Hach LDO®
PROBE AND METERS

BREAKTHROUGH LUMINESCENT TECHNOLOGY FOR DISSOLVED OXYGEN
HQ30 Portable Meters for laboratory and field monitoring

SAVE TIME AND MONEY WITH UNMATCHED PERFORMANCE, EASE-OF-USE, AND RUGGEDNESS IN A PORTABLE METER

• NO MEMBRANES TO CLEAN OR REPLACE
• LOW MAINTENANCE
• NO CALIBRATION REQUIRED
• NO POLARIZATION TIME
• NO ELECTROLYTE SOLUTION
• NO ELECTRODE POLISHING
• RAPID RESPONSE
• 99% ACCURACY
• ONE-YEAR SENSOR LIFE
single input, digital multiparameter meters

interference from anything that produces a voltage, including ferric chloride, ferrous sulfate, aluminum sulfate, and polymers. Changes in pH can also affect DO readings.

If you have already moved away from older DO measurement technology, and use an on-line LDO instrument from Hach, our new portable LDO instruments allow you to use the same technology for field measurements or to check DO levels at other process points. The portable Hach LDO® can also be used for process control.

HOW DOES THE HACH LUMINESCENT DISSOLVED OXYGEN PROBE WORK?

The Hach LDO® sensor is coated with a luminescent material. Blue light from an LED is transmitted to the sensor surface. The sensor material is excited by the blue light. As the luminescent material relaxes, it emits red light. The time it takes for the red light to be emitted is measured. The more oxygen that is present, the shorter the time it takes for the red light to be emitted. The time is measured and correlated to the oxygen concentration.

TRADITIONAL DO MEASUREMENT

For more than 50 years, galvanic, and polarographic technologies have been used to measure dissolved oxygen. These technologies have been important for monitoring DO at municipal and industrial wastewater facilities. Unfortunately, traditional electrochemical methods use membranes, anodes, cathodes, and electrolyte solutions, which experience high failure rates:

• Anodes are consumed over time, and periodic replacement can be inconvenient and costly.
• Electrolytes are subject to contamination, and must also be replaced.
• Gases like hydrogen sulfide can poison the anode and electrolytes, requiring replacement.
• Sensor membranes often rupture or become coated with grease and dirt, requiring regular cleaning and replacement.
• Electrolyte depletion and anode breakdown make regular sensor calibration necessary.

Maintenance tasks to keep traditional portable DO meters working take unnecessary time and money. Even if regular maintenance is performed, there’s no guarantee that you’ll get accurate results. Galvanic and polarographic DO measurements are subject to interference from anything that produces a voltage, including ferric chloride, ferrous sulfate, aluminum sulfate, and polymers. Changes in pH can also affect DO readings.

If you have already moved away from older DO measurement technology, and use an on-line LDO instrument from Hach, our new portable LDO instruments allow you to use the same technology for field measurements or to check DO levels at other process points. The portable Hach LDO® can also be used for process control.
THE MANY ADVANTAGES OF THE PORTABLE HACH LDO® PROBE AND METERS

The Hach HQ10 and HQ20 portable meters with the Hach LDO® probe offer several key advantages over meters based on galvanic or polarographic sensor technology. These features will save you time, effort, money, and will increase your confidence in DO measurement:

- No membranes means improved data quality and less hassle
- No chemical interference from typical wastewater chemicals, withstands harsh wastewater applications
- Less maintenance than traditional DO probes means time savings and lower cost of ownership
- Factory calibrated DO sensor, no user-calibration required for the life of the sensor
- No polarization time—turn on the meter and you are ready to go
- Easy probe maintenance—no electrolyte to replace, no cathodes/anodes to polish
- Fast response, with minimal stirring required
- Durable sensor retains accuracy even when scratched or partially fouled, can easily be cleaned
- 3-year warranty on probe and meter—if it breaks, we’ll replace it, free
- 1-year warranty on sensor caps

The HQ10 and HQ20 instruments are rugged and user-friendly, making field work and laboratory measurements easier and more convenient:

- Meets IP-67 requirements and survives 1-meter drop test onto concrete
- One-hand operation with simple menus and large, clear, backlit display
- Automated data logging records 500 measurements at user-defined durations—set the time-interval, leave the unit, and take care of something else while it logs the data for you
- Unlimited measurements can be recorded using the RS232 connection to a PC or printer
- User and sample IDs can be entered, and are attached to the analysis record
- Measurements are automatically corrected for barometric pressure, salinity, and temperature
- Results displayed as percent saturation or concentration in mg/L
- HQ20 features dual mode screen—view DO and pH/mV readings simultaneously
APPLICATIONS

Where can the portable Hach LDO® probe and meters be used for dissolved oxygen measurements?

- Process control in facilities that do not have on-line DO instruments
- Aeration Tanks—measure DO levels in aeration basins, making sure the microorganisms remain viable
- Aerobic and anaerobic digesters
- Nitrification and de-nitrification tanks
- Collection Systems—control odor by using in conjunction with compressors and diffuser readings
- In the field for watershed and environmental monitoring
- For aquaculture applications
- For laboratory applications
- Point-of-process monitoring for industrial users

No membranes + Low maintenance
+ Greater accuracy and precision
= Increased confidence in measurements & reduced cost of ownership
Battery life is a function of use. Both models offer two modes of operation: continuous-read mode and push-to-read mode. Push-to-read mode, the meter's default setting, conserves power, as the red and blue LEDs (light emitting diodes) in the probe flash once for each measurement, and display the last measurement until the "read" button is pushed again. In continuous-read mode, the LEDs flash on and off quickly, and a new reading is displayed twice each second.
HOW TO ORDER

51815-01  HQ10 portable meter with Hach LDO probe (1-meter probe cable)
51815-03  HQ10 portable meter with Hach LDO probe (3-meter probe cable)
51815-05  HQ10 portable meter with Hach LDO probe (5-meter probe cable)
51815-15  HQ10 portable meter with Hach LDO probe (15-meter probe cable)
51825-01  HQ20 portable meter with Hach LDO probe (1-meter probe cable)
51825-03  HQ20 portable meter with Hach LDO probe (3-meter probe cable)
51825-05  HQ20 portable meter with Hach LDO probe (5-meter probe cable)
51825-15  HQ20 portable meter with Hach LDO probe (15-meter probe cable)
51811-01  Replacement Hach LDO Probe (1-meter probe cable)
51811-03  Replacement Hach LDO Probe (3-meter probe cable)
51811-05  Replacement Hach LDO Probe (5-meter probe cable)
51811-15  Replacement Hach LDO Probe (15-meter probe cable)
51812-00  Replacement Hach LDO Sensor Cap
51830-01  HQ10/HQ20 Docking Station, 115 V
51830-02  HQ10/HQ20 Docking Station, 230 V
51917-00  Hard Case
51904-00  Soft Case
51910-00  Pt. Series pH Electrode
51935-00  Gel-filled pH Electrode
51937-00  Pt. Series ORP Electrode
51939-00  Gel-filled ORP Electrode

WHY HACH?

Wastewater expertise and knowledge
Our experience in wastewater applications helps you tackle all the challenges in your plant. We have development teams focused specifically on the unique needs of wastewater treatment to deliver the best products for your money. Outstanding technical consultants will help you every step of the way. We’re just a phone call away.

Training opportunities
The Hach Technical Training Center (HTTC) is available to improve your knowledge. Choose from 14 different training classes, offered throughout the year, or design your own workshop based on your needs.

Service and support
Hach offers the best warranty, service, and support programs in the business to keep you up and running.

The new www.hach.com
Our new Web site was designed for you to quickly find solutions to your application needs, easily access technical documentation and information, and place your order online, anytime – fast and easy.