

CAPP2

Portable Alpha Counter

○ FOR MEASUREMENTS OF ALPHA EMITTERS IN THE FIELD

□ APPLICATIONS

- Exploration
- Geophysics
- Hydrogeology
- Radiation protection



- **Autonomous portable** apparatus comprising a photomultiplier in conjunction with a **counting chain**.
- The apparatus counts the **photons** produced by a scintillating device.
- The apparatus is specially adapted to the counting of **scintillating flasks** produced by ALGADE.
- The apparatus ensures the counting of radioactive dusts collected on a filter coupled with a scintillator.
- **Lucas flasks** may also be counted.
- A **microcontroller** controls the apparatus.
- Its design is **modular** to enable ease of maintenance in the field.
- Control by 2 push buttons.
- Data setting and reading by keyboard or *CAPPView* software.

Specifications



CAPP2

Portable Alpha Counter

SPECIFICATIONS

Measured unit: Becquerel

Detection :

Photomultiplier Philips type XP6302B
Diameter of the photocathode: 3" / 76 mm
Sensitivity of the photocathode: 100 μ A/lm
Wavelength for maximum sensitivity: 400 nm
Voltage divider Philips VD202K
Shielding Philips MS133
Background noise (bare PM) < 5 counts/hour at T=20°C
Saturation activity: 10 000 Bq
Encapsulated high voltage power supply, settable from 600V to 1250V with a 20V step

Sample dimensions:

Maximum effective diameter: 110 mm
Maximum effective height: 205mm

Temperature sensor: -20°C to +60°C, accuracy 0.1°C (absolute)

Humidity sensor: 10 to 95 %, accuracy \pm 3 %, enables radon correction for humidity.

Control of supply voltage

Shock sensor: for detection of shocks to the instrument

Monitoring:

PIC18F4550 microcontroller
Frequency 16 Mhz, 32 ko ROM, 2 ko RAM
Backlit LCD screen 4*20 rétro éclairé
Control by 2 push buttons
Data and parameters back up in case of power failure

Memory capacity :

1 Mbytes flash memory (data back-up in the event of power failure)
Maximum counting : 999 999 999 counts
2000 measurements readable on PC, 100 measurements readable on local LCD display

Environment :

0°C to +45°C / 10-90 % relative humidity
Protection index: IP65 lid open, IP 30 lid closed.
Sound level (dBA) : < 30dB
Compliant with standards CEM EN 55022 and CEI 61000-4

Count cycle :

Adjustable in 1 min steps, from 1 to 24 hours
Number of counting adjustable from 1 to 100

Alimentation :

110V / 230V AC 50Hz
Lead with gelled electrolyte 12V 3.4 Ah
Battery life: 8 hours (operating time)
Automatic switch off at low battery level
Charging by integrated charger (16 hours)

Housing :

Glass-polyester compound carrying case, aluminum housing
H*W*D :540*210*320 mm. Weight : 13 kg

Configuration and data download:

USB port for PC connexion
CAPPView software for configuration and reading

CAPP2 is supplied with :

- CAPPview software,
- Calibration certificate for high voltage optimum setting
- documentation

CAPPView software :

PC software working with Windows XP/Vista/7

- Set up, initialization and reading CAPP2 memory. Save the measurements as text file, readable with Excel.
- **Calibration function** to define the high voltage applied to the photomultiplier
- Set the count time,
- Zoom, measured value display, sum, curve fitting, printing and screenshot

To order :

CAPP2	P-580-102	Flat scintillators 50 mm in diameter	P-570-122
		125cm ³ scintillating flasks	P-570-115
		500cm ³ scintillating flasks	P-570-116