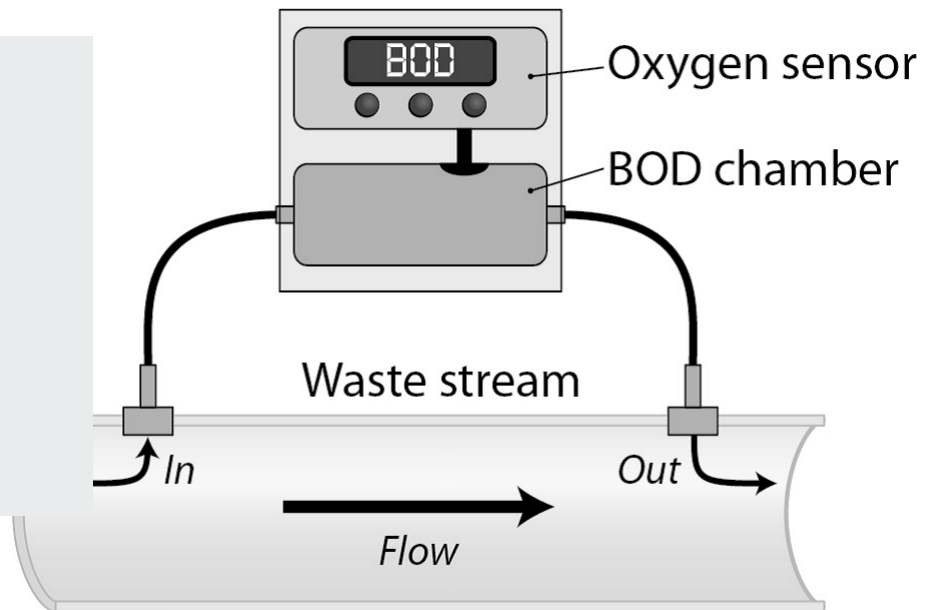


REAL-TIME BIOLOGICAL
OXYGEN DEMAND SENSOR
"AutoBOD"

U.S. Patent No. 9,188,512



REAL-TIME AND/OR
5 DAY BIOLOGICAL
OXYGEN DEMAND

WET CHEMISTRY
FREE

NO SAMPLE
MANIPULATION

BENCHTOP
OPERATION

MINIMAL OPERATOR
TRAINING

Overview: Over 16,000 wastewater treatment facilities (WWTP) exist in the US. For all of these facilities, energy costs associated with sludge aeration account for between 50 and 70% of facility operation costs. WWTPs generally practice aeration with set Dissolved Oxygen (DO) targets and control these levels without consideration of the actual moment-to-moment oxygen requirement of load present in a tank. Real-time feedback control of aeration levels based on Biological Oxygen Demand (BOD) could lead to a 3-6% reduction in overall plant costs.

Technology: AutoBOD technology brings reagent-free, real time BOD measurement and process control capability to the wastewater treatment arena providing data that operators can use to control aeration for optimal digestion. Matching aeration level to oxygen demand will reduce wastewater treatment operating costs. AutoBOD is an inline, remotely operated, flow-through system featuring micro-processor based control and data processing to measure oxygen consumption on undiluted wastewater samples. Oxygen consumption is tracked in real-time in dark, air-tight chambers using optode technology. No wet chemistry is involved and the in-line device may be operated and maintained by personnel with minimal training. The system has the capability for multiple unit deployment within a single facility.

AutoBOD1, a carousel benchtop commercial prototype designed to replace the current EPA mandated 5-day BOD test, has been developed and is currently in proof of concept studies to validate the underlying technology and garner EPA and customer acceptance. The issued patent claims provide broad coverage for in-line BOD measurement employing any underlying oxygen measurement technology. WHOI is considering a startup to complete the development of AutoBOD2 (inline).

