DR 3900™ Spectrophotometer

Applications

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

Prevent measurement errors...simply.

The proven technology you have come to expect from Hach just got better. Built with the future of water analysis in mind, the DR 3900 will give consistently accurate results in a simpler testing format.

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.

**RFID technology currently available in US, Canada, Austrailia, and New Zealand only.*

HACH®

Be Right™

Specifications*

Operating Mode	Transmittance (%), Absorbance and Concentration, Scanning (wavelength, time)
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 when using stored or barcode programs
Wavelength Selection	Automatic, based on method selection
Spectral Bandwidth	5 nm
Photometric Measuring Range	± 3.0 Abs (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
	≤ 1 % at > 2 Abs with neutral glass at 546 nm
Stray Light	< 0.1 % T at 340 nm with $NaNO_2$
Display	7" TFT
	WVGA (800 pix x 480 pix)
Data Storage	2000 measured values (Result, Date, Time, Sample ID, User ID)
Preprogrammed Methods	> 220
User Programs	100
Sample Cell Compatibility	13 mm round, 16 mm round, 1 cm & 5 cm rectangular, 1" round, 1" rectangular
Dimensions (H x W X D)	151 mm x 350 mm x 255 mm
	5.94 in x 13.78 in x 10.04 in
Weight	4200 g
	9.26 lb
Operating Conditions	10 to 40 °C
Storage Temperature	-30 to 60 °C
Instrument Enclosure Rating	IP40**
Power Supply	Benchtop power supply, 110 - 240 V; 50/60 Hz
Interfaces	USB type A (2), USB type B, Ethernet, RFID module
Warranty	1 year

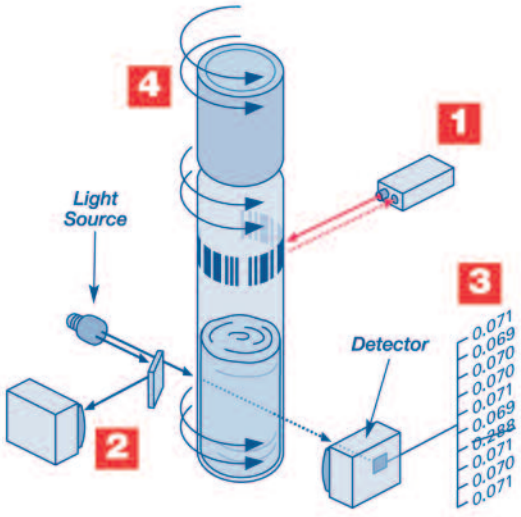
*Subject to change without notice.

** Except for the USB/network connection.

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



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.

See our TNTplus video at: www.hach.com/tntplus

Available Tests

The following table lists available tests and overall ranges for the Hach DR 3900 Benchtop Spectrophotometer. The ranges may represent more than one available test for the instrument. Consult your Hach representative, Customer Service, the Hach Master Catalog, or the Hach web site at www.hach.com for complete details of all available tests for this instrument.

Parameter	Range	TNTplus Test
Alachlor	0.1 to 0.5 ppb, threshold	
Alkalinity, Total	25 to 400 mg/L	•
Aluminum	0.002 to 0.800 mg/L	•
Ammonia, Nitrogen	0.015 to 50.0 mg/L	•
Arsenic	0.020 to 0.200 mg/L	
Atrazine	0.5 to 3.0 ppb, threshold	
Barium	2 to 100 mg/L	
Benzotriazole	0.2 to 16.0 mg/L	
Boron	0.2 to 14.0 mg/L	
Bromine	0.05 to 4.50 mg/L	
Cadmium	1.3 µg/L to 0.30 mg/L	•
Carbohydrazide	5 to 600 µg/L	
Chloramine, Mono	0.04 to 10.0 mg/L	
Chloride	0.1 to 25.0 mg/L	
Chlorine Dioxide	0.01 to 1000 mg/L	
Chlorine, Free	0.02 to 10.0 mg/L	•
Chlorine, Total	2 µg/L to 10.0 mg/L	•
Chromium, Hexavalent	0.010 to 1.00 mg/L	•
Chromium, Total	0.01 to 0.70 mg/L	•
Cobalt	0.01 to 2.00 mg/L	
Color	3 to 500 units	
COD (Chemical Oxygen Demand)	0.7 to 15,000 mg/L	•
Copper	1 µg/L to 8.0 mg/L	•
Cyanide	0.002 to 0.240 mg/L	
Cyanuric Acd	5 to 50 mg/L	
DEHA (Diethylhydroxylamine)	3 to 450 µg/L	
Dissolved Oxygen	6 µg/L to 40 mg/L	
Erythorbic Acid (Isoascorbic acid)	13 to 1500 µg/L	
Fluoride	0.02 to 2.00 mg/L	
Formaldehyde	2 to 500 µg/L	
Hardness, Total (Calcium and Magnesium as $CaCO_3$)	4 µg/L to 4.00 mg/L	
Hydrazine	4 to 600 µg/L	
Hydroquinone	9 to 1000 µg/L	
Iodine	0.07 to 7.00 mg/L	
Iron, Ferrous	0.02 to 3.00 mg/L	
Iron, Total	0.009 to 6.0 mg/L	•

Parameter	Range	TNTplus Test
Lead	3 µg/L to 2.0 mg/L	•
Manganese	0.006 to 20.0 mg/L	
Mercury	0.1 to 2.5 µg/L	
Methylethylketoxime (MEKO)	15 to 1000 µg/L	
Molybdenum, Molybdate	0.02 to 40.0 mg/L	
Nickel	0.006 to 6.0 mg/L	•
Nitrate, Nitrogen	0.01 to 35 mg/L	•
Nitrite, Nitrogen	0.002 to 250 mg/L	•
Nitrogen, Simplified Total Kjeldahl	0 to 16 mg/L	•
Nitrogen, Total	0.5 to 150 mg/L	•
Nitrogen, Total Inorganic	0.2 to 25.0 mg/L	
Nitrogen, Total Kjeldahl	1 to 150 mg/L	
Ozone	0.01 to 1.50 mg/L	
PCB (Polychlorinated Biphenyls)	1 to 50 ppm, threshold	
Phenols	0.002 to 0.200 mg/L	
Phosphonates	0.02 to 125.0 mg/L	
Phosphorus, Acid Hydrolyzable	0.06 to 100.0 mg/L	
Phosphorus, Reactive (Orthophosphate)	19 µg/L to 100.0 mg/L	•
Phosphorus, Total	0.06 to 100.0 mg/L	•
Potassium	0.1 to 7.0 mg/L	
Quaternary Ammonium Compounds	0.2 to 5.0 mg/L	
Selenium	0.01 to 1.00 mg/L	
Silica	3 µg/L to 100 mg/L	
Silver	0.005 to 0.700 mg/L	
Sulfate	2 to 900 mg/L	•
Sulfide	5 to 800 µg/L	
Surfactants, Anionic	0.002 to 0.275 mg/L	
Suspended Solids	5 to 750 mg/L	
Tannin and Lignin	0.1 to 9.0 mg/L	
TOC (Total Organic Carbon)	0.3 to 700 mg/L	
Tolyltriazole	1.0 to 20.0 mg/L	
Toxicity	0 to 100% Inhibition	
TTHM (Trihalomethanes, Total)	10 to 600 µg/L	
TPH (Total Petroleum Hydrocarbons)	2 to 200 ppm, threshold	
Volatile Acids	27 to 2800 mg/L	•
Zinc	0.01 to 3.00 mg/L	

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 US, Canada, Australia and New Zealand.

LPV440.99.00012 DR 3900 Spectrophotometer with RFID Technology, 110 - 240V

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

Accessories

LQV156.99.10002 Kit for RFID-based sample tracking

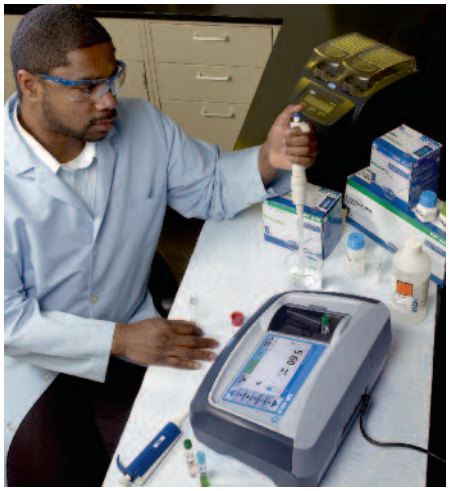
LZV537	Test Filter Set
LZV873	Ethernet Cable
LZV566	USB Barcode Scanner
LZV582	USB Keyboard
2960100	Citizen PD-24 USB Printer Package

Service Options

Comprehensive warranty upgrade includes: All parts, labor, and shipping costs from the factory for depot repairs. One calibration per year on-site, factory recommended maintenance (including required parts), unlimited technical support calls. Also includes a loaner* while waiting for your factory repair. Please see service terms and conditions for additional details.

**Based on availability*

WRTUPGDR3900 DR 3900 WarrantyPlus Instrument Protection and Service



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