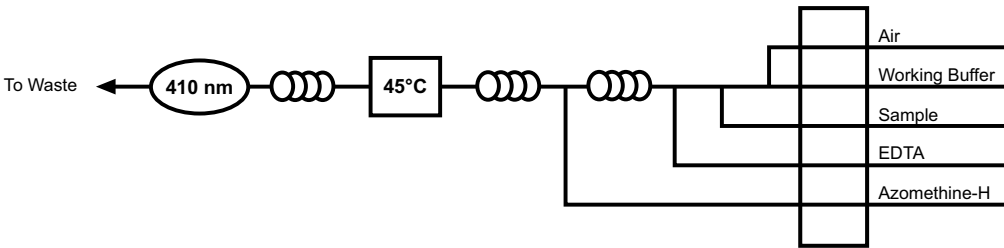


Summary:	This method is used for the determination of boron in fresh water. Boron reacts with azomethine-H to form a yellow-colored complex. The absorbance is measured at 410 nm.	
Interferences:	Cations such as calcium, iron, magnesium, copper, and zinc may interfere with the analysis of boron. The addition of 0.050 M EDTA solution can be used to complex these cations. With the use of the EDTA solution, the presence of less than 500 ppm of calcium, copper(II), or magnesium, or less than 100 ppm of zinc or iron(II) does not significantly interfere with this method. Avoid using borosilicate glassware for sample collection or reagent storage. Use polyethylene containers whenever possible. Filter or centrifuge turbid samples prior to analysis.	
Performance Specifications:	Range:	0.2–20 mg/L
	Throughput:	31 samples/hour
	Precision:	
	0.2 mg/L	<5% RSD
	1.0 mg/L	<2% RSD
	10 mg/L	<2% RSD
	20 mg/L	<1% RSD
	Method Detection Limit (MDL):	0.02 mg/L
Chemicals:	Ascorbic Acid, C ₆ H ₆ O Ammonium Acetate, NH ₄ C ₂ H ₃ O ₂ Azomethine-H, C ₁₇ H ₁₂ NO ₈ S ₂ Na Brij®-35, 30% w/v (OI Analytical Part # A21-0110-33) Boric Acid, H ₃ BO ₃	Ethylenediaminetetraacetic Acid, Disodium Salt Dihydrate (EDTA), C ₁₀ H ₁₄ N ₂ O ₈ Na•2H ₂ O Sodium Hypochlorite, 5.25% available chlorine (household bleach), NaOCl Sulfuric Acid, concentrated, H ₂ SO ₄
Basic Flow Diagram:		
Selected References:	<p>Basson, W.D. et al. An Automated Procedure for the Determination of Boron in Plant Tissue. <i>Analyst</i> 1969, 94, 1135–1141.</p> <p>Porter, S.R.; Spindler, S.C.; Widdowson, A.E. An Improved Automated Colorimetric Method for the Determination of Boron in Extracts of Soils, Soilless Peat-Based Composts, Plant Materials, and Hydroponic Solutions with Azomethine-H. <i>Communications in Soil Science Plant Analysis</i> 1981, 12 (No. 5), 461–473.</p> <p>Spencer, R.R.; Erdman, D.E. Azomethine-H Colorimetric Method for Determining Dissolved Boron in Water. <i>Environmental Science and Technology</i> 1979, 13 (No. 8), 954–956.</p>	

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