



ELSD 800

Universal HPLC Detection is Now Affordable!

Economical - Priced thousands less than models with comparable features

Easy to Use - Requires virtually no optimization

Small and Stackable - Makes efficient use of valuable bench space

Low Temperature Operation - Detects semi-volatile compounds

Alltech

Brochure #474

UNP



The Alltech ELSD 800

From the Leader in Evaporative Light Scattering Detection

Alltech has more than 15 years of experience engineering and manufacturing Evaporative Light Scattering Detectors. The ELSD 800 is our fifth generation of this unique detector technology. In addition, our global network of dedicated applications chemists and technical support professionals provide you with the comprehensive service and support you need.

ELSD Advantages Compared to other LC Detectors

A versatile, universal detector, the ELSD 800 is ideal to replace or complement your existing LC detectors

| | ELSD | RI | UV | MS |
|----------------------|------|----|----|----|
| Sensitivity | ● | ○ | ● | ● |
| Gradient Capability | ● | ○ | ● | ● |
| Baseline Stability | ● | ○ | ● | ● |
| Solvent Interference | ● | ○ | ○ | ● |
| Mass Balance | ● | ● | ○ | ○ |

| Chart Key | |
|------------|---|
| Excellent: | ● |
| Good: | ◐ |
| Poor: | ○ |

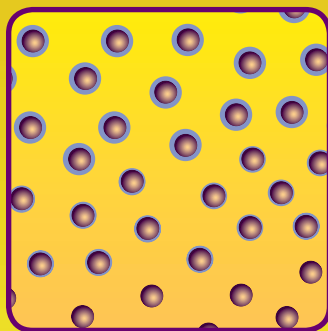
Evaporative Light Scattering Detection in Three Simple Steps

The ELSD 800 detects any compound less volatile than the mobile phase to low nanogram levels using a simple 3-Step process:



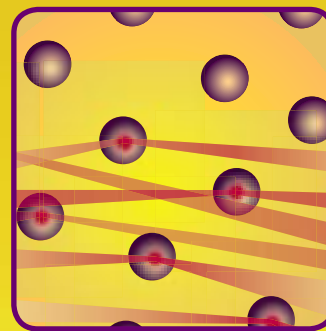
1. Nebulization

Column effluent passes through a needle and mixes with nitrogen gas to form a dispersion of droplets.



2. Evaporation

Droplets pass through a heated 'drift tube' where the mobile phase evaporates, leaving a fine mist of dried sample particles in solvent vapor.



3. Detection

The sample particles pass through a cell and scatter light from a laser beam. The scattered light is detected, generating a signal.

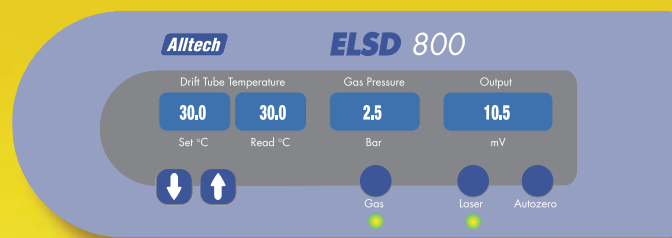
We surveyed thousands of chromatographers about what they wanted in an ELSD

You asked for:

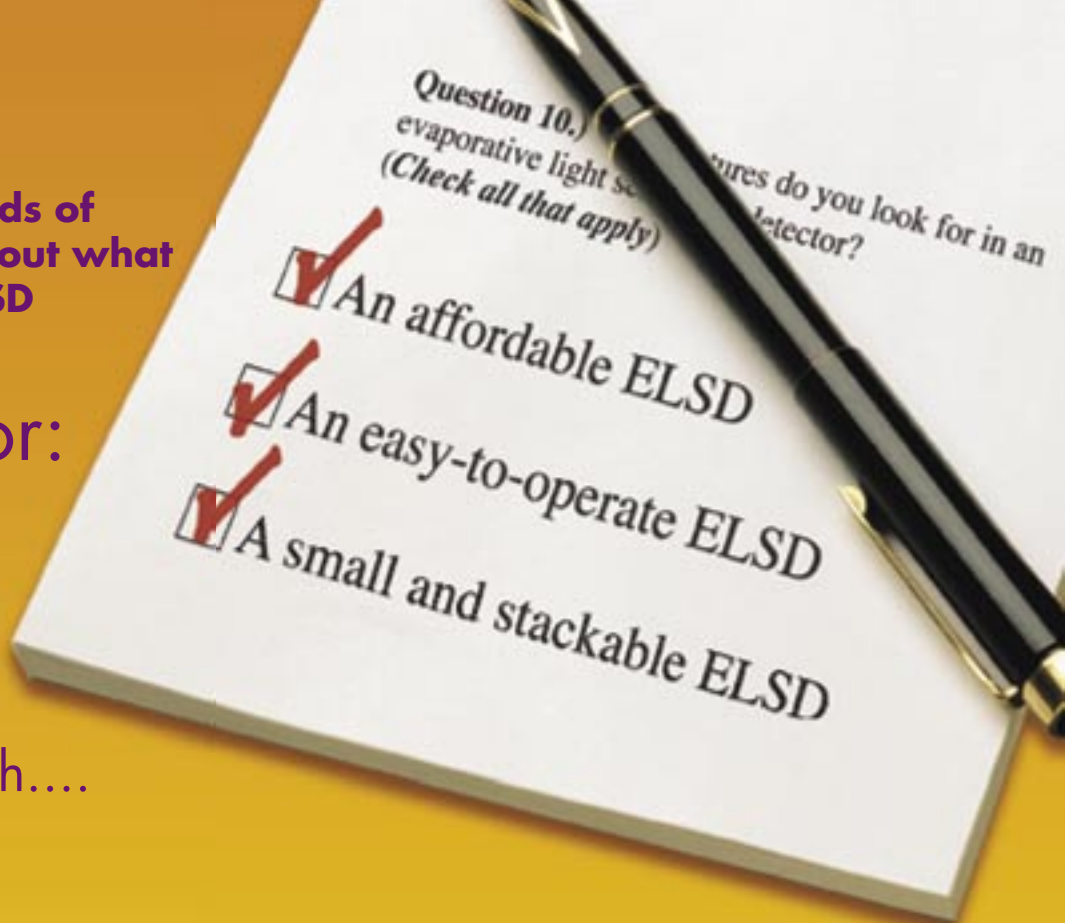
We responded with....

The New ELSD 800

- **Economical** - Priced thousands less than models with comparable features
- **Easy to Operate** - Requires virtually no optimization
- **Small and Stackable** - Makes efficient use of valuable bench space
- **Low Temperature Operation** - Detects semi-volatile compounds



The ELSD 800 is easy to operate and requires virtually no optimization. The same low temperature and gas flow is used for most applications, including organic and aqueous mobile phases, and gradient methods.



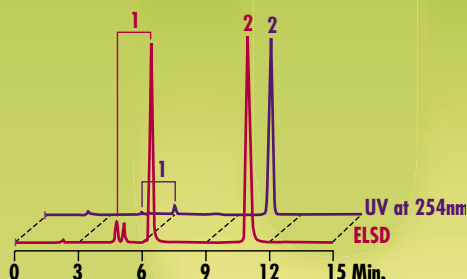
The ELSD 800 is small and stackable, minimizing bench space needed when using multiple ELSDs.



Use ELSD to Replace or Complement Your Existing Detector

ELSD Obtains a More Accurate Representation of Sample Mass than UV

1. Hexabromocyclododecane
2. Tetrabromobisphenol A (allyl ether)
(Equal Concentrations)

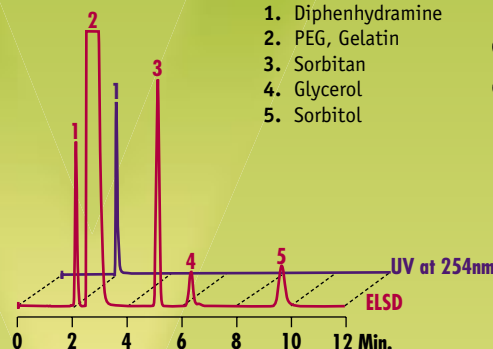


CHROM-10260
CHROM-10261

Column: Alltima™ C18, 5µm, 250 x 4.6mm
(Part No. 88056)
Mobile Phase: Acetonitrile:Water (95:5)
Flowrate: 1.0mL/min

ELSD Shows What May Be Missing From Your UV Chromatogram

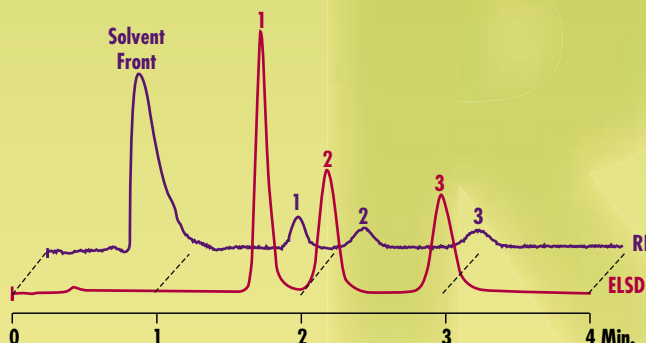
1. Diphenhydramine
2. PEG, Gelatin
3. Sorbitan
4. Glycerol
5. Sorbitol



CHROM-10274
CHROM-10275

Column: Prevail™ Carbohydrate ES, 5µm, 250 x 4.6mm
(Part No. 35101)
Mobile Phase: Acetonitrile:0.1% Ammonium Carbonate, pH 6.5 (80:20)
Flowrate: 1.0mL/min

ELSD Replaces RI with Higher Sensitivity and Stable Baselines

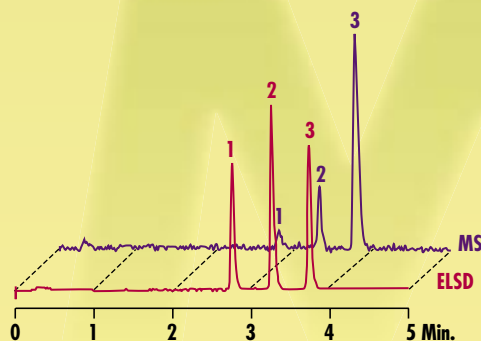


1. Fructose
2. Glucose
3. Sucrose

CHROM-10278
CHROM-10277

Column: Prevail™ Carbohydrate ES, 5µm, 53 x 7mm
(Part No. 35104)
Mobile Phase: Acetonitrile:Water (75:25)
Flowrate: 2.0mL/min

Use ELSD in Parallel with MS to Obtain Maximum Structural and Concentration Information



1. Fmoc - ALA
2. Fmoc - TRP-OH
3. Fmoc - ARG (PMC)-OH

CHROM-9208
CHROM-9209

Column: YMC ODS-A, 5µm, 50 x 4.6mm
Mobile Phase: A: 0.05% TFA in Water
B: 0.035% TFA in Acetonitrile
Gradient:

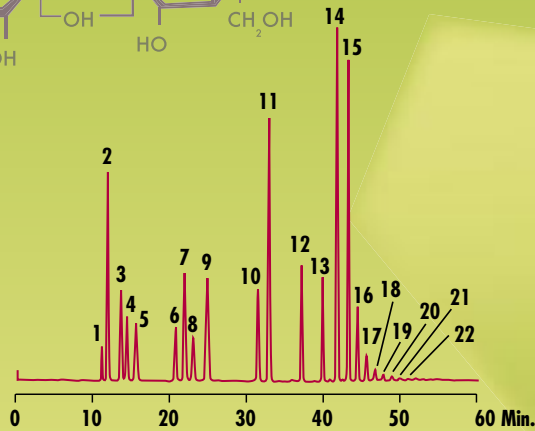
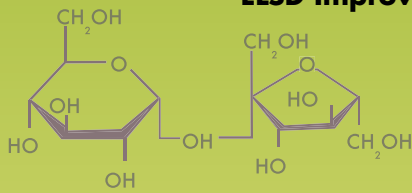
| | | | |
|-------|----|-----|-----|
| Time: | 0 | 3.7 | 4.2 |
| %B: | 30 | 95 | 95 |

Flowrate: 3.5mL/min

Detect Non-Chromophoric Compounds Easily with ELSD

ELSD Improves Baseline Stability and Sensitivity for Carbohydrates

Mono-, Di-, Tri-Saccharides



- | | |
|-------------------|----------|
| 1. iso-Erythritol | 12. DP4 |
| 2. Fructose | 13. DP5 |
| 3. Sorbitol | 14. DP6 |
| 4. Mannitol | 15. DP7 |
| 5. Glucose | 16. DP8 |
| 6. Inositol | 17. DP9 |
| 7. Sucrose | 18. DP10 |
| 8. Maltitol | 19. DP11 |
| 9. Maltose | 20. DP12 |
| 10. Raffinose | 21. DP13 |
| 11. Maltotriose | 22. DP14 |

CHROM
10009

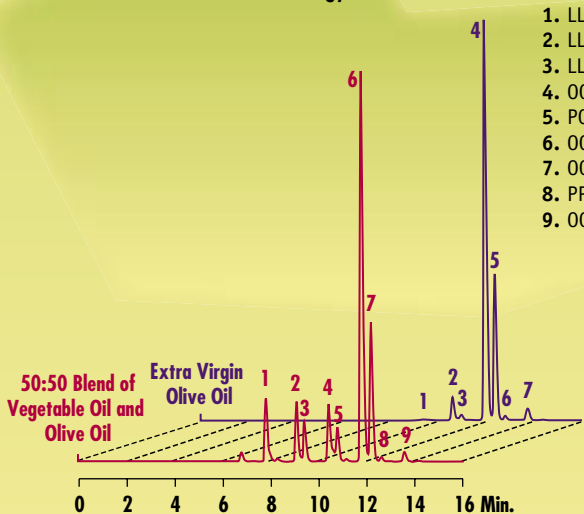
Column: Prevail™ Carbohydrate ES, 5µm, 250 x 4.6mm
(Part No. 35101)
Mobile Phase: A: Acetonitrile
B: 0.04% Ammonium Hydroxide in Water
Gradient:

| | | | | |
|-------|----|----|----|----|
| Time: | 0 | 25 | 40 | 60 |
| %B: | 17 | 27 | 45 | 55 |

Flowrate: 1.0mL/min

ELSD Detects Adulteration of Olive Oil Without Derivatizing the Sample

Triglycerides in Olive Oil



- | | |
|--------|------------|
| 1. LLL | CHROM 9513 |
| 2. LLO | CHROM 9528 |
| 3. LLP | |
| 4. OOL | |
| 5. POL | |
| 6. OOO | |
| 7. OOP | |
| 8. PPO | |
| 9. OOS | |

Column: Alltima™ C18, 3µm, 150 x 4.6mm
(Part No. 81387)
Mobile Phase: A: Dichloromethane
B: Acetonitrile
Gradient:

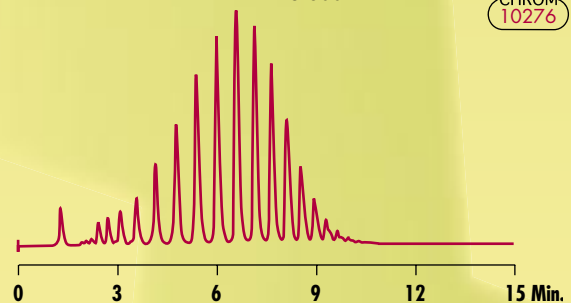
| | | | | |
|-------|----|----|----|----|
| Time: | 0 | 10 | 18 | 20 |
| %B: | 70 | 55 | 70 | 70 |

Flowrate: 1.5mL/min



ELSD Simplifies Detection of Difficult Samples

PEG 600



CHROM
10276

Column: Adsorbosphere® C8, 5µm, 150 x 4.6mm
(Part No. 287122)
Mobile Phase: A: Water
B: Methanol
Gradient:

| | | |
|-------|----|----|
| Time: | 0 | 15 |
| %B: | 30 | 60 |

Flowrate: 1.0mL/min

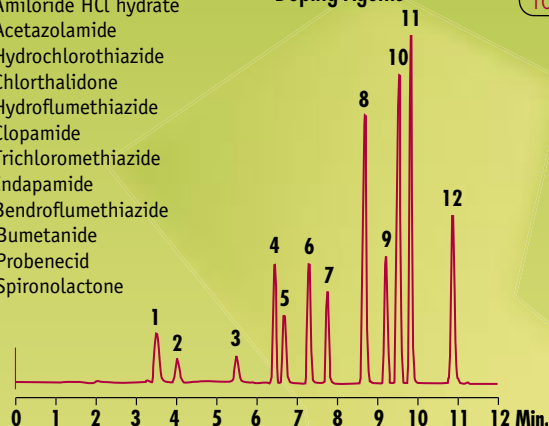
ELSD is Ideal for Pharmaceutical and Nutraceutical Analysis

Universal, Sensitive Detection for Many Different Pharmaceutical Compounds

1. Amiloride HCl hydrate
2. Acetazolamide
3. Hydrochlorothiazide
4. Chlorthalidone
5. Hydroflumethiazide
6. Clopamide
7. Trichloromethiazide
8. Indapamide
9. Bendroflumethiazide
10. Bumetanide
11. Probenecid
12. Spironolactone

Doping Agents

CHROM
10262



Column: Alltima™ C18, 5µm, 250 x 4.6mm
(Part No. 88056)

Mobile Phase: A: 25mM Ammonium Acetate, 0.1%TFA
B: Acetonitrile, 0.1%TFA

Gradient:

| | | | |
|-------|----|----|----|
| Time: | 0 | 10 | 15 |
| %B: | 25 | 95 | 95 |

Flowrate: 1.0mL/min

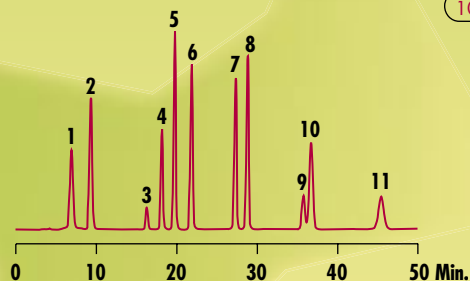


Use Gradient Elution and Detect Non-Chromophoric Nutraceuticals

Ginsenosides in Korean Ginsengs

CHROM
10142

1. Rh₂
2. Rh₁
3. Rg₂
4. Rg₃
5. Rg₁
6. Rf
7. Re
8. Rd
9. Rc
10. Rb₂
11. Rb₁



Column: Prevail™ Carbohydrate ES, 5µm, 250 x 4.6mm
(Part No. 35101)

Mobile Phase: A: Acetonitrile:Water:Isopropyl Alcohol(80:5:15)
B: Acetonitrile:Water:Isopropyl Alcohol(60:25:15)

Gradient:

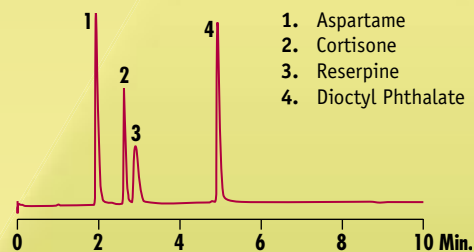
| | | | | | | | |
|-------|----|----|----|----|----|-----|----|
| Time: | 0 | 28 | 35 | 45 | 50 | 51 | 57 |
| %B: | 25 | 50 | 60 | 75 | 90 | 100 | 25 |

Flowrate: 0.8mL/min

Stable Baselines with Rapid, Extreme Gradients

LC/MS Screening Performance Test Mix

CHROM
10273



Column: Platinum™ C18, 3µm, 20 x 4.6mm
(Part No. 43804)

Mobile Phase: A: 0.05% Formic Acid in Water
B: 0.05% Formic Acid in Acetonitrile

Gradient:

| | | | | |
|-------|---|----|----|----|
| Time: | 0 | 3 | 7 | 10 |
| %B: | 5 | 90 | 90 | 5 |

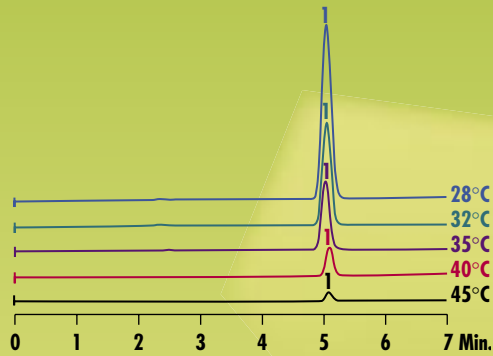
Flowrate: 1.0mL/min

1. Aspartame
2. Cortisone
3. Reserpine
4. Dioctyl Phthalate



ELSD Offers Sensitive, Universal Detection for a Broad Range of HPLC Applications

Near Ambient Temperature Evaporation Maximizes Sensitivity for Semi-Volatiles



1. Glycerol

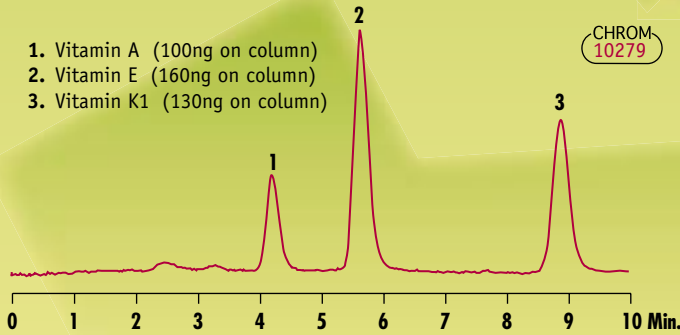
Column: Prevail™ Carbohydrate ES, 5µm, 250 x 4.6mm (Part No 35101)
Mobile Phase: Acetonitrile: 0.04% Ammonium Hydroxide (80:20)
Flowrate: 1.0mL/min

- CHROM-10268
- CHROM-10269
- CHROM-10270
- CHROM-10271
- CHROM-10272

Use ELSD with Microbore Columns without Modifying the Detector

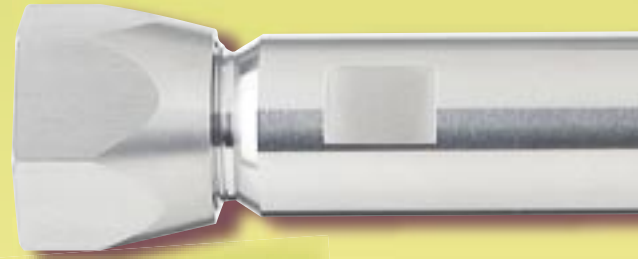
Fat Soluble Vitamins

1. Vitamin A (100ng on column)
2. Vitamin E (160ng on column)
3. Vitamin K1 (130ng on column)



CHROM-10279

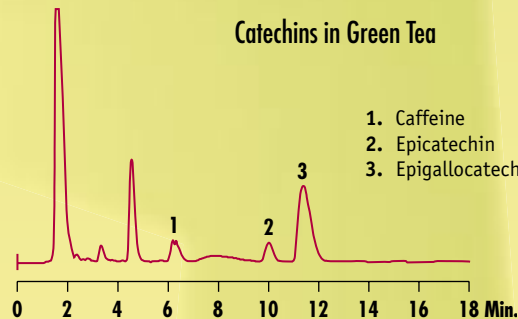
Column: Alltima™ C18, 3µm, 150 x 1mm (Part No. 88384)
Mobile Phase: Methanol:Chloroform (90:10)
Flowrate: 50µL/min



Scale Up to Prep with ELSD by Simply Adding a Flow Splitter

Catechins in Green Tea

1. Caffeine
2. Epicatechin
3. Epigallocatechin gallate



CHROM-10140

Column: Alltima™ C18, 5µm, 150 x 22mm (Part No. 81106)
Mobile Phase: 0.05% TFA:Acetonitrile (87:13)
Flowrate: 23mL/min



Product Details and Services



The ELSD 800 has been designed and manufactured in accordance with the following standards: EN6101-1 + A2:95, EN555011: 1998, FCC CFR 47 Part 15: 2001, EN 61326: 1998, EN 6100-3-2: 1995 + A14:2000 and EN61000-3-3: 1995

ELSD 800

| DESCRIPTION | PART NO. | PRICE |
|-------------|---------------|-------|
| 120V | 800100 | |
| 240V | 800200 | |

Instrument Services

| DESCRIPTION | PART NO. | PRICE |
|-------------------------------|---------------|-------|
| Qualification Services | | |
| IQ/OQ performed by Alltech | Q80010 | |
| PQ performed by Alltech | Q80020 | |
| IQ/OQ/PQ performed by Alltech | Q80030 | |
| IQ/OQ Documentation | Q80041 | |
| PQ Documentation | Q80042 | |
| IQ/OQ/PQ Documentation | Q80043 | |
| Re-OQ performed by Alltech | Q80040 | |
| Re-OQ/PQ performed by Alltech | Q80050 | |

Installation and Training

Installation and familiarization **INSTALL**



For information on our dual mode, advanced control ELSD product, the ELSD 2000, please request bulletin #437A. Visit: <http://www.alltechweb.com/literature/broch/437abrch.asp>

ELSD 800 Specifications

| | |
|---|--|
| Light Source: | Laser diode with collimating optics, 670nm, max output less than 5mW, class IIIA |
| Detector Element: | Silicon photodiode |
| Temperature Range: | Ambient to 110°C in 1°C increments |
| Nebulizer Gas: | Up to 3.0L/min, nitrogen recommended |
| Gas Inlet Pressure: | 15–90psi (1.0–6.0 Bar) |
| Typical Operating Range: | 1.0-3.0 L/min |
| Flow Control: | Fixed orifice with regulated pressure |
| Mobile Phase Flowrate: | To 5.0mL/min |
| Analog Outputs: | 1V or 10mV full scale |
| Communications: | <i>Outputs:</i> TTL/contact closure - Fault relay for LC pump shutdown |
| Operating Parameter Selection & Display: | Liquid crystal display and keypad entry of operating parameters |
| Power Requirements: | 120/240V, 50/60Hz |
| Dimensions: | 14.0" H x 13.0" W x 18.0" D (35.6cm H x 33.1cm W x 45.7cm D) |
| Weight: | 20lbs (9kgs) |
| Warranty: | 1 year parts and labor |



Your Online Technical Resource for Chromatography



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Alltech

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05/03 #474



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