

Photometer Method

DISSOLVED OXYGEN/2

TEST FOR DISSOLVED OXYGEN IN BOILER WATER AND BOILER FEEDWATER

AUTOMATIC WAVELENGTH SELECTION

0 – 2.0 mg/l

The presence of dissolved oxygen in water used in boilers and steam raising plant is wholly undesirable. At high temperatures even small amounts of dissolved oxygen render the water highly corrosive to boiler plant, the oxygen must be removed from boiler feedwater by chemical treatment or by mechanical de-aeration.

The DO/2.0 tests provide a simple means of testing for dissolved oxygen in boiler water or boiler feedwater. The test covers the range and 0 - 2.0 mg/l.

Method

Special techniques must be employed when testing for dissolved oxygen as the water sample can be readily contaminated by the oxygen in the atmosphere. CHEMetrics Vacu-Vials self-filling reagent ampoules provide the ideal means of carrying out this test. The tip of the ampoule is dipped into the water sample and is then broken to allow the vial to fill with water. In this way there is no possibility of contamination from the air.

The Vacu-Vial DO/2.0 test uses a reagent based on the indigo carmine method. Indigo carmine, in its reduced form, reacts with dissolved oxygen to form a blue complex.

The intensity of the colours formed in the tests is proportional to the dissolved oxygen content of the water and is measured using a Palintest Photometer.

Reagents and Equipment

CHEMetrics Vacu-Vial Reagent Set DO/2.0

Palintest Automatic Wavelength Selection Photometer

DO test reagents are light sensitive. Store tubes in original containers and keep the box closed when not in use.

Test Procedure

Read the Oxygen test instructions leaflet contained in the CHEMetrics Vacu-Vials pack. Observe these various recommendations regarding sample handling and use of Vacu-Vials.

- 1 Carry out the test in accordance with the test procedure given in the CHEMetrics instruction leaflet. Observe the time periods given in the test instructions.
- 2 Select Phot 50 on the photometer. The wavelength is set automatically.
- 3 Use the colourless blank ampoule provided in the Starter Pack as the blank for setting the instrument.
- 4 The photometer provides direct readings in mg/l O₂.

Note

Note for measuring dissolved oxygen in natural waters use the DO 15/20 test (see instructions Phot.75).

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