

BOD Robots from Labman

Standard Features

- Decapping and capping
- Scalable bed capacity (from 20 to 200 samples)
- Throughput: 40 samples/hr BOD ON, 80 samples/hr BOD OFF
- Dual probe option available to double throughput
- Fully enclosed and integrated system
- Bench top machine
- Automated dilution using liquid level sensing (peristaltic pump)
- Calendar function to easily track BOD OFF samples
- Probe washed between each sample
- WTW Inolab 730 Oxygen Meter (www.wtw.com)
- YSI 5100 Oxygen Meter
- Stirrer integrated into the BOD probe
- Control PC and monitor included
- Microsoft Windows compatible software suite included

Options

- Addition of ATU to prevent oxidation of ammonia (syringe pump)
- Barcode reading
- Laboratory air compressor
- Dual probes



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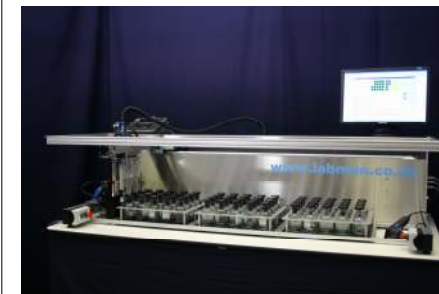
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BIOCHEMICAL OXYGEN DEMAND AUTOMATION



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Biochemical Oxygen Demand

Labman have taken into account minor differences in standard BOD methods providing support for the following major methods.

- EN1899-1/2
- Standard methods 5210B
- DIN 38 409
- NEN-EN1899-1/2
- DS/R 254

If a method is not listed above then it doesn't mean it is not supported, we are flexible and able to incorporate new methods into the system with ease.

Allylthiourea (ATU)

There may be a requirement to add allylthiourea to your samples at the start of the test in order to prevent oxidation of any ammonia which might be present in your samples. An ATU module can be supplied on the BOD system as an option and will add the ATU using a syringe pump allowing very accurate liquid dispenses.

Other Analyses

Being a bespoke automation company we are very comfortable with fitting our systems around the customers requirements as opposed to the other way around. Therefore if there is a requirement for other analyses such as pH, conductivity, turbidity, colour/UV, HCO₃, CO₃, COD then these can be incorporated into the BOD system.

Capping / Decapping

The robot will remove the stopper from the BOD bottle to take the measurement and put it back once the measurement has been taken. This reduces the exposure time of the sample to air and cuts down on nasty odours in the laboratory. The caps are designed to expel air as they are inserted into the bottle.



Sample ID	Batch Name	Stage	Pre-Dilution	Dilution	DO1	Styptic Volume	Rack	Sealification	Start Sample ID
BLANK_20079101390	100907_1	BOD ON	0	0	0	250	1	0	
CONTROL_200791013901	100907_1	BOD ON	100	0	0	250	1	0	
sample1	100907_1	BOD ON	1	0	0	125	1	0	
sample2	100907_1	BOD ON	1	0	0	87	1	0	
sample3	100907_1	BOD ON	1	0	0	125	1	0	
sample4	100907_1	BOD ON	1	0	0	125	1	0	
sample5	100907_1	BOD ON	1	0	0	96	1	0	
sample6	100907_1	BOD ON	14	0	0	30	1	0	
sample7	100907_1	BOD ON	1	0	0	140	1	0	
sample8	100907_1	BOD ON	1	0	0	125	1	0	
sample9	100907_1								
sample10	100907_1								
sample11	100907_1								
sample12	100907_1								
sample13	100907_1								
sample14	100907_1								
sample15	100907_1								
sample16	100907_1								
sample17	100907_1								
CONTROL_200791013901	100907_1								



Robot Capacity

The robot capacity can be adjusted to suit your daily throughput of BOD samples. The capacity of the robot bed is scalable from 20—200 BOD samples per robot run. The robot takes around 90 seconds to process a BOD ON sample with automatic dilution to a predefined level using a liquid level sensor and around 45 seconds to process a BOD OFF sample allowing over 600 BOD OFF samples to be processed per working day on a machine with a 200 sample capacity.

Barcode Reading

A further option is to add a manual hand held barcode reader can be added to the robot to allow the operator to scan in bar-coded samples giving higher traceability and reducing data input errors.

LIMS Integration

The robot software can accept and report samples using comma separated variable (CSV) files. The layout and fields contained within the CSV files can be completely configured by the user, allowing the robot to be easily integrated with your LIMS system.

DO Meter

Either the WTW Inolab 730 or YSI 5100 DO meters and associated probes can be used with the system. The specifications are as follows.

- 0.00—19.99mg/l O₂ concentration
- Accuracy +/-0.1%
- Integrated stirring mechanism
- Extremely low self consumption of Oxygen
- Temperature compensation
- Membrane leakage monitoring

Should you wish to use an alternative probe/meter combination then we can also accommodate this.