

Water in Oil Detector



WATER IN OIL DETECTOR

The instrument is for the detection of water lying beneath the used cooking oil in a barrel.

Description

The pointed tip of the probe allows the probe to pass through any hard fat that may be present. The probe body is made of materials that resist corrosion and boiling water. A pair of handles are fitted to aid handling and insertion through hard fat. A plate with a hole in is provided at the top of the instrument to allow it to be hung up for storage. All joints are sealed with 'O' rings or gaskets. The device is specially designed to cope with oil contamination of the water detecting electrodes.

The change from oil to water is indicated on a column of light emitting diodes (LEDs). When the probe is in air the bottom LED will light. As the probe is immersed in oil the illumination will advance up the column by 1 or 2 steps. As the probe passes into the water the illumination will rise up the LED column.

There are internal adjustments for changing the sensitivity (Span) of the instrument and also the zero setting. The sensitivity has been pre-set at the time of manufacturer and should not require further adjustment; if there is a need to alter the sensitivity then there will probably be a need to reset the zero as well. Otherwise it should not be necessary to open the front compartment of the device.

The instrument is turned on and off by a pair of push buttons. Power is supplied from batteries installed in a separate compartment at the rear of the instrument, so avoiding the need to open the electronics compartment. A button is provided for checking the state of the batteries. On pressing the 'BATTERY TEST' button the LED column should indicate in the upper green region of the display. When indicating in the top of the red region the instrument will still work but zero may drift so new batteries should be fitted.

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Instructions for use.

This is a sensitive instrument.

It has been built for its environment; however it should still be treated with care.

Do not drop

Do not bang tip on the ground.

Switch on by pressing red 'ON' button.

Check battery condition by pressing Yellow 'BATTERY TEST' button. The LED column should indicate in the upper (green) region. Change batteries if necessary.

NOTE: When indicating in the top of the red region the instrument will still work but zero may drift so new batteries should be fitted.

Insert the probe tip into the barrel of oil, the display will indicate in the lower 'OIL' region of the display. Slowly lower into the oil.

As the probe ring electrode passes from oil to water the LED illumination will move up the LED display rapidly. Lifting the probe will cause the illumination position to drop. Hence the interface between oil and water can be determined. Note that the sensitive part of the probe is the stainless steel ring; hence the device will detect water down to 25mm (1 inch) deep in the very bottom of the barrel.

Lower probe to bottom of barrel to estimate extent of water contamination.

On removing probe the opposite indication on the LED display will occur.

Note that the change from water to oil is more sensitive than from oil to water. This is because the oil film on the electrode will get thinner whilst in the water, whereas when first entering the water from the oil the film will be quite thick.

After the instrument is first turned on it will automatically turn itself off again after about 20 minutes; however to conserve battery life it should always be turned off by the operator when finished with.

For storage, hang up by hole in top plate.

Changing batteries

Remove the rear cover of the instrument using Phillips No.1 screwdriver.

For longer life use alkaline type batteries, 'C' size.

Always replace all 6 batteries at the same time and always use the same type. This will ensure that all batteries exhaust together and partially good batteries are not disposed of.

Ensure batteries are inserted the correct way round. Note: circuit is protected from damage due to reverse connection but will not operate.

Turn instrument on and check that instrument operates and that 'battery test' button shows healthy batteries. Always replace the cover after changing batteries. A loose cover will compromise the water resistance of the instrument.

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Dimensions

Note: All dimensions in mm.

