

A sensitive solution

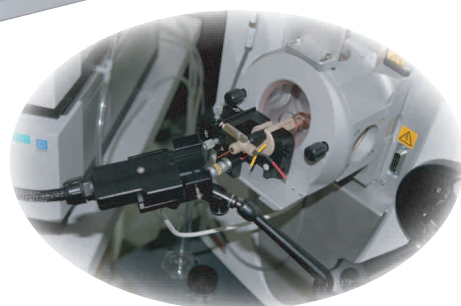
for

On-line CE-LIF-MS

On-line nano-LC-LIF-MS



**Movable
LIF Cell**



On-line LIF/MS: Improve understanding of how the MS modifies the separation.

Low offset: Minimal distance between LIF and MS detection.

Sensitivity: 10 times to 100 times greater than conventional fluorescence and up to 100,000 times more sensitive than UV detection.

Versatility: 14 interchangeable different lasers available for any application

Selectivity: Only labeled or native fluorescent molecules will be detected.
Low noise and interference.

Modularity: Adaptable to CE and all HPLC systems: Fast-LC, Capillary-LC and nano-LC.

Zetalif™ Discovery Detector Specifications:

Two models are available :

- DIS-UV-02 Possibility to couple lasers emitting at wavelengths from 266 to 650 nm.
- DIS-VI-02 Possibility to couple lasers emitting at wavelengths from 410 to 780 nm with optimization of sensitivity for wavelengths from 514 to 650 nm.

LIF Capillaries :

- OD: 365 µm ; ID: Refer to table 1
- LIF capillaries UV to optimize sensitivity when using excitation wavelength from 266 to 532nm.
- LIF capillaries VI to optimize sensitivity when using excitation wavelength from 488 to 780nm.

LIF Capillary ID µm	Estimated* cell Volume nL
20	0.06
25	0.1
50	0.4
75	0.9
100	1.6
150	3.5

*Based on 200 µm length of window
Table 1: Capillary ID and Volume cell

Cell detection volume :

It is a small part of the capillary
Refer to table 1

Signal outputs:

Analog (processed) 0-1V (DC), 0-10 V (DC)

Distances:

Detector / Cell : 1m (maximum) ; Detector / Laser : 1m (maximum)

Data Acquisition Systems:

Zetalif is compatible with any data acquisition system featuring an analog input (0-1 V). If no analog input is available, an A/D converter is necessary.

Power requirements for the Detector:

100-240 VAC, 47/63 Hz, 1.6 A

Interface with HPLC system:

Zetalif Discovery is compatible with all LC systems but optimal sensitivity is achieved at flow rates < 0.5 mL/min. Lower sensitivity may be observed at higher flow rates.

Interface with CE system:

Agilent CE: Internal Detector Adapter kit, MS cassette, and A/D converter (HP.35900E) needed. Minimum capillary length total 33cm/effective 14cm. The system works with the HP Chemstation software.

Beckman P/ACE MDQ: External Detector Adapter kit, MS cassette and an A/D converter (SS420-X) needed. Capillary length: total 53cm/effective 35cm. The system works with the 32 karat software.

Other systems: please contact Picometrics.

Cell holder:

The cell holder is an articulated arm which enables the cell to be as close as possible to the MS detection (3 available models).

Dimensions and weight:

Detector : 34.0 (H) x 17.0 (W) x 34.0 (D)cm

12,5 kg

Cell : See figure 1

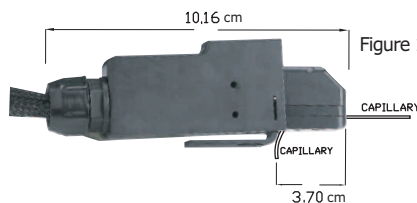


Figure 1: Movable LIF Cell

Available Lasers:

Wavelength	Type	Power	Wavelength	Type	Power
266 nm	Pulsed DPSS (10kHz)	≥ 2 mW	514 nm	Argon ion	40 mW
325 nm	Helium / Cadmium	≥ 10 mW	532 nm	DPSS CW	15 mW
355 nm	Pulsed DPSS	≥ 2 mW	594 nm	Helium / Neon	≥ 2 mW
410 nm	Laser module	≥ 20 mW	633 nm	Helium / Neon	≥ 10 mW
442 nm	Helium / Cadmium	≥ 30 mW	635 nm	Laser Diode CW	20 mW
473 nm	Diode CW	≥ 30 mW	650 nm	Laser Diode CW	15 mW
488 nm	Argon ion	25 mW	780 nm	Laser Diode CW	40 mW

Filter block:

The filters in filter block depend on the laser and contain the appropriate excitation and emission filters (a).

(a) Contact Picometrics for more information

Fr Patent 2 827 958, 2003/09/26 ; US Patent 5,895,920, 1999/04/20

Laser
Induced
Fluorescence
Detector

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