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Sedex 75 ELSD

The Reference Standard of High Sensitivity LT-ELS Detection

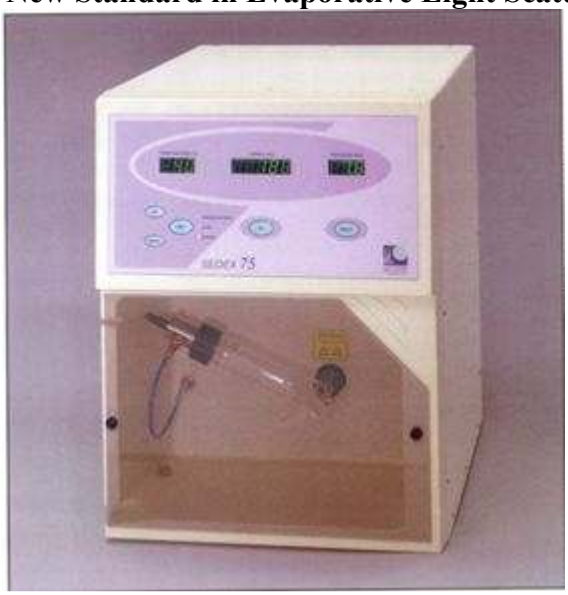
Technical Specifications

Light Source	Polychromatic Tungsten Halogen Lamp
Detector	High Sensitivity Photomultiplier
Temperature Range	Ambient to 100 °C
Gas Flow	Less than 3.5 L/min
Eluent Flowrate	from 5 µL/min to 5 mL/min (4 Nebulizers Option)
Instrument	Microprocessor
Signal Drift	Inferior to 1 mV/Hour
Outputs	1 Analogical 0 – 1 Volt 1 Analogical 0 – 10 mVolt 1 digital RS232 communication port
Inputs (Contact Closures)	Remote Auto Zero

Instrument Control	Standalone Manual Keypad or Software (75S)
Operating Parameters Control	Digital panel or Software (75S)
Power	100V / 60 Hz, 115V / 60 Hz or 230V / 50 Hz
Dimensions	360 mm width (14”) 504 mm Height (20”) 500 mm Deep (20”)
Weight	20 Kg

Another New Standard in Evaporative Light Scattering Detection

Sedex 75 & 75c Enhanced Sensitivity & Resolution

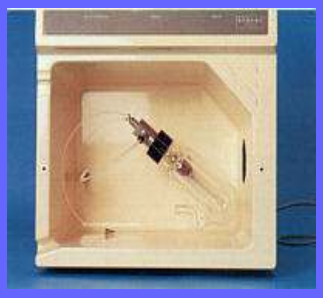


The Standard in Low Temperature, Evaporative Light Scattering (ELS) Detection For HPLC Micro HPLC SFC, GPC, CCC

SEDEX ELS detectors offer the best and easiest way to detect poor UV-absorbers. The new Model 75 and it's predecessor, Model 55, offer unique low temperature operation, for a greater detection range, and to insure analyte integrity and chemical stability. They can readily be incorporated as free-standing detectors into existing HPLC, Micro HPLC, SFC, GPC, CCC and high temperature GPC systems.

[Selected Applications]

Important Features



- Universal - Detects any non-volatile analyte.
- Gradient Elution - Not restricted to isocratic elution conditions.
- High Sensitivity - Limits of on-column detection in the low nanogram range. Less than 100 pg in micro HPLC.
- Low Temperature Operation - 40°C with 100% water at a flow rate of 2 ml/min.; 35°C with most organics at a flow rate of 2 ml/min.
- Low Gas Consumption - Less than 3 L/min.
- Solvent Transparent - Can be used with any solvent, including strong UV absorbers. Does not produce solvent front peaks.
- Stable - Insensitive to fluctuations in ambient conditions.
- Versatile - The same unit can be used in HPLC, micro HPLC or SFC with appropriate interchangeable nebulizers.
- Safe - The instrument design insures total safety in case of carrier gas flow interruption.
- Self Cleaning - Requires minimal maintenance due to extremely low surface contamination. Cleaning is effected by temperature programming without dismantling the drift tube.

Principles of Operation

Effluent from the chromatographic column is nebulized to form a homogeneous mist of droplets. This aerosol then enters a heated tube where the mobile phase evaporates, leaving non-volatile analytes. The residual analytes then reach the optics of the detector

Generally, a greater response is obtained at lower temperatures, and the SEDEX ELS detectors are unique in that they can effectively evaporate all solvents at temperatures significantly below their boiling points.

system, where they diffuse through an incidental light beam from a tungsten-halide source.

The light scattering caused by the non-volatile analyte(s) is collected by a photomultiplier and converted to an analog signal which is output to a signal recording device. The amount of diffused light, A, is a function of the mass, m, of the analyte and this generally obeys an exponential relationship $A = am^b$. Thus, a plot of log A versus log m should give a linear response. The slope of this line, b, and the constant, a, are dependent on both the nature of the mobile phase and the temperature at which evaporation takes place.

For analytes that are polar, ionizable or ionic, it is possible to add volatile modifiers to the mobile phase, to improve chromatographic performance. Such modifiers include ammonium hydroxide, triethylamine, ammonium acetate, Formic, acetic, trifluoroacetic acids and nitric acid.

For greater resolution, gradient elution can also be employed. The versatile SEDEX ELS detectors may be used in preparative applications, by means of an optional flow-adiustable stream-splitting device. For micro HPLC, a micro HPLC kit is available. For SFC applications, an SFC kit is available.

Selected Applications

Alkylglycosides	Polyethyleneglycols
Ethoxylated Alcohols	Sugars
Organic Acids	Triacylglycerols
Phospholipids	Triglycerides

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