

DR / 2400 and DREL / 2400
Spectrophotometer + Portable Laboratories

Get moving with the DR/2400 spectrophotometer: Made-to-measure in situ analysis



DR / 2400 Spectrophotometer

All systems go!

DR/2400 – Contemporary spectrophotometry ...

With its innovative optical system and its durable construction, the powerful DR/2400 spectrophotometer can be used under difficult in situ conditions as well as in the laboratory. The specifications were drawn up with practicality in mind.

- ➔ Easy to operate – thanks to the large touch screen display
- ➔ Automatic wavelength selection and calibration – minimal effort for precise results
- ➔ Versatile – more than 100 preprogrammed HACH analysis methods and space to accommodate 50 additional methods
- ➔ Complete data management – all data can be saved in situ in conformity with GLP and evaluated later
- ➔ No moving parts – for wear-free and low-maintenance operation
- ➔ Power-saving microprocessor technology with battery/ rechargeable battery status display or mains-power operation



... for use in all environments

The DR/2400 spectrophotometer can be used to analyse all types of water:

- ➔ Drinking water and waste water
- ➔ Surface water and ground water
- ➔ Cooling and boiler water
- ➔ Industrial water

Wherever reliable results form the basis for prompt action, the DR/2400 is your ever-ready, reliable partner.

DREL / 2400

The portable laboratory

Precise results in demanding situations

DR/2400 spectrophotometer and DREL/2400 portable laboratories – in tandem on tour

Demanding analyses can be carried out anywhere these days – what the laptop is to computing, so the DREL is to analysis: Contemporary technology combined with application flexibility, whenever and wherever prompt decisions have to be made.

DRELS are practically designed, right through to the smallest detail. The centrepiece is the robust DR/2400 spectrophotometer in its convenient carrying case, which is expanded into a portable laboratory with reagents and accessories. The configuration is individually tailored to your application, and if required, the DRELS can be upgraded with electrochemical measuring technology or portable turbidimeters.

The advantages of the DREL concept are obvious:

- ➔ Mains-independent operation – whether outside or in
- ➔ Fully equipped – with all reagents and accessories for the required application
- ➔ Simple handling – with the proven HACH products for more than 100 different analyses in situ
- ➔ Reliable results – no sample preservation, no transport; thus eliminating many sources of error
- ➔ Durable, compact equipment, which can withstand rough treatment



1. Ready, steady, go – DRELS are always ready for use!



2. Everything you need! Complete accessories, clearly organized, made of durable materials.



3. Taking a sample? No problem! No need for sample preservation, just carry out the measurement on the spot.



4. Insert – measure. Simple and fast. Even “difficult” parameters are precisely analysed.



DREL/2400 Complete Water Laboratory Versatile – and all-inclusive!



5. Evaluate – Finished! The result is displayed in mg/l and saved, e.g. for further evaluation in the laboratory.

Equipped for all eventualities, with 24 parameters. The complete water laboratory DREL/2400 contains everything you need for water analysis: the DR/2400 spectrophotometer, reagents, pipettes and glassware. Specialists can upgrade it of course – more parameters and measuring instruments are available.

The main parameters:

Ammonium, colour, disinfectants, hardness, iron, manganese, nitrate, nitrite, phosphate, sulphate etc.

DREL/2400 Industrial Water Laboratory: At home in production!

Production water, cooling water, boiler water – no matter which, industrial processes require specific know-how. That is also true of your analysis. The DREL/2400 industrial water laboratory contains the DR/2400 spectrophotometer and the complete range of reagents and accessories for 24 industrial parameters. If necessary, the range of applications can be expanded by other parameters and measuring instruments.

The main parameters:

Alkalinity, copper, dissolved oxygen, hardness (calcium, magnesium), iron, molybdenum, oxygen binders, phosphate, silica etc.



DREL/2400 Basic Water Laboratory: Always prepared!

The first step is not always the hardest. Only two carrying cases are required in order to analyse 17 important water parameters with the DR/2400 spectrophotometer. The carefully selected contents of the cases enable even amateurs to obtain fast and reliable results.

The main parameters:

Ammonium, colour, disinfectants, hardness, iron, nitrate, phosphate, sulphate etc.



DR / 2400 and DREL / 2400 Spectrophotometer + Portable Laboratories

All about the DR/2400 and DREL/2400.

Technical data:		Order information:	
Wavelength range	400 to 880 nm	Art. no. 59400-02	DR/2400 Portable spectrophotometer ** Power pack with Euro power plug and fuses with compartment for 25 mm/1 inch round cuvettes, operating manual and test manual in German and English; English also on CD-ROM
- Accuracy	+/- 1 nm	Art. no. 28318-02	DREL/2400 spectrophotometer with carrying case ** Configure your own DREL without reagents and accessories
- Resolution	1 nm	Art. no. 28325-02	DREL/2400 Industrial Water Laboratory ** with DR/2400 spectrophotometer, carrying case with inserts, accessory set, industrial reagent set to include the following parameters: Alkalinity, Ammonium, Bromine, Calcium, Chloride, Chlorine, Chromium, Colour, Copper, Dissolved Oxygen, Hardness, Iodine, Iron, Manganese, Molybdate, Nitrate, Nitrite, Oxygen Binders, pH, Phosphate, Silica, Sulphate, Sulphite
- Selection	Automatic	Art. no. 28326-02	DREL/2400 Basic Water Laboratory ** with DR/2400 spectrophotometer, carrying case with inserts, accessory set, basic reagent set to include the following parameters: Alkalinity, Ammonium, Bromine, Calcium, Chloride, Chlorine, Chromium, Colour, Dissolved Oxygen, Hardness, Iodine, Iron, Nitrate, pH, Phosphate, Sulphate
- Calibration	Automatic	Art. no. 28327-02	DREL/2400 Complete Water Laboratory ** with DR/2400 spectrophotometer, carrying case with inserts, accessory set, complete reagent set to include the following parameters: Acidity, Alkalinity, Ammonium, Bromine, Calcium, Chloride, Chlorine, Chromium, Colour, Dissolved Oxygen, Hardness, Iodine, Iron, Nitrate, pH, Phosphate, Sulphate, Sulphite
Band width	4 nm	** Please use order code -00 for instruments with the US power plug.	
Photometric range	-2 to 2 absorbance	Optional accessories	
Stray light	< 0.3%T at 430 nm	Art. no. 54650-10	SENSION 156 with platinum pH electrode and conductivity electrode
Linearity	0.005 A from 0.0 to 0.5 absorbance, +/- 1 % from 0.5 to 2.0 absorbance	Art. no. 54650-11	SENSION 156 with pH gel electrode and conductivity electrode
Measurement modes	More than 100 preprogrammed HACH methods, 50 user methods, freely definable transmittance, absorbance, concentration	Other electrochemical measuring instruments and turbidimeters on request.	
Cuvette compartment	25 mm round cuvettes, COD, UNICELL and Test'N'Tube cuvettes (16 mm), AccuVac cuvettes, immunoassay cuvettes, 10 mm rectangular cuvettes		
Data memory	1000 data points, complete with date, time, results, sample name, user name		
Display	320 x 240 pixel graphic display, backlit		
Documentation	Data storage, meets GLP		
Languages	English, German, French, Spanish, Portuguese, Polish and Italian		
Interfaces	Serial RS232		
Enclosure	IP 32, splashproof and rainwaterproof		
Power	Battery life 200 hours, status indicator rechargeable battery, status indicator mains: 95 to 240 volts; 50/60 Hz		
Operating range	0 to 40 °C; up to 90 % relative humidity		
Dimensions	32x17.8x18.7 cm		
Weight	2.2 kg		

More information about the DREL/2400 Water Laboratories:

DREL/2400 Industrial Water Laboratory: DOC062.52.00544

DREL/2400 Basic Water Laboratory: DOC062.52.00545

DREL/2400 Complete Water Laboratory: DOC062.52.00546

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