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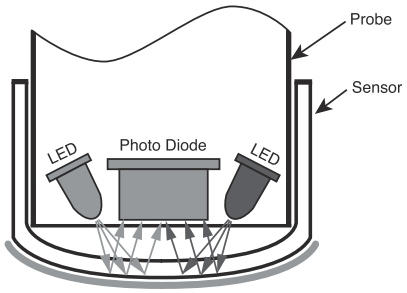
HACH LDO®
Dissolved Oxygen Probe

Features and Benefits

Method of Detection

The HACH LDO sensor is coated with a luminescent material. Blue light from an LED is transmitted to the sensor surface. The blue light excites the luminescent material. As the material relaxes it emits red light. The time for the red light to be emitted is measured. Between the flashes of blue light, a red LED is flashed on the sensor and used as an internal reference.

Increased oxygen in the sample decreases the time it takes for the red light to be emitted. The time measurements correlate to the oxygen concentration.



Accuracy and Speed

The sensor is unaffected by pH swings, hydrogen sulfide, wastewater chemicals, heavy metals, or organic build-up on the sensor. Warm-up time is unnecessary so the analyzer can start measuring within 30 seconds of when it's turned on.

Simple Installation and Maintenance

The HACH LDO probe can be installed with a choice of pole or ball-float mounting kits. The probe has only one inexpensive replacement part—the sensor cap that is simple to replace. The sensor cap is warranted for one year. The probe is warranted for three years.

An internal standard calibrates the instrument with every reading. Factory calibration and membrane replacement are unnecessary. Periodic wiping of the sensor with a wet rag is all that is required for continuous measurement.

Applications

- ***Aeration Tanks—****Adequate dissolved oxygen levels in aeration basins are required for microorganisms to remain viable. The HACH LDO probe can be used with a variable frequency drive or PLC control system to control the amount of oxygen being injected into the tank.*
- ***Nitrification & Denitrification Tanks***
- ***Anaerobic Digesters***
- ***Aerobic Digesters***
- ***NPDES Permit Monitoring—****Up and downstream from plant effluent and plant outfall.*



Break-through luminescent technology for dissolved oxygen. The HACH LDO® Dissolved Oxygen Probe continuously monitors DO with this revolutionary method of detection. It's virtually maintenance-free with no membranes to replace, no electrolyte solution to replenish, and no anode or cathode to clean or replace.

Full Featured "Plug and Play" sc100 Digital Controller

There's no complicated wiring or set up procedures with the Hach sc100 controller. Just plug in any Hach digital sensor and it's ready to use—it's "plug and play."

One or two sensors—Use the sc100 Digital Controller to receive data from up to two Hach digital sensors in any combination.

Communications—Multiple alarm/control schemes are available using three relays and two PID control outputs. Communications use analog 4-20 mA and digital MODBUS®/RS485, MODBUS®/RS232 protocols. (Other digital protocols are available. Contact your Hach representative for details.) Every sc100 controller is equipped with wireless communication through an infrared port.

Data logger—A built-in data logger collects measurement data, calibration, verification points, and alarm history for up to 6 months.

DW = drinking water *WW = wastewater municipal* ***PW = pure water / power***
IW = industrial water ***E = environmental*** *C = collections* ***FB = food and beverage***

HACH®

Be Right™

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Specifications*

Measuring Range
0 to 20.0 ppm,

0 to 20.0 mg/L,

0 to 200% saturation

Sensitivity
±0.5% of span

Accuracy
Measurement:
Below 1 ppm: ±0.1 ppm
Above 1 ppm: ±0.2 ppm

Temperature: ±0.2°C

Repeatability
±0.5% of span

Response Time at 20ºC
To 90% in less than 40 seconds

To 95% in less than 60 seconds

Resolution
Below 10 ppm:
±0.01 ppm or mg/L, ±0.1% saturation

Above 10 ppm:
±0.1 ppm or mg/L, ±0.1% saturation

Operating Temperature
0 to 50°C (32 to 122°F)

Flow Rate
None required

Probe Immersion Depth and Pressure Limits
107 m (350 ft.), 1050 kPa (150 psi), maximum

Transmission Distance
100 m (328 ft.) maximum

1000 m (3280 ft.) maximum when used with a termination box

Sensor Cable (integral)
10 m (33 ft.) terminated with quick-disconnect plug

Wetted Materials
Probe: Foamed Noryl® and 316 stainless steel

Sensor: Polybutyl methacrolate

Dimensions
60 x 292 mm (2.4 x 11.5 in.)

Weight
1.4 kg (3 lb., 2 oz.)

Warranties
Probe: 3 Years

Sensor Cap: 1 Year

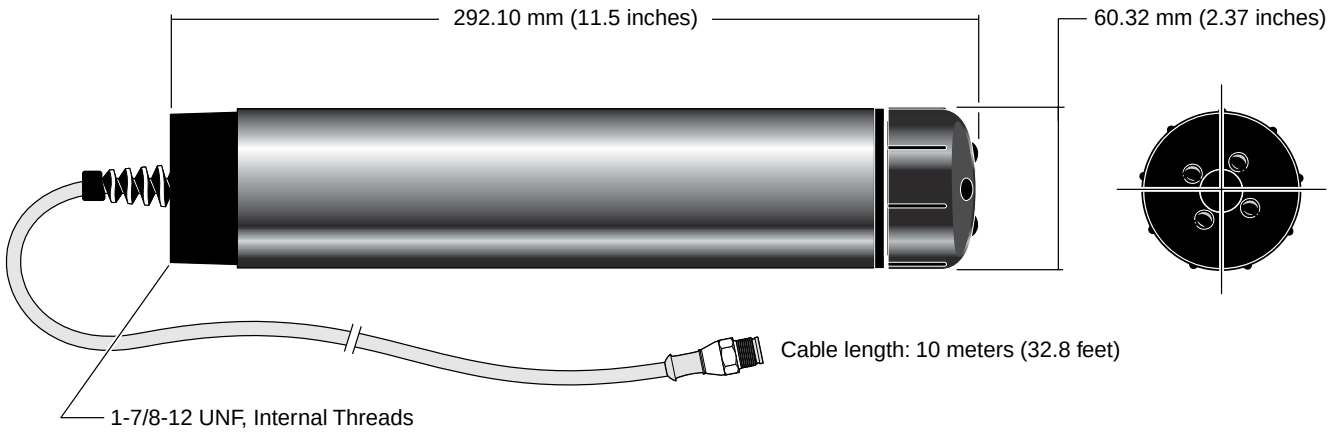
Noryl® is a registered trademark of General Electric Co.

**Specifications subject to change without notice.*

Engineering Specifications

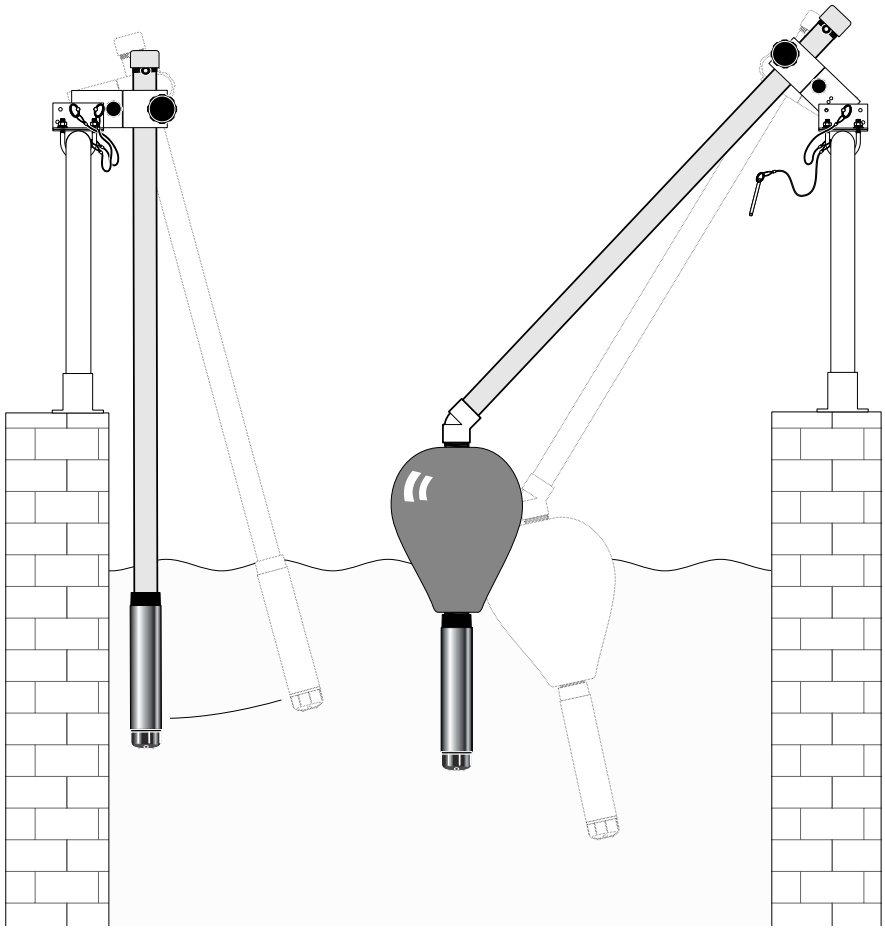
1. The dissolved oxygen probe shall be a continuous-reading probe that utilizes luminescent sensor technology.
2. The probe material shall be foamed Noryl® and 316 stainless steel. All parts of the probe shall be corrosion-resistant and fully-immersible.
3. The sensor material shall be polybutyl methoacrolate.
4. The measurement range shall be 0.00 to 20.00 mg/L dissolved oxygen.
5. The operation of the analyzer shall not be affected by H_2S, pH, K^{+1}, Na^{+1}, Mg^{+2}, Ca^{+2}, NH_4^{+1}, Al^{+3}, Pb^{+2}, Cd^{+2}, Zn^{+2}, Cr (total), Fe^{+2}, Fe^{+3}, Mn^{+2}, Cu^{+2}, Ni^{+2}, Co^{+2}, CN^{-1}, NO_3^{-1}, SO_4^{-2}, S^{-2}, PO_4^{+3}, Cl^{-1}, anion active tensides, crude oils, or Cl_2^{-1}.
6. The probe shall provide electrolyte-free operation without the requirements of sample conditioning.
7. The probe shall be furnished with choice of pole or ball-float mount kit.
8. The sensor cap shall be warranted for one full year against defects in material and workmanship.
9. The probe shall be warranted for three full years against defects in material and workmanship.
10. The analyzer shall be HACH LDO® Probe for dissolved oxygen measurement, manufactured by Hach Company.

Dimensions



Installation Examples

The HACH LDO® Probe can be mounted using the optional Pole Mount Kit (P/N 57944-00) or Ball Float Mount Kit (P/N 57943-00).



Ordering Information

57900-00	HACH LDO® Dissolved Oxygen Probe with 10 m (32.8 ft.) integral cable

Accessories

58670-00	Termination Box, required for total cable lengths greater than 100 m (328 ft.)
61224-00	Extension Cable, 1 m (3.3 ft.)
57960-00	Extension Cable, 7.7 m (25 ft.)
57961-00	Extension Cable, 15 m (50 ft.)
57962-00	Extension Cable, 31 m (100 ft.)
57951-00	Air Blast Cleaning System, 115 V
57952-00	Air Blast Cleaning System, 230 V

Replacement Parts

57911-00	Replacement Sensor Cap

Mounting Kits

57944-00	Pole Mount Kit
57943-00	Ball Float Mount Kit

To complete your dissolved oxygen measurement system, choose the sc100 or the sc1000 controller...

Model sc100 Controller

(see Lit. #2463)

LXV401.52.00002	sc100 Controller Standard
LXV401.52.01002	sc100 Controller with RS-232 MODBUS®
LXV401.52.02002	sc100 Controller with RS-485 MODBUS®



Model sc1000 Controller

(see Lit. #2403)

LXV402.99.00002	sc1000 Display Module
LXV400.99.1R572	sc1000 Probe Module, 4 sensors, 4 mA Out, 4 mA In, 4 Relays, 110-230V
LXV400.99.1B572	sc1000 Probe Module, 4 sensors, 4 mA Out, 4 mA In, 4 Relays, RS-485 (MODBUS), 110-230V
LXV400.99.1F572	sc1000 Probe Module, 4 sensors, 4 mA Out, 4 mA In, 4 Relays, PROFIBUS DP, 110-230V
LXV400.99.1R582	sc1000 Probe Module, 6 sensors, 4 mA Out, 4 mA In, 4 Relays, 110-230V



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In the interest of improving and updating its equipment, Hach Company reserves the right to alter specifications to equipment at any time.

At Hach, it's about learning from our customers and providing the right answers. It's more than ensuring the quality of water—it's about ensuring the quality of life. When it comes to the things that touch our lives...

Keep it pure.

Make it simple.

Be right.

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