 122°F)

**Power:** 500 mA; 100/240 VAC, 50/60 Hz using AC adapter (included). AC adapter is UL and CSA listed.

#### Dimensions

**Meter:** 6 $\frac{1}{8}$ " x 6 $\frac{1}{8}$ " x 2 $\frac{3}{4}$ " (15.5 x 17.5 x 6.9 cm)

**Boxed:** 9" x 12 $\frac{3}{4}$ " x 5" (23 x 35 x 12.5 cm)

#### Weight

**Meter only:** 1.25 lb (0.6 kg); **Boxed:** 3 lb (1.4 kg)

### Ordering Information

| Catalog number | Precalibrated catalog number | Description   | Included   |
|----------------|------------------------------|---------------|--|
| WD-35411-00    | WD-35411-01                  | CON 700 meter | Meter, conductivity cell with an Ultem® body/stainless steel sensor K = 1.0 (35608-74), electrode holder, and AC adapter |

**WD-35608-72 Conductivity cell**, epoxy body, platinum sensor, built-in temperature sensor (K = 0.1). 3-ft (1-m) cable

**WD-35608-74 Replacement conductivity cell**, Ultem body, stainless steel sensor, built-in temperature sensor (K = 1.0). 3-ft (1-m) cable

**WD-35608-76 Conductivity cell**, epoxy body, platinum sensor, built-in temperature sensor (K = 1.0). 3-ft (1-m) cable

**WD-35608-78 Conductivity cell**, epoxy body, platinum sensor, built-in temperature sensor (K = 10). 3-ft (1-m) cable

**WD-35420-54 Replacement electrode holder arm**

**WD-35420-72 Replacement universal adapter**



A wide range of conductivity cells and calibration solutions are available. See page 43 to order.

## Conductivity — Benchtop Meters

# CON 2700 Meter

**A great low price for a high performance meter that measures conductivity, total dissolved solids, resistivity, and salinity!**

Conductivity

**Takes up less bench space** – Overall footprint is nearly 40% smaller than other benchtop meters

**Oversized liquid crystal display with bright backlighting** – Easier viewing under all lighting conditions

**Dynamic reading stability indication shows when your measurement is stable** – Eliminates guesswork from unstable readings

**Up to 500 point nonvolatile memory with time-and-date stamp** – Meets GLP requirements

**Bidirectional RS-232** for easy data transfer to your computer

**Includes a high-performance 4-cell conductivity probe!** – Higher accuracy across a broader range of samples

**Auto-calibration makes calibration easier** – Meter automatically selects a conductivity calibration standard value based on the range and normalization temperature being used

**Auto-standardization** – detects the exact cell constant of your electrode

**Probe status** – Indicates when probe maintenance or replacement should be done

**Cal-due alarm** – no more out-of-date calibrations

**User-settable limit alarms** – alerts when reading falls out of range

**Password protection** – prevents unauthorized setup or calibration



Software included

See page 43 for conductivity probes and calibration standards.

ISO 9001:2008  
CERTIFIED SUPPLIER

3 year  
warranty  
meter only

### Specifications

| Mode        | Conductivity  | TDS                                 | Salinity                            | Resistivity   | Temperature                             |
|-------------|---|-------------------------------------|-------------------------------------|---|---|
| Range       | 0.050 $\mu$ S/cm to 500.0 mS/cm (5-range autoranging) | 0.050 to 500.0 ppt                  | 0.0 to 80.0 ppt                     | 2.000 $\Omega$ to 20.0 M $\Omega$                         | 0.0 to 100.0°C (32.0 to 212°F)          |
| Resolution  | 0.01, 0.1 $\mu$ S/cm, 0.001, 0.01, 0.1 mS/cm          | 0.01, 0.1 ppm, 0.001, 0.01, 0.1 ppt | 0.01, 0.1 ppm; 0.001, 0.01, 0.1 ppt | 0.01/0.1 $\Omega$ , 0.01/0.1 k $\Omega$ , 0.01 M $\Omega$ | 0.1°C or °F                             |
| Accuracy    | ± 1% full scale                                       | ± 1% full scale                     | ± 1% full scale                     | ± 1% full scale   | ± 0.3°C (± 0.5°F)                       |
| Calibration | 5 points (one point per range)                        | 5 points (one point per range)      | 5 points (one point per range)      | 5 points (one point per range)                            | Offset in 0.1 increments, ± 5°C (± 9°F) |
| Connectors  | 8-pin DIN   | 8-pin DIN                           | 8-pin DIN                           | 8-pin DIN   | 8-pin DIN                               |

**Temperature compensation:** manual or automatic from -5°C to 105°C

**Conductivity temp coefficient:** adjustable from 0.0 to 10% per °C/°F

**Conductivity cell constant:** 0.01 to 10.000

**Conductivity-to-TDS factor:** adjustable from 0.4 to 1.0

**Normalization temperature:** adjustable from 15 to 30°C

**Memory:** up to 500 data sets

**Output:** RS-232, 9-pin female

**Display:** 3/4" x 2 1/8" (8.3 x 6.2 cm) graphic LCD with backlight

**Operating temperature:** 41 to 113°F, noncondensing

**Power:** universal 110/240 VAC with adapters; UL/CSA listed

#### Dimensions

**Meter:** 6 1/8" x 6 7/8" x 2 3/4" (15.5 x 17.5 x 6.9 cm)

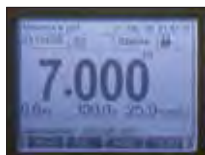
**Boxed:** 12" x 9" x 5" (30.8 x 15.5 x 12.4 cm)

#### Weight

**Meter only:** 1.4 lbs (650 g); **Boxed:** 4 lbs (1800 g)



Unstable reading



Stable reading

### Ordering Information

| Catalog number | Precalibrated catalog number | Description    | Included  |
|----------------|------------------------------|----------------|---|
| WD-35412-00    | WD-35412-01                  | CON 2700 meter | Meter, 4-cell conductivity/temperature probe 35412-10, electrode holder, and universal 110/240 VAC power supply |

**WD-35412-10 Replacement conductivity/temperature probe** for 2700-series meter; 4-cell, K= 1.0 epoxy/graphite

**WD-35420-01 RS-232 cable**

**WD-35630-53 Data cable** for USB connectivity



...setting the standard  
again and again®

## Accessories — Conductivity

# Probes and Calibration Solutions

## Conductivity/TDS Probes

### Choose from three cell constants

All probes feature built-in temperature compensation. A 1.0 cell constant (K) is ideal for midrange conductivity measurements. For high conductivity measurements (near or above 20 mS), order a probe with K = 10.0; for low conductivity measurements (near or below 20 µS), order a probe with K = 0.1.



**A B C**

### Ordering Information

| Catalog number  | Body/sensor material   | Cell constant (K) | Temperature range | Cable length | Probe style |
|---|------------------------|-------------------|-------------------|--------------|-------------|
| <b>Probes for use with CON 6/6+, TDS 6/6+, and SALT 6/6+</b>  |                        |                   |                   |              |             |
| WD-35606-53   | Epoxy/platinum         | 0.1               | 0 to 80°C         | 3 ft (1 m)   | <b>A</b>    |
| WD-35606-55   | Ultem/stainless steel  | 1.0               | 0 to 80°C         | 3 ft (1 m)   | <b>C</b>    |
| WD-35606-57   | Epoxy/platinum         | 10                | 0 to 80°C         | 3 ft (1 m)   | <b>A</b>    |
| <b>Probes for use with CON 11, CON 110, CON 150, pH/CON 300, CON 400, TDS 400, CON 410, CON 450, and pH/CON 510</b> |                        |                   |                   |              |             |
| WD-35608-50   | Ultem/stainless steel  | 1.0               | 0 to 80°C         | 3 ft (1 m)   | <b>C</b>    |
| WD-35608-57   | Ultem/stainless steel  | 1.0               | 0 to 80°C         | 10 ft (3 m)  | <b>C</b>    |
| WD-35607-58   | Epoxy/platinum         | 1.0               | 0 to 80°C         | 3 ft (1 m)   | <b>A</b>    |
| WD-35608-51   | Epoxy/platinum         | 10                | 0 to 80°C         | 3 ft (1 m)   | <b>A</b>    |
| WD-35608-52   | Glass/platinum         | 1.0               | 0 to 100°C        | 3 ft (1 m)   | <b>B</b>    |
| WD-35608-55   | Epoxy/platinum         | 0.1               | 0 to 80°C         | 3 ft (1 m)   | <b>A</b>    |
| <b>Probes for use with CON 600, CON 610, PC 650, CD 650, and PCD 650</b>  |                        |                   |                   |              |             |
| WD-35408-50   | Epoxy/graphite         | 0.1               | 0 to 80°C         | 3 ft (1 m)   | <b>A</b>    |
| WD-35408-52   | Ultem/stainless steel  | 1.0               | 0 to 80°C         | 3 ft (1 m)   | <b>C</b>    |
| WD-35408-57   | Ultem/stainless steel  | 1.0               | 0 to 80°C         | 6 ft (2 m)   | <b>C</b>    |
| WD-35408-54   | Epoxy/graphite         | 10                | 0 to 80°C         | 3 ft (1 m)   | <b>A</b>    |
| WD-35408-56   | Epoxy, 4-cell/graphite | 0.3               | 0 to 80°C         | 3 ft (1 m)   | <b>A</b>    |
| <b>2-cell conductivity probes for use with CON 700/2700 and PC 700/2700</b>   |                        |                   |                   |              |             |
| WD-35608-72   | Epoxy/platinum         | 0.1               | 0 to 80°C         | 3 ft (1 m)   | <b>A</b>    |
| WD-35608-74   | Ultem/stainless steel  | 1.0               | 0 to 80°C         | 3 ft (1 m)   | <b>C</b>    |
| WD-35608-76   | Epoxy/platinum         | 1.0               | 0 to 80°C         | 3 ft (1 m)   | <b>A</b>    |
| WD-35608-78   | Epoxy/platinum         | 10                | 0 to 80°C         | 3 ft (1 m)   | <b>A</b>    |
| <b>4-cell conductivity probes for use with CON 2700 and PC 2700</b>   |                        |                   |                   |              |             |
| WD-35608-90   | Epoxy/platinum         | 0.1               | 0 to 80°C         | 3 ft (1 m)   | <b>A</b>    |
| WD-35412-10   | Epoxy/graphite         | 0.5               | 0 to 100°C        | 3 ft (1 m)   | <b>A</b>    |
| WD-35608-92   | Epoxy/platinum         | 1.0               | 0 to 80°C         | 3 ft (1 m)   | <b>A</b>    |
| WD-35608-94   | Epoxy/platinum         | 10                | 0 to 80°C         | 3 ft (1 m)   | <b>A</b>    |

## Conductivity/TDS Calibration Pouches

### Standardized against NIST-traceable reference for accuracy

Conductivity/TDS pouches are convenient, individually sealed pouches that contain high-precision calibration standards. Ideal for field calibration; just select the pouches you need and carry them to your test site for on-the-spot calibration and verification. Pouches are labeled with equivalent values for KCl, NaCl, and 442 and conductivity values. Each box contains twenty 20-mL pouches.



### Ordering Information

| Catalog number | Conductivity value | Conductivity-to-TDS calibration values |          |         |
|----------------|--------------------|--|----------|---------|
|                |                    | ppm KCl                                | ppm NaCl | ppm 442 |
| WD-35653-09    | 10 µS              | 4.7                                    | 4.8      | 7.0     |
| WD-35653-10    | 447 µS             | 225.6                                  | 215.5    | 300.0   |
| WD-35653-11    | 1413 µS            | 744.7                                  | 702.1    | 1000    |
| WD-35653-12    | 2764 µS            | 1382                                   | 1414.8   | 2062.7  |
| WD-35653-13    | 15,000 µS          | 8759                                   | 8532     | 13,455  |
| WD-35653-15    | 5,650 µS           | 3240                                   | 3000     | —       |

WD-35653-00 Deionized rinse water pouches, 20 pouches/box

## Conductivity/TDS Calibration Solutions

### Standardized against NIST-traceable references to ensure quality

Conductivity/TDS calibration solutions are cross checked using different test methods, premixed, and ready to use.



### Ordering Information

| Catalog number | Conductivity value | Conductivity-to-TDS calibration values |          |         |
|----------------|--------------------|--|----------|---------|
|                |                    | ppm KCl                                | ppm NaCl | ppm 442 |
| WD-00653-23    | 23 µS              | 11.6                                   | 10.7     | 14.74   |
| WD-00653-16    | 84 µS              | 40.38                                  | 38.04    | 50.50   |
| WD-00653-47    | 447 µS             | 225.6                                  | 215.5    | 300.0   |
| WD-00653-18    | 1413 µS            | 744.7                                  | 702.1    | 1000    |
| WD-00653-15    | 1500 µS            | 757.1                                  | 737.1    | 1050    |
| WD-00653-27    | 2070 µS            | 1045                                   | 1041     | 1500    |
| WD-00653-20    | 2764 µS            | 1382                                   | 1414.8   | 2062.7  |
| WD-00653-89    | 8974 µS            | 5101                                   | 4487     | 7608    |
| WD-00606-10    | 12,880 µS          | 7447                                   | 7230     | 11,367  |
| WD-00653-50    | 15,000 µS          | 8759                                   | 8532     | 13,455  |
| WD-00653-32    | 80 mS              | 52,168                                 | 48,384   | 79,688  |



## Dissolved Oxygen — Selection Guide

# Dissolved Oxygen Meter Selection Guide

### Get Better Accuracy

Oakton dissolved oxygen meters offer accuracy up to  $\pm 1.5\%$  full-scale. All meters feature temperature, pressure, and salinity correction for best measurement accuracy. Choose the probe technology best suited to your application.

- **Optical probe (RDO)** featured on the 450 series offers the advantages of galvanic probes, but requires no membrane or solution maintenance.
- **Galvanic probes** featured on the 6+, 600, and 700 series offer low drift for better accuracy while eliminating warm-up time.
- **Polarographic probe** featured on the 2700 series is ideal for benchtop BOD laboratory testing.

### Get Dependability

Oakton dissolved oxygen meters are built to last and include a three-year warranty. The ASIC microprocessor technology offers trouble-free performance for years. ISO 9001:2008 certified company with CE mark product to ensure product excellence.

See page 50 to order replacement DO probes and accessories.



6+ series

Waterproof 450 series

Waterproof 600 series

Benchtop series

Use this handy comparison chart to help select the dissolved oxygen meter right for your application.

| Meter                     | 6+ series                 | Waterproof 450 series         | Waterproof 600 series               | Benchtop 700            | Benchtop 2700                  |
|---------------------------|---------------------------|-------------------------------|-------------------------------------|-------------------------|--------------------------------|
| See pages                 | 45                        | 46                            | 47                                  | 48                      | 49                             |
| Description               | Low cost, rugged, compact | Best value, advanced features | Rugged field/ environmental meter   | Basic DO benchtop meter | Advanced DO/BOD benchtop meter |
| Display                   | Single-line LCD           | Three-line LCD with backlight | Multiline dot matrix with backlight | Large three-line LCD    | Graphic display with backlight |
| IP67-rated housing        | —                         | Yes                           | Yes                                 | —                       | —                              |
| Memory                    | —                         | Up to 500 data sets           | Up to 500 data sets                 | Up to 100 data sets     | Up to 500 data sets            |
| Communication             | —                         | USB or RS-232                 | IrDA                                | —                       | RS-232                         |
| Password protection       | —                         | Yes                           | Yes                                 | —                       | Yes                            |
| Real-time clock           | —                         | Yes                           | Yes                                 | Yes                     | Yes                            |
| Probe technology          | Galvanic                  | Optical DO                    | Galvanic                            | Galvanic                | Polarographic                  |
| DO accuracy               | $\pm 1.5\%$ full-scale    | $\pm 1.5\%$ full-scale        | $\pm 1.5\%$ full-scale              | $\pm 0.5\%$ full-scale  | $\pm 0.5\%$ full-scale         |
| Pressure correction       | Manual                    | Automatic                     | Automatic                           | Automatic               | Automatic                      |
| Salinity correction       | Manual                    | Manual                        | Manual                              | Manual                  | Manual                         |
| Automatic shutoff         | After 17 minutes          | Yes, adjustable               | Yes, adjustable                     | —                       | —                              |
| Hold function             | Yes                       | Yes                           | Yes                                 | Yes                     | Yes                            |
| Ready/stability indicator | —                         | Yes                           | Yes                                 | Yes                     | Yes                            |
| Built-in stand            | Yes (in boot)             | Yes                           | Yes                                 | —                       | —                              |
| Protective rubber boot    | Yes                       | —                             | Optional                            | —                       | —                              |
| AC power adapter          | —                         | Optional                      | Optional                            | Yes                     | Yes                            |

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## Handheld Meters — Dissolved Oxygen

# DO 6+ Meter

**Compact and economical—  
rugged rubber boot protects meter**

**No meter warm-up required** – Galvanic probe design lets you take measurements immediately without the typical 15-minute wait!

**Easy-to-service, low-maintenance probe** – Replaceable membrane cap assembly makes probe maintenance hassle-free! Simply fill cap with electrolyte solution and screw on.

**Key in salinity and pressure values manually** – Meter then calculates the offset value for increased accuracy

**Independent 100% and zero adjustment calibrations** – Gives meter high accuracy across entire measuring range

**Offset adjustment capabilities** – Calibrate your meter to a known work standard or titrimetrically determined value

**Displays electrode diagnostics** – Gives slope, zero offset, and millivolt values to help determine when you need to service or replace electrode

**Easily toggle from mg/L (ppm) or % saturation to temperature mode**

**Built-in stand for benchtop or long-term use**

**Protective rubber boot** – Helps shield your meter from drops and dings



35643-12

ISO9001:2008  
CERTIFIED SUPPLIER



**3 year**  
warranty  
meter only

### Specifications

| Mode       | mg/L (ppm)               | % Saturation     | Temperature     |
|------------|--------------------------|------------------|-----------------|
| Range      | 0.00 to 20.00 mg/L (ppm) | 0.0 to 200.0%    | -5.0 to 105.0°C |
| Resolution | 0.01 mg/L (ppm)          | 0.1%             | 0.1°C           |
| Accuracy   | ±1.5% full-scale         | ±1.5% full-scale | ±0.5°C          |

**Temperature compensation:** automatic from 0 to 50°C

#### Salinity correction

Range: 0.0 to 50.0 ppt  
Resolution: 0.1 ppt  
Method: key in manually for meter calculated correction

#### Barometric pressure correction

Range: 500 to 1499 mm Hg  
Resolution: 1 mm Hg  
Method: key in manually for meter calculated correction

**Probe:** galvanic

**Memory:** none

**Operating temperature:** 0 to 50°C (32 to 122°F)

**Power:** four 1.5 V AAA batteries (included),  
>700 hrs continuous use

#### Dimensions

**Meter:** 5½" L x 2¼" W x 1¼" H (14 x 7 x 3.5 cm)

**Boxed:** 8¼" L x 5¼" W x 3" H (21 x 15 x 7.5 cm)

**Probe:** 5" L x ½" dia (11.5 cm L x 1.2 cm dia)

#### Weight

**Meter:** 1 lb (0.5 kg); **Boxed:** 1.4 lb (0.6 kg)



Meter includes a  
protective rubber boot  
and a built-in stand.

See page 50 to order  
replacement DO probes  
and accessories.

### Ordering Information

| Catalog number | Precalibrated catalog number | Description      | Included  |
|----------------|------------------------------|------------------|---|
| WD-35643-10    | WD-35643-11                  | DO 6+ meter only | Meter and batteries   |
| WD-35643-12    | WD-35643-13                  | DO 6+ meter      | Meter, DO probe 35642-50 with 3-ft (1-m) cable, electrolyte solution, replacement membrane cap, and batteries   |
| WD-35643-14    | WD-35643-15                  | DO 6+ meter kit  | Meter, DO probe 35642-50 with 3-ft (1-m) cable, electrolyte solution, two replacement membrane caps, sample bottles, hard carrying case with space for meter and probe, and batteries |

### Accessories

**WD-35642-50 Replacement DO probe** with 3-ft (0.9-m) cable

**WD-35642-55 Maintenance kit** includes replacement membrane cap and 10 mL of electrolyte solution

**WD-35640-71 Replacement electrolyte**, premixed 500-mL bottle

## Dissolved Oxygen — Handheld Meters

# RDO 450 Meter

**Affordable optical RDO technology reduces maintenance time and costs**

**New**

**Durable waterproof and dustproof design with IP67 rating**

**Large, backlit custom display provides measurement with temperature**

**Switch between mg/L (ppm) and % saturation dissolved oxygen with a press of a button**

**Eliminate costly, tiresome membranes and solution**

**Manual barometric pressure and salinity corrections**

**Automatic or manual temperature compensation –**

For the highest accuracy in any situation

**Selectable °C or °F –**

Choose the unit to best fit your application

**Hold, ready, low-battery indicator, and automatic shutoff functions**

**Store up to 500 data sets –** Easy USB or RS-232 output with optional data cables

**Built-in real-time clock stamps stored data and calibration data with time and date –** Meets standards for GLP (Good Laboratory Practices)

**Built-in stand with wall mount –** Allows for easy benchtop measurement and storage

**500 hours battery life or use optional universal power adapter**

35640-30



ISO9001:2008  
CERTIFIED SUPPLIER



CE 3 year  
warranty  
meter only

### Specifications

| Mode       | mg/L (ppm)         | % Saturation | Temperature                         |
|------------|--------------------|--------------|-------------------------------------|
| Range      | 0 to 20 mg/L (ppm) | 0 to 200%    | -10.0 to 110.0°C (-17.0 to 230.0°F) |
| Resolution | 0.1 mg/L (ppm)     | 0.10%        | 0.1°C/°F                            |
| Accuracy   | ±2%                | ±2%          | ±0.5°C (±0.9°F)                     |

**Temperature compensation:** automatic or manual from -10 to 110°C

**Probe:** optical RDO

**Memory:** up to 500 data sets

**Output:** USB or RS-232

**Real-time clock:** time-and-date stamp on calibration and stored data

**Display:** custom LCD with backlight

**Power:** two AA batteries (included), 500 hours (without backlight); AC adapter (optional)

**Dimensions (L x W x H)**

**Meter:** 7 1/8" x 3 1/8" x 2 1/4" (20 x 8.3 x 5.7 cm)

**Boxed:** 9 1/8" x 9 1/8" x 2 3/4" (23 x 23 x 7 cm)

**Weight:**

**Meter:** 1 lb (0.5 kg)

**Boxed:** 1.4 lb (0.7 kg)

### Ordering Information

| Catalog number | Precalibrated catalog number | Description              | Included   |
|----------------|------------------------------|--------------------------|--|
| WD-35640-32    | WD-35640-34                  | RDO 450 meter only       | Meter and two AA batteries   |
| WD-35640-30    | WD-35640-31                  | RDO 450 meter with probe | Meter, RDO probe, sensor cap, and two AA batteries   |
| WD-35640-90    | WD-35640-91                  | RDO 450 meter kit        | Meter, RDO probe, sensor cap, RDO weight, calibration tube, two AA batteries, and hard carrying case |

### Accessories

**WD-35640-51 Replacement RDO sensor cap**

**WD-35640-53 Replacement RDO probe, 10-ft (3-m) cable**

**WD-35640-55 RDO probe, 20-ft (6-m) cable**

**WD-35640-57 RDO probe, 50-ft (15-m) cable**

**WD-35640-59 RDO weight, screw thread to attach to probe**

**WD-35640-58 RDO calibration chamber**

**WD-35630-53 Data cable** from meter to USB port

**WD-35420-01 Data cable** from meter to RS-232 port

**WD-35614-51 Hard carrying case**, fits all 150/450 meter configurations

**WD-35420-72 Optional adapter**, 110/220 VAC

**WD-09376-01 Replacement batteries**, AA. Pack of 4



**Meter kit saves you money!**

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again and again®

## Handheld Meters — Dissolved Oxygen

# DO 600 Meter

**Fast dissolved oxygen measurement  
with automatic pressure compensation**

**Durable waterproof and dustproof  
design with IP67 rating** – Even with  
no probes attached

**Single or multipoint calibration** –  
Fast, trouble-free calibration in air

**Large backlit graphic display** –  
Multiline display with electrode status  
indicator, calibration data, and more

**User-settable “calibration due” alarm** –  
Out-of-date or unperformed calibrations are  
now a thing of the past!

**Built-in real-time clock** – Time-and-date  
stamping meets Good Laboratory Practice (GLP)  
standards

**Advanced data management** – Store  
up to 500 data sets and download via IrDA  
wireless interface

**Set point alarms** – Audible warning when  
readings are outside set points limit

**No meter warm-up required** – Galvanic probe  
design lets you take measurements immediately  
without the typical 15-minute wait!

**Password protection** – Security for calibration  
and setup menus

**Rugged rubber boot** – Protects meter when  
out in the field



35441-02

ISO 9001:2008  
CERTIFIED SUPPLIER

**3 year  
warranty**  
meter only

### Specifications

| Mode       | mg/L (ppm)               | % Saturation   | Temperature                     |
|------------|--------------------------|----------------|---------------------------------|
| Range      | 0.00 to 90.00 mg/L (ppm) | 0.0 to 600.0%  | 0.0 to 50.0°C (32.0 to 122.0°F) |
| Resolution | 0.01 mg/L (ppm)          | 0.1%           | 0.1°C (0.1°F)                   |
| Accuracy   | ±0.2% mg/L (ppm)         | ±2% full-scale | ±0.3°C (±0.3°F)                 |

**Temperature compensation:** automatic or manual  
(selectable) from 0 to 50°C

#### Salinity correction

Range: 0.0 to 50.0 ppt  
Resolution: 0.1 ppt  
Method: key in manually for meter calculation  
correction

#### Barometric pressure correction

Range: 450 to 825 mm Hg, 59.9 to 109.9 kPa  
Resolution: 1 mm Hg, 0.1 kPa  
Method: automatic correction

**Probe:** galvanic

**Memory:** up to 500 sets with GLP date and time

**Output:** infrared, IrDA

**Real-time clock:** time-and-date stamp on calibration  
and stored data

**Display:** multiline LCD with backlighting

**Ambient operating temperature:** 0 to 50°C (32 to 122°F)

**Power:** four 1.5 V AA batteries (included) or optional  
universal AC adapter, up to 500 hours continuous use

#### Dimensions

**Meter:** 7¼" L x 3¼" W x 2¼" H (18.4 x 8.3 x 5.7 cm)

**Boxed:** 9½" L x 9½" W x 2¾" H (23 x 23 x 7 cm)

#### Weight

**Meter:** 1 lb (0.5 kg); **Boxed:** 2 lb (0.9 kg)



Complete kit available; includes meter,  
solutions, rubber boot, and carrying case.

DO probes available with  
up to 100-ft (30-m) cable.  
See page 50 to order.

### Ordering Information

| Catalog number | Precalibrated catalog number | Description       | Included  |
|----------------|------------------------------|-------------------|---|
| WD-35441-02    | WD-35441-03                  | DO 600 meter only | Meter and batteries   |
| WD-35441-00    | WD-35441-01                  | DO 600 meter      | Meter, probe 35640-50 with 10-ft (3-m) cable, electrolyte solution, replacement membrane caps, and batteries                                  |
| WD-35441-70    | WD-35441-71                  | DO 600 meter kit  | Meter, probe 35640-50 with 10-ft (3-m) cable, electrolyte solution, rubber boot, replacement membrane caps, hard carrying case, and batteries |

WD-35640-50 Replacement dissolved oxygen probe, 10-ft (3-m) cable

WD-35418-83 Optional adapter, 110/220 VAC

WD-35418-86 Protective rubber boot for all 600- and 650-series meters



## Dissolved Oxygen — Benchtop Meters

# DO 700 Meter

**Economical and user-friendly meter is perfect for water treatment facilities and schools**

**Takes up less bench space** – Overall footprint is nearly 40% smaller than other benchtop meters

**Oversized liquid crystal display** – Easy to see from across the laboratory

**Up to 100 point nonvolatile memory**

**Dissolved oxygen measurements in mg/L, ppm, or % saturation**

**Accurate readings under varying conditions** – Corrections for temperature (automatic or manual), salinity (manual), and barometric pressure (manual)

**Convenient pull-out reference guide**

Dissolved Oxygen



Splash-resistant keypad



Electrode holder can be mounted on either side of meter

See page 50 for probe maintenance and calibration supplies



35415-00

### Specifications

ISO9001:2008  
CERTIFIED SUPPLIER

CE 3 year warranty  
meter only

| Mode              | mg/L (ppm)       | % Saturation     | Temperature                   |
|-------------------|------------------|------------------|-------------------------------|
| <b>Range</b>      | 0 to 30 mg/L     | 0 to 300%        | 0.0 to 50.0°C (32.0 to 122°F) |
| <b>Resolution</b> | 0.01             | 0.1%             | 0.1°C or °F                   |
| <b>Accuracy</b>   | ±0.5% full scale | ±0.5% full scale | ±0.5°C (±0.9°F)               |
| <b>Connectors</b> | BNC              | BNC              | Phono                         |

**Temperature compensation:** manual or automatic from 0 to 50°C (32 to 122°F)

#### Salinity compensation

Range: 0 to 50 ppt  
Resolution: 0.1 ppt  
Method: key in manually and meter automatically corrects

#### Barometric compensation

Range: 450 to 825 mm Hg  
Resolution: 1 mm Hg  
Method: key in manually and meter automatically corrects

**Probe:** galvanic with 3-ft (1-m) cable

**Memory:** up to 100 data sets

**Output:** none

**Display:** 3¼" x 2⅞" (8.3 x 6.2 cm) graphic LCD

**Operating temperature:** 5 to 45°C (41 to 113°F), noncondensing humidity

**Power:** universal 110/240 VAC with adapters; UL/CSA listed

#### Dimensions

**Meter:** 6⅞" x 6⅞" x 2⅞" (15.5 x 17.5 x 6.9 cm)

**Boxed:** 12" x 9" x 5" (30.8 x 15.5 x 12.4 cm)

#### Weight

**Meter only:** 1.4 lb (0.6 kg); **Boxed:** 4 lb (1.8 kg)

### Ordering Information

| Catalog number | Precalibrated catalog number | Description  | Included   |
|----------------|------------------------------|--------------|--|
| WD-35415-00    | WD-35415-01                  | DO 700 meter | Meter, dissolved oxygen probe 35642-50, electrode holder, and AC adapter |

WD-35642-50 Replacement DO probe with 3-ft (1-m) cable

WD-35820-64 In-line fitting for DO probe 35642-50

WD-35420-54 Replacement electrode arm

WD-35420-72 Replacement universal power adapter

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## Benchtop Meters — Dissolved Oxygen

# DO 2700 Meter

**Optimal performance and versatility  
at a very affordable price!**

**Takes up less bench space** – Overall footprint is nearly 40% smaller than other benchtop meters

**Oversized liquid crystal display** – Easy to see readings from across the lab; viewing under all lighting conditions

**Dynamic reading stability indication** – Shows when your measurement is stable, eliminating guesswork from unstable readings

**Up to 500 point nonvolatile memory with time-and-date stamp** – Meets GLP requirements

**Bidirectional RS-232** – Easy data transfer to your computer

**Automatic calibration at 100% and independent 0%** – Provides greater measurement sensitivity at low oxygen levels

**Built-in barometer** – Automatically adjusts for most accurate readings

**Corrections for temperature and salinity variations** – Automatic or manual temperature compensation and manual salinity correction

**Calibration documentation** – Details include date and time, calibration standard, offset, slope, and next cal date

**User-settable alarms** – Alert you when readings are out-of-range or calibration should be performed

**Electrode diagnostics** – Indicate when probe maintenance or replacement is due

**Password protection** – Prevents unauthorized use

**Includes a self-stirring dissolved oxygen/BOD probe** – Ideal for wastewater testing in the laboratory



See page 50  
for probe  
maintenance and  
calibration supplies

35416-00

ISO9001:2008  
CERTIFIED SUPPLIER

3 year  
warranty  
meter only

### Specifications

| Mode       | mg/L (ppm)       | % Saturation     | Temperature                   |
|------------|------------------|------------------|-------------------------------|
| Range      | 0 to 50 mg/L     | 0 to 600.0%      | 0.0 to 50.0°C (32.0 to 122°F) |
| Resolution | 0.01, 0.1        | 0.1%             | 0.1°C or °F                   |
| Accuracy   | ±0.5% full scale | ±0.5% full scale | ±0.3°C (±0.5°F)               |
| Connectors | BNC              | BNC              | Phono                         |

**Temperature compensation:** manual or automatic from 0 to 50°C (32 to 122°F)

#### Salinity compensation

Range: 0 to 50 ppt  
Resolution: 0.1 ppt  
Method: key in manually and meter automatically corrects

#### Barometric compensation

Range: 450 to 825 mm Hg  
Resolution: 1 mm Hg  
Method: meter automatically corrects with built-in barometer

**Probe:** polarographic self-stirring BOD with 3-ft (1-m) cable

**Memory:** up to 500 data sets

**Output:** RS-232

**Display:** 3¼" x 2⅞" (8.3 x 6.2 cm) graphic LCD with backlight

**Operating temperature:** 5 to 45°C (41 to 113°F), noncondensing humidity

**Power:** universal 110/240 VAC with adapters; UL/CSA listed

#### Dimensions

**Meter:** 6⅞" x 6⅞" x 2¼" (15.5 x 17.5 x 6.9 cm)

**Boxed:** 12" x 9" x 5" (30.8 x 15.5 x 12.4 cm)

#### Weight

**Meter only:** 1.4 lb (0.6 kg); **Boxed:** 4 lb (1.8 kg)

### Ordering Information

| Catalog number | Precalibrated catalog number | Description   | Included  |
|----------------|------------------------------|---------------|---|
| WD-35416-00    | WD-35416-01                  | DO 2700 meter | Meter, self-stirring dissolved oxygen/BOD probe 35420-82, six membrane caps, electrolyte solution, and AC adapter |

### Accessories

WD-35420-82 Replacement self-stirring DO/BOD probe with 3-ft (1-m) cable

WD-35420-01 RS-232 data cable

WD-35630-53 USB data cable

WD-35420-72 Replacement universal power adapter



Unstable reading



Stable reading

## Dissolved Oxygen — Accessories

# DO Probes and Accessories

## Probes

Oakton® probes use galvanic technology to provide rapid results, without any warm-up requirements for field use or economical polarographic technology for BOD use.



### Probes for DO 6, DO 6+, and DO 700 meters

Includes 50 mL of electrolyte solution and one replacement membrane cap. Probe dimensions: 5"L x 0.5" dia (11.5 cm L x 1.2 cm dia)

| Catalog number | Description                                |
|----------------|--|
| WD-35642-50    | Replacement DO probe with 3-ft (1-m) cable |
| WD-35642-52    | DO probe with 10-ft (3-m) cable            |
| WD-35642-54    | DO probe with 30-ft (9-m) cable            |

### Probes for DO 110, DO 300, and DO 600 meters

Includes 50 mL of electrolyte solution and two replacement membrane caps. Probe dimensions: 6.8"L x 1.3" dia (17.3 cm L x 3.2 cm dia)

| Catalog number | Description                                 |
|----------------|---|
| WD-35640-50    | Replacement DO probe with 10-ft (3-m) cable |
| WD-35640-52    | DO probe with 25-ft (7-m) cable             |
| WD-35640-54    | DO probe with 50-ft (15-m) cable            |
| WD-35640-56    | DO probe with 100-ft (30-m) cable           |

### Probe for DO 2700 meter — BOD electrode with self-stirring mechanism

Includes 20 mL of electrolyte solution and six replacement membrane caps. Probe dimensions: 2.4"L x 0.5" dia (6.2 cm L x 1.2 cm dia)

| Catalog number | Description                                 |
|----------------|---|
| WD-35420-82    | Replacement BOD probe with 3-ft (1-m) cable |

## Probe Maintenance

| Catalog number   | Description  |
|--|--|
| <b>Membrane assembly for DO 6, DO 6+, and DO 700 meters</b>    |  |
| WD-35642-55  | Replacement membrane assembly consists of a preassembled membrane and cap. Simply screw replacement membrane assembly onto the probe you already have. Includes 50 mL of electrolyte solution. |
| <b>Membrane assembly for DO 110, DO 300, and DO 600 meters</b> |  |
| WD-35640-80  | Maintenance kit. Includes two complete membrane cap assemblies and 50 mL of electrolyte solution.  |
| WD-35640-72  | Replacement membrane assembly consists of a preassembled membrane, membrane lock, O-ring, and cap. Simply screw replacement membrane assembly onto your probe.                                 |
| WD-35640-79  | Membrane installation tool lets you remove and replace membrane in the lab or field.   |
| WD-35640-74  | Replacement HDPE membranes. Pack of 5  |
| WD-35640-75  | Replacement HDPE membranes. Pack of 25   |
| <b>Membrane assembly for DO 2700 meter</b>                     |  |
| WD-53109-55  | Maintenance kit. Includes six membrane caps and 20 mL of electrolyte solution.   |

## Solutions

Ensure accurate readings by using Oakton solutions with your DO meter. Zero oxygen solution lets you calibrate for accurate low-end readings. Replacement electrolyte should be used whenever you replace the membrane or membrane cap.



00653-00

| Catalog number | Description  |
|----------------|--|
| WD-00653-00    | Zero oxygen calibration solution, 500 mL   |
| WD-35640-71    | Replacement electrolyte solution, premixed 500 mL  |
| WD-35640-70    | Replacement electrolyte powder, 58.5 g. Mix your own electrolyte solution—makes 400 mL. Has longer shelf life in unmixed form. |

## RDO Accessories

For RDO 450 meter only



35640-51

35640-59

35640-58

| Catalog number | Description  |
|----------------|--|
| WD-35640-51    | Sensor cap, for annual sensor replacement                    |
| WD-35640-59    | Stainless steel probe guard, screw thread to attach to probe |
| WD-35640-58    | Calibration chamber, screw thread to attach to probe         |

# Multiparameter Meter Selection Guide

## Get Better Accuracy

Oakton multiparameter meters offer automatic calibration, buffer recognition, and ranging functions with a wide selection of calibration solutions— quick, easy calibrations with flexibility to meet your applications. Kits include probe options with ATC to ensure temperature compensation. For special application requirements, Oakton offers a range of probes for pH, conductivity, and dissolved oxygen.

## Get Dependability

Oakton multiparameter meters are built to last and include a three-year warranty. The ASIC microprocessor technology offers trouble-free performance for years. ISO 9001:2008 certified company with CE mark products to ensure product excellence.



Waterproof 450 series



Waterproof 650 series



Benchtop series

Use this handy comparison chart to help select the multiparameter meter right for your application.

| Meter                     | Waterproof 450 series         | Waterproof 650 series                | Benchtop 700            | Benchtop 2700                  |
|---------------------------|-------------------------------|--------------------------------------|-------------------------|--------------------------------|
| See pages                 | 52–53                         | 54–57                                | 58                      | 59                             |
| Description               | Best value, advanced features | Rugged field / environmental meter   | Basic feature, benchtop | Advanced features, benchtop    |
| Display                   | Three-line LCD with backlight | Multi-line dot matrix with backlight | Large three-line LCD    | Graphic display with backlight |
| IP67-rated housing        | Yes                           | Yes                                  | —                       | —                              |
| Memory                    | Up to 500 data sets           | Up to 500 data sets                  | Up to 100 data sets     | Up to 500 data sets            |
| Communication             | USB or RS-232                 | IrDA                                 | —                       | RS-232                         |
| Password protection       | Yes                           | Yes                                  | —                       | Yes                            |
| Real-time clock           | Yes                           | Yes                                  | —                       | Yes                            |
| pH calibration points     | Up to 6                       | Up to 6                              | Up to 5                 | Up to 5                        |
| Auto buffer recognition   | Yes                           | Yes                                  | Yes                     | Yes                            |
| Buffer sets               | US, NIST, DIN                 | US, NIST, DIN, custom                | US, NIST, DIN           | US, NIST, DIN, custom          |
| Automatic end point       | Yes                           | Yes                                  | Yes                     | Yes                            |
| Automatic shut off        | Yes, adjustable               | Yes, adjustable                      | —                       | —                              |
| Hold function             | Yes                           | Yes                                  | Yes                     | Yes                            |
| Ready/stability indicator | Yes                           | Yes                                  | Yes                     | Yes                            |
| Built-in stand            | Yes                           | Yes                                  | —                       | —                              |
| Protective rubber boot    | —                             | Optional                             | —                       | —                              |
| AC power adapter          | Optional                      | Optional                             | Yes                     | Yes                            |

Guarantee measurement accuracy—look for the precalibrated items throughout this section and save!



## pH/CON 450 Meter

Select meter with combination pH/CON probe or separate pH and conductivity probes

**Durable waterproof and dustproof design with IP67 rating**

**Switch between pH, mV, conductivity, TDS, and salinity with a press of a button**

**Large, backlit custom display** – Lets you view measurement with temperature

**Six-point calibration** – Choose USA, NIST, DIN, PWB, or custom buffer sets

**Auto buffer recognition** – Automatically identifies the correct pH buffer for rapid calibration

**Calibration alarm** – A visible reminder when it is time to recalibrate the meter

**Intuitive, user-friendly icons** – Electrode status displays pH slope or cell constant

**Auto-range conductivity from 0 to 199.9 mS in five ranges** – With up to five calibration points

**Selectable cell constant** – 0.10, 1.00, or 10.0 from two-cell probe

**Selectable temperature coefficient** – Adjustable from 0 to 10% per °C for accurate compensation of almost any solution

**Conductivity-to-TDS factor** – Adjustable from 0.4 to 1.0

**Automatic or manual temperature compensation** – For the highest accuracy in any situation

**Selectable °C/°F** – Choose units to best fit your application

**Hold, ready, low-battery indicator, and automatic shutoff functions**

**Store up to 500 data sets; easy USB or RS-232 output with optional data cables**

**Built-in real-time clock stamps stored data and calibration data with time and date** – Meets standards for GLP (Good Laboratory Practices)

**Grip-Clip™ holder** – Quickly and easily secures the probe to your beaker or container

**Built-in stand with wall mount** – Allows for easy benchtop measurement and storage

**500 hours battery life or use optional universal power adapter**

**New**



ISO9001:2008  
CERTIFIED SUPPLIER

TUV  
Rheinland  
GS

CE

3 year  
warranty  
meter only

### Specifications

| Mode        | pH   | mV   | Conductivity                     | TDS                              | Salinity                         | Temperature                     |
|-------------|--|--|----------------------------------|----------------------------------|----------------------------------|---------------------------------|
| Range       | –2.00 to 16.00 pH                                | ±2000 mV   | 0 to 200 mS                      | 0 to 200 ppt                     | 0 to 50 ppt                      | –10 to 110.0°C (–17 to 230.0°F) |
| Resolution  | 0.01 pH  | 0.1 mV ±999.9 mV; 1 mV beyond                            | 0.01 µS to 0.1 mS                | 0.01 ppm to 0.1 ppt              | 0.01                             | 0.1°C/°F                        |
| Accuracy    | ±0.01 pH   | ±0.2 mV ±2 LSD or ±0.5% of reading; whichever is greater | ±1% full-scale                   | ±1% full-scale                   | ±1% full-scale                   | ±0.5°C (±0.9°F)                 |
| Calibration | Up to six points: USA, NIST, DIN, PWB, or custom | ±200 mV  | Auto/manual; one point per range | Auto/manual; one point per range | Auto/manual; one point per range | ±5.0 offset                     |

**Display:** custom LCD with backlight

**Memory:** up to 500 data sets

**Output:** USB or RS-232

**Real-time clock:** time-and-date stamp on calibration and stored data

**Temperature compensation:** automatic or manual from –10 to 110°C

**Power:** two AA batteries (included), 500 hours (without backlight); AC adapter (optional)

**Dimensions (L x W x H):**

**Meter:** 7 7/8" x 3 1/8" x 2 1/4" (20 x 8.3 x 5.7 cm)

**Boxed:** 9 1/8" x 9 1/8" x 2 3/4" (23 x 23 x 7 cm)

**Weight**

**Meter:** 1 lb (0.5 kg);

**Boxed:** 1.4 lb (0.7 kg)

### Ordering Information

| Catalog number | Precalibrated catalog number | Description                                 | Included  |
|----------------|------------------------------|---|---|
| WD-35630-10    | WD-35630-11                  | pH/CON 450 meter with combination probe     | Meter, combination pH/CON probe 35630-51, and two AA batteries  |
| WD-35630-12    | WD-35630-13                  | pH/CON 450 meter with separate probes       | Meter, pH probe 35641-51, conductivity cell probe (K = 1.0) 35808-50, Grip-Clip holder, and two AA batteries  |
| WD-35630-80    | WD-35630-81                  | pH/CON 450 meter kit with combination probe | Meter, combination pH/CON probe 35630-51, calibration solutions, two AA batteries, and hard carrying case   |
| WD-35630-90    | WD-35630-91                  | pH/CON 450 meter kit with separate probes   | Meter, pH probe 35641-51, conductivity cell probe (K = 1.0) 35808-50, Grip-Clip holder, calibration solutions, two AA batteries, and hard carrying case |

**WD-35641-51 pH electrode.** Double-junction; epoxy body; BNC connector

**WD-35618-05 ATC probe.** Use with any standard pH electrode for temperature compensation

**WD-35630-51 Replacement combination pH/CON/ATC probe**

**WD-35608-55 Conductivity cell, K = 0.1**

**WD-35608-50 Replacement conductivity cell, K = 1.0**

**WD-35608-51 Conductivity cell, K = 10**

**WD-35614-50 Replacement Grip-Clip electrode holder**

**WD-35608-51 Hard carrying case,** fits all 150/450 meter configurations

**WD-35630-53 Data cable** for USB connectivity

**WD-35420-01 Data cable** for RS-232 connectivity

**WD-35420-72 Optional adapter,** 110/220 VAC

**WD-09376-01 Replacement batteries,** AA. Pack of 4

## pH/RDO 450 Meter

**Affordable optical RDO technology reduces maintenance time and costs**

**Durable waterproof and dustproof design with IP67 rating**

**Large, backlit graphic display provides measurement with temperature**

**Switch between pH, mV, % saturation, and mg/L (ppm) dissolved oxygen** – With the press of a button

**Eliminates costly, tiresome membranes and solutions**

**Automatic barometric pressure and manual salinity correction**

**Six-point calibration** – Choose USA, NIST, DIN, PWB, or custom buffer sets

**Auto buffer recognition** – Automatically identifies the correct pH buffer for rapid calibration

**Automatic or manual temperature compensation** – For the highest accuracy in any situation

**Calibration alarm** – A visible reminder that it is time to recalibrate the meter

**Selectable °C or °F** – Choose units to best fit your application

**Hold, ready, low-battery indicator, and automatic shutoff functions**

**Store up to 500 data sets** – Easy USB or RS-232 output with optional data cables

**Built-in real-time clock stamps stored data and calibration data with time and date** – Meets standards for GLP (Good Laboratory Practices)

**Built-in stand with wall mount** – Allows for easy benchtop measurement and storage

**500 hours battery life or use optional universal power adapter**

**New**



### Specifications

| Mode        | pH   | mV   | mg/L (ppm)          | % Saturation        | Temperature                         |
|-------------|--|--|---------------------|---------------------|-------------------------------------|
| Range       | –2.00 to 16.00 pH                                | ±2000 mV   | 0 to 20 mg/L (ppm)  | 0 to 200%           | –10.0 to 110.0°C (–17.0 to 230.0°F) |
| Resolution  | 0.01 pH  | 0.1 mV ±999.9 mV; 1 mV beyond                            | 0.1 mg/L            | 0.10%               | 0.1°C/°F                            |
| Accuracy    | ±0.01  | ±0.2 mV ±2 LSD or ±0.5% of reading; whichever is greater | ±2%                 | ±2%                 | ±0.5°C (±0.9°F)                     |
| Calibration | Up to six points: USA, NIST, DIN, PWB, or custom | ±200 mV  | Zero and saturation | Zero and saturation | ±5.0° offset                        |

**Display:** custom LCD with backlight

**Memory:** up to 500 data sets

**Output:** USB or RS-232

**Real-time clock:** time-and-date stamp on calibration and stored data

**Temperature compensation:** automatic or manual from –10 to 110°C

**Power:** two AA batteries (included), 500 hours (without backlight); AC adapter (optional)

**Dimensions (L x W x H)**

**Meter:** 7 7/8" x 3 1/8" x 2 1/4" (20 x 8.3 x 5.7 cm)

**Boxed:** 9 1/8" x 9 1/8" x 2 3/4" (23 x 23 x 7 cm)

**Weight:**

**Meter:** 1 lb (0.5 kg); **Boxed:** 1.4 lb (0.7 kg)

### Ordering Information

| Catalog number | Precalibrated catalog number | Description                  | Included  |
|----------------|------------------------------|------------------------------|---|
| WD-35632-32    | WD-35632-34                  | pH/RDO 450 meter only        | Meter and two AA batteries  |
| WD-35632-30    | WD-35632-31                  | pH/RDO 450 meter with probes | Meter, pH probe 35805-23, RDO probe 35640-53, sensor cap, and two AA batteries  |
| WD-35632-80    | WD-35632-81                  | pH/RDO 450 meter kit         | Meter, pH probe 35805-23, RDO probe 35640-53, sensor cap, RDO weight, calibration tube, calibration solutions, two AA batteries, and hard carrying case |

### Accessories

**WD-35805-23 Replacement pH electrode.** Single-junction; epoxy body; 10 ft (3-m) BNC connector

**WD-35618-05 ATC probe.** Use with any standard pH electrode for temperature compensation

**WD-35640-51 Replacement RDO sensor cap**

**WD-35640-53 Replacement RDO probe,** 10-ft (3-m) cable

**WD-35640-55 RDO probe,** 20-ft (6-m) cable

**WD-35640-57 RDO probe,** 50-ft (15-m) cable

**WD-35640-59 RDO weight,** screw thread to attach to probe

**WD-35608-51 Hard carrying case,** fits all 150/450 meter configurations

**WD-35640-58 RDO calibration chamber**

**WD-35630-53 Data cable** for USB connectivity

**WD-35420-01 Data cable** for RS-232 connectivity

**WD-35420-72 Optional adapter,** 110/220 VAC

**WD-09376-01 Replacement batteries,** AA. Pack of 4

## PC 650 pH/Conductivity Meter

**Two most common electrochemistry measurements in one convenient meter!**

**Durable waterproof and dustproof design with IP67 rating** – Even with no probes attached

**Push-button pH calibration at up to six points** – Up to 15 buffer options with auto-buffer recognition of USA, NIST, DIN, and PWB standards

**Large backlit graphic display** – Multiline display with electrode status indicator, calibration data, and more

**User-settable “calibration due” alarm** – Out-of-date or unperformed calibrations are now things of the past!

**Built-in real-time clock** – Time-and-date stamping meets Good Laboratory Practice (GLP) standards

**Store up to 500 data sets** – Infrared IrDA wireless technology makes PC downloading convenient and easy

**Set point alarms** – Audible warning when readings are outside set points limit

**Research-grade accuracy** – Resolution to 0.001 pH and accuracy to  $\pm 0.002$  pH

**Electrode status indicator** – Calibration data provides electrode diagnostic tool

**Password protection** – Security for calibration and setup menus

**Rugged rubber boot** – Protects meter from impact (optional; included with kit)



ISO9001:2008  
CERTIFIED SUPPLIER

**3 year**  
warranty  
meter only

### Specifications

| Model       | PC 650 meter |   |
|-------------|--------------|---|
| Range       | pH           | –2.000 to 20.000 pH   |
|             | Ion          | 0.001 to 19,900 ppm, molar, or mg/L   |
|             | mV           | $\pm 2000$ mV   |
|             | Conductivity | 0 to 500.0 mS   |
|             | TDS          | 0 to 500 ppt  |
|             | Salinity     | 0 to 80 ppt   |
|             | Resistivity  | 0 to 20.00 M $\Omega$   |
|             | Temperature  | –10.0 to 110.0°C (14.0 to 230.0°F), selectable  |
| Resolution  | pH           | 0.1/0.01/0.001 pH   |
|             | Ion          | 2 or 3 digits   |
|             | mV           | 0.1 mV  |
|             | Conductivity | 0.05% full-scale  |
|             | Temperature  | 0.1°C (0.1°F)   |
| Accuracy    | pH           | $\pm 0.002$ pH  |
|             | Ion          | $\pm 0.5\%$ full-scale (monovalent); 1% full-scale (divalent)   |
|             | mV           | $\pm 0.2$ mV  |
|             | Conductivity | 1% full-scale   |
|             | Temperature  | $\pm 0.5^\circ\text{C}$ ( $\pm 0.9^\circ\text{F}$ )   |
| Calibration | pH           | Up to 6 buffer values (select from 4 sets): USA: 1.68, 4.01, 7.01, 10.01, 12.45; NIST: 1.68, 4.01, 6.86, 9.18, 12.45; DIN: 1.09, 2.06, 4.65, 6.79, 9.23, 12.75; or custom buffers |
|             | Ion          | Up to 6 points  |
|             | Conductivity | Manual up to 5 points (1 per range); automatic up to 4 points (84.0 $\mu\text{S}/\text{cm}$ , 1413 $\mu\text{S}/\text{cm}$ ; 12.88 mS/cm, 111.8 mS/cm)                            |
|             | Temperature  | Offset 0.1°C (0.1°F) increments   |

**Memory:** up to 500 sets with GLP date and time

**Output:** infrared, IrDA

**Real-time clock:** time-and-date stamp on calibration and stored data

**Temperature compensation:** automatic or manual (selectable), from 0 to 100°C

**Ambient operating temperature:** 0 to 50°C (32 to 122°F)

**Power:** four 1.5 V AA batteries (included) or optional universal AC adapter, up to 200 hours continuous use

#### Dimensions

**Meter:** 7½"L x 3¼"W x 2¼"H (19 x 9.5 x 5.7 cm)

**Boxed:** 9½"L x 9¼"W x 2¼"H (23 x 23 x 7 cm)

#### Weight

**Meter:** 1 lb (0.5 kg); **Boxed:** 2 lb (0.9 kg)

### Ordering Information

| Catalog number | Precalibrated catalog number | Description       | Included  |
|----------------|------------------------------|-------------------|---|
| WD-35431-02    | WD-35431-03                  | PC 650 meter only | Meter and batteries   |
| WD-35431-00    | WD-35431-01                  | PC 650 meter      | Meter, pH electrode 35816-77, conductivity cell 35408-57, and batteries   |
| WD-35431-70    | WD-35431-71                  | PC 650 meter kit  | Meter, pH electrode 35816-77, conductivity cell 35408-57, calibration standards (60 mL each of pH 4.01, pH 7.00, 1413 $\mu\text{S}/\text{cm}$ , 12.88 mS solution), two electrode holders, rubber boot, hard carrying case, and batteries |

**WD-35816-77 Replacement pH electrode:** double junction, epoxy body, 10-ft (3-m) cable with BNC connector

**WD-35418-05 ATC probe.** Use for temperature compensation with any pH electrode without built-in ATC

**WD-35408-57 Replacement conductivity cell,** 2-electrode, K = 1

**WD-35630-52 Down-well probe** for PC 650, pH/conductivity/temperature; 10-ft (3-m) cable

**WD-35434-85 Multiprobe holder.** Holds one each pH, conductivity, DO, and temperature probes

**WD-35418-83 Optional adapter,** 110/220 VAC



**Optional rubber boot (included with kit) provides added protection.**

See pages 23–29 for more pH and ISE electrodes; page 43 for conductivity cells.

## PD 650 pH/ Dissolved Oxygen Meter

Ideal for wastewater and aquaculture!

**Durable waterproof and dustproof design with IP67 rating** – Even with no probes attached

**Push-button calibration for all parameters** – 6 points each for pH and conductivity; 3 points for DO

**Large backlit graphic display** – Multiline display with electrode status indicator, calibration data, and more

**User-settable “calibration due” alarm** – Out-of-date or unperformed calibrations are now things of the past!

**Built-in real-time clock** – Time-and-date stamping meets Good Laboratory Practice (GLP) standards

**Store up to 500 data sets** – Infrared IrDA wireless technology makes PC downloading convenient and easy

**Set point alarms** – Audible warning when readings are outside set points limit

**Research-grade accuracy** – Resolution to 0.001 pH and accuracy to  $\pm 0.002$  pH

**Electrode status indicator** – Calibration data provides electrode diagnostic tool

**Password protection** – Security for calibration and setup menus

**Rugged rubber boot** – Protects meter from impact (optional; included with kit)



ISO9001:2008  
CERTIFIED SUPPLIER

3 year  
warranty  
meter only

### Specifications

| Model       | PD 650 meter  |
|-------------|---|
| Range       | pH  |
|             | –2.000 to 20.000 pH   |
|             | Ion   |
|             | 0.001 to 19,900 ppm, molar, or mg/L   |
|             | mV  |
| Resolution  | ±2000 mV  |
|             | DO  |
|             | 0.00 to 90.00 mg/L (ppm), 0.0 to 600.0%   |
|             | Temperature   |
|             | –10.0 to 110.0°C (14.0 to 230.0°F), selectable  |
| Accuracy    | pH  |
|             | 0.1/0.01/0.001 pH   |
|             | Ion   |
|             | 2 or 3 digits   |
|             | mV  |
| Accuracy    | 0.1 mV  |
|             | DO  |
|             | 0.01 mg/L (ppm), 0.1%   |
|             | Temperature   |
|             | 0.1°C (0.1°F)   |
| Calibration | pH  |
|             | ±0.002 pH   |
|             | Ion   |
|             | ±0.5% full-scale (monovalent); ±1% full-scale (divalent)  |
|             | mV  |
| Calibration | ±0.2 mV   |
|             | DO  |
|             | ±0.2 mg/L; ±2.0%  |
|             | Temperature   |
|             | ±0.5°C (0.9°F)  |
| Calibration | pH  |
|             | Up to 6 buffer values (select from 4 sets): USA: 1.68, 4.01, 7.01, 10.01, 12.45; NIST: 1.68, 4.01, 6.86, 9.18, 12.45; DIN: 1.09, 2.06, 4.65, 6.79, 9.23, 12.75; or custom buffers |
|             | Ion   |
|             | Up to 6 points  |
|             | DO  |
|             | Two points; 100% and 0%   |
| Calibration | Temperature   |
|             | Offset 0.1°C (0.1°F) increments   |

#### DO salinity correction

Range: 0.0 to 50.0 ppt;  
Resolution: 0.1 ppt

#### DO pressure correction

Range: 500 to 1499 mm Hg, 66.6 to 199.9 kPa  
Resolution: 1 mm Hg, 0.1 kPa

**Memory:** up to 500 sets with GLP date and time

**Output:** infrared, IrDA

**Real-time clock:** time-and-date stamp on calibration and stored data

**Temperature compensation:** automatic or manual (selectable), from 0 to 100°C

**Ambient operating temperature:** 0 to 50°C (32 to 122°F)

**Power:** four 1.5 V AA batteries (included) or optional universal AC adapter, up to 200 hours continuous use

#### Dimensions

**Meter:** 7 1/2" L x 3 3/4" W x 2 1/4" H (19 x 9.5 x 5.7 cm)

**Boxed:** 9 1/8" L x 9 1/8" W x 2 3/4" H (23 x 23 x 7 cm)

#### Weight

**Meter:** 1 lb (0.5 kg); **Boxed:** 2 lb (0.9 kg)

### Ordering Information

| Catalog number | Precalibrated catalog number | Description       | Included  |
|----------------|------------------------------|-------------------|---|
| WD-35432-02    | WD-35432-03                  | PD 650 meter only | Meter and batteries   |
| WD-35432-00    | WD-35432-01                  | PD 650 meter      | Meter, pH electrode 35816-77, DO probe 35640-50, and batteries  |
| WD-35432-70    | WD-35432-71                  | PD 650 meter kit  | Meter, pH electrode 35816-77, DO probe 35640-50, calibration standards (60 mL each of pH 4.01, pH 7.00, electrode storage solution, and rinse water), rubber boot, multiprobe holder, batteries, and hard carrying case |

**WD-35816-77 pH electrode:** double junction, epoxy body, 10-ft (3-m) cable with BNC connector

**WD-35418-05 ATC probe.** Use for temperature compensation with any pH electrode without built-in ATC

**WD-35640-50 DO probe** with 10-ft (3-m) cable

**WD-35434-85 Multiprobe holder.** Holds one each pH, conductivity, DO, and temperature probes

**WD-35418-83 Optional adapter,** 110/220 VAC

**WD-35418-86 Protective rubber boot**



**Optional rubber boot (included with kit) provides added protection.**

See pages 23–29  
for more pH electrodes;  
page 50 for DO probes.



## CD 650 Conductivity/ Dissolved Oxygen Meter

**Great for salt water testing!**

**Durable waterproof and dustproof design with IP67 rating** – Even with no probes attached

**Push-button calibration for all parameters** – 5 points for conductivity; 3 points for DO

**Large backlit graphic display** – Multiline display with electrode status indicator, calibration data, and more

**User-settable “calibration due” alarm** – Out-of-date or unperformed calibrations are now things of the past!

**Built-in real-time clock** – Time-and-date stamping meets Good Laboratory Practice (GLP) standards

**Store up to 500 data sets** – Infrared IrDA wireless technology makes PC downloading convenient and easy

**Set point alarms** – Audible warning when readings are outside set points limit

**Research-grade accuracy** – Resolution to 0.001 pH and accuracy to  $\pm 0.002$  pH

**Electrode status indicator** – Calibration data provides electrode diagnostic tool

**Password protection** – Security for calibration and setup menus

**Rugged rubber boot** – Protects meter from impact (optional; included with kit)



ISO9001:2008  
CERTIFIED SUPPLIER

**3 year warranty**  
meter only

### Specifications

| Model       | CD 650 meter |  |
|-------------|--------------|--|
| Range       | Conductivity | 0 to 500.0 mS  |
|             | TDS          | 0 to 500 ppt   |
|             | Salinity     | 0 to 80 ppt  |
|             | Resistivity  | 0 to 20.00 M $\Omega$  |
|             | DO           | 0.00 to 90.00 mg/L (ppm), 0.0 to 600.0%  |
| Resolution  | Temperature  | -10.0 to 110.0°C (14.0 to 230.0°F), selectable   |
|             | Conductivity | 0.05% full-scale   |
|             | TDS          | 0.05% full-scale   |
|             | DO           | 0.01 mg/L (ppm), 0.1%  |
| Accuracy    | Temperature  | 0.1°C (0.1°F)  |
|             | Conductivity | $\pm 1\%$ full-scale   |
|             | TDS          | $\pm 1\%$ full-scale   |
|             | DO           | $\pm 0.2$ mg/L; $\pm 2\%$  |
| Calibration | Temperature  | $\pm 0.5^\circ\text{C}$ ( $\pm 0.9^\circ\text{F}$ )  |
|             | Conductivity | Manual up to 5 points (1 per range); automatic up to 4 points (84.0 $\mu\text{S}/\text{cm}$ , 1413 $\mu\text{S}/\text{cm}$ , 12.88 mS/cm, 111.8 mS/cm) |
|             | DO           | Two points; 100% and 0%  |
|             | Temperature  | Offset 0.1°C (0.1°F) increments  |

**TDS factor:** 0.40 to 1.00

**Cell constant:** 0.100 to 10.000

**DO salinity correction**

Range: 0.0 to 50.0 ppt

Resolution: 0.1 ppt

**DO pressure correction**

Range: 500 to 1499 mm Hg, 66.6 to 199.9 kPa

Resolution: 1 mm Hg, 0.1 kPa

**Memory:** up to 500 sets with GLP date and time

**Output:** infrared, IrDA

**Real-time clock:** time-and-date stamp on calibration and stored data

**Temperature normalization:** 15 or 30°C

**Temperature coefficient:** linear or pure

**Temperature compensation:** automatic or manual (selectable), from 0 to 100°C

**Ambient operating temperature:** 0 to 50°C (32 to 122°F)

**Power:** four 1.5 V AA batteries (included) or optional universal AC adapter, up to 200 hours continuous use

**Dimensions**

**Meter:** 7½" L x 3¼" W x 2¼" H (19 x 9.5 x 5.7 cm)

**Boxed:** 9½" L x 9¼" W x 2¼" H (23 x 23 x 7 cm)

**Weight**

**Meter:** 1 lb (0.5 kg); **Boxed:** 2 lb (0.9 kg)

### Ordering Information

| Catalog number | Precalibrated catalog number | Description       | Included  |
|----------------|------------------------------|-------------------|---|
| WD-35433-02    | WD-35433-03                  | CD 650 meter only | Meter and batteries   |
| WD-35433-00    | WD-35433-01                  | CD 650 meter      | Meter, conductivity cell 35408-57, DO probe 35640-50, and batteries   |
| WD-35433-70    | WD-35433-71                  | CD 650 meter kit  | Meter, conductivity cell 35408-57, DO probe 35640-50, calibration standards (60 mL each of pH 4.01, pH 7.00, 1413 $\mu\text{S}/\text{cm}$ , and 12.88 mS solution), rubber boot, multiprobe holder, batteries, and hard carrying case |

**WD-35408-57 Replacement conductivity cell**, 2-electrode, K = 1

**WD-35640-50 Replacement DO probe** with 10-ft (3-m) cable

**WD-35434-85 Multiprobe holder.** Holds one each pH, conductivity, DO, and temperature probes

**WD-35418-83 Optional adapter**, 110/220 VAC

**WD-35418-86 Protective rubber boot** for all 600- and 650-series meters



**Optional rubber boot (included with kit) provides added protection.**

See page 43 for more conductivity cells; page 50 for DO probes.

## PCD 650 pH/Conductivity/ Dissolved Oxygen Meter

All three parameters, plus temperature, measured and displayed simultaneously!

**Durable waterproof and dustproof design with IP67 rating** – Even with no probes attached

**Push-button calibration for all parameters** – 6 points each for pH and conductivity; 3 points for DO

**Large back-light graphic display** – Multiline display with electrode status indicator, calibration data, and more

**User-settable “calibration due” alarm** – Out-of-date or unperformed calibrations are now things of the past!

**Built-in real-time clock** – Time-and-date stamping meets Good Laboratory Practice (GLP) standards

**Store up to 500 data sets** – Infrared IrDA wireless technology makes PC downloading convenient and easy

**Set point alarms** – Audible warning when readings are outside set points limit

**Research-grade accuracy** – Resolution to 0.001 pH and accuracy to  $\pm 0.002$  pH

**Electrode status indicator** – Calibration data provides electrode diagnostic tool

**Password protection** – Security for calibration and setup menus

**Rugged rubber boot** – Protects meter from impact (optional; included with kit)



ISO 9001:2008  
CERTIFIED SUPPLIER



3 year  
warranty  
meter only

### Specifications

| Model       | PCD 650 meters |
|-------------|----------------|
| Range       | pH             |
|             | Ion            |
|             | mV             |
|             | Conductivity   |
|             | TDS            |
|             | Salinity       |
|             | Resistivity    |
|             | DO             |
| Resolution  | Temperature    |
|             | pH             |
|             | Ion            |
|             | mV             |
|             | Conductivity   |
|             | DO             |
|             | Temperature    |
| Accuracy    | pH             |
|             | Ion            |
|             | mV             |
|             | Conductivity   |
|             | DO             |
|             | Temperature    |
| Calibration | pH             |
|             | Ion            |
|             | Conductivity   |
|             | DO             |
|             | Temperature    |
|             | pH             |
|             | Ion            |
|             | Conductivity   |

**TDS factor:** 0.40 to 1.00

**Cell constant:** 0.100 to 10.000

**DO salinity correction**

Range: 0.0 to 50.0 ppt

Resolution: 0.1 ppt

**DO pressure correction**

Range: 500 to 1499 mm Hg, 66.6 to 199.9 kPa

Resolution: 1 mm Hg, 0.1 kPa

**Memory:** up to 500 sets with GLP date and time

**Output:** infrared, IrDA

**Real-time clock:** time-and-date stamp on calibration and stored data

**Temperature normalization:** 15 or 30°C

**Temperature coefficient:** linear or pure

**Temperature compensation:** automatic or manual (selectable) from 0 to 100°C

**Ambient operating temperature:** 0 to 50°C (32 to 122°F)

**Power:** four 1.5 V AA batteries (included) or optional universal AC adapter, up to 200 hours continuous use

**Dimensions**

**Meter:** 7¼" L x 3¼" W x 2¼" H (18.4 x 8.3 x 5.7 cm)

**Boxed:** 9½" L x 9½" W x 2¾" H (23 x 23 x 7 cm)

**Weight**

Meter: 1 lb (0.5 kg); Boxed: 2 lb (0.9 kg)

### Ordering Information

| Catalog number | Precalibrated catalog number | Description        | Included  |
|----------------|------------------------------|--------------------|---|
| WD-35434-02    | WD-35434-03                  | PCD 650 meter only | Meter and batteries   |
| WD-35434-00    | WD-35434-01                  | PCD 650 meter      | Meter, pH electrode 35816-77, conductivity cell 35408-57, DO probe 35640-50, and batteries  |
| WD-35434-70    | WD-35434-71                  | PCD 650 meter kit  | Meter, pH electrode 35816-77, conductivity cell 35408-57, DO probe 35640-50, calibration standards (60 mL each of pH 4.01, pH 7.00, 1413 µS/cm, and 12.88 mS solution), multiprobe holder, rubber boot, hard carrying case, and batteries |

**WD-35816-77 pH electrode:** double junction, epoxy body, 10-ft (3-m) cable with BNC connector

**WD-35418-05 ATC probe.** Use for temperature compensation with any pH electrode without built-in ATC

**WD-35408-57 Conductivity cell,** 2-electrode, K = 1

**WD-35640-50 DO probe** with 10-ft (3-m) cable

**WD-35434-85 Multiprobe holder.** Holds one each pH, conductivity, DO, and temperature probes

**WD-35434-90 Multiprobe flow block** for groundwater sampling

**WD-35418-83 Optional adapter,** 110/220 VAC



Multiprobe holder makes it easy to manage probes simultaneously.



Use multiprobe flow block 35434-90 for groundwater sampling. Holds two 12-mm diameter pH, ORP, or ISE probes, one Oakton conductivity/TDS probe, and one Oakton dissolved oxygen probe.

## PC 700 pH/Conductivity Meter

Measures pH, mV, conductivity, TDS, and temperature—ideal for water quality testing in the lab!

**Easily toggle between pH, mV, conductivity, and TDS readings**

**Large, dual display shows both measured parameter and temperature (°C/°F)** – Read two parameters from across the lab

**New space-saving design uses less benchspace** – Footprint is 40% smaller

**Easy push-button calibration** – Five-point calibration for pH and either conductivity or TDS; temperature offset calibration

**Advanced setup mode** – Recalls previous calibration points, pH electrode slope/offset, conductivity/TDS effective cell constants per range, and more

**Removable electrode holder arm** – Holds electrodes firmly in place

**pH auto buffer recognition** – For fast, easy pH calibration

**Selectable auto or manual ranging for conductivity and TDS measurements**

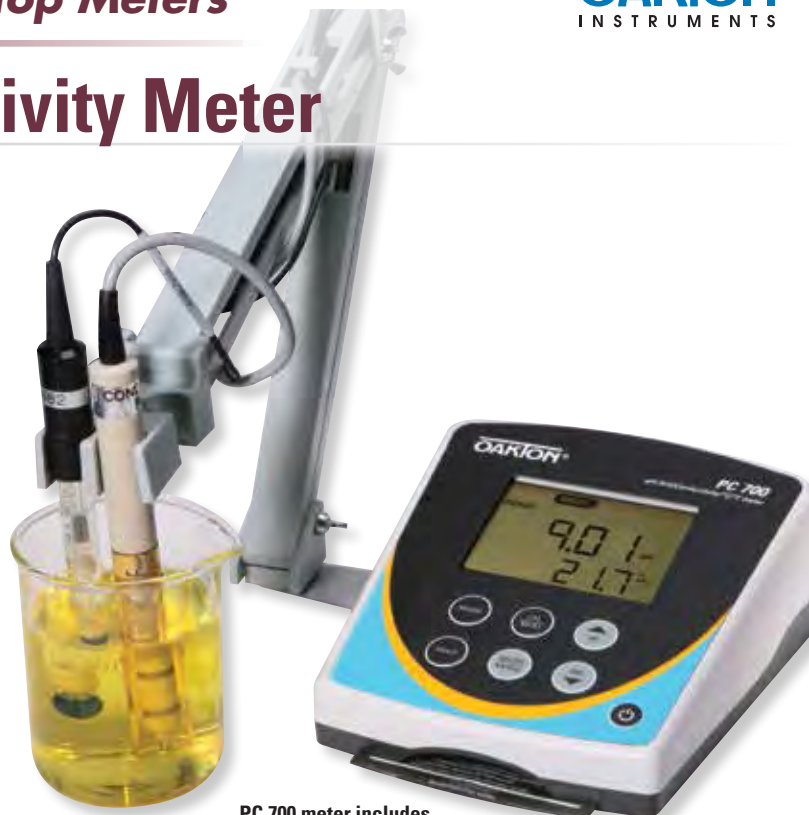
**Adjustable conductivity-to-TDS conversion factor and temperature coefficient** – Gives highest accuracy in any solution

**Selectable manual or automatic temperature compensation**

**Selectable automatic endpoint** – Automatically freezes reading when stable

**Hold function, “Ready” indicator, diagnostic error messages**

**Slide-out instruction card for quick reference**



PC 700 meter includes electrode holder and handy slide-out instruction card.

ISO9001:2008  
CERTIFIED SUPPLIER

**3** year  
warranty  
meter only

### Specifications

| Mode        | pH  | mV/Rel mV                                  | Conductivity  | TDS  | Temperature                 |
|-------------|---|--|---|--|-----------------------------|
| Range       | –2.00 to 16.00 pH   | ±2000 mV                                   | 0.00 to 19.99 µS,<br>0.0 to 199.9 µS,<br>0 to 1999 µS,<br>0 to 19.99 mS,<br>0.0 to 200 mS | 0.00 to 9.99 ppm,<br>10.0 to 99.9 ppm,<br>100 to 999 ppm,<br>1.00 to 9.99 ppt,<br>10.0 to 99.9 ppt,<br>100 to 200 ppt* | 0 to 100°C<br>(32 to 212°F) |
| Resolution  | 0.01 pH   | 0.1 mV from<br>±199.9 mV,<br>1 mV beyond   | 0.01 µS, 0.1 µS,<br>1 µS, 0.01 mS,<br>0.1 mS  | 0.01 ppm, 0.1 ppm,<br>1 ppm, 0.01 ppt,<br>0.1 ppt  | 0.1°C/°F                    |
| Accuracy    | ±0.01 pH  | ±0.2 mV from<br>±199.9 mV,<br>±2 mV beyond | ±1% full-scale  | ±1% full-scale   | ±0.5°C<br>(±0.9°F)          |
| Calibration | Up to five points<br>(USA: 1.68, 4.01, 7.00,<br>10.00, 12.45; NIST: 1.68,<br>4.01, 6.86, 9.18, 12.45) | —  | One point per<br>range (up to 5)  | One point per range<br>(up to 5)   | Offset up to<br>±5°C/°F     |

\*200 ppt @ 1.0 factor

**Input impedance:** >1012 Ω

**Temperature compensation:** selectable manual or automatic from 0 to 100°C (32 to 212°F)

**Conductivity cell constant (K):** 0.1, 1.0, 10.0 (selectable)

**Conductivity temperature coefficient:**  
0.0 to 10.0% per °C (adjustable)

**Conductivity-to-TDS conversion factor:**  
0.4 to 1.0 (adjustable)

**Normalization temperature:** 15 to 30°C (adjustable)

**Memory:** up to 100 data sets

**Display:** 3¼" x 2½" (8.3 x 6.2 cm) dual LCD of pH, mV, conductivity, or TDS with temperature (in °C or °F)

**Error messages:** diagnose operator error, electrode error, and meter error; pull-out instruction card decodes message.

**Operating temperature:** 0 to 50°C (32 to 122°F), noncondensing humidity

**Power:** universal 100/240 VAC, with AC adapters is UL/CSA listed

**Dimensions**

**Meter:** 6½" x 6½" x 2¾" (15.5 x 17.5 x 6.9 cm)

**Boxed:** 9" x 12¾" x 5" (23 x 35 x 12.5 cm)

**Weight**

**Meter only:** 1.25 lb (0.6 kg); **Boxed:** 3 lb (1.4 kg)

### Ordering Information

| Catalog number | Precalibrated catalog number | Description              | Included  |
|----------------|------------------------------|--------------------------|---|
| WD-35413-20    | WD-35413-21                  | PC 700 meter             | Meter, electrode holder, and AC adapter   |
| WD-35413-00    | WD-35413-01                  | PC 700 meter with probes | Meter, double-junction pH electrode 35641-51, conductivity/temperature probe 35608-74, electrode holder, and AC adapter |

See page 43 for conductivity cells and calibration solutions.



## PC 2700 Meter

Measures pH, mV, conductivity, TDS, and temperature—ideal for water quality testing in the lab!

**Takes up less bench space** – Overall footprint is nearly 40% smaller than other benchtop meters

**Oversized liquid crystal display with bright backlighting** – Easier viewing under all lighting conditions

**Dynamic reading stability indication** – shows when your measurement is stable; eliminates guesswork from unstable readings

**Auto-standardization with cell constant recognition** – Detect the exact cell constant value of your probe with the press of a button

**Up to 500 point nonvolatile memory with time-and-date stamp** – Meets GLP requirements

**Bidirectional RS-232** for easy data transfer to your computer

**Additional performance features** include pH autobuffer recognition, conductivity standard auto-calibration, calibration documentation and cal-due alarms, audible out-of-range alarms, password protection, electrode status and diagnostics, and more!

**Includes a high-performance 4-cell conductivity probe!** – Higher accuracy across a broader range of samples



Unstable reading is faded



Reading turns solid when stable



### Specifications

| Mode        | pH  | mV                   | ISE  | Conductivity                                     | TDS                                 | Salinity                       | Resistivity                      | Temperature                           |
|-------------|---|----------------------|--|--|-------------------------------------|--------------------------------|----------------------------------|---------------------------------------|
| Range       | –2.000 to 20.000 pH                             | ±2000.0 mV           | 0.001 to 19,999 ppm                                    | 0.050 µS/cm to 500.0 mS/cm (5-range autoranging) | 0.050 to 500.0 ppt                  | 0.0 to 80.0 ppt                | 2.000 Ω to 20.0 MΩ               | 0.0 to 100.0°C (32.0 to 212°F)        |
| Resolution  | 0.001, 0.01, 0.1 pH                             | 0.1 mV               | 2 or 3 digits  | 0.01, 0.1 µS/cm, 0.001, 0.01, 0.1 mS/cm          | 0.01, 0.1 ppm, 0.001, 0.01, 0.1 ppt | 0.1 ppt                        | 0.01/0.1 Ω, 0.01/0.1 kΩ, 0.01 MΩ | 0.1°C or °F                           |
| Accuracy    | ±0.002 pH                                       | ±0.2 mV              | 0.5% full scale (monovalent), 1% full scale (divalent) | ± 1% full scale                                  | ± 1% full scale                     | ± 1% full scale                | ± 1% full scale                  | ±0.3°C (±0.5°F)                       |
| Calibration | Up to 6 (USA, NIST, DIN, or custom buffer sets) | Offset up to +150 mV | Up to 8 points   | 5 points (one point per range)                   | 5 points (one point per range)      | 5 points (one point per range) | 5 points (one point per range)   | Offset in 0.1 increments; ±5°C (±9°F) |
| Connectors  | BNC   | BNC                  | BNC  | 8-pin DIN  | 8-pin DIN                           | 8-pin DIN                      | 8-pin DIN                        | 8-pin DIN                             |

**Temperature compensation:** manual or automatic from –5°C to 105°C

**Conductivity temp coefficient:** adjustable from 0.0 to 10% per °F/°C

**Conductivity cell constant:** 0.010 to 10.000

**Conductivity-to-TDS factor:** adjustable from 0.4 to 1.0

**Normalization temperature:** adjustable from 15 to 30°C

**Memory:** up to 500 data sets

**Output:** RS-232, 9-pin female

**Display:** 3¼" x 2½" (8.3 x 6.2 cm) graphic LCD with backlight

**Operating temperature:** 32 to 122°F, noncondensing probe

**Power:** universal 110/240 VAC with adapter; CSA/UL listed

**Dimensions**

**Meter:** 6½" x 6½" x 2¼" (15.5 x 17.5 x 6.9 cm)

**Boxed:** 12" x 9" x 5" (30.8 x 15.5 x 12.4 cm)

**Weight:** Meter only: 1.4 lb (650 g); Boxed: 4 lb (1800 g)

### Ordering Information

| Catalog number | Precalibrated catalog number | Description        | Included  |
|----------------|------------------------------|--------------------|---|
| WD-35414-20    | WD-35414-21                  | PC 2700 meter only | Meter, electrode holder and AC adapter  |
| WD-35414-00    | WD-35414-01                  | PC 2700 meter      | Meter, pH electrode with double-junction, refillable, glass body; conductivity/temperature probe 35412-10, electrode holder, and AC adapter |

### Accessories

**WD-35805-04 Replacement pH electrode;** double-junction, glass body, refillable  
**WD-35412-10 Replacement conductivity/temperature probe** for 2700-series meter; 4-cell, K= 1.0 epoxy/graphite

**WD-35420-01 RS-232 data cable**

**WD-35630-53 USB data cable**

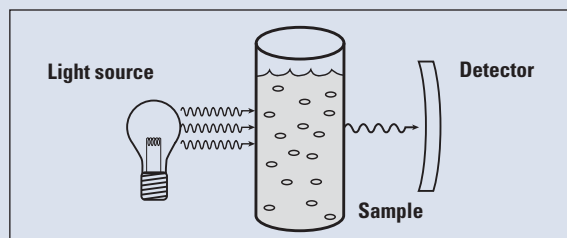


# Optical Measurement

## Light

When light passes through a liquid, the amount of particles and color in solution will affect the light. Optical techniques measure solution characteristics by using a defined light source, passing the light through a sample, and then measuring the light that passes through the sample. Turbidimetric and colorimetric methods both involve measuring the resulting light intensity. They differ in that the light is attenuated by scattering in turbidimetry and by absorption in colorimetry.

Both determinations may use similar instrumentation. By employing different wavelengths of light and different optical configurations, we can optimize the system for determining the transmitted light of interest for a given analytical method.



## Turbidimetry

The cloudiness in a liquid caused by the presence of finely divided, suspended material is called "turbidity." Turbidity meters provide a means of quantifying this "cloudiness" by determining the reduction of light passing through a turbid solution and then comparing the results against a standard. In some applications, the clarity of solution is critical. In other applications the appearance of particles indicates bacterial growth. In either case, the turbidimeter provides process numerical data on the sample solution.

## Colorimetry

The colorimetric method of chemical analysis involves the measurement of light absorption by colored solutions. While the differences in color development are visible to the human eye, visual determination is subject to user interpretation. Colorimeters eliminate the differences encountered with color comparitors to produce an exact numerical value—with greater resolution than can be achieved through comparitors. Colorimeters use the well-understood principals of wet chemistry to provide precise, repeatable analysis methods. For example, the standard DPD method for determining free and total chlorine is well accepted and approved by the US EPA.

# Reagents and Accessories

**Reliable reagents and standards ensure accurate measurement for turbidimeters and colorimeters**

## Turbidity Calibration Set

For use with the T-100 turbidity meter sold on page 61. Stable standards ensure accurate turbidity measurements.



| Catalog number | Description     | Included   |
|----------------|-----------------|--|
| WD-35635-52    | Calibration set | 60 each of primary calibration standard 0.02, 20.0, 100, and 800 NTU |

## Secondary Chlorine Standards

Verify performance of your C201, C301; or C401 colorimeters (see page 61).



| Catalog number | Description         | Included          |
|----------------|---------------------|-------------------|
| WD-35645-70    | Secondary standards | Set of four vials |

## Colorimeter Reagents

The pH reagent features a dropper bottle making it easy to repetitively provide the correct amount of reagent. The convenient foil packs are ideal for use in the field or in the lab. DPD reagents follow US EPA method 330.5 for wastewater, and Standard Method 4500-Cl G for drinking water.



| Catalog number | Description                | Included                     |
|----------------|----------------------------|------------------------------|
| WD-35645-60    | pH reagent                 | Dropper bottle, for 50 tests |
| WD-35645-62    | Cyanuric acid reagent      | 100 foil packs               |
| WD-35645-64    | Free-chlorine reagent DPD  | 100 foil packs               |
| WD-35645-66    | Total-chlorine reagent DPD | 100 foil packs               |

## Cuvettes

For use with the T-100 turbidity meter on page 61 and all colorimeters on page 62. High-quality borosilicate glass ensures good light transmittance. Indexing mark makes it easy to get repeatable results.



| Catalog number | Description | Included      |
|----------------|-------------|---------------|
| WD-35653-55    | Cuvettes    | Pack of three |

# T-100 Turbidity Meter

Completely waterproof—even the sample chamber

## Waterproof and dustproof housing –

IP67-rated waterproof housing allows operation in wet conditions ensuring durability, easy cleaning, and maintenance—it even floats!

## Auto-ranging from 0 to 1000 NTU –

Meter determines the sample's turbidity level and automatically adjusts to the appropriate measurement range—eliminating any guesswork

## Simple, display-prompted push-button

**calibration** – Pressing the “CAL” button initiates the quick and simple calibration procedure. The instrument automatically prompts the user for the next calibration standard.

## Large, easy-to read display –

Large, custom LCD shows readings with units of measure and user-friendly message codes that guide meter operation

## Advanced power supply management –

Measures over 1200 samples with a single set of batteries, delivering quick, stable results in less than six seconds. Also features auto-off function.

## Sturdy carrying case with

**accessories** – Compact case contains all items necessary for turbidity measurements and protects the meter when not in use. Items include the T-100 meter, four primary calibration standards, three borosilicate sample cuvettes with light shield caps, collection bottle, lint-free cloth, silicone oil, and batteries.



Index markings on the cuvettes make it easy to perform repeatable measurements.



Kit includes standards, sample vials, and a rugged carrying case.

## Specifications

| Model                 | T-100 Turbidity meter   |
|-----------------------|---|
| Range                 | 0.01 to 19.99 NTU, 20.0 to 99.9 NTU, 100 to 1000 NTU                          |
| Resolution            | 0.01 NTU, 0.1 NTU, 1 NTU  |
| Measurement method    | ISO 7027 (DIN EN 27027) compliant nephelometric method (90°)                  |
| Accuracy              | ±2% of measurement from 0 to 500 NTU, ±3% of measurement from 501 to 1000 NTU |
| Repeatability         | ±0.01 NTU or ±1% of measurement, whichever is greater                         |
| Response time         | <6 seconds for full-step change   |
| Calibration standards | 0.02 NTU, 20.0 NTU, 100 NTU, 800 NTU  |

**Standardization:** EPA-approved polymer-based primary standards

**Light source:** infrared-emitting diode (850 nm wavelength)

**Light source life:** >1,000,000 measurements

**Detector:** Silicon photovoltaic

**Stray light:** <0.02 NTU

**Display:** 4-digit, 14-segment customized LCD

**Sample vials:** borosilicate glass with screw caps, fill line, and indexing mark. 2"H x 1" dia (51 x 25 mm)

**Sample volume:** 10 mL (0.33 oz) minimum

**Operating temperature range:** 0 to 50°C (32 to 122°F)

**Operating humidity:** 0 to 90% RH, noncondensing at 30°C (86°F) range

**Power:** four AAA alkaline batteries (included), >1200 measurements

**Enclosure:** ABS plastic/IP67 rated

**Dimensions (W x L x H)**

**Meter:** 2 3/4" x 6 1/8" x 1 1/8" (6.8 x 15.5 x 4.6 cm)

**Meter with case:** 6 1/2" x 14" x 4 1/4" (16.5 x 35.5 x 10.5 cm)

**Weight**

**Meter:** 7 oz (200 g); **Meter with case:** 2.75 lb (1.25 kg)

ISO9001:2008  
CERTIFIED SUPPLIER

CE 2 year warranty

## Ordering Information

| Catalog number | Description               | Included   |
|----------------|---------------------------|--|
| WD-35635-05    | T-100 turbidity meter     | Meter, three empty cuvettes with light shield caps, collection bottle, lint-free cloth, silicone oil, batteries, and hard carrying case  |
| WD-35635-00    | T-100 turbidity meter kit | Meter, four primary calibration standards (0.02, 20.0, 100, and 800 NTU), three empty cuvettes with light shield caps, collection bottle, lint-free cloth, silicone oil, batteries, and hard carrying case |

## Accessories

**WD-35635-52 Replacement calibration set,** includes 4 x 60 mL bottles of 0.02, 20.0, 100, and 800 NTU standards

**WD-35635-55 Replacement cuvettes,** borosilicate glass. Pack of three

# C201 and C301 Multiparameter Colorimeters

## Multiparameter measurement for convenient field testing

**Convenient, foil pack reagents** – Follows US EPA method 330.5 for wastewater, and Standard Method 4500-Cl G for drinking water

**Simple to use** – One-time blanking for multiple measurements

**Waterproof and dustproof IP67 housing** – Even the sample chamber is waterproof

**Compact size** – Take your Oakton colorimeter anywhere!

**No detachable parts and no light shield required** – Vial cap prevents stray light from affecting readings

**Large, easy-to-read display** – Large, custom LCD displays readings with units of measure and user-friendly message codes that guide meter operation

**Advanced power-supply management** – Measures over 1200 samples with a single set of batteries, delivering quick, stable results in less than six seconds. Also features auto-off function.

**Sturdy carrying case with accessories** – Compact carrying case includes all items necessary for colorimeter measurements and protects the meter when not in use



ISO 9001:2008 CERTIFIED SUPPLIER **CE** 2 year warranty

### Specifications

| Model                            | C201 colorimeter              | C301 colorimeter              |
|----------------------------------|-------------------------------|-------------------------------|
| <b>Chlorine (free and total)</b> |                               |                               |
| <b>Range</b>                     | 0 to 1.99 ppm; 2.0 to 6.0 ppm | 0 to 1.99 ppm; 2.0 to 6.0 ppm |
| <b>Resolution</b>                | 0.01 ppm; 0.1 ppm             | 0.01 ppm; 0.1 ppm             |
| <b>Accuracy</b>                  | ±0.02 ppm, ±0.2 ppm           | ±0.02 ppm, ±0.2 ppm           |
| <b>pH</b>                        |                               |                               |
| <b>Range</b>                     | —                             | 5.9 to 8.2 pH                 |
| <b>Resolution</b>                | —                             | 0.1 pH                        |
| <b>Accuracy</b>                  | —                             | ±0.1 pH                       |

**Light source:** light emitting diode (LED)

**Wavelength:** 525 nm

**Detector:** silicon photodiode

**Absorbance range:** 0 to 2.5 Abs

**Photometric precision:** ±0.0015 Abs

**Calibration points:** user-selectable, one point per colorimetric test

**Sample volume required:** 10 mL (0.33 oz)

**Display:** 4-digit, 14-segment, customized LCD with annunciators

**Operating temperature range:** 0 to 50°C (32 to 122°F)

**Operating humidity range:** 0 to 90% RH, noncondensing at 30°C (86°F)

**Power supply:** four AAA alkaline batteries (included)

**Battery life:** >3000 tests

**Electromagnetic compliance:** (EMC) EN 61326

**Dimensions**

**Meter:** 6 1/8" L x 2 5/8" W x 1 3/4" H (15.5 x 6.8 x 4.6 cm)

**Meter with case:** 13 3/4" x 6 1/4" x 4 3/4" (35 x 16 x 12 cm)

**Weight**

**Meter:** 7 oz (200 g); **Meter with case:** 2.75 lb (1.25 kg)



Colorimeters include case and reagents.

### Ordering Information

| Catalog number     | Description                      | Included   |
|--------------------|----------------------------------|--|
| <b>WD-35645-20</b> | C201 chlorine colorimeter kit    | Meter, foil pack reagents (100 each for free chlorine and total chlorine), sample vials, batteries, and hard carrying case                                       |
| <b>WD-35645-30</b> | C301 chlorine/pH colorimeter kit | Meter, foil pack reagents (100 each for free chlorine and total chlorine), pH dropper bottle reagent (50 tests), sample vials, batteries, and hard carrying case |

### Accessories

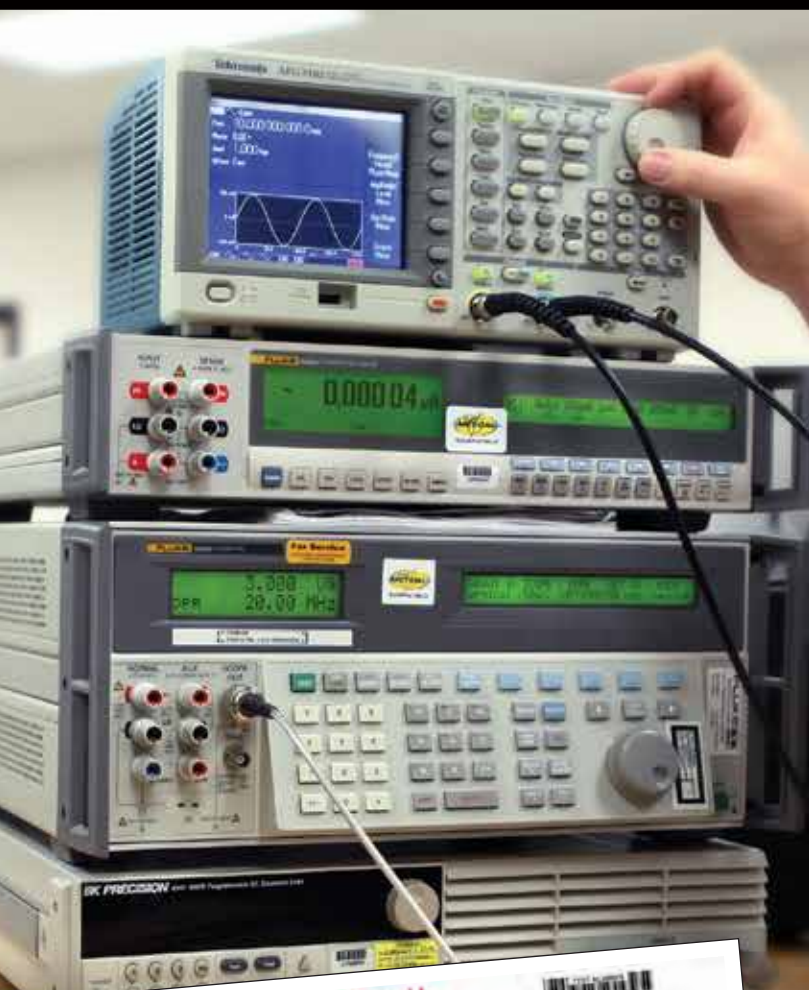
**WD-35645-60 pH reagent** includes dropper bottle with reagent for 50 tests

**WD-35645-64 Free chlorine reagent** includes individual foil packs for 100 tests

**WD-35645-66 Total chlorine reagent** includes individual foil packs for 100 tests

**WD-35645-70 Chlorine secondary standard**, includes set of four vials





## Precalibration

Calibrate your newly purchased item before it ships. Add calibration to your Oakton meter to ensure more accuracy.

## Recalibration

Ship us your product. We clean, calibrate, and quickly return it to you with documentation. Convenient reminders alert you when it's time to recalibrate—making sure your product is always in compliance.

## On-Site

We come to you. Contact us for pricing.

Trust InnoCal services to fulfill your calibration and equipment repair needs. Our commitment to quality is demonstrated by our utilization of highly trained, experienced metrologists with some of the most advanced methods and standards available. Our A2LA-accredited metrology laboratory has assisted thousands of customers meet ISO, FDA, USDA, EPA, GLPs/cGMPs, and other quality standards.

## Calibration Traceable to NIST

Get your product calibrated with the documentation you require to meet your most stringent quality requirements. We will calibrate your new or existing instruments traceable to NIST standards and all reports are ISO 17025 compliant—at no additional charge.

See a sample calibration report and test data at [InnoCalSolutions.com/Report](http://InnoCalSolutions.com/Report)

## NIST-Traceable Reports

| NIST-traceable report for: | Calibration test points                           | Catalog number |
|----------------------------|---|----------------|
| pH pocket meter (non-BNC)  | Up to three points against NIST-traceable buffers | WD-17101-45    |
| pH simulator               | Up to five electrical test points                 | WD-17106-06    |
| pH meter (BNC connection)  | Five electrical pH and five mV test points        | WD-17106-20    |
| pH temperature probe       | Three test points                                 | WD-17106-21    |
| Conductivity meter         | Five electrical test points                       | WD-17090-30    |

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**NIST Traceable  
Calibration Report**

Customer: John Doe  
ABC Company  
0000 Anywhere  
No where, CA XXXXX

Calibration Number: 15204  
PI Number: 20988000470

Manufacturer: ABC Company  
Model Number: 9100-4028318-75  
Description: Temperature, Thermocouple, RTD Type K, Air Q  
Asset Number: CP02378  
Serial Number: 0020050501 P

Calibration Date: 04/14/2009  
Calibration Due Date: 04/14/2010  
Calibration Interval: 12 Months  
Condition As Found: In Tolerance  
Condition As Left: Labeled Range  
Procedure: 17-0157-10

Remarks:  
These items have been calibrated as indicated on the report. This calibration meets only what is required. All measurements are accurate to NIST. Limited calibration data is shown. Calibration was performed by John Doe. Additional comments were added and certificate was issued by John Doe.

| Asset No. | Manufacturer    | Model No. | Description                                  | Cal. Date  | Due Date   |
|-----------|-----------------|-----------|--|------------|------------|
| CP02378   | Hart Scientific | 5515      | Thermocouple, Platinum Resistance Probe      | 07/01/2007 | 07/01/2009 |
| CP02378   | Hart Scientific | 5515      | Thermocouple Probe, Type R                   | 09/13/2007 | 09/13/2009 |
| CP02378   | Hart Scientific | 1529      | Temperature, Thermocouple, THERMOMETER, E    | 09/13/2007 | 09/13/2009 |
| CP02378   | Hart Scientific | 1529      | Temperature, Thermocouple, THERMOMETER, E    | 09/13/2007 | 09/13/2009 |
| CP02378   | Hart Scientific | 1529      | Temperature Indicator, PWT Scanner E-Channel | 09/13/2007 | 09/13/2009 |
| CP02378   | Hart Scientific | 1529      | Thermocouple, Platinum Resistance Probe      | 09/13/2007 | 09/13/2009 |
| CP02378   | Hart Scientific | 1529      | Thermocouple, Platinum Resistance Probe      | 09/13/2007 | 09/13/2009 |

| Calibration Data |           | CALIBRATION TOLERANCE |                         |
|------------------|-----------|-----------------------|-------------------------|
| Measured Value   | As Found  | As Left               | Calibration Tolerance   |
| 20.000 °C        | 20.000 °C | 20.000 °C             | ±0.005 °C (TYP 0.01 °C) |
| 20.000 °C        | 20.000 °C | 20.000 °C             | ±0.005 °C (TYP 0.01 °C) |
| 20.000 °C        | 20.000 °C | 20.000 °C             | ±0.005 °C (TYP 0.01 °C) |

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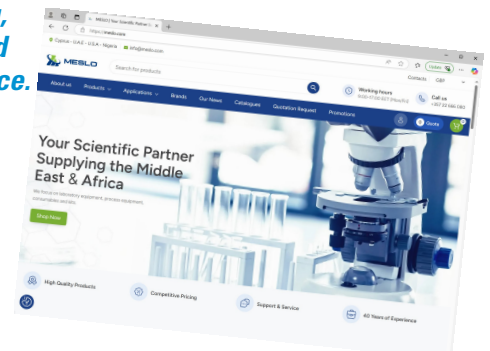
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