

Technical Service Bulletin

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Analytical Methods for Monitoring Membrane Bio-Reactor (MBR) Operation

The following list of HACH equipment and reagents and EPA methods are recommended for analysis of the biological system performance used in conjunction with HYDRAsub[®]-MBR membranes.

Equipment*

DR/2800 Spectrophotometer
 Cat. No. DR2800-01

DRB200 Digital Reactor Block
 Cat. No. LTV082.53.40001

HQ30d Single Input Multi-Parameter Meter with LDO Probe and Combo pH Probe
 Cat. No. HQ30d53101301

2100P Portable Turbidimeter
 Cat. No. 46500-00

Reagents

Parameter	Analytical Method	Cat. No.	Range
Ammonia-N	HACH Method 10031 (Salicylate)	26069-45	0.4-50mg/L
Nitrate-N	HACH Method 10020 (Chromotropic Acid)	14034-99	0-30mg/L
Nitrite-N	HACH Method 8507 (Diazotization)	21071-69	0-0.3mg/L
Total Phosphorous	HACH Method 8178 (Amino Acid)	21060-69	0-2.5mg/L
Total Nitrogen	HACH Method 10071 (Persulfate)	26722-45	0.5-25.0mg/L
Total Organic Carbon (TOC)	HACH Method 10128 (Direct)	27604-45	100-700mg/L
Chemical Oxygen Demand (COD)	HACH Method 8000 (Reactor Digestion)	21259-25	20-1500mg/L
Biochemical Oxygen Demand (BOD)	HACH Method 8043 (Dilution)	14160-66	2-600mg/L

*Other equipment such as pipettes, beakers, graduated cylinders and funnels may be required

EPA Methods

Total Suspended Solids (TSS)
EPA Method 160.2 (Gravimetric)

Volatile Suspended Solids (VSS)
EPA Method 160.4 (Gravimetric and Ignition)

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