ROYCE TECHNOLOGIES

TECHNICAL BULLETIN

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TBSS.4

SUSPENDED SOLIDS COLOR COMPENSATION
PHASED ARRAY COLOR COMPENSATION OPTICAL SYSTEM

A major problem with the continuous monitoring of suspended solids in wastewater systems is the effect of color to the sensing elements of optical sensors. While color might not appear as particulate matter in a suspended solids monitoring application, it does cause receptor occlusion, thus "appearing" to an electronic detector as an energy absorbent. Consequently, all reasonably priced, medium range suspended solids monitoring instruments used in industrial and many municipal suspended solids waste applications are unreliable when color is visibly apparent.

When Royce introduced its Model 7011 Processor Controlled Suspended Solids Analyzer, the company finally had a major tool required to compensate for color occlusion in its sensors. The Model 73B Medium Range sensor incorporates a new Phased Array Color Compensating Optical System, which is controlled by the electronics of the Model 7011 analyzer.

Phased Array Color Compensation is a multi-colored source in the sensor, which is controlled by the processor electronics of the parent instrument. Basically, it works in the following manner; each of three colored sources (red, blue and green) is sequentially illuminated. During each individual source illumination the processor of the parent instrument calculates the change in absorbance of each color, correcting the reading in relation to the calibration setting of that color. The final reading is a direct reading of suspended solids corrected for any color in the sample. This process is presently patent pending.

At this time, this is the only insitu color compensating suspended solids monitoring system offered. The Model 73B sensor will be most useful in solutions where the expected operating range is over 500 mg/l, but under 30,000 mg/l.

If further information is required on this capability, contact Royce Technologies Support Group at 1-800-347-3505 or Fax 704-409-9898.