

Recommended Specification
ChemScan[®] UV-0254 Organics Analyzer

A uv-absorbance type organics analyzer shall be furnished in accordance with these specifications. The analyzer shall be a ChemScan UV-0254 Organics Analyzer as manufactured by Applied Spectrometry Associates, Inc. in Waukesha, WI.

The analyzer shall continuously detect uv absorbance at 254 nm in a continuous sample flow through a detection cell. Sample flow shall be from a sample line able to deliver a minimum of one liter per minute sample flow to the analyzer at 10 to 80 psi pressure. (Sample lines and pumps are by others.) A second wavelength shall be used to automatically compensate for the possible effects of turbidity variation in the sample. The analyzer shall also provide for periodic zeroing using a distilled or deionized water standard and shall provide for automatic cleaning using a cleaning solution recommended by the manufacturer. Zeroing shall be performed automatically at operator selectable intervals. Cleaning shall be performed based on self-test set points measured during the zeroing cycle. The analyzer shall contain an internal pump for the introduction of zeroing and cleaning solutions and a manifold to interrupt sample flow and replace it with a flow of zero standard or cleaning solution. Gravity feed, manual introduction or external pumps for zeroing and cleaning are not acceptable. The flow cell chamber shall be easily removed for cleaning without disconnection of power, sample lines, light source or detection optics. The flow cell shall be thermally protected from condensation by use of inert gas between the internal sample windows and the external light entry or exit windows. Lamp output intensity and temperature shall be continuously monitored prior to light transmittance through the cell to remove measurement variations. Maximum drift during an 8 hour period under standard conditions shall not exceed 0.1% of range. Accuracy under standard conditions shall be 0.05 AU, with precision of 0.001 AU.

The analyzer shall provide an operator selectable display in absorbance units or percent transmittance. The analyzer shall also permit operators to optionally select a display in ppm or mg/l after correlation with organics values in mg/l concentration such as TOC, DOC, NOM, SCOD, or SBOD. The analyzer shall permit entry of values for correlation coefficient and intercept which shall be used by the analyzer to automatically calculate the desired organic value from uv absorbance measurements. The manufacturer shall provide a spreadsheet format for use with Microsoft Excel to calculate organic correlations and slope or offset adjustments. The analyzer shall have the capability to permit entry and display of slope and offset adjustments.

The analyzer shall provide a continuous (40-20mA analog, RS-232 serial, MODBUS) output, 4000 value internal memory log, plus high and low alarms with alarm set points configurable on the analyzer menu. Electronics and display shall be in a NEMA-4X polycarbonate enclosure. Flow cell shall be in an attached NEMA-3R polycarbonate enclosure. Power for the analyzer and the zero/clean pump shall be 1 amp maximum at 120 VAC, 60 cycle, 3 phase.

