

PHOSPHATE HR

TEST FOR HIGH LEVELS OF PHOSPHATE IN BOILER WATER

Photometer Method

**AUTOMATIC
WAVELENGTH
SELECTION**

0 – 100 mg/l

Phosphates are extensively used for treating water in boilers and steam raising plant. Phosphates are added to control the deposition of sediment and deposits within the boiler. It is an essential part of the treatment programme to monitor the phosphate level to ensure this is within the correct range of deposition control.

The Palintest Phosphate HR test provides a simple method of measuring phosphate levels in boiler waters over the range 0 - 100 mg/l PO₄.

Method

The Palintest Phosphate HR test is based on the vanadomolybdate method. The distinct advantage of the Palintest method is that all reagents required are provided in the form of a test tablet. The test is carried out simply by adding a single tablet to a sample of the boiler water. A supplementary tablet may be optionally used for the removal of Silica interference.

In the test phosphates react with ammonium molybdate, in the presence of ammonium vanadate, to form the yellow phosphovanadomolybdate. The intensity of the colour produced in the test is proportional to the phosphate concentration and is measured using a Palintest Photometer.

Sample Collection

Samples drawn from boiler sampling points may be hot and contain particulate matter. Prior to analysis samples should be cooled to below 25°C and filtered through a Whatman No 42 filter paper.

Reagents and Equipment

Palintest Phosphate HR Tablets

Palintest Phosphate SR Tablets

Palintest Automatic Wavelength Selection Photometer

Round Test Tubes, 10 ml glass (PT 595)

Test Procedure

- 1 Fill test tube with sample to the 10 ml mark.
- 2 IN THE CASE OF SAMPLES CONTAINING SILICA (>20 mg/l SiO₂) ONLY :-
Add one Phosphate SR tablet, crush and mix to dissolve.
- 3 Add one Phosphate HR tablet, crush and mix to dissolve.
- 4 Stand for 10 minutes to allow full colour development.
- 5 Select Phot 29 on Photometer.
- 6 Take Photometer reading in usual manner (see Photometer instructions).
- 7 The result is displayed as mg/l PO₄.

Note

Phosphate SR tablets are supplied in the Phosphate HR Starter Pack (PM 114). They are subsequently available as an optional extra (AT 116) for use with Phosphate HR Replacement Reagent Packs.
