

HI83314

Multiparameter Photometer with COD for Wastewater

with Digital pH Electrode Input

HI83314 benchtop photometer measures 10 different key wastewater quality parameters using 20 different methods that allow for multiple ranges and variations in chemistry for specific applications. The Chemical Oxygen Demand (COD) parameter is included for industrial and municipal wastewater treatment. The Phosphorous and Nitrogen parameters included are beneficial to municipal wastewater treatment customers that need to monitor their biological and chemical nutrient removal process. This photometer features an innovative optical system that uses LED's, narrow band interference filters, focusing lens and both a silicon photodetector for absorbance measurement and a reference detector to maintain a consistent light source ensures accurate and repeatable photometric readings every time.

To save valuable laboratory benchtop space, the HI83314 doubles as a professional pH meter with its digital pH/temperature electrode input. Now one meter can be used for both photometric and pH measurements.



Specifications

Measurement Channels	5 x optical channels; 1 x digital electrode channel (pH measurement)	
Absorbance	Range	0.000 to 4.000 Abs
	Resolution	0.001 Abs
	Accuracy	±0.003 Abs (at 1.000 Abs)
	Light Source	light-emitting diode
	Bandpass Filter Bandwidth	8 nm
	Bandpass Filter Wavelength Accuracy	± 1.0 nm
	Light Detector	silicon photocell
	Cuvette Type	round, 24.6 mm diameter and 16 mm diameter
pH	Number of Methods	128 max
	Range	-2.00 to 16.00 pH (±1000 mV)*
	Resolution	0.01 pH (0.1 mV)
Temperature	Temperature Compensation	Automatic (-5.0 to 100.0°C; 23.0 to 212.0°F)*
	Range	-20 to 120°C (-4.0 to 248.0 °F)
Additional Specifications	Resolution	0.1 °C (0.1 °F)
	pH electrode	digital pH electrode (not included)
	Logging	1000 readings (mixed photometer and electrode); log on demand with user name and sample ID optional input
	Display	128 x 64 pixel LCD with backlight
	Connectivity	USB-A host for flash drive; micro-USB-B for power and computer connectivity
	Battery Life	3.7 VDC Li-polymer rechargeable battery / >500 photometric measurements or 50 hours of continuous pH measurement
	Power Supply	5 VDC USB 2.0 power adapter with USB-A to micro-USB-B cable (included)
	Environment	0 to 50°C (32 to 122°F); 0 to 95% RH, non-condensing
	Dimensions	206 x 177 x 97 mm (8.1 x 7.0 x 3.8 in.)
	Weight	1.0 kg (2.2 lbs.)

- **Advanced optical system**

- Innovative optical design that utilizes a reference detector and focusing lens to eliminate errors from changes in the light source and from imperfections in the glass cuvette.

- **Built-in Reaction Timer for Photometric Measurements**

- The measurement is taken after the countdown timer expires.
- Countdown timer ensures that all readings are taken at the appropriate reaction intervals regardless of user for better consistency in measurements

- **Absorbance mode**

- Hanna's exclusive CAL Check cuvettes for validation of light source and detector
- Allows for the user to plot concentration versus absorbance for a specific wavelength for use with user supplied chemistry or for teaching principles of photometry

Parameter	Range	Resolution	Accuracy (@ 25°C)	LED (λ nm) with Narrow Band Interference Filter	Method	Reagent Code
Ammonia LR	0.00 to 3.00 mg/L (as NH ₃ -N)	0.01 mg/L	±0.04 mg/L ±4% of reading	@ 420 nm	Nessler	HI93700-01 100 tests
Ammonia LR (16 mm vial)	0.00 to 3.00 mg/L (as NH ₃ -N)	0.01 mg/L	± 0.10 mg/L or ± 5% of reading, whichever is greater	@ 420 nm	Nessler	HI93764A-25 25 tests
Ammonia MR	0.00 to 10.00 mg/L (as NH ₃ -N)	0.01 mg/L	±0.05 mg/L ±5% of reading	@ 420 nm	Nessler	HI93715-01 100 tests
Ammonia HR	0.0 to 100.0 mg/L (as NH ₃ -N)	0.1 mg/L	±0.5 mg/L ±5% of reading	@ 420 nm	Nessler	HI93733-01 100 tests
Ammonia HR (16 mm vial)	0.0 to 100.0 mg/L (as NH ₃ -N)	0.1 mg/L	± 1 mg/L or ± 5% of reading, whichever is greater	@ 420 nm	Nessler	HI93764B-25 25 tests
Chlorine, Free	0.00 to 5.00 mg/L (as Cl ₂)	0.01 mg/L	±0.03 mg/L ±3% of reading	@ 525 nm	DPD	HI93701-01 100 tests
Chlorine, Total	0.00 to 5.00 mg/L (as Cl ⁻)	0.01 mg/L	±0.03 mg/L ±3% of reading	@ 525 nm	DPD	HI93711-01 100 tests
Chromium, Total and VI (16 mm vial)	0 - 1000 ug/L (as Cr)	1 µg/L	±10 µg/L ±3% of reading	@ 525 nm	diphenylcarbohydrazide	HI96781-25 25 tests
COD LR (16 mm vial)*	0 to 150 mg/L (as O ₂)	1 mg/L	±5 mg/L or ±4% of reading @ 25°C, whichever is greater	@ 420 nm	dichromate ISO dichromate EPA mercury-free dichromate	HI93754A-25 24 tests HI93754D-25 24 tests HI93754F-25 24 tests
COD MR (16 mm vial)*	0 to 1500 mg/L (as O ₂)	1 mg/L	±15 mg/L or ±4% of reading @ 25°C, whichever is greater	@ 610 nm	dichromate ISO dichromate EPA mercury-free dichromate	HI93754B-25 24 tests HI93754E-25 24 tests HI93754G-25 24 tests
COD HR (16 mm vial)*	0 to 15000 mg/L (as O ₂)	1 mg/L	±150 mg/L or ±2% of reading @ 25°C, whichever is greater	@ 610 nm	dichromate	HI93754C-25 24 tests
COD UHR (16 mm vial)	0.0 to 60.0 g/L (as O ₂)	0.1 g/L	±0.5 mg/L ±3% of reading	@ 610 nm	dichromate	HI93754J-25 100 tests
Iron, Total (16 mm vial)	0.00 to 7.00 mg/L (as Fe)	0.01 mg/L	±0.20 mg/L or ± 3%, whichever is greater	@525 nm	phenanthroline	HI96778-25 25 tests
Nitrate (16 mm vial)	0.0 to 30.0 mg/L Nitrate (as NO ₃ ⁻ -N)	0.1 mg/L	±1.0 mg/L or ±3% of reading, whichever is greater	@ 420 nm	chromotropic acid	HI93766-50 50 tests
Nitrite ULR, Marine	0 to 200 µg/L (as NO ₂ ⁻ -N)	1 µg/L	±10 µg/L ±4% of reading	@ 466 nm	diazotization	HI764-25 25 tests
Nitrite LR	0 to 600 µg/L (as NO ₂ ⁻ -N)	1 µg/L	±20 µg/L ±4% of reading	@ 466 nm	diazotization	HI93707-01 100 tests
Nitrite LR (16 mm vial)	0 to 600 µg/L (as NO ₂ ⁻ -N)	1 µg/L	±10 µg/L ±3% of reading	@ 525 nm	diazotization	HI96783-25 25 tests
Nitrite MR (16 mm vial)	0.00 to 6.00 mg/L (as NO ₂ ⁻ -N)	0.01 mg/L	±0.10 mg/L ±3% of reading	@ 525 nm	diazotization	HI96784-25 25 tests
Nitrite HR	0 to 150 mg/L (as NO ₂ ⁻ -N)	1 mg/L	±4 mg/L ±4% of reading	@ 575 nm	ferrous sulfate	HI93708-01 100 tests
Nitrogen, Total LR (16 mm vial)	0.0 to 25.0 mg/L (as NO ₃ ⁻ -N)	0.1 mg/L	±1.0 mg/L or ±5% of reading, whichever is greater	@ 420 nm	chromotropic acid	HI93767A-50 49 tests
Nitrogen, Total HR (16 mm vial)	0 to 150 mg/L (as N)	1 mg/L	±3 mg/L or ±4% of reading, whichever is greater	@ 420 nm	chromotropic acid	HI93767B-50 49 tests
Phosphorus Reactive LR (16 mm vial)	0.00 to 1.60 mg/L (as P)	0.01 mg/L	±0.05 mg/L or ±4% of reading, whichever is greater	@ 610 nm	ascorbic acid	HI93758A-50 50 tests
Phosphorus Reactive HR (16 mm vial)	0.0 to 32.6 mg/L (as P)	0.1 mg/L	±0.5 mg/L or ±4% of reading, whichever is greater	@ 420 nm	vanadomolybdophosphoric acid	HI93763A-50 49 tests
Phosphorus Acid Hydrolyzable (16 mm vial)	0 to 1.6 mg/L (ppm) (as P)	0.1 mg/L	±0.05 mg/L or ±5% of reading, whichever is greater	@ 610 nm	ascorbic acid	HI93758B-50 50 tests
Phosphorus, Total LR (16 mm vial)	0.00 to 1.15 mg/L (as P)	0.01 mg/L	±0.05 mg/L or ±6% of reading, whichever is greater	@ 610 nm	ascorbic acid	HI93758C-50 50 tests
Phosphorus, Total HR (16 mm vial)	0.0 to 32.6 mg/L (as P)	0.1 mg/L	±0.5 mg/L or ±5% of reading, whichever is greater	@ 420 nm	vanadomolybdophosphoric acid	HI93763B-50 49 tests
Surfactants Anionic (16 mm vial)	0.00 to 3.50 mg/L (as SDBS)	0.01 mg/L	±0.10 mg/L ±5% of reading	@ 610 nm	methylene blue	HI96782-25 25 tests
Surfactants Nonionic (16 mm vial)	0.00 to 6.00 mg/L (as TRITON X-100)	0.01 mg/L	±0.10 mg/L ±5% of reading	@ 610 nm	TBPE	HI96780-25 24 tests
Ordering Information	HI83314-01 (115V) and HI83314-02 (230V) is supplied with sample cuvettes and caps (4 ea.), digestion vials (6), vial adapter, cloth for wiping cuvettes, USB to micro USB cable connector, power adapter, instrument quality certificate, and instruction manual.					
Standards	HI83314-11 CAL Check Cuvette Kit for HI83399					

*COD Rapid Method available.