

WATER SUPPLIES DEPARTMENT
STANDARD SPECIFICATION EM-02-05
CHLORINE RESIDUAL ANALYZER

1. **GENERAL**

The chlorine residual analyzer shall be capable of continuously measuring either free or total chlorine residual in the sampled water. All materials in contact with the water sample shall be resistant to corrosion by chlorinated water and added chemicals.

2. **DESIGN**

The chlorine analyzer shall use colorimetric DPD chemistry (N,N-diethyl-p-phenylenediamine) to continuously measure either free or total residual chlorine, the selection of which depends on the different set of reagents installed in the instrument. The analyzer shall be of low maintenance design capable of continuous operation for not less than 30-days without attendance.

A controller shall be provided for control of the chlorination process. The analyzer shall have self-testing diagnostics and a LCD/LED display on the cubicle front to display the reading of system status. One 4-20 mA analogue signal output and alarms for system abnormal status shall be provided for remote monitoring and alarm initiation.

The analyzer shall meet the following requirements :-

Measuring range	:	0-5 mg/litre (free or total residual chlorine)
Accuracy	:	better than $\pm 5\%$ of span
Minimum detection limit	:	at least 0.05 mg/litre
Cycle time	:	less than 3 minutes
Operating temperature	:	5-40°C
Enclosure rating	:	IP62 with corrosion-resistant material
Output signal	:	4-20 mA
Output contacts	:	2A 220V 50Hz SPDT type for each alarm
Supply voltage	:	220V 50Hz

3. ACCESSORIES

Where associated instruments such as sample water inlet strainer, water flow regulator valve, water gauge, chemical solution feeder and reservoir etc. are specified in the Particular Specification, such instruments together with the analyzer shall be housed in a freestanding floor mounted stainless steel panel.

Unless otherwise specified in the Particular Specification, the following accessories and consumables sufficient for one year continuous operation shall be provided with the analyzer :-

- (a) Chemicals
- (b) Installation kit
- (c) Maintenance kit