

# DR 6000™ UV-VIS SPECTROPHOTOMETER

## Applications

- Beverage
- Drinking Water
- Industrial Water
- Pharmaceutical
- Power
- Wastewater



## The industry's most advanced lab spectrophotometer.

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 step-by-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 coefficient factors to avoid errors that can occur in lot-to-lot variations in the chemistry.

\*RFID technology currently available only in US, Anguilla, American Samoa, Australia, Bolivia, Canada, Cayman Islands, Columbia, Dominican Republic, El Salvador, Federated States of Micronesia, Guam, Guatemala, Marshall Islands, New Zealand, Northern Mariana Islands, Palau, Panama, Puerto Rico, and US Virgin Islands.



Be Right™

## Specifications\*

|                                    |  |
|------------------------------------|--|
| <b>Operating Mode</b>              | Transmittance (%), absorbance and concentration (wavelength, time) |
| <b>Source Lamp</b>                 | Tungsten (visible range), deuterium (UV range)                     |
| <b>Wavelength Range</b>            | 190 - 1100 nm  |
| <b>Wavelength Accuracy</b>         | ± 1 nm   |
| <b>Wavelength Reproducibility</b>  | < 0.1 nm nm  |
| <b>Wavelength Resolution</b>       | 0.1 nm   |
| <b>Wavelength Selection</b>        | Automatic, based on method selection                               |
| <b>Spectral Bandwidth</b>          | 2 nm   |
| <b>Scanning Speed</b>              | 900 nm/min (in 1 nm steps)   |
| <b>Photometric Measuring Range</b> | ± 3 Abs  |
| <b>Photometric Accuracy</b>        | 5 mAbs at 0.0-0.5 Abs<br><1% at 0.5-2.0 Abs at 546 nm              |
| <b>Photometric Linearity</b>       | 0.005 - 2 Abs<br>≤ 0.01 at > 2 Abs with neutral glass at 546 nm    |
| <b>Stray Light</b>                 | KI-solution at 220 nm<br>< 3.3 Abs/ < 0.05%                        |

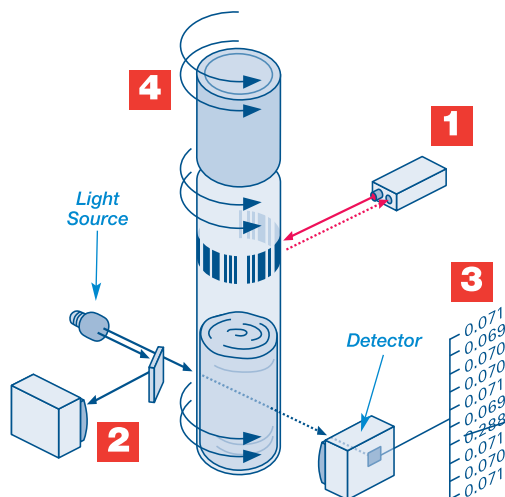
|                                  |  |
|----------------------------------|--|
| <b>Display</b>                   | TFT 7 inch WVGA color touch  |
| <b>Data Logger</b>               | 5000 data points (result, date, time, sample-ID, user-ID)  |
| <b>Preprogrammed Methods</b>     | > 250  |
| <b>User Programs</b>             | 200  |
| <b>Sample Cell Compatibility</b> | Rectangular: 10, 20, 30, 50 mm, 1 inch;<br>round: 13 mm, 16 mm, 1 inch<br><br>Optional 100 mm rectangular cell with additional adapter |
| <b>Dimensions (H x W x D)</b>    | 8.5 in x 19.7 in x 18.1 in<br>(215 mm x 500 mm x 460 mm)   |
| <b>Weight</b>                    | 24.25 lbs. (11 kg)   |
| <b>Operating Conditions</b>      | 10 at 40 °C, max. 80% relative humidity (non-condensing)   |
| <b>Storage Conditions</b>        | -25 to 60 °C max. 80% relative humidity (non-condensing)   |
| <b>Enclosure Rating</b>          | IP20 with closed lid   |
| <b>Interfaces</b>                | USB type A (2), USB type B, Ethernet, RFID module  |
| <b>Warranty</b>                  | 1 year   |

\*Subject to change without notice.

## 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](http://www.hach.com/tntplus)

## Available Tests

The following table lists available tests and overall ranges for the Hach DR 6000 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](http://www.hach.com) for complete details of all available tests for this instrument.

| Parameter  | Range                     | TNTplus Test | Parameter                                    | Range                   | TNTplus Test |
|--|---------------------------|--------------|--|-------------------------|--------------|
| <b>Alachlor</b>  | 0.1 to 0.5 ppb, threshold |              | <b>Lead</b>                                  | 3 µg/L to 2.0 mg/L      | •            |
| <b>Alkalinity, Total</b>   | 25 to 400 mg/L            | •            | <b>Manganese</b>                             | 0.006 to 20.0 mg/L      |              |
| <b>Aluminum</b>  | 0.002 to 0.800 mg/L       | •            | <b>Mercury</b>                               | 0.1 to 2.5 µg/L         |              |
| <b>Ammonia, Nitrogen</b>   | 0.015 to 50.0 mg/L        | •            | <b>Methylethylketoxime (MEKO)</b>            | 15 to 1000 µg/L         |              |
| <b>Arsenic</b>   | 0.020 to 0.200 mg/L       |              | <b>Molybdenum, Molybdate</b>                 | 0.02 to 40.0 mg/L       |              |
| <b>Atrazine</b>  | 0.5 to 3.0 ppb, threshold |              | <b>Nickel</b>                                | 0.006 to 6.0 mg/L       | •            |
| <b>Barium</b>  | 2 to 100 mg/L             |              | <b>Nitrate, Nitrogen</b>                     | 0.01 to 35 mg/L         | •            |
| <b>Benzotriazole</b>   | 1.0 to 16.0 mg/L          |              | <b>Nitrite, Nitrogen</b>                     | 0.002 to 250 mg/L       | •            |
| <b>Boron</b>   | 0.2 to 14.0 mg/L          |              | <b>Nitrogen, Simplified Total Kjeldahl</b>   | 0 to 16 mg/L            | •            |
| <b>Bromine</b>   | 0.05 to 4.50 mg/L         |              | <b>Nitrogen, Total</b>                       | 0.5 to 150 mg/L         | •            |
| <b>Cadmium</b>   | .7 µg/L to 0.30 mg/L      | •            | <b>Nitrogen, Total Inorganic</b>             | 0.2 to 25.0 mg/L        |              |
| <b>Carbohydrazide</b>  | 5 to 600 µg/L             |              | <b>Nitrogen, Total Kjeldahl</b>              | 1 to 150 mg/L           |              |
| <b>Chloramine, Mono</b>  | 0.04 to 10.0 mg/L         |              | <b>Ozone</b>                                 | 0.01 to 1.50 mg/L       |              |
| <b>Chloride</b>  | 0.1 to 25.0 mg/L          |              | <b>PCB (Polychlorinated Biphenyls)</b>       | 1 to 50 ppm, threshold  |              |
| <b>Chlorine Dioxide</b>  | 0.01 to 1000 mg/L         |              | <b>Phenols</b>                               | 0.002 to 0.200 mg/L     |              |
| <b>Chlorine, Free</b>  | 0.02 to 10.0 mg/L         | •            | <b>Phosphonates</b>                          | 0.02 to 125.0 mg/L      |              |
| <b>Chlorine, Total</b>   | 2 µg/L to 10.0 mg/L       | •            | <b>Phosphorus, Acid Hydrolyzable</b>         | 0.06 to 100.0 mg/L      |              |
| <b>Chromium, Hexavalent</b>  | 0.010 to 1.00 mg/L        | •            | <b>Phosphorus, Reactive (Orthophosphate)</b> | 19 µg/L to 100.0 mg/L   | •            |
| <b>Chromium, Total</b>   | 0.01 to 0.70 mg/L         | •            | <b>Phosphorus, Total</b>                     | 0.06 to 100.0 mg/L      | •            |
| <b>Cobalt</b>  | 0.01 to 2.00 mg/L         |              | <b>Potassium</b>                             | 0.1 to 7.0 mg/L         |              |
| <b>Color</b>   | 3 to 500 units            |              | <b>Quaternary Ammonium Compounds</b>         | 0.2 to 5.0 mg/L         |              |
| <b>COD (Chemical Oxygen Demand)</b>                                | 0.7 to 15,000 mg/L        | •            | <b>Selenium</b>                              | 0.01 to 1.00 mg/L       |              |
| <b>Copper</b>  | 1 µg/L to 8.0 mg/L        | •            | <b>Silica</b>                                | 3 µg/L to 100 mg/L      |              |
| <b>Cyanide</b>   | 0.002 to 0.240 mg/L       |              | <b>Silver</b>                                | 0.005 to 0.700 mg/L     |              |
| <b>Cyanuric Acid</b>   | 5 to 50 mg/L              |              | <b>Sulfate</b>                               | 2 to 900 mg/L           | •            |
| <b>DEHA (Diethylhydroxylamine)</b>                                 | 3 to 450 µg/L             |              | <b>Sulfide</b>                               | 5 to 800 µg/L           |              |
| <b>Dissolved Oxygen</b>  | 6 µg/L to 40 mg/L         |              | <b>Surfactants, Anionic</b>                  | 0.002 to 0.275 mg/L     |              |
| <b>Erythorbic Acid (Isoascorbic acid)</b>                          | 13 to 1500 µg/L           |              | <b>Suspended Solids</b>                      | 5 to 750 mg/L           |              |
| <b>Fluoride</b>  | 0.02 to 2.00 mg/L         |              | <b>Tannin and Lignin</b>                     | 0.1 to 9.0 mg/L         |              |
| <b>Formaldehyde</b>  | 3 to 500 µg/L             |              | <b>TOC (Total Organic Carbon)</b>            | 0.3 to 700 mg/L         |              |
| <b>Hardness, Total (Calcium and Magnesium as CaCO<sub>3</sub>)</b> | 4 µg/L to 4.00 mg/L       |              | <b>Tolyltriazole</b>                         | 1.0 to 20.0 mg/L        |              |
| <b>Hydrazine</b>   | 4 to 600 µg/L             |              | <b>Toxicity</b>                              | 0 to 100% Inhibition    |              |
| <b>Hydroquinone</b>  | 9 to 1000 µg/L            |              | <b>TTHM (Trihalomethanes, Total)</b>         | 10 to 600 µg/L          |              |
| <b>Iodine</b>  | 0.07 to 7.00 mg/L         |              | <b>TPH (Total Petroleum Hydrocarbons)</b>    | 2 to 200 ppm, threshold |              |
| <b>Iron, Ferrous</b>   | 0.02 to 3.00 mg/L         |              | <b>Volatile Acids</b>                        | 27 to 2800 mg/L         | •            |
| <b>Iron, Total</b>   | 0.009 to 6.0 mg/L         | •            | <b>Zinc</b>                                  | 0.01 to 3.00 mg/L       |              |

## 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 only in a limited number of countries, including US, Australia, Bolivia, Canada, Guatemala, and New Zealand. For complete information, visit [hach.com](http://hach.com) or contact your sales representative.

**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

**LQV156.99.10002** 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

Comprehensive warranty upgrade includes: All parts, labor, and shipping costs from the factory for depot repairs. 1 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 on our service plans, and to ensure you have an opportunity to review our environmental and safety requirements.

*\*Based on availability*

**WRTUPGDR6000** WarrantyPlus™ DR 6000 Spectrophotometer 1 Visit

Comprehensive warranty upgrade includes: All parts, labor, and shipping costs from the factory for depot repairs. 1 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. Payments for services will be automatically deducted quarterly via credit card. This Evergreen service plan continues indefinitely until either the customer or Hach provides a 90 day written notice to terminate. Upon receiving Buyer's written notice of termination, the effective date will be 90 days after the following quarterly billing period. Prices may be adjusted with a 30 day written notice. Please see service terms and conditions for additional details on our service plans, and to ensure you have an opportunity to review our environmental and safety requirements.

*\*Based on availability*

**WRTUPGEVERDR6000** WarrantyPlus™ DR 6000 Spectrophotometer 1 Visit  
- Automatic Quarterly Payment Plan (Evergreen)



Thank you for reading this data sheet.

For pricing or for further information, please contact us at our UK Office, using the details below.



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Please note - Product designs and specifications are subject to change without notice. The user is responsible for determining the suitability of this product.