

Recommended Specification
ChemScan[®] mini UV254
UV-254 Percent Transmittance Analyzer

An automatic analyzer for continuous 254nm absorbance shall be furnished in accordance with these specifications. The analyzer shall be a “ChemScan mini UV254” UV-254 Percent Transmittance Analyzer as manufactured by ASA Analytics in Waukesha, WI.

The analyzer shall automatically monitor 254nm absorbance through a detection cell in potable water or wastewater samples that contain less than 150 ppm of suspended solids and turbidity and less than 60 NTU turbidity. Sample flow shall be from a sample line able to deliver a minimum of one liter per minute sample flow to the analyzer at 5 to 20 psi pressure (35 – 138 kPa). (Sample lines, pumps and pressure reduction are by others.) The analyzer shall also provide for automatic zeroing and shall provide for automatic cleaning of the flow cell using a cleaning solution recommended by the manufacturer. The analyzer shall contain an internal pump for the introduction of cleaning solutions and a manifold to interrupt sample flow and replace it with a flow of cleaning solution, based on self test results. Pump heads shall be easily replaceable and shall not require replacement at an interval more often than twice each year under normal operation. The internal pump shall not require replacement more often than once each year. Gravity feed of reagents or maintenance fluids and/or manual introduction of cleaning solutions and/or the use of external pumps for zeroing and cleaning are not acceptable.

Internal sample flow shall not be restricted by capillary tubes, needle valves or other devices with small orifice size. No orifice in the sample flow path into or within the analyzer shall be less than 0.172 inches (4.36 mm). Sample cell and optical components shall remain in a fixed position. Sample cells and optics that are subject to repetitive motion, vibration, wear and mechanical adjustment are strictly prohibited.

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. The flow cell body shall be constructed from CPVC and the cell windows shall be quartz. Light source output intensity shall be continuously monitored prior to light transmittance through the cell to eliminate measurement variations. Maximum drift during an 8 hour period under standard conditions shall not exceed 1% of range.

The analyzer shall provide an operator interface including a back lit LCD display. The analyzer shall display % transmission or absorbance at 254nm as a menu choice. The analyzer shall not require the use calibration standards in normal operation. The analyzer shall allow the operator to select the desired integration period, in seconds, from 1 to 60. The analyzer shall allow the operator to select the interval between logging of readings in

minutes and seconds, up to 60 minutes. As a menu choice, logging may be triggered on a selectable reading step change.

The analyzer shall provide a continuous (isolated 4-20mA analog, RS-232 serial, MODBUS RTU) output, 6000 value internal memory log, plus alarms with a set point configurable for a high or low value on the analyzer menu. The analyzer shall have the capability to force data communication outputs to set values for output calibration purposes. The analyzer shall have the capability to force 4-20 mA analog data outputs to set values for output calibration purposes. The analyzer shall have internal maintenance event logs, easily downloadable to a laptop computer using MS Hyper Terminal software. The analyzer shall be supplied in a NEMA-4X fiberglass enclosure. Power for the analyzer shall be 100 watts maximum at 100 to 240 V AC, 60 Hz, 120 V AC North American cord provided. A 1/2" conduit size hole for a field-wired option shall be available upon removal of the cord set provided.

The analyzer shall be furnished with an Operation and Maintenance manual containing installation instructions, instructions for startup, instructions for adjustment during operation, plus instructions for periodic and routine maintenance. The analyzer shall carry a minimum warranty of one year from initial operation, not to exceed 18 months from the date of shipment, covering workmanship, materials and components.

The analyzer shall carry a CSA-US or UL safety approval and shall be designed to operate in an ambient environment of 5 to 50 degrees C.