

HACH LABORATORY QUICK GUIDE FOR CHEMICAL APPLICATIONS

From process monitoring to quality control to wastewater, Hach® has the right tool for your challenging or routine applications. The comprehensive selection of Hach chemistries, spectrophotometers, electrochemistry meters and probes, and benchtop analysers provides the broadest range of analyses in the industry.

DR6000 UV-VIS Spectrophotometer and Chemistries

DR-Series Spectrophotometers and Hach chemistries are built on over 7 decades of water quality innovation to provide the most accurate and reliable results. Hach's integrated instrument-chemistry techniques are the industry standard.



Titralab AT1000 Titrator

The Titralab Analyser is a one touch automatic titrator. Application packages cover a range of common chemical manufacturing parameters including pH, KF, alkalinity, conductivity, and hardness. The AT1000 makes titration an easy and reliable analysis for any user.

SL1000 Portable Parallel Analyser (PPA)

The SL1000 PPA is a revolution in portable analyses. With Hach's innovative Chemkey technology it is possible to measure up to six parameters simultaneously. Monitor boiler corrosion parameters faster, with less variability, and less hassle. Chemkey reagents measure hardness, alkalinity, iron, copper, ammonia, and phosphate while Intellical probes measure pH, conductivity, and dissolved oxygen.



TL23 Turbidimeter

Turbidity measurement has never been easier. The TL23 Turbidimeter is the standard for demanding industrial turbidity applications. With tungsten or LED light sources and proven optics, no other instruments deliver more reliable, accurate, and stable measurements.



Be Right™

HQ440D Meter

Hach HQD meters and versatile assortment of Intellical probes bring simplicity and consistency to electrochemical measurements. From pH, to DO, to ORP, to ISE – Hach electrochemical products deliver the highest quality results in an exceptionally sturdy package.



Lico Spectral Colorimeter

The Hach Lico Spectral Colorimeter is the solution for quality colour measurements. With 26 integrated conventional and specific colour scales from DIN, ISO, ASTM, AOCS, Pharm. Eur., and USP, the Lico is designed to ensure accurate and reliable results for a wide variety of applications.

Spectrophotometric Measurements

Parameter	Platform	Method	Range*
Total Nitrogen	DR-Series Spectrophotometer	LCK138/238/338	1 - 100 mg/L TN _b
Nitrate	DR-Series Spectrophotometer	LCK339/340	0.23 - 35 mg/L NO ₃ -N
Nitrite	DR-Series Spectrophotometer	LCK341/342	0.015 - 6 mg/L NO ₂ -N
Ammonium	DR-Series Spectrophotometer	LCK302/303/304/305	0.015 - 130 mg/L NH ₄ -N
Phosphate	DR-Series Spectrophotometer	LCK348/349/350/049	0.05 - 30 mg/L PO ₄ -P
Sulfate	DR-Series Spectrophotometer	LCK153/353	40 - 900 mg/L SO ₄
Phenols	DR-Series Spectrophotometer	LCK345/346	0.05 - 150 mg/L Phenol
Anionic Surfactants	DR-Series Spectrophotometer	LCK332/432	0.1 - 4 mg/L
Cationic Surfactants	DR-Series Spectrophotometer	LCK331	0.2 - 2 mg/L
Nonionic Surfactants	DR-Series Spectrophotometer	LCK333/334/433	0.2 - 20,000 mg/L TRITONx100
Chemical Oxygen Demand	DR-Series Spectrophotometer	LCI400/500/LCK014/114/314/514/614/714/914/1014/1414	0 - 60,000 mg/L O ₂
Total Organic Carbon	DR-Series Spectrophotometer	LCK385/386/387	3 - 3,000 mg/L C
Iron	DR-Series Spectrophotometer	LCK320/321/521	0.01 - 6 mg/L Fe
Nickel	DR-Series Spectrophotometer	LCK337	0.1 - 6 mg/L Ni
Chlorine	DR-Series Spectrophotometer	LCK310/410	0.05 - 2 mg/L Cl ₂
Chloride	DR-Series Spectrophotometer	LCK311	1 - 1,000 mg/L Cl
Zinc	DR-Series Spectrophotometer	LCK360	0.2 - 6 mg/L Zn
Hardness	DR-Series Spectrophotometer	LCK327/427	0.02 - 20 °dH
Molybdenum	DR-Series Spectrophotometer	LCK330	3 - 300 mg/L Mo
Silica	DR-Series Spectrophotometer	LCW028	0.01 - 0.8 mg/L SiO ₂
Hydrazine	DR-Series Spectrophotometer	LCW025	0.01 - 2 mg/L N ₂ H ₄
Oxygen scavengers	DR-Series Spectrophotometer	2446600	varies by analyte

*Ranges reflect multiple chemistries. See Water Analysis Handbook for details.

Electrochemical Measurements

Parameter	Platform	Electrode	Range
pH	HQD-Series Meter	PHC201	0 - 14 pH
Conductivity	HQD-Series Meter	CDC401	0.01 - 200,000 $\mu\text{S}/\text{cm}$
BOD	HQD-Series Meter	LBOD101	0.1 - 20.00 mg/L O ₂
DO	HQD-Series Meter	LDO101	0.1 - 20.00 mg/L O ₂
ORP	HQD-Series Meter	MTC101 ORP	$\pm 1,200$ mV
Ammonia	HQD-Series Meter	ISENH3181	0.01 - 14,000 mg/L NH ₃ -N
Sodium	HQD-Series Meter	ISENA381	0.023 - 23,000 mg/L Na
Chloride	HQD-Series Meter	ISECL181	0.1 - 35,500 mg/L Cl

Analysers

Parameter	Platform	Method	Range
pH	AT1000	Potentiometric	0 - 14 pH
Alkalinity	AT1000	Potentiometric Titration	40 - 2,000 mg/L CaCO ₃
Conductivity	AT1000	Potentiometric	0.01 - 200,000 $\mu\text{S}/\text{cm}$
Hardness (ISE)	AT1000	Potentiometric Titration	20 - 720 mg/L CaCO ₃
Moisture (Karl Fischer)	AT1000	Volumetric Titration	0 - 100 % H ₂ O
Chlorine (Total)	AT1000	Amperometric Titration	0.003 - 5 mg/L Cl ₂
Turbidity	TL23 Nephelometer	Nephelometric	0.01 - 10,000 NTU
Total Organic Carbon	QBD1200 Analyser	UV/Persulfate	0.4 - 100 mg/L TOC

Microbiological Measurements

Parameter	Platform	Method	Range
Yeast and Mold	Paddle Test	DOC316.53.01223	10 ² - 10 ⁶ CFU
Total Aerobic Bacteria	Paddle Test	DOC316.53.01223	10 ² - 10 ⁷ CFU
ATP	LuminUltra	Luminescence	4 x 10 ⁻¹² - 1 x 10 ⁻⁶ M ATP

