

MIRA*

digital output to PC μ -HPLC radioactivity flow detector



β -Radiochromatography



Applications

- β^- radioactivity μ -HPLC
 - liquid scintillator admixture
 - internal solid scintillator
 - external solid scintillator
- developed for μ -flow rates
- ultra high sensitivity

General description

In μ -HPLC-applications the eluate flow rate is very small. That requires very small flow cells with almost no dead volume.

Conventional radioactivity flow detectors have been modified for small dead volume and small cell volumes.

Consequently the radioactivity counted in the flow cell is very small and often impossible to detect in the background.

Therefore, **MIRA*** has been developed using quite small photomultipliers with very low noise.

The small photomultipliers are arranged in coincidence in order to obtain the best possible sensitivity.

4 coincidence detectors are arranged after another.

The very small radioactive fraction is passing one detector after the other.

Every coincidence flow detector is counting separately over the optimal interval time.

4 separate radio-chromatograms are digitally recorded and can be displayed on PC.

The flow time from one flow cell to the following one is automatically determined.

When the delay of the 4 consequent flow detectors is digitally compensated, the 4 radio-chromatograms can be added up.

By that the sensitivity is dramatically improved and fractions which are not detectable in a single coincidence flow detector can be obtained surprisingly by **MIRA***.

In PC-controlled HPLC systems the sensitivity gain can be monitored life and is even more surprising.

MIRA* can be supplied with internal solid scintillators as well as with liquid scintillator admixture.

Features

- 4 flow detectors in 1
- μ -volume flow cells
- new dimension of sensitivity
- for conventional 0 – 1 V analog recording as well as
- for digital PC-controlled HPLC-Systems

Ordering information

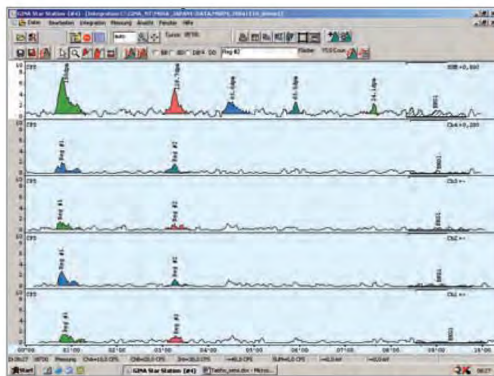
- 04000002** MIRA* HPLC flow detector
digital output to PCI
- 04000011** liquid scintillator flow cell
- 04000010** internal solid scintillator flow cell





MIRA*

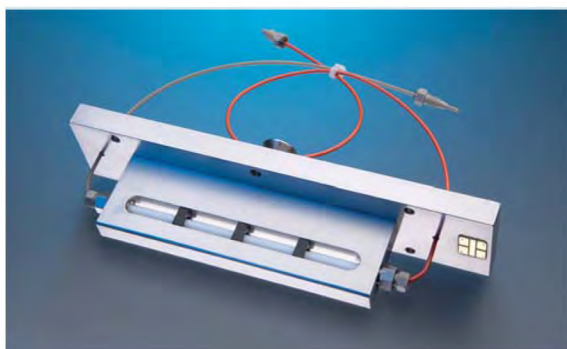
digital output to PC μ-HPLC radioactivity flow detector



4 flow detectors in 1



MIRA* μ-HPLC liquid scintillator flow cell



MIRA* μ-HPLC internal solid scintillator flow cell



MIRA* μ-HPLC external solid scintillator flow cell

Technical data

photomultiplier: 4 x 2 = 8

photocathode: 20 mm diameter

shielding: tungsten
stainless steel
lead

energy channel: 1 integral channel

coincidence: automatic

flow cell volumes

internal solid scintillator 4 x (6, 25, 50) μl

liquid scintillator admixture 4 x (40-100) μl

PC-measurement: parameter selection and entry
live measurement
4 single chromatogram lines
1 summed chromatogram line
peak integration
background subtraction

dimension detector: 200 x 200 x 300 mm

electronics: 250 x 300 x 300 mm

power: 110 – 230 V
50 – 60 Hz



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