

HI3821

Cooling and Boiler Test Kit

The HI3821 is a chemical test kit that determines that uses titration and colorimetry to measure six parameters common to cooling and boiler systems: alkalinity, chloride, hardness, dissolved oxygen, phosphate, and sulfite. The HI3821 is supplied with all of the necessary reagents and equipment to perform each analysis, and all reagents are individually available as they run out.

- **Complete setup**
 - All required materials are included with the test kit, such as the dissolved oxygen glass bottle, sample beaker, indicator and reagent bottles and packets, and color comparison cube.
- **High resolution**
 - All tests provide a high resolution based on the expected range of measurement.
- **Replacement reagents available**
 - There is no need to buy a new kit when reagents are exhausted. The reagents for each parameter can be ordered individually.



Significance of Use

Corrosion can occur in many key areas of a boiler. It can shorten the life of a boiler, or at the very least, increase the costs associated with maintaining a boiler. Corrosion can form in water heaters, deaerators, superheater tubes, and economizers, among other places. Monitoring the alkalinity, chloride, hardness, dissolved oxygen, phosphate, and sulfite concentrations in cooling and boiler systems is essential in preventing hazardous or costly situations.

| Specifications | HI3821 Cooling and Boiler Combination Test Kit | | | | |
|---|--|---|---|-------------------------------------|-----------------|
| Test | Type | Range | Smallest Increment | Method | Number of Tests |
| Alkalinity (as CaCO ₃) | titration | 0-100 mg/L (ppm) 0-300 mg/L (ppm) | 1 mg/L (ppm) 3 mg/L (ppm) | phenolphthalein/ bromphenol blue | 110 avg. |
| Chloride (as Cl ⁻) | titration | 0-100 mg/L (ppm) 0-1000 mg/L (ppm) | 1 mg/L (ppm) 10 mg/L (ppm) | mercuric nitrate | 110 avg. |
| Hardness (as CaCO ₃) | titration | 0.0-30.0 mg/L (ppm) 0-300 mg/L (ppm) | 0.3 mg/L (ppm) 3 mg/L (ppm) | EDTA | 100 avg. |
| Phosphate (as PO ₄ ³⁻) | colorimetric | 0-5 mg/L (ppm) | 1 mg/L (ppm) | ascorbic acid | 50 avg. |
| Oxygen, Dissolved | titration | 0.0-10.0 mg/L (ppm) | 0.1 mg/L (ppm) | modified Winkler | 110 avg. |
| Sulfite (as Na ₂ SO ₃) | titration | 0.0-20.0 mg/L (ppm) 0-200 mg/L (ppm) | 0.2 mg/L (ppm) 2 mg/L (ppm) | iodometric | 110 avg. |
| Dimensions | 440 x 330 x 100 mm (17.3 x 13.0 x 3.9") | | | | |
| Ordering Information | HI3821 test kit includes all of the necessary reagents and accessories to perform over 100 tests for every parameter, with the exception of phosphate, which includes reagents for 50 tests, hard carrying case and instructions. | | | | |
| Reagents | HI3811-100 Alkalinity (as CaCO ₃), 110 tests avg. | | HI3833-050 Phosphate, 50 tests avg. | | |
| | HI3815-100 Chloride, 110 tests avg. | | HI3810-100 Dissolved Oxygen, 110 tests avg. | | |
| | HI3812-100 Hardness, total (as CaCO ₃), 100 tests avg. | | HI3822-100 Sulfite (as Na ₂ SO ₃), 110 tests avg. | | |