TELEDYNE ISCO
A Teledyne Technologies Company

ELSD

Model 340CF
Model 330

Speed • Performance • Reliability

Evaporative Light Scattering Detection (ELSD)

Teledyne Isco's Evaporative Light Scattering Detectors improve the detection of compounds with little or no UV chromophore such as carbohydrates, steroids, lipids, and terpenes. Whether you are analyzing or simply purifying your compounds, these powerful detectors add greater detection sensitivity for your most complex separations.

Unlike UV detection alone, adding an ELSD to your existing LC system can provide near universal detection without changing your existing chromatographic methods.

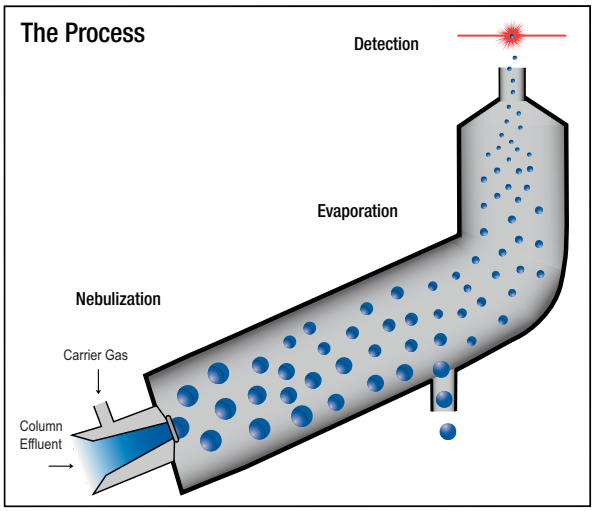


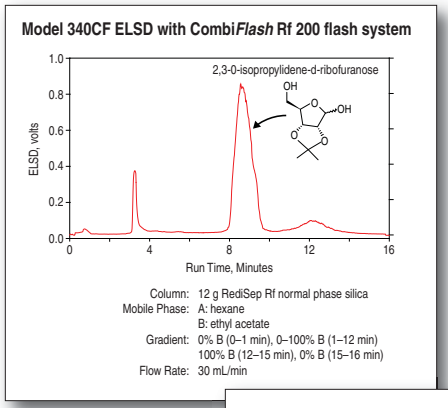
Figure 1: *Patented* Thermo-Split technology controls the nebulization zone temperature to regulate the mobile phase to analyte ratio passed to the evaporation zone. This feature lets you optimize detector sensitivity over widely varying flow rates and gradients.*

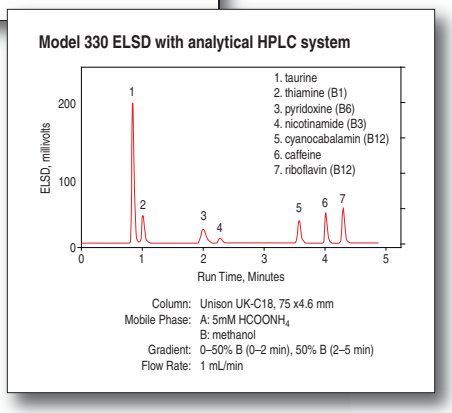
How does it work?

The ELSD receives liquid eluting from the chromatography column. The fluid is nebulized using a stream of inert gas, forming an aerosol cloud of solvent droplets containing your compound.

The aerosol cloud is then evaporated, leaving particles of dried compound. A gas stream carries the particles to the detector.

Within the detector, a laser illuminates the gas stream. When compound is present, the particles cause the laser light to scatter, indicating its presence and creating a detector signal.





Why choose a Teledyne Isco ELSD?

The Teledyne Isco 330 and 340CF detectors offer advantages over other conventional ELSD systems:

- Patented technology precisely controls temperature to optimize analyte detection (see Figure 1)
- Flexible signal filter option reduces baseline noise, without affecting resultant peaks
- Straight drift tube and long life laser provide long-term reliability and require minimal maintenance
- Low gas consumption — compatible with almost any gas supply, (nitrogen recommended)
- Backed by Teledyne Isco's sales and service professionals

** US Patent 7,290,723 B1*

Model 340CF Preparative ELSD

This detector is a modular component solution for the unique needs of preparative chromatography, allowing you to confidently see compounds without chromophores.

An integral flow split system maintains a steady, 0.7 mL per minute flow stream over a wide range of flow rates and solvent compositions.

Although ELSD is a destructive technique, only a miniscule amount of compound is lost.

When used with UV-vis or All-wavelength detection on Teledyne Isco's Combi*Flash* Rf and Combi*Flash* Torrent systems, the 340CF gives you the most universal flash system available.

Flexible - Easily configure the 340CF for preparative or analytical applications with a simple tubing change. The 340CF can be used with most prep systems having an external detector input.

Scalable - Keep preparative compound purifications on scale from 50 mg to 300 g (Model 340CF).

Modular - Share the detector among multiple instruments in your lab. Use either detector when you need it, where you need it.

Model 330 Analytical ELSD

The Model 330 is ideal for advanced research requiring extremely high sensitivity, high flow rates, or analysis of semi-volatile compounds. Filtering algorithm options allow use with conventional and fast HPLC systems. Store and quickly recall up to ten user-defined profiles to support a wide variety of analytical methods.

- Detection limits down to nanogram level
- Dynamic range of over 3 orders of magnitude
- Excellent reproducibility ~2% RSD
- Minimal peak dispersion for detecting closely eluting peaks

ELSD Specifications

Dimensions (W x D x H)	9.8 x 18 x 11.5 inches (24.9 x 45.7 x 29.2 cm)
Weight	25 lbs. (11.3 kg)
Display	Two line, 20 character per line VFDL
User Interface	Four multi-function keys
Evaporative Zone Temperature	Ambient to 120 °C (248 °F)
Thermo-Split™ Chamber Temperature	10 °C to 70 °C (50 °F to 158 °F)
Liquid Flow Rate Model 340CF Model 330	 5 mL/min to 1 L/min 0.2 mL/min to 5 mL/min
Gas Requirements	65 psi ± 5 psi nitrogen or other inert gas
Gas Consumption	~ 2.5 SLPM
Operating Conditions	16 °C to 29 °C (60 °F to 85 °F) and < 90% R.H. non-condensing
Electrical Requirements	Nominal 120 VAC, 50/60 Hz or Nominal 240 VAC, 50/60 Hz; 600 watts maximum
Wetted Materials	Stainless steel, glass, anodized aluminum, PTFE, PEEK, Carbon
Light Source	670 nm Laser Diode, < 5 mW
Detector	Hermetically sealed photo-diode/operational amplifier
Output Signal (user selectable)	0 - 1V DC, 0 - 5V DC
Interface	RS232, Contact Closure

Ordering Information

Model 340CF ELSD for use with preparative chromatography systems of 5 mL/min or greater with self contained flow splitter pump for minimal sample loss. Includes connections for 1/8"OD tubing. Contact factory for cables for use with non-Combi*Flash* systems. 68-5237-062

Model 330 ELSD for use with analytical chromatography systems up to 5 mL/min. Unit is compatible with either 5V or 1V analog data systems. Compatible with 1/16" OD tubing. 68-5237-067

Connection kit for Model 340CF to Combi*Flash* Torrent or systems using ¼"OD tubing. 60-5247-021

TELEDYNE ISCO
A Teledyne Technologies Company
4700 Superior Street ▪ Lincoln, NE 68504 USA
Toll free: (800) 228-4373 (USA & Canada) ▪ Phone: (402) 464-0231 ▪ Fax: (402) 465-3022 ▪ iscoinfo@teledyne.com
Brochure L-5161 ▪ Printed in the U.S.A. ▪ All rights reserved. ▪ 09/10