



**Test Equipment  
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# Starter

## Water Analysis Bench Meters



### **Smart Bench Meters for a Variety of Educational Applications**

After more than a century of perfecting the art of accurate measurement through our durable weighing products, OHAUS precision is now available in a line of benchtop electrochemistry products that includes pH and conductivity meters that can also test for salinity, TDS, and ORP. The OHAUS Starter Series of benchtop meters includes a wide breadth of products from basic level meters that offer high performance at a great value to premium performance products that have extended and advanced functionality.

#### **Standard Features Include:**

- **Intuitive Software Powers the Starter Series**—Intuitive software and a well-organized LCD display work in tandem to make operating the Starter Series a simple and straightforward task.
- **Functional Design Assists with Ease-of-Use**—With five clearly marked input keys and built-in or standalone electrode holders, operating the Starter bench meters and obtaining your measurements is an easy process.
- **Reliable Calibration Results in Accurate Measurement**—Starter tracks the accuracy of the calibration process right on the display so you can measure with peace-of-mind knowing your results will be highly precise.

# Starter Water Analysis Bench Meters

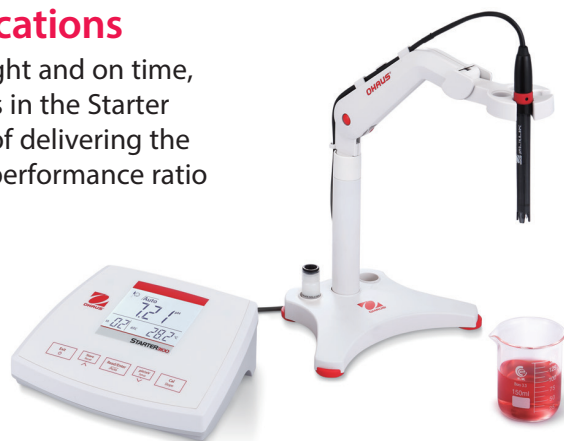
## Sturdy and Accurate Bench Meters for Lab Applications

Whether you are looking for a basic model that can get the job done right and on time, or one with premium features, you will find a meter to meet your needs in the Starter line of bench meters. The Starter Series carries on the OHAUS promise of delivering the highest quality measurement results while maintaining the best price/performance ratio in the market.

### Starter 3100

Starter 3100 offers many premier features that propel the bench meter to an advanced level of operational efficiency

- **Three-point calibration for the highest accuracy**
- **Automatic and manual temperature compensation**
- **Automatic and manual endpoint functions determine the stability of readings**
- **The height of the standalone electrode holder can be adjusted for maximum versatility**
- **Auto buffer recognition helps to avoid errors during the calibration process**
- **99 sets of data memory and the ability to instantly recall the last calibration data**
- **Self-diagnostic software provides assurance that the meter is in proper working condition**
- **Each time a pH sensor is calibrated, an icon appears on the display to confirm the accuracy of the calibration process so you can ensure accurate measurement**
- **Connection to peripheral devices through RS232 port**
- **The height of the electrode holder can be adjusted to optimize placement of the electrode**
- **A quick reference guide with operating instructions is attached**



### Starter 2100

Starter 2100 is the bench meter of choice for those looking for a cost-effective pH meter that will provide reliable measurements time and time again.

- **Built-in electrode arm makes operation simple and convenient**
- **Auto buffer helps to avoid errors during the calibration process**
- **A quick reference guide with operating instructions is attached**



## Starter 3100C

Starter 3100C can test for conductivity, salinity, and TDS and has many advanced features that make it as intuitive as it is accurate.

- A one-touch switch between conductivity, salinity, and TDS measurements
- The height of the standalone electrode holder can be adjusted for maximum versatility
- The 4-pole linear electrode offers a large conductivity range that safeguards itself from polarization and pollution effects
- Automatic temperature compensation with an adjustable temperature coefficient
- Automatic and manual endpoint functions determine the stability of readings
- 99 sets of data memory and the ability to instantly recall the last calibration data
- Connection to peripheral devices through RS232 port
- A quick reference guide with operating instructions is attached



## 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 (4.01, 7.00, 10.01)	1 Point 3 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 2mm	BNC, impedance > 10e+12 Ω Cinch, NTC 30 kΩ 2mm	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 Standalone Electrode Holder	ST2100-B	2100 Meter with Built-in Electrode Arm	ST3100C-B	3100C Meter with Standalone Electrode Holder, and 2 Small Bottles of Standard Conductivity Solution - 1413 µS/cm and 12.88ms/cm)
ST3100-F	3100 Meter with ST310 3-in-1 Plastic Refillable pH Electrode, pH Buffer Powder Sachet and In-Use Cover	ST2100-E	2100 Meter, ST210 2-in-1 Plastic Refillable pH Electrode and pH Buffer Powder Sachet	ST3100C-F	3100C Meter with Standalone Electrode Holder, STCON3 4-Pole Conductivity Electrode (70 µS/cm-200ms/cm) and In-Use Cover
		ST2100-F	2100 Meter, ST210 2-in-1 Plastic Refillable pH Electrode+STTEMP30 Temperature Electrode, and pH Buffer Powder Sachet		

# Starter Water Analysis Bench Meters

## 3100 & 2100 Compatible Electrodes

Description	Model
3-in-1 Plastic Refillable pH Electrode	ST310
2-in-1 Plastic Refillable pH Electrode	ST210
3-in-1 Plastic Gel pH Electrode	ST320
2-in 1 Glass Muddy Sample pH Electrode	ST230
2-in-1 Glass Pure Water Sample pH Electrode	STPURE
Temperature Electrode	STTEMP30
Gel Plastic ORP Electrode	STORP1
Refillable Glass ORP Electrode	STORP2
Silver/Silver Chloride Reference Electrode	STREF1
Saturated Calomel (SCE) Reference Electrode	STREF2

## 3100C Compatible Electrodes

Description	Model
4-Pole Conductivity Electrode (70 $\mu$ S/cm-200ms/cm)	STCON3

## Buffers and Accessories

Description	OHAUS Item Number	ST2100	ST3100	ST3100C
Attached Electrode Holder	30058732	•		
pH buffer powder sachet (4.01; 7.00; 10.01)	83033971	•	•	
pH Buffer 4.01 250ml*6	30065083	•	•	
pH Buffer 7.00 250ml*6	30065084	•	•	
pH Buffer 9.21 250ml*6	30065085	•	•	
pH Buffer 10.00 250ml*6	30065086	•	•	
pH Electrode Reference Electrolyte	30059255	•	•	
pH Electrode Protection Solution(3M KCl)	30059256	•	•	
pH Sensor Protector Bottle(10 in bag)	30064800	•	•	
Electrode Stand Alone Holder (3100/3100C)	30058733		•	•
In-use Cover for Bench Meters (3100/3100C)	30058734		•	•
SF40A Printer	Contact an Authorized OHAUS Dealer or OHAUS Representative		•	•
Standard Conductivity Solution 84uS/cm 250ml*6	30065087			•
Standard Conductivity Solution 1413uS/cm 250ml*6	30065088			•
Standard Conductivity Solution 12.88mS/cm 250ml*6	30065089			•

## Approvals

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense.



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