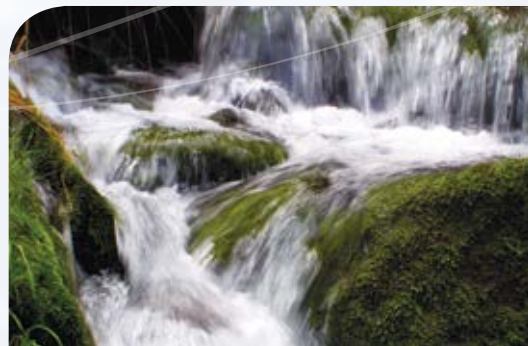# PLP

**PACIFIC
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PRODUCTS**

Water Analysis
Product Selection

With over 10 years of experience supplying equipment and consumables to laboratories across Australia, Pacific Laboratory Products, a former Radiometer Analytical agency, specializes in sourcing the latest technologies to facilitate processes along the broad range of water analysis applications.

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please contact a sales representatives at: **sales@pacificlab.com.au**

Water Analysis Content Guide

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HQd Portable Meters - Single / Multi-parameter

Maximum measurement flexibility and ease of operation with interchangeable probes and automatic parameter recognition.

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HQd Applications • Drinking water • Environmental • Industrial • QC Laboratory • Wastewater

	HQ11d DEDICATED pH/mV PORTABLE METER	**HQ14d** DEDICATED CONDUCTIVITY PORTABLE METER	**HQ30d** SINGLE INPUT MULTI-PARAMETER PORTABLE METER	**HQ40d** DUAL INPUT MULTI-PARAMETER PORTABLE METER
Part Number:	HQ11d53000000	HQ14d53000000	HQ30d53000000	HQ40d53000000
IP rating	IP67	IP67	IP67	IP67
Internal Data Storage	500*	500*	500*	500*
Inputs	M12 digital (1) for IntelliCAL probes	M12 digital (1) for IntelliCAL probes	M12 digital (1) for IntelliCAL probes	M12 digital (1) for IntelliCAL probes
Outputs	USB to PC / flash stick	USB to PC / flash stick	USB to PC / flash stick	USB to PC / flash stick
Interface Languages	13**	13**	13**	13**
Compliance	CE.WEEE	CE.WEEE	CE.WEEE	CE.WEEE
Benchtop	with stand	with stand	with stand	with stand
Portable	•	•	•	•
GLP Features	•	•	•	•
PC Data Transfer Software	included	included	included	included
Backlight	•	•	•	•
Battery Operation	•	•	•	•
AC Power Supply		optional		included

Parameter	HQ11d	HQ14d	HQ30d	HQ40d
Temperature	•	•	•	•
pH -Glass	•		•	•
mV	•		•	•
Conductivity		•	•	•
TDS		•	•	•
Salinity		•	•	•
Resistivity		•	•	•
DO -Luminescent (LDO) DO -BOD Probe (with LDO)			•	•
ORP/Redox	•		•	•
Ammonia			•	•
Nitrate			•	•
Fluoride			•	•
Sodium			•	•
Chloride			•	•
Ammonium			•	•

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HQd IntelliCAL pH Probe Selection Chart

Legend: ★ Best   ✔ Good   ☐ Not applicable

Specifications	Standard IntelliCAL pH Electrodes						High-Performance (Red Rod) IntelliCAL pH Electrodes				Specialty IntelliCAL pH Electrodes			
Electrode Model	PHC101 Rugged	PHC201	PHC301	PHC281	PHC101 Standard	PHC805	PHC705	PHC725	PHC735	PHC745	PHC705A	PHC729	PHC307	PHC108
Reference system	Ag/AgCl						Red Rod				Red Rod		Ag/AgCl	
Body material	Stainless Steel	epoxy	Zeonor	Zeonor	epoxy	glass				glass				Stainless steel
Electrolyte	gel	refillable				refillable				refillable				
Junction Diaphragm	open	porous pin	porous pin	open	open	porous pin	porous pin		annular ring	sleeve	porous pin	annular ring	porous pin	pin + open
Glass bulb		standard					standard				alkaline	flat	micro	spear
Applications														
General Purpose														
General Use	✔	★	★	✔	✔	★	★	★	★	★			★	
High performance	★	✔	✔	★			★	★	★	★	★	★		
Field Measurements	✔	✔	✔	✔	✔									✔
High Temp (≥ 100 °C)							★	★	★	★	★	★		
Low Temp (< 0 °C)							★	✔	✔	✔	✔	✔		
Waters														
Drinking Water	✔	✔	✔	✔		✔	★	★	★					
Wastewater	★	✔	✔		★	✔	✔	✔	✔	✔				
Seawater	✔	✔	★	✔	✔	★	★	★	✔	✔				
Boiler / Cooler							✔	✔	★	★				
Pool / Spa					✔	✔								
Food & Beverage														
Beer			✔	✔		✔	✔	★	★					
Bottled Water			✔	★		✔		★	★					
Milk / Dairy			★				★	✔	★					
Wine			✔		✔	✔	✔	✔	★	✔				
Penetration applications: cheese, meat, fruit				★			★	★		★	★			★
Flat surface measurement: cheese, meat, agar														
Challenging Applications														
Alkaline samples (pH > 12)											★			
Emulsions cosmetics, creams, paint, oil				★			★	✔	✔	★				
Low Ionic Strength (LIS) DI water, deionized water, treated effluent								★	★	✔				
Non-aqueous / Semi-solid								✔	✔	★				
Pharma / Bio—TRIS buffer, proteins, enzymes			✔	✔			★	★	✔	✔				
Viscous liquids, suspended solids, slurries									✔	★				
Other Applications														
Education	★	★	★			✔							★	
Micro samples, test tubes, small sample volume				★									★	★
Surface measurements		★												★
Soil (slurry in water)	✔	★	★			✔								★

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HQd IntelliCAL Probes

	DO Luminescent Dissolved Oxygen	DO Luminescent Dissolved Oxygen	BOD Luminescent Dissolved Oxygen	Conductivity
Part Number	**LDO10101***	**LDO10105***	**LBOD10101***	**CDC40101***
Special Feature	LDO technology No membranes	LDO technology No membranes	LDO technology. Designed for BOD applications. No membranes	
Probe Type	Standard	Rugged	Standard	Standard
Range	DO: 0.1 - 20.0 mg/L % Saturation: 1 - 200%	DO: 0.1 - 20.0 mg/L % Saturation: 1 - 200%	DO: 0.1 - 20.0 mg/L % Saturation: 1 - 200%	Conductivity: 0.01 µS/cm - 200 mS/cm TDS: 0 - 50,000 mg/L as NaCl Salinity: 0 - 42 g/kg or (‰) Resistivity: 2.5 Ω·cm - 49 MΩ·cm
Temp Range	Continuous Use: 0 to 50ºC	Continuous Use: 0 to 50ºC	Continuous Use: 0 to 50ºC	Continuous Use: -10 to 110ºC
Thermistor	• (ATC)	• (ATC)	•	• (ATC)
Dimensions	15 mm (D) x 200 mm (L)	15 mm (D) x 220 mm (L)	15.875 mm (D)**x 200 mm (L)	14 mm (D) x 200 mm (L)
Sensor Type	Lumiphore	Lumiphore	Lumiphore	4-pole graphite
Junction	—	—	—	—
Body Material	PC/Abs	PC/Abs with Stainless Steel	PC/Abs	Noryl
Filling Solution	—	—	—	—
ISA Required	—	—	—	—

	ORP/Redox Combination Gel-filled	ORP/Redox Combination Refillable	ORP/Redox Combination Gel-filled	Ammonia Combination ISE
Part Number	**MTC10101***	**MTC30101***	**MTC10105***	**ISENH3181***
Special Feature	Flat disc sensor for easy cleaning. Low maintenance.	Flat disc sensor for easy cleaning	Flat disc sensor for easy cleaning	Easy-to-replace membrane modules
Probe Type	Standard	Standard	Standard	Standard
Range	±1200 mV	±1200 mV	±1200 mV	0.007 mg/L (5x10^{-7} M) to 14,000 mg/L (1 M) NH$_3$-N
Temp Range	Continuous Use: 0 to 80ºC	Continuous Use: 0 to 80ºC	Continuous Use: 0 to 80ºC	Continuous Use: 0 to 50ºC
Thermistor	•	•	•	•
Dimensions	12 mm (D) x 200 mm (L)	12 mm (D) x 200 mm (L)	12 mm (D) x 220 mm (L)	12 mm (D) x 220 mm (L)
Sensor Type	Platinum disc	Platinum disc	Platinum disc	Gas sensing: glass w/ replaceable NH$_3$ sensitive membrane
Reference Type	—	—	—	Ag/AgCl
Junction	Open	Ceramic	Open	Annular
Body Material	Epoxy	Epoxy	Zeonor™ with Stainless Steel	Epoxy
Filling Solution	—	2841700	—	4447226
ISA Required	—	—	—	4447169

*1 meter standard and 5 meter rugged probes described above. All standard probes available in 1 or 3 meter cable lengths. All rugged probes available in 5, 10, 15 or 30 meter cable lengths.
**Fits BOD bottle neck size > 15.875mm inside diameter

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HQd IntelliCAL Probes

Conductivity	pH Ultra Refillable Combination	pH Gel-filled Combination	pH Gel-filled Combination	pH Refillable Combination	pH Gel-filled Combination
CDC40105*	PHC28101*	PHC10101*	PHC20101*	PHC30101*	PHC10105*
	Fast response time difficult samples	Wastewater and Clean water samples	General purpose		Low mainten
Rugged	Standard	Standard	Standard	Standard	Rugged
Conductivity:0.01μS/cm - 200mS/cm TDS: 0 - 50,000 g/L Salinity: 0 - 42 g/kg or (‰) Resistivity: 2.5 Ω·cm - 49 MΩ·cm	0 to 14 pH	2 to 14 pH	0 to 14 pH	0 to 14 pH	2 to 14 pH
Continuous Use: -10 to 110ºC	Continuous Use:0-80ºC	Continuous Use:0-50ºC	Continuous Use:0-80ºC	Continuous Use:0-80ºC	Continuous Use:0-50ºC
• (ATC)	• (ATC)	• (ATC)	• (ATC)	• (ATC)	• (ATC)
14 mm (D) x 220 mm (L)	12mm (D)x200mm (L)	12mm (D)x200mm (L)	12mm (D)x200mm (L)	12mm (D)x200mm (L)	12mm (D)x220mm (L)
4-pole graphite	Glass	Glass	Glass	Glass	Glass
—	Open	Open	Ceramic	Ceramic	Open
Noryl with Stainless Steel	Zeonor™	Zeonor™	Epoxy	Zeonor™	Zeonor™ with S/S
—	2965026	—	2841700	2841700	—
—	—	—	—	—	—

Ammonium Combination ISE	Chloride Combination ISE	Fluoride Combination ISE	Nitrate Combination ISE	Sodium Combination ISE
ISENH4181*	ISECl181*	ISEF121*	ISENO3181*	ISENa38101*
Dry storage & fast response time. No replacement membranes				Fast response time
Standard	Standard	Standard	Standard	Standard
0.07 mg/L ($5x10^{-6}$ M) to 7,000 mg/L (0.5 M) NH_4^+ -N	0.1 mg/L ($3x10^{-6}$ M) to 35,500 mg/L (1 M) Cl^-	0.02 mg/L ($1x10^{-6}$ M) to 19,000 mg/L (1 M) F^-	0.1 mg/L ($7x10^{-6}$ M) to 14,000 mg/L (1 M) NO_3^--N	0.023 mg/L ($1x10^{-6}$ M) to 23,000 mg/L (1 M) Na^+
Continuous Use: 0 to 50ºC	Continuous Use: 0 to 50ºC	Continuous Use: 0 to 50ºC	Continuous Use: 0 to 50ºC	Continuous Use: 0 to 50ºC
•	•	•	•	•
12 mm (D) x 220 mm (L)	12 mm (D) x 220 mm (L)	12 mm (D) x 220 mm (L)	12 mm (D) x 220 mm (L)	12 mm (D) x 220 mm (L)
Solid-state PVC membrane	Solid-state disc	Solid-state crystal	Solid-state PVC membrane	Glass
Ag/AgCl	Ag/AgCl	Ag/AgCl	Ag/AgCl	Ag/AgCl
Annular	Annular	Annular	Annular	Ceramic
Epoxy	Epoxy	Epoxy	Epoxy	Zeonor™
—	—	—	—	2965126
2980699	2318069	258999	2984799	4451569

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HQd IntelliCAL High-Performance Red Rod Electrodes

	pH IntelliCAL PHC705 High-Performance General Purpose Laboratory pH Probe	pH IntelliCAL PHC725 High-Performance General Purpose and LIS Laboratory pH Probe	pH IntelliCAL PHC735 High-Performance Lab pH Probe for "Dirty" Samples	pH IntelliCAL PHC745 High-Performance Lab pH Probe for "Challenging" Samples
Part Number	**PHC70501**	**PHC72501**	**PHC73501**	**PHC74501**
Special Feature	General purpose laboratory measurements	General Purpose and LIS Laboratory pH Probe	Lab pH Probe for "Dirty" Samples	Digital combination pH electrode Lab pH Probe for "Challenging" Samples
Probe Type				
Range	0 to 14 pH	0 to 14 pH	0 to 14 pH	0 to 14 pH
Temp Range	10 to 100°C	-10 to 100°C	-10 to 100°C	-10 to 100°C
Dimensions	12 mm (D) x 200 mm (L)	12 mm (D) x 200 mm (L)	12 mm (D) x 200 mm (L)	12 mm (D) x 200 mm (L)
Sensor Type	Integrated temperature	Integrated temperature	Integrated temperature	Integrated temperature
Junction	Porous Pin	Annular ring	High-Flow Annular Ring	Sleeve
Body Material	Glass	Glass	Glass	Glass
Filling Solution	25118026	25118026	25118026	25118026

	pH IntelliCAL PHC705A High-Performance Lab pH Probe for Alkaline Samples	pH IntelliCAL PHC729 High-Performance Lab pH Probe for Surface Measurements	pH IntelliCAL PHC108 Puncture pH Probe
Part Number	**PHC705A01**	**PHC72901**	**PHC10801**
Special Feature	Lab pH Probe for Alkaline Samples	Lab pH Probe for Surface Measurements	Puncture pH Probe
Probe Type			
Range	0 to 14 pH	0 to 14 pH	2 to 12 pH
Temp Range	0 to 100°C	-10 to 100°C	0 to 60°C
Dimensions	12 mm (D) x 200 mm (L)	12 mm (D) x 200 mm (L)	6 mm (D) x 182 mm (L)
Sensor Type	Integrated Temperature	Integrated Temperature	Spear-shaped
Junction	Porous Pin	Annular Ring	Porous Pin + Open
Body Material	Glass	Glass	Stainless Steel
Filling Solution	25118026	25118026	LZW9502.99

Red Rod reference systems enables accurate measurements over a broader temperature range than standard electrodes.

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HQd Benchtop Meters

Designed for water quality experts

• All the benefits of the digital HQd system, with simplified data transfer and easy-to-read results on a large, backlit screen.

• HQd meters connect with smart IntelliCAL probes

Learn more!
Watch the video

Hit the play button!

Applications
• Drinking water • Environmental
• Industrial Plant • QC Laboratory
• Wastewater

	HQ411d DEDICATED pH/mV BENCHTOP METER	HQ430d SINGLE INPUT MULTI-PARAMETER BENCHTOP METER	HQ440d DUAL INPUT MULTI-PARAMETER BENCHTOP METER
Part Number:	HQ411d	HQ430d	HQ440d
IP rating	IP54	IP54	IP54
Internal Data Storage	500*	500*	500*
Inputs	M12 digital (1) for IntelliCAL probes	M12 digital (1) for IntelliCAL probes	M12 digital (1) for IntelliCAL probes
Outputs	USB to PC / flash stick	USB to PC / flash stick	USB to PC / flash stick
Interface Languages	13**	13**	13**
Compliance	CE.WEEE	CE.WEEE	CE.WEEE
Benchtop	•	•	•
GLP Features	•	•	•
PC Data Transfer Software	included	included	included
Backlight	•	•	•
Battery Operation	•	•	•
Probe Stand	optional for all models	included	included
Parameter	**HQ411d**	**HQ430d**	**HQ440d**
Temperature	•	•	•
pH -Glass	•	•	•
mV	•	•	•
Conductivity		•	•
TDS		•	•
Salinity		•	•
Resistivity		•	•
DO -Luminescent (LDO) DO -BOD Probe (with LDO)		•	•
ORP/Redox	•	•	•
Ammonia		•	•
Nitrate		•	•
Fluoride		•	•
Sodium		•	•
Chloride		•	•
Ammonium		•	•

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Starter Series pH, DO & Conductivity portable meters

Low-cost Portable Meters packed with productive features

• Lightweight design ideal for field testing

• Compact and ergonomic design offers a user friendly experience

• Clear, well-organized LCD screen

• Reliable calibration results in accurate measurement screen

Applications

• *Academic* • *General Laboratory Use*
• *Food & Beverage*
• *Field Use* • *Water Analysis*

ST300-G

Developed with versatility in mind, these meters can be operated in the lab with the support of the built-in stands or in the field thanks to their lightweight design. The portable Starter Series also boasts IP54 protection which shields the meter from damage by water and dust particles and it also offers an integrated labeling area which can be customized for quick identification. Each meter can store 30 sets of data memory and has the ability to quickly recall calibration data and stored information with one quick touch.

Starter 300 pH Meter

Starter 300 marries portability with precise pH measurement. An ORP or temperature electrode can also be easily connected to provide additional functionality.

• Auto buffer recognition stores calibration data and helps to avoid errors during the calibration process.
• Automatic and manual temperature compensation helps ensure accurate readings.

ST300-G

Starter 300C Conductivity Meter

Starter 300C is the reliable and accurate choice for measurement of the conductivity and TDS levels of liquids. With a variety of features that protect the meter from more extreme elements, Starter 300C can be used for a wide variety of applications.

• 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.

ST300C-G

Starter 300D Dissolved Oxygen Meter

Starter 300D provides accurate and reliable dissolved oxygen measurement that is critical to aquatic life and water quality.

• Push-button toggling between ppm, mg/L and percentage.
• The galvanic electrode can be used immediately after being powered on without the wait time typically associated with dissolved oxygen meters.

ST300D-G

Specifications

Model	ST300-G ☑	ST300C-G ☑	ST300D-G ☑
Part Number	**30219114**	**30219115**	**30219116**
Measurement Range	0.00…14.00 pH −1999…1999 mV 0 °C…100 °C	0.0 µS/cm…199.9 mS/cm 0.1 mg/l…199.9 g/l (TDS) 0 °C…100 °C	0.0 to 199.9%; 200 to 400% 0.00 to 19.99; 20.0 to 45.0 mg/L 0.00 to 19.99; 20.0 to 45.0 ppm 0 to 50 °C
Measurement Resolution	0.01 pH 1 mV 0.1°C	Automatic Range 0.1°C	0.1%; 1% 0.1 mg/L; 1mg/L 0.01 ppm; 0.1 ppm 0.1 °C
Barometric Range	NA		375 to 825 mmHg 500 to 1100 mbar 500 to 1100 hPa
Barometric Resolution	NA		1 mmHg, 1 mbar, 1 hPa
Error Limits	± 0.01 pH, ± 1 mV, ± 0.5 °C	± 0.5 % of the Measured Value ± 0.3°C	± 1% ; ± 0.3 °C
Calibration	3 Points, 1 Predefined Buffer Group	1 Point, 3 Predefined Standards	1 or 2 Points, 100% and 0%
Memory	30 Measurements, Last Calibration Data		
Power Supply	4 AAA > 500 Operating Hours	4 AAA > 250 Operating Hours	
Size/Weight	Approximately 90 W × 150 D x 35 H mm / 0.18 kg (Without Batteries)	Approximately 90 W × 150 D x 35 H mm / 0.16 kg (Without Batteries)	Approximately 90 W × 150 D x 35 H mm / 0.18 kg (Without Batteries)
Display	Liquid Crystal		
Input	BNC, Impedance > 10e+12 Ω Cinch, NTC 30 kΩ	Mini-Din	BNC, Cinch, NTC 30 kΩ
Temperature Compensation	ATC & MTC	ATC,Linear: 0.00 %/°C…10.00 %/°C Reference Temperature: 20 & 25 °C	ATC & MTC
Salinity Compensation	NA		0.0 to 50.0 ppt
IP Protection	IP54		
Housing	ABS		
Kit Content	ST300-B*, ST320 3-in-1 Plastic Gel pH Electrode, pH Buffer Powder Sachet (4.01, 7.00, 10.01), Portable Bag	ST300C-B*, STCON3 4-Pole Conductivity Probe (70 µS/cm - 200 mS/cm), Portable Bag	ST300D-B* with STDO11 Galvanic DO Probe, STTEMP30 Temperature Probe, Portable Bag
Compatible Electrodes (Find the complete range on page 26)	ST210, ST230, ST310, ST320, STPURE, STTEMP30, STORP1, STROP2	STCON3	STTEMP30, STDO11

* Meter comes with with IP54 Sets, electrode clip, wrist strap and 4 AAA batteries

Complete range of Ohaus compatible Electrodes

Please refer to page 26 ☑

ST300C-G ☑   ST300D-G ☑

sensION + Benchtop Meters

Solutions for any kind of electrochemistry measurement tasks

Each system is designed to be used in a wide variety of applications and comes complete with everything required to start testing.

Applications • *Drinking water* • *Environmental* • *Food & beverage* • *QC Laboratory* • *Wastewater*

Parameter	PH3 BASIC BENCHTOP pH METER	PH31 GLP BENCHTOP pH METER	EC7 BENCHTOP CONDUCTIVITY METER	EC71 GLP BENCHTOP CONDUCTIVITY METER	MM340 BENCHTOP MULTI-PARAMETER METER	MM374 BENCHTOP MULTI-PARAMETER METER
Part Number	**LPV2000.97.0002**	**LPV2100.97.0002**	**LPV3010.97.0002**	**LPV3110.97.0002**	**LPV2200.97.0002**	**LPV4110.97.0002**
Temperature	•	•	•	•	•	•
pH	•	•			•	•
mV		•			•	•
Conductivity			•	•		•
Salinity			•	•		•
TDS				•		•
ORP/Redox	•	•			•	•
Ammonia					•	•
Nitrate					•	•
Fluoride					•	•
Sodium					•	•
Chloride					•	•
Ammonium					•	•

Feature	PH3 BASIC BENCHTOP pH METER	PH31 GLP BENCHTOP pH METER	EC7 BENCHTOP CONDUCTIVITY METER	EC71 GLP BENCHTOP CONDUCTIVITY METER	MM340 BENCHTOP MULTI-PARAMETER METER	MM374 BENCHTOP MULTI-PARAMETER METER
IP rating	IP42	IP42	IP42	IP42	IP42	IP42
Internal Data Storage	—	330	—	400	330	330
Inputs	BNC, ref, Pt1000	BNC, ref, Pt1000	E.C. cell, Pt1000	E.C. cell, Pt1000	2 BNC, 2 ref, Pt1000	2 BNC, 2 ref, 1 E.C.
Outputs	RS-232*	RS-232* (two-way)	RS-232*	RS-232*	RS-232* (two-way)	RS-232* (two-way)
Interface Language(s)	6**	6**	6**	6**	6**	6**
Compliance	CE.WEEE	CE.WEEE	CE.WEEE	CE.WEEE	CE.WEEE	CE.WEEE
GLP Features	—	•	—	•	•	•
PC Data Transfer Software (optional)	•	•	•	•	•	•
Backlight	•	•	•	•	•	•
AC Operation	•	•	•	•	•	•

*USB compatibility with included adapter. *English, German, Spanish, French, Italian, and Portuguese.

sensION+ pH Probe Selection Chart

★ Best ✔ Good ☐ Not applicable

Specifications	Benchtop sensION+ Electrodes			
Electrode Model	5010T	5011T	5014T	5021T
Reference system	Ag/AgCl			
Body material	polycarbonate	glass		
Electrolyte	gel		refillable	
Junction Diaphragm	porous pin	open	two porous pins	PTFE sleeve
Glass bulb	standard			
Applications				
General Purpose				
General Use	★		★	
High performance			★	★
Field Measurements				
High Temp (≥ 100 °C)			✔	
Low Temp (< 0 °C)				
Waters				
Drinking Water			★	★
Wastewater		★	✔	✔
Seawater	✔	✔	★	✔
Boiler / Cooler				
Pool / Spa	★			
Food & Beverage				
Beer			✔	
Bottled Water	✔		★	✔
Milk / Dairy				✔
Wine			✔	★
Penetration applications: cheese, meat, fruit				
Flat surface measurement: cheese, meat, agar				
Challenging Applications				
Alkaline samples (pH > 12)			★	
Emulsions cosmetics, creams, paint, oil				★
Low Ionic Strength (LIS) DI water, deionized water, treated effluent				★
Non-aqueous / Semi-solid				✔
Pharma / Bio– TRIS buffer, proteins, enzymes			✔	✔
Viscous liquids, suspended solids, slurries		✔		★
Other Applications				
Education	★		★	
Micro samples_ test tubes, small sample volume				
Surface measurements				
Soil (slurry in water)	★	✔	★	

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sensION + Probes for Benchtop Meters

Specifications		pH Combination Gel-filled	pH Combination Refillable	pH Combination Gel-filled Wastewater	pH Combination Refillable
Part Number		LZW5010T.97.002	LZW5014T.97.002	LZW5011T.97.002	LZW5021T.97.002
Special feature			TRIS compatible	Solid gel for high solids content	Clog-free Sleeve Junction for low ionic strength
Range		0 to 14 pH	0 to 14 pH	2 to 14 pH	0 to 14 pH
Temperature Range		0 to 80°C	-10 to 100°C	0 to 80°C	0 to 60°C
Temperature Sensor		Pt 1000	Pt 1000	Pt 1000	Pt 1000
Dimensions		12 mm (D) x 130mm (w/o handle)	12 mm (D) x 130 mm (w/o handle)	12 mm (D) x 130 mm (w/o handle)	12 mm (D) x 130 mm (w/o handle)
Sensor Type		Glass	Glass	Glass	Glass
Junction		Ceramic	Ceramic (2)	Open	Open with sleeve
Body Material		Polycarbonate	Glass	Glass	Glass
Filling Solution		—	LZW9500.99	—	LZW9500.99

Specifications		Conductivity	ORP Gel-filled Combination	ORP Refillable Combination
Part Number		LZW5070.97.0002	LZW5056.97.0002	LZW5057.97.0002
Special feature			TRIS compatible	Solid gel for high solids content
Range		0.2 µS/cm to 200 mS/cm	±2000 mV	±2000 mV
Temperature Range		0 to 80°C	0 to 80°C	0 to 80°C
Temperature Sensor		Pt 1000	—	—
Dimensions		12 mm (D) x 130 mm (w/o handle)	12 mm (D) x 130 mm (w/o handle)	12 mm (D) x 130 mm (w/o handle)
Sensor Type		Platinum	Platinum	Platinum
Junction		—	Ceramic	Ceramic
Body Material		Outside: Polycarbonate Inside: Glass	Glass	Glass
Filling Solution		—	—	LZW9500.99

sensION+ Benchtop Meter & Probe Kits

Choose from basic kits or advanced kits for your lab testing needs. All benchtop kits include: workstation with integrated stirrer, buffers, standards, storage solutions, calibration flasks, and accessories for quick start up.

LPV2010T.97.002 — Basic pH (general) Benchtop Kit sensION+ PH3 meter with universal **5010T** pH and temperature electrode. For general aqueous applications.

LPV2011T.97.002 — Advanced pH (dirty samples) Benchtop Kit sensION+ PH3 meter with open junction **5011T** pH and temperature electrode. For high solid content and/or viscous media samples.

LPV2014T.97.002 — Advanced pH (high performance) Benchtop Kit sensION+ PH3 meter with dual junction **5014T** pH and temperature electrode. For sulfurs, reducing sugars or media that reacts with Ag+ ions.

LPV2021T.97.002 — Advanced pH (difficult samples) Benchtop Kit sensION+ PH3 meter with clog-free **5021T** pH and temperature electrode. For low ionic strength, colloidal, emulsions and cream samples.

LPV2111T.97.002 — Advanced pH (general) Benchtop Kit sensION+ PH31 GLP meter with open junction **5011T** pH and temperature electrode. For high solid content and/or viscous media samples.

LPV3070.97.0002 — Basic Conductivity Benchtop Kit sensION+ EC7 meter with universal **5070** conductivity and temperature cell. For general aqueous applications.

LPV3170.97.0002 — Advanced Conductivity Benchtop Kit sensION+ EC71 GLP meter with universal **5070** conductivity and temperature cell. For general aqueous applications.

LPV4140.97.0002 — Advanced pH (high performance) & Conductivity Benchtop Kit sensION+ MM374 pH, conductivity & ISE GLP meter with dual junction **5014** pH and universal **5070** conductivity with temperature cell.

LPV4160.97.0002 — Advanced pH, Conductivity and Dissolved Oxygen Benchtop Kit sensION+ MM378 pH, conductivity & DO GLP meter with dual junction **5014** pH, universal **5070** conductivity cell with temperature and **5131** DO electrode.

HACH®
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sensION + ISE Probes

Specifications		Sodium ISE	Chloride ISE	Fluoride ISE	Nitrate ISE
Part Number		LZW9650.97.0002*	LZW9652.97.0002*	LZW9655.97.0002*	LZW9662.97.0002*
Special feature			Dry storage and fast response time. No replacement membranes.	Dry storage and fast response time. No replacement membranes.	Dry storage and fast response time. No replacement membranes.
Range		0.05 to 23,000 mg/L Na^+	1 to 35,000 mg/L Cl^-	0.02 to 20,000 mg/L F^-	0.4 to 62,000 mg/L NO_3^-
Temp. Range		0 to 60°C	5 to 50°C	5 to 50°C	5 to 40°C
Dimensions		12 mm (D) x 120 mm	12 mm (D) x 120 mm	12 mm (D) x 120 mm	12 mm (D) x 120 mm
Sensor Type		Sodium Selective Glass Membrane	Solid-State Chloride Selective Membrane	Solid-State Fluoride Selective Membrane	Solid-State Nitrate Selective Polymer Membrane
Junction		—	—	—	—
Body Material		Glass	ABS	ABS	ABS
Filling Solution		—	—	—	—

Specifications		Ammonium ISE		Ammonia Combination ISE		Reference Electrode
Part Number		LZW9663.97.0002*		5192700		LZW5044.97.0002
Special feature		Dry storage and fast response time. No replacement membranes.				Double junction reference electrode for ISEs, large ceramic diaphragm
Range		0.9 to 1,800 mg/L NH_4^+		0.06 to 17,000 mg/L as NH_3		—
Temp.Range		5 to 40°C		0 to 50°C		0 to 60°C
Dimensions		12 mm (D) x 120 mm		12 mm (D) x 149 mm		12 mm (D) x 120 mm
Sensor Type		Solid-State Ammonium Selective Polymer Membrane		Gas Sensing Ammonia Selective Membrane		—
Junction		—		Annular		Ceramic
Body Material		ABS		ABS		Glass
Filling Solution		—		—		LZW9901.99

This ion selective electrode is a half cell and requires a reference electrode.

sensION + Accessories

LZW8201.99	Thermal printer, RS 232, for sensION+ benchtop	LZW5125.99	Spare membrane for D.O. electrode LZW5120
LZW9117.99	Thermal paper for printer LZW8201.99, bag with 5 rolls	LZW5126.99	Protector-calibration flask for D.O electrode LZW5120
LZW8200.99	Dot-impact printer, RS 232, for sensION+ instruments	LZW9320.99	One-sensor holder, for sensION+ benchtop instruments
LZW9000.99	Standard paper for printer LZW8200, bag with 10 rolls.	LZW9321.99	Three-sensor holder, for sensION+ benchtop instruments
LZW9001.99	Ribbon for printer LZW8200.99, 3 units.	LZW9110.97	3x50 mL printed flasks for benchtop pH calibration, US
LZW9135.99	RS232 cable, for sensION+ benchtop instruments	LZW9111.99	3x50 mL printed flasks for benchtop conductivity calibration
LZW9135USB.99	RS232 cable for sensION+ benchtop, with USB adapter	LZW9155.99	Holder and clamp for three sensors, sensION+
LZW9319.99	Magnetic stirrer with sensor holder, for sensION MM benchtop	LZW9118.99	Pyrex glass chamber, continuous flow measurements, sensION+
LZW9267.99	Holder and clamp for one sensor, for portable sensION+	LZW9161.99	PP protector, electrode storage, sensION+
LZW9137.97	3x10 mL printed tubes, for portable pH calibration, US	LZW9162.99	PP protector, for measurement, sensION+
LZW9138.99	3x10 mL printed tubes, for portable conductivity calibration	LZW8997.99	Hach LabCom Easy Software, sensION+, GLP
		LZW8999.99	Hach LabCom Software, sensION+, GLP

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Be Right

Select the most suitable electrode for your application

Legend:
- ✓ (dark blue) Recommended
- (light blue) Acceptable
- (yellow) Not recommended
- (cream) Not recommended
- (red) Risk of damage

There is a Radiometer Analytical electrode for every application. The above table indivcates the many applications for which Radiometer Analytical electrodes can be used. Where possible, choose an electrode which is "Recommended" but where one electrode is required for several applications, it may be necessary to select one which is "Acceptable".

Full specifications of the electrodes featured in the table are given on the following pages.

In addition to your application, there are other considerations when choosing an electrode. Length and diameter obviously depend on the sample size and sample vessel. RadiometerAnalytical offers electrodes with various lengths for specialist applications and small diameters for microsamples.

When measuring at high temperatures, the electrochemical system within the electrode needs to be considered. Radiometer Analytical offers Ag/AgCl electrodes specially designed for high-temperature measurements.

To avoid chloride interference, a reference electrode with a chloride-free reference system must be used (e.g. Hg/Hg 2SO4 with K2 SO4 salt-bridge) or a reference electrode with a double salt-bridge construction.

Combined pH electrodes

Applications	pHC2001	pHC2002	pHC2003	pHC2005	pHC2011	pHC2015	pHC2051	pHC2085	pHC2401	pHC2441	pHC2501	pHC2601	pHC2701	GK2401B	GK2401C	pHC3001	pHC3005	pHC3006	pHC3006L	pHC3011	pHC3031	pHC3081	pHC3085	pHC3105	pHC3131	pHC3185	pHC3359	pHC4000	pHC4001	pHC4006	XC161
Alkaline solutions																															
Aqueous solutions																															
Blood																															
Education purposes																															
Emulsions																															
Fat/cream/cosmetics																															
Field use																															
Gel electrode																															
Hops/beer																															
Hydrofluoric acid																															
Lacquer																															
Liqueur etc.																															
Long length >150 mm																															
Low ionic strength																															
Microsamples																															
Milk																															
Non-aqueous media																															
Oil																															
Paint																															
Paper																															
Penetration (cheese)																															
Photo baths																															
Sea water, swimming pools																															
Soil																															
Solids, high content of																															
Suspensions																															
Temperature, high or varying																															
Temperature sensor, built-in																															
TRIS buffer																															
Viscosity, high																															
Voltammetry																															
Yogurt, curdled milk																															

Glass electrodes / Reference electrodes

Applications	pHG200	pHG201	pHG211	pHG301	pHG311	XG250	REF200	REF201	REF251	REF321	REF361	REF401	REF421	REF451	REF601	REF621	REF921	XR110	XR150	XR200	XR400	XR440	XR820	MC2095Sb
Alkaline solutions																								
Aqueous solutions																								
Blood																								
Education purposes																								
Emulsions																								
Fat/cream/cosmetics																								
Field use																								
Gel electrode																								
Hops/beer																								
Hydrofluoric acid																								
Lacquer																								
Liqueur etc.																								
Long length >150 mm																								
Low ionic strength																								
Microsamples																								
Milk																								
Non-aqueous media																								
Oil																								
Paint																								
Paper																								
Penetration (cheese)																								
Photo baths																								
Sea water, swimming pools																								
Soil																								
Solids, high content of																								
Suspensions																								
Temperature, high or varying																								
Temperature sensor, built-in																								
TRIS buffer																								
Viscosity, high																								
Voltammetry																								
Yogurt, curdled milk																								

Radiometer analytical

Radiometer Analytical Electrodes

pH and Combined pH Electrodes

Specifications	pHC2001	pHC2401	pHC2005	pHC2085	pHC2085
Part Number	E16M313	E16M400	E16M500	E16M501	E16M320
Special features	No	No	Robust	No	No
pH Range	0 - 12	0 - 12	0 - 12	0 - 12	0 - 12
Temperature Range	-10 - 100°C	-10 - 100°C	-10 - 100°C	-10 - 100°C	-10 - 100°C
Temperature Sensor	No	No	No	Yes	No
Minimum Sample Depth	18 mm	14 mm	14 mm	14 mm	Flat
Liquid Junction	Porous Pin	Annular Ring	Porous Pin	Porous Pin	Annular Ring
Filling Solution	Sat. KCl	Sat. KCl	Sat. KCl	Sat. KCl	Sat. KCl
Reference System	Red Rod	Red Rod	Red Rod	Red Rod	Red Rod

Specifications	pHC2051	pHC2601	pHC3001	pHC3081	pHC3005
Part Number	E16M319	E16M322	E16M300	E16M305	E16M302
Special features	No	No	No	No	Robust
pH Range	0 - 12	0 - 12	0 - 12	0 - 12	0 - 12
Temperature Range	-10 - 100°C	-10 - 100°C	0 - 80°C	0 - 80°C	0 - 80°C
Temperature Sensor	No	No	No	Yes	No
Minimum Sample Depth	18 mm	18 mm	18 mm	18 mm	12 mm
Liquid Junction	Porous Pin	Sleeve	Porous Pin	Porous Pin	Porous Pin
Filling Solution	Sat. KCl	Sat. KCl	3 M KCl + sat. AgCl	3 M KCl + sat. AgCl	3 M KCl + sat. AgCl
Reference System	Red Rod	Red Rod	Ag/AgCl	Ag/AgCl	Ag/AgCl

Specifications	pHC3085	pHC3359	pHC3105	pHC4000
Part Number	E16M342	E16M343	E16M308	E16M331
Special features	No	No	Robust	Small Ø
pH Range	0 - 12	0 - 12	2 - 12	0 - 12
Temperature Range	-5 - 80°C	0 - 80°C	0 - 60°C	0 - 60°C
Temperature Sensor	Yes	No	No	No
Minimum Sample Depth	14 mm	2 mm	18 mm	9 mm
Liquid Junction	Porous Pin	Fibre	Opening	Porous Pin
Filling Solution	3 M KCl + sat. AgCl	3 M KCl + sat. AgCl	Solid Gel (3 M KCl)	Sat. KCL
Reference System	Ag/AgCl	Ag/AgCl	Ag/AgCl	Calomel

Radiometer Analytical Electrodes

Temperature Sensor

Specifications	T201	T202	T203*
Part Number	E51M001	E51M002	E51M008
Material	Glass	Glass	Glass
Connection	Cinch	Cinch	RJ9 telephone
Temperature Range	-10 - 105°C	-10 - 105°C	
Diameter	7.5 mm	7.5 mm	
			* Suitable for use with sensION + benchtop meters

Metal & Combined Metal Electrodes

Specifications	M231Pt	MC3051Pt	M291Ag	M291C
Part Number	E31M002	E31M003	E34M002	E36M003
Sensing Element	Platinum wire Ø 1 mm	Platinum Ring	Silver Rod	Glassy carbon Rod Ø 3 mm
Temperature Range	-10 - 100°C	0 - 80°C	0 - 80°C	0 - 60°C
Application	General Purpose	Redox Measurements	Silver Halidades Titration	Voltametry Redox
Reference System	None	Ag/AgCl	None	-
Inner Solution	None	3 M KCl with sat. AgCl	None	-
Connection	Screw Cap	Screw Cap	Screw Cap	Screw Cap
Lower Ø	8 mm	12 mm	8 mm	8 mm

Red Rod Reference Electrodes

Specifications	REF200	REF201	REF251	REF261
Part Number	E21M008	E21M009	E21M001	E21M010
Reference System	Red Rod	Red Rod	Red Rod	Red Rod
Application	Microsamples	General Purpose	General Purpose	Special Purpose
Temperature Range	-10 - 100°C	-10 - 100°C	-10 - 100°C	-10 - 100°C
Liquid Junction	Porous Pin	Porous Pin	Porous Pin / Porous Pin	Glass Sleeve
Filling Solution	Sat. KCl	Sat. KCl	Sat. KCl	Sat. KCl
Connection	Banana Plug	Banana Plug	Banana Plug	Banana Plug
Lower Stem Ø	4 mm	7.5 mm	12 mm	12 mm
Special Features	For use with PHG200	—	Double junction	Sleeve

Radiometer Analytical Electrodes

Reference Electrodes

Specifications	REF321	REF361	REF421*	REF451
Part Number	E21M002	E21M003	E21M004	E21M005
Reference System	Ag/AgCl	Ag/AgCl	Calomel	Calomel
Application	General Purpose	Non-Aqueous media	Special Purpose	Special Purpose
Temperature Range	- 5 - 80°C	- 5 - 80°C	-10 - 60°C	-10 - 60°C
Liquid Junction	Porous Pin	Glass Sleeve	Porous Pin	Porous Pin / Porous Pin
Filling Solution	3 M KCL with sat. AgCl	3 M KCL with sat. AgCl	Sat. KCl	Sat. KCl in inner reservoir
Connection	Screw Cap	BNC plug Shielded cable	Screw Cap	Screw Cap
Lower Diameter Ø	8 mm	12 mm	8 mm	12 mm

* Electrodes contain mercury, adequate disposal procedures are required according to state legislation.

Specifications	REF621*	REF921*	REF401*	REF601*
Part Number	E21M006	E21M007	E21M011	E21M012
Reference System	Hg / Hg_2SO_4	Calomel	Calomel	Hg / Hg_2SO_4
Application	Chloride free	Non-Aqueous media	Special Purpose	Chloride Free
Temperature Range	0 - 60°C	0 - 60°C	-10 - 60°C	0 - 60°C
Liquid Junction	Porous Pin	Porous Pin	Porous Pin	Porous Pin
Filling Solution	Sat. K_2SO_4	1 M LiCl	Sat. KCl	Sat. K_2SO_4
Connection	Screw Cap	Screw Cap	Banana Plug	Banana Plug
Lower Diameter Ø	8 mm	8 mm	7.5 mm	7.5 mm

* Electrodes contain mercury, adequate disposal procedures are required according to state legislation.

Reference Electrodes Ohaus range, (please refer to page 26)

Electrode Maintenance Solutions

Part Number	Description
S91M001	GK ANNEX Electrode Maintenance Kit The GK ANNEX Electrode Maintenance Kit contains all you need for regular mainenance of combined pH, glass and reference electrodes with saturated potassium chloride salt-bridge: - Solutions for normal and intensive cleaning - KCl as saturated and crystals for refilling - GLP Logbook to keep note of calibration and maintenance procedures - Utensils and easy-to-follow instructions

Electrode Stand

Part Number	Description
391-543	SAM7 Sample Stand - Combined Electrode Holder and Magnetic Stirrer For totally reproducible stirring conditions, the SAM7 Sample Stand offers an innovative mechanism for keeping electrodes in a firm grip: the Bayonet concept. Special heads and accessories ensure the electrodes fit into place in one easy movement helping achieve identical positioning, reproducible and safe handling.

Radiometer Analytical Electrodes

Conductivity Cells

Specifications	CDC566T ↗	CDC745-9 ↗	CDC866T ↗
Part Number	E61M010	E61M013	E61M015
Application	General Purpose	General Purpose	General Purpose
Max. Temperature	80°C	100°C	80°C
Number of poles	4	2	4
Platinised	NO	YES	YES
Temperature Sensor	YES	NO	YES
Body Material	Epoxy	Epoxy	Epoxy
Connection	MAB6 Plug	Screw Cap	MAB6 Plug
Diameter Ø	12 mm	12 mm	12 mm

Specifications	CDC641T ↗	CDC241-9 ↗	CDC511-T ↗	CDC267-9 ↗
Part Number	B15B001	E61M008	E61M009	E61M011
Application	General Purpose	Viscous Titration	Pure Water	Resistant Media
Max. Temperature	100°C	100°C	80°C	100°C
Number of poles	2	2	2	2
Platinised	YES	NO	NO	NO
Temperature Sensor	YES	NO	YES	NO
Body Material	Glass	Glass	TPX	Glass
Connection	MAB6 Plug	Screw Cap	MAB6 Plug	Screw Cap
Diameter Ø	12 mm	12 mm	12 mm	12mm

Specifications	CDC741T ↗	CDC749 ↗	CDC861T ↗
Part Number	E61M012	E61M014	E61M016
Application	Sample Changer	Micro Samples	Strong Acids, Bases
Max. Temperature	100°C	100°C	100°C
Number of poles	2	2	4
Platinised	YES	YES	YES
Temperature Sensor	YES	NO	YES
Body Material	Glass	Glass	Glass
Connection	MAB6 Plug	MAB6 Plug	MAB6 Plug
Diameter Ø	12 mm	4 mm	12 mm

Ion-Selective Electrodes

Specifications	ISE25Br ↗	ISE25Ca ↗	ISE25Cl ↗	ISE/HS25Cl ↗
Part Number	E41M001	E41M002	E41M003	E41M004
Ion Species	Br^-	CA^{++}	Cl^-	Cl^-
Concentration Range (M)	$10^{-6} - 10^0$	$2 \times 10^{-6} - 10^0$	$5 \times 10^{-5} - 10^0$	$10^{-6} - 10^0$
Concentration Range (ppm)	0.08 - 80000	0.1 - 40000	1.8 - 35000	0.04 - 35000
Temperature Range	0 - 60°C	0 - 50°C	0 - 60°C	0 - 60°C
pH Range	2 - 14	4 - 12	2 - 14	2 - 4
Sensor Type	Solid - State	PVC Membran	Solid - State	Solid - State
Interfering Ions	I^-, S^{--}, CN^-, SCN^-	Zn^{++}, Pb^{++}	I^-, CN^-, Br^-, SCN^-	I^-, CN^-, Br^-, SCN^-
Diameter	12 mm	12 mm	12 mm	12 mm

Radiometer analytical

Radiometer Analytical Electrodes

Specifications	ISE25CN	ISE25Cu	ISE25F	ISE25I
Part Number	E41M005	E41M006	E41M007	E41M008
Ion Species	CN^-	Cu^{++}	F^-	I^+
Concentration Range (M)	$5 \times 10^{-7} - 10^3$	$10^{-6} - 10^0$	$5 \times 10^{-7} - 10^0$	$10^{-6} - 10^1$
Concentration Range (ppm)	0.013 - 25	0.06 - 60000	0.01 - 20000	0.13 - 13000
Temperature Range	0 - 60°C	0 - 60°C	0 - 60°C	0 - 60°C
pH Range	9 -14	0 - 14 (3-7 direct m.)	5 - 11 (10^{-1} M F^-) 5 - 7 (10^{-6} M F^-)	2 - 12
Sensor Type	Solid - State	Solid - State	Solid - State	Solid - State
Interfering Ions	I^-, Br^-, S^{--}	HgS, Ag^+, Cl^-	OH^-	CN^-, Hg^{++}, Br^-, SCN^-
Diameter	12 mm	12 mm	7 mm	12 mm

Specifications	ISE25K	ISE21Na	ISE25NH4	
Part Number	E41M009	E41M010	E41M013	
Ion Species	K+	Na^+	NH_4^+	Screw Cap
Concentration Range (M)	$2 \times 10^{-6} - 10^0$	$2 \times 10^{-6} - 10^0$	$3 \times 10^{-6} - 10^0$	
Concentration Range (ppm)	0.08 - 40000	0.04 - 20000	0.06 - 20000	
Temperature Range	0 - 50°C	0 - 70°C	0 - 50°C	
pH Range	2 - 12	5 - 12	3 - 8	
Sensor Type	PVC Membrane	Glass	PVC Membrane	
Interfering Ions	NH_4^+, Rb^+	Li^+, NH_4^+, Rb^+, Ag^+	K^+	
Diameter	12 mm	12 mm	12 mm	

* Equally sensitive to Ag^+

Specifications	ISE25NO3	ISE25Pb	ISE25S	ISEC301F
Part Number	E41M014	E41M015	E41M016	E41M017
Ion Species	NO_3^-	Pb^{++}	S^- (Ag^+) *	F^-
Concentration Range (M)	$3 \times 10^{-6} - 10^0$	$10^{-6} - 10^0$	$5 \times 10^{-7} - 10^0$	$5 \times 10^{-7} - 10^0$
Concentration Range (ppm)	0.2 - 60000	0.2 - 200000	0.02 - 30000	0.01 - 20000
Temperature Range	0 - 50°C	0 - 60°C	0 - 60°C	0 - 50°C
pH Range	3 - 10	3 - 7(direct meas.)	11 - 4 (direct meas.)	5 - 7 (10^{-6} M F^-)
Sensor Type	PVC Membrane	Solid-State	Solid-State	Solid-State
Interfering Ions	Cl^-, Br^-, NO_2^-	Hg^{++}, Cu^{++}, Ag^+	Precipitated cations forming complexes with sulphides	OH^-
Diameter	12 mm	12 mm	12 mm	12 mm

Radiometer analytical

Radiometer Analytical Accessories

Connection Cables for Screw Cap Electrodes

Part Number	Type	Instrument Socket
A94L111	CL11	Banana

Part Number	Type	Instrument Socket
A94L114	CL114	BNC

Plug Adaptors
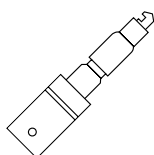
Part Number	Type	Instrument Socket
A94P800	Type 7	BNC

Part Number	Type	Instrument Socket
A94P802	BNC	Type 7

Service and Support

Our team of factory trained service engineers and product specialists is committed to customer satisfaction, working actively in the field to support our complete range of scientif ic instrumentation. Additionally, Pacific Laboratory Products offers service and maintenance for the equipment supplied.

Our product specialists, with years of practical experience in their respective fields and comprehensive product knowledge, are able to provide detailed application support and training required to ensure that you can realise the full potential of the instrumentation. In addition to breakdown service support, Pacific Laboratory Products of fers a range of service agreement options that enable you to tailor a package to suit your needs.

Starter Series pH / Conductivity / ORP Benchtop Meters

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.

Applications • Academic • General Laboratory Use • Food & Beverage • Water Analysis

Starter 2100 pH
Cost-effective and reliable pH Meter for Laboratory Applications

• 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.

ST2100-F

Starter 3100 pH/ORP
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.

• Adjustable stand-alone electrode holder + large backlit LCD display.

• Simple documenting measurement data thanks to the RS232 which
  can be used to connect peripheral devices such as printers or
  computers to the meter.

ST3100-F

Starter 3100C Conductivity
With plenty of 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.

ST3100C-F

www.pacificlab.com.au

OHAUS

Starter Series pH / Conductivity / ORP Benchtop Meters

Specifications

Model	ST2100		ST3100	ST3100C
Package	**ST2100-E** ⧉	**ST2100-F** ⧉	**ST3100-F** ⧉	**ST3100C-F** ⧉
Part Number	**30057495**	**3005496**	**30058489**	**30058731**
Measurement Range	0.00…14.00 pH −1999…1999 mV 0 °C…100 °C		-2.00…16.00 pH −1999…1999 mV -5 °C…110 °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			Automatic Range 0.1 °C
Error Limits	± 0.01 pH ± 1 mV ± 0.5 °C			± 0.5 % of the Measured Value ± 0.3 °C
Calibration	1 or 2 Points 1 Predefined Buffer Group (1.68, 4.01, 7.00, 10.01)		Up to 3 Points 3 Predefined Buffer Groups	1 Point 4 Predefined Standards
Memory	Last Calibration Data		99 Measurements Last Calibration Data	
Power Supply	110-240V/50Hz, DC 12V			
Size/Weight	Approximately 220 W × 175 D × 78 H mm / 0.75 kg			
Display	Liquid Crystal		Liquid Crystal Backlight	
Input	BNC, impedance > 10e+12 Ω Cinch, NTC 30 kΩ 2 mm			Mini-DIN
Temperature Compensation	ATC & MTC			Linear: 0.00 %/°C…10.00 %/°C Reference Temperature: 20 & 25 °C
Housing	ABS			
ST2100-E Kit	ST2100-B (2100 Meter With Built-In Electrode Holder) + ST210 Electrode, pH Buffer Powder Set (4.01, 7.00, 10.01)			
ST2100-F Kit	ST2100-B (2100 Meter With Built-In Electrode Holder) + ST210 Electrode, STTEMP30 Temperature Probe, pH Buffer Powder Set (4.01, 7.00, 10.01)			
ST3100-F Kit	ST3100-B (3100 Meter With Stand-alone Electrode Holder) + ST310 Electrode, pH Buffer Powder Set (4.01, 7.00, 10.01), In-use Cover			
ST3100C-F Kit	ST3100C-B (3100C Meter, Stand-Alone Electrode Holder, Conductivity Standards 1413 µS/cm and 12.88 mS/cm (20 mL Bottles) + STCON3 Conductivity Probe (Range 70 µS/cm – 200 mS/cm), In-use Cover			
Compatible Electrodes (Find the complete range on page 26)	ST210, ST230, ST310 , ST320, ST350, STMICRO5, STPURE, STORP1, STORP2, STREF1, STREF2, STTEMP30			

ST3100

Starter Series pH / ORP Benchtop Meters

Starter ST5000 pH / ORP Bench Meter
Cost-effective High Performance Bench Meter for universal applications

Applications
- *Academic*
- *General Laboratory Use*
- *Pharmacy*
- *Water Analysis*

ST5000-F

The Starter 5000 provides accurate pH and ORP measurement for high-level experiments and research. Enhanced features, advanced technology, and high performance have been combined to support complex laboratory tasks requiring pH measurement.

- The Starter 5000's performance is propelled by a 1000 item library, 10 sensors for calibration storage, 8 predefined and 1 self-defined buffer groups, 3 endpoint modes and GLP mode.

- Advanced Software and Technology Support Complex Applications and Intuitive Operation. Starter 5000 has a user-friendly interface, similar to other smart devices used daily. With a large LCD touchscreen display, users will find themselves intuitively navigating through all applications.

- Enhanced Features Offer Protection & Simple Use of this Advanced Meter — Starter 5000 also has many features that promote ease of use, convenience, as well as protection, including a standalone electrode arm, IP54 housing and in-use cover.

- High resolution: 0.001/0.01/0.1pH as well as 0.01/0.1/1 mV

- IP54 housing protects the meter from damage by water and dust particles
- Built-in USB host port to export data or RS232 to connect a printer

- 4.3" high-resolution color touchscreen has large digits and well-arranged icons to facilitate simple operation

www.pacificlab.com.au

Starter Series pH / ORP Benchtop Meters

Specifications

Model	ST5000
Package	ST5000-F
Part Number	30129896
Measurement Range	-2.000…20.000 pH, -2000.00…+2000.00 mV, -30°C…130 °C
Resolution	0.1/0.01/0.001pH, 1/0.1/0.01mV, 0.1 °C
Error Limits	± 0.002 pH, ± 0.03% FS mV, ± 0.1 °C
Calibration	1 Point, 4 Predefined Standards
Buffer Group	8 predefined groups, 1 self define group
pH Calibration	1-9 points
Memory	1000 sets, with 10*10 calibration data
Power Supply	110-240V/50-60Hz, 9 V DC
Size/Weight	220 W × 175 D× 78 H mm / 0.55 kg
Display	Color Touch-Screen LCD
Input	BNC, impedance >3*10e+12 Ω, Cinch, NTC 30 kΩ
Output	USB & RS232
Temperature Compensation	ATC and MTC
Housing	ABS
ST5000-F Kit	ST5000 Meter, stand alone electrode holder, ST5000 in-use-cover, 4G USB-driver + ST350, pH buffer powder sachet
Compatible Electrodes (Find the complete range on page 26)	ST210, ST230, ST310, ST320, ST350, STMICRO5, STPURE, STORP1, STORP2, STREF1, STREF2, STTEMP30

pH Electrodes, Ohaus Starter Series

The Starter Series of electrodes includes pH, reference, oxidation-reduction potential (ORP), conductivity, dissolved oxygen (DO) and temperature electrodes that can be used in conjunction with our bench and portable meters. This catalog contains background information on each electrochemistry substance, information about our electrodes that measure these substances, as well as buffers and solutions.

pH Electrodes

Model	ST210	ST230	STPURE	STMICRO5
Part Number	83033966	83033968	83033969	30087566
PH Range	0 to 14 pH	0 to 14 pH	0 to 13 pH	0 to 14pH
Temp. Range	0 to 80 °C	0 to 100 °C	0 to 100 ºC	0 to 100 ºC
Shaft Material	Plastic	Glass	Glass	Glass
Internal Reference Type	Ag/AgCl	Ag/AgCl	Ag/AgCl	Ag/AgCl
Gel/Refillable	Refillable	Refillable	Refillable	Refillable
Reference Junction Type	Ceramic pin	Annular ceramic	Ground glass	Annular ceramic
Refilling Reference Sol.	3M KCl solution	3M KCl solution	3M KCl solution	3M KCl solution
Dimensions (Shaft)	120 x 12 mm	110 x 12 mm	120 x 12 mm	80 x 5 mm
Cable Length	1 m	1 m	1 m	1 m
Temperature Sensor	NO	NO	NO	NO
Connector	BNC	BNC, Cinch	BNC	BNC
Description	General purpose 2-in1 plastic gel refillable pH electrode. Suitable for normal samples	General purpose glass-body refillable pH electrode suitable for muddy samples such as juice, milk etc.	Glass-body refillable pH electrode for pure water (distilled water, rain water, tap water etc.)	2-in-1 80mm length and 5mm diameter refillable pH electrode. Suitable for small samples, tubes, and narrow containers.
Used With	All pH meters with BNC input connector	OHAUS pH meters with BNC input connector and Cinch temperature connector	All pH meters with BNC input connector	

Model	ST310	ST320	ST350
Part Number	83033965	83033967	30129354
PH Range	0 to 14pH	0 to 14pH	0 to 14pH
Temp. Range	0 to 80 °C	0 to 80 °C	0-100 °C
Shaft Material	Plastic	Plastic	Glass
Internal Reference Type	Ag/AgCl	Ag/AgCl	Ag/AgCl
Gel/Refillable	Refillable	Non-refillable, Gel	Refillable
Reference Junction Type	Ceramic pin	Fiber pin	Annular ceramic
Refilling Reference Sol.	3M KCl solution	3M KCl solution	3M KCl solution
Dimensions (Shaft)	120 x 12 mm	120 x 12 mm	120 x 12 mm
Cable Length	1 m	1 m	1 m
Temperature Sensor	Yes	Yes	Yes
Connector	BNC, Cinch	BNC	BNC, Cinch
Description	General purpose 3-in1 plastic refillable pH electrode suitable for normal samples	General purpose 3-in1 plastic Gel pH electrode suitable for normal samples	3-in-1 refillable pH electrode, with integrated temperature probe. Suitable for normal samples
Used With	OHAUS pH meters with BNC input connector and Cinch temperature connector	OHAUS pH meters with BNC input connector and Cinch temperature connector	

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Reference Electrodes

Model	STREF2	STREF1
Part Number	30059254	30059253
Description	Saturated Calomel (SCE)	Silver/Silver Chloride (Ag/AgCl)
E vs. SHE (Standard Hydrogen Electrode) (V)	0.241	0.198
Connector	2mm Banana	2mm Banana
Dimensions (Shaft)	120 x 12 mm	110 x 12 mm
Cable Length	1m	1m
Description	STREF2 is saturated calomel electrode (SCE)(Hg/Hg2Cl2 in saturated KCl) which traditionally is the most widely used electrode.	STREF1 is Silver/Silver Chloride (Ag/AgCl in Saturated KCl)which has become the most widely used reference electrode since SCE became less popular.

ORP Electrodes

Model	STORP2	STORP1
Part Number	30038553	30038555
Shaft Material	Glass	Plastic
Temperature Range	0-100 ℃	0-80 ℃
Internal Reference Type	Ag/AgCl	Ag/AgCl
Refillable/Non-refillable	Refillable	Non-refillable, Gel
Reference Junction Type	Annular Ceramic	Ceramic Pin
Refilling Reference Electrolyte	3M KCl Solution	3M KCl Gel
Dimensions (Shaft)	120 x 12 mm	120 x 12 mm
Cable Length	1 m	1 m
Temperature Sensor	No	No
Connector	BNC	BNC
Zero Potential Value	86mV±15mV	86mV±15mV
Grade Difference	≥ 165mV	≥ 165mV

DO Electrode

Model	STDO11
Part Number	30031639
Connection	BNC
Cable Length	1.1 m
Shaft Length	120mm
Shaft Diameter	12mm
Temperature Range	0-50 ℃
Shaft Material	Plastic
Measurement Range	0-200%
Storage Solution	10% NaCl

Conductivity Electrodes

Model	STCON3	STCON7
Part Number	83033972	30080693
Connection	Mini-Din	Mini-Din
Cable Length	1 m	1 m
Shaft Length	130mm	95mm
Shaft Diameter	14mm	12mm
Temperature Range	0-50 ℃	0-60 ℃
Measurement Range	70 µS/cm - 200mS/cm (0.5% accuracy) 2 µS/cm - 70µS/cm (1% to 5% accuracy)	0.02 µS/cm - 200µS/cm (accuracy: 0.02µS/cm)

Temperature Electrode

Model	STTEMP30
Part Number	83033970
Shaft Material	Stainless Steel
Shaft Length	120mm
Temperature Range	0-100 ℃
Cable Length	1 m
Connection	Cinch

miniLAB® Pocket pH Meters

Virtually unbreakable non-glass pH meters give stable readings in seconds

Pocket-size, waterproof, rugged pH meter allows single point calibration

Applications
- *Beverage*
- *Collection Systems*
- *Field Use*
- *Food QC Lab*
- *Oil & Gas*
- *Wastewater*

Designed to Last

Unlike disposable pocket-sized pH meters, Hach's miniLab Pocket pH Meters contain a virtually unbreakable non-glass silicon chip sensor that gives stable readings in seconds.

Part of the H-Series family of non-glass probes, miniLab meters use ISFET (Ion-Sensitive Field Effect Transistor) sensor technology that contains several proprietary layers deposited selectively on a silicon substrate. The final layer possesses an affinity for hydrogen ions only. The quantity of hydrogen ions at or near the sensor surface causes an electrical effect that is detected and measured as pH.

All miniLab meters offer water proof (IP67) operation, automatic temperature compensation and economical measurement of small sample volumes. A replaceable reference electrode further extends the longevity of the meter.

The sensor stores dry, therefore requiring no storage solutions. To clean the meter, simply use a toothbrush and a detergent solution.

Model / Part Number	H130 🔗	H135 🔗	H138 🔗
Description	One Point Pocket pH Meter with 1-point calibration	Professional Pocket pH Meter with 1-, 2- or 3-point calibration	Elite Pocket pH Meter with 1-, 2- or 3-point calibration
Battery Operation	Two 3v lithium batteries (CR2032) included		
Battery Life	Up to 200 hours continuous warning with 10 hour advance low battery and automatic power off		
Temperature	Range: 5 to 40ºC; Automatic Resolution: 0.1ºC or 0.1ºF Accuracy: ±0.5ºC		
Display	LCD with Temperature		
IP Rating	IP67		
pH	Suggested Range: 5.0 to 9.0 pH Range: 2.0 to 12.0 pH Resolution: 0.1 pH Repeatability: ± 0.1 pH Input Accuracy: ≤ 0.1 pH	Range: 2.0 to 12.0 pH Resolution: 0.1 pH Repeatability: ± 0.1 pH Input Accuracy: ≤ 0.1 pH	Range: 2.0 to 12.0 pH Resolution: 0.01 pH Repeatability: ± 0.03 pH Input Accuracy: ≤ 0.01 pH
Calibration	1-point	1-, 2-, or 3-point	1-, 2-, or 3-point
Automatic Buffer Recognition	pH 7.00 pH 6.86	pH 4.01, 7.00, and 10.01 pH 4.01, 6.86, and 9.18	pH 4.01, 7.00, and 10.01 pH 4.01, 6.86, and 9.18
Dimensions	155 x 33 x 20 mm (6 1/8" L x 1 1/4" W x 3/4" H)		
Weight	77 g (0.17 lbs.) -meter on		

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HACH®

Be Right

DR 1900™ Portable Spectrophotometer

The DR 1900 combines the ruggedness and portability of a field instrument with over 220 of the most commonly tested water methods.

Applications:
- *Drinking Water*
- *Wastewater*
- *Field Use*
- *Industrial Water*
- *Power*

The DR1900 excels in the field because it is the lightest and most compact portable spectrophotometer.

Carry Anywhere
The lightest, most compact portable spectrophotometer available easily goes where you need to go.

Test What You Need
Analyze your water with more preprogrammed methods than any other portable spectrophotometer, or easily create your own methods to suit your unique needs.

Ensure Accuracy in the Field
Wavelength range of 340 to 800 nm. provides accuracy typically seen only in laboratory instruments.

Portable device
Rugged construction keeps the elements out, which means you can perform your tests even in the most demanding conditions.

Easier Testing
Simple, easy-to-use interface plus the widest range of vial sizes makes testing flexible.

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DR 1900™ Portable Spectrophotometer

Specifications*

Operating Mode	Transmittance (%), Absorbance and Concentration
Source Lamp	Xenon Flash
Wavelength Range	340 to 800 nm
Wavelength Accuracy	± 2 nm (range 340 - 800nm)
Wavelength Selection	Automatic
Wavelength Reproducibility	± 0.1 nm
Spectral bandwidth	5 nm
Photometric Measuring Range	0 to 3 Abs (wavelength range 340 – 800 nm)
Photometric Accuracy	± 0.003 Abs @ 0.0 - 0.5 Abs
Photometric Linearity	< 0.5 % (0.5 - 2.0 Abs)
Stray Light	< 0.1 %T at 340 nm with NaNO2
Display	Graphical display 240 x 160 pixel (LCD, b/w, backlit)
Data Logger	500 measured values (Result, Date, Time, Sample ID, User ID acc. to GLP)
Preprogrammed Methods	> 220
User Programs	50
Sample Cell Compatibility	13 / 16 mm and 1 inch round adapter, 1 inch square and 10x10mm
Dimensions (H x W x D)	3.9 in x 7 in x 10.5 in (98 mm x 178 mm x 267 mm)
Weight	3.31 lbs. (1.5 kg)
Operating Conditions	10 to 40 °C (50 - 104 °F), max. 80 % relative humidity (non-condensing)
Storage Conditions	-30 to 60 °C (-22 to 140 °F), max. 80 % relative humidity (non-condensing)
Enclosure Rating	IP67

Ordering Information

DR1900 Portable Spectrophotometer includes basic printed instrument manual, dust cover, 1-in. square glass sample cells, AA batteries and adapter set.

DR1900-01H DR 1900 Portable Spectrophotometer
9624700 DR 1900 Portable Spectrophotometer with USB+Power Module

Accessories

LZV804 Power Module
Includes module, universal power supply, and manual
LZV813 USB+Power Module
Includes module, universal power supply, standard USB cable, special USB cable adapter, and manual
LZV949 USB Module includes module, standard USB cable, special USB cable adapter, and manual
2960100 Citizen PD-24 Printer Package
2763900 DR/Check Absorbance Standard Kit (Set of 4)
LZV537 Test Filter Set
2990700 Small Backpack with Cases, for portable equipment

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HACH — Be Right

DR 3900™ Spectrophotometer

Built with the future of water analysis in mind, the DR 3900 will give consistently accurate results in a simpler testing format.

Applications
- *Beverage*
- *Drinking Water*
- *Wastewater*
- *Food QC Lab*
- *Power*

Learn more! ▶
Watch the video

Hit the play button!

Guided Procedure
The DR 3900 guides you step-by-step through the testing procedure like a GPS, so you can get the accurate results you need every time.

Elimination of False Readings
Scratched, flawed, or dirty glassware becomes a non-issue when your machine takes 10 readings and eliminates outliers.

Hands Free Updates*
RFID technology automatically updates the program calibration factors when you place a TNTplus box near the machine.

Flexible Connectivity
Built with 1 ethernet and 3 USB ports, the DR 3900 easily connects to your computer and is programmed to easily interface with Hach WIMS™ or any LIMS system.

Sample Tracking*
Sample bottles with smart tags can easily be tracked with the optional Hach RFID sample-ID system, eliminating sample mix-ups and providing better sample traceability.

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®
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DR 3900™ Spectrophotometer

Specifications*

Operating Mode	Transmittance (%), Absorbance and Concentration, Scanning
Light Source	Gas-filled Tungsten (visible)
Optical System	Reference beam, spectral
Wavelength Range	320 to 1100 nm
Wavelength Accuracy	± 1.5 nm (wavelength range 340 to 900 nm)
Wavelength Reproducibility	± 0.1 nm
Wavelength Resolution	1 nm
Wavelength Calibration	Automatic
Wavelength Selection	Automatic, based on method selection
Spectral Bandwidth	5 nm
Photometric	± 3.0 Abs
Measuring Range	(wavelength range 340 to 900 nm)
Photometric Accuracy	5 mAbs at 0.0 to 0.5 Abs
	1 % at 0.50 to 2.0 Abs
Photometric Linearity	< 0.5 % to 2 Abs
	≤ 0.01 % at >2 Abs with neutral
	glass at 546 nm
Stray Light	< 0.1 % T at 340 nm with NaNO2
Display	7 TFT WVGA (800 pix x 480 pix)
Data Logger	2000 measured values (Result,
	Date, Time, Sample ID, User ID)
Preprogrammed Methods	> 240
User Programs	100
Sample Cell Compatibility	13 mm round, 16 mm round,
	1 cm & 5 cm rectangular, 1 round,
	1 square
Dimensions (H x W x D)	5.9 in x 13.8 in x 10 in
	(151 mm x 350 mm x 255 mm)
Weight	9.26 lbs. (4.2 kg)
Operating Conditions	10 to 40 °C
Storage Conditions	-30 to 60 °C
Enclosure Rating	IP30
Power Supply	Benchtop Power Supply
Power Requirements (Voltage)	110 - 240 V AC
Power Requirements	50/60 Hz
Interfaces	USB type A (2), USB type B, Ethernet, RFID module

Ordering Information

DR 3900 Benchtop Spectrophotometer; includes adapter A for 1 round + AccuVac/1 cm rectangular cuvettes, manual, CD with manual and procedure manual in .pdf format. Power Supply. RFID version available in Australia. For complete information, please contact a sales representative at Pacific Laboratory Products.

LPV440.99.00012   DR 3900 Spectrophotometer with RFID Technology, 110 - 240V
LPV440.99.00002   DR 3900 Spectrophotometer without RFID Technology,110 - 240V

All purpose benchtop with expanded feature set.

Hach's TNTplus chemistries and spectrophotometers are made to work seamlessly with each other.

Subject to change without notice.

HACH®
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DR 6000™ UV-VIS Spectrophotometer

The industry's most advanced laboratory spectrophotometer

Applications
- *Beverage*
- *Drinking Water*
- *Industrial Water*
- *Pharmaceutical*
- *Power*
- *Wastewate*

Learn more! Watch the video

Hit the play button!

With UV and Visible Spectrum capabilities, over 250 pre-programmed methods including the most common testing methods used, guided procedures, and integrated quality assurance software, the DR 6000 ensures you are ready to handle your comprehensive water testing needs.

Your Water Testing Needs, All in One Spectrophotometer

The DR 6000 has the most pre-programmed testing methods, including high-speed wavelength scanning across the UV and Visible Spectrum.

Accessories for High Volume and High Accuracy Testing Needs

A carousel sample changer allows up to seven sequential measurements. The Sipper Module, an instrument-controlled sample delivery system, increases precision by constant optical characteristics.

Advanced Quality Assurance at Your Fingertips

The DR 6000 comes with integrated QA software for scheduling, documenting and interpreting all of your needed quality measurements.

Guided Procedures and Elimination of False Readings

The DR 6000, when used with TNTplus® reagent vials, provides the accurate results you need by guiding you stepby-step through your testing procedures. With TNTplus, the instrument averages 10 readings and eliminates outliers, making scratched, flawed or dirty glassware a non-issue.

Automatically Avoids Errors

RFID* technology automatically updates the program calibration factors when you place a TNTplus reagent box near the DR 6000. The instrument identifies chemistry expiration dates via a barcode on the vials, and detects chemistry coe<cient factors to avoid errors that can occur in lot-to-lot variations in the chemistry.

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DR 6000™ UV-VIS Spectrophotometer

Specifications*

Operating Mode	Transmittance (%), absorbance and concentration (wavelength, time)	**Display**	TFT 7 inch WVGA color touch
Source Lamp	Tungsten (visible range), deuterium (UV range)	**Data Logger**	5000 data points (result, date, time, sample-ID, user-ID)
Wavelength Range	190 - 1100 nm	**Preprogrammed Methods**	> 250
Wavelength Accuracy	± 1 nm	**User Programs**	200
Wavelength Reproducibility	< 0.1 nm nm	**Sample Cell**	Rectangular: 10, 20, 30, 50 mm, 1
Wavelength Resolution	0.1 nm	**Compatibility**	inch; round: 13 mm, 16 mm, 1 inch
Wavelength Selection	Automatic, based on method selection		Optional 100 mm rectangular cell with additional adapter
Spectral Bandwidth	2 nm	**Dimensions**	8.5 in x 19.7 in x 18.1 in
Scanning Speed Photometric	900 nm/min (in 1 nm steps)	(H x W x D)	(215 mm x 500 mm x 460 mm)
Measuring Range	± 3 Abs	**Weight**	24.25 lbs. (11 kg)
Photometric Accuracy	5 mAbs at 0.0-0.5 Abs <1% at 0.5-2.0 Abs at 546 nm	**Operating Conditions**	10 at 40 °C, max. 80% relative humidity (non-condensing)
Photometric Linearity	0.005 - 2 Abs ≤ 0.01 at > 2 Abs with neutral glass at 546 nm	**Storage Conditions**	-25 to 60 °C max. 80% relative humidity (non-condensing)
Stray Light	KI-solution at 220 nm < 3.3 Abs/ < 0.05%	**Enclosure Rating** **Interfaces**	IP20 with closed lid USB type A (2), USB type B, Ethernet, RFID module

Subject to change without notice

Ordering Information

DR 6000 UV VIS Spectrophotometer includes a multi adapter for round and rectangular vials, basic user manual, CD with manual and procedure manual in PDF format. Power cords for US and EU. RFID version available in Australia and New Zealand. For detailed information, contact your sales representative at **sales@pacificlab.com.au**.

LPV441.99.00012	DR 6000™ UV VIS Spectrophotometer with RFID Technology
LPV441.99.00002	DR 6000™ UV VIS Spectrophotometer without RFID

Accessories

LQV157.99.20002	SIP 10, sipper set for Pour-Thru methods, 1 inch vial
LQV156.99.10012	LOC 100: Kit for Radio Frequency ID (RFID) based sample tracking
LZV902.99.00002	Carousel Holder 7x1 cm
LZV902.99.00012	Carousel Holder 5x1 inch
LZV943	Application Software Enzymatic Food Analysis
LZV942	Application Software Brewery Analysis
LZV941	Application Software Drinking Water Analysis

Service Options

For service options and more details please contact one of our sales representatives at Pacific Laboratory Products at **sales@pacificlab.com.au**

Hach's TNTplus chemistries and spectrophotometers are made to work seamlessly with each other.

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TNTplus® Vial Chemistries

Benefits of TNTplus

Easy and safe Dosi-Cap Zip-freeze-dried reagent integrated into sealed cap

Narrow neck minimizes chance for reagent spills

Optically superior glassware

Vials are color-coded by parameter and range for easy recognition and error elimination

Barcode makes testing hands-free and fast-instrument automatically detects and runs the correct method

Flat bottom improves handling vial stands on its own

Learn more! ☐
Watch the video

Hit the play button!

TNTplus vials work exclusively with the DR 6000, DR 3900, and DR 1900 Spectrophotometers.

Principle of Operation

Hach's TNTplus chemistries and spectrophotometers are made to work seamlessly with each other.

• Many of the tests are EPA compliant.
• Over 35 tests available including these popular EPA Approved Parameters:

- Ammonia
- COD
- Chlorine
- Chromium
- Iron
- Nitrate
- Nitrite
- Nitrogen
- Phosphorus
- Sulfate

Light Source

Detector

0.071
0.069
0.070
0.070
0.071
0.069
0.288
0.071
0.070
0.071
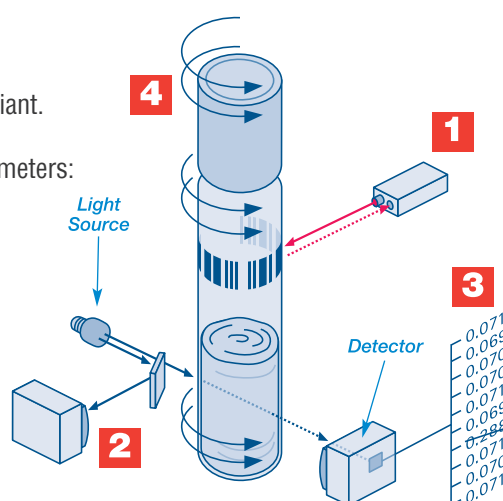
How TNTplus works

1. Barcode recognition
Simply drop in the vial and get results immediately with automatic method detection.

2. Reference detector
Monitors and compensates for optical fluctuations.

3.10X Measurement and Outlier elimination
Dirty, scratched. Or flawed glassware, including fingerprints, is no longer an issue-instrument averages 10 readings and rejects outliers.

4. Self-Contained Packaging-Reagents Inside Sealed Cap
Reduces exposure to chemicals-no need to open pillows or clean glassware.

HACH®
Be Right

Pocket Colorimeter™ II

Small in size,
big on precision
and easy operation

Measure one or two parameters
quickly and easily

Applications
- *Drinking Water*
- *Wastewater*
- *Power*
- *Industrial Water*
- *Field Use*
- *Beverage*
- *Food QC Lab*
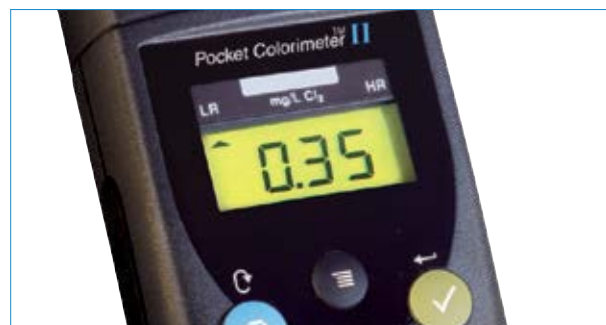
The Pocket Colorimeter II offers accuracy and reproducibility comparable to other more expensive laboratory instruments, it was designed for a long working life in harsh conditions.
A long-lasting LED is used as the light source, and low power requirements assure long battery life.

Measures One or Two Parameters
The Pocket Colorimeter II is factory programmed for one or two of more than 30 possible parameters. Many are based on EPA approved methods. No manual calibration is ever required. Simply zero the instrument with a blank, insert the reacted sample, and read the result. Wavelength-specific models without factory calibration are also available for programming custom methods.

Waterproof, Rugged, and IP67 Rated
The IP67 rating means the Pocket Colorimeter II will resist the elements and still function properly. A tough, impact-resistant shell protects the electronics and optics, while a lanyard keeps the cap attached to the colorimeter.
Weighing only 0.2 kg—about a half pound—the colorimeter easily travels anywhere you do.

Logs Last Ten Data Points with Measurement Time
The Range Indicator icon on the colorimeter's display indicates either the instrument range or the parameter being tested. For many parameters, the instrument can measure in two diBerent ranges. The instrument logs the ten most recent data points and the time the measurements were made—no need to record results manually.

Simple to Use
Just four buttons on the Hach Pocket Colorimeter II allow easy operation. The Read/Enter key is used when measuring sample concentrations or to con-firm menu choices. The Menu key provides quick menu navigation and selection. Use the Zero/Scroll key to zero the instrument or to scroll through menu options. The Power/Backlight key turns the instru-ment on and toggles the display backlight for low light conditions.

Find the right Pocket Colorimeter according to your applications.

www.pacificlab.com.au

HACH®
Be Right

Pocket Colorimeter™ II

Specifications*

Lamp	Light Emitting Diode (LED)	**Display**	LCD, backlit
Detector	Silicon	**Power Supply**	4 AAA batteries; approximate life of
Enclosure	IP67, waterproof at 1 m for		2000 tests (use of backlight reduces
	30 minutes (battery compartment		this number)
	excluded)	**Compliance**	European CE mark
Wavelength	Fixed wavelength ±2 nm,	**Warranty**	2 years
	varies with model	**Dimensions**	6.1 x 15.5 x 3.5 cm
Filter Bandwidth	15 nm		(2.5 x 6.2 x 1.4 in.)
Absorbance Range	0 to 2.5 Abs	**Weight**	0.23 kg (0.5 lbs.)
Sample Cell Pathlength	1 cm and 1-in. (25 mm)		
Operating Conditions	0 to 50°C (32 to 122°F)		
	0 to 90% relative humidity		

Subject to change without notice.

Ordering Information

The Hach Pocket Colorimeter II includes manual, pre-measured unit dose reagents, sample cells, and a carrying case.
Reagents can be refilled by contacting Hach or your Hach distributor

5870025	Aluminum Pocket Colorimeter II; includes reagents for 100 tests	**5870021**	Lead, LeadTrak Pocket Colorimeter II; includes reagents for 20 tests
5870040	Ammonia Pocket Colorimeter II; includes reagents for 100 tests	**5870018**	Manganese, Low Range, Pocket Colorimeter II; includes reagents for 50 tests
5870026	Ammonia, Free and Monochloramine Pocket Colorimeter II; includes reagents for 50 Free Ammonia tests, 100 Monochloramine tests	**5870015**	Manganese, High Range, Pocket Colorimeter II; includes reagents for 100 tests
2763500	Atrazine Pocket Colorimeter II; includes reagents for 18 tests	**5870010**	Molybdate Pocket Colorimeter II; includes reagents for 100 tests
5870001	Bromine Pocket Colorimeter II; includes reagents for 50 to 100 tests	**5870020**	Nickel and Cobalt Pocket Colorimeter II; includes reagents for 100 tests
5870000*	Chlorine, Free and Total Pocket Colorimeter II; includes reagents for 50 to 100 tests	**5870002**	Nitrate Pocket Colorimeter II; includes reagents for 100 tests
5870062*	Chlorine, Free and Total Pocket Colorimeter II, MR/HR; includes reagents for 100 tests	**5870003**	Oxygen, Dissolved Pocket Colorimeter II; includes reagents for 25 tests
5870012*	Chlorine, Free, Total, and pH Pocket Colorimeter II; includes reagents for 100 tests	**5870004**	Ozone Pocket Colorimeter II; includes reagents for up to 50 tests
5870023*	Chlorine, Free, SwifTest Dispenser Pocket Colorimeter II; includes reagents for 125 to 250 tests	**2773400**	PCB in Soil Pocket Colorimeter II; includes reagents for 18 tests
5870024*	Chlorine, Total SwifTest Dispenser Pocket Colorimeter II; includes reagents for 125 to 250 tests	**5870006**	Phosphate Pocket Colorimeter II; includes reagents for 100 tests
5870051	Chlorine Dioxide Pocket Colorimeter II; includes reagents for 100 tests	**5870007**	Phosphonate Pocket Colorimeter II; includes reagents for 100 tests
5870017	Chromium, Hexavalent Pocket Colorimeter II; includes reagents for 100 tests	**5870034**	Silica Pocket Colorimeter II; includes reagents for 100 tests
5870019	Copper Pocket Colorimeter II; includes reagents for 100 tests	**5870029**	Sulfate Pocket Colorimeter II; includes reagents for 100 tests
5870005	Fluoride Pocket Colorimeter II (SPADNS); includes reagents for up to 50 tests	**2775000**	TPH in Soil Pocket Colorimeter II; includes reagents for 18 tests
2513100	Fluoride Pocket Colorimeter II (SPADNS 2–Arsenic-Free); includes reagents for up to 50 tests	**2774200**	TPH in Water Pocket Colorimeter II; includes reagents for 18 tests
5870022	Iron, FerroVer Pocket Colorimeter II; includes reagents for 100 tests	**5870009**	Zinc Pocket Colorimeter II; includes reagents for 100 tests
5870016	Iron, TPTZ Pocket Colorimeter II; includes reagents for 100 tests		

*These products are not cleared for use in testing chlorine or chloramines in dialysis applications.

DR 900 Handheld Colorimeter

Fastest and simplest
water testing
for the most demanding
field environments

Applications
- *Drinking Water*
- *Wastewater*
- *Industrial Water*

▶ **Learn more!** ⬈
Watch the video

Hit the play button!

The hand-held DR 900 allows quick and easy access to your most-used testing methods.
This colorimeter is waterproof, dustproof and field durable,
with an intuitive user interface, easy data transfer abilities,
and the ability to test up to 90 of the most commonly tested water methods,
the DR 900 makes water testing in harsh field environments a little less challenging.

Your Favorites at Your Fingertips
Save time by storing your most standard methods for quick access in less than 4 clicks.

Field Ready in EveryWay Possible
This hand-held, rugged colorimeter is waterproof and dustproof. Drop tested and shock resistant for greater quality assurance.

Intuitive User Interface
Improved user interface allows quick selections and easier testing.

Simple Data Communication
Stores data for up to 500 tests, and comes with a USB port for easily downloading or transferring information.

Satisfies Your Core Testing Needs

A single handheld instrument provides access to 90 of the most common parameters.

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DR 900 Handheld Colorimeter

Specifications*

Source Lamp	Light Emitting Diode (LED)
Wavelength Range	420 nm, 520 nm, 560 nm, 610 nm
Wavelength Selection	Automatic
Operating Mode	Transmittance (%), Absorbance and Concentration
Sample Cell	1 inch round or 16 mm round
Compatibility	(with adapter)
Data Logger	500 measured values (Result, Date, Time, Sample ID, User ID)
Enclosure Rating	IP67 (vial cover closed)
Battery Requirements	4, AA size alkali cells
Battery Life	6 months (typical) @ 5 readings a day / 5 days / week without backlight** ** Backlight usage will decrease battery life.
Display	Graphical display 240 x 160 pixel (Backlit)
User Interface Language	English
Interface	USB type Mini IP67
Dimensions	9.1 in x 3.8 in x 1.9 in
(H x W x D)	(231 mm x 96 mm x 48 mm)
Weight	1.32 lbs. (0.6 kg) with battery
Includes	DR 900 Colorimeter, two 1-inch glass sample cells marked at 10, 20 and 25 mL, two 1 cm plastic sample cells, 1 x 16-mm COD/Test 'N Tube™ adapter, 4 AA alkaline batteries, printed multilingual instrument manual, instrument and procedure manuals on CD, USB Mini to USB Cable, European CE mark.

Ordering Information

9385100   DR 900 Handheld Colorimeter

Accessories

2722000	Instrument Carrying Case, soft-sided, with shoulder strap
4942500	Instrument Carrying Case, hard-sided, style G
4943000	CEL Portable Laboratory Carrying Case
2763900	DR/Check Absorbance Standard Kit (Set of 4)
2635300	SpecCheck Secondary Gel Standards Set, DPD Chlorine - LR
2980500	SpecCheck Secondary Gel Standards Set, DPD Chlorine - MR
2893300	SpecCheck Secondary Gel Standards Set, DPD Chlorine - HR
2712500	SpecCheck Gel Secondary Standard Set, Fluoride
2708000	SpecCheck Gel Secondary Standard Set, Ozone, MR
2507500	SpecCheck Secondary Gel Standards Set, Monochloramine & Free Ammonia.

Subject to change without notice.

SL1000 Portable Parallel Analyzer™ (PPA)

Water Quality Testing dramatically streamlined

Applications • Drinking Water

Learn more! ⬈
Watch the video

Hit the play button!

The new Hach SL1000 Portable Parallel Analyzer (PPA) performs
the same tests with less than half the manual steps.
Get highly accurate results with less opportunity for errors in a fraction of the time.
Up to six parameters tested simultaneously.

Faster Testing

Perform up to four colorimetric and two probe-based measurements in parallel, and complete the entire test suite in 25% of the time. Complete more tests on site, get the results you need faster, and visit more sites in each shift.

Less Hassle

A single instrument combines colorimetric and probe testing in a field kit that requires fewer bulky accessories. There are no powder pillows or glass vials to handle. All chemicals and processes are entirely contained inside the Chemkey.

Less Variability

Avoid manual steps that can introduce variability, even when performed by experienced testers. Automation and internal temperature control make the entire process consistent and repeatable, while applying the same processes and reagents as current Hach methods.

Patented Chemkey™ Technology

Chemkey reagents contain the same chemicals and execute the same process steps that you have trusted for decades - now delivered in a simple, self-contained package. EPA-approved for reporting of Free and Total Chlorine.

www.pacificlab.com.au

HACH ®

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SL1000 Portable Parallel Analyzer™ (PPA)

Specifications*

Battery Requirements	Rechargeable Lithium-Ion battery pack
Battery Life	>200 Chemkey tests per full battery charge
Certifications	CE Compliant
Detector	Silicon photodiode
Dimensions Metric	258.3 mm x 130.8 mm x 58.9 mm (H x W X D)
Interfaces	Mini USB
Measurement Modes	Transmittance (%), Absorbance (abs) and Concentration (Conc)

Ordering Information

SL1000 Instrument Options

9430000   **SL1000 Portable Parallel Analyzer (PPA)**
Includes: SL1000 meter, carrying case, 1 instrument sample cup,
2 probe sample cups, rechargeable battery, battery charger, hand strap,
instrument manual, and USB cable.

8499000   **Full SL1000 Portable Parallel Analyzer (PPA) Kit**
Full kit includes basic instrument package plus: 1 pH probe,
1 conductivity probe and 1 box each of Free Cl, Total Cl, Monochloramine,
Nitrite and Free Ammonia Chemkeys.

Chemkey Reagents

9429000	Free Chlorine Chemkeys (Box of 25)
8499300	Free Chlorine Chemkeys (Pack of 300)
9429100	Total Chlorine Chemkeys (Box of 25)
8499400	Total Chlorine Chemkeys (Pack of 300)
9429400	Monochloramine Chemkeys (Box of 25)
9429600	Free Ammonia (Box of 25) and Monochloramine (Box of 25) Chemkeys
9429300	Nitrite Chemkeys (Box of 25)
9425200	Total Ammonia Chemkeys (Box of 25)
9429200	Copper Chemkeys (Box of 25)

Optional Accessories

9427900	Chlorine Verification Chemkey
9436800	System Verification Chemkey
9374200	Car Charger for SL1000 Portable Parallel Analyzer
PHC20101	IntelliCAL™ PHC201 Standard Gel Filled pH Electrode, 1 meter cable
CDC40101	IntelliCAL™ CDC401 Standard Conductivity Probe, 1 m cable
LDO10101	IntelliCAL™ LDO101 Standard Luminescent/Optical Dissolved Oxygen (LDO) Probe, 1-Meter Cable
2522905	Cotton-Tipped Applicator

Highly accurate testing in 3 simple steps

1 Insert Chemkey reagents

2 Dip into water sample

3 Read your results

HACH®
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ANDalyze Fluorimeter

Heavy Metal Testing in Water
Obtain results in less than one minute!

Ideal for testing Lead, Uranium, Copper, Mercury, Cadmium, Zinc and More...

- Tests drinking water, environmental water and industrial water for soluble concentrations
- No special knowledge of chemical testing required
- Highly sensitive and selective (low ppb ranges)
- One instrument tests for multiple contaminants

Applications
- *Drinking water*
- *Environmental water*
- *Food safety*
- *Ground water*
- *Industrial*
- *Mining*
- *Sewage*
- *Surface water*
- *Wastewater*

Simple, One Minute Test
Quick, simple menu navigation and one button push for sample analysis.

Fluorescence Based Sensing
DNAzyme reaction produces quantitative fluorescence based results.

Data Capture & Reporting
Time and date stamped and site labeled results. Data downloadable and recharging through a USB cable.

Safe and Maintenance Free
CE Marked and water and dust resistant with IP54 enclosure rating. Free software upgrades via USB connection over the Internet.

Video Training On-board
Embedded instructional video trains users without documentation.

Environmentally Friendly
No harmful reagents and minimal waste. No test materials need special disposal.

Supports Multiple Languages
Selectable display languages including English, Chinese, Spanish, Portuguese, and German.

Sensor Kit
Each disposable color-coded sensor is designed for a specific heavy metal test target. Kits provide everything needed to test.

Learn more!
Watch the video

Hit the play button!

www.pacificlab.com.au

ANDalyze®

ANDalyze Fluorimeter

EPA Award winning technology

ANDalyze was developed as a hand-held fluorimeter and DNAzyme sensors for field testing of soluble heavy metal content in water supplies. It provides highly accurate readings in seconds.
The unique ANDalyze Fluorimeter is a breakthrough in efficiency, testing accuracy and ease-of use for field applications. It requires no special skill or knowledge of chemistry to operate. Furthermore, no hazardous materials or harmful reagents are required. In addition, the ANDalyze's technology reduces overall testing costs by reducing testing time and complexity.

Learn more! ANDalyze successful case study

DNAZYME Technology

ANDalyze's proprietary Catalytic DNA sensors use a DNAzyme reaction that fluoresces in the presence of a target contaminant substance such as lead. The fluorescence of the reaction is measured to determine the soluble concentration of the target heavy metal and is reported in parts per billion (ppb).
The test is performed by taking a 1 milliliter water sample, injecting it through the sensor, and into the fluorimeter. This sample is then automatically analyzed and reports results in less than one minute.

Specifications

Dimensions	
Width	3.6 inches/9.14 cm
Depth	8.0 inches/ 20.3 cm
Height	2.25 inches/ 5.72 cm
Weight	1.25 lb/565 g
IP Rating	IP54 (water resistant)
Certifications	CE

Metal	Colour	* Range	Analyte
Lead	Green	2 - 400 ppb	Pb 2+
Copper (High)	Blue	0.6 - 3 ppm	Cu+/Cu2+
Copper (Low)	Blue	40 - 400 ppb	Cu+/Cu2+
Uranium	Orange	2 - 120 ppb	Uranium VI, UO2 2+
Mercury	Silver	2 ppb (over/under) 50 ppb limit	Hg2+
Zinc	White	1 - 30 ppm	Zn2+
Cadmium	Yellow	0.1 - 2 ppm	Cd2+

Sensors for chromium, arsenic and other trace metals are currently in development stage.

Ordering Information

AND002	AND110 Handheld Flourimeter
AND010	Lead Sensor kit for AND110 Flourimeter
AND011	Uranium Sensor kit for AND110 Flourimeter
AND012	Copper (low) Sensor kit for AND110 Flourimeter
AND013	Copper (high) Sensor kit for AND110 Flourimeter
AND014	Mercury Sensor kit for AND110 Flourimeter
AND015	Zinc Sensor kit for AND110 Flourimeter
AND016	Cadmium Sensor kit for AND110 Flourimeter
AND901	Dilution Kit (Set of Equipment for 25 Dilutions)
AND903	pH Adjustment Kit (Kit for multiple adjustments of pH, depends on water characteristics)
AND919	Dilution Refill Kit (Tips and Sample tubes, no pipette)

Kit Includes:
AND1100 Fluorimeter
USB to MINI-B Cable
100μL Fixed Volume Pipette
and Tips
pH Test Strips
User Manual
Carrying Case

ANDalyze®

TitraLab® AT1000 Series Automatic Titrators

12 Months Warranty

Titration has never been this simple!

- Quick setup and titration
- Practical USB based applications
- Obtain reliable titration results
- Low cost and simple maintenance
- Customize the device to your routine and pay just for what you need!

Applications

- *Food and Beverage*
- *Drinking Water*
- *Wastewater*
- *QC Laboratory*
- *Petrochemical Industry*

AT1102.97

A revolutionary device capable of analyzing and delivering accurate results in just a few steps.

Titration can be simple! The TitraLab AT1000 from Hach uses pre-set functions that eliminate complex programming and provide accurate results.

Customize the device based on your most used applications and avoid unwanted device add-ons, to find out more simply contact one of our product experts at **sales@pacificlab.com.au**

Simple Setup and Titration
Application-specific functions to eliminate complex titration setup and analysis.

Reliable Titration Results
Eliminates operator interpretation and manual processes with automatic titration to quickly deliver accurate and repeatable results.

Pre-programmed titration methods detect end points and eliminate manual calculations to make results easier to achieve without advanced programming.

Unique USB upload of application - specific titrations makes it quick for anyone to set up and operate a test.

Ease to use, large graphic color display. Hit the start button and let the device do the work for you.

Small Footprint
The new Titration Series will ocuupy a relativelt small space on your laboratory bench, ideal for the labs with reduced space.

Hach's unique application kits make it quick for anyone to set up and operate a test.

AP0014.KF1121

www.pacificlab.com.au

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TitraLab® AT1000 Series Automatic Titrators

Specifications

Titrator Models	AT1102 ⧉	AT1112 ⧉	AT1122 ⧉	AT1222 ⧉	KF1121 ⧉
Burette for Titrant	1	1	1	2	1
Integrated Peristaltic Pump	0	1	2	2	2
Maximum Number of Applications	5	5	5	10	5
Water Applications					
AP0001.AT1102 pH/Alkalinity in Water	•	•	•	•	—
AP0002.AT1102 pH/Alkalinity & Conductivity in Water	•	•	•	•	—
AP0003.AT1112 Ca & Mg Hardness (ISE) in Water	—	•	•	•	—
AP0004.AT1112 Total Hardness (Color) in Water	—	•	•	•	—
AP0005.AT1222 pH/Alkalinity & Hardness (ISE) in Water	—	—	—	•	—
AP0009.AT1112 Chlorides in Water	—	•	•	•	—
Food and Beverage Applications					
AP0008.AT1102 pH, Total Acidity in Food & Beverage	•	•	•	•	—
AP0010.AT1112 Salt in Food Products	—	•	•	•	—
AP0011.AT1222 pH, Total Acidity & Chlorides in Food & Beverage	—	—	—	•	—
AP0012.AT1122 Free & Total SO_2 in Wine	—	—	•	•	—
AP0013.AT1222 pH, Total Acidity, Free & Total SO_2 in Wine	—	—	—	•	—
Petrochemical Applications					
AP0015.AT1102 TAN (Total Acid Number) in Petrochem	•	•	•	•	—
AP0016.AT1102 TBN (Total Base Number) in Petrochem	•	•	•	•	—
Environmental Applications					
AP0007.AT1122 Free & Total Chlorine, Chlorine Dioxide, Sulphite (AutoCAT)	—	—	•	•	—
Moisture Content Application (Karl Fischer)					
AP0014.KF1121 Moisture Content (Karl Fischer)	—	—	—	—	•

AT1222.97 TitraLab® AT1000 Series
Potentiometric Titrator, 2 Burettes
and 2 Pumps

A similar interface control panel
is found when compared to
other Hach devices such
as the HQD meters.

2100Q & 2100Qis Portable Turbidimeter

Easiest calibration and verification with accurate results every time

Applications
- *Drinking Water*
- *Wastewater*
- *Beverage*
- *Field Use*
- *Food QC Lab*
- *Industrial Water*
- *Power*

▶ Learn more! ↗
Watch the video

Hit the play button!

The Hach 2100Q and 2100Qis Portable Turbidimeters offer unsurpassed ease of use and accuracy in turbidity measurement. Only Hach offers this combination of advanced features including assisted calibration, simplified data transfer, and innovative measurement techniques that give you accurate results every time.

Easy On-Screen Assisted Calibration
The 2100Q Portable Turbidimeter provides confidence your measurements are right every time. On-screen assisted calibration and verification save you time and ensure accuracy.
With an easy-to-follow interface, complicated manuals are not needed to perform routine calibrations. Single-standard RapidCal™ calibration offers a simplified solution for low level measurements.

Simple Data Transfer
Customizable power and connectivity modules provide smooth data transfer and flexibility. Optional USB+Power Module allows data download to any computer via USB port, providing superior data integrity and availability.

Accuracy for Rapidly Settling Samples
The innovative Rapidly Settling Turbidity™ mode provides accurate, repeatable measurements for di@cult to measure, rapidly settling samples. An exclusive algorithm that calculates turbidity based on a series of automatic readings eliminates redundant measurements and estimating.

Convenient Data Logging
Up to 500 measurements are automatically stored in the instrument for easy access and backup. Stored information includes: date and time, operator ID, reading mode, sample ID, sample number, units, calibration time, calibration status, error messages and the result.

Optical Systemfor Precision in the Field
The two-detector optical system compensates for color in the sample, light fluctuation, and stray light, allowing you to achieve laboratory-grade performance on a wide range of samples, even under difficult site conditions.

Two Models for Specific USEPA Requirements
The 2100Q Turbidimeter is compliant with EPA Method 180.1 design criteria.
The 2100Qis Turbidimeter is compliant with ISO 7027 design criteria.

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2100Q & 2100Qis Portable Turbidimeter

Specifications*

Measurement Method	Ratio turbidimetric determination using a primary nephelometric light scatter signal (90°) to the transmitted light scatter signal.	**Operating Conditions**	Temperature: 0 to 50°C (32 to 122°F) Relative Humidity: 0 to 90% @ 30°C, 0 to 80% @ 40°C, 0 to 70% @ 50°C, noncondensing
Regulatory	2100Q: Meets EPA Method 180.1 2100Qis: Meets ISO 7027	**Storage Conditions**	-40 to 60°C (-40 to 140°F), instrument only
Light Source	2100Q: Tungsten filament lamp 2100Qis: Light-emitting diode (LED) @ 860 nm	**Interface**	Optional USB
		Instrument Enclosure	IP67 (closed lid, battery Rating compartment excluded)
Range	0 to 1000 NTU (FNU)	**Protection Class**	Power Supply: Class II
Accuracy	±2% of reading plus stray light from 0 to 1000 NTU	**Certification**	CE certified
Repeatability	±1% of reading, or 0.01 NTU (FNU), whichever is greater	**Sample Required**	15 mL (0.3 oz.)
		Sample Cells	60 x 25 mm (2.36 x 1 in.) borosilicate glass with screw cap
Resolution	0.01 NTU on lowest range	**Dimensions**	22.9 x 10.7 x 7.7 cm (9.0 x4.2 x 3.0 in.)
Stray Light	<0.02 NTU (FNU)		
Signal Averaging	Selectable on/off	**Weight**	527 g (1.16 lb) without batteries 618 g (1.36 lb) with four AA alkaline batteries
Detector	Silicon photovoltaic		
Reading Modes (user selectable)	Normal (Push to Read) Signal Averaging Rapidly Settling Turbidity		
Data Logger	500 records		
Power Requirement	110-230 Vac, 50/60 Hz (with Power or USB+Power Module) 4 AA alkaline batteries Rechargeable NiMH (for use with USB+Power Module)		

Subject to change without notice.

Ordering Information

Hach portable turbidimeters are supplied with four AA alkaline batteries, a carrying case with insert, StablCal primary calibration standards in 1" sealed vials (20, 100, 800 NTU), 10 NTU primary verification standard, 6 sample cells with screw-tops, instrument manual (printed and on CD-ROM), quick start guide, silicone oil and oiling cloth.

2100Q-01	2100Q Portable Turbidimeter (meets EPA method 180.1)
2100QIS-01	2100Qis Portable Turbidimeter (meets ISO 7027)

Optional Accessories

LZV813	USB+Power Module (includes: universal power supply, USB cables, instruction sheet)
LZV804	Power Module (includes: universal power supply, instruction sheet)
2960100	Citizen PD-24 Printer Package
2971304	Battery, NiMH AA, pk/4
4397500	Degassing Kit
4397510	Sample Filtration and Degassing Kit
2971210	StablCal 100 mL calibration kit, 2100Q
2971200	StablCal 500 mL calibration kit, 2100Q
2464105	Gelex Secondary Standard Set

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2100 Series Laboratory Turbidimeters

With four models for specific requirements, Hach 2100 Series Laboratory Turbidimeters offer superior accuracy and sensitivity in any application

Applications
- *Drinking water*
- *Wastewater*
- *Process water*
- *QC Chemicals*

Since Hach introduced the first laboratory turbidimeter for testing drinking water more than 40 years ago, the system has evolved to include advances in optics, digital signal processing, and software.

2100N and 2100N IS Turbidimeters

With Hach's patented* optical system and 40 years of design evolution, the 2100N and 2100N IS Turbidimeters meet the needs of most laboratories for fast, accurate turbidity testing over a wide range of samples.
The 2100N is equipped with a tungsten lamp, while the 2100N IS is equipped with an 860 nm LED light source.

2100AN and 2100AN IS Turbidimeters

In addition to providing all the capabilities of the above models, the 2100AN and 2100AN IS Turbidimeters are ideal for testing colored samples and higher ranges of turbidity. Many features, such as signal averaging and recorder outputs, are programmable in the 2100AN and 2100AN IS models. Enhanced features include interchangeable color filters and user-defined, Application-Specific Calibration (ASC).

Ratio Measurement

One keystroke initiates Ratio Measurement (not available for all models) and activates an array of detectors in addition to the 90-degree nephelometric detector. Ratio Measurement corrects for color interference, enhances calibration stability, and allows the measurement of turbidity at levels greater than 1,000 NTU.

Regulatory Reporting

The 2100N and 2100AN Turbidimeters are equipped with a stable halogen-filled, tungsten filament lamp to meet the reporting requirements of EPA Method 180.1.
The 2100N IS and 2100AN IS Turbidimeters are equipped with an 860 nm LED light source to meet ISO 7027 Turbidity Measurement Standards.

Air Purge Prevents Condensation in Sample Chamber

Measure cold and hot samples. A built-in connection is provided to purge the sample compartment with dry air to prevent light scattering caused by condensation.

Smart Self-Diagnostics

Relax. The instrument will alert you if you make a mistake such as inserting the wrong calibration standard.

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2100 Series Laboratory Turbidimeters

Ordering Information

Each instrument is supplied with six sample cells, a complete set of StablCal® Primary Calibration Standards in sealed vials, silicone oil and oiling cloth, dust cover, instrument and operations manuals, and a power cord.
Model 2100AN also includes a 455 nm filter for Pt-Co color measurement. Models 2100AN and AN IS also include printer paper.

EPA-Compliant, Models 2100N and 2100AN

4700002   2100N Laboratory Turbidimeter, with power cord and fuse

4700102   2100AN Laboratory Turbidimeter, with power cord and fuse

ISO-Compliant, Models 2100N IS and 2100AN IS

4790002   2100N IS Laboratory Turbidimeter, with power cord and fuse

4790102   2100AN IS Laboratory Turbidimeter, with power cord and fuse

The 2100 Benchtop Turbidimeter series
come with tungsten (EPA variants) or LED
(ISO variants) light sources
and proven optics offering reliable, accurate,
and stable measurements.

Accessories

4744900	Manual Flow Cell Kit
4745000	Automated Flow Cell Kit, 115 Vac
4745002	Automated Flow Cell Kit, 230 Vac
4397500	Sample Degassing Kit
4397510	Sample Filtration & Degassing Kit
2489500	Branson Ultrasonic Bath, for cleaning cells
3036300	Color Filter Module, for 410 nm wavelength
1999800	Color Filter Module, for 455 nm wavelength (incl with 2100AN)
3031200	Color Filter Module, for EPA compliance (incl with 2100N and 2100AN)
3036700	Color Filter Module, for 500 nm wavelength
3037100	Color Filter Module, for 560 nm wavelength
3037300	Color Filter Module, for 610 nm wavelength
3037600	Color Filter Module, for 810 nm wavelength
1999900	Color Filter Module, for 860 nm wavelength

2662105   StablCal Turbidity Standards Calibration Kit, for 2100N / N IS Turbidimeter, sealed vials
(<0.1, 20, 200, 1000, 4000 NTU)

2659505   StablCal Turbidity Standards Calibration Kit, for 2100AN / AN IS Turbidimeter, sealed vials
(<0.1, 20, 200, 1000, 4000, 7500 NTU)

246149   Formazin Turbidity Standard, 4000 NTU, 500 mL

HACH®
Be Right

Vacuum Pumps ROCKER

100 Hours Non-Stop

Applications

• Filtration for microbiology
• Air sampling
• Suspended solid test
• Vacuum Filtration

Rocker 400   Rocker 300   Rocker 410

No air pollution, maintenance free
The Rocker 300 Pump is piston-driven, does not require lubricants, oil changes or costly maintenance

ProteTM overow protection
Rocker series pumps are equipped with ProteTM lter cartridge which can prevent a large amount of liquid from being sucked into the pump by negligence. It can also lter particle and moisture to prolong the service life of pump.

Thermal protection device
Each motor of Rocker series pumps has a built-in thermal protection device to shut o the pump automatically when overheated and then resume working when the temperature cools down.

Specifications	Rocker 300	Rocker 400	Rocker 410
Part Number	PV4132	PV4071	PV4072
Voltage	220V/50Hz		
Max. power (W)	60	80	
Max. current (A)	0.3	0.4	
Max. vacuum	- 670 mmHg		730 mmHg
Max. flow rate	18 L/min	34 L/min	20 L/min
Moisture Trap / Vacuum Regulator	Yes		
Overflow protection	Yes		
Motor rotation	1450 RPM		
Horse power	1/8 HP	1/6 HP	
Noise level	50 dB	52 dB	
Port thread	5/16 inch (8 mm)		
Net weight	4.1 Kg	5.2 Kg	
Dimension (L x W x H)	27.2 x 12.1 x 16.5 cm	29.8 x 14.3 x 17.2 cm	

PS: 1 mmHg ≒ 0.1333 kPa ≒ 1.333 mbar , 1 l/min ≒ 0.035CFM

ROCKER

Filtration Systems

47 mm Filtration Sets
PES (Polyethersulfone) / Autoclavable

- Spin-lock connection facilitates fast and stable installation without clamp.
- Built-in overow protection to keep the ltrate from overowing when waste bottle is full.
- Excellent smash, high temperature resistance and autoclavable (LF30-LF31)
- Funnel graduated in 50ml, receiver in 100ml increments for measurement (LF30-LF31)
- Stainless steel funnel oers excellent chemical resistance and can be fastly sterilized by flame (LF32-LF33).

PES Filtration Sets   **S/S Filtration Sets**

LF30   LF31   LF32   LF33

Specifications	LF 30	LF 31	LF 32	LF 33
Filter funnel material	PES		SUS316	
Funnel support base material	PC		SUS316	
Membrane support material	PP		SUS316	
Syringe filter material	PTFE		-	
Receiver flask material	PC	Borosilicate Glass	-	
Waste bottle	-		PC	
Funnel capacity	300 ml		100 ml	300 ml
Flask capacity	1200 ml	1000 ml	1200 ml	
Filter diameter	47 mm / 50 mm			
Effective filtration area	12.5 cm^2		9.6 cm^2	
Port thread (I.D. tubing)	5/16 inch (8 mm)			
Syringe filter	25 mm, 0.2 m		-	
Drain device	-	Yes	-	-
Overflow protection	Yes	-		
Funnel graduation	-	-	50 ml	100 ml

ROCKER

Vacuum Filtration Systems

Rocker 300 - LF 30 Ideal for General Laboratory Filtration

Rocker 300 - LF 31 Ideal for General Laboratory Filtration

Rocker 300 - LF 30 - SS Ideal for suspended solid test

Rocker 300 - LF 32 Ideal for filtration requiring the sterilization such as microbiology test.

No air pollution, maintenance free Rocker series pumps are piston-driven, no need of lubricant, regular oil changes or maintenance; with no oil pollution.

Patented Rocker Spin-Lock Design The filter holder can be connected with waste bottle by patented Spin-Lock connection giving a fast and stable installation without clamp.

Overflow protection Plastic waste bottle comes with a built-in overflow protection to keep the filtrate from overowing when waste bottle is full.

Specifications	Rocker 300 - LF 30	Rocker 300 - LF 30 - SS	Rocker 300 - LF 31	Rocker 300 - LF 32
Max. Flow rate	18 L/min			
Max. vacuum	- 670 mmHg			
Capacity (Funnel / Waste bottle)	300 ml / 1200 ml		300 ml / 1000 ml	100 ml / 1200 ml
Filter diameter	47 mm / 50 mm			
Effective Filtration area	12.5 cm^2			
Port thread	5/16 inch (8 mm)			
Material				
Filter funnel	PES			SUS316
Waste bottle	PC		Borosilicate glass (with drain)	PC
Funnel support base	PP			SUS316
Funnel lid	PP			-
Overflow protection	PP		-	PP
Filter	-	Glass Fiber (1m, Ø47mm)	-	MCE

ROCKER

Vacuum Filtration Systems

BioVac 321B

BioVac 330B

BioVac 321C

BioVac 630B

Special design for large number samples The BioVac 321B and 321C are economical models for large sample filtration. Each system includes vacuum pump, manifold, waste bottle and fillter holders.

Light and handy aluminum design Manifolds are made of anodized aluminum which is autoclavable, light and cost-effective.

Suitable for different filter holders Manifolds can accommodate different types of filter holders through the supplied No. 8 silicone stoppers.

4 Litre PP waste bottle with drain The large capacity of 4000ml waste bottle with drain offers convenience of collecting and draining waste solution.

Specifications	BioVac 321B	BioVac 321C	BioVac 330B	BioVac 630B
Max. Flow rate	34 L/min			62 L/min
Max. vacuum	- 670 mmHg			- 650 mmHg
Waste bottle	4000 ml, made of PP with drain			
Number of branches	3			6
Filter diameter	47 mm / 50 mm			
Funnel capacity	100 ml	300 ml	100 ml	100 ml
Eective filtration area	9.6 cm^2			
Port thread	5/16 inch (8 mm)			
Manifold Part Material				
Body	Anodized aluminum			SUS316
Control valve	Plated Copper			SUS316
Filter funnel	SUS316	PES		SUS316
Funnel support base	SUS316	PP		SUS316
Connector	Plated Copper			SUS316

ROCKER

Multi-Branch Manifolds

Applications

• *Microbiology testing*
• *Chemical experimentation*
• *General laboratory filtration*

BioVac 320

BioVac 321

BioVac 330

BioVac 620

BioVac 630

Made of SUS316 The parts of BioVac 320 and BioVac 620 manifolds are made of SUS316, which offers excellent chemical resistance and can be fast sterilized by flame, steam and oven.

Light aluminum design The BioVac 321 is made of anodized aluminum and plated copper, making it light, cost-effective and autoclavable.

Patented Spin-Lock Design facilitates fast and stable installation without clamp.

Individual control valve Each branch permits individual control.

Compatible with different sizes of filter holders BioVac 320, 321 and 62 manifold include no.8 silicone stoppers which are available to t various types of lter holders at option.
BioVac 330 and 630 manifolds are available to fit 100, 300, 500ml funnel at option.

Specifications	BioVac 320	BioVac 321	BioVac 330	BioVac 620	BioVac 630
Number of branch	3			6	
Filter diameter	Optional		47 mm / 50 mm	Optional	47 mm / 50 mm
Funnel capacity	Optional		100 ml / 300 ml / 500 ml	Optional	100 ml / 300 ml / 500 ml
Effective Filtration area	Optional		9.6 cm^2	Optional	9.6 cm^2
Port thread	5/16 inch (8 mm)				
Dimensions (L x W x H)	44.5 x 12.9 x 15 cm	39.5 x 15 x 13.7 cm	44.5 x 12.9 x 12.5 cm	68.5 x 12.9 x 15 cm	68.5 x 12.9 x 12.5 cm
Part Material					
Body	SUS316	Anodized aluminum	SUS316		
Control valve	SUS316	Plated copper	SUS316		
Filter funnel	-	-	SUS3-16	-	SUS316
Funnel support base	-	-	SUS316	-	SUS316
Handle	SUS316	Anodized aluminum	SUS316		
Connector	-	-	SUS316	-	SUS316
Hose barb	SUS316	Plated copper	-	SUS316	-

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ROCKER

Filtration Accessories

1200 ml PES Waste Bottle (197000-11)

Specifications		Material	
Port thread (I.D. tubing)	5/16 in.(8 mm)	Container	PES
Graduated increment	100 ml	Cover	PES
Overow protection	Yes	Overow protection	PP
Cap with suction fitting	Yes		

1200 ml PC Waste Bottle (197000-11-PC)

Specifications		Material	
Port thread (I.D. tubing)	5/16 in.(8 mm)	Container	PC
Graduated increment	100 ml	Cover	PC
Overow protection	Yes	Overow protection	PC
Cap with suction fitting	Yes		

Disposable Filtration Set

Specifications	250ml filtration set	500ml filtration set	1000ml filtration set
Part Number	ROU-1101-RLS	ROU-1102-RLS	ROU-1103-RLS
Filter diameter	66 mm	90 mm	
Pore size	0.22µm		
Filter Material	PES		
Shell Material	PE		

Disposable Funnel

Specifications	250ml funnel	500ml funnel	1000ml funnel
Part Number	ROU-1151-RLS	ROU-1152-RLS	ROU-1153-RLS
Filter diameter	66 mm	90 mm	
Pore size	0.22µm		
Filter Material	PES		
Shell Material	PE		

4000 ml PP Waste Bottle (167200-47)

Specifications		Material	
Port thread (I.D. tubing)	1/4 in. (6.5 mm)	Container	PP
Graduated increment	500 ml	Cover	PP
Overflow protection	Yes	Overow protection	PP

Membrane Filters

Filter Material	Glass Fiber	MCE Membrane
Part Number	167100-20	167100-52
Brand	Pall	
Filter diameter	47mm	
Pore size	1µm	0.45µm
Package	100/PK	200/PK

ROCKER

Consumables

SWB250G

S13-MC45-G

S33-NY22-C

Bottle, Water

Code No	Product Information	Unit	Pack
SWB250G	Bottle Water 250ml, Dosed Sodium thio, Gamma, White Cap	Pack	250
SWB500G	Bottle Water 500ml, Dosed Sodium thio, Gamma	Pack	100

Syringe Filter

MCE, Mixed Cellulose Ester

Code No	Product Information	Unit	Pack
S13-MC22-G	MCE Syringe Filter, Pore 0.22(µm), Housing Diameter 13(mm)	Pack	100
S13-MC45-G	MCE Syringe Filter, Pore 0.45(µm), Housing Diameter 13(mm)	Pack	100
S25-MC22-G	MCE Syringe Filter, Pore 0.22(µm), Housing Diameter 25(mm)	Pack	100
S25-MC45-G	MCE Syringe Filter, Pore 0.45(µm), Housing Diameter 25(mm)	Pack	100
S33-MC22-C	MCE Syringe Filter, Pore 0.22(µm), Housing Diameter 33(mm)	Pack	100
S33-MC45-C	MCE Syringe Filter, Pore 0.45(µm), Housing Diameter 33(mm)	Pack	100

Nylon

Code No	Product Information	Unit	Pack
S13-NY22-G	Nylon Syringe Filter, Pore 0.22(µm), Diameter 13(mm)	Pack	100
S13-NY45-G	Nylon Syringe Filter, Pore 0.45(µm), Diameter 13(mm)	Pack	100
S25-NY22-G	Nylon Syringe Filter, Pore 0.22(µm), Diameter 25(mm)	Pack	100
S25-NY45-G	Nylon Syringe Filter, Pore 0.45(µm), Diameter 25(mm)	Pack	100
S33-NY22-C	Nylon Syringe Filter, Pore 0.22(µm), Diameter 33(mm)	Pack	100
S33-NY45-C	Nylon Syringe Filter, Pore 0.45(µm), Diameter 33(mm)	Pack	100

PES, Gear edged

Code No	Product Information	Unit	Pack
S13-PS22-G	PES Syringe Filter, Pore Size: 0.22(µm), Housing Diameter: 13(mm)	Pack	100
S13-PS45-G	PES Syringe Filter, Pore Size: 0.45(µm), Housing Diameter: 13(mm)	Pack	100
S25-PS22-G	PES Syringe Filter, Pore Size: 0.22(µm), Housing Diameter: 25(mm)	Pack	100
S25-PS45-G	PES Syringe Filter, Pore Size: 0.45(µm), Housing Diameter: 25(mm)	Pack	100
S33-PS22-C	PES Syringe Filter, Pore Size: 0.22(µm), Housing Diameter: 33(mm)	Pack	100
S33-PS45-C	PES Syringe Filter, Pore Size: 0.45(µm), Housing Diameter: 33(mm)	Pack	100

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Radiometer Analytical, Hach & Chem Supply Buffers and Solutions

Pacific Laboratory Products can to assist you to identify the appropiate solution for your tests.

For more information please contact one of our product specialists at sales@pacificlab.com.au.

Radiometer Analytical IUPAC Series Certified pH Standards

Each bottle of certified pH or conductivity standard manufactured by Radiometer Analytical is supplied with two certificates: a Certificate of Conformity and Traceability drawn up according to ISO Guide 31(4) and a DKD Calibration Certificate. The back of the first certificate contains information about the composition and preparation of the standard as well as recommendations for storage and use to ensure optimum performance.

Safe storage
thanks to the airtight can.

GLP - right from the start
the date of opening can be marked directly on the bottle.

Recommended shelf life
the observed typical shelf life after opening is printed on the bottle, ensuring timely use (2-3 months depending on the standards).

A guaranteed value
the nominal value of the standard is guaranteed until first opening, even after several years' storage*.

A useful reference
a pH or conductivity temperature dependence table is printed on the bottle.

GLP - every day
the number of uses can be marked directly on the bottle in line with Good Laboratory Practice.

Accurate values
the nominal value and the tolerance of pH standards are given with a resolution of 3 significant decimals.

Foolproof calibration
each bottle of pH standard is supplied with 25 colour-coded beakers.

Catalogue Number	Product Information	Pack
S11M001	Buffer Solution, pH 1.679 clear at 25°C, IUPAC with Cer tificate	500mL
S11M002	Buffer Solution, pH 4.005 clear at 25°C IUPAC with Cer tificate	500mL
S11M003	Buffer Solution, pH 6.865 clear at 25°C IUPAC with Cer tificate	500mL
S11M004	Buffer Solution, pH 7.00 clear at 25°C IUPAC with Cer tificate	500mL
S11M005	Buffer Solution, pH 7.413 clear at 25°C IUPAC with Cer tificate	500mL
S11M006	Buffer Solution, pH 9.180 clear at 25°C IUPAC with Cer tificate	500mL
S11M007	Buffer Solution, pH 10.012 clear at 25°C IUPAC with Cer tificate	500mL
S11M008	Buffer Solution, pH 12.450 clear at 25°C IUPAC with Cer tificate	500mL

Buffers & Standard Solutions

BOD Reagents

Code No	Product Information	Pack
1416066	BOD Nutrient Buffer Pillows, prepares 300mL	Pk/50
1486166	BOD Nutrient Buffer Pillows, prepares 3L	Pk/50
1486266	BOD Nutrient Buffer Pillows, prepares 6L	Pk/50
1486398	BOD Nutrient Buffer Pillows, prepares 19L	Pk/25
2436466	Nutrient Buffer Pillows, 4mL size for 4L	4mL - Pk/50

1486266

Buffers Alkalinity Standards

Code No	Product Information	Pack
89568	Buffer Powder Solution, pH 4.50	50mL - Pk/25
89868	Buffer Powder Solution, pH 8.30	50mL - Pk/25

Scharlau

Precise, accurate, and reliable buffer solutions.

Buffers Everyday use - Chem-Supply Range

Code No	Product Information	Pack
BL047-500M	Buffer Solution, pH 4.0 (20°C) Colour - Coded Red	500mL
BL047-1L	Buffer Solution, pH 4.0 (20°C) Colour - Coded Red	1L
BL047-5L	Buffer Solution, pH 4.0 (20°C) Colour - Coded Red	5L
BL048-500M	Buffer Solution, pH 7.00 (20°C) Colour - Coded Green	500mL
BL048-1L	Buffer Solution, pH 7.00 (20°C) Colour - Coded Green	1L
BL048-5L	Buffer Solution, pH 7.00 (20°C) Colour - Coded Green	5L
BL019-500M	Buffer Solution, pH 10.0 (20°C) Colour - Coded Blue	500mL
BL019-1L	Buffer Solution, pH 10.0 (20°C) Colour - Coded Blue	1L
BL019-5L	Buffer Solution, pH 10.0 (20°C) Colour - Coded Blue	5L

2307242

Buffers General

Code No	Product Information	Pack
1490932	Acetate Buffer Solution, 100 Tests MDB	Pk/100 mL
2311149	Al Brine Buffer, Reagent	100 mL
2307242	Alkali 3.0 N Buffer Solution	100mL
1470953	Borate Buffer Solution, APHA, Nitrogen-Ammonia distillation	1000mL
2081599	Buffer Powder Pillows for Iron, Citrate Type	Pk/100
2493120	Chlorine ULR Buffer Solution, 1.5mL Ampule	Pk/20
2107669	Citrate Buffer Powder pillows for Manganese, 10mL	Pk/100
98399	Citrate Powder Pillows Buffer	Pk/100
1420299	Citrate Powder Pillows Buffer	Pk/100
2143166	Dilution Water Pillows Buffer	Pk/25
1430598	Dilution Water, 99mL, Buffer	Pk/25
258901	Fluoride Adj, Buffer	454g / Jar
2229653	Masking Solution, Buffer	1L
NIST01	NIST Traceable Buffer and Conductivity Standards Certificate	Each
2335549	Phosphate Buffer Solution	500mL
2155332	Phosphate, Buffer Solution MDB	100mL
2375866	Phosphate, Buffer Solution Pillows	Pk/50

2081599

2493120

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chem-supply

Buffers & Standard Solutions

Buffers General

Code No	Product Information	Pack
2319145	Phosphate, Butterfield'S Buffered	450 mL
2319110	Phosphate, Butterfield'S Buffered, 450 mL Bottle	Pk/10
2962266	Respirometric BOD, Buffer Solution, Pillows	Pk/50
45249	Sulfate Type, Buffer Solution	500mL
99949	Wash Water, Buffer Solution	500mL

2319110

Buffers Hardness 1

Code No	Product Information	Pack
42453	Hardness 1 Buffer Solution	1000mL
42449	Hardness 1 Buffer Solution	500mL
42432	Hardness 1 Buffer Solution, MDB	100mL
42426	Buffer Solution, HDNS 1, SCDB	50mL

42432

Buffers pH Standarization

Code No	Product Information	Pack
2974036	Buffer Solution, pH 9.18, Colorless	15mL
2973936	Buffer Solution, pH 6.86, Colorless	15mL
2227195	Buffer Solution, pH 10.01, Powder Pillows Blue	Pk/15

2227195

Buffer Set for MiniLab Meters

Code No	Product Information	Pack
CB40	Buffer Kit, pH 7 Solutions in Dropper Bottles	3 x 15ml
CB45	Buffer Kit, pH 4, 7, 10 Solutions in Dropper Bottle	3 x 15ml

CB45

Buffers Special Use

Code No	Product Information	Pack
43149	Phosphate Buffer Solution	500mL
2155353	Buffer Solution, pH 7.00, Phosphate	1L

2155353

Cleaning Solutions

Code No	Product Information	Pack
S16M001	Cleaning Solution Renovo N Normal Overnight Soak	250ml
S16M002	Cleaning Solution Renovo X Strong Quick Soak	250ml
C20C380	Cleaning Solution Thiourea for Electrode AgCl Pin Maintenance	250ml

S16M001 - S16M002 - C20C380

Hach Test Kits

Code No	Product Information	Pack	Code No	Product Information	Pack
2107469	Acid Reagent Silica High Rng	Pk/100	2415925	COD Digestion Vial, HR	Pk/25
2122332	Alkaline Cyanide Reagent MDB	100mL	2415915	COD Digestion Vial, HR	Pk/150
2824349	Ammonia ISA Solution	500mL	2125925	COD Digestion Vial, HR Hw	Pk/25
TNT830	Ammonia TNT+, ULR, .02-2.5mg/L	Pk/25	2125915	COD Digestion Vial, HR Hw	Pk/150

HACH
Be Right

Buffers & Standard Solutions

Hach Test Kits

Code No	Product Information	Pack	Code No	Product Information	Pack
TNT832	Ammonia TNT+, HR (2-47 mg/L)	Pk/25	2125825	COD Digestion Vial, LR Hw	Pk/25
2484600	Ampule Breaker, Pourite	Pk/25	1404169	Cyaniver 5 Reagent PP 25mL	Pk/100
1429449	Bleaching 3 Reagent Powder Pillows	Pk/100	230166	Ferrozine Reagent Solution Plws	Pk/50
105766	Chloride 2 Ind PP	100mL	2745650	Test Strip, PH Low Range Btl/50	Btl/50
2106269	Citric Acid, For Silica	Pk/100	TNT823	TNT+, COD UHR (250-15000 mg/L)	Pk/25
2834325	COD Digest Vial, COD2 UHR	Pk/25			
2767345	TNT Kit, Reactive Phoshate HR, includes Reagent/Vials for up to 50 tests			Each	

ISE Calibration Standards, Hach

Code No	Product Information	Pack
2406549	Nitrogen, Ammonia 100mg/L 500mL	500 mL
4457649	Calcium Standard Solution, 100mg/L 500mL	500 mL
2240349	Calcium Standard Solution, 1000mg/L 500mL	500 mL
2370853	Chloride Standard Solution, 0.00282N 1L	1L
18349	Chloride Standard Solution 1000mg/L 500mL	500 mL
29149	Fluoride Standard Solution 1.0mg/L 500mL	500 mL
35949	Fluoride Standard Solution 10mg/L 500mL	500 mL
204649	Nitrogen, Nitrate 1.0mg/L 500mL	500 mL
30749	Nitrogen, Nitrate 10mg/L 500mL	500 mL
194749	Nitrogen, Nitrate 100mg/L 500mL	500 mL
2351749	Potassium Standard, 100mg/L 500mL	500 mL
2318153	Sodium Standard Solution, 100mg/L 1000mL	1L

2370853

29149

Maintenance Solutions

Code No	Product Information
S91M001	GK ANNEX Electrode Maintenance Kit. The GK ANNEX Electrode Maintenance Kit contains all you need for regular mainenance of combined pH, glass and reference electrodes with saturated potassium chloride salt-bridge: - Solutions for normal and intensive cleaning - KCl as saturated and crystals for refilling - GLP Logbook to keep note of calibration and maintenance procedures - Utensils and easy-to-follow instructions

Molar KCl solutions, Radiometer Analytical

Code No	Product Information	Pack
C20C250	Solution 0.1M KCl (12.88mS/cm at 25C) KS910	500mL
C20C270	Solution 0.01M KCl (1.413 mS/cm at 25C) KS920	500mL
C20C280	Solution 0.001M KCl (146.9us/cm at 25C) KS930	500mL

C20C250

pH 4 - pH 7 - pH 10 Series

Code No	Product Information	Pack
S11M012	Buffer Solution, pH 4.00 Clear at 25°C Technical Grade	500mL
S11M013	Buffer Solution, pH 7.00 Clear at 25°C Technical Grade	500mL
S11M014	Buffer Solution, pH 10.00 clear at 25°C Technical Grade	500mL

S11M012

Radiometer analytical

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Buffers & Standard Solutions

pH Buffer Pillows

Code No	Product Information	Pack
2226995	Buffer Solution, pH 4.01, Powder Pillows R	Pk/15
2226966	Buffer Solution, pH 4.01, Powder Pillows R	Pk/50
2226964	Buffer Powder Pillows, pH 4.01 (NIST), Color - Coded Red	Pk/250
2227095	Buffer Powder Pillows, pH 7.00 (NIST), Color - Coded Yellow	Pk/15
2227066	Buffer Powder Pillows, pH 7.00 (NIST), Color - Coded Yellow	Pk/50
2227064	Buffer Powder Pillows, pH 7.00 (NIST), Color - Coded Yellow	Pk/250
2227195	Buffer Solution, pH 10.01, Powder Pillows Blue	Pk/15
2227166	Buffer Solution, pH 10.01, Powder Pillows Blue	Pk/50
2227164	Buffer Solution, pH 10.01, Powder Pillows Blue	Pk/250
2299264	Buffer Solution, pH 4.01, Red and pH7.00	10 Pillows x 2

Colourless

Code No	Product Information	Pack
1405566	Buffer, pH 6.00, Powder Pillows	Pk/50
1409895	Buffer, pH 6.86, Powder Pillows	Pk/15
1407995	Buffer, pH 8.00, Powder Pillows	Pk/15
1410766	Buffer, pH 9.00, PP 50mL	Pk/50
2657364	pH Storage Solution Pillows	Pk/20

Color-Coded
Buffers with pH values of 4.01, 7.00, and 10.01 are color-coded for added convenience.
pH is ±0.02 at 25°C

2226966

2227064

pH Buffer Solutions Colorless

pH 4.01 Colorless (NIST)

Code No	Product Information	Pack
1222336	Buffer Solution, pH 4.01, Colorless	15mL
1222349	Buffer Solution, pH 4.01, Colorless	500 mL
1222356	Buffer Solution, pH 4.01, Colorless	4L

pH 7.00 Colorless (NIST)

Code No	Product Information	Pack
1222249	Buffer Solution, pH 7.00	500mL
1222256	Buffer Solution, pH 7.00	4L

pH 10.01 Colorless (NIST)

Code No	Product Information	Pack
1222149	Buffer Solution, pH 10.01	500mL
1222156	Buffer Solution, pH 10.01	4L

Available in various packing presentations

Radiometer Analytical Certified Conductivity Standards

Code No	Product Information	Pack
S51M001	Conductivity standard 111.3mS/cm +/- 0.010 at 25C KCl Solution	500mL
S51M002	Conductivity standard 12.85mS/cm +/- 0.010 at 25C KCl Solution	500mL
S51M003	Conductivity standard 1408uS/cm +/- 0.010 at 25C KCl Solution	500mL
S51M013	Conductivity standard 25.0uS/cm +/- 0.010 at 25C NaCl Solution	250mL

S51M013

HACH
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Buffers & Standard Solutions

Radiometer Analytical Solutions - Technical Grade

Code No	Product Information	Pack
S11M009	Buffer Solution, pH 1.09 clear at 25°C Technical Grade	500mL
S11M010	Buffer Solution, pH 4.65 clear at 25°C Technical grade	500mL
S11M011	Buffer Solution, pH 9.23 clear at 25°C Technical Grade	500mL

Complete Traceability

Certified Solutions

Replacement Reagents for aplication test Kits

Code No	Product Information	Pack
1222220	Buffer Solution, pH 7.00 (NIST) Colourless	25mL

1222220

Singlet™ Solution Packs

Code No	Product Information	Pack
2769820	Buffer Solution, pH 7.00 and pH 10.01	Pk/10 of Each
2769920	Buffer Solution, pH 4.01 and pH 7.00	Pk/10 of ea
2770020	Buffer Solution, pH 4.01	Pk/20
2770120	Buffer Solution, pH 7.00	Pk/20
2770220	Buffer Solution, pH 10.01	Pk/20

2769820

Storage & Filling Solutions for Combined and Reference Electrodes

Code No	Product Information	Pack
S21M001	(KCl-C) Crystals KCl	15g
S21M002	(KCl-L) Saturated Solution of KCl	100ml
S21M004	(KCl-Ag) 3M KCl Solution Saturated with AgCl	100ml
S21M007	(KS160-30) Saturated K2SO4 Solution	30ml
S21M008	(LiCl-30) 1 M liCl Solution	30ml
S21M009	(KS120-30) Saturated KCl + AgCl Solution	30ml
S21M010	(KCl-L-30) Saturated Solution of KCl	30ml
S21M011	(KCl-Ag-30) 3M KCl Solution Saturated with AgCl	30ml
C20C300	(KS100) Saturated KCl Solution	500ml
C20C310	(KS120) Saturated KCl + AgCl Solution	500ml
C20C320	(KS100) KCl Solution 3M	500ml
C20C500	(KS160) Saturated K2SO4 Solution	500ml

S21M001

S21M002

S21M010

C20C300

Radiometer analytical

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