



Starter

Water Analysis Bench Meters



Smart Bench Meters for a Variety of Laboratory Applications

After more than a century of perfecting the art of measurement through our durable weighing products, OHAUS precision is now available in a line of Starter water analysis bench meters. The Starter bench meters include basic meters to premium performance products with advanced functionality, for measuring pH, conductivity, salinity, total dissolved solids (TDS), and oxidation reduction potential (ORP).

Standard Features Include:

- **Intuitive Software that Powers the Starter Series**—Intuitive software and a well-organized display work in tandem to make operating the Starter Series a simple and straightforward task.
- **Functional Design for Easy Operability**—With five clearly marked input keys and built-in or stand-alone electrode holders, operating the Starter bench meters is a convenient process.
- **Reliable Calibration for Accurate Results**—Starter bench meters track the accuracy of the calibration process right on the display, so that you can measure with peace-of-mind, knowing that your results will be highly precise.

Starter *Water Analysis Bench Meters*

Sturdy and Accurate Bench Meters for Lab Applications

Whether it is a basic or advanced model that you are looking for, you can rely on Starter Series bench meters to meet your water analysis needs.

Starter 3100

Starter 3100 offers premium features at a cost-effective price point for reliable and convenient pH and ORP measurements.

- Starter 3100's intuitive software includes three point calibration, three buffer groups, automatic and manual endpoint functions, as well as a 99 item library.
- Among Starter 3100's user-friendly features that support ease-of-use are an adjustable stand-alone electrode holder and large backlit LCD display.
- Documenting measurement data is made simple through the RS232 which can be used to connect peripheral devices such as printers or computers to the meter.



Starter 2100

If you are looking for a cost-effective, reliable pH bench meter, Starter 2100 is the right choice for you.

- With the attached quick guide, five clearly marked keys and user-friendly software, novices can operate the meter with minimal training.
- The built-in electrode holder provides uncomplicated and convenient all-in-one operation while the large LCD display screen clearly displays results.
- Auto buffer recognition, electrode condition icon, automatic temperature compensation and reference input, all work together to ensure accurate results.



Starter 3100C

With many advanced intuitive features, Starter 3100C is the ideal meter for standard testing of conductivity, total dissolved solids (TDS) and salinity.

- Starter 3100C's intuitive software includes 1 point calibration, 4 pre-defined standards, automatic and manual endpoint functions, and one touch conversion between measurement modes.
- Among Starter 3100C's user-friendly features that support ease-of-use are an adjustable stand-alone electrode holder and large backlit LCD display.
- Documenting measurement data is made simple through the RS232 which can be used to connect peripheral devices such as printers or computers to the meter.



Specifications

| Model | ST3100* | ST2100* | ST3100C* |
|--------------------------|---|---|--|
| Measurement Range | -2.00...16.00 pH -1999...1999 mV -5 °C...110 °C | 0.00...14.00 pH -1999...1999 mV 0 °C...100 °C | 00.0 µS/cm...199.9 mS/cm 0.1 mg/l...199.9 g/l (TDS) 0.00 ... 19.99 psu (Salinity) 0 °C...100 °C |
| Resolution | 0.01 pH 1 mV 0.1 °C | 0.01 pH 1 mV 0.1 °C | Automatic Range 0.1 °C |
| Error Limits | ± 0.01 pH ± 1 mV ± 0.5 °C | ± 0.01 pH ± 1 mV ± 0.5 °C | ± 0.5 % of the Measured Value ± 0.3 °C |
| Calibration | Up to 3 Points 3 Predefined Buffer Groups | 1 or 2 Points 1 Predefined Buffer Group (1.68, 4.01, 7.00, 10.01) | 1 Point 4 Predefined Standards |
| Memory | 99 Measurements Last Calibration Data | Last Calibration Data | 99 Measurements Last Calibration Data |
| Power Supply | 110-240V/50Hz, DC 12V | 110-240V/50Hz, DC 12V | 110-240V/50Hz, DC 12V |
| Size/Weight | Approximately 220 W × 175 D × 78 H mm / 0.75 kg | Approximately 220 W × 175 D × 78 H mm / 0.75 kg | Approximately 220 W × 175 D × 78 H mm / 0.75 kg |
| Display | Liquid Crystal Backlight | Liquid Crystal | Liquid Crystal Backlight |
| Input | BNC, impedance > 10e+12 Ω Cinch, NTC 30 kΩ 2 mm | BNC, impedance > 10e+12 Ω Cinch, NTC 30 kΩ 2 mm | Mini-DIN |
| Temperature Compensation | ATC & MTC | ATC & MTC | Linear: 0.00 %/°C...10.00 %/°C Reference Temperature: 20 & 25 °C |
| Housing | ABS | ABS | ABS |

*Bench meters are available in different packages:

| Model | Description | Model | Description | Model | Description |
|----------|---|----------|---|-----------|--|
| ST3100-B | 3100 Meter With Stand-alone Electrode Holder (Electrode Not Included) | ST2100-B | Starter 2100 Meter With Built-In Electrode Holder | ST3100C-B | Starter 3100C Meter, Stand-Alone Electrode Holder, Conductivity Standards 1413 µS/cm and 12.88 mS/cm (20 mL Bottles) |
| | | ST2100-E | ST2100-B, ST210 Electrode, pH Buffer Powder Set (4.01, 7.00, 10.01) | | |
| ST3100-F | ST3100-B, ST310 Electrode, pH Buffer Powder Set (4.01, 7.00, 10.01), In-use Cover | ST2100-F | ST2100-B, ST210 Electrode, STTEMP30 Temperature Probe, pH Buffer Powder Set (4.01, 7.00, 10.01) | ST3100C-F | ST3100C-B, STCON3 Conductivity Probe (Range 70 µS/cm – 200 mS/cm), In-use Cover |

Starter Water Analysis Bench Meters

3100 & 2100 Compatible Electrodes

| Description | Model |
|---|----------|
| 3 in 1 Refillable pH Electrode, Integrated Temperature Probe, Glass Shaft | ST350 |
| 3 in 1 Non-refillable pH Electrode, Gel Electrolyte, Integrated Temperature Probe, Plastic Shaft | ST320 |
| 3 in 1 Refillable pH Electrode, Integrated Temperature Probe, Plastic Shaft | ST310 |
| 2 in 1 Non-refillable Puncture pH Electrode, Glass Shaft | ST270 |
| 2 in 1 pH Electrode, Glass Shaft , Double Salt-bridge, Suitable for Tris-buffer pH Measurements | ST260 |
| 2 in 1 Refillable pH Electrode, Glass Shaft, Suitable for Muddy Samples (Such as Milk, Juice etc.) | ST230 |
| 2 in 1 Refillable pH Electrode, Plastic Shaft | ST210 |
| 2 in 1 Refillable pH Electrode, Glass Shaft, 80 × 5 mm (L × Ø), Suitable for Tubes and Narrow Containers | STMICRO5 |
| 2 in 1 Refillable pH Electrode, Glass Shaft, 150 × 8 mm (L × Ø), Suitable for Tubes and Narrow Containers | STMICRO8 |
| 2 in 1 Refillable pH Electrode, Glass Shaft, Suitable for Water Samples Such As Distilled Water, Rain Water, Tap Water etc. | STPURE |
| 2 in 1 Refillable pH Electrode, Suitable for Flat Surface Applications, Plastic Shaft | STSURF |
| Non-Refillable ORP Electrode, Gel Electrolyte, Plastic Shaft | STORP1 |
| Refillable ORP Electrode, Glass Shaft | STORP2 |
| Silver/Silver Chloride Reference Electrode | STREF1 |
| Saturated Calomel Reference Electrode (SCE) | STREF2 |
| Temperature Probe 30kΩ, Stainless Steel Shaft, Temperature Range 0 – 100°C | STTEMP30 |

3100C Compatible Probes

| Description | Model |
|---|--------|
| 4-Pole Conductivity Probe (70 µS/cm-200 mS/cm) | STCON3 |
| 2-Pole Conductivity Probe (0.02 µS/cm to 200 µS/cm) | STCON7 |

*In this range 70 µS/cm-200 mS/cm the measurement accuracy is 0.5%. STCON3 can also measure conductivity value which is below 70 µS/cm, the measurement will be less accurate (approximately 1% to 5%).

Buffers and Accessories

| Description | OHAUS Item Number | ST2100 | ST3100 | ST3100C |
|--|-------------------|--------|--------|---------|
| Attached Electrode Holder | 30058732 | • | | |
| pH Buffer Powder Set (4.01, 7.00, 10.01) | 83033971 | • | • | |
| Buffer pH 1.68 250 mL | 30100424 | • | • | |
| Buffer pH 4.01 250 mL | 30100425 | • | • | |
| Buffer pH 6.86 250 mL | 30100426 | | • | |
| Buffer pH 7.00 250 mL | 30100427 | • | • | |
| Buffer pH 9.18 250 mL | 30100428 | | • | |
| Buffer pH 10.01 250 mL | 30100429 | • | • | |
| Buffer pH 12.45 250 mL | 30100440 | | • | |
| pH Electrode Reference Electrolyte | 30059255 | • | • | |
| pH Electrode Protection Solution (3M KCl) | 30059256 | • | • | |
| pH Sensor Protector Bottle (10 in bag) | 30064800 | • | • | |
| Stand-alone Electrode Holder | 30058733 | | • | • |
| In-use Cover for Bench Meters | 30058734 | | • | • |
| SF40A Printer | 30045641 | | • | • |
| Conductivity Standard Solution 10 µS/cm, 250 mL | 30100441 | | | • |
| Conductivity Standard Solution 84 µS/cm, 250 mL | 30100442 | | | • |
| Conductivity Standard Solution 1413 µS/cm, 250 mL | 30100443 | | | • |
| Conductivity Standard Solution 12.88 mS/cm, 250 mL | 30100444 | | | • |

Compliance

- **Electromagnetic Compatibility:** EN 61326-1 – Class B, Basic environments
- **Safety:** EN 60950-1 (AC adapter)

