SofTA™ ELSD Installation Requirements

Overview

This document provides site preparation requirements and site preparation for SofTA ELSD systems.

Gas Requirements

All SofTA ELSDs require an external gas source, such as nitrogen at 60-75 psi using an 1/8" O.D. line. The gas pressure should be stable to +/- 2 psi for best signal to noise ratio.

Liquid Requirements

All SofTA ELSDs have a $^1/_{16}$" Valco connection except the model 1300 which has a $^1/_{16}$" PTFE line, approximately 12" long.

a. For the systems with a $^1/_{16}$" Valco fitting, you will need to supply PTFE or PEEK tubing of sufficient length, $^1/_{16}$" O.D.x I.D of .005" to .010". A larger I.D. will contribute to band broadening, but will plug less frequently.

b. The model 1300 should be located close enough to the column to connect without using other lengths of tubing or couplings. This is optimum for narrow peaks. Excess tubing or fittings will decrease performance. The factory installed line is 004" I.D.

c. If using a split flow configuration (common with a mass spec) please keep flow to the ELSD in the .5 ml/min. to 1 ml/min. range. Flow can be measured by removing the nebulizer and allowing it to spray into a graduated collection vessel for an appropriate time. Also, use a small bore "T" when configuring the external plumbing.

Vent Requirements

ELSDs are destructive detectors which turn your solvent into a vapor and your compounds into aerosols. Since many solvents and compounds are toxic, the exhaust must be sent to an appropriate vent. The exhaust on all of the SofTA ELSDs is .5" O.D., except for the SofTA model 1300 which is 1" O.D. Any tubing with an appropriate I.D., and suitable for the chosen mobile phase can be used to extend to the ESLD exhaust to a proper vent.

In high humidity environments, or when high flow rates of mobile phase are being used, it is possible to condense liquid in the exhaust line. This condensation collects at a low point and can eventually block the exhaust completely. To prevent this, these conditions require the vent tube to be routed with a continuous level or downward slope. In addition you will need a 1" space on the right side of the unit for cooling.

Electrical Requirements

The ELSD is susceptible to poor quality AC power. Low line, sags, surges and spikes may contribute to erratic instrument performance. In extreme cases a line conditioner may be required. In general, if other instruments are being operated successfully on the intended circuit, your ELSD will also function well.

Data Collection

ELSDs have an analog output and may require an A/D converter or analog input port to integrate into your data acquisition systems. The analog output cable is supplied with the instrument which terminates in bare wires. This provides the greatest flexibility, but means the user must supply any special connectors for their particular data acquisition system.

Liquid Waste

SofTA ELSDs employ a vapor phase splitter. Some of the column effluent will be diverted to the waste port on the front or side of the instrument, and the remainder will be sent to the drift tube for evaporation and analysis. An adapter is supplied for connecting the liquid drain port to ¼" I.D. tubing. A 3' piece of Tygon tubing is also supplied. In the event that chemical resistance beyond Tygon is required, it is the customers responsibility to supply an appropriate length of ¼" I.D. tubing. The entirety of the waste line must remain below the waste port.

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