

Ultrafluor Scanning Fluorescence Detector

Precise ♦ Reliable ♦ Affordable



An Advanced Technology Fluorescence Detector

The Ultrafluor Fluorescence Detector is a highly sensitive, scanning fluorescence detector for liquid chromatography. Its dual monochromator design provides exceptional optical performance and operational flexibility for routine and trace analyses.

High performance

An improved optical design provides exceptional performance. High-efficiency holographic diffraction gratings are optimized for high sensitivity at both lower and higher excitation wavelengths.

Customize your selectivity by choosing one of three spectral bandwidths. The pulsed xenon lamp provides a high energy level across the entire UV/Vis spectrum and produces no harmful ozone. The flash rate of the lamp can be reduced to 20 Hz for compounds that produce a larger fluorescence response, extending lamp life. Fluctuations in

lamp intensity are automatically maintained and corrected to reduce noise and drift.

Quantitative accuracy and precision are greatly enhanced by the use of 20-bit digital electronics, producing a wider dynamic range. The electronics design allows emission monitoring of fluorescence, phosphorescence, and chemiluminescence.

Improved laboratory productivity

Time programming of the Ex λ and Em λ lets you optimize sensitivity and selectivity. Real-time scanning of eluting peaks helps you identify optimum wavelengths. No more time-consuming, manual stop-flow techniques.

A unique feature allows the emission data of any one of up to sixty stored spectra to be displayed on the

LCD or played back to an external data collection device.

The signal response can be normalized to any compound of interest, or a preset factory response factor can be used. This provides consistent unit-to-unit response.

Saves setup time

Create up to four user files with ten timelines each for fast, easy wavelength changes. All files can be linked with the built-in queue.

Easy access and maintenance

The lamp and flow cell are pre-aligned and easily accessible on the outside of the instrument. Replacement or service is quick and easy.

Flow cell

The Ultrafluor includes a biocompatible flow cell with 8 μ L illuminated volume.



Analytical
www.ais-india.com

Ultrafluor Scanning Fluorescence Detector

Specifications

Optical design

Two dual monochromators using concave holographic diffraction gratings; stepper-motor driven

Sensitivity

SN >3000 for 4.1 µg/L anthracene in MeOH;
248 nm Ex/398 nm Em

Wavelength range

200 to 650 nm excitation and emission;
200 to 800 nm emission with optional extended-range (red-sensitive) PMT

Wavelength accuracy

±0.5 nm @248 nm Ex/398 nm Em

Wavelength precision

±0.5 nm

Spectral bandwidth

10, 20, or 30 nm; selectable

Power

Low pressure xenon; selectable 20 or 100 Hz

Flow cell

High-purity quartz, Teflon®, Kalrez®, and Kel-F®; 8 µL illuminated volume; maximum pressure: 200 psi (14 bar)

Spectral scanning

Automatic or manual; 100 steps per second; step size selectable; 2, 4, 8, 16, or 32 nm; up to 60 spectra stored in memory*

Range Selections

500, 200, 100, 50, 20, 10, 5, 2, 1, 0.5, 0.2, 0.1, 0.05, 0.02, 0.01 FUFs

Operating modes

Fluorescence; phosphorescence; chemiluminescence

Analog outputs

2, Range-selectable over entire fluorescence range using 20-bit D/A

Fluorescence range

0.01-500 fluorescence units full scale

Method files

4 user files protected in nonvolatile memory; files can be linked via queue; 10 time lines per file for wavelength changes; automatic zero

Ambient environment

10-40° C, 5-95% relative humidity, noncondensing

Communication

Remote inputs:

Run, Stop, Zero

Output:

Ready

Display

2 lines x 24 characters, high-contrast LCD

Dimensions

17 cm x 30 cm x 40 cm (H x W x D)

7" x 12" x 16"

Weight

11 kg (24 lbs.)

Power

100/120, 220/240 Vac nominal;

50/60 Hz; 2 Amps max

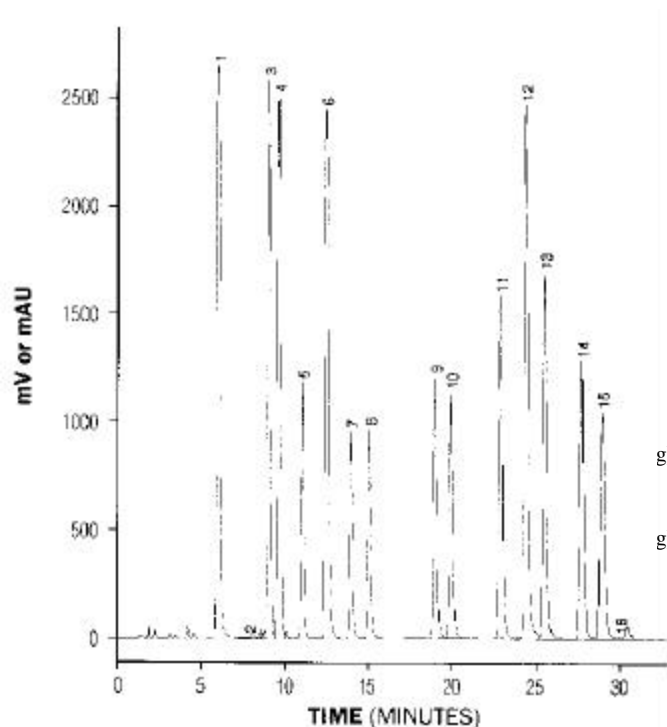
* For scans of 100 nm with a 2-nm interval (50 discrete data points)

Teflon and Kalrez are registered trademarks of E. I. duPont de Nemours, Inc.

Ordering information

TS-0305 Ultrafluor Fluorescence Detector
TS-5708-0091 Standard PMT, 200-650 nm

TS-4802-0031 Extended range PMT, 200-800 nm
TS-A5256-010SFlow cell, square
TS-9551-0144 Xenon lamp
TS-9051-0143 Regulated back pressure accessory
TS-A3469-030 FL test mix
TS-3750-0075 340 cut-off filter



- 1 Naphthalene (500 nm)
- 2 Acenaphthylene (1000 ng)
- 3 Acenaphthene (500 ng)
- 4 Fluorene (100 ng)
- 5 Phenanthrene (50 ng)
- 6 Anthracene (50 ng)
- 7 Fluoranthene (100 ng)
- 8 Pyrene (50 ng)
- 9 Benzo(a)anthracene (50 ng)
- 10 Chrysene (50 ng)
- 11 Benzo(b) fluoranthene (100 ng)
- 12 Benzo(k) fluoranthene (50 ng)
- 13 Benzo(a) pyrene (50 ng)
- 14 Dibenzo(a,h) anthracene (100 ng)
- 15 Benzo(g,h,i) perylene (100 ng)
- 16 Indeno (1,2,3-cd) pyrene (50 ng)

Wavelength Time (min.)	Program UV 1	Retention Peak Time (min.)
0.0	270	1 6.2
		2 7.6
		3 9.4
10.8	254	4 10.0
		5 11.5
		6 12.9
13.6	240	7 14.4
		8 15.5
17.5	260	9 19.3
		10 20.2
21.5	254	11 23.2
		12 24.6
		13 25.7
27.2	300	14 28.1
		15 29.5
		16 30.1
33.0	300	



Analytical
www.ais-india.com