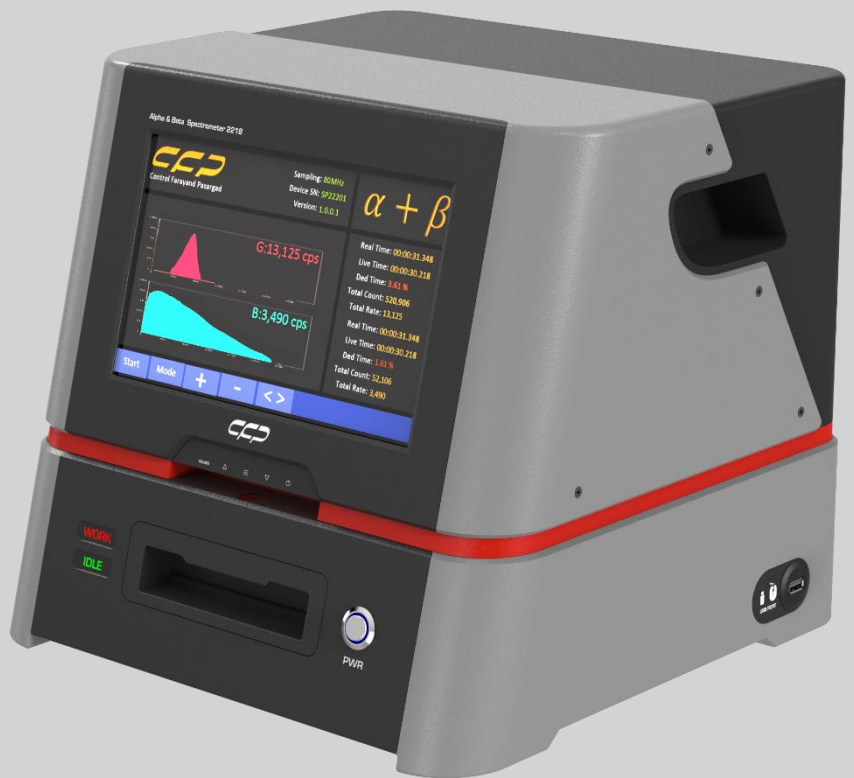




Innovator In Spectroscopy Equipment

# ABS2218-3"



## ALPHA AND BETA SPECTROSCOPY SYSTEM MODEL ABS2218-3"

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CATALOG



SPECTROMETER



FREE DOWNLOAD

# ALPHA AND BETA SPECTROSCOPY SYSTEM MODEL ABS2218-3"

## Features

- Lightweight field deployable Alpha/Beta spectrometer
- Planchet with up to 79mm diameter and 4.6mm height
- Closed measuring chamber with scintillation detector
- 2 Bank spectrum presentation (2x2048 channels)
- Supports all data extraction and reanalysis data
- Simple operation with touch sensitive display
- Simultaneous and separate measurement
- Time gained by multiple measurement
- High sensitivity and uniform response
- Low limits of detection and decision
- Documentation of measured values
- 4 different energy ranges RoI
- Wide temperature range
- Permanent data memory
- Interface for printer

**FAST, ACCURATE AND  
SIMULTANEOUS ALPHA AND  
BETA SPECTROSCOPY SYSTEM**



## Description

ABS2218-3" is a portable alpha-beta activity measurement system offering both simultaneous and separate measurement of alpha and beta activities in the sample. The system can be utilized in various applications including environmental analysis such as analysis of waste water after evaporation, detection of activities in small quantities of food samples and nuclear medicine such as in vitro tests. The device is equipped with a 3" phoswich detector (ZnS(Ag) 10mg/cm<sup>2</sup> +0.25mm plastic scintillator (PVT)) which lead to impressively high count rates and lower measuring time. The holder considered for the sample is a sliding drawer allows a planchet with maximum diameter 79mm and height 4.6mm. The sensitive touch screen display presents an intuitive user interface with simple and fast access to measuring procedures. Using modern digital signal processing algorithms, the usbBase can accurately distinguish between the two types of radiation and accurately measure their energies. It is easy to operate and provides quick and reliable measurement results which are presented clearly arranged on the display. The system can accurately distinguish between alpha, beta and mixed pulses. The instrument is ideally suited for nuclide-specific activity measurements in the radionuclide laboratory. The measurement electronics is a modular designed system accommodated in a desktop housing. It includes a high voltage unit with preamplifier and an ADC for the acquisition of spectra. The measurement electronics ABS2218-3" is operated via PC software. This allows very intuitive user guidance. Pulse height spectra can be depicted graphically. Several service functions are available: background measurement, energy calibration and spectrum recording.

## Specifications

### Inputs/outputs

#### Inputs

Touch screen display, USB

#### Outputs

Display, USB

### Controls

#### Power

Power push button to turn PC ON or OFF.

### Display

IPS, Full color

10.1", 1280×800 pixels,

### Performance

False beta to true alpha

1:4600 (In true alpha window)

False alpha to true beta

1:3700 (in true beta window)

**Background Measurement (Background is measured with the light shield placed in front of the detector)**

Alpha

<0.025CPS

Beta

<1.2CPS

### Detector

Active Surface Area

35cm<sup>2</sup>

Alpha detector

ZnS(Ag), Thickness: 24µm with 250µm carrier

Beta detector

PVT, 0.25mm

PMT

14-pin 10-stage PMTs

### Data Acquisition and Analysis

OS

Windows 7 or higher versions

Software

CFP-DMCA software

### Measurement/Spectrum

High Voltage

0-2000V, Positive, 12 Bit resolution

Energy Calibration

Linear calibration

ROI Selection

4 ROIs to select on store

Spectrum Type

2 simultaneous cumulative spectrums

### ADC

Channels

12bit in 4096CH @120Mhz FRQ

Conversion time

200nsec with

8.3nsec time interval

### Digital Signal Processing

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

- Environmental, Food, Agricultural and industrial products monitoring
- Radionuclide laboratories
- Nuclear facilities
- Environmental monitoring

## Electrical and Mechanical

### Power required

AC - 220V - 50Hz

### Physical

Dimensions	350mm x 352mm x 318mm (LxWxH)
Weight	16.800kg
Storage temperature	0°C to 50°C
Operating temperature	10°C to 45°C.

## Software

DMCA software containing fast access toolbar, menu bar, and different panels including new alpha histogram, new beta histogram, 3D separation, alpha trace, beta trace and state info.

Fast access toolbar provide several functionalities usually used by user.

New alpha histogram panel represents the alpha spectrum in real-time manner.

New beta histogram panel represents the Beta spectrum in real-time manner.

3D separation panel indicates the separated version of all pulses based on their shape in 3d dimensions.

Alpha trace panel shows the alpha pulses sensed by detector.

Beta trace panel shows the beta pulses sensed by detector.

State info panel shows some information of detector parameters along with real time measurement results.




Menu bar shows the total command needed throughout the device functioning.








Software main window

## Ordering info

### Standard package includes

Part #	Image	Description
ABS2218-3" main		Includes the main body of device (Detection system, linear stage, integrated display)
ACCE2218001-3"		2 meter LEMO 5 pin connector Male to USB 2.0 type A cable assembly is used for connecting KM2918to the PC
ACCE2218002-3"		CD User guide (1 Pack)

### Optional accessories and services

Part #	Image	Description
ACCE2218003-3"		installation
ACCE2218004-3"		Training
ACCE2218005-3"		Hard case with foam insert
ACCE2218006-3"		Plastic planchet 3"
ACCE2218007-3"		Aluminum planchet 3"



Innovator in Spectroscopy Equipment



Unit 10, No 64, Vahedi  
(7) St, After Punak Sq,  
Ashrafi Esfahani Expy,  
Tehran, Iran



+98 (21) 46045383

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