



Innovator In Spectroscopy Equipment

# RHPLCFM2719



## RADIOACTIVITY HPLC FLOW MONITOR MODEL RHPLCFM2719

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CATALOG



MEDICAL



FREE DOWNLOAD

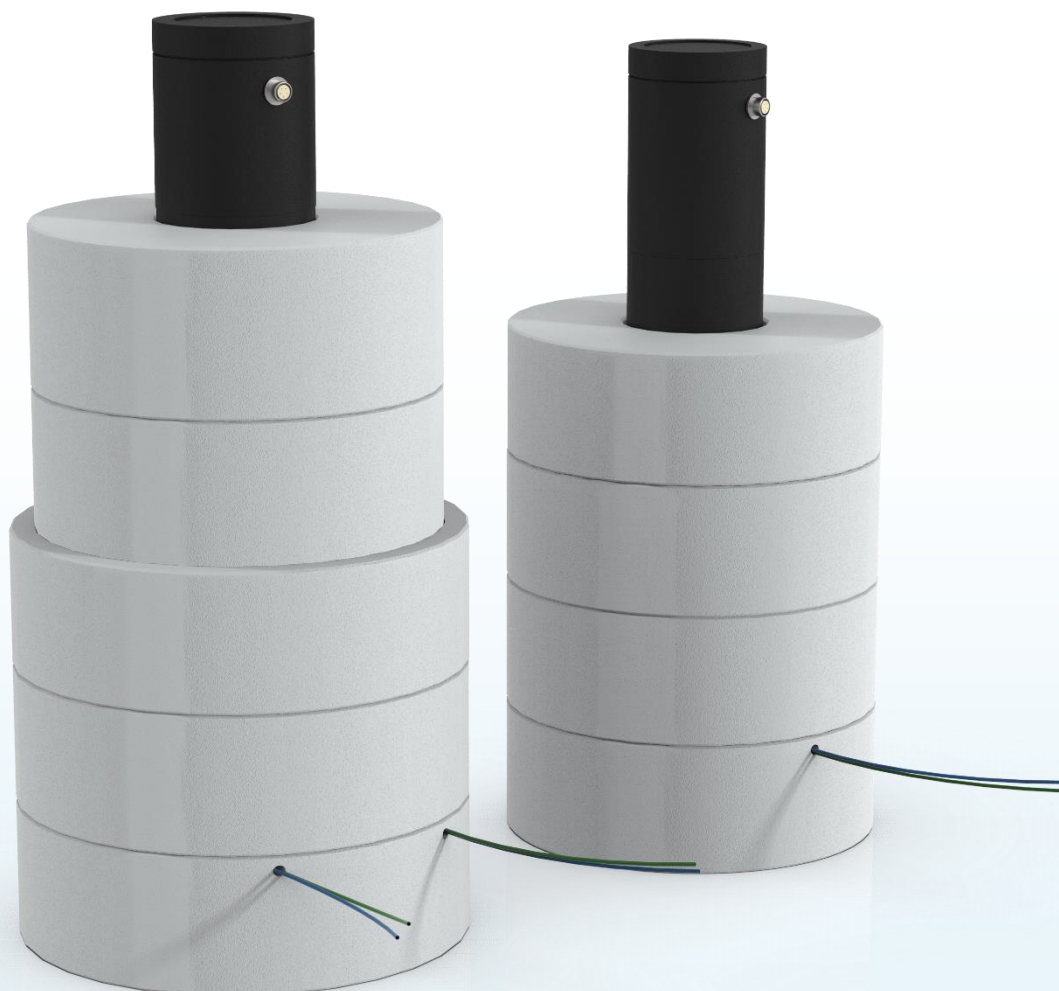
# RADIOACTIVITY HPLC FLOW MONITOR

## MODEL RHPLCFM2719

### Features

- High resolution measurement based on 2" NaI(Tl) crystal (RHPLCFM2719-2" version)
- High efficient measurement based on 3" NaI(Tl) crystal (RHPLCFM2719-3" version)
- Ultra high speed: real 100 msec sampling interval
- Closed measuring chamber with scintillation detector
- Efficient shield design for low background
- Easily selectable counting ROIs
- Efficient data smoothing algorithms
- Wide energy range
- Supports all data extraction and reanalysis data
- High sensitivity and uniform response
- Documentation of measured values
- Wide temperature range
- Automatic energy calibration
- Easily connection to HPLC using standard protocols

## HIGH PERFORMANCE HPLC MONITORING SYSTEM



## Description

RHPLCFM2719 is a spectroscopy system specially designed for monitoring radioactivity flow in HPLC. It is based on detecting gamma radiation using scintillation detector NaI(Tl). The device comes in two models namely, RHPLCFM2719-2" and RHPLCFM2719-3" that are equipped with 2" and 3" NaI(Tl) detectors, respectively.

The shielding parts are designed so as to minimize the interference in the measurements and minimizing the MDA presented by RHPLCFM2719.

Resolution in RHPLCFM2719-2" is superior that RHPLCFM2719-3" which makes RHPLCFM2719-2" a suitable choice for applications where the spectrum peaks are highly overlapped and the window selection needs to be precise. On the other hand, due to higher crystal size in RHPLCFM2719-3", this version is best suited for applications where higher speed measurement is needed.

RHPLCFM2719 is a multi-channel analyzer and capable of representing the spectrum from 30keV to 4MeV. The user need to do simple steps to include counting regions for specific spectrum peak.

The software developed for RHPLCFM2719 is capable of connecting to a wide range of complete radio-HPLC systems. The system can be utilized in various radioactivity check for HPLC.

Using modern digital signal processing algorithms, the usbBase can accurately detect the pulses corresponding to gamma radiation with low dead time. It is easy to operate and provides quick and reliable measurement results.

The measurement electronics is a modular designed system including a high voltage unit with preamplifier and an ADC for the acquisition of spectra. The measurement electronics RHPLCFM2719 is operated via PC software. This allows very intuitive user guidance. Several service functions are available including background measurement, energy calibration and spectrum recording.

## Specifications

<b>Inputs/outputs</b>
Inputs
USB
Outputs
USB
<b>Detector</b>
NaI(Tl)
2" (LGSQC2619-2")
3" (LGSQC2619-3")
Photomultiplier Tube
14-pin 10-stage PMTs
<b>Shield Properties</b>
Martials and Thickness
Lead, 50 mm (Both versions)
<b>Data Acquisition</b>

<b>Processor</b>
FPGA technology with Arm9 32 bit 200MHz
<b>Watchdog</b>
Built in
<b>Measurement/Spectrum</b>
<b>High Voltage</b>
0 - 1500V (DAC 12bit) 0.2mA
<b>Energy channel (Selective by Admin)</b>
From 0 to 1024 keV
From 0 to 2048 keV
From 0 to 3072 keV
From 0 to 4096 keV
<b>Energy calibration</b>
Non-linear empirical function or linear Calibration (polynomial fit)
<b>ADC</b>
<b>Channels</b>
12bit in 4096CH @120Mhz FRQ
<b>Conversion time</b>
200nsec with 8.3nsec time interval
<b>Digital Signal Processing</b>
12-bit and 80 MHz ADC
Software selectable coarse gain: (x1 to 150x) in 15 step
Software selectable fine gain: (0 - 2x) in 65536 step
Integration time filter for the energy calculation with software adjustable rise time in the range 0 to 0.819ms @80Mhz in 0-65536 step
Trigger threshold software adjustment (0 to 100% scale) in 1024 step
Software fine tuning of the Pole-Zero cancellation
Software gain stabilization
Pile-up rejection and Live Time correction
Baseline restorer with programmable averaging

## Application

- Radiopharmaceutical quality control
- Radiochemical purity check
- Research applications
- Data analysis for new radiotracers

## Electrical and Mechanical

### Power required

DC (USB), 5V, 100mA

### Physical

Model	RHPLCFM2719 -2"	RHPLCFM2719 -3"
Dimensions (LxWxH)	163mm x 163mm x 342.8mm	183.5mm x 183.5mm x 367.6mm
Weight	45.81kg	65.86kg
Storage temperature	0°C to 50°C	
Operating temperature	10°C to 45°C.	

## Software

CFP RHPLCFM software is a sophisticated and flexible program used to control HPLC and RHPLCFM simultaneously. The software presents several interesting features and could input several measures for presentation. Some of these features are:

Peak integration

Background subtraction

Efficient control of various HPLC devices

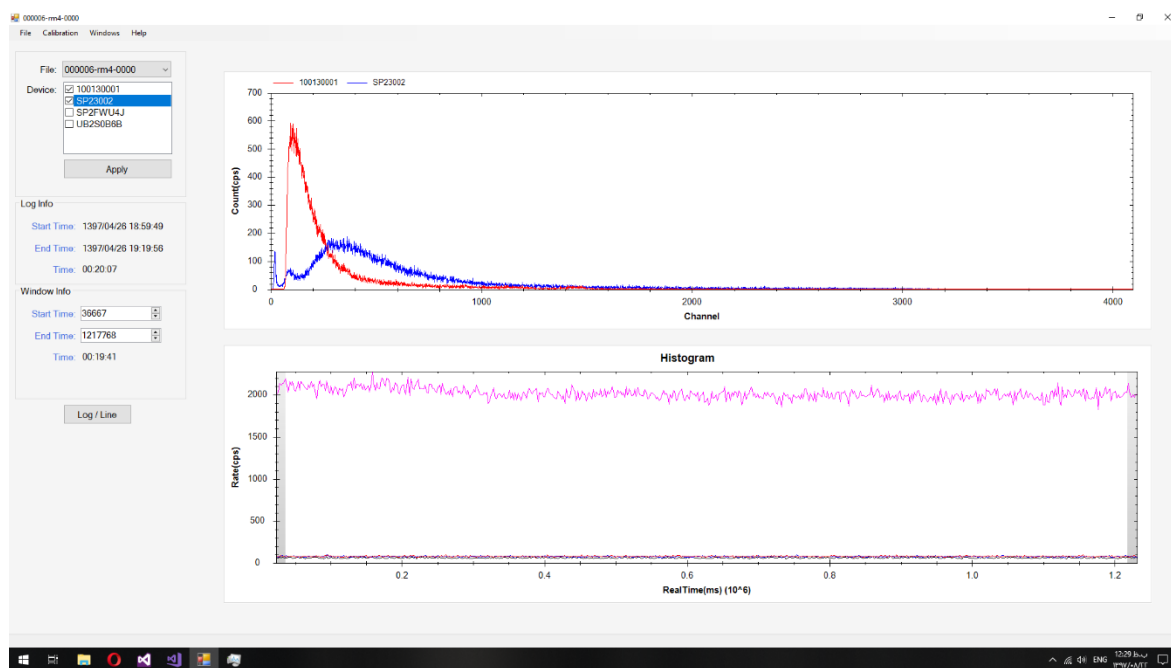
Region spectrum panel

Rate graph vs time

1ms required time for counting

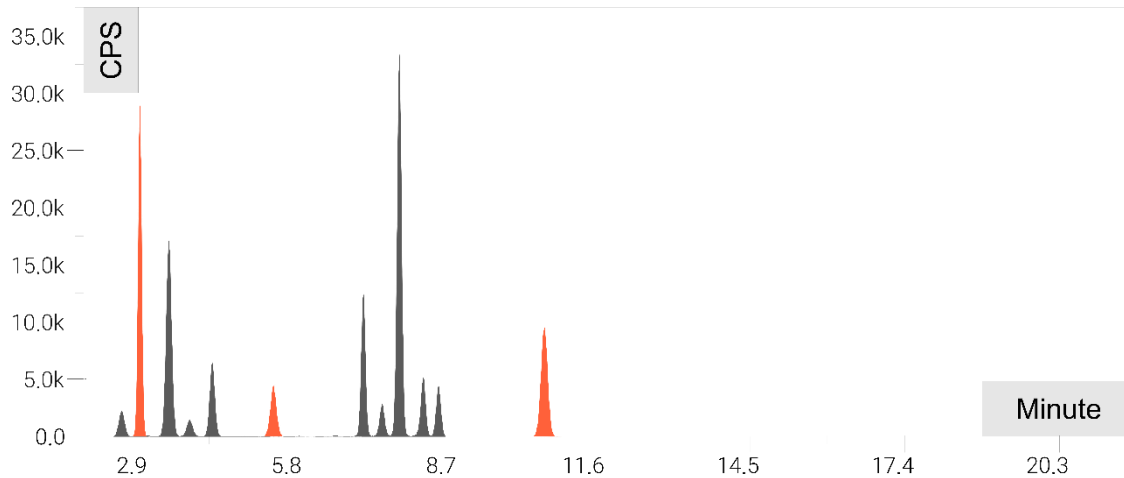
20ms required time for spectroscopy

Below we show the main window of software.






Experiment setup window

The software is equipped with user friendly and automatic procedures for peak detection and peak analysis. In the peak detection procedure, all peaks in the spectrum are detected and labeled by software automatically. The peak analysis procedure is responsible to precisely identify overlapping peaks, measure the extent of each individual peak, measure the peak area and send them for further analysis.






## Ordering info




### Standard package includes (RHPLCFM2719-2" version)

Part #	Image	Description
RHPLCFM2719-2" main		Includes the main body of device (Detection system, linear stage, integrated display)
ACCE2719002		LEMO Cable to USB for PC connection
ACCE2719003		CD User guide (1 Pack)

### Standard package includes (RHPLCFM2719-3")

Part #	Image	Description
RHPLCFM2719-3" main		Includes the main body of device (Detection system, linear stage, integrated display)
ACCE2719002		LEMO Cable to USB for PC connection
ACCE2719003		CD User guide (1 Pack)

**Optional accessories and services**

Part #	Image	Description
ACCE2719004		installation
ACCE2719005		Training
ACCE2719006		Hard case with foam insert



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