

ChemScan™

UV-6100 ANALYZER FOR ON-LINE NITRATE ANALYSIS

AND

IRON ANALYSIS IN WATER AND WASTEWATER

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Represented by:

UV-6100 PROCESS ANALYZER PRODUCT FEATURES

The UV-6100 analyzer is a fiber-optic based ultraviolet array absorption spectrometer. The UV-6100 analyzer monitors the chemistry of liquids by detecting the absorption of light across the ultraviolet wavelength range of 200 - 450 nm.

Features of the UV-6100 analyzer include the following:

- * Simultaneous on-line measurement of two analytes (nitrate and iron)
- * Complete spectrum data acquisition
- * Excellent wavelength reproducibility
- * Wide dynamic range
- * Mechanical simplicity (stationary absorption optics)
- * Chemometric analytical techniques
- * Operation without chemical reagents

On-line ultraviolet spectrometry has benefitted from three technological advances: fiber optics, photodiode detector arrays and chemometrics. These advances have been used in the UV-6100 analyzer.

Fiber Optics provide isolation between the analyzer and the water or wastewater to be analyzed. A fiber-optic cable transmits ultraviolet light to a flow cell where the light is passed through a sample. The light is then collected and returned to the analyzer through a second fiber-optic cable. Refer to Figure 1 for an optics layout and Figure 2 for the UV-6100 analyzer layout.

Photodiode Detector Arrays allow simultaneous, discrete wavelength detection. The analyzer uses a xenon lamp with a spectral output over an operating range of 200 - 450 nm and an array detector that segments the detection range into 256 equal intervals.

Chemometrics are pattern recognition techniques. Chemometrics are used in the analyzer to determine concentrations of analytes in a complex chemical matrix. These techniques permit multiple analytes to be monitored in one or more sample lines.

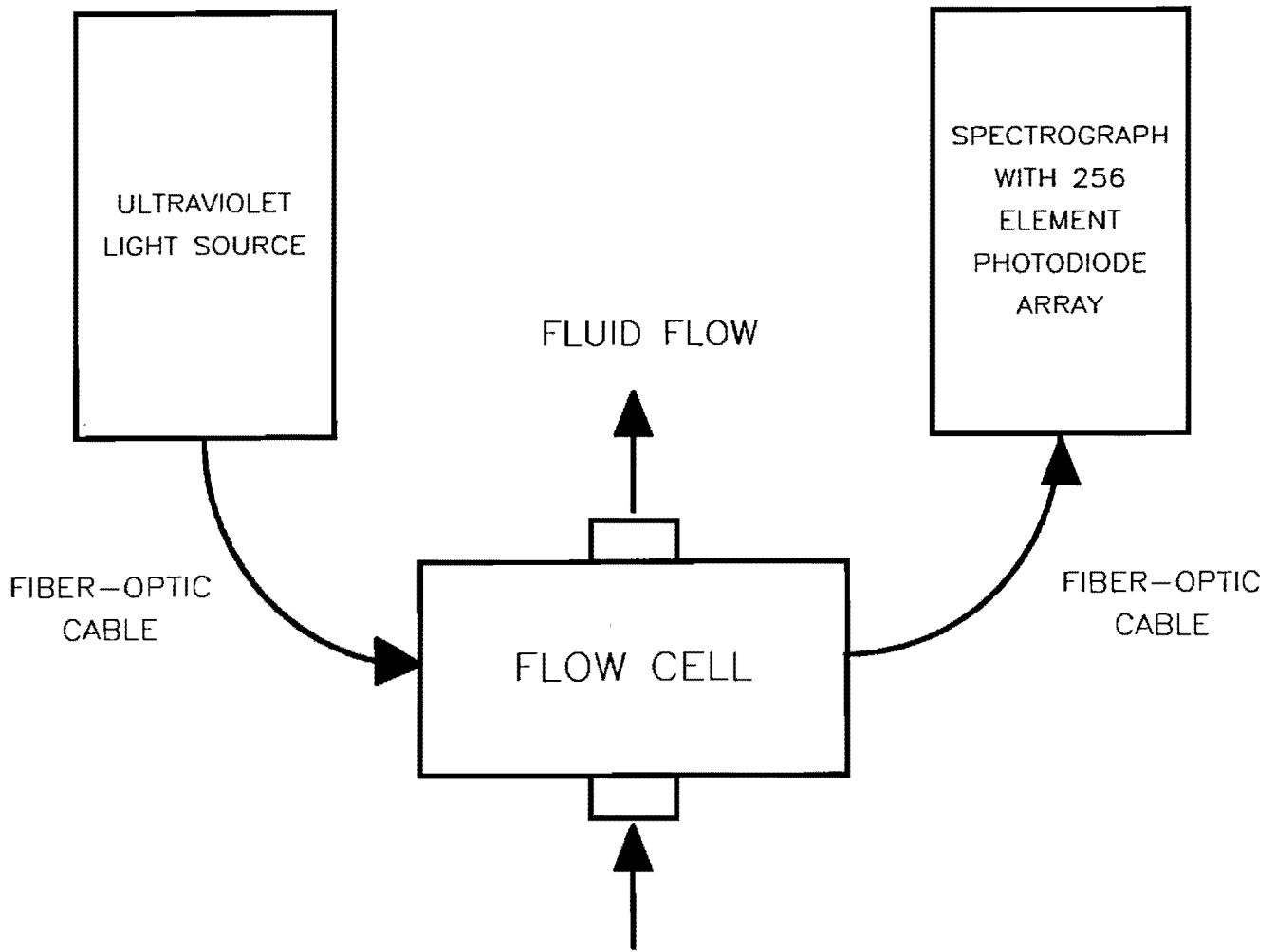


Figure 1. UV-6100 Analyzer Optics Layout

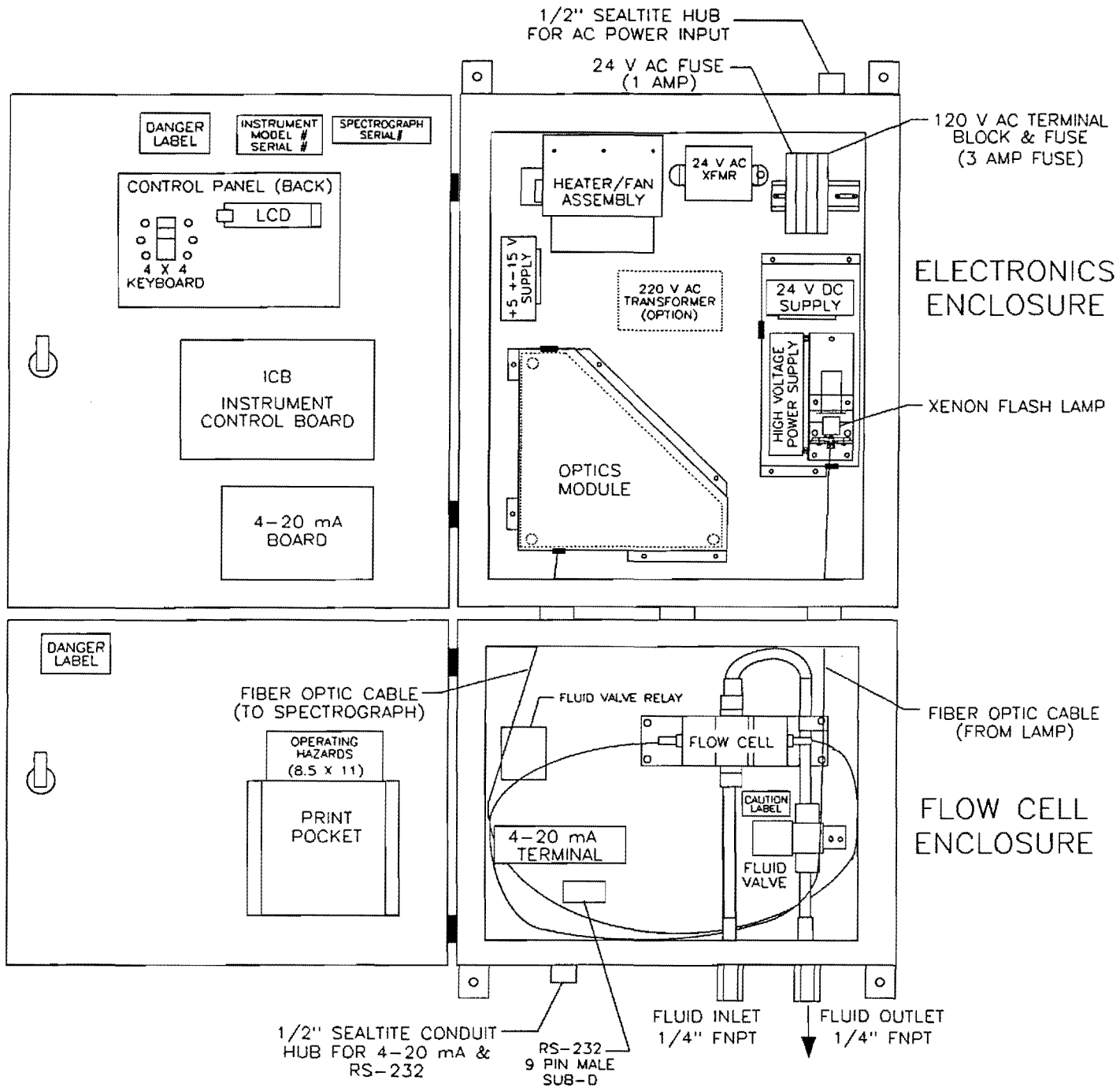
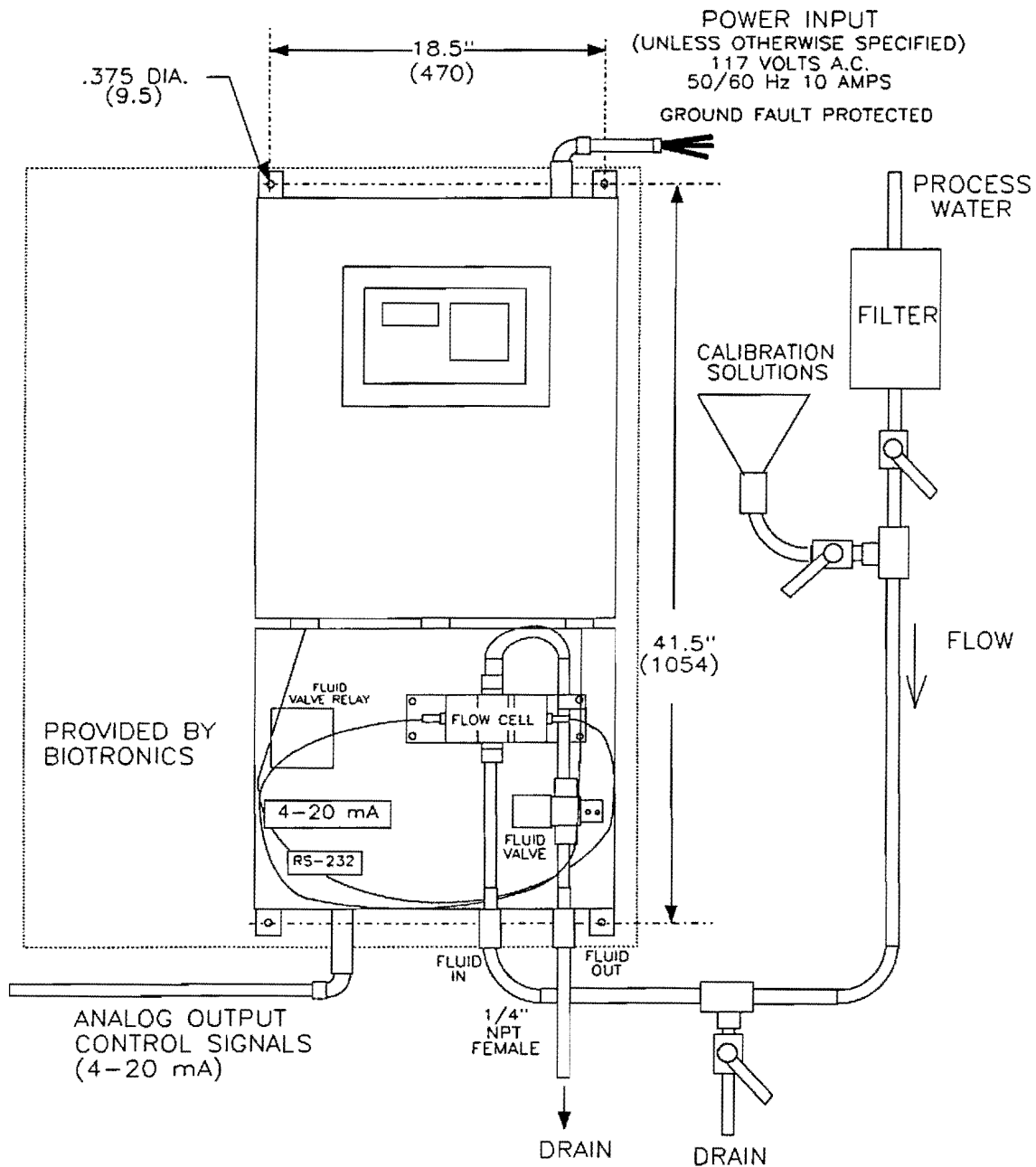


Figure 2. UV-6100 Analyzer Layout



- INSTRUMENT WEIGHT: 130 lb, (59 kg)
- ENCLOSURE DIMENSIONS: 20 X 40 X 10" DEEP, (51 X 102 X 26 cm)
- CONTROL SIGNALS (4-20 mA) AND CALIBRATION COMPUTER PORT (RS-232) ACCESSED THROUGH THE FLOW CELL ENCLOSURE.
- THE AC POWER INPUT AND 4-20 mA OUTPUT SHALL BE INSTALLED USING 1/2 INCH DIAMETER "SEALTITE" CONDUIT.
- REFER TO THE "AC POWER WIRING DIAGRAM" LOCATED IN THE ELECTRONICS ENCLOSURE FOR WIRING SPECIFICS

Figure 3. UV-6100 Single Sample Line Analyzer Installation