

BOD Biochemical Oxygen Demand

SEAL Application ML-901

▶ SCOPE AND APPLICATION

This method covers the determination of Dissolved Oxygen in waste waters.

Applicable Range: 0.5 – 20.0 mg/L ± 0.1 mg/L

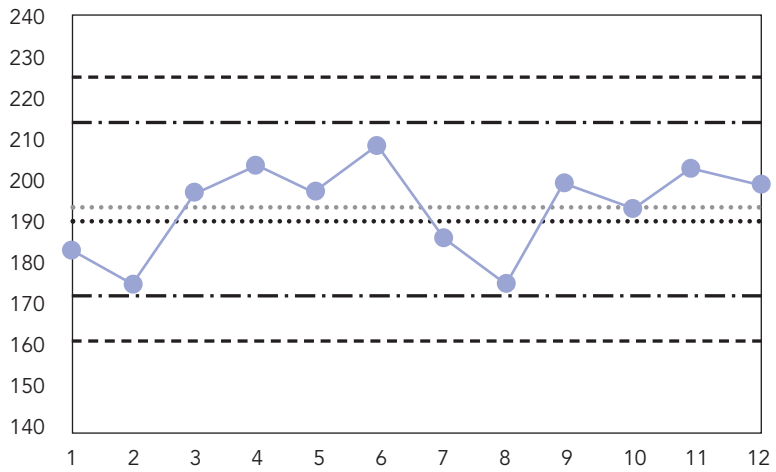
This method is equivalent to Standard Method 5210 B, ASTM D888, EPA 405.1, ISO 1899-1, 1899-2 and ISO 5815-1.

▶ METHOD DESCRIPTION

BOD is the measurement of depleted oxygen over a five day period. This is done by reading a sample at day zero (initial DO reading) and at day five (final DO reading) and subtracting to determine the oxygen depletion in the sample from the microorganisms present. The use of optical probes is shown below but membrane probes are also available.

▶ METHOD PERFORMANCE & QC DATA

mg/L Glucose-Glutamic Acid (GCA) Standard



Measurement Value	Theoretical Value	Average Value	2s	3s

Theoretical Value:	190.00 mg/L
Average:	193.75 mg/L
*Standard Deviation:	11.02 mg/L
**Relative Standard Deviation (RSD):	5.69%



▶ BOD Probe Information

Accuracy:
± 0.05 mg/L from 0 to 10 mg/L
± 0.10 mg/L for greater than 10 mg/L

Temperature Range:
0 – 50° C (32 – 122° F) 10 mg/L
± 0.10 mg/L for greater than 10 mg/L

Saturation Accuracy:
± 0.59% of reading

Saturation Resolution:
0.10%

Temperature Accuracy:
± 0.3° C (± 0.54° F)

Temperature Resolution:
0.1° C (0.18° F)

(Above) Data for Hach LBOD101 probe. Other probes available for use on request.

* Standard deviation based on the entire population.

** Relative standard deviation calculated by dividing the standard deviation by the mean and multiplying by 100.