Starter

Water Analysis Bench Meters

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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 oxygen 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
ST3100-B	3100 Meter With Stand-alone Electrode Holder (Electrode Not Included)
ST3100-F	ST3100-B, ST310 Electrode, pH Buffer Powder Set (4.01, 7.00, 10.01), In-use Cover

Model	Description
ST2100-B	Starter 2100 Meter With Built-In Electrode Holder
ST2100-E	ST2100-B, ST210 Electrode, pH Buffer Powder Set (4.01, 7.00, 10.01)
ST2100-F	ST2100-B, ST210 Electrode, STTEMP30 Temperature Probe, pH Buffer Powder Set (4.01, 7.00, 10.01)

Model	Description
ST3100C-B	Starter 3100C Meter, Stand-Alone Electrode Holder, Conductivity Standards 1413 µS/cm and 12.88 mS/cm (20 mL Bottles)
ST3100C-F	ST3100C-B, STCON3 Conductivity Probe (Range 70 µS/cm – 200 mS/cm), In-use Cover

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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 Refillabe 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:** IEC/EN 61326-1 – Class B, Basic environments
- **Safety:** IEC/EN 60950-1 (AC adapter)

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With offices throughout Europe, Asia, and Latin America

*ISO 9001:2008 Registered Quality Management System

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