



Datasheet for OWB 201™

Portable Oil-in-Water Analyzer

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Overview

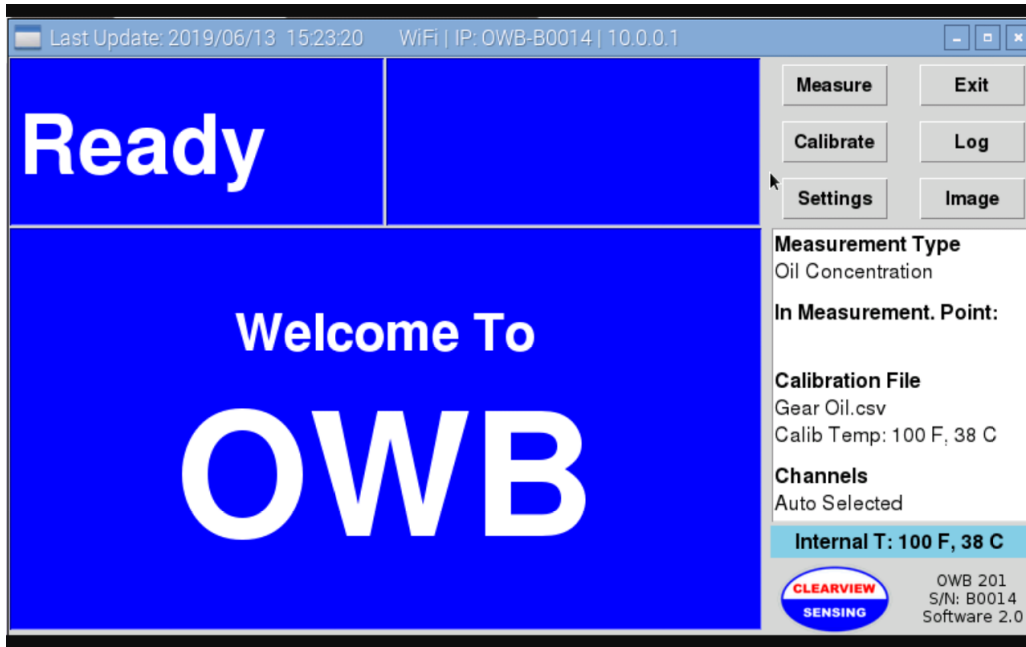
The OilWatcher Benchtop Model 201 (OWB) is a portable sensor that utilizes extraction with hexane, Tetrachloroethylene, or other solvents to measure oil concentration in 100 mL (or other volume) samples of produced water. The analyzer uses UV fluorescence combined with transmitted light to detect oil-in-water concentrations up to 1% oil-in-water (heavy crude) and greater (light crude/processed oils), with accuracy of $\pm 10\%$. For water with sub-ppm oil, the accuracy is 0.1 ppm.

OWB provides step-by-step instructions on a user-friendly graphical user interface (GUI), which also displays the results and relevant key information.

Calibration of OWB is performed using oil-in-hexane with site-specific oil to build a calibration curve correlating to the expected range of oil concentrations in the produced water. Fluorescence is used to detect low oil concentrations, and transmitted light is used for higher concentrations. OWB will automatically select the measurement principle to be used. Extracted samples of 10 mL of hexane in 100 mL of produced water have a 10X greater concentration than the actual oil-in-water concentration. Additional hexane (20 mL total) can be added to a sample when iron oxide or other solids are present.

The analyzer has excellent stability across temperature changes. To further assure the measurement accuracy, OWB automatically detects a temperature change determined to be too drastic from that of calibration (typically larger than 30°F), and which may lead to lower accuracy. The user will receive a prompt recommending actions to restore measurement accuracy. Note: decreased accuracy due to temperature is due to sample temperature, not OWB temperature.





OWB Graphical User Interface

<p>Technical Specifications</p> <p>Measurement Principles:</p> <p>Accuracy:</p> <p>Range:</p>	<p>Fluorescence and Light Transmission. Turbidity and color compensation.</p> <p>Within 10% of actual concentration. Within 0.1 ppm for oil-in-water concentrations below 1 ppm.</p> <p>0.1 ppm – 1% oil for heavy oils 0.1 ppm – 10% (or greater) for light oils Other range specifications available on request</p>
<p>Maintenance</p> <p>Major Service and Frequency:</p> <p>Calibration:</p> <p>Service Life:</p> <p>Cleaning</p>	<p>Light source replacement once every 10 years Major maintenance (replacement of wearable parts once every 10 years)</p> <p>Once for each new oil type</p> <p>20 years with maintenance every 5 years</p> <p>No cleaning required for OWB V2</p>
<p>Operating Conditions</p> <p>Sample Temperature:</p> <p>Ambient Temperature:</p>	<p>14 °F to 160°F (-10 to 70°C) Recommended to be lower than 120°F to prevent excessive vaporization of hexane during operation</p> <p>14 °F to 160°F (-10 to 70°C) for operation -40 to 185°F (-40 to 85°C) for storage</p>
<p>Power, Weight, Dimensions</p> <p>Power Supply:</p> <p>Weight and Dimensions:</p>	<p>Included Lithium Ion Battery - Rechargeable</p> <p>~12 lbs. (5.4 kg), 11 W x 10 D x 7 H in. (279 x 254 x 178 mm)</p>

Communication	
Tablet	7" tablet
Tablet Access via Wi-Fi	Standard
Sample Preparation	<p>Add solvent to water sample. Solvent volume at least 10 mL and at least 10% of water grab sample volume (typically 100 mL).</p> <p>Transfer 4 mL (of 10 mL total) hexane extraction to a cuvette, place the cuvette in the fluid cell of OWB for measurement.</p>
Locations of Use	Non-hazardous Location



OWB Enclosure



OWB Accessories (Included)

Tablet

Rechargeable Battery

Cover for Cuvette Cell

Micro-pipette

Storage for Bottles, Cuvettes, Samples, Etc. Included with Purchase

