



# DR4900 Spectrophotometer

## Applications

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



## Bringing Effortless Accuracy to Your Lab

Simplify and modernise your lab's workflow, reduce errors, and stay compliant with confidence. Designed for lab professionals who demand accuracy and efficiency, this next-generation spectrophotometer improves upon the trusted DR3900 by delivering maximum usability and minimal wasted time.

Backed by decades of expertise and responsive support, the DR4900 from Hach is engineered to meet the evolving demands of modern water analysis. It's everything users love about existing Hach spectrophotometers—refined and reimaged for today's demanding workflows.

### Proven Technology, Modern Interface

The DR4900 Spectrophotometer maintains the trusted core of the DR3900, now enhanced with a 10" screen and modern user interface that helps reduce training time and speed up routine workflows. It's the familiar performance lab professionals trust, elevated for modern needs.

### Ensuring Reliable Results with Unrivaled Diagnostic Features

Temperature and turbidity diagnostics help prevent common testing errors -- reducing rework and ensuring consistent accuracy. When using Hach LCK cuvette tests, the DR4900 automatically checks the temperature and turbidity of your test, providing you with alerts when out of range, giving you the confidence you need in every measurement.

### Complete Confidence - From Start to Finish

DR4900 users benefit from end-to-end expertise across instruments, chemistries, and service. So you get faster resolutions, deeper insights, and consistent results from a single partner.

### DR4900 options to fit your workflow

Two versions of the DR4900 are available: one without an external camera (LPV451.99.00011) or with an external camera (LPV451.99.00111) to enable Smart Workflow features including Certificate of Analysis QR code scanning and Sample ID Text Recognition.

- **Without Camera (LPV451.99.00011)**

Delivers the full DR4900 analytical performance and error prevention features for routine lab workflows

- **With Camera (LPV451.99.00111)**

Includes all DR4900 performance features plus an external camera that enables Smart Workflow capabilities such as Certificate of Analysis QR code scanning and Sample ID Text Recognition - reducing manual data entry and supporting documentation tracking directly at the instrument.

## Technical Data\*

<b>Operating mode</b>	Transmittance (%), absorbance (Abs) or concentration	<b>Cuvette compatibility</b>	Rectangular: 10 mm, 50 mm, 1 inch Round: 13 mm, 1 inch
<b>Light source</b>	Halogen lamp	<b>Dimensions (H x W x D)</b>	226 mm x 255 mm x 344 mm
<b>Optical system</b>	Reference beam, spectral	<b>Weight</b>	4.8 kg
<b>Wavelength range</b>	320 - 1100 nm	<b>Operating conditions</b>	10 - 40 °C, maximum 80% relative humidity, non-condensing
<b>Wavelength accuracy</b>	± 1.5 nm (wavelength range 320 - 1100 nm)	<b>Storage conditions</b>	-40 - 60 °C, maximum 80% relative humidity, non-condensing
<b>Wavelength reproducibility</b>	± 0.1 nm	<b>Enclosure waterproof rating</b>	IP20
<b>Wavelength resolution</b>	1 nm	<b>Power Supply</b>	Benchtop Power Supply
<b>Wavelength calibration</b>	Automatic	<b>Power requirements (Voltage)</b>	100 - 240 V AC
<b>Spectral Bandwidth</b>	5 nm	<b>Power requirements (Hz)</b>	50/60 Hz
<b>Photometric measuring range</b>	±3.0 Abs (340 - 900 nm)	<b>Interfaces</b>	Use only shielded cable with maximum length of 3 m for: USB type A and type C (front side) USB type A and type C (back side)
<b>Photometric accuracy</b>	5 mAbs at 0.0 - 0.5 Abs 1% at 0.50 - 2.0 Abs		Use only shielded cable (e.g., STP, FTP, S/FTP) with maximum length of 20 m for: 1x Ethernet
<b>Photometric linearity</b>	< 0.5% - 2 Abs  ≤ 1% at > 2 Abs with neutral glass at 546 nm	<b>Warranty</b>	24 months
<b>Stray light</b>	< 0.1% T at 340 nm with NaNO <sub>2</sub>		
<b>Display</b>	25.4 cm		
<b>Data storage</b>	> 10,000 measured values (measured values, date, time, sample ID, user ID)		
<b>Pre-programmed methods</b>	> 240		
<b>User programmes</b>	> 100 user programs		

\*Subject to change without notice.

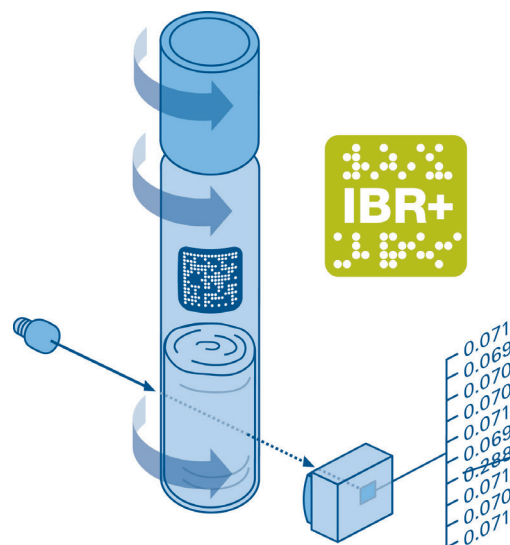
## Principle of Operation

For your confidence - generate measurement results with highest accuracy and precision.

- Measured outliers are prevented by the unique 10-fold rotation measurement by detecting possible contamination on the cuvette.
- No negative impact on results due to fluctuating chemical raw material qualities.

The calibration curve is automatically adjusted for each cuvette using Hach Truecal.

- You will receive a warning from your photometer if the shelf life of the reagents in the cuvette test has expired.
- Most of our cuvette tests are based on common standard procedures and therefore have a high level of official acceptance.
- Hach is the only supplier who was able to implement the original formulation of the international COD standard ISO15705 in cuvette tests.
- Our nitrogen cuvette tests also meet the strict criteria of international norming and are standardized according to ISO 23695 (ammonium), ISO 23696 (nitrate) and ISO 23697 (total nitrogen).



## Available Tests

The following table lists available tests and overall ranges for the Hach DR4900 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	Measuring range	Part number	Parameter	Measuring range	Part number
<b>Acid capacity</b>	0.5 - 8.0 mmol/L	LCK362	<b>Nickel baths (acidic)</b>	5 - 120 g/L Ni	LCK237
<b>Alcohol</b>	0.01 - 0.12 g/L	LCK300	<b>Nitrate</b>	0.23 - 150 mg/L NO <sub>3</sub> -N	LCK339, LCK340, LCK540
<b>Aluminium</b>	0.02 - 0.5 mg/L Al	LCK301	<b>Nitrite</b>	0.015 - 90 mg/L NO <sub>2</sub> -N	LCK341, LCK342, LCK343
<b>Ammonium</b>	0.015 - 130 mg/L NH <sub>4</sub> -N	LCK302, LCK303, LCK304, LCK305, LCK502, LCK503, LCK504, LCK505	<b>Nitrite (trace)</b>	0.0015 - 0.03 mg/L NO <sub>2</sub> -N	LCK541
<b>Anammox Activity</b>	0 - 1000 mAbs	LCK411.00	<b>Nitrogen total (Laton)</b>	1 - 250 mg/L TN <sub>b</sub>	LCK138, LCK238, LCK338, LCK438
<b>AOX</b>	0.05 - 3.0 mg/L AOX	LCK390.00	<b>Organic acids</b>	50 - 2500 mg/L as Acetic acid	LCK365
<b>BOD<sub>5</sub></b>	0.5 - 1650 mg/L O <sub>2</sub>	LCK554, LCK555	<b>Phosphate, ortho (trace)</b>	0.01 - 0.5 mg/L PO <sub>4</sub> -P	LCK549
<b>Boron</b>	0.05 - 2.50 mg/L B	LCK307	<b>CODMn</b>	0.05 - 150 mg/L O <sub>2</sub>	LCK394
<b>Cadmium</b>	0.02 - 0.3 mg/L Cd	LCK308	<b>Phenols</b>	0.05 - 150 mg/L Phenols	LCK345, LCK346
<b>Carbonate/ carbon dioxide</b>	55 - 550 mg/L CO <sub>2</sub>	LCK388	<b>Phosphate, ortho</b>	1.6 - 30 mg/L PO <sub>4</sub> -P	LCK049
<b>Chloride</b>	1 - 1000 mg/L Cl	LCK311	<b>Phosphate, ortho + total</b>	0.05 - 100 mg/L PO <sub>4</sub> -P	LCK348, LCK349, LCK350, LCK351
<b>Chlorine, free</b>	0.05 - 2.0 mg/L Chlorine free/ClO <sub>2</sub>	LCK410	<b>Phosphate, ortho + total (trace)</b>	0.01 - 0.5 mg/L PO <sub>4</sub> -P	LCS349
<b>Chlorine/ Ozone/ Chlorine dioxide</b>	0.05 - 2.0 mg/L Cl <sub>2</sub>	LCK310	<b>Photometric Iodine sample (PIS)</b>	> 0.2	LCK240
<b>Chromic acid</b>	0.5 - 5.0 g/L CrO <sub>3</sub>	LCK213	<b>Potassium</b>	5 - 50 mg/L K	LCK228, LCK328
<b>Chromium</b>	0.03 - 1.0 mg/L Cr VI	LCK313	<b>Reducing agent</b>	0.05 - 1.0 mg/L DEHA	LCW250
<b>Chromium, trace</b>	0.005 - 0.25 mg/L Cr (VI)	LCS313	<b>Silica</b>	0.01 - 0.8 mg/L SiO <sub>2</sub>	LCW028
<b>COD</b>	0 - 10000 mg/L O <sub>2</sub>	LCI400, LCI500, LCK014, LCK1414, LCK1717, LCK1814, LCK1914, LCK214, LCK314, LCK414, LCK514, LCK614, LCK714, LCK914	<b>Silver</b>	0.04 - 2500 mg/L Ag	LCK354, LCK355
<b>Copper</b>	0.1 - 8.0 mg/L Cu	LCK329	<b>Sludge activity</b>	5 - 200 µg Formazan (SA)	LCK318
<b>Copper, trace</b>	0.01 - 1.0 mg/L Cu	LCK529	<b>Starch</b>	2 - 150 mg/L Starch	LCK357
<b>Copper baths (acidic)</b>	2 - 100 g/L Cu	LCK229	<b>Sulphate</b>	40 - 900 mg/L SO <sub>4</sub>	LCK153, LCK353
<b>Cyanide, free</b>	0.01 - 0.6 mg/L CN	LCK315	<b>Sulphide</b>	0.1 - 2.0 mg/L S <sup>2-</sup>	LCK653, LCW053
<b>Cyanide, easily liberatable</b>	0.03 - 0.35 mg/L CN	LCK319	<b>Sulphite</b>	0.1 - 5.0 mg/L SO <sub>3</sub> <sup>2-</sup>	LCK654, LCW054
<b>Fluoride</b>	0.1 - 2.5 mg/L F	LCK323	<b>Surfactants, anionic</b>	0.05 - 4.0 mg/L	LCK332, LCK432
<b>Formaldehyde</b>	0.5 - 10 mg/L H <sub>2</sub> CO	LCK325, LCK425	<b>Surfactants, cationic</b>	0.2 - 2.0 mg/L	LCK331
<b>Formaldehyde, trace</b>	0.01 - 3.0 mg/L H <sub>2</sub> CO	LCS325, LCS425	<b>Surfactants, nonionic</b>	0.2 - 200 mg/L as Triton x 100	LCK333, LCK433
<b>Hydrazine</b>	0.01 - 2.0 mg/L N <sub>2</sub> H <sub>4</sub>	LCW025	<b>Surfactants, nonionic</b>	0.1 - 20 g/L	LCK334
<b>Hydrogen peroxide</b>	1 - 10 g/L H <sub>2</sub> O <sub>2</sub>	LCW058	<b>Vicinal diketones (VDK)</b>	0.015 - 0.5 mg/kg Diacetyl	LCK242
<b>Iron</b>	0.01 - 6.0 mg/L Fe	LCK320, LCK321	<b>Water hardness</b>	1 - 20 °dH	LCK327
<b>Iron, trace</b>	0.005 - 2.0 mg/L Fe	LCK521, LCW021	<b>Water hardness, residual</b>	0.02 - 0.6 °dH	LCK427
<b>Lead</b>	0.1 - 2.0 mg/L Pb	LCK306	<b>Tin</b>	0.1 - 2.0 mg/L Sn	LCK359
<b>Magnesium</b>	0.5 - 50 mg/L Mg	LCK326	<b>TOC</b>	2 - 3000 mg/L C	LCK380, LCK381, LCK385, LCK386, LCK387
<b>Manganese</b>	0.005 to 5.0 mg/L Mn	LCW032, LCW532, LCW632	<b>Zinc</b>	0.2 - 6.0 mg/L Zn	LCK360
<b>Menthol</b>	0.5 - 15 mg/100 mL Menthol	LYW185	<b>Zinc, trace</b>	0.02 - 0.8 mg/L Zn	LCS360
<b>Molybdenum</b>	3 - 300 mg/L Mo	LCK330	<b>Zirconium</b>	6 - 60 mg/L	LCK364
<b>Nickel</b>	0.1 - 6.0 mg/L Ni	LCK337			
<b>Nickel (trace)</b>	0.05 - 1.0 mg/L Ni	LCK537			

## Special Features

Parameter	Part number	Temperature Compensation	Temperature Warning	Turbidity Warning
Nitrogen total (Laton)	LCK138		•	
	LCK238		•	
	LCK338		•	
Nitrate	LCK339		•	
	LCK340		•	
Ammonium	LCK303	•	•	
	LCK304	•	•	
	LCK305	•	•	
COD	LCK014		•	•
	LCK114		•	•
	LCK314		•	•
	LCK514		•	•
	LCK1414		•	•
	LCI400		•	•
	LCI500		•	•
	LCK914		•	•
	LCK614		•	•

## Order Information

**LPV451.99.00011** DR4900 Laboratory Spectrophotometer, without camera

**LPV451.99.00111** DR4900 Laboratory Spectrophotometer, with camera

### Accessories

**LZV537** Validation filter kit for spectrophotometer

**LZV873** Ethernet cable



## Hach Service Protects Your Investment

With Hach Service, you have a global partner who understands your needs and cares about delivering timely, high-quality service you can trust. Our Service Team brings unique expertise to help you maximise instrument uptime, ensure data integrity, maintain operational stability, and reduce compliance risk.

